Annual Review

Rocglen Coal Mine

Name of operation	Rocglen Coal Mine
Name of operator	Whitehaven Coal Mining Pty Ltd
Development consent/project approval number	PA 10_0015
Name of holder of development consent/project approval	Whitehaven Coal Mining Pty Ltd
Mining lease number	ML 1620, ML 1662
Name of holder of mining lease	Whitehaven Coal Mining Pty Ltd
Water licence number	WAL29461 and WAL 36758
Name of holder of water licence	Whitehaven Coal Mining Pty Ltd
MOP start date	1st November 2015
MOP end date	31st October 2020
Annual review start date	1st January 2017
Annual review end date	31st December 2017

I, Jamie Frankcombe, certify that this audit report is a true and accurate record of the compliance status of Rocglen Coal Mine for the period 1st January 2017 to 31st December 2017, and that I am authorised to make this statement on behalf of Whitehaven Coal Mining 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	Jamie Frankcombe
Title of authorised reporting officer	Director – Whitehaven Coal Mining Pty Ltd
Signature of authorised reporting officer	
Date	31/05/2018

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1 STATEMENT OF COMPLIANCE

The compliance status of the Rocglen Coal Mine (RCM) as at 31st December 2017 is summarised in Table 1. Table 2 notes non-compliances that occurred during the reporting period, and non-compliances from previous reporting periods that still require management action. References to the Environment Protection Licence (EPL) are limited to those that relate to the Project Approval conditions, specifically Schedule 3 Conditions 4, 12, 17, 18(b), 21 and 22, and Schedule 5 Condition 8.

Table 1 - Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
PA 10_0015	No
EPL 12870 (applicable conditions as above)	No
ML 1620	Yes
ML 1662	Yes
WAL 29461	Yes
WAL 36758	Yes

Table 2 - Non-compliances

Relevant Approval	Condition Schedule and Number	Condition Description (summary)	Compliance status	Comment	Where Addressed in Annual Review
PA 10_0015	Schedule 2(2)	Works carried out in accordance with EA, approval, and statement of commitments.	NC	Non-compliances with approval detailed below.	Section 11.2
	Schedule 2(8)	Prior to the surrender of project approval 06_0198 the conditions of that approval will prevail to the extent of any inconsistency between the two approvals.	NC	Project Approval surrender has been submitted, but not finalised.	Section 11.2
	Schedule 3(1)	Ensure noise generated by the project does not exceed the criteria.	NC	Noise exceedances recorded during the reporting period.	Sections 6.5.3, 11.2
	Schedule 3(4)	Implementation of the Noise Management Plan.	NC	Cumulative road noise monitoring not undertaken during reporting period, as required by the Noise Management Plan.	Sections 6.5, 11.2
	Schedule 3(18)	Requirement for continuous meteorological monitoring.	NC	Continuous monitoring was not achieved due to communication	Section 11.2

				issues and breakdowns.	
	Schedule 3(31)	Establish and maintain an effective vegetative screen along the boundary of the site that adjoins public roads;	NC	Existing vegetative screen has been augmented with additional planting undertaken during reporting period.	Section 11.2
EPL 12870	A3.1	Works carried out in accordance with licence.	NC	Non-compliances with licence detailed below.	Section 11.2
	L4.1	Ensure noise generated by the project does not exceed the criteria.	NC	Three exceedances of the noise criteria occurred during attended noise monitoring during the period.	Sections 6.5, 11.2
	M2.1, M2.2	Requirement for continuous PM10 monitoring.	NC	Continuous monitoring was not achieved due to power outages.	Section 11.2
	M2.5	Collection of discharge samples within 12 hours of discharge commencement.	NC	Following identification of the discharge event samples were collected as soon as practicable. RCM were unable to confirm the commencement time of the discharge.	Sections 7.1.3, 11.2
	M4.1, M4.2	Requirement for continuous meteorological monitoring.	NC	Continuous monitoring was not achieved due to communication issues and breakdowns.	Section 11.2

Note: Non-compliances identified within the most recent Independent Environmental Audit are addressed in Section 9.3.

Compliance status key for Table 2

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)

2 INTRODUCTION

This is the ninth Annual Review (AR), previously Annual Environmental Management Report, produced for the RCM, and it has been prepared in accordance with Conditions 4 and 5 of Mining Lease (ML 1620) (Mining Act 1992), Condition 4 of Mining Lease (ML 1662) and Condition 3 Schedule 5 of PA 10_0015, as modified. This report covers the period between 1st January 2017 and 31st December 2017. The AR follows the format required by the NSW Government Annual Review Guideline (October, 2015).

The RCM is located approximately 28km north of Gunnedah (Refer Figure 1). The RCM is owned by Whitehaven Coal Limited (WCL) and operated by Whitehaven Coal Mining Pty Ltd (WCMPL).

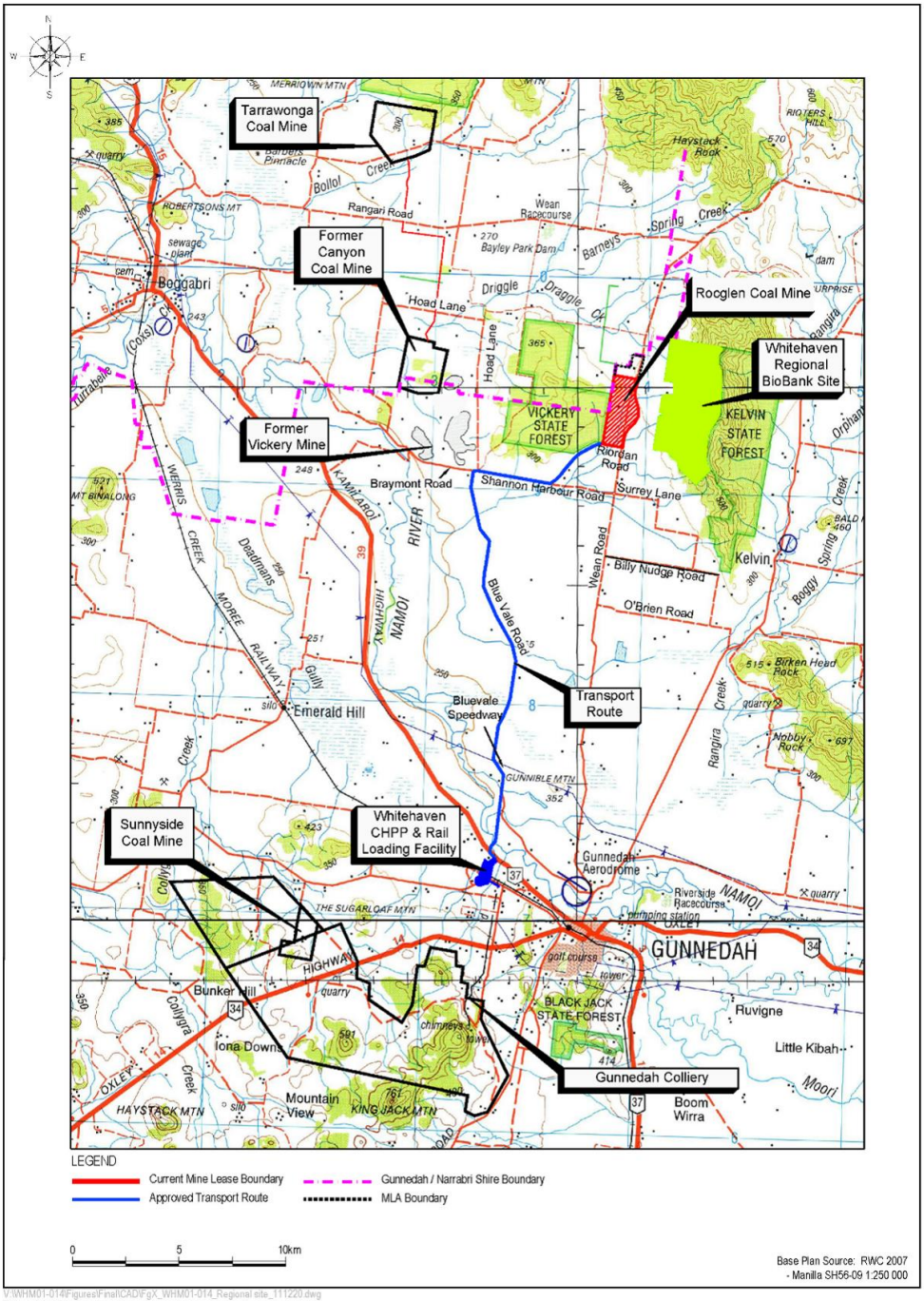
The RCM was initially approved on the 15th April 2008 under PA 06_0198 with a minor modification (PA 06_0198 MOD 1) granted in May 2010 to address highwall stability issues. Whitehaven submitted a Project Application, and accompanying Environmental Assessment, under Part 3A of the *Environmental Planning and Assessment Act 1979* in March 2010. PA 10_0015 was issued on the 27th September 2011 and allows for additional extraction of up to 5 million tonnes of coal at a maximum recovery rate of 1.5 million tonnes per annum (i.e. increased projected life of the operation for coal extraction by up to four years).

PA 10_0015 was modified in November 2014 to condition cumulative coal haulage from the Tarrawonga/Vickery/RCM mines, in August 2015 allowing changes to coal reject haulage to the site, and again in February 2017 to allow increased coal haulage during calendar year 2017.

2.1 Mine Contacts

The management personnel responsible for operational and environmental performance at the RCM and their relevant contact details are as follows:

- Mr Ivan Van Rooyen, Manager Mining Engineering - statutory responsibility for mining activities at the site. Contact: (02) 6740 7021.
- Mr Nigel Wood, General Manager, Open Cut Operations - oversees Open Cut Operations for the Whitehaven Group. Contact: (02) 6741 9309.Miss Emily Clements – Graduate Environmental Officer – oversees day to day environmental and rehabilitation performance across the site. Contact: (02) 6740 7009.



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Environmental, Land and Project Management Consultants

Figure 1 Locality Plan

3 APPROVALS

3.1 Tenements, Licences, and Approvals

Table 3 identifies the approvals in place for the RCM at the end of the reporting period, the issuing / responsible Authority, dates of issue, expiry date and relevant comments.

Table 3 - Tenements, Licences and Approvals

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Department of Planning and Environment (DP&E)	Project Approval PA 10_0015	27th September 2011	31st December 2022	-
Environment Protection Authority (EPA)	Environment Protection Licence No. 12870	31st July 2008	N/A Anniversary date 31st July	Modified during reporting period to allow relocation of meteorological station
Department of Primary Industries – Division of Resources and Geoscience	ML 1620	10th June 2008	10th June 2029	-
Department of Primary Industries – Division of Resources and Geoscience	ML 1662	9th January 2012	9th January 2033	-
Division of Resources and Geoscience (DRG)	Mining Operations Plan (MOP)	28th October 2015	30th October 2020	MOP amendment to address schedule of activities, made 10th November 2016.
Department of Primary Industries - Water	WAL 29461	25th October 2012	In perpetuity	-

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Department of Primary Industries - Water	WAL 36758	4th September 2014	In perpetuity	-

4 OPERATIONS SUMMARY

4.1 Mining Operations

Table 4 – Production Summary

Material	Approved Limit	Previous Reporting Period (actual)	This Reporting Period (actual)	Next Reporting Period (forecast)
Waste Rock/Overburden	N/A	1,974,300 bcm	5,773,704 bcm	5,041,677 bcm
ROM Coal/Ore	1,500,000 t	467,518 t	1,497,119 t	1,193,499 t
Reject Material[1]	700,000t	136,820 t	135,256 t	136,038 t
Saleable Product	N/A	314,383 t	983,054 t	939,248 t

[1] RCM does not separately record coarse and fine reject volumes.

4.2 Other Operations

4.2.1 Hours of Operations

RCM hours of operation during the reporting period were within Project Approval limits, which permit mining 24 hours per day Monday to Saturday, with the exclusion of public holidays, except for blasting, which is restricted to 9:00am – 5:00pm Monday to Saturday. During the reporting period RCM changed its shifts to day only operations. Currently the mine has one 10 hour production shift on weekdays, 7:00am to 5:00pm. A Saturday shift is not currently rostered for RCM, although they are occasionally undertaken if required. Other ancillary tasks and maintenance activities continued 24 hours per day, seven days per week.

4.2.2 Coal Haulage

For the reporting period there were 34,848 trucks movements to transport 1,387,519t of ROM coal along the approved haulage route from RCM to the Whitehaven Gunnedah CHPP.

There was also 3,750 return truck movements to transport 135,256t of coal reject from the CHPP back to RCM.

Transport of coal from the site or receipt of coal reject from the Whitehaven CHPP by truck has only occurred during the approved hours of:

(a) 7 am to 9.15 pm Monday to Friday;
(b) 7 am to 5.15 pm Saturday; and
(c) at no time on Sundays or public holidays.

4.2.3 Exploration

Exploration drilling was undertaken on the Mining Lease during the reporting period towards the south of the lease. 14 holes were drilled during the period, and have subsequently been sealed.

4.3 Next Reporting Period

The mine production rates are planned for approximately 1.2Mt of ROM coal and approximately 5.04 million bank cubic metres (Mbcm) of overburden during the next reporting period.

Vegetation clearing activities in mining areas over the next reporting period will be conducted in accordance with the approved MOP.

5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

There were no actions required from the previous Annual Review, however DP&E have previously made the following recommendations for future Annual Reviews:

- Include all relevant approvals and licences – recommendation not adopted as not required by DP&E Annual Review Guideline (2015),
- Separately report coarse and fine rejects – recommendation not adopted as Rocglen Coal Mine is consented to receive a total of coarse and/or fine rejects,
- Include a summary of attended noise monitoring results - refer section 6.5.3,
- Provide air, noise and water monitoring data in a graph that readily shows monitoring results, Approval limits and Environmental Assessment predictions –

recommendation not adopted as it isn't feasible to create such a graph that readily presents the nominated information,

- Include a summary of community engagement activities and community contributions – recommendation not adopted as not required by DP&E Annual Review Guideline (2015),
- Provide a copy of the complaints register, which includes actions proposed/completed as an outcome of each complaint – see section 9.2,
- Provide a comparison of the previous five years complaints data – refer section 9.2,
- Include a timeframe for the implementation of activities to be completed in the next reporting period – refer section 12.

6 ENVIRONMENTAL PERFORMANCE

The following sub-sections document the implementation and effectiveness of the various control strategies adopted at the RCM, together with monitoring data for the reporting period. Life of mine monitoring data is included as Appendices in this AR, where relevant, to allow for discussion on longer-term trends.

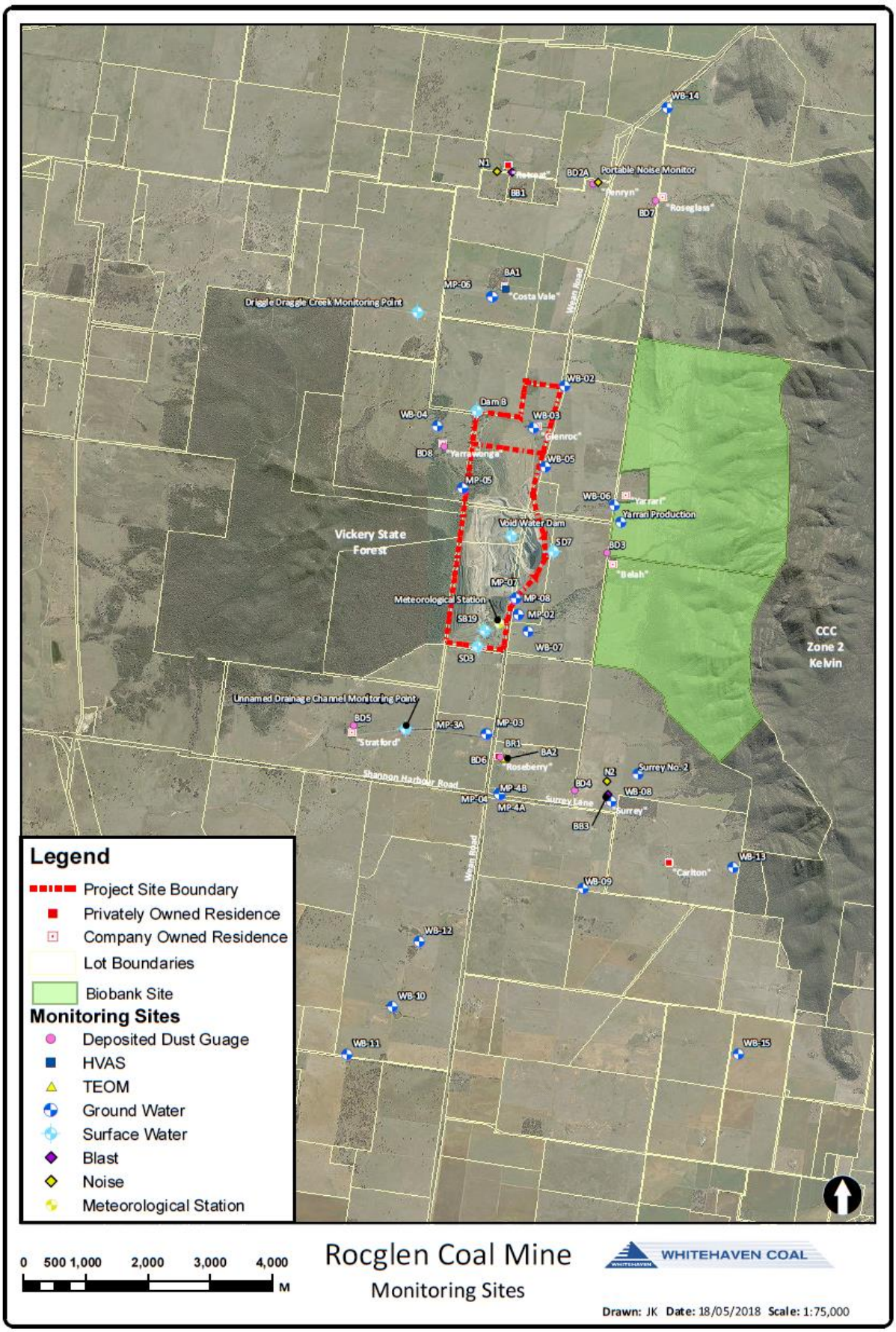


Figure 2 Monitoring Locations

6.1 Air Quality

6.1.1 Criteria

The air quality criteria applicable to the RCM are specified in PA 10_0015, and are summarised below.

- Acceptable mean annual increase in deposited dust – 2 g/m^2/month.
- Mean annual dust deposition (all sources) – 4 g/m^2/month.
- Mean annual Total Suspended Particulate (TSP) matter (all sources) concentration – 90 $\mu g/m^3$.
- Mean annual PM_{10} particulate level – 30 $\mu g/m^3$.
- 24 hour average PM_{10} particulate level – 50 $\mu g/m^3$.

6.1.2 Environmental Management Measures

Monitoring of deposited dust is undertaken on a monthly basis whilst PM_{10} levels are monitored every 6 days.

Table 5 and Figure 3 present a summary of the deposited dust monitoring data.

Table 5 - Deposited Dust Monitoring Data Summary 2017

Site	EPL ID no.	Property Name	Annual Mean Total Insoluble Solids (g/m^2/month)	Annual Mean Ash (g/m^2/month)	Long term Insoluble Solids Average (g/m^2/month)
BD 3		Belah	2.0	1.4	1.3
BD4	4	Surrey	1.0	0.6	1.0
BD5		Stratford	2.3	0.6	1.2
BD6	6	Roseberry	1.1	0.5	1.2
BD7	7	Roseglass	2.4	0.4	1.1
BD8		Yarrawonga	3.6	1.2	1.4
BD2-A		Penryn	2.0	0.9	2.8

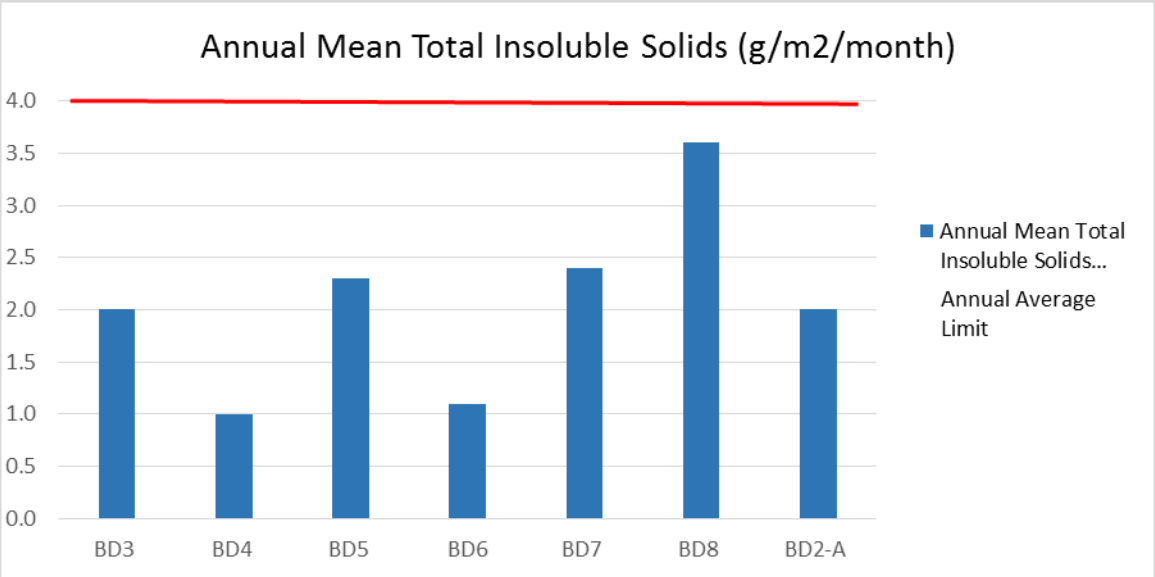


Figure 3 Annual Mean Total Insoluble Solids

A review of the above shows that the annual average limit for deposited dust was not exceeded at any location during the reporting period.

Whitehaven has two High Volume Air Samplers (PM_{10}). One is located at the project related property "Costa Vale", to the north of the mine site. The other PM_{10} monitoring location is licensed (EPL ID – 10), and is located on the privately owned (under private agreement) "Roseberry" property to the south-east of the mine site. The PM_{10} results for the reporting period show compliance with the annual average criteria, with annual averages of 16.04µg/m^3 at Costa Vale, and 12.10µg/m^3 at Roseberry, and comparable to results of 15.88µg/m^3 and 12.18µg/m^3 respectively for the previous reporting period.

There were no exceedances of the 24 hour average PM_{10} particulate level of 50µg/m^3 at the licenced monitoring location, "Roseberry" for the entire period. There were four exceedances recorded on mine owned land, with readings of 52.1 µg/m^3 on January 18th, 58.3 µg/m^3 on August 16th, 62.2 µg/m^3 on September 3rd, and 54 µg/m^3 on December 20th 2017. One of these exceedances occurred on a Sunday, and given that RCM is not operational on weekends it was deemed to be non-mine related. The remaining three exceedances occurred on operational days, however for each day the prevailing wind directions were between W and NE, and given the location of the unit to the north of the operation it is likely that the elevated PM_{10} reading was not related to mining activity. The deposited dust readings, licensed HVAS unit results and real time dust unit also support this

determination. The Total Suspended Particulate (TSP) Annual Rolling Average remained well below criteria (see Figure 4).

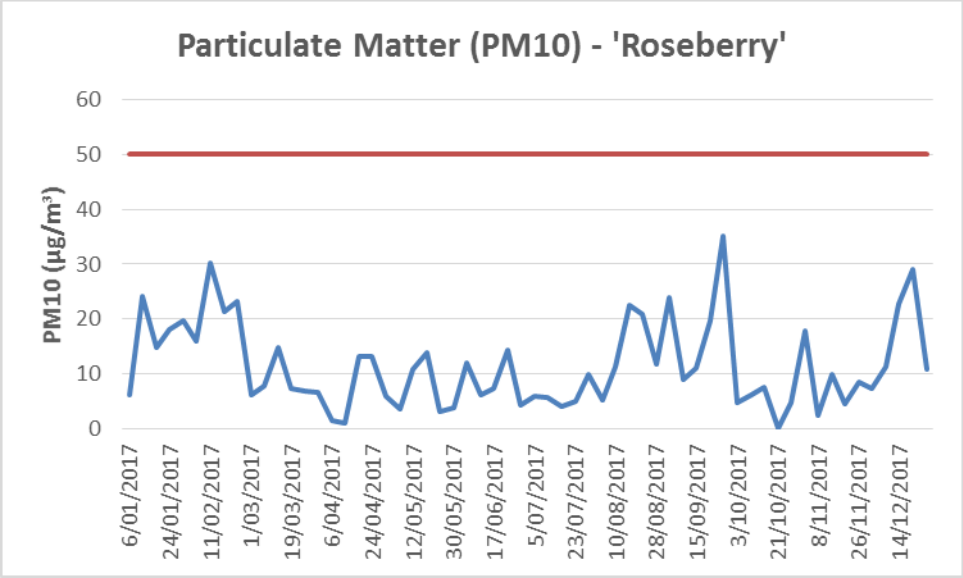


Figure 4 'Roseberry' Particulate Matter (PM10)

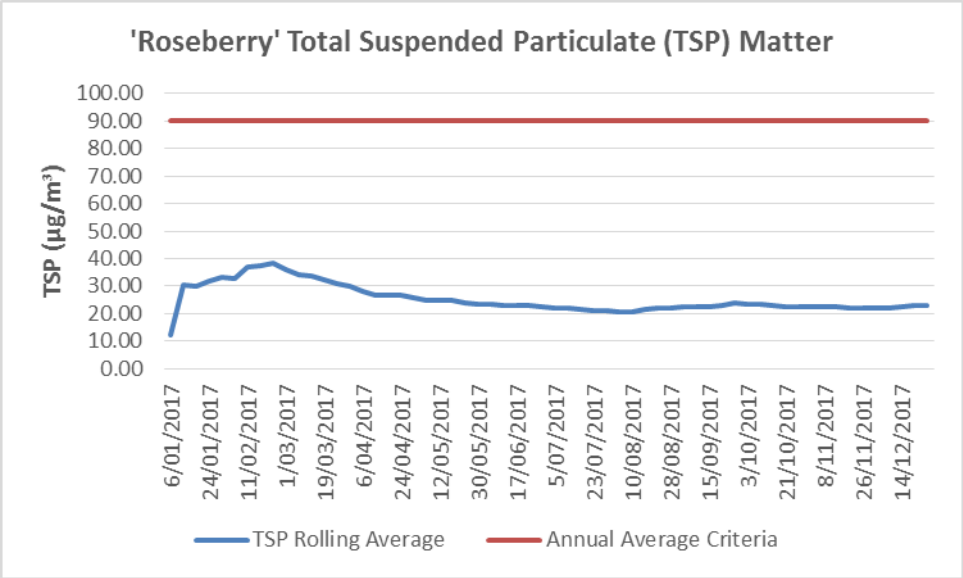


Figure 5 Total Suspended Particulate (TSP) Matter

In accordance with Schedule 3 Condition 16 of PA 10_0015, RCM also operated a continuous real time dust monitor, or Tapered Element Oscillating Microbalance (TEOM) to monitor (PM_{10}), at the "Roseberry" property during the period. Data is generated every 15 minutes and correlated against current weather conditions, with alarms notifying site personnel of

elevated PM_{10} results when wind conditions and direction is indicative of mining influence on the monitor. It is important to note that offsite dust sources also influence the TEOM results, given that the unit is not located on the mine premises. The monitor is used as a management tool for assessing dust levels on a real time basis through its web based platform..

6.1.3 Long term trends

A review of the life-of-mine data set for deposited dust shows that the results for this period are consistent with the long term average. The results are also consistent with predictions from the Environmental Assessment (EA) undertaken by PAE Holmes Pty Ltd, which forecast that dust deposition levels at all receptors would be well below the relevant criteria.

6.1.4 Key Environmental Performance/Management Issues

No key environmental performance/management issues were raised during the period, with compliant monitoring results for both deposited dust and PM_{10} levels at licenced locations maintained throughout the reporting period.

6.1.5 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.2 Onsite Biodiversity

6.2.1 Threatened Flora

Whitehaven has prepared a Rehabilitation Management Plan (RMP) in accordance with Schedule 3 Condition 36 of PA 10_0015 which was approved by the Division of Resources and Energy in April 2012. The plan includes requirements for flora monitoring on rehabilitated areas. Rehabilitation monitoring was undertaken at RCM during the reporting period, however results have not yet been received. It is intended that in future the RCM Mining Operations Plan (MOP) will meet the requirements of Schedule 3 Condition 36 of PA 10_0015.

To address and offset vegetation impacts of the RCM, a Biodiversity Offset Management Plan (BOMP) was prepared as part of the Rocglen Extension Project. The area of offset required was calculated using the NSW BioBanking Assessment Methodology, which calculates the number of “credits” required at the impact site based on the area and

condition of each vegetation type impacted, and the number of credits generated at a BioBank Site based on the improvement in biodiversity values via conservation management. On the 28th June 2012, the Whitehaven Regional BioBank site was formally established under BioBank Agreement 43. This BioBank site, which includes the "Yarrari" and "Belah" properties, now accounts for the RCM offset requirements. The BioBank credits required to be retired for these approvals occurred on the 17th April 2013, and the area is now subject to active management in accordance with the Management Plan for the Regional BioBank site.

A BioBank Management Plan has been prepared for the site, with active management required to commence on release of the first years management costs from the BioBank Trust Fund.

6.2.2 Threatened Fauna

Whitehaven engaged RPS Harper Somers O'Sullivan to undertake a Flora and Fauna Assessment to support the application for the Extension Approval. Further to Countrywide Ecological Service investigations in 2007, RPS recorded a total of 100 fauna species, including one additional threatened species, the Speckled Warbler *(Pyrrholaemus sagittatus),* present within the project area.

As discussed in Section 6.2.1, Whitehaven developed a Rehabilitation Management Plan (RMP), which includes detail on monitoring, and where fauna monitoring will be undertaken biennially. Fauna monitoring plots were established during spring 2009 in areas adjacent to the site.

Fauna monitoring was undertaken late during the previous reporting period.

It has been found that due to RCM's proximity to Vickery State Forest, much of the fauna species richness can still be expected to continue to exist on the mine site throughout the life of the mine. It has also been noted that the abundance of water located at the RCM site has attracted many animals to congregate on the rehabilitation and in the woodlands around the mine.

6.2.3 Weeds

Weed management within the project area involves targeted monthly inspections to determine levels of weed infestation, followed by targeted campaign spraying of identified

areas of concern. Weed control is undertaken by Whitehaven's own qualified personnel; all persons involved with weed control hold the required chemical handling certificates.

Ongoing weed management comprised general weed spraying on five occasions during the reporting period, in February, April, May, August and November 2017 around the workshop and administration building, and along the eastern site boundary.. Targeted spraying of African Boxthorn and Prickly Pear was also undertaken in April, May, June and July 2017. No other noxious weed infestations were identified on rehabilitation areas.

Broad scale spraying was also undertaken on the entire northern rehabilitation area prior to rehabilitation works, in May 2017, for all broadleaf weeds.

6.2.4 Feral Animal Control

Feral animals are not a significant land management issue on RCM's landholding and are limited to isolated occurrences of pigs, foxes, hares and rabbits. In view of the low frequency of occurrence, and in the absence of an extensive programme by all surrounding landowners, no broad scale feral animal control programme was considered warranted during the reporting period. In accordance with prior commitments, mine personnel will continue to monitor feral animal occurrences and implement necessary control programmes if and when necessary.

6.2.5 Key Environmental Performance/Management Issues

African Boxthorn has been identified on site in previous years, and was targeted again during the period along the northern boundary of the site. Spot spraying has been effective at limiting the population on site, and ongoing management continues to address new plants and regrowth.

6.2.6 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.3 Biodiversity Offset Area (BOA) Management

The approved Whitehaven Coal (WHC) Biobank Biodiversity Offset Management Plan outlines the Biodiversity Offset Strategy requiring 1,524ha of native woodland to be maintained and improved on the Yarrari and Belah properties with subsequent biobanking credits retired relating to the Rocglen Coal Mine, Canyon Coal Mine and Tarrawonga Coal Mines. An application to vary the WHC Biobank BOA Biobanking Agreement was made during the reporting period to generate additional species credits combined with residual

vegetation community credits to be retired for the part of the Vickery Coal Project expansion subject to current development approval assessment.

6.3.1 Offset Security Management

The WHC Biobank BOA is secured under a NSW Biobanking Agreement with the BOMP indicating that OEHs intention is to transfer the property to the National Parks Estate as an addition to the Boonalla (Kelvin) Aboriginal Area after Year 10 (~2023). Should such a land dedication be made and accepted by the NSW Minister for the Environment, the balance of funds held in the Biobanking Trust Fund would be transferred to the Minister in accordance with Section 36 of the Threatened Species Conservation (Biodiversity Banking) Regulation 2008 to provide for the ongoing management of the reserve.

6.3.2 Infrastructure Management

During the reporting period, the final 2.5km of redundant internal fences were deconstructed across the Biobank BOA bringing the site back into compliance with the BOMP. All fencing material waste was removed from the Biobank BOA and recycled at the Narrabri Waste Management Facility. Also 770m of new fencing (fauna friendly) was constructed along the northern boundary of the Yarrari Homestead with the condition of the Biobank BOA fences, gates and signage maintained to continue restricting unauthorised access and prevent inadvertent livestock grazing.

6.3.3 Seed Management

Four routine seed assessments were completed across the Biobank BOA in 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. No seed collection programs were undertaken on the Biobank BOA during the reporting period because no new revegetation areas are planned for 2018. However the seed previously collected onsite at the Biobank BOA during 2016 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 Woodland over storey species seedlings required for the FY17 (2017) revegetation program for the Biobank BOA.

6.3.4 Revegetation Management

In accordance with the BOMP revegetation schedule for Year 4 (2017 commence revegetation); WHC coordinated two revegetation programs during the reporting period across the Biobank BOA with the understorey revegetation (direct seeding) undertaken between May and July 2017 across 259ha sown with 1,191kg of native grass seed (16 species), 55kg of native forb seed (13 species) and 2,216kg of bulking agent (lime). Overstorey revegetation program was undertaken between July and August 2017 with 11,637 hiko seedlings of Eucalyptus albens, Eucalyptus blakelyi, Eucalyptus melliodora and Angophora floribunda planted across 248ha. Despite a very dry July to September period; tree watering and maintenance tree planting activities between September and December 2017 have been successful 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 Biobank BOA. Previous ecological due diligence identified that there was 45ha of natural regeneration revegetation not requiring additional active revegetation at Biobank BOA.

6.3.5 Heritage Management

During the reporting period, one additional heritage site on the Biobank BOA was identified (32 heritage sites in total) which required only 40m of identification/demarcating fencing to be installed.

6.3.6 Habitat Management

During the reporting period, a total of 4 rock debris habitat structures were constructed from salvaged bush rock in October 2017.

6.3.7 Weed Management

WHC coordinated routine formal weed monitoring/inspections undertaken across Biobank BOA 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) in areas proposed for revegetation as well as legacy noxious weeds inherited from previous owners' management regimes such as African/Consul Lovegrass, 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 Biobank BOA for weed control.

During the reporting period, WHC implemented a comprehensive weed control program across the Biobank BOA including 1260ha treated between January and December 2017 targeting primarily African/Consul Lovegrass, African Box Thorn, Broadleaf and Pear weed species as required. Only appropriately qualified and experienced weed contractors (AQF3 accreditation or higher for use of herbicide) were engaged to undertake weed control works for WHC.

6.3.8 Feral Animal Management

WHC coordinated routine formal feral animal monitoring across Biobank BOA 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 Biobank BOA. 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, sand pads, cameras traps where practicable and relevant to specific offset areas/properties. Monitoring demonstrated that the feral animals in moderate to high abundance were the European Red Fox, Feral Pig and Feral Goat. 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 Biobank BOA for feral animal management.

During the reporting period, WHC implemented a comprehensive feral animal control program across the Biobank BOA with fox baiting and pig trapping undertaken in March (10 Foxes baited from 26 baits presented, 1 Fox removed and no Feral Pigs trapped), June (11 hares removed, no baiting undertaken to allow Feral Goat harvesting and 25 Feral Pigs trapped), August (9 Foxes baited from 36 baits presented and 1 Feral Pig trapped) and November 2017 (9 Foxes baited from 36 baits presented and no Feral Pigs trapped). The

Feral Goat harvesting during the reporting period resulted in 323 captured with the Feral Goats on sold to an abattoir. 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 for WHC.

6.3.9 Soil and Erosion Management

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

6.3.10 Grazing Management

During the reporting period, the Biobank BOA was not stocked and subsequently grazing was excluded.

6.3.11 Bushfire Management

During the reporting period, WHC organised for fuel load monitoring to be undertaken in October 2017 with the average fuel load rating for the Biobank BOA being low in accordance with "Overall Fuel Assessment Guide" (July 2010). In accordance with the BOMP, WHC undertook annual maintenance and upgrade of fire breaks and tracks across the Biobank BOA with 28.1km of fire breaks completed during September/October 2017.

6.3.12 Monitoring Program

During the reporting period, ecological monitoring of the Biobank BOA consisted of annual flora monitoring which was undertaken in November 2017 and winter bird surveys targeting migratory species in August 2017. Results from the 2016 were received during the 2017 calendar year and are summaried below. 2017 results will be provided in the 2018 Annual Review.

Species Richness and Canopy Cover

The number of native species recorded during the 2016 monitoring period was substantially higher than that recorded in 2015 (245 and 149 respectively) and is the highest number of native species recorded across all monitoring periods. A similar pattern was recorded for exotic species, with 95 exotic species recorded in 2016 compared with 49 in 2015. These increases are likely to be the result of high winter rainfall in 2016 (Eco Logical, 2017) within

the three months to October 2016, 256.2 mm of rain was recorded in the Gunnedah region which is between one and a half to three times the long term monthly average (BOM, 2016). These conditions favour the establishment of annual exotics, as reflected by the substantial increase in the number of exotic species recorded (Eco Logical, 2017).

The two vegetation zones were not within benchmark condition (vegetation zones three and six i.e. the two derived grasslands) for species richness or canopy cover. This is expected as active management (supplementary plantings) will be required to meet benchmark conditions, with benchmark conditions not expected to be reached until after 15 years (Eco Logical, 2017). However, in relation to species richness, plots in these zones are currently at 44% of benchmark levels for vegetation zone 3, and 36% of benchmark levels for vegetation zone 6 (using the average number of species of the plots in these zones) (Eco Logical, 2017).

Native Groundcover (%)

While the percentage of native groundcover has reduced, overall native species richness has increased markedly. Methods for determining groundcover and species richness differ. Species richness is measured by identification of all species within quadrats, whereas native ground cover percentage is determined using the point intercept method along a transect. The point intercept method is influenced by the tallest vegetation layer at the recording point and it is likely that the reduction in recorded native ground cover percentage is a result of thick growth of tall annual exotics following high winter rainfall (Eco Logical, 2017).

Winter Bird Surveys

Acoustic analysis (using SOUNDID) revealed no positive Swift Parrot or Regent Honeyeater calls. *Eucalyptus albens* was flowering during survey, and as such, foraging habitat was available to Swift Parrot and Regent Honeyeater. A total of 47 species, including three listed as vulnerable under the TSC Act (Pomatostomus temporalis (Grey-crowned Babbler), Artamus cyanopterus (Dusky Woodswallow) and Glossopsitta pusilla (Little Lorikeet)), were recorded during July and August 2016, which is the same number as recorded in the 2015 survey (Eco Logical, 2017).

6.3.13 Independent Biodiversity Audit

During the reporting period, an Independent Biodiversity Audit was undertaken during July 2017 with one non-compliance identified regarding Biobank BOA not having all internal fences removed by the end of Year 3 (2016) but subsequently rectified with all internal fences finally removed in 2017.

6.4 Blasting

6.4.1 Criteria

Blasting criteria for the RCM are noted in PA 10_0015, and included below:

The overpressure level from blasting operations must not:

- exceed 115dB (Lin Peak) for more than 5% of the total number of blasts over each reporting period; and
- exceed 120dB (Lin Peak) at any time, at any residence on privately-owned land.

Ground vibration peak particle velocity from the blasting operations must not:

- exceed 5mm/s for more than 5% of the total number of blasts during each reporting period; and
- exceed 10mm/s at any time, at any residence on privately-owned land.

6.4.2 Key Environmental Performance/Management Issues

RCM did not exceed the blasting criteria for any blast during the reporting period. Results for the period are available below in Table 6.

Table 6 - Blast Monitoring Results

Location	Parameter	100%ile limit	Average	Max	95th%ile limit	>95th%ile
Roseberry /Surrey (Monitor relocated during period)	Air blast overpressure (dB(Lin Peak))	120	98.0	117.4	115	3%
	Vibration (mm/s)	10	0.34	1.27	5	0
Retreat	Air blast overpressure (dB(Lin Peak))	120	98.2	113.5	115	0
	Vibration (mm/s)	10	0.14	0.93	5	0

Post blast inspections for fly rock have demonstrated that current blast procedures are sufficient in ensuring that blasting carried out within 500 metres of privately owned land is not compromising the safety of the people or livestock, or damaging the buildings and/or structures, on that land.

6.4.3 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.5 Operational Noise

6.5.1 Criteria

The operational noise criteria specified in PA 10_0015 and EPL 12870 are as follows:

Noise Criteria dB(A)

Location	***Day***	***Evening***	***Night***	
	$L_{Aeq\ (15\ min)}$	$L_{Aeq\ (15\ min)}$	$L_{Aeq\ (15\ min)}$	$L_{A1\ (1\ min)}$
All privately-owned land	*35*	*35*	*35*	*45*

The cumulative road noise criteria specified in PA 10_0015 (RCM) and PA 11_0047 (Tarrawonga) is:

Road Traffic Noise Criteria dB(A)

Location	***Day*** $L_{Aeq\ (15\ hour)}$	***Evening*** $L_{Aeq\ (15\ hour)}$	***Night*** $L_{Aeq\ (9\ hour)}$
All privately-owned residences	*60*	*60*	*55*

6.5.2 Environmental Management Measures

Control of noise generation and propagation at the mine is by a combination of general source and propagation path methods including:

- Where operationally feasible, scheduling activities to minimise operation of equipment in exposed locations when winds are blowing towards residences and elevated locations when temperature inversions are present;
- Equipment removal or replacement;
- Changing operational procedures;
- Restricting hours of operations;

- Enclosure of fixed items of plant, e.g. generators;
- Bunding close to noise sources to create obstructions to the propagation path;
- On-going site road maintenance using the mine-based grader; and
- Regular equipment maintenance.

6.5.3 Key Environmental Performance/Management Issues

In accordance with the Condition 3(c) of Schedule 3 of PA 10_0015 RCM is required to regularly assess real-time noise levels and meteorological forecasting data to ensure compliance with the operational noise criteria. RCM utilises a mobile real time noise monitor which is used to actively monitor noise at surrounding properties which are likely to receive the greatest impact from operations. The unit monitors operational noise levels in comparison with compliance levels and when noise levels approach criteria an alarm system is triggered to operations personnel. Operations and environmental personnel are able to log on to a web based platform where real time noise and weather data is viewable. The web based platform may also be used to live stream from the monitor to identify specific sources of noise which will be used to confirm if the source is mining related.

Attended noise monitoring was undertaken on a quarterly basis during the reporting period, in March, May, August, and November 2017, with full results available in Appendix 1. Cumulative road noise monitoring was not undertaken during the reporting period, and is addressed in Section 11.2

Exceedances of the noise criteria were recorded at the Surrey property during March, May and August. Attended monitoring identified exceedances of up to 4dB(A) during a 45 minute period on the night of the 24th March 2017, at the Surrey residence, an exceedance of 4dB(A) during the night period of the 23rd May 2017, at the Surrey residence, and two exceedances, one of 4dB(A) and one of 5dB(A), during the night time monitoring periods between August 14th and 17th 2017 at the Surrey residence. All exceedances include an application of a 5dB low frequency noise modifying factor.

Quarter 4 attended noise monitoring showed that noise levels were compliant for that period.

6.5.4 Long term trends

Noise exceedances as defined under the NSW Industrial Noise Policy have been relatively rare for RCM. Prior to the exceedances in 2017, there was one exceedance during the 2016

reporting period, which was the first in over 5 years. The 2017 Quarter 4 testing returned compliant results consistent with results from 2011, 2012, 2013, 2014 and 2015.

6.5.5 Proposed Improvements to Environmental Management

Following a return to compliance with the RCM noise criteria there are no improvements proposed within the next reporting period.

6.6 Aboriginal Heritage Management

6.6.1 Environmental Management Measures

In 2010, RPS archaeologists conducted an assessment and field survey of the potential impact of the Rocglen Extension on Aboriginal heritage. The archaeological field survey, which covered the area proposed to be disturbed by the expansion of the Northern Emplacement Area, was undertaken with members of four local Aboriginal Stakeholder groups. In summary, three stone artefact sites were located comprising of one isolated find (IF1) and two artefacts scatters (AS1 and AS2). To date, the measures in place to protect Aboriginal Cultural Heritage are considered satisfactory, with all measures identified in the EA and consent criteria in place.

6.6.2 Consultation

No further stripping or clearing was undertaken during the reporting period outside areas previously assessed by the RCM Registered Aboriginal Parties or during the EA assessments, and as such no consultation has been undertaken.

6.6.3 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.6.4 Proposed Improvements to Environmental Management

A review of the Heritage Management Plan is proposed to be undertaken during the next reporting period.

6.7 Natural Heritage

There are no features of natural heritage within the Project Approval area and hence, no specific management procedures are required.

6.8 Bushfire Management

6.8.1 Environmental Management Measures

The mine maintains firebreaks around both its landholding and the mine area and maintains firefighting equipment as well as earthmoving equipment, a water truck and fire tender which would be used in the control of fires. RCM personnel also liaise with the local (Nandewar) Rural Fire Service and the Regional Fire Control, as required.

6.8.2 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period, with no fires occurring on site or on project-related mine owned land.

6.8.3 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.9 Waste

6.9.1 Environmental Management Measures

Waste oils from maintenance activities were pumped from equipment to bulk storage tanks bunded in accordance with EPA requirements. When breakdown maintenance was undertaken away from the workshop, oil was pumped from the equipment to a tank on the service truck and subsequently transferred to the bulk storage tank.

Waste oil and filters stored at the maintenance workshop were collected and disposed of by a licensed contractor.

Runoff from the concrete vehicle and equipment wash pad was directed to an oil separator and containment system for subsequent pump out and disposal.

RCM also continues to record waste streams such as general domestic-type waste and recycling, overburden and interburden, mine reject waste, and mine equipment tyres.

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

6.9.2 Key Environmental Performance/Management Issues

No key environmental performance/management issues were identified during the reporting period.

6.9.3 Proposed Improvements to Environmental Management

No improvements are proposed within the next reporting period.

6.10 Environmental Performance Summary

An environmental performance summary for RCM is presented in Table 7 - below.

Table 7 - Environmental Performance Summary

Aspect	Approval Criteria / EIS Prediction	Performance during the reporting period	Trend / Key Management Implications	Implemented / proposed management actions
Air Quality	Refer section 6.1	Four exceedances of the HVAS criterion during the reporting period, which were all on mine owned land and determined to be non-mine related.	Nil	Nil
Biodiversity	Refer section 6.2	Approval criteria met.	Nil	Nil
Blasting	Refer section 6.4	Approval criteria met.	Nil	Nil
Noise	Refer section 6.5	Exceedances recorded during attended noise monitoring during the period.	Nil	Noise results returned to compliant levels during Quarter 4 of the reporting period.
Heritage	Refer section 6.6	Approval criteria met.	Nil	Nil
Bushfire Management	Refer section 6.8	No bushfires on site or in biobank site during reporting period.	Nil	Nil
Rehabilitation	Refer sections 7.3, 8.2	Ongoing.	Nil	Additional rehabilitation to be undertaken as per MOP.

7 WATER MANAGEMENT

7.1 Surface Water Management

The mine lies within the catchment of the Namoi River, and in close proximity to Driggle Draggle Creek. The design of sediment detention basins on site aims to limit the opportunity

of discharge of runoff from mine-disturbed areas, until such time as the licenced discharge criteria are met. All sediment basins, storage dams and associated banks and drains have been designed and constructed in accordance with the Managing Urban Stormwater: Soils and Construction Vol 2E Mines and Quarries (DECC, 2008) in conjunction with the references to Volume 1 (Landcom, 2004). At the end of the reporting period onsite water levels were at 96.9ML, down considerably from the 116ML recorded at the end of the previous reporting period, following a predominately dry year.

7.1.1 Surface Water Monitoring Results

RCM has a requirement to undertake surface water monitoring on a quarterly basis, in addition to any monitoring required during discharge events. Whilst there are no criteria or concentration limits specified for the quarterly surface water samples, the results do provide an indication as to the quality of waters on-site. The assessment of sediment load, salinity, pH, oil and grease and other monitoring parameters during these quarterly water monitoring events also provides an indication of the capacity for those storages to meet water quality criteria should a wet weather discharge occur, and if additional treatment methods would be warranted to minimise potential for a non-compliant discharge. The quarterly surface water testing includes the void water dam (Void), 3 additional out of pit surface water storages, (SD3, SB19, Dam B), and one offsite upstream dam (SD7).

Overall, samples taken throughout the reporting period indicate relative consistency across all monitoring parameters, with the exception of Total Suspended Solids (TSS) which continues to show fluctuations for all sites. SB19 showed a spike in Electrical Conductivity early in the reporting period, but returned to normal levels during the second half of the year.

7.1.2 Long term trends

The surface water assessment carried out by GSS Environmental for the Extension EA predicted that there would be minimal impact on flow regimes downstream of the Project Site due to the RCM, which has proven to be generally correct over the long term operations of the site.

Soil and water assessments for the site suggested that Total Suspended Solids (TSS) is likely to be the key water quality parameter requiring management during the life of the Project to ensure the water quality in downstream watercourses is not impacted. During the period TSS has not been as problematic in surface water at RCM, compared to previous years due

to a high focus on water management. A number of surface water management recommendations were made in the surface water assessment for the Extension Project including the installation of sediment basins, targeting final discharge dams for water use and using flocculants to settle suspended solids. These measures have been implemented throughout the reporting period, and ensured that, as predicted in EA investigations, downstream water courses were minimally impacted by TSS, ensuring continuing long-term adherence to the EA predictions.

7.1.3 Discharges

There are two licenced discharge points (LDPs) nominated in the current EPL 12870: LDP11 to the south of the site, and LDP12 to the north of the site. There were five controlled discharges of water during the period utilising these LDPs, undertaken as part of ongoing onsite water management. All of these discharges occurred following flocculant treatment and water sample analysis, and met the water discharge criteria specified for the site.

There was also one uncontrolled discharge from the site following a 5 day rainfall event. During this discharge event the site meteorological station was not operating correctly. Although the unit was online and recording some parameters, rainfall levels were not correctly recorded due to an ant infestation. Regional rainfall data indicated that substantially more rainfall had been received than the levels recorded by the meteorological station. This incident was reported to the DP&E and the EPA.

This discharge occurred from LDPs 11 and 12 on the 20th November 2017. Results are summarised in Table 8 and Table 9 below.

Table 8 - Discharge Water Quality Results

Discharge Point	EPA ID	pH	Suspended Solids (mg/L)	Oil & Grease (mg/L)
	EPL 100% Limit	6.5-8.5	50	10
LDP 11	11	7.9	256	<5
LDP 12	12	7.6	254	<5

Table 9 - Offsite Water Quality Results

EPA ID	Number of samples	pH	Suspended Solids (mg/L)	Oil & Grease (mg/L)

SD7 (upstream)	1	7.7	26	<5
UNDC (downstream)	1	6.9	162	<5
DDCK (downstream)	1	7.1	34	<5

7.1.4 Water Take

The water taken by the operation is summarised in Table 10, and shows compliance with licence entitlements. At the start of 2017 RCM removed the pump, and as such there was no pumping of pit water out of the pit during the reporting period.

Table 10 - Water Take

Water Licence Number	Water Sharing Plan, Source and Management Zone (as applicable)	Entitlement	Passive take/ inflows	Active Pumping	TOTAL
WAL 29461	Gunnedah - Oxley Basin Mdb Groundwater Source	120 units	0	0	0
WAL 36758	Gunnedah - Oxley Basin Mdb Groundwater Source	700 units	0	0	0

[1] Includes incidental pit surface water runoff

7.2 Groundwater Management

7.2.1 Environmental Performance/Management

The mine's performance with respect to groundwater performance/management, the prevention of pollution, and the assessment of impacts on groundwater availability to other surrounding users, has been assessed through groundwater level and chemistry monitoring undertaken at a series of bores within the Project Area and adjacent properties.

7.2.2 Groundwater Monitoring

The details of the groundwater monitoring program utilised throughout the reporting period are listed below in Table 11. Groundwater sampling and analysis was undertaken by ALS Acirl Pty Ltd during the reporting period.

Table 11 – Groundwater Monitoring Program

Site (See Figure 3)	Registered Bore No. / Licence No	Property / Location	Frequency		Purpose
			SWL*[2], EC*[3] and pH	Representative Metals and Ions*[4]	
MP-2	GW968534 90BL254856	Mine site	Quarterly	Six monthly	To determine existing status and any impacts
MP-2a	90BL256103	Mine site	Quarterly	Six monthly	To determine existing status and any impacts
MP-3	GW968535 90BL254857	"Stratford"	Quarterly	Six monthly	To determine existing status and any impacts
MP-3a	90BL256108	"Stratford"	Quarterly	Six monthly	To determine existing status and any impacts
MP-4*[1]	GW968536 90BL254858	Surrey Lane	Quarterly	Six monthly	To determine existing status and any impacts
MP-4a*[1]	90BL256140	Surrey Lane	Quarterly	Six monthly	To determine existing status and any impacts
MP-4b*[1]	90BL256141	Surrey Lane	Quarterly	Six monthly	To determine existing status and any impacts
MP-5	GW968537 90BL254859	"Yarrawonga"	Quarterly	Six monthly	To determine existing status and any impacts
MP-5a	90BL256106	"Yarrawonga"	Quarterly	Six monthly	To determine existing status and any impacts
MP-6	90BL256105	"Costa Vale"	Quarterly	Six Monthly	To determine existing status and any impacts
MP-7	90BL256104	Mine site	Quarterly	Six Monthly	To determine existing status and any impacts
MP-8	90BL256102	Mine site	Quarterly	Six Monthly	To determine existing status and any impacts
WB-1*[1]	GW000743	"Costa Vale"	Quarterly	Six monthly	To determine existing status and any impacts
WB-2*[1]	GW050395 90BL111536	"Roseberry"	Quarterly	Six monthly	To determine existing status and any impacts
WB-3	GW050166 90BL110883	"Glenroc"	Quarterly	Six monthly	To determine existing status and any impacts
WB-4	GW045621 90BL104367	"Yarrawonga"	Quarterly	Six monthly	To determine existing status and any impacts
WB-5*[1]	GW011066 90BL004169	"Roseberry"	Quarterly	Six monthly	To determine existing status and any impacts
WB-6	GW044068 90BL102845	"Yarrari"	Quarterly	Six monthly	To determine existing status and any impacts
WB-7*[1]	GW022319 90BL013922	"Roseberry"	Quarterly	Six monthly	To determine existing status and any impacts
WB-8*[1]	GW052958 90BL107181	"Surrey"	Quarterly	Six monthly	To determine existing status and any impacts
WB-9*[1]	N/A	"Carlton"	Quarterly	Six monthly	To determine existing

Site (See Figure 3)	Registered Bore No. / Licence No	Property / Location	Frequency		Purpose
			SWL*2, EC*3 and pH	Representative Metals and Ions*4	
					status and any impacts
WB-10*1	N/A	"Brolga"	Quarterly	Six monthly	To determine existing status and any impacts
WB-11*1	N/A	"Brolga"	Quarterly	Six monthly	To determine existing status and any impacts
WB-12*1	N/A	"Brolga"	Quarterly	Six monthly	To determine existing status and any impacts
WB-13*1	N/A	"Carlton"	Quarterly	Six monthly	To determine existing status and any impacts
WB-14*1	N/A	"Barock"	Quarterly	Six monthly	To determine existing status and any impacts
WB-15*1	N/A	"Kahana"	Quarterly	Six monthly	To determine existing status and any impacts
Yarrari	N/A	"Yarrari"	Quarterly	Six monthly	To determine existing status and any impacts
Surrey No.2*1	N/A	"Surrey"	Quarterly	Six monthly	To determine existing status and any impacts

*1 Non-Company owned bore *2 SWL – Standing Water Level *3 EC = Electrical Conductivity

*4 As specified in SWMP

Groundwater levels

Groundwater levels have remained relatively consistent at the majority of monitoring sites during the reporting periods, with limited exceptions detailed below.

- WB5, located on the Roseberry property, and WB13 continue to show fluctuating levels associated with non-mining influences.
- MP-5a is a piezometer installed directly adjacent to MP-5. Since monitoring commenced in March 2013, it showed a reasonably consistent SWL until September 2013, where the SWL dropped 4.4m to 71.25m. The SWL dropped a further 5.3m in November 2013, where it remained consistent at around 76.6m. For the previous three reporting periods the bore has remained consistently dry. Being in relatively close proximity to the open cut pit (within 1km), drawdown is not unexpected.

Pressure transducers/loggers installed in monitoring bores on site in accordance with the EA have shown relatively consistent groundwater levels at all 5 recording sites for the previous

two years. These results are generally consistent with the results of quarterly monitoring undertaken in the reporting period for these monitoring bores. **Groundwater quality**

With the exception of fuels and oils, no materials occur, or are retained on the mine sites which are likely to be a source of groundwater pollution.

Analysis of samples taken during the reporting period has shown that groundwater quality has remained generally in line with historical data at all locations monitored. Water quality has been compared to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) (ANZECC) guidelines for stock watering (cattle).

Previous monitoring has shown that after unusually elevated results, analyte concentrations usually return to more typical levels and it is expected that this trend will continue.

7.2.3 Long term trends

The hydrogeological assessment undertaken by Douglas Partners for the Extension EA concluded that drawdown on the surrounding groundwater system as a result of the expanded mining operation would be limited during the operation of the mine. This is due to faulting in the vicinity of the mine and generally low permeability of the Maules Creek Formation strata, with hydraulic connectivity within the alluvium at the north and south of the site considered to be limited. As found during the reporting period, standing water levels generally have not lowered at the monitoring and groundwater bores surrounding the mine, with the exception of MP-5a. Douglas Partners predicted that at the end of the northern phase of mining during the extension of the pit, MP-5 / MP-5a could be drawn down by up to 13.4m. Results indicate that the actual drop of approximately 15.7m in SWL is slightly higher than this prediction.

7.2.4 Groundwater Management

At the end of the reporting period there was 64.6ML held in the pit. Inflows into the open cut during the period result from a combination of:

- Direct rainfall runoff and infiltration through the emplaced overburden which flows down to the open cut; and
- Inflows from the exposed coal seam.

Contamination of groundwater is controlled by the management of chemical, oil and grease spills and storage, with:

- Vehicle maintenance carried out in designated areas;

- Any spills being cleaned up, with contaminated soil placed in designated bioremediation areas; and
- Fuels, oil, and grease being stored within a bunded area, constructed in accordance with EPA requirements.

Groundwater from surrounding bores is monitored on a regular basis to detect and assess any changes in groundwater quality or level that may be attributable to the mine.

7.3 Site Water Balance

According to the most recent Site Water Balance (SWB) undertaken by SLR Consulting Australia:

- Rainfall runoff captured in the sediment and pit water dams would provide for the majority of water demand in the dry, median and wet years;
- Highly likely that water will be required to be sourced from externals sources to supplement water supply; and
- All pit water would be contained on-site.

Dissimilar to the SWB prediction, no water was sourced from offsite during the reporting period. One Wet Weather Discharge occurred in November as per Section 7.1.3. Table 12 provides an overview of water stored and used on site during the reporting period.

Table 12 – Water Stored and Used During the Reporting Period

	Estimated Volumes (ML)	
	Start of Reporting Period	**End of Reporting Period**
Total Water Stored	117.2	96.9
Pit Water Storages	110.8	64.6
Water Cart Usage	0	153.96

8 REHABILITATION

8.1 Rehabilitation Performance during the Reporting Period

8.1.1 Status of Mining and Rehabilitation

The status of mining and rehabilitation at the completion of the reporting period is presented in Table 13 and Figure 6.

Table 13 - Rehabilitation Status

Mine Area Type [1]	Previous Reporting Period (Actual)	This Reporting Period (Actual)	Next Reporting Period (Forecast)
	2016 (ha)	**2017 (ha)**	**2018 (ha)**
A. Total Mine Footprint	366	400.9	400.9
B. Total Active Disturbance	227	228.2	228.4
C. Land Being Prepared for Rehabilitation	23	38.2	38.2
D. Land Under Active Rehabilitation	116	145.2	145.2
E. Completed Rehabilitation	0	0	0

[1] Refer Annual Review Guideline (p.11) for description of mine area types.

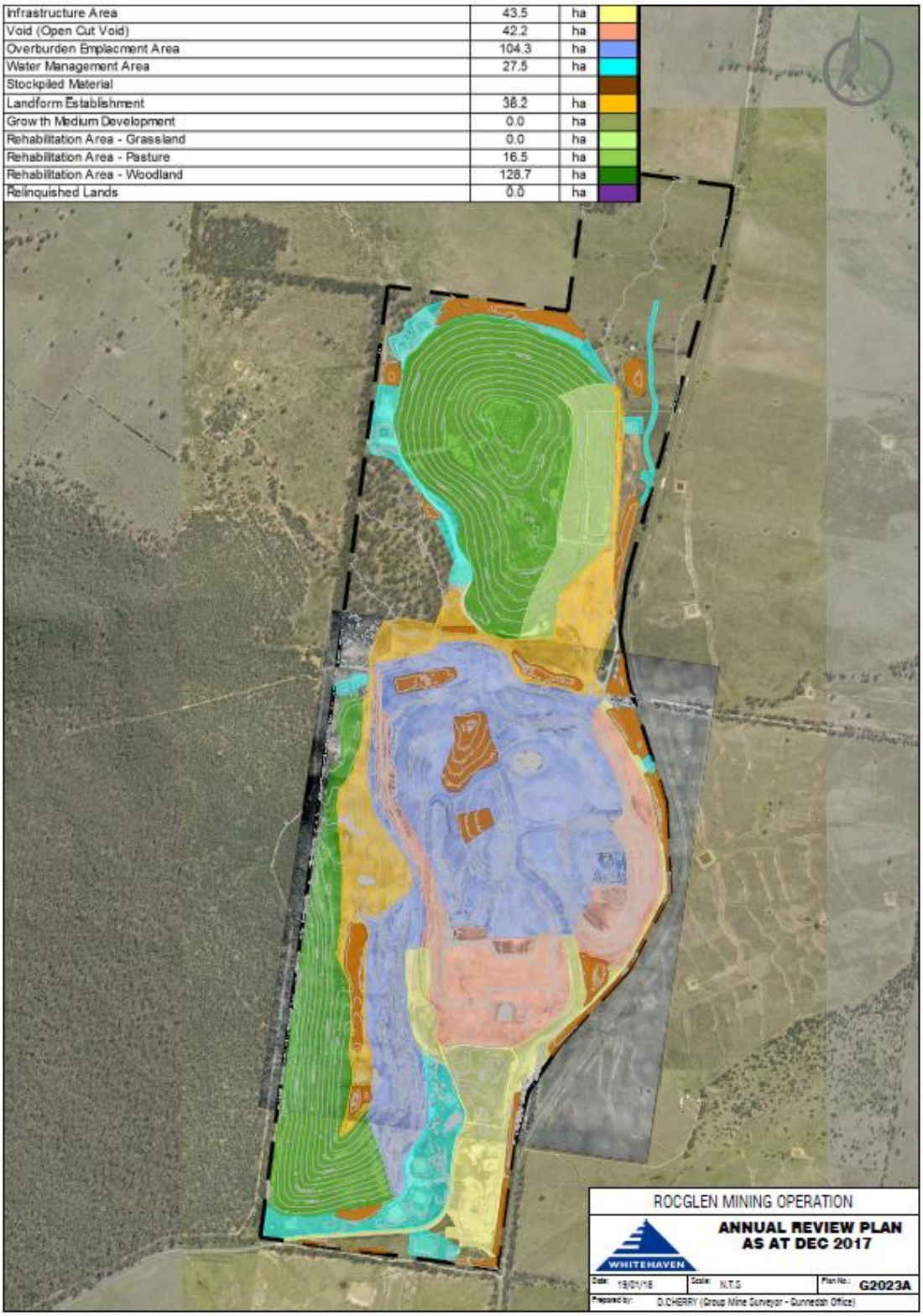


Figure 6 Rehabilitation and Mining Status

8.1.2 Post Rehabilitation Land Uses

The disturbed area within the Project Site will be restored to either rehabilitated bushland or rehabilitated pasture, with approximately 5 hectares (1 percent) remaining as a stabilised highwall of the final void.

8.1.3 Rehabilitation Monitoring

Rehabilitation monitoring undertaken in the previous reporting period was reported early in 2017. This monitoring found that vegetation cover for the entire RCM site had decreased in several non-rehabilitated areas of the mine site, resulting mostly from infrastructure development, however vegetation cover had increased across additional areas. These changes reflected what was predicted within the RCM rehabilitation areas. The report made recommendation for weed spraying on site, particularly across pasture rehabilitation sites. Further details on weed spraying undertaken are available in Section 6.2.3.

Further RCM fauna surveys were undertaken in May 2017, and again in November 2017, with flora surveys also undertaken in November 2017. These surveys will be included within the next biennial Rehabilitation Monitoring Report, due in the next reporting period.

8.1.4 Renovation or Removal of Buildings

No renovation or removal of buildings occurred during the reporting period.

8.1.5 Other Rehabilitation Undertaken

No additional rehabilitation of explorations areas, infrastructure, shafts, adits, dams, fence lines or bunds occurred during the reporting period.

8.1.6 Departmental Sign-off of Rehabilitated Areas

Departmental sign-off has not been requested for any rehabilitated areas.

8.1.7 Variations in Activities against MOP (RMP)

Operations and activities were undertaken in accordance with the approved modification of the RCM MOP, which was last amended in November 2016. RCM are currently in the process of preparing a Closure MOP for the site.

8.1.8 Trials, Research Projects and Initiatives

No rehabilitation trials, research projects or other initiatives were undertaken during the reporting period.

8.1.9 Key Issues to Achieving Successful Rehabilitation

There are four key issues in achieving successful rehabilitation, including:

- Poor vegetation establishment and growth due to poor soils/lack or nutrient;
- Weed and feral animal infestation;
- Excessive erosion and sedimentation resulting in land stability and vegetation growth issues; and
- Harsh weather conditions limiting growth, i.e. extended periods of drought.

In cases where 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.) Advice may also be sought form the Whitehaven Biodiversity Specialist to determine best course of action.

8.2 Actions for Next Reporting Period

Rehabilitation is undertaken on site in accordance with the MOP. Although no further rehabilitation is required by the MOP, RCM intends to undertake infill planting on previously rehabilitated areas to the north of the site following poor vegetation establishment previously.

9 COMMUNITY

9.1 Community Consultation

In accordance with Condition 5 of Schedule 5 of PA 10_0015 a Community Consultative Committee (CCC) continues to be operated for RCM. The committee comprises representatives of Gunnedah Shire Council, RCM and the community.

Since its inception, the CCC has met on a regular basis. Meetings are currently held generally every 6 months, although availability of members can result in postponement. During the reporting period a meeting was held on the 9th August 2017, the minutes of which are available on the Whitehaven Coal website. The next meeting is scheduled for early during the next reporting period.

9.2 Community Complaints

RCM has a designated complaints line advertised on the Whitehaven Coal website and, in the event of a complaint, details pertaining to the complainant, complaint, and action taken are recorded. A complaints register is maintained on Whitehaven's website.

There was one complaint received during the reporting period, relating to blasting, compared to 3 in 2016, none in 2015, three in 2014, four in 2013, and eleven in 2012.

Complaint #	Nature of Complaint	Investigation	Actions Proposed
1	The complaint alleged that blasting caused excessive noise, dust, and vibration.	EPA requested a number of details pertaining to the blast, which were provided by RCM, including the blast results and a video of the blast, confirming RCM compliance.	Nil

9.3 Community Engagement and Contributions

Community contributions are managed in accordance with the Whitehaven Coal Donations and Sponsorship Policy. In the 2017 calendar year, $126,456 worth of donations from WHC went towards the Gunnedah local community, and included the following organisations:

- Gunnedah Community Scholarship Fund;
- Role Models and Leaders Australia Ltd;
- Gunnedah Show Society;
- Westpac Rescue Helicopter Service;
- Gunnedah Men of League;
- Kamilaroi Aging and Disability;
- Gunnedah High School;
- Apex Gunnedah;
- Curlewis Public School;
- Gunnedah Eisteddford Society;
- Gunnedah Cycling and Triathlon Club;
- Gunnedah Rural Health Centre;
- Gunnedah Gomeroi Roo's Rugby League

- Winanga-Li Aboriginal Child and Family Centre;
- Gunnedah PCYC;
- Rotary Club of Gunnedah West;
- Gunnedah Miners Support Group;
- Gunnedah Shire Council;
- Gunnedah and District Historical Society;
- Mullaley Public School P&C;
- Country Education Foundation of Australia;
- Black and Blue Gym;
- Gunnedah and District Chamber of Commerce; and the
- Cancer Council

WHC continues to have a strong focus on employing local people, and supporting local buisnesses, with 75% of the workforce residing in the area.

10 INDEPENDENT AUDIT

The most recent independent environmental audit (IEA) for RCM occurred during May 2016.

Non-compliances identified by the IEA were risk ranked by the auditor in accordance with the compliance status key for Table 2 and RCM subsequently developed an Audit Action Plan for these non-compliances. As the Audit Action Plan is available on the Whitehaven Coal website, individual non-compliances have not been replicated in Table 2.

A summary of outstanding audit actions is summarised as follows:-

- Surrender of PA 06_0198
- Complete incorporation of Rehabilitation Management Plan into an Amended Mining Operations Plan,

Future Annual Reviews will include status updates until all outstanding audit actions have been addressed. The next Rocglen IEA is scheduled for 2019.

11 INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD

11.1 Reportable Incidents

RCM reported four incidents during the reporting period, three of which were exceedances of the site noise criteria after application of the 5dB low frequency noise modifying factor, refer section 6.5.3, and one concerning an uncontrolled wet weather discharge during which the site meteorological station was not operating correctly, refer section 7.1.3.

11.2 Non-compliances

All of the non-compliances with relevant approvals have been ranked as either administrative or low, with very limited potential for environmental harm, and are addressed below.

- Schedule 2 Condition 8 of PA 10_0015 refers to the surrender of project approval 06_0198. WHC has made application to surrender this approval, but has not finalised the process, and therefore is still subject to the approval conditions. RCM is non-compliant with one condition of PA 06_0198, being the advertising of the complaints number annually in the local newspaper. The surrender of PA 06_0198 is dependent upon consent of the owners of the land covered by the approval, the achievement of which is affected by ongoing discussion between WHC and the Gunnedah Shire Council regarding transfer of ownership of a section of Wean Road. This process is ongoing, and will allow for the surrender of PA 06_0198.
- Schedule 3 Condition 1 of PA 10_0015 and Condition L4.1 of EPL 12870 requires the proponent to ensure that the noise generated by the premises does not exceed the specified criteria. During the reporting period there were noise exceedances recorded during three instances of quarterly monitoring, following application of the 5dB low frequemcy noise modifying factor, see section 6.5.3. Additional monitoring was undertaken during the reporting period on two occasions following exceedances, and both times the monitoring returned compliant results. Noise monitoring undertaken in Quarter 4 during the reporting period was compliant with the noise criteria for RCM.
- Schedule 3 Condition 4 of PA 10_0015 requires the implementation of the Noise Management Plan, which in turn includes reference to the Road Traffic Noise Management Plan, requiring cumulative road noise monitoring be undertaken on a 6

monthly basis. During the process of tendering for attended noise monitoring consultants, this aspect was not included in the scheduled noise monitoring program. There was no cumulative road noise monitoring conducted during the period. Monitoring has since been completed prior to the submission of this AR, and demonstrated compliant results.

- Schedule 3 Condition 18 of PA 10_0015 and conditions M4.1 and M4.2 of EPL 12870 all refer to the requirement of continuous real time meteorological monitoring. Periodic connection failure and equipment malfunction resulted in minor data gaps during the reporting period. Regular maintenance is performed on the meteorological station, however the meteorological station continues to suffer occasional connectivity problems. During the reporting period the meteorological station was relocated to an approved onsite location in an attempt to reduce the number of connectivity problems. The relocation, along with installation of a remote reset unit, has improved performance.
- Schedule 3 Condition 31 of PA 10_0015 requires that RCM establishes and maintains an effective vegetative screen along the boundaries of the site that adjoin public roads. This condition was reported to be non-compliant in the IEA, and RCM agreed to undertake infill planting along the eastern boundary. This planting was completed during winter of 2017.
- Conditions M2.1 and M2.2 of EPL 12870 requires the proponent to maintain continuous PM10 monitoring for the project. Continuous monitoring was not achieved during the reporting period following 2 outages during the calendar year, in February and September 2017, caused by an over-heating issue and a power outage respectively. Regular maintenance is performed on the unit.
- Condition M2.5 of EPL 12870 requires the collection of water samples within 12 hours of a discharge commencing. One wet weather discharge event occurred during the reporting period, as detailed in section 7.1.3. Following identification of the discharge event samples were collected as soon as practicable. RCM were unable to confirm the commencement time of the discharge. Stringent water management is employed on site, and additional control measures for utilisation in the event of a discharge are being investigated.

Details of actions for non-compliances identified during the 2015 IEA are provided in the Audit Action Plan, available on the Whitehaven Coal website.

11.3 Regulatory Actions

WHC were served by the EPA on 17th August 2017, in relation to a blast fume event occurring on 10th August 2016, which was reported in the previous reporting period.

12 ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

The following measures will be continued, or implemented, in the next reporting period:

- Undertake rehabilitation and mining activities in accordance with the MOP timing;
- The continuation of environmental monitoring and management, as per relevant approvals and environmental management plans;
- Completion of outstanding IEA actions, as per timing indicated in the Audit Action Plan, available on the Whitehaven Coal website;
- Review and revision of various environmental management plans, as per PA 10_0015.
- Continued community liaison and engagement with local stakeholders, as required.

Appendix 1

Quarterly Noise Monitoring Results

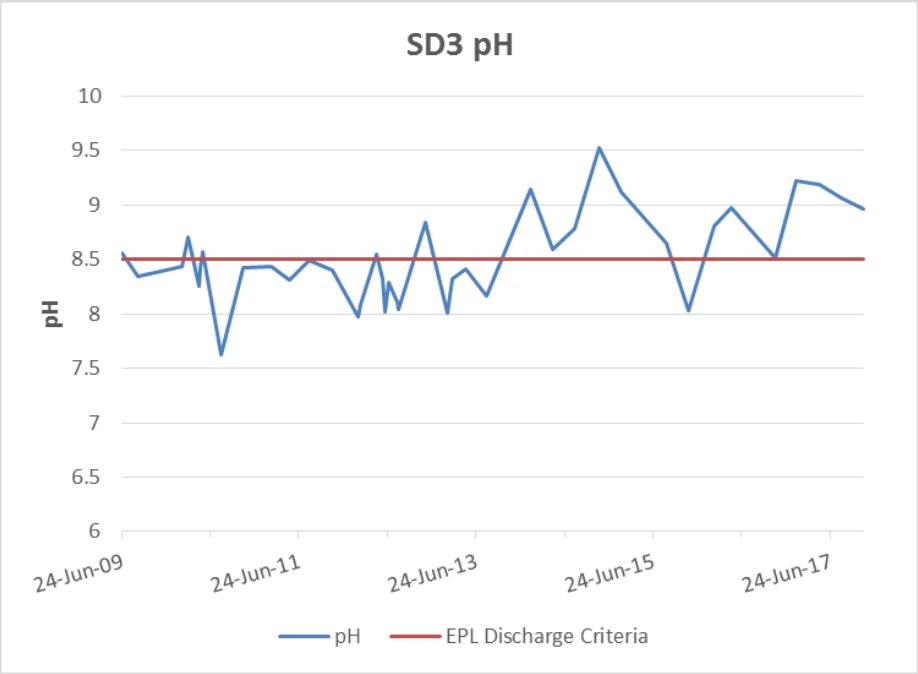
EPL ID	Date	Start Time	Period (mins)	Measured Levels – dB(A) Leq 15min Day	Measured Levels – dB(A) Leq 15min Evening	Measured Levels – dB(A) Leq 15min Night	Measured Levels – dB(A) LA 1min Night	Limits	Wind speed (m/s)	Compliant (Y/N)
N1	20/03/2017	21:26	30	-	IA	-	-	35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	4.7	NA
		22:00	40	-	-	IA	-		3.7	NA
		22:00	45	-	-	-	IA		3.7	NA
	21/03/2017	16:28	60	IA	-	-	-		3.1	NA
		18:01	30	-	IA	-	-		6.1	NA
	22/03/2017	21:15	30	-	NM	-	-		2.5	Y
	23/03/2017	16:22	60	IA	-	-	-		1.8	Y
		23:01	45	-	-	IA	-		1.9	Y
		23:01	45	-	-	-	IA		1.9	Y
	24/03/2017	16:25	60	IA	-	-	-		3.1	NA
		22:00	45	-	-	IA	-		3.5	NA
		22:00	45	-	-	-	IA		3.5	NA
N2	20/03/2017	20:28	30	-	29	-	-	35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	4.4	NA
		23:21	30	-	-	32	-		3.5	NA
		23:21	30	-	-	-	45		4.1	NA
	21/03/2017	14:37	60	NM	-	-	-		3.6	NA
		0:08	30	-	-	34	-		4.3	NA
		0:08	30	-	-	-	46		4.3	NA
	22/03/2017	20:25	30	-	IA	-	-		5.4	NA
	23/03/2017	14:36	60	IA	-	-	-		2.7	Y
		18:09	30	-	IA	-	-		2.4	Y
	24/03/2017	14:38	60	IA	-	-	-		3.9	NA
		0:20	40	-	-	34	-		1.1	Y
		0:20	40	-	-	-	43		1.1	Y
	25/03/2017	23:16	60	-	-	39	-		2.6	N
		23:16	60	-	-	-	NM		2.6	NA
N1	22/05/2017	16:36	90	26	-	-	-	35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	1.5	Y
		21:02	30	-	IA	-	-		0	Y
		22:00	60	-	-	IA	-		1.7	Y
		22:00	60	-	-	-	IA		1.7	Y
	23/05/2017	11:12	90	IA	-	-	-		1.8	Y
		20:11	30	-	IA	-	-		1	Y
		22:00	60	-	-	IA	-		2.9	Y
		22:00	60	-	-	-	IA		2.9	Y
	24/05/2017	13:19	90	IA	-	-	-		4.1	NA
		20:02	30	-	35	-	-		1.1	Y
		22:00	60	-	-	34	-		2.7	Y
		22:00	60	-	-	-	38		3.1	NA
N2	22/05/2017	14:50	90	IA	-	-	-	35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	1.7	Y
		20:00	30	-	26	-	-		0	NA
		23:20	60	-	-	34	-		0.7	Y
		23:20	60	-	-	-	37		0	NA
	23/05/2017	13:16	90	28	-	-	-		0.8	Y
		19:17	30	-	29	-	-		1.3	Y
		23:21	60	-	-	39	-		0.5	N*
		23:21	60	-	-	-	47		0.6	Y
	24/05/2017	11:21	90	<20	-	-	-		3.8	NA
		19:14	30	-	<20	-	-		0.7	Y
		23:18	60	-	-	30	-		2	Y
		23:18	60	-	-	-	30		2	Y
	14/08/2017	16:27	90	IA					0.6	Y
		21:31	30		<20				0.2	Y
		22:01	60			<20			0.4	Y
		22:01	60				<20		0.4	Y

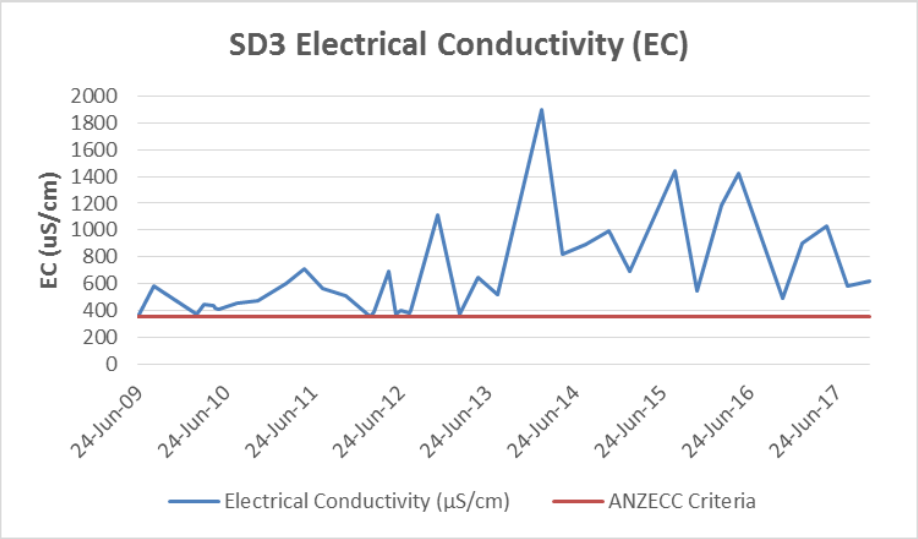
N1	15/08/2017	11:52	90	IA				35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	1.8	Y
		20:28	30		IA				4.9	NA
		22:00	60			IA			5	NA
		22:00	60				IA		5	NA
	16/08/17 - 17/08/16	13:56	90	IA					NA	Y
		20:09	30		<20				2.8	Y
		22:00	60			IA			2.1	Y
		22:00	60				IA		2.1	Y
N2	14/08/2017	14:40	90	IA				35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	1.1	Y
		20:31	30		39				0.2	N
		23:18	60			30			0	Y
		23:18	60				NM		0.3	Y
	15/08/17 – 16/08/17	13:48	90	29					0.9	Y
		19:39	30		<30				4.5	NA
		23:18	60			35			2.5	N
		23:18	60				45		2.5	Y
	16/08/17 - 17/08/16	12:04	90	15					4.6	NA
		19:19	30		23				1.7	Y
		23:15	60			23			1.2	Y
		23:15	60				27		1.7	Y
N1	13/11/2017	16:27	90	NM				35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	3	Y
		18:00	30		NM				1.9	Y
		22:00	60			IA			4.2	NA
		22:00	60				IA		4.2	NA
	14/11/2017	12:39	90	NM					1.3	Y
		20:46	30		IA				3.5	NA
		22:00	60			IA			2.4	Y
		22:00	60				IA		2.4	Y
	15/11/2017	12:31	90	IA					2.9	Y
		21:08	30		IA				2.5	Y
		22:00	60			<25			2.3	Y
		22:00	60				<25		2.3	Y
N2	13/11/2017	14:40	90	<20				35 dB(A) Leq (15 min) Day, Evening, Night 45dB(A) LA (1 min) Night	1.6	Y
		18:55	30		IA				4.1	NA
		23:23	60			<30			3	Y
		23:23	60				30		3	Y
	14/11/2017	14:27	90	NM					0.7	Y
		19:55	30		IA				3.8	NA
		23:21	60			NM			2.4	Y
		23:21	60				NM		2.4	Y
	15/11/17- 16/11/17	14:24	90	IA					1.2	Y
		20:22	30		<25				1.2	Y
		23:25	60			<25			2.4	Y
		23:25	60				<25		2.4	Y

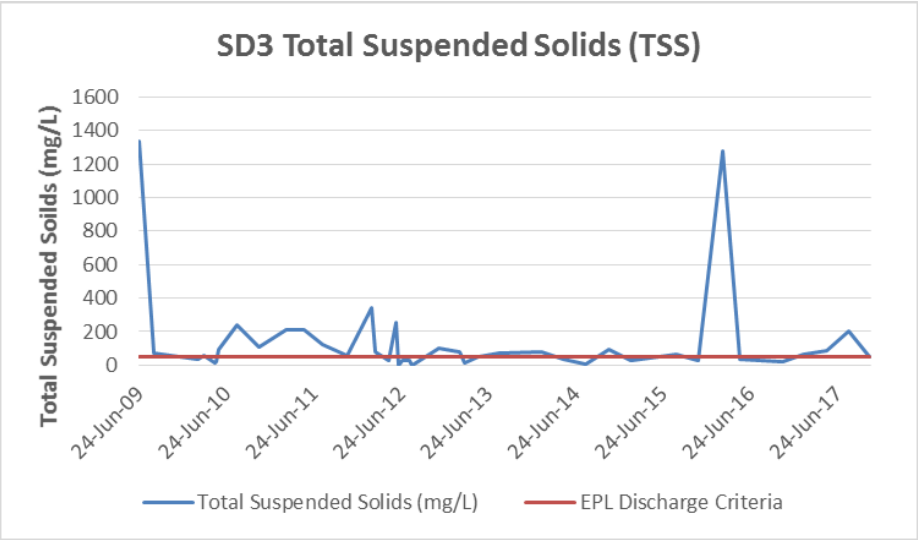
Appendix 2

Surface Water Data

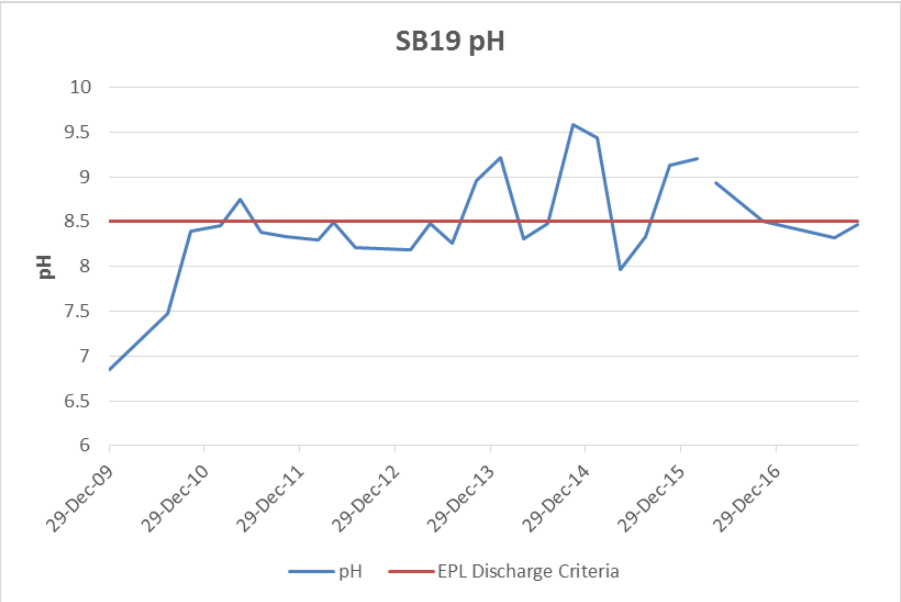
1.0 SD3 Water Quality Parameters

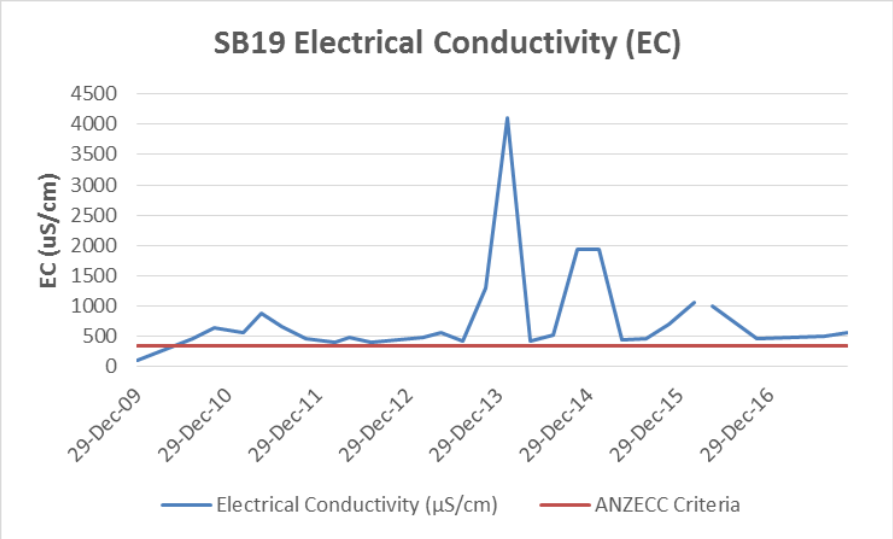


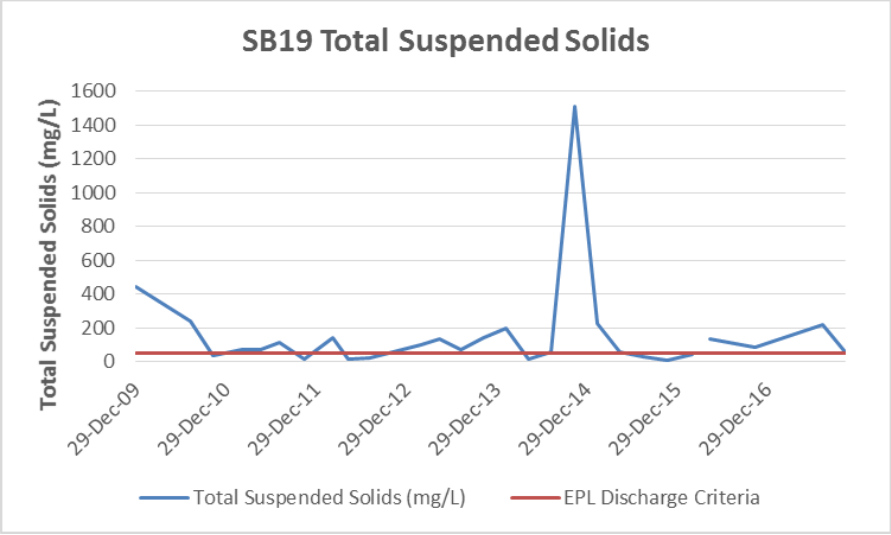




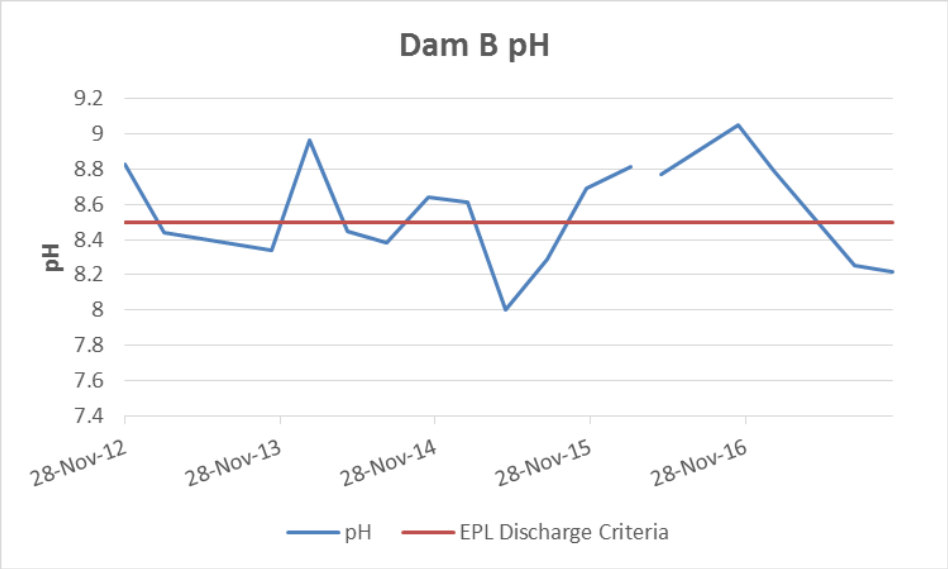
2.0 SB19 Water Quality Parameterss

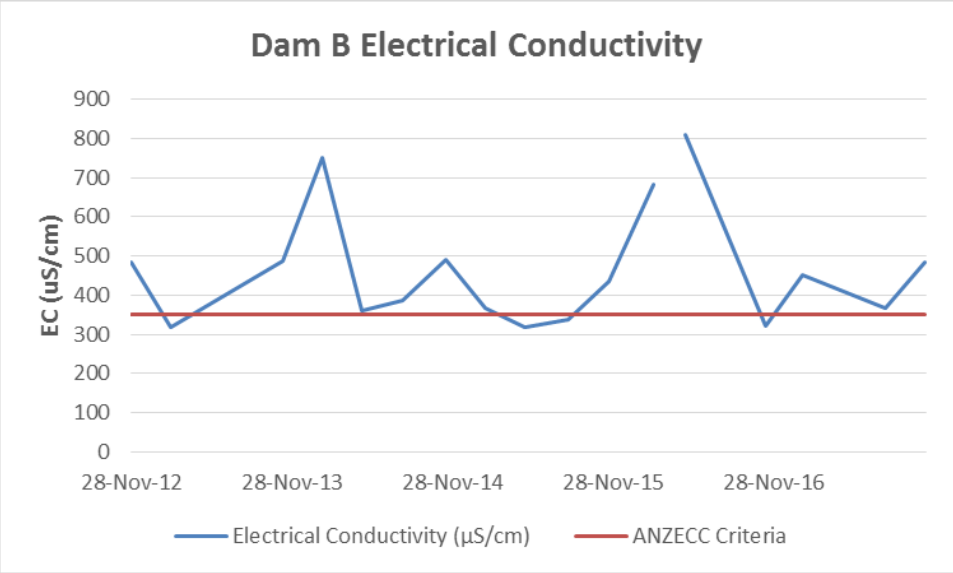


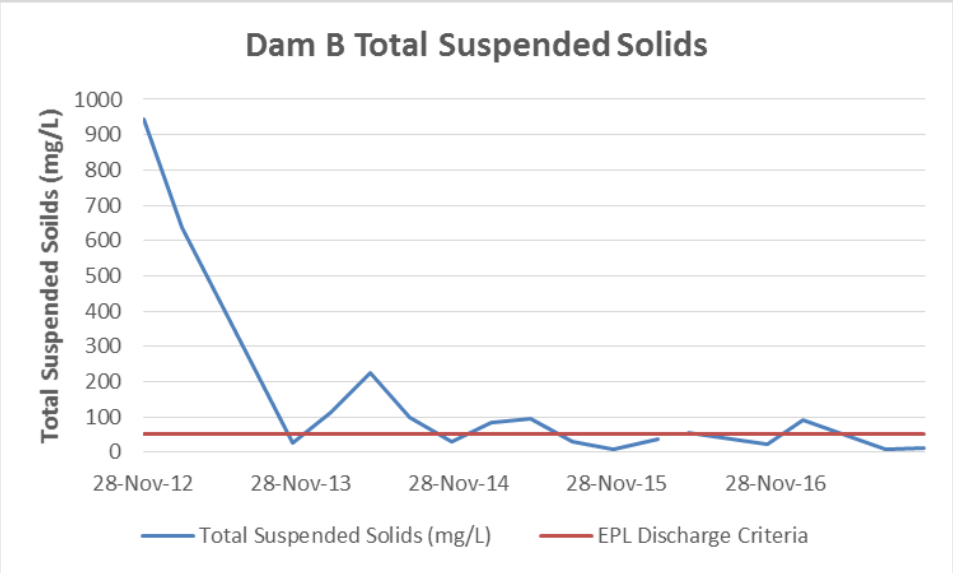




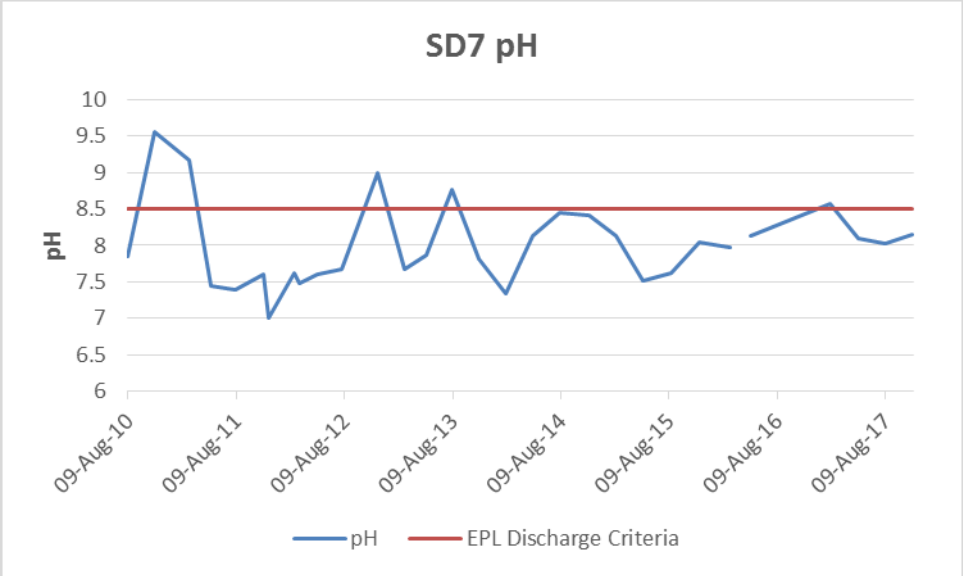
3.0 Dam B Water Quality Parameterss

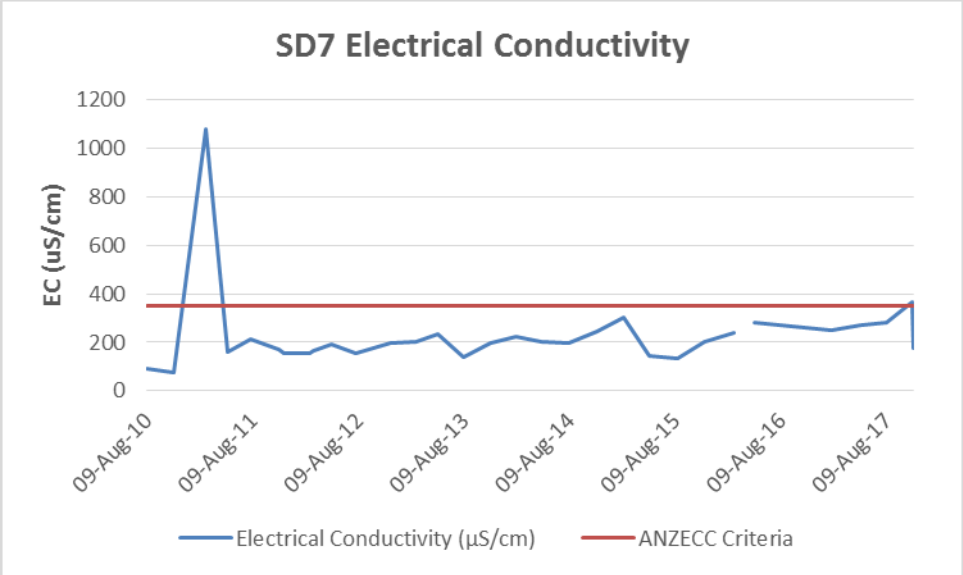


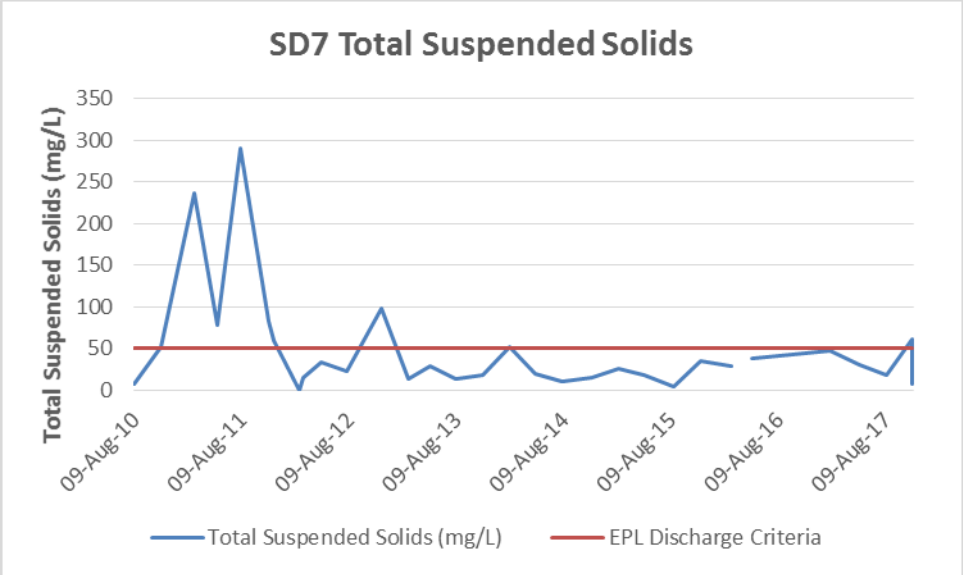




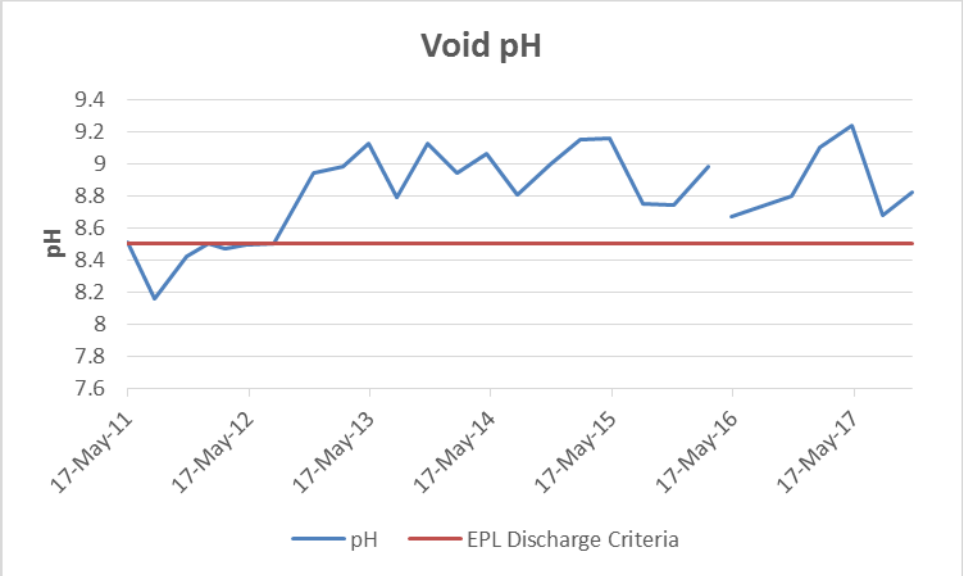
4.0 SD7 Water Quality Parameterss

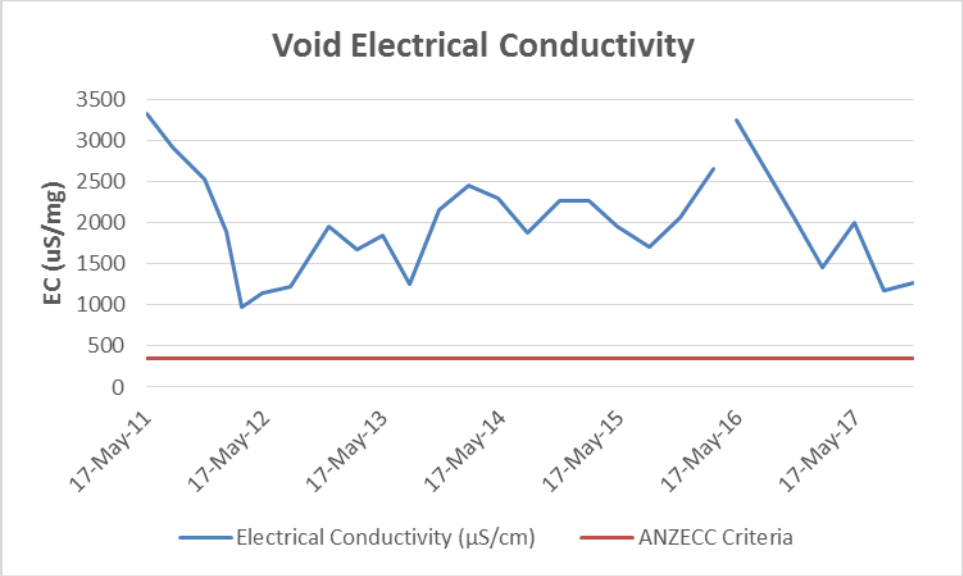


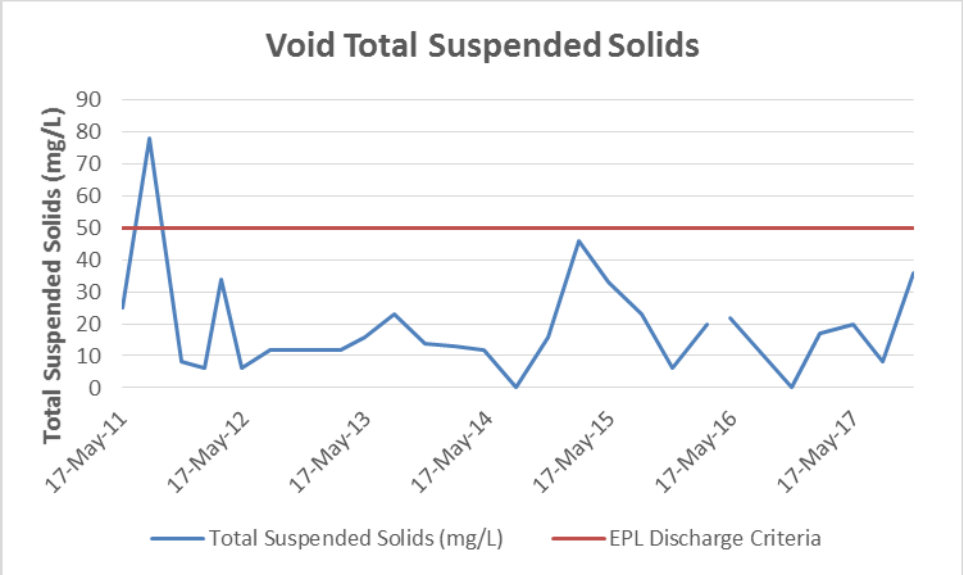




5.0 Void Water Quality Parameterss







Date	Time	Sample Location	PH (Field)	pH	Electrical Conductivity (µS/cm) (Field)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (TOC) (mg/L)	Grease & Oil (mg/L)	Hydroxide Alkalinity as CaCO3 (mg/L)	Carbonate Alkalinity as CaCO3 (mg/L)	Bicarbonate Alkalinity as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	Antimony (mg/L)	Chloride (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Aluminium (mg/L)	Arsenic (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Iron (mg/L)	Comments
23 September 2008	1310	UNDC		7.7		150	510		<2														Non-reportable - discharge points are not licenced
17 December 2008	1029	SB8		7.8		295	1080		<2														Non-reportable - discharge points are not licenced
17 December 2008	1100	UNDC		6.6		145	21		<2														
24 June 2009	1340	DAM VOID 1		9.3		1540	216	20	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
24 June 2009	1300	SB3		8.36		502	110	10	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
24 June 2009	1315	SD3		8.56		354	1340	35	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
27 August 2009	1335	DAM VOID 1		8.85		2260	60	3	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
27 August 2009	1240	SB3		8.86		504	66	10	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
27 August 2009	1255	SD3		8.34		587	71	8	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
30 November 2009	1130	SB3		7.78		620	128	3	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
16 December 2009	1415	Dam Void 1		9.15		4210	14	4	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
16 December 2009	1205	SB7		9.38		600	18	8	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
16 December 2009	1225	SB5		8.9		1440	50	7	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
16 December 2009	1255	SB14		8.76		577	50	7	<10														Limit of Reporting (LOR) was raised for Oil and Grease due to insufficient samples
29 December 2009	1530	SB19		6.85		110	444	5															
25 February 2010	1535	SB3		8.34		423	56	15	<5														Limit of Reporting (LOR) was raised for TOC due to matrix interference
25 February 2010	1550	SD3		8.44		374	37	<5	<5														
25 February 2010	1515	DAM VOID1		8.99		1390	106	5	<5														
25 March 2010	1550	SD3 - after floc		8.71		445	58		<5														
7 May 2010	830	SD3 - after floc		8.26		434	13		<5														
12 May 2010	1400	SB3		8.2		565	64	7	<5														
12 May 2010	1408	SD3		8.42		422	19	14	56														
12 May 2010	1315	DAM VOID 1		8.9		2470	20	3	<5														
24 May 2010	1320	SD3		8.57		412	92	4	6														
26 July 2010	840	SB8		8.34		458	17	5	<5														Sample after Floculation

Date	Time	Sample Location	PH (Field)	pH	Electrical Conductivity (µS/cm) (Field)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (TOC) (mg/L)	Grease & Oil (mg/L)	Hydroxide Alkalinity as CaCO3 (mg/L)	Carbonate Alkalinity as CaCO3 (mg/L)	Bicarbonate Alkalinity as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	Antimony (mg/L)	Chloride (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Aluminium (mg/L)	Arsenic (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Iron (mg/L)	Comments
9 August 2010	1015	SB19		7.47		464	238	13	<5														
9 August 2010	955	SD3		7.62		458	239	12	<5														
9 August 2010	1055	DAM VOID 1		8.56		2330	8	2	<5			554	554		319		539	0.27	0.013	0.003		0.12	
9 August 2010	1035	SD7		7.85		92	8	9	<5														
8 November 2010	920	SB19		8.39		636	41	5	<5														
8 November 2010	905	SD3		8.42		472	107	7	<5														
8 November 2010	950	DAM VOID 1		9.12		2330	16	2	<5														
8 November 2010	1010	SD7		9.56		77	52	11	<5														
2 March 2011	920	SD3		8.43		605	210	22	<5														
2 March 2011	940	SB19		8.45		573	70	9	<5														
2 March 2011	1020	SB18		8.4		724	43	8	<5														
2 March 2011	1000	SD7		9.17		1080	236	37	<5														
17 May 2011	1030	SB19		8.75		880	76	9	<5					<0.001		<0.01			0.011		0.014		
17 May 2011	1020	SD3		8.31		709	214	15	<5					0.001		<0.01			0.012		0.023		
17 May 2011	1040	SB18		9.12		1610	3090	17	<5					<0.001		<0.01			0.018		0.002		
17 May 2011	925	SD7		7.45		159	78	23	<5					<0.001		<0.01			0.004		<0.001		
17 May 2011	1100	VOID		8.51		3320	25	2	<5														
4 August 2011	1015	SD3	8.6	8.49	411	563	124	11	<5					0.002		<0.01			0.007		0.028		
4 August 2011	1200	SB19	8.2	8.38	484	657	116	8	<5					<0.001		<0.01			0.007		0.01		
4 August 2011	1120	SB18	8.7	8.07	513	655	428	16	<5					<0.001		<0.01			0.008		<0.001		
4 August 2011	1225	SD7	8.1	7.4	135	213	290	66	5					<0.001		<0.01			0.004		<0.001		
4 August 2011	1135	VOID	8	8.16	2350	2920	78	1	<5	<1	<1	465	465		720		548	0.59	0.005	0.063		0.63	
10 November 2011	910	SD3	8.8	8.4	416	511	56	4	<5					<0.001		<0.01			0.019		0.003		
10 November 2011	845	SB19	9.1	8.33	385	466	18	4	<5					<0.001		<0.01			0.006		0.015		
10 November 2011	940	SD7	7.9	7.61	145	173	83	15	<5					<0.001		<0.01			0.005		<0.001		
10 November 2011	1040	VOID	8.7	8.42	2010	2530	8	<1	<5														
28 November 2011	1530	SD7		7.01		154	60	11	<5														
4 January 2012	1010	Bore Pump Dam		8.87		1320	6	3	<5														
16 January 2012	1530	Void		8.5		1890	6	3	<5														
21 February 2012	745	SD7		7.62		154	<5	14	<5														
21 February 2012	810	SD3		7.97		350	340	17	<5														
21 February 2012	845	UNDC		7.51		254	236	26	<5														
7 March 2012	1040	SD3	8.4	8.09	330	389	78	3	<5					<0.001		<0.01			0.005		0.004		
7 March 2012	1100	SB19	8.6	8.29	332	397	141	3	<5					<0.001		<0.01			0.008		0.002		
7 March 2012	1015	VOID	8.5	8.47	789	972	34	2	<5	<1	11	176	187		98		219	2.18	0.009	0.028		1.3	
7 March 2012	900	SD7	8	7.49	145	165	16	14	<5					<0.001		<0.01			0.002		<0.001		
7 May 2012	1040	SD3	7.9	8.55	581	692	30	5	<5					<0.001		<0.01			0.003		0.025		
7 May 2012	1100	SB19	8	8.49	409	490	14	2	<5					<0.001		<0.01			0.005		0.008		
7 May 2012	1130	SD7	7.6	7.61	167	192	34	14	<5					<0.001		<0.01			0.002		<0.001		
7 May 2012	1015	VOID	8.1	8.49	954	1150	6	<1	<5														
5 June 2012	1500	SD3 Post Rainfall		8.32		359	253	7	<5														
12 June 2012	1030	SD3-Post Floc		8.02		381	<5	3	<5														
28 June 2012	1300	SD3		8.29		403	30	4	<5														
30 July 2012	1500	SB18-post floc		8.09		332	10	2	<5														

Date	Time	Sample Location	PH (Field)	pH	Electrical Conductivity (µS/cm) (Field)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (TOC) (mg/L)	Grease & Oil (mg/L)	Hydroxide Alkalinity as CaCO3 (mg/L)	Carbonate Alkalinity as CaCO3 (mg/L)	Bicarbonate Alkalinity as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	Antimony (mg/L)	Chloride (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Aluminium (mg/L)	Arsenic (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Iron (mg/L)	Comments
1 August 2012	1030	SD3	8.53	8.11	343	383	28	6	<5					<0.001		<0.01			0.005		0.007		
1 August 2012	1050	SB19	8.78	8.21	347	398	24	5	<5					<0.001		<0.01			0.005		0.005		
1 August 2012	1000	SD7	8.44	7.68	154	155	23	17	<5					<0.001		<0.01			0.002		<0.001		
1 August 2012	1130	VOID	8.73	8.5	1050	1220	12	2	<5														
9 August 2012	800	SD3-Post Floc		8.04		399	<5	2	<5														
28 November 2012	1040	SD3	8.98	8.84	1030	1110	100	8	<5					0.003		<0.01			0.011		0.059		
28 November 2012	950	DAM B	9.19	8.83	464	484	944	5	<5					<0.001		0.01			0.027		0.002		
28 November 2012	1020	SD7	9.81	8.99	194	199	98	20	<5					<0.001		<0.01			0.003		<0.001		
28 November 2012	930	VOID	9.08	8.94	1710	1950	12	2	<5														
26 February 2013	1130	SD3	8.16	8.01	371	373	82	4	<5					0.002		<0.01			0.005		0.043		
26 February 2013	1150	SB19	8.32	8.19	491	488	104	5	<5					<0.001		<0.01			0.007		0.006		
26 February 2013	1210	SD7	7.78	7.68	201	203	14	15	<5					<0.001		<0.01			0.003		<0.001		
26 February 2013	1110	VOID	9.24	8.98	1570	1680	12	2	<5														
26 February 2013	1050	DAM B	9.06	8.44	315	317	636	2	<5					<0.001		<0.01			0.01		0.002		
19 March 2013	1000	SD3-Post Floc		8.32		446	12	5	<5														
13 May 2013	1040	SD3	8.62	8.41	602	647	50	11	<5					<0.001		<0.01			0.006		0.017		
13 May 2013	1020	SB19	8.75	8.48	542	573	139	8	<5					<0.001		<0.01			0.005		0.006		
13 May 2013	920	SD7	7.99	7.86	226	233	29	21	<5					<0.001		<0.01			0.002		<0.001		
13 May 2013	1000	VOID	9.46	9.13	1710	1850	16	3	<5														
7 August 2013	1220	SD3	8.34	8.16	497	519	71	12	<5					<0.001		<0.01			0.004		0.018		
7 August 2013	1235	SB19	8.29	8.26	421	436	74	10	<5					<0.001		<0.01			0.005		0.006		
7 August 2013	1200	SD7	8.89	8.77	140	138	14	17	<5					<0.001		<0.01			0.001		<0.001		
7 August 2013	1245	VOID	8.78	8.79	1180	1250	23	4	<5														
7 November 2013	1115	SB19	9.3	8.96	1140	1300	146	21	<5					<0.001		<0.01			0.01		0.025		
7 November 2013	1010	DAM B	8.2	8.34	432	487	26	6	<5					<0.001		<0.01			0.008		0.004		
7 November 2013	930	SD 7	7.3	7.82	185	199	18	19	<5					<0.001		<0.01			0.003		<0.001		
7 November 2013	1045	VOID	9.6	9.13	1870	2160	14	9	<5	<1	104	252	356		318		439	0.44	0.011	0.018		0.22	
5 February 2014	850	VOID	9.8	8.94	2170	2450	13	3	<5					0.001		<0.01			0.012		0.045		
5 February 2014	935	SD3	10.3	9.14	1700	1900	76	24	<5					0.003		<0.01			0.037		0.174		
5 February 2014	915	SB19	10.2	9.21	3600	4100	196	75	5					0.003		<0.01			0.035		0.195		
5 February 2014	1020	Dam B	9.9	8.96	693	752	112	6	<5					<0.001		<0.01			0.016		0.016		
5 February 2014	1050	SD7	9	7.34	2150	222	52	19	<5					<0.001		<0.01			0.004		<0.01		
5 May 2014	1000	SD3	9.5	8.59	799	818	32	4	<5					0.002		<0.01			0.004		0.046		
5 May 2014	1020	SB19	8.9	8.31	425	431	19	3	<5					<0.001		<0.01			0.007		0.013		
5 May 2014	1100	DAM B	9.2	8.45	355	360	224	<1	<5					<0.001		<0.01			0.011		0.005		
5 May 2014	1140	SD7	8.9	8.14	200	200	20	12	<5					<0.001		<0.01			0.003		<0.001		
5 May 2014	940	VOID	10.1	9.06	2210	2300	12	2	<5	<1	123	309	432		404		388	0.77	0.012	0.024		0.38	
6 August 2014	930	SD3	9.1	8.78	843	889	8	6	<5					0.001		<0.01			0.003		0.036		
6 August 2014	910	SB19	8.8	8.48	521	525	61	10	<5					<0.001		<0.01			0.005	0.008			
6 August 2014	1000	DAM B	8.4	8.38	379	387	98	6	<5					<0.001		<0.01			0.008	0.005			
6 August 2014	1040	SD7	9.1	8.44	199	196	10	15	<5					<0.001		<0.01			0.003		<0.001		
6 August 2014	845	VOID	9	8.81	1740	1880	<5	3	<5														
12 November 2014	950	SD3	10.4	9.53	977	996	94	46	<5					0.002		<0.01			0.017		0.063		
12 November 2014	920	SB19	10.3	9.58	1910	1930	1510	249	<5					0.002		<0.01			0.04		0.048		
12 November 2014	1015	DAM B	9.1	8.64	482	490	28	5	<5					0.001		<0.01			0.013		0.047		
12 November 2014	1100	SD7	9.4	8.42	239	244	16	20	<5					<0.001		<0.01			0.004		<0.001		
12 November 2014	900	VOID	9.4	9	2200	2260	16	3	<5														

Date	Time	Sample Location	PH (Field)	pH	Electrical Conductivity (µS/cm) (Field)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (TOC) (mg/L)	Grease & Oil (mg/L)	Hydroxide Alkalinity as CaCO3 (mg/L)	Carbonate Alkalinity as CaCO3 (mg/L)	Bicarbonate Alkalinity as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	Antimony (mg/L)	Chloride (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Aluminium (mg/L)	Arsenic (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Iron (mg/L)	Comments
11 February 2015	920	SD3	10.4	9.12	678	695	31	18	<5					0.002		<0.01			0.01		0.06		
11 February 2015	935	SB19	10.5	9.43	1880	1930	228	75	<5					0.002		<0.01			0.042		0.071		
11 February 2015	1030	DAM B	9.2	8.61	360	367	85	5	<5					<0.001		<0.01			0.008		0.005		
11 February 2015	955	SD7	8.6	8.14	301	301	26	20	<5					<0.001		<0.01			0.005		0.001		
11 February 2015	900	VOID	9.9	9.15	2190	2260	46	4	<5														
11 May 2015	1045	SB19	8.2	7.96	428	444	60	6	<5					<0.001		<0.01			0.004		0.006		
11 May 2015	920	DAM B	8.6	8	334	319	96	4	<5					<0.001		<0.01			0.007		0.003		Could not sample SB3- no safe access
11 May 2015	1005	SD7	7.7	7.52	144	146	18	9	<5					<0.001		<0.01			0.002		<0.001		
11 May 2015	940	VOID	9.8	9.16	1860	1950	33	6	<5	<1	99	195	294		378		416	<0.01	0.008	<0.001			<0.05	
18 August 2015	900	SD3	8.9	8.65	1500	1440	66	25	6					<0.001					0.004		0.065		
18 August 2015	915	SB19	8.9	8.33	453	468	33	4	<5					<0.001					0.003		0.005		
18 August 2015	1000	DAM B	8.8	8.29	339	338	31	4	<5					<0.001					0.005		0.005		
18 August 2015	1030	SD7	9.1	7.62	136	135	5	10	<5					<0.001					<0.001		<0.001		
18 August 2015	935	VOID	9.4	8.75	1730	1700	23	3	<5														
19 November 2015	850	SD3	8.3	8.03	526	545	28	15	<5														
19 November 2015	830	SB19	9.6	9.13	683	698	8	8	<5														
19 November 2015	1030	DAM B	8.9	8.69	428	435	8	6	<5														
19 November 2015	1140	SD7	8.9	8.05	197	200	35	15	<5														
19 November 2015	815	VOID	9	8.74	1990	2070	6	4	<5														
20 January 2016	738	SD3		8.32		559	18	7	<5														No discharge, rain event before sample results received.
1 March 2016	1035	SD3	9.1	8.81	997	1190	1280	19	28					0.002					0.012		0.037		Oil and Grease being re-sampled
1 March 2016	1020	SB19	9.1	9.2	911	1070	47	11	23					<0.001					0.01		0.017		Oil and Grease being re-sampled
1 March 2016	1105	DAM B	8.8	8.81	592	682	38	8	14					<0.001					0.007		0.006		Oil and Grease being re-sampled
1 March 2016	1200	SD7	7.8	7.98	227	241	29	13	8					<0.001					0.004		<0.001		Oil and Grease being re-sampled
1 March 2016	1005	VOID	9	8.98	2460	2650	20	3	30														Oil and Grease being re-sampled
21 March 2016	855	SB19							<5														Oil and grease re-sampled
21 March 2016	920	DAM B							<5														Oil and grease re-sampled
21 March 2016	935	SD7							<5														Oil and grease re-sampled
21 March 2016	845	VOID							<5														Oil and grease re-sampled
21 March 2016		SD3	Dry																				Dry at time of sample
11 May 2016	9:30	VOID	9.1	8.67	3150	3240	22	20	9	<1	51	327	378					0.48	0.01	0.016		0.27	
11 May 2016	9:15	SD3	9.9	8.98	1330	1420	39	6	<5					0.002		<0.01			0.005		0.066		
11 May 2016	10:00	SB19	9.7	8.93	1070	1000	134	12	<5					<0.001		<0.01			0.006		0.012		
11 May 2016	11:00	DAM B	9.1	8.77	789	808	54	12	<5					<0.001		<0.01			0.007		0.008		
11 May 2016	9:00	SD7	8.2	8.14	297	282	38	22	<5					<0.001		<0.01			0.005		<0.001		
9 August 2016	10:10	SD3	8	7.77	265	252	216	5	<5														
9 August 2016	9:50	SB19	9.2	8.64	596	548	31	10	6														
9 August 2016	10:50	DAM B	8.2	8.07	225	213	11	3	<5														
9 August 2016	9:10	SD7	7.6	7.35	93	72	12	5	<5														
9 August 2016	9:40	VOID	9.1	8.68	2630	2690	<5	3	<5														
9 November 2016	9:20	SD3	8.7	8.51	530	489	20	7	<5														
9 November 2016	8:50	SB19	8.3	8.5	464	460	90	10	<5														
9 November 2016	9:50	DAM B	9.3	9.05	328	320	22	6	<5														
9 November 2016	10:30	SD7	8.1	8.15	179	174	7	15	<5														
9 November 2016	9:05	VOID	9.2	8.8	2010	2030	<5	4	<5														

Date	Time	Sample Location	PH (Field)	pH	Electrical Conductivity (µS/cm) (Field)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (TOC) (mg/L)	Grease & Oil (mg/L)	Hydroxide Alkalinity as CaCO3 (mg/L)	Carbonate Alkalinity as CaCO3 (mg/L)	Bicarbonate Alkalinity as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	Antimony (mg/L)	Chloride (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Aluminium (mg/L)	Arsenic (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Iron (mg/L)	Comments
1 February 2017	11:15	SD3	9.1	9.22	923	904	62	16	<5														Retsesting undertaken fo Oil and Grease. Confirmed results all <5.
1 February 2017	11:45	DAM B	8.8	8.79	495	451	90	16	<5														Retsesting undertaken fo Oil and Grease. Confirmed results all <5.
1 February 2017	12:25	SD7	8.6	8.57	263	250	48	21	<5														Retsesting undertaken fo Oil and Grease. Confirmed results all <5.
1 February 2017	10:50	VOID	9	9.1	1480	1460	17	4	<5														Retsesting undertaken fo Oil and Grease. Confirmed results all <5.
11 May 2017	11:10	SD3	9.4	9.19	903	1030	87	39	<5					<0.001		<0.01			0.007		0.018		
11 May 2017	10:20	SD7	7.9	8.1	316	271	31	28	<5					<0.001		<0.01			0.002		<0.001		
11 May 2017	10:50	VOID	9.5	9.24	1800	2000	20	10	<5			190			295		359	0.61	0.011	0.021			
10 August 2017	11:10	SD3	9.8	9.06	584	580	200	12	<5														
10 August 2017	10:40	SB19	8.6	8.32	502	502	223	6	<5														
10 August 2017	11:45	DAM B	8.6	8.25	374	368	7	9	<5														
10 August 2017	9:40	SD7	7.9	8.02	288	282	19	21	<5														
10 August 2017	10:15	VOID	9.4	8.68	1140	1180	8	4	<5														
8 November 2017	10:50	SD3	8.7	8.96	630	622	47	6	<5					<0.001		<0.01			0.004		0.016		
8 November 2017	10:25	SB19	8.2	8.47	577	569	56	4	<5					<0.001		0.01			0.01		0.006		
8 November 2017	11:20	DAM B	7.3	8.22	503	484	13	9	<5					<0.001		<0.01			0.003		0.002		
8 November 2017	9:30	SD7	8	8.15	401	368	61	23	<5					<0.001		<0.01			0.004		<0.001		
8 November 2017	10:00	VOID	8.7	8.82	1280	1270	36	3	<5														

Appendix 3

Groundwater Data

1.0 STANDING WATER LEVEL

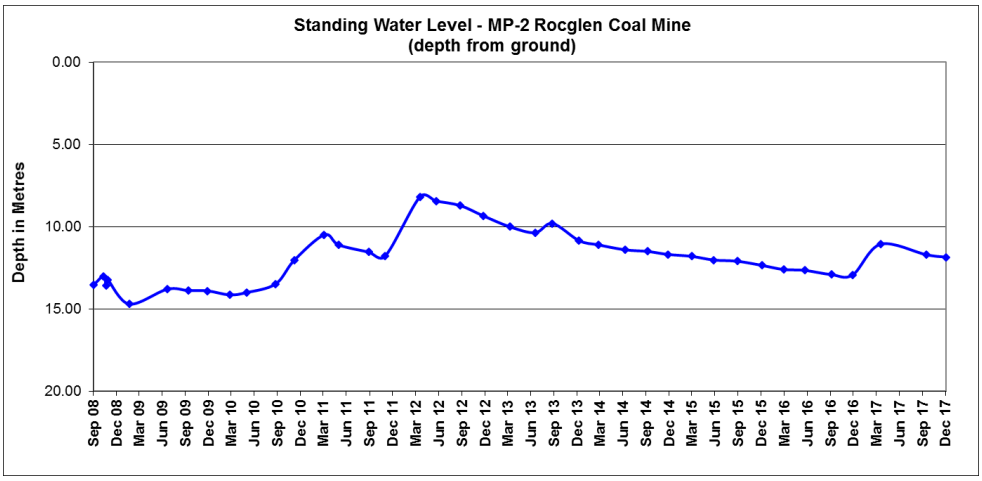


Figure 1. Standing Water Level MP-2

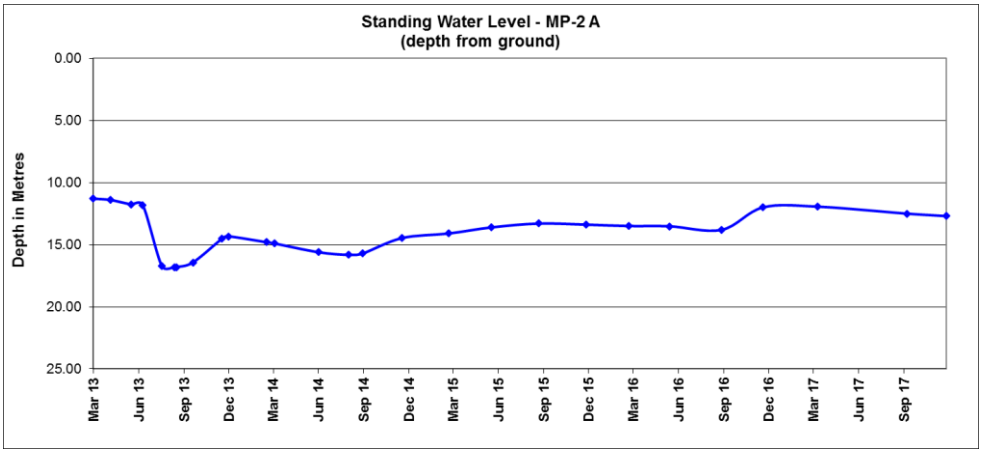


Figure 2. Standing Water Level MP-2A

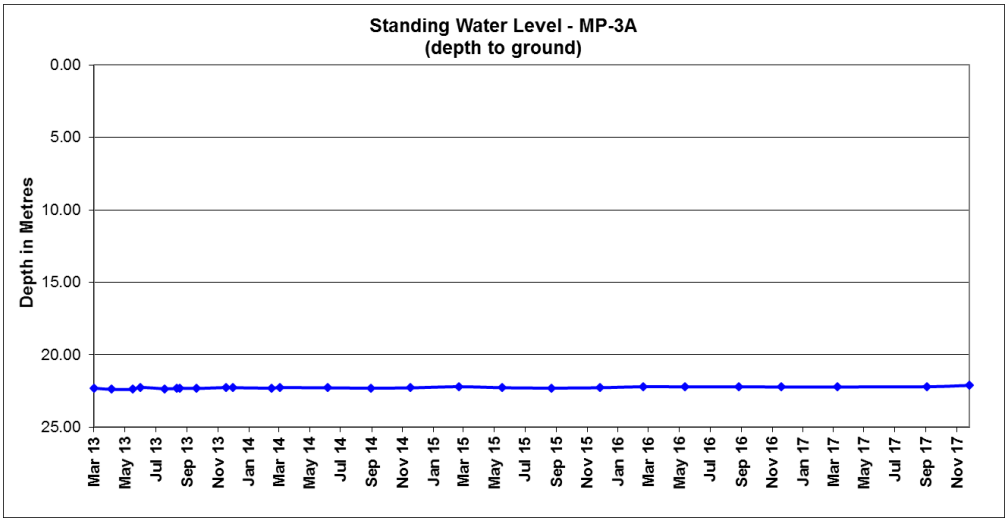


Figure 3. Standing Water Level MP-3

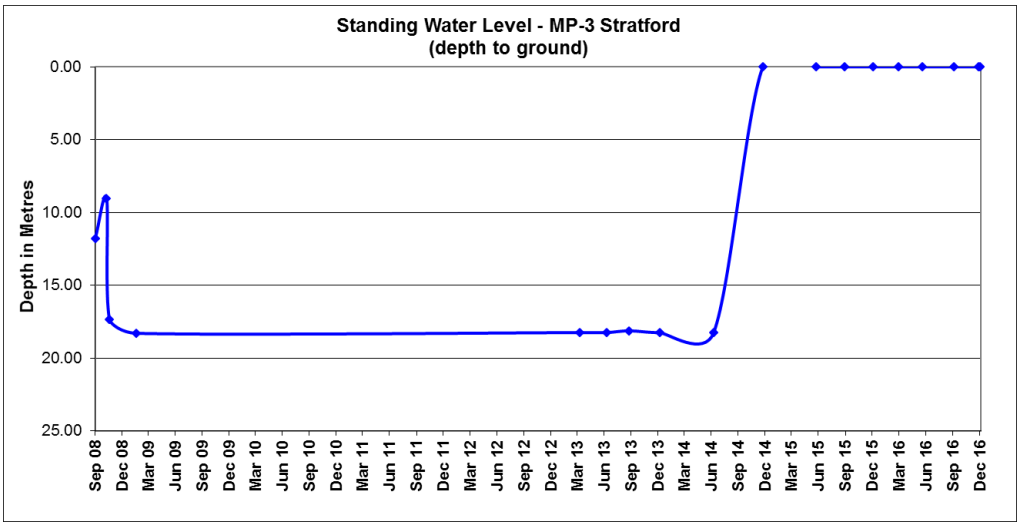


Figure 4. Standing Water Level MP-3A

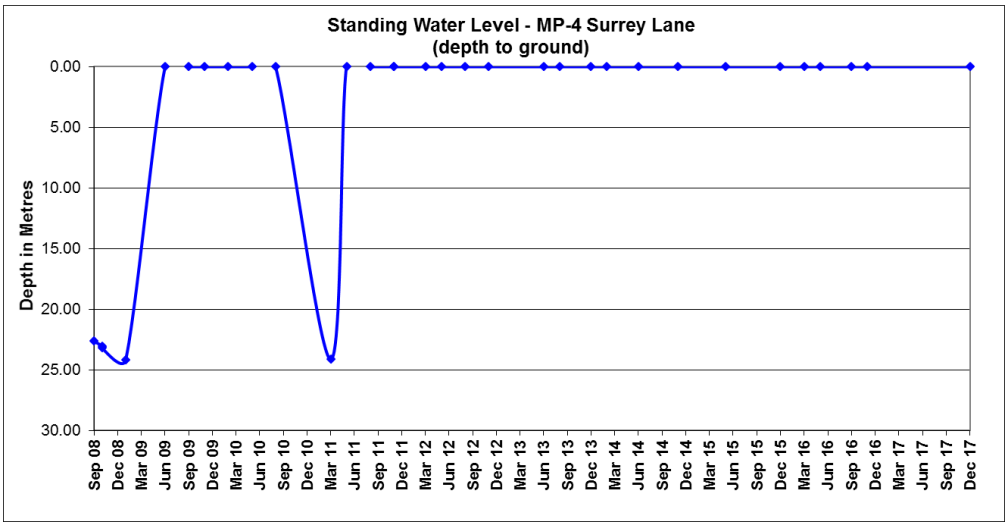


Figure 5. Standing Water Level MP-4

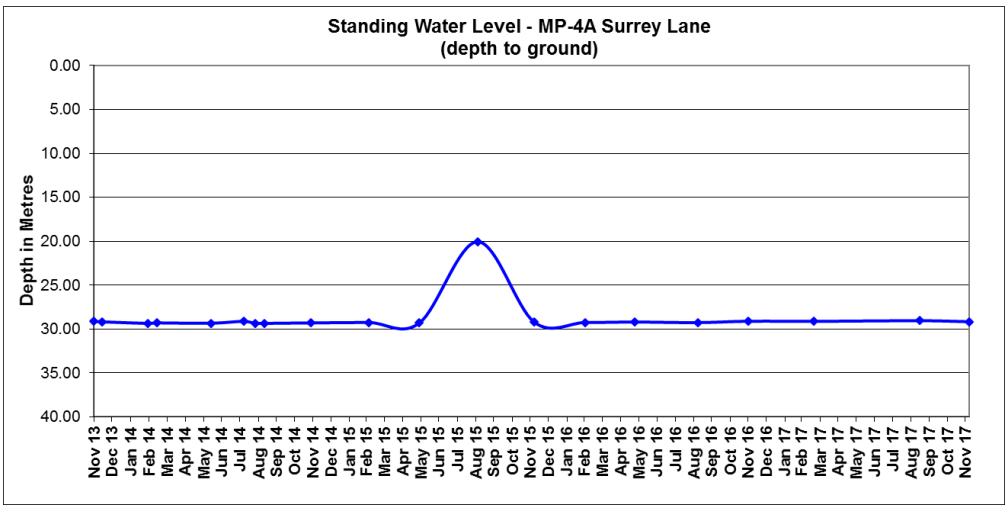


Figure 6. Standing Water Level MP-4A

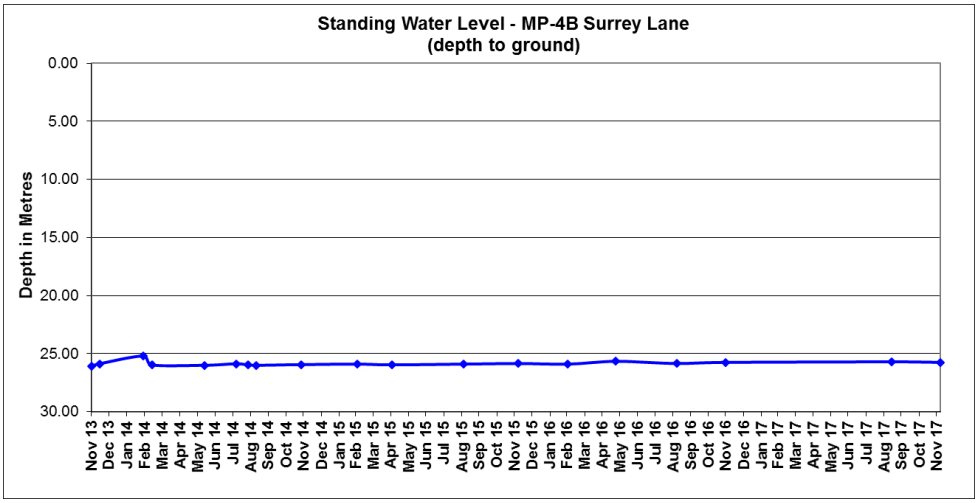


Figure 7. Standing Water Level MP-4B

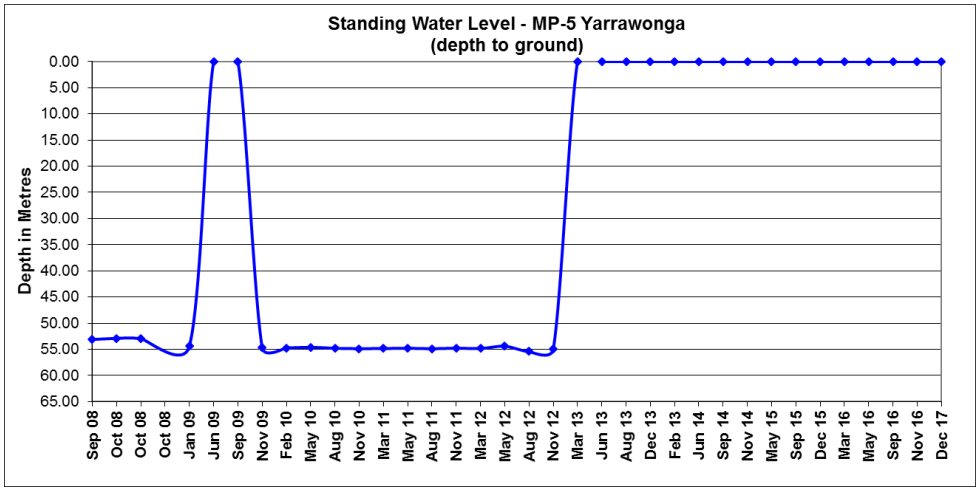


Figure 8. Standing Water Level MP-5

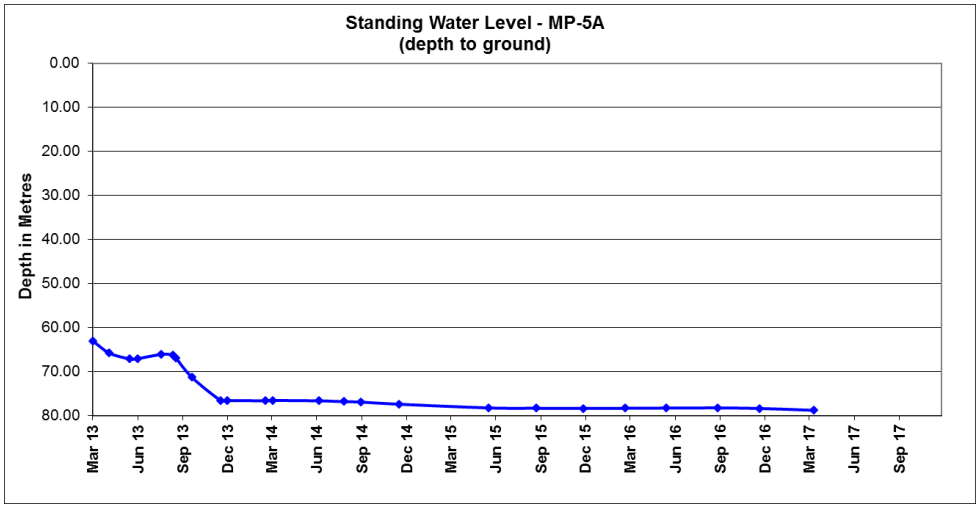


Figure 9. Standing Water Level MP-5A

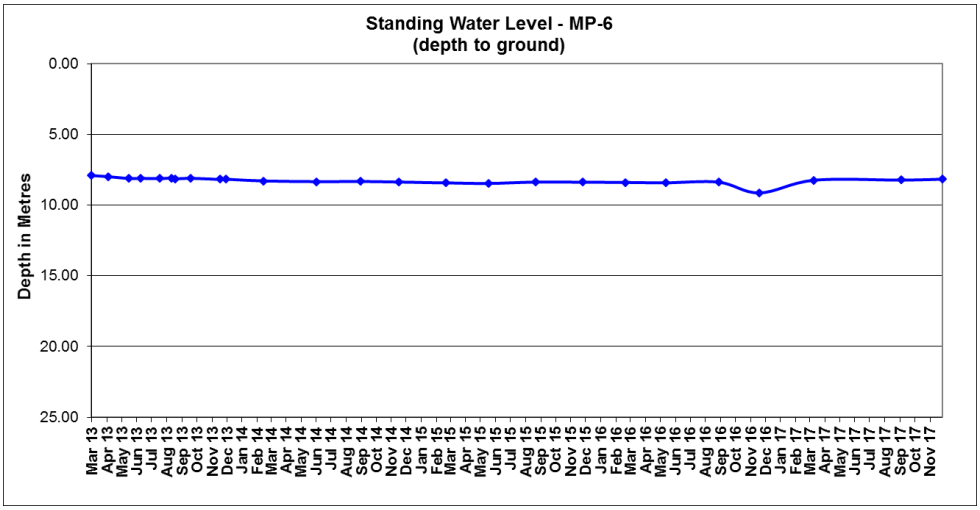


Figure 10. Standing Water Level MP-6

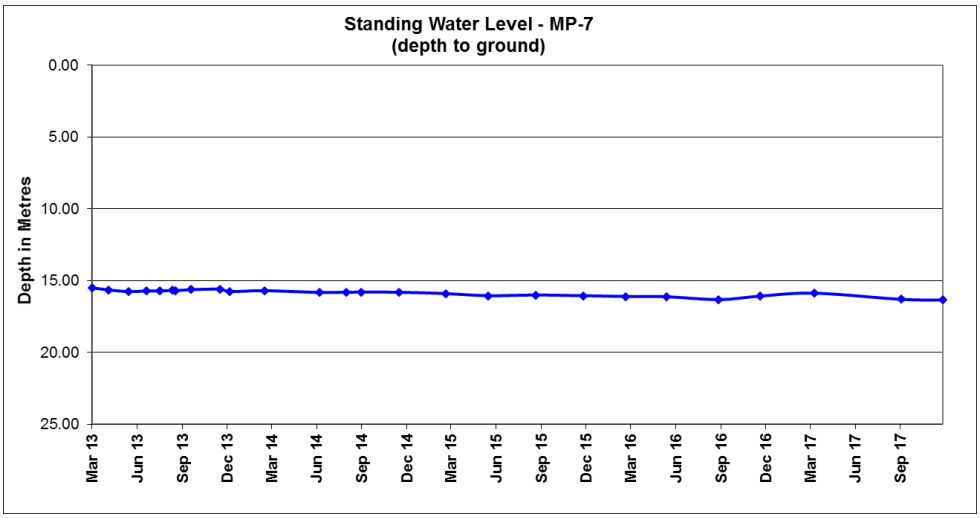


Figure 11. Standing Water Level MP-7

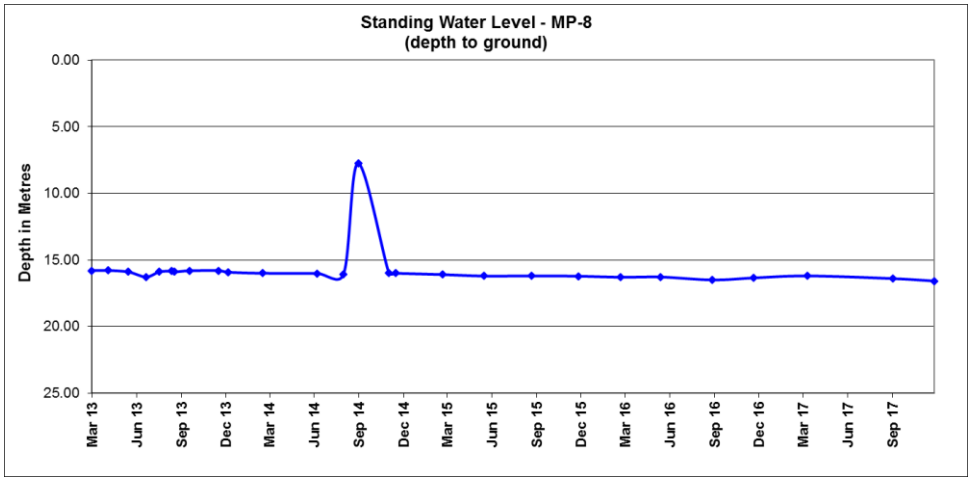


Figure 12. Standing Water Level MP-8

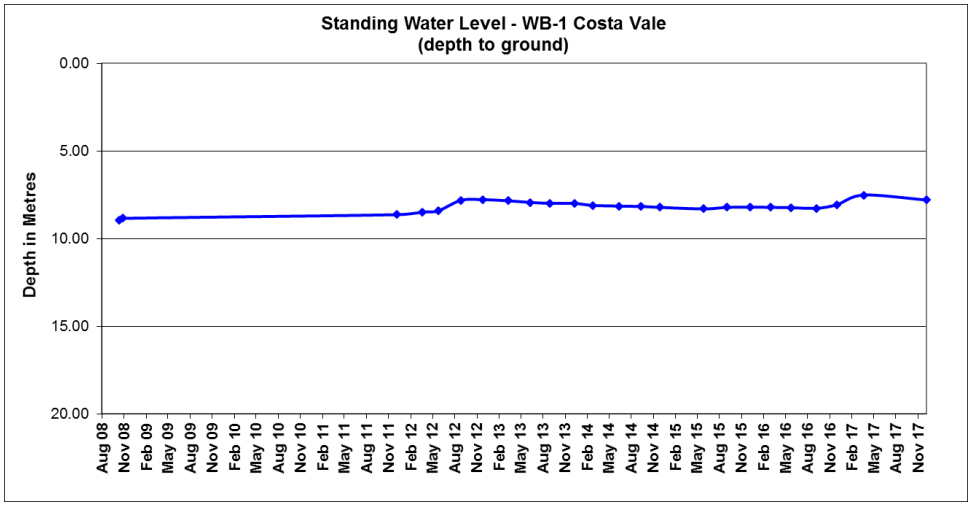


Figure 13. Standing Water Level WB-1

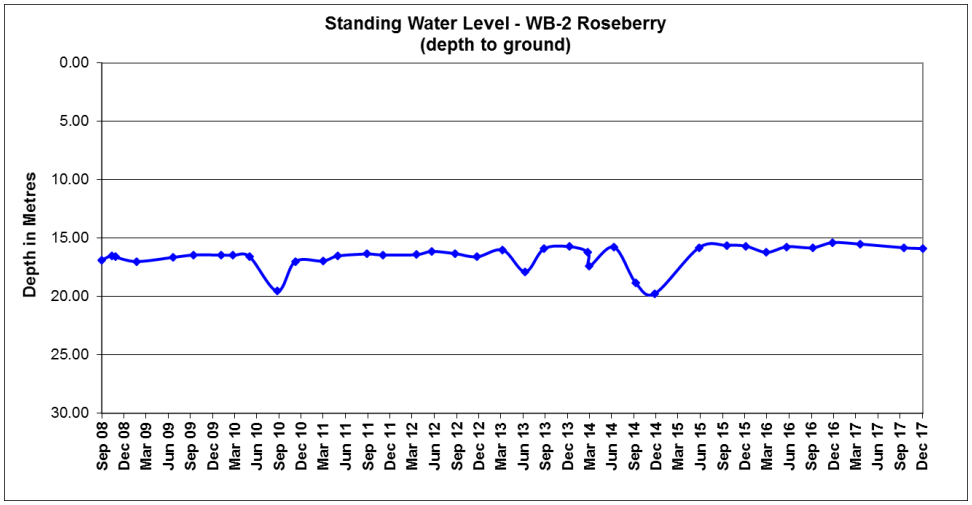


Figure 14. Standing Water Level WB-2

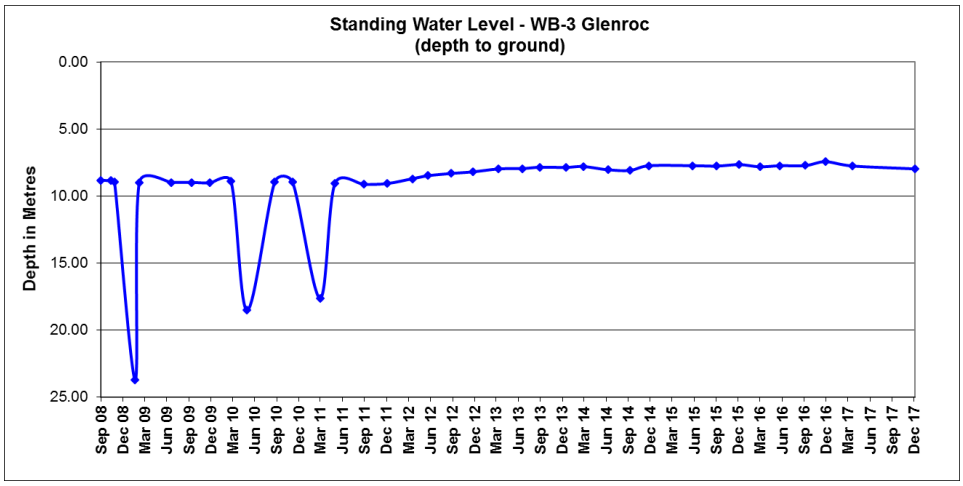


Figure 15. Standing Water Level WB-3

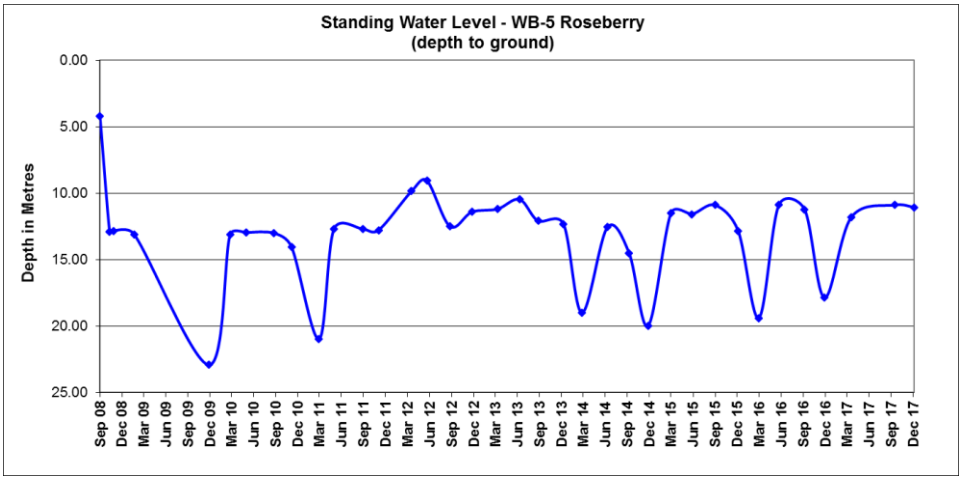


Figure 16. Standing Water Level WB-5

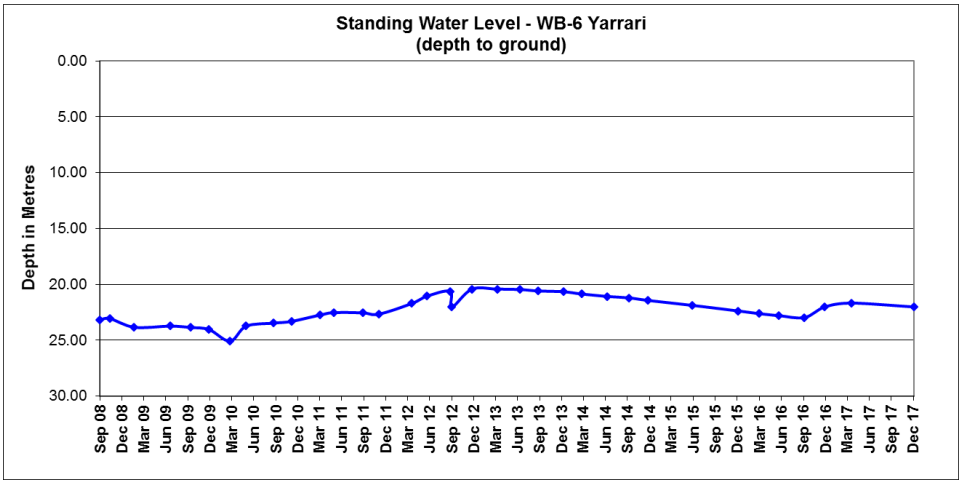


Figure 17. Standing Water Level WB-6

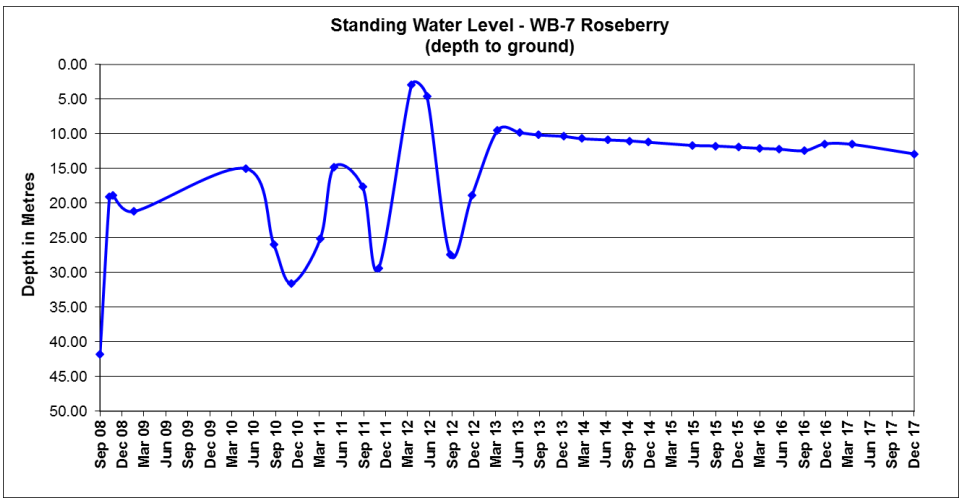


Figure 18. Standing Water Level WB-7

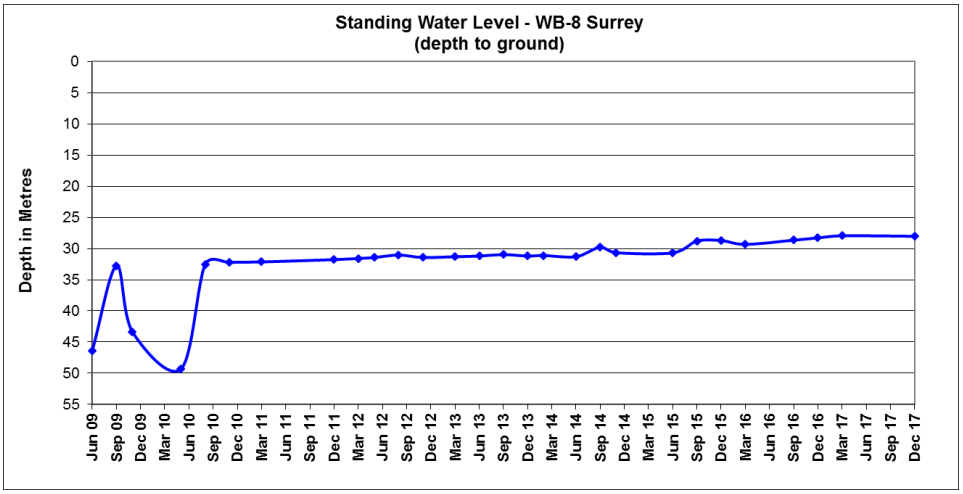


Figure 19. Standing Water Level WB-8

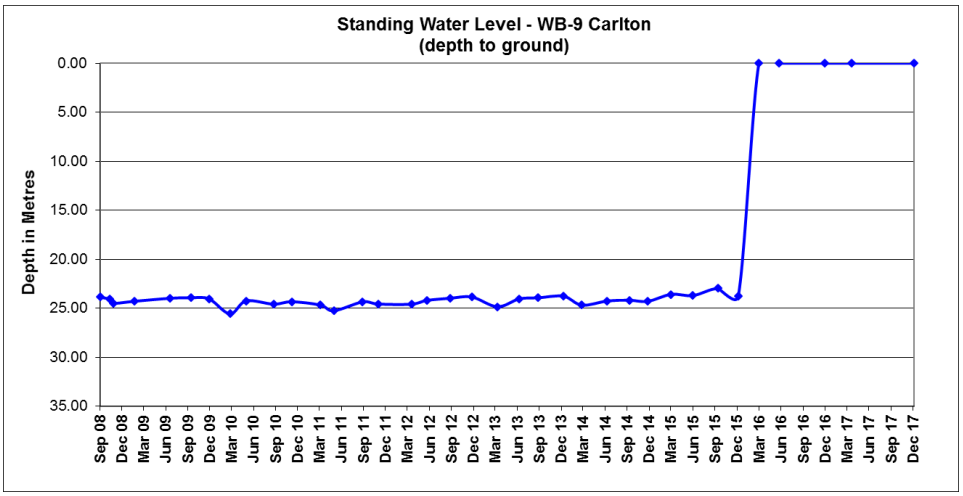


Figure 20. Standing Water Level WB-9

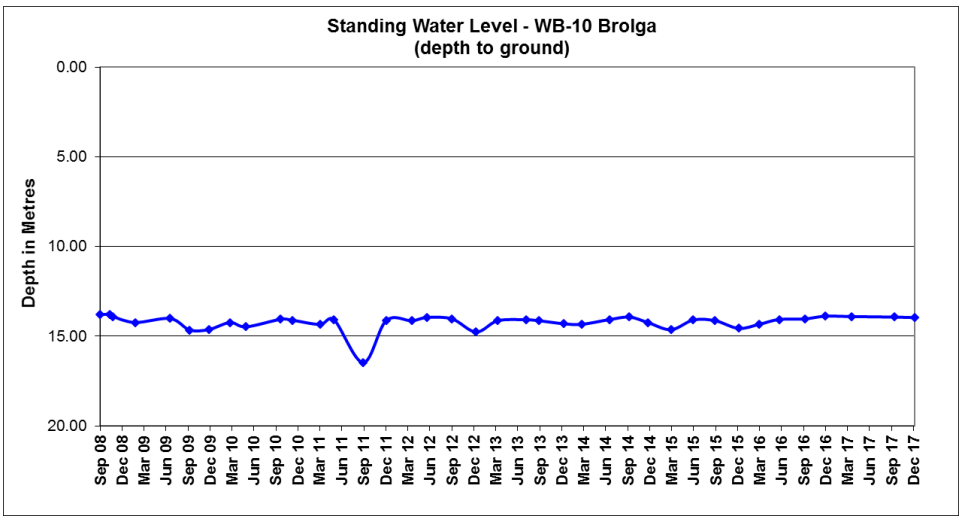


Figure 21. Standing Water Level WB-10

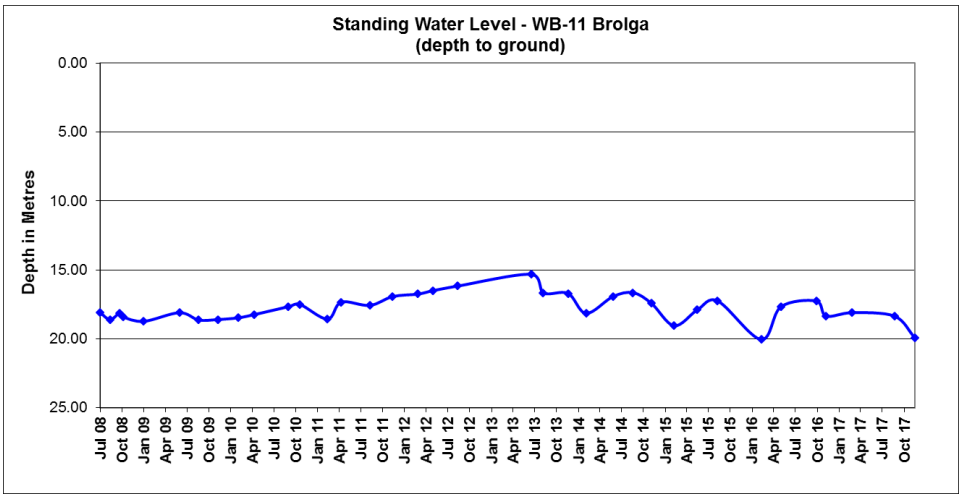


Figure 22. Standing Water Level WB-11

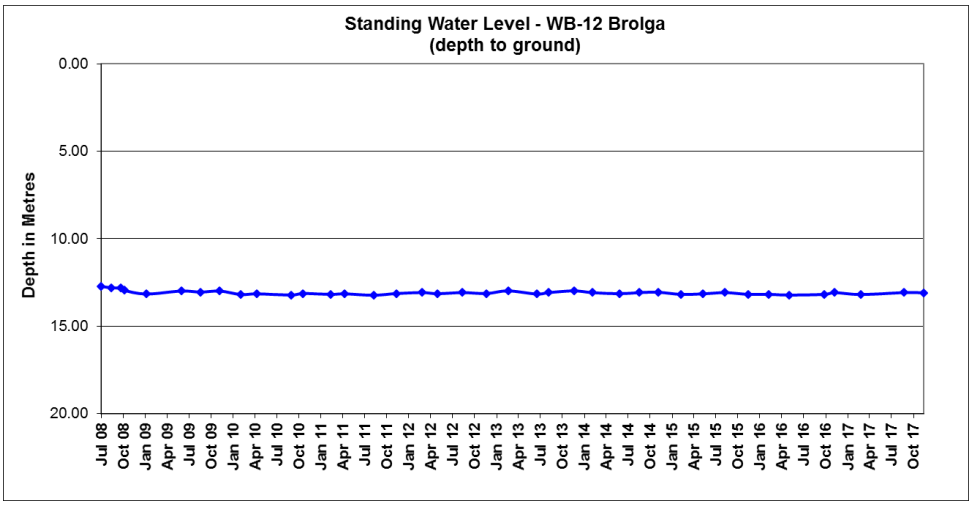


Figure 23. Standing Water Level WB-12

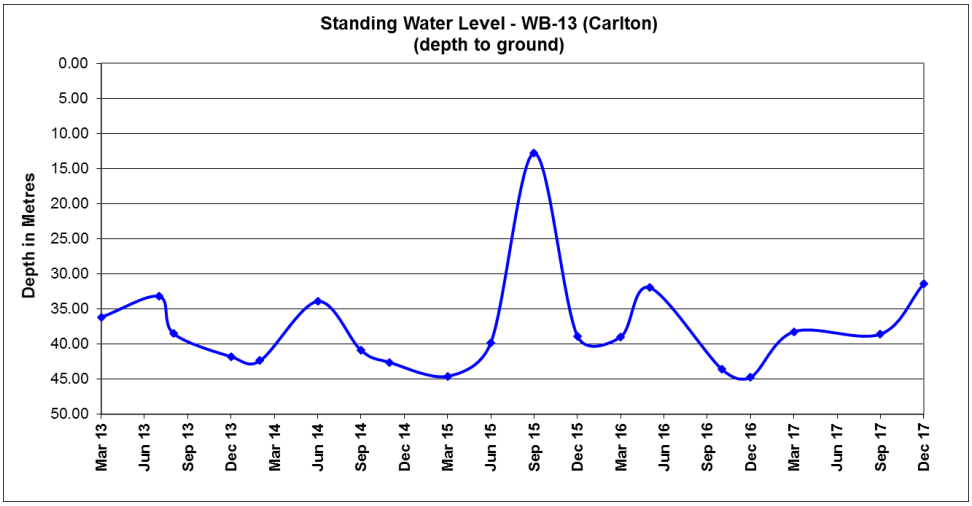


Figure 24. Standing Water Level WB-13

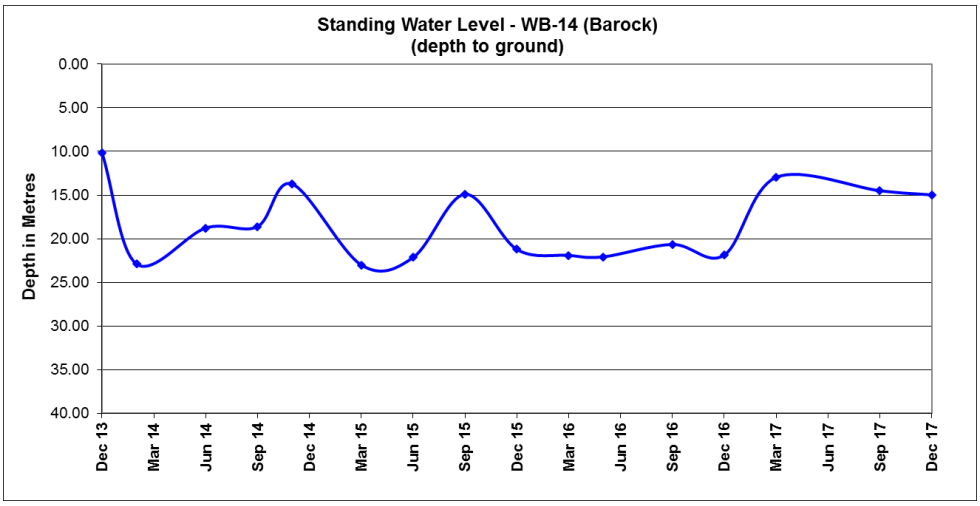


Figure 25. Standing Water Level WB-14

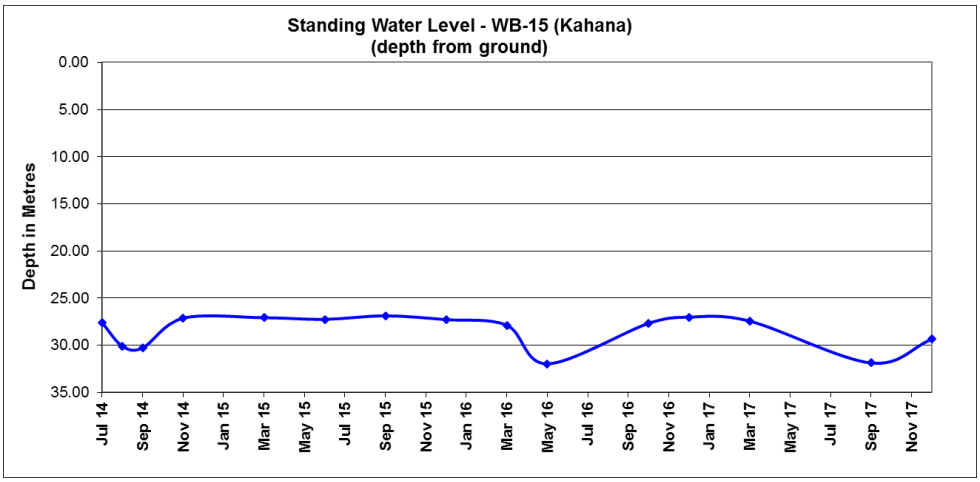


Figure 26. Standing Water Level WB-15

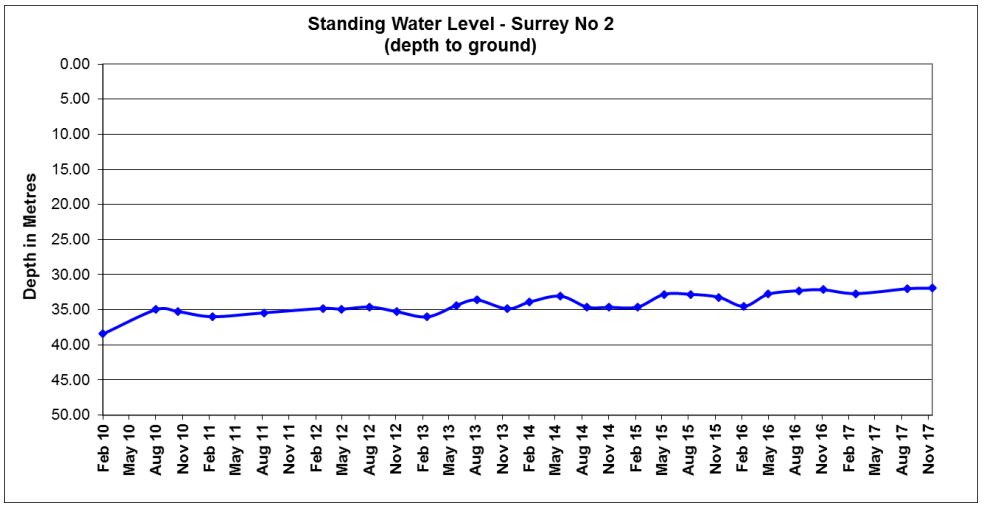


Figure 27. Standing Water Level Surrey No. 2

NOTE: WB-4 and Yarrari Production do not had SWL readings as there are pumps over the bores.

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
MP-2	03/Sep/08	1650	13.55	14.55																				
	13/Oct/08	1255	13.00	14.00																				
	23/Oct/08	0930	13.58	14.58																				
	29/Oct/08		13.22	14.22	7.35	4180	21		0.001	0.618	<0.001		0.0001	0.002	0.001	0.003	1.1	0.011	0.234	0.234		<0.01	0.042	<0.0001
	23/Jan/09	1741	14.70	15.7																				
	22/Jun/09	1200	13.80	14.8	7	5210	22.5		0.001	0.766	<0.001		<0.0001	0.01	0.003	0.008	5.01	0.007	0.145	0.011		0.01	0.095	<0.0001
	15/Sep/09	1520	13.88	14.88																				
	30/Nov/09	1030	13.90	14.9	6.91	5230	30.2	<0.01	0.002					<0.005		0.019	<0.05	<0.001	0.07	0.006			0.01	<0.0001
	25/Feb/10	1320	14.14	15.14																				
	03/May/10	1130	14.00	15	7.37	5240	22.3		<0.001	0.737	<0.001		<0.0001	0.004	0.002	0.022	4.31	0.012	0.148	0.009		0.01	0.335	<0.0001
	26/Aug/10	1040	13.48	14.48	7.07	5060	Probe Broken																	
	08/Nov/10	1355	12.04	13.04	6.72	3720	26.9																	
	07/Mar/11	1320	10.49	11.49	6.98	4060	25.2	0.71	<0.001					0.001		0.057	0.52	0.006	0.077	0.004			0.299	<0.0001
	03/May/11	1210	11.10	12.1	6.95	4110	21.7																	
	30/Aug/11	1130	11.54	12.54	6.90	3950	22.4	7.63	0.006	1.28	<0.001		0.0001	0.008	0.005	0.154	9.79	0.019	0.436	0.014		0.02	1.2	<0.0001
	04/Nov/11	1140	11.78	12.78	6.80	3820	23.9																	
	21/Mar/12	0945	8.17	9.17	7.01	4330	22.3	0.26	0.003	0.867	<0.001		<0.0001	0.001	<0.001	0.037	0.12	0.003	0.028	0.003		<0.01	0.13	<0.0001
	23/May/12	1140	8.43	9.43	7.32	4170	15.4																	
	27/Aug/12	1100	8.71	9.71	7.16	4670	20.7	0.62	0.002	0.86	0.001		0.0005	0.003	0.001	0.036	0.66	0.012	0.073	0.006		<0.01	0.178	<0.0001
	26/Nov/12	1045	9.33	10.33	7.07	4530	23.8																	
	12/Mar/13	1040	10.00	11	7.29	4620	22.7	0.13	0.002	0.819	<0.001		<0.0001	0.004	<0.001	0.044	1.05	0.002	0.024	0.005		<0.01	0.17	<0.0001
	20/Jun/13	1120	10.36	11.36	7.12	4710	20.5																	
	28/Aug/13	1200	9.80	10.8	7.20	4740	21.2	0.24	<0.001	0.8	<0.001	0.09	0.0001	<0.001	<0.001	0.006	0.37	0.005	0.033	0.004	<0.01	<0.01	0.216	<0.0001
	11/Dec/13	1240	10.84	11.84	7.20	4870	21.8																	
	26/Feb/14	1310	11.10	12.1	7.40	4850	22.3	0.36	0.002	0.933	<0.001	0.009	0.0001	0.006	<0.001	0.243	2.63	0.02	0.064	0.006	<0.01	0.01	0.455	<0.0001
	12/Jun/14	1330	11.40	12.4	7.20	4930	20.9																	
	10/Sep/14	1050	11.50	12.5	7.2	4930	21.7	0.18	0.001	0.868	<0.001	0.07	<0.0001	<0.001	<0.001	0.024	0.29	0.002	0.033	0.004	<0.01	<0.01	0.127	
	28/Nov/14	835	11.68	12.68	7.4	4910	21.5																	
	03/Mar/15	0955	11.80	12.8	7.3	4900	22.2	0.03	<0.001	0.817	<0.001	0.07	<0.0001	<0.001	<0.001	0.015	0.13	<0.001	0.028	0.005	<0.01	<0.01	0.144	<0.0001
	29/May/15	0925	12.02	13.02	7.1	5070	20.6																	
	02/Sep/15	1425	12.10	13.1	7.1	5060	21.6	0.05	<0.001	0.882	<0.001	0.08	<0.0001	<0.001	<0.001	0.014	0.07	<0.001	0.02	0.002	<0.01	<0.01	0.155	<0.0001
	07/Dec/15	1105	12.35	13.35	7.1	5090	22																	
	02/Mar/16	1310	12.60	13.6	7.2	4970	23.3	0.24	<0.001	1.03	<0.001	0.09	<0.0001	0.001	<0.001	0.031	0.38	0.002	0.031	0.004	<0.01	<0.01	0.148	<0.0001
	24/May/16	1400	12.65	13.65	7.1	5030	21.1																	
	07/Sep/16	1315	12.91	13.91	7.1	4850	22.8																	
	30/Nov/16	1155	12.93	13.93	7	4880	22.1																	
	21/Mar/17		11.06	12.06																				
	18/Sep/17	1250	11.70	12.7	6.9	5080	21.4	0.09	<0.001	1.06	<0.001	0.09	<0.0001	<0.001	<0.001	0.002	0.1	<0.001	0.009	0.001	<0.01	<0.01	0.029	<0.0001
	07/Dec/17	1135	11.85	12.85	6.8	5140	22.2																	
MP-2A	12/Mar/13	1110	11.30	12.00	5.32	1340	23.9	0.38	0.011	0.351	<0.001		0.0003	0.003	0.016	0.212	3.69	0.02	0.401	0.033		<0.01	2.01	<0.0001
	15/Apr/13	1000	11.40	12.10																				
	27/May/13	1415	11.75	12.45																				
	20/Jun/13	1245	11.80	12.5	6.53	4490	22.4	0.02	0.008	1.15	<0.001		<0.0001	<0.001	0.015	0.001	6.68	<0.001	4.12	0.004		<0.01	0.006	<0.0001
	29/Jul/13	1410	16.74	17.44																				
	23/Aug/13	1006	16.80	17.5																				
	28/Aug/13	1130	16.80	17.5	5.30	2360	21.8	0.37	0.002	0.561	<0.001	0.1	0.0003	0.002	0.017	0.116	5.2	0.008	1.54	0.037	<0.01	<0.01	0.784	<0.0001
	30/Sep/13	1610	16.43	17.13																				
	28/Nov/13	1330	14.52	15.22																				
	11/Dec/13	1240	14.33	15.03	6.70	3140	22.6																	
	26/Feb/14	1245	14.80	15.5	6.90	3100	22.2	0.8	0.041	0.833	<0.001	0.09	0.0016	0.046	0.01	1.19	48.8	0.074	2	0.044	<0.01	0.17	2.23	<0.0001
	14/Mar/14	1530	14.90	15.6																				
	12/Jun/14	1340	15.61	16.31	7.00	3180	20.7																	
	12/Aug/14	1545	15.82	16.52																				
	10/Sep/14	1110	15.70	16.4	7.00	3210	21.7	0.06	0.003	0.67	<0.001	0.08	0.0002	0.003	0.003	0.035	0.28	<0.001	1.75	0.02	<0.01	<0.01	0.147	
	28/Nov/14	850	14.47	15.17	7.3	3220	21.9																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	03/Mar/15	1015	14.10	14.8	7.3	3280	21.9	0.04	0.002	0.706	<0.001	0.1	0.0002	0.003	0.003	0.048	0.36	<0.001	1.46	0.029	<0.01	<0.01	0.158	<0.0001
	29/May/15	0940	13.61	14.31	7.1	3540	20.6																	
	02/Sep/15	1405	13.30	14	7	3470	21.8	0.12	0.002	0.796	<0.001	0.1	<0.0001	<0.001	<0.001	0.018	0.21	<0.001	0.044	0.002	<0.01	0.02	0.126	<0.0001
	07/Dec/15	1130	13.39	14.09	7.1	3410	22																	
	02/Mar/16	1335	13.50	14.2	7.1	3370	23.3	0.09	0.002	0.765	<0.001	0.1	<0.0001	<0.001	<0.001	0.024	0.29	0.001	0.035	<0.001	<0.01	0.02	0.049	<0.0001
	24/May/16	1415	13.52	14.22	7	3321	21.6																	
	07/Sep/16	1340	13.81	14.51	7	3180	22.5																	
	30/Nov/16	1010	12.00	12.7	7	3060	22.3																	
	21/Mar/17		11.94	12.64																				
	18/Sep/17	1350	12.50	13.2	7	3280	21.9	0.03	0.002	0.78	<0.001	0.1	<0.0001	0.001	<0.001	0.049	<0.05	<0.001	0.003	0.002	<0.01	0.03	0.014	<0.0001
	07/Dec/17	1155	12.70	13.4	7	3270	21.8																	
MP-3	04/Sep/08	1130	11.81	12.75																				
	13/Oct/08	1000	9.06	10.00																				
	23/Oct/08	0830	17.36	18.3																				
	29/Oct/08																							
	23/Jan/09	1800	18.3	19.24																				
	22/Jun/09	1240		Dry																				
	15/Sep/09	1505		Dry																				
	30/Nov/09	1220		Dry																				
	25/Feb/10	1140		Dry																				
	03/May/10	1050		Dry																				
	26/Aug/10	1000		Dry																				
	08/Nov/10	1400		Dry																				
	07/Mar/11	1150		Dry																				
	03/May/11	1315		Dry																				
	30/Aug/11	1000		Dry																				
	04/Nov/11	1040		Dry																				
	20/Mar/12	0950		Dry																				
	23/May/12	1000		Dry																				
	27/Aug/12	1010		Dry																				
	26/Nov/12	0940		Dry																				
	12/Mar/13	0930	18.26	19.2																				
	12/Jun/13	1150	18.25	19.19	No sample																			
	28/Aug/13	1020	18.13	19.07																				
	11/Dec/13	1145	18.26	19.2	No sample - mud at bottom																			
	24/Feb/14	1410		Dry																				
	12/Jun/14	1035	18.27	19.21	No sample-mud at bottom																			
	27/Nov/14	1050	0	Dry																				
	28/May/15	1030	0	Dry																				
	02/Sep/15	1130	0	Dry																				
	07/Dec/15	9:55	0	Dry																				
	02/Mar/16	0940	0	Dry																				
	24/May/16	950	0	Dry																				
	07/Sep/16	10:15	0	Dry																				
	30/Nov/16	9:45	0	Dry																				
	07/Dec/16	945	0	Dry																				
MP-3A	12/Mar/13	0950	22.30	22.90	7.48	1280	22.3	1.14	0.007	0.141	<0.001		<0.0001	0.004	0.001	0.051	3.82	0.006	0.087	0.005		0.05	0.24	<0.0001
	15/Apr/13	0945	22.38	22.98																				
	27/May/13	1315	22.38	22.98																				
	12/Jun/13	1220	22.25	22.85	7.79	1225	22.1																	
	29/Jul/13	1425	22.34	22.94																				
	23/Aug/13	0953	22.32	22.92																				
	28/Aug/13	1040	22.30	22.9	7.8	1250	22.6	2.21	0.005	0.134	<0.001	0.07	<0.0001	0.003	0.002	0.095	2.11	0.008	0.094	0.004	<0.01	0.04	0.154	<0.0001
	30/Sep/13	1600	22.32	22.92																				
	28/Nov/13	1345	22.26	22.86																				
	11/Dec/13	1200	22.27	22.87	7.9	1305	22.1																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	26/Feb/14	0950	22.30	22.9	8.1	1280	22.7	0.75	0.004	0.123	<0.001	0.07	<0.0001	0.027	<0.001	0.091	0.86	0.008	0.077	0.008	<0.01	0.03	0.078	<0.0001
	14/Mar/14	1445	22.26	22.86																				
	17/Jun/14	1050	22.28	22.88	7.8	1284	21.3																	
	10/Sep/14	1000	22.30	22.9	7.8	1290	22.7	0.05	0.005	0.118	<0.001	0.05	<0.0001	<0.001	<0.001	0.01	0.07	<0.001	0.089	<0.001	<0.01	0.03	0.021	
	27/Nov/14	1110	22.28	22.88	7.9	1295	23																	
	03/Mar/15	1340	22.20	22.8	8	1310	23.4	0.04	0.005	0.085	<0.001	0.06	<0.0001	0.001	<0.001	0.008	0.09	<0.001	0.008	0.002	<0.01	0.03	0.05	<0.0001
	28/May/15	1050	22.27	22.87	7.9	1291	21.3																	
	02/Sep/15	1125	22.30	22.9	7.7	1290	20.5	0.08	0.005	0.088	<0.001	0.07	<0.0001	<0.001	<0.001	0.006	0.11	<0.001	0.005	<0.001	<0.01	0.03	0.063	<0.0001
	07/Dec/15	1020	22.27	22.87	7.8	1292	22.6																	
	02/Mar/16	1005	22.20	22.8	7.7	1280	23.2	0.05	0.005	0.1	<0.001	0.06	<0.0001	<0.001	<0.001	0.014	0.1	<0.001	0.018	<0.001	<0.01	0.03	0.029	<0.0001
	24/May/16	1015	22.21	22.81	7.7	1296	21.6																	
	07/Sep/16	1040	22.21	22.81	7.7	1251	21.8																	
	30/Nov/16	1000	22.22	22.82	7.8	1265	22.6																	
	21/Mar/17		22.22	22.82																				
	14/Sep/17	1200	22.20	22.8	7.7	1340	21	0.06	0.005	0.085	<0.001	0.05	<0.0001	<0.001	<0.001	0.006	0.1	<0.001	0.006	<0.001	<0.01	0.03	0.13	<0.0001
	07/Dec/17	1005	22.11	22.71	7.7	1330	22.8																	
MP-4	03-Sep-08	1715	22.62	23.60																				
	13/Oct/08	1045	23.02	24.00																				
	22/Oct/08	1555	23.17	24.15																				
	29/Oct/08																							
	23/Jan/09	1810	24.16	25.14																				
	22/Jun/09	1247		Dry																				
	15/Sep/09	1455		Dry																				
	30/Nov/09	1220		Dry																				
	25/Feb/10	1035		Dry																				
	03/May/10	1000		Dry																				
	26/Aug/10	830		Dry																				
	08/Nov/11	1415		Dry																				
	07/Mar/11	1040	24.12	25.1																				
	03/May/11	1330		Dry																				
	30/Aug/11	0915		Dry																				
	04/Nov/11	0950		Dry																				
	20/Mar/12	0900		Dry																				
	23/May/12	0840		Dry																				
	27/Aug/12	915		Dry																				
	26/Nov/12	0845		Dry																				
	12/Jun/13	0850		Dry																				
	28/Aug/13	0650		Dry																				
	11/Dec/13	1130		Dry																				
	26/Feb/14	0835		Dry																				
	12/Jun/14	0830		Dry																				
	27/Nov/14	840		Dry																				
	28/May/15	0920		Dry																				
	07/Dec/15	850		Dry																				
	02/Mar/16	0840		Dry																				
	24/May/16	850		Dry																				
	07/Sep/16	900		Dry																				
	30/Nov/16	845		Dry																				
	07/Dec/17	840		Dry																				
MP-4A	28/Nov/13	1400	29.12	29.97																				
	12/Dec/13	1045	29.18	30.03	6.8	3210	28.4																	
	26/Feb/14	0920	29.35	30.2	7.1	3660	21.9	4.56	0.013	1.36	<0.001	0.06	<0.0001	0.014	0.008	0.067	6.7	0.009		4.64	0.016	<0.01	0.22	<0.0001

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	14/Mar/14	1430	29.30	30.15																			
	12/Jun/14	0845	29.33	30.18	7.1	3690	20.5																
	06/Aug/14	1225	29.12	29.97																			
	26/Aug/14	1235	29.36	30.205																			
	10/Sep/14	0900	29.35	30.2	7.2	3720	20.7	0.07	0.008	1.27	<0.001	<0.05	<0.0001	<0.001	<0.001	0.001	0.59	<0.001	<0.01	4.21	0.002	<0.01	0.015	
	27/Nov/14	920	29.30	30.15	7.2	3700	22.1																	
	04/Mar/15	1200	29.25	30.1	7.3	4420	22.6	<0.01	0.006					<0.001		0.003		<0.001		0.79	0.002		0.018	<0.0001
	28/May/15	0940	29.32	30.17	7.2	3870	21.2																	
	03/Sep/15	925	20.05	20.9	7.3	3870	20.1	0.03	0.006	1.14	<0.001	0.05	<0.0001	0.005	<0.001	0.002	0.24	<0.001	<0.01	1.33	0.002	<0.01	0.02	<0.0001
	07/Dec/15	935	29.21	30.06	7.4	3900	22.4																	
	02/Mar/16	925	29.25	30.1	7.5	3820	22.4	0.05	0.004	1.1	<0.001	<0.05	<0.0001	<0.001	<0.001	0.017	0.17	<0.001	<0.01	1.16	0.001	<0.01	0.037	<0.0001
	24/May/16	925	29.20	30.05	7.5	4010	20.3																	
	07/Sep/16	930	29.26	30.11	7.5	3820	21.6																	
	30/Nov/16	910	29.11	29.96	7.5	3840	22																	
	21/Mar/17		29.12	29.97																				
	14/Sep/17	1015	29.05	29.9	7.7	3970	20.5	0.02	<0.001	0.976	<0.001	<0.05	<0.0001	<0..001	<0.001	<0.001	0.33	<0.001	<0.01	1.27	0.001	<0.01	0.012	<0.0001
	07/Dec/17	905	29.16	30.01	7.6	4040	23																	
MP-4B	28/Nov/13	1405	26.06	26.96																				
	12/Dec/13	0850	25.87	26.77	7.30	2960	25.1																	
	26/Feb/14	0850	25.20	26.1	7.50	2890	21.7	0.3	0.007	0.215	<0.001	<0.05	<0.0001	0.012	<0.001	0.021	0.68	0.002	0.874	0.005	<0.01	<0.01	0.034	<0.0001
	13/Mar/14	1435	25.97	26.87																				
	12/Jun/14	0900	26.00	26.9	7.30	2960	20.3																	
	06/Aug/14	1230	25.87	26.77																				
	26/Aug/14	1245	25.97	26.865																				
	10/Sep/14	0920	26.00	26.9	7.4	2950	20.7	0.1	0.005	0.155	<0.001	<0.05	<0.0001	<0.001	<0.001	0.005	0.34	<0.001	0.534	0.002	<0.01	<0.01	0.016	
	27/Nov/14	900	25.94	26.84	7.4	2960	21.5																	
	04/Mar/15	1225	25.90	26.8	7.6	2960	23.3	<0.01	0.005					<0.001		0.002	<0.05	<0.001	0.055	<0.001			0.005	<0.0001
	02/May/15	1005	25.96	26.86																				
	03/Sep/15	900	25.9	26.8	7.6	3020	20.1	0.21	0.005	0.128	<0.001	<0.05	<0.0001	0.001	<0.001	0.009	0.28	<0.001	0.356	0.001	<0.01	<0.01	0.03	<0.0001
	07/Dec/15	910	25.85	26.75	7.7	3060	22.4																	
	2-Mar-16	900	25.9	26.8	7.6	3010	22.5	0.04	0.005	0.116	<0.001	<0.05	<0.0001	<0.001	<0.001	0.026	0.1	<0.001	0.135	<0.001	<0.01	<0.01	0.037	<0.0001
	24-May-16	900	25.66	26.56	7.6	3060	20.7																	
	7-Sep-16	1000	25.85	26.75	7.7	2920	21.8																	
	30-Nov-16	930	25.75	26.65	7.7	2960	22.1																	
	14-Sep-17	1035	25.7	26.6	7.9	3010	19.8	0.09	0.003	0.124	<0.001	<0.05	<0.0001	0.015	<0.001	0.005	0.34	<0.001	0.144	0.002	<0.01	<0.01	0.019	<.00001
	7-Dec-17	925	25.75	26.65	7.9	3060	22.1																	
MP-5	04-Sep-08	0940	53.13	54.00																				
	13-Oct-08	1515	52.9	53.77																				
	23-Oct-08	0900	52.96	53.83																				
	29-Oct-08																							
	23-Jan-09	1616	54.39	55.26																				
	22-Jun-09	1020		Dry																				
	15-Sep-09	1608		Dry																				
	30-Nov-09	0915	54.67	55.52																				
	25-Feb-10	1445	54.73	55.58																				
	03-May-10	1330	54.6	55.45																				
	26-Aug-10	1210	54.81	55.66																				
	08-Nov-10	1140	54.88	55.73																				
	02-Mar-11	1130	54.85	55.7																				
	03-May-11	1000	54.8	55.65																				
	30-Aug-11	1330	54.89	55.74																				
	04-Nov-11	1300	54.78	55.63																				

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	20-Mar-12	1020	54.85	55.7																				
	23-May-12	1030	54.41	55.26																				
	28-Aug-12	1130	55.43	56.28																				
	26-Nov-12	1125	54.95	55.8																				
	12-Mar-13	1300		Dry																				
	12-Jun-13	1055		Dry																				
	29-Aug-13	1140		Dry																				
	12-Dec-13	1335		Dry																				
	27-Feb-13	1200		Dry																				
	12-Jun-14	1400		Dry																				
	10-Sep-14	1400		Dry																				
	27-Nov-14	1200		Dry																				
	28-May-15	1200		Dry																				
	02-Sep-15	1155		Dry																				
	08-Dec-15	1300		Dry																				
	02-Mar-16	1030		Dry																				
	24-May-16	1040		Dry																				
	07-Sep-16	1100		Dry																				
	30-Nov-16	1035		Dry																				
	07-Dec-17	1035		Dry																				
MP-5A	12-Mar-13	1240	63.00	63.80	7.33	2790	24.7	0.1	0.003		0.115	<0.001	0.001	0.005	0.001	0.21	0.51	0.016	0.204	0.021		<0.01	4.94	<0.0001
	15-Apr-13	1400	65.78	66.58																				
	27-May-13	1250	67.11	67.91																				
	12-Jun-13	1115	67.03	67.83	7.12	2800	22.4																	
	29-Jul-13	1500	66.10	66.9																				
	23-Aug-13	1018	66.20	67																				
	29-Aug-13	1120	66.90	67.7	7	2710	23.2	0.46	0.001	<0.05	0.119	<0.001	<0.0001	0.002	0.001	0.05	3.44	0.007	0.312	0.006	<0.01	<0.01	0.128	<0.0001
	30-Sep-13	1630	71.25	72.05																				
	28-Nov-13	1435	76.55	77.35																				
	12-Dec-13	1350	76.56	77.36	7	2770	24.8																	
	27-Feb-14	1130	76.60	77.4	7.2	2710	26.4	6.29	0.004	0.06	0.309	0.001	0.0002	0.02	0.012	0.323	25.4	0.05	0.963	0.034	<0.01	0.05	0.537	0.0002
	14-Mar-14	1400	76.52	77.32																				
	17-Jun-14	1410	76.63	77.43	7	3010	22																	
	06-Aug-14	1040	76.79	77.59																				
	10-Sep-14	1415	76.90	77.7	6.9	2990	23.5	12.8	0.01	0.05	0.367	0.001	0.0002	0.02	0.018	0.086	18.8	0.024	0.679	0.037	<0.01	0.05	0.226	
	27-Nov-14	1220	77.38	78.18	7	2890	23.7																	
	28-May-15	1225	78.22	79.02	Just slimy grey mud																			
	02-Sep-15	1210	78.30	79.1	Just slimy grey mud																			
	08-Dec-15	1310	78.32	79.12	Just slimy grey mud																			
	02-Mar-16	1050	78.30	79.1	Just slimy grey mud																			
	24-May-16	1105	78.26	79.06	Just slimy grey mud																			
	07-Sep-16	1120	78.22	79.02	Just slimy grey mud																			
	30-Nov-16	1100	78.35	79.15	Just slimy grey mud																			
	21-Mar-17		78.76	79.56																				
	07-Dec-17	1045		Dry																				
MP-6	12-Mar-13	1400	7.91	8.56	5.47	4120	24.3	1.88	0.005		1.78	<0.001	0.0002	0.006	0.015	0.067	13	0.019	1.85	0.046		0.01	1.06	<0.0001
	15-Apr-13	1330	7.99	8.64																				
	27-May-13	1345	8.12	8.77																				
	20-Jun-13	1040	8.11	8.76	6.91	3170	20.8	0.22	0.005		0.882	<0.001	<0.0001	<0.001	0.007	0.009	10.2	0.003	1.11	0.025		<0.01	0.027	<0.0001
	29-Jul-13	1345	8.13	8.78																				
	22-Aug-13	1559	8.08	8.73																				
	29-Aug-13	1030	8.14	8.79	7.1	2890	22.4	0.11	0.006	0.09	0.65	<0.001	<0.0001	<0.001	0.003	0.042	8.81	0.004	0.665	0.023	<0.01	<0.01	0.125	<0.0001
	30-Sep-13	1520	8.11	8.76																				
	28-Nov-13	1245	8.18	8.83																				
	11-Dec-13	1430	8.17	8.82	7.2	2780	22.4																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	24-Feb-14	1245	8.29	8.94	7.4	2580	22.2	0.14	0.009	0.1	0.507	<0.001	<0.0001	0.002	0.002	0.074	5.99	0.006	0.288	0.015	<0.01	<0.01	0.1	<0.0001
	12-Jun-14	1150	8.34	8.99	7.3	2360	21.4																	
	10-Sep-14	1330	8.33	8.98	7.4	2260	21.2	0.08	0.004	0.09	0.316	<0.001	<0.0001	<0.001	0.002	0.012	2.2	0.002	0.193	0.008	<0.01	<0.01	0.033	
	27-Nov-14	1320	8.37	9.02	7.5	2160	22.7																	
	03-Mar-15	1130	8.43	9.08	7.6	2110	22.3	0.3	0.006	0.09	0.335	<0.001	<0.0001	0.004	0.002	0.029	4.79	0.003	0.166	0.016	<0.01	<0.01	0.122	<0.0001
	28-May-15	1310	8.47	9.12	7.51	2100	21.7																	
	02-Sep-15	1300	8.37	9.02	7.5	2030	22	0.03	0.005	0.1	0.265	<0.001	<0.0001	<0.001	<0.001	0.004	1.57	0.001	0.136	0.004	<0.01	<0.01	0.033	<0.0001
	07-Dec-15	1345	8.38	9.03	7.6	1958	22																	
	02-Mar-16	1150	8.40	9.05	7.5	1980	23.2	0.16	0.005	0.08	0.237	<0.001	<0.0001	<0.001	0.001	0.022	1.56	0.002	0.105	0.004	<0.01	<0.01	0.056	<0.0001
	24-May-16	1205	8.42	9.07	7.5	1972	21.6																	
	08-Sep-16	1110	8.38	9.03	7.6	1810	22.7	0.05	0.004	0.08	0.225	<0.001	<0.0001	<0.001	<0.001	0.005	1.06	0.001	0.095	0.004	<0.01	<0.01	0.028	<0.0001
	30-Nov-16	1430	9.14	9.79	7.6	1840	23.7																	
	21-Mar-17		8.24	8.89																				
	14-Sep-17	1300	8.23	8.88	7.6	1880	205	0.05	0.004	0.08	0.207	<0.001	<0.0001	<0.001	<0.001	0.004	1.02	<0.001	0.083	0.003	<0.01	<0.01	0.013	<0.0001
	07-Dec-17	1320	8.17	8.82	7.6	1849	22.7																	
MP-7	13-Mar-13	1030	15.50	16.30	6.8	3230	24.5	0.67	0.008		1.06	<0.001	<0.0001	0.002	0.008	0.031	12	0.006	5.4	0.009		<0.01	0.216	<0.0001
	15-Apr-13	1305	15.64	16.44																				
	27-May-13	1445	15.76	16.56																				
	02-Jul-13	1120	15.72	16.52	6.81	3830	21.8	0.03	0.016		2.57	<0.001	<0.0001	<0.001	0.015	<0.001	11.2	<0.001	5.25	0.007		<0.01	<0.005	<0.0001
	29-Jul-13	1435	15.72	16.52																				
	23-Aug-13	0936	15.68	16.48																				
	29-Aug-13	0900	15.70	16.5	6.81	3040	22.3	0.05	0.029	0.07	1.45	<0.001	0.0002	<0.001	<0.001	0.148	10.6	0.003	3.75	0.004		<0.01	0.49	<0.0001
	30-Sep-13	1644	15.63	16.43																				
	28-Nov-13	1600	15.60	16.4																				
	18-Dec-13	1220	15.76	16.56	6.9	2970	23.3																	
	27-Feb-14	1915	15.70	16.5	6.9	2850	21.9	0.43	0.023	0.11	1.43	<0.001	0.0003	0.027	0.001	0.312	8.21	0.026	2.98	0.013	<0.01	<0.01	0.404	<0.0001
	19-Jun-14	0935	15.82	16.62	7	3050	20.1																	
	12-Aug-14	1530	15.81	16.605																				
	11-Sep-14	0910	15.80	16.6	7	3040	20.7	0.11	0.017	0.1	1.42	<0.001	<0.0001	<0.001	<0.001	0.006	5.59	0.002	2.74	0.002	<0.01	<0.01	0.03	<0.0001
	27-Nov-14	1130	15.81	16.61	7.1	3060	22.3																	
	03-Mar-15	0920	15.90	16.7	7.1	3010	21.8	0.02	0.004	0.1	1.03	<0.001	<0.0001	<0.001	<0.001	0.003	1.45	<0.001	1.67	0.001	<0.01	<0.01	0.036	<0.0001
	28-May-15	1115	16.05	16.85	7	3070	21.4																	
	02-Sep-15	1040	16.00	16.8	7	3080	21.2	0.03	0.002	0.1	1.08	<0.001	<0.0001	<0.001	<0.001	0.002	1.62	<0.001	1.49	<0.001	<0.01	<0.01	0.045	<0.0001
	08-Dec-15	910	16.05	16.85	7	3120	22																	
	03-Mar-16	1300	16.10	16.9	7	3110	23.8	0.02	0.002	0.09	1	<0.001	<0.0001	<0.001	<0.001	0.009	0.07	<0.001	1.24	0.002	<0.01	<0.01	0.171	<0.0001
	25-May-16	915	16.12	16.92	6.9	3090	20.4																	
	08-Sep-16	920	16.32	17.12	6.9	3030	21	<0.01	0.001	0.1	1.02	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	1.08	<0.001	<0.01	<0.01	0.05	<0.0001
	01-Dec-16	900	16.08	16.88	7	2990	21.9																	
	22-Mar-17		15.87	16.67																				
	14-Sep-17	1235	16.30	17.1	7.1	3100	20.6	0.02	<0.001	0.09	0.939	<0.001	<0.0001	<0.001	<0.001	0.008	<0.05	<0.001	0.381	<0.001	<0.01	<0.01	0.064	<0.0001
	08-Dec-17	1110	16.35	17.15	7	3090	22.7																	
MP-8	13-Mar-13	1030	15.80	16.50	4.73	1430	25.6	1.76	0.005		0.186	<0.001	0.0004	0.003	0.017	0.112	5.83	0.03	1.16	0.024		<0.01	2.37	<0.0001
	15-Apr-13	1300	15.79	16.49																				
	27-May-13	1443	15.90	16.6																				
	02-Jul-13	1240	16.28	16.98	6.7	4200	23.3	1.14	0.01		0.9	<0.001	<0.0001	0.002	0.018	0.005	4.54	0.002	1.43	0.011		<0.01	0.035	<0.0001
	29-Jul-13	1440	15.90	16.6																				
	23-Aug-13	0935	15.84	16.54																				
	29-Aug-13	0930	15.90	16.6	5.44	3180	22.5	0.9	0.008	0.07	0.968	<0.001	0.0001	0.002	0.015	0.091	7.06	0.008	2.63	0.013	<0.01	<0.01	0.344	<0.0001
	30-Sep-13	1646	15.81	16.51																				
	28-Nov-13	1605	15.80	16.5																				
	18-Dec-13	1200	15.92	16.62	6.4	3620	22.9																	
	27-Feb-14	0855	16.00	16.7	6.5	3540	22.1	0.26	0.005	0.08	0.994	<0.001	0.0001	0.018	0.002	0.093	4.31	0.01	2.29	0.014	<0.01	<0.01	0.397	<0.0001
	19-Jun-14	0920	16.01	16.71	6.9	4010	20.1																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	12-Aug-14	1540	16.07	16.765																				
	11-Sep-14	0845	7.75	8.45	6.7	4170	20.8	0.62	0.004	0.08	0.949	<0.001	<0.0001	0.003	0.001	0.018	1.48	0.005	1.55	0.008	<0.01	<0.01	0.106	<0.0001
	13-Nov-14	1520	15.97	16.665																				
	27-Nov-14	1140	16.00	16.7	7	4130	22.9																	
	03-Mar-15	0905	16.10	16.8	6.9	4190	22.4	0.05	0.001	0.08	0.899	<0.001	<0.0001	0.001	<0.001	0.008	0.66	<0.001	1.64	0.006	<0.01	<0.01	0.08	<0.0001
	28-May-15	1135	16.21	16.91	6.9	4210	21.2																	
	02-Sep-15	1020	16.20	16.9	6.9	4410	20.7	0.28	<0.001	0.08	0.905	<0.001	<0.0001	<0.001	<0.001	0.011	0.65	0.002	1.57	0.004	<0.01	<0.01	0.15	<0.0001
	08-Dec-15	845	16.22	16.92	6.8	4450	21.8																	
	03-Mar-16	1240	16.30	17	7.1	4260	23.7	0.69	<0.001	0.07	0.911	<0.001	<0.0001	0.001	<0.001	0.059	1.85	0.005	1.49	0.006	<0.01	<0.01	0.156	<0.0001
	25-May-16	845	16.28	16.98	6.9	4420	20.1																	
	08-Sep-16	850	16.50	17.2	7	4290	21.2	0.01	<0.001	0.09	0.887	<0.001	<0.0001	<0.001	0.002	0.001	0.67	<0.001	1.77	0.005	<0.01	<0.01	0.024	<0.0001
	01-Dec-16	840	16.35	17.05	6.9	4290	21.8																	
	22-Mar-17		16.20	16.9																				
	14-Sep-17	1215	16.40	17.1	7	4480	20.9	0.04	<0.001	0.08	0.82	<0.001	<0.0001	<0.001	0.002	0.004	0.2	<0.001	1.23	0.006	<0.01	<0.01	0.124	<0.0001
	08-Dec-17	1045	16.58	17.28	6.9	4440	22.2																	
WB-1	13-Oct-08	1640	8.95	9.35																				
	28-Oct-08		8.85	9.25	7.93	1996	22.4		0.018	0.355	<0.001	0.0001	<0.001	<0.001	0.009	8.7	0.027	0.045	0.045	<0.01	1.19	<0.0001		
	6-Dec-11	1230	8.64	9.04	8.08	1450	22.3																	
	21-Mar-12	1030	8.49	8.89	7.98	1640	23.6	0.1	0.022	0.386	<0.001	0.0001	<0.001	<0.001	0.015	9.31	0.006	0.039	<0.001	<0.01	0.468	<0.0001	8.1	1730
	24-May-12	1310	8.42	8.82	8.03	1537	22																	
	27/Aug/12	1320	7.82	8.22																				
	26/Nov/12	1200	7.78	8.18																				
	12/Mar/13	1340	7.85	8.25																				
	10/Jun/13	900	7.94	8.34	No sample																			
	29/Aug/13	1100	7.99	8.39																				
	11/Dec/13	1420	8	8.4	No sample - windmill over bore																			
	24/Feb/14	1300	8.11	8.51	No sample - windmill over bore																			
	12/Jun/14	1140	8.15	8.55	Wind mill over bore																			
	10/Sep/14	1310	8.17	8.57																				
	27/Nov/14	1330	8.22	8.62	Wind mill over bore																			
	28/May/15	1250	8.31	8.71	Wind mill over bore																			
	02/Sep/15	1245	8.22	8.62	Wind mill over bore																			
	07/Dec/15	1320	8.21	8.61	Wind mill over bore																			
	02/Mar/16	1130	8.22	8.62	Wind mill over bore																			
	24/May/16	1145	8.24	8.64	Wind mill over bore																			
	08/Sep/16	1125	8.27	8.67	Wind mill over bore																			
	30/Nov/16	1410	8.07	8.47	Wind mill over bore																			
	21/Mar/17		7.52	7.92	Wind mill over bore																			
	07/Dec/17	1330	7.8	8.2	Wind mill over bore																			
WB-2	03-Sep-08	1400	16.87	17.25																				
	13-Oct-08	1630	16.49	16.87																				
	28-Oct-08		16.60	16.98	7.72	3430	22.7		<0.001	0.127	<0.001		<0.0001	<0.001	<0.001	0.011	0.15	<0.001	0.01	0.01		0.02	0.023	<0.0001
	23/Jan/09	1532	17	17.39																				
	22/Jun/09	0830	16.65	17.03	7.2	3160	19.6		0.003	0.128	<0.001		<0.0001	0.001	<0.001	0.132	20.1	0.012	0.826	0.024		0.05	1.32	<0.0001
	15/Sep/09	1552	16.45	16.83																				
	06/Jan/10	0930	16.45	16.83	8.5	2070	24.1	<0.01	<0.001					<0.001		0.021	<0.05	<0.001	0.036	0.009			0.334	<0.0001
	25/Feb/10	1355	16.48	16.86																				
	03/May/10	1250	16.56	16.94	7.84	1821	23.1		0.001	0.084	<0.001		0.0002	<0.001	<0.001	0.138	11.8	0.007	0.541	0.01		0.03	1.03	<0.0001
	26/Aug/10	1315	19.54	19.92	7.4	3000	robe Broken																	
	08/Nov/10	1050	17	17.38	7.3	2410	24.1																	
	02/Mar/11	1050	16.96	17.34	7.31	2450	27.3	<0.01	<0.001					<0.001		0.007	<0.05	<0.001	0.004	<0.001			0.009	<0.0001
	03/May/11	925	16.53	16.91	7.55	2360	15																	
	30/Aug/11	1400	16.36	16.74	8.3	2170	21.8	<0.01	<0.001	0.083	<0.001		<0.0001	<0.001	<0.001	0.016	0.19	<0.001	0.002	<0.001		0.01	0.025	<0.0001
	04/Nov/11	1330	16.44	16.82	8.4	2110	25.4																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	20/Mar/12	1330	16.42	16.8	8.46	2410	24.5	<0.01	0.002	0.023	<0.001		<0.0001	<0.001	<0.001	0.002	0.08	<0.001	0.007	<0.001		0.01	0.007	<0.0001
	23/May/12	1300	16.14	16.52	8.56	2610	15.7																	
	27/Aug/12	1250	16.32	16.7	7.57	2240	21.8	0.04	<0.001	0.076	<0.001		<0.0001	<0.001	<0.001	0.107	1.03	0.003	0.103	0.001		<0.01	0.502	<0.0001
	26/Nov/12	1150	16.6	16.98	7.85	2560	24.3																	
	12/Mar/13	1320	16.02	16.4	7.89	2570	24.8	0.01	<0.001	0.092	<0.001		<0.0001	<0.001	<0.001	0.008	0.15	<0.001	0.006	<0.001		0.01	0.023	<0.0001
	12/Jun/13	1035	17.88	18.26	7.28	2620	20.6																	
	28/Aug/13	1350	15.92	16.3	7.1	2840	22.9	0.07	<0.001	0.119	<0.001	0.08	<0.0001	<0.001	<0.001	0.042	0.84	0.002	0.02	<0.001	<0.01	0.02	0.09	<0.0001
	11/Dec/13	1410	15.73	16.11	No Sample - Tank Empty/Windmill broken + logs stuck in bore.																			
	26/Feb/14	1410	16.22	16.6	7.9	2870	26	0.01	0.001	0.118	<0.001	0.11	<0.0001	<0.001	<0.001	0.004	0.08	<0.001	0.021	<0.001	<0.01	0.01	0.021	<0.0001
	12/Jun/14	1210	15.76	16.14	8.7	2700	14.8																	
	10/Sep/14	1250	18.82	19.2	7.8	2090	19.3	0.02	<0.001	0.121	<0.001	0.08	<0.0001	<0.001	<0.001	0.011	<0.05	<0.001	0.004	<0.001	<0.01	0.02	0.023	
	28/Nov/14	0950	19.75	20.13	8.2	2120	22.2																	
	03/Mar/14	1200	17.42	17.8	7.7	2960	25.3	0.01	<0.001	0.116	<0.001	0.09	<0.0001	<0.001	<0.001	0.005	0.28	<0.001	0.016	<0.001	<0.01	0.02	0.033	<0.0001
	29/May/15	1100	15.81	16.19	8.6	2470	16.5																	
	20/Sep/15	1325	15.62	16	8.6	2610	20.1	0.04	<0.001	0.038	<0.001	0.06	<0.0001	<0.001	<0.001	0.003	0.59	<0.001	0.025	<0.001	<0.01	<0.01	0.018	<0.0001
	07/Dec/15	1300	15.68	16.06	8.6	3400	25.8																	
	02/Mar/16	1245	16.22	16.6	7.3	2980	27.8	0.02	<0.001	0.129	<0.001	0.07	<0.0001	<0.001	<0.001	0.091	0.19	<0.001	0.008	<0.001	<0.01	0.02	0.067	<0.0001
	24/May/16	1230	15.74	16.12	7.6	3120	17.1																	
	08/Sep/16	1150	15.82	16.2	8	2540	20.7	<0.01	<0.001	0.048	<0.001	0.08	<0.0001	<0.001	<0.001	0.004	<0.05	<0.001	0.004	<0.001	<0.01	<0.01	0.008	<0.0001
	30/Nov/16	1350	15.38	15.76	8	2710	26.1																	
	22/Mar/17		15.51	15.89																				
	18/Sep/17	920	15.82	16.2	7.7	2920	17.5	0.05	<0.001	0.114	<0.001	0.07	<0.0001	<0.001	<0.001	0.016	0.1	<0.001	0.008	<0.001	<0.01	0.02	0.03	<0.0001
	07/Dec/17	1355	15.9	16.28	7.8	2800	23.2																	
WB-3	03-Sep-08	1430	8.82	9.40																				
	13-Oct-08	1555	8.87	9.45																				
	29-Oct-08		8.95	9.53	7.2	4480	21.7		0.002	0.012	<0.001	0.0004	0.05	0.001	0.009	0.61	0.003	0.026	0.026	0.04	0.026	<0.0001		
	23/Jan/09	1545	23.72	24.3																				
	09/Feb/09	1600	9	9.5																				
	22/Jun/09	0905	8.99	9.57	7.5	4380	15.9		<0.001	0.005	<0.001	<0.0001	<0.001	<0.001	0.028	0.06	<0.001	0.004	0.006	0.04	0.131	<0.0001		4080
	15/Sep/09	1549	8.99	9.57																				
	30/Nov/09	0845	9.03	9.61	7.67	2900	25.6	<0.01	0.001				<0.005		0.017	<0.05	<0.001	0.003	0.005		0.078	<0.0001	7.74	3890
	25/Feb/10	1410	8.92	9.5																				
	03/May/10	1320	18.53	19.11	7.88	4290	23.5		0.001	0.006	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	<0.001	<0.001	0.04	<0.005	<0.0001		4000
	26/Aug/10	1250	8.94	9.52	8.28	3260	robe Broken																	
	08/Nov/10	1110	8.98	9.56	8.02	2360	25.8																	
	02/Mar/11	1150	17.63	18.21	7.44	3770	27.4	<0.01	0.003				<0.001		0.009	<0.05	<0.001	0.004	0.002		0.015	<0.0001	7.6	4820
	03/May/11	945	9.07	9.65	7.7	3790	14.3																	
	01/Sep/11	1010	9.14	9.72	8.1	3830	16.9	<0.01	0.001	0.01	<0.001	<0.0001	<0.001	<0.001	0.006	<0.05	<0.001	0.005	<0.001	0.02	0.016	<0.0001	8.32	4860
	06/Dec/11	1100	9.07	9.65	7.05	3650	22.2																	
	20/Mar/12	1300	8.71	9.29	6.95	3720	24.3	<0.01	0.001	0.002	<0.001	<0.0001	<0.001	<0.001	0.002	<0.05	0.04	<0.001	<0.001	<0.001	0.009	<0.0001	7.36	4280
	23/May/12	1255	8.49	9.07																				
	27/Aug/12	1350	8.32	8.9																				
	26/Nov/12	1330	8.2	8.78																				
	13/Mar/13	1415	7.98	8.56																				
	20/Jun/13	1100	7.95	8.53	Pump over bore																			
	30/Aug/13	0815	7.86	8.44																				
	18/Dec/13	1250	7.87	8.45	ump off & Covering Bor																			
	27/Feb/14	1100	7.8	8.38	Pump covering bore																			
	12/Jun/14	1225	8.05	8.63	Pump over bore																			
	11/Sep/14	0950	8.09	8.67																				
	28/Nov/14	1155	7.74	8.32	Pump over bore																			
	28/May/15	1340	7.74	8.32	Pump over bore																			
	03/Sep/15	1040	7.77	8.35	Pump over bore																			
	08/Dec/15	1355	7.66	8.24	Pump over bore																			

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	03/Mar/16	1330	7.82	8.4	Pump over bore																			
	24/May/16	1250	7.74	8.32	Pump over bore																			
	08/Sep/16	1000	7.73	8.31	Pump over bore																			
	30/Nov/16	1330	7.44	8.02	Pump over bore																			
	22/Mar/17		7.76	8.34	Pump over bore																			
	08/Dec/17	1205	7.98	8.56	Pump over bore																			
WB-4	03-Sep-08	casing sealed																						
	13-Oct-08	casing sealed																						
	29-Oct-08	casing sealed																						
	22/Jun/09	casing sealed																						
	15/Sep/09	asing sealed																						
	30/Nov/09	asing sealed																						
	25/Feb/10	asing sealed																						
	26/Aug/10	1230			7.83	3650	robe Broken																	
	08/Nov/10	1205			Tank empty unable to sample																			
	02/Mar/11	1200			7.03	3320	29.2	<0.01	0.001				<0.001		0.005	<0.05	<0.001	0.002	<0.001		0.027	<0.0001	7.16	4010
	03/May/11	1030			7.1	3160	14.5																	
	01/Sep/11	1030			7.15	3650	16.8																	
	06/Dec/11	1200			7.36	3590	22.3																	
	20/Mar/12	1040			7.32	3680	21.7	<0.01	0.002	0.003	<0.001	<0.0001	<0.001	<0.001	0.028	<0.05	0.001	0.002	<0.001	0.04	0.022	<0.0001	7.61	4260
	24/May/12	1330			7.91	3580	15.3																	
	28/Aug/12	1200																						
	26/Nov/12	1250	Pump over bore																					
	12/Jun/13	1120	Pump over bore																					
	29/Aug/13	1150	Pump over bore																					
	12/Dec/13	1400	Pump over bore - Tank Empty																					
	27/Feb/14	1215	Pump over bore - Tank Empty																					
	12/Jun/14	1420	Pump over bore-Tank empty																					
	11/Sep/14	930	Pump over bore-Tank empty																					
	27/Nov/14	1235	Pump over bore-Tank empty																					
	28/May/15	1240	Pump over bore																					
	02/Sep/15	1225	Pump over bore																					
	08/Dec/15	1330	Pump over bore																					
	02/Mar/16	1105	Pump over bore																					
	24/May/16	1115	Pump over bore																					
	08/Sep/16		Pump over bore																					
	30/Nov/16		Pump over bore																					
	07/Dec/17		Pump over bore																					
WB-5	03-Sep-08	1540	4.23	4.65																				
	13-Oct-08	1600	12.92	13.34																				
	28-Oct-08		12.85	13.27	7.29	8400	22.5		<0.001	0.165	<0.001		0.0002	<0.001	<0.001	0.003	0.47	<0.001	0.267	0.267		<0.01	0.103	<0.0001
	23/Jan/09	1700	13.1	13.5																				
	22/Jun/09	1045			6.60	7930	21.3		<0.001	0.163	<0.001		<0.0001	<0.001	<0.001	0.002	2.36	<0.001	0.231	0.002		<0.01	0.045	<0.0001
	15/Sep/09	1620			Bore unable to be dipped																			
	30/Nov/09	0930	22.93	23.33	7.06	4880	27.9	<0.01	<0.001					<0.005		0.002	<0.05	<0.001	0.253	0.001			0.086	<0.0001
	25/Feb/10	1345	13.14	13.54																				
	03/May/10	1215	12.97	13.37	7.43	7500	23		<0.001	0.124	<0.001		<0.0001	<0.001	<0.001	0.003	0.21	<0.001	0.124	0.001		<0.01	0.085	<0.0001
	26/Aug/10	1125	13.01	13.41	7.47	7480	Probe Broken																	
	08/Nov/10	1255	14.06	14.46	7.86	5810	25.5																	
	02/Mar/11	1315	20.99	21.39	6.45	5590	26.2	<0.01	<0.001					<0.005		<0.001	<0.05	<0.001	0.243	<0.001			0.017	<0.0001
	03/May/11	1150	12.7	13.1	6.80	5760	16.1																	
	30/Aug/11	1240	12.7	13.1	7.80	5610	19.5	0.6	0.001	0.154	<0.001		0.0002	<0.001	<0.001	0.022	1.02	0.004	0.102	0.006		<0.01	0.201	<0.0001
	04/Nov/11	1230	12.79	13.19	7.90	5550	26.1																	
	20/Mar/12	1026	9.86	10.26	7.82	6670	24.5	<0.01	0.001	0.091	<0.001		<0.0001	0.001	<0.001	0.004	0.65	<0.001	0.044	<0.001		0.02	0.022	<0.0001
	23/May/12	1245	9.06	9.46	8.17	6360	16.8																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	27/Aug/12	1220	12.5	12.9	8.19	6930	18.7	0.07	<0.001	0.156	<0.001		<0.0001	<0.001	<0.001	0.006	0.78	<0.001	0.198	0.001		<0.01	0.07	<0.0001
	26/Nov/12	1125	11.42	11.82	7.68	6740	27.1																	
	12/Mar/13	1210	11.2	11.6	7.70	6890	24.1	<0.01	<0.001	0.084	<0.001		<0.0001	<0.001	<0.001	<0.001	0.41	<0.001	0.039	<0.001		<0.01	0.007	<0.0001
	12/Jun/13	1010	10.47	10.87	7.86	6930	17.4																	
	28/Aug/13	1310	12.1	12.5	8.20	6910	20.5	<0.01	<0.001	0.059	<0.001	0.08	<0.0001	<0.001	<0.001	0.002	0.28	<0.001	0.141	<0.001	<0.01	<0.01	0.01	<0.0001
	11/Dec/13	1350	12.31	12.71	7.80	7130	24.3																	
	26/Feb/14	1340	19	19.4	7.60	7200	26.8	<0.01	<0.001	0.157	<0.001	0.09	<0.0001	<0.001	<0.001	0.002	0.78	<0.001	0.174	<0.001	<0.01	<0.01	0.014	<0.0001
	12/Jun/14	1240	12.56	12.96	7.90	7740	15																	
	10/Sep/14	1220	14.5	14.9	7.6	5340	20.7	0.02	<0.001	0.209	<0.001	0.07	<0.0001	<0.001	<0.001	0.004	0.3	<0.001	0.07	<0.001	<0.01	<0.01	0.03	
	28/Nov/14	0930	19.99	20.39	7.9	5352	20.9																	
	03/Mar/15	1225	11.5	11.9	7.8	7620	24.7	<0.01	<0.001	0.093	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	0.1	<0.001	0.029	<0.001	<0.01	<0.01	0.008	<0.0001
	29/May/15	1040	11.58	11.98	7.4	7390	17.8																	
	02/Sep/15	1345	10.9	11.3	7.5	7560	18.5	0.01	<0.001	0.104	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	0.23	<0.001	0.036	<0.001	<0.01	<0.01	0.014	<0.0001
	07/Dec/15	1230	12.83	13.23	7.5	8926	26.7																	
	02/Mar/16	1245	19.4	19.8	7.4	7460	29.1	<0.01	<0.001	0.154	<0.001	0.07	<0.0001	<0.001	<0.001	0.002	0.67	<0.001	0.159	<0.001	<0.01	<0.01	0.012	<0.0001
	24/May/16	1315	10.9	11.3	7.5	7680	17.4																	
	08/Sep/16	1220	11.22	11.62	7.8	6920	20.4	<0.01	<0.001	0.088	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	0.12	<0.001	0.028	<0.001	<0.01	<0.01	0.005	<0.0001
	30/Nov/16	1300	17.86	18.26	7.8	6980	26.7																	
	22/Mar/17		11.79	12.19																				
	18/Sep/17	1220	10.9	11.3	7.7	7390	18.1	0.02	<0.001	0.087	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	0.15	<0.001	0.013	<0.001	<0.01	<0.01	0.008	<0.0001
	07/Dec/17	1415	11.06	11.46	7.7	7360	25.7																	
WB-6	3-Sep-08	1626	23.18	23.64																				
	13-Oct-08	1315	23.05	23.51																				
	29-Oct-08																							
	23/Jan/09	1720	23.84	24.3																				
	22/Jun/09	1110	23.74	24.2																				
	15/Sep/09	1528	23.86	24.32																				
	30/Nov/09	1000	24.05	24.51																				
	25/Feb/10	1335	25.08	25.54																				
	03/May/10	1155	23.74	24.2																				
	26/Aug/10	1055	23.47	23.96																				
	08/Nov/10	1310	23.31	23.8																				
	07/Mar/11	1340	22.74	23.23																				
	03/May/11	1140	22.53	23.02																				
	30/Aug/11	1150	22.55	23.04																				
	04/Nov/11	1155	22.67	23.16																				
	20/Mar/12	1140	21.72	22.21																				
	23/May/12	1200	21.06	21.55																				
	27/Aug/12	1130	20.62	21.11																				
	26/Nov/12	1100	20.42	20.91																				
	12/Mar/13	1130	20.43	20.92																				
	12/Jun/13	0935	20.46	20.95																				
	28/Aug/13	1230	20.59	21.08																				
	11/Dec/13	1320	20.66	21.15	No Sample - Windmill over bore																			
	24/Feb/14	1315	20.86	21.35	No Sample - Windmill over bore																			
	12/Jun/14	1255	21.08	21.57	Windmill over bore																			
	10/Sep/14	1130	21.21	21.7																				
	28/Nov/14	1215	21.44	21.93	Windmill over bore																			
	29/May/15	1005	21.88	22.37	Windmill over bore																			
	03/Sep/12	1010	22.04	22.53	Windmill over bore																			
	07/Dec/15	1210	22.38	22.87	Windmill over bore																			
	02/Mar/16	1410	22.62	23.11	Windmill over bore																			
	24/May/16	1335	22.80	23.29	Windmill over bore																			
	07/Sep/16	1245	22.97	23.46	Windmill over bore																			
	30/Nov/16	1245	22.02	22.51	Windmill over bore																			

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	22/Mar/17		21.68	22.17	Windmill over bore																			
	07/Dec/17	1220	22.02	22.51	Windmill over bore																			
WB-7	4-Sep-08	0830	41.75	42.00																				
	13-Oct-08	1240	19.11	19.36																				
	28-Oct-08		18.90	19.15	7.25	2730	22.1		0.002	0.609	<0.001	<0.0001	<0.001	<0.001	0.021	0.19	<0.001	0.012	0.012	0.02	0.052	<0.0001		
	23/Jan/09	1752	21.18	21.43																				
	22/Jun/09	1210			7.4	2690	18.8		0.001	0.665	<0.001	<0.0001	<0.001	<0.001	0.02	0.09	<0.001	0.012	<0.001	0.02	0.046	<0.0001		2660
	15/Sep/09	1508			Bore covered by pump																			
	30/Nov/09	1200			7.39	2640	30.8	<0.01	0.002				<0.005		0.019	<0.05	<0.001	0.006	<0.001		0.029	<0.001	7.3	2260
	25/Feb/10	1300			Sample from tank																			
	03/May/10	1100	15.00	15.27	7.45	2890	21.4		0.002	0.663	<0.001	<0.0001	<0.001	<0.001	0.038	0.45	0.006	0.024	0.003	0.02	5.72	<0.0001		2470
	26/Aug/10	1020	25.91	26.18	Windmill over bore																			
	08/Nov/10	1340	31.53	31.8	7.24	2240	31.3																	
	07/Mar/11	1240	25.13	25.4	7.24	2230	28.5	<0.01	0.002				<0.001		0.035	<0.05	0.001	0.008	<0.001		1.57	<0.0001	7.23	2440
	03/May/11	1230	14.78	15.05	7.45	2130	18																	
	30/Aug/11	1035	17.66	17.93	7.9	2060	18.7	55.1	0.072	2.72	0.002	0.0002	0.053	0.042	1.46	108	0.442	3.67	0.069	0.26	16.1	<0.0001	7.91	2750
	04/Nov/11	1100	29.41	29.68	7.7	2080	23.8																	
	20/Mar/12	1110	2.96	3.23	7.41	3120	23.7	0.07	0.027	1	<0.001	<0.0001	0.005	<0.001	0.35	12.3	0.149	0.067	<0.001	0.07	2.48	<0.0001	7.74	3550
	23/May/12	1100	4.60	4.87	8.11	3070	14.9																	
	27/Aug/12	1030	27.43	27.7	7.4	2840	15.5	0.03	0.004	0.694	<0.001	<0.0001	<0.001	<0.001	0.069	1.01	0.012	0.017	<0.001	0.03	0.626	<0.0001	7.79	3090
	26/Nov/12	1015	18.87	19.14	7.18	2620	24.4																	
	12/Mar/13	1020	9.5	9.77																				
	12/Jun/13	0915	9.83	10.1	No sample																			
	28/Aug/13	1100	10.15	10.42																				
	11/Dec/13	1220	10.36	10.63	No sample - windmill over bore/no pressure off taps at tank																			
	24/Feb/14	1345	10.68	10.95	No sample - windmill over bore/no pressure off taps at tank																			
	12/Jun/14	1340	10.87	11.14	ndmill over bore-no pressure @ taps																			
	10/Sep/14	1020	11	11.27																				
	28/Nov/14	0820	11.2	11.47	Windmill over bore																			
	29/May/15	1130	11.65	11.92	Windmill over bore																			
	02/Sep/15	1100	11.74	12.01	Windmill over bore																			
	07/Dec/15	1045	11.92	12.19	Windmill over bore																			
	03/Mar/16	1220	12.08	12.35	Windmill over bore																			
	25/May/16	935	12.2	12.47	Windmill over bore																			
	07/Sep/16	1145	12.42	12.69	Windmill over bore																			
	30/Nov/16	1130	11.44	11.71	Windmill over bore																			
	22/Mar/17		11.51	11.78	Windmill over bore																			
	07/Dec/17	1110	12.89	13.16	Windmill over bore																			
WB-8	3-Sep-08	no access																						
	13-Oct-08	no access																						
	29-Oct-08	no access																						
	23/Jan/09	1840	46.4	46.9																				
	22/Jun/09	1255	32.75	33.17	8.2	2240	18.5		0.02	0.173	<0.001	0.0004	<0.001	<0.001	0.004	0.36	0.003	0.016	<0.001	0.01	0.335	<0.0001		2190
	15/Sep/09	1450	43.38	43.88																				
	30/Nov/09	1350			Dry																			
	25/Feb/10	1045	49.32	49.82																				
	03/May/10	1035	32.59	33.09																				
	26/Aug/10	925	32.23	32.73																				
	09/Nov/10	1350	32.14	32.64	Unable to sample																			
	07/Mar/11	1050			Unable to sample																			
	03/May/11				Unable to sample																			
	01/Sep/11	1130	31.77	32.27	Unable to sample																			
	06/Dec/11	1010	31.58	32.08	Unable to sample																			

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	21/Mar/12	1340	31.43	31.93	Unable to sample																			
	24/May/12	1240	31.03	31.53	Unable to sample																			
	28/Aug/12	1030	31.43	31.93																				
	27/Nov/12	1345	31.31	31.81	Unable to sample																			
	13/Mar/13	1240	31.19	31.69																				
	20/Jun/13	1315	30.97	31.47	Pump over bore																			
	30/Sep/13	0855	31.19	31.69																				
	12/Dec/13	1235	31.1	31.6	Pump over bore																			
	27/Feb/14	1235	31.3	31.8	Pump over bore																			
	12/Jun/14	1015	29.77	30.27	Pump over bore																			
	11/Sep/14	1240	30.65	31.15																				
	27/Nov/14	945	30.68	31.18	Pump over bore																			
	03/Jun/15	1040	28.8	29.3	Pump over bore																			
	03/Sep/15	1130	28.71	29.21	Pump over bore																			
	08/Dec/15	1045	29.32	29.82	Pump over bore																			
	03/Mar/16	1145			Pump over bore																			
	25/May/16	1150	28.65	29.15	Pump over bore																			
	08/Sep/16	1305	28.28	28.78	Pump over bore																			
	01/Dec/16	1020	27.95	28.45	Pump over bore																			
	22/Mar/17		28.02	28.52	Pump over bore																			
	08/Dec/17	1245	28.57	29.07	Pump over bore																			
WB-9	3-Sep-08	1740	23.88	24.15																				
	13-Oct-08	1100	24.09	24.36																				
	28-Oct-08		24.50	24.77	7.53	931	23.3		0.021	0.459	<0.001		0.0008	0.001	<0.001	0.023	37.3	0.034	0.157	0.157		0.02	2.44	<0.0001
	23/Jan/09	1816	24.30	24.57																				
	22/Jun/09	1345	23.99	24.26	7.9	1080	20.6		0.005	0.648	<0.01		0.0017	<0.001	<0.001	0.004	11.8	0.005	0.034	0.002		<0.001	0.792	<0.0001
	15/Sep/09	1443	23.94	24.25																				
	30/Nov/09	1400	24.05	24.36	7.17	1261	25.3	<0.01	<0.001					<0.005		<0.001	0.33	<0.001	0.158	0.002			1.78	<0.001
	25/Feb/10	1120	25.58	25.89	Windmill over bore																			
	03/May/10	1010	24.26	24.57	Windmill over bore																			
	26/Aug/10	900	24.59	24.9	7.72	1057	15.5																	
	09/Nov/10	1340	24.34	24.65	Windmill over bore																			
	07/Mar/11	1130	24.68	24.99	7.44	1143	26.7	<0.01	0.002					<0.001		0.014	0.66	<0.001	0.004	<0.001			0.063	<0.0001
	03/May/11	1345	25.26	25.57	7.6	1014	18.9																	
	30/Aug/11	930	24.36	24.67	7.9	981	17.4	<0.01	0.001	0.111	<0.001		<0.0001	<0.001	<0.001	0.005	0.51	<0.001	0.005	<0.001		0.01	0.037	<0.0001
	04/Nov/11	1015	24.58	24.89	7.7	937	23.1																	
	20/Mar/12	0930	24.59	24.9	7.58	1126	23.5	<0.01	0.01	0.523	<0.001		<0.0001	0.004	<0.001	0.067	16.3	0.002	0.044	<0.001		0.08	0.597	<0.0001
	23/May/12	0930	24.21	24.52	8.15	902	17.8																	
	27/Aug/12	0945	23.99	24.3	8.27	1010	15	0.06	0.003	0.065	<0.001		<0.0001	<0.001	<0.001	0.022	3.46	0.002	0.02	<0.001		0.02	0.197	<0.0001
	26/Nov/12	0910	23.86	24.17	8.15	995	24.3																	
	12/Mar/13	0910	24.85	25.16																				
	10/Jun/13	0910	24.06	24.37	Inable to collect sample-tank empty																			
	28/Aug/13	0910	23.94	24.25																				
	12/Dec/13	1250	23.78	24.09	No sample - pump over bore/tank empty																			
	26/Feb/14	1130	24.69	25	7.5	1180	27.8	0.78	0.057	0.562	<0.001	0.08	0.0004	0.057	0.003	0.872	80.3	0.08	0.169	0.019	<0.01	0.34	3.35	<0.0001
	12/Jun/14	0915	24.27	24.58	7.7	1250	16																	
	11/Sep/14	1145	24.19	24.5	7.5	1180	22.6	<0.01	0.002	0.125	<0.001	0.07	<0.0001	0.004	<0.001	<0.001	0.14	<0.001	0.005	<0.001	<0.01	0.02	0.02	<0.0001
	27/Nov/14	1005	24.3	24.61	8.1	1067	26.1																	
	04/Mar/15	1315	23.59	23.9	7.3	1240	27.3	<0.01	0.002					<0.001		<0.001	<0.05	<0.001	0.001	<0.001			<0.005	<0.0001
	03/Jun/15	1020	23.71	24.02	7.6	1120	11.3																	
	15/Sep/15	1115	22.99	23.3	7.7	1160	18.1	0.01	0.003	0.1	<0.001	0.12	<0.0001	<0.001	<0.001	0.005	0.69	<0.001	0.003	<0.001	<0.01	0.02	0.023	<0.0001
	08/Dec/15	1140	23.79	24.1	7.6	1120	27.3																	
	03/Mar/16	1045	pump over bore		7.6	1210	25	0.1	0.002	0.13	<0.001	0.05	<0.0001	<0.001	<0.001	0.002	0.15	<0.001	0.008	<0.001	<0.01	0.02	0.043	<0.0001
	25/May/16	1210	windmill																					
	01/Dec/16	1100	Pump over bore																					

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	22/Mar/17		Pump over bore																					
	08/Dec/17		Pump over bore																					
WB-10	25-Jul-08	1050	13.75	13.85																				
	4-Sep-08	0750	13.80	13.90																				
	13-Oct-08	1200	13.77	13.87																				
	28/Oct/08		13.9	14	7.45	2235	17.8		0.002	0.045	<0.001		<0.0001	0.001	<0.001	0.002	6.47	0.004	0.02	0.02		0.01	0.571	<0.0001
	27/Jan/09	1119	14.23	14.27																				
	22/Jun/09	1530	14.01	14.08	7	2220	21.2		0.002	0.05	<0.001		<0.0001	<0.001	<0.001	0.004	6.91	0.003	0.021	0.002		0.01	0.858	<0.0001
	11/Sep/09	1432	14.65	14.72																				
	30/Nov/09	1450	14.62	14.69	7.11	2052	23.8	<0.01	<0.001					<0.005		0.008	<0.05	<0.001	0.014	0.001			0.195	<0.0001
	25/Feb/10	1015	14.23	14.3																				
	03/May/10	1440	14.47	14.54	7.93	2300	22.5		0.005	0.089	<0.001		0.0003	0.001	0.001	0.02	18	0.016	0.069	0.005		0.03	1.12	<0.0001
	24/Sep/10	1020	14.05	14.12	6.7	1833	23.5																	
	10/Nov/10	1150	14.1	14.17	6.72	1905	24.2																	
	07/Mar/11	950	14.34	14.41	6.75	1910	24.7	0.27	0.004					0.002		0.042	21.7	0.009	0.136	0.002			1.11	<0.0001
	03/May/11	1425	14.07	14.14	6.8	1685	21																	
	01/Sep/11	1240	16.47	16.54	6.95	1745	22.6	0.14	<0.001	0.045	<0.001		<0.0001	<0.001	<0.001	0.006	2.23	0.002	0.029	0.001		<0.01	0.203	<0.0001
	06/Dec/11	0920	14.12	14.19	6.92	1780	21.1																	
	21/Mar/12	1220	14.13	14.2	6.94	1880	24.3	0.04	<0.001	0.047	<0.001		<0.0001	<0.001	>0.001	0.02	0.99	0.002	0.026	<0.001		<0.01	0.259	<0.0001
	24/May/12	1135	13.95	14.02	6.68	1902	21.7																	
	04/Sep/12	0925	14.03	14.1	6.92	1870	20.3	0.02	<0.001	0.041	<0.001		<0.0001	<0.001	<0.001	0.014	1.13	<0.001	0.019	<0.001		<0.01	0.204	<0.0001
	13/Dec/12	925	14.76	14.83	6.94	1969	22.4																	
	13/Mar/13	1030	14.13	14.2	6.97	2020	23.3	0.05	<0.001	0.049	<0.001		0.0002	<0.001	<0.001	0.02	4.21	0.002	0.022	0.001		<0.01	0.287	<0.0001
	10/Jul/13	1040	14.08	14.15	6.95	1883	20.1																	
	30/Aug/13	1030	14.13	14.2	6.9	1880	21.5	0.51	0.003	0.059	<0.001	0.09	0.0001	<0.001	<0.001	0.086	6.57	0.008	0.08	0.002	<0.01	0.01	0.772	<0.0001
	12/Dec/13	1440	14.3	14.37	7	1925	22																	
	26/Feb/14	1040	14.33	14.4	7	2010	23.2	0.06	<0.001	0.064	<0.001	0.1	<0.0001	0.004	<0.001	0.017	1.21	0.001	0.057	<0.001	<0.01	<0.01	0.106	<0.0001
	19/Jun/14	1040	14.07	14.14	7.1	2010	20.3																	
	11/Sep/14	1050	13.93	14	7	1960	20.9	0.11	0.009	0.086	<0.001	0.09	0.0002	0.001	<0.001	0.007	26.7	0.008	0.064	0.002	<0.01	0.04	0.259	<0.0001
	28/Nov/14	1050	14.24	14.31	7.1	2050	22.3																	
	03/Mar/15	1415	14.63	14.7	7	2070	22.9	0.18	0.002	0.055	<0.001	0.08	<0.0001	<0.001	<0.001	0.005	9.44	0.002	0.055	0.002	<0.01	<0.01	0.33	<0.0001
	03/Jun/15	0820	14.09	14.16	7	2210	18.9																	
	02/Sep/15	0925	14.13	14.2	7	2060	20.2	0.03	0.005	0.049	<0.001	0.1	<0.0001	<0.001	<0.001	0.004	9.48	<0.001	0.026	0.001	<0.01	0.01	0.26	<0.0001
	08/Dec/15	940	14.56	14.63	6.9	2080	21.9																	
	03/Mar/16	0900	14.33	14.4	7	2090	22	0.06	0.003	0.081	<0.001	0.08	<0.0001	<0.001	<0.001	0.005	15.7	0.001	0.044	<0.001	<0.01	<0.01	0.106	<0.0001
	25/May/16	1015	14.06	14.13	7	2050	20																	
	08/Sep/16	1340	14.03	14.1	7.1	1980	20.8	0.03	0.005	0.066	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	16	<0.001	0.136	<0.001	<0.01	<0.01	0.074	<0.0001
	01/Dec/16	1155	13.88	13.95	7	1972	21.6																	
	21/Mar/17		13.9	13.97																				
	14/Sep/17	900	13.93	14	6.9	2090	19.3	0.08	0.004	0.057	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	12.7	<0.001	0.073	<0.001	<0.01	<0.01	0.112	<0.0001
	08/Dec/17	900	13.96	14.03	6.9	2070	23																	
WB-11	25-Jul-08	1105	18.11	18.28																				
	4-Sep-08	0740	18.61	18.78																				
	13-Oct-08	1150	18.13	18.30																				
	28/Oct/08		18.4	18.57	7.57	1086	19.6		<0.001	0.124	<0.001		<0.0001	<0.001	<0.001	0.004	4.24	0.004	0.253	0.253		<0.01	0.048	<0.0001
	23/Jan/09	1109	18.73	18.91																				
	22/Jun/09	1505	18.1	18.35	8	880	21.3		<0.001	0.1	<0.001		<0.0001	<0.001	<0.001	0.002	5.4	0.004	0.298	0.002		<0.01	0.041	<0.0001
	11/Sep/09	1425	18.63	18.88																				
	30/Nov/09	1425	18.6	18.85	7.89	938	23.1	<0.01	<0.001					<0.001		0.001	<0.05	<0.001					0.005	<0.0001
	25/Feb/10	1000	18.47	18.72																				
	03/May/10	1515	18.24	18.49	8.37	1083	22.5		<0.001	0.08	<0.001		<0.0001	<0.001	<0.001	0.001	6.02	0.003	0.379	0.002		<0.01	0.016	<0.0001
	24/Sep/10	1000	17.66	17.91	7.59	865	24																	
	10/Nov/10	1140	17.49	17.74	7.49	867	25.8																	
	07/Mar/11	930	18.57	18.82	7.05	944	24.5	0.13	<0.001					0.001		0.014	8.99	0.002	0.586	0.001			0.438	<0.0001
	03/May/11	1400	17.34	17.59	7.25	867	20.3																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	01/Sep/11	1220	17.57	17.82	7.55	926	22.7	0.1	<0.001	0.078	<0.001		<0.0001	<0.001	<0.001	0.002	10.6	<0.001	0.538	<0.001		<0.01	0.009	<0.0001
	06/Dec/11	0900	16.93	17.18	7.5	905	21																	
	21/Mar/12	1150	16.75	17	7.93	910	23.2	0.03	<0.001	0.057	<0.001		<0.0001	<0.001	<0.001	0.005	3.24	0.001	0.397	<0.001		<0.01	0.016	<0.0001
	24/May/12	1115	16.5	16.75																				
	04/Sep/12	0905	16.17	16.42																				
	13/Dec/12	Pump over bore																						
	13/Mar/13	Pump over bore																						
	10/Jul/13	1020	15.32	15.57	7.75	1241	19.9																	
	30/Aug/13	1000	16.67	16.92	7.6	1120	21.8	0.16	0.001	0.13	<0.001	0.21	<0.0001	<0.001	<0.001	0.035	5.59	0.007	0.189	0.001	<0.01	<0.01	0.078	<0.0001
	12/Dec/13	1455	16.7	16.95	7.8	1310	22.4																	
	26/Feb/14	1020	18.15	18.4	8.2	1550	23.3	0.04	0.001	0.058	<0.001	0.14	<0.0001	0.004	<0.001	0.068	1.13	0.005	0.093	0.001	<0.01	<0.01	0.06	<0.0001
	19/Jun/14	1020	16.93	17.18	7.7	1420	20.2																	
	11/Sep/14	1030	16.65	16.9	7.8	1210	20.8	0.38	0.002	0.143	<0.001	0.17	<0.0001	0.002	<0.001	0.009	6.45	0.01	0.229	0.004	<0.01	<0.01	0.034	<0.0001
	28/Nov/14	1120	17.43	17.68	8.1	1310	22.8																	
	03/Mar/15	1400	19.05	19.3	8	1320	24.2	0.1	0.001	0.19	<0.001	0.41	<0.0001	0.003	<0.001	0.002	6.94	0.003	0.313	0.002	<0.01	<0.01	0.055	<0.0001
	09/Jun/15	1230	17.89	18.14	7.7	1567	22																	
	02/Sep/15	0900	17.25	17.5	7.6	1780	19.2	0.05	<0.001	0.028	<0.001	0.1	<0.0001	<0.001	<0.001	0.006	0.96	<0.001	0.028	<0.001	<0.01	<0.01	0.039	<0.0001
	08/Dec/15	1000		No access- gate locked																				
	03/Mar/16	0940	20.05	20.3	7.8	1360	22.6	0.57	0.001	0.141	<0.001	0.4	<0.0001	<0.001	<0.001	0.015	6.19	0.002	0.316	<0.001	<0.01	<0.01	0.064	<0.0001
	25/May/16	955	17.67	17.92	7.7	978	18.5																	
	20/Oct/16	1205	17.25	17.5	7.4	948	25.2	<0.01	<0.001	0.069	<0.001	0.06	<0.0001	<0.001	<0.001	0.016	0.21	<0.001	0.003	<0.001	<0.01	<0.01	0.026	<0.0001
	01/Dec/16	1130	18.34	18.59	7.4	965	22.3																	
	21/Mar/17		18.1	18.35																				
	14/Sep/17	9:40	18.35	18.6	7.3	997	18.2	<0.01	<0.001	0.074	<0.001	0.06	<0.0001	<0.001	<0.001	0.016	0.08	0.002	0.002	<0.001	<0.01	<0.01	0.022	<0.0001
	08/Dec/17	950	19.9	20.15	7.3	984	22.5																	
WB-12	25-Jul-08	1120	12.73	13.03																				
	4-Sep-08	0800	12.80	13.10																				
	13-Oct-08	1213	12.83	13.13																				
	28/Oct/08		12.95	13.25	8.15	2152	19.4		0.001	0.102	<0.001		0.0001	0.001	0.001	0.005	5.55	0.003	0.099	0.099		<0.01	0.314	<0.0001
	27/Jan/09	1129	13.16	13.33																				
	22/Jun/09	1550	12.99	13.21	8	2070	22.2		0.001	0.108	<0.001		<0.0001	0.004	0.001	0.002	8.97	0.003	0.13	0.007		<0.01	0.871	<0.0001
	11/Sep/09	1438	13.05	13.27																				
	30/Nov/09	1425	12.99	13.21	8.6	1537	22.8	<0.01	<0.001					<0.005		0.009	<0.05	<0.001	0.029	0.001			0.017	<0.0001
	25/Feb/10	1020	13.19	13.41																				
	03/May/10	1500	13.15	13.37	8.27	1490	22.5		0.002	0.069	<0.001		0.0001	<0.001	<0.001	0.004	6.2	0.003	0.111	0.003		<0.01	1.27	<0.0001
	24/Sep/10	1035	13.22	13.44	8.71	873	23.7																	
	10/Nov/10	1210	13.13	13.35	7.07	891	25.9																	
	07/Mar/11	1010	13.18	13.4	7.37	1867	24	0.49	<0.001					<0.001		0.054	17.4	0.004	0.427	0.007			0.842	<0.0001
	03/May/11	1440	13.15	13.37	7.45	1657	20.8																	
	01/Sep/11	1310	13.23	13.45	7.65	1720	22.9	1.03	<0.001	0.106	<0.001		0.0002	0.001	<0.001	0.008	6.08	0.006	0.226	0.002		<0.01	0.148	<0.0001
	06/Dec/11	0950	13.13	13.35	7.66	1390	21.1																	
	21/Mar/12	0945	13.08	13.3	7.92	885	24	0.14	<0.001	0.044	<0.001		<0.0001	0.001	<0.001	0.016	3.84	0.001	0.212	0.001		<0.01	0.064	<0.0001
	24/May/12	1200	13.14	13.36	7.19	2150	21.9																	
	04/Sep/12	0950	13.08	13.3	7.3	2150	20.7	0.34	<0.001	0.14	<0.001		<0.0001	<0.001	<0.001	0.044	20.4	0.002	0.154	0.002		<0.01	0.41	<0.0001
	13/Dec/12	945	13.13	13.35	7.61	1907	22.2																	
	13/Mar/13	1030	12.98	13.2	7.73	1800	23.4	0.04	<0.001	0.086	<0.001		0.0002	<0.001	<0.001	0.006	5.3	<0.001	0.076	0.001		<0.01	0.121	<0.0001
	10/Jul/13	1100	13.16	13.38	7.95	1692	20.6																	
	30/Aug/13	1100	13.08	13.3	8.1	1690	21.7	0.23	0.001	0.079	<0.001	0.09	<0.0001	<0.001	<0.001	0.025	5.09	0.003	0.068	0.002	<0.01	<0.01	0.217	<0.0001
	12/Dec/13	1425	12.98	13.2	7.9	1730	22.7																	
	26/Feb/14	1100	13.08	13.3	8.2	1830	22.6	0.2	0.002	0.095	<0.001	0.09	<0.0001	0.011	<0.001	0.096	4.2	0.008	0.097	0.004	<0.01	<0.01	0.217	<0.0001
	19/Jun/14	1100	13.14	13.36	8	1694	20.5																	
	11/Sep/14	1115	13.08	13.3	7.9	1800	21.7	0.05	0.002	0.081	<0.001	0.09	<0.0001	<0.001	<0.001	0.005	3.97	0.002	0.089	0.002	<0.01	<0.01	0.221	<0.0001
	28/Nov/14	1105	13.06	13.28	8.3	1476	22.6																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	03/Mar/15	1435	13.18	13.4	8.3	1630	23.7	0.04	0.001	0.054	<0.001	0.08	<0.0001	<0.001	<0.001	0.004	2.36	<0.001	0.069	0.002	<0.01	<0.01	0.12	<0.0001
	03/Jun/15	0835	13.15	13.37	8.2	1628	20.3																	
	02/Sep/15	0950	13.08	13.3	8.3	1590	20.2	0.02	0.003	0.039	<0.001	0.07	<0.0001	<0.001	<0.001	0.003	1.41	<0.001	0.052	<0.001	<0.01	<0.01	0.034	<0.0001
	08/Dec/15	1000	13.18	13.4	8.3	1471	22																	
	03/Mar/16	0920	13.18	13.4	8.3	1520	22.1	0.16	0.001	0.029	<0.001	<0.05	<0.0001	<0.001	<0.001	0.007	1.14	<0.001	0.062	0.002	<0.01	<0.01	0.046	<0.0001
	25/May/16	1035	13.22	13.44	8.4	1480	20.5																	
	20/Oct/16	1140	13.18	13.4	9	1350	22.7	0.89	0.004	0.029	<0.001	<0.05	<0.0001	0.001	0.002	0.011	6.73	0.003	0.3	0.005	<0.01	<0.01	0.361	<0.0001
	01/Dec/16	1220	13.08	13.3	9	1394	21.9																	
	21/Mar/17		13.19	13.41																				
	14/Sep/17	9:20	13.08	13.3	9.1	1520	20.1	0.04	0.003	0.016	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	0.71	<0.001	0.035	<0.001	<0.01	<0.01	0.028	<0.0001
	08/Dec/17	925	13.09	13.31	8.3	1823	21.9																	
WB-13	13-Mar-13	1030	36.20	36.40	6.91	3410	25.6	0.02	<0.001	0.016	<0.001		<0.0001	<0.001	<0.001	0.016	<0.05	0.001	0.003	<0.001		<0.01	0.038	<0.0001
	10-Jul-13	0950	33.22	33.42	6.77	3550	19.8																	
	28-Aug-13	0950	38.50	38.70	6.9	3730	21.4	0.02	<0.001	0.016	<0.001	0.1	<0.0001	<0.001	<0.001	0.011	<0.001	<0.001	< 0.001	<0.001	<0.01	<0.01	0.013	0.0002
	12/Dec/13	1315	41.82	42.02	7.0	3460	23.7																	
	26/Feb/14	1200	42.40	42.6	7.0	3460	23.5	<0.01	<0.001	0.016	<0.001	0.09	<0.0001	<0.001	<0.001	0.02	<0.05	0.003	<0.001	<0.001	<0.01	<0.01	0.026	0.0001
	12/Jun/14	0945	33.93	34.13	7.1	3540	17.1																	
	11/Sep/14	1215	40.90	41.1	7	3380	22.8	0.02	<0.001	0.017	<0.001	0.09	<0.0001	0.001	<0.001	0.009	0.23	0.001	0.002	<0.001	<0.01	<0.01	0.012	0.0007
	27/Nov/14	1030	42.64	42.84	7.1	3510	23.1																	
	04/Mar/15	1330	44.60	44.8	7	3500	23.9	<0.01	<0.001					<0.001		0.001	<0.05	<0.001	<0.001	<0.001			<0.005	<0.0001
	03/Jun/15	0935	39.83	40.03	7	3410	20.7																	
	15/Sep/15	1050	12.80	13	7.2	3410	21.4	0.03	<0.001	0.015	<0.001	0.1	<0.0001	0.011	<0.001	0.009	0.07	<0.001	<0.001	0.001	<0.01	<0.01	0.008	<0.0001
	08/Dec/15	1110	38.87	39.07	7.1	3590	22.9																	
	03/Mar/16	1110	39.00	39.2	7.1	3540	23.4	0.06	<0.001	0.02	<0.001	0.07	<0.0001	<0.001	<0.001	0.022	0.13	0.006	0.005	<0.001	<0.01	<0.01	0.042	0.0003
	25/May/16	1235	31.96	32.16	7.1	3460	20.3																	
	20/Oct/16	1255	43.60	43.8	7.2	3290	22.7	<0.01	<0.001	0.018	<0.001	0.08	<0.0001	<0.001	<0.001	0.002	<0.05	<0.001	0.002	<0.001	<0.01	<0.01	0.014	0.0001
	01/Dec/16	1050	44.76	44.96	7	3470	23.1																	
	22/Mar/17		38.25	38.45																				
	14/Sep/17	11:30	38.60	38.8	7	3600	20.7	<0.01	<0.001	0.02	<0.001	0.08	<0.0001	<0.001	<0.001	0.018	0.07	0.001	0.001	<0.001	<0.01	<0.01	0.031	0.0001
	08/Dec/17	1315	31.40	31.6	7	3480	22.9																	
WB-14	18-Dec-13	1320	10.16	10.46	7.6	1315	25.7																	
	27-Feb-14	1015	22.90	23.20	7.8	1150	23	<0.01	0.009	0.401	<0.001	0.07	<0.0001	<0.001	<0.001	0.006	<0.05	<0.001	<0.001	<0.001	<0.01	0.07	0.012	<0.0001
	12-Jun-14	1120	18.77	19.07	7.7	1260	21.2																	
	11/Sep/14	1015	18.60	18.9	7.7	1280	21.5	0.02	0.011	0.421	<0.001	0.08	0.0002	0.001	<0.001	0.042	0.1	0.002	0.009	<0.001	<0.01	0.07	0.033	<0.0001
	27/Nov/14	1300	13.73	14.03	7.7	1288	23.5																	
	04/Mar/15	1100	23.00	23.3	7.8	1280	22.5	<0.01	0.011					<0.001		0.004	<0.05	<0.001	<0.001	<0.001			0.016	<0.0001
	03/Jun/15	1055	22.15	22.45	7.7	1260	20.6																	
	03/Sep/15	1200	14.90	15.2	7.5	1260	14.3	<0.01	0.011	0.367	<0.001	0.07	<0.0001	<0.001	<0.001	0.008	<0.05	<0.001	0.001	<0.001	<0.01	0.06	0.017	<0.0001
	08/Dec/15	1205	21.22	21.52	7.6	1309	23.4																	
	03/Mar/16	1400	21.90	22.2	7.6	1290	25.6	0.05	0.011	0.38	<0.001	0.06	<0.0001	0.001	<0.001	0.096	0.22	0.015	0.007	<0.001	<0.01	0.07	0.079	<0.0001
	25/May/16	1310	22.07	22.37	7.6	1295	21.4																	
	08/Sep/16	1040	20.65	20.95	7.6	1264	22.4	<0.01	0.011	0.401	<0.001	0.07	<0.0001	0.001	<0.001	0.008	<0.05	<0.001	<0.001	<0.001	<0.01	0.07	0.019	<0.0001
	01/Dec/16	935	21.87	22.17	7.6	1238	23.4																	
	22/Mar/17		12.97	13.27																				
	14/Sep/17	1350	14.50	14.8	7.6	1350	20.4	<0.01	0.01	0.418	<0.001	0.06	<0.0001	<0.001	<0.001	0.007	<0.05	<0.001	0.001	0.002	<0.01	0.07	0.023	<0.0001
	08/Dec/17	1140	14.98	15.28	7.6	1321	22.6																	
WB-15	11-Jul-14	1525	27.62	27.74																				
	26-Aug-14	1300	30.11	30.23																				
	11-Sep-14	1330	30.28	30.40	6.9	1390	22.1	0.52	0.002	0.198	<0.001	0.07	0.0002	0.003	0.003	0.301	12	0.072	0.621	0.008	<0.01	0.01	4.8	<0.0001
	27-Nov-14	1355	27.13	27.25	7	1403	21.9																	
	4-Mar-15	1400	27.08	27.20	7.4	1280	22.9	<0.01	<0.001					<0.001		0.002	<0.05	<0.001	0.002	<0.001			0.006	<0.0001
	3-Jun-15	900	27.25	27.37	7.2	1380	19.8																	
	15-Sep-15	1155	26.88	27.00	7.6	1410	18.9	<0.01	<0.001	0.138	<0.001	0.08	<0.0001	<0.001	0.001	0.002	0.36	<0.001	0.229	<0.001	<0.01	<0.01	0.032	<0.0001
	08/Dec/15	1230	27.28	27.4	7.1	1404	22.8																	
	03/Mar/16	1015	27.88	28	8	1290	25	0.01	<0.001	0.137	<0.001	0.06	<0.0001	<0.001	<0.001	0.004	0.38	<0.001	0.142	<0.001	<0.01	<0.01	0.054	<0.0001
	25/May/16	0:00	31.97	32.09	7.7	1382	17.2																	

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals																Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	20/Oct/16	1340	27.68	27.8	7.7	1350	16.6	0.01	<0.001	0.162	<0.001	0.06	<0.0001	<0.001	<0.001	0.003	0.42	<0.001	0.149	<0.001	<0.01	<0.01	0.045	<0.0001
	01/Dec/16	0:00	27.02	27.14	7.8	1189	23.3																	
	21/Mar/17		27.44	27.56																				
	18-Sep-17	1345	31.88	32	7	1460	19.7	0.48	<0.001	0.208	<0.001	0.07	<0.0001	<0.001	<0.001	0.011	3.53	0.001	0.268	<0.001	<0.01	<0.01	0.158	<0.0001
	8-Dec-17	1025	29.35	29.47	7.3	1445	22.5																	
Yarrari Production	3-Sep-08	1555	55.24	56.06																				
	13-Oct-08	1310	50.18	51.00																				
	29-Oct-08				7.35	4030	24		<0.001		0.1	<0.001	0.0002	0.001	<0.001	0.005	0.11	<0.001	0.011	0.011		<0.01	0.013	0.0001
	29-Oct-08								0.003		0.104	<0.001	<0.0001	<0.001	<0.001	0.004	0.08	<0.001	0.011	<0.001		<0.01	0.016	<0.0001
	23-Jan-09	1714	49.90	50.58																				
	22-Jun-09	1120		>50	7.10	3580	21.3	Sample not analysed due to lab administrative error																
	27-Aug-09	1500			7.34	3330	22.1		<0.001		0.061	<0.001	<0.0001	<0.001	<0.001	0.013	<0.05	<0.001	0.026	<0.001		<0.01	0.041	<0.0001
	30/Nov/09	1005			7.25	3480	27.4	<0.01	<0.001					<0.005	0.004		<0.05	<0.001	<0.001	<0.001			0.006	<0.0001
	25/Feb/10	1330	Bore equipped																					
	03/May/10	1205	Bore equipped		7.52	3520	22		<0.001		0.063	<0.001	<0.0001	<0.001	<0.001	0.005	<0.05	<0.001	0.018	<0.001		<0.01	0.007	<0.0001
	26/Aug/10	1105	Bore equipped		7.42	3340	Probe Broken																	
	08/Nov/10	1320	Bore equipped		PUMP SWITCHED OFF																			
	07/Mar/11	1350	Bore equipped		6.97	2880	27.1	<0.01	<0.001					<0.001		0.007	<0.05	0.003	0.002	<0.001			0.039	<0.0001
	03/May/11	1115	Bore equipped		7.00	2930	20.2																	
	30/Aug/11	1200	Bore equipped		7.00	2780	18.8	<0.01	<0.001		0.071	<0.001	<0.0001	<0.001	<0.001	0.007	<0.05	<0.001	0.005	<0.001		<0.01	0.08	<0.0001
	04/Nov/11	1200	Bore equipped		7.10	2790	18.8																	
	20/Mar/12	1200	Bore equipped		6.92	3380	25.2	<0.01	0.001		0.084	<0.001	<0.0001	<0.001	<0.001	0.012	<0.05	<0.001	0.002	<0.001		<0.01	0.047	<0.0001
	23/May/12	1230	Bore equipped		7.51	3330	20.5																	
	27/Aug/12	1150	Tap in yard		7.11	3390	20.1	<0.01	<0.001		0.078	<0.001	<0.0001	<0.001	<0.001	0.003	<0.05	<0.001	0.002	<0.001		<0.01	0.007	<0.0001
	26/Nov/12	1115	Tap in yard		7.05	3360	25.6																	
	12/Mar/13	1150	Tap in yard		7.04	3420	25.4	<0.01	<0.001		0.071	<0.001	<0.0001	<0.001	<0.001	0.004	<0.05	<0.001	<0.001	<0.001		<0.01	0.008	<0.0001
	12/Jun/13	0950	Pump over bore		7.23	3510	18.1																	
	28/Aug/13	1245	Pump over bore		6.9	3430	20.8	<0.01	<0.001	0.11	0.077	<0.001	<0.0001	<0.001	<0.001	0.006	<0.05	<0.001	<0.001	<0.001	<0.01	<0.01	0.007	<0.0001
	11/Dec/13	1335	Pump over bore		7.0	3630	24.5																	
	24/Feb/14	1330	Pump over bore		6.9	3490	25.3	<0.01	<0.001	0.09	0.078	<0.001	<0.0001	<0.001	<0.001	0.017	<0.05	<0.001	0.003	<0.001	<0.01	<0.01	0.024	<0.0001
	12/Jun/14	1310	Pump over bore		7.0	3590	21.7																	
	10/Sep/14	1150	Pump over bore		6.9	3620	19	0.01	<0.001	0.09	0.093	<0.001	<0.0001	<0.001	<0.001	0.111	<0.05	0.014	0.02	0.001	<0.01	<0.01	0.115	
	28/Nov/14	1230	Pump over bore		7	3550	28.2																	
	03/Mar/15	1100	Pump over bore		7.1	3520	25.4	0.01	<0.001	0.09	0.08	<0.001	<0.0001	<0.001	<0.001	0.004	<0.05	<0.001	0.01	<0.001	<0.01	<0.01	0.06	<0.0001
	29/May/15	1020	Pump over bore		6.9	3630	19.4																	
	03/Sep/15	0950	Pump over bore		6.9	3590	21.4	<0.01	<0.001	0.09	0.079	<0.001	<0.0001	<0.001	<0.001	0.004	0.16	<0.001	0.01	<0.001	<0.01	<0.01	0.008	<0.0001
	07/Dec/15	1150	Pump over bore		7.1	3550	25.3																	
	02/Mar/16	1355	Pump over bore		7	3470	25.3	0.09	0.002	0.09	0.108	<0.001	0.0016	<0.001	<0.001	0.006	0.14	<0.001	0.031	<0.001	<0.01	<0.01	0.028	<0.0001
	24/May/16	1345	Pump over bore		7	3540	23.6																	
	07/Sep/16	1230	Pump over bore		7	3480	18.3																	
	30/Nov/16	1230	Pump over bore		7.1	3420	24.3																	
	18/Sep/17	1120	Pump over bore		7	3640	22.3	0.13	<0.001	0.09	0.088	<0.001	<0.0001	<0.001	<0.001	0.003	0.1	<0.001	0.017	<0.001	<0.01	<0.01	0.012	<0.0001
	07/Dec/17	1240	Pump over bore		7.1	3530	25																	
Surrey No 2	25-Feb-10	1100	38.13	38.44																				
	26-Aug-10	930	34.66	34.97	7.25	3140	16.8																	
	9-Nov-10	1400	34.92	35.23	6.92	2380	25.7																	
	7-Mar-11	1100	35.66	35.97	7.2	2710	24.9	0.62	<0.001					<0.001		0.074	0.82	0.004	0.044	0.001			0.154	<0.0001
	3-May-11				No Access. Gate Locked.																			
	1-Sep-11	1110	35.11	35.42	7.15	2760	23.6	0.22	<0.001	0.058	<0.001		<0.0001	<0.001	<0.001	0.004	0.37	<0.001	0.012	<0.001		0.02	0.022	<0.0001
	21-Mar-12	1320	34.49	34.80	7.6	1520	24.2	5.9	0.004	0.082	<0.001		<0.0001	0.008	0.003	0.033	8.88	0.004	0.102	0.005		0.05	0.062	<0.0001
	24/May/12	1225	34.59	34.9	7.2	2790	21.8																	
	28/Aug/12	1100	34.29	34.6	7.15	3090	22.1	0.09	<0.001	0.086	<0.001		<0.0001	<0.001	<0.001	0.013	0.16	<0.001	0.009	0.001		0.02	0.103	<0.0001
	27/Nov/12	1325	34.94	35.25	7.34	3100	22.6																	
	13/Mar/13	1030	35.69	36	7.44	3250	24.5	0.13	<0.001	0.084	<0.001		<0.0001	<0.001	<0.001	0.036	0.38	0.003	0.011	<0.001		0.02	0.103	<0.0001

Site ID	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters			Total Metals															Mercury (Hg) - mg/L
					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	Boron (B) - mg/L	Cadmium (Cd) - 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	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	
	20/Jun/13	1315	34.07	34.38	7.35	3310	20.7																
	30/Aug/13	0855	33.29	33.6	7.21	3110	21.7	3.34	0.003	0.117	<0.001	0.11	0.0001	0.005	0.002	0.277	6.74	0.026	0.09	0.005	<0.01	0.04	0.256	<0.0001
	12/Dec/13	1220	34.55	34.86	7.3	3420	23.1																	
	26/Feb/14	1250	33.59	33.9	7.3	3060	23.2	12.4	0.003	0.239	<0.001	0.11	0.0002	0.031	0.014	0.791	29	0.059	0.241	0.023	<0.01	0.12	0.653	0.0002
	12/Jun/14	1000	32.74	33.05	7.3	3310	21.1																	
	11/Sep/14	1230	34.29	34.6	7.2	3620	22.3	1.07	0.002	0.136	<0.001	0.11	<0.0001	0.003	0.002	0.047	1.52	0.005	0.059	0.012	<0.01	0.02	0.126	<0.0001
	27/Nov/14	925	34.33	34.64	7.4	3170	22.3																	
	04/Mar/15	1245	34.29	34.6	7.4	3210	23.8	<0.01	<0.001					<0.001		0.002	<0.05	<0.001	0.01	<0.001			0.015	<0.0001
	03/Jun/15	1030	32.49	32.8	7.4	3210	21.2																	
	03/Sep/15	1125	32.49	32.8	7.2	3400	20.9	0.09	<0.001	0.106	<0.001	0.11	<0.0001	<0.001	<0.001	0.003	0.14	<0.001	0.022	0.002	<0.01	0.02	0.059	<0.0001
	08/Dec/15	1030	32.9	33.21	7.1	3460	23																	
	03/Mar/16	1135	34.19	34.5	7.4	3120	23.6	0.14	<0.001	0.065	<0.001	0.09	<0.0001	<0.001	<0.001	0.014	0.43	<0.001	0.022	<0.001	<0.01	0.02	0.06	<0.0001
	25/May/16	1135	32.47	32.78	7.4	3130	21.8																	
	08/Sep/16	1250	31.96	32.27	7.2	3280	21.5	0.2	>0.001	0.087	<0.001	0.1	<0.0001	<0.001	<0.001	0.002	0.34	<0.001	0.011	<0.001	<0.01	0.02	0.017	<0.0001
	01/Dec/16	1000	31.84	32.15	7.2	3320	22.8																	
	22/Mar/17		32.38	32.69																				
	14/Sep/17	1100	31.69	32	7.4	3370	20.4	0.24	<0.001	0.099	<0.001	0.1	<0.0001	<0.001	<0.001	0.001	0.39	<0.001	0.022	<0.001	<0.01	0.02	0.02	<0.0001
	08/Dec/17	1235	31.62	31.93	7.2	3310	22.7																	

Site ID	Date	Time	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	Comments
					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								
MP-2	08/Sep/08	1650																					
	13/Oct/08	1255																					
	23/Oct/08	0930																					
	29/Oct/08				174	101	529	5	40.1	926	45	<1	<1	559	559	38.2	2.37	0.02					
	23/Jan/09	1741																					
	22/Jun/09	1200		4830	254	150	646	7	53.3	1490	61	<1	<1	538	538	54.1	0.74	<0.01				3040	
	15/Sep/09	1520																					
	30/Nov/09	1080	6.99	4560	247	161	593	7	51.6	1390	19.5	<1	<1	446	446	48.4	3.16		<0.01	0.6	0.6		
	25/Feb/10	1320																					
	03/May/10	1130		4760	237	150	584	6	49.8	1510	28.6	<1	<1	527	527	53.8	3.88	0.01				3120	
	26/Aug/10	1040																					
	08/Nov/10	1355																					Water from tank
	07/Mar/11	1320	7	5070	247	162	611	9	52.5	1390	22	<1	<1	529	529	50.1	2.3		0.01	0.77	0.78		
	03/May/11	1210																					
	30/Aug/11	1130	7.27	5320	243	152	600	7	50.9	1490	20	<1	<1	477	477	52	1.03	<0.01	<0.01	0.47	0.47	2960	
	04/Nov/11	1140																					
	21/Mar/12	0945	7.39	5080	272	168	639	9	55.4	1530	25	<1	<1	500	500	53.7	1.61	0.18	0.03	0.84	0.87	3770	
	23/May/12	1140																					
	27/Aug/12	1100	7.54	4650	256	157	603	8	52.1	1370	23	<1	<1	548	548	50.1	2.01	0.1	0.03	2.06	2.09	3320	
	26/Nov/12	1045																					
	12/Mar/13	1040	7.48	5150	256	163	612	8	53	1350	18	<1	<1	498	498	48.4	4.55	0.01	<0.01	1.48	1.48	3750	
	20/Jun/13	1120																					
	28/Aug/13	1200	7.74	5190	254	169	583	9	52.2	1370	19	<1	<1	504	504	49.1	3.03	0.02				3140	
	11/Dec/13	1240																					
	26/Feb/14	1310	8.06	5250	236	151	495	8	45.9	1160	15	<1	<1	475	475	42.5	3.86	0.07				3650	
	12/Jun/14	1330																					
	10/Sep/14	1050	7.6	5240	243	157	549	7	49.1	1300	19	<1	<1	551	551	48.1	1.06	0.01	<0.01	1.87	1.87	3270	
	28/Nov/14	835																					
	08/Mar/15	0955	7.7	5320	255	163	590	7	52	1480	18	<1	<1	537	537	52.8	0.83	0.02	<0.01	2.12	2.12	3890	
	29/May/15	0925																					
	02/Sep/15	1425	7.66	5170	271	160	631	7	54.3	1030	17	<1	<1	480	480	39	16.4	<0.01	<0.01	2.12	2.12	3390	
	07/Dec/15	1105																					
	02/Mar/16	1310	7.54	5340	254	174	604	7	53.4	1370	18	<1	<1	473	473	48.5	4.88	0.05	<0.01	2.06	2.06	3630	
	24/May/16	1400																					
	07/Sep/16	1315																					
	30/Nov/16	1155																					
	21/Mar/17																						
	18/Sep/17	1250	7.53	5357	261	154	550	5	49.8	1340	11	<1	<1	565	565	49.3	0.46	0.05	<0.01	0.52	0.52	3310	
	07/Dec/17	1135																					
MP-2A	12/Mar/13	1110	4.44	1380	61	29	234	21	16.2	208	20	<1	<1	<1	<1	6.28	44	0.03	0.02	0.22	0.24	2990	
	15/Apr/13	1000																					
	27/May/13	1415																					
	20/Jun/13	1245	7.18	5060	226	140	554	8	47.1	1190	16	<1	<1	466	466	43.2	4.31	0.78	<0.01	0.01	0.01	3090	
	29/Jul/13	1410																					
	23/Aug/13	1006																					
	28/Aug/13	1130	5.34	2530	112	66	312	15	25	604	<1	<1	<1	278	278	22.6	5.01	0.08				1990	
	30/Sep/13	1610																					
	28/Nov/13	1330																					
	11/Dec/13	1240																					
	26/Feb/14	1245	7.68	3250	146	79	323	13	28.2	668	5	<1	<1	489	489	28.7	0.96	0.84				1970	
	14/Mar/14	1530																					
	12/Jun/14	1340																					
	12/Aug/14	1545																					
	10/Sep/14	1110	7.47	3320	146	84	373	12	30.7	761	10	<1	<1	543	543	32.5	2.84	1.08	0.17	0.01	0.18	1970	
	28/Nov/14	850																					

Site ID	Date	Time	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	Comments
					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								
	03/Mar/15	1015	7.7	3550	159	83	421	9	33.3	721	18	<1	<1	520	520	31.1	3.42	<0.01	<0.01	0.7	0.7	2150	
	29/May/15	0940																					
	02/Sep/15	1405	7.52	3500	178	77	507	4	37.4	608	46	<1	<1	566	566	29.4	11.9	0.02	<0.01	4.34	4.34	1980	
	07/Dec/15	1130																					
	02/Mar/16	1335	7.59	3440	137	73	478	3	33.7	750	52	<1	<1	554	554	33.3	0.59	0.02	<0.01	3.95	3.95	2120	
	24/May/16	1415																					
	07/Sep/16	1340																					
	30/Nov/16	1010																					
	21/Mar/17																						
	18/Sep/17	1350	7.77	3360	142	59	407	3	29.7	685	49	<1	<1	650	650	33.3	5.72	0.02	<0.01	3.6	3.6	1930	
	07/Dec/17	1155																					
MP-3	04/Sep/08	1130																					
	13/Oct/08	1000																					
	23/Oct/08	0830																					
	29/Oct/08																						
	23/Jan/09	1800																					
	22/Jun/09	1240																					
	15/Sep/09	1505																					
	30/Nov/09	1220																					
	25/Feb/10	1140																					
	03/May/10	1050																					
	26/Aug/10	1000																					
	08/Nov/10	1400																					
	07/Mar/11	1150																					Mud at bottom of bore
	03/May/11	1315																					
	30/Aug/11	1000																					
	04/Nov/11	1040																					
	20/Mar/12	0950																					
	23/May/12	1000																					
	27/Aug/12	1010																					
	26/Nov/12	0940																					Mud at bottom of bore
	12/Mar/13	0930																					
	12/Jun/13	1150																					
	28/Aug/13	1020																					
	11/Dec/13	1145																					
	24/Feb/14	1410																					
	12/Jun/14	1035																					
	27/Nov/14	1050																					
	28/May/15	1030																					
	02/Sep/15	1130																					
	07/Dec/15	9:55																					
	02/Mar/16	0940																					
	24/May/16	950																					
	07/Sep/16	10:15																					
	30/Nov/16	9:45																					
	07/Dec/16	945																					
MP-3A	12/Mar/13	0950	7.82	1330	18	15	312	3	15.8	124	63	<1	<1	478	478	14.4	4.66	0.04	<0.01	0.28	0.28	834	
	15/Apr/13	0945																					
	27/May/13	1315																					
	12/Jun/13	1220																					
	29/Jul/13	1425																					
	23/Aug/13	0953																					
	28/Aug/13	1040	8.12	1330	17	15	272	3	14	108	48	<1	<1	475	475	13.5	1.6	<0.01				796	
	30/Sep/13	1600																					
	28/Nov/13	1345																					
	11/Dec/13	1200																					

Site ID	Date	Time	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	Comments
					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								
	26/Feb/14	0950	8.37	1340	13	12	294	2	14.5	99	44	<1	15	439	454	12.8	6.17	<0.01				761	
	14/Mar/14	1445																					
	17/Jun/14	1050																					
	10/Sep/14	1000	7.98	1330	12	11	245	1	12.2	104	42	<1	<1	529	529	14.4	8.3	<0.01	<0.01	0.77	0.77	760	
	27/Nov/14	1110																					
	03/Mar/15	1340	8.13	1440	20	16	277	2	14.4	123	47	<1	<1	503	503	14.5	0.34	0.03	<0.01	0.74	0.74	806	
	28/May/15	1050																					
	02/Sep/15	1125	8.04	1280	20	15	288	2	14.8	61	39	<1	<1	464	464	11.8	11.2	0.03	<0.01	0.8	0.8	710	
	07/Dec/15	1020																					
	02/Mar/16	1005	8.11	1300	15	13	292	2	14.6	101	42	<1	<1	464	464	13	5.67	0.04	<0.01	0.74	0.74	685	
	24/May/16	1015																					
	07/Sep/16	1040																					
	30/Nov/16	1000																					
	21/Mar/17																						
	14/Sep/17	1200	8.1	1330	22	14	290	2	14.9	104	34	<1	<1	483	483	13.3	5.46	0.02	<0.01	0.91	0.91	734	
	07/Dec/17	1005																					
MP-4	03-Sep-08	1715																					
	13/Oct/08	1045																					
	22/Oct/08	1555																					
	29/Oct/08																						
	23/Jan/09	1810																					
	22/Jun/09	1247																					
	15/Sep/09	1455																					
	30/Nov/09	1220																					
	25/Feb/10	1035																					
	03/May/10	1000																					
	26/Aug/10	830																					
	08/Nov/11	1415																					
	07/Mar/11	1040																					Mud at bottom of bore
	03/May/11	1330																					
	30/Aug/11	0915																					
	04/Nov/11	0950																					
	20/Mar/12	0900																					
	23/May/12	0840																					
	27/Aug/12	915																					
	26/Nov/12	0845																					
	12/Jun/13	0850																					
	28/Aug/13	0650																					
	11/Dec/13	1130																					
	26/Feb/14	0835																					
	12/Jun/14	0830																					
	27/Nov/14	840																					
	28/May/15	0920																					
	07/Dec/15	850																					
	02/Mar/16	0840																					
	24/May/16	850																					
	07/Sep/16	900																					
	30/Nov/16	845																					
	07/Dec/17	840																					
MP-4A	28/Nov/13	1400																					
	12/Dec/13	1045																					Need Purging
	26/Feb/14	0920	7.98	3820	52	26	829	4	40.9	629	1	<1	<1	1000	1000	37.7	3.97	0.06				2270	

Site ID	Date	Time	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	Comments
					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								
	14/Mar/14	1430																					
	12/Jun/14	0845																					
	06/Aug/14	1225																					
	26/Aug/14	1235																					
	10/Sep/14	0900	7.66	3900	44	23	697	3	34.5	700	<1	<1	<1	1190	1190	43.5	11.6	0.01	<0.01	<0.01	<0.01	2120	
	27/Nov/14	920																					
	04/Mar/15	1200	7.51	4580	41	28	975	4	46.9	996	45	<1	<1	919	919	47.4	0.6		<0.01	0.03	0.03		
	28/May/15	0940																					
	03/Sep/15	925	7.65	4000	47	27	857	4	41.9	489	4	<1	<1	1150	1150	36.8	6.42	0.27	<0.01	0.33	<0.01	2130	
	07/Dec/15	935																					
	02/Mar/16	925	7.86	4030	29	25	858	4	40.9	707	6	<1	<1	992	992	39.9	1.24	0.35	<0.01	<0.01	<0.01	2250	
	24/May/16	925																					
	07/Sep/16	930																					
	30/Nov/16	910																					
	21/Mar/17																						
	14/Sep/17	1015	8.02	4140	51	27	974	4	47.2	724	5	<1	<1	1090	1090	42.3	5.51	0.47	<0.01	0.01	0.01	2420	
	07/Dec/17	905																					
MP-4B	28/Nov/13	1405																					
	12/Dec/13	0850																					Need Purging
	26/Feb/14	0850	8.15	3050	8	8	720	2	32.4	492	145	<1	<1	640	640	29.7	4.37	0.22				1720	
	13/Mar/14	1435																					
	12/Jun/14	0900																					
	06/Aug/14	1230																					Logger on ground
	26/Aug/14	1245																					
	10/Sep/14	0920	7.96	3020	9	9	613	2	27.9	509	126	<1	<1	723	723	31.4	5.98	0.04	<0.01	0.02	0.02	1680	
	27/Nov/14	900																					
	04/Mar/15	1225	7.95	3040	7	7	687	2	30.9	532	125	<1	<1	698	698	31.6	1.16		<0.01	0.03	0.03		
	02/May/15	1005																					
	03/Sep/15	900	7.6	3090	9	9	691	2	31.3	384	121	<1	<1	734	734	28	5.84	0.03	<0.01	0.02	0.02	1630	
	07/Dec/15	910																					
	2-Mar-16	900	8.11	3100	8	8	695	2	31.3	529	119	<1	<1	639	639	30.2	1.68	0.08	<0.01	0.05	0.05	1870	
	24-May-16	900																					
	7-Sep-16	1000																					
	30-Nov-16	930																					
	14-Sep-17	1035	8.01	4140	14	11	801	2	36.5	514	107	<1	<1	1040	1040	37.5	1.36	0.01	<0.01	0.02	0.02	2390	
	7-Dec-17	925																					
MP-5	04-Sep-08	0940																					
	13-Oct-08	1515																					
	23-Oct-08	0900																					
	29-Oct-08																						
	23-Jan-09	1616																					
	22-Jun-09	1020																					Dry
	15-Sep-09	1608																					Dry
	30-Nov-09	0915																					Dry
	25-Feb-10	1445																					
	03-May-10	1330																					
	26-Aug-10	1210																					Dry
	08-Nov-10	1140																					Dry
	02-Mar-11	1130																					
	03-May-11	1000																					Dry
	30-Aug-11	1330																					Dry
	04-Nov-11	1300																					Dry

Site ID	Date	Time	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	Comments
					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								
	20-Mar-12	1020																					
	23-May-12	1030																					Dry
	28-Aug-12	1130																					
	26-Nov-12	1125																					Dry
	12-Mar-13	1300																					
	12-Jun-13	1055																					
	29-Aug-13	1140																					
	12-Dec-13	1335																					
	27-Feb-13	1200																					
	12-Jun-14	1400																					
	10-Sep-14	1400																					
	27-Nov-14	1200																					
	28-May-15	1200																					
	02-Sep-15	1155																					
	08-Dec-15	1300																					
	02-Mar-16	1030																					
	24-May-16	1040																					
	07-Sep-16	1100																					
	30-Nov-16	1035																					
	07-Dec-17	1035																					
MP-5A	12-Mar-13	1240	7.7	3010	68	68	575	23	34.6	493	44	<1	<1	828	828	31.4	4.86	1.63	<0.01	0.13	0.13	1720	
	15-Apr-13	1400																					
	27-May-13	1250																					
	12-Jun-13	1115																					
	29-Jul-13	1500																					
	23-Aug-13	1018																					
	29-Aug-13	1120	7.44	2950	69	72	537	21	33.3	460	90	<1	<1	802	802	30.9	3.7	0.24				1540	
	30-Sep-13	1630																					
	28-Nov-13	1435																					
	12-Dec-13	1350																					
	27-Feb-14	1130	7.32	3070	68	70	569	16	34.3	454	95	<1	<1	875	875	32.3	3.04	0.39				1590	
	14-Mar-14	1400																					
	17-Jun-14	1410																					
	06-Aug-14	1040																					
	10-Sep-14	1415	7.32	3150	64	67	454	16	28.9	492	76	<1	<1	1030	1030	36	11.1	0.26	<0.01	0.01	0.01	1790	
	27-Nov-14	1220																					
	28-May-15	1225																					
	02-Sep-15	1210																					
	08-Dec-15	1310																					
	02-Mar-16	1050																					
	24-May-16	1105																					
	07-Sep-16	1120																					
	30-Nov-16	1100																					
	21-Mar-17																						
	07-Dec-17	1045																					
MP-6	12-Mar-13	1400	4.89	4420	91	74	883	48	50.3	927	15	<1	<1	313	313	32.7	21.1	0.03	<0.01	0.17	0.17	5000	
	15-Apr-13	1330																					
	27-May-13	1345																					
	20-Jun-13	1040	7.43	3430	48	34	718	13	36.8	426	13	<1	<1	1080	1080	33.9	4.05	2.51	<0.01	<0.01	<0.01	1990	
	29-Jul-13	1345																					
	22-Aug-13	1559																					
	29-Aug-13	1030	7.46	3130	34	28	741	14	36.6	423	2	<1	<1	1090	1090	33.8	3.99	1.66				1540	
	30-Sep-13	1520																					
	28-Nov-13	1245																					
	11-Dec-13	1430																					

Site ID	Date	Time	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	Comments
					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								
	24-Feb-14	1245	7.71	2660	16	15	568	10	27	293	<1	<1	<1	982	982	27.9	1.67	1.55				1490	
	12-Jun-14	1150																					
	10-Sep-14	1330	7.7	2330	10	9	440	6	20.5	236	<1	<1	<1	998	998	26.6	12.9	1.07	<0.01	0.04	0.04	1390	
	27-Nov-14	1320																					
	03-Mar-15	1130	7.89	2240	13	10	538	6	25	191	3	<1	<1	907	907	23.6	2.94	1.16	<0.01	0.03	0.03	1400	
	28-May-15	1310																					
	02-Sep-15	1300	7.89	2030	7	7	523	6	23.8	139	<1	<1	<1	811	811	20.1	8.37	0.86	<0.01	<0.01	<0.01	1150	
	07-Dec-15	1345																					
	02-Mar-16	1150	7.97	1990	6	6	497	6	22.6	162	<1	<1	<1	781	781	20.2	5.54	1.01	<0.01	0.02	0.02	1270	
	24-May-16	1205																					
	08-Sep-16	1110	7.92	1950	9	8	522	6	24	152	6	<1	<1	921	921	22.8	2.4	0.79	<0.01	<0.01	<0.01	1150	
	30-Nov-16	1430																					
	21-Mar-17																						
	14-Sep-17	1300	8.07	1990	9	7	489	5	22.4	136	<1	<1	<1	830	830	20.4	4.68	0.93	<0.01	0.04	0.04	1110	
	07-Dec-17	1320																					
MP-7	13-Mar-13	1030	6.6	3520	140	71	583	8	38.4	680	5	<1	<1	780	780	34.9	4.79	0.09	<0.01	0.12	0.12	2270	
	15-Apr-13	1305																					
	27-May-13	1445																					
	02-Jul-13	1120	7.06	4310	151	96	549	4	39.4	948	1	<1	<1	493	493	36.6	3.68	0.17	<0.01	0.28	0.28	2270	
	29-Jul-13	1435																					
	23-Aug-13	0936																					
	29-Aug-13	0900	7.33	3310	100	67	540	4	34.1	700	21	<1	<1	586	586	31.9	3.32	0.2				1720	
	30-Sep-13	1644																					
	28-Nov-13	1600																					
	18-Dec-13	1220																					
	27-Feb-14	1915	7.26	3200	88	55	569	2	33.7	669	27	<1	<1	595	595	31.3	3.66	0.15				1670	
	19-Jun-14	0935																					
	12-Aug-14	1530																					
	11-Sep-14	0910	7.66	3140	84	54	466	3	29	627	27	<1	<1	547	547	29.2	0.36	0.21	<0.01	0.06	0.06	1650	
	27-Nov-14	1130																					
	03-Mar-15	0920	7.69	3250	86	54	508	3	30.9	619	34	<1	<1	614	614	30.4	0.75	0.14	<0.01	0.02	0.02	1650	
	28-May-15	1115																					
	02-Sep-15	1040	7.55	3120	99	57	529	30	32.7	513	34	<1	<1	561	561	26.4	10.7	0.08	<0.01	<0.01	<0.01	1710	
	08-Dec-15	910																					
	03-Mar-16	1300	7.78	3210	86	63	545	4	33.3	676	37	<1	<1	554	554	30.9	3.68	0.26	<0.01	0.05	0.05	1770	
	25-May-16	915																					
	08-Sep-16	920	7.46	3160	92	57	536	3	32.7	666	32	<1	<1	674	674	32.9	0.4	0.08	<0.01	0.01	0.01	1720	
	01-Dec-16	900																					
	22-Mar-17																						
	14-Sep-17	1235	7.59	3190	103	58	614	3															
	08-Dec-17	1110							36.7	646	31	<1	<1	626	626	31.4	7.82	0.05	<0.01	0.38	0.38	1600	
MP-8	13-Mar-13	1030	4.45	1500	53	27	263	13	16.6	250	48	<1	<1	<1	<1	8.05	34.8	0.19	<0.01	0.29	0.29	1610	
	15-Apr-13	1300																					
	27-May-13	1443																					
	02-Jul-13	1240	7.18	4800	179	110	593	4	43.9	1060	22	<1	<1	507	507	40.5	4.02	0.03	0.01	0.35	0.36	2720	
	29-Jul-13	1440																					
	23-Aug-13	0935																					
	29-Aug-13	0930	6.28	3440	133	88	473	8	34.7	836	1	<1	<1	389	389	31.4	4.96	0.16				2220	
	30-Sep-13	1646																					
	28-Nov-13	1605																					
	18-Dec-13	1200																					
	27-Feb-14	0855	6.72	3920	153	93	590	5	41.1	968	<1	<1	<1	453	453	36.9	5.37	0.54				2280	
	19-Jun-14	0920																					

Site ID	Date	Time	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	Comments
					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								
	12-Aug-14	1540																					
	11-Sep-14	0845	7.47	4420	164	102	526	5	39.6	982	2	<1	<1	524	524	38.2	1.76	0.42	<0.01	0.03	0.03	2620	
	13-Nov-14	1520																					
	27-Nov-14	1140																					
	03-Mar-15	0905	7.53	4500	183	113	615	5	45.3	1160	4	<1	<1	578	578	44.4	1.06	0.41	<0.01	0.04	0.04	2910	
	28-May-15	1135																					
	02-Sep-15	1020	7.41	4480	190	114	633	5	46.5	587	2	<1	<1	536	536	34.9	14.2	0.5	<0.01	0.05	0.05	2650	
	08-Dec-15	845																					
	03-Mar-16	1240	7.64	4560	172	116	592	6	44	1080	3	<1	<1	524	524	41	3.56	0.65	<0.01	0.04	0.04	2940	
	25-May-16	845																					
	08-Sep-16	850	7.36	4580	179	107	671	5	47	1120	2	<1	<1	650	650	44.6	2.64	0.97	<0.01	4.87	4.87	2720	
	01-Dec-16	840																					
	22-Mar-17																						
	14-Sep-17	1215	7.48	4670	189	104	658	4	46.7	1110	2	<1	<1	597	597	43.3	3.81	0.52	<0.01	0.1	0.1	2920	
	08-Dec-17	1045																					
WB-1	13-Oct-08	1640																					
	28-Oct-08		9	12	388	4	18.4	286	30	<1	<1	483	483	17.8	1.57	1.23				1050			
	6-Dec-11	1230																					
	21-Mar-12	1030	12	13	420	7	20.1	286	10	<1	<1	508	508	18.4	4.34	2.04	<0.01	0.07	0.07	932			
	24-May-12	1310																					
	27/Aug/12	1320																					
	26/Nov/12	1200																					
	12/Mar/13	1340																					
	10/Jun/13	900																					
	29/Aug/13	1100																					
	11/Dec/13	1420																					
	24/Feb/14	1300																					
	12/Jun/14	1140																					
	10/Sep/14	1310																					
	27/Nov/14	1330																					
	28/May/15	1250																					
	02/Sep/15	1245																					
	07/Dec/15	1320																					
	02/Mar/16	1130																					
	24/May/16	1145																					
	08/Sep/16	1125																					
	30/Nov/16	1410																					
	21/Mar/17																						
	07/Dec/17	1330																					
WB-2	03-Sep-08	1400																					
	13-Oct-08	1630																					
	28-Oct-08				207	120	281	3	32.5	816	6	<1	<1	389	389	31.4	1.7	0.17				2310	
	23/Jan/09	1532																					
	22/Jun/09	0830		3050	205	103	274	4	30.7	798	27	<1	<1	464	464	32.3	2.52	0.08				1750	
	15/Sep/09	1552																					
	06/Jan/10	0930	7.51	2010	126	62	159	7	18.5	326	13.7	<1	<1	330	330	16.7	5		0.02	8.96	8.98		
	25/Feb/10	1355																					
	03/May/10	1250		2190	148	73	194	7	22	505	35.5	<1	<1	364	364	22.3	0.47	2.77				1290	
	26/Aug/10	1315																				From Windmill	
	08/Nov/10	1050																				From Windmill	
	02/Mar/11	1050	7.53	2750	184	109	271	4	30	753	28	<1	<1	320	320	28.2	3.16		0.04	1.74	1.78		
	03/May/11	925																					
	30/Aug/11	1400	7.87	2880	127	103	269	3	26.6	778	32	<1	<1	290	290	28.4	3.3	<0.01	<0.01	0.5	0.5	1460	Windmill
	04/Nov/11	1330																					

Site ID	Date	Time	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	Comments
					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								
	20/Mar/12	1330	8.64	2650	57	110	335	4	26.6	804	17	<1	32	114	146	26	1.18	0.07	<0.01	0.08	0.08	1540	
	23/May/12	1300																					
	27/Aug/12	1250	7.91	2480	167	84	218	5	24.9	591	34	<1	<1	414	414	25.6	1.56	<0.01	<0.01	4.8	4.8	1510	Gate No 4
	26/Nov/12	1150																					Gate No 4
	12/Mar/13	1320	7.29	2740	110	107	282	4	26.7	692	33	<1	<1	230	230	24.8	3.62	0.05	<0.01	0.12	0.12	1420	
	12/Jun/13	1035																					
	28/Aug/13	1350	7.61	3020	194	111	261	3	30.2	694	35	<1	<1	440	440	29.1	1.94	<0.01				1970	
	11/Dec/13	1410																					
	26/Feb/14	1410	8.15	3070	141	112	236	4	26.6	1980	26	<1	<1	307	307	26.3	0.65	0.3				2320	
	12/Jun/14	1210																					
	10/Sep/14	1250	7.81	3040	191	105	235	3	28.5	708	35	<1	<1	470	470	30.1	2.76	0.03	0.02	3.68	3.7	2040	
	28/Nov/14	0950																					
	03/Mar/14	1200	7.83	3200	187	118	283	3	31.4	689	33	<1	<1	415	415	28.4	5.04	0.61	0.03	0.79	0.82	2580	
	29/May/15	1100																					
	20/Sep/15	1325	8.87	2620	67	111	300	4	25.6	589	1	<1	46	93	139	19.4	13.8	0.05	<0.01	<0.01	<0.01	1620	
	07/Dec/15	1300																					
	02/Mar/16	1245	7.44	3100	197	113	262	2	30.6	747	36	<1	<1	429	429	30.4	0.31	0.06	<0.01	4.84	4.84	2230	
	24/May/16	1230																					
	08/Sep/16	1150	8.14	2590	111	98	271	3	25.5	666	30	<1	<1	291	291	25.2	0.48	0.03	<0.01	0.06	0.06	1620	
	30/Nov/16	1350																					
	22/Mar/17																						
	18/Sep/17	920	7.96	2990	152	100	241	3	26.4	692	31	<1	<1	402	402	28.2	3.34	0.05	0.002	2.05	2.07	1630	
	07/Dec/17	1355																					
WB-3	03-Sep-08	1430																					
	13-Oct-08	1555																					
	29-Oct-08		264	196	363	2	45.1	1210	29	<1	<1	395	395	42.7	2.75	0.06							
	23/Jan/09	1545																					
	09/Feb/09	1600																					
	22/Jun/09	0905	259	184	407	2	45.8	1270	22	<1	<1	434	434	44.8	1.1	0.18				2690			
	15/Sep/09	1549																					
	30/Nov/09	0845	215	185	360	3	41.7	1220	21.2	<1	<1	324	324	41.3	0.5		<0.01	3.78	3.78				
	25/Feb/10	1410																					
	03/May/10	1320	229	168	354	2	40.7	1210	29.8	<1	<1	428	428	43.2	3.06	<0.01				2680			From tank
	26/Aug/10	1250																					From tank
	08/Nov/10	1110																					From tank
	02/Mar/11	1150	274	157	498	8	48.5	1460	26	<1	<1	145	145	44.7	4.05		0.09	0.88	0.97				Trough
	03/May/11	945																					Trough
	01/Sep/11	1010	147	191	411	3	41	1300	31	<1	3	171	174	40.8	0.27	0.11	<0.01	0.12	0.12	2480			Trough
	06/Dec/11	1100																					
	20/Mar/12	1300	256	184	393	2	45.1	1160	33	<1	<1	398	398	41.4	4.29	0.06	<0.01	3.64	3.64	2750			
	23/May/12	1255																					Pump broken
	27/Aug/12	1350																					
	26/Nov/12	1330																	No sample-pump over bore-Glenrock house				
	13/Mar/13	1415																					
	20/Jun/13	1100																					
	30/Aug/13	0815																					
	18/Dec/13	1250																					
	27/Feb/14	1100																					
	12/Jun/14	1225																					
	11/Sep/14	0950																					
	28/Nov/14	1155																					
	28/May/15	1340																					
	03/Sep/15	1040																					
	08/Dec/15	1355																					

Site ID	Date	Time	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	Comments
					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								
	03/Mar/16	1330																					
	24/May/16	1250																					
	08/Sep/16	1000																					
	30/Nov/16	1330																					
	22/Mar/17																						
	08/Dec/17	1205																					
WB-4	03-Sep-08	casing seal																		casing sealed			
	13-Oct-08	casing seal																		casing sealed			
	29-Oct-08	casing seal																		casing sealed			
	22/Jun/09	casing seal																		casing sealed			
	15/Sep/09	casing seal																		casing sealed			
	30/Nov/09	casing seal																		casing sealed			
	25/Feb/10	casing seal																		casing sealed			
	26/Aug/10	1230																		Sample taken from tank			
	08/Nov/10	1205																		Sample taken from tank			
	02/Mar/11	1200	247	183	363	2	43.2	1200	26	<1	<1	312	312	40.6	3.13		<0.01	3.79	3.79	Sample taken from tank			
	03/May/11	1030																		Sample taken from tank			
	01/Sep/11	1030																		Sample taken from tank			
	06/Dec/11	1200																					
	20/Mar/12	1040	244	182	402	2	44.7	1170	33	<1	<1	378	378	41.2	4.02	0.05	0.02	3.21	3.23	2710			
	24/May/12	1330																		Sample taken from tank			
	28/Aug/12	1200																		Sample taken from tank			
	26/Nov/12	1250																					
	12/Jun/13	1120																					
	29/Aug/13	1150																					
	12/Dec/13	1400																					
	27/Feb/14	1215																					
	12/Jun/14	1420																					
	11/Sep/14	930																					
	27/Nov/14	1235																					
	28/May/15	1240																					
	02/Sep/15	1225																					
	08/Dec/15	1330																					
	02/Mar/16	1105																					
	24/May/16	1115																					
	08/Sep/16																						
	30/Nov/16																						
	07/Dec/17																						
WB-5	03-Sep-08	1540																					
	13-Oct-08	1600																					
	28-Oct-08				314	288	979	8	82.1	2350	89	<1	<1	505	505	78.2	2.39	0.22				5680	
	23/Jan/09	1700																					
	22/Jun/09	1045	7590		318	270	1080	9	85.3	2680	67	<1	<1	612	612	89.4	2.36	0.02				4580	From tank
	15/Sep/09	1620																			Bore unable to be dipped		
	30/Nov/09	0930	7250	7.26	282	280	965	10	79.3	2330	63.8	<1	<1	494	494	77	1.45		<0.01	2.23	2.23		
	25/Feb/10	1345																					
	03/May/10	1215	6720		217	268	1020	9	77.5	2360	91	<1	<1	415	415	76.8	0.41	<0.01				4570	
	26/Aug/10	1125																					From tank
	08/Nov/10	1255																				Water from tank	
	02/Mar/11	1315	7540	6.67	301	259	958	10	78.3	2420	75	<1	<1	216	216	74	2.79		0.02	2.13	2.14		
	03/May/11	1150																				Water from tank	
	30/Aug/11	1240	7780	7.85	191	266	1020	9	76	2500	70	<1	<1	328	328	78.5	1.63	<0.01	<0.01	2.1	2.1	4290	
	04/Nov/11	1230																					
	20/Mar/12	1026	7870	7.86	176	301	1220	11	86.9	2680	95	<1	<1	258	258	82.7	2.45	<0.10	0.02	1.59	1.61	4810	
	23/May/12	1245																					

Site ID	Date	Time	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	Comments
					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								
	27/Aug/12	1220	7780	7.65	281	256	964	8	77.2	2050	93	<1	<1	600	600	71.8	3.67	<0.10	0.02	2.85	2.87	4900	
	26/Nov/12	1125																					
	12/Mar/13	1210	7750	7.81	176	289	1060	12	79	2450	71	<1	<1	288	288	76.3	1.69	0.15	0.03	0.34	0.37	5320	
	12/Jun/13	1010																					
	28/Aug/13	1310	7630	8.17	136	290	964	11	72.9	2500	57	<1	<1	230	230	76.3	2.31	0.09				5140	
	11/Dec/13	1350																					
	26/Feb/14	1340	7840	7.86	256	254	833	10	70.2	1980	79	<1	<1	471	471	66.9	2.38	0.14				5540	
	12/Jun/14	1240																					
	10/Sep/14	1220	7940	7.71	286	269	899	10	75.8	2420	90	<1	<1	630	630	82.7	4.39	0.35	0.09	0.62	0.71	5780	
	28/Nov/14	0930																					
	03/Mar/15	1225	8360	8.16	171	282	1080	90	79	2470	86	<1	<1	261	261	76.7	1.45	0.08	0.02	0.25	0.27	6300	
	29/May/15	1040																					
	02/Sep/15	1345	7660	7.9	248	263	1020	8	78.6	1740	75	<1	<1	446	446	59.6	13.8	0.03	0.02	1.54	1.56	4890	
	07/Dec/15	1230																					
	02/Mar/16	1245	7860	7.69	248	274	955	8	76.7	2340	85	<1	<1	467	467	77.1	0.29	0.08	<0.01	2.72	2.72	5410	
	24/May/16	1315																					
	08/Sep/16	1220	7540	7.96	172	303	1080	8	80.7	2400	70	<1	<1	341	341	76	3.01	0.02	<0.01	0.04	0.04	4480	
	30/Nov/16	1300																					
	22/Mar/17																						
	18/Sep/17	1220	7880	8.07	178	243	893	7	67.9	2300	62	<1	19	408	427	74.7	4.77	0.03	0.02	0.86	0.88	4800	
	07/Dec/17	1415																					
WB-6	3-Sep-08	1626																		Windmill over bore			
	13-Oct-08	1315																		Windmill over bore			
	29-Oct-08																			Windmill over bore			
	23/Jan/09	1720																		Windmill over bore			
	22/Jun/09	1110																		Windmill over bore			
	15/Sep/09	1528																		Windmill over bore			
	30/Nov/09	1000																		Windmill over bore			
	25/Feb/10	1335																		Windmill over bore			
	03/May/10	1155																		Windmill over bore			
	26/Aug/10	1055																		Windmill over bore			
	08/Nov/10	1310																		Windmill over bore			
	07/Mar/11	1340																		Windmill over bore			
	03/May/11	1140																		Windmill over bore			
	30/Aug/11	1150																		Windmill over bore			
	04/Nov/11	1155																					
	20/Mar/12	1140																					
	23/May/12	1200																					
	27/Aug/12	1130																					
	26/Nov/12	1100																		No sample-broken windmill over bore			
	12/Mar/13	1130																					
	12/Jun/13	0935																					
	28/Aug/13	1230																					
	11/Dec/13	1320																					
	24/Feb/14	1315																					
	12/Jun/14	1255																					
	10/Sep/14	1130																					
	28/Nov/14	1215																					
	29/May/15	1005																					
	03/Sep/12	1010																					
	07/Dec/15	1210																					
	02/Mar/16	1410																					
	24/May/16	1335																					
	07/Sep/16	1245																					
	30/Nov/16	1245																					

Site ID	Date	Time	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	Comments
					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								
	22/Mar/17																						
	07/Dec/17	1220																					
WB-7	4-Sep-08	0830																					
	13-Oct-08	1240																					
	28-Oct-08		113	63	387	4	27.8	529	25	<1	<1	489	489	25.2	4.78	<0.001				1540			
	23/Jan/09	1752																					
	22/Jun/09	1210	117	58	417	4	28.9	604	33	<1	<1	533	533	28.4	0.92	1.4				1460		Sample from tank	
	15/Sep/09	1508																		Bore covered by pump			
	30/Nov/09	1200	102	58	367	4	25.9	571	21.7	<1	<1	497	497	26.5	1.06		0.09	5.94	6.03	Sample from tank			
	25/Feb/10	1300																		Sample from tank			
	03/May/10	1100	122	58	360	3	26.6	535	28.1	<1	<1	572	572	27.1	0.84	<0.01				1320		Sampled from tank fed by bore	
	26/Aug/10	1020																	Windmill over bore, no access to water				
	08/Nov/10	1340																					
	07/Mar/11	1240	126	59	378	4	27.6	535	22	<1	<1	573	573	27	1.19		<0.01	6.45	6.45	Water from tank on windmill			
	03/May/11	1230																		water from tank on windmill			
	30/Aug/11	1035	122	57	382	4	27.5	585	27	<1	<1	516	516	27.4	0.21	0.04	<0.01	6.8	6.8	1470		m tank on windmill	
	04/Nov/11	1100																					
	20/Mar/12	1110	203	71	475	5	36.8	845	49	<1	<1	482	482	34.5	3.19	0.06	<0.01	40.5	40.5	2420			
	23/May/12	1100																					
	27/Aug/12	1030	165	63	418	3	31.7	684	41	<1	<1	554	554	31.2	0.73	<0.01	<0.01	16.3	16.3	1810			
	26/Nov/12	1015																					
	12/Mar/13	1020																					
	12/Jun/13	0915																					
	28/Aug/13	1100																					
	11/Dec/13	1220																					
	24/Feb/14	1345																					
	12/Jun/14	1340																					
	10/Sep/14	1020																					
	28/Nov/14	0820																					
	29/May/15	1130																					
	02/Sep/15	1100																					
	07/Dec/15	1045																					
	03/Mar/16	1220																					
	25/May/16	935																					
	07/Sep/16	1145																					
	30/Nov/16	1130																					
	22/Mar/17																						
	07/Dec/17	1110																					
WB-8	3-Sep-08	no access																					
	13-Oct-08	no access																					
	29-Oct-08	no access																					
	23/Jan/09	1840																					
	22/Jun/09	1255	49	38	429	7	24.4	378	37	<1	<1	554	554	22.5	4.04	0.12				1210			
	15/Sep/09	1450																					
	30/Nov/09	1350																					
	25/Feb/10	1045																					
	03/May/10	1035																	Bore covered by pump, could not sample				
	26/Aug/10	925																		Pump covering bore			
	09/Nov/10	1350																		Pump over bore			
	07/Mar/11	1050																		Pump over bore. Gate Locked			
	03/May/11																			No access. Gate Locked			
	01/Sep/11	1130																		Pump over bore			
	06/Dec/11	1010																					

Site ID	Date	Time	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	Comments
					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								
	21/Mar/12	1340																					
	24/May/12	1240																					
	28/Aug/12	1030																					
	27/Nov/12	1345																	Pump over bore-Surrey house paddock				
	13/Mar/13	1240																					
	20/Jun/13	1315																					
	30/Sep/13	0855																					
	12/Dec/13	1235																					
	27/Feb/14	1235																					
	12/Jun/14	1015																					
	11/Sep/14	1240																					
	27/Nov/14	945																					
	03/Jun/15	1040																					
	03/Sep/15	1130																					
	08/Dec/15	1045																					
	03/Mar/16	1145																					
	25/May/16	1150																					
	08/Sep/16	1305																					
	01/Dec/16	1020																					
	22/Mar/17																						
	08/Dec/17	1245																					
WB-9	3-Sep-08	1740																					
	13-Oct-08	1100																					
	28-Oct-08				40	32	99	5	9.04	88	17	<1	<1	300	300	8.83	1.12	4.54				417	
	23/Jan/09	1816																					
	22/Jun/09	1345		1040	21	27	104	8	8.03	84	<10	<1	<1	403	403	10.4	13	1.34				508	
	15/Sep/09	1443																					
	30/Nov/09	1400	7.14	1020	91	46	115	2	13.3	56.1	64.5	<1	<1	527	527	13.4	0.48		<0.01	0.2	0.2		
	25/Feb/10	1120																				Windmill over bore	
	03/May/10	1010																Bore covered by pump, tank fed by pum empty, could not sample					
	26/Aug/10	900																				Windmill	
	09/Nov/10	1340																				Windmill over bore	
	07/Mar/11	1130	7.46	1020	92	44	122	2	13.6	58	61	<1	<1	525	525	13.4	0.61		<0.01	0.3	0.3		
	03/May/11	1345																				from windmill outlet	
	30/Aug/11	930	7.92	1260	85	44	116	2	13	61	67	<1	<1	480	480	12.7	0.97	<0.01	<0.01	0.16	0.16	712	
	04/Nov/11	1015																					
	20/Mar/12	0930	7.85	1220	102	49	141	2	15.3	67	80	<1	<1	517	517	13.9	4.85	0.06	<0.01	0.31	0.31	780	
	23/May/12	0930																					
	27/Aug/12	0945	8.29	1050	45	44	124	2	11.3	65	73	<1	<1	428	428	11.9	2.58	0.02	<0.01	0.39	0.39	666	
	26/Nov/12	0910																					
	12/Mar/13	0910																					
	10/Jun/13	0910																					
	28/Aug/13	0910																					
	12/Dec/13	1250																					
	26/Feb/14	1130	8.12	1240	87	46	114	2	13.1	85	71	<1	<1	447	447	12.8	1.26	0.01				764	
	12/Jun/14	0915																					
	11/Sep/14	1145	7.96	1220	85	44	114	2	12.9	71	69	<1	<1	455	455	12.5	1.33	0.03	<0.01	0.27	0.27	731	
	27/Nov/14	1005																					
	04/Mar/15	1315	7.61	1300	87	48	128	2	13.9	76	72	<1	<1	520	520	14	0.45		<0.01	0.39	0.39		
	03/Jun/15	1020																					
	15/Sep/15	1115	8.18	1170	83	48	121	2	13.4	65	66	<1	<1	497	497	13.1	0.99	0.06	<0.01	0.28	0.28	708	
	08/Dec/15	1140																					
	03/Mar/16	1045	7.85	1240	95	51	122	2	14.3	64	68	<1	<1	474	474	12.7	5.93	0.13	<0.01	0.26	0.26	682	
	25/May/16	1210																					
	01/Dec/16	1100																					

Site ID	Date	Time	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	Comments
					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								
	22/Mar/17																						
	08/Dec/17																						
WB-10	25-Jul-08	1050																					
	4-Sep-08	0750																					
	13-Oct-08	1200																					
	28/Oct/08				138	79	248	<1	24.2	141	280	<1	<1	632	632	22.4	3.72	0.04				1310	
	27/Jan/09	1119																					
	22/Jun/09	1530		2180	139	70	283	1	25	150	279	<1	<1	751	751	25.1	0.06	0.21				1320	
	11/Sep/09	1432																					
	30/Nov/09	1450	6.89	1690	123	67	259	<1	23	117	225	<1	<1	717	717	22.3	1.47		<0.01	0.15	0.15		
	25/Feb/10	1015																					
	03/May/10	1440		2010	137	70	266	<1	24.2	155	360	<1	<1	722	722	26.3	4.17	<0.01				1260	
	24/Sep/10	1020																					From bore
	10/Nov/10	1150																					
	07/Mar/11	950	6.91	1850	136	73	266	2	24.4	147	251	<1	<1	735	735	24.1	0.64		<0.01	0.15	0.15		
	03/May/11	1425																					
	01/Sep/11	1240	7.74	2050	126	64	234	<1	21.7	164	274	<1	<1	504	504	20.4	3.15	0.06	<0.01	0.16	0.16	1230	
	06/Dec/11	0920																					
	21/Mar/12	1220	7.4	2020	140	71	246	1	23.6	175	326	<1	<1	635	635	24.4	1.8	0.03	>0.01	0.29	0.29	1320	
	24/May/12	1135																					
	04/Sep/12	0925	7.61	2010	137	73	239	1	23.2	170	262	<1	<1	704	704	24.3	2.22	0.09	0.02	0.11	0.13	1310	
	13/Dec/12	925																					Brolga house
	13/Mar/13	1030	7.05	2150	131	73	278	1	24.7	158	266	<1	<1	725	725	24.5	0.35	0.01	<0.01	0.11	0.11	1370	
	10/Jul/13	1040																					
	30/Aug/13	1030	7.53	2050	143	76	265	1	24.9	159	275	<1	<1	630	630	22.8	4.48	0.02				1220	
	12/Dec/13	1440																					
	26/Feb/14	1040	7.58	2110	132	68	204	<1	21.1	140	239	<1	<1	670	670	22.3	2.91	<0.01				1250	
	19/Jun/14	1040																					
	11/Sep/14	1050	7.6	2020	130	70	216	<1	21.6	150	301	<1	<1	579	579	22.1	0.98	0.03	0.02	0.12	0.14	1170	
	28/Nov/14	1050																					
	03/Mar/15	1415	7.46	2220	144	78	270	1	25.4	155	293	<1	<1	734	734	25.1	0.45	0.66	<0.01	0.02	0.02	1340	
	03/Jun/15	0820																					
	02/Sep/15	0925	7.41	2060	146	78	270	<1	25.4	130	274	<1	<1	636	636	22.1	7.07	0.02	<0.01	0.02	0.02	1270	
	08/Dec/15	940																					
	03/Mar/16	0900	7.61	2120	139	89	290	1	26.9	159	293	<1	<1	638	638	23.3	7.08	0.65	<0.01	<0.01	<0.01	1380	
	25/May/16	1015																					
	08/Sep/16	1340	7.33	2080	136	67	249	<1	23.1	166	258	<1	<1	742	742	24.9	3.66	0.22	<0.01	0.07	0.07	1310	
	01/Dec/16	1155																					
	21/Mar/17																						
	14/Sep/17	900	7.49	2100	154	73	284	<1	26	149	249	<1	<1	688	688	23.1	5.92	0.16	<0.01	<0.01	<0.01	1350	
	08/Dec/17	900																					
WB-11	25-Jul-08	1105																					
	4-Sep-08	0740																					
	13-Oct-08	1150																					
	28/Oct/08				34	28	149	6	10.6	133	31	<1	<1	323	323	10.9	1.15	0.78				576	
	23/Jan/09	1109																					
	22/Jun/09	1505		917	360	24	130	2	9.2	132	10	<1	<1	247	247	8.86	1.86	1.79				476	
	11/Sep/09	1425																					
	30/Nov/09	1425	6.65	929	29	24	122	2	8.79	138	2.52	<1	<1	251	251	8.97	1.05		<0.01	0.08	0.08		
	25/Feb/10	1000																					
	03/May/10	1515		921	33	24	127	2	9.19	156	5.84	<1	<1	246	246	9.44	1.34	0.95				474	
	24/Sep/10	1000																					From Bore
	10/Nov/10	1140																					
	07/Mar/11	930	7.38	845	37	25	132	3	9.71	181	<1	<1	<1	238	238	9.88	0.88		<0.01	0.02	0.02		
	03/May/11	1400																					

Site ID	Date	Time	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	Comments
					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								
	01/Sep/11	1220	8.13	1200	37	25	132	2	9.7	229	<1	<1	<1	176	176	9.98	1.43	0.34	<0.01	0.02	0.02	528	
	06/Dec/11	0900																					
	21/Mar/12	1150	7.97	1020	31	24	140	4	9.71	258	1	<1	<1	156	156	10.4	3.5	0.15	0.23	0.69	0.92	522	
	24/May/12	1115																			No sample. New pump over bore		
	04/Sep/12	0905																					
	13/Dec/12	Pump over																	New electric pump over bore-Brolga irrigation pump				
	13/Mar/13	Pump over																					
	10/Jul/13	1020																					
	30/Aug/13	1000	7.99	1220	52	41	196	1	14.5	74	80	<1	<1	480	480	13.3	4.19	0.07				719	
	12/Dec/13	1455																					
	26/Feb/14	1020	8.37	1690	47	61	202	<1	16.2	130	214	<1	15	446	462	17.4	3.62	0.23				1010	
	19/Jun/14	1020																					
	11/Sep/14	1030	8.16	1250	36	46	167	<1	12.8	79	121	<1	<1	396	396	12.7	0.7	0.05	<0.01	0.08	0.08	686	
	28/Nov/14	1120																					
	03/Mar/15	1400	7.96	1440	44	35	233	1	15.2	85	65	<1	<1	578	578	15.3	0.25	0.05	<0.01	0.02	0.02	815	
	09/Jun/15	1230																					
	02/Sep/15	0900	8.09	1780	70	74	264	1	21.1	125	258	<1	<1	471	471	18.3	7.04	0.04	<0.01	0.26	0.26	1030	
	08/Dec/15	1000																					
	03/Mar/16	0940	8.09	1410	34	38	246	1	15.6	75	75	<1	<1	583	583	15.2	1.02	0.08	<0.01	<0.01	<0.01	798	
	25/May/16	955																					
	20/Oct/16	1205	7.8	956	76	43	94	1	11.4	27	70	<1	<1	391	391	10	6.59	0.02	<0.01	0.3	0.3	520	
	01/Dec/16	1130																					
	21/Mar/17																						
	14/Sep/17	9:40	7.8	986	82	37	88	<1	11	31	72	<1	<1	415	415	10.7	1.38	0.04	<0.01	0.24	0.24	615	
	08/Dec/17	950																					
WB-12	25-Jul-08	1120																					
	4-Sep-08	0800																					
	13-Oct-08	1213																					
	28/Oct/08				34	78	301	3	21.3	254	2	<1	<1	649	649	20.2	2.57	6.95				1040	
	27/Jan/09	1129																					
	22/Jun/09	1550		1990	31	79	325	2	22.2	261	<5	<1	<1	725	725	21.8	0.81	6.82				1050	
	11/Sep/09	1438																					
	30/Nov/09	1425	8.34	1640	16	43	284	6	16.8	149	10.8	<1	86	516	602	16.4	1.13		0.02	1.37	1.39		
	25/Feb/10	1020																					
	03/May/10	1500		1390	19	43	266	4	16.2	137	13.6	<1	15	567	582	15.8	1.17	3.1				750	
	24/Sep/10	1035																					From bore
	10/Nov/10	1210																					
	07/Mar/11	1010	7.38	1780	28	68	274	10	19.1	213	2	<1	<1	744	744	20.9	4.48		0.01	0.04	0.05	Plant material in water	
	03/May/11	1440																					
	01/Sep/11	1310	8.57	2130	34	70	277	3	19.6	260	4	<1	83	591	674	20.9	3.25	9.19	0.02	0.14	0.16	1030	Gate No 4
	06/Dec/11	0950																					
	21/Mar/12	0945	7.99	1150	17	26	190	11	11.5	71	6	<1	<1	489	489	11.9	1.6	21.7	0.02	0.12	0.14	556	
	24/May/12	1200																					
	04/Sep/12	0950	7.83	2290	42	87	318	7	23.3	235	2	<1	<1	926	926	25.2	3.97	43.2	<0.01	0.01	0.01	1180	
	13/Dec/12	945																				Brolga front paddock	
	13/Mar/13	1030	7.72	1940	29	64	324	5	20.9	199	7	<1	<1	774	774	21.2	0.73	15	0.01	0.12	0.13	1000	
	10/Jul/13	1100																					
	30/Aug/13	1100	8.12	1860	29	71	302	4	20.5	214	5	<1	<1	678	678	19.7	2.05	9.09				922	
	12/Dec/13	1425																					
	26/Feb/14	1100	8.38	1930	33	64	231	2	17.7	234	<1	<1	22	612	634	19.3	4.4	8.57				1010	
	19/Jun/14	1100																					
	11/Sep/14	1115	8.19	1930	31	72	258	2	18.8	242	2	<1	<1	615	615	19.2	1.12	5.67	0.05	0.63	0.68	976	
	28/Nov/14	1105																					

Site ID	Date	Time	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	Comments
					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								
	03/Mar/15	1435	8.23	1800	29	52	291	3	18.5	193	11	<1	<1	626	626	18.2	0.72	3.94	0.01	0.05	0.06	944	
	03/Jun/15	0835																					
	02/Sep/15	0950	8.35	1600	22	46	312	3	18.5	131	13	<1	15	586	601	16	7.36	2.47	<0.01	0.03	0.03	800	
	08/Dec/15	1000																					
	03/Mar/16	0920	8.48	1580	12	28	336	4	17.6	142	22	<1	29	551	580	16	4.61	1.14	0.02	0.04	0.06	876	
	25/May/16	1035																					
	20/Oct/16	1140	9	1350	9	16	326	4	16	72	17	<1	188	376	564	13.6	8.06	0.63	<0.01	0.12	0.12	776	
	01/Dec/16	1220																					
	21/Mar/17																						
	14/Sep/17	9:20	8.38	1910	30	75	335	2	22.3	210	4	<1	33	674	708	20.2	5.04	1.15	0.01	0.05	0.06	990	
	08/Dec/17	925																					
WB-13	13-Mar-13	1030	7.11	3620	263	79	422	4	38.1	853	90	<1	<1	438	438	34.7	4.68	<0.01	<0.01	2.55	2.55	2510	
	10-Jul-13	0950																					
	28-Aug-13	0950	7.5	3730	276	86	384	4	37.7	857	100	<1	<1	422	422	34.7	4.11	<0.01				2400	
	12/Dec/13	1315																					
	26/Feb/14	1200	7.93	3690	250	76	324	4	32.9	773	92	<1	<1	405	405	31.8	1.73	<0.01				2390	
	12/Jun/14	0945																					
	11/Sep/14	1215	7.63	3570	233	72	341	4	32.5	787	97	<1	<1	386	386	31.9	0.87	0.02	<0.01	2.66	2.66	2200	
	27/Nov/14	1030																					
	04/Mar/15	1330	7.32	3640	254	81	383	4	36.1	913	96	<1	<1	451	451	36.8	0.9		<0.01	2.51	2.51		
	03/Jun/15	0935																					
	15/Sep/15	1050	7.56	3610	255	75	369	4	35	821	87	<1	<1	463	463	34.2	1.21	0.05	<0.01	2.4	2.4	2470	
	08/Dec/15	1110																					
	03/Mar/16	1110	7.62	3640	255	88	417	4	38.2	853	96	<1	<1	408	408	34.2	5.53	0.02	<0.01	2.66	2.66	2660	
	25/May/16	1235																					
	20/Oct/16	1255	7.56	3490	236	78	392	3	35.3	793	78	<1	<1	421	421	32.4	4.31	<0.01	<0.01	2.61	2.61	2350	
	01/Dec/16	1050																					
	22/Mar/17																						
	14/Sep/17	11:30	7.57	3590	239	70	412	3	35.7	837	92	<1	<1	450	450	34.5	1.66	0.04	<0.01	2.88	2.88	2460	
	08/Dec/17	1315																					
WB-14	18-Dec-13	1320																					
	27-Feb-14	1015	7.83	1300	37	20	249	<1	14.3	113	12	<1	<1	488	488	13.2	4.09	0.02				751	
	12-Jun-14	1120																					
	11/Sep/14	1015	7.97	1330	35	18	217	2	12.7	126	12	<1	<1	452	452	12.8	0.5	0.02	<0.01	1.27	1.27	754	
	27/Nov/14	1300																					
	04/Mar/15	1100	7.84	1350	33	19	240	2	13.7	120	12	<1	<1	511	511	13.8	0.56		<0.01	1.53	1.53		
	03/Jun/15	1055																					
	03/Sep/15	1200	7.78	1290	43	22	227	2	13.9	68	16	<1	<1	521	521	12.7	4.56	0.03	<0.01	1.13	1.13	690	
	08/Dec/15	1205																					
	03/Mar/16	1400	8.06	1290	34	21	244	2	14.1	117	12	<1	<1	460	460	12.7	4.98	0.1	<0.01	0.93	0.93	668	
	25/May/16	1310																					
	08/Sep/16	1040	7.94	1320	43	22	259	2	15.3	129	12	<1	<1	556	556	15	0.87	0.04	<0.01	1.16	1.16	700	
	01/Dec/16	935																					
	22/Mar/17																						
	14/Sep/17	1350	7.96	1360	46	20	264	2	15.5	128	11	<1	<1	533	533	14.5	3.29	0.02	<0.01	1.23	1.23	806	
	08/Dec/17	1140																					
WB-15	11-Jul-14	1525																					
	26-Aug-14	1300																					
	11-Sep-14	1330	7.55	1440	140	46	94	1	14.9	121	92	<1	<1	471	471	14.7	0.5	0.55	0.02	0.16	0.18	790	
	27-Nov-14	1355																					
	4-Mar-15	1400	8.19	1360	59	58	132	2	13.5	179	53	<1	<1	387	387	13.9	1.38		<0.01	0.84	0.84		
	3-Jun-15	900																					
	15-Sep-15	1155	8.01	1420	131	55	114	2	16.1	149	50	<1	<1	518	518	15.6	1.51	0.15	0.01	0.54	0.55	862	
	08/Dec/15	1230																					
	03/Mar/16	1015	8.15	1320	101	60	118	2	15.2	143	66	<1	<1	408	408	13.6	5.57	0.08	<0.01	0.42	0.42	740	
	25/May/16	0:00																					

Site ID	Date	Time	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	Comments
					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								
	20/Oct/16	1340	7.85	1340	121	51	101	1	14.6	135	46	<1	<1	492	492	14.6	0.2	0.11	<0.01	0.74	0.74	846	
	01/Dec/16	0:00																					
	21/Mar/17																						
	18-Sep-17	1345	7.65	1460	137	45	90	1	14.5	122	65	<1	<1	602	602	16.8	7.48	0.06	<0.01	0.24	0.24	838	
	8-Dec-17	1025																					
Yarrari Production	3-Sep-08	1555																					
	13-Oct-08	1310																					
	29-Oct-08				51	50	558	3	39.4	987	46	<1	<1	372	372	36.2	4.12	0.1					
	29-Oct-08				214	50	563	3	39.3	1040	46	<1	<1	374	374	37.8	1.94	<0.01					
	23-Jan-09	1714																					
	22-Jun-09	1120																					
	27-Aug-09	1500		3070	167	32	504	3	33	803	42.9	<1	<1	430	430	32.1	1.31	<0.01				1980	
	30/Nov/09	1005	7.2	3160	178	35	508	3	33.9	882	34.7	<1	<1	377	377	33.1	1.19		<0.01	0.51	0.51		
	25/Feb/10	1330																					Sample taken from tap
	03/May/10	1205		3310	175	32	528	3	34.4	930	52.4	<1	<1	314	314	33.6	1.14	<0.01					Sample taken from tap
	26/Aug/10	1105																					Sample taken from tap
	08/Nov/10	1320																					Sample taken from tap
	07/Mar/11	1350	7.29	3410	180	35	530	4	35	877	38	<1	<1	409	409	33.7	1.88		<0.01	0.3	0.3		Sample taken from tap
	03/May/11	1115																					Sample taken from tap
	30/Aug/11	1200	7.25	3800	190	34	526	3	35.2	990	44	<1	<1	384	384	36.5	1.78	<0.01	<0.01	0.23	0.23		Sample taken from tap
	04/Nov/11	1200																					
	20/Mar/12	1200	7.37	3800	213	42	591	4	39.9	1000	51	<1	<1	405	405	37.4	3.28	0.05	<0.01	0.46	0.46	2320	
	23/May/12	1230																					
	27/Aug/12	1150	7.46	3680	194	36	553	3	36.8	949	50	<1	<1	433	433	36.5	0.42	<0.01	<0.01	0.39	0.39	2160	
	26/Nov/12	1115																					
	12/Mar/13	1150	7.6	3700	193	40	558	4	37.3	896	42	<1	<1	312	312	34.2	4.3	0.08	<0.01	25.6	25.6	2330	
	12/Jun/13	0950																					
	28/Aug/13	1245	7.49	3720	207	40	516	4	36.2	887	47	<1	<1	408	408	34.2	2.87	0.02				2140	
	11/Dec/13	1335																					
	24/Feb/14	1330	7.55	3730	182	40	516	3	34.9	867	48	<1	<1	408	408	33.6	1.88	0.01				2160	
	12/Jun/14	1310																					
	10/Sep/14	1150	7.32	3720	195	37	482	3	33.8	891	48	<1	<1	443	443	35	1.69	0.04	<0.01	0.4	0.4	2100	
	28/Nov/14	1230																					
	03/Mar/15	1100	7.48	3820	206	41	566	3	38.4	980	50	<1	<1	417	417	37	1.77	0.03	<0.01	0.67	0.67	2310	
	29/May/15	1020																					
	03/Sep/15	0950	7.32	3720	208	39	512	3	35.9	709	44	<1	<1	426	426	29.4	9.96	0.04	<0.01	0.33	0.33	2120	
	07/Dec/15	1150																					
	02/Mar/16	1355	7.43	3710	184	40	532	3	35.7	907	49	<1	<1	381	381	34.2	2.11	0.05	<0.01	0.32	0.32	2480	
	24/May/16	1345																					
	07/Sep/16	1230																					
	30/Nov/16	1230																					
	18/Sep/17	1120	7..68	3610	190	40	470	3	33.3	906	43	<1	<1	425	425	34.9	2.42	0.02	<0.01	0.4	0.4	2120	
	07/Dec/17	1240																					
Surrey No 2	25-Feb-10	1100																					
	26-Aug-10	930																					
	9-Nov-10	1400																					
	7-Mar-11	1100	7.15	3180	104	92	465	10	33.2	751	43	<1	<1	545	545	33	0.33		<0.01	1.54	1.54		
	3-May-11																						
	1-Sep-11	1110	7.97	3320	100	88	475	8	33.1	763	50	<1	<1	402	402	30.6	3.92	0.04	<0.01	1.59	1.59	1670	
	21-Mar-12	1320	7.88	1630	36	26	291	9	16.8	341	62	<1	<1	235	235	15.6	3.74	0.18	<0.01	9.4	9.4	1000	
	24/May/12	1225																					
	28/Aug/12	1100	7.77	3490	111	94	495	10	35.1	829	58	<1	<1	558	558	35.7	0.97	<0.01	<0.01	1.89	1.89	1850	
	27/Nov/12	1325																					
	13/Mar/13	1030	7.41	3540	111	100	525	11	36.9	779	53	<1	<1	544	544	34	4.14	0.02	<0.01	1.81	1.81	1910	

Site ID	Date	Time	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	Comments
					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								
	20/Jun/13	1315																					
	30/Aug/13	0855	7.72	3360	109	97	513	9	36	775	56	<1	<1	480	480	32.6	4.87	<0.01				1800	
	12/Dec/13	1220																					
	26/Feb/14	1250	7.47	3430	105	92	513	8	35.3	771	56	<1	<1	524	524	33.4	2.82	0.01				1820	
	12/Jun/14	1000																					
	11/Sep/14	1230	7.83	3720	118	103	450	10	34.2	792	58	<1	<1	462	462	32.8	2.1	0.03	<0.01	2.12	2.12	1980	
	27/Nov/14	925																					
	04/Mar/15	1245	7.51	3410	112	100	475	9	34.7	809	56	<1	<1	542	542	34.8	0.16		<0.01	1.62	1.62		
	03/Jun/15	1030																					
	03/Sep/15	1125	7.53	3560	122	102	481	9	35.6	653	52	<1	<1	520	520	29.9	8.75	0.04	<0.01	1.96	1.96	1920	
	08/Dec/15	1030																					
	03/Mar/16	1135	7.82	3400	102	101	488	9	34.8	734	55	<1	<1	508	508	32	4.26	0.04	0.01	1.45	1.46	1940	
	25/May/16	1135																					
	08/Sep/16	1250	7.64	3480	119	96	532	8	37.2	797	55	<1	<1	557	557	34.8	3.36	<0.01	<0.01	1.86	1.86	1940	
	01/Dec/16	1000																					
	22/Mar/17																						
	14/Sep/17	1100	7.72	3450	123	96	549	8	38.1	766	51	<1	<1	556	556	33.8	6.04	0.02	<0.01	1.71	1.71	1950	
	08/Dec/17	1235																					