NARRABRI MINE

2017 ANNUAL REVIEW

WHITEHAVEN COAL

Table 1: Annual Review Title Block

Name of Operation	Narrabri Mine
Name of Operator	Narrabri Coal Operations Pty Ltd
Development consent / Project Approval #	Project Approval 08_0144
Name of holder of development consent/project approval	Narrabri Coal Operations Pty Ltd
Mining lease #	ML 1609
Name of holder of mining lease	Narrabri Coal Pty Ltd
Water Licence #	Refer to Water Licences in Table 2
Name of holder of water licence	Narrabri Coal Pty Ltd, POSCO Daewoo International Narrabri Investment Pty Ltd, EDF Trading Australia Pty Ltd, J-Power Australia Pty Ltd, Kores Narrabri Pty Ltd and Upper Horn Investments (Australia) Pty Ltd
MOP/RMP start date	1 January 2017
MOP/RMP end date	30 November 2020
Annual Review Commencement Date	1 January 2017
Annual Review Completion Date	31 December 2017
I, Steve Bow, certify that this audit report is a true and accurate record of the compliance status of the Narrabri Mine for the period 1st January 2017 to 31st December 2017, and that I am authorised to make this statement on behalf of Narrabri Coal Operations Pty Ltd. Note. a) The Annual Review is an 'environmental audit' for the purposes of section 122B (2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000. b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).	
Name of Authorised Reporting Officer	**Steve Bow**
Title of Authorised Reporting Officer	**General Manager – Narrabri Mine**
Signature	
Date	18-4-18

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1 STATEMENT OF COMPLIANCE

This Annual Review has been prepared to provide a summary of the environmental performance of the Narrabri Mine over the reporting period, i.e. 1 January 2017 to 31 December 2017. The compliance status of the mine against relevant approvals was assessed as at the end of the reporting period and is summarised in Table 2. References to the mine's Environment Protection Licence (EPL) 12789 are limited to those that relate to the Project Approval, specifically: Schedule 4, Conditions 10 and 11 and Schedule 6, Condition 7(c).

Table 2: Statement of Compliance

Where all the conditions of the relevant approvals complied with?	Yes/No
Project Approval (PA) 08_0144	No
Mining Operations Plan (MOP)	Yes
Mining Lease (ML) 1609	Yes
Environment Protection Licence (EPL) 12789	No
Exploration Licence (EL) 6243	Yes
Subsidence Management Plan (SMP) Approval 10/9000	Yes
90CA811347	Yes
90WA812891	Yes
90CA802130	Yes
90WA822539	Yes
WAL15922	Yes
WAL12833	Yes
WAL20131	Yes
WAL6762	Yes
WAL2671	Yes
WAL2728	Yes
WAL20152	Yes
WAL29549	Yes
Groundwater Monitoring Bores: 90BL254481-487, 90BL254658-663, 90BL254701, 90BL254958-967, 90BL255167-173, 90BL255216-218, 90BL255769-772, 90BL256060-064, 90BL256344 and 90BL256346	Yes

Any non-compliances during the reporting period are ranked according to the compliance status key in Table 3 and are detailed in Table 4. Section 11 provides further details of any non-compliance and actions undertaken or proposed for the following reporting period to prevent re-occurrence and mitigate any potential adverse effects.

Table 3: Compliance Status Key

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

Table 4: Non-Compliances

Relevant Approval	Cond. #	Condition Description (Summary)	Compliance Status	Comment	Where addressed in Annual Review
PA 08_0144	Schedule 3, Condition 4	Extraction Plan – Biodiversity Management Plan (EP-BMP) – which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on flora and fauna	Non-Compliant	An increase of 10% or more in change in floristic composition occurred but is likely due to seasonal variation.	Sections 6.5.2 & 11
	Schedule 3, Condition 4	Extraction Plan – Biodiversity Management Plan (EP-BMP) – which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on flora and fauna	Non-Compliant	An increase of 10% or more in weed cover was recorded in two of the five monitoring plots.	Sections 6.5.2 & 11
	Schedule 3, Condition 4	Extraction Plan – Biodiversity Management Plan (EP-BMP) – which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on flora and fauna	Non-Compliant	Compared to 2016, monitoring sites recorded a greater than 10 % decrease in bird species diversity and a similar decrease in bird abundance. Exceedances are likely to be an artefact of the seasonal variation between 2016 and 2017 and the similarity of the bird community between the habitat types.	Sections 6.5.2 & 11
	Schedule 3, Condition 4	Extraction Plan – Land Management Plan (EP-LMP) – which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings upon land in general.	Non-Compliant	An increase of 10% or more in weed cover was recorded at monitoring plots in the pillar zones and transition zones.	Sections 6.5.2 & 11
	Schedule 3, Condition 4	Extraction Plan – Land Management Plan (EP-LMP) – which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings upon land in general.	Non-Compliant	A decrease of 20% in phosphorous levels were recorded likely due to no fertilisers being added as no ploughing/seeding was undertaken due to unfavourable weather conditions.	Sections 6.5.2 & 11

Relevant Approval	Cond. #	Condition Description (Summary)	Compliance Status	Comment	Where addressed in Annual Review
	Schedule 4, Condition 1	The Proponent shall ensure that the noise generated by the project does not exceed the noise criteria in Table 1.	Non-compliant	Three noise exceedances were recorded during the reporting period. The relevant Government agencies were notified at the time as required by the NMP.	Sections 6.1 & 11
	Schedule 4, Condition 21	Review of Brine Management	Non-compliant	The mine engaged experts approved by DP&E to undertake the Brine Management Review but the approved experts, but same organisation, did not complete the review.	Section 11
EPL 12789	Condition L3.1	Noise generated at the premises must not exceed the noise limits in the table below.	Non-compliant	See above	Sections 6.1 & 11

2 INTRODUCTION

This is the eleventh Annual Review produced for the Narrabri Mine (Figure 1) and has been prepared in accordance with the NSW Department of Planning and Environment's (DP&E) Integrated Mining Policy – Annual Review Guideline, October 2015. This document has been prepared to satisfy the following requirements:

- the Annual Review requirements of the DP&E under Project Approval (PA) 08_0144 (Schedule 6, Condition 6);
- Environmental Management Report requirements of the Division of Resources & Geoscience (DRG) under the Narrabri Mine Mining Lease (ML) 1609; and
- the routine reporting expectations of DPI-Water.

Though primarily covering the period from 1 January 2017 to 31 December 2017 (the reporting period), where relevant the Annual Review provides information on historical aspects of the Narrabri Mine, longer term trends in environmental monitoring results and provides relevant information on activities to be undertaken during the ensuing reporting period, or beyond.

2.1 MINE CONTACTS

The key personnel responsible for operational and environmental management at the Narrabri Mine during the reporting period include:

- Steve Bow – General Manager, retains overall responsibility for all activities and performance at the mine. Contact: (02) 6794 4755.
- Brian Williams – Mining Engineering Manager, retains statutory responsibility for the mine. Contact: (02) 6794 4755.
- Owen Salisbury – Technical Services Manager, retains responsibility for technical aspects of the operation. Contact (02) 6794 4755.
- Steve Farrar – Environmental Superintendent, oversees day to day environmental performance across the site. Contact: (02) 6794 4755.

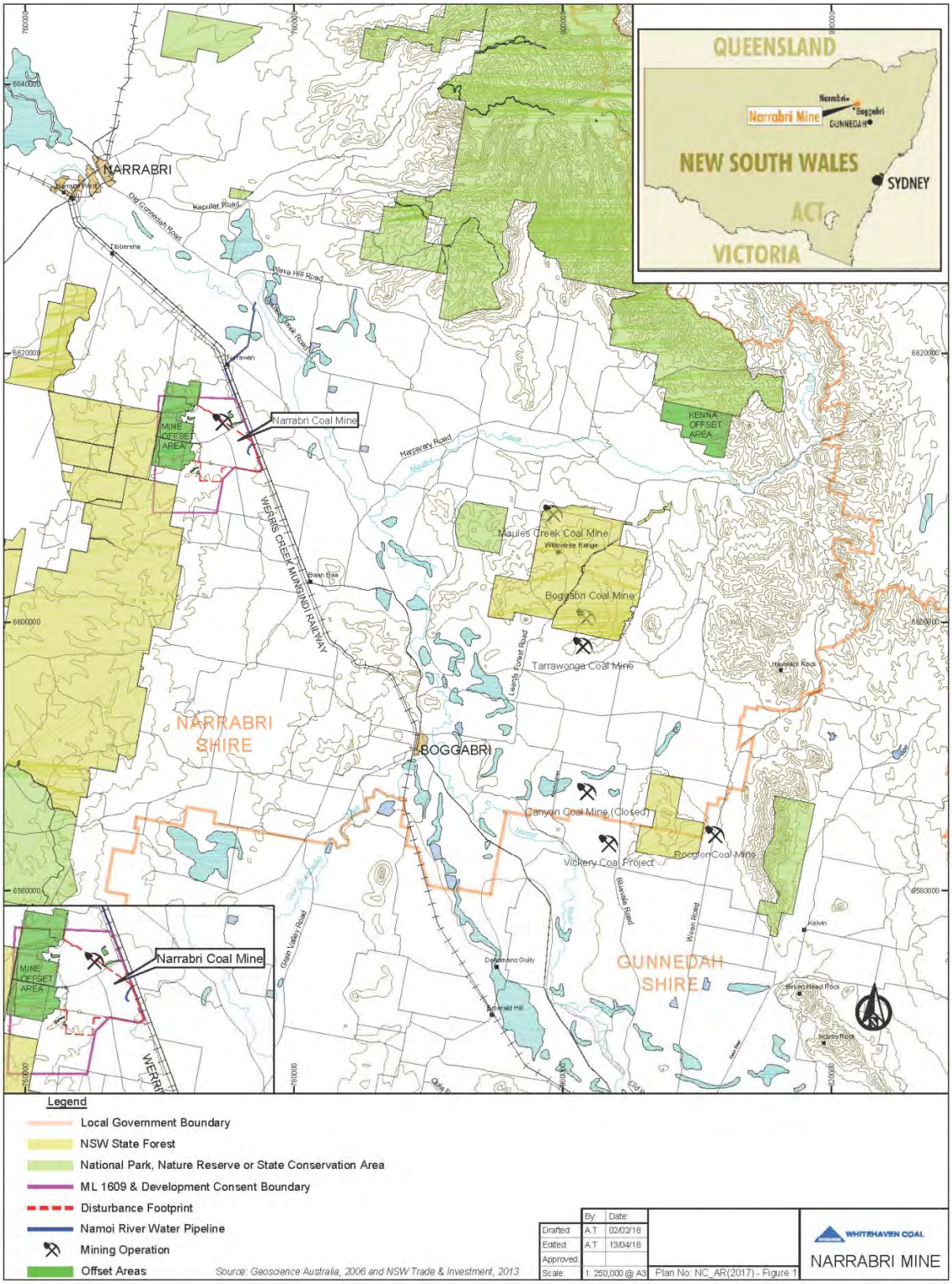


Figure 1: Project Locality Plan

3 APPROVALS

Table 5 provides a summary of the key licences, leases and approvals that have been obtained for the Narrabri Mine to enable the construction and operation of the mine.

Table 5: Licences, Leases and Approvals

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Division of Resources and Geoscience (DRG)	EL 6243	18 February 2015	20 May 2019	Approval for exploration.
Minister for Planning	PA 05_0102	13 November 2007	18 January 2029	PA for Stage 1. Surrender of the Stage 1 PA approved on 2 August 2011
DRG	ML 1609	18 January 2008	18 January 2029	Approval for mining
Environment Protection Authority (EPA)	Environment Protection Licence (EPL) 12789	20 February 2008	Nil – Anniversary date: 20 February	For mining operation >5,000,000 T (handled and produced)
Narrabri Shire Council (NSC)	Construction Certificate DP 816020 Inspection Report/Permit to Occupy No 2413	17 October 2008 6 August 2009	N/A	Stage 1 Mine Surface Facilities
DPI-Water	90CA811347 / WAL15922 90WA812891 / WAL20131 90AL807276 / WAL12833 90CA802130 / WAL6762 90CA802130 / WAL2671 90CA802130 / WAL2728 90CA802130 / WAL20152 90BL254679 / WA822539 90WA822539 90BL254481 - 90BL254487 90BL254658 - 90BL254663 90BL254701 90BL254958 - 90BL254967 90BL255167 - 90BL255173 90BL255216 - 90BL255218 90BL255769 – 90BL255772 90BL256060 – 90BL256064 90BL256289 90BL256293 90BL256344 90BL256346 90BL256386	Various	Various	GAB – Water supply (248ML) GW – Water supply (150ML) GW – Water supply (67ML) River – High Security (20ML) River (48ML) River (10ML) River (600ML) Mining (Low Security) (818ML) Mine De-gassing/De-Watering Groundwater Monitoring Purposes
Minister for Planning	PA 05_0102 MOD1	26 March 2010	18 January 2029	Notice of modification under Section 75W of the EP&A Act. PA surrendered, refer above.

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Minister for Planning	PA 08_0144	26 July 2010	26 July 2031	PA for Stage 2
WorkCover NSW	Notification for explosives use and storage	5 August 2010	20 July 2020	Licence Number – XSTR100215
Narrabri Shire Council (NSC)	Construction Certificate DP 816020	23 September 2010	N/A	Stage 2 Mine Surface Facilities
Minister for Planning	PA 08_0144 MOD1	30 March 2011	26 July 2031	Notice of modification under Section 75W of the EP&A Act to update the subsidence management conditions.
	PA 08_0144 MOD2	21 December 2011	26 July 2031	Notice of modification under Section 75W of the EP&A Act to allow for a one-off road transport of coal to Tarrawonga Coal Mine.
	PA 08_0144 MOD4	22 September 2015	26 July 2031	Notice of modification under Section 75W of the EP&A Act for an expansion of the coal stockpiles.
	PA 08_0144 MOD5	9 December 2015	26 July 2031	Notice of modification under Section 75W of the EP&A Act to widen the longwall face and increase the annual production limit.
	PA 08_0144 MOD6	13 January 2017	26 July 2031	Notice of modification under Section 75W of the EP&A Act to vary the annual reporting timeframe.
DRG	MOP 2017-2020	1 January 2017	30 November 2020	Details mining and rehabilitation activities during the applicable period.

4 OPERATIONS SUMMARY

4.1 EXPLORATION ACTIVITIES

Exploration drilling was undertaken during the reporting period to further assist production planning and assess coal reserves within ML 1609/EL 6243. 37 exploration holes were completed during the reporting period.

4.2 CONSTRUCTION

During the reporting period installation of the second ventilation shaft has continued. This is due for completion during the next reporting period. Development of the south-eastern longwall panels will commence during the next reporting period.

4.3 MINING OPERATIONS

During the reporting period development extended into the main gate (MG) of longwall panel (LW) 109 and the mains. The longwall unit has previously extracted LW101 to LW106. At the end of the reporting period the longwall unit was extracting LW107.

Table 6 presents the production summary for the previous and current reporting periods and the anticipated production schedule for the next reporting period.

Table 6: Production Summary

Material	Approved limit	Previous reporting period (actual)	This reporting period (actual)	Next Reporting period (forecast)
Waste Rock / Overburden	657,000 m^3 (2010 MOP, Table 3.8)	0	0	0
ROM Coal*	11 Million Tonnes CY (PA 08_0144 Sch. 2, Cond.6) > 5 Million Tonnes produced (EPL 12789)	5.59	6.92	7.51
Reject Material	N/A (Million Tonnes)	0.20	0.20	0.23
Saleable Product**	> 5 Million Tonnes handled (EPL 12789)	5.44	6.66	7.13

* - ROM Coal is total production at the mine site. The difference between ROM Coal and final product is related to changes in stockpile volumes at the mine.
** - Saleable Product is coal railed from site.

4.4 OTHER OPERATIONS

4.4.1 Hours of Operation

The approved hours of operation are provided in Table 7.

Table 7: Hours of Operation

Activity	Hours / Days
Mining Operations	
Pit Bottom Area development	24 hours / 7 days
Underground mining	24 hours / 7 days
Gas drainage	24 hours / 7 days
Ventilation fan operation	24 hours / 7 days
Coal processing and handling	24 hours / 7 days
Rail loading and transportation	24 hours / 7 days

Activity	Hours / Days
Surface maintenance	24 hours / 7 days
CHPP reject disposal	24 hours / 7 days[1]
Raw materials / supply delivery	7:00am to 10:00pm / 7 days
1: Reject disposal activities will generally be restricted to 7:00am to 10:00pm, 7 days per week. However, it is possible that the proportion of reject material generated by the CHPP may exceed the predicted average 5% level for short periods. To account for these periods of elevated reject production, contingent hours of operation will be 24 hours / 7 days (when inversion conditions do not prevail).	

4.5 NEXT REPORTING PERIOD

4.5.1 Exploration

Exploration drilling will continue to be undertaken at the Narrabri Mine to further assess the coal reserves within the tenements. The focus of the ongoing exploration drilling is planned to include:

- An additional 58 exploration boreholes to:
  - further investigate the JORC resource status within ML 1609;
  - further exploration within EL 6243; and
  - further delineation of outlying coal prospective areas.

Further details of the proposed drilling program are provided in the MOP.

4.5.2 Remaining Construction Activities

The construction of the second ventilation shaft will be completed during the next reporting period. Development in the south-eastern longwall panels will commence during the next reporting period.

4.5.3 Mine Operations

The mine production rate for the next reporting period will be less with up to two longwall moves planned. The mine is planning to produce 7.51 Mt of ROM coal and approximately 0.23 Mt of coarse reject material during the next reporting period.

4.5.4 Mining Fleet Upgrades

During the next reporting period the mine will commence development in the south-eastern longwall panels requiring an additional development unit to undertake the cut-and-flit operations under contract.

5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

The 2016 Annual Review and subsequent regulatory correspondence identified the following actions, summarised in Table 8.

Table 8: Actions from the Previous Annual Review (2016)

Action required from Previous Annual Review	Requested By	Action Taken by the Operator	Where discussed in Annual Review
Proliferation of weeds has occurred within sections of ground which have experienced disturbance following longwall panel subsidence (refer attached photograph). The delay in seeding areas of disturbance (attributed by the Company to unfavourable ground conditions) would be expected to exacerbate weed invasion. The Department considers that, on the basis of rainfall records provided in the EMR, there has been sufficient opportunity for the sowing of groundcover species which has not been taken. As a matter of good rehabilitation practice, opportunities to establish groundcover species should not be missed.	DRE	Weed control has occurred during the reporting period. Further weed mapping and control is planned for the next reporting period.	Section 6.12
Weeds are to be managed in such a manner that the post mining final land use is achievable.	DRE	See above.	Section 6.12
Section 2 Introduction - in accordance with the Department's Annual Review Guidelines, please show the development consent boundary, current operational disturbance footprint and any offset areas on Figure 1.	DP&E	Revised AR submitted 29 June 2017. DP&E confirmed on 13 July 2017 that the revised AR satisfied the requirements of the approval.	Complete
Section 6 Environmental Performance – in accordance with Schedule 6, Condition 6(b) of the approval, please include a comparison of the environmental monitoring data (noise and air quality) against the statutory requirements, monitoring results of previous years and predictions made in the Environmental Assessment.	DP&E		Complete
Section 10 Independent Audit – the outstanding actions from the 2013 Independent Environmental Audit (IEA) were reported as outstanding in the previous Annual Review, with proposed actions to be completed by 31 December 2016. The same outstanding actions are reported in this Annual Review with proposed actions to be completed by 30 June 2017. Please provide commentary on the delay in completing the outstanding actions.	DP&E		Complete

6 ENVIRONMENTAL PERFORMANCE

The following sub-sections report on the environmental performance achieved during the reporting period and provides a summary of the environmental monitoring data compared to data predictions, trends and management measures. Environmental monitoring locations are illustrated on Figure 2.

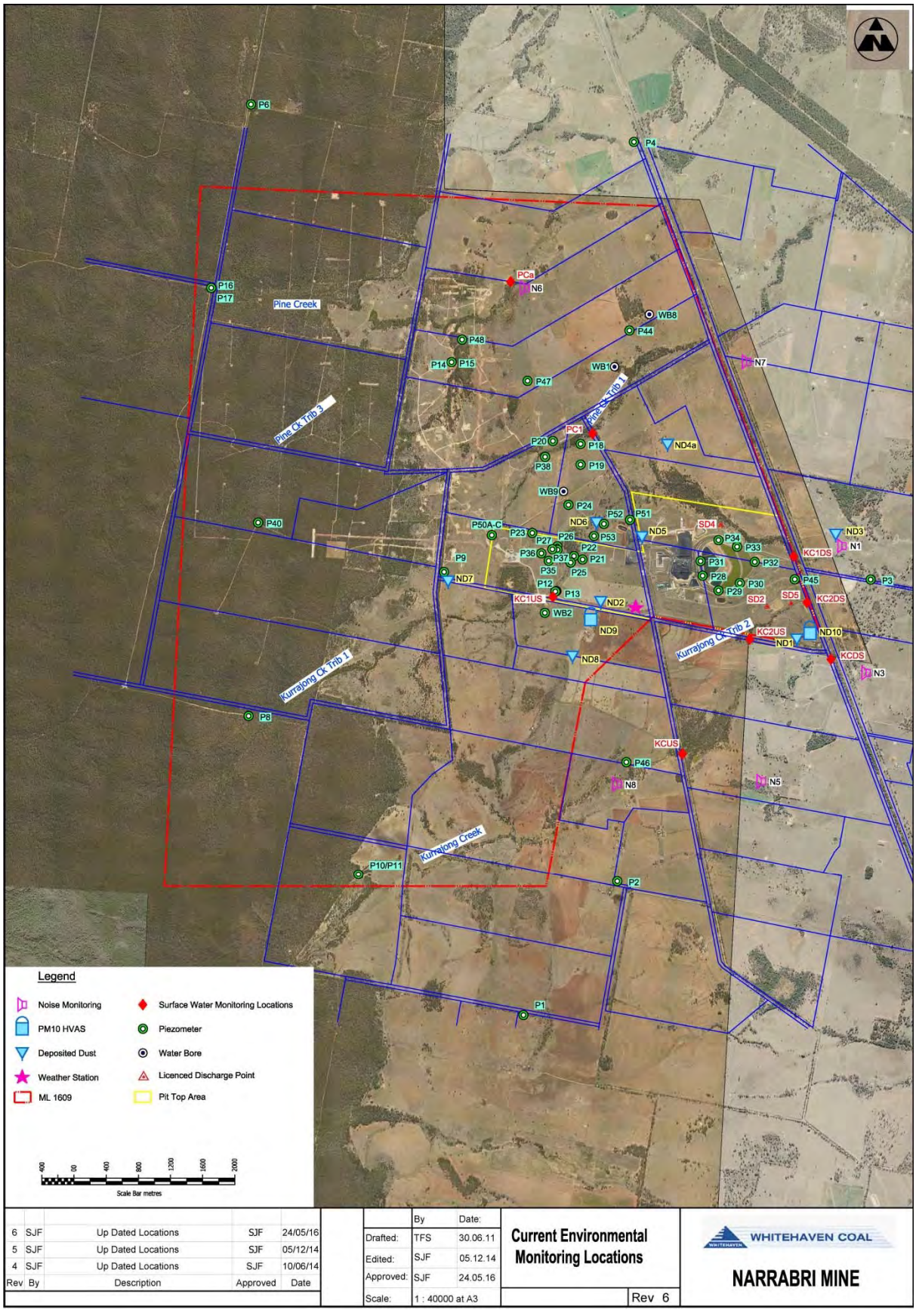


Figure 2: Current Environmental Monitoring Locations

6.1 NOISE

6.1.1 Environmental Management

Potential noise impacts associated with the Narrabri Mine are managed in accordance with the:

- Noise Criteria and Operating Conditions prescribed under Schedule 4, Conditions 1 to 5 of PA 08_0144;
- EPL 12789 Conditions L3, M7, R4 and E2; and
- the Narrabri Mine Noise Management Plan (NMP) approved by DP&E prepared to satisfy the requirements of PA 08_0144.

During the reporting period various controls were implemented to manage noise including:

- Implement the noise and inversion Trigger Action Response Plan (TARP) for surface coal processing operations;
- Ensure specific noise attenuation is provided to surface drills when operating over LW1 to LW3 and LW124 to LW126 to achieve a sound power level of 109dB(A);
- The approved hours of operation are adhered to;
- Site personnel are required to pay due attention to site weather conditions and modify or stand down from operational activities if directed by mine management; and
- Monitoring of emitted noise levels is undertaken during mining operations to verify compliance with noise criteria and to assess the need, if any, for additional noise attenuation measures.

The Narrabri Mine noise monitoring network is illustrated on Figure 2 and includes:

- Continuous monitoring at three real-time monitoring units for management purposes;
- Quarterly attended monitoring at two locations as described in the EPL (N5 and N6); and
- Quarterly attended monitoring at two locations as described in the NMP (N3 and N8).

Please note that quarterly monitoring is also undertaken at N1, however a private agreement is in place and N7, which is now mine owned and therefore the results are not included in this AR.

6.1.2 Environmental Performance

Attended Monitoring

The NMP details the requirements for attended and real-time noise monitoring as described above. Attended noise monitoring sites are identified on Figure 2. Attended monitoring is completed by an independent consultant and is used to assess compliance with licence and approval limits for mine contributed noise. A summary of the noise monitoring results is outlined in Table 9 with additional details provided where results were recorded above the criteria at privately-owned residences where a private agreement is not in place.

Table 9: Noise Monitoring Summary

Site (see Figure 2)	Mod. 5 Max. EA Predicted Levels (dB(A))	Criteria ($L_{Aeq(15\ minute)}$), dB(A))	Quarter 1 (Mine Contribution, dB(A))	Quarter 2 (Mine Contribution, dB(A))	Quarter 3 (Mine Contribution, dB(A))	Quarter 4 (Mine Contribution, dB(A))	INP Low Frequency Penalty L_{Aeq} dB
N3	35	35	<30	23	NA*	23	NA
N5	31	35	30	**37**	<30	33	42 (27/06/17)
N6	<30	35	<30	**38**	**36**	NA*	36 (7/09/17)
N8	35	35	<25	<30	IA**	27	NA

*NA – Not Applicable as result affected by atmospheric conditions or no INP penalty applies.
**IA – Inaudible.

On the 29th July 2017 there was a 3 dB exceedance of the $L_{Aeq(15minute)}$ criterion at monitoring location N6. Please note other exceedances were recorded: 3 at N5; and 3 at N6. However these results were within 2dB of the criteria and as such are not considered to be non-compliances in accordance with the Industrial Noise Policy. It should also be noted that monitoring at the Newhaven residence was not permitted and the identified level is a calculation based off of a measurement from the mine's boundary with N6, which may not represent actual noise levels at the receiver. The gas drainage equipment was inspected and modified so that the air flow exhaust is directed to the west or south-west, i.e. away from the receiver at N6, as it was previously directed straight up. This equipment also retreats behind the longwall and will gradually move further away from N6. It will then be located back to the north at the commencement of the next longwall panel but further west, i.e. away from the resident. Following the exceedance the resident allowed the mine to access the property to undertake measurements near the house with no issue identified in August 2017. An Independent Noise Review, triggered by the residents of N5, is currently being undertaken and as such no further actions were undertaken for N5.

On the 7th September 2017 there was a 1 dB exceedance of the $L_{Aeq(15minute)}$ criterion at monitoring location N6. Please note that the result was within 2dB of the criteria and as such is not considered to be a non-compliance in accordance with the Industrial Noise Policy. The gas drainage equipment, noted as one of the potential noise sources, has since been replaced. The mine is investigating the purchase of additional equipment, similar to what is being utilised currently. No issues were identified during the December 2017 monitoring.

Sound Power Testing

Sound Power Level (SPL) testing was undertaken on key mobile plant and other fixed equipment during the reporting period with the results summarised in Table 10 below.

Table 10: SPL Testing Summary

Unit	Equipment Type	Parameter	Modelled SPL (dB)	Result dBA
TEMP	Goaf Drainage Unit – Venturi	Average	102[1]	124
TEMP	Pre-gas Drainage Unit – Venturi SB42	Average	102[1]	126

Unit	Equipment Type	Parameter	Modelled SPL (dB)	Result dBA
TEMP	Pre-gas Drainage Unit – Venturi SB43	Average	102[1]	117
MEU002	Goaf Trailer	Average	102[1]	110
DR082	Lucas Rig DR082	Average	109[2]	115
DOZ004	Komatsu D375A Dozer 1st gear reverse 2nd gear reverse	 Average Average	118	 110 121
DOZ005	Komatsu D475A Dozer 1st gear reverse 2nd gear reverse	 Average Average	118	 110 118
DZ239	Caterpillar D11R Dozer 1st gear reverse 2nd gear reverse	 Average Average	118	 118 124
DZ246	Caterpillar D11T Dozer 1st gear reverse 2nd gear reverse	 Average Average	118	 118 124
Genset	CG-0600-00416 2nd Shaft Site	Average	117	96
MEU003	Gas Drainage Unit including GEN155	Average	102[1]	99

1. Gas-drainage units are modelled at 102dB for>10 units however the mine currently only operate 5 units.
2. The drill rig level of 109 applies when working in the north-eastern or south-eastern longwall panels as indicated in the NMP.

6.1.3 Proposed Improvement Measures

A number of improvement measures are proposed for the next reporting period including:

- Maintaining equipment exhausts and conducting noise testing of plant;
- Continue to investigate the purchase of additional gas drainage equipment, similar to what is being utilised currently; and
- Continue to investigate options for reducing SPL's on the stockpile dozer fleet and gas drainage equipment.

6.2 BLAST

As there has not been any surface or near-surface blasting at the site during the reporting period, no blast monitoring has been required or conducted.

6.3 AIR QUALITY

6.3.1 Environmental Management

The Narrabri Mine has the potential to impact on air quality at the mine. Air quality impacts at the mine are managed in accordance with the:

- Air quality criteria prescribed under Schedule 4, Condition 6 of the PA 08_0144;

- EPL 12789 Conditions O3, P1 and M2; and
- the Narrabri Mine Air Quality Management Plan (AQMP) prepared to satisfy the requirements of PA 08_0144.

Narrabri Mine employs a range of air pollution control measures including:

- Cleared trees and branches will be retained for use in stabilising disturbed areas once they are no longer required;
- Trigger Action Response Plans (TARPs) have been developed for the major dust generating activities onsite which currently includes: the coal processing area; surface drilling activities; and surface civil works;
- Strategically located water sprays will be operational on all continuous miners, the longwall unit and the breaker feeder to minimise dust creation underground;
- All conveyers will be fitted with appropriate cleaning and collection devices to minimise the amount of material falling from the return conveyer belts;
- The coal breaker is enclosed;
- All surface conveyors are partly enclosed to minimise dust lift-off;
- Clear definition of all the site roads and the restriction of vehicles and equipment to the roads;
- Progressive rehabilitation of areas of disturbance including topsoil and subsoil stockpiles;
- Routine application of water sprayed onto stockpiles and hardstand areas; and
- Construction of a perimeter amenity bund and windbreaks.

The Narrabri Mine air quality monitoring network is illustrated on Figure 2 and includes:

- PM_{10} levels are measured by two High Volume Air Sampler (HVAS) for a twenty-four hour period every six days. Total Suspended Particulate (TSP) matter is inferred at a ratio of 1:2 from the measured PM10 data; and
- a network of eight dust deposition gauges (DDGs), measuring deposited dust and particulates collected monthly.

A summary of the air quality monitoring results at the Narrabri Mine for the reporting period is provided below.

Table 11: Deposited Dust Monitoring Data Summary for the Reporting Period

Site (see Figure 2)	EPL ID No.	Property Name	PA 08_0144 Annual Average Criteria		Modification 5 EA Levels (g/m^2/month)	Annual Mean Total Insoluble Solids (g/m^2/month)	Annual Mean Ash (g/m^2/month)
			Max Increase (g/m^2/month)	Max Total (g/m^2/month)			
ND1	-	Turrabaa	2	4	2.2	3.4	1.5
ND2	-	Claremont	2	4	1.9	1.7	1.1
ND3	3	Bow Hills	2	4	2.0	1.8	0.6
ND4	-	Matoppo	2	4	2.3	1.7	1.2
ND5	-	Willarah	2	4	2.9	2.4	1.4
ND6	-	Willarah	2	4	2.9	1.5	0.8
ND7	-	Claremont	2	4	1.9	1.5	0.9

Site (see Figure 2)	EPL ID No.	Property Name	PA 08_0144 Annual Average Criteria		Modification 5 EA Levels (g/m^2/month)	Annual Mean Total Insoluble Solids (g/m^2/month)	Annual Mean Ash (g/m^2/month)
			Max Increase (g/m^2/month)	Max Total (g/m^2/month)			
ND8	-	Claremont	2	4	1.9	2.2	1.8

Table 11 indicates that all the monitoring locations are below the annual average criteria with only ND1 and ND8 exceeding the Modification 5 EA predicted levels. The ash content levels indicate that these two dust gauges are impacted by combustible material not indicative of dust sources associated with the mining operation. As most of the properties surrounding the site are now mine owned, only ND3 is included for both offsite impacts in the Modification 5 EA and current monitoring, as outlined in Narrabri Mine's AQMP. The predicted dust levels as outlined in the EA under both scenarios has dust levels at ND3 increasing by 0.1 g/m^2/month above the back ground level of 1.9 g/m^2/month. The reporting period average for ND3 is 1.8 g/m^2/month and the long-term average is 1.5 g/m^2/month. The results indicate that the dust deposition levels for this reporting period and the long-term average are below the predicted levels. It should also be noted that a quarry is in operation on the property where ND3 is located, which may contribute to deposited dust on the site. Trends indicate that for areas still farmed peaks occur generally during the winter months associated with agricultural activities while areas not farmed indicate peaks during the hotter and drier months of summer.

Monitoring conducted at the Narrabri Mine HVAS's indicates that the PM_{10} annual averages remain well below the applicable criteria of 30 $\mu g/m^3$ at both units, i.e. ND9 and ND10. The PM_{10} 24 hour measurements were also below the applicable criteria of 50 $\mu g/m^3$ for the reporting period. The ND9 and ND10 HVAS PM_{10} monitoring results are illustrated in Figure 3 and Figure 4 below.

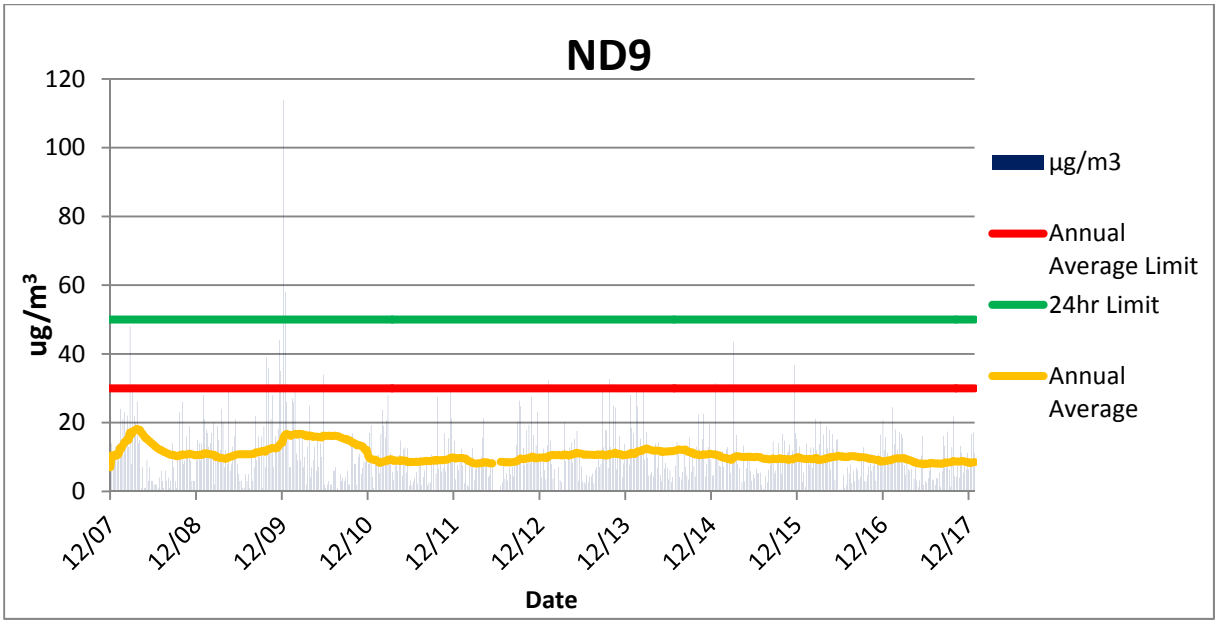


Figure 3: ND9 PM_{10} Results

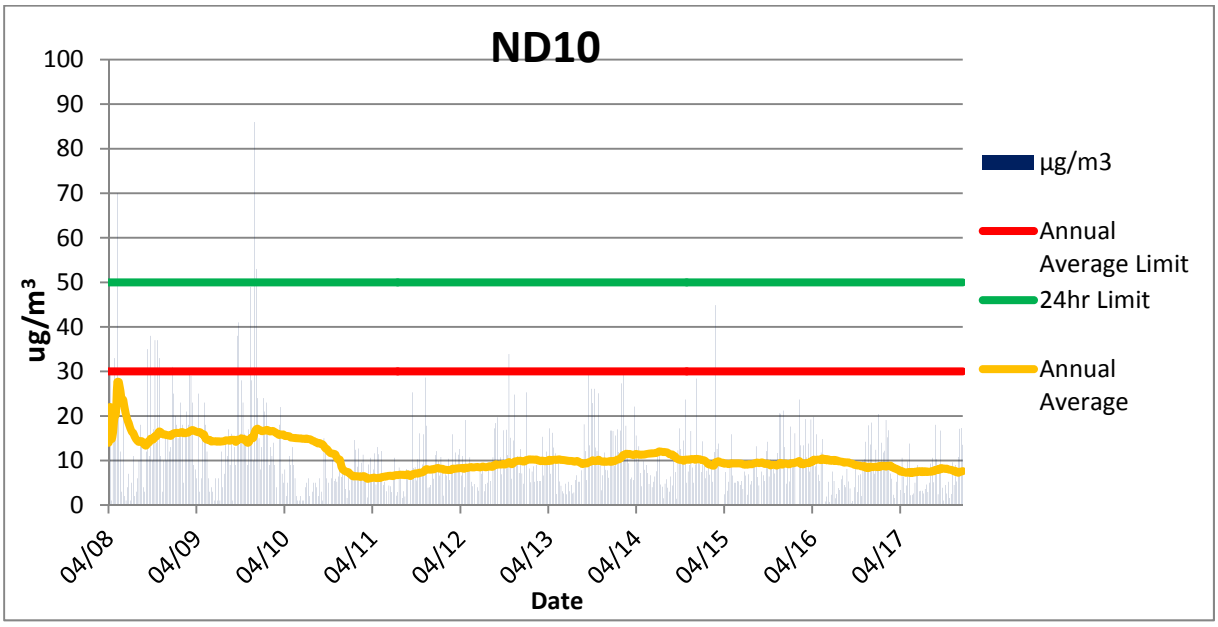


Figure 4: ND10 PM_{10} Results

Although PM_{10} is not monitored at the properties modelled in the EA, but on properties closer to mining operations as outlined in the Narrabri Mine AQMP, the average annual background level adopted for the Modification 5 EA is 11 µg/m^3. The highest annual average results for the Narrabri Mine monitoring program is 8.50 µg/m^3. In addition, the highest 24-hour concentration recorded during the reporting period was 24.5 µg/m^3. The highest predicted 24-hour level in the EA for residences further away from the mine then the monitored locations was 69.7 µg/m^3. No exceedances of the 24-hour criteria (i.e. 50 µg/m^3) occurred during the reporting period. Figure 3 and Figure 4 also indicate that the monitoring results are consistent with previous years, i.e. since 2011.

The results for the PM_{10} monitoring also confirm that the TSP criteria for the mine are well within the compliance limits. The DP&E have previously advised that Whitehaven's method for determining TSP concentrations, i.e. multiplying PM_{10} concentrations by a factor of 2, is satisfactory. Based on the above, the annual average TSP concentrations of 17.0 µg/m^3 at ND9 and 15.2 µg/m^3 at ND10 are both below the 90 µg/m^3 annual average criteria and the annual average background concentration from the Modification 5 EA of 22 µg/m^3.

6.3.1.1 Meteorological Data

Meteorological monitoring is conducted onsite in accordance with Schedule 4, Condition 8 of PA 08_0144 at the Narrabri Mine meteorological station. Additional weather data is available from other monitoring locations for reference purposes. The location of the Narrabri Mine meteorological station is illustrated on Figure 2. Table 12 summarises the monthly meteorological conditions recorded at the Narrabri Mine station for the reporting period.

Table 12: Summary of Meteorological Conditions

Month	Measured Rain (mm)	Cumulative Rainfall (mm)	Rainfall Days (>1mm)	2m Temperature (°C)			Wind		Inversion Conditions
				Min	Mean	Max	Av. Speed (m/s)	Pred. Direction	% of night time period*
Jan 2017	33.5	33.5	4	17.8	29.5	43.2	3.0	SE, NW	15

Month	Measured Rain (mm)	Cumulative Rainfall (mm)	Rainfall Days (>1mm)	2m Temperature (°C)			Wind		Inversion Conditions
				Min	Mean	Max	Av. Speed (m/s)	Pred. Direction	% of night time period*
Feb 2017	4.8	38.3	2	10.8	28.8	46.0	2.4	SE, NW	21
Mar 2017	132.0	170.3	7	13.4	23.2	33.7	2.7	SE	12
Apr 2017	6.4	176.7	2	3.4	17.5	27.8	2.7	SE	42
May 2017	76.8	253.5	4	1.3	14.8	25.3	1.8	SE	44
Jun 2017	61.0	314.5	4	0.0	11.6	21.3	2.5	SE	43
Jul 2017	8.6	323.1	1	-1.6	10.0	24.1	1.7	SE, W	65
Aug 2017	19.2	342.3	1	-1.7	11.5	25.8	2.1	SE	62
Sep 2017	9.2	351.5	1	0.7	16.3	34.2	2.1	NW	61
Oct 2017	72.6	424.1	8	8.9	20.7	35.9	2.5	SE	24
Nov 2017	64.0	488.1	7	6.0	21.6	33.6	2.3	SE	19
Dec 2017	37.8	525.9	3	11.2	26.9	41.3	2.6	NW, W	27

* - Inversion conditions as measured by the site Inversion Tower.

The total rainfall for the reporting period was 525.9 millimetres (mm). The total rainfall was below the historical average of 661.6 mm. The maximum rainfall was recorded during March 2017 (132.0 mm), which is significantly higher than the historical average of 57.9 mm. The months of February 2017, April 2017, July 2017 to September 2017 and December 2017 were relatively dry in comparison to historical averages.

During the reporting period the minimum temperature was -1.7°C recorded in August 2017 and the maximum temperature was 46.0°C in February 2017. The temperature records are slightly above the historical averages and the wind patterns are consistent with previous reporting periods.

Measured winds were predominantly from the SE and NW throughout most of the year apart from July 2017 and December 2017 where westerly winds were also dominant. Comparison with the wind roses from the 2017 data indicate similar patterns which are broadly comparable to patterns observed from previous years.

6.3.2 Proposed Improvement Measures

No additional improvement measures are proposed during the next reporting period.

6.4 GREENHOUSE GAS

6.4.1 Environmental Management

Greenhouse Gas (GHG) emissions at the Narrabri Mine are managed in accordance with Schedule 4 Conditions 31 and 32 of PA 08_0144 and the Greenhouse Gas Minimisation Plan (GHGMP). The main sources of GHG emissions considered in the GHGMP are:

- Consumption of diesel fuel – Scope 1;
- Consumption of electricity – Scope 2; and
- Fugitive emissions associated with gas drainage and ventilation – Scope 1.

6.4.2 Environmental Performance

GHG emissions are reported through participation in the National Pollutant Inventory (NPI) and as part of the Whitehaven Group in the National Greenhouse and Energy Reporting Scheme (NGERS). The total GHG emissions attributed to the mine reported for the NGERS 2017 Financial Year (FY) were 498,747 t CO_2-e. The following sections detail the key GHG contributors for the 2017 NGERS reporting period.

Diesel Usage

Approximately 5,693 kL of Diesel (Stationary and Transport) was consumed equating to 15,427 t CO_2-e GHG Emissions. This is less than the predicted consumption outlined in the EA.

Fugitive Emissions

There were an estimated total of 412,602 t CO_2-e fugitive emissions generated from the mine in the 2017 FY. This is higher than the EA estimate and is related to additional drainage from the goaf circuit, which is attributable to higher gas concentrations in the coal then has been previously encountered.

Electricity Consumption

Approximately 84,101,399 kWh power equating to 70,645 t CO_2-e was consumed by the mine. This is less than the predicted consumption from the EA.

6.4.3 Proposed Improvement Measures

As the concentrations of methane in the ventilation and pre-drainage gas streams remain prohibitive for any beneficial use, no additional management measures are to be implemented during the next reporting period. Any additional mining fleet equipment will also include preventative and regular maintenance.

6.5 BIODIVERSITY

6.5.1 Environmental Management

Biodiversity was managed in accordance with:

- Schedule 5, Conditions 1 to 7 of PA 08_0144; and
- the Narrabri Mine Landscape Management Plan (LMP) and Biodiversity Offset Strategy (BOS) prepared to satisfy the requirements of PA 08_0144.

Various treatments were implemented during the reporting period to mitigate impacts of the Narrabri Mine including (but not limited to):

- Weed monitoring and inspections;
- Feral animal monitoring, inspections and control;
- Flora and Fauna monitoring; and
- Fuel load assessment.

6.5.2 Environmental Performance and BOMP Implementation

6.5.2.1 Mine Site Environmental Performance

Weed Management

Weed monitoring and management was undertaken across the mine site during the reporting period. This included treating areas for African Boxthorn, Prickly Pear and Mother-of-Millions.

Feral Animals

Monitoring of the presence of feral animals was undertaken onsite. A targeted monitoring program for feral pigs was undertaken during the reporting period on the offset areas, refer below.

Annual Extraction Plan Monitoring

The results of annual monitoring undertaken during the reporting period, as required by the Extraction Plan, which includes the LMP, are summarised in Table 13 and Table 14.

Table 13: Biodiversity Management Plan 2017 Monitoring Results

Performance Measures	BMP Performance Criteria	2017 Assessment	Comment
LW101-LW106			
Woodland vegetation (Inland Grey Box EEC) composition and health	Clearing does not exceed the allowable limit of the Project Approval	Compliant	Clearing was within the limit of the Project Approval.
	Less than 10% change in floristic composition (relative to natural variation found in control areas)	Non-compliant	Compared to 2016, seven of the eight impact plots for the Inland Grey Box woodland recorded greater than a ten percent decrease in species composition relative to natural variation of 25%, found in the control plot. However, this is likely due to be an artefact of seasonal variation between 2016 and 2017 rather than any other impacts, see below.
	Less than 10% increase in exotic species numbers and cover	Compliant	Declared Priority Weeds African Boxthorn (*Lycium ferocissimum*), Mother of Millions (*Bryophyllum delagoense*) and Prickly Pear (*Opuntia stricta*) continue to be present at sites and require ongoing treatment as prescribed in the Rehabilitation Management Plan (RMP) African Boxthorn was recorded in plot 6 for the first time since 2012 and at plot 15 for the first time since 2015. Prickly Pear was also recorded for the first time in plot 14.
	No increase in feral animal presence	Compliant	No apparent increase in feral species presence.
Riparian vegetation composition and health	Clearing does not exceed the allowable limit of the Project Approval	Compliant	Clearing was within the limit of the Project Approval.
	Less than 10% change in floristic composition (relative to natural variation found in control areas)	Compliant	Changes in floristic composition at impact plots were within the performance criteria (variation in the control plot being 29.6% decrease in native species).
	Less than 10% increase in exotic species numbers	Non-compliant	Compared to 2016, two of the five plots recorded greater than ten percent increase

Performance Measures	BMP Performance Criteria	2017 Assessment	Comment
	and cover		in exotic species cover. All other plots, including the control, had a decrease in weed cover from 2016. African Boxthorn and Prickly Pear continue to be present at several sites and require control as per the RMP. Mother of Millions was recorded for the first time at plot 1 (Poplar Box- Belah Woodland).
	No increase in feral animal presence	Compliant	No apparent increase in feral species presence.
	Less than 20% increase in length of eroding creek	Refer to Land Management Monitoring Report for 2017	
Terrestrial fauna habitat for threatened species	Fauna populations do not experience adverse impacts	Non-compliant	Compared to 2016, two of the six woodland monitoring sites monitored in spring recorded a greater than 10 percent decrease in bird species diversity, and three sites recorded a similar decrease for bird abundance. For the creekline sites, the 10% variation threshold for impact sites was exceeded at some sites in each of the seasons monitored for both bird species diversity and abundance. Whereas only one or two plots exceed this limit during the autumn survey, five of the six sites monitored exceeded the threshold during the spring survey. Impact is likely to be an artefact of the seasonal variation between 2016 and 2017 and the similarity of the bird community between the two habitat types, refer below.
	Fauna records decrease by greater than 10% (relative to natural variation found in control areas)		
Aquatic macro-invertebrate and macrophyte assemblages	No decline in aquatic habitat quality relatively to natural variation in control areas	Monitoring of ephemeral creeks discontinued as per the revised BMP (ELA 2015a). For the monitoring targeting subsidence ponds above LW101 and LW104, as per Narrabri Mine Subsidence Pond Management Plan (ELA 2017), refer below for results.	
LW107-LW110			
Woodland and riparian vegetation health and habitat value	Areas of NDVI change greater than 1 standard deviation from the mean change and greater than 0.1 ha in area. Canopy dieback is not substantially greater than	Compliant	No identifiable change to overall drainage pattern. No evidence of canopy dieback or declining trend in vegetation and habitat

Performance Measures	BMP Performance Criteria	2017 Assessment	Comment
	that observed during baseline traverses and considered beyond natural seasonal dieback and natural variation due to weather. Data does not indicate declining trend in vegetation and habitat conditions. Less than 10% increase in weed cover in impact quadrats in comparison to control quadrats. Clearing does not exceed the estimated area of clearing assessed by the Stage 2 EA and as updated in Modification 5 (Resource Strategies, 2015) for infrastructure above LW107 to LW110.		conditions. No increase in weed cover. Clearing is within approved clearing limit.
Observance of trapped Delicate Mouse or Pale-headed Snake within surface cracks	Incidence of Delicate Mouse and/or Pale-headed snake becoming trapped in surface cracks.	Compliant	There were no incidences of Delicate Mouse or Pale-headed Snake becoming trapped in surface cracks during the 2017 monitoring period.

The exceedances recorded for the flora and fauna monitoring for LW101 to LW106 for the 2017 period are likely to be an artefact of the difference in seasonal conditions leading up to the surveys undertaken in 2016 and 2017 and the application of the Biodiversity Management Plan Performance Criteria rather than any impacts associated with mining operations.

In 2016, the site experienced unseasonably wet conditions prior to monitoring. These conditions are likely to stimulate plant growth and trigger a recruitment event, leading to a spike in species diversity and abundance. Similarly, these conditions can influence bird behaviour and community composition and abundance. Whereas both plant and bird numbers and diversity are likely to have been higher in 2016 in response to the wet conditions, the opposite can also be expected in drier conditions such as experienced during 2017 monitoring. Comparing a 'drier' year to a 'wetter' year using the natural variation calculated from just one year is likely to skew results for that particular comparison.

In addition, analysis of bird community composition and abundance from 2013 to 2017 showed high variability in bird groupings based on year, site, and season. This suggests that bird species groupings were responding to seasonal and yearly fluctuations in conditions as much as preferences for particular sites or habitat types. Given this heterogeneity in the community bird response to the local environment and the preceding seasonal conditions, application of the 10 % (decrease in

diversity or abundance) threshold when comparing 2016 and 2017 is also likely to identify sites that are non-compliant against the criteria in 2017, but may not identify impacts to sites as a result of mining operations.

Table 14: Land Management Plan 2017 Monitoring Results

Performance Measures	Performance Criteria	2017 Assessment	Comment
LW101-LW106			
Surface cracking			
Surface cracking inspection	Permanent cracks (which do not self-close within one month of longwall face passing) are remediated as soon as practicably possible (and safe to do so) Surface cracking is remediated to prevent erosion and slope instability issues within 6 months of each longwall pass.	Compliant	Surface cracking was evident over LW106; which is consistent with cracks that have formed over previous panels.
Topographic form (Lidar)			
Landscape morphology	Subsidence across landscape does not exceed subsidence predictions for LW101-LW106	Compliant	LIDAR analysis indicated that areas within LW102 to LW106 have subsided >2 m from 2013 to 2016. This is within the upper predicted limit of subsidence of 2.75 m with an UCL of 95% with <3% of values exceeding this limit.
Creeklines	No identifiable change in overall drainage pattern	Compliant	There has been no change to overall drainage pattern.
Soil moisture and nutrient distribution (EM mapping)			
Soil moisture and nutrient distribution (EM mapping)	Identified areas of EM mapping change (greater than 1 standard deviation from the mean change) investigated in the field to determine the source of the change.	Not assessed in 2017	This was assessed in 2016, and is scheduled for re-assessment in 2021.
Multi-spectral image analysis			
Groundcover (multi-spectral images – erosion and pasture cover)	Identified areas of NDVI change (greater than 1 standard deviation from the mean change) investigated in the field to determine the source of the change.	Compliant	Areas of NDVI attributed to land management, surface disturbance works and re-establishment of groundcover.
Pasture			

Performance Measures	Performance Criteria	2017 Assessment	Comment
Pasture biomass	Less than 20% reduction in pasture biomass in impact zones in comparison to control zones	Compliant	The performance criteria was exceeded in the maximum subsidence zone above LW103 and the pillar zone above LW101 and LW103. However, pasture biomass was not significantly different between the control sites and the impact sites.
Weed species	Weed species identified and managed according to the weed management measures provided in the Rehabilitation Management Plan	Compliant	Weed cover was variable in 2017 across all sites, however the control sites were not significantly different to the impact sites. The main differences were found to be within the impact sites across multiple longwalls. No clear trends were observed between transition, maximum subsidence and pillar zones.
Weed cover	Less than 10% increase in weed cover in impact zones in comparison to the control zone	Non-compliant	The performance criterion was exceeded in the transition zone above LW103, LW105 and LW106 and the pillar zones above LW101, LW102 and LW104. If a further inspection reveals a similar trend, consultation with an agronomist regarding management is recommended.
Soil nutrient status			
pH	pH remains within +/- 0.5 pH unit of baseline pH. If soil amelioration is undertaken, pH is to remain within recommended pH range for pasture (5.2-8.0).	Compliant	The performance criteria was exceeded at most sites, however all increases in pH are within the recommended range for plant growth.

Performance Measures	Performance Criteria	2017 Assessment	Comment
EC	Less than 20% increase in EC in comparison to baseline values.	Compliant	There have been no increases at any zone that exceed 20% of their baseline values.
Organic matter	Less than 20% reduction in organic matter in comparison to baseline values.	Compliant	The performance criteria was exceeded including the control site indicating natural variability.
Nitrogen	Less than 20% reduction in total nitrogen in comparison to baseline values.	Compliant	All zones have increased.
Phosphorous	Less than 20% reduction in phosphorous in comparison to baseline values.	Non-compliant	The performance criteria was exceeded at all sites, except three. Consultation with an agronomist regarding management is recommended and implement any actions.
Creek stability and condition			
Field survey of creek stability and condition	Less than 20% increase in creek erosion (bank and bed) in comparison to control. Less than 20% increase in cross-sectional area in comparison to control cross-sectional area (unless stabilisation works have been undertaken)	Compliant	Erosion and deposition has occurred at most cross-sections; however, this is characteristic of creeks such as Pine Creek and Kurrajong Creek, particularly in a cleared landscape.
LW107-LW110			
Surface cracking			
Surface cracking Inspection	Permanent cracks (which do not self-close within one month of longwall face passing) are remediated as soon as practicably possible (and safe to do so).	Compliant	Surface cracking was observed above LW107 during spring monitoring and will need to be ameliorated if they do not self-close.
	Surface cracking is remediated to prevent erosion and slope instability issues within 6 months of mining of each longwall.	N/A	Undermining of LW107 not yet completed.
Topographic form (Lidar)			
Landscape morphology	Subsidence across the landscape does not exceed subsidence predictions for LW107 to LW110.	Compliant	Refer to Section 6.12.

Performance Measures	Performance Criteria	2017 Assessment	Comment
Creek lines	No identifiable change to overall drainage pattern.	Compliant	No identifiable change to overall drainage pattern.
Groundcover (multi-spectral images – erosion and pasture cover)	Identified areas of NDVI change (greater than 1 standard deviation from the mean change) investigated in the field to determine the source of the change.	Compliant	NDVI change attributed to development of surface infrastructure.

Subsidence Pond Monitoring

The results of annual monitoring undertaken during the reporting period, as required by the Subsidence Pond Management Plan (SPMP) are summarised below:

- Water quality in both subsidence ponds is suitable to support biodiversity. Macroinvertebrate assemblages are typical of still waters, diversity will potentially improve with increase cover of fringing vegetation. At present groundcover vegetation, even in the boggy zone, is dominated by pasture species and forbs. Waterbird diversity has increased over time, with slight fluctuations occurring as water levels decrease.
- Remote sensing analysis of the riparian zone downstream of LW101indicated that there have been no areas of decline in riparian condition because of the subsidence pond above LW101 withholding water. Data collected from the two riparian monitoring plots established in this round of monitoring aims to support that finding through ongoing monitoring in subsequent years.
- Ongoing monitoring will provide an understanding of ecological changes to the ponds as they transition into functioning ephemeral wetlands.

Pre-Clearing and Clearing Surveys

During the reporting period the mine has undertaken clearing to facilitate surface gas drainage infrastructure works. The ecological works for the clearing consisted of the following activities;

- Threatened Flora Surveys;
- Fauna Pre-clearing Surveys;
- Clearance Supervision; and
- Post-felling inspections.

Prior to the commencement of any clearing activities the limits of clearing are surveyed and physically marked with flagging tape. Targeted threatened flora surveys were conducted prior to clearing activities commencing with all threatened flora identified during these surveys recorded and their locations mapped using hand held GPS units.

Fauna pre-clearance surveys were also conducted and consisted of identifying, marking and documenting suitable fauna habitat features. These features generally include nests, large woody debris and trees bearing hollows, which have the potential to support species such as bats, gliders, possums, reptiles and birds. All trees with habitat features are felled following a clearing protocol and is done in the presence of a qualified ecologist. All trees identified as having habitat features were recorded using a hand-held GPS unit.

Fauna was encountered during clearance works undertaken during the reporting period, including species of birds, mammals and reptiles. Threatened species under the TCS Act and/or the EPBC Act were also encountered.

The following threatened fauna species were encountered during the reporting period clearing works:

- Grey-crowned Babbler (Eastern Subspecies) (*Pomatostomus temporalis temporalis*) – listed as Vulnerable under the TSC Act.

The following threatened flora species were encountered during the clearing works:

- Coolabah Bertya (*Bertya opponens*) – listed as vulnerable under the TSC Act and EPBC Act.

Clearance works where threatened flora species were identified were relocated to minimise impacts, i.e. in the case of Coolabah Bertya.

6.5.2.2 BOS Environmental Performance

The Narrabri Mine Biodiversity Offset Strategy (BOS) commits to manage designated offset areas to achieve a 'like for like or better' and 'maintained or improved' biodiversity outcomes on the 1,243ha Kenna Biodiversity Offset Area (BOA) located offsite adjacent to the southern boundary of the Kaputar National Park and the 422 ha Onsite (Rosevale, Greylands, Omeo and Kurrajong Park) BOA located within and adjacent to the east of the mining lease and to the west of Jacks Creek State Forest which forms part of the "Pilliga Scrub".

Offset Security Management

During the reporting period, WHC continued to negotiate with OEH and NPWS regarding the potential to transfer parts of the Kenna BOA to National Parks Estates as per the letter from NPWS dated 16th August 2017 outlining the WHC BOAs that NPWS were interested in. WHC have requested extensions from DP&E and DoEE for the timing of securing these offset areas until 31st December 2018 to allow negotiations on which BOAs to be transferred to National Parks Estate to finalise with the residual BOAs to be secured via conservation agreements.

Infrastructure Management

During the reporting period, 3.5km of redundant internal fences were deconstructed from the revegetation areas on the Kenna BOA. All fencing material waste was removed and recycled at the Narrabri Waste Management Facility. Also during the reporting period, new fencing (fauna friendly) was constructed along the Kenna BOA boundary and access track (4.6km), Greylands (1.5km) and Omeo (1.1km). The condition of the BOA fences, gates and signage were maintained to continue restricting unauthorised access and prevent inadvertent livestock grazing.

Seed Management

Four routine seed assessments were completed across the Kenna BOA in February, March, August and November 2017 designed to identify on a seasonal basis; the life cycle stage and development of native plants to identify what, where, when and how to target appropriate resources to collect seed for future revegetation programs. The seed assessments resulted in timely and prioritised seed collection with the spatial information directly given to seed collection contractors to undertake the targeted seed collection. Seed collection programs during the reporting period targeted overstorey species in the Maules Creek locality and collected in accordance with the Florabank guidelines.

As part of the WHC group wide revegetation planning; the collected seed was supplemented with commercially sourced local and regional provident seed and a local revegetation provider was

engaged to propagate the seed to produce Box Gum and non-EEC/CEEC Woodland overstorey species seedlings required for the FY17 and FY18 revegetation programs at Kenna BOA.

Revegetation Management

During the reporting period, revegetation ground preparation using dozer ripping (three tynes wide to a depth >0.3m every 5m along the contour and lightly scarifying the soil surface in lower condition areas) to relieve compaction, improve permeability and infiltration to increase sub-surface soil moisture as well improve soil seed bed to maximise soil-seed contact during sowing was completed over 48ha of the Kenna BOA in December 2017 for future revegetation activities (planting and sowing) in 2018. WHC coordinated two revegetation programs in 2017 with the understorey revegetation (direct seeding) undertaken in July 2017 across 56ha sown with 275kg of native grass seed (16 species), 13kg of native forb seed (13 species) and 512kg of bulking agent (lime). Overstorey revegetation program was undertaken in August 2017 with 5,440 hiko seedlings of *Eucalyptus albens*, *Eucalyptus blakelyi*, *Eucalyptus crebra*, *Eucalyptus melliodora*, *Eucalyptus pilligaensis*, *Eucalyptus populanea* and *Angophora floribunda* planted across 49ha. Despite a very dry July to September period; tree watering was undertake to ensure that a better than minimum survival (20 trees per hectare) is achieved commensurate with the target open Box Gum Woodland vegetation structure of the Kenna BOA. Previous ecological due diligence identified that there was 36ha of natural regeneration revegetation not requiring additional active revegetation at Kenna BOA.

Heritage Management

During the reporting period, one additional heritage site on the Kenna BOA was identified (6 heritage sites in total) which required 456m of identification/demarcating fencing to be installed.

Habitat Management

During the reporting period, no habitat augmentation was undertaken in accordance with the BOS.

Weed Management

WHC coordinated routine formal weed monitoring/inspections undertaken across Kenna and Onsite BOAs in February, April, August and November 2017. The priority weeds for control were noted as general broadleaf weeds (Biosecurity Act 2015 priority and general biosecurity duty species) as well as legacy noxious weeds inherited from previous owners management regimes such African Lovegrass, Green Cestrum, African Box Thorn and Common Prickly Pear. The weed monitoring/inspections ensure that timely and prioritised weed control is undertaken on a seasonal basis with the spatial information directly given to spraying contractors to identify what, where, when and how to target appropriate resources across the Kenna and Onsite BOAs for weed control.

During the reporting period, WHC implemented a comprehensive weed control program with 590.5ha and 23.5ha treated across the Kenna and Onsite BOAs respectively targeting Broadleaf, Green Cestrum, African Box Thorn and African Lovegrass infestations. Only appropriately qualified and experienced weed contractors (AQF3 accreditation or higher for use of herbicide) were engaged to undertake weed control works for WHC.

Feral Animals Management

WHC coordinated routine formal feral animal monitoring across Kenna and Onsite BOAs in February, April, August and November 2017. The adoption of a “monitor, measure and manage” approach to feral animal management will allow WHC to implement adaptive management in response to changes being measured through monitoring in feral animal abundance specific to the different geographical

regions of the BOAs. Feral animal monitoring utilises the relevant methodologies for specific feral animals generally in accordance with the NSW DPI *Monitoring Techniques for Vertebrate Pests* so that a range of methods can be used such as transects/spotlighting, sandpads, cameras traps where practicable and relevant to specific offset areas/properties. Monitoring demonstrated that the feral animals in moderate were the European Red Fox and Feral Pig. The feral animal monitoring ensures that timely and prioritised feral animal control is undertaken on a seasonal basis identifying what, where, when and how to target appropriate resources across the BOAs for feral animal management.

During the reporting period, WHC implemented a comprehensive feral animal control program across the Kenna and Onsite BOAs with fox baiting and pig trapping undertaken in March (6 Foxes baited from 26 baits presented and 31 Feral Pigs trapped), June (6 Foxes baited from 26 baits presented and 16 Feral Pigs trapped), August (5 Foxes and 1 Wild Dog baited from 40 baits presented and 40 Feral Pigs trapped) and November 2017 (9 Foxes baited from 42 baits presented and 9 Feral Pigs trapped). Only appropriately qualified and experienced feral animal contractors (appropriate feral animal management qualifications, NSW gun licence and pesticide accreditation where relevant) were engaged to undertake feral animal control works.

Soil & Erosion Management

During the reporting period, no specific treatment or soil erosion mitigation works were undertaken.

Grazing Management

Kenna BOA was destocked in September 2016 and during the reporting period, grazing was continued to be excluded from the Kenna BOA.

Bushfire Management

During the reporting period, WHC organised for fuel load monitoring to be undertaken in October 2017 with the average fuel load of 2.5 t/ha considered to be low. WHC undertook maintenance and upgrade of fire breaks and tracks across the Kenna BOA with 55.5km of fire breaks completed in December 2017. WHC coordinated a specialist hazard reduction contractor to undertake a 60.3ha ecological burn of the Kenna BOA revegetation area in June 2017 ahead of the FY17 revegetation program.

Monitoring Program

During the reporting period, ecological monitoring of the BOAs consisted of annual flora & fauna monitoring, which was undertaken in November 2017. The annual winter bird monitoring was completed in August 2017. The results of the monitoring will be reported to DP&E by 30 June 2018.

6.5.3 Proposed Improvement Measures

- Continual weed control works onsite and in the offset areas for Green Cestrum, Coolatai Grass, African Boxthorn, prickly pear and other weeds.
- Quarterly weed inspections that will identify the spatial location of weeds, determine status (Weeds of National Significance, noxious and /or environmental), size of infestation and priority for control.
- Quarterly seed inspection programs of both onsite and offset areas including groundcover, shrub and canopy species to reflect seasonal conditions and growth stages of plants with seed collection also occurring at these times if available.
- Quarterly feral animal control program with monitoring continued to be undertaken but focusing on reviewing the success and outcomes of the works undertaken. Feral animal

monitoring will be reviewed annually to inform the resourcing and control program to be implemented.

- Review the monitoring requirements in the BOS.

6.6 ABORIGINAL CULTURAL HERITAGE

6.6.1 Environmental Management

Aboriginal Cultural Heritage is managed in accordance with the Aboriginal Cultural Heritage Management Plan (ACHMP), which was prepared to satisfy Schedule 4, Condition 23, and the Statement of Commitments (SoC) detailed in the PA 08_0144. The ACHMP was submitted for review to the Registered Aboriginal Parties (RAPs) during the reporting period however, it is yet to be finalised.

6.6.2 Environmental Performance

Soil Disturbance Monitoring

As required by the ACHMP, any soil disturbance work within 100m of a drainage line or in areas not already cleared for agriculture requires the presence of the RAPs to ensure no sites/objects of Aboriginal Cultural Heritage origin are disturbed by clearing activities. The mine has extended this to include all soil disturbance work until the ACHMP and site induction material are updated.

Archaeological Salvage Program

No sites were identified as requiring salvage during the reporting period.

Ongoing Consultation

Narrabri Mine maintains contact with representative of the RAPs in order to ensure appropriate engagement with the Aboriginal community prior to surface disturbance activity. This will continue throughout the life of the operation.

The ACHMP and the Extraction Plan – Heritage Management Plan (EP-HMP) were also provided to the RAPs. The EP-HMP was finalised during the reporting period however the ACHMP has been forwarded to the RAPs for additional comments following review by OEH. The mine intends to finalise the ACHMP during the next reporting period.

During November 2017 the mine was made aware of a complaint made through DP&E relating to Aboriginal Cultural Heritage with an allegation that the mine had disturbed a designated cultural heritage area. The mine provided all the requested information and was determined to have followed the ACHMP in consulting with the RAPs for all activities relating to the complaint.

Previously Unidentified Sites

Previously unidentified sites have been recorded during pre-clearance inspections over LW107 and LW108. These potential new sites will be inspected by an archaeologist during the next reporting period and are currently fenced off with signs indicating that disturbance is prohibited.

6.6.3 Proposed Improvement Measures

During the next reporting period the mine intends to finalise the revisions to the site ACHMP and submit the site cards for the previously unidentified sites following an archaeologist's review.

6.7 HISTORIC HERITAGE

There are no items of historic heritage identified in the mining area and hence no specific management measures are required.

6.8 TRANSPORT

6.8.1 Environmental Management

Traffic impacts associated with the Narrabri Mine are managed in accordance with Schedule 4, Conditions 25 to 27 of the PA 08_0144.

6.8.2 Environmental Performance

The portion of Greylands Road that traverses the mining area has been purchased by the mine and is no longer accessible to the public. Inspections of the road are undertaken during active subsidence as required by the Extraction Plan. Scratch Road, in the western portion of the mining lease, has not been utilised to construct mining related infrastructure and as such no agreement has been developed with NSC for the use of this road.

The mine constructed the intersection to the mine in consultation with both NSC and Roads and Maritime Services (RMS). The RMS has advised the mine that the ongoing maintenance of the intersection is the responsibility of the RMS.

6.8.3 Proposed Improvement Measures

No proposed improvement measures are required as the mine will continue to liaise with RMS and NSC as required.

6.9 WASTE MANAGEMENT

Narrabri Mine aims to implement all reasonable and feasible measures to minimise waste and ensure it is appropriately stored, handled and disposed. Waste Materials at the mine are managed in accordance with:

- Schedule 4, Condition 33 of PA 08_0144;
- the Narrabri Mine Waste Management Plan (WasteMP) prepared to satisfy the requirements of PA 08_0144;
- the Pollution Incident Response Management Plan (PIRMP); and
- the legal and strategic framework for managing wastes in NSW.

Narrabri Mine waste streams include general waste, underground waste, oil & greases, recyclables (steel and paper/cardboard), drill cuttings and effluent.

6.9.1 Environmental Performance

Waste Streams

Inspections of waste management practices are carried out to ensure general, hydrocarbon and recyclable waste is segregated. Additional segregation of general waste occurs at the licenced contractor's facility to ensure the maximum amount of material can be recycled. Data on waste streams are collated using information provided by the licenced contractors. During the reporting period waste output increased with operational hours, workforce and mining fleet.

A total of approximately 1,810 tonnes (t) of general waste was removed during the reporting period of which approximately 80% was transported to the licenced contractors facility for further segregation.

Approximately 13.8 tonnes of cardboard/paper and 172 tonnes of steel were recycled during the reporting period. The volumes identified above are slightly higher when compared to the previous reporting period indicating the volume of wastes generated at the mine during full production. Approximately 42,500 L of used oils were collected and recycled during the reporting period by an authorised contractor, which is higher than the previous reporting period.

Effluent from the sewage and ablutions facilities at the mine is managed through a Sewage Treatment Plant (STP) with a Continuous Extended Aeration Process. The plant is made up of a series of industrial plastic tanks. Each tank provides a separate function in order to treat the sewage for the required quality and quantity. The system processed on average 36,000 L per day during the reporting period.

Drilling cuttings from exploration, gas drainage and service borehole drilling activities is excavated from sumps and disposed of in the REA or consolidated with excavated soil to backfill the sump (where minor amounts of cuttings are present). An area at the REA has been established to allow excess water from the drill cuttings to decant off and then the cuttings are added to the REA to help consolidate material when emplacing reject from the CHPP.

No incidents relating to waste management practices occurred during the reporting period.

6.9.2 Proposed Improvement Measures

Narrabri Mine will continue to monitor wastes on a regular basis to effectively manage waste generated by the operation and maximise recycling efficiencies.

6.10 VISUAL & LIGHTING

6.10.1 Environmental Management

Visual amenity and lighting impacts associated with the Narrabri Mine are managed in accordance with Schedule 4, Conditions 28 and 29 of the PA 08_0144. Various onsite measures have been implemented during previous reporting periods to mitigate visual impacts of the mine including (but not limited to):

- construction of an amenity bund on the southern and western boundaries of the site to obscure views from the south and west;
- the train load-out bin, CHPP, secondary crusher and rotary breaker buildings are manufactured from a green ColorBond® type sheeting;
- use of directional lighting in lieu of general area lighting;
- consideration of fixed versus mobile lighting, locations and orientation;
- fixed lighting designed and procured in accordance with *Australian Standard (AS) 4282 – 1997: Control of Obtrusive Effects of Outdoor Lighting* (AS4282); and
- visual lighting inspections as required.

6.10.2 Environmental Performance

Two community complaints were received during the reporting period due to lighting impacts from the mine, refer to Section 9.3.

6.10.3 Proposed Improvement Measures

Management measures described above will continue to be implemented during the next reporting period.

6.11 BUSHFIRE

6.11.1 Environmental Management

Bushfire hazards and risks associated with the Narrabri Mine are managed in accordance with Schedule 5, Condition 4 of PA 08_0144, i.e. the Rehabilitation Management Plan (RMP) that forms part of the Landscape Management Plan (LMP). Various treatments have been implemented during the reporting period and previous periods to manage and control potential bushfire risks including:

- implementation of the Bushfire Prevention Standard and Bushfire Emergency Response Procedure;
- participation by Whitehaven Coal personnel in the Narrabri Rural Bushfire Brigade meetings;
- implementation of various bushfire hazard controls, including Hot Work areas/permits, the mine is a non-smoking site and maintenance of equipment/infrastructure;
- monitoring of fuel loads occurred in the Narrabri Mine offset area known as ‘Kenna”; and
- maintenance of the roads and tracks within the Narrabri Mine ML was undertaken prior to the bushfire season. Roads and tracks can act as firebreaks and help to facilitate access across the site.

6.11.2 Environmental Performance

A small bushfire developed approximately 500m west of the boundary of ML 1609 on 17 February 2017. The mine responded by contacting the Rural Fire Service (RFS), removing personnel from the western portions of ML 1609 and by keeping personnel informed until the fire was listed as ‘Under Control’ by the RFS. The bushfire did burn on land within ML 1609. The fire burnt approximately 57ha of land in the Jacks Creek State Forest, refer to Figure 5.

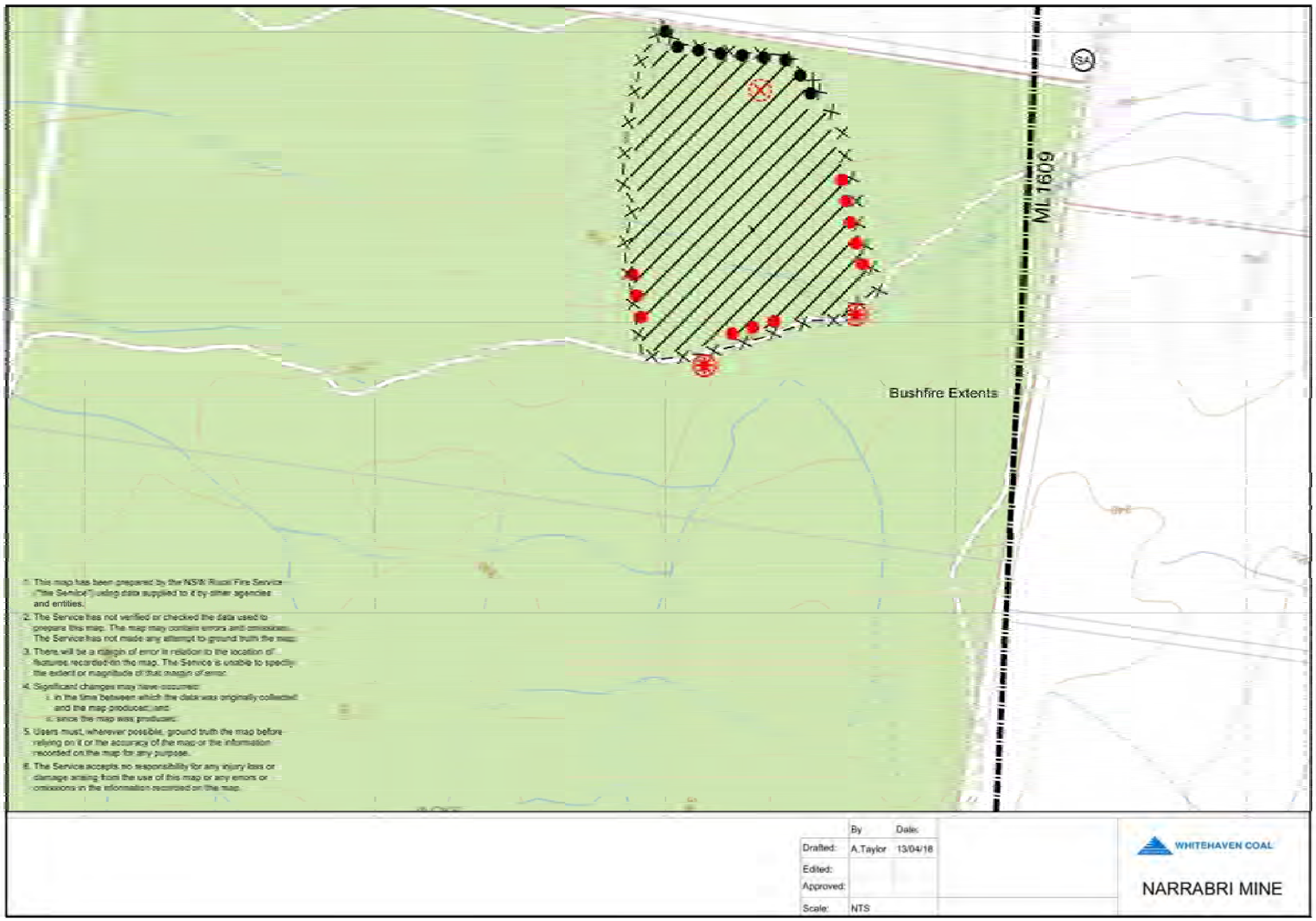


Figure 5: Location of Bushfire

6.11.3 Proposed Improvement Measures

Management measures described above will continue to be implemented during the next reporting period being fuel load assessment, maintenance of access tracks, hot work permits and equipment/infrastructure maintenance.

6.12 MINE SUBSIDENCE

6.12.1 Environmental Management

During the reporting period mining in LW106 was completed during March 2017 and mining in LW107 had retreated 2,013m out of 2,865m. The extraction height averaged 4.3 m and the depth of cover ranged between 240m and 270m.

6.12.1.1 Subsidence Monitoring

Subsidence monitoring was conducted in accordance with the approved Extraction Plan and Subsidence Management Plan (SMP) 10/9000 for longwall panels LW101 to LW105.

6.12.2 Environmental Performance

Electricity Transmission Lines

The 11kV power line that traverses LW101 to LW105 has been decommissioned and as such, the Essential Energy Management Plan and its monitoring requirements are no longer in effect.

Telecommunications Infrastructure

No telecommunications infrastructure exists within the Extraction Plan area for LW101 to LW107.

Public Roads

The one public road within the mining area, known as Greylands Road, was purchased by the mine during the previous reporting period and is no longer accessible to the public. Repairs required for traffic-ability for mine personnel were undertaken as required.

Land Surface

Ponding occurred in LW107 during the reporting period however at the end of the period the ponding areas were dry due to pumping and hot dry weather experienced at the site over summer. No ploughing or seeding of the subsidence area was undertaken during the reporting period as the soil conditions were unfavourable, refer to Section 6.3.1.1.

Buildings and Other Structures

No buildings or sheds were undermined during the reporting period.

Water Storage Dams and Contour Banks

Two small farm dams and four contour banks were undermined during the reporting period. Subsidence has not impacted on the function of the dams and should remediation works be required to the contour banks, Narrabri Mine will either reinstate them or remove a section to avoid water ponding.

Fences and gates

Various fences and gates were undermined during the reporting period. Narrabri Mine has excluded all stock from the active mining area by erecting a fence outside of the subsidence zone to the east of LW101. Any fences/gates required post-mining will be re-instated.

Mine Infrastructure

Pipelines connecting gas drainage wells and the Personal Emergency Device (PED) cable were undermined during the reporting period however no impacts were recorded on this infrastructure. All gas drainage infrastructure in the active mining area is inspected and maintained to ensure subsidence does not adversely impact this equipment. Narrabri Mine also decommissions gas drainage infrastructure when it is no longer required.

6.12.2.1 Comparison against Predictions

Table 15 outlines the predicted subsidence and the measured subsidence parameters at the end of the reporting period for the most recently mined panel being LW107. For more details on the subsidence monitoring lines refer to the Whitehaven Coal website.

Table 15: Subsidence Parameters – Predicted and Measured

Monitoring Line	Type	Maximum Total Subsidence (m)	Maximum Total Tilt (mm/m)	Maximum Total Tensile Strain (mm/m)	Maximum Total Compressive Strain (mm/m)	Angle of Draw (°, Degrees)
LW107 North	Observed	2.738	28.0	10.2	12.4	24.7
	Predicted	2.75	53	20	24	26.5

Based on Table 15, subsidence prediction exceedances did not occur during the reporting period. The results are summarised below:

- The maximum subsidence measurements for the LW107 North monitoring line was within the predicted range.
- The maximum tilt measurements were within the predicted range for LW107 North.
- The maximum tensile strain measurements were within the predicted range for LW107 North.
- The maximum compressive strain measurements were within the predicted range for LW107 North.

The centreline subsidence results indicate that the Garrawilla Volcanics and Basalt Sill have not reduced subsidence through spanning behaviour. The maximum subsidence is also considered closer to 63% of the average mining height of 4.3m.

6.12.2.2 Incidents

No mine emergency response procedures were activated because of subsidence during the reporting period.

6.12.3 Proposed Improvement Measures

Ploughing and seeding of longwall areas will be undertaken when soil moisture conditions improve.

7 WATER MANAGEMENT

7.1 WATER SUPPLY

A pipeline from the Namoi River is the main source of raw water supply for the Narrabri Mine. Table 16 summarises the water taken by the mine during the 2017 water year, i.e. the 2017 financial year.

Table 16: Narrabri Mine Water Take

Water Licence #	Water Sharing Plan	Water Source and Management Zone	Entitlement	Passive Take / Inflows	Active Pumping by Narrabri Mine	Total
WAL 12833	Upper and Lower Namoi Groundwater Sources	Upper Namoi Zone 5 Namoi Valley (Gin's Leap to Narrabri) Groundwater Source	67	0	67	67
WAL 20131	Upper and Lower Namoi Groundwater Sources	Upper Namoi Zone 5 Namoi Valley (Gin's Leap to Narrabri) Groundwater Source	300	0	77	77
WAL15922	NSW Great Artesian Basin Groundwater Source	Southern Recharge Groundwater Source	322.4	0	0	0
WAL 29549	NSW Murray Darling Basin Porous Rock Groundwater Sources	Gunnedah – Oxley Basin MDB Groundwater Source	1,022.5	0	341	341
WAL 2671	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source	60	0	0	0
WAL 6762	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source	20	0	6	6
WAL 2728	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source	12.5	0	0	0
WAL 20152	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source	750	0	121	121

7.2 SURFACE WATER MANAGEMENT

7.2.1 Environmental Management

The Narrabri Mine water management system aims to ensure there are no adverse impacts on receiving water quality, to allow for early detection of any potential impacts and develop appropriate corrective actions. Potential impacts to surface water quality are managed in accordance with:

- Schedule 4, Conditions 10 to 17 of PA 08_0144;
- EPL 12789 Conditions P1, L1, L2 and M2; and
- the Narrabri Mine Water Management Plan (WMP) and the Extraction Plan – Water Management Plan (EP–WMP) prepared to satisfy the requirements of PA 08_0144.

During the reporting period various controls strategies were implemented to manage surface water quality including:

- Separation of clean water, i.e. surface water runoff where water quality is not affected by mining operations, by using diversion drains/contour banks;
- Collection of water from disturbed areas in sediment control dams, i.e. SD1-SD6;
- Containment of water potentially affected by coal or other substances, e.g. hydrocarbons, either from the underground operation or as runoff from the surface facilities/coal processing area, i.e. SB1-SB4;
- The use of appropriate erosion and sediment controls, including silt fences, rock checks and other measures as required;
- no uncontrolled discharge of mine water off-site;
- maintaining an up-to-date water balance to ensure on-site water demands are satisfied whilst minimising offsite water impacts; and
- regular sampling and inspections of the onsite and surrounding surface water system.

Surface water monitoring locations are illustrated on Figure 2. A summary of the surface water quality findings from the reporting period is provided below.

7.2.2 Environmental Performance

Surface Water Quality

Routine surface water monitoring is conducted around the site with surrounding ephemeral creeks sampled when flowing for pH, Electrical Conductivity (EC), Oil & Grease (O&G) and Total Suspended Solids (TSS). These creeks were sampled on three occasions during the reporting period. The laboratory results for pH, EC and TSS, including trends, are detailed in Appendix A as required by the WMP. Generally, all results are within the designated range or trends are difficult to determine given the range of variability on the results including both upstream and downstream samples.

No non-compliances relevant to surface water management were recorded during the reporting period. Surface water EC, pH and TSS trends for the EPL licenced discharge locations, i.e. SD2 and SD4, are provided in Appendix A as required by the WMP.

Onsite Water Quality

Narrabri Mine monitors 'saline water' defined in the WMP as water pumped from the underground workings. The water quality sampling of any 'saline water' conducted during the reporting period has been characterised as coal contact water and all results are shown in Appendix A as required by the WMP, refer to results for the 'Box Cut' sampling location. All saline water is contained onsite and either processed via a Water Conditioning Plant (WCP) or reused in operational areas of the mine. The subsequent brine produced from the WCP is stored in lined dams within the rail loop. The WCP was upgraded during the reporting period to increase the capacity as well as the ability to process higher EC water.

Wet Weather Discharge Monitoring

No wet weather discharges occurred during the reporting period.

Subsidence Surface Water Impacts

Refer to Sections 6.5.2 and 6.12.2.

7.2.3 Proposed Improvement Measures

The surface water monitoring program and management measures described above will continue to be implemented during the next reporting period consistent with the approved WMP.

7.3 GROUNDWATER

7.3.1 Environmental Management

Groundwater at the Narrabri Mine is managed in accordance with the WMP prepared to satisfy the requirements of the PA 08_0144.

Currently groundwater monitoring is conducted at sites located within and surrounding the mine as illustrated on Figure 2 and as outlined in Table 17.

Table 17: Groundwater Monitoring Summary

Location	Parameters	Frequency
All Standpipes P1,P2, P3, P4, P5, P6,P7,P8, P9, P10, P11,P12, P13, P14, P15, P16,P17,P18, P19, P20, P28, P29, P30, P31, P32, P33, P34, P47, P50, P51, P52, P53, WB1, WB2, WB3a, WB3b, WB4, WB5a, WB5b, WB6a, WB6b, WB7 and WB8	Water level EC pH TDS Metals Anions and Cations	Monthly (water level, pH and EC) Annually (full water quality)
Vibrating Wire Piezometers P21,P22, P25 ,P26, P27 and P48	Water Level	Daily (Data Logger)
Multi-Level Vibrating Wire Piezometers P23, P24, P35, P36, P37, P38, P40, P44, P45 and P46	Water Level	Daily (Data Logger)
Mine water pumped into and out of the mine	EC pH TDS Metals Anion and Cations Discharge Rate	Daily (flow rate) Monthly (full water quality)

7.3.2 Environmental Performance

Annual Hydrogeological Review

An annual hydrogeological review was undertaken by Groundwater Exploration Services in February 2018 for the period 1 January 2017 to 1 January 2018. The results of the review are summarised below. Parameters recorded as part of the scheduled groundwater monitoring for this reporting period are provided in Appendix B as required by the WMP.

Groundwater Inflows

To date, since monitoring records have been kept, the total annual groundwater inflow to the workings has not exceeded the Access Licence Category (Mining) License (90BL254679) of 818/year. The annual inflow reported from Narrabri Mine during 2017 is 413ML.

Groundwater Levels

Water levels monitored during the 2017 reporting period did not observe any notable rise or fall in groundwater levels associated with strata subsidence effects from longwall mining activities and associated subsidence which is outside that predicted.

Significant depressurisation of the Hoskissons Coal Seam and the Arkarula Formation has been observed during and after extraction of longwall panels LW101 – LW107. This notable depressurisation was observed in numerous groundwater monitoring records, particularly close to mine workings as indicated in P40. However, this is generally consistent with predictions that have been made.

The 2016 review indicated that there has been groundwater pressure decline which is close to predicted drawdown in P9. The Trigger Action Response Plan (TARP) within the WMP indicates that "Drawdown greater than 15% above predicted trend in VWPs, monitoring bores, and private landholder bores (not pumping affected)" require further investigative action. However, this groundwater level decline has stabilised during 2017.

Groundwater Quality

No adverse changes to groundwater quality have been observed or reported, with no distinctive increase in salinity, no distinctive lowering of pH and no reduction in water quality with regards to dissolved metals or nutrients have been reported during the reporting period.

Compensatory Water Supply

No compensatory water has been required as no privately-owned water supplies have been affected.

7.3.3 Proposed Improvement Measures

The groundwater monitoring program and management measures described above will continue to be implemented during the next reporting period.

7.4 SITE WATER BALANCE

Table 18 presents an estimate of the volume of stored water at the beginning and end of the reporting period.

Table 18: Stored Water

	Volumes Held (m^3)		Available Storage Capacity at the end of the Reporting Period (m^3)
	Start of Reporting Period	At end of Reporting Period	
Clean Water (in Storage Dams)	7,055	6,551	100,249
Dirty Water (in Sediment Basins)	29,270	27,329	80,171
Evaporation Ponds*	564,346	452,718	279,982
* = Additional 40ML of storage in containment bund in rail loop.			
Note: $1m^3$ = 1,000L			

The revised Surface Water Assessment (Narrabri Mine Modification 5 Surface Water Assessment, WRM 2015) predicts the mine would require a raw water supply of 340ML for year 2017 however the mine imported 271ML for the year. The Surface Water Assessment also predicted that 0ML would be released offsite during 2017 and 0ML was released. The Groundwater Assessment (Narrabri Mine Modification Groundwater Assessment, Heritage Computing 2015) predicts that during 2017 687ML would be dewatered from the mine however only 341ML was dewatered from the mine. This indicates

that the mine is still in water deficit. The Groundwater Assessment also predicts that the mine will be in water surplus, i.e. is producing more water than it requires for operation, around 2018. Other Surface Water Assessment predictions against actual volumes is summarised below:

- 84ML of reclaim water predicted to be used in the stockpile sprays, 131ML was used for the reporting period;
- 367ML of reclaim water predicted to be required for the CHPP, 330ML was required for the reporting period; and
- 401ML of filtered water predicted to be used underground, 472ML of filtered water was required for the reporting period.

8 REHABILITATION

The rehabilitation objectives for the Narrabri Mine are described in Schedule 5, Conditions 1 to 4 of PA 08_0144. The MOP summarises the key elements for rehabilitation as well as providing a description of activities and mine landforms.

8.1 REHABILITATION PERFORMANCE DURING THE REPORTING PERIOD

8.1.1 Status of Mining and Rehabilitation

The majority of cover crop establishment occurred during previous reporting periods in LW101 to LW102 and weather conditions were unfavourable to seed cover crops over LW103 to LW105, although natural regeneration has occurred and is performing well with the main intervention relating to weed management activities. Rehabilitation activities undertaken during the reporting period include: filling in sumps associated with drilling activities; re-spreading topsoil/subsoil over drilling/access tracks; and weed management. Refer to Table 19. It should be noted that the mine did undertake the rehabilitation of 12ha of drilling pads and gas drainage infrastructure sites. This rehabilitation has occurred up to and including surface areas above LW107, the currently mined longwall panel, and is progressing closely behind the underground extraction area. The ploughing and seeding of areas is limited to the disturbance areas required for surface infrastructure and the mine has progressed the rehabilitation of these sites and will continue to monitor rehabilitation performance to determine if additional seeding is required.

8.1.2 Post Rehabilitation Land Uses

The rehabilitation completion criteria will be consistent with the description in the Landscape Management Plan. The area in the west of ML 1609 will be returned to native woodland and the area in the east of the ML will be returned to the relevant land capability class.

8.1.3 Rehabilitation Performance Indicators

Table 19 summarises the rehabilitation status for the Narrabri Mine, also refer to Figure 6.

Table 19: Rehabilitation Status

Mine Area Type	Previous Reporting Period (Actual)	This Reporting Period (Actual)	Next Reporting Period 2017 (Forecast)
A. Total mine footprint	203	232	252
B. Total active disturbance	105	135	155
C. Land being prepared for rehabilitation	0	0	0
D. Land under active rehabilitation	144	156	167
E. Completed rehabilitation	39	39	44

8.1.4 Decommissioning and Demolition Activities

No decommissioning activities were undertaken during the reporting period outside of the reclaiming of gas drainage infrastructure, which is re-used where possible. Houses on mine-owned land that are no longer required or that have been affected by subsidence will be decommissioned during the next reporting period. Any decommissioning works will be undertaken in accordance with the relevant standards and NSC approvals.

8.1.5 Other Rehabilitation Activities

Rehabilitation activities associated with exploration activities have been undertaken during the reporting period. Where possible, exploration holes are located on previously disturbed land or in areas that will be required for the operation in the future. The extent of clearing is restricted to the practical minimum area for each drill pad/access track and rehabilitated following completion if not required for the operation at a later date.

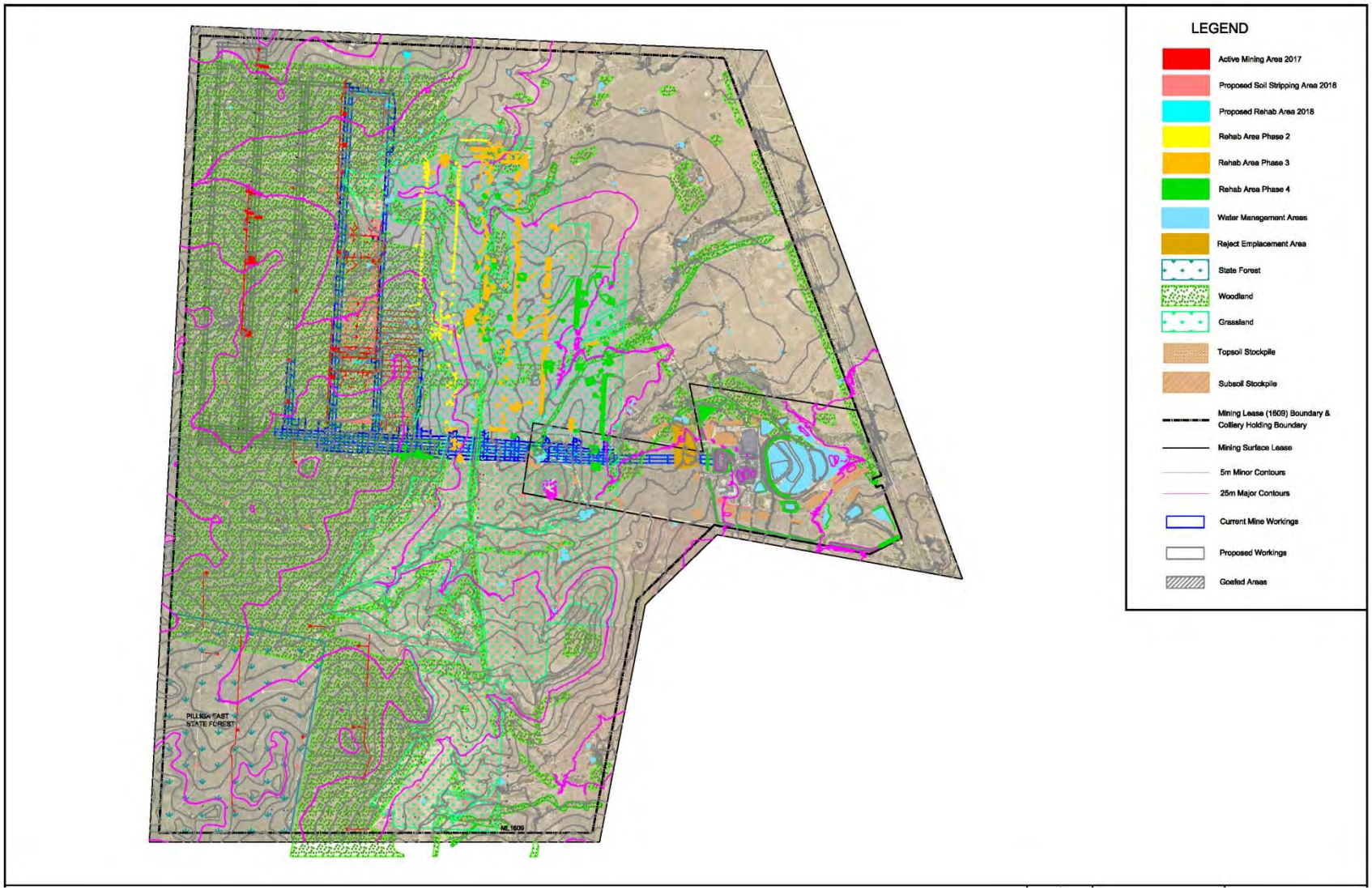


Figure 6: Mine Domains Reporting Period 2017

8.1.6 Departmental Sign-off of Rehabilitated Areas

Departmental sign-off has not been requested.

8.1.7 Variations in Activities against MOP/RMP

A MOP prepared in accordance with the *ESG3: Mining Operations Plan (MOP) Guidelines* (Department of Planning and Environment– Division of Resources and Geosciences, 2013) was approved during the reporting period. The MOP covers the period 1 January 2017 to 30 November 2020. There were no other variations in activities undertaken at the mine to those proposed in the MOP.

8.1.8 Monitoring

Internal rehabilitation/revegetation monitoring undertaken to date has primarily been limited to inspections of roads/creeks impacted by subsidence, water management structures, soil stockpiles and seeded areas for evidence of instability/erosion or poor germination and borehole sealing. This process will continue over the life of the mine, with the extent and nature of activities undertaken being consistent with the relevant MOP, Extraction Plan, Landscape Management Plan and other relevant management plans prepared in satisfaction of PA 08_0144.

8.1.9 Trials, Research Projects and Initiatives

No rehabilitation trials or research were undertaken during the reporting period.

8.1.10 Key Issues to Achieving Successful Rehabilitation

The key issues to achieving successful rehabilitation include:

- Poor quality or lack of volume of topsoil;
- Loss or alteration to existing habitats due to subsidence, erosion, weeds and/or pests;
- Alteration of drainage lines due to subsidence;
- Contaminated land occurring onsite;
- Ongoing greenhouse gas emissions due to inadequate sealing of mine entries etc;
- Loss of agricultural resources due to mining disturbance; and
- Discharge of saline or contaminated water.

In cases where the performance is sub-optimal, additional management measures will be implemented (e.g. replanting, repairing landform and water management features, application of mulch/fertilisers, feral animal and weed control etc.).

8.1.11 Actions for the next reporting period

The rehabilitation actions for the next reporting period are detailed in the approved MOP, which covers the period to November 2020. Ploughing and seeding of areas over LW102-LW106 in areas not regenerating will occur during the next reporting period should conditions allow. A review of weeds in this area and additional pest animal control will be undertaken during the next reporting period. This will inform future areas for targeted weed control and increase the mine's current pest control measures.

Additional testing of material emplaced and to be emplaced within the Reject Emplacement Area (REA) will occur during the next reporting period as outlined in the MOP to inform the final capping strategy. Once finalised, rehabilitation of the REA will commence.

8.1.12 Proposed Research and Rehabilitation for 2017

No rehabilitation research activities are planned during the next reporting period on the mine site.

9 COMMUNITY

Social impacts and opportunities associated with the Narrabri Mine are managed in accordance with PA 08_0144 and the SoC (Appendix 3 of PA 08_0144).

9.1 COMMUNITY ENGAGEMENT ACTIVITIES

In accordance with Schedule 6, Condition 9 of PA 08_0144, a Community Consultative Committee (CCC) has been formed and operating since 2008. The committee comprises representatives of NSC, Narrabri Mine and the community. Since its inception, the CCC has met quarterly. The CCC met four times during the reporting period on 15 March 2017, 21 June 2017, 4 October 2017 and 6 December 2017.

Narrabri Mine representatives continue to maintain contact with neighbours near the mine site. These contacts not only provide a means of information dissemination, but also enable Narrabri Mine to ascertain and address any potential issues, which may arise from time to time. In addition, information relating to the mine is available: on the Whitehaven website; via the complaints hotline; as part of sponsorship of local community events and groups; and at meetings as required with neighbours and a range of stakeholders including government and non-government agencies.

9.2 COMMUNITY CONTRIBUTIONS & INITIATIVES

As well as attending functions, WHC and Narrabri Mine also contributed to the community by providing over $367,000 in financial support and sponsorship to various community events and initiatives throughout the community during the reporting period.

9.3 COMMUNITY COMPLAINTS

Narrabri Mine maintains a designated complaints line, with messages checked on a daily basis by site personnel. In the event of a complaint, details pertaining to the complainant, complaint and action taken are recorded on the complaints form.

During the reporting period, 12 complaints were made to the mine from two different complainants. Two of these complaints were received via the designated complaints line. A summary of the complaints (by category) received during the reporting period are detailed in Table 20. A Complaints Register summarising the complaints is also available on the Whitehaven Coal website.

Table 20: Summary of Community Complaints and Enquiries

Category	Reporting Period
Air Quality	7
Traffic	0
Surface Water	0
Visual Amenity	2
Noise / Vibration	4
Other	1
TOTAL	**14**

Note a single complaint may involve multiple categories

9.3.1 Complaint Trends

A total number of 12 complaints was received during 2017 reporting period which is lower than the previous reporting period and well down from a peak of 45 complaints received during 2014, refer to

Figure 7. The mine has improved noise and dust management measures at the mine which has led to a drop in complaints from 2014 to 2017.

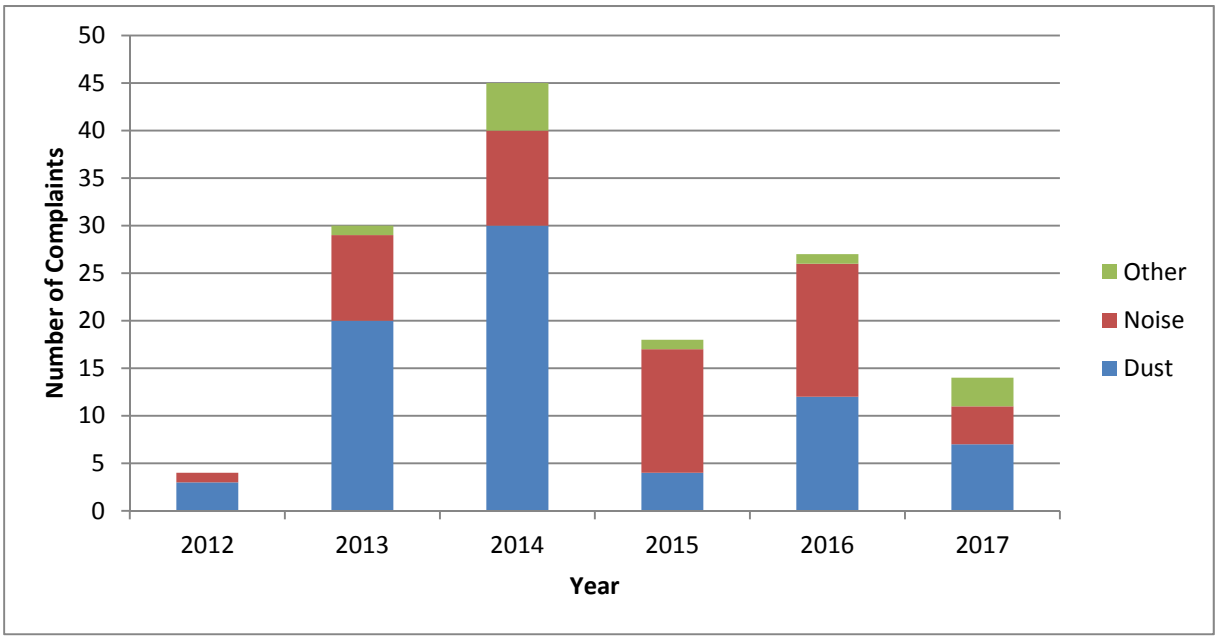


Figure 7: Complaints Trend

9.3.2 Actions & Proposed Improvements

Community complaints primarily related to air quality and noise concerns. Actions taken in response to complaints included a range of measures not limited to the following:

- Investigations into specific mining activities;
- Reviewing video footage or visual media where available;
- Reviewing real time monitoring data and operational activities;
- Analysis of meteorological data;
- Implemented corrective actions;
- Communicating learnings and issues to operational personnel; and
- Community Consultation.

Proposed improvements for the next reporting period in relation to noise include those items identified in Section 12.

10 INDEPENDENT AUDIT

10.1 INDEPENDENT ENVIRONMENTAL AUDIT

An Independent Environmental Audit (IEA) was completed during the reporting period that covered the period 1 October 2013 to 30 November 2016. The IEA identified 13 non-compliances (7 duplicates) and 8 administrative non-compliances (2 duplicates) against the conditions of consent and the implementation of management plans. Table 21 below outlines how the outstanding actions are being addressed following an update provided to the DP&E during December 2017. In accordance with Schedule 6, Condition 7 of PA 08_0144 the next IEA will be commissioned by 13 September 2019.

Table 21: 2016 Independent Audit – Outstanding Actions

Condition/Plan	Proposed Action	Status
PA 08_0144 Schedule 4, Condition 4 Noise Management Plan	The mine will continue the negotiations for purchase and/or the implementation of the NMP.	Ongoing
PA 08_0144 Schedule 4, Condition 22 and 23 Aboriginal Cultural Heritage Management Plan	The mine has reviewed the ACHMP, which includes additional induction material. The Office of Environment and Heritage (OEH) provided comments during November 2017, and it is currently with the RAPs for review. The mine will submit the revised ACHMP to DP&E for approval and continue to implement the existing ACHMP.	30 June 2018
PA 08_0144 Schedule 4, Condition 4 Greenhouse Gas Minimisation Plan	As noted in the revised GHGMP, submitted to OEH for review on 26 June 2017, the concentrations required for VAM cannot be <0.2% methane. Current levels in the ventilation air stream are 0.028% methane. Additionally, the latest Emissions Reduction Fund reverse auction price for tCO_2-e would mean a payback period of >40 years.	Ongoing
EPL 12789 Condition E2.1 Noise Impacts	Review historical complaints with wind speeds >3m/s – A review of noise complaints from 2015 to Dec-17 indicate that of the 26 noise complaints relating to a specific time, five occurred during wind speeds >3m/s and 21 with wind speeds <3m/s. Noise complaints are far more common during inversion conditions. The current TARP	Complete

Condition/Plan	Proposed Action	Status
	includes inversion conditions as a trigger.	

11 INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD

11.1 NON-COMPLIANCES

The compliance status of the Narrabri Mine against relevant approvals during the reporting period was assessed in Section 1 as at the end of the reporting period (i.e. 31 December 2017). Further details of any non-compliance and actions undertaken or proposed for the following reporting period is summarised in Table 22.

Table 22: Non-Compliance Details and Proposed Action Plan

Non - Compliance	Date / Location	Cause	Action Plan	Due Date
An increase of 10% or more in change in floristic composition occurred.	Spring Monitoring 2017	Likely due to seasonal variability as previous season wet and this season dry.	Continue to monitor.	Spring 2018.
An increase of 10% or more in weed cover was recorded.	Spring Monitoring 2017	Dry conditions have allowed weeds to become established without competition from other species.	Continue weed management as per RMP with larger program planned for 2018.	Spring 2018, i.e. prior to next monitoring round, but ongoing
Woodland monitoring plots exceeded performance criteria with a reduction in species diversity and abundance.	Spring Monitoring 2017.	Likely due to seasonal variability as previous season wet and this season dry.	Re-assess next monitoring round.	Spring 2018.
Phosphorous levels have decreased by >20% in some subsided areas.	Spring Monitoring 2017	No fertilisers added to the land as no ploughing/seeding undertaken due to unfavourable weather conditions.	Consult with an agronomist regarding management and implement required actions.	Spring 2018
Three noise exceedances were recorded during the reporting period.	29th July 2017 at EPL Monitoring Location N6	Excessive noise from the mining operation – gas drainage infrastructure.	Refer to Section 1. Note: monitoring at the N6 location was not permitted and the identified level is a calculation based off of a measurement from the mine's boundary with N6, which may not represent actual noise levels at the receiver. Continue to monitor and implement the NMP.	Ongoing
The mine engaged experts approved by DP&E to undertake the Brine Management Review but the approved experts, but same organisation, did not complete the review.	During the reporting period.	The review took a long time to complete and the initial experts left the company engaged to do the work.	Submit the next Brine Management Review within required time frame utilising approved experts.	29 February 2020

11.2 REPORTABLE INCIDENTS OR EXCEEDANCES

Details of reportable monitoring exceedances or incidents are included below:

- Noise exceedances, as detailed in Section 6.1.2, was reported to the EPA and DP&E during the reporting period.

11.3 REGULATORY ACTIONS

The following official cautions or warning letters, penalty notices or prosecution proceedings were issued to the mine during the reporting period:

- DP&E issued a Warning Letter to the mine in relation to the 'Review of Brine Management' (Schedule 4(21)). The mine is required to utilise the experts approved by DP&E for the next review, which requires the mine to engage approved experts by February 2020.

12 ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

Activities to be completed in the next reporting period to improve the environmental or community performance of the Narrabri Mine, in addition to those separately identified in Section 11 include:

- Review and revision of various Environmental Management Plans;
- Continue to review options for SPL treatments on dozers and investigate gas-drainage infrastructure;
- Ongoing management of weeds and feral animals over the longwall mining area and offset areas;
- Consult an agronomist in relation to the reduction in phosphorous levels over the subsided area/implement any actions and submit BOA monitoring results by 30 June 2018;
- Seeking approval to relevant approval modifications or amendments; and
- Continued community liaison and engagement with local stakeholders.

Appendix A – *Surface Water Data*

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
	KCUS	31 July 2007	7.9	255	22		<10	
	KCDS	31 July 2007	8	205	163		15	
	KC2US	31 July 2007	6.7	75	84		18	
	KC2DS	31 July 2007	6.7	85	21		12	
	KC1US	31 July 2007	8.2	1300	15		<10	
	KC1DS	31 July 2007	6.9	430	39		<10	
31489.01	KC2US	23 September 2008	6.5	65	35	<2	-	
31489.02	KC1US	23 September 2008	8.0	65	320	<2	-	
31489.03	KCUS	23 September 2008	7.7	315	168	<2	-	
31489.04	KCDS	23 September 2008	7.2	230	150	<2	-	
31489.05	PC	23 September 2008	7.2	90	294	<2	-	
31489.06	PC1	23 September 2008	7.0	90	62	<2	-	
31489.07	KC1DS	23 September 2008	7.1	220	1280	<2	-	
31489.08	KC2DS	23 September 2008	7.2	165	444	<2	-	
32276.01	KCDS	15 December 2008	7.1	355	21	<2	-	
32276.02	KC2US	15 December 2008	6.9	95	8	<2	-	
32276.03	KCUS	15 December 2008	7.5	55	6	<2	-	
32276.04	PC	15 December 2008	7.2	125	12	<2	-	
32276.05	PC1	15 December 2008	6.9	255	23	<2	-	
32276.06	KC1DS	15 December 2008	8.2	315	42	<2	-	
32276.07	KC2DS	15 December 2008	7.4	185	289	<2	-	
32373.01	KC1US	29 December 2008	6.9	95	48	<2	-	
32373.02	KC2US	29 December 2008	6.8	90	17	<2	-	
32373.03	KCDS	29 December 2008	7.1	450	26	<2	-	
32815.01	KCUS	17 February 2009	7.2	280	123	<2	-	
32815.02	KC2US	17 February 2009	6.7	70	14	<2	-	
32815.03	KCDS	17 February 2009	6.9	180	132	<2	-	
32815.04	PC	17 February 2009	7.1	60	57	<2	-	
32815.05	PC1	17 February 2009	7.1	180	38	<2	-	
32815.06	KC1DS	17 February 2009	7.1	145	142	<2	-	
32815.07	KC2DS	17 February 2009	7.1	105	1130	<2	-	
ES0919730-001	KC2DS	29 December 2009	7.15	95	48	-	13	Oil & Grease not reported for any location due to incorrect sample bottle and insufficient sample. No site discharge - only adjacent creek samples
ES0919730-002	KCDS	29 December 2009	6.94	187	33	-	11	
ES0919730-003	KC2US	29 December 2009	6.67	86	4	-	16	
ES0919730-004	KC1US	29 December 2009	6.7	74	47	-	6	
ES0919730-005	KCUS	29 December 2009	7.05	305	52	-	9	
ES0919730-007	PC	29 December 2009	7.23	83	117	-	8	
ES0919730-008	KC1DS	29 December 2009	7.12	171	79	-	10	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1000146-001	KCUS	5 January 2010	7.24	804	2	<5	10	
ES1000146-002	KC1US	5 January 2010	7.42	126	8	<5	12	
ES1000146-003	KCDS	5 January 2010	7.41	456	2	<5	14	
ES1000146-004	SD5	5 January 2010	7.23	155	18	<5	8	Discharge
ES1000146-005	PC1	5 January 2010	7.3	174	7	<5	12	
ES1000146-006	PC	5 January 2010	7.38	121	8	<5	15	
ES1000146-007	KC1DS	5 January 2010	7.28	419	6	<5	10	
ES1000146-008	KC2DS	5 January 2010	7.47	178	22	<5	12	
ES1013938-001	PC1	14 July 2010	8.5	37	126	<5	13	
ES1013938-002	PC	14 July 2010	8.65	226	10	<5	9	
ES1013938-003	KC1DS	14 July 2010	8.01	552	27	-	13	
ES1013938-004	KC2DS	14 July 2010	7.92	211	142	<5	16	
ES1015034-001	KCUS	28 July 2010	8.18	72	130	<5	12	
ES1015034-002	PC	28 July 2010	7.95	170	151	<5	11	
ES1015034-003	PCI	28 July 2010	7.978	37	132	<5	9	
ES1015034-004	KC1DS	28 July 2010	7.77	36	90	<5	9	
ES1016053-001	KCUS	10 August 2010	7.45	33	296	<5	5	
ES1016053-002	KC1US	10 August 2010	7.65	169	2760	<5	10	
ES1016053-003	KC2US	10 August 2010	7.7	37	62	<5	12	
ES1016053-004	PC1	10 August 2010	7.54	43	1320	<5	6	
ES1016053-005	PC	10 August 2010	6.83	62	167	<5	7	
ES1016053-006	KC1DS	10 August 2010	6.8	64	380	<5	9	
ES1016053-007	KC2DS	10 August 2010	6.76	114	40	<5	17	
ES1016053-008	KCDS	10 August 2010	7.08	30	326	<5	4	
ES1016966-101	KCUS	23 August 2010	8.04	100	236	<5	9	
ES1016966-102	KC1US	23 August 2010	7.84	210	1600	<5	5	
ES1016966-103	KC2US	23 August 2010	8.05	58	48	<5	15	
ES1016966-104	KCDS	23 August 2010	7.97	50	122	<5	5	
ES1016966-105	SD5	23 August 2010	7.9	60	22	<5	11	No discharge. Sampled to determine sediment level.
ES1016966-106	PC1	23 August 2010	7.94	49	476	<5	7	
ES1016966-107	KC1DS	23 August 2010	7.37	193	146	<5	8	
ES1016966-108	KC2DS	23 August 2010	7.63	94	35	<5	15	
ES1016966-109	PC	23 August 2010	7.71	70	142	<5	10	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1018432-001	KCUS	10 September 2010	7.44	909	246	<5	8	
ES1018432-002	KC1US	10 September 2010	7.2	154	193	<5	10	
ES1018432-003	KC2US	10 September 2010	6.84	147	81	<5	11	
ES1018432-004	KCDS	10 September 2010	7.26	492	116	<5	10	
ES1018432-005	PC1	10 September 2010	7.18	65	176	<5	10	
ES1018432-006	PC	10 September 2010	7.21	159	26	<5	17	
ES1018432-007	KC1DS	10 September 2010	7.66	955	131	<5	12	
ES1018432-008	KC2DS	10 September 2010	7.25	133	84	<5	16	
ES1023281-001	KCUS	16 November 2010	7.83	866	162	10	12	
ES1023281-002	PC1	16 November 2010	7.27	98	260	9	9	
ES1023281-003	PC	16 November 2010	6.94	179	127	39	20	Elevated Oil and Grease
ES1024687-001	KC2US	30 November 2010	6.99	86	40	<5	14	
ES1024687-002	KCUS	30 November 2010	7.12	93	20	<5	15	
ES1024687-003	KC1US	30 November 2010	6.97	64	124	<5	10	
ES1024687-004	PC	30 November 2010	6.9	46	40	<10	14	
ES1024687-005	PC1	30 November 2010	7.42	101	136	<10	10	
ES1024687-006	KCDS	30 November 2010	7.11	191	191	<5	14	
ES1024687-007	KC1DS	30 November 2010	7.23	150	150	<5	15	
ES1024687-008	KC2DS	30 November 2010	7.2	101	101	<5	12	
ES1119821-001	PC1	9 September 2011	6.84	29	38	<5	10	
ES1119821-002	PC	9 September 2011	7.31	134	71	<5	13	
ES1119821-003	KC1DS	9 September 2011	7.58	209	66	<5	22	
ES1119821-004	KC2DS	9 September 2011	7.58	124	101	<5	15	
ES1121355-001	KC2US	29 September 2011	6.69	76	38	<5	14	
ES1121355-002	KCUS	29 September 2011	6.88	73	160	<5	10	
ES1121355-003	PC1	29 September 2011	7.08	87	255	<5	9	
ES1121355-004	PC	29 September 2011	6.89	63	198	<5	9	
ES1121355-005	KC1DS	29 September 2011	7.17	92	167	<5	9	
ES1121355-006	KCDS	29 September 2011	6.93	434	530	<5	38	
ES1121355-007	KC2DS	29 September 2011	7.41	134	36	<5	12	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1124936-001	KC2US	14 November 2011	7.24	94	30	<5	26	
ES1124936-002	PC1	14 November 2011	7.36	158	220	<5	14	
ES1124936-003	PC	14 November 2011	7.93	167	73	<5	8	
ES1124936-004	KC1DS	14 November 2011	7.6	157	104	<5	13	
ES1126001-001	KC2US	23 November 2011	6.74	32	66	<5	12	
ES1126001-002	KCUS	23 November 2011	6.89	38	788	<5	13	
ES1126001-003	KC1US	23 November 2011	7.47	112	144	<5	12	
ES1126001-004	PC1	23 November 2011	7.22	60	202	<5	9	
ES1126001-005	PC	23 November 2011	6.75	72	322	<5	14	
ES1126001-006	KC1DS	23 November 2011	7.09	75	372	<5	16	
ES1126001-007	KC2DS	23 November 2011	7.09	90	59	<5	20	
ES1126001-008	KCDS	23 November 2011	6.87	88	536	<5	16	
ES1126200-001	SD2	25 November 2011	7.24	83	42	<5	7	
ES1126200-002	SD5	25 November 2011	7.48	125	83	<5	6	
ES1126200-003	SB3	25 November 2011	8.54	663	478	<5	4	Sampled overflowing dam
ES1126200-004	KC2DS	25 November 2011	7.45	99	49	<5	6	
ES1126200-005	KC2US	25 November 2011	7.04	37	18	<5	6	
ES1126200-006	KC1US	25 November 2011	7.05	62	191	<5	7	
ES1126200-007	SD4	25 November 2011	7.52	131	166	<5	7	
ES1126200-008	KC1DS	25 November 2011	7.19	86	384	<5	4	
ES1127632-001	SD4	13 December 2011	7.69	200	48	<5	5	
ES1127632-002	SD2	13 December 2011	7.2	106	82	<5	8	
ES1127632-003	SD5	13 December 2011	7.62	148	24	<5	6	
ES1127632-004	KC2DS	13 December 2011	7.5	134	16	<5	7	
ES1127632-005	KCDS	13 December 2011	7.41	200	64	<5	10	
ES1127632-006	KC2US	13 December 2011	7.13	58	9	<5	8	
ES1127632-007	KCUS	13 December 2011	7.49	277	120	<5	11	
ES1127632-008	KC1US	13 December 2011	7.35	180	26	<5	11	
ES1127632-009	PCI	13 December 2011	7.54	113	60	<5	8	
ES1127632-010	PC	13 December 2011	7.38	168	12	<5	11	
ES1127632-011	KC1DS	13 December 2011	7.77	741	43	<5	10	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1202508-001	KC2DS	1 February 2012	7.58	143	52	<5	11	
ES1202508-002	KCDS	1 February 2012	7.56	544	30	<5	7	
ES1202508-003	KC2US	1 February 2012	7.11	58	41	<5	9	
ES1202508-004	KCUS	1 February 2012	7.51	750	397	<5	6	
ES1202508-005	KC1US	1 February 2012	7.75	172	83	<5	8	
ES1202508-006	PC1	1 February 2012	7.36	63	73	<5	5	
ES1202508-007	PC	1 February 2012	7.29	59	81	<5	5	
ES1202508-008	KC1DS	1 February 2012	7.83	216	58	<5	8	
ES1202508-009	SD2	1 February 2012	7.91	178	20	<5	6	
ES1202508-010	SD4	1 February 2012	7.9	212	247	<5	5	
ES1202508-011	SD5	1 February 2012	7.84	148	36	<5	7	
ES1202509-001	SB3	2 February 2012	8.29	415	215	<5	2	Sampled overflowing dam
ES1202509-002	PC1	2 February 2012	7.43	48	80	<10	3	
ES1202509-003	KC1US	2 February 2012	7.42	70	36	<10	7	
ES1202509-004	KCUS	2 February 2012	7.53	113	300	<10	6	
ES1202509-005	KC2US	2 February 2012	7.28	42	16	<5	4	
ES1202509-006	KCDS	2 February 2012	7.35	54	15	<5	7	
ES1202509-007	KC2DS	2 February 2012	7.75	126	26	<10	5	
ES1202509-008	KC1DS	2 February 2012	7.63	114	84	<10	5	
ES1202509-009	PC	2 February 2012	7.3	67	70	<10	5	
ES1214027-001	KC2US	4 June 2012	7.27	82	20	<5	23	
ES1214027-002	KCUS	4 June 2012	7.82	218	52	<5	13	
ES1214027-003	PC1	4 June 2012	7.51	97	96	<5	16	
ES1214027-004	PC	4 June 2012	7.18	95	48	<5	13	
ES1214027-005	KC1DS	4 June 2012	7.9	1270	8	<5	10	
ES1214027-006	KC2DS	4 June 2012	6.72	136	108	<5	17	
ES1217576-001	KC2US	12 July 2012	6.86	50	32	<5	15	
ES1217576-002	KCUS	12 July 2012	7.11	62	229	<5	13	
ES1217576-003	PC1	12 July 2012	7.43	71	53	<5	10	
ES1217576-004	PC	12 July 2012	7	47	142	<5	8	
ES1217576-005	KC1DS	12 July 2012	7.65	230	88	<5	14	
ES1217576-006	KC2DS	12 July 2012	7.12	85	108	<5	20	
ES1217576-007	SD5	12 July 2012	7.33	98	122	<5	16	
ES1217572-001	SD2	13 July 2012	7.83	205	20	<5	14	
ES1217572-002	KC1US	13 July 2012	7.52	221	133	<5	21	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1302189-001	KCDS	29 January 2013	6.82	387	65	<5	16	
ES1302189-002	KC2US	29 January 2013	6.68	89	7	<5	31	
ES1302189-003	KCUS	29 January 2013	7.09	426	72	<5	15	
ES1302189-004	PC1	29 January 2013	6.89	92	90	<5	18	
ES1302189-005	PC	29 January 2013	7.01	162	55	<5	17	
ES1302189-006	KC1DS	29 January 2013	7.09	162	23	<5	20	
ES1305016-001	KCUS	1 March 2013	7.13	195	750	<5	6	
ES1305016-002	KCDS	1 March 2013	6.83	89	322	<5	16	Disturbance along rail line, just flowing @ rail line
ES1305016-003	KC1US	1 March 2013	6.96	88	238	<5	11	
ES1305016-004	KC1DS	1 March 2013	7.15	206	322	<5	10	
ES1305016-005	KC2US	1 March 2013	6.76	45	36	<5	9	
ES1305016-006	KC2DS	1 March 2013	7.33	204	27	<5	17	
ES1305016-007	PCa	1 March 2013	6.83	55	358	<5	10	
ES1305016-008	PC1	1 March 2013	6.78	54	234	<5	8	
ES1406431-001	PCA	21 March 2014	6.58	16	82	<5	5	
ES1406431-002	PC1	21 March 2014	7.02	87	12	<5	14	
ES1406431-003	KC1DS	21 March 2014	7.32	286	53	<5	31	
ES1406546-001	KCUS	25 March 2014	7.25	90	503	<5	6	
ES1406546-002	KC1DS	25 March 2014	7.13	99	68	<5	10	
ES1406546-003	KC2US	25 March 2014	6.65	70	35	<5	12	
ES1406546-004	KC2DS	25 March 2014	6.46	72	22	<5	14	
ES1406546-005	PCa	25 March 2014	6.77	58	302	<5	8	
ES1406546-006	PC1	25 March 2014	7.29	99	122	<5	6	
ES1406686-001	PC1	26 March 2014	7.41	122	<5	<5	15	
ES1406686-002	PCA	26 March 2014	7.13	72	39	<5	14	
ES1406686-003	KC1DS	26 March 2014	7.85	254	<5	<5	20	
ES1406891-001	PCA	27 March 2014	7.23	82	43	<5	13	
ES1406891-002	PC1	27 March 2014	7.17	78	129	<5	7	
ES1406891-003	KCUS	27 March 2014	7.41	195	92	<5	8	
ES1406891-004	KCDS	27 March 2014	7.38	130	58	<5	8	
ES1406891-005	KC1US	27 March 2014	7.53	113	14	<5	16	
ES1406891-006	KC1DS	27 March 2014	7.47	98	100	<5	12	
ES1406891-007	KC2US	27 March 2014	7.27	65	8	<5	10	
ES1406891-008	KC2DS	27 March 2014	7.19	79	88	<5	13	
ES1407152-001	SD2	28 March 2014	7.21	103	26	<5	12	
ES1407152-002	SD5	28 March 2014	7.06	72	18	<5	10	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1419357-001	KC2DS	27 August 2014	6.8	50	28	<5	21	
ES1419357-002	KCDS	27 August 2014	7.11	203	113	<5	11	
ES1419357-003	KC2US	27 August 2014	6.91	52	42	<5	16	
ES1419357-004	KCUS	27 August 2014	7.14	353	98	<5	11	
ES1419357-005	PC1	27 August 2014	7.41	77	16	<5	12	
ES1419357-006	PC	27 August 2014	7.35	98	238	<5	12	
ES1419357-007	KC1DS	27 August 2014	7.48	116	56	<5	15	
ES1507956-001	KCUS	4 April 2015	7.32	123	298	<5	6	
ES1507956-002	KCDS	4 April 2015	7.31	115	312	<5	7	
ES1507956-003	KC1DS	4 April 2015	7.57	155	45	<5	11	
ES1507956-004	KC2US	4 April 2015	7.32	58	27	<5	8	
ES1507956-005	PC	4 April 2015	6.95	53	356	<5	6	
ES1507956-006	PC1	4 April 2015	7.68	120	37	<5	8	
ES1507950-001	KC2DS	7 April 2015	6.74	84	32	<5	24	
ES1507950-002	KCDS	7 April 2015	7.61	194	67	<5	8	
ES1507950-003	KC2US	7 April 2015	7.42	78	16	<5	8	
ES1507950-004	KCUS	7 April 2015	7.66	262	66	<5	7	
ES1507950-005	KC1US	7 April 2015	7.1	96	100	<5	8	
ES1507950-006	PC1	7 April 2015	7.54	127	28	<5	8	
ES1507950-007	PC	7 April 2015	7.05	63	301	<5	7	
ES1507950-008	KC1DS	7 April 2015	7.49	143	45	<5	11	
ES1520301-001	KC2DS	21 April 2015	7.09	142	12	<5	8	
ES1520301-002	KCDS	21 April 2015	7.55	291	20	<5	8	
ES1520301-003	KC2US	21 April 2015	6.86	34	26	<5	8	
ES1520301-004	KCUS	21 April 2015	7.38	430	769	<5	5	
ES1520301-005	PC1	21 April 2015	5.82	32	32	<5	5	
ES1520301-006	PC	21 April 2015	6.9	29	184	<5	3	
ES1520301-007	KC1DS	21 April 2015	7.66	160	26	<5	13	
ES1524347-001	KCUS	17 June 2015	7.19	72	337	<5	11	
ES1524347-002	KCDS	17 June 2015	7.84	432	32	5	7	
ES1524347-003	KC1DS	17 June 2015	7.69	194	20	<5	18	
ES1524347-004	KC2US	17 June 2015	7.12	48	8	<5	11	
ES1524347-005	KC2DS	17 June 2015	6.89	68	22	<5	17	
ES1524347-006	PC	17 June 2015	6.76	34	284	<5	5	
ES1524347-007	PC1	17 June 2015	7.86	122	68	7	7	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1529285-001	KC2DS	24 August 2015	6.95	66	13	5	16	
ES1529285-002	KCDS	24 August 2015	7.1	140	194	5	15	
ES1529285-003	KC2US	24 August 2015	7.01	73	24	8	12	
ES1529285-004	KCUS	24 August 2015	7.1	177	192	<5	15	
ES1529285-005	KC1US	24 August 2015	7.05	136	188	<5	11	
ES1529285-006	PC1	24 August 2015	7.22	101	30	<5	15	
ES1529285-007	PC	24 August 2015	7.1	131	70	11	16	
ES1529285-008	KC1DS	24 August 2015	6.93	140	63	21	14	
ES1529288-003	KC2DS	25 August 2015	6.63	77	29	10	20	
ES1529288-004	KCDS	25 August 2015	7.26	308	18	9	12	
ES1529288-005	KC2US	25 August 2015	7.21	100	14	11	18	
ES1529288-006	KCUS	25 August 2015	7.6	612	23	11	10	
ES1529288-007	KC1US	25 August 2015	7.28	149	33	11	9	
ES1529288-008	PC1	25 August 2015	7.25	185	15	14	10	
ES1529288-009	PC	25 August 2015	7.25	153	32	<5	13	
ES1529288-010	KC1DS	25 August 2015	7.48	233	29	13	11	
ES1535804-001	KCUS	5 November 2015	7.11	702	665	<5	10	
ES1535804-002	KC1DS	5 November 2015	7.32	121	80	6	14	
ES1535804-003	KC2US	5 November 2015	6.77	47	16	6	12	
ES1535804-004	KC2DS	5 November 2015	6.82	64	48	-	21	O&G bottle broken in transit
ES1535804-005	PC	5 November 2015	7.08	91	90	11	16	
ES1535804-006	PC1	5 November 2015	7.57	168	191	<5	13	
ES1613581-001	PC	20 June 2016	7.05	50	192	<5	8	
ES1613978-001	KC2DS	24 June 2016	6.85	49	12	<5	16	
ES1613978-002	KC2US	24 June 2016	6.87	50	82	<5	13	
ES1613978-003	KCUS	24 June 2016	7.28	70	92	<5	10	
ES1613978-004	PC1	24 June 2016	7.52	105	28	<5	1	
ES1613978-005	PC	24 June 2016	6.88	57	150	<5	6	
ES1613978-006	KC1DS	24 June 2016	7.55	160	63	<5	2	
ES1614765-001	KC2US	5 July 2016	6.49	36	128	<5	12	
ES1614765-002	KCUS	5 July 2016	6.64	47	134	8	12	
ES1614765-003	PC	5 July 2016	6.57	76	133	8	10	
ES1614765-004	KC1DS	5 July 2016	7.13	171	22	5	10	
ES1614765-005	KC2DS	5 July 2016	6.6	77	20	<5	23	

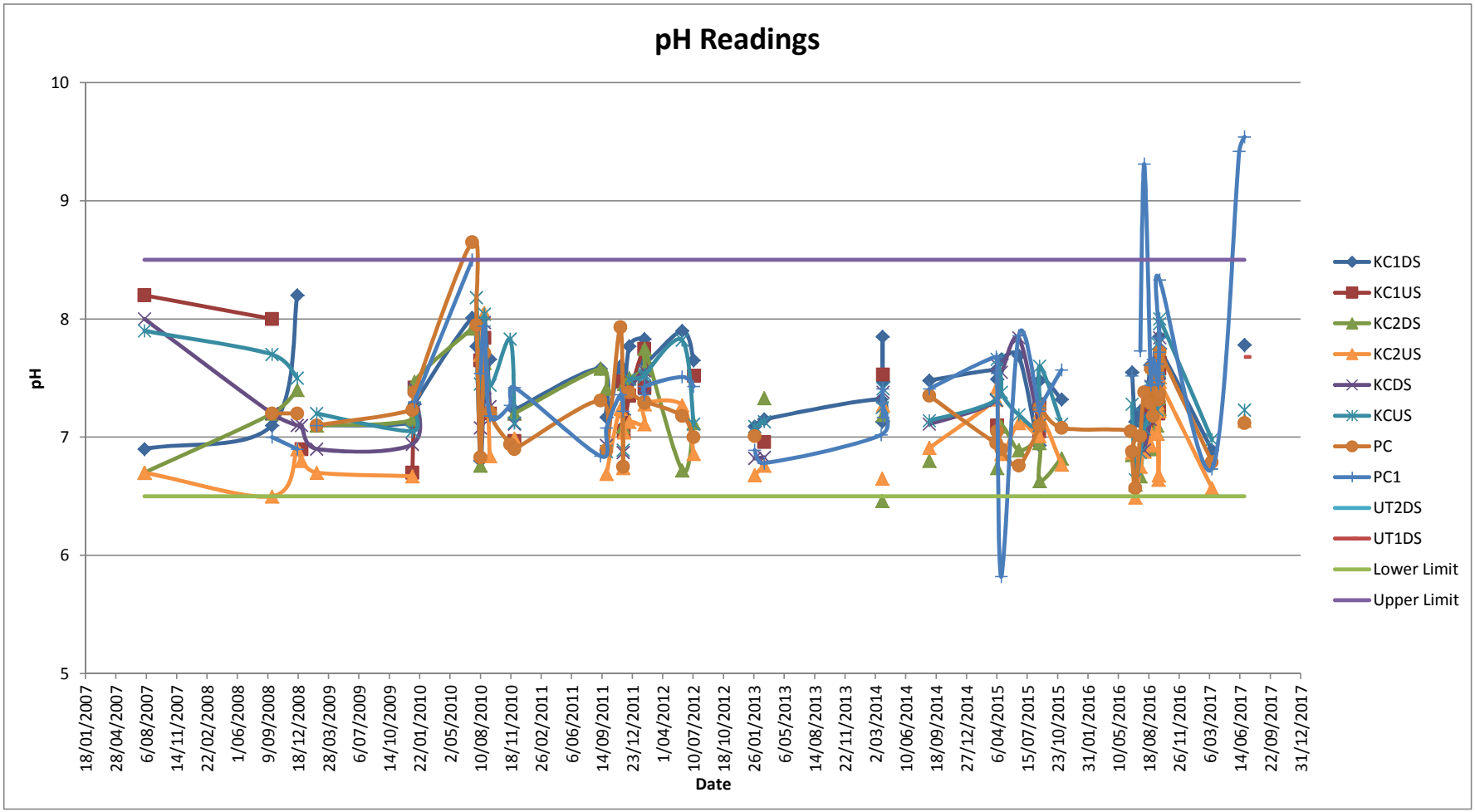
Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1616264-001	KC2DS	21 July 2016	6.67	57	20	<5	27	
ES1616264-002	KC2US	21 July 2016	6.75	54	39	12	19	
ES1616264-003	KCUS	21 July 2016	6.87	52	120	9	14	
ES1616264-004	PC1	21 July 2016	7.73	196	60	<5	16	
ES1616264-005	PC	21 July 2016	7.01	72	92	<5	13	
ES1616264-006	KC1DS	21 July 2016	7.22	124	52	<5	19	
ES1617224-001	KC2DS	3 August 2016	6.99	85	16	<5	24	
ES1617224-002	KC2US	3 August 2016	6.88	38	69	<5	10	
ES1617224-003	KCUS	3 August 2016	7.07	57	884	<5	7	
ES1617224-004	PC1	3 August 2016	9.31	533	361	<5	13	
ES1617224-005	PC	3 August 2016	7.38	70	158	<5	7	
ES1617224-006	KC1DS	3 August 2016	7.09	96	73	<5	12	
ES1617224-007	KCDS	3 August 2016	6.89	59	408	<5	6	
ES1618767-001	KC2DS	23 August 2016	6.92	51	17	<5	24	
ES1618767-002	KCDS	23 August 2016	7.15	239	20	<5	12	
ES1618767-003	KC2US	23 August 2016	7.05	48	14	<5	14	
ES1618767-004	KCUS	23 August 2016	7.22	454	28	<5	12	
ES1618767-005	KC1US	23 August 2016	7.27	88	24	<5	11	
ES1618767-006	PC1	23 August 2016	7.61	132	35	<5	10	
ES1618767-007	PC	23 August 2016	7.29	151	35	<5	14	
ES1618767-008	KC1DS	23 August 2016	7.61	183	31	<5	13	
ES1619011-001	KC2DS	25 August 2016	6.9	70	25	<5	23	
ES1619011-002	KCDS	25 August 2016	7.43	166	43	<5	17	
ES1619011-003	KC2US	25 August 2016	6.93	56	20	<5	10	
ES1619011-004	KCUS	25 August 2016	7.42	189	44	5	13	
ES1619011-005	KC1US	25 August 2016	7.06	87	21	<5	13	
ES1619011-006	PC1	25 August 2016	7.44	105	83	<5	10	
ES1619011-007	PC	25 August 2016	7.58	147	12	<5	14	
ES1619011-008	KC1DS	25 August 2016	7.57	127	38	<5	15	
ES1619492-001	KCUS	1 September 2016	7.51	458	22	<5	7	
ES1619492-002	PC1	1 September 2016	7.66	224	74	<5	<1	
ES1619492-003	PC	1 September 2016	7.18	161	16	<5	8	
ES1619492-004	KC1DS	1 September 2016	7.47	334	6	<5	6	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1620622-001	KC2DS	14 September 2016	7.1	52	16	<5	16	
ES1620622-002	KCDS	14 September 2016	7.39	125	181	7	12	
ES1620622-003	KC2US	14 September 2016	7.03	40	26	6	9	
ES1620622-004	KCUS	14 September 2016	7.23	93	209	<5	9	
ES1620622-005	KC1US	14 September 2016	7.27	92	62	7	12	
ES1620622-006	PC1	14 September 2016	7.48	98	196	<5	11	
ES1620622-007	PC	14 September 2016	7.51	110	23	6	12	
ES1620622-008	KC1DS	14 September 2016	7.47	114	115	<5	13	
ES1620748-001	KC2DS	15 September 2016	7.03	71	<5	<5	17	
ES1620748-002	KCDS	15 September 2016	7.5	146	54	<5	9	
ES1620748-003	KC2US	15 September 2016	7.29	56	11	<5	12	
ES1620748-004	KCUS	15 September 2016	7.57	155	69	<5	13	
ES1620748-005	KC1US	15 September 2016	7.41	124	34	<5	15	
ES1620748-006	PC1	15 September 2016	7.53	85	72	<5	10	
ES1620748-007	PC	15 September 2016	7.57	109	15	<5	11	
ES1620748-008	KC1DS	15 September 2016	7.45	147	34	<5	14	
ES1620748-009	SD2	15 September 2016	7.61	152	11	<5	13	
ES1620748-010	SD5	15 September 2016	7.69	155	5	<5	15	
ES1620986-001	KC2DS	16 September 2016	7.46	160	<5	<5	14	
ES1620986-002	KCDS	16 September 2016	7.58	340	6	<5	9	
ES1620986-003	KC2US	16 September 2016	7.37	77	<5	<5	14	
ES1620986-004	KCUS	16 September 2016	7.79	591	16	<5	10	
ES1620986-005	KC1US	16 September 2016	7.4	154	37	<5	11	
ES1620986-006	PC1	16 September 2016	7.62	99	35	<5	11	
ES1620986-007	PC	16 September 2016	7.59	126	17	<5	10	
ES1620986-008	KC1DS	16 September 2016	7.64	287	13	<5	7	
ES1620986-009	SD2	16 September 2016	7.44	183	12	<5	13	
ES1620986-010	SD5	16 September 2016	7.76	167	<5	<5	12	
ES1621113-001	SD5	19 September 2016	7.66	174	8	<5	12	
ES1621113-002	SD2	19 September 2016	7.46	170	<5	<5	11	
ES1621113-003	KC2DS	19 September 2016	7.33	164	191	<5	14	
ES1621113-004	KCDS	19 September 2016	7.55	406	10	<5	11	
ES1621113-005	KC2US	19 September 2016	6.64	82	<5	<5	12	
ES1621113-006	KCUS	19 September 2016	7.41	465	11	<5	11	
ES1621113-007	KC1US	19 September 2016	7.2	173	60	<5	12	
ES1621113-008	PC1	19 September 2016	7.45	108	45	<5	11	
ES1621113-009	PC	19 September 2016	7.32	120	<5	<5	6	
ES1621113-010	KC1DS	19 September 2016	7.49	250	20	<5	12	

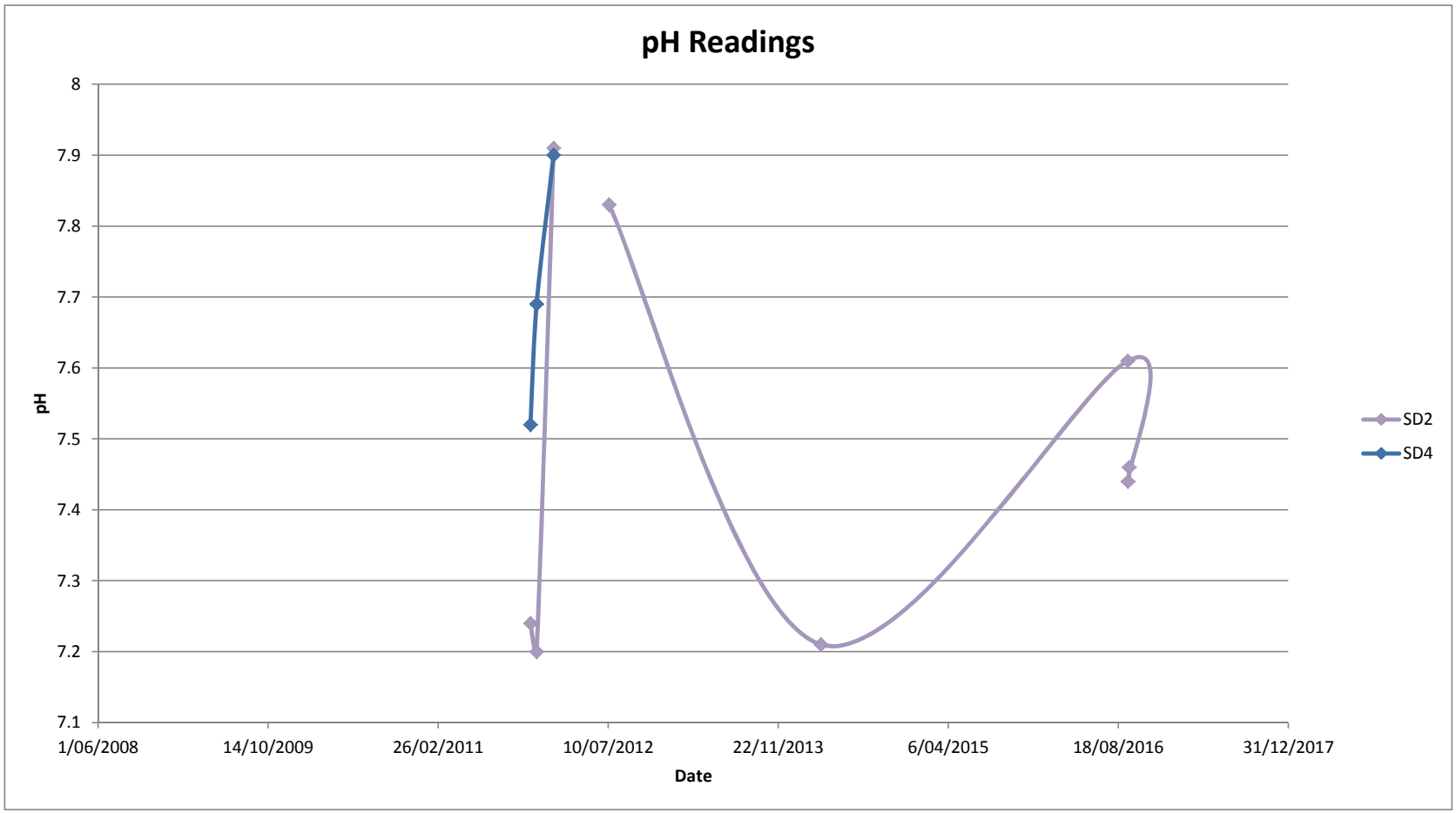
Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1621114-001	KC2DS	20 September 2016	7.36	163	<5	<5	12	
ES1621114-002	SD5	20 September 2016	7.05	126	<5	<5	14	
ES1621114-003	KCDS	20 September 2016	7.54	471	7	<5	9	
ES1621114-004	KC2US	20 September 2016	6.68	82	<5	<5	11	
ES1621114-005	KCUS	20 September 2016	7.58	764	8	<5	9	
ES1621114-006	KC1US	20 September 2016	7.26	195	15	<5	11	
ES1621114-007	PC1	20 September 2016	7.55	109	33	<5	11	
ES1621114-008	PC	20 September 2016	7.33	124	6	<5	10	
ES1621114-009	KC1DS	20 September 2016	7.5	345	12	<5	10	
ES1621235-001	SD5	21 September 2016	7.11	118	21	<5	14	
ES1621235-002	KC2DS	21 September 2016	7.24	165	15	<5	13	
ES1621235-003	KCDS	21 September 2016	7.67	587	12	<5	8	
ES1621235-004	KC2US	21 September 2016	7.22	106	7	<5	12	
ES1621235-005	KCUS	21 September 2016	7.56	435	16	<5	10	
ES1621235-006	KC1US	21 September 2016	7.23	215	10	<5	11	
ES1621235-007	PC1	21 September 2016	7.72	146	94	<5	12	
ES1621235-008	PC	21 September 2016	7.37	145	14	<5	9	
ES1621235-009	KC1DS	21 September 2016	7.85	1100	11	<5	8	
ES1621367-001	KC2DS	22 September 2016	7.51	172	6	<5	12	
ES1621367-002	SD5	22 September 2016	7.21	126	9	<5	16	
ES1621367-003	KCDS	22 September 2016	7.69	810	8	<5	8	
ES1621367-004	KC2US	22 September 2016	7.51	119	<5	<5	11	
ES1621367-005	KCUS	22 September 2016	7.96	1220	<5	<5	8	
ES1621367-006	KC1US	22 September 2016	7.58	210	18	<5	11	
ES1621367-007	PC1	22 September 2016	7.84	107	18	<5	11	
ES1621367-008	PC	22 September 2016	7.62	140	9	<5	10	
ES1621367-009	KC1DS	22 September 2016	7.68	626	9	<5	9	
ES1621611-001	SD5	23 September 2016	7.21	125	10	<5	18	
ES1621611-002	KC2DS	23 September 2016	7.39	169	10	<5	14	
ES1621611-003	KCDS	23 September 2016	7.84	921	12	<5	9	
ES1621611-004	KC2US	23 September 2016	7.47	131	<5	<5	12	
ES1621611-005	KCUS	23 September 2016	8	1280	<5	<5	8	
ES1621611-006	KC1US	23 September 2016	7.63	255	10	<5	11	
ES1621611-007	PC1	23 September 2016	8.33	117	30	<5	13	
ES1621611-008	PC	23 September 2016	7.72	148	10	<5	10	
ES1621611-009	KC1DS	23 September 2016	7.75	580	6	<5	9	

Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1706251-001	KC2US	14 March 2017	6.57	78	37	<5	17	
ES1706251-002	KCUS	14 March 2017	6.98	294	2180	<5	15	
ES1706251-003	PC1	14 March 2017	6.73	55	1210	<5	17	
ES1706251-004	PC	14 March 2017	6.79	77	626	<5	14	
ES1706251-005	KC1DS	14 March 2017	6.89	107	189	<5	15	
ES1714527-001	PC1	12 June 2017	9.42	697	152	<5	20	
ES1716242-001	KC2US	29 June 2017	7.14	70	40	<5	28	
ES1716242-002	KCUS	29 June 2017	7.23	82	222	<5	14	
ES1716242-003	KC1DS	29 June 2017	7.78	180	103	<5	20	
ES1716242-004	PC	29 June 2017	7.12	58	144	<5	10	
ES1716242-005	PC1	29 June 2017	9.54	897	225	<5	28	
ES1716242-006	UT1DS	29 June 2017	7.68	148	20	<5	10	
ES1716242-007	UT2DS	29 June 2017	7.1	54	124	<5	15	

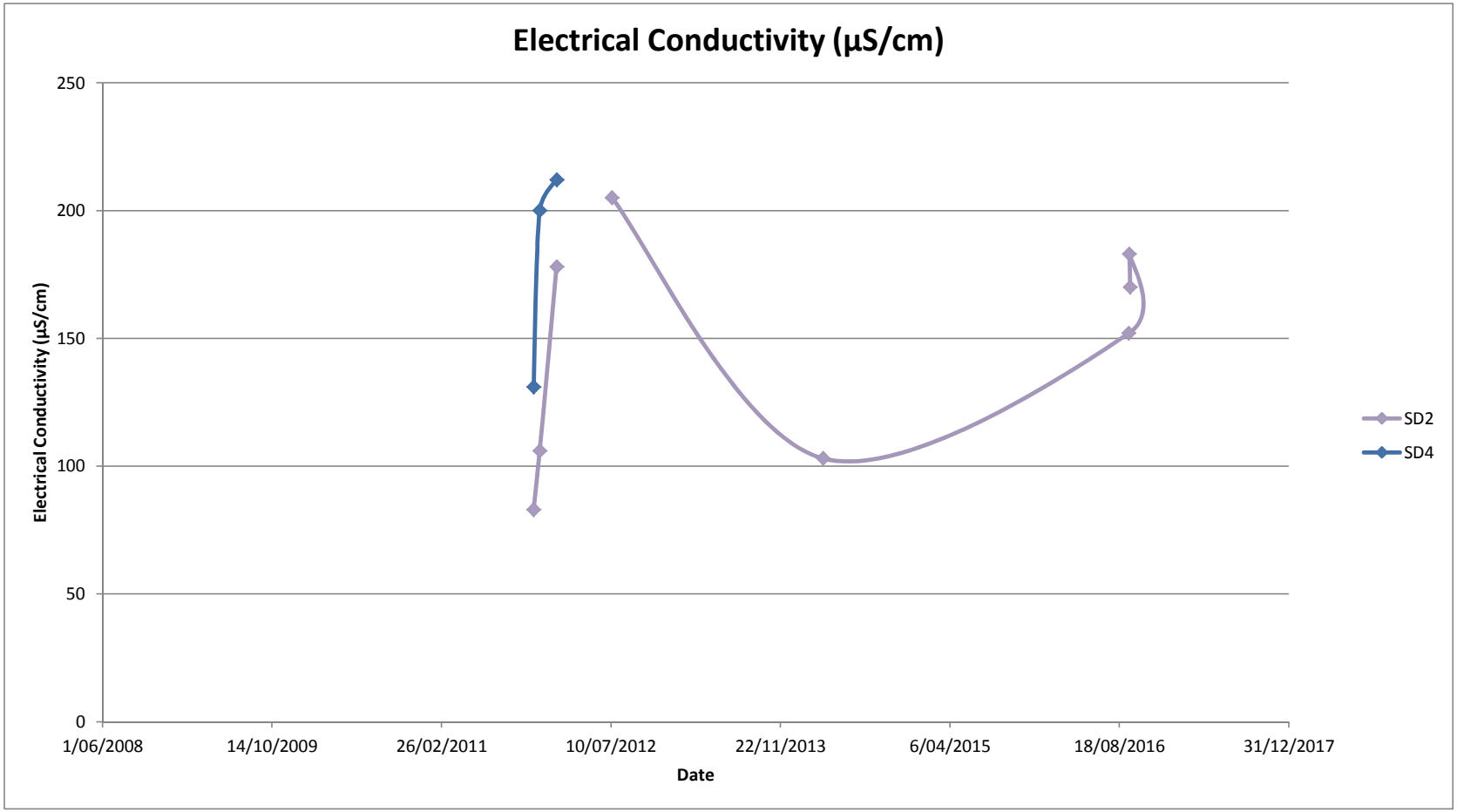
Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments



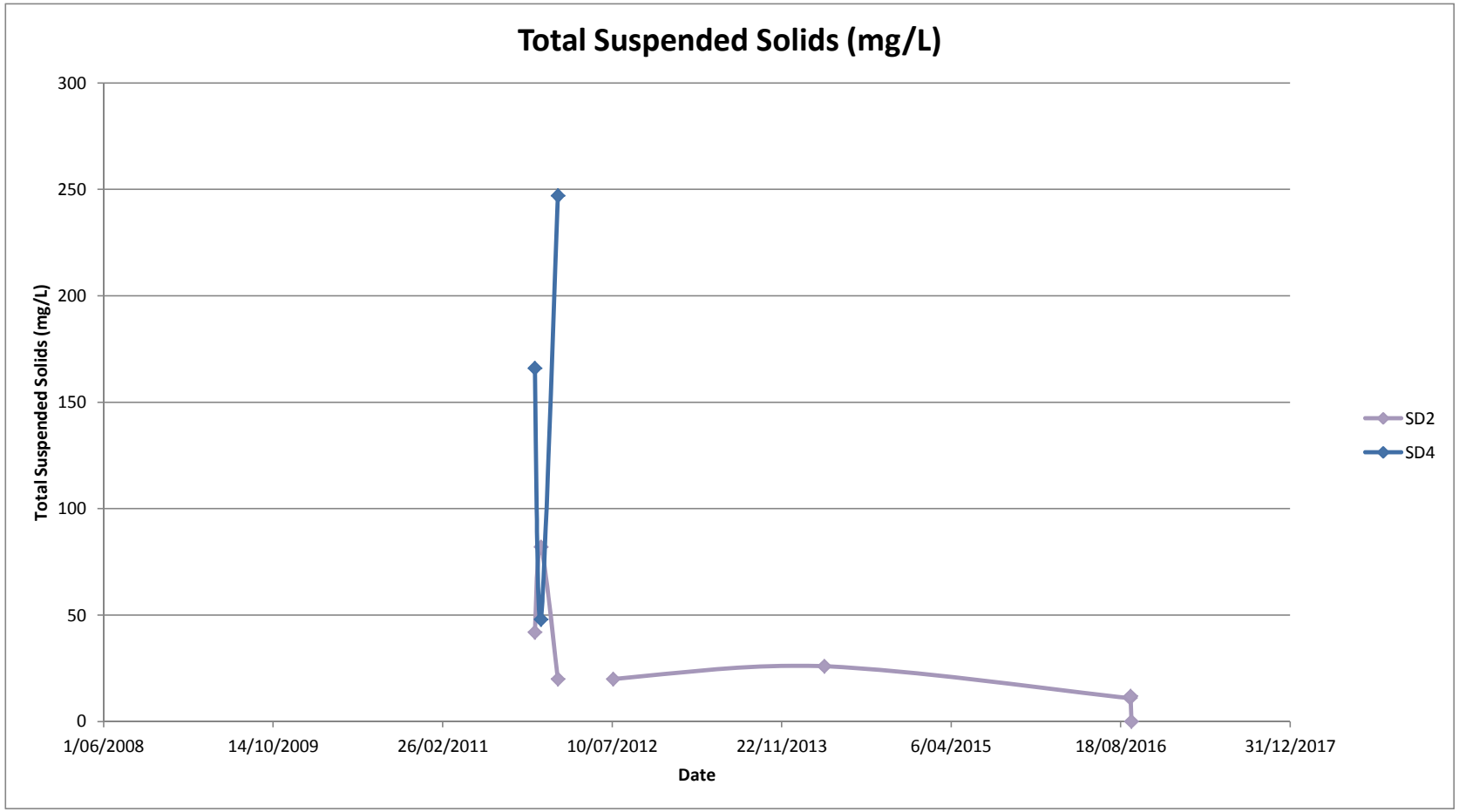
Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments



Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments



Sample No.	Sample Location	Date	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments



Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES0908566-001	11 June 2009	SD1	8.38	378	74	<5	8	
ES0908566-002	11 June 2009	SD2	8.15	254	89	<5	5	
ES0908566-003	11 June 2009	SD3	7.85	308	328	<5	11	
ES0908566-004	11 June 2009	SD4	8.27	421	262	<5	7	
ES0908566-005	11 June 2009	SD5	8.07	228	26	<5	16	
ES0908566-006	11 June 2009	SB1	8.23	1390	11	<5	3	
ES0912774-001	26 August 2009	SD1	9.54	363	8	<5	8	
ES0912774-002	26 August 2009	SD2	8.33	274	28	<5	4	
ES0912774-003	26 August 2009	SD3	7.97	326	141	<5	12	
ES0912774-004	26 August 2009	SD4	8.37	498	66	<5	6	
ES0912774-005	26 August 2009	SD5	8.25	256	24	<5	5	
ES0912774-006	26 August 2009	SB1	8.37	2020	21	<5	<1	
ES0918374-001	1 December 2009	SD1	8.66	722	68	<10	14	
ES0918374-002	1 December 2009	SD2	8.41	374	1870	<10	5	
ES0918374-003	1 December 2009	SD3	8.37	550	216	<10	7	
ES0918374-004	1 December 2009	SD4	9.3	1150	204	<10	10	
ES0918374-005	1 December 2009	SD5	8.68	417	52	<10	5	
ES0918374-006	1 December 2009	SB1	8.82	5250	26	<10	<1	
ES1004140-001	3 March 2010	SD1	8.29	326	44	<5	5	
ES1004140-002	3 March 2010	SD2	8.74	271	126	<5	6	
ES1004140-003	3 March 2010	SD3	8.14	286	326	<5	15	
ES1004140-004	3 March 2010	SD5	8.2	218	44	<5	6	
ES1004140-005	3 March 2010	SB1	8.2	947	480	<5	<2	
ES1009341-001	14 May 2010	SD1	8.78	381	16	<5	6	
ES1009341-002	12 May 2010	SD4	8.85	543	80	7	6	
ES1009341-003	12 May 2010	SD3	8.14	472	92	<5	10	
ES1009341-004	12 May 2010	SD5	8.62	261	36	8	8	
ES1009341-005	12 May 2010	SB1	9	607	100	<5	7	
ES1016572-001	17 August 2010	SD2	7.62	129	72	<5	8	
ES1016572-002	17 August 2010	SD3	7.84	247	299	<5	6	
ES1016572-003	17 August 2010	SD4	7.89	306	120	<5	6	
ES1016572-004	17 August 2010	A1	9.09	1390	36	<5	8	
ES1016572-005	17 August 2010	A2	8.73	541	82	<5	7	
ES1016572-006	17 August 2010	SB1	8.52	432	82	<5	3	
ES1025816-001	13 December 2010	SD2	7.5	157	107	<5	10	
ES1025816-002	13 December 2010	SD5	7.46	139	46	<5	10	
ES1025816-003	13 December 2010	SD4	7.88	290	146	<5	6	
ES1025816-004	13 December 2010	A1	9.25	1280	25	<5	9	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1025816-005	13 December 2010	A2	9.13	840	10	<5	7	
ES1025816-006	13 December 2010	SB1	9.02	583	75	<5	5	
ES1026094-001	16 December 2010	BOX CUT SUMP	8.37	1360	76	-	4	O&G not analysed, Total TPH analysed instead
ES1026094-002	16 December 2010	A1	9.18	1480	56	-	7	O&G not analysed, Total TPH analysed instead
ES1026094-003	16 December 2010	D	8.05	331	228	-	9	O&G not analysed, Total TPH analysed instead
ES1102986-001	10 February 2011	A1	9.16	1260	14	<5	12	
ES1102986-002	10 February 2011	A2	9.17	874	<5	<5	10	
ES1102986-003	10 February 2011	A3	9.19	11300	16	<5	35	
ES1102986-004	10 February 2011	SB1	9.73	2150	52	<5	56	
ES1102986-005	10 February 2011	SD5	8.6	199	54	<5	16	
ES1106761-001	30 March 2011	BOX CUT SUMP	8.41	2100	98	-	31	O&G not analysed, Total TPH analysed instead
ES1106761-002	30 March 2011	A1	9.18	1540	14	-	8	O&G not analysed, Total TPH analysed instead
ES1106761-003	30 March 2011	SB1	9.5	3240	26	-	51	O&G not analysed, Total TPH analysed instead
ES1106761-004	30 March 2011	DAM G OR D	8.98	281	20	-	8	O&G not analysed, Total TPH analysed instead
ES1108782-001	27 April 2011	BOX CUT SUMP	8.4	2250	108	-	6	O&G not analysed, Total TPH analysed instead
ES1108782-002	27 April 2011	A1	9.34	14200	50	-	<1	O&G not analysed, Total TPH analysed instead
ES1108782-003	27 April 2011	SB1	9.57	4300	74	-	31	O&G not analysed, Total TPH analysed instead
ES1108782-004	27 April 2011	DAM G or D	8.63	251	48	-	6	O&G not analysed, Total TPH analysed instead
ES1109299-001	4 May 2011	SD1	8.15	452	44	<5	14	
ES1109299-002	4 May 2011	SD2	7.86	247	13	<5	6	
ES1109299-003	4 May 2011	SD3	8.02	416	20	<5	5	
ES1109299-004	4 May 2011	SD5	7.78	301	20	<5	9	
ES1109299-005	4 May 2011	SB1	9.2	4320	88	<5	49	
ES1109832-001	11 May 2011	BOX CUT SUMP	7.61	2390	148	-	22	O&G not analysed, Total TPH analysed instead
ES1109832-002	11 May 2011	A1	9.16	1890	16	-	12	O&G not analysed, Total TPH analysed instead
ES1109832-003	11 May 2011	SB1	9.05	4510	114	-	65	O&G not analysed, Total TPH analysed instead
ES1109832-004	11 May 2011	DAM G OR D	9.46	249	33	-	7	O&G not analysed, Total TPH analysed instead
ES1111058-001	25 May 2011	BOX CUT SUMP	8.39	2560	102	-	42	O&G not analysed, Total TPH analysed instead
ES1111058-002	25 May 2011	A1	9.02	1950	14	-	10	O&G not analysed, Total TPH analysed instead
ES1111058-003	25 May 2011	SB1	9.48	2870	296	-	19	O&G not analysed, Total TPH analysed instead
ES1111058-004	25 May 2011	D	8.41	355	7	-	5	O&G not analysed, Total TPH analysed instead
ES1112279-001	8 June 2011	BOX CUT SUMP	8.58	2520	190	-	11	O&G not analysed, Total TPH analysed instead
ES1112279-002	8 June 2011	A1	9	1930	11	-	10	O&G not analysed, Total TPH analysed instead
ES1112279-003	8 June 2011	SB1	9.55	2660	23	-	31	O&G not analysed, Total TPH analysed instead
ES1112279-004	8 June 2011	SD2	8.44	201	8	-	7	O&G not analysed, Total TPH analysed instead
ES1113370-001	21 June 2011	BOX CUT SUMP	8.64	2190	428	-	8	O&G not analysed, Total TPH analysed instead
ES1113370-002	21 June 2011	A1	8.89	2000	32	-	9	O&G not analysed, Total TPH analysed instead
ES1113370-003	21 June 2011	SB1	9.5	2620	27	-	32	O&G not analysed, Total TPH analysed instead
ES1113370-004	21 June 2011	D	8.53	350	16	-	5	O&G not analysed, Total TPH analysed instead

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1114773-001	11 July 2011	BOX CUT SUMP	8.11	2880	336	-	5	O&G not analysed, Total TPH analysed instead
ES1114773-002	11 July 2011	A1	8.8	2080	21	-	10	O&G not analysed, Total TPH analysed instead
ES1114773-003	11 July 2011	SB1	9.42	2650	26	-	28	O&G not analysed, Total TPH analysed instead
ES1114773-004	11 July 2011	SD2	8.34	270	11	-	6	O&G not analysed, Total TPH analysed instead
ES1116217-001	27 July 2011	BOX CUT SUMP	8.21	3340	123	-	9	O&G not analysed, Total TPH analysed instead
ES1116217-002	27 July 2011	A1	8.86	2170	11	-	10	O&G not analysed, Total TPH analysed instead
ES1116217-003	27 July 2011	SB1	9.49	2740	38	-	38	O&G not analysed, Total TPH analysed instead
ES1116217-004	27 July 2011	D	8.63	404	14	-	6	O&G not analysed, Total TPH analysed instead
ES1118568-001	25 August 2011	SD1	8.31	565	122	<5	17	
ES1118568-002	25 August 2011	SD2	8.28	294	<5	<5	6	
ES1118568-003	25 August 2011	SD3	8.45	488	10	<5	5	
ES1118568-004	25 August 2011	SD4	8.56	889	59	<5	7	
ES1118568-005	25 August 2011	SD5	8.12	247	16	<5	8	
ES1118568-006	25 August 2011	SB1	9.5	2470	45	<5	36	
ES1119508-001	7 September 2011	BOX CUT SUMP	8.58	2430	128	-	9	O&G not analysed, Total TPH analysed instead
ES1119508-002	7 September 2011	A1	8.91	2280	28	-	10	O&G not analysed, Total TPH analysed instead
ES1119508-003	7 September 2011	SB1	9.45	2500	80	-	33	O&G not analysed, Total TPH analysed instead
ES1119508-004	7 September 2011	D	8.55	324	36	-	6	O&G not analysed, Total TPH analysed instead
ES1120633-001	21 September 2011	BOX CUT SUMP	8.64	2590	127	-	24	O&G not analysed, Total TPH analysed instead
ES1120633-002	21 September 2011	A1	8.9	2270	64	-	11	O&G not analysed, Total TPH analysed instead
ES1120633-003	21 September 2011	SB1	9.3	1570	466	-	12	O&G not analysed, Total TPH analysed instead
ES1120633-004	21 September 2011	DAM G or D	8.48	398	40	-	2	O&G not analysed, Total TPH analysed instead
ES1122998-001	20 October 2011	BOX CUT SUMP	8.39	2770	156	-	4	O&G not analysed, Total TPH analysed instead
ES1122998-002	20 October 2011	A1	8.72	2510	14	-	6	O&G not analysed, Total TPH analysed instead
ES1122998-003	20 October 2011	SB1	9.33	1560	79	-	13	O&G not analysed, Total TPH analysed instead
ES1122998-004	20 October 2011	D	8.56	355	22	-	6	O&G not analysed, Total TPH analysed instead
ES1123998-001	2 November 2011	BOX CUT SUMP	8.41	4090	43	-	9	O&G not analysed, Total TPH analysed instead
ES1123998-002	2 November 2011	A1	8.8	2520	<5	-	6	O&G not analysed, Total TPH analysed instead
ES1123998-003	2 November 2011	SB1	9.48	2490	79	-	12	O&G not analysed, Total TPH analysed instead
ES1123998-004	2 November 2011	D	8.65	387	8	-	6	O&G not analysed, Total TPH analysed instead
ES1123998-005	2 November 2011	B1	8.91	619	<5	-	7	O&G not analysed, Total TPH analysed instead
ES1125416-001	17 November 2011	SD1	9.16	384	50	<5	12	
ES1125416-002	17 November 2011	SD2	8.21	278	31	<5	6	
ES1125416-003	17 November 2011	SD3	7.98	343	28	<5	10	
ES1125416-004	17 November 2011	SD4	8.09	446	132	<5	7	
ES1125416-005	17 November 2011	SD5	7.48	171	332	<5	9	
ES1125416-006	17 November 2011	SB1	9.26	1700	45	<5	6	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1126011-001	24 November 2011	BOX CUT SUMP	8.26	2740	336	-	34	O&G not analysed, Total TPH analysed instead
ES1126011-002	24 November 2011	A1	8.83	2390	34	-	6	O&G not analysed, Total TPH analysed instead
ES1126011-003	24 November 2011	D	8.55	392	10	-	6	O&G not analysed, Total TPH analysed instead
ES1127641-001	13 December 2011	BOX CUT SUMP	8.57	2020	94	-	8	O&G not analysed, Total TPH analysed instead
ES1127641-002	13 December 2011	A1	9	1930	30	-	5	O&G not analysed, Total TPH analysed instead
ES1127641-003	13 December 2011	SB1	8.7	605	154	-	<1	O&G not analysed, Total TPH analysed instead
ES1127641-004	13 December 2011	D	8.63	354	11	-	6	O&G not analysed, Total TPH analysed instead
ES1201147-001	18 January 2012	A1	9.06	2200	12	<5	6	
ES1201147-002	18 January 2012	A2	9.29	1900	30	<5	13	
ES1201147-003	18 January 2012	A3	9.77	4960	44	<5	26	
ES1201147-004	18 January 2012	B1	8.72	545	10	<5	<1	
ES1201147-005	18 January 2012	B2	9.06	13400	47	<5	16	
ES1201147-006	18 January 2012	C	9.3	610	90	<5	3	
ES1201147-007	18 January 2012	D	8.58	380	18	<5	2	
ES1201539-001	23 January 2012	SB1	9.15	2390	27	<5	3	
ES1201539-002	23 January 2012	SB2	8.16	364	8	-	7	
ES1201539-003	23 January 2012	SB3	8.77	995	28	<5	<1	
ES1201539-004	23 January 2012	SD1	8.09	295	30	<5	7	
ES1201539-005	23 January 2012	SD2	8.01	188	18	<5	5	
ES1201539-006	23 January 2012	SD3	8	235	42	<5	4	
ES1201539-007	23 January 2012	SD4	8.25	269	137	<5	4	
ES1201539-008	23 January 2012	SD5	7.75	168	16	<5	8	
ES1201539-009	23 January 2012	SD6	8.73	1470	2280	<5	8	
ES1204194-001	22 February 2012	A1	9.1	1900	21	<5	2	
ES1204194-002	22 February 2012	A2	9.2	1740	411	<5	7	
ES1204194-003	22 February 2012	A3	9.78	3450	538	<5	15	
ES1204194-004	22 February 2012	B1	8.7	496	300	<5	6	
ES1204194-005	22 February 2012	B2	9.16	12200	59	<5	13	
ES1204194-006	22 February 2012	C	9.29	389	35	<5	11	
ES1204194-007	22 February 2012	D	8.51	358	20	<5	4	
ES1204195-001	22 February 2012	SB1	8.7	718	185	<5	4	
ES1204195-002	22 February 2012	SB2	8.33	462	74	<5	5	
ES1204195-003	22 February 2012	SB3	8.61	596	269	<5	3	
ES1204195-004	22 February 2012	SD1	7.92	371	37	<5	7	
ES1204195-005	22 February 2012	SD2	8.03	195	52	<5	6	
ES1204195-006	22 February 2012	SD3	7.71	251	132	<5	6	
ES1204195-007	22 February 2012	SD4	7.81	272	32	<5	7	
ES1204195-008	22 February 2012	SD5	7.74	142	48	<5	10	
ES1204195-009	22 February 2012	SD6	8.66	911	392	<5	7	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1207056-001	22 March 2012	A1	9.01	1950	20	<5	5	
ES1207056-002	22 March 2012	A2	9.23	1880	14	<5	14	
ES1207056-003	22 March 2012	A3	9.74	3810	33	<5	27	
ES1207056-004	22 March 2012	B1	8.76	512	8	<5	6	
ES1207056-005	22 March 2012	B2	9.15	12600	173	<5	90	
ES1207056-006	22 March 2012	C	9.43	553	20	<5	20	
ES1207056-007	22 March 2012	D	8.62	367	16	<5	5	
ES1207061-003	22 March 2012	SB3	9.41	2330	272	<5	41	SB1 and SB2 not sampled as dams being upgraded
ES1207061-004	22 March 2012	SD1	8.84	415	11	<5	8	
ES1207061-005	22 March 2012	SD2	7.65	202	10	<5	8	
ES1207061-006	22 March 2012	SD3	7.95	275	16	<5	5	
ES1207061-007	22 March 2012	SD4	8.21	269	21	<5	4	
ES1207061-008	22 March 2012	SD5	7.98	154	10	<5	9	
ES1207061-009	22 March 2012	SD6	8.67	1090	332	<5	9	
ES1211544-001	9 May 2012	A1	9.11	2240	20	<5	2	
ES1211544-002	9 May 2012	A2	9.22	2210	10	<5	6	
ES1211544-003	9 May 2012	A3	9.73	4050	65	<5	8	
ES1211544-004	9 May 2012	B1	8.61	486	<5	<5	<1	
ES1211544-005	9 May 2012	B2	9.08	13100	71	<5	71	
ES1211544-006	9 May 2012	C	9.27	820	42	<5	15	
ES1211544-007	9 May 2012	D	8.55	408	20	<5	2	
ES1211544-008	9 May 2012	SB1	9.1	1870	56	<5	<1	SB2 not sampled as dam being upgraded
ES1211545-001	9 May 2012	SB3	9.42	4220	100	<5	42	
ES1211545-002	9 May 2012	SD1	8.64	448	16	<5	3	
ES1211545-003	9 May 2012	SD2	8.29	233	11	<5	4	
ES1211545-004	9 May 2012	SD3	8.39	336	21	<5	3	
ES1211545-005	9 May 2012	SD4	8.45	323	18	<5	3	
ES1211545-006	9 May 2012	SD5	8.09	206	8	<5	7	
ES1211545-007	9 May 2012	SD6	8.71	1280	932	<5	5	
ES1215409-001	20 June 2012	SB1	9.15	2390	67	<5	7	
ES1215409-002	20 June 2012	SB2	8.3	802	18	<5	23	
ES1215409-003	20 June 2012	SB3	9.14	2960	53	<5	44	
ES1215409-004	20 June 2012	SD1	8	348	8	<5	15	
ES1215409-005	20 June 2012	SD2	8.12	223	<5	<5	9	
ES1215409-006	20 June 2012	SD3	8	339	6	<5	10	
ES1215409-007	20 June 2012	SD4	8.49	331	5	<5	6	
ES1215409-008	20 June 2012	SD5	8.03	182	<5	<5	9	
ES1215409-009	20 June 2012	SD6	8.64	1100	44	<5	17	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1215547-001	21 June 2012	A1	9.04	2290	17	<5	11	
ES1215547-002	21 June 2012	A2	9.19	2450	10	<5	14	
ES1215547-003	21 June 2012	A3	9.71	3770	46	<5	43	
ES1215547-004	21 June 2012	B1	8.23	418	<5	<5	5	
ES1215547-005	21 June 2012	B2	9	12800	32	<5	<1	
ES1215547-006	21 June 2012	C	8.97	768	42	<5	16	
ES1215547-007	21 June 2012	D	8.57	385	8	<5	6	
ES1218051-001	23 July 2012	SB1	8.99	2020	58	<5	12	
ES1218051-002	23 July 2012	SB2	8.47	800	19	<5	12	
ES1218051-003	23 July 2012	SB3	9.1	1940	88	<5	34	
ES1218051-004	23 July 2012	SD1	8.15	279	5	<5	13	
ES1218051-005	23 July 2012	SD2	8.09	221	5	<5	9	
ES1218051-006	23 July 2012	SD3	7.59	388	<5	<5	6	
ES1218051-007	23 July 2012	SD4	8.25	363	<5	<5	6	
ES1218051-008	23 July 2012	SD5	8.21	176	<5	<5	9	
ES1218051-009	23 July 2012	SD6	8.6	955	39	<5	8	
ES1218050-001	23 July 2012	A1	8.97	2150	16	<5	12	
ES1218050-002	23 July 2012	A2	9.15	2900	10	<5	11	
ES1218050-003	23 July 2012	A3	9.68	3520	41	<5	32	
ES1218050-004	23 July 2012	B1	8.81	370	<5	<5	3	
ES1218050-005	23 July 2012	B2	8.96	12500	26	<5	14	
ES1218050-006	23 July 2012	C	8.87	640	<5	<5	14	
ES1218050-007	23 July 2012	D	8.55	386	<5	<5	4	
ES1218050-008	23 July 2012	B2 POINT 1	8.96	12300	34	<5	15	
ES1218050-009	23 July 2012	B2 POINT 2	8.96	12600	40	<5	14	
ES1220401-001	21 August 2012	A1	8.84	2280	15	<5	8	
ES1220401-002	21 August 2012	A2	9.08	3430	35	<5	2	
ES1220401-003	21 August 2012	A3	9.47	3760	63	<5	<1	
ES1220401-004	21 August 2012	B1	8.5	361	<5	<5	<1	
ES1220401-005	21 August 2012	B2 POINT 1	9.17	12200	28	<5	17	
ES1220401-006	21 August 2012	B2 POINT 2	8.92	12900	31	<5	17	
ES1220401-007	21 August 2012	C	9.23	942	42	<5	2	
ES1220401-008	21 August 2012	D	8.72	407	6	<5	3	
ES1220586-001	23 August 2012	SB1	9.01	3120	72	<5	<1	
ES1220586-002	23 August 2012	SB2	8.54	850	58	<5	<1	
ES1220586-003	23 August 2012	SB3	8.96	3350	50	<5	33	
ES1220586-004	23 August 2012	SD1	8.13	299	48	<5	3	
ES1220586-005	23 August 2012	SD2	8.15	228	12	<5	4	
ES1220586-006	23 August 2012	SD3	8.1	378	10	<5	3	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1220586-007	23 August 2012	SD4	8.54	396	31	<5	2	
ES1220586-008	23 August 2012	SD5	8.24	192	11	<5	6	
ES1220586-009	23 August 2012	SD6	8.69	1070	376	<5	4	
ES1222949-001	24 September 2012	A1	8.81	2940	9	<5	10	
ES1222949-002	24 September 2012	A2	9.03	4460	20	7	21	
ES1222949-003	24 September 2012	A3	8.73	7720	25	<5	24	
ES1222949-004	24 September 2012	B1	8.6	334	8	<5	2	
ES1222949-005	24 September 2012	B2 POINT 1	8.99	13200	<5	<5	14	
ES1222949-006	24 September 2012	B2 POINT 2	8.99	13400	16	<5	15	
ES1222949-007	24 September 2012	C	8.93	1560	252	<5	41	
ES1222949-008	24 September 2012	D	8.87	422	<5	<5	4	
ES1223081-001	25 September 2012	SB1	8.97	3400	13	<5	6	
ES1223081-002	25 September 2012	SB2	9.09	989	30	<5	12	
ES1223081-003	25 September 2012	SB3	9.1	6350	200	<5	63	
ES1223081-004	25 September 2012	SD1	8.83	343	16	<5	13	
ES1223081-005	25 September 2012	SD2	8.6	264	10	<5	8	
ES1223081-006	25 September 2012	SD3	7.94	488	10	<5	7	
ES1223081-007	25 September 2012	SD4	8.93	505	46	<5	7	
ES1223081-008	25 September 2012	SD5	7.97	226	66	<5	10	
ES1223081-009	25 September 2012	SD6	8.58	1170	160	<5	16	
ES1224704-001	16 October 2012	A1	8.86	3280	18	<5	<1	
ES1224704-002	16 October 2012	A2	9.04	4780	26	<5	25	
ES1224704-003	16 October 2012	A3	8.55	10300	24	<5	27	
ES1224704-004	16 October 2012	B1	8.72	322	<5	<5	<1	
ES1224704-005	16 October 2012	B2-POINT 1	9.09	12600	42	<5	27	
ES1224704-006	16 October 2012	B2-POINT 2	9.07	13600	35	<5	18	
ES1224704-007	16 October 2012	C	8.83	2760	406	<5	91	
ES1224704-008	16 October 2012	D	8.76	424	26	<5	<1	
ES1224703-001	16 October 2012	SB1	9.03	3760	59	<5	25	
ES1224703-002	16 October 2012	SB2	8.8	1070	32	<5	7	
ES1224703-003	16 October 2012	SB3	9.28	9020	220	<5	106	
ES1224703-004	16 October 2012	SD1	9.54	330	11	<5	13	
ES1224703-005	16 October 2012	SD2	8.01	263	72	<5	5	
ES1224703-006	16 October 2012	SD3	8.33	455	20	<5	7	
ES1224703-007	16 October 2012	SD4	9.22	721	167	<5	6	
ES1224703-008	16 October 2012	SD5	8.48	243	50	<5	6	
ES1224703-009	16 October 2012	SD6	8.81	1300	50	<5	<1	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1227721-001	21 November 2012	B1	8.73	322	<5	<5	3	
ES1227721-002	21 November 2012	B2 POINT 1	9.21	14500	20	<5	3	
ES1227721-003	21 November 2012	B2 POINT 2	9.2	14500	22	<5	7	
ES1228045-001	26 November 2012	A1	8.91	4190	35	<5	4	
ES1228045-002	26 November 2012	A2	9.06	6770	42	<5	30	
ES1228045-003	26 November 2012	A3	8.61	12300	20	<5	15	
ES1228136-001	27 November 2012	D	8.48	397	29	<5	5	
ES1228137-001	27 November 2012	SB1	9.18	4850	101	<5	14	
ES1228137-002	27 November 2012	SB2	9.48	1430	10	<5	13	
ES1228137-003	27 November 2012	SD1	8.51	435	26	<5	12	
ES1228137-004	27 November 2012	SD2	8.39	335	40	<5	8	
ES1228137-005	27 November 2012	SD3	8.67	546	14	<5	6	
ES1228137-006	27 November 2012	SD5	8.23	296	40	<5	10	
ES1228137-007	27 November 2012	SD6	8.89	1500	126	<5	11	
ES1229976-001	18 December 2012	A1	9.13	4940	38	<5	25	
ES1229976-002	18 December 2012	A2	9.05	9840	80	<5	49	
ES1229976-003	18 December 2012	A3	8.76	12100	43	<5	459	
ES1229976-004	18 December 2012	B1	8.58	345	5	<5	5	
ES1229976-005	18 December 2012	B2-POINT 1	9.24	13700	67	<5	17	
ES1229976-006	18 December 2012	B2-POINT 2	9.25	14500	64	<5	18	
ES1229976-008	18 December 2012	D	8.65	452	32	<5	27	
ES1229977-001	18 December 2012	SB1	9.29	3930	72	<5	27	
ES1229977-002	18 December 2012	SB2	9.46	1870	14	<5	23	
ES1229977-003	18 December 2012	SD1	9.15	462	29	<5	19	
ES1229977-004	18 December 2012	SD2	8.56	382	84	<5	10	
ES1229977-005	18 December 2012	SD3	8.52	573	65	<5	11	
ES1229977-006	18 December 2012	SD5	8.38	314	41	<5	14	
ES1229977-007	18 December 2012	SD6	8.91	1600	52	<5	26	
ES1301112-001	16 January 2013	A1	9.31	5330	50	56	15	
ES1301112-002	16 January 2013	A2	9.33	13800	44	<5	50	
ES1301112-003	16 January 2013	A3	8.89	13900	28	<5	18	
ES1301112-004	16 January 2013	B1	9.04	382	<5	<5	4	
ES1301112-005	16 January 2013	B2 - POINT 1	9.51	16000	71	<5	21	
ES1301112-006	16 January 2013	B2 - POINT 2	9.54	16200	63	<5	20	
ES1301112-007	16 January 2013	D	9.11	515	84	<5	9	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1303170-001	8 February 2013	SB1	9.03	2110	1210	<5	4	
ES1303170-002	8 February 2013	SB2	9.57	1250	736	<5	13	
ES1303170-003	8 February 2013	SB3	8.43	827	460	<5	3	
ES1303170-004	8 February 2013	SD1	7.59	175	146	<5	13	
ES1303170-005	8 February 2013	SD2	8.04	154	182	<5	9	
ES1303170-006	8 February 2013	SD3	7.86	338	28	<5	14	
ES1303170-007	8 February 2013	SD4	8.07	281	258	<5	8	
ES1303170-008	8 February 2013	SD5	7.58	125	20	<5	11	
ES1303170-009	8 February 2013	SD6	8.89	1220	768	<5	6	
ES1304586-001	27 February 2013	A1	9.09	4340	31	<5	12	
ES1304586-002	27 February 2013	A2	9.19	14600	49	<5	63	
ES1304586-003	27 February 2013	A3	8.99	13600	25	<5	18	
ES1304586-004	27 February 2013	B1	8.62	359	<5	<5	7	
ES1304586-005	27 February 2013	B2 - POINT 1	9.48	12400	101	<5	32	
ES1304586-006	27 February 2013	B2 - POINT 2	9.48	15400	117	<5	31	
ES1304586-007	27 February 2013	C	9.15	672	344	<5	13	
ES1304586-008	27 February 2013	D	8.67	434	24	<5	8	
ES1304712-001	28 February 2013	SB1	9.09	4870	24	<5	7	
ES1304712-002	28 February 2013	SB2	9.58	1400	8	<5	8	
ES1304712-003	28 February 2013	SB3	8.89	1720	1060	<5	3	
ES1304712-004	28 February 2013	SD1	7.83	258	14	<5	16	
ES1304712-005	28 February 2013	SD2	8.04	171	16	<5	10	
ES1304712-006	28 February 2013	SD3	8.01	288	26	<5	11	
ES1304712-007	28 February 2013	SD4	9.11	399	66	<5	8	
ES1304712-008	28 February 2013	SD5	7.96	161	103	<5	10	
ES1304712-009	28 February 2013	SD6	8.89	1240	500	<5	12	
ES1308252-001	9 April 2013	A1	8.87	4800	22	<5	21	
ES1308252-002	9 April 2013	A2	9.08	15600	48	<5	135	
ES1308252-003	9 April 2013	A3	9.04	14200	18	<5	163	
ES1308252-004	9 April 2013	B1	8.38	270	<5	<5	4	
ES1308252-005	9 April 2013	B2 - POINT 1	7.00	7370	34	<5	1200	
ES1308252-008	9 April 2013	B2 - POINT 2	9.47	15500	35	<5	42	
ES1308252-006	9 April 2013	C	9.32	1090	418	<5	30	
ES1308252-007	9 April 2013	D	8.55	367	18	<5	8	
ES1308403-001	10 April 2013	SB1	9.06	5450	13	<5	17	
ES1308403-002	10 April 2013	SB2	9.23	1300	66	<5	9	
ES1308403-003	10 April 2013	SB3	8.8	2360	129	<5	10	
ES1308403-004	10 April 2013	SD1	8.02	286	29	<5	10	
ES1308403-005	10 April 2013	SD2	8.01	194	41	<5	8	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1308403-006	10 April 2013	SD3	7.97	327	36	<5	9	
ES1308403-007	10 April 2013	SD4	8.33	372	32	<5	7	
ES1308403-008	10 April 2013	SD6	8.73	1150	448	<5	10	
ES1312071-001	27 May 2013	SB1	9.00	4730	10	<5	105	
ES1312071-002	27 May 2013	SB2	8.97	1420	6	<5	4	
ES1312071-003	27 May 2013	SD3	8.61	380	<5	<5	10	
ES1312071-004	27 May 2013	SD4	8.74	463	10	<5	8	
ES1312069-001	27 May 2013	A1	8.77	4280	20	<5	48	
ES1312069-002	27 May 2013	A2	8.89	16800	98	<5	53	
ES1312069-003	27 May 2013	A3	9.09	14900	26	<5	<1	
ES1312069-004	27 May 2013	B1	8.07	177	<5	<5	<1	
ES1312069-005	27 May 2013	B2	9.45	15200	34	<5	34	
ES1312069-006	27 May 2013	C	9.18	1450	860	<5	75	
ES1312069-007	27 May 2013	D	8.74	409	14	<5	8	
ES1312189-001	28 May 2013	SD1	8.01	350	23	<5	9	
ES1312189-002	28 May 2013	SD2	8.11	224	18	<5	10	
ES1312189-003	28 May 2013	SB3	8.97	3460	52	<5	18	
ES1312189-004	28 May 2013	SD5	7.98	200	<5	<5	11	
ES1312189-005	28 May 2013	SD6	8.73	1290	18	<5	45	
ES1314538-001	26 June 2013	SB1	8.99	4310	<5	<5	4	
ES1314538-002	26 June 2013	SB2	8.88	1200	<5	<5	11	
ES1314538-003	26 June 2013	SB3	9.01	2730	36	<5	14	
ES1314538-004	26 June 2013	SD3	8.45	370	<5	<5	8	
ES1314538-005	26 June 2013	SD4	8.75	603	7	<5	9	
ES1314538-006	26 June 2013	SD6	8.74	1170	37	<5	43	
ES1314537-001	26 June 2013	A1	8.7	4410	11	<5	6	
ES1314537-002	26 June 2013	A2	9.02	16400	68	<5	41	
ES1314537-003	26 June 2013	A3	9.23	14400	11	<5	52	
ES1314537-004	26 June 2013	B1	8.26	153	<5	<5	2	
ES1314537-005	26 June 2013	B2	9.56	14300	18	<5	33	
ES1314537-006	26 June 2013	C	8.87	920	275	<5	78	
ES1314537-007	26 June 2013	D	8.67	391	12	<5	10	
ES1314684-001	27 June 2013	SD1	8.24	344	8	<5	10	
ES1314684-002	27 June 2013	SD2	8.29	223	14	<5	8	
ES1314684-003	27 June 2013	SD5	8.01	199	8	<5	8	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1316995-001	29 July 2013	A1	8.84	5050	19	<5	11	
ES1316995-002	29 July 2013	A2	8.97	16300	58	<5	55	
ES1316995-003	29 July 2013	A3	9.22	14700	37	<5	23	
ES1316995-004	29 July 2013	B1	7.84	170	<5	<5	3	
ES1316995-005	29 July 2013	B2	9.56	13800	18	<5	33	
ES1316995-006	29 July 2013	C	8.93	953	319	<5	82	
ES1316995-007	29 July 2013	D	8.53	398	<5	<5	10	
ES1317064-001	30 July 2013	SB1	8.87	5130	18	<5	4	
ES1317064-002	30 July 2013	SB2	8.85	1170	<5	<5	10	
ES1317064-003	30 July 2013	SB3	9.07	2460	106	<5	10	
ES1317064-004	30 July 2013	SD1	8.33	367	12	<5	9	
ES1317064-005	30 July 2013	SD2	8.53	248	21	<5	10	
ES1317064-006	30 July 2013	SD3	8.96	380	6	<5	8	
ES1317064-007	30 July 2013	SD4	9.29	823	<5	<5	8	
ES1317064-008	30 July 2013	SD5	8.36	211	6	<5	11	
ES1317064-009	30 July 2013	SD6	8.74	1150	24	<5	38	
ES1318659-001	21 August 2013	A1	8.82	5530	15	<5	6	
ES1318659-002	21 August 2013	A2	9.32	16600	68	22	50	
ES1318659-003	21 August 2013	A3	9.34	14800	26	<5	834	
ES1318659-004	21 August 2013	B1	8.4	261	<5	<5	9	
ES1318659-005	21 August 2013	B2	9.82	13600	18	<5	21	
ES1318659-006	21 August 2013	C	8.88	1370	381	<5	128	
ES1318659-007	21 August 2013	D	8.47	441	8	<5	10	
ES1318754-001	22 August 2013	SB2	8.91	1160	<5	<5	10	
ES1318754-002	22 August 2013	SD1	8.87	359	6	<5	11	
ES1318754-003	22 August 2013	SD6	8.86	1180	43	<5	36	
ES1318754-004	22 August 2013	SD2	8.47	256	<5	<5	11	
ES1318754-005	22 August 2013	SB3	9.15	3180	14	<5	26	
ES1318754-007	22 August 2013	SD5	8.13	220	6	<5	12	
ES1318754-008	22 August 2013	SD4	9.6	843	9	<5	10	
ES1318754-009	22 August 2013	SB1	9.02	5870	31	<5	9	
ES1318754-010	22 August 2013	SD3	9.62	335	<5	<5	9	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1320728-004	18 September 2013	A1	8.94	5290	11	<5	4	
ES1320728-002	18 September 2013	A2	8.93	17300	63	<5	50	
ES1320728-006	18 September 2013	A3	9.17	15600	28	<5	20	
ES1320728-005	18 September 2013	B1	8.64	456	<5	<5	4	
ES1320728-001	18 September 2013	B2	9.48	13800	11	<5	18	
ES1320728-007	18 September 2013	C	9.12	2160	1440	<5	224	Almost empty
ES1320728-003	18 September 2013	D	8.7	604	8	<5	7	
ES1321341-001	26 September 2013	SB1	8.98	2250	122	<5	11	
ES1321341-002	26 September 2013	SB2	9.17	1260	<5	<5	26	
ES1321341-003	26 September 2013	SB3	9.26	5310	9	<5	246	
ES1321341-004	26 September 2013	SD1	9.2	327	28	<5	10	
ES1321341-005	26 September 2013	SD2	8.65	293	24	<5	7	
ES1321341-006	26 September 2013	SD3	9.76	348	11	<5	4	
ES1321341-007	26 September 2013	SD4	8.75	1020	13	<5	27	
ES1321341-008	26 September 2013	SD5	8.38	261	11	<5	14	
ES1321341-009	26 September 2013	SD6	8.85	1300	72	<5	55	
ES1322968-004	22 October 2013	A1	9.03	5870	33	<5	<1	
ES1322968-002	22 October 2013	A2	9.2	17600	56	<5	160	
ES1322968-006	22 October 2013	A3	9.45	20800	219	<5	120	Water level low
ES1322968-005	22 October 2013	B1	8.74	612	<5	<5	6	Water level low
ES1322968-001	22 October 2013	B2	9.6	13900	40	<5	121	
ES1322968-003	22 October 2013	D	8.35	770	35	<5	<1	
ES1323072-008	23 October 2013	SB1	9.13	6390	72	<5	3	
ES1323072-001	23 October 2013	SB2	9.46	1500	20	<5	15	
ES1323072-005	23 October 2013	SB3	9.38	7330	63	<5	52	
ES1323072-002	23 October 2013	SD1	8.63	420	25	<5	17	
ES1323072-004	23 October 2013	SD2	8.74	346	14	<5	11	
ES1323072-009	23 October 2013	SD3	9.42	383	36	<5	15	
ES1323072-007	23 October 2013	SD4	9.12	1370	44	<5	13	
ES1323072-006	23 October 2013	SD5	8.49	314	18	<5	14	
ES1323072-003	23 October 2013	SD6	8.81	1460	138	<5	15	
ES1325501-001	21 November 2013	A1	9.03	5850	40	<5	63	
ES1325501-002	21 November 2013	A2	9.29	18100	33	<5	440	
ES1325501-003	21 November 2013	A3	9.26	49700	43	<5	901	
ES1325501-004	21 November 2013	B1	8.71	748	<5	<5	<1	
ES1325501-005	21 November 2013	B2	9.7	13900	46	<5	186	
ES1325501-006	21 November 2013	D	8.36	800	21	<5	<1	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1325718-001	25 November 2013	SB1	9.08	4870	11	<5	17	
ES1325718-002	25 November 2013	SB2	9.2	1750	<5	<5	17	
ES1325718-003	25 November 2013	SB3	9.88	11500	25	<5	138	
ES1325718-004	25 November 2013	SD1	8.63	527	28	<5	23	
ES1325718-005	25 November 2013	SD2	8.76	358	14	<5	12	
ES1325718-006	25 November 2013	SD3	8.44	487	24	<5	16	
ES1325718-007	25 November 2013	SD4	8.7	1280	26	<5	13	
ES1325718-008	25 November 2013	SD5	8.5	367	6	<5	12	
ES1325718-009	25 November 2013	SD6	8.79	1570	28	<5	19	
ES1327337-001	12 December 2013	SB1	9.11	6620	38	<5	4	
ES1327337-002	12 December 2013	SB2	9.55	1910	5	<5	20	Water level low
ES1327337-003	12 December 2013	SB3	9.75	13200	6	<5	16	
ES1327337-004	12 December 2013	SD1	8.48	566	106	<5	38	Water level low
ES1327337-005	12 December 2013	SD2	8.74	407	48	<5	17	
ES1327337-006	12 December 2013	SD3	8.52	558	29	<5	21	
ES1327337-007	12 December 2013	SD4	8.91	1380	27	<5	17	Water level low
ES1327337-008	12 December 2013	SD5	9.22	365	7	<5	17	Water level low
ES1327337-009	12 December 2013	SD6	8.93	1660	12	<5	23	Water level low
ES1327336-001	12 December 2013	A1	9.33	6160	7	<5	6	
ES1327336-002	12 December 2013	A2	9.52	18100	226	9	16	
ES1327336-003	12 December 2013	A3	9.4	50800	25	<5	67	
ES1327336-004	12 December 2013	B1	8.93	1020	<5	<5	8	
ES1327336-005	12 December 2013	B2	9.56	14200	34	<5	<1	
ES1327336-006	12 December 2013	C	9.0	1650	78	<5	68	Water level low
ES1327336-007	12 December 2013	D	8.49	824	11	<5	6	
ES1328231-001	23 December 2013	A1	9.05	6130	28	<5	7	Additional sampling for WTP processing info
ES1328231-002	23 December 2013	A2	9.27	17600	103	<5	17	Additional sampling for WTP processing info
ES1328231-003	23 December 2013	B2	9.63	13900	145	<5	17	Additional sampling for WTP processing info
ES1401408-001	22 January 2014	A1	9.3	7120	22	<5	5	
ES1401408-002	22 January 2014	A2	9.37	18300	156	<5	<1	
ES1401408-003	22 January 2014	A3	9.3	29900	75	<5	328	
ES1401408-004	22 January 2014	B1	8.72	642	<5	<5	<1	
ES1401408-005	22 January 2014	B2	9.72	14600	23	<5	17	
ES1401408-006	22 January 2014	D	8.47	885	16	<5	<1	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1401528-001	23 January 2014	SB1	9.33	7440	21	<5	10	
ES1401528-002	23 January 2014	SB2	9.13	2800	293	<5	24	
ES1401528-004	23 January 2014	SD1	8.71	740	48	<5	39	Water level low
ES1401528-005	23 January 2014	SD2	8.54	388	42	<5	16	
ES1401528-006	23 January 2014	SD3	8.36	629	132	<5	29	
ES1401528-007	23 January 2014	SD4	8.87	2960	80	<5	23	
ES1401528-008	23 January 2014	SD5	8.46	577	65	<5	22	
ES1401528-009	23 January 2014	SD6	9.1	1950	146	<5	32	Water level low
ES1402739-001	10 February 2014	SB1	9.39	10200	68	<5	17	Water level low
ES1402739-002	10 February 2014	SB2	9.38	4070	48	<5	27	Water level low
ES1402739-003	10 February 2014	SD1	9.27	957	45	<5	42	Water level low
ES1402739-004	10 February 2014	SD2	8.88	744	205	<5	20	Water level low
ES1402739-005	10 February 2014	SD3	8.48	1140	114	<5	28	Water level low
ES1402739-006	10 February 2014	SD4	8.75	6220	440	<5	43	Water level low
ES1402739-007	10 February 2014	SD5	8.64	778	98	<5	26	Water level low
ES1402739-008	10 February 2014	SD6	9.13	2320	72	<5	40	
ES1402847-001	11 February 2014	A1	9.28	7590	166	<5	16	
ES1402847-002	11 February 2014	A2	9.49	18600	74	<5	<1	
ES1402847-003	11 February 2014	A3	9.5	30500	54	<5	<1	
ES1402847-004	11 February 2014	B1	8.91	426	12	<5	<1	
ES1402847-005	11 February 2014	B2	9.87	15000	70	<5	<1	
ES1402847-006	11 February 2014	D	8.67	879	25	<5	<1	
ES1406048-001	19 March 2014	A1	9.14	7030	74	<5	30	
ES1406048-002	19 March 2014	A2	9.34	16800	70	<5	20	
ES1406048-003	19 March 2014	A3	9.34	29600	6	<5	34	
ES1406048-005	19 March 2014	B1	9.73	14200	12	<5	26	
ES1406048-004	19 March 2014	B2	8.86	284	24	<5	2	
ES1406048-006	19 March 2014	D	8.49	917	30	<5	4	
ES1406046-001	19 March 2014	SB1	9.27	3580	16	<5	4	
ES1406046-002	19 March 2014	SB2	9.04	4200	237	<5	37	
ES1406046-003	19 March 2014	SD1	8.62	1070	116	<5	81	
ES1406046-004	19 March 2014	SD2	8.94	934	457	<5	55	
ES1406046-005	19 March 2014	SD3	8.49	1350	526	<5	46	
ES1406046-006	19 March 2014	SD5	8.56	930	101	<5	48	
ES1406046-007	19 March 2014	SD6	9.02	2260	11	<5	72	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1408043-001	9 April 2014	SB1	8.98	2480	142	<5	6	
ES1408043-002	9 April 2014	SB2	8.78	1250	19	<5	<1	
ES1408043-003	9 April 2014	SB3	9.06	4640	19	<5	10	
ES1408043-004	9 April 2014	SD1	7.68	306	10	<5	14	
ES1408043-005	9 April 2014	SD2	7.8	185	11	<5	14	
ES1408043-006	9 April 2014	SD3	7.81	314	24	<5	18	
ES1408043-007	9 April 2014	SD4	7.92	370	10	<5	12	
ES1408043-008	9 April 2014	SD5	7.72	154	18	<5	12	
ES1408043-009	9 April 2014	SD6	9.01	1250	185	<5	17	
ES1408164-001	10 April 2014	A1	9.07	5040	14	<5	1	
ES1408164-002	10 April 2014	A2	9.38	13700	86	<5	44	
ES1408164-003	10 April 2014	A3	9.28	19400	522	58	159	
ES1408164-004	10 April 2014	B1	8.49	377	14	<5	4	
ES1408164-005	10 April 2014	B2	9.59	12800	120	<5	16	
ES1408164-006	10 April 2014	D	8.4	420	23	<5	9	
ES1410565-001	12 May 2014	A1	8.92	5710	22	<5	4	
ES1410565-002	12 May 2014	A2	9.38	15600	<5	<5	24	
ES1410565-003	12 May 2014	A3	9.38	23100	17	<5	42	
ES1410565-004	12 May 2014	B1	8.43	250	<5	<5	2	
ES1410565-005	12 May 2014	B2	9.75	13500	16	<5	21	
ES1410565-006	12 May 2014	D	8.33	444	<5	<5	6	
ES1410708-001	13 May 2014	SB1	8.99	5810	22	<5	10	
ES1410708-002	13 May 2014	SB2	9.19	1400	28	<5	14	
ES1410708-003	13 May 2014	SB3	9.19	7060	18	<5	15	
ES1410708-004	13 May 2014	SD1	8.22	410	9	<5	11	
ES1410708-005	13 May 2014	SD2	8.29	234	20	<5	10	
ES1410708-006	13 May 2014	SD3	8.14	377	14	<5	11	
ES1410708-007	13 May 2014	SD4	8.28	465	46	<5	9	
ES1410708-008	13 May 2014	SD5	8.11	222	22	<5	12	
ES1410708-009	13 May 2014	SD6	8.82	1330	66	<5	35	
ES1413953-001	24 June 2014	A1	8.74	6070	20	<5	5	
ES1413953-002	24 June 2014	A2	9.01	15600	20	<5	67	
ES1413953-003	24 June 2014	A3	9.22	18900	57	<5	88	
ES1413953-004	24 June 2014	B1	8.51	258	<5	<5	2	
ES1413953-005	24 June 2014	B2	9.50	12900	28	<5	81	
ES1413953-006	24 June 2014	C	9.45	20000	<5	<5	123	
ES1413953-007	24 June 2014	D	8.65	468	<5	<5	6	
ES1413954-001	24 June 2014	SB1	8.97	5810	10	<5	6	
ES1413954-002	24 June 2014	SB2	9.06	1260	11	<5	10	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1413954-003	24 June 2014	SB3	9.28	4700	14	<5	19	
ES1413954-004	24 June 2014	SD1	8.05	376	<5	<5	11	
ES1413954-005	24 June 2014	SD2	8.2	234	14	<5	8	
ES1413954-006	24 June 2014	SD3	8.19	346	<5	<5	12	
ES1413954-007	24 June 2014	SD4	8.37	639	<5	<5	8	
ES1413954-008	24 June 2014	SD5	8.18	227	<5	<5	11	
ES1413954-009	24 June 2014	SD6	8.8	1230	<5	<5	19	
ES1415997-001	21 July 2014	A1	8.8	6600	34	<5	5	
ES1415997-002	21 July 2014	A2	9.11	16000	34	<5	6	
ES1415997-003	21 July 2014	A3	9.32	20000	48	<5	1	
ES1415997-004	21 July 2014	B1	8.33	225	5	<5	<1	
ES1415997-005	21 July 2014	B2	9.56	13200	28	<5	29	
ES1415997-006	21 July 2014	C	9.43	18800	14	<5	65	
ES1415997-007	21 July 2014	D	8.63	507	<5	<5	<1	
ES1416084-001	22 July 2014	SB1	9	6840	14	<5	4	
ES1416084-002	22 July 2014	SB2	8.99	1400	<5	<5	9	
ES1416084-003	22 July 2014	SB3	9.31	5560	10	<5	28	
ES1416084-004	22 July 2014	SD1	8.46	417	12	<5	11	
ES1416084-005	22 July 2014	SD2	8.59	261	<5	<5	9	
ES1416084-006	22 July 2014	SD3	8.14	406	<5	<5	12	
ES1416084-007	22 July 2014	SD4	8.5	763	<5	<5	8	
ES1416084-008	22 July 2014	SD5	8.34	259	<5	<5	11	
ES1416084-009	22 July 2014	SD6	8.81	1400	<5	<5	33	
ES1417927-001	13 August 2014	A1	8.92	6970	13	<5	6	
ES1417927-002	13 August 2014	A2	9.23	17500	21	<5	39	
ES1417927-003	13 August 2014	A3	9.49	22900	28	<5	41	
ES1417927-004	13 August 2014	B1	8.7	336	<5	<5	<1	
ES1417927-005	13 August 2014	B2	9.80	14400	16	<5	22	
ES1417927-006	13 August 2014	C	9.66	20600	<5	<5	50	
ES1417927-007	13 August 2014	D	8.71	516	<5	<5	<1	
ES1418092-001	14 August 2014	SB1	8.97	7120	13	<5	11	
ES1418092-002	14 August 2014	SB2	9.09	1370	<5	<5	8	
ES1418092-003	14 August 2014	SB3	9.26	8580	<5	<5	57	
ES1418092-004	14 August 2014	SD1	8.24	429	10	<5	12	
ES1418092-005	14 August 2014	SD2	8.51	276	<5	<5	10	
ES1418092-006	14 August 2014	SD3	9.1	390	<5	<5	11	
ES1418092-007	14 August 2014	SD4	8.87	797	<5	<5	9	
ES1418092-008	14 August 2014	SD5	8.48	275	9	<5	14	
ES1418092-009	14 August 2014	SD6	8.81	1370	6	<5	38	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1421433-001	19 September 2014	A1	8.73	6440	8	6	6	
ES1421433-002	19 September 2014	A2	9.11	16700	870	5	5	
ES1421433-003	19 September 2014	A3	9.54	34500	54	48	48	
ES1421433-004	19 September 2014	B1	8.87	490	<5	<5	<5	
ES1421433-005	19 September 2014	B2	9.71	13700	49	<5	<5	
ES1421433-006	19 September 2014	C	9.45	21400	38	6	<1	
ES1421433-007	19 September 2014	D	8.58	555	<5	7	5	
ES1421434-001	19 September 2014	SB1	9.11	6800	13	6	<1	
ES1421434-002	19 September 2014	SB2	9.13	1300	<5	<5	8	
ES1421434-003	19 September 2014	SB3	9.23	4820	12	<5	18	
ES1421434-004	19 September 2014	SD1	8.06	322	8	<5	10	
ES1421434-005	19 September 2014	SD2	8.24	263	7	<5	8	
ES1421434-006	19 September 2014	SD3	8.28	364	6	7	11	
ES1421434-007	19 September 2014	SD4	8.85	754	<5	6	8	
ES1421434-008	19 September 2014	SD5	8.08	176	<5	<5	9	
ES1421434-009	19 September 2014	SD6	8.7	1280	12	<5	14	
ES1423149-001	21 October 2014	A1	8.88	6550	<5	<5	3	
ES1423149-002	21 October 2014	A2	9.56	18700	530	9	355	Pond low/strong odour
ES1423149-003	21 October 2014	A3	9.56	52900	739	<5	666	Pond low/strong odour
ES1423149-004	21 October 2014	B1	8.68	526	<5	<5	2	
ES1423149-005	21 October 2014	B2	9.74	14500	56	<5	<1	
ES1423149-006	21 October 2014	C	9.39	21400	28	<5	57	
ES1423149-007	21 October 2014	D	8.54	682	<5	<5	4	
ES1423569-001	24 October 2014	SB1	9.17	6570	41	<5	10	
ES1423569-002	24 October 2014	SB2	9.1	1390	7	<5	8	
ES1423569-003	24 October 2014	SB3	9.19	6860	137	<5	68	
ES1423569-004	24 October 2014	SD1	8.03	382	<5	<5	10	
ES1423569-005	24 October 2014	SD2	8.35	296	18	<5	10	
ES1423569-006	24 October 2014	SD3	8.27	406	6	<5	10	
ES1423569-007	24 October 2014	SD4	8.87	863	18	<5	11	
ES1423569-008	24 October 2014	SD5	8.25	226	14	<5	13	
ES1423569-009	24 October 2014	SD6	8.78	1380	45	<5	34	
ES1425611-001	19 November 2014	A1	9.09	6980	<5	<5	<1	
ES1425611-002	19 November 2014	A2	9.69	23200	2500	<5	1050	Could not filter sample, rotten odour, high EC
ES1425611-003	19 November 2014	A3	9.66	77200	288	7	399	Rotten odour, high EC
ES1425611-004	19 November 2014	B1	8.97	508	<5	<5	3	
ES1425611-005	19 November 2014	B2	9.79	16200	68	<5	19	
ES1425611-006	19 November 2014	C	9.55	23200	37	<5	32	High EC
ES1425611-007	19 November 2014	D	8.69	736	<5	<5	3	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1425870-001	20 November 2014	SB1	9.26	7790	62	<5	<1	
ES1425870-002	20 November 2014	SB2	9.23	1680	12	<5	9	
ES1425870-003	20 November 2014	SB3	9.45	11200	19	<5	73	
ES1425870-004	20 November 2014	SD3	9.15	429	24	<5	11	
ES1425870-005	20 November 2014	SD4	8.98	1130	18	<5	8	
ES1425870-006	20 November 2014	SD5	8.44	301	40	<5	9	
ES1425870-007	20 November 2014	SD6	8.94	1580	22	<5	12	
ES1426134-001	25 November 2014	SD1	8.37	476	11	<5	8	
ES1426134-002	25 November 2014	SD2	8.6	367	12	<5	6	
ES1427456-001	9 December 2014	A1	9.15	6950	25	<5	6	
ES1427456-002	9 December 2014	A2	9.99	17900	564	<5	6	Very low levels, unable to be field filtered
ES1427456-003	9 December 2014	A3	9.82	75800	2420	<5	8940	Very low levels, unable to be field filtered
ES1427456-004	9 December 2014	B1	8.72	505	20	<5	5	
ES1427456-005	9 December 2014	B2	9.89	16900	131	<5	521	
ES1427456-006	9 December 2014	C	9.43	23400	89	<5	1270	
ES1427456-007	9 December 2014	D	8.38	686	33	<5	4	
ES1427589-001	10 December 2014	SB1	9.26	4120	31	<5	<1	
ES1427589-002	10 December 2014	SB2	9.31	1790	28	<5	10	
ES1427589-003	10 December 2014	SB3	9.68	15300	68	<5	128	
ES1427589-004	10 December 2014	SD1	8.37	483	20	<5	12	
ES1427589-005	10 December 2014	SD2	8.66	370	17	<5	7	
ES1427589-006	10 December 2014	SD3	8.81	462	31	<5	12	
ES1427589-007	10 December 2014	SD4	9.28	1220	23	<5	10	
ES1427589-008	10 December 2014	SD5	8.56	336	21	<5	9	
ES1427589-009	10 December 2014	SD6	8.93	1610	16	<5	17	
ES1500920-001	15 January 2015	BOX CUT SUMP	8.77	7160	242	<5	<1	
ES1501810-001	27 January 2015	SB1	9.25	7980	48	7	<1	
ES1501810-002	27 January 2015	SB2	9.24	2320	31	6	12	
ES1501810-003	27 January 2015	SB3	9.74	21100	60	6	150	
ES1501810-004	27 January 2015	SD1	8.27	591	125	5	16	
ES1501810-005	27 January 2015	SD2	8.63	467	48	<5	8	
ES1501810-006	27 January 2015	SD3	9.21	553	31	6	15	
ES1501810-007	27 January 2015	SD4	8.93	1570	50	5	12	
ES1501810-008	27 January 2015	SD5	8.81	430	27	6	10	
ES1501810-009	27 January 2015	SD6	9.09	1920	14	<5	23	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1504572-001	23 February 2015	A1	9.15	8170	<5	<5	200	
ES1504572-002	23 February 2015	A2	9.73	9940	77	8	363	Water level very low
ES1504572-003	23 February 2015	A3	9.29	20300	17	<5	1820	
ES1504572-004	23 February 2015	B1	8.65	741	<5	<5	12	
ES1504572-005	23 February 2015	B2	9.94	23600	180	5	2360	
ES1504572-006	23 February 2015	C	9.57	26100	23	<5	2160	
ES1504572-007	23 February 2015	D	8.6	883	6	<5	4	
ES1504686-001	25 February 2015	SB1	9.1	8150	135	<5	8	
ES1504686-002	25 February 2015	SB2	9.42	2510	11	5	17	
ES1504686-003	25 February 2015	SB3	9.78	11200	322	<5	108	
ES1504686-004	25 February 2015	SD1	8.49	643	44	<5	15	Water level low
ES1504686-005	25 February 2015	SD2	8.85	472	31	<5	8	
ES1504686-006	25 February 2015	SD3	9.17	546	28	6	15	
ES1504686-007	25 February 2015	SD4	9.1	1650	39	<5	10	
ES1504686-008	25 February 2015	SD5	8.82	482	40	<5	8	
ES1504686-009	25 February 2015	SD6	9.1	1850	15	<5	21	
ES1505066-001	27 February 2015	BOX CUT	8.36	9020	283	<15	386	
ES1507239-001	26 March 2015	SB1	9.16	7800	265	11	134	
ES1507239-002	26 March 2015	SB2	9.77	2180	50	<5	9	
ES1507239-003	26 March 2015	SB3	9.95	12700	44	9	330	
ES1507239-004	26 March 2015	SD1	8.26	440	15	6	18	
ES1507239-005	26 March 2015	SD2	8.3	344	14	<5	16	
ES1507239-006	26 March 2015	SD3	8.74	520	26	<5	17	
ES1507239-007	26 March 2015	SD4	9.01	1500	89	<5	12	
ES1507239-008	26 March 2015	SD5	8.49	417	28	9	12	
ES1507239-009	26 March 2015	SD6	9.04	1910	67	6	32	
ES1507436-001	30 March 2015	BOX CUT	8.5	7010	3590	16	<1	
ES1507568-001	31 March 2015	A1	9.13	7450	5	<5	189	
ES1507568-002	31 March 2015	A2	9.73	7840	32	<5	740	
ES1507568-003	31 March 2015	A3	9.09	17000	61	<5	1700	
ES1507568-004	31 March 2015	B1	8.71	647	<5	<5	<1	
ES1507568-005	31 March 2015	B2	9.84	23900	36	<5	22	
ES1507568-006	31 March 2015	C	9.51	25500	28	<5	6	
ES1507568-007	31 March 2015	D	8.4	827	<5	<5	3	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1520294-001	22 April 2015	A1	9.04	6520	22	<5	<1	
ES1520294-002	22 April 2015	A2	9.24	6680	14	<5	6	
ES1520294-003	22 April 2015	A3	8.91	13800	72	<5	10	
ES1520294-004	22 April 2015	B1	8.64	680	6	<5	1	
ES1520294-005	22 April 2015	B2	10.10	16800	128	<5	100	
ES1520294-006	22 April 2015	C	9.70	23800	31	<5	40	
ES1520294-007	22 April 2015	D	8.55	652	6	5	<1	
ES1520408-001	23 April 2015	SB1	9.59	2530	88	5	7	
ES1520408-002	23 April 2015	SB2	9.72	1600	13	<5	13	
ES1520408-003	23 April 2015	SB3	9.44	2820	136	6	5	
ES1520408-004	23 April 2015	SD1	7.66	232	19	6	11	
ES1520408-005	23 April 2015	SD2	7.91	239	<5	<5	8	
ES1520408-006	23 April 2015	SD3	7.76	326	13	6	14	
ES1520408-007	23 April 2015	SD4	8.22	748	26	<5	10	
ES1520408-008	23 April 2015	SD5	7.72	183	16	<5	10	
ES1520408-009	23 April 2015	SD6	8.92	1420	46	<5	15	
ES1522286-001	19 May 2015	A1	9.25	6850	20	<5	3	
ES1522286-002	19 May 2015	A2	9.58	6890	31	<5	10	
ES1522286-003	19 May 2015	A3	9.06	14500	21	<5	1310	
ES1522286-004	19 May 2015	B1	8.60	619	<5	<5	6	
ES1522286-005	19 May 2015	B2	10.10	22400	139	<5	2530	Water level low
ES1522286-006	19 May 2015	C	9.72	15400	101	<5	1930	
ES1522286-007	19 May 2015	D	8.65	685	5	<5	7	
ES1522402-001	20 May 2015	SB1	9.1	7380	19	<5	<1	
ES1522402-002	20 May 2015	SB2	9.71	1650	<5	<5	14	
ES1522402-003	20 May 2015	SB3	9.66	4180	37	8	19	
ES1522402-004	20 May 2015	SD1	8.04	292	22	<5	12	
ES1522402-005	20 May 2015	SD2	9.36	249	6	<5	8	
ES1522402-006	20 May 2015	SD3	7.94	367	18	<5	17	
ES1522402-007	20 May 2015	SD4	8.63	903	10	11	10	
ES1522402-008	20 May 2015	SD5	8.35	236	35	<5	9	
ES1522402-009	20 May 2015	SD6	8.89	1510	7	<5	19	
ES1524645-001	23 June 2015	A1	9.05	6450	14	11	<1	
ES1524645-002	23 June 2015	A2	9.37	6760	32	10	20	
ES1524645-003	23 June 2015	A3	9.01	10200	380	5	52	
ES1524645-004	23 June 2015	B1	8.53	581	<5	<5	3	Small fish in pond
ES1524645-005	23 June 2015	B2	10.10	20800	63	<5	299	
ES1524645-006	23 June 2015	C	9.81	22200	38	6	274	
ES1524645-007	23 June 2015	D	8.38	674	<5	<5	4	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1524749-001	24 June 2015	SB1	8.93	6450	38	<5	<1	
ES1524749-002	24 June 2015	SB2	9.67	1470	6	10	14	
ES1524749-003	24 June 2015	SB3	9.46	3540	23	7	17	
ES1524749-004	24 June 2015	SD1	7.86	284	<5	<5	12	
ES1524749-005	24 June 2015	SD2	8.14	251	6	11	8	
ES1524749-006	24 June 2015	SD3	7.67	340	<5	<5	13	
ES1524749-007	24 June 2015	SD4	8.79	851	<5	12	7	
ES1524749-008	24 June 2015	SD5	7.99	216	<5	5	9	
ES1524749-009	24 June 2015	SD6	8.82	1370	6	5	18	
ES1524749-010	24 June 2015	BOX CUT	8.59	7560	4150	20	<1	
ES1527134-001	28 July 2015	SB1	9.09	6550	16	<5	<1	
ES1527134-002	28 July 2015	SB2	9.46	1490	<5	19	18	
ES1527134-003	28 July 2015	SB3	9.23	4040	132	7	36	
ES1527134-004	28 July 2015	SD1	8.02	311	22	6	8	
ES1527134-005	28 July 2015	SD2	8.19	267	5	<5	7	
ES1527134-006	28 July 2015	SD3	8.28	363	<5	16	10	
ES1527134-007	28 July 2015	SD4	9.07	952	<5	<5	10	
ES1527134-008	28 July 2015	SD5	8.25	242	<5	<5	7	
ES1527134-009	28 July 2015	SD6	8.77	1400	<5	<5	21	
ES1527134-011	28 July 2015	BOX CUT	8.73	7140	3860	18	<10	
ES1527330-001	30 July 2015	A1	9.13	6620	166	6	<1	
ES1527330-002	30 July 2015	A2	9.35	7090	32	9	8	
ES1527330-003	30 July 2015	A3	8.68	8850	5	<5	<1	
ES1527330-004	30 July 2015	B1	8.62	520	<5	<5	<1	
ES1527330-005	30 July 2015	B2	10.30	22200	86	9	74	
ES1527330-006	30 July 2015	C	9.85	23100	43	7	58	
ES1527330-007	30 July 2015	D	8.37	671	6	<5	2	
ES1529288-001	25 August 2015	SD5	6.77	115	57	10	19	
ES1529288-002	25 August 2015	SD2	7.12	98	13	8	15	
ES1529425-001	26 August 2015	SB1	9.33	2560	71	<5	<1	
ES1529425-002	26 August 2015	SB2	9.69	1230	<5	<5	15	
ES1529425-003	26 August 2015	SB3	9.34	3130	16	<5	5	
ES1529425-004	26 August 2015	SD1	7.79	179	31	<5	10	
ES1529425-005	26 August 2015	SD2	7.73	180	58	6	7	
ES1529425-006	26 August 2015	SD3	7.68	463	19	<5	38	
ES1529425-007	26 August 2015	SD4	8.43	485	38	<5	8	
ES1529425-008	26 August 2015	SD5	7.53	104	32	6	8	
ES1529425-009	26 August 2015	SD6	8.77	1220	47	<5	11	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1529425-010	26 August 2015	BOX CUT	8.76	5830	175	<5	<1	
ES1529580-001	27 August 2015	A1	9.27	6510	12	<5	221	
ES1529580-002	27 August 2015	A2	9.07	6560	39	<5	6	
ES1529580-003	27 August 2015	A3	8.96	7070	26	7	9	
ES1529580-004	27 August 2015	B1	8.41	435	<5	<5	<1	
ES1529580-005	27 August 2015	B2	10.20	21200	74	6	88	
ES1529580-006	27 August 2015	C	9.67	23600	45	6	55	
ES1529580-007	27 August 2015	D	8.48	590	<5	<5	5	
ES1531925-001	22 September 2015	A1	9.19	6510	7	9	7	
ES1531925-002	22 September 2015	A2	9.02	6830	30	8	5	
ES1531925-003	22 September 2015	A3	9.4	7230	9	6	4	
ES1531925-004	22 September 2015	B1	9.00	405	<5	<5	<1	
ES1531925-005	22 September 2015	B2	10.90	21500	126	<5	60	
ES1531925-006	22 September 2015	C	9.66	22200	14	<5	36	
ES1531925-007	22 September 2015	D	8.76	567	<5	<5	<1	
ES1532077-001	23 September 2015	SB1	9.16	6990	171	<5	29	
ES1532077-002	23 September 2015	SB2	9.54	1390	21	<5	20	
ES1532077-003	23 September 2015	SB3	9.32	3440	19	<5	18	
ES1532077-004	23 September 2015	SD1	8.22	220	8	<5	9	
ES1532077-005	23 September 2015	SD2	7.43	173	12	<5	9	
ES1532077-006	23 September 2015	SD3	8.39	334	<5	<5	9	
ES1532077-007	23 September 2015	SD4	9.01	668	5	<5	10	
ES1532077-008	23 September 2015	SD5	8.02	124	13	<5	8	
ES1532077-009	23 September 2015	SD6	8.87	1370	14	<5	15	
ES1532077-015	23 September 2015	BOX CUT	8.8	7520	708	<5	32	
ES1534739-001	27 October 2015	SB1	9.31	5860	63	8	2	
ES1534739-002	27 October 2015	SB2	9.55	1500	20	8	21	
ES1534739-003	27 October 2015	SB3	9.48	4770	40	7	27	
ES1534739-004	27 October 2015	SD1	8.13	282	45	10	9	
ES1534739-005	27 October 2015	SD2	8.23	198	23	11	9	
ES1534739-006	27 October 2015	SD3	8.65	384	8	9	9	
ES1534739-007	27 October 2015	SD4	9.69	750	5	10	12	
ES1534739-008	27 October 2015	SD5	8.14	169	27	<5	10	
ES1534739-009	27 October 2015	SD6	8.94	1500	43	9	25	
ES1534739-015	27 October 2015	BOX CUT	8.68	7180	920	27	1	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1537283-001	25 November 2015	SB1	9.3	8500	18	<5	<1	
ES1537283-002	25 November 2015	SB2	9.52	1420	<5	<5	18	
ES1537283-003	25 November 2015	SB3	9.49	4530	16	<5	18	
ES1537283-004	25 November 2015	SD1	8.06	297	5	<5	10	
ES1537283-005	25 November 2015	SD2	8.07	236	<5	<5	8	
ES1537283-006	25 November 2015	SD3	7.84	445	72	<5	10	
ES1537283-007	25 November 2015	SD4	8.92	684	30	<5	11	Dam level low, pump on
ES1537283-008	25 November 2015	SD5	8.24	172	62	<5	12	
ES1537283-009	25 November 2015	SD6	8.97	1350	<5	<5	11	
ES1537283-010	25 November 2015	BOX CUT	8.68	7580	1940	<5	<1	
ES1537409-001	26 November 2015	A1	9.26	7240	8	<5	10	
ES1537409-002	26 November 2015	A2	9.04	7860	90	<5	5	
ES1537409-003	26 November 2015	A3	9.22	9500	8	8	7	
ES1537409-004	26 November 2015	B1	8.66	551	6	11	6	
ES1537409-005	26 November 2015	B2	10.40	26600	271	10	92	
ES1537409-006	26 November 2015	C	9.74	23500	57	7	77	
ES1537409-007	26 November 2015	D	8.78	634	32	18	6	
ES1538530-001	9 December 2015	SB1	9.18	8580	272	<5	118	Earthworks nearby
ES1538530-002	9 December 2015	SB2	9.37	1560	<5	<5	25	
ES1538530-003	9 December 2015	SB3	9.43	5440	13	<5	27	
ES1538530-004	9 December 2015	SD1	8.08	341	<5	<5	12	
ES1538530-005	9 December 2015	SD2	8.35	257	<5	<5	11	
ES1538530-006	9 December 2015	SD3	8.45	459	7	<5	10	
ES1538530-007	9 December 2015	SD4	8.81	832	26	-	15	
ES1538530-008	9 December 2015	SD5	8.01	201	28	-	14	
ES1538530-009	9 December 2015	SD6	9.02	1510	21	<5	28	
ES1538530-010	9 December 2015	BOX CUT	8.64	7300	1830	<5	18	
ES1538584-001	10 December 2015	A1	9.22	7360	<5	28	6	
ES1538584-002	10 December 2015	A2	9.8	7710	124	10	12	
ES1538584-003	10 December 2015	A3	9.05	8760	117	7	11	
ES1538584-004	10 December 2015	B1	8.58	553	<5	<5	9	
ES1538584-005	10 December 2015	B2	10.40	29200	346	11	196	High EC, water level very low
ES1538584-006	10 December 2015	C	9.70	23900	73	6	58	High EC
ES1538584-007	10 December 2015	D	8.49	661	7	<5	7	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
	13 January 2016	SB1	-	-	-	-	-	Only black mud, earthworks nearby
ES1600922-001	13 January 2016	SB2	8.97	1590	21	9	19	
ES1600922-002	13 January 2016	SB3	9.41	5370	16	<5	23	
ES1600922-003	13 January 2016	SD1	8.84	463	6	13	11	
ES1600922-004	13 January 2016	SD2	8.96	359	9	<5	8	
ES1600922-005	13 January 2016	SD3	8.45	474	14	<5	9	
ES1600922-006	13 January 2016	SD4	8.65	880	53	10	11	
ES1600922-007	13 January 2016	SD5	8.45	242	8	6	10	
ES1600922-008	13 January 2016	SD6	8.99	1500	9	7	23	
ES1600922-013	13 January 2016	BOX CUT	8.51	5290	2350	13	22	
ES1600970-001	14 January 2016	A1	9.22	7860	<5	<5	6	
ES1600970-002	14 January 2016	A2	9.1	7710	42	<5	9	
ES1600970-003	14 January 2016	A3	9.03	7940	34	<5	8	
ES1600970-004	14 January 2016	B1	8.65	619	<5	<5	5	
ES1600970-005	14 January 2016	B2	10.10	36000	230	<5	3840	
ES1600970-006	14 January 2016	C	9.50	24100	74	6	65	
ES1600970-007	14 January 2016	D	8.56	744	28	<5	7	
-	17 February 2016	SB1	-	-	-	-	-	Dry
ES1603652-001	17 February 2016	SB2	9.5	4940	28	8	<1	
-	17 February 2016	SB3	-	-	-	-	-	Dry
ES1603652-002	17 February 2016	SD1	8.39	488	32	<5	10	
ES1603652-003	17 February 2016	SD2	8.38	340	32	<5	6	
ES1603652-004	17 February 2016	SD3	5.86	549	40	<5	8	
ES1603652-005	17 February 2016	SD4	8.75	1280	69	<5	5	
ES1603652-006	17 February 2016	SD5	8.41	312	31	<5	8	
ES1603652-007	17 February 2016	SD6	8.98	1640	18	<5	7	
ES1603652-008	17 February 2016	BOX CUT	8.67	8300	1410	13	<1	
ES1603857-001	18 February 2016	A1	9.41	8200	16	10	73	
ES1603857-002	18 February 2016	A2	9.16	8090	25	<5	48	
ES1603857-003	18 February 2016	A3	8.96	8420	47	<5	492	
ES1603857-004	18 February 2016	B1	8.70	688	<5	<5	1	
ES1603857-005	18 February 2016	B2	10.30	62300	50	13	7760	
ES1603857-006	18 February 2016	C	9.84	19900	71	<5	1480	
ES1603857-007	18 February 2016	D	8.54	771	28	12	7	
ES1605303-001	8 March 2016	A1	9.2	8540	<5	50	72	
ES1605303-002	8 March 2016	A2	9.04	8520	43	25	69	
ES1605303-003	8 March 2016	A3	9.3	8430	21	25	66	
ES1605303-004	8 March 2016	B1	8.80	668	5	11	4	
ES1605303-005	8 March 2016	B2	10.10	90100	156	24	1820	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1605303-006	8 March 2016	C	9.58	27500	40	27	221	
ES1605303-007	8 March 2016	D	9.05	888	44	16	4	
-	9 March 2016	SB1	-	-	-	-	-	Dry
ES1605414-001	9 March 2016	SB2	9.48	5600	60	23	37	
-	9 March 2016	SB3	-	-	-	-	-	Dry
ES1605414-002	9 March 2016	SD1	8.61	548	48	38	13	
ES1605414-003	9 March 2016	SD2	8.74	394	34	14	8	
ES1605414-004	9 March 2016	SD3	8.82	606	33	16	10	
ES1605414-005	9 March 2016	SD4	9.69	2470	167	11	43	Water level low
ES1605414-006	9 March 2016	SD5	8.5	364	28	12	10	
ES1605414-007	9 March 2016	SD6	9.15	1820	20	19	23	
ES1605414-008	9 March 2016	BOX CUT	8.73	5500	268	28	<1	
ES1607989-001	12 April 2016	A1	9.17	8300	<5	<5	14	
ES1607989-002	12 April 2016	A2	8.99	7870	68	<5	364	
ES1607989-003	12 April 2016	A3	8.9	7560	163	<5	393	
ES1607989-004	12 April 2016	B1	8.66	695	<5	<5	9	
-	12 April 2016	B2	-	-	-	-	-	Dry
ES1607989-005	12 April 2016	C	9.68	26900	103	11	12	High EC
ES1607989-006	12 April 2016	D	8.41	834	21	17	1	
-	13 April 2016	SB1	-	-	-	-	-	Dry
ES1608080-001	13 April 2016	SB2	9.48	5910	36	59	29	
-	13 April 2016	SB3	-	-	-	-	-	Dry
ES1608080-002	13 April 2016	SD1	8.78	589	26	98	20	
ES1608080-003	13 April 2016	SD2	8.88	456	28	76	11	
ES1607993-001	12 April 2016	SD3	8.69	650	28	<5	17	
-	13 April 2016	SD4	-	-	-	-	-	Dry
ES1608080-004	13 April 2016	SD5	8.66	402	27	<5	12	
ES1608080-005	13 April 2016	SD6	9.15	1940	19	37	34	
ES1607993-003	12 April 2016	BOX CUT	8.59	6280	518	<10	460	
ES1611129-001	23 May 2016	SD6	9.22	2080	23	<5	36	
ES1611129-002	23 May 2016	BOX CUT	8.9	8690	1930	<5	217	
ES1611233-001	24 May 2016	SB1	9.2	11400	12	<5	177	
ES1611233-002	24 May 2016	SB2	9.52	5910	40	<5	43	
-	24 May 2016	SB3	-	-	-	-	-	Dry
ES1611233-003	24 May 2016	SD1	8.6	622	233	<5	25	
ES1611233-004	24 May 2016	SD2	9.5	451	25	<5	15	
ES1611233-005	24 May 2016	SD3	8.69	722	20	<5	16	
-	24 May 2016	SD4	-	-	-	-	-	Dry
ES1611233-006	24 May 2016	SD5	9.1	405	16	<5	10	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1611332-001	25 May 2016	A1	9.22	7380	8	<5	4	
ES1611332-002	25 May 2016	A2	9.04	8450	12	<5	<1	
ES1611332-003	25 May 2016	A3	8.87	8910	22	<5	6	
ES1611332-004	25 May 2016	B1	8.64	604	<5	<5	<1	
-	25 May 2016	B2	-	-	-	-	-	Under construction
ES1611332-005	25 May 2016	C	9.89	27400	34	8	4	
ES1611332-006	25 May 2016	D	8.4	846	25	<5	3	
ES1613724-001	22 June 2016	A1	9.1	7730	7	<5	4	
ES1613724-002	22 June 2016	A2	9.4	8860	66	<5	6	
ES1613724-003	22 June 2016	A3	8.85	9380	12	<5	5	
ES1613724-004	22 June 2016	B1	8.69	577	22	<5	38	
	22 June 2016	B2	-	-	-	-	-	Under construction
ES1613724-005	22 June 2016	C	9.79	25700	45	6	581	
ES1613724-006	22 June 2016	D	8.59	795	12	<5	61	
ES1613734-003	22 June 2016	BOX CUT	8.85	8170	141	6	9	
ES1613766-001	23 June 2016	SB1	8.93	10600	67	7	698	
ES1613766-002	23 June 2016	SB2	9.48	4240	51	<5	30	
ES1613766-003	23 June 2016	SB3	8.98	2020	36	<5	13	
ES1613766-004	23 June 2016	SD1	8.06	412	23	<5	18	
ES1613766-005	23 June 2016	SD2	7.94	313	26	<5	10	
ES1613766-006	23 June 2016	SD3	8.55	574	15	<5	17	
ES1613766-007	23 June 2016	SD4	8.16	1130	24	10	9	
ES1613766-008	23 June 2016	SD5	7.11	82	72	<5	15	
ES1613766-009	23 June 2016	SD6	9.07	1760	62	<5	23	
ES1616076-001	21 July 2016	SB1	9.18	7960	176	19	136	
ES1616076-002	21 July 2016	SB2	9.2	1190	203	<5	38	
ES1616079-001	21 July 2016	A1	9.02	7910	26	<5	46	
ES1616079-002	21 July 2016	A2	8.93	7900	94	<5	8	
ES1616079-003	21 July 2016	A3	8.94	7440	130	<5	18	
ES1616079-004	21 July 2016	B1	8.48	522	8	<5	2	
	21 July 2016	B2	-	-	-	-	-	Under construction
ES1616079-005	21 July 2016	C	9.78	25400	72	<5	2100	
ES1616079-006	21 July 2016	D	8.31	745	7	<5	3	
ES1616331-001	25 July 2016	SD6	8.97	1340	151	<5	20	
ES1616331-002	25 July 2016	BOX CUT	8.54	9570	2710	<5	21	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1616390-001	26 July 2016	SB3	9.38	3560	10	<5	17	
ES1616390-002	26 July 2016	SD1	7.98	297	<5	<5	18	
ES1616390-003	26 July 2016	SD2	7.86	269	<5	<5	13	
ES1616390-004	26 July 2016	SD3	8.19	439	<5	<5	12	
ES1616390-005	26 July 2016	SD4	8.28	986	8	<5	10	
ES1616390-006	26 July 2016	SD5	7.89	156	13	<5	12	
ES1616390-007	26 July 2016	SB4	9.03	1160	7	<5	3	
ES1618785-001	24 August 2016	A1	9.25	7950	41	<20	20	
ES1618785-002	24 August 2016	A2	8.94	7540	148	<5	12	
ES1618785-003	24 August 2016	A3	8.85	7480	338	<5	17	
ES1618785-004	24 August 2016	B1	8.67	496	22	<5	3	
	24 August 2016	B2	-	-	-	-	-	Under construction
ES1618785-005	24 August 2016	C	9.85	23200	38	<5	2080	
ES1618785-006	24 August 2016	D	8.7	598	9	<5	<1	
ES1621640-001	26 September 2016	SD6	8.27	857	46	<5	18	
ES1621762-001	27 September 2016	SB1	9.08	6390	58	<5	14	
ES1621762-002	27 September 2016	SB2	9.26	2060	14	<5	15	
ES1621762-003	27 September 2016	SB3	9.23	4570	7	<5	13	
ES1621762-004	27 September 2016	SD1	8.11	478	<5	<5	16	
ES1621762-005	27 September 2016	SD2	7.65	181	<5	<5	14	
ES1621762-006	27 September 2016	SD3	7.68	1240	6	<5	16	
ES1621762-007	27 September 2016	SD4	8.28	587	6	<5	5	
ES1621762-008	27 September 2016	SD5	7.29	127	<5	<5	17	
ES1621762-009	27 September 2016	SB4	9.12	3240	5	<5	3	
ES1621762-013	27 September 2016	Box Cut (New)	8.5	8820	2500	<5	10	
ES1621893-001	28 September 2016	A1	9.12	7400	8	<5	6	
ES1621893-002	28 September 2016	A2	8.94	7260	33	<5	10	
ES1621893-003	28 September 2016	A3	8.79	8060	67	<5	11	
ES1621893-004	28 September 2016	B1	8.46	465	<5	<5	3	
ES1621893-005	28 September 2016	B2	9.03	6160	12	<5	8	
ES1621893-006	28 September 2016	C	9.83	22900	45	<5	41	
ES1621893-007	28 September 2016	D	8.29	494	45	<5	7	
ES1624027-001	24 October 2016	SD6	8.9	936	69	<5	24	
ES1624027-003	24 October 2016	SB3	9.6	5410	16	<5	17	
ES1624169-001	25 October 2016	SB1	9.7	6950	20	<5	9	
ES1624169-002	25 October 2016	SB2	9.8	2450	21	<5	16	
ES1624169-003	25 October 2016	SD2	7.8	205	22	<5	13	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1624169-004	25 October 2016	SD1	8.4	502	<5	<5	11	
ES1624169-005	25 October 2016	SD3	7.3	546	9	<5	12	
ES1624169-006	25 October 2016	SD4	8.9	803	10	<5	8	
ES1624169-007	25 October 2016	SD5	7.5	155	<5	<5	15	
ES1624169-008	25 October 2016	SB4	9.4	3210	9	<5	3	
ES1624169-013	25 October 2016	Box Cut	8.9	8780	1060	<5	136	
ES1624321-001	26 October 2016	A1	8.9	7440	16	<5	3	
ES1624321-002	26 October 2016	A2	8.95	7850	11	<5	6	
ES1624321-003	26 October 2016	A3	8.89	8040	32	<5	1	
ES1624321-004	26 October 2016	B1	8.57	508	<5	<5	4	
ES1624321-005	26 October 2016	B2	8.99	7150	20	<5	6	
ES1624321-006	26 October 2016	C	9.47	23700	56	<5	878	
ES1624321-007	26 October 2016	D	8.47	449	5	<5	6	
ES1626862-001	23 November 2016	SB1	9.15	9980	107	<5	41	
ES1626862-002	23 November 2016	SB2	9.38	2940	11	<5	15	
ES1626862-003	23 November 2016	SD3	8.51	520	8	<5	8	
ES1626862-004	23 November 2016	SD4	9.27	958	32	<5	9	
ES1626866-001	23 November 2016	A1	9.01	7780	13	<5	14	
ES1626866-002	23 November 2016	A2	8.92	7900	50	<5	10	
ES1626866-003	23 November 2016	A3	8.87	8150	13	<5	7	
ES1626866-004	23 November 2016	B1	8.56	490	<5	<5	4	
ES1626866-005	23 November 2016	B2	9.28	7430	30	<5	20	
ES1626866-006	23 November 2016	C	9.62	24200	50	<5	<1	
ES1626866-007	23 November 2016	D	8.62	414	14	<5	80	
ES1627003-001	24 November 2016	SB3	9.52	7750	10	<5	22	
ES1627003-002	24 November 2016	SD1	8.31	582	8	<5	10	
ES1627003-003	24 November 2016	SD2	8.2	233	186	<5	11	
ES1627003-004	24 November 2016	SD5	8.07	199	40	<5	14	
ES1627003-005	24 November 2016	SD6	8.79	1080	20	<5	16	
ES1627003-011	24 November 2016	Box Cut (New)	8.8	8870	138	<5	32	
ES1627003-012	24 November 2016	SB4	9.33	3580	13	<5	5	
ES1629327-001	19 December 2016	SB1	9.9	8890	12	20	5	
ES1629327-002	19 December 2016	SB2	9.8	3430	40	13	23	
ES1629327-003	19 December 2016	SB3	9.8	8020	16	<5	20	
ES1629327-005	19 December 2016	Box Cut (New)	9.2	10500	1050	13	99	

Sample No.	Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)	Total Organic Carbon (TOC)	Comments
ES1629456-001	20 December 2016	SD1	8.4	661	31	<5	18	
ES1629456-002	20 December 2016	SD2	8.7	433	235	<5	15	
ES1629456-003	20 December 2016	SD3	8.9	552	40	<5	10	
ES1629456-004	20 December 2016	SD5	8.3	258	38	<5	16	
ES1629456-005	20 December 2016	SD6	9.2	1200	11	<5	19	
ES1629456-010	20 December 2016	SB4	9.9	3740	46	<5	6	
ES1629583-001	21 December 2016	A1	9.7	7970	7	<5	8	
ES1629583-002	21 December 2016	A2	9.3	8520	<5	<5	10	
ES1629583-003	21 December 2016	A3	9.7	8530	<5	<5	8	
ES1629583-004	21 December 2016	B1	8.6	522	<5	<5	8	
ES1629583-005	21 December 2016	B2	9.9	8130	22	<5	24	
ES1629583-006	21 December 2016	C	10.1	24000	70	7	212	
ES1629583-007	21 December 2016	D	8.7	436	17	<5	22	

Appendix B – *Groundwater Data*

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Mercury (Hg) - mg/L	pH Lab	EC - Lab - µS/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L							
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*									*1500*	*400*		*4000*
P1	NG1	1-Nov-07	1450	52.02	53.00																																					
		17-Dec-07		50.02	51.00																																					
Depth	50	23-Jan-08	1145	47.43	48.42																																					
Format.	Garrawilla	3-Mar-08	1230	46.53	47.51																																					
		2-Apr-08	1040	45.51	46.50																																					
		9-May-08	0826	44.25	45.23																																					
		2-Jun-08	1200	43.25	44.24																																					
		1-Jul-08	1150	42.00	42.98																																					
		11-Aug-08	1350	40.24	41.22																																					
		14-Aug-08	1047	40.15	41.13																																					
		19-Aug-08	0925	39.96	40.94																																					
		9-Sep-08	0830	42.82	43.80	7.6	470	20.8		0.008	0.684	0.003	0.0008	0.094	0.041	0.128	56.7	**0.516**	2.33	0.154	0.11	0.250	0.0001		3710	26	25	933	24	44.6	641	43	<1	<1	1190	1190	42.7	2.06	1.62				2380
		14-Nov-08	0956	45.86	46.84																																					
		3-Dec-08	1505	45.18	46.16																																					
		16-Feb-09	1255	42.24	43.22																																					
		11-Jun-09	1500							<0.001	0.237	<0.001	<0.0001	0.001	0.002	0.096	0.71	**0.198**	0.266	0.025	<0.1	0.235	<0.0001		3840	25	26	846	23	40.7	693	<10	<1	<1	1000	1000	39.6	1.33	0.24				2300
		17-Aug-09	0930	35.79	36.77	7.3	3920	23.5		0.009	0.954	0.002	0.0005	0.094	0.051	0.236	56.5	**0.24**	1.38	0.206	0.14	0.347	0.0002		4130	20	27	892	22	42.6	614	48.2	<1	<1	1120	1120	40.6	2.24	0.48				2520
		17-Nov-09	0920	42.30	43.28	7.21	2940	34.4		0.003	0.31	<0.001	0.0002	0.032	0.007	0.121	7.74	**0.236**	0.403	0.041	0.02	0.091	<0.0001		2370	7	20	471	13	22.8	346	40.4	<1	<1	624	624	23	0.57	0.35				1420
		24-Feb-10	1255	42.13	43.11																																					
		24-Jun-10	1515	37.00	37.98	7.44	4060	21		<0.001				<0.005		0.006	<0.05	0.002	0.009	0.003		0.036	<0.0001	7.5	3810	23	29	928	28	44.6	662	44.2	<1	<1	1080	1080	41.2	3.9		<0.01	1.8	1.8	
		3-Sep-10	1100	34.86	35.84	7.53	3830	22.1																																			
		9-Feb-11	1340	30.08	31.06	7.31	2960	28.4		<0.001				<0.005		0.019	<0.05	0.012	0.06	0.004		0.088	<0.0001	7.47	3770	19	22	792	22	37.8	680	39	<1	<1	957	957	39.1	1.78		<0.01	0.69	0.69	
		9-Jun-11	1340	27.49	28.47	7.35	3180	20.4																																			
		27-Sep-11	930	25.63	26.61	7.41	3520	20.8	0.03	<0.001	0.301	<0.001	<0.0001	<0.001	<0.001	0.024	0.24	0.036	0.207	0.008	<0.01	0.045	<0.0001	8.31	3970	20	26	916	25	43.6	716	38	<1	5	994	999	41	3.12	0.24	<0.01	0.02	0.02	2260
		4-Jan-12	1350	24.98	25.96	7.44	3255	24.1																																			
		28-Mar-12	1350	24.20	25.18	7.5	3130	22.7	0.07	<0.001	0.316	<0.001	<0.0001	<0.001	<0.001	0.013	0.12	0.026	0.002	0.01	<0.01	0.054	<0.0001	7.96	3870	25	30	913	25	44.1	716	46	<1	<1	1050	1050	42.1	2.2	0.01	<0.01	0.49	0.49	2230
		25-Jun-12	1340			No access to property																																					
		11-Sep-12	1415	20.55	21.53	7.64	3800	23.5	0.09	<0.001	0.328	<0.001	<0.0001	<0.001	<0.001	0.012	0.15	0.03	0.116	0.003	<0.01	0.029	<0.0001	8.05	3980	8	26	884	24	41.6	685	41	<1	<1	1090	1090	42	0.46	0.02	<0.01	0.46	0.46	2140
		06-Dec-12	1340	22.56	23.54	7.73	3670	22.7																																			
		03-Apr-13	1350			7.77	3920	23.4	0.07	<0.001	0.331	<0.001	0.0001	<0.001	<0.001	0.057	0.18	0.017	0.022	0.002	<0.01	0.115	<0.0001	7.79	4040	23	31	925	29	44.7	687	37	<1	<1	1030	1030	40.7	4.58	<0.01	<0.01	0.6	0.6	2230
		04-Jul-13	1020	21.92	22.90	7.7	3890	21.5																																			
		04-Sep-13				No access to property																																					
		04-Dec-13	1245	21.25	22.23	7.6	3680	24.1																																			
		06-Mar-14	1330	21.08	22.06	7.6	3660	23.6	0.09	<0.001	0.356	<0.001	<0.0001	0.004	<0.001	0.056	0.13	0.008	0.062	0.004	<0.01	0.067	<0.0001	7.9	3830	19	25	848	28	40.6	641	34	<1	<1	949	949	37.8	3.6	0.05	<0.01	0.43	0.43	1780
		11-Jun-14	1345	21.29	22.27	7.6	3570	20.2																																			
		30-Sep-14	933	20.76	21.74	7.4	3730	22.9	0.08	<0.001	0.462	<0.001	<0.0001	<0.001	<0.001	0.03	0.18	0.002	0.036	0.005	<0.01	0.092	<0.0001	7.92	3890	17	24	861	22	40.8	613	36	<1	<1	902	902	36.1	6.17	0.02	<0.01	0.53	0.53	2080
		03-Dec-14	1355	20.87	21.85	7.3	3680	21.8																																			
		12-Mar-15	900	20.45	21.43	7.5	3780	21.6	0.04	<0.001	0.388	<0.001	<0.0001	<0.001	<0.001	0.014	0.1	0.01	0.026	0.007	<0.01	0.059	<0.0001	8	3910	23	30	926	24	44.5	676	37	<1	<1	1100	1100	41.8	3.08	0.02	<0.01	0.71	0.71	1860
		05-Jun-15	1105	20.71	21.69	7.4	3690	21.4																																			
		10-Sep-15	1400	20.19	21.17	7.5	3740	22.9	0.02	<0.001	0.388	<0.001	<0.0001	<0.001	<0.001	0.007	0.06	<0.001	0.08	0.002	<0.01	0.037	<0.0001	7.83	3970	32	51	1010	23	50.3	722	34	<1	<1	1010	1010	41.2	9.86	0.43	<0.01	0.54	0.54	2180
		14-Dec-15	1415	20.64	21.62	7.5	3750	23																																			
		09-Mar-16	1355	20.64	21.62	7.6	3770	23.2	0.04	<0.001	0.397	<0.001	<0.0001	<0.0001	<0.001	0.019	0.06	0.002	0.326	0.005	<0.01	0.062	<0.0001	7.89	3960	24	26	840	23	40.5	654	38	<1	<1	1050	1050	40.2	0.26	0.28	<0.01	0.33	0.33	2000
		31-May-16	915	20.70	21.68	7.5	3810	21.1																																			
		28-Sep-16	1325	20.58	21.56	7.5	3630	21.9	0.06	0.001	0.436	<0.001	<0.0001	<0.001	<0.001	0.008	0.08	<0.001	0.326	0.004	<0.01	0.07	<0.0001	7.9	3760	24	23	820	21	39.3	635	28	<1	<1	1080	1080	40.1	1.02	0.45	<0.01	0.38	0.38	1930
		27-Oct-16	1215	20.86	21.84	7.5	3510	22.5																																			
		25-Nov-16	1120	21.16	22.14	7.6	3580	21.8																																			
		21-Dec-16	1300	21.32	22.3	7.6	3520	22.3																																			
		20-Jan-17	1345	21.12	22.1	7.6	3680	22.5																																			
		22-Feb-17	1350	21.30	22.28	7.5	3720	22.4																																			
		28-Mar-17	1440	21.41	22.39	7.7	4210	22.5																																			
		27-Apr-17	1345	21.36	22.34	7.7	4140	22.7																																			
		30-May-17	1340	21.26	22.24	7.6	3840	21.1																																			
		29-Jun-17				No access to property																																					
		28-Jul-17	1240	21.14	22.12	7.6	3790	21.5																																			
		29-Aug-17	1415	21.25	22.23	7.7	3820	21.6																																			
		26-Sep-17	1415	21.50	22.48	7.7	3830	22.5	0.01	<0.001	0.47	<0.001	<0.0001	<0.001	<0.001	0.002	<0.05	0.003	0.352	0.002	<0.01	0.032	<0.0001	8.01	3890	31	34	814	21	40.3	621	25	<1	<1	1050	1050	39	1.6	0.37	<0.01	0.23	0.23	2180
		27-Oct-17	1220	21.89	22.87	7.7	3910	22.2																																			
		27-Nov-17	1410	22.06	23.04	7.6	3850	20.8																																			
		21-Dec-17	1220	22.27	23.25	7.5	3820	22.7																																			
							4028.5	33.05	0.069	0.00885	0.8902	0.002	0.000493	0.0909	0.0488	0.21875	51.624	0.2394	1.23345	0.18125	0.137	0.3302	0.0002	8.2838	4106	25	29.85	926.2	27.55	44.525	716	47.925	#NUM!	5	1114	1114	41.965	3.783	0.467	#NUM!	1.71675	1.71675	2498
							4210	24.1	0.09	0.001	0.47	0	0.0001	0.004	0	0.057	0.18	0.03	0.352	0.007	0	0.115	0	8.05	4040	32	51	1010	29	50.3	722	41	0	0	1100	1100	42	9.86	0.45	0	0.71	0.71	2230
P2	NG2	1-Nov-07	1420	30.58	31.50																																					
		17-Dec-07		29.58	30.50																																					
Depth	50	23-Jan-08	1120	28.97	29.90																																					
Format.	Napperby	3-Mar-08	1655	29.48	30.40																																					
		2-Apr-08	1100	29.46	30.38																																					
		9-May-08	0846	29.45	30.38																																					
		2-Jun-08	1224	29.46	30.39																																					
		1-Jul-08	1215	29.43	30.35																																					
		11-Aug-08	1435	29.44	30.36																																					
		14-Aug-08	1105	29.45	30.37																																					
		19-Aug-08	1055	29.45	30.37																																					
		9-Sep-08	1030	29.88	30.80	7.2	15700	20.8		0.010	1.40	0.004	0.0006	0.024	0.029	0.057	33.4	0.091	2.96	0.048	0.06	0.093	<0.0001		17100	189	453	4060	126	227	5650	366	<1	<1	2550	2550	218	1.97	4.52				**12900**
		14-Nov-08	1012	29.64	30.56																																					
		3-Dec-08	1445	29.51	30.43																																					
		16-Feb-09	1329	29.32	30.23																																					
		11-Jun-09	1500							0.004	0.613	<0.001	<0.0001	0.016	0.021	0.025	8.81	**0.124**	2.44	0.039	0.02	0.108	<0.0001		19300	184	397	3770	90	208	5790	181	<1	<1	2890	2890	225	3.83	3.31				**13400**
		17-Aug-09	1125	29.33	30.24	6.5	33100	25.3		0.004	0.896	<0.001	0.0001	0.026	0.024	0.057	7.47	0.032	2.37	0.057	0.02	0.064	0.0002		20300	250	585	3650	83	222	5720	247	<1	<1	3000	3000	226	1.12	2.47				**12800**
		17-Nov-09	1020	29.31	30.22	6.58	20400	32.4		0.041	8.41	0.008	0.0009	0.215	0.103	0.463	167	**0.152**	4.64	0.284	0.25	0.493	0.0002		18900	6	434	3630	78	196	5300	276	<1	393	2360	2750	210	3.51	2.88				**12800**
		24-Feb-10	1220	29.29	30.20																																					
		24-Jun-10	1415	29.19	30.10	6.62	19740	21	<0.01	0.003				<0.005		0.002	<0.05	0.012	1.53	0.035		0.098	<0.0001	6.92	17200	115	465	3320	108	191	5960	362	<1	<1	<1	<1	176	4.22		<0.01	0.2	0.2	
		3-Sep-10	0930	29.06	29.97	6.8	19650	21.5																																			
		8-Feb-11	1030	29.07	29.98	6.27	17090	25	0.01	0.005				<0.005		0.01	<0.05	0.002	1.64	0.017		0.013	<0.0001	6.45	20600	170	440	4520	91	244	6080	408	<1	<1	3380	3380	248	0.82		<0.01	<0.01	<0.01	
		08-Jun-11	1230	28.95	29.86	6.55	15990	20.7																																			
		26-Sep-11	1340	28.94	29.85	6.55	17150	22.7	0.6	0.014	0.474	0.001	0.0001	0.004	0.016	0.024	1.38	**0.135**	2.07	0.042	0.01	0.121	<0.0001	6.91	20500	157	432	4760	91	253	5880	344	<1	<1	2860	2860	230	4.65	3.1	<0.01	0.5	0.5	**12500**
		4-Jan-12	1310	28.79	29.70	6.43	17090	23.7																																			
		28-Mar-12	1320	28.29	29.2	6.85	15250	22.8	0.12	<0.001	0.437	<0.001	<0.0001	0.008	<0.001	0.016	0.66	**1.96**	0.019	0.018	<0.01	0.087	<0.0001	7.44	20000	170	452	4660	87	251	6190	393	<1	<1	3020	3020	243	1.49	2.54	<0.01	0.16	0.16	**13200**
		25-Jun-12	1320	28.73	29.64	6.71	17300	22.2																																			
		11-Sep-12	1350	28.21	29.12	6.53	17840	23.3	0.03	0.003	0.417	<0.001	<0.0001	0.001	0.007	0.014	0.66	0.004	1.84	0.016	<0.01	0.047	<0.0001	7.4	20400	160	426	4600	98	246	5820	385	<1	<1	3030	3030	233	2.67	0.19	<0.01	0.12	0.12	**12600**
		06-Dec-12	1300	28.71	29.62	6.51	18410	23.1																																			
		03-Apr-13	1320	28.59	29.5	6.94	18500	24.2	0.12	<0.001	0.374	<0.001	0.0001	0.006	0.008	0.027	0.64	0.024	1.8	0.025	<0.01	0.112	<0.0001	7.15	20400	184	475	4330	134	240	5580	331	<1	<1	2750	2750	219	4.5	2.9	<0.01	0.47	0.47	**12000**
		04-Jul-13	1045	28.63	29.54	6.91	18460	22																																			
		04-Sep-13	1330	28.69	29.6	6.92	18200	23	0.17	<0.010	0.331	<0.010	<0.0010	<0.010	<0.010	0.148	0.77	0.015	1.59	0.016	<0.10	0.163	<0.0001	7.15	20400	147	400	4290	107	230	5720	343	<1	<1	2950	2950	227	0.44	3.57	<0.01	0.66	0.66	**12800**
		04-Dec-13	1130	28.65	29.56	6.9	18340	22.4																																			
		07-Mar-14	925	28.65	29.56	6.9	18800	22.5	0.14	<0.001	0.429	<0.001	0.0002	0.015	0.005	0.061	0.58	0.006	1.92	0.018	<0.01	0.131	<0.0001	7.17	20800	189	449	4660	130	252	5160	357	<1	<1	2750	2750	208	9.63	2.74	<0.01	0.28	0.28	**12100**
		10-Jun-14	1420	28.27	29.18	6.9	19100	20.1																																			
		29-Sep-14	1405	28.72	29.63	6.9	18910	22.8	0.16	<0.001	0.42	<0.001	<0.0001	0.002	0.002	0.009	1.12	0.004	1.91	0.005	<0.01	0.046	<0.0001	7.16	20600	162	448	4240	123	232	5700	365	<1	<1	3080	3080	230	0.54	3.93	<0.01	0.12	0.12	**11200**
		04-Dec-14	900	28.72	29.63	6.9	18850	21.6																																			
		12-Mar-15	930	28.71	29.62	6.9	19230	22.9	0.18	<0.001	0.346	<0.001	<0.0001	0.005	0.002	0.024	1.43	0.015	1.64	0.012	<0.01	0.151	<0.0001	7.32	20300	162	418	4170	90	226	6000	305	<1	<1	2470	2470	225	0.24	2.66	<0.01	0.31	0.31	**12100**
		04-Jun-15	1300	28.66	29.57	6.8	19290	21.6																																			
		10-Sep-15	1320	28.75	29.66	6.7	19320	23.5	<0.10	<0.010	0.393	<0.010	<0.0010	<0.010	<0.010	<0.010	1.37	<0.010	1.7	<0.010	<0.10	0.169	<0.0001	6.9	20800	194	391	4180	85	226	6100	338	<1	<1	3880	3880	257	6.41	3.52	0.02	0.02	0.04	**12100**
		15-Dec-15	1230	28.83	29.74	6.9	19860	22.6																																			
		08-Mar-16	1350	28.96	29.87	7	19270	24.7	0.04	<0.001	0.354	<0.001	<0.0001	<0.001	0.001	0.024	0.62	0.002	1.58	0.014	<0.01	0.162	<0.0001	7.69	21000	134	328	3250	65	177	5450	373	<1	<1	2560	2560	213	9.26	1.67	0.1	0.23	0.33	**12000**
		01-Jun-16	900	28.85	29.76	6.9	17520	21.1																																			

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Major Cations					Major Anions												
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L	Total Cations - meq/L	Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L	Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*								*1500*	*400*		*4000*
		27-Sep-16	1015	28.76	29.67	6.8	17560	22.3	0.07	<0.001	0.399	<0.001	<0.0001	<0.001	<0.001	0.002	1.16	<0.001	1.9	0.006	<0.01	0.086	<0.0001	6.91	20500	168	425	3920	82	216	5060	255	<1	<1	3150	3150	211	1.14	2.72	0.06	0.08	0.14	**12800**
		26-Oct-16	1430	28.79	29.7	6.8	17650	22.3																																		
		25-Nov-16	1340	28.78	29.69	6.8	17420	22.1																																		
		19-Dec-16	1340	28.79	29.7	6.7	17910	22.8																																		
		24-Jan-17	1320	28.84	29.75	6.8	18100	23.2																																		
		21-Feb-17	1445	28.81	29.72	6.8	17920	22.7																																		
		28-Mar-17	1415	28.72	29.63	6.9	18740	22.6																																		
		20-Apr-17	1430	28.78	29.69	6.8	18860	22.8																																		
		30-May-17	1230	28.76	29.67	6.8	17960	22.3																																		
		27-Jun-17	1425	28.76	29.67	6.8	18150	21.8																																		
		25-Jul-17	1420	28.78	29.69	6.9	18790	22																																		
		28-Aug-17	1250	28.85	29.76	6.8	18470	21.9																																		
		25-Sep-17	1230	28.85	29.76	6.8	19340	21.6	0.04	<0.001	0.361	<0.001	<0.0001	<0.001	0.001	0.003	0.78	<0.001	1.79	0.004	<0.01	0.024	<0.0001	7.5	21200	180	438	4340	85	236	5240	323	<1	<1	2820	2820	211	5.62	3.55	<0.01	0.06	0.06	13400
		27-Oct-17	1150	28.82	29.73	6.8	19240	22.4																																		
		24-Nov-17	1435	28.83	29.74	6.8	19570	22.8																																		
		19-Dec-17	1410	28.83	29.74	6.7	19510	23.4																																		
							30242.5	30.8025	0.576	0.03763	7.6586	0.007825	0.00086	0.1961	0.0971	0.4021	151.18	1.6888	4.31	0.24995	0.23275	0.4372	0.0002	7.401	20585	240.1	567	4745	105.45	252.7	6173.5	405.75	#NUM!	393	3335	3335	247.25	4.5855	3.289	#NUM!	0.485	0.485	13380
							19860	24.7	0.18	0.003	0.429	0	0.0002	0.015	0.008	0.148	1.43	0.024	1.92	0.025	0	0.169	0	7.69	21200	194	475	4660	134	252	6100	385	0	0	3880	3880	257	9.63	3.93	0.1	0.66	0.66	13400
P3	**NG3**	**1-Nov-07**	1530	9.92	10.85																																					
		17-Dec-07		10.07	11.00																																					
Depth	**45**	**23-Jan-08**	1400	9.32	10.25																																					
Format.	**Pamboola**	**3-Mar-08**	1640	9.87	10.80																																					
		2-Apr-08	1200	9.89	10.83																																					
		9-May-08	1002	9.90	10.83																																					
		2-Jun-08	1353	9.90	10.84																																					
		1-Jul-08	1345	9.91	10.84																																					
		11-Aug-08	1610	9.92	10.85																																					
		9-Sep-08	1300	9.77	10.70	7.07	1340	20.2		0.005	0.092	0.002	0.0002	0.004	0.006	0.002	0.76	0.030	0.496	0.014	<0.01	0.014	<0.0001		15800	331	504	3190	60	198	5250	**1230**	<1	<1	1310	1310	200	0.44	0.94				**11700**
		14-Nov-08	0930	9.89	10.83																																					
		1-Dec-08	1120	9.86	10.80																																					
		12-Jan-09	1223	9.86	10.80																																					
		9-Dec-09	0945	9.90	10.83	6.64	18620	25.8	0.02	<0.001				<0.005		0.004	<0.05	<0.001	0.348	0.025		0.016	<0.0001	6.82	14500	257	467	3440	51	202	5230	**1160**	<1	<1	1270	1270	197	1.24		0.02	<0.01	<0.01	
		24-Feb-10	0920	9.90	10.83																																					
		23-Jun-10	1205	9.92	10.85	6.3	18570	21	<0.01	0.003				<0.001		0.012	<0.05	0.003	0.358	0.014		0.069	<0.0001	6.68	13900	266	450	3490	53	203	5860	**1310**	<1	<1	1340	1340	219	3.79		<0.01	0.03	0.03	
		3-Sep-10	0915	9.89	10.82	6.57	17620	21.1																																		
		8-Feb-11	1200	9.90	10.83	6.48	14780	25.9	<0.01	0.003				<0.005		0.004	<0.05	<0.001	0.27	0.013		0.014	<0.0001	6.47	18800	300	0.27	3040	50	190	5100	**1120**	<1	<1	1240	1240	192	0.59		0.02	0.02	0.02	
		08-Jun-11	1240	9.89	10.82	6.55	14430	20.4																																		
		27-Sep-11	1020	9.88	10.81	6.51	16030	21.3	0.02	<0.001	0.125	<0.001	<0.0001	0.001	0.005	0.015	0.2	0.004	0.355	0.02	<0.01	0.071	<0.0001	7.7	19000	275	526	3760	44	222	5670	**1310**	<1	<1	1230	1230	212	2.26	0.35	<0.01	<0.01	<0.01	**12100**
		3-Jan-12	1050	8.85	9.78	6.56	15820	22.5																																		
		28-Mar-12	915	9.84	10.77	7.15	13220	22.4	0.11	0.001	0.116	<0.001	0.0001	0.001	<0.001	0.034	0.18	**0.242**	0.015	0.032	<0.01	0.167	<0.0001	7.42	18200	303	532	3900	48	230	5810	**1450**	<1	<1	1220	1220	218	2.5	<0.10	<0.01	0.38	0.38	**11300**
		25-Jun-12	915	9.87	10.8	6.82	18250	19.5																																		
		11-Sep-12	1010	9.84	10.77	6.7	15880	21.6	0.06	0.003	0.098	<0.001	0.0001	<0.001	0.003	0.041	0.17	0.004	0.304	0.015	<0.01	0.132	<0.0001	7.47	18400	290	540	3960	59	233	5910	**1250**	<1	<1	1440	1440	222	2.44	<0.10	<0.01	<0.01	<0.01	**12300**
		04-Dec-12	1115	9.85	10.78	6.82	15790	22																																		
		03-Apr-13	910	9.87	10.8	6.95	15800	20.2	0.88	<0.001	0.108	<0.001	0.0003	0.002	0.001	0.096	0.94	0.005	0.044	0.013	<0.01	0.308	<0.0001	7.22	18800	343	555	3620	70	222	5240	**1350**	<1	<1	1280	1280	202	4.83	0.04	<0.01	0.31	0.31	**11700**
		04-Jul-13	945	9.87	10.8	7.04	16920	20.6																																		
		03-Sep-13	900	9.87	10.8	7.05	16500	21.7	0.23	<0.001	0.101	<0.001	0.0003	<0.001	<0.001	0.219	1.48	0.011	0.045	0.01	<0.01	0.306	<0.0001	7.76	18700	285	530	3900	58	229	5600	**1200**	<1	<1	1230	1230	208	4.89	0.04	<0.01	0.36	0.36	**12000**
		02-Dec-13	920	9.81	10.74	7.1	17740	20.7																																		
		07-Mar-14	1025	9.83	10.76	7	17200	22	0.44	0.001	0.13	<0.001	0.0002	0.016	0.002	0.111	1.61	0.026	0.243	0.018	<0.01	0.307	<0.0001	7.19	18700	302	539	4180	71	243	5060	**1270**	<1	<1	1220	1220	194	11.3	<0.10	<0.01	0.44	0.44	**12300**
		10-Jun-14	915	9.86	10.79	6.9	17550	20.2																																		
		29-Sep-14	900	9.84	10.77	6.6	17380	21.1	0.03	<0.001	0.115	<0.001	0.0002	<0.001	0.004	0.057	0.08	0.004	0.288	0.013	<0.01	0.193	<0.0001	7.5	18700	188	482	2920	52	177	5380	**1340**	<1	<1	1120	1120	202	6.51	0.1	0.05	0.08	0.13	**11900**
		05-Dec-14	1135	9.85	10.78	6.8	17410	21.7																																		
		12-Mar-15	1050	9.81	10.74	6.9	17380	22.3	0.02	<0.001	0.088	<0.001	<0.0001	0.007	0.004	0.021	0.26	0.004	0.262	0.013	<0.01	0.196	<0.0001	7.46	18600	318	544	3690	49	222	5250	**1260**	<1	<1	1330	1330	201	5.06	0.11	<0.01	0.07	0.07	**11800**
		03-Jun-15	900	9.85	10.78	6.8	18010	20.6																																		
		08-Sep-15	910	9.77	10.7	6.9	17300	20.3	0.05	0.001	0.132	<0.001	<0.0001	<0.001	0.003	0.012	0.86	0.004	0.295	0.01	<0.01	0.285	<0.0001	7.54	18600	290	390	3000	47	178	4440	**1080**	<1	<1	1160	1160	171	2.09	0.19	<0.01	0.01	0.01	**12100**
		09-Dec-15	1200	9.82	10.75	7	18180	21.9																																		
		08-Mar-16	1220	9.80	10.73	7.1	17570	23.6	0.09	<0.001	0.091	<0.001	0.0001	<0.001	<0.001	0.068	0.3	0.004	0.115	0.01	<0.01	0.226	<0.0001	7.72	18900	285	451	3170	45	190	5270	**1390**	<1	<1	1130	1130	200	2.53	0.03	<0.01	0.82	0.82	**12600**
		02-Jun-16	1030	9.82	10.75	7.1	17340	20.2																																		
		27-Sep-16	1115	9.77	10.7	7.1	16670	22.8	0.09	<0.001	0.087	<0.001	0.0002	<0.001	<0.001	0.034	0.22	0.002	0.143	0.012	<0.01	0.242	<0.0001	7.58	18600	283	493	3330	42	201	4780	**1390**	<1	<1	1350	1350	191	2.5	<0.01	<0.01	0.63	0.63	**11800**
		27-Oct-16	1035	9.81	10.74	7.1	16590	22.5																																		
		25-Nov-16		9.75	10.68	7.1	16430	22.6																																		
		21-Dec-16	1115	9.74	10.67	7	16720	22.3																																		
		20-Jan-17	1220	9.77	10.7	7.1	16690	22.6																																		
		21-Feb-17				No access																																			
		29-Mar-17	1350	9.65	10.58	7.1	15870	22.1																																		
		27-Apr-17	1015	9.75	10.68	7	16490	20.5																																		
		30-May-17	1110	9.73	10.66	7	16240	19.8																																		
		27-Jun-17	1115	9.76	10.69	7	16310	19.9																																		
		28-Jul-17	1030	9.73	10.66	7.1	16520	20																																		
		28-Aug-17	1040	9.75	10.68	7	17320	20.3																																		
		25-Sep-17	1110	9.64	10.57	7.1	17320	22.1	0.03	<0.001	0.084	<0.001	0.0001	<0.001	0.001	0.02	0.18	<0.001	0.182	0.01	<0.01	0.191	<0.0001	7.63	19900	282	472	3280	44	197	4920	1120	<1	<1	948	948	181	4.15	0.02	<0.01	0.68	0.68	10500
		27-Oct-17	1045	9.70	10.63	7.1	17140	22.4																																		
		28-Nov-17	1125	9.78	10.71	6.9	17560	22																																		
		20-Dec-17	1015	9.71	10.64	6.9	17720	22.3																																		
							18610	25.88	0.1055	0.003	0.12478	#NUM!	0.0001	0.001	0.005	0.0321	0.1995	0.2301	0.3577	0.0313	#NUM!	0.1574	#NUM!	7.672	18980	302.7	531.4	3886	52.8	229.2	5855	1436	#NUM!	#NUM!	1333	1333	218.9	3.661	0.35	0.02	0.3625	0.3625	12080
							18250	23.6	0.88	0.003	0.132	0	0.0003	0.016	0.004	0.219	1.61	0.026	0.304	0.018	0	0.308	0	7.76	19900	343	555	4180	71	243	5910	1390	0	0	1440	1440	222	11.3	0.19	0.05	0.82	0.82	12600
P4	**NG4**	**1-Nov-07**	1610	18.49	19.40																																					
		11-Dec-07		18.09	19.00																																					
Depth	**30**	**17-Dec-07**		18.09	19.00																																					
Format.	**Napperby**	**23-Jan-08**	1225	17.82	18.73																																					
		3-Mar-08	1505	18.3	19.21																																					
		2-Apr-08	1305	18.29	19.20																																					
		9-May-08	1110	18.26	19.17																																					
		2-Jun-08	1505	18.275	19.19																																					
		1-Jul-08	1448	18.24	19.15																																					
		11-Aug-08	1703	18.19	19.10																																					
		9-Sep-08	1400	17.99	18.9	6.7	1560	21.2		0.008	0.265	0.003	<0.0001	0.005	0.033	0.006	3.93	0.027	6.20	0.024	<0.01	0.013	<0.0001		17700	355	699	4550	124	276	7650	**1700**	<1	<1	1840	1840	288	2.10	1.70				**16800**
		14-Nov-08	0920	18.16	19.06																																					
		1-Dec-08	1315	18.12	19.02																																					
		12-Jan-09	1239	18.10	19.00																																					
		23-Feb-09	1045	18.06	18.96																																					
		9-Jun-09	1100	18.55	19.40	6.9	25600	20.8		0.003	0.165	<0.001	<0.0001	0.056	0.026	0.006	14.4	0.047	4.99	0.066	0.02	0.044	<0.0001		25200	288	640	5670	86	316	7850	**1470**	<1	<1	2220	2220	297	3.1	0.48				**16200**
		24-Aug-09	1310	18.11	18.99																																					
		18-Nov-09	1455	18.12	19.00	6.51	25700	25.1	0.04	0.004				<0.005		0.013	<0.05	0.009	3.61	0.043		0.053	<0.0001	6.73	23700	351	706	6200	115	348	8700	**1560**	<1	<1	1850	1820	314	5.04		<0.01	0.1	0.1	
		18-Feb-10	1100	17.88	18.76																																					
		22-Jun-10	1420	18.09	18.97	8.2	25700	22	<0.01	0.001				<0.005		0.006	0.09	0.001	3.19	0.024		0.032	<0.0001	6.71	23700	249	591	5070	98	284	8020	**1430**	<1	<1	2340	2340	303	3.22		<0.01	0.04	0.04	
		3-Sep-10	1130	17.98	18.86	6.69	24290	22.1																																		
		7-Feb-11	1430	17.97	18.85	6.94	19920	28.6	0.01	0.004				<0.001		0.015	<0.05	<0.001	3.19	0.009		0.029	<0.0001	6.42	25600	232	599	5580	103	306	8050	**1490**	<1	<1	2070	2070	299	1.1		<0.01	0.05	0.05	
		08-Jun-11	1350	17.93	18.81	6.80	19820	20.8																																		
		27-Sep-11	1050	17.91	18.79	6.70	22130	22.5	0.03	0.008	0.104	<0.001	<0.0001	0.001	0.02	0.01	0.17	0.01	2.61	0.027	<0.01	0.076	<0.0001	7.83	26600	179	661	5690	89	313	7730	**1690**	<1	<1	1970	1970	293	3.36	0.8	<0.01	0.1	0.1	**17200**
		3-Jan-12	1000	17.82	18.70	6.45	22910	23.4																																		
		22-Mar-12	1050	17.77	18.65	6.75	19830	23.6	0.48	<0.001	0.112	<0.001	<0.0001	0.003	0.02	0.048	0.58	0.012	2.97	0.028	<0.01	0.143	<0.0001	7.42	24800	240	592	5260	99	292	7590	**1780**	<1	<1	1990	1990	291	0.17	1.37	0.15	0.01	0.16	**17500**
		01-Jun-12	1100	17.87	18.75	6.69	17650	21.3																																		
		10-Sep-12	1150	17.88	18.76	6.4	24900	21.9	0.05	0.002	0.101	<0.001	<0.0001	0.002	0.018	0.019	1.24	0.004	2.47	0.017	<0.01	0.064	<0.0001	7.21	26400	219	593	5660	110	309	7510	**1670**	<1	<1	2380	2380	294	2.39	0.96	<0.01	0.3	0.3	**17100**

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*						*1500*	*400*		*4000*
		04-Dec-12	1025	17.86	18.74	6.53	25500	23.1																																
		07-Mar-13	1240	17.82	18.7	6.52	25400	24.8	**5.75**	0.006	1.39	<0.001	0.0002	0.018	0.023	0.072	23.3	0.05	4.49	0.026	0.03	0.133	<0.0001	6.79	26400	280	716	5420	131	312	7300	**1650**	<1	<1	2340	2340	287	4.15	3.78	0.02	0.67	0.69	**15500**
		03-Jul-13	1300	17.97	18.85	6.91	24860	21.8																																
		03-Sep-13	930	18.02	18.9	6.97	23400	21.9	2.65	0.004	0.312	<0.001	0.0002	0.007	0.008	0.317	9.38	**0.13**	2.68	0.012	0.01	0.312	<0.0001	7.73	25900	262	695	5850	133	328	7700	**1680**	<1	<1	2170	2170	296	4.97	19.6	1.14	2.88	4.02	**10800**
		04-Dec-13	1100	17.94	18.82	6.9	24600	23.4																																
		07-Mar-14	1055	17.97	18.85	6.9	25600	24.1	0.52	0.002	0.14	<0.001	0.0004	0.021	0.007	0.159	1.43	0.033	2.69	0.019	<0.01	0.318	<0.0001	7.15	26300	266	708	5980	151	336	6860	**1680**	<1	<1	2190	2190	272	10.4	5.21	<0.01	3.71	3.71	**17800**
		10-Jun-14	945	17.98	18.86	7	25450	20.5																																
		29-Sep-14	920	17.92	18.8	6.8	25840	22	0.18	0.003	0.123	<0.001	0.0002	0.004	0.009	0.051	2.18	0.012	2.44	0.014	<0.01	0.17	<0.0001	7.28	26200	217	603	4330	108	252	7430	**1560**	<1	<1	2010	2010	282	5.77	6.15	<0.01	0.07	0.07	**16500**
		04-Dec-14	1250	17.94	18.82	6.9	25190	21.7																																
		11-Mar-15	1245	17.86	18.74	6.6	23460	24.4	0.59	<0.010	0.166	<0.010	<0.0010	<0.010	0.013	0.03	2.65	0.025	2.58	0.014	<0.10	0.111	<0.0001	7.23	24400	223	553	4580	90	258	7540	**1620**	<1	<1	2170	2170	290	5.79	4.67	0.08	3.74	3.82	**15700**
		04-Jun-15	1400	17.91	18.79	6.7	23370	21.9																																
		09-Sep-15	1035	17.76	18.64	6.6	25280	21.8	<0.10	<0.010	0.103	<0.010	<0.0010	<0.010	<0.010	<0.010	2.17	<0.010	1.87	<0.010	<0.10	0.084	<0.0001	7.19	26400	221	513	4200	81	238	5640	**1660**	<1	<1	2200	2200	238	0.06	3.48	<0.01	0.29	0.29	**16900**
		09-Dec-15	1135	17.75	18.63	6.5	25400	22.8																																
		08-Mar-16	1150	17.73	18.61	7	23970	23.3	0.17	<0.010	0.153	<0.010	<0.0010	<0.010	<0.010	0.058	0.65	<0.010	2.38	0.011	<0.10	0.365	<0.0001	7.46	26000	242	593	4800	91	272	6930	**1860**	<1	<1	1890	1890	272	0.02	2.45	0.23	6.51	6.74	**17600**
		01-Jun-16	1220	17.68	18.56	7	23560	21.7																																
		26-Sep-16	1430	17.55	18.43	6.9	24270	21.5	0.1	0.002	0.114	<0.001	0.0002	<0.001	0.012	0.029	0.43	0.008	2.55	0.016	<0.01	0.346	<0.0001	7.23	25800	276	670	5070	92	292	7400	**1560**	<1	<1	2390	2390	289	0.46	2.56	<0.01	0.53	0.53	**16800**
		26-Oct-16	1325	17.59	18.47	6.8	24120	21.9																																
		23-Nov-16	1310	17.48	18.36	6.7	24050	23.1																																
		19-Dec-16	1315	17.53	18.41	6.7	24140	23																																
		24-Jan-17	1055	17.52	18.4	6.7	24250	22.8																																
		21-Feb-17	1330	17.54	18.42	6.9	24010	22.2																																
		28-Mar-17	1315	17.46	18.34	6.7	23810	23.2																																
		20-Apr-17	1320	17.51	18.39	6.7	23940	22.5																																
		24-May-17	1355	17.49	18.37	6.6	24230	22.7																																
		30-Jun-17	1210	17.48	18.36	6.6	24120	21.3																																
		28-Jul-17	1110	17.48	18.36	6.5	24860	21.2																																
		28-Aug-17	1115	17.50	18.38	6.5	23960	21.8																																
		25-Sep-17	1145	17.45	18.33	6.6	24480	22.1	0.02	<0.001	0.076	<0.001	<0.0001	<0.001	0.013	0.001	2.98	<0.001	1.71	0.008	<0.01	0.018	<0.0001	5.05	28100	218	591	4840	87	272	6820	1550	<1	<1	326	326	231	8.16	1.42	<0.01	<0.01	<0.01	17600
		27-Oct-17	1115	17.42	18.3	6.7	24560	22.7																																
		28-Nov-17	930	17.41	18.29	6.6	24760	22.6																																
		21-Dec-17	940	17.38	18.26	6.6	24560	23.4																																
							25700	27.725	0.447	0.0076	0.16235	#NUM!	#NUM!	0.05335	0.0257	0.04388	13.364	0.0435	4.8175	0.06313	0.02	0.13463	#NUM!	7.789	26475	343.125	700.375	6136.25	113.5	344	8618.75	1768.75	#NUM!	#NUM!	2325	2325	312.625	4.83	1.3415	0.15	0.1	0.154	17485
							25840	24.8	5.75	0.006	1.39	0	0.0004	0.021	0.023	0.317	23.3	0.13	4.49	0.026	0.03	0.365	0	7.73	28100	280	716	5980	151	336	7700	1860	0	0	2390	2390	296	10.4	19.6	1.14	6.51	6.74	17800
P5	**NG5**	**1-Nov-07**	1620	29.06	30.00																																			
		11-Dec-07		29.06	30.00																																			
Depth	**30**	**17-Dec-07**		29.06	30.00																																			
Format.	**Pamboola**	**23-Jan-08**	1240	28.36	29.30																																			
		3-Mar-08	1455	27.97	28.91																																			
		2-Apr-08	1315	27.475	28.42																																			
		9-May-08	1120	26.92	27.86																																			
		2-Jun-08	1516	26.605	27.55																																			
		1-Jul-08	1500	26.26	27.20																																			
		14-Aug-08	1515	25.78	26.72																																			
		12-Sep-08	1015	26.56	27.5	7	1050	20.8		0.007	0.368	0.003	0.0002	0.004	0.019	0.007	2.01	0.081	1.92	0.051	<0.01	0.031	<0.0001		24600	456	494	3960	71	238	7300	719	<1	<1	1860	1860	258	4.16	2.03				**12700**
		14-Nov-08	0908	27.06	28																																			
		1-Dec-08	1109	26.81	27.75																																			
		12-Jan-09	1249	26.41	27.35																																			
		16-Feb-09	1356	25.79	26.72																																			
		9-Jun-09	1215	25.06	25.99	6.6	25800	20.4		0.014	0.985	0.001	0.0003	0.032	0.022	0.597	19.7	**0.336**	1.16	0.091	0.04	1.14	0.0002		25100	361	536	5700	63	312	8230	765	<1	<1	1920	1920	286	4.19	0.91				**15900**
		1-Dec-09	1245	24.68	25.62	6.74	25600	25.8	<0.01	0.001				0.009		0.095	<0.05	0.008	0.659	0.053		0.167	<0.0001	6.76	20800	381	577	5830	73	322	8480	739	<1	<1	1940	1940	294	4.54		0.26	6.42	6.68	
		18-Feb-10	1115	24.99	25.93																																			
		23-Jun-10	1305	23.58	24.52	6.74	26100	22	<0.01	<0.001				<0.001		0.007	<0.05	<0.001	0.402	0.029		0.055	<0.0001	6.77	18300	314	503	5550	74	300	9320	996	<1	<1	1900	1900	322	3.43		<0.01	8.45	8.45	
		3-Sep-10	1150	23.53	24.47	6.75	16840	22.5																																
		9-Feb-11	1230	23.05	23.99	6.69	19520	26.3	0.03	0.006				0.006		0.16	<0.05	0.003	0.435	0.028		0.949	<0.0001	6.76	27200	359	570	3040	83	332	8610	**1070**	<1	<1	1970	1970	304	4.33		<0.01	5.32	5.32	
		31-May-11	1130	22.90	23.84	6.70	20750	21.7																																
		27-Sep-11	1130	22.05	22.99	6.72	22880	23.4	0.07	0.006	0.214	0.001	0.0003	0.001	0.009	0.032	0.22	0.014	0.791	0.042	<0.01	0.095	<0.0001	7.71	27000	208	578	5980	72	320	8460	918	<1	<1	1830	1830	294	4.14	0.62	<0.01	1.33	1.33	**17400**
		3-Jan-12	1120	22.72	23.66	6.61	22600	24.1																																
		22-Mar-12	1120	22.65	23.59	6.81	21700	24.3	0.46	<0.001	0.2	<0.001	0.0002	0.002	0.009	0.185	0.87	0.026	0.525	0.032	<0.01	0.375	<0.0001	7.54	26500	202	592	6210	91	331	8990	993	<1	<1	1930	1930	313	2.84	0.95	<0.01	0.11	0.11	**18700**
		01-Jun-12	1130	22.60	23.54	6.77	20600	22.1																																
		10-Sep-12	1130	22.48	23.42	6.4	15630	22.8	0.14	0.001	0.159	<0.001	<0.0001	0.001	0.008	0.033	0.41	0.008	0.712	0.028	<0.01	0.064	<0.0001	7.35	27200	179	524	6030	92	317	8140	926	<1	<1	2160	2160	292	4.02	1.06	0.01	0.45	0.46	**17100**
		04-Dec-12	1000	22.57	23.51	6.47	26010	22.8																																
		07-Mar-13	1300	22.66	23.6	6.58	26100	23.8	3.18	0.005	0.509	<0.001	0.0004	0.009	0.014	0.048	15.6	0.03	1.62	0.037	0.02	0.095	<0.0001	6.94	27500	283	593	5530	101	306	7900	896	<1	<1	2150	2150	284	3.64	1.86	0.03	0.06	0.09	**16700**
		03-Jul-13	1320	22.70	23.64	6.67	25800	22.1																																
		04-Sep-13	1050	22.70	23.64	6.74	25100	23.6	0.35	<0.010	0.188	<0.010	<0.0010	<0.010	0.012	0.156	0.65	0.011	1.21	0.023	<0.10	0.246	<0.0001	7.36	27100	221	545	5820	106	312	8160	881	<1	<1	2110	2110	291	3.47	1.74	<0.01	0.53	0.53	**17300**
		02-Dec-13	1330	22.74	23.68	6.6	25200	23.7																																
		07-Mar-14	1130	22.58	23.52	6.6	26800	23.6	0.68	0.002	0.26	<0.001	<0.0001	0.003	0.01	0.038	1.57	0.006	1.73	0.022	<0.01	0.05	<0.0001	7.03	27400	268	621	6690	133	359	7560	922	<1	<1	2170	2170	276	13.1	2.63	<0.01	0.03	0.03	**17300**
		10-Jun-14	1220	22.80	23.74	6.7	26500	21.8																																
		25-Sep-14	1040	22.73	23.67	6.5	26750	21.8	0.44	0.003	0.251	<0.001	<0.0001	<0.001	0.014	0.013	0.94	0.003	1.98	0.024	<0.01	0.033	<0.0001	7.05	27300	239	574	5040	119	281	7900	944	<1	<1	2350	2350	289	1.43	2.38	<0.01	0.3	0.3	**17000**
		03-Dec-14	1135	22.75	23.69	6.6	25870	21.6																																
		11-Mar-15	1310	22.60	23.54	6.6	26480	25.8	<0.10	<0.010	0.241	<0.010	<0.0010	<0.010	0.016	<0.010	<0.50	<0.010	2.06	0.03	<0.10	<0.050	<0.0001	7.25	27100	247	534	5340	84	291	8900	932	<1	<1	2340	2340	317	4.38	2.73	<0.01	0.1	0.1	**17200**
		03-Jun-15	1035	22.86	23.8	6.7	26120	19.8																																
		10-Sep-15	1115	22.74	23.68	6.6	26830	22.7	<0.10	<0.010	0.189	<0.010	<0.0010	<0.010	0.01	<0.010	<0.50	<0.010	1.7	0.018	<0.10	0.07	<0.0001	6.97	27800	257	466	5230	78	281	8660	812	<1	<1	2190	2190	305	4.17	3.38	<0.01	<0.01	<0.01	**17000**
		09-Dec-15	1230	22.71	23.65	6.6	27340	22.6																																
		09-Mar-16	1120	22.68	23.62	6.8	26310	24.1	0.52	0.002	0.236	<0.001	0.0001	0.001	0.008	0.073	1.26	0.007	1.78	0.018	<0.01	0.154	<0.0001	7.59	809	237	498	4910	82	268	7780	950	<1	<1	2160	2160	282	2.55	5.45	0.04	0.1	0.14	**16900**
		01-Jun-16	1240	22.67	23.61	6.7	25410	21.8																																
		26-Sep-16	1400	22.81	23.75	6.6	25710	22.9	0.08	0.002	0.163	<0.001	<0.0001	<0.001	0.012	0.014	0.14	0.002	2.16	0.035	<0.01	0.093	<0.0001	7.3	27300	240	593	5420	81	299	8400	964	<1	<1	2320	2320	303	0.81	1.75	<0.01	0.64	0.64	**17500**
		26-Oct-16	1050	22.73	23.67	6.6	25610	23.1																																
		23-Nov-16	1055	22.69	23.63	6.7	25440	22.9																																
		19-Dec-16	1055	22.87	23.81	6.7	25270	23.4																																
		20-Jan-17	1100	22.92	23.86	6.6	25380	23.4																																
		21-Feb-17	1100	22.98	23.92	6.6	25790	23.1																																
		28-Mar-17	1100	23.00	23.94	6.7	25560	22.9																																
		20-Apr-17	1110	23.03	23.97	6.7	25380	22.1																																
		24-May-17	1120	22.91	23.85	6.6	25560	22.3																																
		30-Jun-17	1140	22.93	23.87	6.9	24730	20.4																																
		25-Jul-17	1145	23.00	23.94	6.7	25660	22.7																																
		24-Aug-17	1135	23.00	23.94	6.8	25290	22.4																																
		21-Sep-17	1135	23.06	24	6.8	25520	23.1	0.18	0.001	0.166	<0.001	<0.0001	<0.001	0.014	0.005	0.41	<0.001	1.75	0.024	<0.01	0.038	<0.0001	7.35	26800	226	549	5470	80	296	8270	918	<1	<1	2440	2440	301	0.79	3.33	<0.01	0.08	0.08	16400
		25-Oct-17	1140	23.26	24.2	6.9	25460	23.1																																
		24-Nov-17	1130	23.31	24.25	6.7	26100	23.7																																
		19-Dec-17	1120	23.32	24.26	6.6	25900	23.3																																
							26025	26.175	0.4405	0.0134	0.94645	0.001	0.0003	0.0297	0.0214	0.5455	18.759	0.305	1.11388	0.08625	0.04	1.11613	0.0002	7.693	27175	378.5	590.25	6181.25	90	331.875	9278.75	1060.75	#NUM!	#NUM!	1966.25	1966.25	320.875	4.51375	0.948	0.26	8.247	8.273	18635
							27340	25.8	3.18	0.005	0.509	0	0.0004	0.009	0.016	0.156	15.6	0.03	2.16	0.037	0.02	0.246	0	7.59	27800	283	621	6690	133	359	8900	964	0	0	2440	2440	317	13.1	5.45	0.04	0.64	0.64	17500
P6	**NG6**	**1-Nov-07**	1640	90.21	91.10																																			
		11-Dec-07		90.11	91.00																																			
Depth	**90**	**17-Dec-07**		90.11	91.00																																			
Format.	**Pilliga Sand.**	**23-Jan-08**	1315	89.37	90.26																																			
		3-Mar-08	1440	89.91	90.80																																			
		2-Apr-08	1330	89.93	90.82																																			
		9-May-08	1145	89.91	90.80																																			
		2-Jun-08	1533	89.92	90.81																																			
		1-Jul-08	1519	89.92	90.81																																			
		12-Aug-08	1055	89.86	90.75																																			

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*										*4000*
		10-Sep-08		89.11	90.00																																				
		14-Nov-08	1204	89.04	90.02																																				
		3-Dec-08	1336	89.05	90.03																																				
		23-Feb-09	1214	89.17	90.05																																				
		24-Aug-09	1400			Dry																																				
		17-Nov-09	1140			Dry																																				
		24-Feb-10	1035	89.82	90.71																																				
		24-Jun-10	1000			Dry																																				
		2-Sep-10	1400			Dry																																				
		9-Feb-11	1400			Dry																																				
		08-Jun-11	930	89.81	90.70	7.60	2320	18.5																																		
		26-Sep-11	930	89.97	90.86	Insufficient to sample																																				
		4-Jan-12	930	89.85	90.74	Insufficient to sample																																				
		28-Mar-12	1000	89.91	90.80	Insufficient to sample																																				
		25-Jun-12	1020			Insufficient to sample																																				
		11-Sep-12	1055			Dry																																				
		6-Dec-12	1040			Dry																																				
		3-Apr-13	1110			Dry																																				
		4-Jul-13	1325			Dry																																				
		3-Sep-13	1335			Dry																																				
		2-Dec-13	1115	90.43	91.32	Insufficient to sample																																				
		6-Mar-14	945			Dry																																				
		10-Jun-14	1015			Dry																																				
		29-Sep-14	950			Dry																																				
		3-Dec-14	1105			Dry																																				
		12-Mar-15	1115			Dry																																				
		4-Jun-15	1120			Dry																																				
		9-Sep-15	1100			Dry																																				
		9-Dec-15	920			Dry																																				
		8-Mar-16	915			Dry																																				
		1-Jun-16	1025			Dry																																				
		28-Sep-16	915			Dry																																				
		26-Oct-16	1120			Dry																																				
		23-Nov-16	1120			Dry																																				
		19-Dec-16	1120			Dry																																				
		24-Jan-17	900			Dry																																				
		21-Feb-17	1130			Dry																																				
		28-Mar-17	1130			Dry																																				
		20-Apr-17	1140			Dry																																				
		24-May-17	1150			Dry																																				
		27-Jun-17	1150			Dry																																				
		25-Jul-17	1215			Dry																																				
		24-Aug-17	1200			Dry																																				
		21-Sep-17	1200			Dry																																				
		25-Oct-17	1210			Dry																																				
		24-Nov-17	1155			Dry																																				
		19-Dec-17	1145			Dry																																				
P7	NG7	1-Nov-07	1700	62.87	63.80																																				
		11-Dec-07		62.07	63.00																																				
Depth	90	17-Dec-07		62.07	63.00																																				
Format.	Pilliga Sand.	23-Jan-08	1335	90.47	91.40																																				
		3-Mar-08	1425	90.00	90.93																																				
		2-Apr-08	1400	91.07	92.00																																				
		9-May-08	1202	89.52	90.45																																				
		2-Jun-08	1553	92.07	93.00																																				
		1-Jul-08	1544	92.07	93.00																																				
		12-Aug-08	1135	91.07	92.00																																				
		10-Sep-08	1115	62.87	63.80	7.95	1170	20.5		<0.001	0.031	<0.001	<0.0001	0.005	0.003	0.006	0.79	**0.117**	0.095	0.005	<0.01	0.033	<0.0001		149	1	1	25	3	1.33	26	4	<1	<1	19	19	1.20		0.55				101
		14-Nov-08	1213	91.08	92.00																																				
		3-Dec-08	1350	91.08	92.00																																				
		23-Feb-09	1240	89.17	90.10																																				
		9-Jun-09	1425			Dry																																				
		24-Aug-09	1415	86.26	87.20	8.9	170	22.4		<0.001	0.064	<0.001	0.0002	0.007	0.004	0.016	2.72	0.022	0.074	0.012	<0.01	0.066	<0.0001		147	3	1	18	3	1.27	26.2	3.47	<1	<1	24	24	1.27		<0.01				107
		17-Nov-09	1230	62.84	63.78	5.52	212	25		<0.001	0.029	<0.001	0.0001	0.004	0.002	0.053	0.49	0.047	0.023	0.013	<0.01	0.173	<0.0001		160	2	1	19	3	1.11	27	3.09	<1	<1	22	22	1.27	-	<0.01				95
		24-Feb-10	1105	63.04	63.98																																				
		24-Jun-10	1110	62.99	63.93	7.96	222	20	0.02	<0.001				0.001		0.011	<0.05	0.021	0.016	0.008		0.114	<0.0001	6.6	169	3	3	36	4	2.07	33.5	4.28	<1	<1	45	45	1.93			<0.01	0.19	0.19	
		2-Sep-10	1350	62.86	63.80	6.81	202	23.9																																		
		9-Feb-11	1010	63.50	64.44	6.88	356	24.3	<0.01	<0.001				<0.005		0.03	<0.05	0.001	0.022	0.002		0.322	<0.0001	6.12	477	28	3	66	4	4.63	92	12	<1	<1	90	90	39.1			<0.01	0.26	0.26	
		08-Jun-11	1010	63.90	64.84	6.55	263	21.3																																		
		26-Sep-11	1015	62.90	63.84	6.65	245	22.3	0.82	0.005	0.052	<0.001	0.0002	0.004	0.003	0.036	0.89	0.07	0.028	0.028	<0.01	0.07	<0.0001	5.89	170	4	2	22	4	1.42	26	4	<1	<1	27	27	1.36		0.35	<0.01	0.24	0.24	104
		4-Jan-12	1010	88.59	89.53	6.38	148	22.3																																		
		28-Mar-12	1030	63.02	63.96	6.8	129	22.7	0.16	<0.001	0.032	<0.001	<0.0001	0.002	0.003	0.026	0.36	0.019	0.003	0.024	<0.01	0.087	<0.0001	6.23	152	1	2	24	4	1.36	25	4	<1	<1	35	35	1.49		0.14	<0.01	0.08	0.08	105
		25-Jun-12	1050	63.04	63.98	6.4	478	21.2																																		
		11-Sep-12	1115	62.96	63.9	6.36	225	23.5	0.64	<0.001	0.037	<0.001	<0.0001	0.003	0.002	0.006	0.89	0.005	0.031	0.003	<0.01	0.05	<0.0001	6.56	172	2	2	25	4	1.7	33	6	<1	<1	42	42	1.89	<0.01	<0.10	<0.01	0.09	0.09	118
		06-Dec-12	1110	62.96	63.9	6.48	467	24.8																																		
		03-Apr-13	1130	62.96	63.9	6.28	160	21.6	0.73	<0.001	0.046	<0.001	0.0002	0.004	0.003	0.028	1.43	0.026	0.047	0.003	<0.01	0.125	<0.0001	5.75	139	1	2	24	4	1.36	31	4	<1	<1	16	16	1.28		<0.01	<0.01	0.19	0.19	84
		04-Jul-13	1350	62.99	63.93	6.21	235	22																																		
		03-Sep-13	1310	63.06	64	5.72	168	22.7	2.05	<0.001	0.07	<0.001	<0.0001	0.005	0.004	0.065	3.32	0.026	0.087	0.005	<0.01	0.165	<0.0001	6.34	175	1	1	28	4	1.45	34	4	<1	<1	22	22	1.48		0.82	<0.01	0.16	0.16	148
		02-Dec-13	1210	63.02	63.96	5.7	154.7	21.3																																		
		06-Mar-14	1020	62.99	63.93	5.9	242	23	0.56	<0.001	0.036	<0.001	<0.0001	0.012	0.003	0.047	0.92	0.02	0.03	0.009	<0.01	0.12	<0.0001	6.07	221	2	2	31	3	1.69	41	10	<1	<1	26	26	1.88		0.04	<0.01	0.3	0.3	170
		10-Jun-14	1040	63.03	63.97	6.3	440	20.2																																		
		29-Sep-14	1020	63.04	63.98	6.4	257	22.7	1.07	0.001	0.047	<0.001	<0.0001	0.004	0.004	0.013	1.8	0.008	0.059	0.004	<0.01	0.056	<0.0001	6.03	162	<1	1	26	3	1.29	36	4	<1	<1	17	17	1.44		0.02	<0.01	0.2	0.2	101
		03-Dec-14	925	62.99	63.93	6.4	322	22.1																																		
		12-Mar-15	1130	63.21	64.15	7	302	24.1	1.23	<0.001	0.047	<0.001	<0.0001	0.006	0.003	0.01	2.01	0.009	0.05	0.006	<0.01	0.1	<0.0001	6.08	218	2	3	35	3	1.95	40	3	<1	<1	24	24	1.67		0.02	<0.01	0.13	0.13	120
		04-Jun-15	1140	63.03	63.97	7	346	23.5																																		
		09-Sep-15	1130	63.03	63.97	7	195	22.4	0.06	<0.001	0.028	<0.001	<0.0001	0.001	0.002	0.007	0.35	0.009	0.011	0.002	<0.01	0.048	<0.0001	5.97	170	3	3	30	3	1.78	27	6	<1	<1	22	22	1.33	----	0.05	<0.01	0.07	0.07	112
		09-Dec-15	950	63.03	63.97	6.9	153	21.6																																		
		08-Mar-16	945	63.08	64.02	6.1	173	22.1	0.06	<0.001	0.03	<0.001	<0.0001	0.001	0.002	0.015	0.09	0.001	0.007	0.002	<0.01	0.072	<0.0001	6.14	146	1	1	23	2	1.18	29	4	<1	<1	16	16	1.22	----	0.03	<0.01	0.14	0.14	100
		01-Jun-16	1050	62.10	63.04	6.1	256	20.3																																		
		28-Sep-16	1015	62.49	63.43	6	198	21.9	1.03	<0.001	0.048	<0.001	0.0002	0.007	0.002	0.184	1.85	**0.208**	0.06	0.007	<0.01	0.367	<0.0001	6.13	202	3	2	31	3	1.74	34	7	<1	<1	30	30	1.7	----	0.03	<0.01	0.24	0.24	120
		26-Oct-16	1150	63.04	63.98	6	288	21.9																																		
		23-Nov-16	1150	63.02	63.96	6.1	295	21.8																																		
		19-Dec-16	1150	62.99	63.93	6.1	310	22.2																																		
		24-Jan-17	930	63.07	64.01	6.2	389	22.3																																		
		21-Feb-17	1200	63.13	64.07	6.2	402	22.1																																		
		28-Mar-17	1200	63.04	63.98	6.3	415	22.5																																		
		20-Apr-17	1210	63.14	64.08	6.4	435	22.2																																		
		24-May-17	1215	63.02	63.96	6.3	510	21.8																																		
		27-Jun-17	1220	63.06	64	6.3	512	21.7																																		
		25-Jul-17	1245	63.08	64.02	6.2	393	21.5																																		
		24-Aug-17	1230	63.03	63.97	6.2	415	21.4																																		
		21-Sep-17	1230	63.03	63.97	6.2	247	22	0.35	<0.001	0.033	<0.001	<0.0001	0.002	0.002	0.004	0.7	0.009	0.019	0.002	<0.01	0.018	<0.0001	5.65	197	4	4	42	2	2.41	39	3	<1	<1	23	23	1.62	----	0.02	<0.01	0.12	0.12	142
		25-Oct-17	1235	63.01	63.95	6.3	296	22.3																																		

						Field Parameters			Total Metals														
Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*
		24-Nov-17	1225	63.05	63.99	6.3	288	22.1															
		19-Dec-17	1215	63.03	63.97	6.3	339	22.2															
							986.85	24.8425	0.787	0.005	0.0631	#NUM!	0.0002	0.0067	0.0039	0.05088	2.5828	0.06713	0.06825	0.0275	#NUM!	0.30338	#NUM!
							512	24.8	2.05	0.001	0.07	0	0.0002	0.012	0.004	0.184	3.32	0.208	0.087	0.009	0	0.367	0
P8	NC-110S	3-Mar-08	1345	62.23	63.00																		
		2-Apr-08	1415	50.52	51.29																		
Depth	65	9-May-08	1220	50.59	51.36																		
Format.	Purlawaugh	2-Jun-08	1608	62.23	63.00																		
		1-Jul-08	1558	50.57	51.34																		
		12-Aug-08	1230	50.62	51.39																		
		19-Aug-08	1515	50.63	51.40																		
		12-Sep-08	0830	50.53	51.30	7.85	1120	21.2		<0.001	0.057	<0.001	<0.0001	<0.001	<0.001	0.001	0.09	0.004	0.037	<0.001	<0.01	0.007	<0.0001
		14-Nov-08	1247	50.55	51.33																		
		3-Dec-08	1414	50.44	51.22																		
		23-Feb-09	1326	50.48	51.30																		
		09-Jun-09	1445			SWL >50				0.003	0.192	<0.001	0.0002	0.004	0.004	0.382	3.62	**0.374**	0.364	0.016	<0.01	0.967	<0.0001
		24-Aug-09	1500	50.20	51.24	SWL only																	
		17-Nov-09	1330	50.32	51.36	7.45	414	25.2		<0.001	0.121	<0.001	0.0001	<0.001	<0.001	0.014	0.52	0.019	0.117	0.005	<0.01	0.07	<0.0001
		24-Feb-10	1130	50.36	51.40																		
		24-Jun-10	1200	50.29	51.33	7.85	390	19	<0.01	<0.001				<0.001		0.002	<0.05	<0.001	0.006	0.003		0.04	<0.0001
		2-Sep-10	1425	50.19	51.23	6.93	360	24															
		9-Feb-11	1120	50.44	51.48	7.1	355	23.6	<0.01	<0.001				<0.001		0.012	<0.05	0.001	0.029	0.001		0.096	<0.0001
		08-Jun-11	1110	50.17	51.21	7.05	327	19.5															
		26-Sep-11	1200	50.21	51.25	6.98	321	19.8	0.98	0.006	0.143	<0.001	<0.0001	0.001	0.002	0.026	1.56	0.067	0.51	0.005	<0.01	0.1	<0.0001
		4-Jan-12	1130	50.20	51.24	6.76	298	22.5															
		28-Mar-12	1130	50.22	51.26	7.15	293	22.5	0.29	<0.001	0.118	<0.001	<0.0001	<0.001	<0.001	0.018	0.42	**0.23**	0.002	0.016	<0.01	0.067	<0.0001
		25-Jun-12	1200	50.26	51.3	6.93	357	19.9															
		11-Sep-12	1230	50.21	51.25	6.87	308	22.8	0.15	<0.001	0.158	<0.001	<0.0001	<0.001	0.003	0.031	0.38	0.017	1.44	0.003	<0.01	0.134	<0.0001
		06-Dec-12	1210	50.76	51.8	6.72	310	21.1															
		03-Apr-13	1220	50.16	51.2	6.89	362	21.2	0.2	<0.001	0.134	<0.001	<0.0001	0.001	0.001	0.036	0.59	0.021	0.346	0.003	<0.01	0.308	<0.0001
		04-Jul-13	1415	50.13	51.17	6.92	378	20.6															
		03-Sep-13	1210	50.36	51.4	6.85	332	21.6	0.25	<0.001	0.109	<0.001	<0.0001	<0.001	0.002	0.051	0.69	0.02	0.996	0.003	<0.01	0.1	<0.0001
		02-Dec-13	1240	50.23	51.27	6.7	357	20.9															
		06-Mar-14	1130	50.26	51.3	7.1	340	21.7	0.17	<0.001	0.065	<0.001	<0.0001	0.01	<0.001	0.081	0.24	0.008	0.059	0.005	<0.01	0.096	<0.0001
		10-Jun-14	1140	50.26	51.3	7.2	370	19.6															
		29-Sep-14	1120	50.23	51.27	7	407	21.8	0.84	<0.001	0.232	<0.001	<0.0001	0.001	0.01	0.015	1.39	0.007	1.54	0.004	<0.01	0.063	<0.0001
		03-Dec-14	1040	50.30	51.34	7	413	21.8															
		12-Mar-15	1230	50.30	51.34	7.2	675	23.4	0.51	<0.001	0.407	<0.001	<0.0001	<0.001	0.003	0.014	0.88	0.005	0.565	0.002	<0.01	0.04	<0.0001
		04-Jun-15	1230	50.28	51.32	7.2	576	20.7															
		09-Sep-15	1240	50.31	51.35	7	427	22.3	0.19	<0.001	0.094	<0.001	<0.0001	<0.001	<0.001	0.006	0.49	0.002	0.115	<0.001	<0.01	0.073	<0.0001
		09-Dec-15	1105	50.33	51.37	7	447	21.2															
		08-Mar-16	1105	50.34	51.38	6.7	459	21.9	0.81	<0.001	0.209	<0.001	<0.0001	0.001	0.004	0.028	2.57	0.01	0.855	0.003	<0.01	0.138	<0.0001
		01-Jun-16	1150	50.37	51.41	6.9	488	19.8															
		28-Sep-16	1120	50.25	51.29	6.8	498	20.5	0.73	0.003	0.263	<0.001	<0.0001	0.002	0.005	0.035	3.34	0.017	0.904	0.019	<0.01	0.136	<0.0001
		26-Oct-16	1255	50.29	51.33	7	558	21.8															
		23-Nov-16	1235	50.32	51.36	7	637	21.2															
		19-Dec-16	1240	50.33	51.37	7	587	21.7															
		24-Jan-17	1030	50.33	51.37	6.9	580	21.3															
		21-Feb-17	1300	50.38	51.42	6.9	593	21.5															
		28-Mar-17	1250	50.32	51.36	6.8	958	21.2															
		20-Apr-17	1250	50.42	51.46	6.7	756	21.7															
		24-May-17	1320	50.33	51.37	6.7	694	20.8															
		27-Jun-17	1315	50.40	51.44	6.7	617	19.9															
		25-Jul-17	1345	50.41	51.45	6.7	624	20															
		24-Aug-17	1320	50.39	51.43	6.7	621	20.6															
		21-Sep-17	1325	50.39	51.43	6.5	612	21.8	0.17	0.003	0.276	<0.001	<0.0001	<0.001	0.004	0.016	2.49	0.014	1.28	0.003	<0.01	0.117	<0.0001
		25-Oct-17	1325	50.37	51.41	6.5	620	22															
		24-Nov-17	1320	50.40	51.44	6.6	623	21.9															
		19-Dec-17	1305	50.39	51.43	6.6	618	22															
							978.8	24.96	0.96275	0.00593	0.18833	#NUM!	0.000198	0.003925	0.004	0.3375	3.4655	0.3596	0.49175	0.016	#NUM!	0.85863	#NUM!
							958	23.4	0.84	0.003	0.407	0	0	0.01	0.01	0.081	3.34	0.021	1.54	0.019	0	0.308	0
P9	GWB5S	3-Mar-08	1105	19.88	20.52																		
		2-Apr-08	1135	19.88	20.52																		
Depth	30	9-May-08	929	19.87	20.51																		
Format.	Purlawaugh	2-Jun-08	1300	19.89	20.53																		
		1-Jul-08	1255	19.86	20.50																		
		14-Aug-08	1217	19.90	20.54																		
		12-Sep-08	1230	19.66	20.30	6.8	1210	22.1		0.002	0.059	<0.001	0.0001	0.004	0.003	0.014	1.32	0.036	0.037	0.012	<0.01	0.042	<0.0001
		14-Nov-08	1103	19.80	20.44																		
		01-Dec-08	1219	19.77	20.41																		
		12-Jan-09	0930	19.79	20.43																		
		23-Feb-09	0938	19.80	20.45																		
		17-Aug-09	1430	19.70	20.51	6.7	22500	24		<0.001	0.077	<0.001	<0.0001	0.003	0.002	0.01	6.94	0.001	0.122	<0.005	<0.01	0.009	<0.0001
		18-Nov-09	1120	19.64	20.45	6.61	22870	28.1	0.04	<0.001				<0.005		0.005	0.38	<0.001	0.127	0.004		<0.005	<0.0001
		17-Feb-10	1120	19.72	20.53																		
		22-Jun-10	1150	19.80	20.61	6.58	23010	23	<0.01	<0.001				<0.005		0.004	4.86	<0.001	0.098	0.002		0.008	<0.0001
		2-Sep-10	1050	19.72	20.53	7.07	17050	23.7															
		7-Feb-11	1215	19.98	20.79	6.5	17180	25.7	0.02	0.003				<0.001		0.004	2.96	<0.001	0.102	0.002		0.006	<0.0001
		09-Jun-11	1115	20.11	20.92	6.55	17080	20.5															
		11-Oct-11	1220	18.66	19.47	6.40	15360	23.5	0.12	0.011	0.046	<0.001	<0.0001	0.01	0.001	0.012	6.14	0.021	0.182	0.003	<0.01	0.058	<0.0001
		8-Dec-11	1100	19.36	20.17	6.60	15670	23.1															
		04-Apr-12	1040	19.85	20.66	7.2	1133	24.7	0.61	0.003	0.046	<0.001	0.0001	0.002	0.006	0.03	1.22	**0.411**	0.008	0.041	<0.01	0.195	<0.0001
		31-May-12	1030	19.67	20.48	6.8	12970	21.7															
		29-Aug-12	1150	19.76	20.57	6.73	14420	22.6	0.32	<0.001	0.076	<0.001	0.0002	0.006	0.001	0.028	2.27	0.029	0.338	0.004	<0.01	0.218	<0.0001
		04-Dec-12	1335	19.97	20.78	6.74	16220	23.4															
		07-Mar-13	1130	19.89	20.7	6.63	18400	23.3	0.06	<0.001	0.031	<0.001	0.0002	<0.001	<0.001	0.034	7.28	0.006	0.167	0.001	<0.01	0.072	<0.0001
		03-Jul-13	1200	19.87	20.68	7.21	18960	21.7															
		03-Sep-13	1115	19.99	20.8	7.18	18900	23.5	1.46	0.002	0.095	<0.001	0.0005	0.012	0.002	0.324	5.51	**0.169**	0.257	0.01	<0.01	0.567	<0.0001
		27-Nov-13	1220	20.16	20.97	6.9	19970	21.2															
		05-Mar-14	1215	19.80	20.61	6.9	19700	24.2	0.23	0.001	0.053	<0.001	0.0003	0.017	0.003	0.099	2.07	0.018	0.21	0.011	<0.01	0.364	<0.0001
		11-Jun-14	1240	20.03	20.84	6.7	20330	21.6															
		29-Sep-14	1315	20.64	21.45	6.6	19510	22.9	0.02	<0.001	0.046	<0.001	<0.0001	<0.001	<0.001	<0.001	4.99	<0.001	0.188	0.003	<0.01	0.047	<0.0001
		04-Dec-14	1125	20.82	21.63	6.6	19380	21.9															
		13-Mar-15	1100	20.91	21.72	6.7	21190	23.7	1.13	0.002	0.09	<0.001	0.0002	0.014	0.002	0.073	5.34	0.028	0.17	0.011	<0.01	0.288	<0.0001
		03-Jun-15	1215	21.40	22.21	6.9	20160	21.5															
		08-Sep-15	1305	23.41	24.22	6.9	19870	22.1	0.59	<0.010	0.077	<0.010	<0.0010	<0.010	<0.010	<0.010	6.73	<0.010	0.151	<0.010	<0.10	0.055	<0.0001
		14-Dec-15	1050	24.01	24.82	7	19820	23.4															
		09-Mar-16	1145	24.32	25.13	7.2	20930	23.2	0.55	0.001	0.73	<0.0001	<0.0001	0.003	0.001	0.034	5.5	0.006	0.176	0.005	<0.01	0.114	<0.0001
		02-Jun-16	1130	24.89	25.7	7.2	20760	21.1															
		26-Sep-16	1100	24.87	25.68	7.1	18540	22.1	0.23	0.001	0.072	<0.001	<0.0001	0.001	<0.001	0.012	3.79	0.002	0.151	0.003	<0.01	0.126	<0.0001
		25-Oct-16	1050	25.12	25.93	7	18630	22.4															
		24-Nov-16	1055	24.95	25.76	7	18790	22.6															

			Major Cations					Major Anions											
Date	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L	Total Cations - meq/L	Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L	Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
ANZECC Guideline - stock drinking water			*1000*						*1000*								*1500*	*400*		*4000*
24-Nov-17																				
19-Dec-17																				
	6.5723	438.625	25	3	62.25	4	4.31	84.6875	11.035	#NUM!	#NUM!	84.375	84.375	34.45375	#NUM!	0.34475	#NUM!	0.2585	0.2585	106.85
	6.56	221	4	4	42	4	2.41	41	10	0	0	42	42	1.89	0	0.82	0	0.3	0.3	170
3-Mar-08																				
2-Apr-08																				
9-May-08																				
2-Jun-08																				
1-Jul-08																				
12-Aug-08																				
19-Aug-08																				
12-Sep-08		805	33	10	121	9	7.96	64	20	<1	<1	276	276	7.74	1.35	0.14				455
14-Nov-08																				
3-Dec-08																				
23-Feb-09																				
09-Jun-09		490	29	8	59	7	4.85	44	<10	<1	<1	171	171	4.66	1.99	<0.01				360
24-Aug-09																				
17-Nov-09		423	12	4	57	6	3.59	27.2	10.3	<1	<1	137	137	3.72	1.81	0.06				240
24-Feb-10																				
24-Jun-10	7.05	358	14	4	55	7	3.56	27.7	8.75	<1	<1	131	131	3.58	0.33		<0.01	0.03	0.03	
2-Sep-10																				
9-Feb-11	6.65	387	22	5	55	6	4.06	28	12	<1	<1	151	151	4.06	0.08		<0.01	0.63	0.63	
08-Jun-11																				
26-Sep-11	6.72	346	12	4	55	6	3.47	24	7	<1	<1	128	128	3.38	1.33	0.15	<0.01	0.06	0.06	213
4-Jan-12																				
28-Mar-12	7	341	15	5	48	7	3.43	26	6	<1	<1	122	122	3.3	1.92	0.17	<0.01	0.19	0.19	196
25-Jun-12																				
11-Sep-12	7.23	335	12	5	50	8	3.39	28	6	<1	<1	122	122	3.35	0.53	0.2	<0.01	0.1	0.1	160
06-Dec-12																				
03-Apr-13	6.8	344	17	4	46	9	3.41	32	7	<1	<1	119	119	3.43	0.27	1.02	<0.01	0.06	0.06	184
04-Jul-13																				
03-Sep-13	7.36	355	10	4	51	7	3.23	30	8	<1	<1	112	112	3.25	0.41	0.01	<0.01	0.16	0.16	217
02-Dec-13																				
06-Mar-14	7.08	355	13	4	46	7	3.16	35	7	<1	<1	107	107	3.27	1.78	0.76	<0.01	0.41	0.41	199
10-Jun-14																				
29-Sep-14	7.23	567	18	6	108	12	6.4	45	10	<1	<1	194	194	5.35	8.84	0.6	<0.01	0.21	0.21	320
03-Dec-14																				
12-Mar-15	7.47	671	18	5	120	10	6.79	49	11	<1	<1	271	271	7.03	1.78	0.35	<0.01	0.16	0.16	303
04-Jun-15																				
09-Sep-15	7.21	409	26	13	69	6	5.52	42	10	<1	<1	129	129	3.97	16.3	0.07	<0.01	1.32	1.32	226
09-Dec-15																				
08-Mar-16	7.21	476	19	6	74	7	4.84	48	8	<1	<1	143	143	4.38	4.99	0.15	<0.01	0.4	0.4	283
01-Jun-16																				
28-Sep-16	7.12	507	22	6	75	8	5.06	46	8	<1	<1	178	178	5.02	0.35	0.15	<0.01	0.62	0.62	252
26-Oct-16																				
23-Nov-16																				
19-Dec-16																				
24-Jan-17																				
21-Feb-17																				
28-Mar-17																				
20-Apr-17																				
24-May-17																				
27-Jun-17																				
25-Jul-17																				
24-Aug-17																				
21-Sep-17	7.07	612	24	7	92	8	5.98	64	6	<1	<1	211	211	6.15	1.37	0.18	<0.01	0.02	0.02	364
25-Oct-17																				
24-Nov-17																				
19-Dec-17																				
	7.0463	481.625	28.125	7.625	58.75	7	4.75125	42	11.83	#NUM!	#NUM!	168.5	168.5	4.585	1.98125	0.169	#NUM!	0.597	0.597	351
	7.47	671	26	13	120	12	6.79	64	11	0	0	271	271	7.03	16.3	1.02	0	1.32	1.32	364
3-Mar-08																				
2-Apr-08																				
9-May-08																				
2-Jun-08																				
1-Jul-08																				
14-Aug-08																				
12-Sep-08		451	30	12	43	5	4.51	42	24	<1	<1	139	139	4.46	0.52	0.13				295
14-Nov-08																				
01-Dec-08																				
12-Jan-09																				
23-Feb-09																				
17-Aug-09		23000	402	635	3560	62	229	7150	**1830**	<1	<1	641	641	253	4.96	1.6				**16000**
18-Nov-09	6.63	21200	249	535	3830	74	225	7260	**1720**	<1	<1	392	392	248	5.02		<0.01	<0.01	<0.01	
17-Feb-10																				
22-Jun-10	6.69	22000	329	493	4020	59	233	7240	**1570**	<1	<1	599	599	249	3.22		<0.01	<0.01	<0.01	
2-Sep-10																				
7-Feb-11	6.4	22500	348	547	3830	61	230	7410	**1590**	<1	<1	604	604	254	4.86		<0.01	0.02	0.02	
09-Jun-11																				
11-Oct-11	7.12	21000	354	534	4680	58	267	7310	**1550**	<1	<1	553	553	250	3.3	2.72	<0.01	0.52	0.52	**15400**
8-Dec-11																				
04-Apr-12	7.51	3350	74	60	585	22	34.6	828	212	<1	<1	257	257	32.9	2.55	27.2	0.7	2.48	3.18	1930
31-May-12																				
29-Aug-12	7.42	19100	336	516	4460	71	255	6670	**1590**	<1	<1	681	681	235	4.1	10.4	0.04	4.28	4.32	**12400**
04-Dec-12																				
07-Mar-13	6.92	21900	372	536	4260	68	250	6320	**1820**	<1	<1	649	649	229	4.28	1.67	0.04	0.71	0.75	**12900**
03-Jul-13																				
03-Sep-13	7.78	21300	340	501	4500	71	256	6500	**1700**	<1	<1	607	607	231	5.03	1.86	0.03	4.88	4.91	**14100**
27-Nov-13																				
05-Mar-14	7.28	21600	305	506	4720	69	264	6160	**1740**	<1	<1	641	641	223	8.43	0.88	0.04	0.66	0.7	**14400**
11-Jun-14																				
29-Sep-14	7.25	21700	282	451	3370	58	199	6480	**1620**	<1	<1	582	582	228	6.77	1.78	<0.01	0.07	0.07	**13400**
04-Dec-14																				
13-Mar-15	6.98	22000	355	475	4130	53	238	6860	**1810**	<1	<1	709	709	245	1.58	1.64	<0.01	0.44	0.44	**14000**
03-Jun-15																				
08-Sep-15	7.55	21600	354	340	3190	45	186	5250	**1610**	<1	<1	677	677	195	2.53	1.91	<0.01	0.02	0.02	**14400**
14-Dec-15																				
09-Mar-16	7.51	22100	401	443	3710	50	219	6040	**1900**	<1	<1	770	770	225	1.41	1.9	0.04	<0.01	0.02	**14000**
02-Jun-16																				
26-Sep-16	7.47	21800	412	498	3850	48	230	6350	**1790**	<1	<1	812	812	233	0.53	1.54	<0.01	0.42	0.42	**14400**
25-Oct-16																				
24-Nov-16																				

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*								*1500*	*400*		*4000*
		20-Dec-16	1040	25.08	25.89	7.1	18630	23.4																																	
		25-Jan-17	1045	25.11	25.92	7	19200	23.2																																	
		22-Feb-17	1150	25.40	26.21	6.9	19290	23.5																																	
		29-Mar-17	1020	25.47	26.28	6.8	19270	22.6																																	
		26-Apr-17	1125	25.48	26.29	6.7	19350	22.7																																	
		29-May-17	1120	25.55	26.36	6.7	19450	21.7																																	
		29-Jun-17	1235	25.66	26.47	6.6	19240	21.8																																	
		26-Jul-17	1045	25.66	26.47	6.7	19320	22																																	
		29-Aug-17	1040	25.79	26.6	6.7	19840	22																																	
		26-Sep-17	1020	25.68	26.49	6.9	19740	22.4	0.48	<0.001	0.047	<0.001	<0.0001	<0.001	<0.001	0.006	5.56	0.002	0.15	0.002	<0.01	0.042	<0.0001	7.56	22800	334	454	3870	52	224	6020	1680	<1	<1	606	606	217	1.54	1.64	<0.01	0.14	0.14	15600
		26-Oct-17	1020	25.64	26.45	6.9	19290	22.8																																	
		27-Nov-17	1030	25.69	26.5	6.7	19920	22.4																																	
		20-Dec-17	1135	25.66	26.47	6.8	19820	22.8																																	
							22975	27.5	0.57325	0.0106	0.07545	#NUM!	0.0001	0.00965	0.0058	0.02775	6.84	0.3915	0.17513	0.0373	#NUM!	0.1813	#NUM!	7.471	22937.5	396	624	4597.5	72.5	262.75	7397.5	1816.25	#NUM!	#NUM!	636.375	636.375	253.875	5.0125	25.976	0.7	2.382	3.047	15970
							21190	24.2	1.46	0.002	0.73	0	0.0005	0.017	0.003	0.324	7.28	0.169	0.338	0.011	0	0.567	0	7.78	22800	412	536	4720	71	264	6860	1900	0	0	812	812	245	8.43	10.4	0.04	4.88	4.91	15600
P10	NC-030D	**3-Mar-08**	1315	15.56	16.53																																				
		2-Apr-08	1425	15.64	16.61																																				
Depth	130	**9-May-08**	1230	15.88	16.85																																				
Format.	Napperby	**2-Jun-08**	1623	16.03	17.00																																				
		1-Jul-08	1610	15.13	16.10																																				
		14-Aug-08	1635	16.31	17.28																																				
		9-Sep-08	1700	20.03	21.00	7.92	1130	20.8		0.002	1.59	0.001	<0.0001	0.006	0.002	0.004	0.92	0.024	2.13	0.005	<0.01	0.023	<0.0001		6800	155	80	1490	30	79.9	2410	188	<1	<1	546	546	82.9	1.88	1.73				4170
		14-Nov-08	1301	53.36	54.33																																				
		3-Dec-08	1432	51.73	52.70																																				
		12-Jan-09	1130	47.89	48.86																																				
		23-Feb-09	1355	43.72	44.68																																				
		11-Jun-09	1540	31.95	32.93					<0.001	1.4	<0.001	<0.0001	0.002	0.003	0.034	0.15	0.027	1.57	0.015	<0.01	0.249	<0.0001		7610	134	74	1490	31	78.6	2160	40	<1	<1	774	774	77.1	0.9	<0.01				4370
		24-Aug-09	1530	44.98	45.96	SWL only																																			
		17-Nov-09	1400	41.83	42.81	7.4	8350	25.2		0.001	1.34	<0.001	<0.0001	0.002	<0.001	0.014	0.31	0.035	1.35	0.018	<0.01	0.12	<0.0001		3200	41	78	1550	30	76.8	2250	64.8	<1	<1	760	760	30.9	2.11	1.27				4610
		24-Feb-10	1150	39.10	40.08																																				
		24-Jun-10	1250	35.79	36.77	7.28	8160	23	<0.01	0.002				<0.005		<0.001	<0.05	0.013	1.46	0.005		0.021	<0.0001	7.39	7010	83	83	1560	32	79.7	2140	76.5	<1	<1	757	757	77.1	1.64		<0.01	0.02	0.02	
		3-Sep-10	0955	38.65	39.63	7.61	7750	21.2																																	
		9-Feb-11	1215	22.88	23.86	7.25	7020	27.2	<0.01	0.004				<0.005		0.002	<0.05	<0.001	3.29	0.004		0.01	<0.0001	6.91	9430	143	124	1790	29	95.9	2920	308	<1	<1	793	793	105	4.35		<0.01	0.26	0.26	
		08-Jun-11	1140	22.93	23.91	7.45	6240	19.8																																	
		26-Sep-11	1240	22.92	23.90	7.32	6390	22.3	0.62	0.01	1.03	<0.001	<0.0001	0.004	0.002	0.02	1.15	**0.106**	1.77	0.012	<0.01	0.183	<0.0001	7.53	7990	127	92	1420	29	76.4	2000	142	<1	<1	631	631	72	2.97	1.06	<0.01	0.28	0.28	**4250**
		4-Jan-12	1210	22.92	23.90	7.21	7154	23.5																																	
		28-Mar-12	1215	22.89	23.87	7.3	4060	22.6	0.17	<0.001	0.928	<0.001	<0.0001	<0.001	0.001	0.011	0.54	**1.52**	0.004	0.02	<0.01	0.101	<0.0001	7.87	5750	122	73	1160	24	63.2	1580	123	<1	<1	534	534	57.8	4.42	1.31	0.03	0.34	0.37	3290
		25-Jun-12	1230	22.96	23.94	7.45	6190	20.6																																	
		11-Sep-12	1300	22.81	23.79	7.34	6180	22.2	0.12	0.001	0.713	<0.001	<0.0001	<0.001	<0.001	0.016	0.3	0.004	1.29	0.003	<0.01	0.07	<0.0001	7.86	7280	111	87	1300	25	69.9	1700	159	<1	<1	684	684	64.9	3.65	1.24	0.01	0.1	0.11	3920
		06-Dec-12	1225	22.86	23.84	7.3	8360	22.3																																	
		03-Apr-13	1250	22.82	23.8	8.51	6680	24.2	0.52	<0.001	0.959	<0.001	0.0002	0.003	0.002	0.057	1.32	**0.11**	1.91	0.011	<0.01	0.344	<0.0001	7.67	7330	142	90	1420	32	77.1	1890	189	<1	<1	629	629	69.8	4.92	1.45	0.01	0.19	0.2	3970
		04-Jul-13	1140	22.86	23.84	7.66	5890	21.6																																	
		03-Sep-13	1415	23.72	24.7	7.62	7490	21.7	0.54	<0.001	0.8	<0.001	<0.0001	0.002	0.001	0.087	1.28	0.058	1.72	0.008	<0.01	0.296	<0.0001	8.02	7950	150	105	1480	34	81.4	2230	166	<1	<1	638	638	79.1	1.39	1.76	0.01	0.09	0.1	**4420**
		04-Dec-13	1200	22.78	23.76	7.6	7690	24.3																																	
		07-Mar-14	950	22.38	23.36	7.8	7910	22.4	0.33	<0.001	0.823	<0.001	<0.0001	0.016	<0.001	0.084	0.95	0.027	2.14	0.012	<0.01	0.196	<0.0001	7.61	8900	168	115	1780	34	96.1	2410	217	<1	<1	765	765	87.8	4.52	1.33	<0.01	0.18	0.18	**4900**
		10-Jun-14	1445	22.33	23.31	7.7	7850	21.4																																	
		29-Sep-14	1415	22.83	23.81	7.4	8520	21.7	0.06	<0.001	0.774	<0.001	<0.0001	0.001	<0.001	0.007	0.25	0.004	2.46	0.004	<0.01	0.204	<0.0001	7.77	7780	189	121	1360	30	ot Authorise	2790	347	<1	<1	724	724		1.4	<0.01	0.14	0.14	3880
		04-Dec-14	930	22.49	23.47	7.4	7980	21.6																																	
		12-Mar-15	1000	22.51	23.49	7.6	7040	23.6	0.11	<0.001	0.592	<0.001	<0.0001	0.001	<0.001	0.028	0.4	0.011	1.56	0.005	<0.01	0.093	<0.0001	7.98	7350	142	108	1460	25	80.1	1970	200	<1	<1	644	644	72.6	4.9	1.06	<0.01	0.28	0.28	3990
		04-Jun-15	1330	22.69	23.67	7.6	8080	21.3																																	
		09-Sep-15	1325	22.58	23.56	7.5	8700	21.6	0.33	<0.001	0.731	<0.001	<0.0001	<0.001	<0.001	0.018	0.8	0.009	2.42	0.004	<0.01	0.237	<0.0001	7.8	9350	179	106	1460	22	81.7	2090	247	<1	<1	777	777	79.6	1.28	1.44	<0.01	0.02	0.02	**5350**
		15-Dec-15	1300	22.34	23.32	7.5	8610	22.6																																	
		08-Mar-16	1320	21.51	22.49	7.8	7330	24.4	0.21	<0.001	0.598	<0.001	<0.0001	<0.001	<0.001	0.02	0.8	0.009	1.97	0.006	<0.01	0.174	<0.0001	7.99	8810	180	111	1480	21	83	2360	281	<1	<1	677	677	85.9	1.74	1.27	<0.01	0.07	0.07	**5070**
		01-Jun-16	925	22.49	23.47	7.8	7260	20.5																																	
		27-Sep-16			too wet																																				
		26-Oct-16	1355	22.46	23.44	7.4	7110	22.1	0.04	<0.001	0.627	<0.001	<0.0001	<0.001	<0.001	<0.001	0.19	<0.001	2.04	0.002	<0.01	0.024	<0.0001	7.88	5730	115	75	988	16	55.3	1430	119	<1	<1	533	533	53.5	1.68	1.38	<0.01	0.02	0.02	3230
		23-Nov-16	1400	22.70	23.68	7.5	7180	22.8																																	
		19-Dec-16	1405	21.26	22.24	7.6	7540	22.3																																	
		24-Jan-17	1230	21.97	22.95	7.5	7110	22.6																																	
		21-Feb-17	1415	21.99	22.97	7.5	6960	22.3																																	
		28-Mar-17	1350	21.71	22.69	7.7	6810	21.6																																	
		20-Apr-17	1350	21.75	22.73	7.6	6810	22																																	
		30-May-17	1150	21.56	22.54	7.7	6980	20.2																																	
		27-Jun-17	1345	21.41	22.39	7.6	6820	20.6																																	
		25-Jul-17	1445	21.60	22.58	7.6	6870	21																																	
		28-Aug-17	1225	21.57	22.55	7.4	7540	20.7																																	
		21-Sep-17	1400	21.65	22.63	7.4	8910	22.6	0.55	<0.001	0.491	<0.001	<0.0001	0.002	<0.001	0.051	1.29	0.045	3.44	0.004	<0.01	0.29	<0.0001	7.83	9880	207	151	1900	25	106	2710	321	<1	<1	919	919	101	2.19	1.1	<0.01	0.01	0.01	5460
		25-Oct-17	1400	21.74	22.72	7.4	8830	22.5																																	
		24-Nov-17	1350	21.67	22.65	7.4	8820	22.6																																	
		19-Dec-17	1335	21.86	22.84	7.4	7750	23.1																																	
							8312	26.8	0.60875	0.00955	1.3955	#NUM!	#NUM!	0.0039	0.003	0.0326	1.1043	1.3786	3.1	0.01975	#NUM!	0.24075	#NUM!	7.8445	9250	141.875	120	1761.25	31.875	93.875	2836.25	287.25	#NUM!	#NUM!	790.625	790.625	101.5125	4.41125	1.308	0.03	0.3355	0.36325	4592
							8910	24.4	0.55	0.001	0.959	0	0.0002	0.016	0.002	0.087	1.32	0.11	3.44	0.012	0	0.344	0	8.02	9880	207	151	1900	34	106	2790	347	0	0	919	919	101	4.92	1.76	0.01	0.28	0.28	5460
P11	NC-030S	**3-Mar-08**	1320	22.18	23.17																																				
		2-Apr-08	1430	22.14	23.13																																				
Depth	50	**9-May-08**	1232	22.26	23.25																																				
Format.	Napperby	**2-Jun-08**	1620	22.30	23.29																																				
		1-Jul-08	1612	22.33	23.32																																				
		12-Aug-08	1248	22.39	23.38																																				
		12-Sep-08	0730	22.91	23.90	8.23	980	17.6		0.004	0.162	<0.001	<0.0001	<0.001	0.089	0.004	0.81	0.006	2.98	0.159	<0.01	0.016	<0.0001		2490	89	40	341	4	22.7	581	16	<1	<1	248	248	21.7	2.24	0.04				1330
		14-Nov-08	1258	23.02	24.01																																				
		3-Dec-08	1430	23.01	24.00																																				
		12-Jan-09	1125	23.01	24.00																																				
		23-Feb-09	1400	22.98	23.95																																				
		11-Jun-09	1525	22.88	23.98					0.007	0.303	<0.001	0.0014	0.003	0.082	0.069	3.6	0.092	3.22	0.194	0.02	0.46	<0.0001		3230	122	54	495	6	32.2	878	<1	<1	<1	335	335	31.5	1.15	<0.01				1890
		24-Aug-09	1530	24.19	25.18	SWL only																																			
		17-Nov-09	1420	24.79	25.78	7.34	34900	25		0.005	0.303	<0.001	0.0004	0.001	0.09	0.048	0.57	0.056	2.43	0.215	<0.01	0.294	<0.0001		3200	64	48	493	6	28.7	863	10.2	<1	<1	320	320	30.9	3.68	<0.1				1870
		24-Feb-10	1150	24.30	25.29																																				
		24-Jun-10	1330	23.82	24.81	7.4	4360	20	<0.01	0.001				<0.005		0.001	0.14	0.011	3.16	0.256		0.033	<0.0001	7.34	3590	152	69	621	8	40.4	1130	7.32	<1	<1	382	382	39.6	1		<0.01	0.02	0.02	
		3-Sep-10	1005	28.06	29.05	7.61	3650	21.1																																	
		9-Feb-11	1240	27.40	28.39	7.05	3280	28.1	<0.01	0.002				<0.005		<0.001	0.33	0.006	5.17	0.3		0.025	<0.0001	6.82	4360	132	77	652	6	41.4	1250	7	<1	<1	329	329	41.9	0.54		<0.01	0.37	0.37	
		08-Jun-11	1200	30.85	31.84	7.10	3630	18.7																																	
		26-Sep-11	1310	30.56	31.55	7.04	3790	22.4	0.2	0.004	0.35	<0.001	0.0002	0.004	0.064	0.01	0.9	0.018	5.34	0.269	<0.01	0.058	<0.0001	7.22	4840	148	74	728	8	45.4	1210	19	<1	<1	327	327	41.1	4.95	0.27	<0.01	0.05	0.05	2710
		4-Jan-12	1240	30.21	31.20	6.93	4205	23.1																																	
		28-Mar-12	1245	28.96	29.95	7.25	3410	22.5	0.2	0.002	0.374	<0.001	<0.0001	0.044	<0.001	0.013	1.4	**4.85**	0.203	0.012	<0.01	0.066	<0.0001	7.57	4310	168	75	671	8	44	1210	14	<1	<1	290	290	40.2	4.43	0.24	<0.01	0.27	0.27	2590
		25-Jun-12	1250	26.12	27.11	7.27	4140	20.4																																	
		11-Sep-12	1320	22.90	23.89	7.22	4110	22.4	0.15	0.001	0.372	<0.001	<0.0001	<0.001	<0.001	0.056	0.041	0.76	0.07	4.66	0.23	<0.01	0.208	<0.0001	7.54	4640	150	82	717	8	45.6	1250	11	<1	<1	320	320	41.9	4.27	<0.10	<0.01	0.28	0.28	2760
		06-Dec-12	1235	20.64	21.63	7.12	4730	22																																	
		03-Apr-13	1300	18.61	19.6	7.43	4410	23.4	0.36	0.002	0.489	<0.001	0.0001	0.002	0.067	0.061	2.02	0.098	6.38	0.295	<0.01	0.335	<0.0001	7.46	4880	194	85	750	10	49.6	1410	11	<1	<1	271	271	45.4	4.36	0.15	<0.01	0.17	0.17	2940
		04-Jul-13	1120	18.93	19.92	7.64	4710	21.7																																	
		03-Sep-13	1400	17.51	18.5	7.38	4420	22.4	0.26	0.002	0.425	<0.001	0.0001	<0.001	0.044	0.111	1.2	0.036	4.86	0.213	<0.01	0.325	<0.0001	7.74	4890	183	88	735	9	48.6	1380	11	<1	<1	252	252	44.2	4.72	0.34	<0.01	0.1	0.1	2810
		04-Dec-13	1215	17.27	18.26	7.5	4680	23.9																																	

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*						*4000*
		07-Mar-14	1010	17.81	18.8	7.3	4970	22.3	0.32	0.002	0.407	<0.001	<0.0001	0.002	0.035	0.092	2.27	0.029	6	0.193	<0.01	0.179	<0.0001	7.19	5690	207	93	849	8	55.1	1570	5	<1	<1	225	225	48.9	5.99	0.22	<0.01	0.01	0.01	3750
		10-Jun-14	1435	17.85	18.84	7.3	4920	21.4																																	
		29-Sep-14	1425	18.18	19.17	7.1	5310	22.2	0.31	0.002	0.444	<0.001	<0.0001	0.002	0.029	0.058	1.64	0.02	6.55	0.186	<0.01	0.119	<0.0001	7.44	5690	176	82	635	7	43.3	1440	3	<1	<1	209	209	44.9	1.73	0.27	<0.01	0.04	0.04	3140
		04-Dec-14	945	18.59	19.58	7.2	5420	21.8																																	
		12-Mar-15	1020	18.76	19.75	7.5	6920	24.8	0.22	<0.001	0.346	<0.001	<0.0001	0.004	0.022	0.06	1.72	0.027	4.08	0.168	<0.01	0.138	<0.0001	7.75	4880	162	77	724	8	46.1	1410	23	<1	<1	271	271	45.7	0.49	0.5	<0.01	0.05	0.05	2600
		04-Jun-15	1340	19.22	20.21	7.4	4950	21.5																																	
		09-Sep-15	1345	19.55	20.54	7.4	4820	21.2	0.23	<0.001	0.386	<0.001	<0.0001	0.003	0.022	0.026	2.05	0.011	4.74	0.17	<0.01	0.124	<0.0001	7.62	5170	167	79	723	8	46.5	1280	17	<1	<1	258	258	41.6	5.53	0.53	<0.01	<0.01	<0.01	3230
		15-Dec-15	1310	19.90	20.89	7.5	4230	22.5																																	
		08-Mar-16	1250	20.23	21.22	7.4	4880	24.4	0.08	<0.001	0.365	<0.001	<0.0001	<0.001	0.02	0.021	1.6	0.005	5	0.164	<0.01	0.106	<0.0001	7.85	5130	180	84	766	8	49.4	1320	18	<1	<1	230	230	42.2	7.87	0.42	<0.01	<0.01	<0.01	3470
		01-Jun-16	945	20.42	21.41	7.5	4450	20.4																																	
		27-Sep-16			too wet																																				
		26-Oct-16	1410	20.74	21.73	7.4	4100	22.2	0.02	<0.001	0.293	<0.001	<0.0001	<0.001	0.009	0.002	1.8	<0.001	3.48	0.15	<0.01	0.023	<0.0001	7.72	3980	113	57	560	7	34.9	1080	39	<1	<1	289	289	37	3.04	0.52	<0.01	<0.01	<0.01	2500
		23-Nov-16	1420	21.08	22.07	7.5	3540	22.4																																	
		19-Dec-16	1425	21.47	22.46	7.5	3930	22.7																																	
		24-Jan-17	1250	21.88	22.87	7.3	4200	23.1																																	
		21-Feb-17	1400	22.23	23.22	7.4	4460	21																																	
		28-Mar-17	1410	22.39	23.38	7.5	4250	22.2																																	
		20-Apr-17	1410	22.62	23.61	7.2	4330	21.9																																	
		30-May-17	1210	22.60	23.59	7.3	4410	20.1																																	
		27-Jun-17	1400	22.85	23.84	7.2	4710	20.8																																	
		25-Jul-17	1500	23.17	24.16	7.2	5180	21.2																																	
		28-Aug-17	1210	23.51	24.5	7.2	5310	20.5																																	
		21-Sep-17	1425	23.87	24.86	7.1	5640	22.3	0.2	0.001	0.445	<0.001	<0.0001	0.002	0.027	0.02	1.7	0.013	5.86	0.183	<0.01	0.101	<0.0001	7.51	5980	196	85	774	6	50.6	1740	4	<1	<1	258	258	54.3	3.55	0.38	0.04	0.18	0.22	3220
		25-Oct-17	1420	24.19	25.18	7.2	5660	22.3																																	
		24-Nov-17	1415	24.03	25.02	7.2	5780	22.5																																	
		19-Dec-17	1350	24.73	25.72	7.2	5430	22.8																																	
							28792	27.48	0.2	0.00675	0.3722	#NUM!	0.00135	0.041	0.0896	0.0669	3.325	4.25525	5.31875	0.29613	0.02	0.43925	#NUM!	7.5528	4780	166	76.75	720.875	8	45.225	1245	18.5	#NUM!	#NUM!	376.125	376.125	41.8	4.885	0.26925	#NUM!	0.3625	0.3625	2701
							6920	24.8	0.36	0.002	0.489	0	0.0001	0.004	0.067	0.111	2.27	0.098	6.55	0.295	0	0.335	0	7.85	5980	207	93	849	10	55.1	1740	39	0	0	320	320	54.3	7.87	0.53	0.04	0.28	0.28	3750
P12	NC-098D	**3-Mar-08**	1135	36.70	37.51																																				
		2-Apr-08	1145	37.72	38.53																																				
Depth	90	**9-May-08**	0937	36.75	37.56																																				
Format.	Napperby	**2-Jun-08**	1312	36.78	37.59																																				
		1-Jul-08	1300	36.79	37.60																																				
		11-Aug-08		36.54	37.35																																				
		12-Sep-08	1130	36.49	37.30	6.8	1020	21.5		0.007	0.022	<0.001	<0.0001	0.002	0.008	0.002	0.67	0.132	0.053	0.002	<0.01	0.189	<0.0001		367	30	10	28	5	3.62	24	16	<1	<1	131	131	3.63	0.14	0.08				226
		14-Nov-08	1047	36.72	37.61																																				
		01-Dec-08	1200	36.67	37.56																																				
		12-Jan-09	0915	36.66	37.57																																				
		18-Feb-09	1233	36.72	37.52																																				
		17-Aug-09	1245	37.18	37.99	7.3	2540	23.8		0.006	0.163	<0.001	0.0004	0.005	0.211	0.008	3	0.009	3.37	0.218	<0.01	0.04	<0.0001		2530	82	49	453	6	28	370	8.67	<1	<1	864	864	27.9	0.1	0.09				1540
		11-Nov-09	1035	37.13	37.94	7.5	2790	33.8		0.013	0.12	<0.001	<0.0001	0.009	0.051	0.004	1.42	0.014	1.41	0.078	<0.01	0.044	<0.0001		2470	51	28	555	7	29.2	394	4.15	<1	<1	931	931	29.8	0.98	0.3				1660
		17-Feb-10	0945	37.13	37.94																																				
		22-Jun-10	1030	36.30	37.11	7.38	2150	23.6	<0.01	0.009				<0.005		<0.001	0.25	<0.001	1.02	0.027		<0.005	<0.0001	7.5	2970	47	25	774	8	38.3	426	1.72	<1	<1	1180	1180	35.6	3.55		<0.01	0.04	0.04	
		2-Sep-10	1035	36.33	37.14	7.56	2700	21.9																																	
		7-Feb-11	1030	36.43	37.24	7.32	2560	25.8	0.03	0.011				<0.001			<0.001	0.002	0.943	0.024		0.009	<0.0001	7.46	2880	48	29	703	10	35.6	431	1	<1	<1	1040	1040	33.1	3.66		<0.01	0.01	0.02	
		09-Jun-11	1000	36.67	37.48	7.45	2610	19.8																																	
		11-Oct-11	1045	36.74	37.55	7.50	2390	22.9	0.98	0.011	0.137	<0.001	<0.0001	0.003	0.005	0.038	2.17	0.02	1.13	0.028	<0.01	0.144	<0.0001	7.76	3170	40	24	732	8	36	442	9	<1	<1	1030	1030	33.2	3.97	0.51	<0.01	0.04	0.04	1870
		8-Dec-11	1010	36.71	37.52	7.50	2480	22.4																																	
		04-Apr-12	910	37.27	38.08	7.8	2550	23.2	0.64	0.011	0.129	<0.001	<0.0001	0.005	<0.001	0.023	1.56	**0.921**	0.016	0.009	<0.01	0.104	<0.0001	7.94	3080	36	28	790	9	38.7	479	11	<1	<1	1070	1070	35.1	4.8	0.58	0.02	0.22	0.24	1960
		31-May-12	915	37.38	38.19	7.51	2450	20.3																																	
		29-Aug-12	1040	37.43	38.24	7.68	2790	21.6	0.11	0.009	0.106	<0.001	<0.0001	<0.001	0.005	0.04	1.08	0.004	0.879	0.015	<0.01	0.202	<0.0001	7.98	3160	42	24	711	9	35.2	458	11	<1	<1	1170	1170	36.5	1.85	0.49	<0.01	0.07	0.07	1880
		04-Dec-12	1230	37.59	38.4	7.67	2870	24.1																																	
		07-Mar-13	1145	37.79	38.6	7.78	3020	24.1	0.06	0.01	0.105	<0.001	<0.0001	<0.001	0.006	0.009	0.92	0.005	0.839	0.013	<0.01	0.038	<0.0001	7.81	3230	32	23	751	9	36.4	416	11	<1	<1	1120	1120	34.3	2.84	0.37	0.02	0.11	0.13	1890
		03-Jul-13	1230	37.77	38.58	7.81	3060	23.2																																	
		03-Sep-13	1000	40.29	41.1	7.89	3290	22.1	0.28	0.011	0.118	<0.001	<0.0001	0.002	0.008	0.178	1.52	0.017	0.836	0.014	<0.01	0.088	<0.0001	8.09	3330	38	26	762	11	37.5	455	21	<1	<1	1140	1140	36	1.88	0.68	0.01	0.27	0.28	1780
		27-Nov-13	1300	40.63	41.44	7.9	3080	21.4																																	
		05-Mar-14	1300	41.40	42.21	7.9	3280	24.3	0.14	0.012	0.102	<0.001	<0.0001	0.013	0.01	0.058	0.9	0.009	0.801	0.016	<0.01	0.087	<0.0001	7.96	3350	39	23	932	10	44.6	436	24	<1	<1	1100	1100	34.8	12.4	0.51	0.03	0.06	0.09	1870
		11-Jun-14	1300	41.74	42.55	7.8	3340	20.9																																	
		29-Sep-14	1340	41.83	42.64	7.6	3040	22.1	0.09	0.013	0.104	<0.001	<0.0001	<0.001	0.007	0.009	1.09	0.006	0.748	0.013	<0.01	0.045	<0.0001	7.98	3190	25	16	550	9	26.7	417	15	<1	<1	994	994	31.9	8.94	0.62	0.02	0.05	0.07	2390
		04-Dec-14	1045	42.05	42.86	7.5	2970	21.7																																	
		13-Mar-15	1130	42.23	43.04	7.6	3220	25.4	0.17	0.012	0.093	<0.001	<0.0001	<0.001	0.006	0.012	1.05	0.001	0.576	0.015	<0.01	0.045	<0.0001	7.79	3260	42	35	864	10	42.8	431	17	<1	<1	1190	1190	36.3	8.2	0.76	<0.01	0.04	0.04	1660
		03-Jun-15	1310	42.30	43.11	7.7	3140	20.9																																	
		09-Sep-15	925	42.38	43.19	7.6	3110	21.1	0.33	0.016	0.096	<0.001	<0.0001	0.001	0.006	0.012	1.83	0.004	0.666	0.016	<0.01	0.059	<0.0001	8.01	3270	38	22	704	8	34.5	319	17	<1	<1	1120	1120	31.7	4.18	0.72	<0.01	<0.01	<0.01	1740
		14-Dec-15	940	42.50	43.31	7.6	3140	22.9																																	
		09-Mar-16	1240	42.46	43.27	7.7	3120	24.5	0.05	0.017	0.111	<0.001	<0.0001	<0.001	0.006	0.02	1.74	0.002	0.866	0.018	<0.01	0.038	<0.0001	7.98	3250	41	25	680	8	33.9	407	20	<1	<1	1140	1140	34.7	1.2	0.73	0.02	0.09	0.11	1780
		02-Jun-16	1055	42.57	43.38	7.7	3060	21.2																																	
		26-Sep-16	940	42.55	43.36	7.6	3030	22.1	0.68	0.014	0.088	<0.001	<0.0001	0.001	0.007	0.003	1.52	0.003	0.369	0.019	<0.01	0.064	<0.0001	7.96	3190	36	22	638	8	31.6	400	15	<1	<1	1240	1240	36.4	7.12	0.58	<0.01	<0.01	<0.01	1730
		25-Oct-16	920	42.59	43.4	7.6	3020	21.8																																	
		24-Nov-16	940	42.60	43.41	7.6	3040	21.6																																	
		20-Dec-16	915	42.60	43.41	7.6	3090	22.2																																	
		25-Jan-17	940	42.63	43.44	7.6	3110	22.6																																	
		22-Feb-17	1025	42.68	43.49	7.7	3070	22.6																																	
		29-Mar-17	900	42.62	43.43	7.6	3180	22.1																																	
		26-Apr-17	1020	42.64	43.45	7.7	3160	22.7																																	
		29-May-17	945	42.76	43.57	7.7	3130	22.4																																	
		29-Jun-17	1320	42.73	43.54	7.7	3100	22.1																																	
		26-Jul-17	920	42.98	43.79	7.7	3130	21.3																																	
		29-Aug-17	915	43.04	43.85	7.8	3160	21																																	
		26-Sep-17	910	43.16	43.97	7.8	3170	22.4	0.12	0.012	0.078	<0.001	<0.0001	<0.001	0.005	0.006	0.96	0.004	0.505	0.017	<0.01	0.014	<0.0001	8.14	3210	30	19	622	7	30.3	405	14	<1	<1	1120	1120	34.1	5.9	0.68	<0.01	<0.01	<0.01	1930
		26-Oct-17	915	43.45	44.26	7.7	3180	23.2																																	
		27-Nov-17	920	43.20	44.01	7.6	3240	22.1																																	
		20-Dec-17	1035	43.62	44.43	7.6	3180	22.3																																	
							2767.5	31.8	0.963	0.01275	0.16105	#NUM!	0.0004	0.0087	0.203	0.03688	2.917	0.8309	3.125	0.2005	#NUM!	0.14	#NUM!	7.9265	3158.75	78.125	46.5	788	9.875	38.65	474.375	10.75	#NUM!	#NUM!	1166.25	1166.25	35.5375	4.69625	0.57475	0.02	0.2065	0.225	1953.25
							3340	25.4	0.68	0.017	0.118	0	0	0.013	0.01	0.178	1.83	0.017	0.879	0.019	0	0.202	0	8.09	3350	42	35	932	11	44.6	458	24	0	0	1240	1240	36.5	12.4	0.76	0.03	0.27	0.28	2390
P13	NC-098S	**3-Mar-08**	1140	8.51	9.38																																				
		2-Apr-08	1147	8.62	9.49																																				
Depth	30	**9-May-08**	0939	8.88	9.75																																				
Format.	Garrawilla	**2-Jun-08**	1308	9.00	9.88																																				
		1-Jul-08	1303	9.18	10.05																																				
		11-Aug-08		9.34	10.21																																				
		12-Sep-08	1045	9.43	10.30	7.1	1180	20.1		<0.001	0.153	<0.001	<0.0001	0.001	<0.001	0.001	0.11	0.007	0.134	0.002	<0.01	0.023	<0.0001		2040	50	89	253	7	21.0	279	30	<1	<1	556	556	19.6	3.47	0.24				1040
		14-Nov-08	1045	8.35	9.21																																				
		01-Dec-08	1202	8.48	9.34																																				
		12-Jan-09	0920	7.53	8.39																																				
		18-Feb-09	1241	7.35	8.23																																				
		17-Aug-09	1330	8.03	8.90	7.6	1540	24.3		<0.001	0.103	<0.001	<0.0001	0.003	0.002	0.002	1.51	0.002	0.064	0.004	<0.01	0.009	<0.0001		1760	50	100	204	3	19.6	272	50.7	<1	<1	551	551	19.7	0.34	<0.01				978
		11-Nov-09	1120	8.92	9.79	7.2	1310	27.5		0.001	0.125	<0.001	<0.0001	0.003	0.005	0.006	2.57	0.005	0.625	0.016	<0.01	0.015	<0.0001		1820	54	105	218	3	20.9	362	45.8	<1	<1	520	520	21.6	1.66	14.9				1110
		17-Feb-10	0950	8.06	8.93																																				
		22-Jun-10	0930	8.80	9.67	7.69	1923	21	<0.01	<0.001				<0.005		<0.001	<0.05	<0.001	<0.001	0.003		<0.005	<0.0001	7.47	1820	56	106	222	3	21.2	301	41.4	<1	<1	544	544	20.2	2.37		<0.01	2.77	2.77	
		2-Sep-10	1025	8.30	9.17	7.38	1668	22.4																																	
		7-Feb-11	1100	6.28	7.15	7.21	1615	24.5	0.03	<0.001				<0.001		<0.001	<0.05	<0.001	<0.001	0.001		<0.005	<0.0001	7.24	1480	70	86	191	2	19	283	54	<1	<1	512	512	19.3	0.97		0.02	1.95	1.97	
		09-Jun-11	1030	7.03	7.90	7.40	1492	18.7																																	
		11-Oct-11	1120	7.78	8.65	7.30	1336	21.4	0.31	0.004	0.072	<0.001	<0.0001	0.001	<0.001	0.02	0.41	0.004	0.033	0.004	0.01	0.051	<0.0001	7.7	1730	56	88	191	<1	18.4	250	38	<1	<1	455	455	16.9	3.98	0.13	<0.01	2.75	2.75	942

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Major Cations				Total Cations - meq/L	Major Anions							Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*					*1500*	*400*		*4000*
		8-Dec-11	1025	7.49	8.36	7.40	1202	21.2																																
		04-Apr-12	930	5.19	6.06	7.7	1103	22.5	0.32	<0.001	0.067	<0.001	<0.0001	<0.001	<0.001	0.014	0.1	0.021	0.004	0.003	<0.01	0.063	<0.0001	7.82	1360	113	69	117	3	16.5	128	258	<1	<1	306	306	15.1	4.39	0.05	<0.01	1.48	1.48	922
		31-May-12	935	5.36	6.23	7.55	1195	20.1																																
		29-Aug-12	1100	4.90	5.77	7.66	1268	21.6	0.12	<0.001	0.066	<0.001	0.0001	0.002	<0.001	0.035	0.35	0.004	0.027	0.006	<0.01	0.101	<0.0001	7.88	1330	106	63	97	2	14.7	121	276	<1	<1	310	310	15.4	2.02	0.05	<0.01	2.48	2.48	846
		04-Dec-12	1250	5.47	6.34	7.68	1258	21																																
		07-Mar-13	1200	5.27	6.14	7.74	1290	22.4	0.02	<0.001	0.064	<0.001	<0.0001	<0.001	<0.001	0.008	<0.05	0.002	0.003	0.005	<0.01	0.022	<0.0001	7.76	1360	91	64	113	2	14.8	111	268	<1	<1	288	288	14.5	1.05	<0.01	<0.01	2.91	2.91	910
		03-Jul-13	1240	5.26	6.13	7.75	1292	21.6																																
		03-Sep-13	1030	7.40	8.27	7.77	1360	21.5	0.09	<0.001	0.068	<0.001	<0.0001	<0.001	<0.001	0.039	0.25	0.004	0.04	0.008	<0.01	0.048	<0.0001	8.02	1430	93	66	139	2	16.2	126	263	<1	<1	298	298	15	3.8	0.02	<0.01	2.88	2.88	929
		27-Nov-13	1240	8.97	9.84	8.1	1813	20.7																																
		05-Mar-14	1245	10.64	11.51	8.1	1420	24.1	0.52	0.002	0.07	<0.001	<0.0001	0.008	<0.001	0.06	1.35	0.02	0.066	0.013	<0.01	0.198	<0.0001	7.92	1500	81	59	188	1	17.1	135	266	<1	<1	310	310	15.5	4.76	0.04	<0.01	4.05	4.05	950
		11-Jun-14	1315	10.79	11.66	8	1500	20.6																																
		29-Sep-14	1330	11.45	12.32	7.8	1522	21.9	0.05	<0.001	0.059	<0.001	<0.0001	<0.001	<0.001	0.014	0.1	0.001	0.017	0.01	<0.01	0.043	<0.0001	7.86	1480	81	61	145	2	15.4	143	295	<1	<1	335	335	16.9	4.5	0.02	<0.01	3.64	3.64	818
		04-Dec-14	1020	11.95	12.82	7.7	1497	21.6																																
		13-Mar-15	1200	12.40	13.27	7.9	1592	25.7	0.41	0.001	0.079	<0.001	<0.0001	0.016	<0.001	0.019	0.63	0.003	0.022	0.017	<0.01	0.097	<0.0001	7.89	1620	93	71	239	3	21	165	273	<1	<1	339	339	17.1	10.1	0.05	<0.01	3.6	3.6	846
		03-Jun-15	1330	12.36	13.23	7.9	1487	20.5																																
		09-Sep-15	945	11.77	12.64	7.8	1464	20.2	0.06	<0.001	0.069	<0.001	<0.0001	<0.001	<0.001	0.013	0.3	<0.001	0.013	0.007	<0.01	0.048	<0.0001	7.7	1520	86	82	173	3	18.6	150	294	<1	<1	274	274	15.8	8.15	0.04	<0.01	3.43	3.43	927
		14-Dec-15	1000	11.19	12.06	7.7	1476	22.1																																
		09-Mar-16	1300	11.88	12.75	7.8	1568	22.6	<0.01	<0.001	0.069	<0.001	<0.0001	<0.001	<0.001	0.017	<0.05	<0.001	0.004	0.008	<0.01	0.052	<0.0001	7.84	1610	88	76	189	3	18.9	174	321	<1	<1	287	287	17.3	4.45	0.06	<0.01	3.61	3.61	1000
		02-Jun-16	1045	12.62	13.49	7.8	1423	20.6																																
		26-Sep-16	1010	11.48	12.35	7.5	1376	21.1	0.21	<0.001	0.076	<0.001	<0.0001	<0.001	<0.001	0.012	0.45	0.003	0.034	0.007	<0.01	0.069	<0.0001	7.73	1400	99	79	118	2	16.6	106	336	<1	<1	264	264	15.3	4.27	0.02	<0.01	1.71	1.71	914
		25-Oct-16	945	10.89	11.76	7.4	1337	21																																
		24-Nov-16	1000	10.45	11.32	7.3	1373	21.1																																
		20-Dec-16	930	10.43	11.3	7.4	1375	21.8																																
		25-Jan-17	1000	10.74	11.61	7.5	1381	21.7																																
		22-Feb-17	1050	11.04	11.91	7.5	1405	22.1																																
		29-Mar-17	920	11.19	12.06	7.5	1410	21.6																																
		26-Apr-17	1040	11.19	12.06	7.7	1423	21.4																																
		29-May-17	1005	11.22	12.09	7.7	1472	20.7																																
		29-Jun-17	1305	11.24	12.11	7.7	1450	20.6																																
		26-Jul-17	940	11.05	11.92	7.8	1440	20.4																																
		29-Aug-17	935	11.11	11.98	7.8	1457	20.2																																
		26-Sep-17	930	11.31	12.18	7.7	1452	20.7	0.04	<0.001	0.067	<0.001	<0.0001	<0.001	<0.001	0.021	0.08	0.001	0.018	0.007	<0.01	0.054	<0.0001	7.97	1540	81	70	124	2	15.2	111	325	<1	<1	263	263	15.2	0.31	0.04	<0.01	1.92	1.92	910
		26-Oct-17	940	11.50	12.37	7.6	1463	21.7																																
		27-Nov-17	945	11.81	12.68	7.8	1468	21.3																																
		20-Dec-17	1050	11.99	12.86	7.9	1575	23.4																																
							1859.25	26.75	0.3195	0.00393	0.12335	#NUM!	#NUM!	0.003	0.0049	0.01955	2.4905	0.0198	0.58293	0.0145	0.01	0.0621	#NUM!	7.811	1820	107.625	105.875	221.5	3	21.1625	354.375	232.5	#NUM!	#NUM!	550.125	550.125	21.425	4.33875	14.1615	0.02	2.7685	2.7685	1100.1
							1813	25.7	0.52	0.002	0.079	0	0.0001	0.016	0	0.06	1.35	0.02	0.066	0.017	0	0.198	0	8.02	1620	106	82	239	3	21	174	336	0	0	339	339	17.3	10.1	0.06	0	4.05	4.05	1000
P14	**NC-100D**	**3-Mar-08**																																						
		2-Apr-08																																						
Depth	**78**	**9-May-08**																																						
Format.	**Napperby**	**2-Jun-08**																																						
		1-Jul-08																																						
		11-Aug-08																																						
		12-Sep-08																																						
		14-Nov-08																																						
		3-Dec-08																																						
		12-Jan-09	0945	58.41	58.77																																			
		24-Aug-09	1240	57.32	57.68	12.6	9300	23.3		0.002	2.04	<0.001	<0.0001	0.04	0.003	0.06	2.04	0.018	0.051	0.027	<0.01	0.158	<0.0001		5430	656	<1	205	112	44.5	5.71	2.58	<1	<1	<1	<1	0.21	99	3.03				2480
		18-Nov-09	1200	59.48	59.84	12.35	9320	28.5	0.02	0.002				0.018		0.016	<0.5	<0.001	<0.001	0.011		<0.005	<0.0001	9.98	2520	574	<1	202	118	40.5	7.84	31.8	2140	50	<1	2190	44.6	4.88		0.06	0.06	0.13	
		24-Feb-10	0955	60.31	60.67																																			
		22-Jun-10	1325	60.18	60.54	11.95	8980	21	0.01	0.002				0.018		0.027	<0.05	<0.001	<0.001	0.018		<0.005	<0.0001	12.5	9070	562	<1	341	126	46.1	129	12.7	1960	78	<1	2040	44.6	1.64		0.06	0.06	0.12	
		2-Sep-10	1210	60.73	61.09	Insufficient to sample																																		
		7-Feb-11	1300	60.37	60.73	Insufficient to sample																																		
		08-Jun-11	1330	60.9	61.26	10.50	7480	21.1																																
		11-Oct-11	1430	61.06	61.42	Insufficient to sample																																		
		8-Dec-11	1130	60.86	61.22	Insufficient to sample																																		
		4-Apr-12	1115	59.8	60.16	Insufficient to sample																																		
		31-May-12	1120			Insufficient to sample																																		
		29-Aug-12	1230			Insufficient to sample																																		
		10-Dec-12	1410			Insufficient to sample																																		
		3-Apr-13	1020			Dry																																		
		3-Jul-13	1120			Dry																																		
		3-Sep-13	1130			Dry																																		
		27-Nov-13	1210			Dry																																		
		5-Mar-14	1150			Dry																																		
		11-Jun-14	1200			Dry																																		
		29-Sep-14	1245			Dry																																		
		4-Dec-14	1155			Dry																																		
		12-Mar-15	1415			Dry																																		
		3-Jun-15	1155	60.13	60.49	12.7	9230	21.3																																
		8-Sep-15	1250	60.96	61.32	Insufficient to sample																																		
		14-Dec-15	1110		19.84																																			
		10-Mar-16	1330			Dry																																		
		2-Jun-16				Dry																																		
		26-Sep-16				Dry																																		
		25-Oct-16				Dry																																		
		24-Nov-16				Dry																																		
		20-Dec-16				Dry																																		
		24-Jan-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		23-Feb-17	920			Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		29-Mar-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		26-Apr-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		29-May-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		29-Jun-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		26-Jul-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		29-Aug-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		26-Sep-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		26-Oct-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		27-Nov-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
		20-Dec-17				Dry - Blocked @ 10.2m (piezo undermined and blocked)																																		
P15	**NC-100S**	**3-Mar-08**																																						
		2-Apr-08																																						
Depth	**30**	**9-May-08**																																						
Format.	**Garrawilla**	**2-Jun-08**																																						
		1-Jul-08																																						
		11-Aug-08																																						
		12-Sep-08																																						
		14-Nov-08																																						
		3-Dec-08																																						
		12-Jan-09	0950	16.21	16.56																																			
		24-Aug-09	1215	16.16	16.47	6.8	16000	26.8		0.004	0.522	<0.001	0.0005	0.036	0.024	0.091	12.9	0.011	3.54	0.058	0.04	0.108	<0.0001		15300	193	286	2830	60	158	4340	928	<1	<1	1220	1220	166	2.56	3.34				**10400**
		18-Nov-09	1230	16.18	16.49	6.68	16320	29.3	<0.01	<0.001				<0.005		0.008	<0.05	<0.001	3.12	0.019		0.02	<0.0001	7.25	15200	87	284	3090	70	164	4490	971	<1	<1	788	788	162	0.39		<0.01	<0.01	<0.01	

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*			*1*		*20*	*0.002*			*1000*						*1000*					*1500*	*400*		*4000*
		24-Feb-10	0955	16.23	16.54																																			
		22-Jun-10	1250	16.18	16.49	6.73	13990	22	<0.01	<0.001				<0.005		0.005	<0.05	<0.001	1.9	0.016		0.02	<0.0001	7.36	11500	182	234	2690	47	146	4110	**1020**	<1	<1	1080	1080	159	3.99		<0.01	0.04	0.04	
		2-Sep-10	1215	16.16	16.47	6.98	13550	23.8																																	
		7-Feb-11	1350	16.13	16.44	6.47	12520	27.1	0.01	0.002				<0.001		0.006	<0.05	<0.001	3.3	0.013		0.019	<0.0001	6.69	15800	214	300	2900	59	163	4860	910	<1	<1	1050	1050	177	4.13		<0.01	0.02	0.02	
		08-Jun-11	1310	16.13	16.44	6.65	10860	20.5																																	
		11-Oct-11	1440	16.00	16.31	6.70	9850	23.1	0.55	0.006	0.127	<0.001	<0.0001	0.003	0.007	0.009	0.8	0.006	1.93	0.015	<0.01	0.052	<0.0001	7.43	12400	185	220	2510	46	138	3840	874	<1	<1	950	950	146	2.78	3.62	<0.01	0.03	0.03	**8440**
		8-Dec-11	1140	16.10	16.41	6.90	9380	23.5																																	
		04-Apr-12	1130	15.95	16.26	7.2	1701	25.5	0.43	0.001	0.151	<0.001	<0.0001	0.002	0.002	0.03	1.04	0.094	0.007	0.019	<0.01	0.123	<0.0001	7.58	1730	36	28	331	11	18.8	240	28	<1	<1	541	541	18.2	1.64	0.74	<0.01	0.48	0.48	1040
		31-May-12	1110	16.00	16.31	7.08	1986	21.9																																	
		29-Aug-12	1220	15.89	16.2	7.26	1781	22.4	0.24	<0.001	0.127	<0.001	<0.0001	0.002	<0.001	0.109	0.44	0.015	0.024	0.005	<0.01	0.342	<0.0001	7.74	1780	38	28	342	13	19.4	258	36	<1	<1	600	600	20	1.57	0.06	<0.01	0.79	0.79	1010
		10-Dec-12	1420	15.99	16.3	7.32	1775	22.5																																	
		03-Apr-13	1040	15.99	16.3	7.92	1760	21	0.51	0.001	0.148	<0.001	0.0004	0.003	0.001	0.133	1.1	0.04	0.104	0.007	<0.01	0.381	<0.0001	7.85	1870	41	30	384	16	21.6	257	41	<1	<1	576	576	19.6	4.85	0.68	<0.01	0.79	0.79	1050
		03-Jul-13	1140	15.96	16.27	8.11	1947	20.6																																	
		03-Sep-13	1040	16.09	16.4	7.59	2780	22.4	0.44	<0.001	0.135	<0.001	<0.0001	0.002	<0.001	0.11	0.8	0.03	0.177	0.008	<0.01	0.193	<0.0001	8.05	2950	45	40	592	19	31.8	500	145	<1	<1	607	607	29.2	4.1	0.1	<0.01	1.72	1.72	1730
		27-Nov-13	1155	16.12	16.43	7.2	5980	23.3																																	
		05-Mar-14	1200	16.38	16.69	7.4	4250	23.8	1.22	0.002	0.157	<0.001	<0.0001	0.024	0.008	0.087	2.33	0.021	1.25	0.028	<0.01	0.171	<0.0001	7.74	4700	51	54	911	24	47.2	840	336	<1	<1	766	766	46	1.29	0.21	<0.01	0.87	0.87	2600
		11-Jun-14	1215	18.17	18.48	7.4	5110	21.1																																	
		29-Sep-14	1300	19.93	20.24	6.8	10310	22.7	0.26	0.004	0.204	<0.001	0.0002	0.001	0.011	0.008	1.09	<0.001	2.7	0.018	<0.01	0.096	<0.0001	7.4	14300	156	217	2260	56	125	3940	918	<1	<1	1030	1030	151	9.24	2.61	<0.01	0.11	0.11	**8020**
		04-Dec-14	1145	20.33	20.64	6.8	9720	21.9																																	
		12-Mar-15	1400	26.54	26.85	Insufficent to sample																																			
		03-Jun-15	1140	18.45	18.76	6.1	1215	21.1																																	
		08-Sep-15	1230	17.12	17.43	6.1	1063	21.9	**30.6**	0.074	0.54	0.006	0.0007	0.087	0.048	0.105	587	0.078	1.55	0.229	0.34	0.358	0.0016	6.34	1070	7	6	230	6	11	259	29	<1	<1	104	104	9.99	4.8	0.44	<0.01	0.17	0.17	992
		14-Dec-15	1120	28.29	28.6	Insufficent to sample																																			
		10-Mar-16	1335			Dry																																			
		02-Jun-16				Dry																																			
		26-Sep-16				Dry																																			
		25-Oct-16				Dry																																			
		24-Nov-16				Dry																																			
		20-Dec-16				Dry																																			
		24-Jan-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		23-Feb-17	930			Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		29-Mar-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		26-Apr-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		29-May-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		29-Jun-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		26-Jul-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		29-Aug-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		26-Sep-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		26-Oct-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		27-Nov-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
		20-Dec-17				Dry - Blocked @ 19m (piezo undermined and blocked)																																			
							16248	28.805	0.544	0.00585	0.50345	#NUM!	0.0005	0.03435	0.0232	0.08338	12.307	0.08985	3.51	0.05313	0.04	0.12113	#NUM!	7.565	15737.5	211.375	298.25	3066.25	68.75	163.875	4813.75	1013.875	#NUM!	#NUM!	1202.5	1202.5	175.625	4.1125	3.606	#NUM!	0.447	0.447	10302
							10310	23.8	30.6	0.074	0.54	0.006	0.0007	0.087	0.048	0.133	587	0.078	2.7	0.229	0.34	0.381	0.0016	8.05	14300	156	217	2260	56	125	3940	918	0	0	1030	1030	151	9.24	2.61	0	1.72	1.72	8020
P16	**NC-119D**	**3-Mar-08**	1410	51.25	52.03																																					
		2-Apr-08	1345	51.24	52.02																																					
Depth	**146**	**9-May-08**	1152	51.21	51.99																																					
Format.	**Garrawilla**	**2-Jun-08**	1542	51.20	51.98																																					
		1-Jul-08	1525	51.12	51.90																																					
		12-Aug-08	1145	51.08	51.86																																					
		12-Sep-08	0930	50.52	51.30	7.45	1085	20.5		0.001	0.029	<0.001	<0.0001	0.002	<0.001	0.002	4.43	**0.394**	0.070	0.036	<0.01	0.204	<0.0001		132	5	1	14	3	1.05	22	<1	<1	<1	25	25	1.12		2.00				109
		14-Nov-08	1227	56.22	57.00																																					
		3-Dec-08	1400	55.22	56.00																																					
		12-Jan-09	1055	48.67	49.45																																					
		23-Feb-09	1250	48.45	49.24																																					
		9-Jun-09	1330	48.45	49.30	Bore pumped dry																																				
		24-Aug-09	1445	47.53	48.37	SWL only																																				
		17-Nov-09	1300	48.16	49.00	6.84	1605	24.1		<0.001	0.135	<0.001	<0.0001	0.001	<0.001	0.023	4.79	0.119	0.299	0.043	<0.01	1.21	<0.0001		1530	23	13	208	14	13.3	324	1.36	<1	<1	235	235	13.9	2.11	23.4				682
		24-Feb-10	1045	47.00	47.84																																					
		24-Jun-10	1015	47.46	48.30	7.53	1947	18	<0.01	<0.001				<0.005		0.003	0.33	0.002	0.389	0.016		0.085	<0.0001	7.01	1740	32	16	265	23	15	371	2.78	<1	<1	298	298	16.5	4.61		0.02	0.33	0.35	
		2-Sep-10	1345	46.77	47.61	6.78	2370	24.5																																	
		9-Feb-11	1040	47.50	48.34	6.73	2169	24	0.16	0.002				<0.005		0.01	0.5	0.031	0.515	0.006		0.063	<0.0001	6.67	2460	38	14	297	32	16.8	478	6	<1	<1	497	497	23.5	16.6		0.23	0.38	0.61	
		08-Jun-11	1030	46.96	47.80	6.85	2480	20.4																																	
		26-Sep-11	1100	47.03	47.87	6.85	2950	21.8	**6.22**	0.011	0.461	<0.001	0.0006	0.013	0.006	0.237	16	**2.11**	0.831	0.096	0.03	7.37	0.0004	7	3150	28	15	424	43	33.3	587	3	<1	<1	752	752	31.6	2.63	156	<0.01	0.46	0.46	1280
		4-Jan-12	1040	46.33	47.17	6.81	2825	24.1																																	
		28-Mar-12	1050	46.26	47.1				2.02	0.002	0.39	<0.001	0.0002	0.001	0.003	0.065	3.6	**0.407**	0.009	0.238	<0.01	1.34	<0.0001	7.33	4230	9	15	632	45	39.8	825	2	<1	<1	841	841	40.1	0.38	133	<0.01	0.06	0.06	1830
		25-Jun-12	1120	46.26	47.1	7.15	2500	20.3																																	
		11-Sep-12	1140	46.16	47	6.87	3620	23.7	1.8	0.002	0.417	<0.001	0.0002	0.005	<0.001	0.188	4.25	**0.382**	0.297	0.017	<0.01	3.03	0.0001	7.58	3790	27	14	609	37	38.4	719	13	<1	<1	769	769	35.9	3.36	119	<0.01	0.1	0.1	1480
		06-Dec-12	1125	46.25	47.09	7.2	2950	24.3																																	
		03-Apr-13	1150	46.06	46.9	7.1	3740	21.4	0.29	<0.001	0.346	<0.001	0.0001	0.002	0.001	0.078	2.42	0.072	0.269	0.009	<0.01	3.13	<0.0001	7.11	4010	27	13	688	46	33.5	761	4	<1	<1	772	772	37	4.93	125	<0.01	0.05	0.05	1650
		04-Jul-13	1300	46.17	47.01	6.97	3820	21.3																																	
		03-Sep-13	1240	46.26	47.1	7.02	3790	22.6	1.24	<0.001	0.328	<0.001	<0.0001	0.002	<0.001	0.091	3.07	**0.101**	0.315	0.006	<0.01	0.816	<0.0001	7.7	4110	22	12	660	45	31.9	735	<1	<1	<1	728	728	35.3	4.99	94.2	<0.01	0.03	0.03	1690
		02-Dec-13	1130	46.18	47.02	7.2	3780	21.9																																	
		06-Mar-14	1100	46.12	46.96	7.1	3870	22	0.94	0.002	0.331	<0.001	0.0002	0.037	0.002	**1.04**	3.28	**0.14**	0.32	0.027	<0.01	2.19	<0.0001	7.28	4120	28	14	687	45	33.6	775	9	<1	<1	731	731	36.6	4.4	123	<0.01	0.28	0.28	1780
		10-Jun-14	1100	46.18	47.02	7.1	3920	20.3																																	
		29-Sep-14	1045	46.12	46.96	7	3950	21.6	0.37	<0.001	0.362	<0.001	0.0002	0.003	0.002	0.045	2.77	0.023	0.344	0.013	<0.01	0.327	<0.0001	7.48	4130	20	11	480	37	23.7	768	<10	<1	<1	706	706	35.8	20.3	93.5	<0.01	0.04	0.04	1650
		03-Dec-14	950	46.60	47.44	7	3920	21.7																																	
		12-Mar-15	1150	47.37	48.21	7.1	3980	23.1	0.12	<0.001	0.275	<0.001	<0.0001	0.002	<0.001	0.01	2.13	0.006	0.253	0.005	<0.01	0.132	<0.0001	7.51	4080	32	17	693	40	34.2	782	2	<1	<1	825	825	38.6	6.11	126	0.01	0.06	0.07	1590
		04-Jun-15	1200	47.41	48.25	7.2	3940	22.6																																	
		09-Sep-15	1200	46.62	47.46	6.1	274	21.9	**16.9**	0.003	0.071	<0.001	<0.0001	0.016	0.004	0.094	19.8	**0.151**	0.186	0.026	0.03	1.35	<0.0001	6.13	244	4	2	37	6	2.13	46	6	<1	<1	37	37	2.16	----	3.33	0.01	0.81	0.82	184
		09-Dec-15	1020	47.76	48.6	6.1	421	20.8																																	
		08-Mar-16	1020	47.04	47.88	6.9	501	22.2	2.55	0.001	0.064	<0.001	0.0001	0.004	0.002	0.144	6.32	0.089	0.298	0.019	<0.01	4.35	<0.0001	6.97	501	6	3	67	7	3.64	74	1	<1	<1	93	93	3.97	4.32	14.7	0.1	0.87	0.97	290
		01-Jun-16	1110	47.19	48.03	6.9	582	20.7																																	
		28-Sep-16	1045	47.50	48.34	6.7	951	21	0.68	<0.001	0.066	<0.001	<0.0001	0.002	0.001	0.03	6.34	0.036	0.206	0.013	<0.01	0.863	<0.0001	6.91	1010	7	4	154	10	9.42	191	1	<1	<1	194	194	9.28	0.73	25	0.04	0.13	0.17	448
		26-Oct-16	1220	47.69	48.53	6.7	972	21.3																																	
		23-Nov-16	1210	47.91	48.75	6.7	980	21.5																																	
		19-Dec-16	1210	48.10	48.94	6.7	899	21.6																																	
		24-Jan-17	955	48.24	49.08	6.7	915	21.7																																	
		21-Feb-17	1225	48.67	49.51	6.8	921	21.8																																	
		28-Mar-17	1225	48.92	49.76	6.7	942	22.1																																	
		20-Apr-17	1230	49.08	49.92	6.7	960	21.8																																	
		24-May-17	1245	49.35	50.19	6.8	1165	21.4																																	
		27-Jun-17	1245	50.34	51.18	6.8	1210	21.3																																	
		25-Jul-17	1310	50.60	51.44	6.8	1240	21																																	
		24-Aug-17	1245	51.72	52.56	6.8	1316	21																																	
		21-Sep-17	1250	52.07	52.91	6.7	1256	22.3	4.54	0.001	0.066	<0.001	0.0002	0.007	0.002	0.146	7.56	0.201	0.384	0.018	<0.01	3.58	<0.0001	7.46	1250	13	7	143	15	11.4	201	7	<1	<1	332	332	12.4	4.01	50.6	0.07	1.2	1.27	421
		25-Oct-17	1255	52.40	53.24	6.7	1340	22.4																																	
		24-Nov-17	1245	52.89	53.73	6.7	1270	22.3																																	
		19-Dec-17	1235	53.12	53.96	6.7	1310	22.3																																	
							2928.125	24.43	6.01	0.01055	0.45745	#NUM!	0.00059	0.0124	0.0059	0.2198	14.879	1.9397	0.7994	0.2238	0.03	6.767	0.0004	7.306	4122	37.4	15.9	611.2	44.8	39.15	801.2	5.7	#NUM!	#NUM!	832.1	832.1	39.25	15.401	154.85	0.22475	0.454	0.59875	1802.5
							3980	24.3	16.9	0.003	0.417	0	0.0002	0.037	0.004	1.04	19.8	0.382	0.384	0.027	0.03	4.35	0.0001	7.7	4130	32	17	693	46	38.4	782	13	0	0	825	825	38.6	20.3	126	0.1	1.2	1.27	1780

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*							*1500*	*400*		*4000*
P17	NC-119S	3-Mar-08	1405	55.98	56.56																																				
		2-Apr-08	1350	59.42	60.00																																				
Depth	56	9-May-08	1157	59.07	59.65																																				
Format.	Purlawaugh	2-Jun-08	1539	59.42	60.00																																				
		1-Jul-08	1527	43.42	44.00																																				
		12-Aug-08	1150	58.42	59.00																																				
		12-Sep-08		57.32	57.90																																				
		14-Nov-08	1233	57.42	58.00																																				
		3-Dec-08	1404	57.42	58.00																																				
		12-Jan-09	1100	58.42	59.00																																				
		23-Feb-09	1258	48.92	49.50																																				
		09-Jun-09	1345			Dry																																				
		24-Aug-09	1450			Dry																																				
		17-Nov-09	1320			Dry																																				
		24-Feb-10	1115			Dry																																				
		24-Jun-10	1025			Dry																																				
		2-Sep-10	1325			Dry																																				
		9-Feb-11	1050			Dry																																				
		08-Jun-11	1050			Dry																																				
		26-Sep-11	1120			Dry																																				
		4-Jan-12	1100			Dry																																				
		28-Mar-12	1100			7.2	2440	22.8																																		
		25-Jun-12	1140			Dry																																				
		11-Sep-12	1200			Dry																																				
		6-Dec-12	1140			Dry																																				
		3-Apr-13	1200			Dry																																				
		4-Jul-13	1245			Dry																																				
		3-Sep-13	1230			Dry																																				
		2-Dec-13	1145			Dry																																				
		6-Mar-14	1040			Dry																																				
		10-Jun-14	1115			Dry																																				
		29-Sep-14	1100			Dry																																				
		3-Dec-14	1000			Dry																																				
		12-Mar-15	1200			Dry																																				
		4-Jun-15	1210			Dry																																				
		9-Sep-15	1215			Dry																																				
		9-Dec-15	1035			Dry																																				
		8-Mar-16	1035			Dry																																				
		1-Jun-16	1125			Dry																																				
		28-Sep-16	1050			Dry																																				
		26-Oct-16	1230			Dry																																				
		23-Nov-16	1220			Dry																																				
		19-Dec-16	1220			Dry																																				
		24-Jan-17	1005			Dry																																				
		21-Feb-17	1235			Dry																																				
		28-Mar-17	1235			Dry																																				
		20-Apr-17	1235			Dry																																				
		24-May-17	1255			Dry																																				
		27-Jun-17	1255			Dry																																				
		25-Jul-17	1320			Dry																																				
		24-Aug-17	1255			Dry																																				
		21-Sep-17	1300			Dry																																				
		25-Oct-17	1300			Dry																																				
		24-Nov-17	1255			Dry																																				
		19-Dec-17	1245			Dry																																				
P18	NC-122	3-Mar-08	1530	13.40	14.24																																				
		2-Apr-08	1225	13.40	14.24																																				
Depth	146	9-May-08	1027	13.45	14.29																																				
Format.	Hoskissons	2-Jun-08	1425	13.53	14.37																																				
		1-Jul-08	1414	13.56	14.40																																				
		11-Aug-08	1650	13.66	14.50																																				
		11-Sep-08	1030	13.16	14.00	6.75	1410	22.9		0.003	0.817	<0.001	<0.0001	0.008	0.032	0.007	3.75	0.046	0.137	0.059	0.03	0.022	<0.0001		3650	30	27	824	38	40.6	80	38	<1	<1	1870	1870	40.5	0.04	2.61				2370
		14-Nov-08	1123	12.70	13.49																																				
		01-Dec-08	1251	12.79	13.58																																				
		12-Jan-09	1015	12.88	13.67																																				
		23-Feb-09	1003	13.00	13.80																																				
		09-Jun-09	0900	13.60	14.35	6.1	8750	20.7		0.002	1.98	<0.001	<0.0001	0.009	0.019	0.007	4.6	0.04	0.14	0.038	0.03	0.03	<0.0001		8250	66	70	1960	79	96.4	134	<1	<1	<1	5100	5100	106	4.62	4.74				**6720**
		24-Aug-09	1320	17.87	18.68	SWL only																																				
		18-Nov-09	1400	23.90	24.71	6.66	6180	27.5	0.2	0.009				0.009		0.03	3.44	0.042	0.306	0.091		0.694	<0.0001	7.03	6100	58	48	1450	63	71.7	110	18	<1	<1	3710	3710	77.6	3.99		0.02	0.06	0.08	
		17-Feb-10	1200	31.91	32.72																																				
		16-Mar-10	1610	33.34	34.15	SWL only																																				
		7-May-10	1500	33.89	34.70																																				
		23-Jun-10	0950	40.03	40.84	6.54	7490	18	0.04	0.003				0.004		0.002	0.08	0.002	0.784	0.06		0.13	<0.0001	6.75	6210	80	137	1370	37	75.8	861	91.2	<1	<1	2880	2880	83.7	4.99		<0.01	0.1	0.1	
		2-Sep-10	1130	41.38	42.19	6.65	4070	23.2																																		
		10-Feb-11	1200			Dry																																				
		08-Jun-11	1200			Dry																																				
		11-Oct-11	1240			Dry																																				
		8-Dec-11	1200			Dry																																				
		4-Apr-12	1150			Dry																																				
		31-May-12	1210			Dry																																				
		29-Aug-12	1300			Dry																																				
		10-Dec-12	1345			Dry																																				
		3-Apr-13	940			Dry																																				
		3-Jul-13	1050			Dry																																				
		4-Sep-13	1240			Dry																																				
		27-Nov-13	1110			Dry																																				
		5-Mar-14	1110			Dry																																				
		11-Jun-14	1100			Dry																																				
		29-Sep-14	1150			Dry																																				
		5-Dec-14	1130			Dry																																				
		11-Mar-15	1210			Dry																																				
		3-Jun-15	1050			Dry																																				
		8-Sep-15	1140			Dry																																				
		14-Dec-15	1200			Dry																																				
		10-Mar-16	1235			Dry																																				
		2-Jun-16	1200			Dry																																				
		26-Sep-16	1200			Dry																																				
		25-Oct-16	1125			Dry																																				
		24-Nov-16	1135			Dry																																				
		20-Dec-16	1125			Dry																																				
		25-Jan-17	1110			Dry																																				
		23-Feb-17	945			Dry																																				

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Major Cations								Major Anions														
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L	Total Cations - meq/L	Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L	Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
ANZECC Guideline - stock drinking water									*5*	*0.5*				*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*					*1000*									*1500*	*400*		*4000*
		29-Mar-17	1055			Dry																																					
		26-Apr-17	1210			Dry																																					
		29-May-17	1200			Dry																																					
		29-Jun-17	1220			Dry																																					
		26-Jul-17	1135			Dry																																					
		29-Aug-17	1130			Dry																																					
		26-Sep-17	1110			Dry																																					
		26-Oct-17	1040			Dry																																					
		27-Nov-17	1110			Dry																																					
		20-Dec-17	1205			Dry																																					
P19	**NC-123R**	**3-Mar-08**	1535	16.11	17.05																																						
		2-Apr-08	1230	16.10	17.05																																							
Depth	**187**	**9-May-08**	1033	16.11	17.05																																						
Format.	**Pamboola**	**2-Jun-08**	1432	16.30	17.24																																						
		1-Jul-08	1421	16.38	17.32																																						
		14-Aug-08	1335	16.34	17.29																																						
		17-Sep-08	1445	16.16	17.10	6.7	1340	23.2		0.001	1.26	<0.001	0.0001	0.018	0.043	0.005	3.19	0.015	0.728	0.320	<0.01	0.066	<0.0001		11000	99	141	1040	1400	97.6	1880	28	<1	<1	1880	1880	91.2	3.40	6.15				**6220**
		14-Nov-08	1130	19.19	20.18																																						
		01-Dec-08	1244	17.26	18.21																																						
		12-Jan-09	1025	16.87	17.82																																						
		23-Feb-09	1008	24.20	24.60																																						
		09-Jun-09	0930	23.50	23.90	7	5600	21.2		<0.001	0.275	<0.001	<0.0001	0.029	0.003	0.002	3.14	0.003	1.24	0.014	<0.01	0.039	<0.0001		5230	40	82	1030	18	54	1170	<20	<1	<1	1060	1060	54.2	0.16	3.83				2910
		24-Aug-09	1322	24.82	25.30	SWL only																																					
		18-Nov-09	1410	24.11	24.59	7.34	3690	23.8	<0.01	0.003				<0.005		0.002	0.12	<0.001	0.93	0.005		0.011	<0.0001	7.71	3050	28	45	551	19	29.6	624	22.1	<1	<1	663	663	31.3	2.9		<0.01	0.04	0.04	
		17-Feb-10	1210	23.75	24.23																																						
		23-Jun-10	1100	22.95	23.43	7.3	3970	20	0.01	0.003				0.002		<0.001	0.13	<0.001	1.09	0.007		0.008	<0.0001	7.28	3330	32	57	672	24	36.1	708	29.4	<1	<1	838	838	37.3	1.67		<0.01	<0.01	<0.01	
		2-Sep-10	1140	22.86	23.34	7.24	3120	22.9																																			
		10-Feb-11	1230	21.88	22.36	7.1	1714	26.4	0.01	0.003				0.006		0.003	0.09	<0.001	0.701	0.005		0.018	<0.0001	7.45	2900	25	39	501	22	26.9	581	26	<1	<1	587	587	28.6	3.23		0.06	9.43	<0.01	
		08-Jun-11	1210	21.47	21.95	7.30	2720	19.9																																			
		11-Oct-11	1300	21.20	21.68	7.30	3170	23.7	0.13	0.004	0.138	<0.001	<0.0001	0.002	0.002	0.012	0.62	0.003	1.06	0.007	<0.01	0.031	<0.0001	7.64	4060	29	55	709	23	37.4	819	22	<1	<1	706	706	37.7	0.38	41.2	2.75	7.22	9.97	2000
		8-Dec-11	1215	21.36	21.84	7.80	2490	23.3																																			
		04-Apr-12	1200	20.64	21.12	7.7	2150	25.8	0.29	0.002	0.084	<0.001	<0.0001	0.003	0.001	0.021	0.69	**0.515**	0.006	0.006	<0.01	0.175	<0.0001	7.87	2680	20	33	408	29	30.7	476	45	<1	<1	660	660	28.5	3.7	119	6.49	6.31	12.8	1150
		31-May-12	1200	20.71	21.19	7.31	2760	22.3																																			
		29-Aug-12	1250	20.63	21.11	7.45	2890	23.4	0.13	0.002	0.072	<0.001	<0.0001	0.003	0.002	0.066	0.38	0.008	0.601	0.005	<0.01	0.254	<0.0001	7.82	3120	21	34	411	31	32.6	512	53	<1	<1	764	764	30.8	2.84	110	11.1	6.4	17.5	1200
		10-Dec-12	1350	20.78	21.26	7.49	3500	23																																			
		03-Apr-13	1000	20.62	21.1	7.11	4920	21.8	0.73	0.002	0.212	<0.001	0.0002	0.003	0.003	0.147	1.73	0.011	1.06	0.008	<0.01	0.468	<0.0001	7.11	5150	42	74	835	40	45.5	846	<1	<1	<1	1310	1310	50	4.75	166	<0.01	0.03	0.03	2190
		03-Jul-13	1100	20.75	21.23	7.04	4660	21.8																																			
		04-Sep-13	1300	20.83	21.31	7.11	4760	23.5	0.09	0.002	0.243	<0.001	<0.0001	0.002	0.001	0.007	0.39	0.002	0.964	0.004	<0.01	0.038	<0.0001	7.58	5110	40	75	798	38	52.4	873	<1	<1	<1	1260	1260	49.8	2.54	121	<0.10	<0.10	<0.10	2240
		27-Nov-13	1120	21.01	21.49	7.1	4740	21.4																																			
		05-Mar-14	1120	20.94	21.42	7.4	4400	23.9	0.12	0.002	0.148	<0.001	<0.0001	0.007	0.002	0.059	0.38	0.006	0.829	0.005	<0.01	0.063	<0.0001	7.62	4890	37	60	909	33	47.2	797	47	<1	<1	1160	1160	46.6	0.53	149	0.46	0.4	0.86	2140
		11-Jun-14	1115	20.79	21.27	7.4	4190	21.3																																			
		29-Sep-14	1210	20.84	21.32	7.2	3960	22.6	0.16	0.003	0.136	<0.001	0.0002	0.002	0.003	0.023	0.52	0.004	0.817	0.005	<0.01	0.068	<0.0001	7.63	4570	36	68	758	41	41.4	769	45	<1	<1	968	968	42	0.7	94.6	2.24	9.56	11.8	1920
		05-Dec-14	1145	20.84	21.32	7	5070	22.3																																			
		11-Mar-15	1230	20.80	21.28	7.4	3760	23.6	0.66	0.003	0.116	<0.001	0.0001	0.002	0.003	0.014	0.82	0.004	0.767	0.005	<0.01	0.062	<0.0001	7.64	4530	30	65	643	33	35.7	825	38	<1	<1	1170	1170	47.4	14.2	116	0.51	2.81	3.32	2000
		03-Jun-15	1100	20.68	21.16	7.4	3940	20.8																																			
		08-Sep-15	1150	20.96	21.44	7.4	3930	22.9	0.05	0.001	0.114	<0.001	<0.0001	<0.001	0.001	0.005	0.21	0.001	0.654	0.002	<0.01	0.022	<0.0001	7.7	4070	44	69	646	29	36.7	577	33	<1	<1	887	887	34.7	2.81	110	2.45	0.93	3.38	1910
		14-Dec-15	1215	20.65	21.13	7.5	3530	22.3																																			
		10-Mar-16	1250	20.72	21.2	7.6	3460	23.5	0.16	0.002	0.093	<0.001	<0.0001	0.001	0.002	0.012	0.54	0.002	0.65	0.002	<0.01	0.05	<0.0001	7.66	3360	29	47	509	30	28.2	587	45	<1	<1	749	749	32.5	7.02	0.1	1.24	<0.01	0.9	1690
		02-Jun-16	1215	20.76	21.24	7.6	3490	21.8																																			
		26-Sep-16	1220	20.43	20.91	7.5	2690	22.5	0.36	0.002	0.059	<0.001	<0.0001	0.001	0.002	0.008	0.54	0.002	0.502	0.003	<0.01	0.051	<0.0001	7.72	2650	31	49	516	28	28.7	470	45	<1	<1	547	547	25.1	6.68	62.6	2.16	7.09	9.25	1340
		25-Oct-16	1140	20.58	21.06	7.4	3710	22.4																																			
		24-Nov-16	1145	20.80	21.28	7.5	2680	22.6																																			
		20-Dec-16	1135	20.79	21.27	7.6	2500	22.8																																			
		25-Jan-17	1120	20.90	21.38	7.6	2440	22.8																																			
		23-Feb-17	1000	20.84	21.32	7.5	2580	21.9																																			
		29-Mar-17	1110	20.94	21.42	7.5	2640	23.3																																			
		26-Apr-17	1200	20.92	21.4	7.5	2770	23																																			
		29-May-17	1210	20.89	21.37	7.5	2770	22.5																																			
		29-Jun-17	1225	20.91	21.39	7.4	2620	21.1																																			
		26-Jul-17	1140	20.92	21.4	7.4	2950	22.1																																			
		29-Aug-17	1125	20.99	21.47	7.4	2770	22.2																																			
		26-Sep-17	1100	21.07	21.55	7.5	2830	22.7	0.05	0.001	0.053	<0.001	<0.0001	<0.001	0.001	0.006	0.13	<0.001	0.514	0.002	<0.01	0.026	<0.0001	7.81	2900	43	63	594	30	33.9	495	46	<1	<1	519	519	25.3	14.6	54.5	0.18	12.9	13.1	1470
		26-Oct-17	1100	21.13	21.61	7.5	2890	23.4																																			
		27-Nov-17	1100	21.18	21.66	7.4	2740	22.8																																			
		20-Dec-17	1155	21.21	21.69	7.4	2730	23.8																																			
							5192.5	26.25	0.278	0.0039	0.26815	#NUM!	#NUM!	0.0267	0.003	0.0201	2.8338	0.4894	1.22125	0.01313	#NUM!	0.158	#NUM!	7.854	5083.75	39	78.875	989.875	28.375	51.925	1126.125	43.44	#NUM!	#NUM!	1032.25	1032.25	52.1375	3.64125	115.11	6.303	9.26425	12.6585	2864.5
							5070	23.9	0.73	0.003	0.243	0	0.0002	0.007	0.003	0.147	1.73	0.011	1.06	0.008	0	0.468	0	7.82	5150	44	75	909	41	52.4	873	53	0	0	1310	1310	50	14.6	166	11.1	12.9	17.5	2240
P20	**NC-127**	**3-Mar-08**	1610	13.52	14.39																																						
		2-Apr-08	1235	13.52	14.39																																						
Depth	**162**	**9-May-08**	1039	13.62	14.49																																						
Format.	**Arkarula**	**2-Jun-08**	1420	13.68	14.55																																						
		1-Jul-08	1408	13.64	14.51																																						
		11-Aug-08	1640	13.70	14.57																																						
		9-Sep-08	1000	13.48	14.35	6.7	1140	19.6		<0.001	4.80	0.002	0.0003	0.003	0.001	0.005	1.57	0.004	0.035	0.014	<0.01	0.009	<0.0001		10500	62	68	2860	118	136	425	<1	<1	<1	5970	5970	131	1.83	10.3				**9630**
		14-Nov-08	1118	13.79	14.68																																						
		01-Dec-08	1257	13.88	14.77																																						
		12-Jan-09	1010	13.97	14.86																																						
		23-Feb-09	0920	14.06	14.95																																						
		09-Jun-09	1000	14.83	15.68	7.1	13600	21		<0.001	4.12	<0.001	0.0002	0.002	<0.001	0.004	0.4	0.001	0.014	0.003	<0.01	0.036	<0.0001		12500	74	80	3290	114	156	174	<10	<1	<1	8420	8420	173	5	9.14				**9910**
		24-Aug-09	1330	20.77	21.68	SWL only																																					
		18-Nov-09	1430	17.20	18.11	7.26	10210	26.1	<0.01	<0.001				<0.005		0.002	0.13	0.002	0.046	0.016		0.1	<0.0001	7.52	10300	8	120	2510	96	122	599	26.9	<1	<1	5960	5960	136	4.97		<0.01	0.01	0.01	
		17-Feb-10	1215	30.15	31.06																																						
		16-Mar-10	1555	37.69	38.60	SWL only																																					
		7-May-10	1515	41.79	42.70																																						
		23-Jun-10	1030	49.45	50.36	6.95	5830	20	<0.01	<0.001				0.003		0.001	<0.05	<0.001	0.185	0.043		0.226	<0.0001	6.73	4840	169	219	826	21	62.9	1400	107	<1	<1	799	799	57.7	4.29		<0.01	0.1	0.1	
		Cemented up - No longer monitored																																									
P28		**1-Jun-12**	1000		0.93	Dry																																					
		24-Jul-12	1130		0.93	Dry																																					
Depth	**25**	**2-Sep-12**	1240		0.93	Dry																																					
Format.	**Napperby**	**10-Dec-12**	1305		0.93	Dry																																					
		7-Mar-13	1035		0.93	Dry																																					
		3-Jul-13	945		0.93	Dry																																					
		4-Sep-13	1140		0.93	Dry																																					
		27-Nov-13	955		0.93	Dry																																					
		5-Mar-14	1020		0.93	Dry																																					
		11-Jun-14	945		0.93	Dry																																					
		30-Sep-14	1110		0.93	Dry																																					
		5-Dec-14	1020		0.93	Dry																																					
		11-Mar-15	1040		0.93	Dry																																					

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*									*1500*	*400*		*4000*
		3-Jun-15	945		0.93	Dry																																			
		8-Sep-15	1025		0.93	Dry																																				
		14-Dec-15	1300		0.93	Dry																																				
		10-Mar-16	1010		0.93	Dry																																				
		31-May-16	1030		0.93	Dry																																				
		27-Sep-16	1240		0.93	Dry																																				
		25-Oct-16	1345		0.93	Dry																																				
		24-Nov-16	1330		0.93	Dry																																				
		20-Dec-16	1400		0.93	Dry																																				
		25-Jan-17	1250		0.93	Dry																																				
		23-Feb-17	1215		0.93	Dry																																				
		30-Mar-17	1045		0.93	Dry																																				
		26-Apr-17	1435		0.93	Dry																																				
		29-May-17	1405		0.93	Dry																																				
		28-Jun-17	1155		0.93	Dry																																				
		26-Jul-17	1415	15.27	16.20	No sample, about 15cm of muddy slime																																				
		29-Aug-17	1340		0.93	Dry																																				
		26-Sep-17	1350		0.93	Dry																																				
		26-Oct-17	1350		0.93	Dry																																				
		27-Nov-17	1335		0.93	Dry																																				
		20-Dec-17	1425		0.93	Dry																																				
P29		**1-Jun-12**	1010	8.10	9.03	8.02	11700	21.4																																		
		24-Jul-12	1150	8.05	8.98	7.53	9950	23.1	**15.6**	0.008	0.448	<0.001	0.0001	0.018	0.013	0.044	24.9	**0.775**	0.576	0.024	0.04	0.278	<0.0001	7.8	13100	67	196	2590	16	132	3780	717	1	<1	1090	1090	143	3.94	<0.10	<0.01	0.93	0.93	**8170**
Depth	**25**	**2-Sep-12**	1300	8.41	9.34	8.08	12440	22.7	2.34	0.002	0.259	<0.001	<0.0001	0.006	0.001	0.01	3.77	0.061	0.076	0.004	0.01	0.042	0.0002	7.83	14400	79	216	2690	16	139	4050	839	<1	<1	1100	1100	154	5	<0.01	<0.01	1.76	1.76	**8750**
Format.	**Napperby**	**10-Dec-12**	1315	8.04	8.97	7.69	10870	22.3																																		
		07-Mar-13	1050	8.05	8.98	7.7	11100	22.3	0.06	0.001	0.145	<0.001	<0.0001	0.002	<0.001	0.002	0.13	0.005	<0.001	<0.001	<0.01	0.012	<0.0001	7.73	14000	39	205	2720	16	138	3720	735	<1	<1	1130	1130	143	1.91	0.04	<0.01	0.44	0.44	**7800**
		3-Jul-13	1015	8.00	8.93	7.69	11530	20.8																																		
		04-Sep-13	1150	7.98	8.91	7.92	10800	22.4	0.71	0.002	0.188	<0.001	<0.0001	0.001	<0.001	0.054	1.76	0.031	0.032	0.002	<0.01	0.079	<0.0001	8.03	12400	60	178	2540	15	128	3370	632	<1	<1	1160	1160	131	1.14	0.05	0.24	0.28	0.52	**7470**
		27-Nov-13	920	7.83	8.76	8.5	16220	21.9																																		
		05-Mar-14	1040	7.78	8.71	7.9	9940	22.5	0.46	0.001	0.146	<0.001	<0.0001	0.004	<0.001	0.042	1.11	0.01	0.028	0.003	<0.01	0.069	<0.0001	7.97	10800	43	131	2410	12	118	2520	552	<1	<1	1240	1240	107	4.72	0.08	<0.01	0.42	0.42	**5920**
		11-Jun-14	1015	7.55	8.48	7.6	9200	20.3																																		
		30-Sep-14	1140	7.20	8.13	7.4	10710	22.7	0.42	0.002	0.136	<0.001	<0.0001	0.002	<0.001	0.014	1.1	0.011	0.037	0.007	<0.01	0.073	<0.0001	8.04	8690	31	95	1890	8	91.8	1590	428	<1	<1	1140	1140	76.5	9.02	0.04	<0.01	0.29	0.29	**4590**
		05-Dec-14	1040	6.85	7.78	8.1	5010	21.5																																		
		11-Mar-15	1110	6.54	7.47	8	3970	22.4	0.07	0.004	0.093	<0.001	<0.0001	<0.001	<0.001	0.006	0.3	0.008	0.005	0.002	<0.01	0.041	<0.0001	8.29	4120	14	29	1120	11	52.1	544	155	<1	<1	1460	1460	47.7	4.3	0.04	<0.01	0.6	0.6	2250
		03-Jun-15	1005	6.27	7.2	8	3830	20																																		
		08-Sep-15	1050	5.96	6.89	8.3	3650	20	0.06	0.002	0.074	<0.001	<0.0001	<0.001	<0.001	0.003	0.13	0.006	0.002	<0.001	<0.01	0.023	<0.0001	8.32	3780	10	23	948	5	43.8	405	125	<1	15	1220	1230	38.6	6.2	0.09	<0.01	0.59	0.59	2290
		14-Dec-15	1320	5.64	6.57	8.3	4150	22.9																																		
		10-Mar-16	1045	5.47	6.4	8.2	4460	21.6	0.05	0.002	0.085	<0.001	<0.0001	<0.001	<0.001	0.012	0.11	0.003	0.004	<0.001	<0.01	0.017	<0.0001	8.08	4710	13	30	959	4	44.9	851	136	<1	<1	1040	1040	47.6	2.94	5.7	<0.01	7.65	7.65	2800
		31-May-16	1030	5.45	6.38	7.9	4670	20.7																																		
		27-Sep-16	1255	5.08	6.01	8	4400	21.2	0.04	0.003	0.061	<0.001	<0.0001	<0.001	<0.001	0.002	0.07	0.007	0.002	<0.001	<0.01	0.02	<0.0001	8.54	4680	13	26	1010	4	46.8	758	126	<1	95	951	1040	44.8	2.18	<0.01	<0.01	8.35	8.35	2480
		25-Oct-16	1355	4.97	5.9	8.3	4430	21																																		
		24-Nov-16	1340	4.95	5.88	8.4	4530	21.1																																		
		20-Dec-16	1350	4.96	5.89	8.4	9690	21.3																																		
		25-Jan-17	1240	5.05	5.98	8.3	4910	22.2																																		
		23-Feb-17	1205	5.04	5.97	8.3	5160	21.5																																		
		30-Mar-17	1040	6.05	6.98	8.3	5340	22.3																																		
		26-Apr-17	1425	5.11	6.04	8.4	5340	21.4																																		
		29-May-17	1355	5.01	5.94	8.5	5470	21.2																																		
		29-Jun-17	1145	4.94	5.87	8.4	5380	21																																		
		26-Jul-17	1405	4.97	5.9	8.6	5490	20.6																																		
		29-Aug-17	1335	4.99	5.92	8.6	5540	20.6																																		
		26-Sep-17	1340	4.97	5.9	8.8	5680	22	<0.01	0.002	0.087	<0.001	<0.0001	<0.001	<0.001	0.003	<0.05	0.006	<0.001	<0.001	<0.01	0.01	<0.0001	8.45	5890	20	42	1060	5	50.7	1120	164	<1	54	797	851	52	1.29	0.01	<0.01	10.3	10.3	3020
		26-Oct-17	1340	4.92	5.85	8.6	5870	21.4																																		
		27-Nov-17	1325	4.94	5.87	8.5	6070	20																																		
		20-Dec-17	1415	4.89	5.82	8.4	6410	21.4																																		
P30		**1-Jun-12**	1030		0.78	Dry																																			
		24-Jul-12	1200		0.78	Dry																																			
Depth	**15**	**2-Sep-12**	1315		0.78	Dry																																			
Format.	**Napperby**	**10-Dec-12**	1325		0.78	Dry																																			
		7-Mar-13	1100		0.78	Dry																																			
		3-Jul-13	1025		0.78	Dry																																			
		4-Sep-13	1200		0.78	Dry																																			
		27-Nov-13	900		0.78	Dry																																			
		5-Mar-14	1050		0.78	Dry																																			
		11-Jun-14	1030		0.78	Dry																																			
		30-Sep-14	1205		0.78	Dry																																			
		5-Dec-14	1050		0.78	Dry																																			
		11-Mar-15	1120		0.78	Dry																																			
		3-Jun-15	1015		0.78	Dry																																			
		8-Sep-15	1100		0.78	Dry																																			
		14-Dec-15	1330		0.78	Dry																																			
		10-Mar-16	1055		0.78	Dry																																			
		31-May-16	1055		0.78	Dry																																			
		27-Sep-16	1300		0.78	Dry																																			
		25-Oct-16	1405		0.78	Dry																																			
		24-Nov-16	1350		0.78	Dry																																			
		20-Dec-16	1335		0.78	Dry																																			
		25-Jan-17	1225		0.78	Dry																																			
		23-Feb-17	1150		0.78	Dry																																			
		30-Mar-17	1025		0.78	Dry																																			
		26-Apr-17	1410		0.78	Dry																																			
		29-May-17	1345		0.78	Dry																																			
		29-Jun-17	1040		0.78	Dry																																			
		26-Jul-17	1350		0.78	Dry																																			
		29-Aug-17	1325		0.78	Dry																																			
		26-Sep-17	1320		0.78	Dry																																			
		26-Oct-17	1320		0.78	Dry																																			
		27-Nov-17	1310		0.78	Dry																																			
		20-Dec-17	1400		0.78	Dry																																			
P31		**1-Jun-12**	950	15.59	16.52	7.06	7870	21.7																																		
		24-Jul-12	1110	15.57	16.50	7.38	6160	22.3	0.33	<0.001	0.232	<0.001	<0.0001	<0.001	<0.001	0.012	0.59	0.017	0.098	0.007	<0.01	0.07	<0.0001	7.61	8000	112	188	1380	16	81.5	1970	367	1	<1	854	854	80.3	0.73	0.08	<0.01	7.62	7.62	**4810**
Depth	**15**	**2-Sep-12**	1230	15.50	16.43	7.64	6670	21.6	0.78	<0.001	0.161	<0.001	<0.0001	0.001	<0.001	0.01	1.24	0.024	0.029	0.006	<0.01	0.052	<0.0001	7.76	7460	82	154	1320	14	74.5	1680	379	<1	<1	918	918	73.6	0.59	0.02	<0.01	10.2	10.2	**4250**
Format.	**Napperby**	**10-Dec-12**	1255	15.49	16.42	7.28	6960	22.9																																		
		07-Mar-13	1025	15.47	16.4	7.46	6980	22.7	0.11	<0.001	0.177	<0.001	0.0002	<0.001	<0.001	0.012	0.17	0.009	0.018	0.004	<0.01	0.052	<0.0001	7.5	7790	48	176	1420	16	79.1	1690	346	<1	<1	858	858	72	4.63	0.08	<0.01	11.1	11.1	**4430**
		3-Jul-13	935	15.52	16.43	7.38	7080	20.5																																		
		04-Sep-13	1130	15.58	16.49	7.45	7110	22.3	0.36	0.002	0.196	<0.001	0.0001	0.002	<0.001	0.153	0.77	0.009	0.037	0.003	<0.01	0.087	<0.0001	7.75	7730	100	183	1430	17	82.7	2000	331	<1	<1	862	862	80.5	1.3	0.05	<0.01	8.64	8.64	**4500**
		27-Nov-13	1005	15.43	16.34	7.2	7340	22																																		
		05-Mar-14	1010	15.49	16.4	7.4	6980	22.6	0.42	<0.001	0.15	<0.001	<0.0001	0.005	<0.001	0.032	0.72	0.005	0.022	0.004	<0.01	0.044	<0.0001	7.69	7570	98	178	1360	16	79.1	1780	329	<1	<1	851	851	74.1	3.27	<0.01	<0.01	9.41	9.41	**4020**
		11-Jun-14	930	15.55	16.46	7.2	7170	21.3																																		

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L					Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L							
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*									*1500*	*400*		*4000*
		30-Sep-14	1045	15.57	16.48	7.2	6920	23.1	0.08	0.001	0.21	<0.001	<0.0001	<0.001	<0.001	0.005	0.13	0.002	0.016	0.003	<0.01	0.025	<0.0001	7.71	7430	92	176	1440	14	82.1	1470	340	<1	<1	770	770	63.9	12.4	0.03	<0.01	10	10	3620
		05-Dec-14	1005	15.42	16.33	7.2	7270	21.9																																			
		11-Mar-15	1020	15.54	16.45	7.3	7060	22.6	0.22	<0.001	0.222	<0.001	<0.0001	<0.001	<0.001	0.008	0.26	0.008	0.019	0.004	<0.01	0.143	<0.0001	7.76	7370	92	160	1220	12	71.1	1840	339	<1	<1	920	920	77.3	4.21	0.03	<0.01	9.71	9.71	3430
		03-Jun-15	935	15.76	16.67	7.2	7150	21.3																																			
		08-Sep-15	1010	15.68	16.59	7.2	7210	21.6	0.74	0.001	0.171	<0.001	<0.0001	<0.001	0.001	0.006	1.4	0.009	0.174	0.002	<0.01	0.07	<0.0001	7.78	7640	108	170	1260	13	74.5	1730	322	<1	<1	820	820	71.9	1.77	0.05	0.01	7.82	7.83	**4470**
		14-Dec-15	1255	15.50	16.41	7.3	7180	23.4																																			
		10-Mar-16	955	15.47	16.38	7.3	7060	22.5	0.57	<0.001	0.158	<0.001	<0.0001	<0.001	<0.001	0.04	0.98	0.018	0.037	0.002	<0.01	0.078	<0.0001	7.66	7540	90	155	1320	17	75.1	1730	343	<1	<1	867	867	73.3	1.21	1.7	<0.01	10	10	**4280**
		31-May-16	1020	15.58	16.49	7.3	7100	21.4																																			
		27-Sep-16	1235	15.39	16.3	7.3	6840	22.2	0.03	0.001	0.171	<0.001	<0.0001	<0.001	<0.001	0.003	0.06	<0.001	0.003	0.001	<0.01	0.024	<0.0001	7.7	7310	95	161	1280	12	74	1350	299	<1	<1	932	932	62.9	8.04	0.02	<0.01	9.78	9.78	3640
		25-Oct-16	1335	15.45	16.36	7.3	6776	22.1																																			
		24-Nov-16	1320	15.44	16.35	7.3	6840	21.3																																			
		20-Dec-16	1325	15.38	16.29	7.2	6750	22.5																																			
		25-Jan-17	1215	15.43	16.34	7.1	6820	23																																			
		23-Feb-17	1145	15.47	16.38	7.2	6730	22.3																																			
		30-Mar-17	1020	15.41	16.32	7.3	6750	23																																			
		26-Apr-17	1400	15.37	16.28	7.3	6890	21.8																																			
		29-May-17	1330	15.49	16.4	7.3	6870	22.4																																			
		29-Jun-17	1050	15.41	16.32	7.1	7120	20.5																																			
		26-Jul-17	1340	15.48	16.39	7.2	7040	21.3																																			
		29-Aug-17	1315	15.48	16.39	7.3	7040	21.7																																			
		26-Sep-17	1310	15.46	16.37	7.3	7050	23.1	0.02	<0.001	0.181	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	0.002	<0.001	<0.01	0.013	<0.0001	7.66	7170	82	149	1120	11	65.4	1420	287	<1	<1	798	798	62	2.65	<0.01	<0.01	9.1	9.1	4140
		26-Oct-17	1310	15.35	16.26	7.3	6990	22.7																																			
		27-Nov-17	1300	15.45	16.36	7.2	7130	21.8																																			
		20-Dec-17	1355	15.41	16.32	7.2	7090	23.1																																			
P32		**1-Jun-12**	1040	7.21	8.17	7.39	13050	21.2																																			
		24-Jul-12	1220	7.23	8.19	7.79	6710	22.9	4.71	0.003	0.064	<0.001	<0.0001	0.008	0.004	0.016	7.31	**0.207**	0.163	0.008	0.02	0.162	<0.0001	7.89	8480	10	67	1810	1	84.8	1560	**1020**	1	<1	981	981	84.8	0.08	0.1	<0.01	11.6	11.6	**5500**
Depth	**15**	**2-Sep-12**	1330	7.15	8.11	7.57	5590	24.2	0.09	<0.001	0.01	<0.001	<0.0001	<0.001	<0.001	0.006	0.19	0.003	0.003	<0.001	0.01	0.012	<0.0001	8.08	5940	4	32	1350	<1	61.6	927	828	<1	<1	1150	1150	66.4	3.81	<0.01	<0.01	7.22	7.22	3790
Format.	**Napperby**	**26-Nov-12**	1109	7.22	8.18	**Data Logger Installed**																																					
		10-Dec-12	1335	7.30	8.26	7.95	3620	23.4																																			
		07-Mar-13	1115	7.97	8.93	8.03	3620	22.9	0.09	<0.001	0.007	<0.001	<0.0001	0.002	<0.001	<0.001	0.12	0.002	0.001	<0.001	0.02	0.007	0.0002	8.08	3780	2	15	965	<1	43.3	376	411	<1	<1	1030	1030	39.7	4.24	<0.01	<0.01	2	2	2360
		13-May-13	1420	6.98	7.94																																						
		3-Jul-13	1030	6.98	7.94	8.27	2430	21.9																																			
		04-Sep-13	1210	7.02	7.98	8.26	2230	23.4	0.61	0.002	0.019	<0.001	<0.0001	0.003	<0.001	0.239	1.06	0.027	0.017	0.002	0.03	0.154	0.0001	8.38	2320	<1	4	632	<1	27.8	101	111	<1	19	972	991	25.1	5.07	0.01	<0.01	0.21	0.21	1460
		27-Nov-13	1025	7.99	8.95	8.6	2240	22.4																																			
		05-Mar-14	955	9.16	10.12	8.3	3190	22.4	3.62	0.002	0.057	<0.001	0.0012	0.018	0.006	0.226	6.18	0.028	0.247	0.015	0.03	0.876	0.0001	8.19	3280	1	10	737	1	33	251	330	<1	<1	1000	1000	33.9	1.51	0.16	0.07	0.85	0.92	1870
		11-Jun-14	1045	6.56	7.52	8.3	2490	21.2																																			
		30-Sep-14	1220	5.92	6.88	8.4	2560	23.4	0.23	0.003	0.011	<0.001	<0.0001	0.002	<0.001	0.011	0.29	0.009	0.008	0.003	0.02	0.026	<0.0001	8.49	2660	1	6	777	<1	34.3	189	221	<1	39	796	835	26.6	12.6	0.02	<0.01	1.68	1.68	1420
		05-Dec-14	1115	5.96	6.92	8.5	2540	22.3																																			
		11-Mar-15	1140	6.50	7.46	8.3	2030	23.8	0.16	0.003	0.013	<0.001	<0.0001	<0.001	<0.001	0.004	0.15	0.005	0.004	<0.001	0.04	0.023	<0.0001	8.48	2070	2	6	524	<1	23.4	123	114	<1	40	830	870	23.2	0.28	0.04	<0.01	0.41	0.41	1100
		03-Jun-15	1025	6.80	7.76	8.3	1807	21.3																																			
		08-Sep-15	1115	6.69	7.65	8.5	1658	22.2	0.13	0.004	0.009	<0.001	<0.0001	<0.001	<0.001	0.003	0.16	<0.001	0.003	<0.001	0.04	0.02	<0.0001	8.52	1720	1	4	470	<1	20.8	40	52	<1	42	763	805	18.3	6.4	0.04	<0.01	0.15	0.15	998
		14-Dec-15	1340	6.58	7.54	8.5	1672	23																																			
		10-Mar-16	1120	6.16	7.12	8.7	1688	23.2	0.09	0.004	0.008	<0.001	<0.0001	0.006	<0.001	0.008	0.16	<0.001	0.003	<0.001	0.04	0.015	<0.0001	8.49	1770	<1	4	466	<1	20.6	40	66	<1	36	803	839	19.3	3.28	5.2	<0.01	1.04	1.04	1030
		31-May-16	1105	8.15	9.11	8.9	1786	21.7																																			
		27-Sep-16	1330	6.07	7.03	8.7	1695	22.9	0.13	0.004	0.013	<0.001	<0.0001	<0.001	<0.001	0.019	0.17	0.002	0.005	0.003	0.04	0.026	0.0002	8.58	1770	<1	3	444	<1	19.6	47	72	<1	68	817	884	20.5	2.38	0.32	0.16	1.15	1.31	1000
		25-Oct-16	1255	5.71	6.67	8.7	1667	22.4																																			
		24-Nov-16	1250	5.57	6.53	8.7	1719	21.6																																			
		20-Dec-16	1250	5.71	6.67	8.7	1773	22.6																																			
		25-Jan-17	1140	6.08	7.04	8.6	1841	22.9																																			
		23-Feb-17	1120	6.45	7.41	8.6	1684	22.1																																			
		30-Mar-17	945	6.70	7.66	8.6	1693	23																																			
		26-Apr-17	1325	6.80	7.76	8.7	1695	22.6																																			
		29-May-17	1255	7.07	8.03	8.7	1705	22.4																																			
		29-Jun-17	1130	7.13	8.09	8.6	1690	21.9																																			
		26-Jul-17	1300	7.22	8.18	8.7	1600	22.1																																			
		29-Aug-17	1240	7.38	8.34	8.7	1660	22																																			
		26-Sep-17	1230	7.56	8.52	8.7	1670	22.4	0.02	0.004	0.014	<0.001	<0.0001	<0.001	<0.001	0.003	<0.05	<0.001	0.001	<0.001	0.04	0.006	<0.0001	8.46	1760	4	6	384	1	17.4	33	51	<1	38	782	820	18.4	2.67	0.03	<0.01	0.94	0.94	1020
		26-Oct-17	1235	7.67	8.63	8.7	1697	23.4																																			
		27-Nov-17	1225	7.96	8.92	8.7	1720	22.1																																			
		20-Dec-17	1320	8.02	8.98	8.7	1787	23.4																																			
P33		**1-Jun-12**	930		0.97	Dry																																			
		24-Jul-12	1045		0.97	Dry																																			
Depth	**15**	**2-Sep-12**	1340		0.97	Dry																																			
Format.	**Napperby**	**10-Dec-12**	1235		0.97	Dry																																			
		7-Mar-13	1000		0.97	Dry																																			
		3-Jul-13	910		0.97	Dry																																			
		4-Sep-13	1110		0.97	Dry																																			
		27-Nov-13	1045		0.97	Dry																																			
		5-Mar-14	930		0.97	Dry																																			
		11-Jun-14	900		0.97	Dry																																			
		30-Sep-14	1015		0.97	Dry																																			
		5-Dec-14	930		0.97	Dry																																			
		11-Mar-15	950		0.97	Dry																																			
		3-Jun-15	915		0.97	Dry																																			
		8-Sep-15	940		0.97	Dry																																			
		14-Dec-15	1235		0.97	Dry																																			
		10-Mar-16	925		0.97	Dry																																			
		31-May-16	1000		0.97	Dry																																			
		27-Sep-16	1205		0.97	Dry																																			
		25-Oct-16	1305		0.97	Dry																																			
		24-Nov-16	1300		0.97	Dry																																			
		20-Dec-16	1300		0.97	Dry																																			
		25-Jan-17	1150		0.97	Dry																																			
		23-Feb-17	1125		0.97	Dry																																			
		30-Mar-17	955		0.97	Dry																																			
		26-Apr-17	1335		0.97	Dry																																			
		29-May-17	1308		0.97	Dry																																			
		29-Jun-17	1120		0.97	Dry																																			
		26-Jul-17	1315		0.97	Dry																																			
		29-Aug-17	1250		0.97	Dry																																			
		26-Sep-17	1240		0.97	Dry																																			
		26-Oct-17	1245		0.97	Dry																																			
		27-Nov-17	1235		0.97	Dry																																			
		20-Dec-17	1330		0.97	Dry																																			
P34		**1-Jun-12**	940		0.95	Dry																																			
		24-Jul-12	1050		0.95	Dry																																			
Depth	**15**	**2-Sep-12**	1350		0.95	Dry																																			
Format.	**Napperby**	**10-Dec-12**	1245		0.95	Dry																																			
		7-Mar-13	1010		0.95	Dry																																			

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Major Cations					Major Anions														
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L	Total Cations - meq/L	Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L	Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*								*1500*	*400*		*4000*
		3-Jul-13	920		0.95	Dry																																				
		4-Sep-13	1120		0.95	Dry																																				
		27-Nov-13	1055		0.95	Dry																																				
		5-Mar-14	940		0.95	Dry																																				
		11-Jun-14	915		0.95	Dry																																				
		30-Sep-14	1030		0.95	Dry																																				
		5-Dec-14	945		0.95	Dry																																				
		11-Mar-15	1000		0.95	Dry																																				
		3-Jun-15	925		0.95	Dry																																				
		8-Sep-15	955		0.95	Dry																																				
		14-Dec-15	1245		0.95	Dry																																				
		10-Mar-16	935		0.95	Dry																																				
		31-May-16	1010		0.95	Dry																																				
		27-Sep-16	1215		0.95	Dry																																				
		25-Oct-16	1315		0.95	Dry																																				
		24-Nov-16	1310		0.95	Dry																																				
		20-Dec-16	1310		0.95	Dry																																				
		25-Jan-17	1200		0.95	Dry																																				
		23-Feb-17	1130		0.95	Dry																																				
		30-Mar-17	1005		0.95	Dry																																				
		26-Apr-17	1345		0.95	Dry																																				
		29-May-17			0.95	Dry																																				
		29-Jun-17	1110		0.95	Dry																																				
		26-Jul-17	1325		0.95	Dry																																				
		29-Aug-17	1300		0.95	Dry																																				
		26-Sep-17	1250		0.95	Dry																																				
		26-Oct-17	1255		0.95	Dry																																				
		27-Nov-17	1245		0.95	Dry																																				
		20-Dec-17	1340		0.95	Dry																																				
P47		18-Jun-12		24.00																																						
		17-Oct-12	1350	24.15	25.17																																				
Depth	30.5	31-Oct-12	1400	24.12	25.14																																				
Format.	Garrawilla	14-Nov-12	1215	24.11	25.13				Data Logger Installed 14 November 2012																																				
		13-May-13	1530	23.91	24.93																																				
		11-Jul-13	1510	23.90	24.92																																				
		1-Aug-13	1205	23.85	24.87																																				
		04-Sep-13	1400	23.88	24.9	7.18	5310	23.7	**18.7**	0.006	0.28	0.001	0.0003	0.111	0.056	0.292	32.3	0.034	0.53	0.183	0.09	0.463	<0.0001	7.64	5880	30	121	1250	44	67	902	334	<1	<1	1430	1430	61	4.64	0.15	<0.01	0.02	0.02	3550
		27-Nov-13	1140	23.85	24.87	7.1	5380	23.6																																			
		05-Mar-14	1140	23.82	24.84	7.1	5280	23.7	2.18	0.002	0.066	<0.001	<0.0001	0.021	0.01	0.04	6.09	0.004	0.162	0.039	0.01	0.066	<0.0001	7.43	5770	28	112	1080	43	58.7	845	341	<1	<1	1430	1430	59.5	0.73	0.97	<0.01	0.02	0.02	3470
		11-Jun-14	1145	23.92	24.94	7	5350	21.6																																			
		29-Sep-14	1230	23.90	24.92	6.9	5940	22.7	0.91	<0.001	0.061	<0.001	<0.0001	0.005	0.002	0.008	4.36	0.002	0.119	0.01	<0.01	0.039	<0.0001	7.68	6610	29	111	1030	43	56.5	1010	373	<1	<1	1390	1390	64	6.3	1.43	<0.01	0.21	0.21	3290
		04-Dec-14	1220	23.89	24.91	6.9	5890	21.9																																			
		12-Mar-15	1345	23.78	24.8	7	5360	23.7	1.65	<0.001	0.115	<0.001	<0.0001	0.01	0.01	0.026	5.97	0.004	0.17	0.039	0.01	0.098	<0.0001	7.5	5660	32	122	1180	38	63.9	858	353	<1	<1	1530	1530	62.1	1.4	0.09	<0.01	0.02	0.02	2770
		03-Jun-15	1120	23.90	24.92	7	5980	21.7																																			
		08-Sep-15	1200	23.88	24.9	7.1	5890	22.8	**5.7**	0.002	0.095	<0.001	<0.0001	0.031	0.011	0.027	9.33	0.007	0.16	0.036	0.03	0.075	<0.0001	7.69	6200	34	111	1100	37	59.6	800	330	<1	<1	1450	1450	58.4	0.99	0.59	<0.01	0.03	0.03	3940
		14-Dec-15	1140	23.85	24.87	7.2	6010	23.1																																			
		10-Mar-16	1315	23.85	24.87	7.2	5470	25	**16.4**	0.003	0.267	<0.001	0.0002	0.095	0.041	0.116	31	0.018	0.453	0.153	0.08	0.28	<0.0001	7.38	5810	29	113	1110	35	59.9	901	358	<1	<1	1410	1410	61	0.96	0.5	<0.01	0.02	0.02	3880
		02-Jun-16	1150	23.86	24.88	7.1	5420	22.1																																			
		28-Sep-16	1415	23.81	24.83	7.1	5510	22.9	0.16	0.001	0.053	<0.001	<0.0001	<0.001	0.002	0.002	2.38	<0.001	0.084	0.006	<0.01	0.062	<0.0001	7.56	6140	34	113	1240	37	65.9	937	349	<1	<1	1640	1640	66.5	0.48	0.3	<0.01	0.01	0.01	3410
		27-Oct-16	1115	23.95	24.97	7.1	5380	22.5																																			
		24-Nov-16	1120	23.84	24.86	7.1	5360	22																																			
		20-Dec-16	1105	23.81	24.83	7	5410	22.9																																			
		24-Jan-17	1110	23.80	24.82	7	5430	23																																			
		22-Feb-17	1215	23.79	24.81	7	5910	23.2																																			
		29-Mar-17	1040	23.76	24.78	7	5680	23.6																																			
		26-Apr-17	1145	23.69	24.71	7	5640	22.8																																			
		29-May-17	1120	23.74	24.76	7	5560	22.7																																			
		29-Jun-17				No access too wet																																				
		26-Jul-17	1110	23.76	24.78	7	5520	22.1																																			
		29-Aug-17	1100	23.88	24.9	7.1	5450	21.9																																			
		26-Sep-17	1030			damaged																																				
		26-Oct-17				damaged																																				
		27-Nov-17				damaged																																				
		20-Dec-17				damaged																																				
P39A		2-Jun-16	1005	6.56	7.56	7.5	3340	20.1																																			
		26-Sep-16			too wet																																					
Depth	80	27-Oct-16	1010	5.88	6.88	7.8	3440	21.2	0.12	0.002	0.071	<0.001	<0.0001	<0.001	<0.001	0.001	0.5	<0.001	0.209	0.004	<0.01	0.033	<0.0001	7.84	3730	58	58	687	12	37.8	803	55	<1	<1	620	620	36.2	2.26	0.08	<0.01	<0.01	<0.01	1840
Format.	Watermark	25-Nov-16	1010	5.90	6.9	7.5	3510	20.5																																			
		21-Dec-16	1040	5.86	6.86	7.5	3660	21.9																																			
		20-Jan-17	1200	5.86	6.86	7.6	3610	22																																			
		21-Feb-17				No access																																				
		29-Mar-17	1305	5.80	6.8	7.7	3790	22.7																																			
		27-Apr-17	945	5.83	6.83	7.9	3960	19.6																																			
		30-May-17	1040	5.81	6.81	8	3860	20.3																																			
		27-Jun-17	1050	5.80	6.8	7.9	3880	20.2																																			
		28-Jul-17	945	5.82	6.82	7.9	3840	20.3																																			
		28-Aug-17	955	5.82	6.82	7.9	3950	20.1																																			
		25-Sep-17	1010	5.85	6.85	7.9	3900	21.5	<0.01	0.001	0.091	<0.001	<0.0001	<0.001	<0.001	0.003	0.17	<0.001	0.281	0.004	<0.01	0.008	<0.0001	7.95	4080	60	62	812	13	43.7	793	76	<1	<1	604	604	36	9.69	0.81	<0.01	<0.01	<0.01	2260
		27-Oct-17	955	5.83	6.83	7.8	3920	21.1																																			
		28-Nov-17	1050	5.88	6.88	7.9	3910	21.2																																			
		20-Dec-17	950	5.91	6.91	7.9	3810	22.3																																			
P39B		2-Jun-16	950	6.22	7.12	8.1	5850	20.2																																			
		26-Sep-16			too wet																																					
Depth	32	27-Oct-16	950	6.13	7.03	7.8	5890	21.3	0.04	<0.001	0.025	<0.001	<0.0001	0.006	<0.001	0.001	0.05	<0.001	0.012	<0.001	<0.01	0.078	<0.0001	8.17	6520	84	135	1150	12	65.6	1320	568	<1	<1	577	577	60.6	3.99	<0.01	<0.01	0.31	0.31	3840
Format.	Alluvium	25-Nov-16	950	6.27	7.17	7.9	6100	20.7																																			
		21-Dec-16	1025	6.20	7.1	7.9	6160	22																																			
		20-Jan-17	1145	6.17	7.07	7.9	6180	22.6																																			
		21-Feb-17				No access																																				
		29-Mar-17	1320	6.13	7.03	8	6380	22.2																																			
		27-Apr-17	930	6.21	7.11	8	6410	19.7																																			
		30-May-17	1020	6.12	7.02	8	6370	20.3																																			
		27-Jun-17	1030	6.10	7	8	6390	19.9																																			
		28-Jul-17	1000	6.09	6.99	8	6330	19.9																																			
		28-Aug-17	1015	6.11	7.01	8	6400	19.9																																			
		25-Sep-17	1030	6.13	7.03	8	6490	21.9	0.05	<0.001	0.031	<0.001	0.0001	0.002	<0.001	0.004	0.16	<0.001	0.033	<0.001	<0.01	0.08	<0.0001	8.07	6820	95	152	1300	13	74.1	1240	659	<1	<1	555	555	59.8	10.7	0.1	0.03	2.01	2.04	4130
		27-Oct-17	1015	6.28	7.18	8	6360	20.7																																			
		28-Nov-17	1030	6.34	7.24	7.8	6570	20.9																																			
		20-Dec-17	935	6.29	7.19	7.9	6650	21.4																																			

						Field Parameters			Total Metals																		Major Cations						Major Anions												
Site ID	**Piezometer / Water Bore**	**Date**	**Time**	**Depth to Water - mbgl**	**Depth to Stand - mbtoc**	**pH - Field**	**EC - Field - µs/cm**	**Temp - Field - °C**	**Aluminium (Al) - mg/L**	**Arsenic (As) - mg/L**	**Barium (Ba) - mg/L**	**Beryllium (Be) - mg/L**		**Chromium (Cr) - mg/L**	**Cobalt (Co) - mg/L**	**Copper (Cu) - mg/L**	**Iron (Fe) - mg/L**	**Lead (Pb) - mg/L**	**Manganese (Mn) - mg/L**	**Nickel (Ni) - mg/L**	**Vanadium (V) - mg/L**	**Zinc (Zn) - mg/L**	**Mercury (Hg) - mg/L**	**pH Lab**	**EC - Lab - µs/cm**	**Calcium (Ca) - mg/L**	**Magnesium (Mg) - mg/L**	**Sodium (Na) - mg/L**	**Potassium (K) - mg/L**	**Total Cations - meq/L**	**Chloride (Cl) - mg/L**	**Sulfate (SO4) - mg/L**	**Hydroxide Alkalinity as CaCO3 - mg/L**	**Carbonate Alkalinity as CaCO3 - mg/L**	**Bicarbonate Alkalinity as CaCO3 - mg/L**	**Alkalinity - mg/L**	**Total Anions - meq/L**	**Ionic Balance**	**Ammonia as Nitrogen (N)**	**Nitrite as N - mg/L**	**Nitrate as N - mg/L**	**NOX as N - mg/L**	**Total Dissolved Solids**
ANZECC Guideline - stock drinking water									***5***	***0.5***			***0.01***	***1***	***1***	***1***		***0.1***		***1***		***20***	***0.002***			***1000***						***1000***								***1500***	***400***		***4000***
P43		**2-Jun-16**	925	49.40	50.35	8.2	9940	21.8																																			
		26-Sep-16			too wet																																						
Depth	**65**	**27-Oct-16**	925	22.06	23.01	7.2	10470	22.7	0.06	<0.001	0.179	<0.001	<0.0001	<0.001	<0.001	0.006	0.12	<0.001	0.808	0.004	<0.01	0.056	<0.0001	7.95	11500	122	207	2060	35	114	3360	383	<1	<1	821	821	119	2.38	0.06	<0.01	0.04	0.04	**6670**
Format.	**Watermark**	**25-Nov-16**	920	20.09	21.04	7.2	10660	22.8																																			
		21-Dec-16	1000	18.78	19.73	7.3	10530	23.9																																			
		20-Jan-17	1130	17.38	18.33	7.3	10690	23.4																																			
		21-Feb-17				No access																																					
		29-Mar-17	1240	14.72	15.67	7.3	10670	24.1																																			
		27-Apr-17	915	14.77	15.72	7.4	10830	21.3																																			
		30-May-17	1000	13.06	14.01	7.3	10810	20.9																																			
		27-Jun-17	1010	12.56	13.51	7.3	10870	21.7																																			
		28-Jul-17	920	12.15	13.1	7.4	10720	21.9																																			
		28-Aug-17	930	11.74	12.69	7.4	10900	22.2																																			
		25-Sep-17	940	11.43	12.38	7.4	11040	23.7	0.89	0.002	0.145	<0.001	0.0002	0.001	<0.001	0.005	1.07	0.001	0.566	0.003	<0.01	0.049	<0.0001	7.89	12100	112	214	2160	34	118	3040	442	<1	<1	722	722	109	3.8	0.03	<0.01	0.88	0.88	6080
		27-Oct-17	925	11.45	12.4	7.4	10890	22.8																																			
		28-Nov-17	1000	11.13	12.08	7.4	11080	23.1																																			
		20-Dec-17	905	11.01	11.96	7.3	11310	23.6																																			
P51		**29-Jan-15**	1320	4.68	5.26	7.6	15600	23.4	0.02	0.003	0.264	0.057	**0.0166**	<0.001	<0.001	0.016	<0.05	<0.001	0.055	0.003	0.49	0.063	0.0003	7.77	17000	50	346	3310	12		5280	814							0.12	<0.01	0.05	0.05	**7880**
		11-Mar-15	1200	4.60	5.18	7.6	16920	25.4	**29.4**	0.01	0.615	0.002	0.0007	0.031	0.014	0.07	17.7	0.054	1.65	0.027	0.08	0.223	0.0002	7.91	18000	39	455	3880	9	208	5840	933	<1	<1	964	964	203	1.18	0.04	<0.01	0.16	0.16	**11100**
Depth	**17**	**3-Jun-15**	1040	4.59	5.17	7.6	16670	23.2																																			
Format.	**Napperby**	**08-Sep-15**	1130	4.64	5.22	7.7	17140	23	0.11	0.004	0.083	<0.001	<0.0001	<0.001	<0.001	0.013	0.14	0.001	0.012	0.002	<0.01	0.112	0.0002	8.09	18200	41	308	2960	10	156	4490	851	<1	<1	842	842	161	1.53	0.04	<0.01	0.47	0.47	**11200**
		15-Dec-15	945	4.88	5.46	7.7	18280	22.9																																			
		10-Mar-16	1150	5.36	5.94	8	17290	25.4	0.09	0.002	0.092	<0.001	<0.0001	<0.001	<0.001	0.033	0.14	<0.001	0.021	0.006	<0.01	0.193	<0.0001	8.07	18800	49	366	3230	10	173	5760	954	<1	<1	893	893	200	7.22	1.2	<0.01	0.84	0.84	**12000**
		02-Jun-16	1230	5.00	5.58	7.9	16830	21.8																																			
		26-Sep-16	1245	4.92	5.5	7.9	17550	22.7	0.07	0.002	0.077	<0.001	<0.0001	<0.001	0.001	0.002	0.09	<0.001	0.097	<0.001	0.01	0.013	<0.0001	7.95	19800	51	453	3700	13	201	6110	843	<1	<1	933	933	208	1.84	0.16	0.02	0.04	0.06	**11600**
		25-Oct-16	1200	4.95	5.53	7.7	17510	22.4																																			
		24-Nov-16	1200	4.93	5.51	7.8	16240	21.8																																			
		20-Dec-16	1150	4.86	5.44	7.8	16780	22.8																																			
		24-Jan-17	1130	4.94	5.52	7.7	17350	23.7																																			
		23-Feb-17	1025	4.99	5.57	7.6	17860	23.6																																			
		29-Mar-17	1140	4.96	5.54	7.7	16540	24.3																																			
		26-Apr-17	1230	5.02	5.6	7.6	17420	24.4																																			
		29-May-17	1200	5.09	5.67	7.7	18250	23.5																																			
		29-Jun-17	1210	5.11	5.69	7.6	19140	23.3																																			
		26-Jul-17	1200	5.20	5.78	7.8	18890	23.5																																			
		29-Aug-17	1145	5.29	5.87	8	18980	22.5																																			
		26-Sep-17	1130	5.32	5.9	8	19260	22.6	0.05	0.002	0.112	<0.001	<0.0001	<0.001	0.002	0.006	0.09	<0.001	0.241	0.003	<0.01	0.038	<0.0001	8.02	21800	51	425	3640	11	196	6020	880	<1	<1	744	744	203	1.72	0.25	<0.01	0.17	0.17	14000
		26-Oct-17	1125	5.29	5.87	7.8	18970	23.9																																			
		27-Nov-17	1130	5.40	5.98	7.6	19730	22.8																																			
		20-Dec-17	1220	5.40	5.98	7.4	19860	23.9																																			
P52		**15-Dec-15**	1100	7.47	8.02	7.1	2480	22.8	**40.5**	0.022	0.802	0.004	0.0004	0.17	0.091	0.292	66.7	0.072	1.56	0.224	0.14	0.322	0.0002	7.56	2490	104	144	245	6	27.8	455	126	<1	<1	578	578	27	1.53	0.34	0.01	3.08	3.09	2030
		10-Mar-16	1210	7.75	8.3	7.2	2540	24.1	0.35	<0.001	0.131	<0.001	<0.0001	0.001	0.004	0.015	0.46	0.001	0.091	0.014	<0.01	0.05	<0.0001	7.62	2540	98	126	250	6	26.3	434	125	<1	<1	604	604	26.9	1.19	0.6	<0.01	1.73	1.73	1500
Depth	**24**	**2-Jun-16**	1245	7.99	8.54	7.2	2610	20.3																																			
Format.	**Napperby**	**27-Sep-16**	1355	4.59	5.14	7.4	1951	23	0.05	0.003	0.178	<0.001	<0.0001	<0.001	0.004	<0.001	0.08	<0.001	0.258	0.014	<0.01	0.024	<0.0001	7.95	2080	89	100	205	7	21.8	287	78	<1	<1	627	627	22.2	1.11	0.09	<0.01	0.7	0.7	1060
		25-Oct-16	1215	5.41	5.96	7.6	2020	21.7																																			
		24-Nov-16	1215	5.77	6.32	7.7	2180	21.6																																			
		20-Dec-16	1205	6.09	6.64	7.7	2170	22.2																																			
		24-Jan-17	1145	6.39	6.94	7.8	2140	22.9																																			
		23-Feb-17	1040	6.97	7.52	7.8	2160	21.8																																			
		29-Mar-17	1200	6.88	7.43	7.8	2250	23.2																																			
		26-Apr-17	1245	6.89	7.44	7.8	2350	22.3																																			
		29-May-17	1215	6.88	7.43	7.9	2260	22.8																																			
		29-Jun-17				No access too wet																																					
		26-Jul-17	1215	7.22	7.77	7.9	2240	22.3																																			
		29-Aug-17	1200	7.36	7.91	7.8	2210	22.2																																			
		26-Sep-17	1145	7.53	8.08	7.8	2210	23	0.05	0.002	0.163	<0.001	<0.0001	<0.001	<0.001	0.006	0.07	<0.001	0.015	0.004	<0.01	0.026	<0.0001	8.03	2290	77	107	256	9	24	352	84	<1	<1	524	524	22.1	4.04	0.02	<0.01	0.89	0.89	1190
		26-Oct-17	1140	7.64	8.19	7.8	2260	23																																			
		27-Nov-17	1145	7.79	8.34	7.7	2270	22.3																																			
		20-Dec-17	1235	7.92	8.47	7.7	2280	23.4																																			
P53		**15-Dec-15**	1145	9.73	10.23	7.7	1060	23.3	**23.2**	0.002	0.285	<0.001	<0.0001	0.086	0.026	0.038	35.8	0.004	0.543	0.083	0.08	0.115	<0.0001	7.98	1100	54	58	121	4	12.8	116	25	<1	<1	387	387	11.5	5.35	0.12	<0.01	0.06	0.06	763
		10-Mar-16	1230	10.04	10.54	7.8	1052	23.3	0.44	<0.001	0.146	<0.001	<0.0001	0.002	<0.001	0.008	0.65	<0.001	0.068	0.002	<0.01	0.018	<0.0001	8.02	1080	49	50	174	5	14.2	112	25	<1	<1	399	399	11.6	10	0.7	<0.01	0.14	0.14	603
Depth	**24**	**2-Jun-16**	1300	10.27	10.77	7.7	1045	20.1																																			
Format.	**Garrawilla**	**27-Sep-16**	1415	7.57	8.07	7.7	963	23.2	0.03	<0.001	0.136	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	0.078	<0.001	<0.01	0.016	<0.0001	8.02	980	45	42	157	4	12.6	52	14	<1	<1	481	481	11.4	5.23	0.04	<0.01	0.12	0.12	494
		25-Oct-16	1235	8.05	8.55	7.7	971	22.2																																			
		24-Nov-16	1230	8.14	8.64	7.7	1012	21.8																																			
		20-Dec-16	1220	8.39	8.89	7.8	1107	22.4																																			
		24-Jan-17	1200	8.61	9.11	7.9	1052	23.2																																			
		23-Feb-17	1055	8.84	9.34	7.9	1043	22.7																																			
		29-Mar-17	1215	9.05	9.55	8	1055	22.6																																			
		26-Apr-17	1300	9.19	9.69	8	1050	22.4																																			
		29-May-17	1230	9.18	9.68	8	1066	21.7																																			
		29-Jun-17				No access too wet																																					
		26-Jul-17	1230	9.32	9.82	8	1022	21.9																																			
		29-Aug-17	1215	9.62	10.12	8.1	1038	22.2																																			
		26-Sep-17	1200	9.71	10.21	7.8	1064	22.8	0.04	<0.001	0.135	<0.001	<0.0001	<0.001	<0.001	0.004	<0.05	<0.001	0.01	<0.001	<0.01	0.015	<0.0001	8	1110	45	45	121	5	11.3	61	12	<1	<1	430	430	10.6	3.55	0.03	<0.01	0.35	0.35	552
		26-Oct-17	1155	9.81	10.31	7.7	1070	23.1																																			
		27-Nov-17	1200	9.99	10.49	7.8	1058	22.4																																			
		20-Dec-17	1250	10.12	10.62	7.8	1247	24																																			
VPW		**16-Apr-13**	1230			7.24	12000	27.8	0.05	0.002	4.71	<0.001	<0.0001	0.002	0.002	0.008	1.14	<0.001	0.027	0.002	<0.01	0.205	<0.0001	7.9	13200	37	66	4100	146	189	193	<1	<1	<1	8670	8670	179	2.84	12.3	<0.10	<0.10	<0.10	**9230**
		3-Jul-13	1000			7.43	12630	11.6																																			
		04-Sep-13	1220			7.38	12800	23.2	<0.10	<0.010	7.74	<0.010	<0.0010	<0.010	<0.010	0.018	0.87	<0.010	0.027	<0.010	<0.10	<0.052	<0.0001	7.83	14100	28	55	4120	146	189	216	<1	<1	<1	9650	9650	199	2.65	12.4	<0.01	<0.01	<0.01	**10500**
		27-Nov-13	940			7.2	12780	22.5																																			
		05-Mar-14	1030			7	11200	24.6	0.09	0.002	5.05	<0.001	<0.0001	<0.001	<0.001	0.018	0.44	<0.001	0.032	0.003	<0.01	0.167	<0.0001	7.72	12100	37	66	4040	124	186	187	<1	<1	<1	7380	7380	153	9.8	9.34	<0.01	0.06	0.06	**8210**
		11-Jun-14	1000			7.1	13210	13.2																																			
		30-Sep-14	1120			7.1	12880	25.5	0.01	0.006	5.23	<0.001	<0.0001	0.001	0.009	<0.001	0.39	<0.001	0.017	0.016	<0.01	0.013	<0.0001	7.78	13600	46	68	4330	127	199	184	<10	<1	<1	9830	9830	202	0.59	12.1	<0.10	<0.10	<0.10	**8760**
		05-Dec-14	1035			7	12400	26.7																																			
		11-Mar-15	1050			7	12890	25.8	0.1	0.01	8.81	<0.001	0.0002	0.004	0.004	0.01	0.85	<0.001	0.033	0.008	<0.01	0.074	<0.0001	7.58	13500	63	84	4160	121	194	172	<1	<1	<1	7780	7780	160	9.47	12.2	<0.01	0.01	0.01	**8340**
		03-Jun-15	955			7	13840	10.7																																			
		08-Sep-15	1035			7	14010	15.5	0.15	<0.010	7.6	<0.010	<0.0010	<0.010	<0.010	<0.010	1.19	<0.010	0.019	<0.010	<0.10	<0.050	<0.0001	7.17	14400	110	119	4520	169	216	160	<5	<1	<1	10100	10100	206	2.28	15	0.05	<0.01	0.05	**10300**
		14-Dec-15	1310			7.4	13860	34.2																																			
		10-Mar-16	1025			7.6	12440	28	0.13	<0.010	5.27	<0.010	<0.0010	<0.010	<0.010	<0.010	0.11	<0.010	<0.010	<0.010	<0.10	<0.052	<0.0001	7.41	13400	58	82	4100	128	191	185	<10	<1	<1	8750	8750	180	2.95	2	0.53	2.24	2.77	**7580**
		31-May-16	1120			Tap removed																																					
		27-Sep-16	1145			7.4	12840	22.8	0.07	0.029	8.67	<0.001	<0.0001	0.011	0.013	0.04	3.13	<0.001	0.028	0.036	<0.01	0.045	<0.0001	7.41	14400	121	94	4130	140	197	178	<1	<1	<1	10400	10400	213	3.92	15.2	<0.10	<0.10	<0.10	**9060**
		27-Oct-16	1100			7.2	12550	25.7																																			
		24-Nov-16	1240			7.2	12230	26.6																																			
		20-Dec-16	1235			7.4	13270	31.5																																			

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*							*1500*	*400*		*4000*
		25-Jan-17	1135			7.2	13790	31.5																																
		23-Feb-17	1110			7.3	12330	31.9																																
		30-Mar-17	920			7.3	13190	28.9																																
		26-Apr-17	1315			7.3	14120	24.1																																
		29-May-17	1240			7.1	12450	20.5																																
		29-Jun-17	1025			7.1	13570	13.5																																
		26-Jul-17	1245			7.2	12500	19.4																																
		29-Aug-17	1230			6.9	10490	17.6																																
		26-Sep-17	1215			7.4	13260	28.9	0.02	0.005	6.53	<0.001	<0.0001	0.004	0.051	0.023	0.28	<0.001	0.041	0.034	<0.01	0.072	<0.0001	7.47	14800	86	85	3830	144	182	219	<1	<1	<1	9340	9340	193	3	14.6	<0.01	0.26	0.26	9450
		26-Oct-17	1215			7.3	13490	27.3																																
		27-Nov-17	1210			7.1	14290	25.1																																
		20-Dec-17	1300			7.2	14110	31.8																																
Mayfield Spring Top		**28-Sep-16**	1350	No flow		8.8	156	23.9	2.23	0.002	0.086	<0.001	<0.0001	0.002	0.002	0.007	2.17	0.001	0.108	0.006	<0.01	0.015	<0.0001	7.8	158	12	5	10	12	1.75	6	4	<1	<1	64	64	1.53	----	0.07	<0.01	0.03	0.03	140
Depth	**0**	**27-Oct-16**	1235	No flow		9	188	24.7																																
Merrilong Dam		**25-Nov-16**	1325	No flow		7.6	2480	24.5	0.28	<0.001	0.278	<0.001	<0.0001	<0.001	0.001	<0.001	1.11	<0.001	0.634	0.008	<0.01	0.009	<0.0001	7.72	2510	36	70	372	9	24	672	70	<1	<1	152	152	23.4	1.09	<0.01	<0.01	<0.01	<0.01	1490
		21-Dec-16	1220	Flow <1m/s		7.7	2960	28																																
		24-Jan-17	1345	Slow trickle		8	3400	28.5																																
		22-Feb-17	1315	Flow <1m/s		7.6	4090	22.8																																
		29-Mar-17	1420	Slow trickle		8.4	5260	32.1																																
		27-Apr-17	1300	No flow		7.6	2900	16.2																																
		30-May-17	1300	No visible flow		7.3	2740	12.6																																
		27-Jun-17	1445	No visible flow		7.5	3220	12.6																																
		28-Jul-17	1200	No visible flow		7.7	3270	11.3																																
		28-Aug-17	1320	No visible flow		7.6	3450	15.3																																
		25-Sep-17	1315	No visible flow		7.6	3820	18	0.45	<0.001	0.243	<0.001	<0.0001	<0.001	0.007	<0.001	0.71	<0.001	0.611	0.047	<0.01	0.006	<0.0001	7.67	4010	56	132	517	17	36.6	960	132	<1	<1	104	104	31.9	6.82	0.01	<0.01	<0.01	<0.01	2070
		30-Oct-17	1200	No visible flow		7.9	4030	24.6																																
		28-Nov-17	1210	Slow trickle		7.7	3920	24.6																																
		21-Dec-17	1130	No visible flow		7.8	4650	24																																
Mayfield Spring Btm		**28-Sep-16**	1340	No flow		8.3	150	22.3	1.79	<0.001	0.054	<0.001	<0.0001	0.002	<0.001	0.002	2	<0.001	0.059	0.006	<0.01	0.007	<0.0001	7.64	152	10	5	10	11	1.63	6	6	<1	<1	62	62	1.53	----	0.07	<0.01	0.06	0.06	112
		27-Oct-16	1250	No flow		8.7	182	23																																
Depth	**0**																																								
WB1		**14-Aug-08**	1445	8.34	9.00																																				
Depth	**Unknown**	**12-Sep-08**	1330	8.34	9.00	7.9	1060	23.5		0.005	3.96	0.002	0.0003	0.001	<0.001	0.002	0.64	0.002	0.015	<0.001	<0.01	0.091	<0.0001		14200	102	209	3740	204	190	53	3	<1	<1	8700	8700	175	4.06	11.9				**8510**
Format.	**Unknown**	**14-Nov-08**	1139	8.46	9.12																																				
		01-Dec-08	1303	8.46	9.12																																				
WB2		**11-Aug-08**	1515	9.22	9.41																																				
		11-Sep-08	0930	8.81	9.00	7.2	1010	20.7		<0.001	0.033	<0.001	<0.0001	<0.001	<0.001	0.001	<0.05	<0.001	0.003	0.002	<0.01	<0.005	<0.0001		239	12	6	32	1	2.53	16	6	<1	<1	101	101	2.61		0.06				153
Depth	**Unknown**	**14-Nov-08**	1056	6.12	6.31																																				
Format.	**Garrawilla**	**01-Dec-08**	1212	6.30	6.49																																				
		18-Feb-09	1250	4.41	4.60																																				
		11-Jun-09	1500							<0.001	0.087	<0.001	<0.0001	<0.001	<0.001	0.106	0.3	0.002	0.02	0.001	<0.01	0.067	<0.0001		1130	64	57	83	2	11.6	156	17	<1	<1	340	340	11.5	0.21	<0.01				628
		17-Aug-09	1345	6.34	6.72	7.4	1150	18.5		<0.001	0.093	<0.001	<0.0001	<0.001	<0.001	0.003	0.06	<0.001	0.002	<0.001	<0.01	<0.005	<0.0001		1210	71	60	74	4	11.8	227	34.3	<1	<1	248	248	12.1	1.27	<0.01				744
		11-Nov-09	1200	8.18	8.56	7.3	1200	28.1		0.002	0.202	0.003	0.0007	0.021	0.008	0.064	16.8	0.012	0.203	0.02	0.03	0.058	<0.0001		1130	62	53	63	6	10.4	217	29.5	<1	<1	194	194	10.6	1.11	<0.01				1200
		17-Feb-10	1000	5.72	6.10																																				
		22-Jun-10	1105	7.02	7.40	7.83	1158	17	0.01	<0.001				<0.001		0.009	<0.05	<0.001	0.001	<0.001		<0.05	<0.0001	7.5	1080	61	53	60	6	10.2	197	27.6	<1	<1	215	215	10.4	1.24		<0.01	3.04	3.04	
		02-Sep-10	1045	5.41	5.79	7.53	1304	22.4																																		
		07-Feb-11	1120	3.22	3.60	7.2	855	24.5	0.11	<0.001				<0.001		0.012	0.06	<0.001	0.084	0.002		0.025	<0.0001	7.46	500	28	22	46	7	5.39	57	13	<1	<1	182	182	5.5	1.08		0.02	0.7	0.72	
		09-Jun-11	1050	7.92	8.30																																				
		11-Oct-11	1150	9.18	9.56	7.1	1654	23.9	2.38	0.004	0.132	<0.001	0.0001	<0.001	<0.001	0.166	0.48	0.008	0.078	0.007	<0.01	0.303	<0.0001	7.54	2350	137	115	137	1	22.3	495	62	<1	<1	359	359	22.4	0.31	0.24	0.12	4.1	4.22	1210
		8-Dec-11	1040			7.2	1160	24.6																																
		04-Apr-12	1000			7	882	31.2	0.06	<0.001	0.108	<0.001	<0.0001	<0.001	<0.001	0.025	0.06	0.01	0.005	0.005	<0.01	0.192	<0.0001	7.54	1080	70	53	81	2	11.4	182	28	<1	<1	265	265	11	1.86	0.06	0.02	0.57	0.59	616
		31-May-12	1010			7.23	1105	19.4																																
		29-Aug-12	1125			6.95	613	22.3	1.02	<0.001	0.109	<0.001	<0.0001	<0.001	<0.001	0.07	0.58	0.014	0.038	0.005	<0.01	0.547	<0.0001	7.44	609	36	22	47	3	5.73	112	13	<1	<1	123	123	5.89	1.37	0.01	0.03	1.09	1.12	340
		04-Dec-12	1310			7.26	1513	27.3																																
		07-Mar-13	1215			7.15	1580	26.2	0.99	<0.001	0.12	<0.001	<0.0001	<0.001	<0.001	0.087	0.06	0.011	0.014	0.004	<0.01	0.604	<0.0001	7.18	1730	111	90	113	2	17.9	340	42	<1	<1	336	336	17.2	2.1	0.02	<0.01	0.4	0.4	1030
		03-Jul-13	1215			7.34	1410	18.3																																
		03-Sep-13	1050			7.33	2140	24.3	0.28	<0.001	0.125	<0.001	<0.0001	<0.001	<0.001	0.069	<0.05	0.004	0.008	0.004	<0.01	0.34	<0.0001	7.74	2140	138	118	134	2	22.5	455	60	<1	<1	355	355	21.2	2.99	0.04	0.07	4.07	4.14	1360
		27-Nov-13	1320			7	2370	28.2																																
		05-Mar-14	1320			6.9	2410	27.3	0.06	0.001	0.115	<0.001	<0.0001	<0.001	<0.001	0.019	<0.05	0.001	0.001	0.002	<0.01	0.02	<0.0001	7.36	2540	164	139	188	1	27.8	508	82	<1	<1	444	444	25.4	4.48	0.02	<0.01	7.27	7.27	1710
		11-Jun-14	1330			7.1	2260	18.5																																
		29-Sep-14	1350			7	2530	22.1	1.66	<0.001	0.132	<0.001	<0.0001	<0.001	<0.001	0.102	<0.05	0.005	0.023	0.005	<0.01	0.362	<0.0001	7.56	2160	118	110	99	2	19.3	464	60	<1	<1	311	311	20.6	3.13	0.03	0.08	3.5	3.58	1140
		04-Dec-14	1100			7	2460	22																																
		13-Mar-15	1235			6.7	2830	27.3	0.03	<0.001	0.13	<0.001	<0.0001	<0.001	<0.001	0.015	<0.05	<0.001	<0.001	<0.001	<0.01	0.021	<0.0001	7.03	2850	175	155	167	2	28.8	639	83	<1	<1	496	496	29.7	1.46	0.04	<0.01	7.18	7.18	1620
		03-Jun-15	1340			7	2760	13.9																																
		09-Sep-15	1000			7	2260	16.8	**5.53**	<0.001	0.111	<0.001	<0.0001	0.002	<0.001	0.182	0.2	0.015	0.02	0.007	<0.01	0.791	<0.0001	7.48	2350	141	129	136	2	23.6	474	74	<1	<1	396	396	22.8	1.72	0.04	<0.01	1.87	1.87	1620
		14-Dec-15	1010			No sample - no pressure @ pump																																				
		09-Mar-16	1325			7.1	2370	29.1	0.39	<0.001	0.125	<0.001	<0.0001	<0.001	<0.001	0.132	5.5	0.011	0.022	0.008	<0.01	0.521	<0.0001	7.37	2520	164	140	145	1	26	520	84	<1	<1	412	412	24.6	2.75	0.14	<0.01	4.67	4.67	1550
		31-May-16	1200			6.9	2760	16.9																																
		26-Sep-16	1030			7	2640	17.9	1.1	<0.001	0.123	<0.001	0.0003	<0.001	<0.001	0.214	0.08	0.002	0.008	0.02	<0.01	1.34	<0.0001	7.61	2820	170	136	144	2	26	617	98	<1	<1	457	457	28.6	4.73	0.02	<0.01	4.11	4.11	1940
		25-Oct-16	1005			7	2640	21.1																																
		24-Nov-16	1020			7.2	2660	21.4																																
		20-Dec-16	945			7.2	2640	26.5																																
		25-Jan-17	1010			7.2	2610	27.8																																
		22-Feb-17	1000			7.2	2630	27.9																																
		29-Mar-17	930			7.3	2630	26.4																																
		26-Apr-17	1000			7.4	2720	20.3																																
		29-May-17	1025			7.5	2710	23.1																																
		29-Jun-17	1335			7.5	2630	22.2																																
		26-Jul-17	955			7.3	2720	17.9																																
		29-Aug-17	950			7.5	2700	18.3																																
		26-Sep-17	950			7.3	2720	23.4	3.14	<0.001	0.098	<0.001	0.0004	0.001	<0.001	0.25	<0.05	0.028	0.007	0.02	<0.01	1.36	<0.0001	7.74	2790	159	142	182	2	27.6	588	84	<1	<1	392	392	26.2	2.64	0.02	<0.01	5.86	5.86	1940
		26-Oct-17	955			7.3	2710	26.7																																
		27-Nov-17	1000			7.3	2760	25																																
		20-Dec-17	1110			7.4	2720	28																																
							1575.25	30.5025	2.20975	0.00395	0.195	0.003	0.000685	0.021	0.008	0.157	14.76	0.01185	0.18515	0.0187	0.03	0.2919	#NUM!	7.54	2179	127.1	106.75	128.9	6.85	20.725	454.8	57.845	#NUM!	#NUM!	356.15	356.15	20.855	1.7715	0.2355	0.115	4.0205	4.1315	1209
							2830	29.1	5.53	0.001	0.132	0	0.0004	0.002	0	0.25	5.5	0.028	0.038	0.02	0	1.36	0	7.74	2850	175	155	188	3	28.8	639	98	0	0	496	496	29.7	4.73	0.14	0.08	7.27	7.27	1940
WB3a		**11-Sep-08**	1230	8.09	8.60	7.7	1050	20.1		<0.001	0.179	<0.001	<0.0001	<0.001	<0.001	0.002	0.34	0.002	0.259	0.002	<0.01	0.009	<0.0001		703	39	20	78	4	7.11	54	10	<1	<1	268	268	7.08	0.10	0.26				431
		14-Nov-08	0856	8.14	8.65																																				
Depth	**Unknown**	**01-Dec-08**	1055	8.14	8.65																																				
Format.	**Alluvium**	**12-Jan-09**	1301	7.94	8.45																																				
		01-Dec-09	1310	8.21	8.72																																				
		18-Feb-10	1205	8.11	8.62																																				
		23-Jun-10	1315	8.19	8.70																																				
		03-Sep-10	1210	8.03	8.54	7.29	919	22.5																																		
		09-Feb-11	1300	7.55	8.06																																				
		31-May-11	1155	7.41	7.92																																				
		27-Sep-11	1200	7.50	8.01																																				
		3-Jan-12	1150	6.79	7.30																																				

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters: pH - Field	EC - Field - µs/cm	Temp - Field - °C
ANZECC Guideline - stock drinking water								
		22-Mar-12	1200	5.65	6.16			
		1-Jun-12	1200	6.21	6.72			
		10-Sep-12	1050	6.41	6.92			
		4-Dec-12	930	6.64	7.15			
		7-Mar-13	1325	6.21	6.72			
		3-Jul-13	1340	6.99	7.50			
		4-Sep-13	1020	7.33	7.84			
		4-Dec-13	1000	7.56	8.07			
		7-Mar-14	1210	7.49	8.00			
		10-Jun-14	1250	7.42	7.93			
		25-Sep-14	1120	7.66	8.17			
		3-Dec-14	1210	7.84	8.35			
		11-Mar-15	1330	8.04	8.55			
		5-Jun-15	1015	8.07	8.58			
		10-Sep-15	1040	7.88	8.39			
		9-Dec-15	1305	8.14	8.65			
		9-Mar-16	1000	8.32	8.83			
		1-Jun-16	1310	8.34	8.85			
		26-Sep-16	1315	7.71	8.22			
		26-Oct-16	1010	7.74	8.25			
		23-Nov-16	1010	7.72	8.23			
		19-Dec-16	1020	7.71	8.22			
		20-Jan-17	1020	7.71	8.22			
		21-Feb-17	1020	7.77	8.28			
		28-Mar-17	1020	7.84	8.35			
		20-Apr-17	1030	7.90	8.41			
		24-May-17	1030	8.07	8.58			
		30-Jun-17	1110	8.28	8.79			
		25-Jul-17	1110	8.16	8.67			
		24-Aug-17	1055	8.07	8.58			
		21-Sep-17	1055	8.06	8.57			
		25-Oct-17	1055	8.24	8.75			
		24-Nov-17	1050	8.21	8.72			
		19-Dec-17	1040	8.09	8.60			
WB3b		11-Sep-08	1245	7.99	8.50	7.6	1250	19.8
		14-Nov-08	0854	8.05	8.56			
Depth	Unknown	01-Dec-08	1057	7.99	8.50			
Format.	Alluvium	12-Jan-09	1303	7.84	8.33			
		01-Dec-09	1310	8.20	8.71			
		18-Feb-10	1210	8.05	8.56			
		23-Jun-10	1320	8.10	8.61			
		03-Sep-10	1215	7.88	8.39	7.38	693	22.7
		09-Feb-11	1310	7.20	7.71			
		31-May-11	1200	7.33	7.84			
		27-Sep-11	1210	7.45	7.96			
		3-Jan-12	1200	6.73	7.24			
		22-Mar-12	1220	5.61	6.12			
		1-Jun-12	1210	6.17	6.68			
		10-Sep-12	1100	6.34	6.85			
		4-Dec-12	935	6.57	7.08			
		7-Mar-13	1330	6.24	6.75			
		3-Jul-13	1350	6.92	7.43			
		4-Sep-13	1005	7.24	7.75			
		4-Dec-13	1010	7.85	8.36			
		7-Mar-14	1220	7.40	7.91			
		10-Jun-14	1300	7.34	7.85			
		25-Sep-14	1130	7.99	8.50			
		3-Dec-14	1220	7.73	8.24			
		11-Mar-15	1340	8.07	8.58			
		5-Jun-15	1005	8.28	8.79			
		10-Sep-15	1030	7.77	8.28			
		9-Dec-15	1315	8.28	8.79			
		9-Mar-16	1010	8.55	9.06			
		1-Jun-16	1320	8.21	8.72			
		26-Sep-16	1320	7.92	8.43			
		26-Oct-16	1015	7.57	8.08			
		23-Nov-16	1020	7.56	8.07			
		19-Dec-16	1010	7.59	8.10			
		20-Jan-17	1010	7.80	8.31			
		21-Feb-17	1010	7.69	8.20			
		28-Mar-17	1010	8.28	8.79			
		20-Apr-17	1020	7.85	8.36			
		24-May-17	1040	7.93	8.44			
		30-Jun-17	1100	8.05	8.56			
		25-Jul-17	1100	8.00	8.51			
		24-Aug-17	1045	8.52	9.03			
		21-Sep-17	1045	7.97	8.48			
		25-Oct-17	1045	8.07	8.58			
		24-Nov-17	1040	8.06	8.57			
		19-Dec-17	1030	8.04	8.55			
WB4		12-Sep-08	1430	8.35	8.90	7.3	1120	19.8
		14-Nov-08	0902	8.30	8.85			
Depth	Unknown	12-Jan-09	1258	8.25	8.80			
Format.	Alluvium	01-Dec-09	1305	8.38	8.93			
		18-Feb-10	1220	8.41	8.96			
		23-Jun-10	1310	8.41	8.96			
		03-Sep-10	1155	9.40	9.95	7.35	2174	21.8
		09-Feb-11	1245	8.20	8.75			
		31-May-11	1145	8.04	8.59			
		27-Sep-11	1150	8.01	8.56			
		3-Jan-12	1140	7.98	8.53			
		22-Mar-12	1140	7.63	8.18			
		1-Jun-12	1145	7.42	7.97			
		10-Sep-12	1110	7.24	7.79			
		4-Dec-12	945	7.21	7.76			
		7-Mar-13	1315	6.98	7.53			
		3-Jul-13	1330	6.93	7.48			
		4-Sep-13	1035	7.35	7.90			
		4-Dec-13	1030	7.47	8.02			
		7-Mar-14	1150	7.54	8.09			
		10-Jun-14	1240	7.59	8.14			
		25-Sep-14	1100	7.67	8.22			

Site ID / Date	Total Metals: Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations: Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L	Total Cations - meq/L	Major Anions: Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L	Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
ANZECC Guideline - stock drinking water	*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*								*1500*	*400*		*4000*
WB3b 11-Sep-08		<0.001	0.175	<0.001	<0.0001	<0.001	<0.001	0.002	0.31	0.001	0.255	0.001	<0.01	0.007	<0.0001		706	38	20	77	4	7.01	52	10	<1	<1	268	268	7.02	0.17	0.18				415
WB4 12-Sep-08		<0.001	0.042	<0.001	<0.0001	<0.001	<0.001	0.002	<0.05	<0.001	0.003	0.002	<0.01	0.006	<0.0001		1040	61	35	116	1	11.0	93	30	<1	<1	360	360	10.4	2.39	0.06				461

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L						
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*			*1*		*20*	*0.002*			*1000*						*1000*								*1500*	*400*		*4000*
		3-Dec-14	1150	7.71	8.26																																				
		11-Mar-15	1320	7.84	8.39																																				
		5-Jun-15	1025	7.92	8.47																																				
		10-Sep-15	1050	8.00	8.55																																				
		9-Dec-15	1250	8.04	8.59																																				
		9-Mar-16	1050	8.09	8.64																																				
		1-Jun-16	1255	8.17	8.72																																				
		26-Sep-16	1335	8.20	8.75																																				
		26-Oct-16	1030	8.18	8.73																																				
		23-Nov-16	1040	8.16	8.71																																				
		19-Dec-16	1035	8.13	8.68																																				
		20-Jan-17	1040	8.13	8.68																																				
		21-Feb-17	1035	8.15	8.70																																				
		28-Mar-17	1035	8.14	8.69																																				
		20-Apr-17	1045	8.12	8.67																																				
		24-May-17	1050	8.17	8.72																																				
		30-Jun-17	1125	8.17	8.72																																				
		25-Jul-17	1125	8.19	8.74																																				
		24-Aug-17	1110	8.20	8.75																																				
		21-Sep-17	1110	8.20	8.75																																				
		25-Oct-17	1110	8.21	8.76																																				
		24-Nov-17	1105	8.25	8.80																																				
		19-Dec-17	1055	8.27	8.82																																				
WB5a		12-Sep-08	1430	9.98	11.10	7.5	1200	21		<0.001	0.026	<0.001	<0.0001	<0.001	<0.001	0.004	0.1	0.006	0.033	<0.001	<0.01	0.008	<0.0001		510	36	18	32	2	4.66	29	28	<1	<1	160	160	4.59	0.72	0.05				281
		14-Nov-08	0832	10.29	11.41																																				
Depth	Unknown	01-Dec-08	1035	10.15	11.27																																				
Format.	Alluvium	12-Jan-09	1319	9.89	11.01																																				
		01-Dec-09	1345	10.38	11.50																																				
		18-Feb-10	1245	10.35	11.47																																				
		23-Jun-10	1350	10.38	11.50																																				
		03-Sep-10	1330	9.71	10.83																																				
		09-Feb-11	1034																																						
		31-May-11	1230	9.48	10.60																																				
		27-Sep-11	1250	9.50	10.62																																				
		3-Jan-12	1250	8.52	9.64																																				
		22-Mar-12	1310	8.30	9.42																																				
		1-Jun-12	1245	8.50	9.62																																				
		10-Sep-12	1030	8.39	9.51																																				
		4-Dec-12	900	8.47	9.59																																				
		7-Mar-13	1350	7.15	8.27																																				
		3-Jul-13	1425	8.92	10.04																																				
		4-Sep-13	930	8.97	10.09																																				
		4-Dec-13	930	9.01	10.13																																				
		7-Mar-14	1330	9.18	10.30																																				
		10-Jun-14	1330	9.56	10.68																																				
		25-Sep-14	1200	9.22	10.34																																				
		3-Dec-14	1300	9.28	10.40																																				
		11-Mar-15	1400	9.66	10.78																																				
		5-Jun-15	935	9.66	10.78																																				
		10-Sep-15	950	9.42	10.54																																				
		9-Dec-15	1350	9.59	10.71																																				
		9-Mar-16	920	10.02	11.14																																				
		1-Jun-16	1400	10.08	11.20																																				
		27-Sep-16	920	8.89	10.01																																				
		26-Oct-16	925	9.20	10.32																																				
		23-Nov-16	930	9.18	10.30																																				
		19-Dec-16	935	9.18	10.30																																				
		20-Jan-17	935	9.14	10.26																																				
		21-Feb-17	925	9.35	10.47																																				
		28-Mar-17	930	9.75	10.87																																				
		20-Apr-17	940	9.70	10.82																																				
		24-May-17	950	9.68	10.80																																				
		30-Jun-17	1010	9.59	10.71																																				
		25-Jul-17	1010	9.62	10.74																																				
		24-Aug-17	955	9.57	10.69																																				
		21-Sep-17	950	9.58	10.70																																				
		25-Oct-17	955	9.41	10.53																																				
		24-Nov-17	950	9.39	10.51																																				
		19-Dec-17	940	9.27	10.39																																				
WB5b		12-Sep-08	1430	10.08	11.20	7.6	1150	21		<0.001	0.028	<0.001	<0.0001	<0.001	<0.001	0.003	<0.05	0.006	0.031	0.001	<0.01	0.007	<0.0001		505	35	17	31	2	4.56	28	28	<1	<1	166	166	4.68	1.39	0.05				278
		14-Nov-08	0833	10.43	11.55																																				
Depth	Unknown	01-Dec-08	1037	10.15	11.27																																				
Format.	Alluvium	12-Jan-09	1321	10.21	11.33																																				
		01-Dec-09	1345	10.78	11.90																																				
		18-Feb-10	1250	10.69	11.81																																				
		23-Jun-10	1355	10.36	11.48																																				
		09-Feb-11	1350																																						
		31-May-11	1240	9.50	10.62																																				
		27-Sep-11	1300	9.84	10.96																																				
		3-Jan-12	1300	9.07	10.19																																				
		22-Mar-12	1320	8.44	9.56																																				
		1-Jun-12	1300	8.45	9.57																																				
		10-Sep-12	1035	8.37	9.49																																				
		4-Dec-12	905	8.94	10.06																																				
		7-Mar-13	1355	7.50	8.62																																				
		3-Jul-13	1430	8.85	9.97																																				
		4-Sep-13	920	9.00	10.12																																				
		4-Dec-13	940	8.88	10.00																																				
		7-Mar-14	1335	9.75	10.87																																				
		10-Jun-14	1340	9.59	10.71																																				
		25-Sep-14	1210	9.56	10.68																																				
		3-Dec-14	1310	9.70	10.82																																				
		11-Mar-15	1410	10.11	11.23																																				
		5-Jun-15	930	9.78	10.90																																				
		10-Sep-15	940	9.47	10.59																																				
		9-Dec-15	1400	9.94	11.06																																				
		9-Mar-16	930	10.55	11.67																																				
		1-Jun-16	1410	10.41	11.53																																				
		27-Sep-16	930	9.28	10.40																																				
		26-Oct-16	935	9.31	10.43																																				
		23-Nov-16	940	9.50	10.62																																				

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L	pH Lab	EC - Lab - µs/cm	Major Cations				Total Cations - meq/L	Major Anions						Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L							
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*			*1*		*20*	*0.002*			*1000*						*1000*								*1500*	*400*		*4000*
		19-Dec-16	925	9.59	10.71																																					
		20-Jan-17	925	9.95	11.07																																					
		21-Feb-17	915	10.11	11.23																																					
		28-Mar-17	920	9.96	11.08																																					
		20-Apr-17	930	9.86	10.98																																					
		24-May-17	940	9.76	10.88																																					
		30-Jun-17	1000	9.67	10.79																																					
		25-Jul-17	1000	9.60	10.72																																					
		24-Aug-17	945	9.54	10.66																																					
		21-Sep-17	940	9.75	10.87																																					
		25-Oct-17	945	9.55	10.67																																					
		24-Nov-17	940	9.57	10.69																																					
		19-Dec-17	930	9.82	10.94																																					
WB6a		**12-Sep-08**	1530	13.93	14.80	6.8	1120	20.4		<0.001	0.050	<0.001	<0.0001	<0.001	<0.001	0.008	0.22	0.029	0.302	0.002	<0.01	0.022	<0.0001		706	45	22	77	3	7.48	33	21	<1	<1	294	294	7.24	1.55	0.09				389
		12-Sep-08	1530	13.93	14.80	6.8	1120	20.4		<0.001	0.052	<0.001	<0.0001	<0.001	<0.001	0.005	0.29	0.014	0.419	0.004	<0.01	0.017	<0.0001		981	58	36	74	3	9.13	89	53	<1	<1	266	266	8.94	1.04	0.87				525
Depth	**Unknown**	**14-Nov-08**	0823	14.31	15.19																																					
Format.	**Alluvium**	**01-Dec-08**	1030	14.29	15.17																																					
		12-Jan-09	1326	14.24	15.12																																					
		01-Dec-09	1400	14.38	15.22																																					
		18-Feb-10	1310	14.31	15.15																																					
		03-Sep-10	1345	14.31	15.15																																					
		09-Feb-11	1400	11.68	12.52																																					
		31-May-11	1250	11.41	12.25																																					
		27-Sep-11	1320	11.36	12.20																																					
		3-Jan-12	1320	11.29	12.13																																					
		22-Mar-12	1340	11.09	11.93																																					
		1-Jun-12	1320	10.59	11.43																																					
		10-Sep-12	930	10.35	11.19																																					
		4-Dec-12	1355	10.96	11.80																																					
		7-Mar-13	1410	11.57	12.41																																					
		3-Jul-13	1440	10.87	11.71																																					
		4-Sep-13	845	10.86	11.70																																					
		4-Dec-13	900	11.20	12.04																																					
		7-Mar-14	1350	14.91	15.75																																					
		10-Jun-14	1350	11.41	12.25																																					
		25-Sep-14	1230	11.10	11.94																																					
		3-Dec-14	1325	11.50	12.34																																					
		11-Mar-15	1420	11.57	12.41																																					
		5-Jun-15	915	11.67	12.51																																					
		10-Sep-15	925	11.42	12.26																																					
		9-Dec-15	1410	11.59	12.43																																					
		9-Mar-16	850	11.59	12.43																																					
		1-Jun-16	1425	11.61	12.45																																					
		27-Sep-16	850	11.58	12.42																																					
		26-Oct-16	910	11.50	12.34																																					
		23-Nov-16	900	11.53	12.37																																					
		19-Dec-16	900	11.55	12.39																																					
		20-Jan-17	910	11.56	12.40																																					
		21-Feb-17	910	11.56	12.40																																					
		28-Mar-17	910	11.57	12.41																																					
		20-Apr-17	915	11.55	12.39																																					
		24-May-17	920	11.60	12.44																																					
		30-Jun-17	940	11.61	12.45																																					
		25-Jul-17	940	11.58	12.42																																					
		24-Aug-17	925	11.34	12.18																																					
		21-Sep-17	920	11.41	12.25																																					
		25-Oct-17	925	11.49	12.33																																					
		24-Nov-17	920	11.55	12.39																																					
		19-Dec-17	910	11.54	12.38																																					
WB6b		**12-Sep-08**	1530	11.33	12.20	7.2	1080	20.7		<0.001	0.052	<0.001	<0.0001	<0.001	<0.001	0.007	0.28	0.028	0.297	0.006	<0.01	0.050	<0.0001		781	45	22	83	3	7.78	35	21	<1	<1	305	305	7.52	1.62	0.09				405
		14-Nov-08	0825	12.21	13.09																																					
Depth	**Unknown**	**01-Dec-08**	1032	11.21	12.09																																					
Format.	**Alluvium**	**12-Jan-09**	1328	17.89	18.77																																					
		01-Dec-09	1400	19.70	20.54																																					
		18-Feb-10	1315	13.94	14.78																																					
		03-Sep-10	1350	11.09	11.93																																					
		09-Feb-11	1410	20.34	21.18																																					
		31-May-11	1300	10.98	11.82																																					
		27-Sep-11	1330	18.55	19.39																																					
		3-Jan-12	1330	16.81	17.65																																					
		22-Mar-12	1350	9.98	10.82																																					
		1-Jun-12	1335	9.74	10.58																																					
		10-Sep-12	940	14.80	15.64																																					
		4-Dec-12	1400	19.32	20.16																																					
		7-Mar-13	1415	10.96	11.80																																					
		3-Jul-13	1445	9.96	10.80																																					
		4-Sep-13	900	15.40	16.24																																					
		4-Dec-13	915	10.48	11.32																																					
		7-Mar-14	1400	13.30	14.14																																					
		10-Jun-14	1400	9.56	10.40																																					
		25-Sep-14	1240	10.51	11.35																																					
		3-Dec-14	1335	16.02	16.86																																					
		11-Mar-15	1430	16.19	17.03																																					
		5-Jun-15	910	10.43	11.27																																					
		10-Sep-15	915	10.60	11.44																																					
		9-Dec-15	1420	17.14	17.98																																					
		9-Mar-16	900	14.88	15.72																																					
		1-Jun-16	1435	15.13	15.97																																					
		27-Sep-16	900	10.59	11.43																																					
		26-Oct-16	900	10.93	11.77																																					
		23-Nov-16	915	16.02	16.86																																					
		19-Dec-16	910	15.97	16.81																																					
		20-Jan-17	900	19.09	19.93																																					
		21-Feb-17	900	15.42	16.26																																					
		28-Mar-17	900	11.38	12.22																																					
		20-Apr-17	900	11.10	11.94																																					
		24-May-17	910	10.86	11.70																																					
		30-Jun-17	930	10.70	11.54																																					
		25-Jul-17	930	10.60	11.44																																					
		24-Aug-17	915	10.51	11.35																																					
		21-Sep-17	910	14.74	15.58																																					

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals														Mercury (Hg) - mg/L	pH Lab	EC - Lab - µS/cm	Major Cations				Total Cations - meq/L	Major Anions							Total Anions - meq/L	Ionic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
						pH - Field	EC - Field - µS/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L		Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L				Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L		Chloride (Cl) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L							
ANZECC Guideline - stock drinking water									*5*	*0.5*			*0.01*	*1*	*1*	*1*		*0.1*		*1*		*20*	*0.002*			*1000*						*1000*											*1500*	*400*		*4000*
		25-Oct-17	915	10.98	11.82																																					
		24-Nov-17	910	11.44	12.28																																					
		19-Dec-17	900	18.83	19.67																																					
WB7		**11-Sep-08**	1330			6.9	1175	20.5		<0.001	0.006	<0.001	<0.0001	<0.001	<0.001	0.013	<0.05	<0.001	<0.001	<0.001	<0.01	0.040	<0.0001		765	33	18	92	2	7.16	60	23	<1	<1	250	250	7.16	0.06	0.04				410
		14-Nov-08	0841	4.11	4.99																																					
Depth	Unknown	**01-Dec-08**	1045	2.27	3.15																																					
Format.	Alluvium	**12-Jan-09**	1315	4.30	5.18																																					
		25-Aug-09	1500							<0.001	0.006	<0.001	<0.0001	<0.001	<0.001	0.049	<0.05	0.006	0.002	<0.001	<0.01	0.044	<0.0001		633	26	14	80	2		47.4	23	<1	<1	224	224			<0.01				348
		01-Dec-09	1330	4.79		8.18	1002	23.3	0.05	0.005				<0.001		0.013	0.32	<0.001	0.038	0.004		<0.005	<0.0001	7.91	848	12	7	164	1	8.35	65.2	32	<1	<1	272	272	8.05	1.82		0.02	1.45	1.48	
		18-Feb-10	1240	4.64																																						
		23-Jun-10	1340		4.81	8.2	796	21	<0.01	<0.001				<0.001		0.01	<0.05	<0.001	<0.001	<0.001		0.007	<0.0001	7.22	621	29	16	93	2	6.89	51	17.8	<1	<1	250	250	6.81	0.59		<0.01	0.31	0.31	
		03-Sep-10	1305		1.93	7.39	625	22.3																																		
		08-Feb-11	1330		2.12	7.36	964	27.3	0.02	<0.001				<0.005		0.023	<0.05	<0.001	<0.001	<0.001		0.012	<0.001	7.2	766	41	24	125	2	9.52	65	33	<1	<1	345	345	9.41	0.52		<0.01	0.43	0.43	
		31-May-11	1215	3.01	3.01	7.55	613	14.8																																		
		27-Sep-11	1240	2.85	2.85	7.61	701	22.3	<0.01	<0.001	0.007	<0.001	<0.0001	<0.001	<0.001	0.016	0.2	0.002	0.004	<0.001	<0.01	0.009	<0.0001	7.95	740	30	17	105	2	7.51	61	25	<1	<1	260	260	7.44	0.5	<0.01	<0.01	0.35	0.35	402
		3-Jan-12	1230	1.90	1.90	7.52	732	25.7																																		
		22-Mar-12	1250	3.09	3.09	7.45	722	24.2	<0.01	0.007	0.011	<0.001	<0.0001	<0.001	<0.001	0.016	1.14	0.006	0.163	0.002	<0.01	0.012	<0.0001	7.69	654	24	14	112	3	7.3	60	23	<1	<1	245	245	7.07	1.58	0.14	<0.01	<0.01	<0.01	490
		01-Jun-12	1230	3.76	3.76	7.55	704	16.1																																		
		10-Sep-12	1015	1.14	1.14	7.27	597	17.5	0.01	<0.001	0.008	<0.001	<0.0001	<0.001	<0.001	0.008	<0.05	<0.001	0.027	<0.001	<0.01	0.005	<0.0001	7.65	636	23	12	98	2	6.45	56	20	<1	<1	234	234	6.67	1.72	<0.01	<0.01	0.05	0.05	362
		04-Dec-12	920	3.12	3.12																																					
		07-Mar-13	1340	1.7	1.7	7.4	673	25.2	<0.01	<0.001	0.009	<0.001	<0.0001	<0.001	<0.001	0.064	0.16	0.042	0.01	<0.001	<0.01	0.015	<0.0001	7.3	693	34	17	90	2	7.06	54	18	<1	<1	255	255	6.99	0.46	<0.01	<0.01	0.51	0.51	398
		03-Jul-13	1410	2.87	2.87	7.47	668	13.4																																		
		04-Sep-13	945	3.34	3.34	7.1	688	17.1	0.02	<0.001	0.012	<0.001	<0.0001	<0.001	<0.001	0.022	0.87	0.002	0.306	0.002	<0.01	0.021	<0.0001	7.63	715	32	18	102	2	7.57	58	26	<1	<1	254	254	7.27	1.97	<0.01	<0.01	0.06	0.06	387
		02-Dec-13	1415	3.15	3.15	9.2	992	19.2																																		
		07-Mar-14	1320	2.62	2.62	7.7	846	26.2	<0.01	<0.001	0.01	<0.001	<0.0001	<0.001	<0.001	0.014	<0.05	<0.001	0.002	<0.001	<0.01	0.008	<0.0001	7.46	821	38	21	107	2	8.33	75	28	<1	<1	268	268	8.05	1.66	0.01	<0.01	1.85	1.85	491
		10-Jun-14	1315	4.62	4.62	7.9	740	15																																		
		25-Sep-14	1150	3.71	3.71	7.7	704	18.1	0.02	<0.001	0.009	<0.001	<0.0001	<0.001	<0.001	0.011	<0.05	<0.001	0.012	0.002	<0.01	0.012	<0.0001	7.53	708	28	17	92	2	6.85	61	28	<1	<1	222	222	6.74	0.78	0.01	<0.01	0.52	0.52	393
		03-Dec-14	1245	2.79	2.79	7.6	702	19.6																																		
		11-Mar-15	1350	2.65	2.65	7.8	1010	24.7	<0.01	<0.001	0.011	<0.001	<0.0001	<0.001	<0.001	0.013	<0.05	<0.001	0.005	0.001	<0.01	0.026	<0.0001	7.6	810	42	25	114	2	9.16	64	46	<1	<1	292	292	8.6	3.16	0.03	<0.01	1.76	1.76	426
		05-Jun-15	950	2.38	2.38	7.3	694	9.1																																		
		10-Sep-15	1010	1.74	1.74	7	642	14	<0.01	<0.001	0.009	<0.001	<0.0001	<0.001	<0.001	0.011	0.13	0.002	0.042	0.002	<0.01	0.024	<0.0001	7.46	657	29	17	95	2	7.03	53	22	<1	<1	230	230	6.55	3.52	0.03	<0.01	0.07	0.07	410
		09-Dec-15	1355	2.51	2.51	7.1	875	24.7																																		
		09-Mar-16	1040	3.87	3.87	7.1	825	26.7	<0.01	<0.001	0.01	<0.001	<0.0001	<0.001	<0.001	0.073	1.68	<0.001	1.78	<0.001	<0.01	0.009	<0.0001	7.59	809	41	20	111	2	8.57	60	37	<1	<1	283	283	8.12	2.7	0.06	<0.01	0.03	0.03	439
		01-Jun-16	1345	3.69	3.69	7.5	794	16.3																																		
		27-Sep-16	950	2.35	2.35	7.5	760	15.1	<0.01	<0.001	0.005	<0.001	<0.0001	<0.001	<0.001	<0.001	3.29	<0.001	0.196	<0.001	<0.01	<0.005	<0.0001	7.8	739	34	20	104	1	7.89	54	20	<1	<1	283	283	7.59	1.89	<0.01	<0.01	<0.01	<0.01	390
		26-Oct-16	950	1.39	1.39																																					
		23-Nov-16	950	2.77	2.77	7.1	642	24.1																																		
		19-Dec-16	955	2.9	2.9	7.1	735	22.9																																		
		20-Jan-17	950	1.79	1.79	7.1	832	24.9																																		
		21-Feb-17	950	3.55	3.55	7.1	783	20.3																																		
		28-Mar-17	950	3.43	3.43	7.1	673	23.6																																		
		20-Apr-17	1000	2.11	2.11	7	674	20.5																																		
		24-May-17	1010	1.47	1.47	7.3	669	17.8																																		
		30-Jun-17	1040	1.39	1.39	7.1	617	14.8																																		
		25-Jul-17	1040	1.37	1.37	7.1	685	10.3																																		
		24-Aug-17	1020	1.17	1.17	7	668	12.3																																		
		21-Sep-17	1020	2.37	2.37	6.5	716	20.8	<0.01	<0.001	0.006	<0.001	<0.0001	<0.001	<0.001	0.004	<0.05	<0.001	0.002	<0.001	<0.01	0.005	<0.0001	7.26	701	36	18	94	2	7.42	53	26	<1	<1	267	267	7.37	0.32	0.03	<0.01	1.25	1.25	356
		25-Oct-17	1020	3.75	3.75	6.7	772	20.7																																		
		24-Nov-17	1015	1.98	1.98	6.6	682	20.7																																		
		19-Dec-17	1005	1.67	1.67	7	843	23																																		
							1136.075	26.94	0.04925	0.00695	0.0108	#NUM!	#NUM!	#NUM!	#NUM!	0.04575	1.099	0.006	0.15363	0.00395	#NUM!	0.0408	#NUM!	7.946	837.75	39.625	23.125	159.125	2.875	9.403	65.175	32.875	#NUM!	#NUM!	335.875	335.875	9.274	1.796	0.14	0.02	1.3735	1.40125	485.6
							1010	26.7	0.02	0	0.012	0	0	0	0	0.073	3.29	0.042	1.78	0.002	0	0.026	0	7.8	821	42	25	114	2	9.16	75	46	0	0	292	292	8.6	3.52	0.06	0	1.85	1.85	491
WB8		**12-Sep-08**																																									
		14-Nov-08																																									
WB9	NC-008	**1-Dec-08**	1235	19.2	19.67																																					

Denotes dissolved metals