

Hodgson Quarries & Plant Pty Ltd

Annual Review and Compliance Report 2017 Roberts Road, Maroota Sand Quarry DA 267-11-99



Prepared by:

VGT Environmental Compliance Solutions Pty Ltd

in conjunction with:

Hodgson Quarries & Plant Pty Ltd



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Title Block

| | |
|--|---|
| 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 | 01/01/2017 |
| Annual Review end date | 31/12/2017 |
| <p>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 1/1/2017 to 31/12/2017 and that I am authorised to make this statement on behalf of Hodgson Quarries and Plant Pty Ltd.</p> <p><i>Note.</i></p> <p><i>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.</i></p> <p><i>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).</i></p> | |
| Name of authorised reporting officer | Lisa Thomson |
| Title of authorised reporting officer | Environmental Consultant |
| Signature of authorised reporting officer |  |
| Date | 25/07/2018 |

Section 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 1</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 as at 31/12/2017: Consent 267-11-99 Mod 2

| Condition # | Condition description (summary) | Compliance status comments | Where addressed in Annual Review |
|-------------|--|---|----------------------------------|
| 2 b | The Applicant shall: (b) comply with the conditions of this consent | Not all conditions compliant | |
| 29 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. | Section 4 of AQMP. Limited rehabilitation has been undertaken on the site due to the cell staging that has been required. In excess of 3 hectares of the site is exposed, however dust levels are still compliant - therefore this is a low risk. | 4.1, 5.2 |
| 42 | Water Management Plan prepared and updated annually for first three years | Comments on Groundwater Study, Water Management Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | 5.3, 5.4, 5.5, 5.6 |

1.1.1. 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. A summary of the audit findings and the DPE requirements with the operator response is given in *Table 3*.

Table 3.Actions Required Following Audit 2017

| Condition No | Condition description (summary) | Recommendations / Comments | Operator Response / Action | Closed Out Date / Comments |
|--|--|---|---|---|
| <i>Compliance status at Audit date</i> | | <i>Actions Recommended by Auditor</i> | | <i>Compliance status at 31/12/17</i> |
| 2 | The Applicant shall: (b) comply with the conditions of this consent | Detailed recommendations provided for each condition | Addressed in each condition below | See individual conditions |
| 4 | The Applicant shall ensure that all contractors and sub-contractors are aware of, and comply with, the Conditions of this Consent | Site induction doesn't cover environmental management requirements | Site Induction to be updated during review of EMS/OEMP due 14/12/17 | 14/12/17 |
| 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 in the site (see condition 39(d) and 44). | Identify the wet weather high groundwater level of the regional aquifer and seek agreement and approval from DPI. Continue spot checks and regular surveying to ensure compliance with the level. | Spot checks are undertaken regularly: a survey undertaken on 2/6/17 places the lowest point of the active quarry at 186.13m. The Groundwater Management Plan will be submitted by 30/10/17. Loggers have been installed in all bores [and surface dams] and monitoring is underway. | Dam survey undertaken Sept 2017. Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18 (Figure Five) |
| 20c | The Operational EMP shall include, but not be limited to: (c) the Water Management Plan (Condition 42) | Finalise Water Management Plan and submit to DPI for approval. | Water Management Plan is in its final draft and will be submitted by 30/10/17. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18 |
| 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. | Re-install sprinkler system. Alternatively, seek modification or removal of condition. | Sprinklers will be installed on disturbed areas that cannot be easily reached by the watercart by 30/9/17. | 30/9/17 (Figure Two) |

| Condition No | Condition description (summary) | Recommendations / Comments | Operator Response / Action | Closed Out Date / Comments |
|--------------|---|--|--|--|
| 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 [Groundwater] study..... | Determine wet weather high groundwater level of the regional aquifer. Consult with DPI-Water seeking approval for proposed level based on findings of the g/w study. Include progress against GMP in 2017 annual review report due 31 March 2018. | Water Management Plan is in its final draft and will be submitted by 30/10/17. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18 (section 5.4.2) |
| 42b | The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. (b) Surface Water Management Plan.... | Update SWMP plan in accordance with comments/actions outlined in DPI letter 04/04/17. Note: There is no effluent irrigation system onsite. No discharge points onsite. Install level sensor in Process Water Dam as proposed. Modify SWMP as required following installation; include recorded data as specified by Condition 42(b) in future annual review reports. Appoint an engineer to inspect tailings dam and consult with NSW Dams Safety Committee and prepare a plan in accordance with the requirements of Condition 42(b). | Water Management Plan is in its final draft and will be submitted by 30/10/17. Loggers installed in Process Dam and boreholes during Aug/Sept 2017, additional surface dams will have loggers installed by 30/10/17. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18. All loggers installed and operational (section 5.3.2, 5.4.2) |
| 42c | The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. (c) Groundwater Management Plan.... | Determine wet weather high groundwater level of the regional aquifer. Consult with DPI-Water seeking approval for proposed level based on findings of the g/w study. Finalise GMP and submit to DPI-Water for approval. Following approval, include GMP in OEMP and implement contents. | Water Management Plan is in its final draft and will be submitted by 30/10/17. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18. |

| Condition No | Condition description (summary) | Recommendations / Comments | Operator Response / Action | Closed Out Date / Comments |
|--------------|--|--|---|--|
| 43a | 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; | Update and finalise monitoring program in accordance with requirements outlined in draft approval letter from DPI-Water dated 28/11/16. Submit to DPI-Water for approval. Following approval, implement monitoring program contents. | Groundwater Monitoring Program will be finalised by 30/10/17. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18. |
| 43b | (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 of the overall extraction footprint) in proximity to extraction Phase 1 to 6 as identified in Modification 2, to collect continuous groundwater level monitoring data from the regional aquifer | Install data loggers and commence continuous monitoring in at least five monitoring bores around the south-eastern, southern, western and north-western boundaries of the extraction area as specified by Condition 43(c). Update Table 7 of draft monitoring program so that monitoring bores match up with Figure 1 and 2. | Groundwater Monitoring Program will be submitted by 30/10/17. Loggers installed in Process Dam and boreholes during Aug/Sept 2017, additional surface dams will have loggers installed by 30/10/17. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18. (section 5.3.2, 5.4.2) |
| 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). | Engage a suitably qualified engineer to assess the process water dam has been designed and constructed properly. Consult with Dam Safety Committee to ensure dam construction compliance. Expand Section 8 of Surface Water Management Plan including advice and recommendations from Engineer's report (if any). | Assessment of Process Dam underway. Details included in Water Management Plan. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18. (section 5.6) |

| Condition No | Condition description (summary) | Recommendations / Comments | Operator Response / Action | Closed Out Date / Comments |
|-------------------------------------|---|---|--|--|
| 47c | A noise compliance investigation is to be undertaken within one month of the installation of the equipment to demonstrate compliance with the noise limits stated in Condition 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 investigation. | Submit noise reports demonstrating compliance with the noise level limits stated in conditions 47(a) and 47(b) to DPI for approval. | Next noise compliance assessment to be undertaken in May 2018. | May 2018 |
| <i>Compliance status at 29/9/17</i> | | <i>Actions Required by DPE (Email 29/9/17)</i> | | <i>Compliance status at 31/12/17</i> |
| 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 [Groundwater] study..... | <p>The audit report identified that the groundwater study report was not submitted to the Department and DPI-Water within six months of commissioning the study.</p> <p>Further, the study report was found to be inadequate in determining the location of the wet weather high groundwater table and further information is required. This has caused undue delay in filling areas of the site as required by Condition 41.</p> | <p>As was noted in the External Audit, an Interim Groundwater Study Progress Report was submitted to DPE and DPI-Water on 31/10/2016 (6 months after commissioning the study).</p> <p>An updated Groundwater Study was re-submitted on 28/2/2017.</p> <p>The Surface Water Management Plan and Groundwater Management Plan will be submitted before 30th October 2017.</p> | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18. |
| 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). | The audit report identified that an assessment of the process water dam has not been carried out. | An assessment of the Process Water Dam was undertaken on 12th September, and submitted to the DPE on 15th September 2017. The details will be included in the Water Management Plan to be submitted before 30th October 2017. | Water reports re-submitted Oct 2017, comments received 30/1/18 + 8/2/18. |

1.2. Actions Required from Past Reports

1.2.1. Conditions Compliance Report and Annual Review 2016

The previous Conditions Compliance Report was submitted to DPE on 31st March 2017, covering the period January 2017 to December 2017. In a letter dated 19/7/17, the Department considered that this report generally satisfied the reporting requirements, and no specific actions were required.

Section 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 palaeochannel 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 palaeochannels 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 has been conducted against the 2015 (Modification 3) consent conditions and the original 1999 EIS by Nexus, and against the Modification 2 approved on 18/3/2016 and associated documents. Changes to the conditions of consent are discussed further in *Section 3*.

2.3. Quarry Contacts


| | | |
|---------|--|--|
| | <u>Production Manager:</u> | <u>Environmental Officer</u> |
| | Martin Hodgson | Stuart Reed |
| Address | Hodgson Quarry and Plant Pty Ltd PO Box 1778, Gosford NSW 2250 | Hodgson Quarry and Plant Pty Ltd PO Box 1778, Gosford NSW 2250 |
| Mobile | 0408 251 393 | 0475 788 858 |
| Phone | (02) 4372 1649 | (02) 4372 1649 |
| Email | hodgsonquarries@gmail.com | hodgsonquarries@gmail.com |

| | | | | | | | |
|----------------------|---|------------------|--|--------------------------|---|-------------------------|--------------------------------|
| Plan of: | Roberts Rd Maroota Sand Quarry Annual Review & Compliance Report 2017 - Site Location | Location: | Maroota Quarry, Roberts Road, Maroota, NSW | Source: | Google Earth Pro - Image Date 05/09/2017 & Google Maps 2018 | Our Ref: | 5336_HMA_ARCR17_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 06/03/2018 | 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

Legend
 Site



Approx Scale: 0 200m

Manager Hodgson Quarries & Plant Pty Ltd: Martin Hodgson
 Signed: *Martin R. Hodgson*
 Date: 20/03/2018

Project Manager VGT: Lisa Thomson
 Signed: *Lisa Thomson*
 Date: 20/03/2018

Section 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 2017.

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 4. 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. | 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; | 3.1.1 |

| Consent Condition No | Condition Text | Where addressed in this report |
|----------------------|--|--------------------------------|
| 6 (e) | (e) a record of all complaints and the actions taken to mitigate all such complaints; | 4.2 |
| 6 (f) | (f) a report detailing the rehabilitation measures undertaken since the last report; and | 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 2018 |
| 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, 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.

The EPA was provided a copy of the 2016 OEMP at the request of the DPE on 16th December 2016. The EPA declined input or comments.

3.3. NSW Office of Water (NOW) and Department of Industry, Water (DoIW)

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 5*. Water licenses and their conditions have been included in *Appendix D*. Compliance with these conditions is included in *Appendix A*.

Consultation with representatives of the DoIW has been ongoing through the reporting period with regard to the preparation of the Groundwater Study, the Groundwater Management Plan, the Surface Water Management Plan, the Groundwater Monitoring Program, and the OEMP.

Table 5.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

Section 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 2017 Calendar Year

The site layout for 2017 is illustrated in *Figure Two*. There are 5 cells currently active, with a total disturbed area of approximately 14.6 hectares. The operation restricts activities to between the hours in *Table 6*.

Table 6. 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 143,000 tonnes of material was sold during the report period, which was lower than 2017. 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 26 in July and August 2017, which equates to an average of 2.2 per hour. Each truck takes 6-8 minutes to load, therefore no more than 10 laden movements per hour is possible.


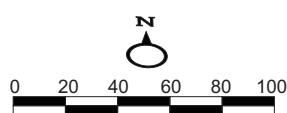
Section 94A contributions are paid monthly.

Table 7. Daily Loaded Trucks January 2017 - December 2017

| Date | Month | | | | | | | | | | | |
|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 | Jun-17 | Jul-17 | Aug-17 | Sep-17 | Oct-17 | Nov-17 | Dec-17 |
| 1st | 0 | 23 | 8 | 8 | 15 | 18 | 8 | 8 | 17 | 0 | 13 | 13 |
| 2nd | 0 | 18 | 6 | 0 | 19 | 18 | 0 | 18 | 4 | 0 | 16 | 8 |
| 3rd | 5 | 16 | 5 | 7 | 14 | 9 | 18 | 14 | 0 | 14 | 18 | 0 |
| 4th | 7 | 5 | 1 | 9 | 18 | 0 | 13 | 15 | 9 | 12 | 3 | 6 |
| 5th | 4 | 0 | 0 | 13 | 20 | 17 | 19 | 4 | 9 | 18 | 0 | 8 |
| 6th | 2 | 20 | 18 | 14 | 8 | 12 | 19 | 0 | 12 | 17 | 8 | 15 |
| 7th | 1 | 9 | 17 | 14 | 0 | 11 | 14 | 12 | 7 | 5 | 15 | 16 |
| 8th | 0 | 4 | 19 | 10 | 19 | 5 | 6 | 13 | 8 | 0 | 16 | 11 |
| 9th | 13 | 18 | 20 | 0 | 14 | 10 | 0 | 23 | 6 | 16 | 18 | 5 |
| 10th | 9 | 19 | 19 | 14 | 12 | 3 | 18 | 18 | 0 | 20 | 18 | 0 |
| 11th | 10 | 10 | 9 | 14 | 12 | 0 | 20 | 25 | 11 | 17 | 10 | 15 |
| 12th | 12 | 0 | 0 | 16 | 13 | 0 | 20 | 11 | 8 | 18 | 0 | 20 |
| 13th | 13 | 18 | 18 | 16 | 11 | 11 | 26 | 0 | 9 | 18 | 23 | 14 |
| 14th | 2 | 11 | 8 | 0 | 0 | 21 | 21 | 19 | 20 | 8 | 15 | 14 |
| 15th | 0 | 22 | 3 | 0 | 16 | 19 | 8 | 26 | 15 | 0 | 13 | 19 |
| 16th | 15 | 18 | 6 | 0 | 21 | 17 | 0 | 4 | 3 | 12 | 12 | 12 |
| 17th | 12 | 13 | 10 | 0 | 21 | 4 | 19 | 14 | 0 | 13 | 14 | 0 |
| 18th | 13 | 3 | 0 | 13 | 24 | 0 | 23 | 11 | 17 | 14 | 5 | 11 |
| 19th | 11 | 0 | 0 | 14 | 11 | 17 | 10 | 2 | 20 | 21 | 0 | 13 |
| 20th | 14 | 15 | 13 | 13 | 4 | 12 | 12 | 0 | 18 | 10 | 15 | 15 |
| 21st | 7 | 16 | 16 | 18 | 0 | 17 | 15 | 9 | 16 | 7 | 14 | 14 |
| 22nd | 0 | 18 | 13 | 6 | 19 | 19 | 4 | 10 | 19 | 0 | 15 | 4 |
| 23rd | 16 | 14 | 16 | 0 | 22 | 25 | 0 | 7 | 8 | 13 | 15 | 0 |
| 24th | 18 | 20 | 15 | 16 | 17 | 5 | 18 | 8 | 0 | 14 | 17 | 0 |
| 25th | 19 | 4 | 6 | 0 | 13 | 0 | 14 | 11 | 19 | 22 | 10 | 0 |
| 26th | 0 | 0 | 0 | 17 | 17 | 18 | 15 | 5 | 14 | 14 | 0 | 0 |
| 27th | 15 | 10 | 12 | 17 | 7 | 19 | 15 | 0 | 15 | 18 | 9 | 0 |
| 28th | 4 | 7 | 13 | 15 | 0 | 20 | 15 | 12 | 16 | 7 | 15 | 1 |
| 29th | 0 | | 17 | 9 | 17 | 17 | 2 | 11 | 18 | 0 | 11 | 1 |
| 30th | 21 | | 11 | 0 | 21 | 14 | 0 | 13 | 0 | 17 | 15 | 0 |
| 31st | 21 | | 10 | | 14 | | 9 | 13 | | 15 | | 0 |
| Total per month | 264 | 331 | 309 | 273 | 419 | 358 | 381 | 336 | 318 | 360 | 353 | 235 |
| Max per day | 21 | 23 | 20 | 18 | 24 | 25 | 26 | 26 | 20 | 22 | 23 | 20 |
| Compliant (<50 per day) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

| | | | | | | | |
|----------------------|---|------------------|--|--------------------------|--|-------------------------|--------------------------------|
| Plan of: | Roberts Rd Maroota Sand Quarry Annual Review & Compliance Report 2017 - Existing Site | Location: | Maroota Quarry, Roberts Road, Maroota, NSW | Source: | Google Earth Pro - Image Date 5 September 2017 | Our Ref: | 5336_HMA_ARCR17_C002_V1_F2.cdr |
| Figure: | TWO | 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: | V1 13/03/2018 | 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.


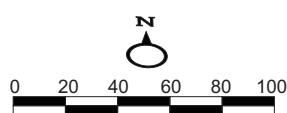

| LEGEND | |
|--------|----------------------|
| | Property Boundary |
| | Extraction Area |
| | Existing Bund Wall |
| | Spot Height Location |

Manager Hodgson Quarries & Plant Pty Ltd: Martin Hodgson
 Signed: *Martin R. Hodgson*
 Date: 20/03/2018

Project Manager VGT: Lisa Thomson
 Signed: *Lisa Thomson*
 Date: 20/03/2018

| | | | | | | | |
|----------------------|--|------------------|--|--------------------------|--|-------------------------|--------------------------------|
| Plan of: | Roberts Rd Maroota Sand Quarry Annual Review & Compliance Report 2017 - Environmental Monitoring Locations | Location: | Maroota Quarry, Roberts Road, Maroota, NSW | Source: | Google Earth Pro - Image Date 5 September 2017 | Our Ref: | 5336_HMA_ARCR17_C003_V1_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: | V1 13/03/2018 | Client: | Hodgson Quarries & Plant Pty Ltd | Contour Interval: | N/A | Office: | Thornton |

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| LEGEND | |
|--------|------------------------------------|
| | Property Boundary |
| | Extraction Area |
| | 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 |

Note:

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

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

Manager Hodgson Quarries & Plant Pty Ltd: Martin Hodgson
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 Date: 20/03/2018

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 Signed: *Lisa Thomson*
 Date: 20/03/2018

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 2018 Calendar Year

Operations are proposed to remain similar in 2018. The active cells are proposed to be phases 1 to 5 as illustrated on *Figure Four*. There are no planned infrastructure developments or upgrades and no planned mining fleet upgrades.

The graph below illustrates production trends since January 2011. Production in 2017 was the lowest since 2012, at an average of less than 12,000 tonnes and 328 laden truck movements per month. Maximum production occurred in May, with a total of 15,251 tonnes and 419 laden truck movements in the month. The busiest days occurred on Thursday 13th July and Tuesday 15th August, both with 26 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

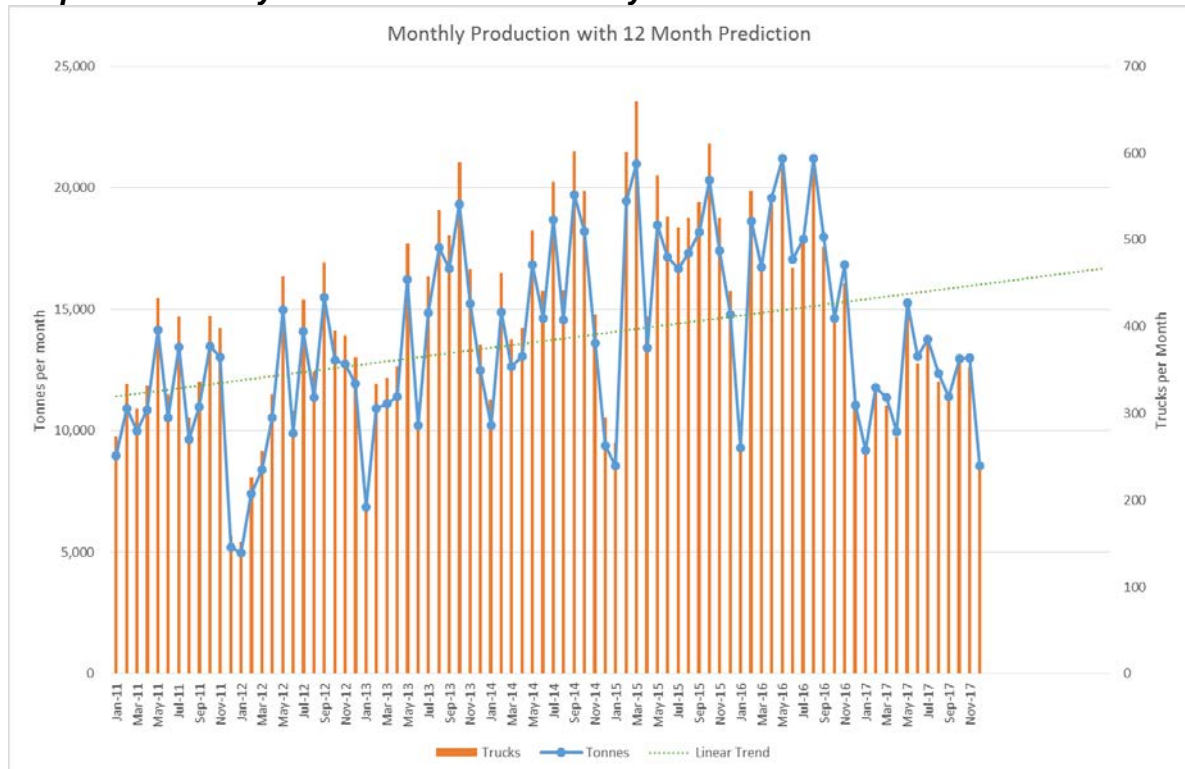

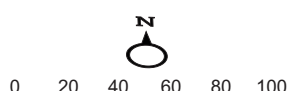


Table 8. Yearly Production Since 2011

| Year | Yearly Tonnages | Yearly Laden Trucks |
|-----------------------|------------------------|----------------------------|
| 2011 | 131,192 | 4,012 |
| 2012 | 134,757 | 4,121 |
| 2013 | 162,888 | 4,978 |
| 2014 | 176,378 | 5,388 |
| 2015 | 202,667 | 6,198 |
| 2016 | 202,024 | 5,651 |
| 2017 | 142,633 | 3,937 |
| <i>2018 Predicted</i> | <i>204,000</i> | <i>5,700</i> |

| | | | | | | | |
|----------------------|--|------------------|--|--------------------------|--|-------------------------|--------------------------------|
| Plan of: | Roberts Rd Maroota Sand Quarry Environmental Management Plan 2017 - Sequence of Extraction | Location: | Maroota Quarry, Roberts Road, Maroota, NSW | Source: | Google Earth Pro - Image Date 5 September 2017 | Our Ref: | 5336_HMA_ARCR17_C004_V1_F4.cdr |
| Figure: | FOUR | 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: | V1 13/03/2018 | Client: | Hodgson Quarries & Plant Pty Ltd | Contour Interval: | N/A | Office: | Thornton |

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LEGEND Phases and Years are indicative only, and are dependent on market demand and product mixing requirements

| | | |
|--|-------------------------------------|-----------------------|
| | Property Boundary | |
| | Extraction Area | |
| | Existing Bund Walls | |
| | Proposed Bund Walls | |
| | Proposed Rehabilitation 2018 | |
| | MW4 Groundwater Monitoring Location | |
| | Surface Water Monitoring Location | |
| | Phase 1 | Years 1-2 (2015-2017) |
| | Phase 2 | |
| | Phase 3 | Years 2-5 (2016-2021) |
| | Phase 4 | |
| | Phase 5 | Years 5+ (2020+) |
| | Phase 6 | |

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Section 5. Environmental Management

5.1. Climate Summary

Weather data is collected on site and downloaded monthly. The tables below are summaries of the data for 2017. Summary graphs are given in *Appendix F*.

Table 9. Temperature Summary for 2017 (°C)

| Month | Mean Maximum | Mean Minimum | Mean | Month High | Date | Month Low | Date |
|-------|--------------|--------------|------|------------|------|-----------|------|
| 1 | 31.4 | 18.8 | 24.5 | 42.4 | 13 | 16 | 8 |
| 2 | 30.4 | 18.5 | 23.4 | 45.5 | 11 | 14.5 | 21 |
| 3 | 25.3 | 17.1 | 20.3 | 34 | 29 | 13.1 | 30 |
| 4 | 20.8 | 11.9 | 15.1 | 25 | 1 | 10.6 | 6 |
| 5 | 19.8 | 9.2 | 13.8 | 24.1 | 6 | 1.3 | 30 |
| 6 | 16.3 | 7.9 | 11.5 | 19.9 | 12 | 3.6 | 27 |
| 7 | 17.1 | 5.4 | 10.9 | 21.4 | 18 | 1.0 | 22 |
| 8 | 18.2 | 6.9 | 12.2 | 24.9 | 11 | 4.2 | 20 |
| 9 | 22.1 | 7.7 | 14.3 | 32.4 | 13 | 3.6 | 10 |
| 10 | 24.2 | 12.8 | 17.9 | 31.5 | 9 | 7.6 | 1 |
| 11 | 22.7 | 11.3 | 16.7 | 28.6 | 3 | 8.7 | 1 |
| 12 | 28.9 | 15.6 | 21.4 | 37.7 | 14 | 13.1 | 10 |
| 2017 | 23.0 | 11.9 | 16.8 | 45.5 | Feb | 1.0 | Jul |
| 2016 | 23.8 | 12.7 | 17.6 | 40.2 | Feb | 1.4 | Jul |
| 2015 | 23.0 | 12.2 | 16.9 | 39.5 | Nov | 0.9 | Jul |
| 2014 | 22.8 | 11.5 | 16.4 | 43.4 | Nov | 2.0 | Aug |

Table 10. Precipitation Summary for 2017 (mm)

| Month | Month Total | Maximum Observed in One Day | Date | Days of Rain Greater Than | | |
|-------|-------------|-----------------------------|------|---------------------------|-------|------|
| | | | | 0.2 | 2 | 20 |
| 1 | 46.2 | 15.2 | 20 | 13 | 7 | 0 |
| 2 | 80.8 | 17.4 | 17 | 13 | 11 | 0 |
| 3 | 252.6 | 50.2 | 30 | 24 | 14 | 5 |
| 4 | 18 | 10.8 | 3 | 5 | 2 | 0 |
| 5 | 15.4 | 7.8 | 19 | 18 | 2 | 0 |
| 6 | 87.6 | 25.4 | 7 | 20 | 6 | 2 |
| 7 | 0.8 | 0.2 | 2 | 4 | 0 | 0 |
| 8 | 13.2 | 11.6 | 3 | 4 | 1 | 0 |
| 9 | 1.4 | 1.2 | 14 | 2 | 0 | 0 |
| 10 | 6.6 | 4.4 | 15 | 9 | 1 | 0 |
| 11 | 23.2 | 10.2 | 5 | 4 | 3 | 0 |
| 12 | 28.2 | 15.2 | 2 | 8 | 3 | 0 |
| 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% |
| 2014 | 665.2 | 48.8 | Dec | 36.2% | 14.5% | 1.9% |

Table 11. Wind Speed

| Month | Month Average (m/s) | Month High (m/s) | Date | Dominant Direction |
|-------|---------------------|------------------|------|--------------------|
| 1 | 1.1 | 14.3 | 13 | SE |
| 2 | 1.1 | 17.4 | 17 | SE |
| 3 | 0.9 | 11.6 | 17 | WSW |
| 4 | 0.7 | 8.9 | 2 | WSW |
| 5 | 0.5 | 10.7 | 29 | WSW |
| 6 | 0.5 | 10.7 | 25 | WSW |
| 7 | 1.1 | 14.3 | 26 | NE |
| 8 | 1.4 | 17.9 | 16 | NNW |
| 9 | 1.8 | 17 | 13 | NNW |
| 10 | 0.9 | 12.5 | 12 | SE |
| 11 | 0.9 | 13.4 | 6 | SE |
| 12 | 1.2 | 12.5 | 2 | SE |
| 2017 | 1.0 | 17.9 | Aug | WSW |
| 2016 | 1.1 | 17.9 | Jan | SE |
| 2015 | 0.9 | 15.6 | Apr | WSW |
| 2014 | 1.0 | 21.9 | Nov | 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 12. Air Quality Criteria

| Parameter | Criteria | Units | Averaging Period | Source |
|------------------------------------|----------|------------------------------------|------------------|--------------------|
| Total Suspended Particulates (TSP) | 90 | $\mu\text{g}/\text{m}^3$ | Annual | DA Sched 2 Cond 28 |
| PM ₁₀ | 50 | $\mu\text{g}/\text{m}^3$ | 24 hours | DA Sched 2 Cond 28 |
| PM ₁₀ | 30 | $\mu\text{g}/\text{m}^3$ | Annual | DA Sched 2 Cond 28 |
| Insoluble Solids | 4 | $\text{g}/\text{m}^2/\text{month}$ | 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 13. NEPM Advisory Standards

| Parameter | Criteria | Units | Averaging Period | Source |
|-------------------|----------|--------------------------|------------------|---------|
| PM ₁₀ | 50 | $\mu\text{g}/\text{m}^3$ | 24 hours | Table 1 |
| PM ₁₀ | 25 | $\mu\text{g}/\text{m}^3$ | Annual | Table 1 |
| PM _{2.5} | 25 | $\mu\text{g}/\text{m}^3$ | 24 hours | Table 1 |
| PM _{2.5} | 8 | $\mu\text{g}/\text{m}^3$ | 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 14. 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 | $\text{g}/\text{m}^2/\text{month}$ | Annual | Table 8-8 |
| TSP | 57 | $\mu\text{g}/\text{m}^3$ | Annual | Table 8-6 |
| PM ₁₀ | 15 | $\mu\text{g}/\text{m}^3$ | Annual | Table 8-4 |
| PM ₁₀ | 49 | $\mu\text{g}/\text{m}^3$ | 24-hour | Table 8-2 |
| PM _{2.5} | Not predicted | $\mu\text{g}/\text{m}^3$ | Annual | |
| PM _{2.5} | Not predicted | $\mu\text{g}/\text{m}^3$ | 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 15. Dust Deposition Gauge Results: D1 Office

| Year | Insoluble Solids g/m ² /month | | | |
|-------------------|--|---------|---------|---------------|
| | Average | Maximum | Minimum | Std Deviation |
| 2017 | 1.9 | 9.1 | 0.1 | 2.4 |
| Compliant with DA | Yes | | | |
| Criteria | 4 | | | |
| Prediction | 1.7 | | | |
| 2016 | 1.9 | 7.4 | 0.6 | 1.9 |
| 2015 | 1.0 | 1.7 | 0.3 | 0.5 |
| 2014 | 1.5 | 2.6 | 0.7 | 0.7 |

Graph 2. Dust Deposition Trends: D1

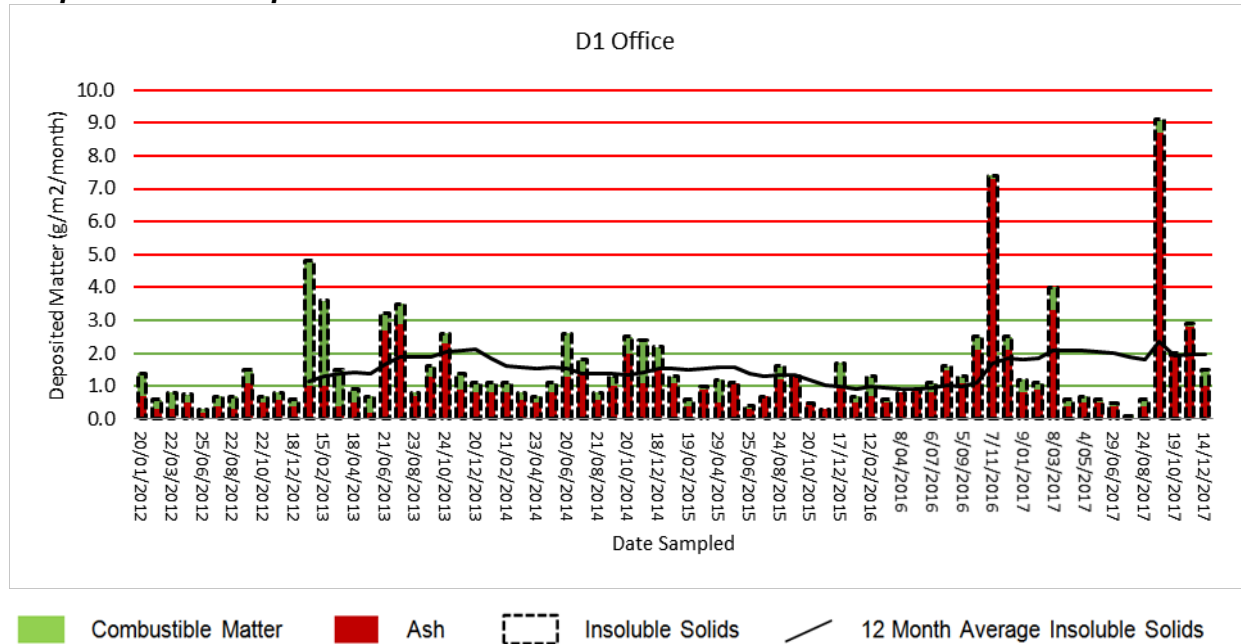


Table 16. Dust Deposition Gauge Results: D2 North East Corner

| Year | Insoluble Solids g/m ² /month | | | |
|-------------------|--|---------|---------|---------------|
| | Average | Maximum | Minimum | Std Deviation |
| 2017 | 1.8 | 6.1 | 0.2 | 1.4 |
| Compliant with DA | Yes | | | |
| Criteria | 4 | | | |
| Prediction | 1.7 | | | |
| 2016 | 1.3 | 2.8 | 0.3 | 0.7 |
| 2015 | 1.0 | 2.0 | 0.5 | 0.4 |
| 2014 | 1.1 | 2.5 | 0.2 | 0.6 |

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

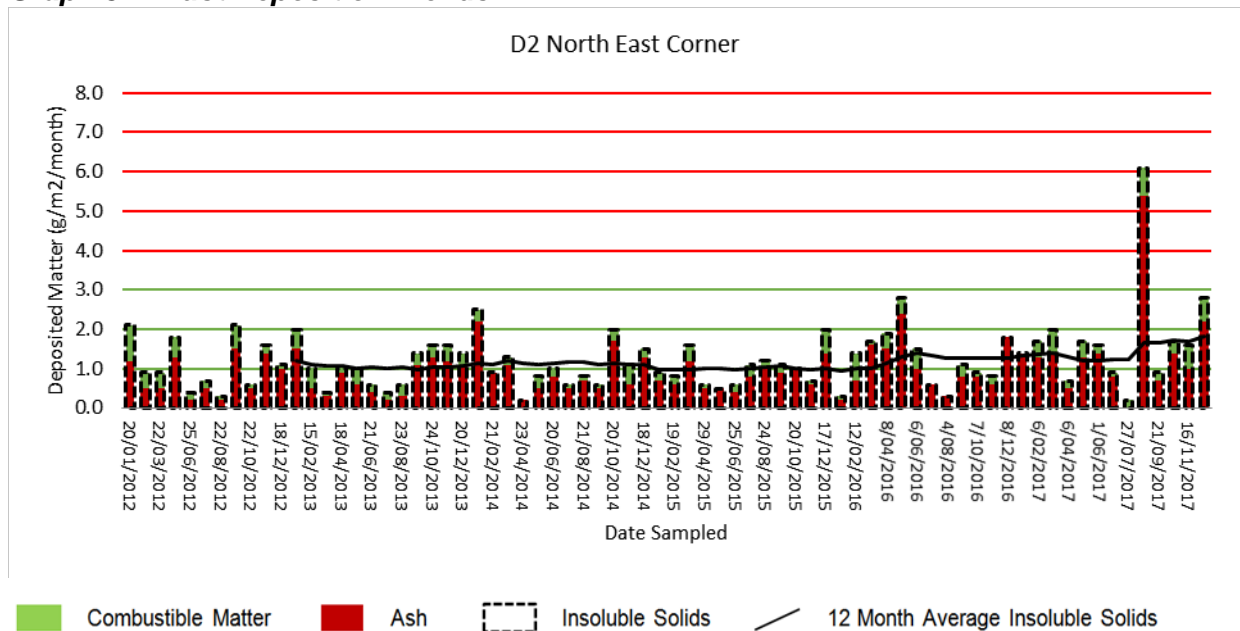


Table 17. Dust Deposition Gauge Results: D3 North Bundwall

| Year | Insoluble Solids g/m2/month | | | |
|-------------------|-----------------------------|---------|---------|---------------|
| | Average | Maximum | Minimum | Std Deviation |
| 2017 | 1.9 | 6.6 | 0.3 | 1.8 |
| Compliant with DA | Yes | | | |
| Criteria | 4 | | | |
| Prediction | 1.7 | | | |
| 2016 | 1.3 | 5.0 | 0.2 | 1.3 |
| 2015 | 1.9 | 7.7 | 0.7 | 2.0 |
| 2014 | 2.0 | 6.4 | 0.2 | 1.7 |

Graph 4. Dust Deposition Trends: D3

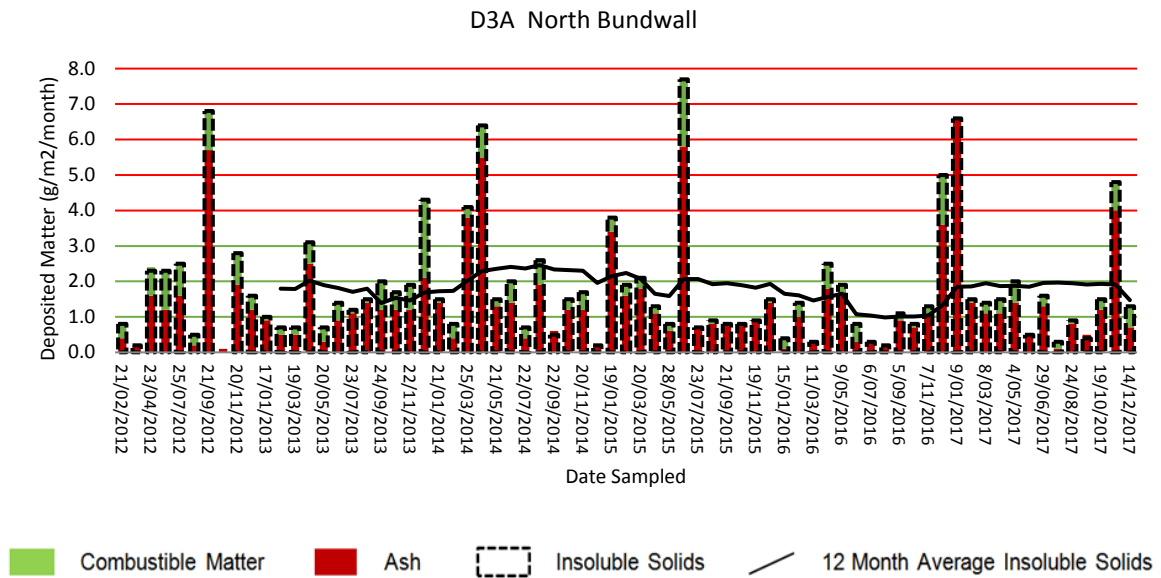


Table 18. Particulate Matter Annual Averages

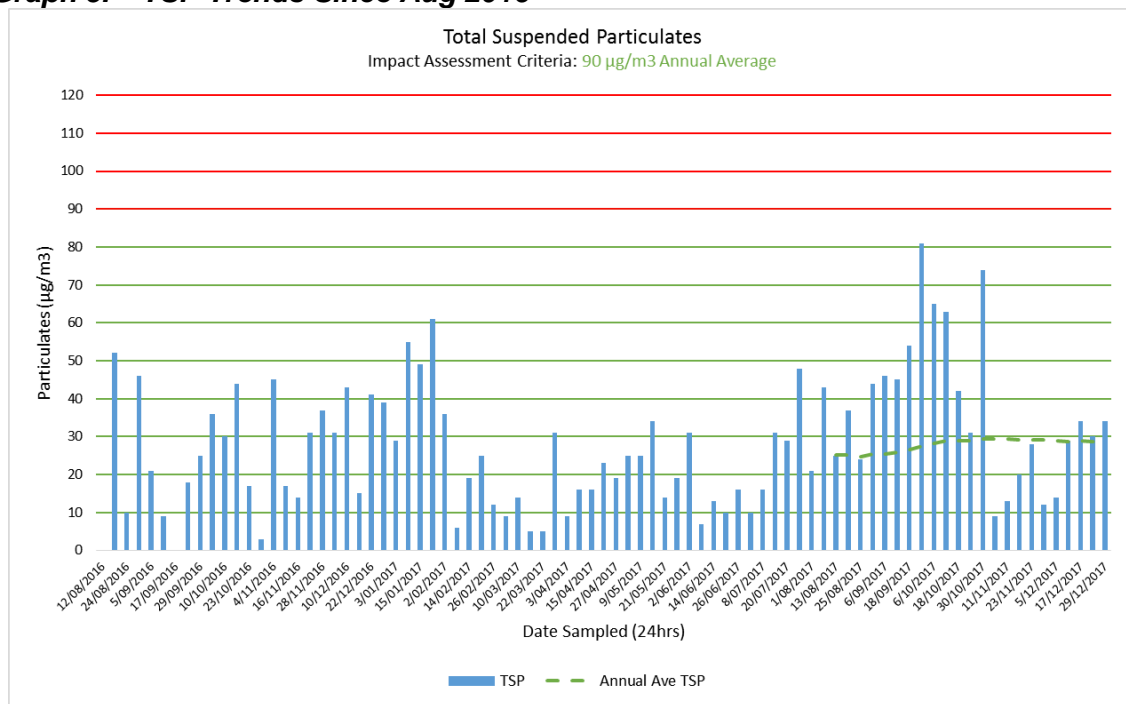
| Annual Averages | TSP $\mu\text{g}/\text{m}^3$ | PM10 $\mu\text{g}/\text{m}^3$ | PM2.5 $\mu\text{g}/\text{m}^3$ |
|---------------------|------------------------------|-------------------------------|--------------------------------|
| 2017 | 29 | 15 | 12 |
| Compliant with DA | Yes | Yes | |
| Criteria | 90 | 30 | N/A |
| NEPM Advisory Level | 90 | 25 | 8 |
| Prediction | 57 | 15 | N/A |

Table 19. 24 Hour Maximum Particulate Measurements

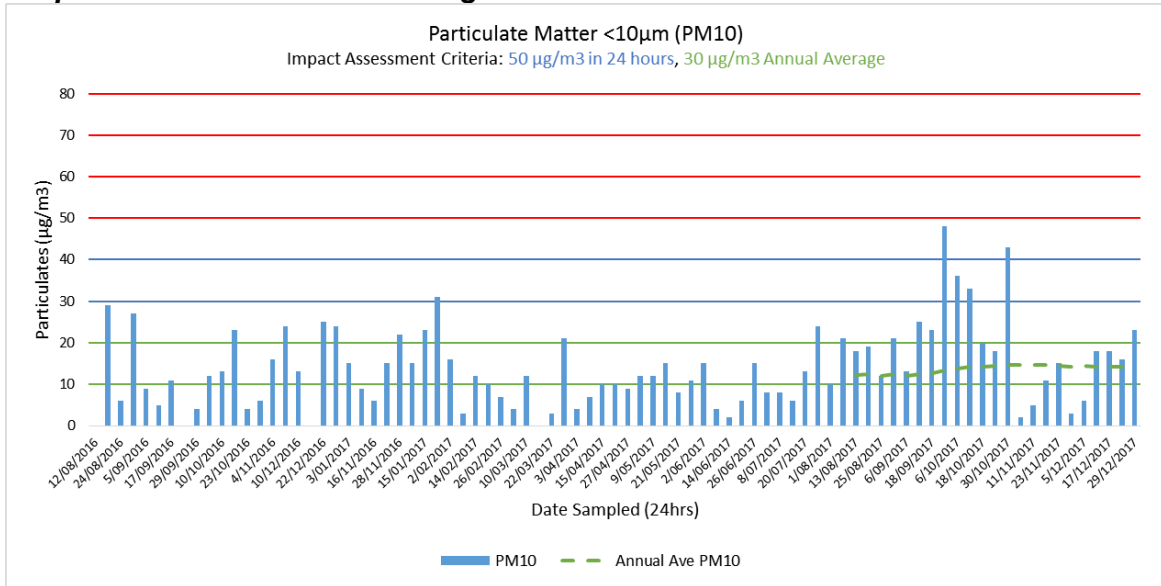
| 24 hr Maximum | TSP $\mu\text{g}/\text{m}^3$ | PM10 $\mu\text{g}/\text{m}^3$ | PM2.5 $\mu\text{g}/\text{m}^3$ |
|---------------------|------------------------------|-------------------------------|--------------------------------|
| 2017 | 81 | 48 | 54 |
| Compliant with DA | | Yes | |
| Criteria | N/A | 50 | N/A |
| NEPM Advisory Level | N/A | 30 | 25 |
| Prediction | N/A | 49 | N/A |

N/A = Not applicable

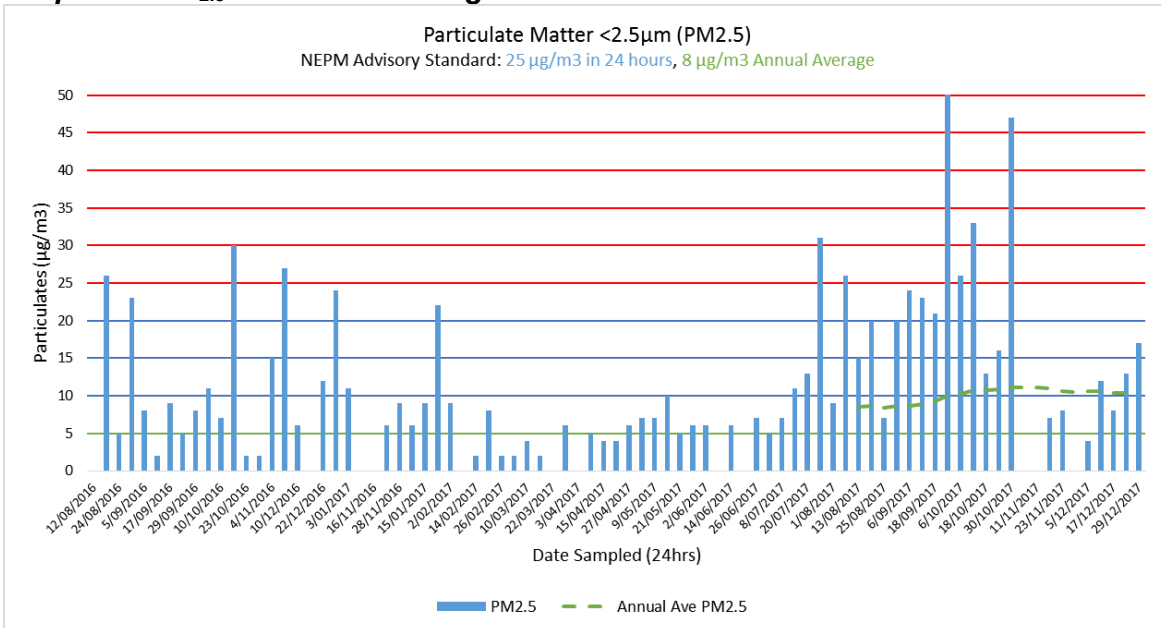
Graph 5. TSP Trends Since Aug 2016



Graph 6. PM₁₀ Trends Since Aug 2016



Graph 7. PM_{2.5} Trends Since Aug 2016



The relationship between the three Particulate Matter size monitoring has been calculated for results gained to date and is given in *Appendix G*.

5.2.3. Interpretation and Effectiveness of Controls

Dust deposition (Insoluble Solids), Total Suspended Particulates (TSP), and Particulate Matter less than 10 µm in diameter (PM₁₀) were compliant with DA required criteria and predictions from environmental assessments.

None of the monitoring shows an increasing trend. Production is lowest since 2012. The Insoluble Solids annual average has remained steady since 2011, as shown in *Graph 2* to *Graph 4*. The TSP and PM₁₀ results have remained steady at or near predicted levels.

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 seven times. On 4 of these occasions the PM_{2.5} was higher than the PM₁₀ – indicating operator error. If these results are swapped, 5 measurements would remain above the advisory guideline, see *Table 21* and *Table 20*.

5.2.3.1. *Potential Sources of PM_{2.5}*

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
- 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
- Bushfire, burning off, and domestic wood-fired heating

Potential site sources of PM_{2.5} include vehicle movements within the site, disturbed area and stockpiles. To determine which of these influences was causing the greatest impact, the following graphs were compiled from available site data, including measured results, weather data from the site weather station and weighbridge data.

Graph 8. PM_{2.5} versus Laden Truck Movements

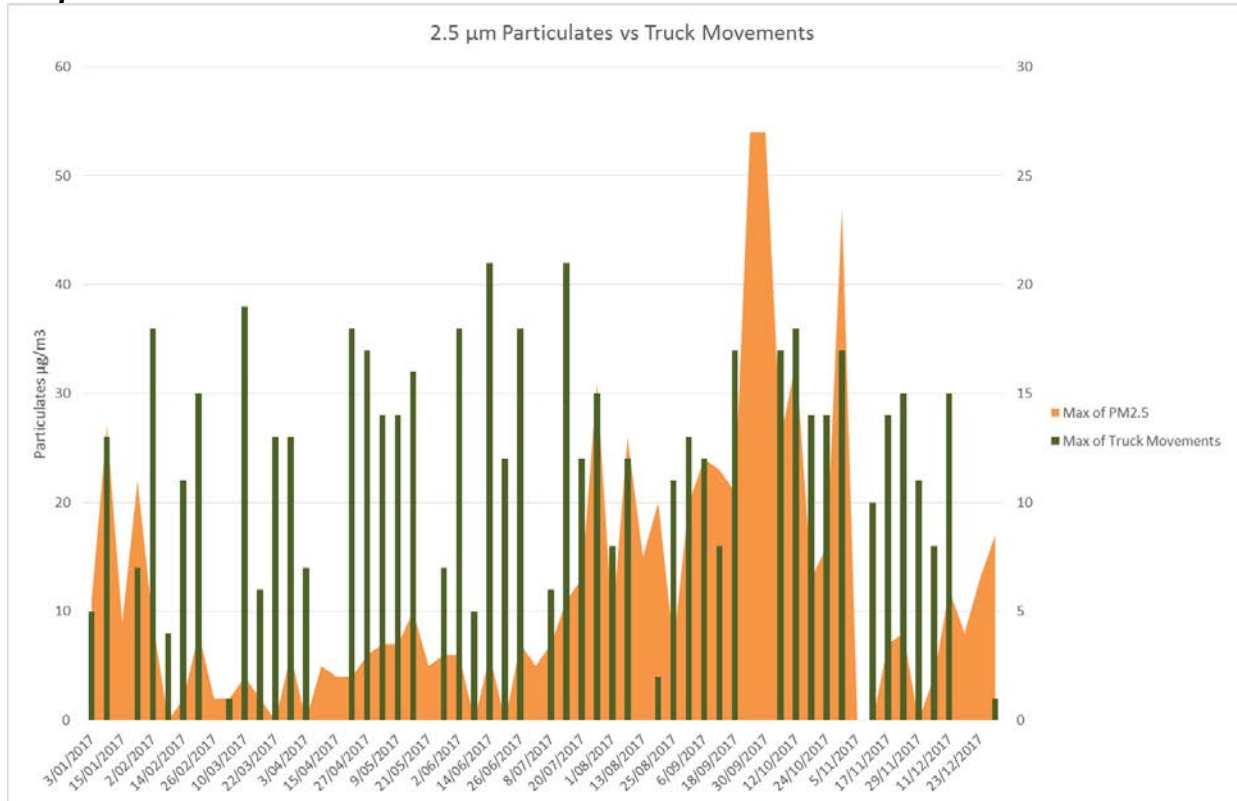


Table 20. Truck Movements during 24 hours with High PM_{2.5}

| Date | PM _{2.5} µg/m ³ | Laden Truck Movements |
|-------------------------------------|-------------------------------------|-----------------------|
| Sunday 24 th September | 54 | 0 |
| Saturday 30 th September | 54 | 0 |
| Friday 6 th October | 26 | 17 |
| Thursday 12 th October | 33 | 18 |
| Monday 30 th October | 47 | 17 |

The above graph plots the sites daily laden truck movements over the weighbridge versus PM_{2.5} results. As each laden truck is required to be loaded and travels over unsealed roads through the stockpiles areas, PM_{2.5} material could be produced from the diesel burnt and from the movement of fine clay material. Graph 8 shows no apparent correlation between increased truck movements within the site and increased PM_{2.5} results. In particular, the period from March to July shows steady numbers of truck movements, while PM_{2.5} results are all below 10 µg/m³. In contrast, the period from July to early November shows a lower number of truck movements, while PM_{2.5} results steadily increase.

This indicates that the controls relating to truck movements, including covering the vehicles, lowering the speed limit, damping down material being loaded, suspending non-essential plant movements during periods of high winds, and use of the water-cart over un-sealed roads has been effective.

Graph 9. PM_{2.5} versus Weather Conditions

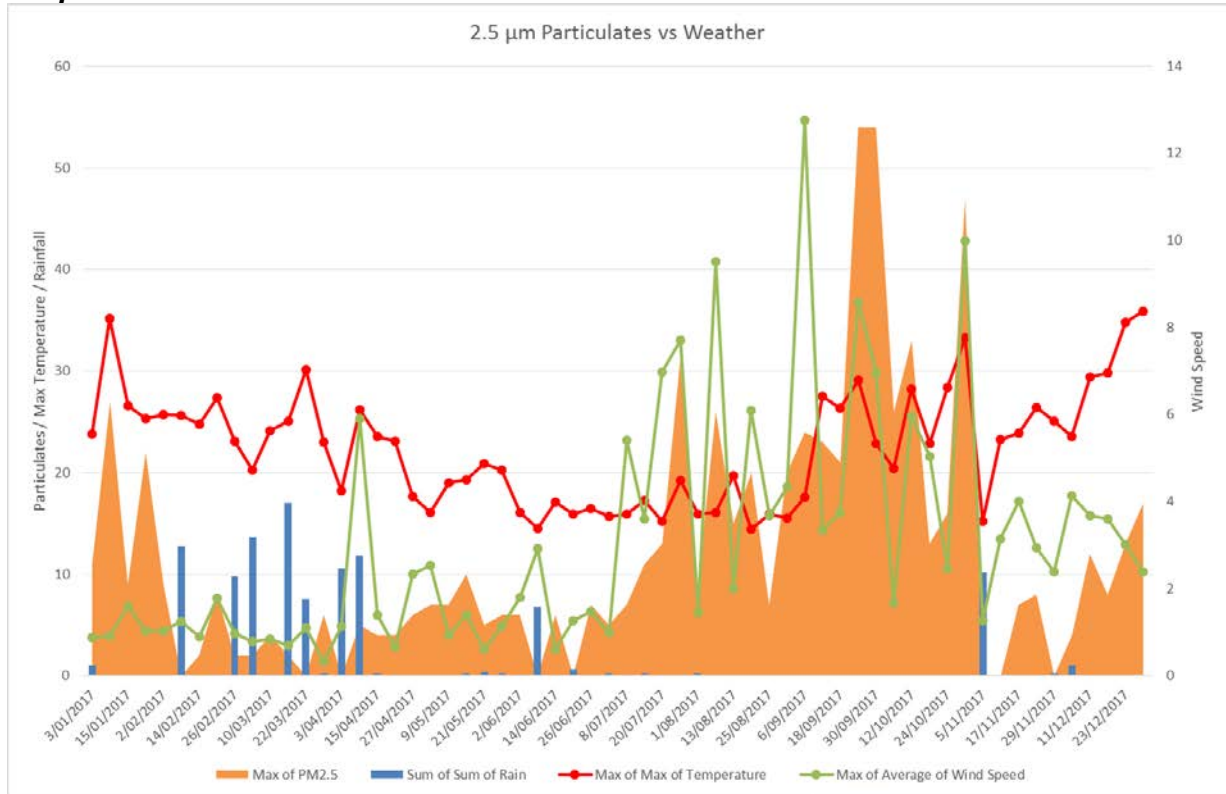


Table 21. Weather during 24 hours with High PM_{2.5}

| Date | PM _{2.5} µg/m ³ | High Temp °C | Low Temp °C | Rain mm | High Wind Speed m/s | Dominant Direction |
|-------------------------------------|-------------------------------------|--------------|-------------|---------|---------------------|--------------------|
| Sunday 24 th September | 54 | 28.5 | 17.3 | 0.0 | 20.9 | NW |
| Saturday 30 th September | 54 | 22.9 | 12.2 | 0.0 | 16.1 | N |
| Friday 6 th October | 26 | 20.7 | 12.9 | 0.0 | 5.8 | SE |
| Thursday 12 th October | 33 | 28.6 | 13.7 | 0.0 | 12.5 | NW |
| Monday 30 th October | 47 | 33.3 | 17.4 | 0.0 | 30.6 | N |

Hot dry windy conditions could be expected to produce an increase in air-borne dust of all sizes from unsealed roads, stockpiles or disturbed areas, and also from background sources such as disturbed agricultural land and bush fires. Graph 9 shows that days with significant rainfall (greater than 5mm) correlate with low PM_{2.5} results. The extended period of dry weather from July to November also shows periods of high speed winds. This period contains higher particulate readings, with the highest measurements on Sunday 24th and Saturday 30th September. The Operator has noted that the property adjacent to the northern boundary was cleared and ploughed during September, and as that is a small family business, the majority of the work was undertaken on weekends. The high winds were predominantly from the north during that month, and it is therefore likely that the dust has originated from the disturbed soils from the property north of the site, rather than the quarry itself. This result is consistent with results from 2016, where the highest dust levels were recorded during periods of high winds from off site directions.

5.2.3.2. *Effectiveness of Air Quality Management Controls***Table 22. 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 |
| Trucks covered when entering and leaving the site | Dust results do not increase with truck movements | Yes |

5.2.4. **Measures Proposed for Improvement**

Air quality management controls have been effective for the 2017 calendar year, and will be maintained during 2018. A mobile sprinkler will be 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.

5.3. Surface Water, Sediment and Erosion

An updated Surface Water Management Plan has been submitted to the DoI Water and DPE to comply with the current conditions of consent (Mod 2) but has not yet been approved.

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

Although not yet approved, the site has been operating towards compliance with the updated WMP.

Table 23. Monitoring and Maintenance from the WMP 2017

| Parameter | Source | Compliance | Comments |
|--|---------------------|------------|---|
| Topsoil stripping to be visually monitored to check moisture content of soil and depth of stripping. | WMP 2017-Section 11 | Yes | |
| Stockpiles to be visually assessed at time of forming to check they do not exceed three metres high. | WMP 2017-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 2017-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 2017-Section 11 | Yes | |
| Removal of trapped sediment whenever less than design capacity remains for the sediment basins. | WMP 2017-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 2017-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 2017-Section 11 | Yes | Not yet applicable |
| Automatic data loggers to monitor the dam levels to assist in the water balance modelling. | WMP 2017-Section 11 | Yes | Loggers installed in all surface dams |
| All on-site dams to be sampled and water quality tested on a once only basis to determine if there is a relationship to the groundwater. | WMP 2017-Section 11 | Yes | Water quality tested July 2017. SWMP will be updated in 2018. |

5.3.2. Monitoring Results Compliance and Trends

5.3.2.1. Water Quality

Surface water quality was tested in July 2017. Results are given below. There are no approved limits against which to compare these levels, and no previous results for trend analysis. The results have been compared to the ANZECC Irrigation criteria, as this is relevant to the final land use.

Table 24. Surface Water Quality Results

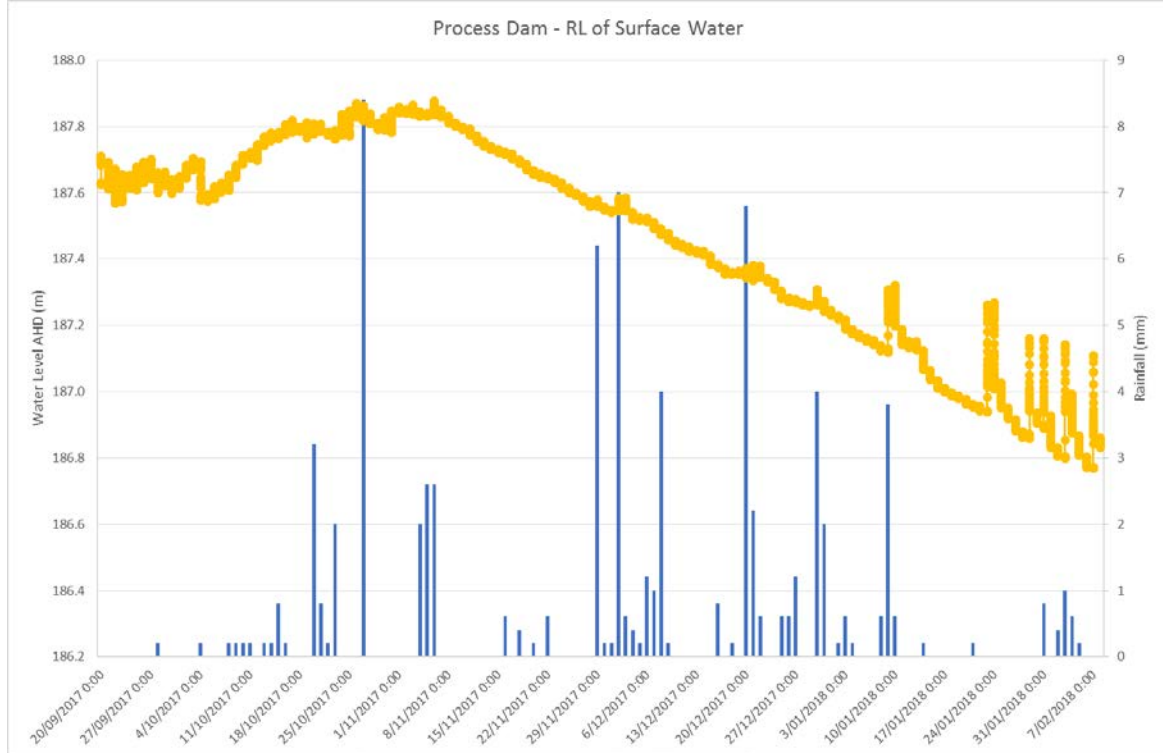
| Ref | Description | Sample Date | pH | Electrical Conductivity $\mu\text{S/cm}$ | Total Dissolved Solids mg/L | Chloride mg/L | Sulphate | Total Alkalinity as CaCO_3 mg/L | Calcium mg/L | Magnesium mg/L | Sodium mg/L | Potassium mg/L |
|--|-----------------------|---------------------|-------|--|-----------------------------|---------------|----------|--|--------------|----------------|-------------|----------------|
| 4610/11 | PB1- Plant Usage Bore | 27/07/2017 14:30 | 4.6 | 148 | 88 | 30 | >1 | >5 | <0.5 | 3 | 19 | 0.7 |
| 4610/13 | Process Dam 1 | 27/07/2017 14:40 | 4.5 | 134 | 90 | 25 | 4 | >5 | <0.5 | 2 | 16 | 2 |
| 4610/14 | Drying Pond Dam 2 | 27/07/2017 14:50 | 4.5 | 139 | 75 | 25 | 4 | >5 | <0.5 | 2 | 17 | 3 |
| 4610/15 | Dam 3 | 27/07/2017 11:40 | 6.6 | 133 | 77 | 20 | 9 | 13 | 3 | 3 | 13 | 4 |
| 4610/16 | Dam 4 | 27/07/2017 11:30 | 6.6 | 116 | 63 | 20 | 3 | 15 | 2 | 3 | 13 | 2 |
| ANZECC Irrigation Use (Moderate Tolerance) | | | 6 - 9 | 1900 - 4500 | | 350 - 700 | | | | | 230 - 460 | |

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.

5.3.2.2. *Water Depth*

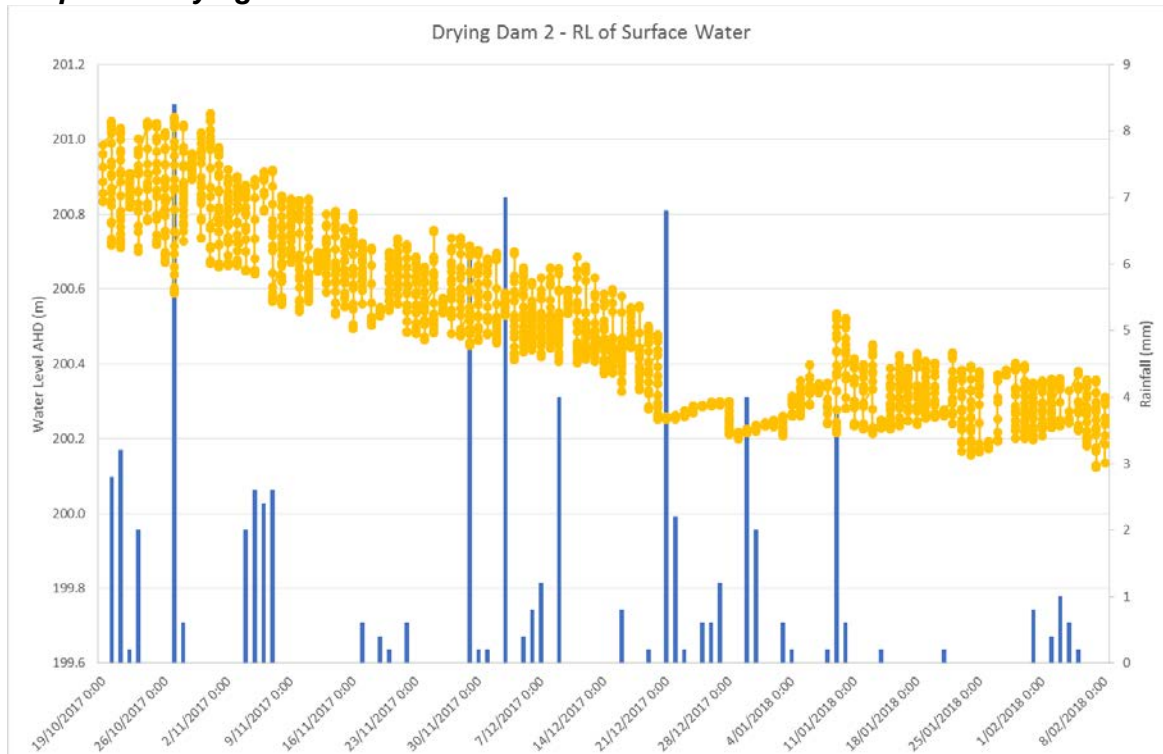
Continuous depth loggers were installed in all surface water dams during 2017 in accordance with consent conditions and Dol-Water requirements. Results are shown in the following graphs. Logger and Dam locations are shown on *Figure Two*. It should be noted that Relative Levels for Dams 3 and 4 are approximate and are yet to be confirmed by survey.

Graph 10. Process Dam Water Level



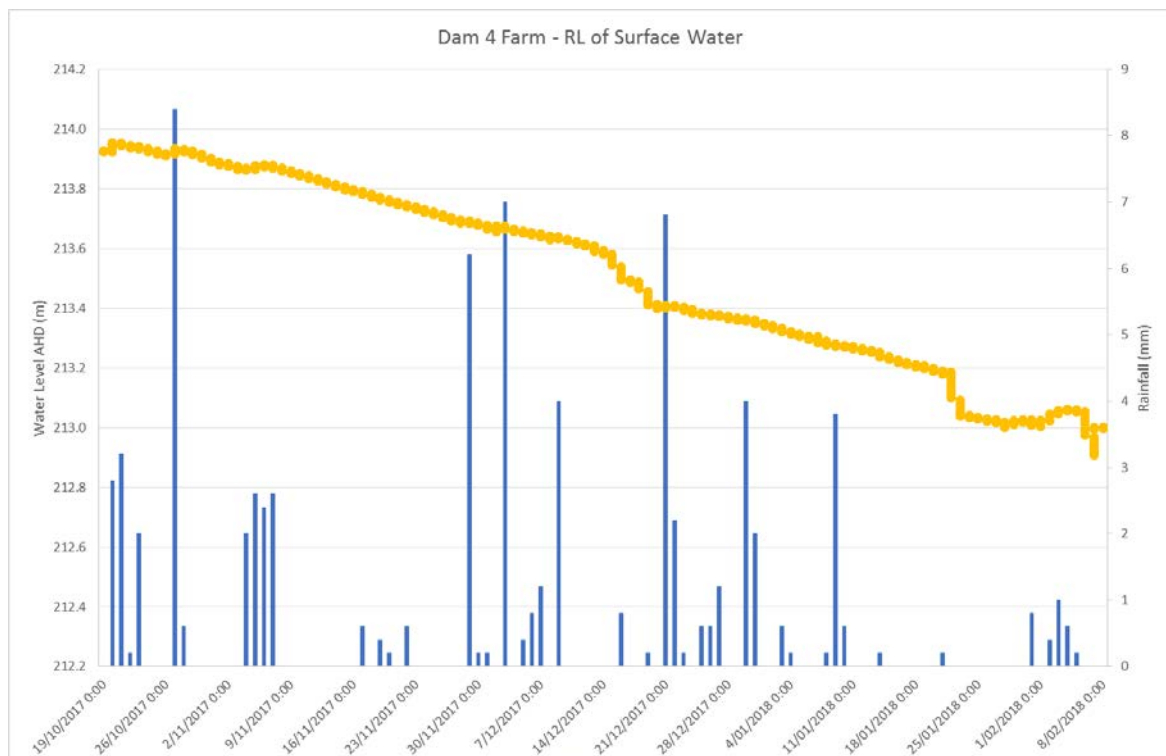
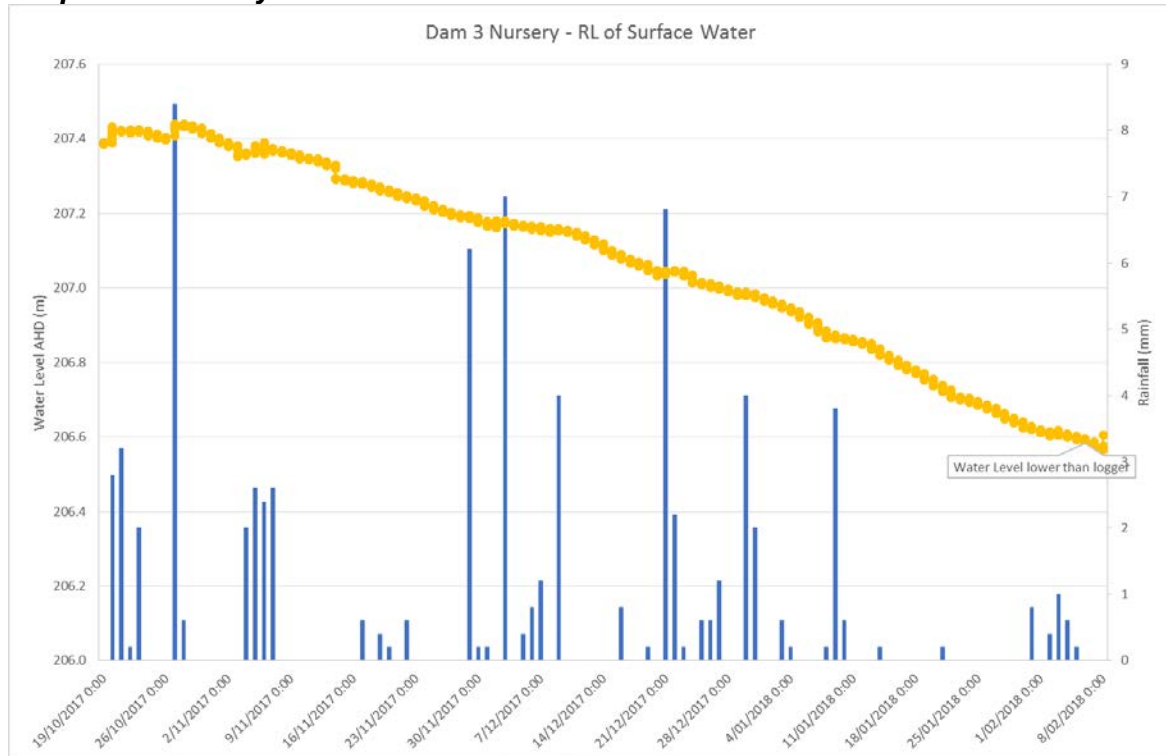
The water level in this dam was below the level of silt in December 2017. The Process Dam is replenished from Dam 2.

Graph 11. Drying 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 12. Nursery Dam 3



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.

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 with the pit. Untouched areas are covered with pasture or tree stands and are not prone to erosion.

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

5.3.4. Measures Proposed for Improvement

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

- Surface water depth monitoring will continue during the next reporting period. Survey will be undertaken so as to allow corrected readings from the loggers to be related to AHD.
- The commitments in the SWMP submitted to the DPE and DoI-Water will be applied and further updates undertaken as required.

5.4. Groundwater

An updated Groundwater Management Plan (GWMP) and Groundwater Monitoring Program has been submitted for approval to the DPE and DoI-W to comply with the current conditions of consent (Mod 2), but has not yet been approved.

5.4.1. Requirements and Predictions

5.4.1.1. *Groundwater Monitoring*

There are no quality parameters for water testing within the consent conditions or the EPL.

Groundwater level monitoring is required under the Mod 2 consent conditions 42-44.

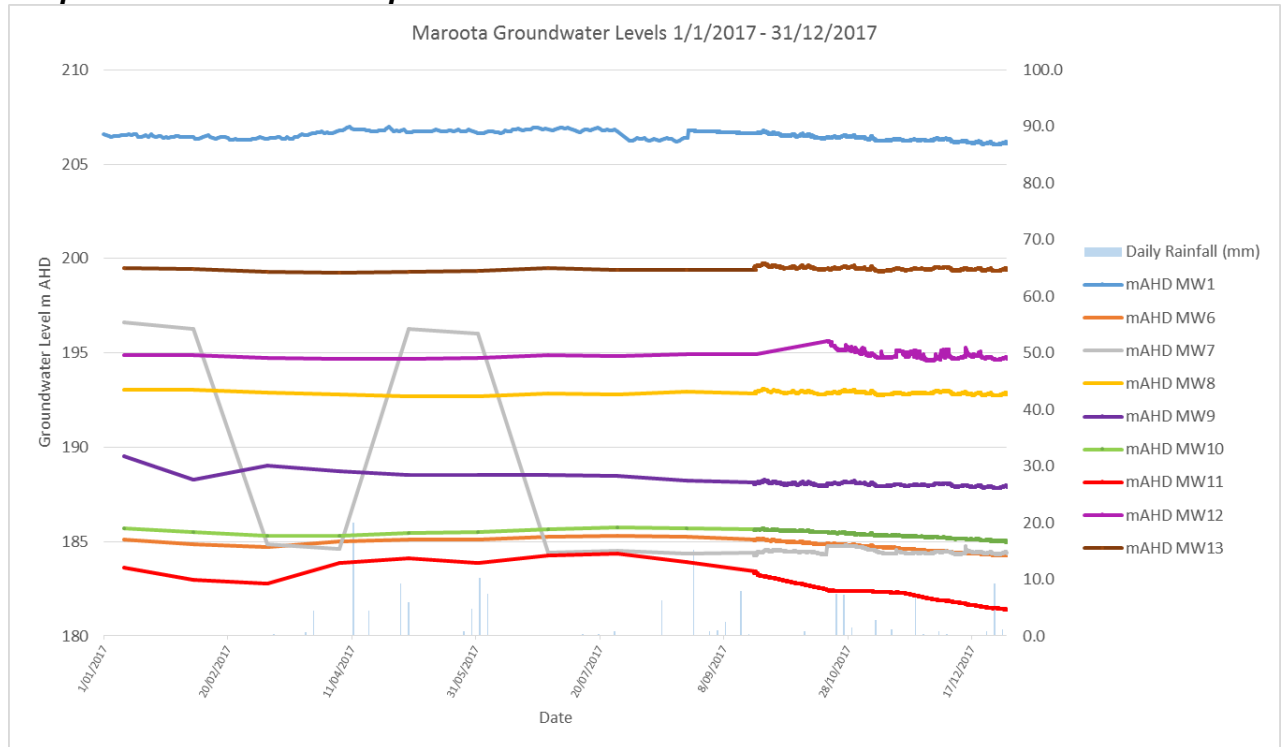
Table 25. Groundwater Level Monitoring

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

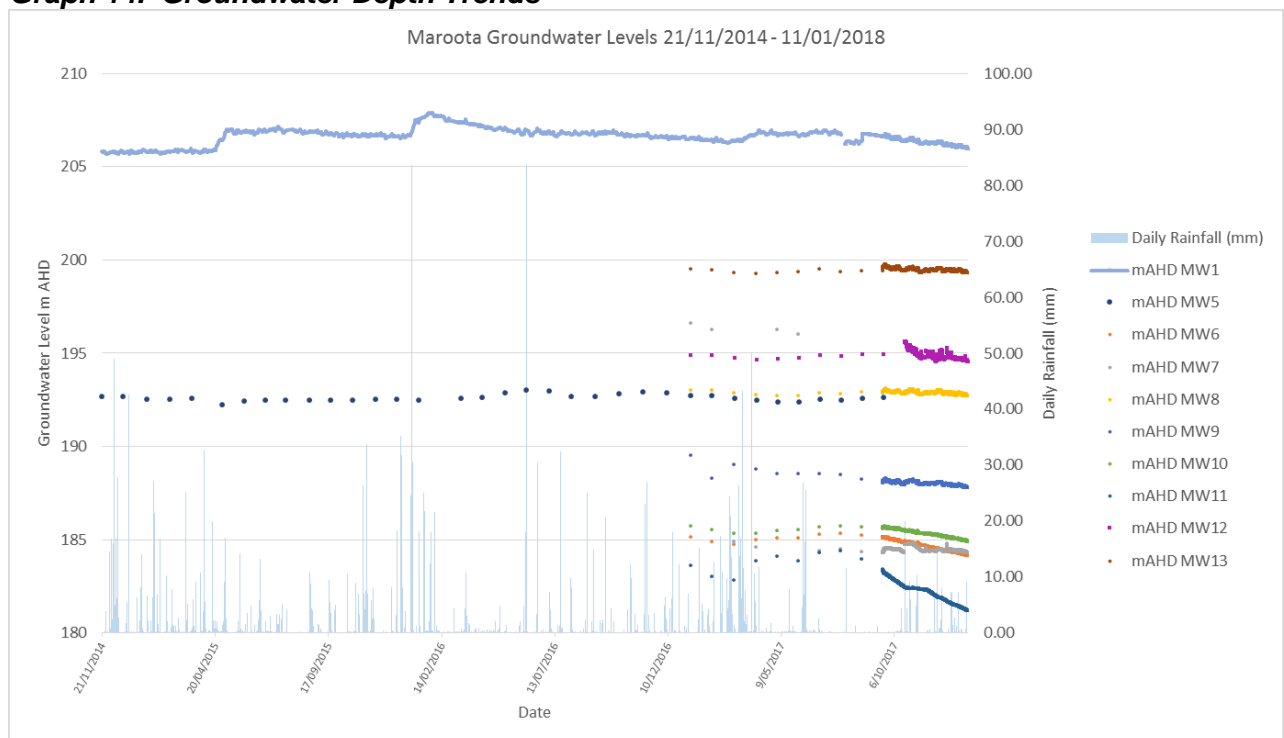
5.4.2. Monitoring Results Compliance and Trends

The following graph illustrates the groundwater level monitoring results from the continuous automatic data loggers and corresponding manual measurements undertaken each month from 2014 to December 2017. The depths have been continuously monitored every month during 2017 and are therefore compliant with all relevant requirements.

Graph 13. Groundwater Depth Results 2017

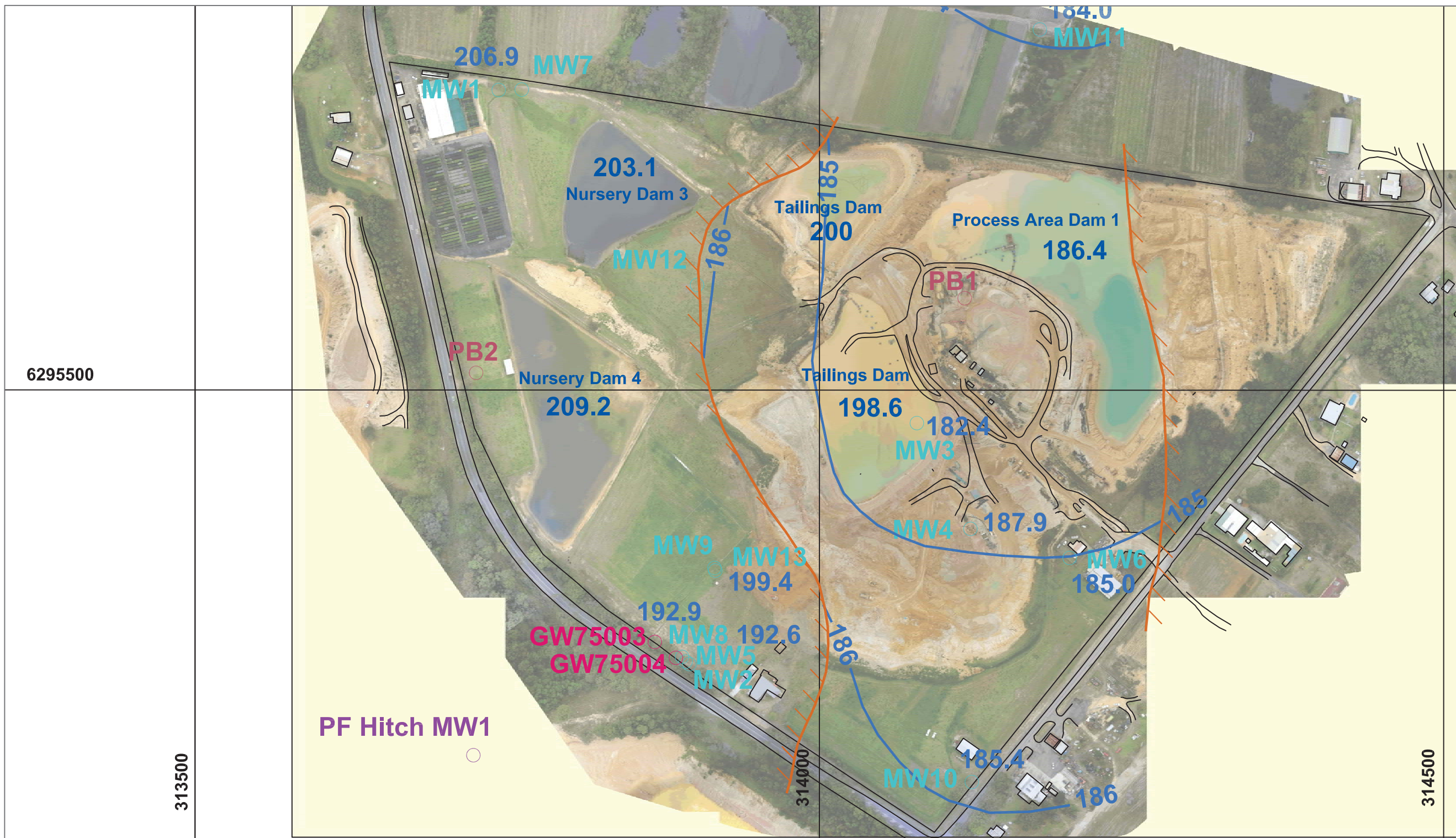


Graph 14. Groundwater Depth Trends



| | | | | | | | |
|----------------------|---|------------------|--|--------------------------|--|-------------------------|--------------------------------|
| Plan of: | Roberts Rd Maroota Sand Quarry Annual Review & Compliance Report 2017 - 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: | 5336_HMA_ARCR17_C005_V0_F5.cdr |
| Figure: | FIVE | 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 16/03/2018 | 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: | |
| PROJECT NO: | 06-0318 | AUTHOR: | PD |
| DRAWING NO: | 06-0318-020d | REVISION: | D |
| Dundon Consulting Pty Ltd | | | |

Hodgson Quarry and Plant Pty Ltd

ROBERTS ROAD MAROOTA SAND QUARRY

Wet Weather High Groundwater Level

Maroota Sands (February 2018)


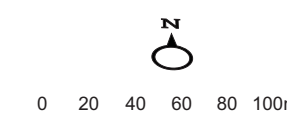
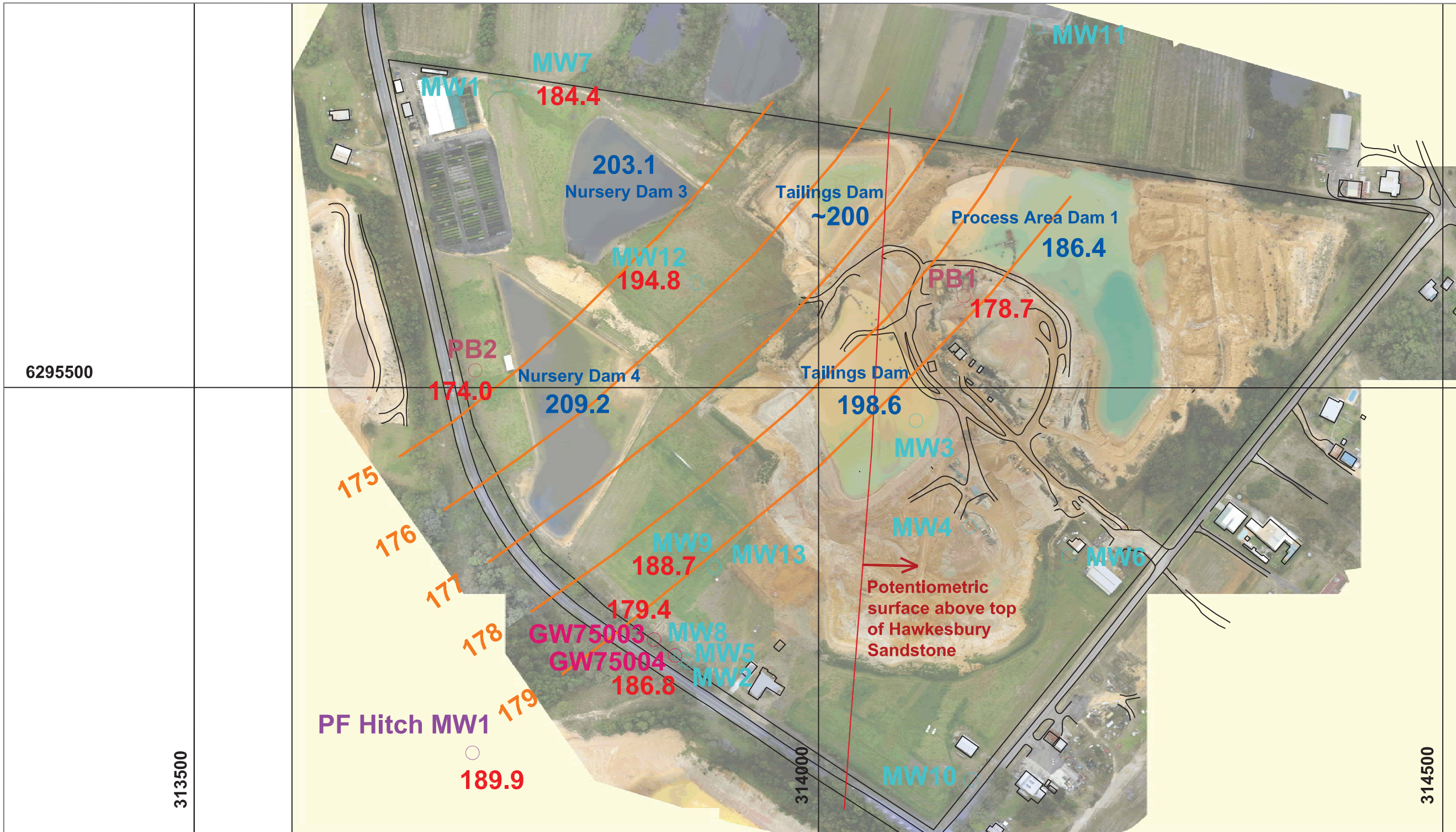
Figure 7

Manager Hodgson Quarries & Plant Pty Ltd: Martin Hodgson
 Signed: *Martin R. Hodgson*
 Date: 20/03/2018

Project Manager VGT: Lisa Thomson
 Signed: *Lisa Thomson*
 Date: 20/03/2018

| | | | | | | | |
|----------------------|--|------------------|--|--------------------------|---|-------------------------|--------------------------------|
| Plan of: | Roberts Rd Maroota Sand Quarry Annual Review & Compliance Report 2017 - 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: | 5336_HMA_ARCR17_C005_V0_F5.cdr |
| Figure: | FIVE | 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 06/03/2018 | 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

Manager Hodgson Quarries & Plant Pty Ltd: Martin Hodgson
 Signed: *Martin Hodgson*
 Date: 20/03/2018

Project Manager VGT: Lisa Thomson
 Signed: *Lisa Thomson*
 Date: 20/03/2018

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 groundwater study will continue until enough data has been collected so that a "wet weather high groundwater level" can be agreed upon by the DoI-W, the DPE and the operator. An interim level has been proposed and is shown in *Figure Five*.

Until the wet weather high groundwater level can be agreed upon, the development will continue to operate in accordance with the following Mod 2 condition:

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.

Aerial survey was undertaken May 2016 and spot surveys were undertaken in June and September 2017 as shown in *Figure Two*.

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 been submitted to the DoI-W and DPE to comply with the current conditions of consent (Mod 2) but has not yet been approved.

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:

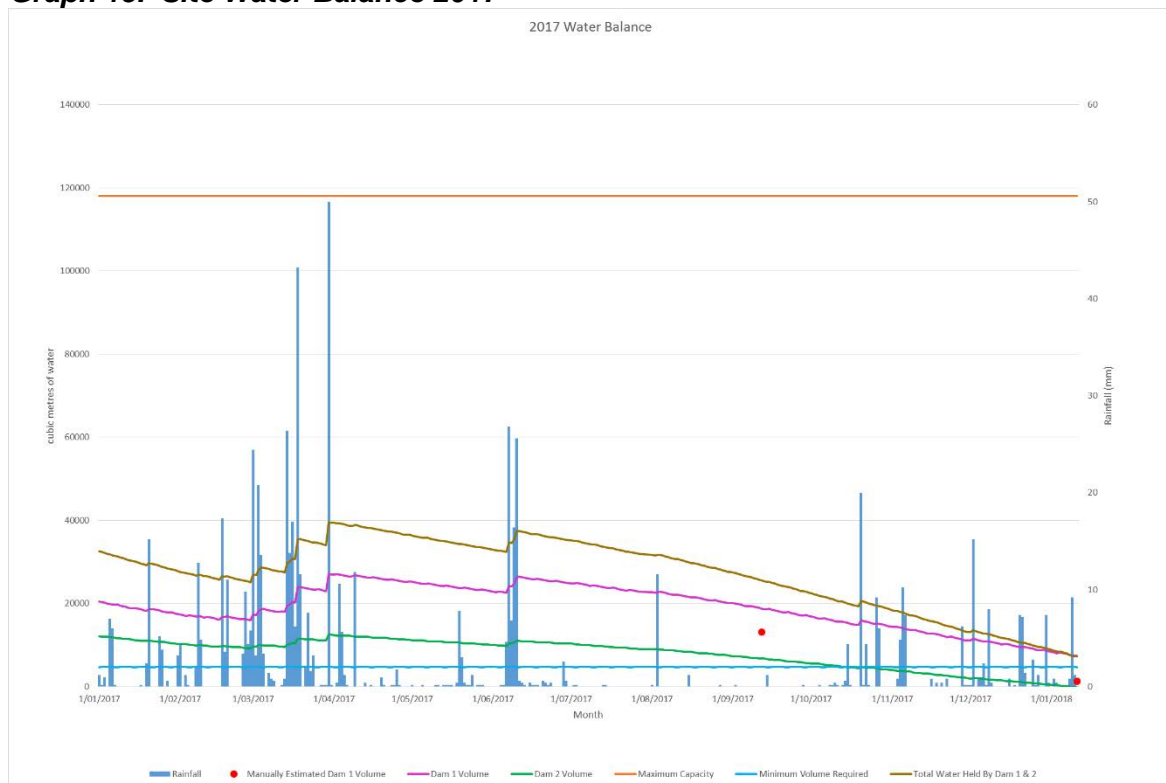
- *includes details of:*
- *sources and security of water supply, including contingency planning;*
- *water use on site;*
- *water management on site, including groundwater inflows to the quarry voids and site discharges; and*
- *audit and reporting procedures, including comparisons of the site water 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 2017 is shown below.

Graph 15. Site Water Balance 2017



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 2017 was used to correlate site observations and measured dam water levels.

From the plot of the predicted water balance, based on actual rainfall data, it can be seen that the plant is likely to run out of water early 2018 if further rainfall is not received. The low water levels have been confirmed by site inspections and photographic evidence.

Previous water balances described the total onsite water storage and did not discriminate between water stored for processing and the water stored and used in the neighbouring nursery. Separation of the water usage in water balance, as more data is now available has revealed that the previous assumptions used in the EIS were found to be somewhat incomplete in describing the actual water storage and usage on the site. The assumptions made in the modelling have been further refined as described in Section 5.5 of the Surface Water Management Plan and in the following.

The dam level logger was installed in Dam 1 in late September 2017 so a full year of data is not available to analyse. 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 hole (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 was estimated at the time of the installation of the logger. The volume was also estimated in January 2018 when it was noted that the dam was virtually dry with only the immediate pump uptake area submerged. At this time the level logger in Dam 1 was below the now dry silt level but was still recording. It is assumed that the levels it has recorded relate to the water held within the silt layer in a similar manner to groundwater bores.

Using the amended assumptions for the water balance it is clear that the water storage of the process dam estimated from the dam logger levels is much lower than the modelled levels. This is likely to be due to the unknown volume of water held in the silt as described above which is drawn upon during the pumping operations. However the downward trend of the overall water levels mirrors that of the model.

A slightly lower runoff coefficient has been used as it appears that the rainfall infiltration rate is higher than the initial Blue Book assumption made. Water usage on the site due to the processing losses, dust suppression and 'out the gate' losses from the product have been reduced as it was apparent that the model would have the site run out of water completely mid to late 2017. Further work will be undertaken to determine moisture levels of the stockpiles and product despatched to confirm the assumptions.

No dissipation from the dams has been accounted for in the amended assumptions. The original dissipation rate was very low in any case and did not make a significant impact on the volumes held. There is currently insufficient data from the loggers as well as the lack of water held in the dams to predict any dissipation rates from the dams at this stage. It is expected as more data is collected better assessments of dissipation rates may be made. 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.

5.5.4. Measures Proposed for Improvement

- Further work will be undertaken to determine moisture levels of the stockpiles and product despatched to confirm the assumptions.
- The Site Water Balance will be updated again for the 2018 Annual Review.

5.6. Process Water Dam

An updated Surface Water Management Plan including the Process Water Dam has been submitted to the DPE and DoPI-W to comply with the current conditions of consent (Mod 2) but has not yet been approved.

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

VGT representatives visited the site on 12th September, 2017 for the purpose of determining the depth of the Process Dam. A technician proceeded around the dam using a boat in an approximate grid pattern taking readings using a hand-held Garmin GPS ($\pm 4\text{m}$) and a marked, weighted disposable groundwater bailer. A depth from the base of the dam (as defined by when the bailer would descend no further under its own weight and contained sediment when lifted out) to the top of the water was measured at each location. These points were then plotted using 3D modelling software (12d).

The recently installed data logger was also surveyed at the top of the casing at 189.551m AHD and a manual measurement was taken to the surface of the water (1.91m). It was then determined that the surface of the water was at 187.64m AHD.

Dam levels have now been tracked by the logger, installed in September 2017, and data obtained will be used to correlate rainfall data and dam volumes for the purposes of refining the water balance. The contours and cross-sections are presented in the Surface Water Management Plan.

The deepest point of the dam was found to be 2.9 metres from the surface of the water, or 185 m AHD in the vicinity of the pump. The remainder of the points measured averaged 0.4 metres from the surface of the water to the top of the sediment, or an average of 187 m AHD.

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:

| 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 26. 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 April 2017 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 the attached report.

5.7.3. Trends and Effectiveness of Controls

Attended noise monitoring was undertaken previously in December 2013 and May 2016. *Table 27* shows a decrease in measured noise at residences.

Table 27. Historic Operator-Attended Noise Survey Results

| Attended Monitoring Results - 3 December 2013 | | | | | |
|---|------|------|------|---------------|--|
| Location | LA10 | LAeq | LA90 | Criteria LAeq | Comment |
| A | 64 | 61 | 57 | 43 | Compliance achieved, contribution of < 40dBA |
| B | 71 | 67 | 52 | 43 | Compliance achieved, contribution of < 40dBA |
| C | 61 | 58 | 48 | 43 | Compliance achieved, contribution of < 30dBA |
| 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 |

5.7.3.1. *Effectiveness of Noise Management Controls***Table 28. 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 measured on all excavators were less than 76 dBA at 7m. | Yes |
| New equipment purchased checked by qualified noise consultant for compliance prior to commissioning | Not currently required | Yes |

5.7.4. **Measures Proposed for Improvement**

As seen from the previous section, the current controls and mitigation measures in place are effective. Improvements in site training and practices have seen a decrease in monitoring results.

During the next reporting period, attended operational and road traffic noise monitoring will be undertaken at the nominated locations. Additional monitoring will be undertaken as required in accordance with condition 47.

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 29. 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 30. 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. Monitoring to be undertaken in January 2018. |
| 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

The Flora and Fauna Management Plan 2016 recommends monitoring annually in spring or summer. Monitoring is scheduled for January 2018 and will be reported in the next Annual Review.

There has been no evidence of feral animals on the site. No weed spraying was conducted during the reporting period.

5.8.3. Interpretation and Effectiveness of Controls

All site staff and contractors are aware of the flora exclusion areas. Future monitoring trends will improve the effectiveness of these controls.

5.8.4. Measures Proposed for Improvement

- Monitoring will be undertaken in summer.
- Reshaping to commence in the north east section of the site shown on *Figure Four*.
- Grevilleas to be planted on the perimeter bund walls.
- Weed management activities will be undertaken as required.

5.9. Rehabilitation

The updated Landscape and Rehabilitation Management Plan (LRMP) was submitted to the DPE on 29th June 2017. Comments were received regarding this plan on the 8th February 2018 and subsequent changes are due to be submitted before 23/3/18.

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

There has been very little progressive rehabilitation to date and there are no monitoring results to determine any trends in rehabilitation efforts and successes.

Table 31. Rehabilitation Status

| Mine Area Type | 2016 Ha* | 2017 Ha* | 2018 (Forecast) Ha |
|--|----------|----------|--------------------|
| Total Mine Footprint | 14.1 | 16.2 | 17.6 |
| Total Active Disturbance | 6.8 | 14.6 | 16.1 |
| Land Being Prepared for Rehabilitation | 1.9 | 1.9 | 1.9 |
| Land Under Active Rehabilitation | 0.7 | 1.6 | 1.5 |
| Completed Rehabilitation | 0 | 0 | 0 |

* Hectares estimated from Google Earth

5.9.3. Interpretation and Effectiveness of Controls

The perimeter bundwalls have been revegetated with grass 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 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 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:

Reinstatement of the 10m buffer from the northern boundary

Use of this buffer as an access road for the emplacement area in the north east

Commence reshaping of this area

Submit and implement the Rehabilitation and Landscape Plan.

Section 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.

| 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 | Updated performance criteria will be developed in the WMP in the next reporting period. |
| Sediment and Erosion | To control erosion on the site to as to reasonable prevent impacts off site | Updated performance criteria will be developed in the WMP in the next reporting period. |
| 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 | Rehabilitation Plan to be updated by 23/3/18 |

Section 7. Actions to Address Non-Compliances

7.1. 2017 Independent Audit

An Independent Environmental Audit (IEA) was undertaken during 2017 by Newport Technical Services Pty Ltd in accordance with condition 70. The final audit report was submitted to the DPE on 14th September 2017 along with a response from the operator.

The DPE issued the following via email on 29/9/17:

I have reviewed the Independent Environmental Audit report prepared by Newport Technical Services Pty Ltd dated 8 August 2017.

This email is to inform you that the Department is considering potential compliance action for breaches of Conditions 40 and 45 in accordance with the Department's Compliance Policy.

Condition 40

The audit report identified that the groundwater study report was not submitted to the Department and DPI-Water within six months of commissioning the study.

Further, the study report was found to be inadequate in determining the location of the wet weather high groundwater table and further information is required. This has caused undue delay in filling areas of the site as required by Condition 41.

Condition 45

The audit report identified that an assessment of the process water dam has not been carried out.

The purpose of this email is to give you the opportunity to provide any further information you would like the Department to consider in this matter.

Any response should be received by the Department by Friday 6 October 2017 (extended to Wednesday 11 October 2017).

A letter response to this request was submitted 11th October 2017, with receipt acknowledged the same day. No further correspondence on this issue has been received from DPE.

Actions taken and planned towards addressing those non-conformances are outlined in Table 3.

7.2. Actions and Improvements Planned for 2018

Table 32. Summary of Proposed Improvements

| Aspect | Improvement |
|-----------------|---|
| Air Quality | A mobile sprinkler will be 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 |
| Water | Seek approval of the Groundwater Study, Groundwater Management Plan, Groundwater Monitoring Plan and Surface Water Management Plan, and undertaken implementation |
| Noise | Undertake attended operational and road traffic noise monitoring, including compliance with conditions 47 (a) and (b) |
| Flora and Fauna | Undertake monitoring according to FFMP |
| Rehabilitation | Seek approval of the Landscape and Rehabilitation Management Plan, and undertaken implementation |

Section 8. 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 2017 to December 2017

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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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 | Two | |
| General | | | | |
| <i>Obligation to Prevent and Minimise Harm to the Environment</i> | | | | |
| 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 | |
| <i>Adherence to Terms of DA and EIS</i> | | | | |
| 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

| 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) | |
| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Where addressed in Annual Review or other document |
| 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. | Appendix K |
| 4 | 4 | The Applicant shall ensure that all contractors and sub-contractors are aware of, and comply with, the Conditions of this Consent. | Appendix J |
| 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. | 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. | Appendix A |
| 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; | Section 3 |
| 6 (e) | 6 (e) | (e) a record of all complaints and the actions taken to mitigate all such complaints; | 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 2017 to December 2017

DA Conditions

| 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) | |
| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | 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. | 1.1 |
| 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; | Figures |
| 8 b) | 8 b) | (b) submitted the Conditions Compliance Report required under Condition 6; and | Appendix A |
| 8 c) | 8 c) | (c) obtained all licences necessary for the commencement of extraction. | 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. | Not required |
| 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 | 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. | 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. | 4.2, Appendix E |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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|--|--|---|------------------------------|--|
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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 | | 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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 |
| 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

| Compliant | | Compliance Summary | | |
|--|--|---|--|--|
| 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) | | |
| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 |
| Hours of Operation | | | | |
| 16 | 16 | Unless prior written approval of the EPA is obtained, the hours of operation are: <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. No works shall be undertaken on Sundays or Public Holidays. These restrictions do not apply to routine maintenance work, such as the repair of machinery, provided the work does not result in exceedance of the noise limits in Condition 47. | Hours included in induction | 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 186 in the consented cells. | 5.4, Figure Two, Figure Five |
| 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 2017 to December 2017

DA Conditions

| Compliant | | Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence | | |
|--|--|--|---|--|
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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 | | 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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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 | Deleted | | |
| | 24 | Deleted | | |
| | 25 | Deleted | | |
| | 26 | Deleted | | |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

| Compliant | | | |
|--|--|---|--|
| Non Compliant: High Risk | | Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence | |
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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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Where addressed in Annual Review or other document |
| 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 | 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. | 5.2 |
| Air Quality Management | | | |
| 28 | 29 | The Applicant shall prepare an Air Quality Management Plan as part of the EMP. The Air Quality Management Plan shall: | AQMP |
| 28 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; | 5.2 |
| 28 (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; | 5.2 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Where addressed in Annual Review or other document |
| 28 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. Limited rehabilitation has been undertaken on the site due to the cell staging that has been required. Some planting has been some on the bundwalls. In excess of 3 hectares of the site is exposed, however dust levels are still compliant - therefore this is a low risk. |
| 28 d) | 29 d) | (d) provide details of actions to ameliorate impacts if they exceed the relevant criteria; and | Section 5 of AQMP 2016 |
| 28 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. Dust results compliant, therefore controls effective. |
| 29 | 29 | The Applicant shall implement the approved management plan as approved from time to time by the Secretary | Dust results compliant, therefore controls effective. |
| 30 | 30 | Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises | Dust results compliant, therefore controls effective. |
| 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. |
| 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. Dust results compliant. |
| 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 |
| 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 |
| Air Quality Monitoring | | | |
| 35 | 35 | All monitoring equipment is to be installed and operational prior to commencement of construction. | Dust and HVAS monitoring equipment is installed and operating |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 | | | | |
| 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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. Interim groundwater contours development but not approved | 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 submitted 14/11/16, comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | 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 received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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| Non Compliant: Administrative | | | | |
| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| Water Management Plan | | | | |
| 42 | 42 | The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with DPI-Water 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 to be re-submitted before 23/3/18 | 5.4 |
| 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 to be re-submitted before 23/3/18 | 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; | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | 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; | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 42(b) | 42(b) | <ul style="list-style-type: none"> performance criteria, including trigger levels for investigating any potentially adverse impacts for surface water quality; | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |
| 42(b) | 42(b) | <ul style="list-style-type: none"> 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; | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |
| 42(b) | 42(b) | <ul style="list-style-type: none"> a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project; | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |
| 42(b) | 42(b) | <ul style="list-style-type: none"> long term water quality management objectives and the measures to achieve these objectives; | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |
| 42(b) | 42(b) | <ul style="list-style-type: none"> a plan that ensures surface stormwater runoff from the disturbed areas is directed to the sedimentation dam(s); | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |
| 42(b) | 42(b) | <ul style="list-style-type: none"> 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; | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 42(b) | 42(b) | <ul style="list-style-type: none"> a detailed description of design and construction criteria for the Process Water Dam based on a feasibility study of: <ul style="list-style-type: none"> 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) | <ul style="list-style-type: none"> a strategy for the decommissioning of water management structures, including storage, sedimentation and leachate dams once extraction is complete; and | Surface water management plan submitted 31/1/17 (approval for extension received 29/11/16). Comments received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | WMP |
| 42(b) | 42(b) | <ul style="list-style-type: none"> audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of surface water monitoring results; | Groundwater depths reported monthly on website. Surface water discharge not occurred therefore no monitoring undertaken. | WMP, 5.3, 5.4 |
| 42(c) | 42(c) | <p>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:</p> <ul style="list-style-type: none"> detailed baseline data on groundwater yield and quality in groundwater bores on privately-owned land, that could be affected by the project; | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | GW Management Plan |
| 42(c) | 42(c) | <ul style="list-style-type: none"> a program to undertake surveyed probe testing of all extracted areas where clay fines have been deposited to: <ul style="list-style-type: none"> 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; | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 | GW Management Plan |

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Where addressed in Annual Review or other document |
| 42(c) | 42(c) | <ul style="list-style-type: none"> a program to monitor potential groundwater quality impacts to the regional aquifer from receiving off-site runoff water in the Process Water Dam; | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 GW Management Plan |
| 42(c) | 42(c) | <ul style="list-style-type: none"> groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts, in accordance with the NSW Aquifer Interference Policy; | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 GW Management Plan |
| 42(c) | 42(c) | <ul style="list-style-type: none"> a program to monitor: <ul style="list-style-type: none"> o the impacts of the project on: <ul style="list-style-type: none"> - 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; | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 GW Management Plan |
| 42(c) | 42(c) | <ul style="list-style-type: none"> a plan to respond to any exceedances of the groundwater assessment criteria; | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 GW Management Plan |
| 42(c) | 42(c) | <ul style="list-style-type: none"> emergency contingency plans for implementation in the event that the groundwater is encountered during excavation; and | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 GW Management Plan |

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Where addressed in Annual Review or other document |
| 42(c) | 42(c) | <ul style="list-style-type: none"> 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. | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 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: | Not yet approved 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; | Submitted 23rd August 2016 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 |
| 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. | Comments on Groundwater Study, Water Mangement Plan and Groundwater Monitoring Program received 30/1/18 + 8/2/18. Due for re-submission 23/3/18 Not required |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 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 |
| 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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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 | | 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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 27/4/2017 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 27/4/2017 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 in April 2017 demonstrates compliance | 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. | Noise monitoring undertaken in April 2017 demonstrates compliance | 5.7, Appendix I |
| 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 in April 2017 demonstrates compliance | 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. | No new equipment this report period. | Not required |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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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 | | 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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 in April 2017 demonstrates compliance | 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 2017 to December 2017

DA Conditions

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|--|--|---|---|--|
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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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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 26 in July and August 2017, which equates to an average of 2.2 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 proceeding month and the Council will then, as soon as it can conveniently do so, issue an invoice to the Applicant, to be paid within fourteen days; (d) The Council has the right to inspect and have the original records relating to any extraction/processing material, including numbers and types of laden trucks, trailers and load quantities transported from the property audited, at any time when Council makes a written request to do so; (e) The Council will pay all the said contribution payments into a specially identified account for payment towards the rehabilitation, restoration, repair and/or maintenance of Old Northern and Wisemans Ferry Roads within the Baulkham Hills Shire boundary. | Records indicate Section 94 contributions are paid. | |
| Flora and Fauna | | | | |
| | 52 | Deleted | | |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

| Compliant | | Compliance with all conditions | | |
|--|--|--|---|--|
| 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) | | |
| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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. | Limited rehabilitation has been undertaken on the site due to the cell staging that has been required. | 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 | | | | |
| <i>Rehabilitation Objectives</i> | | | | |
| 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | Not required |
| Table 1 | Table 1 | <p>Surface Infrastructure</p> <ul style="list-style-type: none"> • Decommissioned and removed, unless the Secretary agrees otherwise | Rehabilitation Plan submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | Not required |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| Table 1 | Table 1 | Quarry Benches • Landscaped and vegetated using native tree and understorey species | Rehabilitation Plan submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | Not required |
| Table 1 | Table 1 | Quarry Pit Floor • Landscaped and revegetated using improved pasture species, native trees and understorey species | Rehabilitation Plan submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | Not required |
| Table 1 | Table 1 | Final Void • Minimise the height and slope of batters • Minimise the drainage catchment | Rehabilitation Plan submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | Not required |
| Table 1 | Table 1 | Community • Ensure public safety • Minimise the adverse socio-economic effects of quarry closure | Rehabilitation Plan submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | Not required |
| 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 | 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | 5.9 |
| 60(b) | 60(b) | (b) provide details of the conceptual final landform and associated land uses for the site; | Rehabilitation Plan submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | LRMP |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | LRMP |
| 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | LRMP |
| 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | LRMP |

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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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 submitted 30/6/2017, comments received 8/2/18. Re-submission due 23/3/18 | 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: | Calculation submitted 30/6/2017. Not yet approved | Not required |
| 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 | Calculation submitted 30/6/2017. Not yet approved | 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 March 2020. | Not required |
| 62(a) | 62(a) | (a) effects of inflation; | March 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 | March 2020 | Not required |
| 62(c) | 62(c) | (c) performance of the implementation of the rehabilitation of the site to date. | March 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 2017 to December 2017

DA Conditions

| Compliant | | Compliance with all conditions | | |
|--|--|--|---|--|
| 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) | | |
| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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. | No exceedances of criteria or performance measures this report period | Not required |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | 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 2016, current report period 1/1/17 to 31/12/17. | Submitted March 2018 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

DA Conditions

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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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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 |
| 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> | Independent Audit final report received 8/8/2017. Review undertaken September 2017. Awaiting approval of Water reports and LRMP | Due 3 months from approval of this report |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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. | Applicant unaware of any reportable incidents | Not required |
| 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 been 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 2017 to December 2017

DA Conditions

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| Mod 2 Condition Compliance at 31/12/2016 | Mod 2 Condition Compliance at 31/12/2017 | Condition Text | Details of compliance status | Where addressed in Annual Review or other document |
| 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> | Approved documents available at www.vgt.com.au/hodgsons . Updated monthly | |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2016 to December 2016

EPL Licence no. 6535

| Compliant | | |
|---|--|---|
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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) | |
| 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2016 to December 2016

EPL Licence no. 6535

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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 May 2016 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 May 2016 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2016 to December 2016

EPL Licence no. 6535

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| Condition | Condition Text | Details of compliance status |
| 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 May 2016 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 May 2016 has been recorded and retained. |
| M1.3 | The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample. | "Samples" not required by this licence. Date, time, location and technician undertaking noise monitoring has been included in the noise monitoring report. |
| M2.1 | The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies. | No complaints have been made. Log book is maintained on site and reported on website |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2016 to December 2016

EPL Licence no. 6535

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| Condition | Condition Text | Details of compliance status |
|-------------|--|--|
| 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 2016 to December 2016

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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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2016 to December 2016

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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 |
|---|--|--|
| 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 |
| 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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2016 to December 2016

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| Condition | Condition Text | Details of compliance status |
|---------------------------|--|------------------------------------|
| 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 2016 to December 2016

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 2016 to December 2016

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 2016 to December 2016

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 2017 to December 2017

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 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. | |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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 |
|---------------------------------|--|-------------------|
| MW060300001 | The total volume of water taken under this access licence in any water year must not exceed a volume equal to: A. the sum of water in the account from the available water determination for the current year, plus B. the net amount of water assigned to or from the account under a water allocation assignment, plus C. any water recredited by the Minister to the account. | |
| Monitoring and recording | | |
| MW233800001 | The completed logbook must be retained for five (5) years from the last date recorded in the logbook. | |
| MW233600001 | The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken. | |
| 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 2017 to December 2017

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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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 |
|-------------------------------|---|---|
| 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 | | |
| 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 2017 to December 2017

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 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. | |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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 |
|---------------------------------|--|-------------------|
| MW060300001 | The total volume of water taken under this access licence in any water year must not exceed a volume equal to: A. the sum of water in the account from the available water determination for the current year, plus B. the net amount of water assigned to or from the account under a water allocation assignment, plus C. any water recredited by the Minister to the account. | |
| Monitoring and recording | | |
| MW233800001 | The completed logbook must be retained for five (5) years from the last date recorded in the logbook. | |
| MW233600001 | The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken. | |
| 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 2017 to December 2017

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 |

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2017 to December 2017

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 |
|-------------------------------|---|---|
| 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 | | |
| 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

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

| | |
|------------------------------|---|
| The Act | <i>Environmental Planning and Assessment Act 1979, as amended</i> |
| 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:
- environmental objectives for the site;
 - the Air Quality Management Plan (Condition 29);
 - the **Water Management Plan (Condition 42)**;
 - the Noise Management Plan (Condition 46);
 - the Road Noise Management Plan (Condition 48);
 - the Flora and Fauna Management Plan (Condition 55); and
 - 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 $L_{A1,1 \text{ minute}}$ 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.

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

| | <u>Scale</u> |
|----------------------------------|--|
| 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.

Environment Protection Licence

Licence - 6535



1 Administrative Conditions

A1 What the licence authorises and regulates

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

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

| Scheduled Activity | Fee Based Activity | Scale |
|----------------------------------|----------------------------------|--|
| Crushing, Grinding or Separating | Crushing, grinding or separating | > 100000 - 500000 T 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.

Environment Protection Licence



Licence - 6535

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 |

Environment Protection Licence



Licence - 6535

| | |
|--|--|
| flow weighted composite sample | Means a sample whose composites are sized in proportion to the flow at each composites time of collection. |
| general solid waste (putrescible) | Has the same meaning as in Part 3 of Schedule 1 of the Protection of the 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.

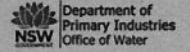
More information: Should you require further information or technical assistance, please submit your request to water.enquiries@dpi.nsw.gov.au or contact 1800 353 104.

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:-

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

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(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.

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

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

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End Of Conditions

Information about a water licence or approval

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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 ▼

605696

Notes:

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

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

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

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

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

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
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

Portion(s) or Lot/Section/DP
1//228308

PARISH
Maroota

COUNTY
Cumberland

MW 8, 9, 13

TYPE OF WORKS

PURPOSE(S) FOR WHICH WATER MAY BE USED

Bore

Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

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

- (1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.
- (2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-
- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).
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- (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:-

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- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
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- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
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(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

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(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

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

| <u>Portion(s) or Lot/Section/DP</u> | <u>PARISH</u> | <u>COUNTY</u> |
|-------------------------------------|---------------|---------------|
| B//356946 | Maroota | Cumberland |

MW11

| <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
10BL605797
ISSUED UNDER PART V OF THE WATER ACT, 1912
ON 29-Aug-2016**

- (1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.
- (2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-
- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).
- (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.

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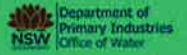
End Of Conditions

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

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.

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- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
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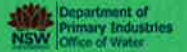
End Of Conditions

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**

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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-7HVV | |



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

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

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

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

Notes:

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

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

- [Water Act 1912 Licences and Authorities](#)
- [Approval issued under the *Water Management Act 2000*](#)

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

- [Water licence conversion status](#)

« Previous Search

Print Export

Search Results

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

| | | | | | |
|-------------------|---------|---|------------|--|--------|
| Unregulated River | Current | Hawkesbury And Lower Nepean Rivers Water Source | Continuing | Lower Hawkesbury River Management Zone | 264.00 |
|-------------------|---------|---|------------|--|--------|

Extraction Times or Rates

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

Nominated Work Approval(s)

10CA104888

- Conditions

Plan Conditions

Water sharing plan

Greater Metropolitan Region Unregulated River Water Sources

Take of water

MW0112-00001

The maximum water allocation that may be carried over in the account for this access licence from one water year to the next water year is:
 A. a volume equal to 100 % of the share component of the licence, or
 B. 1 ML/unit share of the share component of the licence.

MW0036-00002

The volume of water taken in any three (3) consecutive water years from 1 July 2012 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in the logbook.

MW0605-00001

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

MW0670-00001

Water must only be taken if there is visible flow in the water source at the location where water is to be taken.

This restriction does not apply if water is to be taken:

- A. from an off-river pool, an in-river pool, a runoff harvesting dam or an in-river dam pool, or
- B. from the following Weirs: Maldon, Douglas Park, Menangle, Camden, Sharpes, Cobbity, Mount Hunter Rivulet, Brownlow Hill, Theresa Park and Wallacia.

MW0013-00002

- A. Water must not be taken from the Lower Hawkesbury River Management Zone of Hawkesbury and Lower Nepean Rivers Water Source when flows are in the Very Low Flow Class.
- B. This restriction will only apply when the system that confirms when water can be taken is available on the relevant licensor website.
- C. the relevant licensor will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.

This restriction does not apply if water is to be taken from a runoff harvesting dam or an in-river dam pool.

MW0004-00002

From 1 July 2012, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either:

- A. the sum of:
 - i. water in the account from the available water determinations in those 3 consecutive water years, plus
 - ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus
 - iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus
 - iv. any water re-credited by the Minister to the account in those 3 consecutive water years,

or

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

Monitoring and recording

- MW2338-00001 The completed logbook must be retained for five (5) years from the last date recorded in the logbook.
- MW2337-00001 The following information must be recorded in the logbook for each period of time that water is taken:
- A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and
 - B. the access licence number under which the water is taken, and
 - C. the approval number under which the water is taken, and
 - D. the volume of water taken for domestic consumption and/or stock watering.
- MW2339-00001 A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.

Reporting

- MW0051-00002 Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by:
- A. email: water.enquiries@dpi.nsw.gov.au,
- or
- B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

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).

Information about a water licence or approval

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

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

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

Search for information about either a:

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

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

Water licence conversion status

Water Licence Number

10 ▼

BL ▼

157595

Notes:

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

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

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

« Previous Search

Print Export

Search Results

Access licenses created for '10BL157595'

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

Extraction Times or Rates

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

Nominated Work Approval(s)

10CA114819

- Conditions

Plan Conditions

Water sharing plan

Greater Metropolitan Region Groundwater Sources

Take of water

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

MW0606-00001 The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.

MW2337-00001 The following information must be recorded in the logbook for each period of time that water is taken:
 A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and
 B. the access licence number under which the water is taken, and
 C. the approval number under which the water is taken, and
 D. the volume of water taken for domestic consumption and/or stock watering.

MW2339-00001 A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.

Reporting

MW0051-00002 Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by:
 A. email: water.enquiries@dpi.nsw.gov.au,
 or
 B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

Approvals created for '10BL157595'

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

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

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

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

Water Access Licences nominating these works

| Reference Number | WAL Number |
|------------------|------------|
| 10AL114818 | 24157 |

- Conditions

Plan Conditions

Water sharing plan

Greater Metropolitan Region Groundwater Sources

Take of water

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

Water management works

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

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

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

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

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

When decommissioning the work the approval holder must:

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

Monitoring and recording

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

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

Reporting

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

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

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

Other Conditions

Water management works

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

Land to which the converted entitlement previously related.

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

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

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

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

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



Appendix E: Complaints Register

Hodgsons Quarries Complaints Register

Date published:

16/01/2018

| Date Received | Site Complaint Regarding | Pollution Complaint Category | | | | | |
|---------------|--------------------------|------------------------------|-------|-------|-------|---------|-------|
| | | Air | Water | Noise | Waste | Traffic | Other |
| 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 | | | | | | |

Complaints Details Sheet*To be completed for each complaint and maintained for at least 4 years*

| | |
|---------------------------------|--|
| Date and Time of Complaint | |
| Method Received | <i>eg in person, telephone, email, in writing</i> |
| Personal details of complainant | <i>or state "Not Provided"</i> |
| Name | |
| Phone Number | |
| Address | |
| | |
| Category of Complaint | Air / dust |
| | Water |
| | Noise |
| | Waste |
| | Traffic |
| | Other: description |
| | |
| Nature of Complaint | |
| | |
| | |
| Person Responding to complaint | |
| Date of Response | |
| Action taken | <i>Including reason for no action</i> |
| | |
| Follow up required? | <i>eg, changes to induction, management plans, notification to authorities</i> |

Appendix F: Weather Data Summaries

ANNUAL CLIMATOLOGICAL SUMMARY

NAME: Hodgson Maroota CITY: STATE:
 ELEV: 203 m LAT: 33° 30' 00" S LONG: 151° 00' 00" E

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

| YR | MO | MEAN MAX | MEAN MIN | MEAN | DEP. | HEAT | COOL | HI | DATE | LOW | DATE | MAX >=32 | MAX <=0 | MIN <=0 | MIN <=-18 |
|----|----|-------------|-------------|------|--------------|-------------|-------------|------|------|------|------|-------------|------------|------------|--------------|
| | | | | | FROM NORM | DEG DAYS | DEG DAYS | | | | | | | | |
| 17 | 1 | 31.4 | 18.8 | 24.5 | 0.0 | 2 | 193 | 42.4 | 13 | 16.0 | 8 | 14 | 0 | 0 | 0 |
| 17 | 2 | 30.4 | 18.5 | 23.4 | 0.0 | 5 | 148 | 45.5 | 11 | 14.5 | 21 | 11 | 0 | 0 | 0 |
| 17 | 3 | 25.3 | 17.1 | 20.3 | 0.0 | 15 | 77 | 34.0 | 29 | 13.1 | 30 | 1 | 0 | 0 | 0 |
| 17 | 4 | 20.8 | 11.9 | 15.1 | 0.0 | 19 | 2 | 25.0 | 1 | 10.6 | 6 | 0 | 0 | 0 | 0 |
| 17 | 5 | 19.8 | 9.2 | 13.8 | 0.0 | 147 | 7 | 24.1 | 6 | 1.3 | 30 | 0 | 0 | 0 | 0 |
| 17 | 6 | 16.3 | 7.9 | 11.5 | 0.0 | 194 | 0 | 19.9 | 12 | 3.6 | 27 | 0 | 0 | 0 | 0 |
| 17 | 7 | 17.1 | 5.4 | 10.9 | 0.0 | 196 | 1 | 21.4 | 18 | 1.0 | 22 | 0 | 0 | 0 | 0 |
| 17 | 8 | 18.2 | 6.9 | 12.2 | 0.0 | 196 | 5 | 24.9 | 11 | 4.2 | 20 | 0 | 0 | 0 | 0 |
| 17 | 9 | 22.1 | 7.7 | 14.3 | 0.0 | 100 | 18 | 32.4 | 13 | 3.6 | 10 | 1 | 0 | 0 | 0 |
| 17 | 10 | 24.2 | 12.8 | 17.9 | 0.0 | 37 | 28 | 31.5 | 9 | 7.6 | 1 | 0 | 0 | 0 | 0 |
| 17 | 11 | 22.7 | 11.3 | 16.7 | 0.0 | 44 | 17 | 28.6 | 3 | 8.7 | 1 | 0 | 0 | 0 | 0 |
| 17 | 12 | 28.9 | 15.6 | 21.4 | 0.0 | 10 | 50 | 37.7 | 14 | 13.1 | 10 | 3 | 0 | 0 | 0 |
| | | 23.0 | 11.9 | 16.8 | 0.0 | 965 | 547 | 45.5 | FEB | 1.0 | JUL | 30 | 0 | 0 | 0 |

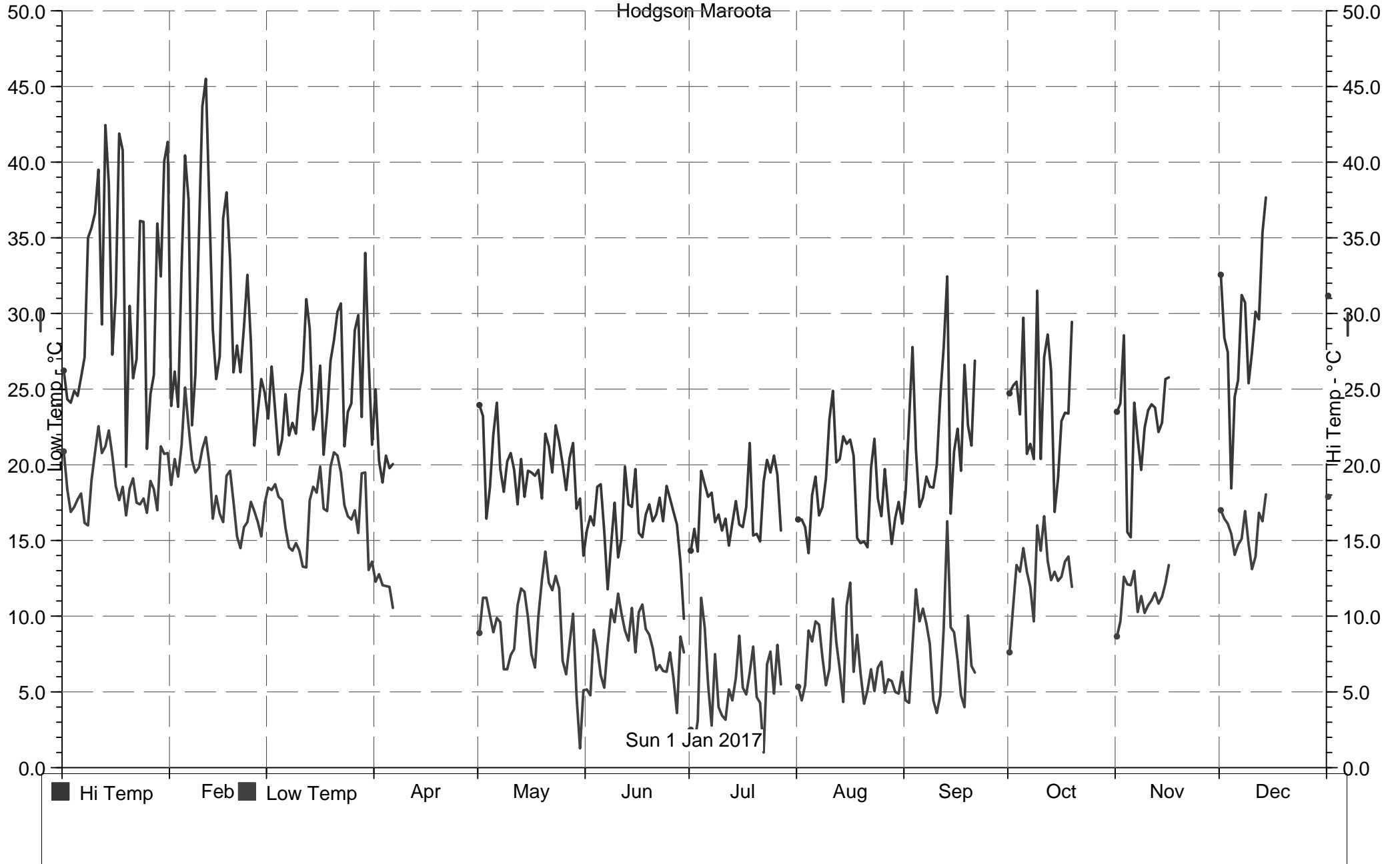
PRECIPITATION (mm)

| YR | MO | TOTAL | DEP. | MAX | DATE | DAYS OF RAIN OVER | | |
|----|----|-------|--------------|-------------|------|----------------------|----|----|
| | | | FROM NORM | OBS. DAY | | .2 | 2 | 20 |
| 17 | 1 | 46.2 | 0.0 | 15.2 | 20 | 13 | 7 | 0 |
| 17 | 2 | 80.8 | 0.0 | 17.4 | 17 | 13 | 11 | 0 |
| 17 | 3 | 252.6 | 0.0 | 50.2 | 30 | 24 | 14 | 5 |
| 17 | 4 | 18.0 | 0.0 | 10.8 | 3 | 5 | 2 | 0 |
| 17 | 5 | 15.4 | 0.0 | 7.8 | 19 | 18 | 2 | 0 |
| 17 | 6 | 87.6 | 0.0 | 25.4 | 7 | 20 | 6 | 2 |
| 17 | 7 | 0.8 | 0.0 | 0.2 | 2 | 4 | 0 | 0 |
| 17 | 8 | 13.2 | 0.0 | 11.6 | 3 | 4 | 1 | 0 |
| 17 | 9 | 1.4 | 0.0 | 1.2 | 14 | 2 | 0 | 0 |
| 17 | 10 | 6.6 | 0.0 | 4.4 | 15 | 9 | 1 | 0 |
| 17 | 11 | 23.2 | 0.0 | 10.2 | 5 | 4 | 3 | 0 |
| 17 | 12 | 28.2 | 0.0 | 15.2 | 2 | 8 | 3 | 0 |
| | | 574.0 | 0.0 | 50.2 | MAR | 124 | 50 | 7 |

WIND SPEED (m/s)

| YR | MO | AVG. | HI | DATE | DOM |
|----|----|------|------|------|-----|
| | | | | | DIR |
| 17 | 1 | 1.1 | 14.3 | 13 | SE |
| 17 | 2 | 1.1 | 17.4 | 17 | SE |
| 17 | 3 | 0.9 | 11.6 | 17 | WSW |
| 17 | 4 | 0.7 | 8.9 | 2 | WSW |
| 17 | 5 | 0.5 | 10.7 | 29 | WSW |
| 17 | 6 | 0.5 | 10.7 | 25 | WSW |
| 17 | 7 | 1.1 | 14.3 | 26 | NE |
| 17 | 8 | 1.4 | 17.9 | 16 | NNW |
| 17 | 9 | 1.8 | 17.0 | 13 | NNW |
| 17 | 10 | 0.9 | 12.5 | 12 | SE |
| 17 | 11 | 0.9 | 13.4 | 6 | SE |
| 17 | 12 | 1.2 | 12.5 | 2 | SE |
| | | 1.0 | 17.9 | AUG | WSW |

Hodgson Maroota



■ Hi Temp

■ Low Temp

Apr

May

Jun

Jul

Aug

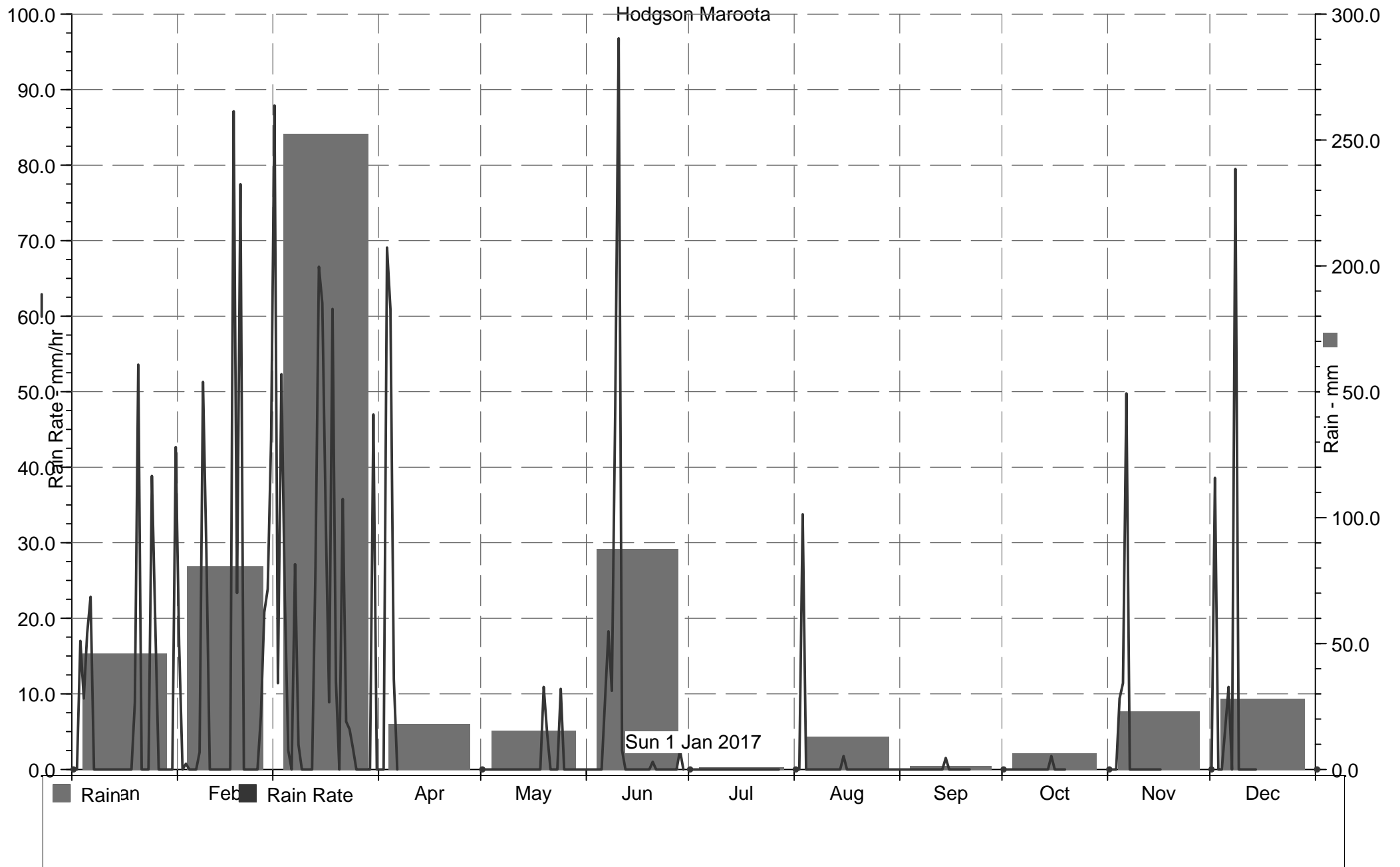
Sep

Oct

Nov

Dec

Sun 1 Jan 2017





Appendix G: Air Monitoring Results

Insoluble Solids Results for 2017 for Roberts Rd Maroota Sand Quarry

| Reference | Sample | Date & Time On | Date Sampled | Number of Days | Insoluble Solids (g/m2/month) | Ash (g/m2/month) | Combustible Matter (g/m2/month) | Sampling Comments | General Comments/ Non Compliance |
|-----------|----------------------|----------------|--------------|----------------|-------------------------------|------------------|---------------------------------|--------------------------------|----------------------------------|
| 3729/1 | D2 North East Corner | 8/12/2016 | 9/01/2017 | 32 | 1.4 | 1.4 | <0.1 | Algae | Trees encroaching capture zone |
| 3729/3 | D1 Gate | 8/12/2016 | 9/01/2017 | 32 | 1.2 | 0.8 | 0.4 | | |
| 3729/2 | D3A Bundwall | 8/12/2016 | 9/01/2017 | 32 | 6.6 | 6.6 | <0.1 | Beetles, Algae, Funnel Blocked | |
| 3809/1 | D2 North East Corner | 9/01/2017 | 6/02/2017 | 28 | 1.7 | 1.3 | 0.4 | Leaves, algae | Trees encroaching capture zone |
| 3809/3 | D1 Gate | 9/01/2017 | 6/02/2017 | 28 | 1.1 | 0.9 | 0.2 | Minor sand | |
| 3809/2 | D3A Bundwall | 9/01/2017 | 6/02/2017 | 28 | 1.5 | 1.4 | 0.1 | Minor sand | |
| 3917/1 | D2 North East Corner | 6/02/2017 | 8/03/2017 | 30 | 2 | 1.4 | 0.6 | Full | Trees encroaching capture zone |
| 3917/3 | D1 Gate | 6/02/2017 | 8/03/2017 | 30 | 4 | 3.3 | 0.7 | Full, Sand | |
| 3917/2 | D3A Bundwall | 6/02/2017 | 8/03/2017 | 30 | 1.4 | 1.1 | 0.3 | Full, minor sand | |
| 3992/1 | D2 North East Corner | 8/03/2017 | 6/04/2017 | 29 | 0.7 | 0.5 | 0.2 | Full | Trees encroaching capture zone |
| 3992/2 | D3A Bundwall | 8/03/2017 | 6/04/2017 | 29 | 1.5 | 1.1 | 0.4 | Full | |
| 3992/3 | D1 Gate | 8/03/2017 | 6/04/2017 | 29 | 0.6 | 0.4 | 0.2 | Full | |
| 4223/1 | D2 North East Corner | 6/04/2017 | 4/05/2017 | 28 | 1.7 | 1.3 | 0.4 | Insects | Trees encroaching capture zone |
| 4223/3 | D1 Gate | 6/04/2017 | 4/05/2017 | 28 | 0.7 | 0.5 | 0.2 | | |
| 4223/2 | D3A Bundwall | 6/04/2017 | 4/05/2017 | 28 | 2 | 1.4 | 0.6 | Bird Droppings, Spider Web | |
| 4316/1 | D2 North East Corner | 6/05/2017 | 1/06/2017 | 26 | 1.6 | 1.4 | 0.2 | | |
| 4316/3 | D1 Gate | 6/05/2017 | 1/06/2017 | 26 | 0.5 | 0.5 | <0.1 | | |
| 4316/2 | D3A Bundwall | 6/05/2017 | 1/06/2017 | 26 | 0.5 | 0.5 | <0.1 | Minor Sand | |
| 4426/1 | D2 North East Corner | 1/06/2017 | 29/06/2017 | 28 | 0.9 | 0.8 | 0.1 | Vegetation, Algae | Trees N/E end |
| 4426/3 | D1 Gate | 1/06/2017 | 29/06/2017 | 28 | 0.5 | 0.4 | 0.1 | | |
| 4426/2 | D3A Bundwall | 1/06/2017 | 29/06/2017 | 28 | 1.6 | 1.3 | 0.3 | | |
| 4607/1 | D2 North East Corner | 29/06/2017 | 27/07/2017 | 28 | 0.2 | <0.1 | 0.2 | Vegetation | |

| Reference | Sample | Date & Time On | Date Sampled | Number of Days | Insoluble Solids (g/m2/month) | Ash (g/m2/month) | Combustible Matter (g/m2/month) | Sampling Comments | General Comments/ Non Compliance |
|-----------|----------------------|----------------|--------------|----------------|-------------------------------|------------------|---------------------------------|--|--|
| 4607/3 | D1 Gate | 29/06/2017 | 27/07/2017 | 28 | 0.1 | <0.1 | 0.1 | | |
| 4607/2 | D3A Bundwall | 29/06/2017 | 27/07/2017 | 28 | 0.3 | 0.1 | 0.2 | | |
| 4713/1 | D2 North East Corner | 27/07/2017 | 24/08/2017 | 28 | 6.1 | 5.4 | 0.7 | Veg | Trees, non compliant |
| 4713/3 | D1 Gate | 27/07/2017 | 24/08/2017 | 28 | 0.6 | 0.4 | 0.2 | Sand, insects - Adj bundwall installed | |
| 4713/2 | D3A Bundwall | 27/07/2017 | 24/08/2017 | 28 | 0.9 | 0.8 | 0.1 | | |
| 4793/1 | D2 North East Corner | 24/08/2017 | 21/09/2017 | 28 | 0.9 | 0.7 | 0.2 | Vegetation, insects | |
| 4793/3 | D1 Gate | 24/08/2017 | 21/09/2017 | 28 | 9.1 | 8.7 | 0.4 | Major dust | |
| 4793/2 | D3A Bundwall | 24/08/2017 | 21/09/2017 | 28 | 0.4 | 0.5 | <0.1 | Insects | |
| 4889/1 | D2 North East Corner | 21/09/2017 | 19/10/2017 | 28 | 1.7 | 1.4 | 0.3 | Insects, Vegetation, Algae | Mature trees above on residential side |
| 4889/3 | D1 Gate | 21/09/2017 | 19/10/2017 | 28 | 2 | 1.9 | 0.1 | Insects | |
| 4889/2 | D3A Bundwall | 21/09/2017 | 19/10/2017 | 28 | 1.5 | 1.2 | 0.3 | Insects | |
| 5063/1 | D2 North East Corner | 19/10/2017 | 16/11/2017 | 28 | 1.6 | 1 | 0.6 | Vegetation | Mature trees above on residential side |
| 5063/2 | D3A Bundwall | 19/10/2017 | 16/11/2017 | 28 | 4.8 | 4 | 0.8 | Insects | |
| 5063/3 | D1 Gate | 19/10/2017 | 16/11/2017 | 28 | 2.9 | 2.8 | 0.1 | Minor sand | |
| 5169/1 | D2 North East Corner | 16/11/2017 | 14/12/2017 | 28 | 2.8 | 2.2 | 0.6 | | Mature trees above on residential side |
| 5169/3 | D1 Gate | 16/11/2017 | 14/12/2017 | 28 | 1.5 | 1 | 0.5 | Minor sand and beetles | |
| 5169/2 | D3A Bundwall | 16/11/2017 | 14/12/2017 | 28 | 1.3 | 0.7 | 0.6 | | |
| 5279/2 | D3A Bundwall | 14/12/2017 | 11/01/2018 | 28 | 3.6 | 2.4 | 1.2 | Insects | |
| 5279/1 | D2 North East Corner | 14/12/2017 | 11/01/2018 | 28 | 2.4 | 1.7 | 0.7 | Vegetation, algae | Mature trees above on residential side |
| 5279/3 | D1 Gate | 14/12/2017 | 11/01/2018 | 28 | 2.5 | 1.5 | 1 | Insects | |

Roberts Rd, Maroota Sand Quarry Particulate Monitoring

| Date Sampled | TSP | PM10 | PM2.5 | PM10 / TSP | PM2.5 / TSP | PM2.5 / PM10 |
|--------------|-----|------|-------|------------|-------------|--------------|
| 3/01/2017 | 29 | 15 | 11 | 52% | 38% | 73% |
| 9/01/2017 | 55 | 24 | 27 | 44% | 49% | 113% |
| 15/01/2017 | 49 | 23 | 9 | 47% | 18% | 39% |
| 21/01/2017 | 61 | 31 | 22 | 51% | 36% | 71% |
| 2/02/2017 | 36 | 16 | 9 | 44% | 25% | 56% |
| 8/02/2017 | 6 | 3 | 1 | 50% | 17% | 33% |
| 14/02/2017 | 19 | 12 | 2 | 63% | 11% | 17% |
| 20/02/2017 | 25 | 11 | 8 | 44% | 32% | 73% |
| 26/02/2017 | 12 | 7 | 2 | 58% | 17% | 29% |
| 4/03/2017 | 9 | 4 | 2 | 44% | 22% | 50% |
| 10/03/2017 | 14 | 12 | 4 | 86% | 29% | 33% |
| 16/03/2017 | 5 | 1 | 2 | 20% | 40% | 200% |
| 22/03/2017 | 5 | 3 | 1 | 60% | 20% | 33% |
| 28/03/2017 | 31 | 21 | 6 | 68% | 19% | 29% |
| 3/04/2017 | 9 | 4 | 1 | 44% | 11% | 25% |
| 9/04/2017 | 16 | 7 | 5 | 44% | 31% | 71% |
| 15/04/2017 | 16 | 11 | 4 | 69% | 25% | 36% |
| 21/04/2017 | 23 | 11 | 4 | 48% | 17% | 36% |
| 27/04/2017 | 19 | 9 | 6 | 47% | 32% | 67% |
| 3/05/2017 | 25 | 12 | 7 | 48% | 28% | 58% |
| 9/05/2017 | 25 | 12 | 7 | 48% | 28% | 58% |
| 15/05/2017 | 34 | 15 | 11 | 44% | 32% | 73% |
| 21/05/2017 | 14 | 8 | 5 | 57% | 36% | 63% |
| 27/05/2017 | 19 | 11 | 6 | 58% | 32% | 55% |
| 2/06/2017 | 31 | 15 | 6 | 48% | 19% | 40% |
| 8/06/2017 | 7 | 4 | 1 | 57% | 14% | 25% |
| 14/06/2017 | 13 | 2 | 6 | 15% | 46% | 300% |
| 20/06/2017 | 11 | 6 | 1 | 55% | 9% | 17% |
| 26/06/2017 | 16 | 15 | 7 | 94% | 44% | 47% |
| 2/07/2017 | 11 | 8 | 5 | 73% | 45% | 63% |
| 8/07/2017 | 16 | 8 | 7 | 50% | 44% | 88% |
| 14/07/2017 | 31 | 6 | 11 | 19% | 35% | 183% |
| 20/07/2017 | 29 | 13 | 13 | 45% | 45% | 100% |
| 26/07/2017 | 48 | 24 | 31 | 50% | 65% | 129% |
| 1/08/2017 | 21 | 11 | 9 | 52% | 43% | 82% |
| 7/08/2017 | 43 | 21 | 26 | 49% | 60% | 124% |
| 13/08/2017 | 25 | 18 | 15 | 72% | 60% | 83% |
| 19/08/2017 | 37 | 19 | 21 | 51% | 57% | 111% |
| 25/08/2017 | 24 | 12 | 7 | 50% | 29% | 58% |
| 31/08/2017 | 44 | 21 | 21 | 48% | 48% | 100% |
| 6/09/2017 | 46 | 13 | 24 | 28% | 52% | 185% |
| 12/09/2017 | 45 | 25 | 23 | 56% | 51% | 92% |
| 18/09/2017 | 54 | 23 | 21 | 43% | 39% | 91% |
| 24/09/2017 | 81 | 48 | 54 | 59% | 67% | 113% |
| 6/10/2017 | 65 | 36 | 26 | 55% | 40% | 72% |
| 12/10/2017 | 63 | 33 | 33 | 52% | 52% | 100% |
| 18/10/2017 | 42 | 21 | 13 | 50% | 31% | 62% |

| Date Sampled | TSP | PM10 | PM2.5 | PM10 / TSP | PM2.5 / TSP | PM2.5 / PM10 |
|--------------|-----|------|-------|------------|-------------|--------------|
| 24/10/2017 | 31 | 18 | 16 | 58% | 52% | 89% |
| 30/10/2017 | 74 | 43 | 47 | 58% | 64% | 109% |
| 5/11/2017 | 9 | 2 | 1 | 22% | 11% | 50% |
| 11/11/2017 | 13 | 5 | 1 | 38% | 8% | 20% |
| 17/11/2017 | 21 | 11 | 7 | 52% | 33% | 64% |
| 23/11/2017 | 28 | 15 | 8 | 54% | 29% | 53% |
| 29/11/2017 | 12 | 3 | 1 | 25% | 8% | 33% |
| 5/12/2017 | 14 | 6 | 4 | 43% | 29% | 67% |
| 11/12/2017 | 29 | 18 | 12 | 62% | 41% | 67% |
| 17/12/2017 | 34 | 18 | 8 | 53% | 24% | 44% |
| 23/12/2017 | 30 | 16 | 13 | 53% | 43% | 81% |
| 29/12/2017 | 34 | 23 | 17 | 68% | 50% | 74% |

| | | | | | | |
|----------------------------|-------------|-------------|------|------|------|------|
| Annual Average | 28.6 | 14.6 | 11.5 | 51% | 34% | 75% |
| <i>Annual Ave Criteria</i> | <i>90.0</i> | <i>30.0</i> | | | | |
| <i>24 hour Criteria</i> | | <i>50.0</i> | | | | |
| Minimum | 3.0 | 1.0 | 1.0 | | | |
| Maximum | 81.0 | 48.0 | 54.0 | | | |
| Std Deviation | 16.9 | 9.4 | 10.5 | 31.9 | 18.7 | 38.2 |

Appendix H: Water Monitoring Results and Pumping Records

Report Number:

4610

Date Issued: 17/08/2017

Revision Number: 00

Site/Job: 6 month Surface/Ground Water Monitoring

Client: Hodgson Quarries & Plant Pty Ltd

Address: PO Box 1778

Gosford NSW 2250

Contact: Martin Hodgson

The following 17 samples were received on 27/07/2017

| Client Sample Reference | Licence Ref | Date Sampled | Laboratory ID | Matrix | General Comments |
|--------------------------|-------------|--------------|---------------|--------|------------------|
| MW1 | | 27/07/2017 | 4610/1 | Water | |
| MW5 | | 27/07/2017 | 4610/2 | Water | |
| MW6 (Office) | | 27/07/2017 | 4610/3 | Water | |
| MW7 | | 27/07/2017 | 4610/4 | Water | |
| MW8 | | 27/07/2017 | 4610/5 | Water | |
| MW9 | | 27/07/2017 | 4610/6 | Water | |
| MW10 | | 27/07/2017 | 4610/7 | Water | |
| MW11 | | 27/07/2017 | 4610/8 | Water | |
| MW12 | | 27/07/2017 | 4610/9 | Water | |
| MW13 | | 27/07/2017 | 4610/10 | Water | |
| PB1- Plant Usage Bore | | 27/07/2017 | 4610/11 | Water | |
| PB2 - Nursery Usage Bore | | 27/07/2017 | 4610/12 | Water | No Sample Taken |
| Process Dam 1 | | 27/07/2017 | 4610/13 | Water | |
| Drying Pond Dam 2 | | 27/07/2017 | 4610/14 | Water | |
| Dam 3 | | 27/07/2017 | 4610/15 | Water | |
| Dam 4 | | 27/07/2017 | 4610/16 | Water | |
| Drying Area | | 27/07/2017 | 4610/17 | Water | |

The samples have been tested and the following reports are included:

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



Anthony Crane
Senior Chemist

NATA Accredited Laboratory – 15230.

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



Test Report Number:

4610



Date Issued:

17/08/2017

Revision No: 00

Results

| Field Tests | Units | Method | Lowest Reading | 4610/1 MW1 27/07/2017 | 4610/2 MW5 27/07/2017 | 4610/3 MW6 (Office) 27/07/2017 | 4610/4 MW7 27/07/2017 | 4610/5 MW8 27/07/2017 |
|-------------------------|----------|-----------|----------------|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|
| Depth | m | Depth | 0.01 | 7.30 | 35.24 | 17.83 | 28.95 | 34.64 |
| Temperature | °C | Temp | 0.1 | 18.0 | 19.3 | 18.4 | 18.2 | 18.5 |
| pH | pH Units | VGT-WI/01 | 0.1 | 4.1 | 5.1 | 9.3 | 5.3 | 5.1 |
| Electrical Conductivity | µS/cm | VGT-WI/02 | 50 | 355 | 113 | 103 | 192 | 178 |

| Field Tests | Units | Method | Lowest Reading | 4610/6 MW9 27/07/2017 | 4610/7 MW10 27/07/2017 | 4610/8 MW11 27/07/2017 | 4610/9 MW12 27/07/2017 | 4610/10 MW13 27/07/2017 |
|-------------------------|----------|-----------|----------------|-----------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| Depth | m | Depth | 0.01 | 37.64 | 31.88 | 8.68 | 15.90 | 26.64 |
| Temperature | °C | Temp | 0.1 | 18.2 | 18.6 | 18.2 | 18.3 | 18.6 |
| pH | pH Units | VGT-WI/01 | 0.1 | 4.9 | 4.7 | 4.7 | 5.3 | 4.9 |
| Electrical Conductivity | µS/cm | VGT-WI/02 | 50 | 148 | 180 | 154 | 96 | 134 |

| Field Tests | Units | Method | Lowest Reading | 4610/11 PB1-Plant Usage Bore 27/07/2017 | 4610/13 Process Dam 1 27/07/2017 | 4610/14 Drying Pond Dam 2 27/07/2017 | 4610/15 Dam 3 27/07/2017 | 4610/16 Dam 4 27/07/2017 |
|-------------------------|----------|-----------|----------------|--|---|---|--------------------------------|--------------------------------|
| Temperature | °C | Temp | 0.1 | 19.2 | 13.9 | 17.7 | 13.0 | 13.7 |
| pH | pH Units | VGT-WI/01 | 0.1 | 4.6 | 4.5 | 4.5 | 6.6 | 6.6 |
| Electrical Conductivity | µS/cm | VGT-WI/02 | 50 | 148 | 134 | 139 | 133 | 116 |

| Field Tests | Units | Method | Lowest Reading | 4610/17 Drying Area 27/07/2017 |
|-------------------------|----------|-----------|----------------|--------------------------------------|
| Temperature | °C | Temp | 0.1 | 14.5 |
| pH | pH Units | VGT-WI/01 | 0.1 | 4.9 |
| Electrical Conductivity | µS/cm | VGT-WI/02 | 50 | 77 |

| Total Dissolved Solids | Units | Method | Lowest Reading | 4610/1 MW1 27/07/2017 | 4610/2 MW5 27/07/2017 | 4610/3 MW6 (Office) 27/07/2017 | 4610/4 MW7 27/07/2017 | 4610/5 MW8 27/07/2017 |
|------------------------|----------------|-----------------------|----------------|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|
| Total Dissolved Solids | mg/L @105°C | VGT-WI/49 AS3550.4 | 20 | 247 | 61 | 55 | 215 | 116 |

| Total Dissolved Solids | Units | Method | Lowest Reading | 4610/6 MW9 27/07/2017 | 4610/7 MW10 27/07/2017 | 4610/8 MW11 27/07/2017 | 4610/9 MW12 27/07/2017 | 4610/10 MW13 27/07/2017 |
|------------------------|----------------|-----------------------|----------------|-----------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| Total Dissolved Solids | mg/L @105°C | VGT-WI/49 AS3550.4 | 20 | 96 | 108 | 90 | 72 | 92 |

| Total Dissolved Solids | Units | Method | Lowest Reading | 4610/11 PB1- Plant Usage Bore 27/07/2017 | 4610/13 Process Dam 1 27/07/2017 | 4610/14 Drying Pond Dam 2 27/07/2017 | 4610/15 Dam 3 27/07/2017 | 4610/16 Dam 4 27/07/2017 |
|------------------------|----------------|-----------------------|----------------|---|---|---|--------------------------------|--------------------------------|
| Total Dissolved Solids | mg/L @105°C | VGT-WI/49 AS3550.4 | 20 | 88 | 90 | 75 | 77 | 63 |

| Total Dissolved Solids | Units | Method | Lowest Reading | 4610/17 Drying Area 27/07/2017 |
|------------------------|----------------|-----------------------|----------------|--------------------------------------|
| Total Dissolved Solids | mg/L @105°C | VGT-WI/49 AS3550.4 | 20 | 49 |

| Anions and Cations | Units | Method | Lowest Reading | 4610/1 MW1 27/07/2017 | 4610/2 MW5 27/07/2017 | 4610/3 MW6 (Office) 27/07/2017 | 4610/4 MW7 27/07/2017 | 4610/5 MW8 27/07/2017 |
|-------------------------------|-------|-------------------|----------------|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|
| Chloride* | mg/L | APHA4500-Cl | 1 | 47 | 22 | 18 | 29 | 37 |
| Sulphate* | mg/L | APHA 4500- SO4 | 1 | 4 | 2 | <1 | 9 | 2 |
| Total Alkalinity* as CaCO3 | mg/L | EXT | 5 | <5 | 5 | 19 | 12 | 8 |
| Calcium* | mg/L | EXT | 0.5 | 5 | 1 | 2 | <0.5 | 4 |
| Magnesium* | mg/L | EXT | 0.5 | 14 | 1 | 1 | <0.5 | 3 |
| Sodium* | mg/L | EXT | 0.5 | 25 | 13 | 12 | 59 | 26 |
| Potassium* | mg/L | EXT | 0.5 | 4 | 2 | 5 | <0.5 | <0.5 |

| Anions and Cations | Units | Method | Lowest Reading | 4610/6 MW9 27/07/2017 | 4610/7 MW10 27/07/2017 | 4610/8 MW11 27/07/2017 | 4610/9 MW12 27/07/2017 | 4610/10 MW13 27/07/2017 |
|-------------------------------|-------|-------------------|----------------|-----------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| Chloride* | mg/L | APHA4500-Cl | 1 | 24 | 39 | 32 | 13 | 27 |
| Sulphate* | mg/L | APHA 4500- SO4 | 1 | 2 | <1 | <1 | 7 | 1 |
| Total Alkalinity* as CaCO3 | mg/L | EXT | 5 | <5 | <5 | <5 | 11 | <5 |
| Calcium* | mg/L | EXT | 0.5 | 3 | 0.6 | <0.5 | 2 | 2 |
| Magnesium* | mg/L | EXT | 0.5 | 2 | 4 | 2 | 0.9 | 2 |
| Sodium* | mg/L | EXT | 0.5 | 16 | 27 | 19 | 12 | 16 |
| Potassium* | mg/L | EXT | 0.5 | 0.8 | 0.6 | 1 | <0.5 | <0.5 |

| Anions and Cations | Units | Method | Lowest Reading | 4610/11 PB1- Plant Usage Bore 27/07/2017 | 4610/13 Process Dam 1 27/07/2017 | 4610/14 Drying Pond Dam 2 27/07/2017 | 4610/15 Dam 3 27/07/2017 | 4610/16 Dam 4 27/07/2017 |
|----------------------------|-------|---------------|----------------|--|--|--|--------------------------------|--------------------------------|
| Chloride* | mg/L | APHA4500-Cl | 1 | 30 | 25 | 25 | 20 | 20 |
| Sulphate* | mg/L | APHA 4500-SO4 | 1 | <1 | 4 | 4 | 9 | 3 |
| Total Alkalinity* as CaCO3 | mg/L | EXT | 5 | <5 | <5 | <5 | 13 | 15 |
| Calcium* | mg/L | EXT | 0.5 | <0.5 | <0.5 | <0.5 | 3 | 2 |
| Magnesium* | mg/L | EXT | 0.5 | 3 | 2 | 2 | 3 | 3 |
| Sodium* | mg/L | EXT | 0.5 | 19 | 16 | 17 | 13 | 13 |
| Potassium* | mg/L | EXT | 0.5 | 0.7 | 2 | 3 | 4 | 2 |

| Anions and Cations | Units | Method | Lowest Reading | 4610/17 Drying Area 27/07/2017 |
|----------------------------|-------|---------------|----------------|--------------------------------------|
| Chloride* | mg/L | APHA4500-Cl | 1 | 15 |
| Sulphate* | mg/L | APHA 4500-SO4 | 1 | 2 |
| Total Alkalinity* as CaCO3 | mg/L | EXT | 5 | <5 |
| Calcium* | mg/L | EXT | 0.5 | <0.5 |
| Magnesium* | mg/L | EXT | 0.5 | 1 |
| Sodium* | mg/L | EXT | 0.5 | 11 |
| Potassium* | mg/L | EXT | 0.5 | 1 |

COMMENTS:

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322

Note: ~ Where present, indicates the performance of this test is not covered under NATA accreditation

Depth measured from Top of Bore Casing (m)

*tests by Envirolab NATA Acc 2901 Report No 172493

Results have been approved and report finalised on 17/08/2017

NATA Accredited Laboratory – 15230.

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



Sampling Report Number:**4610**

Date Issued: 17/08/2017
 Sampling Conditions: Fine 10-20°C

Revision No: 00

| Sample # | Description | Date Sampled | Sampler | Method of Sampling | Pre-treatment/ Preservation | Comments |
|----------|--------------------------|---------------------|---------|---------------------|-----------------------------|---|
| 4610/1 | MW1 | 27/07/2017 12:10 PM | SK | AS5667.11, Pump | AS5667.1 | Lots of roots in well. Turbid |
| 4610/2 | MW5 | 27/07/2017 10:25 AM | SK | AS5667.11, Pump | AS5667.1 | Lots of roots in well. Turbid. Difficult to purge |
| 4610/3 | MW6 (Office) | 27/07/2017 2:15 PM | SK | AS5667.11, Pump | AS5667.1 | |
| 4610/4 | MW7 | 27/07/2017 11:50 AM | SK | AS5667.11, Pump | AS5667.1 | Turbid |
| 4610/5 | MW8 | 27/07/2017 9:40 AM | SK | AS5667.11, Pump | AS5667.1 | Turbid |
| 4610/6 | MW9 | 27/07/2017 11:05 AM | SK | AS5667.11, Pump | AS5667.1 | Slow Flow? |
| 4610/7 | MW10 | 27/07/2017 12:55 PM | SK | AS5667.11, Pump | AS5667.1 | Clear |
| 4610/8 | MW11 | 27/07/2017 1:45 PM | SK | AS5667.11, Pump | AS5667.1 | |
| 4610/9 | MW12 | 27/07/2017 11:33 AM | SK | AS5667.11, Pump | AS5667.1 | Clear |
| 4610/10 | MW13 | 27/07/2017 10:50 AM | SK | AS5667.11, Pump | AS5667.1 | Clear |
| 4610/11 | PB1- Plant Usage Bore | 27/07/2017 2:30 PM | SK | AS5667.11, Pump | AS5667.1 | Sampled from hose |
| 4610/12 | PB2 - Nursery Usage Bore | 27/07/2017 12:00 AM | SK | AS5667.11, Pump | AS5667.1 | Could not sample. Plumbed. No access |
| 4610/13 | Process Dam 1 | 27/07/2017 2:40 PM | SK | AS5667.4 Lake, Grab | AS5667.1 | |
| 4610/14 | Drying Pond Dam 2 | 27/07/2017 2:50 PM | SK | AS5667.4 Lake, Grab | AS5667.1 | |
| 4610/15 | Dam 3 | 27/07/2017 11:40 AM | SK | AS5667.4 Lake, Grab | AS5667.1 | |
| 4610/16 | Dam 4 | 27/07/2017 11:30 AM | SK | AS5667.4 Lake, Grab | AS5667.1 | |
| 4610/17 | Drying Area | 27/07/2017 2:45 PM | SK | AS5667.4 Lake, Grab | AS5667.1 | |

Sampling procedures have been approved and report finalised on 17/08/2017
 Where method is "unknown" sampling procedures are not endorsed

NATA Accredited Laboratory – 15230.

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

7/2000

57,600
6,600

| Started By | Day | Date | Start Time | Finish Time | Total Hours | Total Litres @ 120/Min | Turned Off By |
|---|---------------------|---------|------------|-------------|-------------|------------------------|---------------|
| SR | Monday | 4/1/16 | 8:05 | 5:05 | 9HR | 64,800 | \$ |
| SR | Tuesday | 5/1/16 | 7:45 | 4:10 | 8/55 | 64,200 | \$ |
| prh | Wednesday | 6/1/16 | 8:15 | 5:30 | 9/15 | 66,600 | prh |
| prh | Thursday | 7/1/16 | 8:30 | 5:00 | 8/30 | 61,200 | prh |
| prh | Friday | 8/1/16 | 8:00 | 5:00 | 8/9 | 64,800 | prh |
| prh | Saturday | 9/1/16 | 8:15 | 1 pm | 4/45 | 34,200 | prh |
| prh | Mon | 11/1/16 | 8:15 | 5:00 | 8/45 | 63,000 | prh |
| prh | Tues | 12/1/16 | 8:00 | 5:00 | 9 | 64,800 | prh |
| prh | wed | 13/1/16 | 7:45 | 5:00 | 9/15 | 66,600 | prh |
| prh | Thurs | 14/1/16 | 8:00 | 5:00 | 9 | 64,800 | prh |
| prh | Friday | 15/1/16 | 8:30 | 5:00 | 8/30 | 61,200 | prh |
| prh | Sat | 16/1/16 | 8:30 | 5:00 | 8/30 | 61,200 | prh |
| prh | Monday | 18/1/16 | 11:00 | 5:00 | 6 | 43,200 | prh |
| SR | THURSDAY | 21/1/16 | 8:15 | 5:15 | 9HRS | 64,800 | \$ |
| SR | FRIDAY | 22/1/16 | 8:10 | 3:45 | 7/35 | 55,800 | prh |
| prh | Saturday | 23/1/16 | 8:15 | 1 pm | 4/45 | 34,200 | prh |
| SR | MONDAY | 25/1/16 | 10:00 | 4:30 | 6/30 | 46,800 | prh |
| SR | WEDNESDAY | 27/1/16 | 8:00 | 4:30 | 8 1/2 | 61,200 | \$ |
| prh | Thursday | 28/1/16 | 8:30 | 4:00 | 7 1/2 | 54,000 | prh |
| prh | Friday | 28/1/16 | 10:30 | 5:30 | 7 | 50,400 | prh |
| prh | Saturday | 29/1/16 | 8:00 | 1 pm | 5hrs | 36,000 | prh |
| prh | Monday | 31/1/16 | 9:30 | 5 pm | 7 1/2 | 54,000 | prh |
| prh | Tuesday | 1/2/16 | 9:00 | 5:30 | 8/15 | 59,400 | prh |
| prh | Wednesday | 2/2/16 | 8:00 | 5:30 | 9/15 | 66,600 | prh |
| <p style="text-align: center;">XXXXXXXXXX</p> <p style="text-align: center;">XXXXXXXXXX</p> | | | | | | | \$ |

JAN 1,237,800

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 | Wednesday | 3/2/16 | 7:30 | 5:00 | 9 1/2 | 68400 | pmh |
| pmh | Thursday | 4/2/16 | 7:30 | 5:00 | 9 1/2 | 68400 | pmh |
| pmh | Friday | 5/2/16 | 8:00 | 5:30 | 9 1/2 | 68400 | pmh |
| pmh | Saturday | 6/2/16 | 7:30 | 1:00 | 5 1/2 | 39600 | pmh |
| pmh | Monday | 8/2/16 | 8:00 | 5:30 | 9 1/2 | 68400 | pmh |
| SR | TUESDAY | 9/2/16 | 8:00 | 1:00 | 5 | 36000 | \$. |
| pmh | Wednesday | 10/2/16 | 8:45 | 5:30 | 8 3/4 | 63000 | pmh |
| SR | THURSDAY | 11/2/16 | 8:00 | 5:30 | 9.5 | 68,400 | \$. |
| pmh | Friday | 12/2/16 | 8:30 | 5:30 | 9 | 64800 | pmh |
| pmh | Saturday | 13/2/16 | 7:00 | 1:00 | 6 | 43200 | pmh |
| SR | MONDAY | 15/2/16 | 10:15 | 4:00 | 5.45h | 41,400 | \$. |
| SR | TUESDAY | 16/2/16 | 8:00 | 5:15 | 9.15h | 66,600 | \$. |
| pmh | Wednesday | 17/2/16 | 8:00 | 5:30 | 9 1/2 | 68400 | pmh |
| pmh | Thursday | 18/2/16 | 8:15 | 5:30 | 9 1/2 | 66600 | pmh |
| pmh | Friday | 19/2/16 | 8:00 | 5:30 | 9 1/2 | 68400 | pmh |
| pmh | Saturday | 20/2/16 | 7:00 | 1:00 | 6 | 43200 | pmh |
| SR | MONDAY | 22/2/16 | 8:00 | 5:00 | 9 | 64800 | \$. |
| pmh | Tuesday | 23/2/16 | 8:00 | 5:30 | 9 1/2 | 68400 | pmh |
| pmh | Wednesday | 24/2/16 | 8:00 | 5:30 | 9 1/2 | 68400 | pmh |
| pmh | Thursday | 25/2/16 | 8:30 | 5:30 | 9 | 64800 | pmh |
| SR | FRIDAY | 26/2/16 | 7:30 | 5:00 | 9 1/2 | 68,400 | \$. |
| pmh | Saturday | 27/2/16 | 7:30 | 1:00 | 5 1/2 | 39600 | pmh |
| pmh | Monday | 29/2/16 | 8:30 | 5:30 | 9 | 64800 | \$. |
| pmh | Tuesday | 1/3/16 | 8:00 | 5:30 | 9 1/2 | 68400 | \$. |
| SR | WEDNESDAY | 2/3/16 | 8:00 | 5:00 | 9 hours | 64800 | \$. |
| pmh | Thursday | 3/3/16 | 8:00 | 5:30 | 9 1/2 | 68400 | \$. |

FEB

1,508,400

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 |
|------------|-----------|---------|------------|-------------|-------------|------------------------|---------------|
| MLH | Friday | 4/3/16 | 8:30 | 5:00 | 8½ | 61200 | MLH |
| MLH | Saturday | 5/3/16 | 7:00 | 1:00 | 6 | 43200 | MLH |
| MLH | Wednesday | 9/3/16 | 11 | 5:30 | 6½ | 46800 | MLH |
| MLH | Thursday | 10/3/16 | 10:30 | 5:30 | 7½ | 54000 | MLH |
| MLH | Friday | 11/3/16 | 10:30 | 5:00 | 6½ | 46800 | MLH |
| MLH | Saturday | 12/3/16 | 8:00 | 1:00 | 5 | 36000 | MLH |
| MLH | Thursday | 17/3/16 | 7:00 | 5:30 | 10½ | 75600 | MLH |
| MLH | Friday | 18/3/16 | 7:15 | 5:30 | 10¼ | 73800 | MLH |
| MLH | Saturday | 19/3/16 | 7:30 | 1:00 | 5½ | 39600 | MLH |
| SR | Monday | 21/3/16 | 9:00 | 5:30 | 8½ | 61,200 | SR |
| SR | Tuesday | 22/3/16 | 8:10 | 4:30 | 8½ | 61,200 | SR |
| SR | Wednesday | 23/3/16 | 8:00 | 5:30 | 9½ | 68,400 | SR |
| MLH | Thursday | 24/3/16 | 7:15 | 5:30 | 10¼ | 73800 | MLH |
| MLH | Tuesday | 29/3/16 | 8:00 | 5:00 | 9 | 64800 | MLH |
| MLH | Wednesday | 30/3/16 | 7:30 | 5:30 | 10 | 72000 | MLH |
| MLH | Thursday | 31/3/16 | 8:00 | 5:30 | 9½ | 68400 | MLH |
| MLH | Friday | 1/4/16 | 7:30 | 5:30 | 10 | 72000 | MLH |
| MLH | Saturday | 2/4/16 | 7:30 | 1:00 | 5½ | 39600 | MLH |
| SR | Monday | 4/4/16 | 8:00 | 5:00 | 9½ | 64,800 | SR |
| SR | Tuesday | 5/4/16 | 9:20 | 5:00 | 7½ | 55,200 | SR |
| M.H. | WED | 6-4 | 7:15 | 4:00 | 8½ | 63,000 | M.H. |
| MLH | Thursday | 7/4/16 | 7:30 | 5:30 | 10 | 72000 | MLH |
| MLH | Friday | 8/4/16 | 11:00 | 5:30 | 6½ | 46800 | MLH |
| MLH | Saturday | 9/4/16 | 8:00 | 5:00 | 9 | 64800 | MLH |
| MLH | Monday | 11/4/16 | 8:00 | 5:30 | 9½ | 68400 | MLH |
| MLH | Tuesday | 12/4/16 | 9 | 5:00 | 8 | 57600 | MLH |

MARCH 1, 148,400

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 | WEDNESDAY | 13/4/16 | 8.00 | 5.00 | 9 hrs | 64800 | \$ |
| SR | THURSDAY | 14/4/16 | 8.30 | 5.15 | 8 hrs 45 | 63000 | \$ |
| SR | FRIDAY | 15/4/16 | 10.00 | 3.00 | 5 | 36000 | MH |
| pmz | Saturday | 16/4/16 | 8.00 | 5.00 | 9 | 64800 | pmz |
| pmz | Monday | 18/4/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| pmz | Tuesday | 19/4/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| pmz | Wednesday | 20/4/16 | 8.45 | 5.00 | 8 1/2 | 59400 | pmz |
| pmz | Thursday | 21/4/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| M.H | FRI | 22-4 | 7.00 | 5.00 | 10 HR | 72,000 | \$ |
| pmz | Saturday | 23/4/16 | 7.00 | 1.00 | 6 | 43200 | pmz |
| pmz | Tuesday | 26/4/16 | 8.00 | 5.30 | 9 1/2 | 68400 | pmz |
| pmz | Wednesday | 27/4/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| pmz | Thursday | 28/4/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| pmz | Friday | 29/4/16 | 9.00 | 5.00 | 8 | 57600 | pmz |
| pmz | Saturday | 30/4/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| pmz | Monday | 2/5/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| pmz | Tuesday | 3/5/16 | 10.30 | 5.30 | 7 | 50400 | pmz |
| pmz | Wednesday | 4/5/16 | 7.00 | 5.00 | 10 | 72000 | pmz |
| M.H | THURS | 5-5-16 | 6.20 | 2.30 | 7.40 | 56000 | M.H |
| M.H | FRI. | 6-5-16 | 8.30 | 4.00 | 7 1/2 | 54000 | M.H |
| pmz | Saturday | 7/5/16 | 7.30 | 1.00 | 5 1/2 | 39600 | pmz |
| pmz | Tuesday | 10/5/16 | 8.45 | 5.30 | 8 3/4 | 63000 | pmz |
| pmz | Friday | 13/5/16 | 7.30 | 5.30 | 10 | 72000 | pmz |
| pmz | Saturday | 14/5/16 | 7.30 | 1.00 | 5 1/2 | 39600 | pmz |
| M.H | Mon | 16-5-16 | 8.30 | 5.30 | 7 1/2 | 64800 | M.H |
| pmz | Tuesday | 17/5/16 | 10.30 | 5.30 | 7 | 50400 | pmz |

APRIL 1,568,400

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 |
|------------|-----------|---------|------------|-------------|-------------|------------------------|---------------|
| prz | Wednesday | 18/5/16 | 8:15 | 5:30 | 9 1/4 | 66600 | prz |
| prz | Thursday | 19/5/16 | 7:30 | 5:30 | 10 | 72000 | prz |
| prz | Friday | 20/5/16 | 7:15 | 5:30 | 9 3/4 | 70200 | prz |
| prz | Saturday | 21/5/16 | 7:00 | 1:00 | 6 | 43200 | prz |
| SR | MONDAY | 23/5/16 | 7:30 | 3:00 | 7 1/2 hrs | 54,000 | \$. |
| SR | Tuesday | 24/5/16 | 8:00 | 5:00 | 9 hrs | 64,800 | \$. |
| SR | WEDNESDAY | 25/5/16 | 8:00 | 5:00 | " | 64,800 | \$. |
| SR | THURSDAY | 26/5/16 | 7:00 | 5:30 | 10 1/2 | 75,600 | \$. |
| prz | Friday | 27/5/16 | 8:15 | 5:00 | 7 3/4 | 55800 | prz |
| prz | Saturday | 28/5/16 | 7:00 | 1:00 | 6 | 43200 | prz |
| MH | Mon | 30-5-16 | 7:00 | 4:30 | 9 1/2 | 68400 | MH |
| MH | Tue | 31-5-16 | 7:45 | 5:30 | 9 3/4 | 70200 | \$. |
| prz | Wednesday | 1/6/16 | 8:00 | 5:30 | 9 1/2 | 68400 | prz |
| MH | Thurs | 2-6-16 | 7:30 | 6:00 | 10 1/2 | 75600 | MH |
| prz | Friday | 3/6/16 | 7:30 | 5:30 | 10 | 72000 | prz |
| prz | Saturday | 4/6/16 | 7:00 | 1:00 | 6 | 43200 | prz |
| MH | Mon | 6-6-16 | 8:00 | 4:00 | 8 | 57600 | MH |
| prz | Tuesday | 7/6/16 | 8:30 | 5:00 | 8 1/2 | 61200 | prz |
| SR | WEDNESDAY | 8/6/16 | 9:00 | 5:00 | 8 hrs | 57,600 | \$. |
| SR | THURSDAY | 9/6/16 | 8:30 | 5:00 | 8 1/2 hrs | 61,200 | \$. |
| prz | Friday | 10/6/16 | 7:30 | 5:30 | 10 | 72000 | prz |
| prz | Saturday | 11/6/16 | 7:00 | 1:00 | 6 | 43200 | prz |
| prz | Monday | 20/6/16 | 8:00 | 5:30 | 9 1/2 | 68400 | prz |
| prz | Wednesday | 22/6/16 | 8:00 | 5:30 | 9 1/2 | 68400 | prz |
| prz | Thursday | 23/6/16 | 7:00 | 5:30 | 10 1/2 | 75600 | prz |
| prz | Friday | 24/6/16 | 7:30 | 5:30 | 10 | 72000 | prz |

MAY 1,382,600

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 |
|------------|-----------|---------|------------|-------------|-------------|------------------------|---------------|
| PNZ | Saturday | 25/6/16 | 7:00 | 1:00 | 6 | 43200 | PNZ |
| M.H. | Mon | 27-6-16 | 8:30 | 5:30 | 9 | 64800 | M.H. |
| M.H. | Tue | 28-6-16 | 7:00 | 3:00 | 8 hrs | 57600 | \$. |
| PNZ | Wednesday | 29/6/16 | 10:30 | 5:30 | 7 | 50400 | PNZ |
| PNZ | Thursday | 30/6/16 | 7:15 | 5:00 | 9 3/4 | 70200 | PNZ |
| PNZ | Friday | 1/7/16 | 7:30 | 5:30 | 10 | 72000 | PNZ |
| PNZ | Saturday | 2/7/16 | 7:30 | 1:00 | 5 1/2 | 39600 | PNZ |
| PNZ | Monday | 4/7/16 | 8:00 | 5:30 | 9 1/2 | 68400 | PNZ |
| PNZ | Tuesday | 5/7/16 | 7:30 | 5:30 | 10 | 72000 | PNZ |
| SR | WEDNESDAY | 6/7/16 | 10:30 | 5:30 | 7 | 50,400 | \$. |
| SR | THURSDAY | 7/7/16 | 7:00 | 2:00 | 7 | 50,400 | \$. |
| PNZ | Friday | 8/7/16 | 7:00 | 5:00 | 10 | 72000 | PNZ |
| PNZ | Saturday | 9/7/16 | 7:00 | 1:00 | 6 | 43200 | PNZ |
| SR | MONDAY | 11/7/16 | 7:00 | 5:00 | 10 hrs | 72,000 | \$. |
| PNZ | Tuesday | 12/7/16 | 7:45 | 5:00 | 9 1/4 | 66600 | PNZ |
| M.H. | Wed | 13-7-16 | 8:00 | 5:30 | 9 | 64800 | M.H. |
| PNZ | Thursday | 14/7/16 | 7:30 | 5:00 | 9 1/2 | 68400 | PNZ |
| PNZ | Friday | 15/7/16 | 7:00 | 5:00 | 10 | 72000 | PNZ |
| PNZ | Saturday | 16/7/16 | 7 | 1:00 | 6 | 43200 | PNZ |
| PNZ | Monday | 18/7/16 | 11 | 5:30 | 6 1/2 | 46800 | PNZ |
| SR | TUESDAY | 19/7/16 | 12:00 | 5:30 | 5 1/2 hrs | 39,600 | \$. |
| M.H. | Wed | 20-7-16 | 8:00 | 3:30 | 7 1/2 | 54000 | M.H. |
| M.H. | Thurs | 21-7-16 | 7:30 | 4:00 | 8 1/2 hrs | 61200 | \$. |
| M.H. | Fri. | 22-7-16 | 7:15 | 5:15 | 10 hrs | \$. | 72,000 |
| PNZ | Saturday | 23/7/16 | 7 | 1:00 | 6 | 43200 | PNZ |
| PNZ | Monday | 25/7/16 | 8:00 | 5:30 | 9 1/2 | 68400 | PNZ |

JUNE 1, 182,600

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 |
|------------|-----------|---------|------------|-------------|-------------|------------------------|---------------|
| MLH | Tuesday | 26/7/16 | 8:30 | 5:30 | 9 | 64800 | MLH |
| M.H. | Wed | 27-7-16 | 7-15 | 4-00 | 8 hrs 45m | 63000 | \$. |
| M.H. | Thurs | 28-7-16 | 9-00 | 6-00 | 1 | 64800 | M.H. |
| M.H. | Fri | 29-7-16 | 7-30 | 5-15 | 9 hr 45m | 70200 | \$. |
| MLH | Saturday | 30/7/16 | 7:00 | 1:00 | 6 | 43200 | MLH |
| SR | MONDAY | 1/8/16 | 7-00 | 5-30 | 10 1/2 hrs | 75600 | \$. |
| MLH | Tuesday | 2/8/16 | 7:00 | 5:30 | 10 1/2 | 75600 | MLH |
| MLH | Wednesday | 3/8/16 | 8:00 | 5:30 | 9 1/2 | 68400 | \$. |
| M.H. | Thurs | 4-8-16 | 7-15 | 6-00 | 10 3/4 | 76800 | M.H. |
| M.H. | Fri | 5-8-16 | 8-00 | 5-00 | 9 hrs | 64800 | \$. |
| MLH | Saturday | 6/8/16 | 7:30 | 1:00 | 5 1/2 | 39600 | MLH |
| | Monday | 8/8/16 | 8:00 | 5:30 | 9 1/2 | 68400 | \$. |
| | Tuesday | 9/8/16 | 11:30 | 5:30 | 6 | 43200 | \$. |
| SR | WEDNESDAY | 10/8/16 | 9-00 | 1-00 | 4 hrs | 28800 | \$. |
| SR | THURSDAY | 11/8/16 | 8-00 | 4-00 | 8 hrs | 57600 | \$. |
| MLH | Friday | 12/8/16 | 7-00 | 4-00 | 9 hrs | 64800 | MLH |
| MLH | Saturday | 13/8/16 | 7:00 | 1:00 | 6 | 43200 | MLH |
| M.H. | Mon | 14-8-16 | 1-00 | 6-00 | 5 | 36000 | M.H. |
| M.H. | Tue | 15-8-16 | 7-00 | 5-30 | 10 1/2 | 75600 | M.H. |
| M.H. | Wed | 16-8-16 | 7-00 | 5-30 | 10 1/2 | 75600 | \$. |
| MLH | Thursday | 18/8/16 | 10:00 | 5:00 | 7 | 50400 | MLH |
| SR | FRIDAY | 19/8/16 | 9-15 | 5-20 | 8 hrs 5m | 58200 | \$. |
| MLH | Saturday | 20/8/16 | 7:30 | 1:00 | 5 1/2 | 39600 | MLH |
| M.H. | Mon | 22-8-16 | 7-00 | 12-00 | 5 hrs | 36000 | \$. |
| M.H. | Tue | 23-8-16 | 9-00 | 6-00 | 9 | 64800 | M.H. |
| MLH | Wednesday | 24/8/16 | 9:00 | 5:30 | 8 1/2 | 61200 | MLH |

JULY 1,546,200

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 | THURSDAY | 25/8/16 | 7:00 | 4:30 | 9 1/2 | 60,400 | \$ |
| SR | FRIDAY | 26/8/16 | 7:00 | 5:00 | 10 | 72,000 | \$ |
| MPH | Saturday | 27/8/16 | 7:00 | 1:00 | 6 | 43,200 | MPH |
| M.H. | Mon | 29-8-16 | 9:30 | 6:00 | 8 1/2 | 61,700 | M.H. |
| M.H. | Tue | 30-8-16 | 7:00 | 5:15 | 10 hrs 15m | 73,800 | \$ |
| M.H. | Wed | 31-8-16 | 7:15 | 5:15 | 10 hrs | 72,000 | \$ |
| MPH | Thursday | 1/9/16 | 9:15 | 5:00 | 7 3/4 | 55,800 | MPH |
| SR | FRIDAY | 2/9/16 | 9:00 | 5:30 | 9 1/2 | 68,400 | \$ |
| MPH | Saturday | 3/9/16 | 8:30 | 5:30 | 9 | 64,800 | MPH |
| MPH | Monday | 5/9/16 | 8:30 | 5:00 | 8 1/2 | 61,200 | MPH |
| MPH | Tuesday | 6/9/16 | 7:00 | 5:30 | 10 1/2 | 75,600 | MPH |
| M.H. | Wed | 7-9-16 | 7:00 | 6:00 | 11 | 79,400 | M.H. |
| M.H. | Thurs | 8-9-16 | 8:00 | 6:00 | 10 | 72,000 | M.H. |
| M. | Friday | 9-9-16 | 7:30 | 5:00 | 9 1/2 hrs | 68,400 | \$ |
| MPH | Saturday | 10/9/16 | 1:00 | 5:30 | 5 1/2 | 39,600 | MPH |
| SR | MONDAY | 12/9/16 | 11:00 | 5:30 | 6 1/2 | 46,800 | \$ |
| SR | TUESDAY | 13/9/16 | 9:10 | 5:00 | 9 hrs 5m | 70,900 | \$ |
| M.H. | Wed | 14-9-16 | 7:30 | 5:30 | 10 hrs | 72,000 | \$ |
| MPH | Thursday | 15/9/16 | | 6:00 | 10 | 72,000 | MPH |
| M.H. | Fri | 16-9-16 | 7:00 | 2:30 | 7 1/2 hrs | 54,000 | \$ |
| MPH | Saturday | 17/9/16 | 7:00 | 1:00 | 6 | 43,200 | MPH |
| MPH | Monday | 19/9/16 | 8:15 | 4:30 | 8 1/4 | 59,400 | MPH |
| M.H. | Tue | 20-9-16 | 8:00 | 2:00 | 6 hrs | 43,200 | \$ |
| M.H. | Wed | 21-9-16 | 7:00 | 5:30 | 10 1/2 | 75,600 | M.H. |
| M.H. | Thurs | 22-9-16 | 8:00 | 6:00 | 10 | 72,000 | M.H. |
| MPH | Friday | 23/9/16 | 7:30 | 5:00 | 9 1/2 | 68,400 | MPH |

AGU - 1,594,900

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 | 24/10/16 | 7.00 | 5.15 | 10 HR 15m | 73,800 | S. |
| M.H. | Tue | 25-10-16 | 8.30 | 5.00 | 8 1/2 | 61,200 | M.H. |
| M.H. | Wed | 26-10-16 | 7.30 | 4.30 | 9 HR 25 | 64,800 | S. |
| MRZ | Thursday | 27/10/16 | 11.45 | 6.00 | 6 1/4 | 45,000 | M.H. |
| M.H. | Fri | 28-10-16 | 7.00 | 5.00 | 10 | 72,000 | M.H. |
| M.H. | Sat | 29-10-16 | 7.00 | 1.00 | 6 | 43,200 | M.H. |
| M.H. | Mon | 31-10-16 | 8.00 | 4.00 | 8 hrs | 57,600 | S. |
| M.H. | Tue | 1-11-16 | 7.00 | 5.30 | 10 1/2 | 75,600 | M.H. |
| MRZ | Wednesday | 2/11/16 | 8.45 | 4.30 | 7 3/4 | 55,800 | MRZ |
| MRZ | Thursday | 3/11/16 | 8.30 | 5.00 | 8 1/2 | 61,200 | MRZ |
| M.H. | Fri | 4-11-16 | 7.00 | 4.00 | 9 | 64,800 | M.H. |
| MRZ | Saturday | 5/11/16 | 7.15 | 1.00 | 5 3/4 | 41,400 | S. |
| S. | Monday | 7/11/16 | 8.20 | 5.05 | 8 HR 45m | 63,000 | S. |
| M.H. | Tue | 8-11-16 | 8.00 | 5.00 | 9 | 64,800 | M.H. |
| M.H. | Wed | 9-11-16 | 7.00 | 5.00 | 10 HR | 72,000 | S. |
| M.H. | Thurs | 10-11-16 | 7.00 | 5.00 | 10 HR. | 72,000 | S. |
| M.H. | Fri | 11-11-16 | 7.30 | 4.00 | 8 1/2 | 61,200 | M.H. |
| MRZ | Saturday | 12/11/16 | 7.15 | 1.00 | 5 3/4 | 41,400 | S. |
| M.H. | Mon | 14-11-16 | 7.00 | 2.00 | 7 hrs | 50,400 | S. |
| M.H. | Tue | 15-11-16 | 7.30 | 6.00 | 10 1/2 | 75,600 | M.H. |
| M.H. | Wed | 16-11-16 | 8.00 | 1.00 | 5 hrs | 36,000 | S. |
| M.H. | Thurs | 17-11-16 | 7.00 | 5.00 | 10 | 72,000 | M.H. |
| M.H. | Fri | 18-11-16 | 7.40 | 4.00 | 8 HR 20m | 60,000 | S. |
| M.H. | Sat | 19-11-16 | 7.00 | 1.00 | 6 | 43,200 | M.H. |
| MRZ | Monday | 21/11/16 | 1.00 | 4.30 | 3 1/2 | 25,200 | S. |
| M.H. | Tue | 22-11-16 | 7.00 | 5.30 | 10 1/2 | 75,600 | M.H. |

OCT 1,433,000

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 |
|------------|-----------|----------|------------|-------------|-----------------------------------|------------------------|---------------|
| MLZ | Wednesday | 23/11/16 | 10:15 | 5:00 | 6 ³ / ₄ | 48600 | MLZ |
| SR | Thursday | 24/11/16 | 8:00 | 5:15 | 9 hrs 15m | 66600 | SR |
| M.H. | Fri | 25-11-16 | 7:00 | 4:30 | 9 ¹ / ₂ | 68400 | M.H. |
| M.H. | Sat | 26-11-16 | 7:00 | 1:00 | 6 | 43200 | M.H. |
| M.H. | Mon | 28-11-16 | 10:00 | 5:00 | 7 | 50400 | M.H. |
| M.H. | Tue | 29-11-16 | 7:00 | 5:00 | 10 hrs | 72000 | SR |
| M.H. | Wed | 30-11-16 | 7:00 | 5:00 | 10 hrs | 72000 | SR |
| MLZ | Thursday | 1/12/16 | 8:15 | 5:15 | 9 hrs | 64800 | SR |
| MLZ | Friday | 2/12/16 | 7:45 | 5:00 | 9 hrs 15m | 66600 | SR |
| MLZ | Saturday | 3/12/16 | 7:00 | 1:00 | 6 | 43200 | MLZ |
| M.H. | Mon | 5-12-16 | 11:00 | 5:30 | 6 ¹ / ₂ | 46800 | M.H. |
| M.H. | Tue | 6-12-16 | 7:00 | 2:00 | 7 hrs | 50400 | SR |
| M.H. | Wed | 7-12-16 | 7:30 | 6:00 | 10 ¹ / ₂ | 75600 | M.H. |
| M.H. | Thurs | 8-12-16 | 7:15 | 1:00 | 5 hrs 45m | 41400 | SR |
| MLZ | Friday | 9/12/16 | 7:30 | 4:30 | 9 | 64800 | M.H. |
| MLZ | Saturday | 10/12/16 | 7:00 | 1:00 | 6 | 43200 | MLZ |
| SR | Monday | 12/12/16 | 7:00 | 2:00 | 7 hrs | 50400 | SR |
| M.H. | Tue | 13-12-16 | 7:30 | 5:30 | 10 | 72000 | M.H. |
| M.H. | Wed | 14-12-16 | 8:00 | 5:00 | 9 | 64800 | M.H. |
| M.H. | Thurs | 15-12-16 | 9:00 | 6:00 | 9 | 64800 | M.H. |
| M.H. | Frid | 16-12-16 | 7:30 | 5:00 | 9 ¹ / ₂ hrs | 68400 | SR |
| M.H. | Sat | 17-12-16 | 7:00 | 1:00 | 6 | 43200 | M.H. |
| M.H. | Mon | 19-12-16 | 9:30 | 3:30 | 6 | 43000 | SR |
| M.H. | Tue | 20-12-16 | 7:00 | 4:30 | 9 ¹ / ₂ | 68400 | M.H. |
| MLZ | Wednesday | 21/12/16 | 8:15 | 5:30 | 9 ¹ / ₄ | 66600 | MLZ |
| M.H. | Thurs | 22-12-16 | 8:30 | 5:00 | 8 ¹ / ₂ | 61200 | M.H. |

Nov 1,532,400

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 |
|---------------|-----------|---------------------|------------|-------------|--------------------|------------------------|---------------|
| M.H. | Fri | 23-12-16 | 8.00 | 4.00 | 8 | 57600 | M.H. |
| PM | Saturday | 24/12/16 | 7.00 | 2.00 | 7 | 50400 | PM |
| M.H. | Wed. | 28-12-16 | 9.00 | 3.00 | 6 | 43200 | M.H. |
| PM | Thursday | 29/12/16 | 8.45 | 5.00 | 9 $\frac{1}{4}$ | 66600 | M.H. |
| PM | Friday | 30/12/16 | 8.00 | 4.00 | 8 | 57600 | M.H. |
| PM | Saturday | 31/12/16 | 7.00 | 1.00 | 6 | 43200 | PM |
| M.H. | Thurs | 5-1-17 | 8.00 | 4.00 | 8 | 57600 | M.H. |
| M.H. | Fri | 6-1-17 | 9.00 | 4.00 | 7 | 50400 | M.H. |
| PM | Monday | 9/1/17 | 9.30 | 4.00 | 6 $\frac{1}{2}$ | 46800 | PM |
| M.H. | Tue | 10-1-17 | 7.30 | 4.00 | 7 $\frac{1}{2}$ | 54000 | M.H. |
| PM | Wednesday | 11/1/17 | 8.30 | 4.30 | 8 | 57600 | PM |
| PM | Thursday | 12/1/17 | 8.30 | 5.00 | 8 $\frac{1}{2}$ | 61200 | PM |
| M.H. | Fri | 13-1-17 | 8.00 | 4.00 | 8 | 57600 | M.H. |
| PM | Saturday | 14/1/17 | 7.00 | 12.00 | 5 | 36000 | PM |
| SR | MONDAY | 16/1/17 | 7.00 | 12.00 | 5 HR | 36,000 | SR |
| PM | Tuesday | 17/1/17 | 8.00 | 12.00 | 4 HR | 28,800 | PM |
| SR | WEDNESDAY | 18/1/17 | 7.00 | 1.00 | 6 | 43,200 | SR |
| M.H. | Thurs | 19-1-17 | 7.00 | 5.00 | 10 | 72000 | M.H. |
| M.H. | Fri | 20-1-17 | 7.30 | 4.00 | 8 $\frac{1}{2}$ HR | 61,200 | SR |
| PM | Saturday | 21/1/17 | 8.00 | 5.00 | 9 | 6400 | PM |
| M.H. | Tue | 24-1-17 | 7.00 | 5.30 | 10 $\frac{1}{2}$ | 75600 | M.H. |
| M.H. | Wed | 25-1-17 | 7.00 | 5.30 | 10 $\frac{1}{2}$ | 75600 | M.H. |
| M.H. | Thurs | 26-1-17 | 8.00 | 11.00 | 3 | 21600 | M.H. |
| PM | Friday | 27/1/17 | 8.30 | 4.30 | 8 | 57600 | PM |
| PM | Saturday | 28/1/17 | 7.30 | 1.00 | 5 $\frac{1}{2}$ | 39600 | PM |
| M.H. | Mon | 30-1-17 | 10.00 | 5.00 | 6 | 43200 | M.H. |

DEC 1, 4 18, 200

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 | 6/3/17 | Monday | 8:20 | 5:20 | 9 HRS | 64,000 | <i>[Signature]</i> |
| SR | 7/3/17 | Tuesday | 10:00 | 5:15 | 7 HRS | 52,200 | <i>[Signature]</i> |
| M.H. | 8-3-17 | Wed | 7:00 | 5:30 | 10 1/2 | 75,600 | M.H. |
| M.H. | 9-3-17 | Thurs | 7:30 | 5:00 | 9 1/2 | 68,400 | <i>[Signature]</i> |
| M.H. | 10-3-17 | Fri | 7:00 | 4:00 | 9 | 64,000 | M.H. |
| M.H. | 11-3-17 | Sat | 7:00 | 1:00 | 6 | 43,200 | M.H. |
| M.H. | 13-3-17 | Mon | 10:30 | 5:00 | 6 1/2 | 46,800 | M.H. |
| M.H. | 14-3-17 | Tue | 7:00 | 5:30 | 10 1/2 | 75,600 | <i>[Signature]</i> |
| M.H. | 15/3/17 | Wednesday | 9:30 | 5:00 | 7 1/2 | 54,000 | <i>[Signature]</i> |
| M.H. | 16-3-17 | Thurs | 7:00 | 5:00 | 9 1/2 | 68,400 | <i>[Signature]</i> |
| M.H. | 17/3/17 | Friday | 8:00 | 4:30 | 8 1/2 | 61,200 | M.H. |
| M.H. | 18/3/17 | Saturday | 7:00 | 1:00 | 6 | 43,200 | <i>[Signature]</i> |
| M.H. | 20/3/17 | Monday | 8:00 | 3:30 | 7 1/2 | 54,000 | <i>[Signature]</i> |
| M.H. | 21-3-17 | Tue | 7:30 | 4:30 | 9 HRS | 64,000 | <i>[Signature]</i> |
| M.H. | 22-3-17 | Wed | 8:00 | 5:30 | 9 1/2 | 68,400 | M.H. |
| M.H. | 23-3-17 | Thurs | 7:00 | 4:00 | 9 HRS | 64,000 | <i>[Signature]</i> |
| M.H. | 24-3-17 | Fri | 7:30 | 4:30 | 9 | 64,000 | M.H. |
| M.H. | 25/3/17 | Saturday | 7:00 | 1:00 | 6 | 43,200 | <i>[Signature]</i> |
| M.H. | 27-3-17 | Mon | 10:15 | 5:00 | 7 1/4 | 52,200 | M.H. |
| M.H. | 28/3/17 | Tuesday | 8:15 | 5:30 | 9 1/4 | 66,600 | M.H. |
| M.H. | 29-3-17 | Wed | 7:00 | 5:30 | 10 1/2 | 75,600 | M.H. |
| M.H. | 30-3-17 | Thurs | 7:00 | 9:00 | 9 HRS | 64,000 | <i>[Signature]</i> |
| M.H. | 31-3-17 | Fri | 7:30 | 4:30 | 9 | 64,000 | M.H. |
| M.H. | 1/4/17 | Saturday | 7:30 | 1:00 | 5 1/2 | 39,600 | <i>[Signature]</i> |
| M.H. | 3/4/17 | Monday | 8:15 | 5:30 | 10 1/2 | 75,600 | <i>[Signature]</i> |
| M.H. | 4/4/17 | Tuesday | 7:30 | 5:00 | 9 1/2 | 68,400 | <i>[Signature]</i> |

MAR 1,595,000

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 |
|------------|-----|---------|------------|-------------|-------------|------------------------|---------------|
| PRZ | | 5/4/17 | 8:00 | 5:30 | 9½ | 68400 | M.H. |
| M.H. | | 6.4.17 | 7:00 | 5:30 | 10½ | 75600 | M.H. |
| M.H. | | 7.4.17 | 7:00 | 5:30 | 10½ | 75600 | \$ |
| PRZ | | 8/4/17 | 7:30 | 1:00 | 5½ | 39600 | PRZ |
| M.H. | | 10.4.17 | 10:30 | 5:30 | 7 | 50400 | M.H. |
| PRZ | | 11/4/17 | 11:00 | 4:00 | 5 | 36000 | PRZ |
| PRZ | | 12/4/17 | 8:15 | 4:30 | 8¼ | 59400 | PRZ |
| PRZ | | 13/4/17 | 9:00 | 6:00 | 9 | 64800 | M.H. |
| M.H. | | 16.4.17 | 9:00 | 3:00 | 6 | 43200 | M.H. |
| M.H. | | 17.4.17 | 8:00 | 4:00 | 8 | 57600 | M.H. |
| PRZ | | 24/4/17 | 7:00 | 5:30 | 10½ | 75600 | PRZ |
| PRZ | | 26/4/17 | 8:00 | 6:00 | 10 | 72000 | M.H. |
| M.H. | | 27.4.17 | 7:00 | 4:00 | 9 | 64800 | M.H. |
| M.H. | | 28.4.17 | 1:00 | 4:00 | 3 | 21600 | M.H. |
| M.H. | | 29.4.17 | 7:00 | 1:00 | 6 | 43200 | M.H. |
| M.H. | | 1-5-17 | 7:00 | 5:45 | 10¾ | 77400 | M.H. |
| M.H. | | 2.5.17 | 7:30 | 5:30 | 10HRS | 72000 | \$ |
| M.H. | | 3.5.17 | 8:00 | 4:00 | 8 | 57600 | M.H. |
| PRZ | | 11/5/17 | 10:15 | 5:30 | 7¼ | 52200 | PRZ |
| PRZ | | 12/5/17 | 8:30 | 5:30 | 9HRS | 64800 | PRZ |
| PRZ | | 13/5/17 | 7:30 | 1:00 | 5½ | 39600 | PRZ |
| SR | | 15/5/17 | 8:00 | 5:15 | 9HRS | 66600 | \$ |
| SR | | 16/5/17 | 8:00 | 5:15 | 9HRS | 66600 | \$ |
| SR | | 17/5/17 | 9:15 | 5:15 | 8HRS | 57600 | \$ |
| SR | | 18/5/17 | 8:00 | 4:30 | 8½ | 61200 | \$ |
| SR | | 19/5/17 | 8:00 | 4:00 | 8HRS | 57600 | \$ |

APRIL 1,026,400

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 | SATURDAY | 20/5/17 | 7:15 | 12:15 | 5 HRS | 36,000 | SR |
| SR | TUESDAY | 23/5/17 | 2:00 | 5:15 | 3HR 15m | 23400 | SR |
| SR | Wednesday | 24/5/17 | 7:15 | 8:15 | 9 HRS | 64800 | SR |
| SR | Thursday | 25/5/17 | 7:00 | 4:30 | 9 1/2 | 68400 | SR |
| SR | Friday | 26/5/17 | 8:00 | 5:00 | 9 hrs | 64800 | SR |
| SR | Saturday | 27/5/17 | 7:30 | 1:00 | 5 1/2 | 68400 | SR |
| SR | Monday | 29/5/17 | 8:00 | 5:00 | 9 hrs | 64800 | SR |
| SR | Tuesday | 30/5/17 | 8:00 | 5:00 | 9 hrs | 64800 | SR |
| SR | Wednesday | 31/5/17 | 8:30 | 5:00 | 8 1/2 | 61200 | SR |
| SR | Thurs. Day | 1/6/17 | 8:00 | 5:00 | 9 hrs | 64800 | SR |
| SR | Friday | 2/6/17 | 8:00 | 5:00 | 9 hrs | 64800 | SR |
| SR | Saturday | 3/6/17 | 7 | 1 | 6 hrs | 43200 | SR |
| SR | Monday | 5/6/17 | 8:15 | 5:00 | 8 3/4 | 6300 | SR |
| SR | Tuesday | 6/6/17 | 8:30 | 5:00 | 8 1/2 | 61200 | SR |
| SR | Wednesday | 7/6/17 | 5:30 | 5:30 | 12 | 86400 | SR |
| SR | Thursday | 8/6/17 | 7:00 | 4:30 | 9 1/2 | 68400 | SR |
| SR | Friday | 9/6/17 | 8:00 | 5:30 | 9 1/2 | 68400 | SR |
| SR | Saturday | 10/6/17 | 8:00 | 1:00 | 5 | 36000 | SR |
| SR | Tuesday | 13/6/17 | 7:30 | 5:30 | 10 | 72000 | SR |
| SR | Wednesday | 14/6/17 | 8:15 | 5:30 | 9 1/4 | 66600 | SR |
| SR | Thursday | 15/6/17 | 7:00 | 5:00 | 10 | 7200 | SR |
| SR | Friday | 16/6/17 | 7:00 | 5:30 | 10 1/2 | 75600 | SR |
| SR | Saturday | 17/6/17 | 7:00 | 1:00 | 6 | 43200 | SR |
| SR | Monday | 19/6/17 | 10:00 | 5:30 | 7 1/2 | 54000 | SR |
| SR | Tuesday | 20/6/17 | 8:00 | 5:30 | 9 1/2 | 68400 | SR |
| SR | Wednesday | 21/6/17 | 8:30 | 5:00 | 8 1/2 | 61200 | SR |

98921033

Marie

1099
7830
0929

042706430
4702

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 |
|------------|-----------|---------|------------|-------------|----------------|------------------------|---------------|
| MLH | Thursday | 22/6/17 | 9:30 | 5:30 | 8 | 57600 | MLH |
| MLH | Friday | 23/6/17 | 8:30 | 5:00 | 8½ | 61200 | MLH |
| MLH | Saturday | 24/6/17 | 7:00 | 2:00 | 7 | 50400 | MLH |
| MLH | Monday | 26/6/17 | 10:00 | 5:30 | 7½ | 5400 | |
| MLH | Tuesday | 27/6/17 | 8:00 | 5:00 | 8 9 | 64800 | |
| MLH | Wednesday | 28/6/17 | 7:30 | 5:30 | 10 | 72000 | |
| MLH | Thursday | 29/6/17 | 7:30 | 5:30 | 10 | 72000 | |
| MLH | Friday | 30/6/17 | 8:00 | 5:00 | 9 | 64800 | |
| MLH | Saturday | 1/7/17 | 10:00 | 2:00 | 4 | 28800 | |
| MLH | Monday | 3/7/17 | 8:00 | 5:30 | 9½ | 68400 | |
| MLH | Tuesday | 4/7/17 | 7:00 | 5:30 | 10½ | 75600 | |
| MLH | Wednesday | 5/7/17 | 7:30 | 5:30 | 10 | 72000 | |
| MLH | Thursday | 6/7/17 | 7:30 | 5:00 | 9½ | 68400 | |
| MLH | Friday | 7/7/17 | 7:00 | 5:30 | 10½ | 75600 | |
| MLH | Saturday | 8/7/17 | 7:00 | 2:00 | 7 | 50400 | |
| MLH | Monday | 10/7/17 | 7:30 | 5:30 | 10 | 72000 | |
| MLH | Tuesday | 11/7/17 | 7:00 | 5:00 | 10 | 72000 | |
| MLH | Wednesday | 12/7/17 | 7:30 | 5:30 | 10 | 72000 | |
| MLH | Thursday | 13/7/17 | 10:30 | 5:30 | 7 | 50400 | |
| MLH | Friday | 14/7/17 | 8:30 | 5:30 | 9 | 64800 | |
| MLH | Saturday | 15/7/17 | 7:30 | 2:00 | 6½ | | |
| MLH | Monday | 17/7/17 | 7:00 | 5:30 | 10½ | 75600 | |
| MLH | Thursday | 18/7/17 | 7:30 | 5:00 | 9½ | 68400 | |
| MLH | Friday | 19/7/17 | 7:30 | 5:00 | 9½ | 68400 | |
| MLH | Thursday | 20/7/17 | 8:00 | 5:30 | 9½ | 68400 | |
| MLH | Friday | 21/7/17 | 7:00 | 5:00 | 10 | 72000 | |

Hodgson Quarries and Plant Pty Ltd

3

Maroota

Bore Hole Pump

| Started By | Day | Date | Start Time | Finish Time | Total Hours | Total Litres @ 120/Min | Turned Off By |
|------------|-----------|---------|------------|----------------|-------------|------------------------|---------------|
| PH | Saturday | 22/7/17 | 7-30 | 2pm | 6½ | 46800 | PH |
| PH | Monday | 24/7/17 | 800 | 530 | 9½ | 68400 | PH |
| PH | Wednesday | 26/7/17 | 800 | 500 | 9 | 64800 | PH |
| PH | Thursday | 27/7/17 | 1100 | 530 | 6½ | 46800 | PH |
| PH | Friday | 28/7/17 | 830 | 530 | 9 | 64800 | PH |
| PH | Saturday | 29/7/17 | 700 | 200 | 7 | 50400 | PH |
| PH | Monday | 31/7/17 | 8-30 | 530 | 9 | 64800 | PH |
| PH | Tuesday | 1/8/17 | 1030 | 400 | 5½ | 39600 | PH |
| PH | Wednesday | 2/8/17 | 1000 | 500 | 7 | 50400 | PH |
| PH | Thursday | 3/8/17 | 830 | 530 | 9 | 64800 | PH |
| PH | Friday | 4/8/17 | 800 | 500 | 9 | 64800 | PH |
| PH | Saturday | 5/8/17 | 700 | 200 | 7 | 50400 | PH |
| PH | Monday | 7/8/17 | 730 | 500 | 9½ | 68400 | PH |
| PH | Tuesday | 8/8/17 | 700 | 530 | 10½ | 75600 | PH |
| PH | Wednesday | 9/8/17 | 700 | 530 | 10½ | 75600 | PH |
| PH | Thursday | 10/8/17 | 700 | 530 | 10½ | 75600 | PH |
| PH | Friday | 11/8/17 | 730 | 530 | 10 | 72000 | PH |
| PH | Saturday | 12/8/17 | 800 | 200 | 6 | 43200 | PH |
| PH | Monday | 14/8/17 | 10-30 | 530 | 7 | 50400 | PH |
| PH | Tuesday | 15/8/17 | 800 | 530 | 9½ | 68400 | PH |
| PH | Wednesday | 16/8/17 | 800 | 530 | 9½ | 68400 | PH |
| PH | Thursday | 17/8/17 | 830 | 530 | 9 | 64800 | PH |
| PH | Friday | 18/8/17 | 900 | 500 | 8 | 57600 | PH |
| PH | Saturday | 19/8/17 | 800 | 530 | 9½ | 68400 | PH |
| PH | Monday | 21/8/17 | 1100 | 500 | 6 | 43200 | PH |
| PH | Wednesday | 23/8/17 | 1030 | 530 | 7 | 50400 | PH |

0

Hodgson Quarries and Plant Pty Ltd

89/11

Maroota

61/2/17

Bore Hole Pump

| Started By | Day | Date | Start Time | Finish Time | Total Hours | Total Litres @ 120/Min | Turned Off By |
|------------|-----------|---------|------------|-------------|-------------|------------------------|---------------|
| MLZ | Thursday | 24/8/17 | 1030 | 530 | 7hrs | 50400 | MLZ |
| MLZ | Friday | 25/8/17 | 800 | 530 | 9½ | 68400 | MLZ |
| MLZ | Saturday | 26/8/17 | 800 | 100 | 5 | 36000 | MLZ |
| MLZ | Monday | 28/8/17 | 730 | 530 | 10 | 72000 | MLZ |
| MLZ | Tuesday | 29/8/17 | 1000 | 500 | 7 | 50400 | MLZ |
| MLZ | Wednesday | 30/8/17 | 800 | 500 | 9 | 64800 | MLZ |
| MLZ | Thursday | 31/8/17 | 730 | 530 | 10 | 72000 | MLZ |
| MLZ | Friday | 1/9/17 | 730 | 4pm | 8½ | 61200 | MLZ |
| MLZ | Saturday | 2/9/17 | 700 | 1pm | 6 | 43200 | MLZ |
| MLZ | Tuesday | 5/9/17 | 700 | 500 | 10 | 72000 | MLZ |
| MLZ | Wednesday | 6/9/17 | 900 | 400 | 7 | 50400 | MLZ |
| MLZ | Saturday | 9/9/17 | 700 | 100 | 6 | 43200 | MLZ |
| MLZ | Tuesday | 12/9/17 | 1030 | 530 | 7 | 50400 | MLZ |
| MLZ | Wednesday | 13/9/17 | 830 | 500 | 8½ | 61200 | MLZ |
| MLZ | Friday | 15/9/17 | 800 | 530 | 9½ | 68400 | MLZ |
| MLZ | Saturday | 16/9/17 | 700 | 1pm | 6 | 43200 | MLZ |
| MLZ | Tuesday | 19/9/17 | 930 | 530 | 8 | 57600 | MLZ |
| MLZ | Wednesday | 20/9/17 | 900 | 530 | 8½ | 61200 | MLZ |
| MLZ | Thursday | 21/9/17 | 800 | 500 | 9 | 64800 | MLZ |
| MLZ | Friday | 22/9/17 | 800 | 530 | 9½ | 68400 | MLZ |
| MLZ | Saturday | 23/9/17 | 830 | 400 | 7½ | 54000 | MLZ |
| MLZ | Monday | 25/9/17 | 800 | 430 | 8½ | 61200 | MLZ |
| MLZ | Wednesday | 27/9/17 | 830 | 530 | 9 | 64800 | MLZ |
| MLZ | Friday | 29/9/17 | 830 | 530 | 9 | 64800 | MLZ |
| MLZ | Saturday | 30/9/17 | 700 | 100 | 6 | 43200 | MLZ |

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 |
|------------|-----------|----------|------------|-------------|-------------|------------------------|---------------|
| Paul | Wednesday | 4/10/17 | 8:00 | 4:00 | 8 | 57600 | Paul |
| Paul | Thursday | 5/10/17 | 7:30 | 4:15 | 8 3/4 | 60840 | Paul |
| Paul | Friday | 6/10/17 | 7:30 | 3:30 | 8 | 57600 | Paul |
| Paul | Saturday | 7/10/17 | 8:00 | 1:00 | 5 | 36000 | Paul |
| Paul | Tuesday | 10/10/17 | 8:30 | 4:00 | 7 1/2 | 54000 | Paul |
| Paul | Thursday | 12/10/17 | 7:30 | 4:00 | 8 1/2 | 61200 | Paul |
| Paul | Friday | 13/10/17 | 9:00 | 4:30 | 7 1/2 | 54000 | Paul |
| Paul | Saturday | 14/10/17 | 7 | 12 | 5 | 36000 | Paul |
| Paul | Monday | 16/10/17 | 7:00 | 4:00 | 9 | 64800 | Paul |
| Paul | Wednesday | 18/10/17 | 11:00 | 5:30 | 6 1/2 | 46800 | Paul |
| Paul | Saturday | 21/10/17 | 7:00 | 10:00 | 6 | 43200 | Paul |
| Paul | Thursday | 26/10/17 | 11:30 | 5:30 | 6 | 43200 | Paul |
| Paul | Tuesday | 31/10/17 | 8:00 | 2:30 | 6 1/2 | 46800 | Paul |
| Paul | Wednesday | 1/11/17 | 7:30 | 4:15 | 8 1/4 | 59400 | Paul |
| Paul | Thursday | 2/11/17 | 7:30 | 4:00 | 8 1/2 | 61200 | Paul |
| SR | FRIDAY | 3/11/17 | 7:30 | 4:00 | 8 1/2 | 61200 | SR |
| SR | SATURDAY | 4/11/17 | 8:00 | 12:00 | 4 | 28800 | SR |
| SR | MONDAY | 6/11/17 | 9:00 | 4:00 | 7 | 50400 | SR |
| SR | TUESDAY | 7/11/17 | 9:00 | 4:00 | 7 | 50400 | SR |
| SR | WEDNESDAY | 8/11/17 | 8:00 | 4:00 | 8 | 57600 | SR |
| Paul | Friday | 10/11/17 | 9:30 | 4:30 | 7 | 50400 | Paul |
| Paul | Saturday | 11/11/17 | 7am | 12pm | 5 | 36000 | Paul |
| Paul | Tuesday | 14/11/17 | 7:30 | 1:30 | 6 | 43200 | Paul |
| Paul | Wednesday | 15/11/17 | 8:00 | 4:00 | 8 | 57600 | Paul |
| Paul | Thursday | 16/11/17 | 9:00 | 5:00 | 8 | 57600 | Paul |
| Paul | Saturday | 18/11/17 | 7:00 | 12:00 | 5 | 36000 | Paul |

Appendix I: Noise Monitoring Results

Noise Monitoring Assessment

Hodgson Quarries and Plant Hire Pty Ltd



Document Information

Noise Monitoring Assessment

Prepared for: VGT Pty Limited

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Greenhills NSW 2322

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| Document ID | Status | Date | Prepared By | Signed | Reviewed By | Signed |
|--------------|--------|-------------|--------------|---------------------|---------------|----------------------|
| MAC160257RP1 | Final | 15 May 2017 | Robin Heaton | <i>Robin Heaton</i> | Oliver Muller | <i>Oliver Muller</i> |

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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 Pty Limited to complete a Noise Monitoring Assessment (NMA) for Hodgson Quarries and Plant Hire 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), 2000, Industrial Noise Policy (INP);
- NSW Department of Environment, Climate Change and Water (DECCW), 2011, NSW Road Noise Policy (RNP);
- Standards Australia AS 1055.1:1997 - Acoustics - Description and measurement of environmental noise - General Procedures;
- 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 INP and recent 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

All attended noise surveys for this assessment were conducted in general accordance with the procedures described in Australian Standard AS 1055-1997, "Acoustics - Description and Measurement of Environmental Noise" and the EPL.

The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672.1-2004-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 Svantek Type 1, 971 noise analysers on Thursday 27 April 2017.

The monitoring consisted of six 15-minute monitoring intervals between 6am to 8am. 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 processing occurring 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 8am | Day | Full Quarry Operations, including processing |

3.2 Road Noise Assessment Methodology

Attended road noise monitoring was conducted at 4405 Old Northern Road, Maroota NSW using a Svantek Type 1, 971 noise analyser on Thursday 27 April 2017. The monitoring was conducted between 6am to 7am and between 7am and 8am 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

MAC160257



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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 27 April 2017 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} | | |
| 6:00 | 58 | 46 | 44 | 38 | Wind: 0.5m/s Dir: S Rain: Nil | Birds 35 – 50 |
| | | | | | | Aircraft Overhead 39 – 44 |
| | | | | | | Traffic 37 – 60 |
| | | | | | | Dogs 37 – 41 |
| | | | | | | Truck onsite 37 – 43dBA |
| Quarry Site L _{Aeq} (15-min) Contribution | | | | | | 40dBA |
| 7:00 | 70 | 52 | 50 | 40 | Wind: 0.4m/s Dir: S Rain: Nil | Dogs Barking 44 – 49 |
| | | | | | | Aircraft 42 – 53 |
| | | | | | | Engine Hum on 2 nd site 40 – 43 |
| | | | | | | Traffic 44 – 55 |
| | | | | | | Dozer Noise 38 – 41 |
| Quarry Site L _{Aeq} (15-min) Contribution | | | | | | N/A (quarry inaudible) |

The results of the fifteen minute attended noise measurements for 27 April 2017 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} | | |
| 6:19 | 75 | 50 | 50 | 37 | Wind: 0.5m/s Dir: S Rain: Nil | Trucks Offsite 39 – 52 |
| | | | | | | Distant Road Traffic 35 – 40 |
| | | | | | | Truck onsite 39 – 40 |
| | | | | | | Birds 34 – 51 |
| | | | | | | Quarry Site L _{Aeq} (15-min) Contribution |
| 7:19 | 73 | 49 | 49 | 37 | Wind: 0.3m/s Dir: S Rain: Nil | Noise from neighbouring Site 39 – 43 |
| | | | | | | Traffic 46 – 64 |
| | | | | | | Aircraft 40 – 47 |
| | | | | | | Birds 37 - 49 |
| | | | | | | Quarry Site L _{Aeq} (15-min) Contribution |

The results of the fifteen minute attended noise measurements for 27 April 2017 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} | | |
| 6:39 | 64 | 51 | 49 | 43 | Wind: 0.5m/s Dir: S Rain: Nil | Road Traffic (constant) 42 – 62 Frogs 37 – 39 |
| Quarry Site L _{Aeq} (15-min) Contribution | | | | | N/A (quarry inaudible) | |
| 7:40 | 65 | 56 | 53 | 48 | Wind: 0.6m/s Dir: S Rain: Nil | Traffic 48 – 51dBA Dozer on neighbouring Quarry 50 – 55 Aircraft 49 – 53 |
| Quarry Site L _{Aeq} (15-min) Contribution | | | | | N/A (quarry inaudible) | |

4.2 Road Noise Results

The results of the road noise attended measurements for 27 April 2017 are summarised in **Table 5**. Generally, meteorological conditions at the time of the measurements were neutral to adverse (ie noise enhancing). Notwithstanding, taking into account the wind velocity and distance to the source from receiver, meteorological conditions would not significantly increase received noise levels.

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) | Criteria, dBA |
| | | L _{Aeq} (1hr) (dBA re 20 µPa) | Project Truck Contribution | |
| | | dBA | dBA | L _{Aeq} (1hr) |
| 6am to 7am | 5 | 71 | 41 | 50 |
| 7am to 8am | 0 | 71 | Nil | 55 |

5 Discussion

5.1 Operational Noise Discussion

5.1.1 Discussion of Results – Location A, 27 April 2017

Attended measurement results for monitoring conducted at Location A on 27 April 2017 identified that quarry noise was audible prior to 7am with a haul truck travelling along the top section of the haul road dominating measured noise levels. Generally, birds, dogs and road traffic such as off-site trucks were dominant throughout the period with the onsite trucks briefly audible with similar acoustic characteristics as other road traffic. At approximately 7am quarry processing commenced however was masked by other sources such as road traffic and a dozer operating on a neighbouring quarry site. The noise contribution from the quarry satisfied the relevant noise criterion for the entire attended measurement on 27 April 2017. L_{Amax} emissions from the quarry remained below the sleep disturbance criterion.

5.1.2 Discussion of Results – Location B, 27 April 2017

Monitoring results for Location B on 27 April 2017 were influenced primarily by non-quarrying sources such as a dog barking, offsite trucks and distant road traffic. Between 6am to 7am quarrying operations were audible due to export trucks travelling along the haul road. This operation was audible for a short period and noise from offsite traffic had an equivalent noise contribution at the monitoring location. At 7am noise from the adjoining quarry site dominated the noise environment while project noise remained inaudible. L_{Amax} emissions from the quarry remained below the sleep disturbance criterion.

5.1.3 Discussion of Results – Location C, 27 April 2017

Noise levels at Location C on 27 April 2017 were dominated by ambient sources not associated with quarrying operations including birds and 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.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a noise monitoring assessment on behalf of Hodgson Quarries and Plant Hire 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

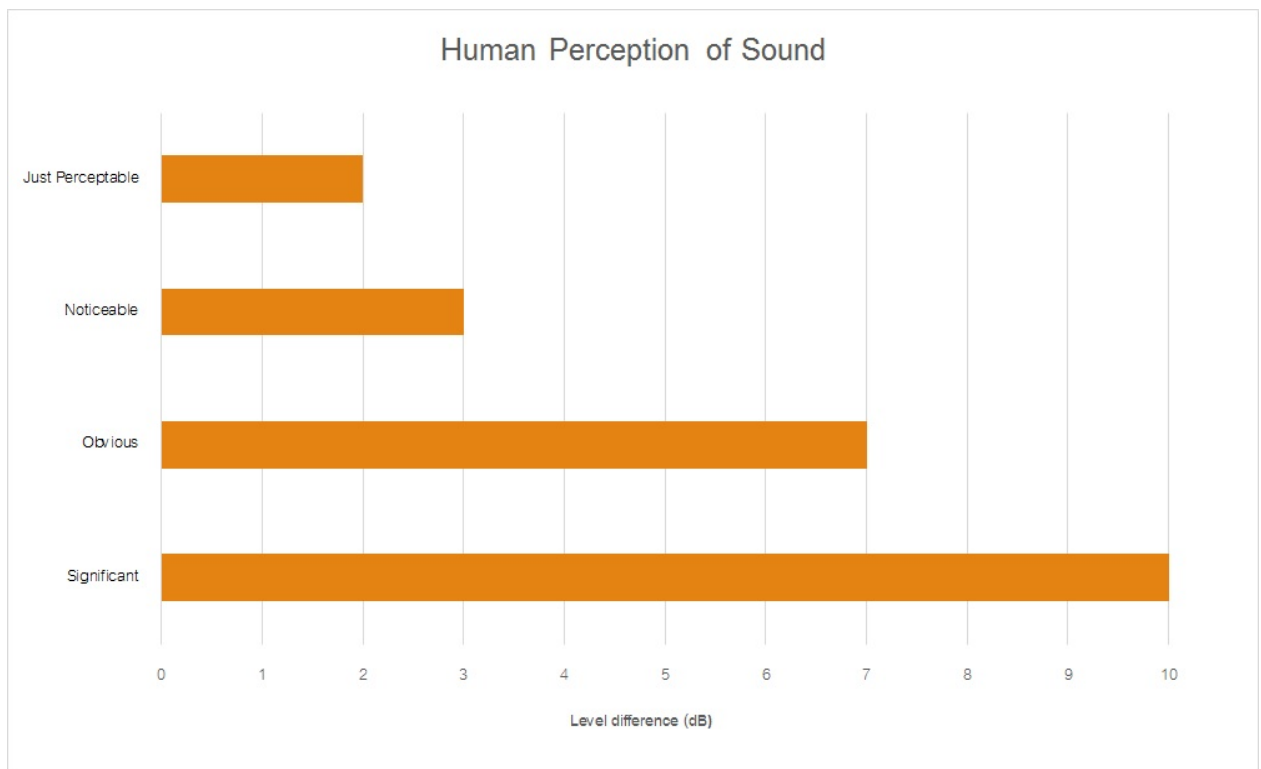
Table A1 provides a number of technical terms have been used in this report.

| Table 1A 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 INP 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 : $= 10 \cdot \log_{10} (W/W_0)$ <p>Where : W is the sound power in watts and W₀ is the sound reference power at 10-12 watts.</p> |

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



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

| | <u>Scale</u> |
|----------------------------------|--|
| 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.

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: 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

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 | |
| Approved by: Martin Hodgson | |
| DATE OF ISSUE: 9/01/17 | ISSUE NUMBER: 4.0 |
| PAGE NUMBER: 2 of 2 | |

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
PAGE NUMBER: 1 of 1

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

ISSUE NUMBER: 2.0

PAGE NUMBER: 1 of 1

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
PAGE NUMBER: 1 of 1

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 Hire Pty Ltd
SWP - WORKING FROM STOCKPILES

Author: Stuart Reed

Approved by: Martin Hodgson

DATE OF ISSUE: 9/01/17

ISSUE NUMBER: 1.0

PAGE NUMBER: 1 of 1

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 K: Correspondence



Ms Lisa Thomson
Principal Environmental Consultant
VGT Pty Limited
PO Box 2335
GREENHILLS NSW 2323

Dear Ms Thomson

**Roberts Road Maroota Sand Quarry (DA 267-11-99)
Appointment of Independent Audit Team**

I refer to your letter dated 10 March 2017, seeking the Secretary's approval of suitably qualified, experienced and independent persons to undertake an independent environmental audit of the Roberts Road Maroota Sand Quarry, in accordance with condition 70 of Schedule 2 of DA 267-11-99.

The Department has reviewed the recommended auditors, and the Secretary has approved the following audit team:

- Ms Leanne Cross, Newport Technical Services – lead auditor; and
- Mr Andrew Hills, Newport Technical Services – supporting auditor.

Should you have any enquiries, please contact Genevieve Seed at the details listed above.

Yours sincerely,

Howard Reed 13-3-17
Director
Resource Assessments
As nominee of the Secretary



Contact: Janne Grose
Phone: 02 8838 7505
Email: janne.grose@dpi.nsw.gov.au

Our ref: V15/3875#23, OUT17/13594
File No:
Your Ref:

Lisa Thompson
VGT
PO Box 2335
GREENHILLS NSW 2323

31 March 2017

Lisa@vgt.com.au

Dear Ms Thompson

Re: Roberts Road Quarry Maroota (DA 267-11-99 Mod 2) – Groundwater Study report

Thank you for emailing a copy of the Groundwater Study Report (dated 24 February 2017 - 16-0318-R02). DPI Water has reviewed the Groundwater Study Report and provides the following recommendations and more detailed comments in Attachment A.

Recommendations

DPI Water recommends that the following recommendations are provided to the Proponent.

- 1** Additional detailed cross-sections through the site should be provided to DPI Water, and improvement of existing cross-sections is required to clearly show lithological differences, and a complete set of bore logging sheets need to be provided, as depicted on Figures 9, 10 and 11.
- 2** The Proponent should provide a map of the resources proposed as targets of mining from present day onwards. Detailed information about the lithology, extents, depths and thickness of the target resource is to be provided for the entire site and stages of mining are to be discussed. Contour maps of the surface topography of proposed maximum mining depth everywhere on site as well as post-mining rehabilitated topography are also to be provided.
- 3** Consultation with DPI Water Hydrogeologists is required to ensure a sufficient groundwater monitoring program is in place for the site for ongoing monitoring until 2025.
- 4** Monitoring of water levels in the dams using loggers.

- 5 The Proponents Groundwater Consultant should liaise with DPI Water Hydrogeologists who will be made available for a meeting to discuss the site conceptual hydrogeology and recommendations.

For further information please contact Janne Grose, Water Regulation Officer at DPI Water (Parramatta office) on t: (02) 8838 7505; e: janne.grose@dpi.nsw.gov.au

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Irene Zinger'.

Irene Zinger
Regional Manager - Metro,
Water Regulation

ATTACHMENT A

Roberts Road Quarry Maroota (DA 267-11-99 Mod 2) – Groundwater Study Report

DPI Water has reviewed the Groundwater Study Report and provides these detailed comments in Attachment A.

There is still uncertainty with regards to the conceptual hydrogeology. The latest information provided does not provide certainty as to the pre-mining, present day and post mining wet weather high water table to enable a proper assessment of the conditions on site.

- The Proponent appears to reference all water above the Hawkesbury Sandstone Basement as “perched groundwater”. This diminishes the significance of a regional groundwater table in the Maroota Tertiary Sands Groundwater Source, for the establishment of maximum mining depths (which is to extend no deeper than within two metres of the wet weather high groundwater level at any location). The wet weather water table is variable across the site and what the Proponent terms as a “perched Maroota sands water table in a desaturated zone” is regarded by DPI Water to be a regional Maroota Sands aquifer water table that has already been significantly lowered by mining activities relative to baseline conditions that existed pre-mining. MW2 water levels (203 m AHD) suggest a much higher baseline regional water level than the present water level at MW5 and MW8 (193 m AHD).
- The Proponent suggests that the extent of the saturated Maroota Sands is limited towards the west by the depiction of a red line on Figure 19. However multiple Maroota Sand screened bores show a standing water level reading in the western “desaturated zone”. DPI Water would like some clarification justifying the suggestion and clarity about whether this desaturation was present pre-mining and to address the contradiction.
- The submitted document could benefit from further clarification by the provision of further detailed hydrogeological cross-sections in other orientations. Seepages in Maroota sands were noted at elevations immediately to the west of the main dam that were higher than current dam water levels. Historical data suggests that Maroota Sands water levels were significantly higher than existing water levels. The drawdown could be attributed to water supply dewatering, evaporation from the capillary zone or evaporation from open water on the dams.

DPI Water finds the report inadequate towards determining the location of the wet weather high groundwater table on site and requires further information.

End of Attachment A



Contact: Janne Grose
Phone: 02 8838 7505
Email: janne.grose@dpi.nsw.gov.au

Our ref: V15/3875#23, OUT17/13999
File No:
Your Ref:

Lisa Thompson
VGT
PO Box 2335
GREENHILLS NSW 2323

4 April 2017

Lisa@vgt.com.au

Dear Ms Thompson

Re: Roberts Road Quarry Maroota (DA 267-11-99 Mod 2) – draft Surface Water Management Plan

Thank you for emailing a copy of the Surface Water Management Plan (dated 31 January 2017 – 2801_MA_EMP_SWMP_2016_F2). DPI Water has reviewed the draft Surface Water Management Plan (SWMP) and provides comments in Attachment A:

For further information please contact Janne Grose, Water Regulation Officer at DPI Water (Parramatta office) on t: (02) 8838 7505; e: janne.grose@dpi.nsw.gov.au

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Irene Zinger'.

Irene Zinger
Regional Manager - Metro,
Water Regulation

ATTACHMENT A

Roberts Road Quarry Maroota (DA 267-11-99 Mod 2) – Surface Water Management Plan

DPI Water has reviewed the draft Surface Water Management Plan (SWMP) and provides the following comments.

1 Executive Summary

Section 1 of the SWMP indicates a portion of clean water from the undisturbed areas and properties adjacent to the quarry enters the main quarry area (page 1). Clean water runoff should be diverted away from the quarry area. The SWMP should clarify if it is possible to divert this clean water around the site so it does not enter the quarry.

2.3.2 National Office of Water (NOW)

It is suggested the heading for Section 2.3.2 'National Office of Water (NOW)' is amended to 'DPI Water'.

It is recommended Section 2.3.2 includes licensing details on all the dams on the site.

It is noted there are aspects of groundwater monitoring in the SWMP. Aspects of the hydrogeology on the site are yet to be finalised.

Table 2 – Groundwater Bore Summary

The SWMP needs to include a figure which shows the location of the bores listed in Table 2 including the location of the groundwater bore (GW102451). It is unclear where this bore is located.

Table 2 indicates the Water Access Licences for 10CA114819 and 10CA104888 expired in February 2016. The SWMP needs to clarify if current approvals are held.

2.5 Consultation

Section 2.5 makes reference to email correspondence from the DPI on the '14 October 2016'. This needs to be amended to the '10 October 2016' (see page 13).

4.1 Drainage patterns

Section 4.1 notes surface water collected over properties east of Roberts Road enters the site via a road culvert. It indicates this catchment is approximately 10 Ha and is considered clean and is diverted into Dam 1. As water from Dam 1 is used for processing a Water Access Licence (WAL) is required.

The collection of dirty water in dams or sediment ponds for a water supply is exempt from requiring a licence under the Water Management (General) Regulation 2011. The collection of clean water from undisturbed areas in dams to provide a water supply is not exempt and is not supported by DPI Water unless it is in accordance with an appropriate WAL and a nominated work. If clean water is being collected, then the proponent must liaise with DPI Water to ensure appropriate licences are held.

4.2 Groundwater Inflows

The pumping bores need to be metered.

4.5 Surface Water Quality

The SWMP needs to clarify if the quarry discharges water off site. Section 4.5 states “*no discharge off-site has occurred recently*” (our emphasis) (page 18) but this is not consistent with:

- Section 4.6 which states “*at present the site does not discharge water off site*” (page 18)
- Section 7.6.5 which states “*no discharge of water off-site has occurred to date*” (page 41).

It is suggested the SWMP clarifies if any off-site discharge has occurred. It would appear from Section 7.6.5 that no offsite discharge has occurred. If off site discharge has occurred, Section 4.5 needs to include details such as when off-site discharge occurred and whether surface water quality monitoring was undertaken at this time.

Section 4.5 notes that should discharge be required surface water monitoring would be undertaken. The SWMP needs to provide details on where the surface water quality sampling points are located.

DPI Water supports a nil discharge approach for dirty/sediment laden water. Clean surface runoff, however should be diverted away from development and diverted to downstream catchments for the environment and other users (unless the water is captured under a WAL).

4.6 Discharge Points

The SWMP should identify where the discharge points are located.

5.3 Water Use on site

Section 5.3 notes that after processing liberated, water is drained into a ‘holding dam’ (page 19). The SWMP needs to clarify which dam is the holding dam and include a figure which locates it.

5.4 Recycling of Water

Section 5.4 refers to collecting water in the sediment dams for reuse (page 20). The SWMP needs to clarify which dams are the sediment dams and include details on the capacity of these dams. A figure needs to be included in the SWMP which shows the location of the sediment dams.

5.5 Modelling Assumptions

The modelling provides a ball park figure understanding but it does not represent reality.

5.6.2 Projected Future Water Usage

Section 5.6.2 notes water levels within the dam will be recorded annually and that to assist with this, loggers will be installed in key dams (page 26). DPI Water advised in its submission of 31 October 2016 that it requires a continuous water level logger to be placed on each of the dams at the site to determine if the water in the dams is originating from the Maroota sands aquifer. The SWMP needs to be amended to reflect this.

7.1 Clean Water Management

Section 7.1 notes clean water is diverted around the site via a series of earthen bunds and it refers to Figure 3. Figure 3 needs to be amended to show the location of the bunds. As the SWMP indicates clean water from undisturbed areas enters the quarry area (page 1), Section 7.1 should include details on this.

7.2.5 Final Stage catchment

Section 7.2.5 notes the potential volume of the final dam on the site would be 945 300 m³ (page 35), which equates to 945 ML. The proponent would need to purchase WAL(s) to account for the volume of water held by the dam. The SWMP assumes the final dam would

have an average depth of 7m. A groundwater WAL may also be required if the dam intercepts groundwater. It is recommended the proponent commences investigating the purchase of WAL(s)

The NSW Dams Safety Committee should be consulted in relation to this dam.

7.6.2 Transfer of Water to Offsite Dam

Section 7.6.2 indicates excess surface water from Dam 1 is to be transferred from the site to the neighbouring land owned by Mr Tony Portelli (page 38). The SWMP indicates the water is to be used for stock water and irrigation (pages 38 and 39). The SWMP needs to clarify whether Mr Portelli has the correct approvals under the Water Management Act 2000. Details are required on the location of Mr Portelli's property and the location of his dam(s). Clarification is required as to how the water is to be transferred, and whether it is to be transferred via a pipeline to his property.

10 Performance Criteria

Once the proponent clarifies the remaining groundwater issues, this section will be subject to change.

End of Attachment A



Contact: Thomas Minchin
Phone: 02 8289 6623
Email: Thomas.Minchin@planning.nsw.gov.au
Date: 19 July 2017

Lisa Thomson
Principle Environmental Consultant
VGT Pty Limited
4/30 Glenwood Drive
THORNTON NSW 2036

Dear Lisa,

**Roberts Road, Maroota Sand Quarry – Annual Review and Compliance Report 2016
DA 267-11-99 as modified**

I refer to the *Annual Review and Compliance Report 2016* (the Report) dated 31 March 2017, prepared by VGT Pty Ltd on behalf of Hodgson Quarries & Plant Pty Ltd. The report was submitted in accordance with Condition 6 of DA 267-11-99 (the consent) Mod 3 and Mod 2 (Annual Review); and Condition 66 of Mod 2 of the consent (Compliance Report).

The Department has reviewed the Report and considers it to generally satisfy the reporting requirement of the consent in relation to the Annual Review and Compliance Report. Approval of the Report is not endorsement of the compliance status of the project.

Should you wish to discuss the above please contact Thomas Minchin via the contact details provided above.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Chase Dingle'.

Chase Dingle
Team Leader – Compliance
As the Secretary's nominee

15th September, 2017

Let170915 refJP170907

Department of Planning and Environment
Compliance Unit
GPO Box 39
Sydney NSW 2001

ATTN: Julia Pope

RE: Email Correspondence dated 7/9/17 to Stuart Reed, Hodgson Quarries and Plant.

Dear Julia,

VGT have been engaged by Hodgson Quarries and Plant Pty Ltd to respond to your email dated 7/9/17, in which you state:

"I have taken over from the Department's Stewart McLachlan and have reviewed the survey identifying the extraction depths. Based on the survey, it appears that some areas at the quarry have been extracted below the approved limit in the consent.

The Department is finalising its investigation into this matter and considering possible compliance action in accordance with its Compliance Policy.

The purpose of this email is to give you the opportunity to provide any further information you would like the Department to consider in this matter.

Any response should be received by the Department by Tuesday 19 September."

VGT representatives visited the site on 12th September, 2017 for the purpose of determining the depth of the Process Dam. A technician proceeded around the dam using a boat in an approximate grid pattern taking readings using a hand-held Garmin GPS ($\pm 4\text{m}$) and a marked, weighted disposable groundwater bailer. A depth from the base of the dam (as defined by when the bailer would descend no further under its own weight and contained sediment when lifted out) to the top of the water was measured at each location. These points were then plotted using 3D modelling software (12d). The surface of the water was estimated using surveyed data from earlier the same day as at 188 metres AHD. This will be confirmed when the logger is downloaded on the 21st September. The contours are presented in the attached figure.

The deepest point of the dam was found to be 2.9 metres from the surface of the water, or 185 m AHD in the vicinity of the pump. The remainder of the points measured averaged 0.4 metres from the surface of the water to the top of the sediment, or an average of 187 m AHD.

As you are aware, consent condition number 38 states:

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

(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.



PO Box 2335 Greenhills NSW 2323
P (02)4028 6412 E mail@vgt.com.au
www.vgt.com.au ABN 79 103 636 353

The investigation and survey conducted on the 12th September 2017 shows that the site is not in breach of this consent condition. The lowest point in the Process Water Dam is 185 m AHD and the lowest point in all other areas of the site 186.1 m AHD.

The letter from Singleton Survey Services Pty Ltd on 5/6/17 stating that the deepest point of the dam is "approximately 7 metres" was referring to extraction activities prior to the date of Modification 2, and not to the current extraction activities nor the existing state of the dam. There has been no extraction in the Process Dam footprint since 2013, and since that time the dam has been progressively filled with washed sand and clay fines to a level of 185 m AHD.

Should you have any further queries or concerns, please contact Stuart Reed from Hodgson Quarries and Plant, or myself.

Regards,

A handwritten signature in black ink that reads 'Lisa Thomson'.

Lisa Thomson

Principal Environmental Consultant

VGT Pty Ltd

| | | | | | | | |
|----------------------|--|------------------|--|--------------------------|--|-------------------------|-------------------------------------|
| Plan of: | Roberts Rd Maroota Quarry DPE Response September 2017 - Process Dam Survey | Location: | Maroota Quarry, Roberts Road, Maroota, NSW | Source: | Integral Surveying - Image Date May 2016 | Our Ref: | 4797_HMA_DPER_Sept17_C001_V0_F1.cdr |
| Figure: | ONE | Council: | Hills Shire Council | Survey: | Integral Surveying | Plan By: | LT/JD |
| Sheet: | 1 of 1 | Tenures: | N/A | Projection: | MGA | Project Manager: | LT |
| Version/Date: | V0 15/09/2017 | 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 | |
|--------|----------------------------------|
| | Property Boundary |
| | Spot Height Location |
| | Process Area Dam 1 Contour (.2m) |
| | Site Contour (1m) |

| Location | Description | Spot Height |
|----------|-----------------------|-------------|
| | Location 1 | |
| RL 1 | Process Area Dam RL 1 | 187.402 |
| RL 2 | Process Area Dam RL 2 | 187.436 |
| RL 3 | Process Area Dam RL 3 | 187.431 |
| | Location 2 | |
| RL 13 | RL1 Pump Outlet | 186.13 |
| RL 14 | RL2 Lowest Point | 189.314 |
| | Location 3 | |
| RL 15 | Extraction RL 1 | 191.67 |
| RL 16 | Rockface RL 3 | 196.618 |
| RL 17 | Extraction RL 2 | 193.095 |

From: [Julia Pope](#)
To: [Lisa Thomson](#); [DPE PSVC Compliance Mailbox](#)
Cc: [Gen Seed](#); [Hodgson Quarries and Plant Pty Ltd.](#); [Thomas Minchin](#); [Chase Dingle](#)
Subject: RE: DA 267-11-99
Date: Friday, 22 September 2017 12:48:14 PM
Attachments: [image002.jpg](#)
[image003.jpg](#)
[image004.jpg](#)
[image005.jpg](#)
[image006.png](#)

Lisa

I acknowledge receipt of the Landscape and Rehabilitation Management Plan and the IEA.

The IEA is currently being reviewed and will respond shortly. This should not prevent the review of the management plans, including the Landscape and Rehabilitation Management Plan.

Julia Pope

Senior Compliance Officer

Compliance Unit

320 Pitt Street | GPO Box 39 | Sydney NSW 2001

T 02 8217 2068 M 0448 229 658



Subscribe to our [newsletter](#)

From: Lisa Thomson [mailto:Lisa@vgt.com.au]
Sent: Thursday, 21 September 2017 1:06 PM
To: DPE PSVC Compliance Mailbox <compliance@planning.nsw.gov.au>
Cc: Gen Seed <genevieve.seed@planning.nsw.gov.au>; Hodgson Quarries and Plant Pty Ltd . <hodgsonquarries@gmail.com>; Thomas Minchin <Thomas.Minchin@planning.nsw.gov.au>; Julia Pope <Julia.Pope@planning.nsw.gov.au>; Chase Dingle <Chase.Dingle@planning.nsw.gov.au>
Subject: DA 267-11-99

Hello,

I am sending this email to request an acknowledgement of receipt and a response to the following documents:

- Landscape and Rehabilitation Plan undertaken in accordance with condition 60 of DA 267-11-99 for the Roberts Rd Maroota Sand Quarry - submitted **29/6/17**
- Independent environmental audit undertaken in accordance with condition 70 of DA 267-11-99 for the Roberts Rd Maroota Sand Quarry, along with a summary response to each non-compliance – submitted **14/9/17**

Your active response regarding receipt of these documents is required for our records.

As you are aware, the proponent is required to submit a bond in accordance with condition 61 of DA 267-11-99 for the Roberts Rd Maroota Sand Quarry by **31st December 2017**. The calculation of this is reliant on the performance and completion criteria set out in the Flora and Fauna Management Plan (approved 9/12/16) and the [Landscape and Rehabilitation Plan \(not yet approved\)](#).

From: [Julia Pope](#)
To: [Lisa Thomson](#)
Subject: RE: Roberts Rd Sand Quarry DA 267-11-99 - review of IEA 2017
Date: Friday, 29 September 2017 4:13:05 PM

I agree to an extension to 11 October.

Julia Pope

Senior Compliance Officer
Compliance Unit
320 Pitt Street | GPO Box 39 | Sydney NSW 2001
T 02 8217 2068 M 0448 229 658



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From: Lisa Thomson [mailto:Lisa@vgt.com.au]
Sent: Friday, 29 September 2017 3:14 PM
To: Julia Pope <Julia.Pope@planning.nsw.gov.au>
Cc: Hodgson Quarries and Plant Pty Ltd . <hodgsonquarries@gmail.com>
Subject: Re: Roberts Rd Sand Quarry DA 267-11-99 - review of IEA 2017

Hello Julia

Thankyou for your response. As you are aware, the review of the process dam has just been completed. Also the groundwater study was submitted within the requisite timeframe and is undergoing review following collection of data from the site.

Due to the public holiday next week, along with the fact that I will be out of the office next week, may we request an extension until 11th October to formally respond to your request.

Regards
Lisa Thomson
VGT Pty Ltd
02 4028 6412
0427 334471

----- Original message -----

From: Julia Pope <Julia.Pope@planning.nsw.gov.au>
Date: 29/9/17 2:45 pm (GMT+10:00)
To: Lisa Thomson <Lisa@vgt.com.au>
Cc: "Hodgson Quarries and Plant Pty Ltd ." <hodgsonquarries@gmail.com>

Subject: Roberts Rd Sand Quarry DA 267-11-99 - review of IEA 2017

Lisa

I have reviewed the Independent Environmental Audit report prepared by Newport Technical Services Pty Ltd dated 8 August 2017.

This email is to inform you that the Department is considering potential compliance action for breaches of Conditions 40 and 45 in accordance with the Department's Compliance Policy.

Condition 40

The audit report identified that the groundwater study report was not submitted to the Department and DPI-Water within six months of commissioning the study.

Further, the study report was found to be inadequate in determining the location of the wet weather high groundwater table and further information is required. This has caused unduly delay in filling areas of the site as required by Condition 41.

Condition 45

The audit report identified that an assessment of the process water dam has not been carried out.

The purpose of this email is to give you the opportunity to provide any further information you would like the Department to consider in this matter.

Any response should be received by the Department by Friday 6 October 2017.

Julia Pope

Senior Compliance Officer

Compliance Unit

320 Pitt Street | GPO Box 39 | Sydney NSW 2001

T 02 8217 2068 M 0448 229 658



Subscribe to our [newsletter](#)

11th October, 2017

Let171011 refJP170929

Department of Planning and Environment
Compliance Unit
GPO Box 39
Sydney NSW 2001

Attn: Julia Pope

Re: Email Correspondence dated 29/9/17 regarding External Audit Response

Dear Julia,

Thankyou for your email dated 29/9/2017 in which you state:

I have reviewed the Independent Environmental Audit report prepared by Newport Technical Services Pty Ltd dated 8 August 2017.

This email is to inform you that the Department is considering potential compliance action for breaches of Conditions 40 and 45 in accordance with the Department's Compliance Policy.

Condition 40

The audit report identified that the groundwater study report was not submitted to the Department and DPI-Water within six months of commissioning the study.

Further, the study report was found to be inadequate in determining the location of the wet weather high groundwater table and further information is required. This has caused unduly delay in filling areas of the site as required by Condition 41.

Condition 45

The audit report identified that an assessment of the process water dam has not been carried out.

The purpose of this email is to give you the opportunity to provide any further information you would like the Department to consider in this matter.

Any response should be received by the Department by Friday 6 October 2017 (extended to Wednesday 11 October 2017).

Response to External Audit

I trust that you received the External Audit Response table submitted along with the external audit on 14th September 2017, and included again in Attachment 1.

Condition 40

As was noted in the External Audit, an Interim Groundwater Study Progress Report was submitted to DPE and DPI-Water on 31/10/2016 (6 months after commissioning the study). An updated Groundwater Study was re-submitted on 28/2/2017. The finalisation of the Study was contingent on receiving information from depth loggers required to be placed in all groundwater monitoring bores (drilled in December 2016) and surface water dams, although manual groundwater depths have been reported monthly since the activation of the current modified consent, in accordance with condition 69. Loggers were installed in most locations during September 2017, and as mentioned in the Audit Response, the Groundwater Study will

be updated for the newest groundwater depth information and resubmitted by 30th October 2017.

The Surface Water Management Plan and Groundwater Management Plan will be submitted before 30th October 2017.

Condition 45

An assessment of the Process Water Dam was undertaken on 12th September, and submitted to the DPE on 15th September 2017. The details will be included in the Water Management Plan to be submitted before 30th October 2017.

Should you have any further queries or concerns, please contact myself or Stuart Reed from Hodgson Quarries and Plant.

Regards,

A handwritten signature in black ink that reads 'Lisa Thomson'. The signature is written in a cursive style with a vertical line to the left of the text.

Lisa Thomson

Principal Environmental Consultant

VGT Pty Ltd

Attachment 1: External Audit Response

External Audit Response

| Condition | Compliance | Details | Recommendations / Comments | Response |
|-----------|-------------------------------|--|--|--|
| 2a. | Non-Compliant | The Development is generally being carried out in accordance with DA No 267-11-99, however a number of non-compliances were identified (see comments on specific conditions). | | Noted |
| 2b. | Non-Compliant | A number of compliance issues were identified during the audit which have been outlined in section 3.1 of the report. | | Noted |
| 4 | Administrative non-compliance | Site induction doesn't cover site environmental management requirements. | Observation: Expand site induction document be expanded to include more detail regarding site environmental management requirements. | Site induction to be updated during review of EMS/OEMP due 14/12/17 |
| 17 | Not Verified | The wet weather high groundwater level of the regional aquifer is yet to be determined. An ongoing groundwater study is in progress to determine the level. Working with DPI-Water to reach an agreed level. As an interim measure, the quarry is working to previous level. Regular spot checks are undertaken as required and surveys of the operations extent and depth are conducted by a registered surveyor. Viewed the existing mark being used onsite. No historical evidence of groundwater inflow into operating extraction areas. No evidence of inflows whilst onsite also. | Identify the wet weather high groundwater level of the regional aquifer and seek agreement and approval from DPI. Continue spot checks and regular surveying to ensure compliance with the level. | Spot checks are undertaken regularly: a survey undertaken on 2/6/17 places the lowest point of the active quarry at 186.13m. The Groundwater Management Plan will be submitted by 30/10/17. Loggers have been installed in all bores and monitoring is underway. |
| 20c. | Administrative non-compliance | Water Management Plan in draft with ongoing negotiation/discussion with DPI. Comments received from DPI in April 2017. | Finalise Water Management Plan and submit to DPI for approval. | Water Management Plan is in its final draft and will be submitted by 30/10/17. |
| 32 | Non-Compliant | Sprinkler system previously in place has been removed. Changed operation so that stockpiles do not sit for long. Water cart and hose down used as required to manage dust. | Re-install sprinkler system. Alternatively, seek modification or removal of condition. | Sprinklers will be installed on disturbed areas that cannot be easily reached by the watercart by 30/9/17. |
| 40 | Non-Compliant | Groundwater study progress report submitted 31/10/16 to DPI and DPE (and resubmitted 17/11/16). Letter from DPI 31/3/17 refers to submission of GW study submission on the 24 Feb 2017. Groundwater Management Improvement Program (GMIP) not submitted by 6 month target due to ongoing ambiguity with regard to wet weather high groundwater level of the regional aquifer. Submitted October 2016. Correspondence with DPI-Water ongoing. Progress against the GMIP not reported in 2016 annual review. Intention to include in 2017 annual review report due 31 March 2018. Considered during independent audit; actions and recommendations contained herein. | Determine wet weather high groundwater level of the regional aquifer. Consult with DPI-Water seeking approval for proposed level based on findings of the g/w study. Include progress against GMIP in 2017 annual review report due 31 March 2018. | Water Management Plan is in its final draft and will be submitted by 30/10/17. |

| Condition | Compliance | Details | Recommendations / Comments | Response |
|-----------|-------------------------------|--|--|--|
| 42b. | Non-Compliant | SWMP submitted to DPI 31/01/17. Comments received from DPI 04/04/17 outlining required actions. Surface water level and quality in Process Water Dam not included as it is not currently being measured. Intention to install level sensor to record this data. Plan to ensure tailgate drainage does not discharge offsite not in place. Intention to appoint an engineer to inspect tailings dam to ensure construction has been in accordance with best practice, embankments are currently structurally sound and prepare a plan to ensure structural integrity is maintained. | Update SWMP plan in accordance with comments/actions outlined in DPI letter 04/04/17. Note: There is no effluent irrigation system onsite. No discharge points onsite. Install level sensor in Process Water Dam as proposed. Modify SWMP as required following installation; include recorded data as specified by Condition 42(b) in future annual review reports. Appoint an engineer to inspect tailings dam and consult with NSW Dams Safety Committee and prepare a plan in accordance with the requirements of Condition 42(b). | Water Management Plan is in its final draft and will be submitted by 30/10/17. Loggers installed in Process Dam and boreholes during Aug/Sept 2017, additional surface dams will have loggers installed by 30/10/17. |
| 42c. | Administrative non-compliance | Groundwater Management Plan (GMP) not currently in place as a final document. Currently in draft format with ongoing consultation with DPI-Water. | Determine wet weather high groundwater level of the regional aquifer. Consult with DPI-Water seeking approval for proposed level based on findings of the g/w study. Finalise GMP and submit to DPI-Water for approval. Following approval, include GMP in OEMP and implement contents. | Water Management Plan is in its final draft and will be submitted by 30/10/17. |
| 43a. | Administrative non-compliance | Draft Groundwater Monitoring Program submitted outside of four months of the date of approval of Modification 2. Target submission date July 2016, submitted 23/08/16. Draft program approved by DPI-Water 28/11/16. Ongoing consultation with DPI-Water since draft plan submitted. | Update and finalise monitoring program in accordance with requirements outlined in draft approval letter from DPI-Water dated 28/11/16. Submit to DPI-Water for approval. Following approval, implement monitoring program contents. | Groundwater Monitoring Program will be finalised by 30/10/17. |
| 43b. | Administrative non-compliance | Ten monitoring bores are active (currently two with data loggers installed) with monitoring being undertaken manually on a monthly basis. Viewed site g/w monitoring bore location plans. Requirement to have five bores active with collection of continuous groundwater level monitoring data of the regional aquifer. HQP proposed to install data loggers for continuous monitoring. | Install data loggers and commence continuous monitoring in at least five monitoring bores around the south-eastern, southern, western and north-western boundaries of the extraction area as specified by Condition 43(c). Update Table 7 of draft monitoring program so that monitoring bores match up with Figure 1 and 2. | Groundwater Monitoring Program will be submitted by 30/10/17. Loggers installed in Process Dam and boreholes during Aug/Sept 2017, additional surface dams will have loggers installed by 30/10/17. |
| 45 | Non-Compliant | Assessment of process water dam has not been undertaken. | Engage a suitably qualified engineer to assess the process water dam has been designed and constructed properly. Consult with Dam Safety Committee to ensure dam construction compliance. Expand Section 8 of Surface Water Management Plan including advice and recommendations from Engineer's report (if any). | Assessment of Process Dam underway. Details included in Water Management Plan. |
| 47c. | Administrative non-compliance | Excavators and onsite generator have been fitted with acoustic mufflers, however a noise compliance investigation has not been undertaken within one month of the installation of the equipment. Boundary noise monitoring conducted only. | Submit noise reports demonstrating compliance with the noise level limits stated in conditions 47(a) and 47(b) to DPI for approval. | Next noise compliance assessment to be undertaken in March 2018. |

From: [Julia Pope](#)
To: [Lisa Thomson](#)
Subject: RE: Roberts Rd Sand Quarry DA 267-11-99 - review of IEA 2017 Response
Date: Wednesday, 11 October 2017 12:26:07 PM
Attachments: [image006.png](#)

Thank you for your response.
I will review the letter and respond shortly.

Julia Pope
Senior Compliance Officer
Compliance Unit
320 Pitt Street | GPO Box 39 | Sydney NSW 2001
T 02 8217 2068 M 0448 229 658



From: Lisa Thomson [mailto:Lisa@vgt.com.au]
Sent: Wednesday, 11 October 2017 12:13 PM
To: DPE PSVC Compliance Mailbox <compliance@planning.nsw.gov.au>; Julia Pope <Julia.Pope@planning.nsw.gov.au>
Subject: Roberts Rd Sand Quarry DA 267-11-99 - review of IEA 2017 Response

Hi Julia,
Please find a response to your email dated 29/9/17.

Regards,
Lisa Thomson
Laboratory Manager
Principal Environmental Consultant
02 4028 6412
0427 334471



VGT Pty Limited
- Environmental & Geological Assessments
- Environmental Monitoring & Management
- Quarry/Mine Plans & Rehabilitation Plans
- CPESC Endorsed Sediment & Erosion Plans
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PO Box 2335 Greenhills NSW 2323
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[Have your say! Click here and fill in a short survey so we can improve for you!](#)



Please consider the environment before printing my email



Lisa Thomson
Principal Environmental Consultant
Vgt Environmental Compliance Solutions
PO Box 2335
GREENHILLS NSW 2323

Dear Ms Thomson

**Roberts Road Sand Quarry (DA 267-11-99)
Rehabilitation and Conservation Bond**

I refer to your email dated 29 November 2017 seeking advice regarding the lodgement of the Conservation and Rehabilitation bond for the Roberts Road Sand Quarry.

Condition 61 of Schedule 3 of DA 267-11-99 requires this bond to be lodged by 31 December 2017. However, the bond is to be calculated in accordance with the performance and completion criteria of the Landscape and Rehabilitation Management Plan (LRMP), which has not yet been approved.

The Department intends to review the LRMP alongside the site's Water Management Plans due to interrelating components between these plans. Due to the complexity of the site's water management system, it is unlikely that this review will be complete before 31 December 2017.

Consequently, the Secretary has granted an extension of the date to lodge the Conservation and Rehabilitation bond until 31 March 2018.

If you have any enquiries about this matter, please contact Genevieve Seed.

Yours sincerely

Howard Reed 7.12.17
Director
Resource Assessments
as nominee of the Secretary



OUT18/14628

Lisa Thomson
VGT Pty Ltd
PO Box 2335
GREENHILLS NSW 2323

Lisa@vgt.com.au

Dear Ms Thomson

**Roberts Road Maroota Sand Quarry - draft Groundwater Management Plan,
Groundwater Monitoring Program, Groundwater Study Report and Surface Water
Management Plan**

Thank you for providing copies of the following draft reports to the Department of Industry – Water (DoI Water) – formerly DPI Water - to review:

- Groundwater Management Plan (dated 21 September 2017)
- Groundwater Monitoring Program (dated 29 September 2017)
- Groundwater Study Report (dated 4 October 2017)
- Surface Water Management Plan (dated 11 October 2017).

DPI Water has previously reviewed the draft Groundwater Study Report (our letter dated 31 March 2017); Surface Water Management Plan (our letter dated 4 April 2017) and Groundwater Monitoring Program (our letters dated 26 September 2016 and 31 October 2016).

DoI Water has reviewed the current draft reports and provides the following recommendations below and detailed comments in Attachment A.

Prior to approval

Groundwater Management Plan

DoI Water recommends that before approval of the Groundwater Management Plan (GMP), the proponent is to submit a further updated version of the GMP:

1. Including an explanation of how the EC and pH trigger values in Table 17 were derived.

2. Include definitive time frames within the Trigger Action Response Plan (Table 19) for the “Response Action” and “Evidence of Responsive Effectiveness” categories.
3. Clarification is required of the geotechnical qualities (particularly the permeability / porosity in terms of prevention of water ingress to infill areas) of the clay fines and infill material.
4. Any hazards presented by the clay fines are to be identified and discussed in relation to ongoing operations.
5. Measures of rehabilitation need to be identified and the rehabilitation plan outlined.
6. Provide previously requested information / figures, as follows.
 - a. A diagrammatic plan of the regional elevations for the Hawkesbury Sandstone palaeo-topography.
 - b. A diagrammatic (contour) plan of the thickness (isopach) and regional elevations for the top surface of the Maroota Tertiary Sands palaeochannels.
 - c. A diagrammatic (contour) plan of the regional elevations for the perched water tables.
 - d. A diagrammatic (contour) plan of the thickness (isopach) and regional elevations for the top surface of occurrences of the confining clay aquitard.
 - e. A diagrammatic (contour) plan of the thickness (isopach) and regional elevations for the top surface of occurrences of the Hawkesbury Sandstone eluvium.

For expediency in reviewing and to meet due diligence obligations, it is recommended that the proponent includes the required information in an updated document and provides the revised version to DoI Water.

Groundwater Monitoring Program

DoI Water recommends that before approval of the Groundwater Monitoring Program the proponent is to provide:

1. a copy of Figure 16 (not included in the current Groundwater Monitoring Program report – Figure 15 was included twice), and
2. a production schedule plan showing monitoring bore locations, wet weather high groundwater levels (Maroota Sands and Hawkesbury Sandstone – eluvium regional groundwater table), perched groundwater levels, and flow contours.

Groundwater Study Report

DoI Water recommends that the Groundwater Study Report be revised in conjunction with the Groundwater Management Plan and the two be reconciled concurrently. The Groundwater Study Report needs to include the following information.

1. A detailed discussion of the hydrogeological / geological units intersected in drilling and mining operations on site.
2. Hydrogeology discussion to be bolstered by the inclusion of previously requested information / figures, as listed below.
 - a. A diagrammatic contour plan of the regional elevations for the Hawkesbury Sandstone palaeo-topography.
 - b. A diagrammatic contour plan of the thickness (isopach) and regional elevations for the top surface of the Maroota Tertiary Sands palaeochannels.

- c. A diagrammatic contour plan of the regional elevations for the perched water tables.
 - d. A diagrammatic contour plan of the thickness (isopach) and regional elevations for the top surface of occurrences of the confining clay aquitard.
 - e. A diagrammatic plan of the thickness (isopach) and regional elevations for the top surface of occurrences of the Hawkesbury Sandstone eluvium.
3. A discussion on the wet weather high water table and how it is being derived across the site. DoI Water note that there is a brief discussion on this matter in the Groundwater Management Plan but similar comments are not included in the Groundwater Study Report. The two reports need to be reconciled concurrently, updated and revised versions resubmitted to DoI Water.
 4. A discussion of the resources for mining from present day onwards, detailing information about the lithology, extents, depths and thickness of the target resource across the entire site and stages of mining in context to the identified water tables (both regional and perched), including appropriate maps or diagrammatic plans such as:
 - a. A contour map of the surface topography of proposed maximum mining depth across the quarry site.
 - b. A contour plan of the proposed post-mining rehabilitated topography.
 5. Short relevant discussions in relation to the geotechnical properties of, and any hazards presented by the clay fines / infill material identified, and discussed in relation to ongoing operations, back filling operations and effectiveness as a water ingress seal.
 6. Measures of rehabilitation need to be identified and rehabilitation plan briefly outlined.
 7. A brief discussion on the predicted impact upon groundwater level by the proposed closure and rehabilitation of the quarry site as currently planned.

For expediency in reviewing and to meet due diligence obligations, it is recommended that the proponent include the required information in an updated document and provide the revised version to DoI Water.

A timeframe of three month is proposed for the updated version of the Groundwater Study. The requirements on information noted above have been requested several times by now and must be addressed.

The update of the groundwater study will be concurrent to a regional hydrogeological study of the Maroota area proposed by DoI Water in the next three months. The aim of the regional study is to provide a uniform hydrogeological conceptualisation across the area that would be referred to by all proponents. Data collected and compiled by Hodgson Quarry will assist in the regional assessment. Contacts will be made with Hodgson Quarry to discuss data.

Not required prior to approval

DoI Water encourages the proponent to increase their knowledge of joints, fractures and any faults which occur throughout their operational area within the underlying Hawkesbury Sandstone aquifer.

DoI Water notes that detailed information of the water levels and pumping records for PT84PB1 and PT84PB2 were requested by DPI Water. DoI Water considers that the detailed pumping records should be provided and discussed as a component of the Site Water Balance, itself a component of the Water Management Plan. The Water Management Plan is expected to be provided for review in the near future.

Surface Water Management Plan

- The SWMP is updated to reflect the DoI Water's most recent name change
- Figure 10 should identify which dams are the sediment dams
- The SWMP should clarify if water loggers have been installed in each of the dams on the site, and if not it should explain why this has not occurred.
- Ongoing monitoring of water levels in dams must be a component of the SWMP to inform the Site Water Balance
- The proponent should contact WaterNSW for the proposed transfer of the required allocation of the current water licence on Lot 2 DP228308 for 'irrigation' to Lot 1 DP228308 (where Dam 1 is located), as WAL dealings are dealt with by WaterNSW.
- The SWMP should explain what the quarry intends to do during periods when there isn't enough water and clarify if the quarry proposes to stop processing during these periods.
- erosion and sediment control monitoring is also undertaken within 24 hours of expected rainfall and within 18 hours of a rainfall event of sufficient intensity and duration to cause runoff on-site
- the water quality of all on-site dams is sampled over 12 months -2 years on a 3 monthly basis to pick up any seasonal variation within the dam water to determine if there is any relationship to groundwater

In relation to groundwater related issues, a DoI Water hydrogeologist can be made available should a meeting or further discussion be required.

For further information please contact Irene Zinger on e: irene.zinger@dpi.nsw.gov.au while Janne Grose is away on a 12 month secondment.

Yours sincerely



Irene Zinger
Manager
Regulatory Operations – Metro
Water Regulation

30 January 2018

Roberts Road Maroota Sand Quarry - draft Groundwater Management Plan, Groundwater Monitoring Program, Groundwater Study Report and Surface Water Management Plan

The Department of Industry – Water (DoI Water) – formerly DPI Water has reviewed the following draft reports:

- Groundwater Management Plan (dated 21 September 2017)
- Groundwater Monitoring Program (dated 29 September 2017)
- Groundwater Study Report (dated 4 October 2017)
- Surface Water Management Plan (dated 11 October 2017)

and provides the following comments:

Groundwater Management Plan and Groundwater Monitoring Program

Conceptual Hydrogeology

Clarification of the three dimensional conceptual hydrogeology of the site has been provided in the form of the requested hydrogeological cross-sections and a discussion of the hydrogeology and existing data. This supplementary information supports the design, location and construction details for the proposed monitoring bores that the Proponent has installed.

Report Formatting

Some minor formatting and figure reference sequencing issues were noted (including the submission of a second Figure 15 instead of the referenced Figure 16) in the documents.

Statement of Approval

Provisional approval of the updated Groundwater Monitoring Program can be considered, provided several diagrams are submitted to L&W promptly.

However, the updated Groundwater Management Plan requires further clarification and provision of outstanding information previously requested.

Outstanding Matters

Groundwater Monitoring Program

DPI Water previously provided comments on the draft Groundwater Monitoring Program, Modification 2 (OUT16/46966, Sept. 2016) in which further information was requested to be provided by the proponent. Some of this requested information is mis-referenced in the document or remains outstanding.

The Groundwater Monitoring Program references a 'Figure 16', however there are two 'Figure 15's in the document and 'Figure 16' is missing.

Although a production schedule plan has been presented in the Groundwater Management Plan, it has not been presented in the context of plotted monitoring bore wet weather high groundwater levels (including perched levels) and flow contours in the Groundwater Monitoring Program document. Prompt provision of such a plot would greatly assist in understanding the production plan and potential groundwater interactions and monitoring as the quarry progresses.

A number of maps or plans of the thickness and regional elevations for; the perched water tables, confining clay aquitard and Hawkesbury Sandstone eluvium, have previously been requested by DPI Water (OUT16/46966, Sept. 2016). These have not been presented in the Groundwater Monitoring Program; however presentation of some of the information relating to these has been included in the encompassing updated Groundwater Management Plan.

Groundwater Management Plan

The Groundwater Management Plan requires further clarification regarding the derivation of electrical conductivity (EC) and pH trigger values in Table 17. A detailed discussion is needed to demonstrate their applicability and provide confidence that any adverse impacts of the quarrying will be recognised and responded to.

Further, the Trigger Action Response Plan (Table 19) would benefit from the inclusion of definitive time frames for the “Response Action” and “Evidence of Responsive Effectiveness” categories. These timeframes should be meaningful so that the responses can be implemented in a timely fashion, on-site impacts are appropriately managed and off-site impacts are prevented.

The proponent is to provide the above requested information as listed in the following recommendations as a further updated Groundwater Management Plan, within 3 months.

Dol Water response to the proponent response on the Conditions of Approval

| CoA SCHEDULE 2, SOIL AND WATER | Proponent Response | Dol Water Comment |
|--|---|--|
| <i>(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:</i> | | |
| • <i>detailed baseline data on groundwater yield and quality in groundwater bores on privately-owned land, that could be affected by the project;</i> | Section 5.4; Table 10, Table 11, associated discussion. | Satisfactory. |
| • <i>a program to undertake surveyed probe testing of all extracted areas where clay fines have been deposited to:</i> | Section 4.5, 7. | Satisfactory. |
| o <i>accurately determine the depth of extraction and depth of clay fines;</i> | "A probing survey conducted in September 2017 established the depth of to the top of sediment in Process Dam 1, finding that the water depth over most of the area of Dam 1 is between 0.1m and 0.7m, with a small localised area of greater water depth around the water supply pump inlet, where water depth reached a measured maximum of 2.935m." | Satisfactory. Process Dam 1 survey acknowledged, water level survey acknowledged for other dams - no other information on survey or survey of depth of fill in other dams was presented. |

| CoA SCHEDULE 2, SOIL AND WATER | Proponent Response | DoI Water Comment |
|--|---|---|
| <i>o identify any ongoing intersection or other interaction between clay fines and the regional groundwater aquifer;</i> | "Most of Process Dam 1 has a base elevation in the range 187.1 to 187.6 mAHD, with the deepest measured point near the pump inlet being at 184.8 mAHD. This compares with the current (September 2017) wet weather high regional groundwater level for the Maroota Sands aquifer of 184.6 to 184.7 mAHD beneath Process Dam 1." " The unnamed former tailings storage area contains only a small volume of superficial water, and is essentially dry most of the time." | Satisfactory. Process Dam 1 survey acknowledged, water level survey acknowledged for other dams - no other information on survey or survey of depth of fill in other dams was presented. |
| <i>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</i> | "The results of laboratory analysis for major ion composition are presented in Table E1 in Appendix E. EC and pH trends for all bores and the site dams are shown graphically on Figure 10." Section 4, 5, 6, 7. | Unsatisfactory. No geotechnical qualities of clay fines discussed or hazards identified. Clarification of this aspect of the operation is required. |
| <i>o identify measures which can be successfully used in rehabilitating these areas;</i> | | Unsatisfactory. No measures of rehabilitation identified or rehabilitation discussed. Further detail needs to be provided. |
| • <i>a program to monitor potential groundwater quality impacts to the regional aquifer from receiving off-site runoff water in the Process Water Dam;</i> | Sections 6.2, 7, 8.1. | Unsatisfactory. A discussion of how the EC and pH trigger values were derived needs to be provided. |
| • <i>groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts, in accordance with the NSW Aquifer Interference Policy;</i> | Tables 14, 15, 16, 19; Section 6.4. | Satisfactory. |
| <ul style="list-style-type: none"> • <i>a program to monitor:</i> <i>o the impacts of the project on:</i> - <i>groundwater inflows to water storages;</i> - <i>any groundwater bores on privately-owned land that could be affected by the project; and</i> <i>o seepage from water storages or backfilled voids on site;</i> | Section 6. | Satisfactory. |
| • <i>a plan to respond to any exceedances of the groundwater assessment criteria;</i> | Sections 6, 7. | Unsatisfactory. Specified timeframes for the "Action Response" need to be provided as part of the TARP. |

| CoA SCHEDULE 2, SOIL AND WATER | Proponent Response | DoI Water Comment |
|--|--------------------------------|--|
| • <i>emergency contingency plans for implementation in the event that the groundwater is encountered during excavation; and</i> | Section 7. | Unsatisfactory. Specified timeframes for the “Action Response” need to be provided as part of the TARP. |
| • <i>audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of groundwater monitoring results,</i> | Section 8 - restates criteria. | Satisfactory. |
| <i>The Applicant shall implement the approved management plan as approved from time to time by the Secretary.</i> | | |

| | | |
|---|---|--|
| <i>Groundwater Monitoring</i> | | |
| <i>43. The Applicant shall prepare a Groundwater Monitoring Program for the development to the satisfaction of the Secretary. This program must:</i> | This plan. | Satisfactory. |
| <i>(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;</i> | Previous draft Monitoring Program, comments supplied by DPI Water. | Satisfactory. |
| <i>(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;</i> | Section 3. Current: 9 monitoring bores. Placement shown on figures provided, Table 4, Figure 2. | Satisfactory. |
| <i>(c) include proposed construction to deepen (or replace) PT84MW1 in order that a bore in that general location monitors the regional aquifer; and</i> | Section 3. Table 4, Figure 2. MW7 installed adjacent to monitor regional groundwater level in Hawkesbury Sandstone. | Satisfactory. |
| <i>(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.</i> | Sections 3, 4, and 5. | Unsatisfactory. Difficult to judge as no groundwater data was presented overlaid on the production schedule plan. A production schedule plan showing monitoring bore location and wet weather high groundwater level needs to be provided. |

| CoA SCHEDULE 2, SOIL AND WATER | Proponent Response | Dol Water Comment |
|---|--|----------------------|
| <p><i>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.</i></p> | <p>Section 6 Reporting, reiterates criteria.</p> | <p>Satisfactory.</p> |
| <p><i>The Applicant shall implement the Groundwater Monitoring Program as approved from time to time by the Secretary.</i></p> | | |

Proponent Responses to DPI Water comment

| DPI Water Response | Proponent Response to DPI Water comment | Dol Water Comment |
|---|--|---|
| <p>Prior to approval:</p> | | |
| <p>1 Detailed cross-sections through the site in a north-south and east-west orientation and along the longest groundwater pathway as guided by the regional groundwater contours for the site.</p> | <p>Appendix C Cross-sections. "Five cross-sections have been prepared to illustrate the relationship between the observed groundwater levels in the monitoring bores. Cross-sections BB' and CC' have been extended to include relevant information from the adjacent PF Formation quarry to the west of the Roberts Road quarry."</p> | <p>Satisfactory.</p> |
| <p>2 Provide a clearer surface topography contour map in A3 format.</p> | <p>Figure 1 and 2 - Surface Contours and Quarry Status at June 2016 and Bore locations respectively.</p> | <p>Satisfactory. The surface contour maps provided are clear and of sufficient detail to enable enlargement without loss of clarity in the PDF format provided. Sufficient for purpose.</p> |

| DPI Water Response | Proponent Response to DPI Water comment | Dol Water Comment |
|---|--|--|
| 3 Provide a map of the extent and thickness of the Maroota Sands palaeochannel on site including the top and bottom elevations. | Palaeochannel extent shown on wet weather high groundwater level plans. | Satisfactory. The requested plan has not been presented as such. However the data has been presented in cross sections and the wet weather groundwater level plans. From the data presented in the sections it is evident that not all drill holes are fully penetrating and therefore the control on the lower bound of the Maroota Sands is less than desired. The information presented is sufficient for its purpose. |
| 4 Provide a map of the extent and thickness of the: | | |
| a. Maroota Sands palaeochannel on site including the top and bottom elevations. | as above | Satisfactory. The requested plan has not been presented as such. However the data has been presented in cross sections and the wet weather groundwater level plans. From the data presented in the sections it is evident that not all drill holes are fully penetrating and therefore the control on the lower bound of the Maroota Sands is less than desired. The information presented is sufficient for its purpose. |
| b. clay confining layer identified on site at elevation ~183m AHD (including the top and bottom elevations). | Confining clay layer extent has not been shown on any plans or cross sections. Location of some perched water tables is indicated on a number of sections. | Satisfactory. The requested plan has not been presented as such. However related perched water table level data has been presented on a number of cross sections. From the data presented in the sections and the drill logs it is evident that not all of the limited number of drill holes penetrate the clay aquitard and therefore the control on the positioning of the clay aquitard is less than desired. The information presented is sufficient for its purpose. |
| c. Hawkesbury eluvium identified on site (including the top and bottom elevations). | | Unsatisfactory. Information pertaining to the Hawkesbury eluvium has not been presented. This information needs to be provided. |
| 5 Provide a map of the extent and surface topography of the underlying Hawkesbury Sandstone. | | Unsatisfactory. No map of the palaeo-topography for the Hawkesbury Sandstone has been presented. This information needs to be provided. |

| DPI Water Response | Proponent Response to DPI Water comment | Dol Water Comment |
|---|---|--|
| 6 Provision of all borelogs and surveyed locations for all existing boreholes on site including historical bores since destroyed by mining. | APPENDIX A BORE LOGS – SITE MONITORING BORES AND PRODUCTION BORES | Satisfactory. |
| 7 Provision of groundwater contour maps for the: | | |
| a. perched aquifer within the Maroota Sands Aquifer above the confining clay layer. | | Satisfactory. Not presented. This data has been presented in cross sections. The information is sufficient for its purpose. However clarity on this matter would be better achieved by provision of the requested contour plot. |
| b. aquifer within the Maroota Sands and Hawkesbury Eluvium Aquifers beneath the confining clay layer. | "Wet weather High Groundwater Level Hawkesbury Sandstone" plan - Figure 8 and "Wet Weather Groundwater level Maroota Sands" plan - Figure 7 | Satisfactory. |
| c. fractured Hawkesbury Sandstone Aquifer. | APPENDIX A BORE LOGS – SITE MONITORING BORES AND PRODUCTION BORES | Bore logs provided indicated the drill method was insufficient to enable the collection of fracture information within the sandstone. Hence L&W recognise that this information is not readily available. L&W encourage the proponent to increase their knowledge of this aspect of the aquifer. |
| These maps may be derived by the use of a groundwater model suitable for the task and provided after drilling. | | |
| 8 Provision of and analysis of historical pumping records from bores PT84PB1 and PT84PB2. | Water levels within PT84PB1 and PT84PB2 discussed - Hawkesbury Sandstone regional aquifer. | Unsatisfactory. This information was not provided. Water levels within PT84PB1 and PT84PB2 discussed - Hawkesbury Sandstone regional aquifer. (NOTE: pumping records should be provided and discussed as a component of the Site Water Balance). |
| 9 All proposed boreholes to be drilled by a suitably qualified driller. | Ultra Drilling Waterbores. | Satisfactory. |
| 10 All bores to be logged and monitoring bores on site to be designed by a suitably qualified and experienced groundwater consultant. | "The Secretary approved the appointment of Peter Dundon of Dundon Consulting Pty Ltd on 5th April 2016 for the preparation of the GWMP." "Approval was also received from DPI-Water on 10th May 2016." | Satisfactory. |

| DPI Water Response | Proponent Response to DPI Water comment | DoI Water Comment |
|--|--|----------------------|
| <p>11 DPI Water considers that there are an insufficient number of clustered bores targeting multiple aquifers. The Proponent should consider this recommendation and discuss this with DPI Water.</p> | <p>DPI-Water provided initial advice on the draft of a Groundwater Monitoring Program (GMP) which forms a component of the GWMP, by letter dated 26th September 2016. A meeting was held with DPI-Water in their Parramatta offices on 24th October 2016 in relation to this draft GMP, and discussion of further groundwater studies including the installation of additional monitoring bores. The broad scope of additional studies was agreed to by DPI Water at that meeting. Further correspondence resulting from the outcomes of this meeting was provided by DPI-Water on 31st October 2016, 22nd November 2016 and 31st March 2017. Consultation in relation to the Groundwater study Report is ongoing.</p> | <p>Satisfactory.</p> |
| <p>12 Consultation with DPI Water Hydrogeologists to ensure a sufficient groundwater monitoring program is in place for the site for ongoing monitoring until 2025.</p> | <p>An email from the DP&E on 14th October 2016 provided comments on all Management Plans submitted thus far, including the GMP. Locations of the proposed new bores were approved.</p> <p>The draft Groundwater Monitoring Program (Dundon, 2016) submitted on 16 August 2016 was approved by DP&E by letter dated 28 November 2016 (see Appendix F).</p> <p>The Groundwater Study Report (Dundon, 2017) submitted on 24 February 2017 is still the subject of ongoing consultation with DPI Water.</p> <p>Copies of other relevant agency correspondence relating to either the Groundwater Study Report or the Groundwater Monitoring Program are also included in Appendix F.</p> | |

| DPI Water Response | Proponent Response to DPI Water comment | Dol Water Comment |
|--|---|---|
| 13 Provide a detailed analysis of evapotranspiration and recharge on site. | Sections 4.6 and 5.4.3. | Satisfactory. Ongoing monitoring of rainfall/ recharge and evapotranspiration on site must be a component of the surface water management plan to inform the Site Water Balance. |
| 14 Provide a complete water balance for the site that considers the water volumes in the dams, run off and any water supplementation from bores or other water supply sources. | "This report is intended to satisfy part (c) of Condition 42 of the March 2016 consent (NSW Department of Planning and Environment, 2016). It forms part of the overall Water Management Plan, which comprises three components, viz a Site Water Balance, a Surface Water Management Plan, and a Groundwater Management Plan. The Site Water Balance and Surface Water Management Plan have been included in VGT (2017), hereinafter referred to as "SWMP". This report is the Groundwater Management Plan." | Satisfactory. |
| 15 Monitoring of water levels in the dams. | Survey during September 2017. | Satisfactory. Ongoing monitoring of water levels in dams must be a component of the surface water management plan to inform the Site Water Balance. |
| 16 Proponents Groundwater Consultant to liaise with DPI Water Hydrogeologists who will be made available for a meeting to discuss the existing issues and recommendations. | As per points 11 and 12. | Satisfactory. |

Groundwater Study Report

The draft Groundwater Study Report (dated 24 Feb 2017) was previously reviewed by DPI Water. The previous groundwater advice within the DPI Water submission (dated 31 March 2017) made a number of recommendations for the proponent to follow up on. Some, but not all, of these recommendations have been satisfactorily included in the revised current version of the Groundwater Study Report (dated 4 Oct 2017).

Dol Water find the Groundwater Study Report to be limited in content and it does not demonstrate a clear understanding of the hydrogeology at Hodgson Quarry and Plant Pty Limited Roberts Road sand quarry operations. Further recommendations to improve the Groundwater Study Report are provided in the covering letter.

| DPI Water Recommendations | Proponent Response to DPI Water | Dol Water Comment |
|---|---|--|
| 1. Additional detailed cross-sections through the site should be provided to DPI Water, and improvement of existing cross-sections is required to clearly show lithological differences, and a complete set of bore logging sheets need to be provided, as depicted on Figures 9, 10 and 11. | "Five cross-sections have been prepared to illustrate the relationship between the observed groundwater levels in the monitoring bores." "Bore logs are presented for all bores in Appendix A. Logs for the DPI-Water bores are presented in Appendix B." | Satisfactory. Major lithologies are identified on sections - minor critical clay lithologies are not identified at scale of diagrams. Notable seepage and groundwater table levels have been identified. |
| 2. The Proponent should provide a map of the resources proposed as targets of mining from present day onwards. Detailed information about the lithology, extents, depths and thickness of the target resource is to be provided for the entire site and stages of mining are to be discussed. Contour maps of the surface topography of proposed maximum mining depth everywhere on site as well as post-mining rehabilitated topography are also to be provided. | | Unsatisfactory. The requested maps have not been provided. The planned ongoing development is to be discussed in terms of the interaction with the various identified water tables, including the 'perched' water tables. The proponent is to provide the requested diagram in a revision of a further updated Groundwater Study Report and a copy of an updated Groundwater Management Plan. |
| 3. Consultation with DPI Water Hydrogeologists is required to ensure a sufficient groundwater monitoring program is in place for the site for ongoing monitoring until 2025. | Groundwater Monitoring Plan. | Satisfactory. A Dol Water Hydrogeologist will be made available for a meeting or discussion of the site conceptual hydrogeology and recommendations if requested. |
| 4. Monitoring of water levels in the dams using loggers. | "Dataloggers have now been installed in all monitored bores as well as on the Process Water Dam 1, Tailings Dam, Nursery Dam 3 and Farm Dam 4. The dataloggers have all been set to record water level at hourly intervals, so that both longer term fluctuations and diurnal | Satisfactory. |

| DPI Water Recommendations | Proponent Response to DPI Water | Dol Water Comment |
|---|--|---|
| | fluctuations (if any) can be detected, as well as any relationship between the fluctuating water levels in the Process Dam and Tailings Dam, and the nearby monitoring bores." | |
| 5. The Proponents Groundwater Consultant should liaise with DPI Water Hydrogeologists who will be made available for a meeting to discuss the site conceptual hydrogeology and recommendations. | | Satisfactory. A meeting was held between the parties, 24 October 2016. A Dol Water Hydrogeologist will be made available for a meeting or discussion of the site conceptual hydrogeology and recommendations if requested. |
| There is still uncertainty with regards to the conceptual hydrogeology. - The latest information provided does not provide certainty as to the pre-mining, present day and post mining wet weather high water table to enable a proper assessment of the conditions on site. | | Unsatisfactory. There is no discussion on the wet weather high water table or how it is derived in the Groundwater Study Report. There is more discussion on this matter in the Groundwater Management Report than found in the Groundwater Study Report. The two reports need to be reconciled concurrently, updated and revised versions resubmitted to Dol Water. |
| - The Proponent appears to reference all water above the Hawkesbury Sandstone Basement as "perched groundwater". This diminishes the significance of a regional groundwater table in the Maroota Tertiary Sands Groundwater Source, for the establishment of maximum mining depths (which is to extend no deeper than within two metres of the wet weather high groundwater level at any location). | "Groundwater is present within the Maroota Sands and the underlying Hawkesbury Sandstone. Groundwater in each of these two formations is regionally extensive and forms a regional water table in each. Localised groundwater is also present in perched aquifers within the Maroota Sands, as well as on top of or within the Hawkesbury Sandstone, above the regional water tables. Thus, localised groundwater may be intersected at a number of elevations above the regional water table levels." | Satisfactory. |
| - The wet weather water table is variable across the site and what the Proponent terms as a "perched Maroota sands water table in a desaturated zone" is regarded by DPI Water to be a regional Maroota Sands aquifer water table | "Groundwater levels in both units (Maroota Sands and Hawkesbury Sandstone) display fluctuations that relate to episodic recharge associated with major rainfall events. The recharge response are particularly marked in the Maroota Sands." " MW2 became blocked in early 2000 | Satisfactory. The proponent response is duly noted and is valid to the data presented. Dol Water recognise that the measurements are limited to sporadic data over an extended time for the region and locality, this hampers the recognition of pre-mining groundwater levels |

| DPI Water Recommendations | Proponent Response to DPI Water | Dol Water Comment |
|---|---|--|
| <p>that has already been significantly lowered by mining activities relative to baseline conditions that existed pre-mining. MW2 water levels (203 m AHD) suggest a much higher baseline regional water level than the present water level at MW5 and MW8 (193 m AHD).</p> | <p>by an obstruction above the water level in the bore, and was not able to be monitored thereafter." Hence MW2 is considered unreliable. "The deepest reported intersections of Maroota Sands were at MW6, MW10 and MW11, where the top of the Hawkesbury Sandstone was encountered at <173.5 mAHD, 168.1 mAHD and 164 mAHD respectively. At these locations, the water level in the Maroota Sands on 24 August 2017 was at elevations of 185.3 mAHD, 185.7 mAHD and 184.0 mAHD respectively. All three water levels are lower than the current water level in the main process area dam (Dam 1), where the water level on the same date was 188.1 mAHD. Similar water levels were reported from previous monitoring bores MW3 and MW4 before they were destroyed by the quarry expansion. These water levels in these five bores are believed to be true reflections of the regional water table level within the Maroota Sand aquifer. Elsewhere on the site, groundwater levels within the Maroota Sands formation are elevated, in the range 192 mAHD to 206 mAHD. In some locations, the perched water levels may be further elevated due to leakage from the various dams on the property."</p> | <p>and or any lowering of regional groundwater table. Recognition of groundwater levels for both regional (within the Maroota Sands and Hawkesbury Sandstone), and those of a 'perched' nature is reflecting the current situation as seen at the time of writing.</p> |
| <p>- The Proponent suggests that the extent of the saturated Maroota Sands is limited towards the west by the depiction of a red line on Figure 19. However multiple Maroota Sand screened bores show a standing water level reading in the western "desaturated zone". DPI Water would like some clarification justifying the suggestion and clarity about whether this desaturation was</p> | <p>Topographically and palaeo-topographically the bores both to the west and south of the depicted saturated Maroota Sands zone are significantly elevated to those within the saturated Maroota Sands zone. Standing water level in the bores to the west and south of the saturated Maroota Sands zone indicate discrete perched aquifers (with dry intervals between as indicated on cross sections) at levels above the regional Maroota Sands groundwater table.</p> | <p>Satisfactory.</p> |

| DPI Water Recommendations | Proponent Response to DPI Water | Dol Water Comment |
|--|--|---|
| <p>present pre-mining and to address the contradiction.</p> | | |
| <p>- The submitted document could benefit from further clarification by the provision of further detailed hydrogeological cross-sections in other orientations. Seepages in Maroota sands were noted at elevations immediately to the west of the main dam that were higher than current dam water levels. Historical data suggests that Maroota Sands water levels were significantly higher than existing water levels. The drawdown could be attributed to water supply dewatering, evaporation from the capillary zone or evaporation from open water on the dams.</p> | <p>"Five cross-sections have been prepared to illustrate the relationship between the observed groundwater levels in the monitoring bores." "There is evidence for seepage from at least one of the site dams. All dam water levels are higher than the nearby groundwater, and seepage from the dams may account for some of the observed perched groundwater within the site." "A persistent seepage zone has been observed in the active quarry about 120m east of Dam 4 (Farm Dam), at the location marked "Seepage" on Figure 2, close to the edge of Tailings Dam 2. This seepage is observed at an elevation of approximately 195 mAHD, ie about 18m lower than the Dam 4 water level and about 7m higher than the water level in Dam 2. The seepage has been observed to dry up whenever water is pumped for an extended period from Dam 4 causing the water level in Dam 4 to be lowered, indicating a clear connection between the dam and the seepage."</p> | <p>Satisfactory.</p> |
| <p>DPI Water finds the report inadequate towards determining the location of the wet weather high groundwater table on site and requires further information.</p> | | <p>Unsatisfactory. There is no discussion on the wet weather high water table or how it is derived in the Groundwater Study Report. There is more discussion on this matter in the Groundwater Management Report than found in the Groundwater Study Report. The two reports need to be reconciled concurrently, updated and revised versions resubmitted to Dol Water.</p> |

Surface Water Management Plan

| DPI Water Comment | Proponent Response to DPI Water | DoI Water Comment |
|---|--|---|
| Section 1 of the SWMP indicates a portion of clean water from the undisturbed areas and properties adjacent to the quarry enters the main quarry area. Clean water runoff should be diverted away from the quarry area. The SWMP should clarify if it is possible to divert this clean water around the site so it does not enter the quarry. | Section 2.4.6 Section 4.1 and Section 7.4 | Section 4.1 confirms it is not physically possible to divert the clean water around the site due to the topography. |
| It is suggested the heading for Section 2.3.2 'National Office of Water (NOW)' is amended to 'DPI Water'. | Whole Document | It is noted the whole management plan has been amended to refer to DPI Water. DPI Water has since become DoI Water. It is suggested the SWMP is updated to reflect the department's most recent name change. |
| It is recommended Section 2.3.2 includes licensing details on all the dams on the site. | Section 2.4.6 | Noted. |
| It is noted there are aspects of groundwater monitoring in the SWMP. Aspects of the hydrogeology on the site are yet to be finalised. | Groundwater aspects have been removed from this report and are covered in the GWMP | Noted. |
| The SWMP needs to include a figure which shows the location of the bores listed in Table 2 including the location of the groundwater bore (GW102451). It is unclear where this bore is located. | Groundwater aspects have been removed from this report and are covered in the GWMP | Noted. |
| Table 2 indicates the WAL for 10CA114819 and 10CA104888 expired in February 2016. The SWMP needs to clarify if current approvals are held. | Table 5 Groundwater aspects have been removed from this report and are covered in the GWMP | Noted |
| Section 2.5 makes reference to email correspondence from the DPI on the '14 October 2016'. This needs to be amended to the '10 October 2016 (see page 13). | Reference deleted Groundwater aspects have been removed from this report and are covered in the GWMP. No reference to SWMP in correspondence | Noted |

| DPI Water Comment | Proponent Response to DPI Water | DoI Water Comment |
|--|--|---|
| <p>Section 4.1 notes surface water collected over properties east of Roberts Road enters the site via a road culvert. It indicates this catchment is approximately 10 Ha and is considered clean and is diverted into Dam 1. As water from Dam 1 is used for processing a Water Access Licence (WAL) is required.</p> | <p>Section 2.4.6 Section 4.1 and Section 7.4</p> | <p>As clean water is diverted into Dam 1 and it is used in the quarry processing, a WAL will be required for the use of this water.</p> |
| <p>The collection of dirty water in dams or sediment ponds for a water supply is exempt from requiring a licence under the Water Management (General) Regulation 2011. The collection of clean water from undisturbed areas in dams to provide a water supply is not exempt and is not supported by DPI Water unless it is in accordance with an appropriate WAL and a nominated work. If clean water is being collected, then the proponent must liaise with DPI Water to ensure appropriate licences are held.</p> | <p>Section 2.4.6 Section 4.1 and Section 7.4</p> | <p>Section 2.4.6 confirms that Dam 1 receives clean water from the property next door and the dam is used to feed the processing plant. The SWMP indicates the proponent intends to investigate the transfer of the required allocation of the current water licence on Lot 2 DP228308 for 'irrigation' held by Mr Leonard Martin (the landowner) to Lot 1 DP228308 (where Dam 1 is located) for works where Mr Martin is also the landowner. The proponent is advised to contact WaterNSW on this issue, as WAL dealings are dealt with by WaterNSW.</p> |
| <p>Groundwater Inflows. The pumping bores need to be metered.</p> | <p>Groundwater aspects have been removed from this report and are covered in the GWMP.</p> | <p>Noted</p> |

| DPI Water Comment | Proponent Response to DPI Water | DoI Water Comment |
|---|--|---|
| <p>The SWMP needs to clarify if the quarry discharges water off site. Section 4.5 states “no discharge off-site has occurred recently” but this is not consistent with:</p> <ul style="list-style-type: none"> • Section 4.6 which states “at present the site does not discharge water off site” • Section 7.6.5 which states “no discharge of water off-site has occurred to date” <p>It is suggested the SWMP clarifies if any off-site discharge has occurred. It would appear from Section 7.6.5 that no offsite discharge has occurred. If off site discharge has occurred, Section 4.5 needs to include details such as when off-site discharge occurred and whether surface water quality monitoring was undertaken at this time.</p> | <p>Section 4.5. No discharge off-site occurs and none is planned.</p> | <p>Section 2.4.5 also addresses this issue</p> |
| <p>Section 4.5 notes that should discharge be required surface water monitoring would be undertaken. The SWMP needs to provide details on where the surface water quality sampling points are located.</p> | <p>Section 4.5 No discharge off-site occurs and none is planned</p> | <p>Sections 2.4.5 and 4.4 also address this issue.</p> |
| <p>DPI Water supports a nil discharge approach for dirty/sediment laden water. Clean surface runoff, however should be diverted away from development and diverted to downstream catchments for the environment and other users (unless the water is captured under a WAL).</p> | <p>Section 2.4.6, Section 4.1, Section 4.5 and Section 7.4. No discharge off-site occurs and none is planned</p> | <p>The SWMP confirms it is not physically possible to divert the clean water around the site due to the topography.</p> |
| <p>Discharge Points. The SWMP should identify where the discharge points are located.</p> | <p>Section 4.5 No discharge off-site occurs and none is planned</p> | <p>Noted</p> |

| DPI Water Comment | Proponent Response to DPI Water | DoI Water Comment |
|---|---|--|
| <p>Water Use on site. Section 5.3 notes that after processing liberated water is drained into a 'holding dam'. The SWMP needs to clarify which dam is the holding dam and include a figure which locates it.</p> | <p>Section 4, Section 5.3, Section 7 and Figure Ten</p> | <p>Sections 5.2 and 5.3 confirm that Dam 2 is currently the holding dam and its location is shown on Figure 10.</p> |
| <p>Recycling of Water. Section 5.4 refers to collecting water in the sediment dams for reuse. The SWMP needs to clarify which dams are the sediment dams and include details on the capacity of these dams. A figure needs to be included in the SWMP which shows the location of the sediment dams.</p> | <p>Section 4, Section 5.4, Section 7 and Figure Ten</p> | <p>Figure 10 should identify which dams are the sediment dams.</p> |
| <p>Modelling Assumptions. The modelling provides a ball park figure understanding but it does not represent reality.</p> | <p>Section 5. Water balance has been updated</p> | <p>Ongoing monitoring of water levels in dams must be a component of the SWMP to inform the Site Water Balance.</p> |
| <p>Projected Future Water Usage. Section 5.6.2 notes water levels within the dam will be recorded annually and that to assist with this, loggers will be installed in key dams. DPI Water advised in its submission of 31 October 2016 that it requires a continuous water level logger to be placed on each of the dams at the site to determine if the water in the dams is originating from the Maroota sands aquifer. The SWMP needs to be amended to reflect this.</p> | <p>Section 5.6.2, Section 11.2</p> | <p>DPI Water advised that it requires a continuous water level logger to be placed on each of the dams at the site to determine if the water in the dams is originating from the Maroota sands aquifer. Section 5.6.2 indicates that a water logger has recently been installed in Dam 1. The SWMP should clarify if loggers have been installed in each of the dams at the site and if not it should explain why this has not occurred.</p> |
| <p>Clean Water Management. Section 7.1 notes clean water is diverted around the site via a series of earthen bunds and it refers to Figure 3. Figure 3 needs to be amended to show the location of the bunds. As the SWMP indicates clean water from undisturbed areas enters the quarry area, Section 7.1 should include details on this.</p> | <p>Figure Two, Figure Three, Figure Four, Figure 5, Figure Six, Figure Seven and Figure Eight</p> | <p>The amendments made to Section 7.1 and the figures provide greater clarity.</p> |

| DPI Water Comment | Proponent Response to DPI Water | DoI Water Comment |
|--|---|---|
| <p>Final Stage catchment Section 7.2.5 notes the potential volume of the final dam on the site would be 945 300 m³, which equates to 945 ML. The proponent would need to purchase WAL(s) to account for the volume of water held by the dam. The SWMP assumes the final dam would have an average depth of 7m. A groundwater WAL may also be required if the dam intercepts groundwater. It is recommended the proponent commences investigating the purchase of WAL(s)</p> | <p>Section 7.2.5, Section 7.4 and Section 8</p> | <p>It is noted that the estimated volume of the final dam has been reduced from 945 ML which was included in the previous draft SWMP to 570 ML and that the site currently holds a water licence for 264 ML (Section 7.2.5, page 50)</p> <p>Section 7.4 notes the landholder holds a WAL for the two nursery dams (Dams 3 and 4) on the site which will be transferred to the dam in the final landform (page 52). Transferring the WAL for the 2 nursery dams will not be sufficient, as the WAL for dams 3 and 4 only amounts to 264 ML. The proponent will need to purchase a WAL for the additional 306 ML. Alternatively the final void could be constructed so that it is only large enough to account for the 264 ML</p> |
| <p>The NSW Dams Safety Committee should be consulted in relation to this dam.</p> | <p>Section 8.2</p> | <p>Noted</p> |
| <p>Transfer of Water to Offsite Dam. Section 7.6.2 indicates excess surface water from Dam 1 is to be transferred from the site to the neighbouring land owned by Mr Tony Portelli. The SWMP indicates the water is to be used for stock water and irrigation. The SWMP needs to clarify whether Mr Portelli has the correct approvals under the Water Management Act 2000. Details are required on the location of Mr Portelli's property and the location of his dam(s). Clarification is required as to how the water is to be transferred, and whether it is to be transferred via a pipeline to his property.</p> | <p>Section 4.5 No Discharge off-site occurs and none is planned</p> | <p>Noted</p> |
| <p><u>Performance Criteria</u> Once the proponent clarifies the remaining groundwater issues, this section will be subject to change.</p> | <p>Section 10</p> | <p>Section 10 of the previous draft SWMP included an objective in Table 36 for "no impacts to groundwater quality and quantity". It is noted the revised SWMP has deleted this objective from Table 35.</p> |

Additional Comments

Deficit in water supply

Sections 5.2 and 5.6.1.4 note there may be some periods in the life of the quarry where there will be a deficit in water supply. The SWMP should explain what the quarry intends to do during periods when there isn't enough water and clarify if it is proposed to stop processing during these periods.

9.3 Erosion Control

The SWMP notes lands planted recently will be watered regularly until an effective cover has established (page 62). The SWMP should also require follow up watering, in addition to the application of follow up seed and fertiliser, where minor erosion and inadequate vegetative protection occurs.

Section 10

An 'action to be implemented' for the onsite dams and earth embankments should include:

- vegetation on the earth embankments should regularly be watered especially during dry weather conditions

This will assist to ensure the embankments remain adequately vegetated.

11.1 Erosion and Sediment Monitoring

It is noted monitoring of the soil erosion, sediment and water control is undertaken monthly (page 66). It is recommended erosion and sediment control monitoring is also undertaken:

- Within 24 hours of expected rainfall
- Within 18 hours of a rainfall event of sufficient intensity and duration to cause runoff on-site

11.2 Surface Water Monitoring

Section 11.2 indicates that the surface water monitoring will include automatic data loggers to monitor the dam levels (page 66). The SWMP needs to clarify which dams will have automatic data loggers installed. Ongoing monitoring of water levels in dams must be a component of the SWMP to inform the Site Water Balance.

The quarry also proposes to sample and test the water quality of all on-site dams on "a once only basis" to determine if there is a relationship to groundwater. It is recommended water quality sampling of the dams is undertaken over 12 months -2 years on a 3 monthly basis to pick up any seasonal variation within the dam water to determine if there is any relationship to groundwater.

End of Attachment A



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**

I refer to your email dated 15 November 2017 submitting revised management plans for the Roberts Road Quarry (DA 267-11-99) including the:

- Groundwater Study, dated October 2017 (condition 39 of Schedule 2);
- Water Management Plan, dated November 2017 (condition 42, Schedule 2); and
- Groundwater Monitoring Program, dated November 2017 (condition 43, Schedule 2).

I also refer to your email dated 29 June 2017 submitting the Landscape and Rehabilitation Management Plan, dated June 2017 (condition 60, Schedule 2).

The Department considers that these documents have not adequately addressed the relevant conditions of consent. The Department's comments on these documents are enclosed in **Attachment A**.

The Department notes that the Department of Industry – Water has also provided comments in relation to the water management plans. Please ensure these comments are satisfactorily addressed prior to resubmitting these plans.

The Department requests that these documents are revised and re-submitted no later than **23 March 2018**.

Should you have any enquiries in relation to this matter, please contact Jack Murphy at the details above.

Yours sincerely,

Howard Reed
Director

8.2.18

Resource Assessments

As nominee of the Secretary

Attachment A
Roberts Road Sand Quarry – Management Plan 2017 Reviews

| Groundwater Study and Remediation Works – DA 267-11-99 MOD 2 – Condition 39 Schedule 2 | Satisfactory (Yes/No/Partial) | Comment | Action Required |
|---|--|--------------------------|--|
| 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; | Yes | | Nil actions required, other than those set out in the Comments and General Comments below. |
| (b) consult with DPI-Water; | Partial | Refer to DoI's comments. | |
| (c) examine all existing records of groundwater levels at the site; | Partial | Refer to DoI's comments. | |
| (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 | Partial | Refer to DoI's comments. | |
| (e) provide advice and recommendations on the Groundwater Monitoring Program as set out in Condition 43. | Partial | Refer to DoI's comments. | |
| General comments: | | | |
| | | | |

| Water Management Plan – DA 267-11-99 MOD 2 – Condition 42 Schedule 2 | Satisfactory (Yes/No/Partial) | Comment | Action Required |
|---|--------------------------------------|--|---|
| <p>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.</p> <p>In addition to the standard requirements for management plans (see Condition 61), this plan must include a:</p> | | | |
| <p>(a) Site Water Balance that:</p> <ul style="list-style-type: none"> • includes details of: <ul style="list-style-type: none"> ○ 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; | <p>Partial</p> | <ul style="list-style-type: none"> ○ See Section 5.2 – please include details of contingency planning. ○ Satisfied – See Section 5.3. ○ See Section 7 – Please include a discussion of how groundwater inflows to quarry voids will be managed. ○ Satisfied - See Section 11.4 and Table 35. ○ See Section 7– Refer to Dol Water’s Comments regarding a Water Access Licence. | <p>Nil actions required, other than those set out in the Comments and General Comments below.</p> |
| <p>(b) Surface Water Management Plan, that includes:</p> <ul style="list-style-type: none"> • a detailed description of the surface water management system on site, including the: <ul style="list-style-type: none"> ○ 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: | <p>Partial</p> | <ul style="list-style-type: none"> • Changes required for the surface water management system on site: <ul style="list-style-type: none"> ○ Satisfied – See Section 7.1, Section 5.2 and Figure 2. ○ See Section 9.3 – Please clarify how natural grasslands are managed. ○ Satisfied – See Section 4.5, no discharges are to occur offsite. ○ Satisfied – See Section 4.2 and Chart 1. ○ Satisfied – See Section 7 ○ Satisfied – See Section 4.5, no discharges are to occur offsite. • Design objectives and performance criteria require changes: <ul style="list-style-type: none"> ○ See Table 35: | |

| Water Management Plan – DA 267-11-99 MOD 2 – Condition 42 Schedule 2 | Satisfactory (Yes/No/Partial) | Comment | Action Required |
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| <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> ○ 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: | | <ul style="list-style-type: none"> - Row 5 – Please remove ‘dam wall failure’ as a performance trigger. The proposed triggers should allow for early identification of instability to prevent dam wall failure. - Please include performance and completion criteria relating to quarry voids. - Please include performance and completion criteria for water quality in water storages, including a plan to respond to any exceedances of the criteria. ● See Section 11 – The proposed once only monitoring of onsite dams is not acceptable to meet this condition. A program must be in place to monitor water quality in water storages. The Department recommends quarterly monitoring by an accredited lab for a two-year period. Following this period, monitoring frequency can be reviewed. ● Satisfied – Table 35 – Refer to comment above for additional inclusions in Table 35. ● Satisfied – See Section 7.5. ● Satisfied – See Section 4. ● Satisfied – See Section 7.6. ● Please include a detailed design and construction criteria for the Process Water Dam. | |

| Water Management Plan – DA 267-11-99 MOD 2 – Condition 42 Schedule 2 | Satisfactory (Yes/No/Partial) | Comment | Action Required |
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| <ul style="list-style-type: none"> ○ 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; | | <ul style="list-style-type: none"> ● Satisfied – See Section 7.4 and Section 7.9. ● Satisfied See Section 11.4. | |
| <p>(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:</p> <ul style="list-style-type: none"> ● 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: <ul style="list-style-type: none"> ○ accurately determine the depth of extraction and depth of clay fines; | Partial | <ul style="list-style-type: none"> ● Satisfied – See Section 5.4, Appendix C and Figure 9. Available baseline data presented. ● Further details required – Refer to DoI’s comments. | |

| Water Management Plan – DA 267-11-99 MOD 2 – Condition 42 Schedule 2 | Satisfactory (Yes/No/Partial) | Comment | Action Required |
|--|--------------------------------------|---|------------------------|
| <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> ○ the impacts of the project on: <ul style="list-style-type: none"> - 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 | | <ul style="list-style-type: none"> • Refer to Dol's comments • Refer to Dol's comments. • Satisfied – See Section 6. • See Section 7 – Refer to Dol's comments. • See Section 7 – Refer to Dol's comments. • Satisfied – See Section 8. | |

| Water Management Plan – DA 267-11-99 MOD 2 – Condition 42 Schedule 2 | Satisfactory (Yes/No/Partial) | Comment | Action Required |
|---|--------------------------------------|----------------|------------------------|
| 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. | - | | |
| General comments: | | | |
| <ol style="list-style-type: none"> 1. Section 5.6.1 SWMP the phrase “the site would not overtop” is used, does this mean discharge or is it just describing a dam spilling? Please rephrase for clarity. 2. Section 9.3 SWMP “should” is used several times, replace with “will”. 3. SWMP – Please include an introductory paragraph that clarifies the scope of the project. Please discuss the scope of activities in the management plan in relation to the most recent approved MOD. Will the dam be separated with temporary walls? 4. Ensure the DoI Water’s comments are adequately addressed. | | | |

| Groundwater Monitoring – DA 267-11-99 MOD 2 – Condition 43 Schedule 2 | Satisfactory (Yes/No/Partial) | Comment | Action Required |
|--|--------------------------------------|---|--|
| 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; | Yes | Evidence provided. | Nil actions required, other than those set out in the Comments and General Comments below. |
| (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; | Yes | Satisfied – See Section 3. | |
| (c) include proposed construction to deepen (or replace) PT84MW1 in order that a bore in that general location monitors the regional aquifer; and | Yes | Satisfied – See Figure 1 (MW1 replaced by MW7). | |
| (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. | No | Refer to DoI's comments. | |
| General comments: | | | |
| <ol style="list-style-type: none"> 1. Figure 15 repeated, no Figure 16 please amend. 2. Ensure the DoI Water's comments are adequately addressed. | | | |

| Landscape and Rehabilitation Management Plan – condition 60, Schedule 2 | Satisfactory (Yes/No) | Comment | Action Required |
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| 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; | Yes | - | Nil actions required, other than those set out in the Comments and General Comments below. |
| b) provide details of the conceptual final landform and associated land uses for the site; | No | The conceptual final landform is reliant on the agree wet weather high groundwater level. This has not yet been approved. | |
| 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; | Yes | Sections 4.4 and 4.5. | |
| d) 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; | Yes | | Nil actions required, other than those set out in the Comments and General Comments below. |
| <ul style="list-style-type: none"> protecting vegetation and fauna habitat outside the approved disturbance area on-site; | Yes | | |
| <ul style="list-style-type: none"> minimising the impacts on native fauna; | Yes | | |
| <ul style="list-style-type: none"> landscaping the site to minimise visual and lighting impacts; | Partial | What is the timeframe for screening to be fully established? | |
| <ul style="list-style-type: none"> reviewing improved pasture species and application rates; | Yes | Section 5.5 | |
| <ul style="list-style-type: none"> controlling weeds and feral pests; | Partial | Section 6.2.4 notes that ‘regular’ weed removal shall be conducted. Please specify the frequency of weed and pest inspections to determine if action is required. | |
| <ul style="list-style-type: none"> controlling erosion; | Yes | | |
| <ul style="list-style-type: none"> controlling access; and | Yes | | |
| <ul style="list-style-type: none"> bushfire management; | Yes | | |
| e) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; | Yes | | |
| 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; | Yes | | |
| 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)); | No | Construction methodology of the process dam not provided. | |
| h) identify the potential risks to the successful rehabilitation of the site, and include a description of the contingency | Yes | Section 6.2 | |

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| measures that would be implemented to mitigate these risks; and | | | |
| i) include details of who would be responsible for monitoring, reviewing, and implementing the plan. | Yes | Section 11 | |
| Other Comments | | | |
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