

# Department of Planning and Environment

Shane Rily Environmental Superintendent Narrabri Coal Mine Whitehaven Coal Limited Kamilaroi Country

By email only: <a href="https://www.ncoal.com.au">NCO-approval@whitehavencoal.com.au</a>

24/05/2023

# Narrabri Coal Mine (MP08\_0144) Annual Review 2022

Dear Mr Rily

Reference is made to your post approval matter, MP08\_0144-PA-42, Narrabri Coal Mine Annual Review (AR) for the period 1 January 2022 to 31 December 2022, submitted as required by Schedule 6, Condition 6 of MP08\_0144 as modified (the approval) to the Department of Planning and Environment (the department) on 31 March 2023.

The department has reviewed the 2022 Annual Review and considers it to generally satisfy the reporting requirements of the approval and the department's *Annual Review Guideline* (October 2015). Please make publicly available a copy of the 2022 Annual Review on the company website.

Please note that the department's acceptance of the 2022 Annual Review is not an endorsement of the compliance status of the project. The department notes that all non-compliances identified in the 2022 Annual Review (with the exception of Schedule 4 Condition 30 identified in the 2022 Independent Environmental Audit) have previously been addressed by the department.

Should you wish to discuss the matter further, please contact Joel Curran, Senior Compliance Officer, on 02 4904 2702 or <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a>

Yours sincerely

Heidi Watters

Team Leader Northern

Compliance

As nominee of the Planning Secretary

# NARRABRI MINE 2022 ANNUAL REVIEW



Table 1: Annual Review Title Block

Name of Operation	Narrabri Mine		
Name of Operator	Narrabri Coal Operations Pty Ltd		
Development consent / Project Approval #	Project Approval 08_0144		
Name of holder of development consent/project approval	Narrabri Coal Operations Pty Ltd		
Mining lease #	ML 1609		
Name of holder of mining lease	Narrabri Coal Pty Ltd		
Water Licence #	Refer to Water Licences in Table 5		
Name of holder of water licence	Narrabri Coal Pty Ltd, Narrabri Coal Australia Pty Ltd, Posco International Narrabri Investments Pty Ltd, J- Power Australia Pty Ltd, Kores Narrabri Pty Ltd and Upper Horn Investments (Australia) Pty Ltd		
MOP/RMP start date	1 December 2020		
MOP/RMP end date	31 December 2023		
Annual Review Commencement Date	01 January 2022		
Annual Review Completion Date	31 December 2022		

- I, Gerald Linde, certify that this audit report is a true and accurate record of the compliance status of the Narrabri Mine for the period 01 January 2022 to 31 December 2022, and that I am authorised to make this statement on behalf of Narrabri Coal Operations Pty Ltd.

  Note.
- a) The Annual Review is an 'environmental audit' for the purposes of section 122B (2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.
- b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).

Name of Authorised Reporting Officer	Gerald Linde		
Title of Authorised Reporting Officer	General Manager – Narrabri Mine		
Signature	C-2.		
Date	(8/4/23		

Amendment A: Updates to address NSW DPE RFI dated 6 April 2023 (Major Projects Portal Reference MP08\_0144-PA-42)



# **TABLE OF CONTENTS**

1	STA	TEMENT OF COMPLIANCE	1
2	INTR	RODUCTION	4
	2.1	PROJECT DESCRIPTION	4
	2.2	MINE CONTACTS	4
3	APP	ROVALS	7
4	OPE	RATIONS SUMMARY	9
	4.1	MINING OPERATIONS	10
	4.2	OTHER OPERATIONS	10
	4.2.1	Exploration Activities	10
	4.2.2	Construction	10
	4.2.3	Hours of Operation	11
	4.3	NEXT REPORTING PERIOD	11
	4.3.1	Mine Operations	11
	4.3.2	Exploration	11
	4.3.3	Construction Activities	11
	4.3.4	Mining Fleet Upgrades	11
5	ACT	IONS REQUIRED FROM PREVIOUS ANNUAL REVIEW	13
6	ENV	IRONMENTAL PERFORMANCE	16
	6.1	NOISE	18
	6.1.1	Environmental Management	18
	6.1.2	Environmental Performance	18
	6.1.3	Proposed Improvement Measures	21
	6.2	BLAST	21
	6.3	AIR QUALITY	21
	6.3.1	Environmental Management	21
	6.3.2	Environmental Performance	22
	6.3.3	Proposed Improvement Measures	25
	6.4	METEOROLOGICAL DATA	25
	6.5	GREENHOUSE GAS	26
	6.5.1	Environmental Management	26
	6.5.2	Environmental Performance	26

7



6.5.3 Proposed Improvement Measures	27
6.6 BIODIVERSITY	27
6.6.1 Environmental Management	27
6.6.2 Environmental Performance and BOMP Implementation	31
6.6.2.1 Mine Site Environmental Performance	31
6.6.2.2 BOS Environmental Performance	40
6.6.3 Proposed Improvement Measures	44
6.7 ABORIGINAL CULTURAL HERITAGE	45
6.7.1 Environmental Management	45
6.7.2 Environmental Performance	45
6.7.3 Proposed Improvement Measures	46
6.8 HISTORIC HERITAGE	46
6.9 TRANSPORT	46
6.9.1 Environmental Management	46
6.9.2 Environmental Performance	46
6.9.3 Proposed Improvement Measures	46
6.10 WASTE MANAGEMENT	47
6.10.1 Environmental Management	47
6.10.2Environmental Performance	47
6.10.3Proposed Improvement Measures	48
6.11 VISUAL & LIGHTING	48
6.11.1Environmental Management	48
6.11.2Environmental Performance	49
6.11.3Proposed Improvement Measures	49
6.12 BUSHFIRE	49
6.12.1Environmental Management	49
6.12.2Environmental Performance	49
6.12.3Proposed Improvement Measures	50
6.13 MINE SUBSIDENCE	50
6.13.1Environmental Management	50
6.13.1.1 Subsidence Monitoring	50
6.13.2Environmental Performance	50
6.13.2.1 Comparison against Predictions	
6.13.3Proposed Improvement Measures	51
WATER MANAGEMENT	
7.1 WATER SUPPLY	53



	7.2	SURFACE WATER MANAGEMENT	55
	7.2.1	Environmental Management	55
	7.2.2	Environmental Performance	55
	7.2.3	Proposed Improvement Measures	57
	7.3	GROUNDWATER	57
	7.3.1	Groundwater Monitoring	57
	7.3.2	Environmental Performance	58
	7.3.3	Proposed Improvement Measures	59
	7.4	SITE WATER BALANCE	60
8	REH	ABILITATION	61
	8.1	REHABILITATION PERFORMANCE DURING THE REPORTING PERIOD	61
	8.1.1	Status of Mining and Rehabilitation	61
		Post Rehabilitation Land Uses	
	8.1.3	Rehabilitation Performance Indicators	62
	8.1.4	Decommissioning and Demolition Activities	63
	8.1.5	Other Rehabilitation Activities	63
	8.1.6	Departmental Sign-off of Rehabilitated Areas	63
	8.1.7	Variations in Activities against MOP/RMP	63
	8.1.8	Monitoring	64
	8.1.9	Trials, Research Projects and Initiatives	64
	8.1.1	OKey Issues to Achieving Successful Rehabilitation	64
	8.2	ACTIONS FOR THE NEXT REPORTING PERIOD	64
	8.2.1	Proposed Research and Rehabilitation for 2023	65
9	COM	IMUNITY	68
	9.1	COMMUNITY ENGAGEMENT ACTIVITIES	68
	9.2	COMMUNITY CONTRIBUTIONS & INITIATIVES	68
	9.3	COMMUNITY COMPLAINTS	69
	9.3.1	Complaint Trends	69
	9.4	ACTIONS & PROPOSED IMPROVEMENTS	70
10	INDE	EPENDENT AUDIT	70
	10.1	INDEPENDENT ENVIRONMENTAL AUDIT	70
11	INCI	DENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD	72
	11.1	NON-COMPLIANCES	72
	11.2	REPORTABLE INCIDENTS OR EXCEEDANCES	72



	11.3 REGULATORY ACTIONS	72
12	ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD	73
LIST	OF TABLES	
Table	e 1: Annual Review Title Block	i
Table	e 2: Statement of Compliance	1
Table	e 3: Compliance Status Key	2
Table	e 4: Non-Compliances	3
Table	e 5: Licences, Leases and Approvals	7
Table	e 6: Production Summary	10
Table	e 7: Hours of Operation	11
Table	8: Actions from the Previous Annual Review (2021)	13
Table	9: Noise Monitoring Summary 2022	19
Table	e 10: SPL Testing Summary	20
Table	e 11: Deposited Dust Monitoring Data Summary for the Reporting Period	22
Table	e 12: PM <sub>10</sub> Annual Average (2018 – 2022)	25
Table	e 13: Summary of Meteorological Conditions 2022	26
Table	e 14: Biodiversity Management Plan 2022 Monitoring Results	31
Table	e 15: Land Management Plan 2022 Monitoring Results	35
	e 16: Subsidence Parameters – Predicted and Measured	
Table	e 17: Narrabri Mine Water Take	54
Table	e 18: Controlled Discharge Monitoring	56
	e 19: Groundwater Monitoring Summary	
Table	e 20: Stored Water	60
	e 21: Rehabilitation Status	_
Table	e 22 Decommissioned monitoring bores	63
	e 23: 2022 Independent Environmental Audit (IEA) – non-conformance actions summary	
Table	e 24: Non-Compliance Details and Proposed Action Plan	72
LIST	OF FIGURES	
Figur	e 1: Regional Scale Locality Plan	5
Figur	e 2: Local Scale Locality Plan	6
Figur	e 3: Environmental Monitoring Locations	17
Figur	e 4: Trended Attended Noise Monitoring (2019 – 2022) Day LAeq (15 min)	20
Figur	e 5 Average Depositional Dust Results 2018 - 2022	23
Figur	e 6: ND9 PM <sub>10</sub> Results including extraordinary weather events	24
Figur	e 7: ND10 PM <sub>10</sub> including extraordinary weather events	24
Figur	e 8: Regional location of Biodiversity Offset Areas	28
Figur	e 9: Kenna Biodiversity Offset Area	29
Figur	e 10: Onsite BOA and future onsite offset areas	30
Figur	e 11: Comparison of waste streams over the previous 5 years	48
Figur	e 12: Waterfall Chart: Water Inputs/Outputs for 2022 water year (financial year)	61



Figure 13: Mine Domains Reporting Period 2022	66
Figure 14 Rehabilitated Areas, Reporting Period 2022	67
Figure 15: Complaints Trend since commencement of operations	70
LIST OF APPENDICES	
Appendix A – Flora Species List	74
Appendix B – Photo Monitoring Points	75
Appendix C – Fauna Species List	76
Appendix D – Surface Water Monitoring	77
Appendix E – Groundwater Monitoring	78
Appendix F – Ambient Flow Monitoring	79
Appendix G – Subsidence Pond Monitoring	80



# 1 STATEMENT OF COMPLIANCE

This Annual Review has been prepared to provide a summary of the environmental performance of the Narrabri Coal Operations (NCO) over the reporting period, 1 January 2022 to 31 December 2022. The compliance status of the mine against relevant approvals was assessed as at the end of the reporting period and is summarised in Table 2.

Table 2: Statement of Compliance

Were all the conditions of the relevant approvals complied with?	Yes/No
Project Approval (PA) 08_0144	No
Rehabilitation Management Plan (RMP)	Yes
Mining Lease (ML) 1609	Yes
Subsidence Management Plan (SMP) Approval 10/9000	Yes
90CA811347	Yes
90WA812891	Yes
90CA802130	Yes
90WA822539	Yes
WAL15922	Yes
WAL12833	Yes
WAL12822	Yes
WAL20131	Yes
WAL6762	Yes
WAL2671	Yes
WAL2728	Yes
WAL20152	Yes
WAL29549	Yes
WAL43017	Yes
Groundwater Monitoring Bores: 90BL254481-487, 90BL254658-663, 90BL254701, 90BL254958-967, 90BL255167-173, 90BL255216-218, 90BL255769-772, 90BL256060-064, 90BL256344 and 90BL256346	Yes

Any non-compliances during the reporting period are ranked according to the compliance status key in Table 3 and are described in Table 4. Section 11 of this Annual Review further explains any non-compliances and mitigation measures implemented or proposed for the following reporting period to prevent re-occurrence and potential adverse effects.



Table 3: Compliance Status Key

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



Table 4: Non-Compliances

Relevant Approval	Cond. #	Condition Description (Summary)	Compliance Status	Comment	Where addressed in Annual Review
MP08_0144		The Proponent shall notify the Secretary in writing via the Major Projects website and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident		NCO failed to notify NSW DPE as soon as practicable and in a detailed report within 7-days of an incident.  NSW DPE acknowledged that NCO had complied with all requirements/actions from the relevant management plan/s pertinent to the incident. NSW DPE noted that the noncompliance had been recorded on this occasion.	Section 7.3.2 Section 11.1



# 2 INTRODUCTION

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

- The Annual Review requirements of the DPIE under Project Approval (PA) 08\_0144 (Schedule 6, Condition 6);
- Environmental Management Report requirements of the Resources Regulator under the Narrabri Mine Mining Lease (ML) 1609; and
- The routine reporting expectations of DPIE-Water.

The Annual Review covers the period 1 January 2022 to the 31 December 2022. The Annual Review provides information on historical aspects of the Narrabri Mine, longer term trends in environmental monitoring results and information on proposed activities to be undertaken during the following reporting period.

#### 2.1 PROJECT DESCRIPTION

Narrabri Mine is located within the Narrabri Local Government Area (LGA), approximately 30 km south-southeast of Narrabri, and 10 km north-northwest of Baan Baa (Figure 1). Mining Lease (ML) 1609 was originally approved on the 18<sup>th</sup> of January 2008 and set to expire 18<sup>th</sup> January 2029, in accordance with the provisions of Mining Act 1992. The ML encompasses an area of 5,298ha for the predominate purpose of mining for coal.

The current PA 08\_0144 Modification 7 will allow the undertaking of mining operations until the 26 July 2031. Modification 5 of PA 08\_0144 allows NCO to produce up to 11 Mtpa of ROM coal. In accordance with the NSW Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation 2021, the Mining Operations Plan (MOP) no longer took effect from 1 August 2022. The MOP was replaced with a site Rehabilitation Management Plan (RMP).

Development Consent for SSD-10269 was received 1 April 2022. This consent has not taken effect as approval under the EPBC Act is required prior to commencement.

Narrabri Mine is operated by Narrabri Coal Operations Pty Ltd (NCO). Narrabri Mine is owned by a joint venture between Narrabri Coal Pty Ltd (NCPL), Narrabri Coal Australia Pty Ltd, Upper Horn Investments (Australia) Pty Ltd, J-Power Australia Pty Ltd, Posco International Narrabri Investment Pty Ltd and Kores Narrabri Pty Ltd.

#### 2.2 MINE CONTACTS

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

- Gerald Linde General Manager, retains overall responsibility for all activities and performance at the mine. Contact: (02) 6794 4755.
- Shane Rily Environmental Superintendent, oversees day to day environmental performance across the site. Contact: (02) 6794 4167.



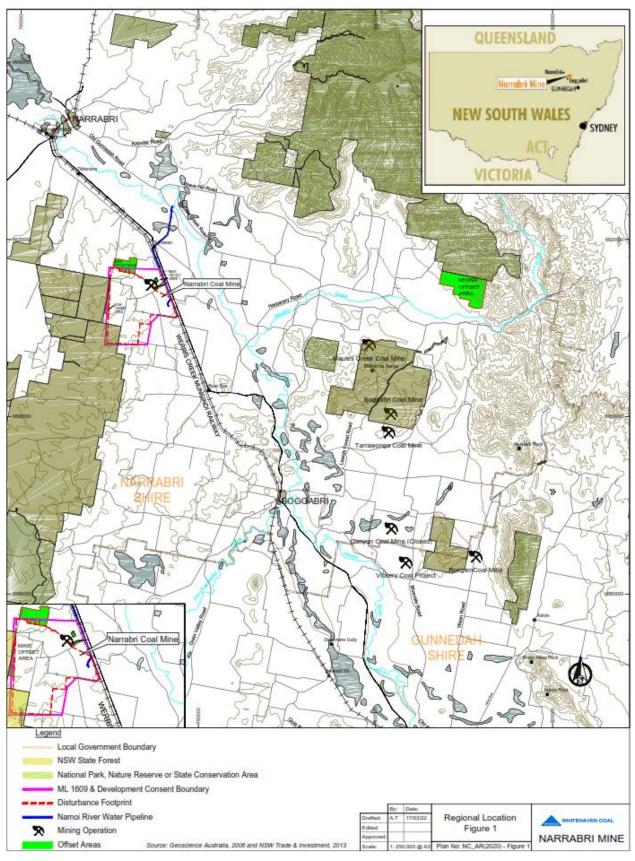


Figure 1: Regional Scale Locality Plan

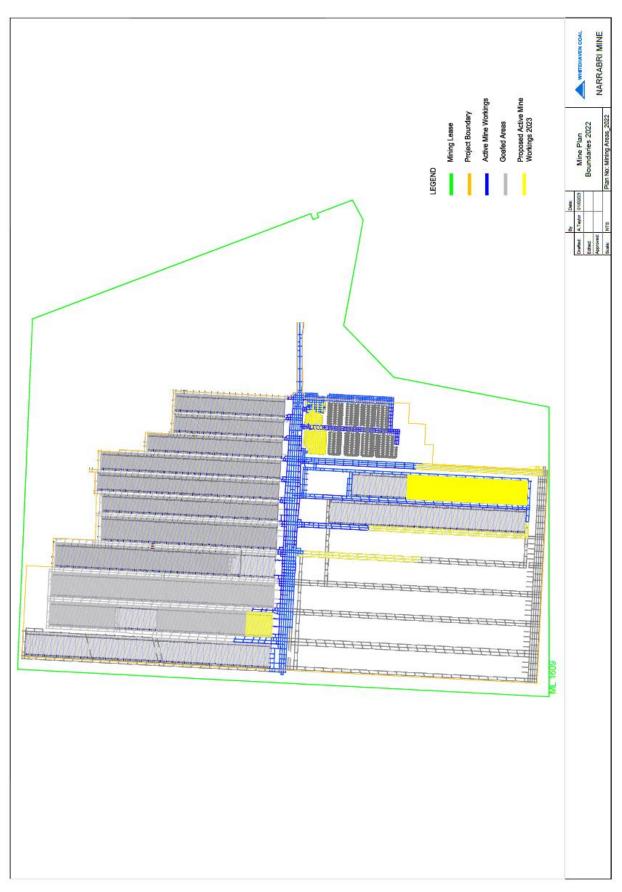


Figure 2: Local Scale Locality Plan



# 3 APPROVALS

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

Table 5: Licences, Leases and Approvals

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Resources Regulator	ML 1609	18 January 2008	18 January 2029	Approval for mining Variation of lease conditions 19 August 2022 taking effect on 17 October 2022.  • to address changes made to NSW Mining Regulation 2016 (Rehabilitation Reforms).
	ML 1839	13 September 2022	13 September 2043	Operations under this Mining Lease have not commenced.
Environment Protection Authority (EPA)	Environment Protection Licence (EPL) 12789	20 February 2008	Nil – Anniversary: 20 February	For mining operation >5,000,000 T (handled and produced annually).  Variation of licence 9 September 2022 which included:  • Removal of Condition U1.1 Review of pit top dust suppression systems as requirements have been addressed.
Narrabri Shire Council	Construction Certificate DP 816020	17 October 2008	N/A	Stage 1 Mine Surface Facilities
(NSC)	Inspection Report/Permit to Occupy No 2413	6 August 2009		
Department of Planning, Industry and Environment (DPIE)- Water	90WA822539 / WAL15922 90WA812891 / WAL20131 90WA812891/ WAL12833 90WA812891/WAL12822	Various	Various	GAB – Water supply (248 units) Upper Namoi Zone 5 groundwater (150 units) Upper Namoi Zone 5 groundwater (67 units) Upper Namoi Zone 5 groundwater (43 units)
	90CA802130 / WAL6762 90CA802130 / WAL2671 90CA802130 / WAL2728 90CA802130 / WAL20152			River – High Security (20 units) River (48 units) River (10 units) River (600 units)
	90WA822539 / WAL29549 TBC/WAL43017			Mining – Gunnedah Oxley Basin (818 units) Mining – Gunnedah Oxley Basin (403 units)
	90BL254481-254487 90BL254658-254663 90BL254701 90BL254958-254967 90BL255167-255173 90BL255216-255218 90BL255769-255772 90BL256060-256064 90BL256289 90BL256344 90BL256346 90BL256386 90BL256396-256397 90BL256402 90BL256410			Groundwater Monitoring Purposes



Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
WorkCover NSW	Notification for explosives use and storage	20 December 2020	20 July 2025	Licence Number – XSTR100215



Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Narrabri Shire Council (NSC)	Construction Certificate DP 816020	23 September 2010	N/A	Stage 2 Mine Surface Facilities
Minister for Planning	PA 08_0144	26 July 2010	26 July 2031	Project Approval for Stage 2
3	PA 08_0144 MOD1	30 March 2011	26 July 2031	Notice of modification under Section 75W of the EP&A Act to update the subsidence management conditions.
	PA 08_0144 MOD2	21 December 2011	26 July 2031	Notice of modification under Section 75W of the EP&A Act to allow for a one-off road transport of coal to Tarrawonga Coal Mine.
	PA 08_0144 MOD4	22 September 2015	26 July 2031	Notice of modification under Section 75W of the EP&A Act for an expansion of the coal stockpiles.
	PA 08_0144 MOD5	9 December 2015	26 July 2031	Notice of modification under Section 75W of the EP&A Act to widen the longwall face and increase the annual production limit.
	PA 08_0144 MOD6	13 January 2017	26 July 2031	Notice of modification under Section 75W of the EP&A Act to vary the annual reporting timeframe.
	PA 08_0144 MOD7	23 November 2021	26 July 2031	Notice of modification under Section 75W of the EP&A Act for a change in mining method from longwall to bord and pillar for panels 201 and 202.
Resources Regulator	Mining Operations Plan	1 December 2020	31 December 2023	The MOP no longer took effect from 1 August 2022 in accordance with the NSW Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation
Resources Regulator	Rehabilitation Management Plan	1 August 2022	N/A	Took effect 1 August 2022 in accordance with NSW Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation

# **4 OPERATIONS SUMMARY**

During the reporting period longwall mining extracted panel 110. Underground development continued into longwall (LW) panels LW204 and the 200 Mains. The longwall has previously extracted panels LW101 to LW109.

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



#### 4.1 MINING OPERATIONS

**Table 6: Production Summary** 

Material	Approved limit	Previous reporting period (actual)	This reporting period (actual)	Next Reporting period (forecast)
Waste Rock / Overburden	657,000 m <sup>3</sup> (2010 MOP, Table 3.8)	0	0	0
ROM Coal*	11 Million Tonnes CY (PA 08_0144 Sch. 2, Cond.6) > 5 Million Tonnes produced (EPL 12789)	6.71	3.37	6.04
Reject Material	N/A (Million Tonnes)	0.05	0.15	0.08
Saleable Product**	> 5 Million Tonnes handled (EPL 12789)	6.45	3.43	6.01

<sup>\* -</sup> ROM Coal is total production at the mine site. The difference between ROM Coal and final product is related to changes in stockpile volumes at the mine.

# 4.2 OTHER OPERATIONS

# 4.2.1 Exploration Activities

No exploration drilling was undertaken within ML1609 during the 2022 reporting period.

# 4.2.2 Construction

The following construction activities were undertaken during the reporting period:

- Construction of an alternative access track to improve truck access for deliveries to site commenced within the reporting period. The site had been cleared for agricultural purposes prior to the commencement of mining activities and was previously approved as part of the Mining Operations Plan which was updated in early 2022;
- As part of ongoing development of the pit-top water management infrastructure, construction of a
  new HDPE lined Brine Dam commenced within the reporting period. The dam is being
  constructed in a designated area approved under existing PA 08\_0144; northwest of the existing
  pit-top surface water infrastructure and adjacent to the Kamilaroi Highway. Construction of
  additional surface development associated with the Brine Dam includes a sediment dam (SD7)
  to manage runoff from the disturbed construction and operational areas, an access track and
  services corridors from the existing rail loop dam complex;
- Installation of a MOS building within the coal handling and processing plant (CHPP) area was commenced:
- Installation of temporary office and bathhouse facilities within the pit-top infrastructure area; and
- Installation of security lighting and CCTV on the site entrance road.

Underground development works have been described in Section 4.1.

<sup>\*\* -</sup> Saleable Product is coal railed from site.



# 4.2.3 Hours of Operation

The approved hours of operation are provided in Table 7.

Table 7: Hours of Operation

Activity	Hours / Days
Min	ing Operations
Pit Bottom Area development	24 hours / 7 days
Underground mining	24 hours / 7 days
Gas drainage	24 hours / 7 days
Ventilation fan operation	24 hours / 7 days
Coal processing and handling	24 hours / 7 days
Rail loading and transportation	24 hours / 7 days
Surface maintenance	24 hours / 7 days
CHPP reject disposal	24 hours / 7 days1
Raw materials / supply delivery	7:00am to 10:00pm / 7 days

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

#### 4.3 NEXT REPORTING PERIOD

# 4.3.1 Mine Operations

The planned mine production rate for the next reporting period will be 6.04 Mt of ROM coal which is expected to contain approximately 0.08 Mt of coarse reject material. Longwall extraction of LW110B will conclude early 2022, followed by the commencement of LW203. Development (first workings) will be carried out for LW205, LW206 and 200 Mains.

## 4.3.2 Exploration

Exploration drilling will continue to be undertaken at the Narrabri Mine. The primary focus of the exploration activities during the next reporting period will be structure/fault definition through the drilling of 6 exploration bore holes on ML 1609.

#### 4.3.3 Construction Activities

Proposed construction activities during the next reporting period include:

- Completion of the alternate access track to improve truck deliveries to site
- Completion of the new brine dam (as described in Section 4.2.2).
- Ongoing expansion of the internal network of access tracks
- As part of the ongoing development of mine ventilation infrastructure construction of a downcast ventilation shaft at the southern extent of Longwall 205. Construction activities will require clearing of a hardstand area to locate temporary amenities, equipment storage areas, shaft construction plant and equipment, settlement dams, topsoil stockpiles, and a stormwater run-off catch dam to contain all rainwater on the site. Water from the dam will be used in the shaft construction boring process.
- Storage sheds within the pit-top infrastructure area.

# 4.3.4 Mining Fleet Upgrades

Modification 7 to PA 08\_0144 was approved on 23 November 2021, and allows the bord and pillar mining of longwall panels 201 and 202. Mining equipment to facilitate the bord and pillar operations that will be introduced to the project during this reporting period include:

1 x continuous miner Komatsu Joy 12CM12;



- 2 x shuttle cars;
- 2 x underground mining LHD (load haul dump) loaders;
- 2 x underground personnel transport SMVs; and
- Multi bolter



# 5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

The 2022 Annual Review identified the following actions, summarised in Table 8.

Correspondence was received from NSW DPE 14 June 2022 stating that the 2021 Annual Review report had satisfied the reporting requirements of the approval and did not include any additional corrective actions.

Correspondence was received from NSW DPE 16 December 2022 requesting that all coal mine annual reviews include the status and management of biodiversity offsets, and the reporting of greenhouse gas management measures by coal mines to address community concern. Action taken to address this request is summarised in Table 8.

Table 8: Actions from the Previous Annual Review (2021)

Action required from Previous Annual Review	Requested By	Action Taken by the Operator	Where discussed in Annual Review
Biodiversity Offsets: Report on the status of the long-term security arrangement for biodiversity offsets required by the development consent for the mine. Please include information on the type(s) of long-term security arrangements that have been implemented and/or are to be implemented for the mine.	DPE	Seven Conservation Agreements on land title for seven offset properties have been registered as required on the Biodiversity Offset Strategy (BOS).	6.6.2.2
Greenhouse Gas: Report on greenhouse gas emissions for the reporting period and include a comparison of actual greenhouse gas emissions against the predictions in the environmental assessment(s) for the mine.  Please ensure that the method used to calculate the environmental assessment prediction(s) and annual emissions are calculated the same.	DPE	The total of Scope 1 + Scope 2 GHG emissions attributed to the mine reported for the NGERS FY2022 reporting year were 588,839 t CO2-e. The FY2022 EA prediction was 410,129 t CO2-e. Fugitive emissions methodology used in FY22 GHG reporting and EA predictions was Method 4. However the global warming potential (GWP) for Methane utilised in FY22 calculations has increased from 21 in the year of EA predictions to 28 for the FY22 GHG reporting. Fugitive emissions and therefore total emissions for FY22 have been recalculated using a comparable GWP. Therefore, the recalculated total emissions using an EA comparable method is 461,099.	6.5.2
Greenhouse Gas: Report all reasonable and feasible steps undertaken during the reporting period to improve energy	DPE	NCO is currently working with Palaris to develop a Decarbonisation Pathway, which involves mapping carbon footprint, identifying abatement	6.5.3

Action required from Previous Annual Review	Requested By	Action Taken by the Operator	Where discussed in Annual Review
efficiency and reduce greenhouse gas emissions generated by the mine.		opportunities and pathway prioritisation.	
Noise: The two Caterpillar D11T stockpile dozers DZ308 and DZ368 were purchased in the previous reporting period and as reported in the 2020 Annual Return exhibited lower sound power levels of 113.5dB and 115dB respectively. The reported SPL of these two machines for the current reporting period show an increase, with DZ308 slightly above the modelled level of 118dB. Investigations will be undertaken during the next reporting period into the increased noise from DZ308 and DZ368 and a review of maintenance requirements.	Operator	Noise attenuation rings were mounted to the final drive of the two stockpile Caterpillar D11T dozers to reduce the noise of the track slap during the reporting period.  Thearle Engineering conducted SPL monitoring on these two units during May 2022, both units measuring below the modelled level of 118dBA. (DZ308 = 115 and DZ368 = 117).	6.1.2
Air Quality: Further improvements to the site dust suppression system identified by the Pollution Reduction Study which will be implemented during this reporting period:  The assessment of the effectiveness of water sprays identified that two SR100 water cannons at locations 3 and 6 installed for product coal stockpile spray coverage are ineffective under TARP levels 3 and 4. These two stockpile sprays will be upgraded to SR150 nozzles, which have been assessed as effective under all TARP level wind conditions.	Operator	SR150 water cannons were installed at the Narrabri Mine CHPP Product Stockpile spray locations 3 and 6 in June 2022.  A licence variation to EPL12789 was received 7 September 2022 removing Condition U1.1 regarding dust suppression measures at the premises.	6.3.2
Groundwater: Monitoring bores that have become obsolete due to mining through these areas will be grouted during the next reporting period. These include P14 (90BL254661), P15	Operator	The monitoring bores listed have been sealed with cement grout and decommissioned in accordance with the requirements within 'minimum construction requirements for water bores in Australia'.	8.1.5



Action required from Previous Annual Review	Requested By	Action Taken by the Operator	Where discussed in Annual Review
(90BL254961), and P18 (90BL254662).			
Biodiversity: Subsidence Pond investigations: during the next reporting period Narrabri Mine will engage specialists to undertake engineering studies into geomorphic design options that would enable the subsidence pond areas to freely drain in a safe and stable way. Following the engineering design options an environmental assessment will be completed to determine the options for implementation	Operator	An engineering study into geomorphic design options has been completed during the 2022 reporting period. An environmental assessment will be completed during the 2023 reporting period to determine the most appropriate option for implementation.	Mine Site Environmental Performance6.6.2. 1
<b>Transport:</b> The Shuttle Bus Traffic Control Protocol will be developed and implemented to address the new conditions associated with Modification 7	Operator	Following the approval of the Extraction Plan for panels 201 – 202, the Shuttle Bus Traffic Control Protocol was developed and approved by NSW DPE March 2022. Monitoring was conducted in accordance with the Shuttle Bus Traffic Control Protocol during the reporting period.	6.9.2
Mine Subsidence: Further actions will be undertaken to establish an integrated electronic GIS based monitoring platform for environmental monitoring, including subsidence crack monitoring	Operator	An electronic GIS based monitoring platform for subsidence crack monitoring was implemented during the reporting period. It records the size and location of subsidence related cracking, rehabilitation records and inspection areas.	6.13.2
Surface Water Management: As a result of updates to the Water Balance Model during the 2021 reporting period, there are a number of actions planned for the next reporting period, which include:  Construction of additional brine	Operator	Construction of the new brine dam commenced in mid-2022 with completion expected to be in Quarter 2 of 2023.  The additional hire RO treatment plant, which was commissioned in November 2021 to assist with treating an increased amount of water from	
storage; Improvements to the capacity and performance of the site water treatment plants; and Enhanced evaporation of brine through the use of evaporator fans during favourable conditions; and		excess runoff received throughout the year, continued to be used in 2022.  Evaporator fans to enhance evaporation during a year where above average rainfall was received onsite. A weather station was installed at the	



Action required from Previous Annual Review	Requested By	Action Taken by the Operator	Where discussed in Annual Review
Development of Raffinate Discharge Control and Monitoring Plan in consultation with DPI&E. – not submitted		power source for these evaporation fans to allow for them to be automatically shut down during unfavourable conditions, using wind speeds as the trigger.  Development of the Raffinate Discharge Control and Monitoring Plan was commenced during the reporting period and will continue into the next reporting period.	
Proposed Research and Rehabilitation: An integrated electronic GIS based monitoring platform was proposed in the 2021 Annual Review. This project was delayed to ensure that NSW mining lease rehabilitation reforms were captured within this program. This application is expected to be developed and implemented within the 2022 reporting period to capture and track surface disturbance and rehabilitation.	Operator	No raffinate discharge events were required during the reporting period.  A GIS specialist was engaged to begin work on the GIS based rehabilitation monitoring system. The system has been built and is currently being tested and refined. The system is expected to be running alongside the current paper-based system during the reporting period.	8.1.9

# **6 ENVIRONMENTAL PERFORMANCE**

The following sub-sections report on the environmental performance achieved during the reporting period and provides a summary of the environmental monitoring data compared to data predictions, trends and management measures. Environmental monitoring locations are illustrated on Figure 3.

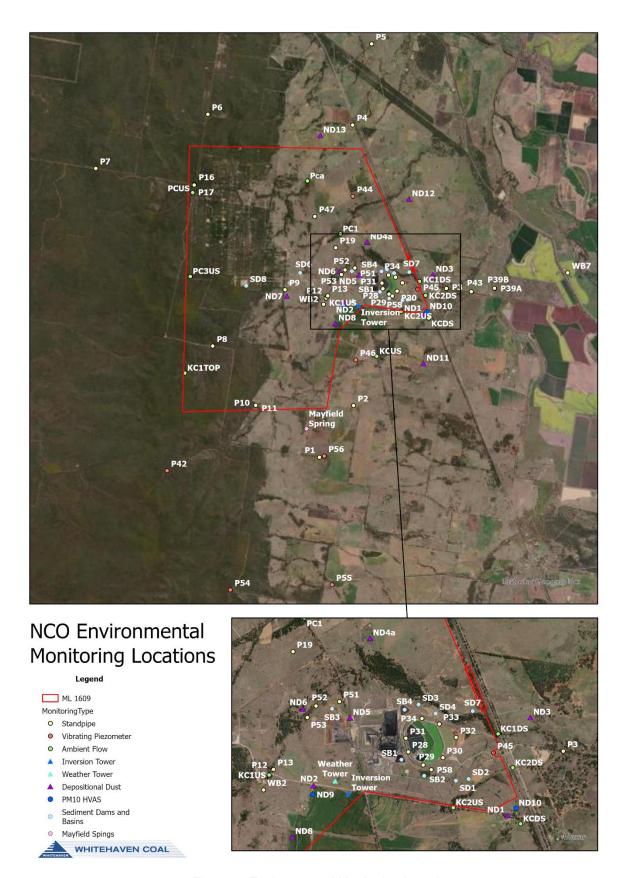


Figure 3: Environmental Monitoring Locations



#### 6.1 NOISE

# **6.1.1 Environmental Management**

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

- Noise Criteria and Operating Conditions prescribed under Schedule 4, Conditions 1 to 5 of PA 08\_0144;
- EPL 12789 Conditions L4, M7, R4 and E2; and
- NCO has previously prepared the Narrabri Mine Noise Management Plan (NMP) to address the requirements of condition 4, schedule 4 of the PA 08\_0144, the NMP was approved by DPIE on the 5 July 2018.

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

- Progressive replacement of reversing alarms on all existing surface vehicles and machinery to be of the low frequency type;
- Cleaning and maintenance of the acoustic attenuators on the fan discharge duct at the main ventilation fan
- Rail track inspections and maintenance activities to mitigate train related noise;
- Maintenance activities along the main entrance road were undertaken to repair potholes and thereby minimise traffic noise;
- The approved hours of operation were adhered to; and
- Monitoring of emitted noise levels is undertaken during mining operations to verify compliance with noise criteria and to assess the need, if any, for additional noise attenuation measures.

The Narrabri Mine noise monitoring network includes:

- Continuous monitoring at three real-time monitoring units for management purposes;
- Temperature Inversion monitoring is undertaken continuously by directly measuring temperature at two elevations 50m apart (10m and 60m from ground level); and
- Quarterly attended monitoring at locations as described in the EPL and Noise Management Plan.

# 6.1.2 Environmental Performance

# Attended Monitoring

Attended noise monitoring is conducted on a quarterly basis during the reporting period by an independent consultant. The attended noise monitoring is used to assess compliance with licence and approval limits for mine contributed noise. A summary of the noise monitoring results are outlined in Table 9 with compliance achieved at all locations for all the monitoring events.



Table 9: Noise Monitoring Summary 2022

Plan	Site ID	Site name	$\text{me} \begin{array}{ c c c c }\hline \text{Criteria} & \text{Criteria} & \text{Quarter 1} & \text{Quarter 2} \\ \hline \text{Criteria} & \text{($L_{Aeq(15}$ & $I_{minute}$), \\ dB(A))} & \text{Criteria} & \text{Quarter 1} & \text{Quarter 2} \\ \hline \text{($L_{Aeq(15}$ & $I_{minute}$), \\ dB(A))} & \text{7-10 March} & \text{20-23 June} \\ \hline \text{(Mine} & \text{(Mine} & \text{Contribution,} \\ dB(A))^1 & \text{dB(A))}^1 & \text{dB(A))}^1 \\ \hline \end{array}$		June ne oution,	e 12-14 Sept (Mine		Quarter 4  21-24 Dec  (Mine Contribution, dB(A))¹				
			L <sub>Aeq</sub> 15min	L <sub>A</sub> 1 min Night	L <sub>Aeq</sub> 15 min	L <sub>A</sub> 1 min Night	L <sub>Aeq</sub> 15 min	L <sub>A</sub> 1 min Night	L <sub>Aeq</sub> 15 min	L <sub>A</sub> 1 min Night	L <sub>Aeq</sub>	L <sub>A</sub> 1 min Night
NMP	N3	Ardmona	35	45	<25	26	I/A	I/A	33	37	I/A	N/M
EPL	N5	Oakleigh <sup>2</sup>	35	45	26	N/M	38	35	37	40	28	25
EPL	N6	Newhaven	35	45	31	31	30	35	<25	N/M	34	44
EPL	N8	Haylin View <sup>2</sup>	35	45	39	42	30	36	37	40	I/A	I/A
EPL	N9	High Range <sup>2</sup>	35	45	30	30	32	28	I/A	I/A	29	30

I/A = Inaudible, N/M = Not Measurable

Note 1: Noise levels presented are the highest measured noise level under compliant weather conditions over the monitoring period.

Note 2: Property is owned by Narrabri Coal Operations

Quarterly monitoring is also undertaken at N1, however a private agreement is in place and therefore the results are not included in this AR.

Figure 4 (below) displays attended noise monitoring results for the reporting periods of 2019 to 2022. During the 2022 reporting period, noise levels above 35dBA were recorded at N5, Oakleigh (Q2, Q3) and N8, Haylin View (Q1, Q3). These two properties are owned by Narrabri Coal and are not a private residence, therefore the EPL noise criteria does not apply. Compliance was achieved at all locations within 2022. Excluding Oakleigh and Haylin View, the noise monitoring results were comparable to results in the 2021 reporting period.



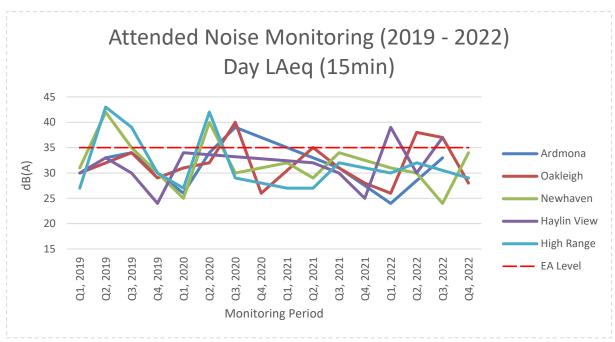


Figure 4: Trended Attended Noise Monitoring (2019 – 2022) Day LAeq (15 min)

Note 1: Noise levels presented are the highest measured noise level under compliant weather conditions over the monitoring periods, excluding results that were Inaudible or Not Measurable.

### Sound Power Testing (SPL)

SPL testing was undertaken on key mobile plant and other fixed equipment during the reporting period, results are summarised in Table 10. The Main Ventilation Fan exceeded the Modelled SPL by 2dB. Following this event, the units were taken off line for cleaning and maintenance. Retesting of the SPL measurements will be undertaken in early 2023 to determine if these actions have been successful in reducing results.

The Caterpillar D11T stockpile dozer DZ308 returned a dB result above the modelled SPL in the 2021 reporting period, however the dB result has decreased from 119dB to 115dB in 2022. During the 2022 reporting period, further maintenance requirements were investigated, and implemented, including installation of a new noise attenuation ring.

Unit	Equipment Type	Parameter	Modelled SPL (dB)	Result dB
N/A	Main Ventilation Fans	In Service	117	119
MEU004	Goaf Drainage Unit	In Service	102	99
MD29	Sandvik DE840 Drill Rig	In Service	109	107
DZ308	Caterpillar D11T Dozer	Dynamic cycle	118	115
DZ368	Caterpillar D11T Dozer	Dynamic cycle	118	117
DZ004	Komatsu D375A Dozer	Dynamic cycle	118	110
DZ005	Komatsu D475A Dozer	Dynamic cycle	118	112

Table 10: SPL Testing Summary



# 6.1.3 Proposed Improvement Measures

Retesting of the Main Ventilation Fan SPL measurements will be undertaken in early 2023 to determine if these actions have been successful in reducing results.

Predictive meteorological software that provides forecasts specific to the Narrabri Mine location will be integrated into day-to-day operations. The software will integrate weather observations from the onsite meteorological station into regional forecasts to provide a more accurate weather forecast. This software will assist with the site's noise mitigation as it provides a forecast of when the meteorological conditions are likely to exhibit conditions outlined in the sites trigger action response plan (TARP). This information will be disseminated across the sites work groups to allow for better planning of operational activities.

#### 6.2 BLAST

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

#### 6.3 AIR QUALITY

# 6.3.1 Environmental Management

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

- Air quality criteria prescribed under Schedule 4, Condition 6 of the PA 08\_0144;
- EPL 12789 Conditions O3, P1 and M2; and
- NCO has previously prepared the Narrabri Mine Air Quality Management Plan (AQMP) to address the requirements of condition 7A, schedule 4 of the PA 08\_0144; the AQMP was approved by DPIE on the 26 May 2015.

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

- Cleared trees and branches will be retained for use in stabilising disturbed areas until they are rehabilitated are no longer required;
- Trigger Action Response Plans (TARPs) have been developed for the major dust generating
  activities onsite which currently includes: the coal processing area; surface drilling activities; and
  surface civil works;
- All conveyers will be fitted with appropriate cleaning and collection devices to minimise the amount of material falling from the return conveyer belts and are partly enclosed to minimise dust lift-off;
- The coal rotary breaker is enclosed;
- The CHPP and stockpile areas have a fully automated water spray systems, including conveyor belt sprays and stockpile sprays;
- Clear definition of all the site roads and the restriction of vehicles and equipment to the roads.

  All site roads and hardstand areas are routinely watered by a mobile water cart;
- Progressive rehabilitation of areas of disturbance including topsoil and subsoil stockpiles;
- Maintaining a perimeter amenity bund and windbreaks.

The Narrabri Mine air quality monitoring network is illustrated on Figure 3 and includes:

• PM<sub>10</sub> levels are measured by two High Volume Air Samplers (HVAS) for a twenty-four hour period every six days. Total Suspended Particulate (TSP) matter is inferred at a ratio of 1:2 from the measured PM<sub>10</sub> data; and



• a network of eight Dust Deposition Gauges (DDGs), measuring deposited dust and particulates collected monthly.

#### 6.3.2 Environmental Performance

Depositional Dust results for the reporting period (Table 11) indicate that all monitoring locations are below the annual average criteria of 4 g/m²/month Total Insoluble Solids. All dust monitoring locations are located on mine owned properties, with the exception of ND3.

The reporting period average for ND3 was 0.5 g/m²/month and the long-term average is 1.7 g/m²/month. The reporting period average is below the annual average criteria. All depositional dust sites were below the predicted EA levels.

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

Site	EPL ID	Property Name	PA 08_01	144 Annual e Criteria	Modification 5  EA Levels	
	No.				(g/m²/month)	Insoluble
			Max	Max Total		Solids
			Increase	(g/m²/month)		(g/m²/month)
			(g/m²/month)			
ND1	-	Turrabaa	2	4	2.2	0.8
ND2	-	Claremont	2	4	1.9	0.9
ND3	3	Bow Hills	2	4	2.0	0.5
ND4A	-	Matoppo	2	4	2.3	1.0
ND5	-	Willarah	2	4	2.9	1.8
ND6	-	Willarah	2	4	2.9	1.3
ND7	-	Claremont	2	4	1.9	0.9
ND8	-	Claremont	2	4	1.9	1.5

Depositional Dust for all sites during the reporting period recorded lower or the same results than previous years (Figure 5). Lower results within the reporting period may be attributed to higher rainfall recorded than previous years. Previous Annual Reviews also highlighted the occurrence of bush fires and regional dust storms (extraordinary events as per PA08\_0144 Schedule 4 Condition 6) as impacting on results during previous reporting periods. This is reflected in the exceedance of the annual average criteria at ND1 and ND6 for the 2018 reporting period. An assessment of the ash content of the sites (at the time of reporting 2018) indicated that these two dusts gauges were impacted by combustible material not indicative of dust sources associated with the mining operation.

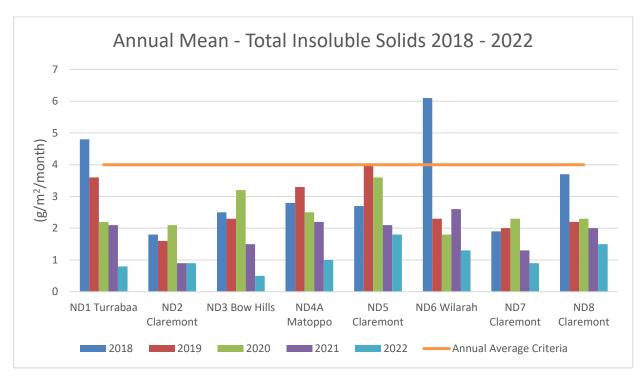


Figure 5 Average Depositional Dust Results 2018 - 2022

The HVAS monitoring conducted (Figure 4 and Figure 5) indicate that the PM $_{10}$  annual average results remain below the applicable criteria of 30  $\mu$ g/m $^3$  at both monitoring locations; with PM $_{10}$  results of 4.28  $\mu$ g/m $^3$  at ND9 and 4.26  $\mu$ g/m $^3$  at ND10. The results for the PM $_{10}$  monitoring confirm that the TSP criteria for the mine are within the annual average compliance limit. The DPI&E have previously advised that Whitehaven's method for determining TSP concentrations by multiplying PM $_{10}$  concentrations by a factor of 2, is satisfactory. Based on the above, the calculated annual average TSP concentrations of 8.55  $\mu$ g/m $^3$  at ND9 and 8.53  $\mu$ g/m $^3$  at ND10 are both below the 90  $\mu$ g/m $^3$  annual average AQ impact assessment TSP criterion.

During the reporting period there were no exceedances of the 24-hour criterion (50 µg/m³).

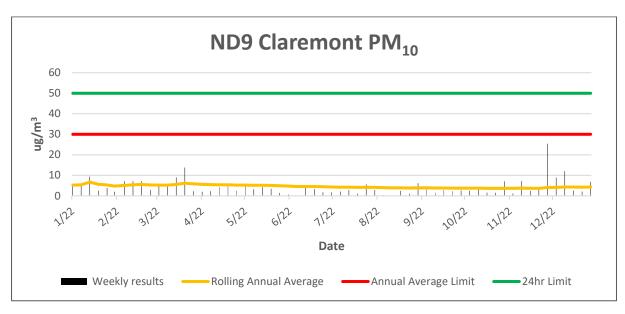


Figure 6: ND9 PM<sub>10</sub> Results including extraordinary weather events

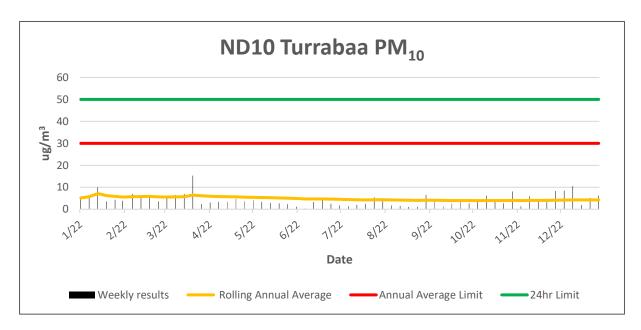


Figure 7: ND10 PM<sub>10</sub> including extraordinary weather events

Table 12 displays that  $PM_{10}$  levels have remained below the annual averaging criteria of 30  $\mu$ g/m³ across previous years; with the current reporting periods  $PM_{10}$  results averaging 4.28  $\mu$ g/m³ at ND9 and 4.26  $\mu$ g/m³ at ND10. These results were lower than the results from the previous two reporting periods; with PM10 results of 4.66  $\mu$ g/m³ at ND9 and 5.69  $\mu$ g/m³ at ND10. The Stage 2 EA determined that NCOs' Assumed Ambient background level for annual PM10 Average is 15.8 $\mu$ g/m³. The 2022 results are below this level. As discussed, higher results in previous years can be attributed to low rainfall within the region, particularly for the years 2018 and 2019. This period has also seen the occurrence of regional dust storms as well as bushfires being recorded in the region for 2019, both of which impacted regional air quality. Previous Annual Report commentary suggests that the data for these extraordinary events (as per PA08\_0144) has not been excluded from data summaries.

Table 12: PM<sub>10</sub> Annual Average (2018 – 2022)

Site 2018		2018	2019	2020	2021	2022
ND9	μg/m³	19.38	19.24	10.33	4.66	4.29
ND10	µg/m³	18.50	25.10	9.13	5.69	4.26

Narrabri Coal Operations Pty Ltd (NCO) was issued a variation to Environmental Protection Licence (EPL) 12789 in the form of a Pollution Reduction Program (EPA Notice Number 1582323) on 3 December 2019 which required a Review of the Pit Top Dust Suppression System (Condition U1.1). On the 22nd of December 2021 NCO submitted a report to address the requirements of condition U1.1. This condition was removed as of the 7th of September 2022, as the report and a site inspection confirmed mitigation measures have been established and the requirements have been met.

The assessment of the effectiveness of water sprays identified that two SR100 water cannons at locations 3 and 6 installed for product coal stockpile spray coverage are ineffective under TARP levels 3 and 4. These two stockpile sprays were upgraded to SR150 nozzles June 2022, which were assessed as effective under all TARP level wind conditions.

# 6.3.3 Proposed Improvement Measures

Predictive meteorological software that provides forecasts specific to the Narrabri Mine location will be integrated into day-to-day operations. The software will integrate weather observations from the onsite meteorological station into regional forecasts to provide a more accurate weather forecast. This software will assist with the site's dust mitigation as it provides a forecast of when the meteorological conditions are likely to exhibit conditions outlined in the sites trigger action response plan (TARP). This information will be disseminated across the sites work groups to allow for better planning of operational activities.

# 6.4 METEOROLOGICAL DATA

Meteorological monitoring is conducted onsite in accordance with Schedule 4, Condition 8 of PA 08\_0144 at the Narrabri Mine meteorological station. The location of the Narrabri Mine meteorological station is illustrated on Figure 3. Table 13 summarises the monthly meteorological conditions recorded at the Narrabri Mine station for the reporting period.

The total rainfall for the reporting period was recorded at 1010.6 millimetres (mm), which is higher than the historical average of 581.1mm recorded from the Narrabri Airport and higher than the 1001.8mm recorded during the 2021 reporting period.

The minimum temperature during the reporting period was -1.6°C in June 2022 and the maximum temperature was 39.4°C in January 2022. The minimum and maximum temperatures recorded were slightly below historical averages.

The predominant wind direction in the 2022 reporting period was SE, which is comparable to previous reporting periods.

Inversion conditions are calculated from measurements recorded by the site 60m Inversion Tower. Inversions occur during E, F and G stability categories (these categories represent weak, moderate and strong inversion conditions).



Inversion 2m Temperature (°C) Wind **Conditions** Cumulative Rainfall Rain Rainfall Days Month Av. % of (mm) **Predominant** (>1mm) (mm) Min Mean Max **Speed Evening/Night** Direction **Time Period** (m/s) Jan-22 86.4 86.4 6 15.0 25.6 39.4 2.4 SE 27.2% 28.5% Feb-22 65.4 151.8 8 11.3 23.3 36.0 3.3 SE Mar-22 76.8 228.6 7 13.7 22.0 34.1 3.2 SE 31.7% Apr-22 40.6 269.2 7 6.9 18.2 29.6 2.4 SE 44.2% 49.1% May-22 70 339.2 9 1.7 14.6 27.1 2.7 SE Jun-22 19 358.2 2 -1.6 9.0 20.8 2.0 SE 59.6% Jul-22 19.6 377.8 2 -1.5 10.1 20.6 2.6 SE 63.0% 114.4 492.2 23.0 NW 55.8% Aug-22 8 -0.6 11.8 2.4 190.4 682.6 25.8 SE 51.1% Sep-22 9 4.5 14.0 2.2 Oct-22 172.4 855 7 17.9 SE 39.8% 6.5 31.1 2.0 33.4 S 36.9% Nov-22 111 966 3 4.6 18.9 2.2 Dec-22 44.6 35.4 SE 1010.6 5 6.1 21.7 2.7 32.1%

Table 13: Summary of Meteorological Conditions 2022

# 6.5 GREENHOUSE GAS

#### 6.5.1 Environmental Management

Greenhouse Gas (GHG) emissions at the Narrabri Mine are managed in accordance with Schedule 4 Conditions 30 and 32 of PA 08\_0144 and the Greenhouse Gas Minimisation Plan (GHGMP). The main sources of GHG emissions considered in the GHGMP are:

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

## 6.5.2 Environmental Performance

GHG emissions are reported through participation in the National Pollutant Inventory (NPI) and as part of the Whitehaven Group in the National Greenhouse and Energy Reporting Scheme (NGERS). The total of Scope 1 + Scope 2 GHG emissions attributed to the mine reported for the NGERS FY2022 reporting year were 588,839 t CO<sub>2</sub>-e. The FY2022 EA prediction was 410,129 t CO<sub>2</sub>-e. Fugitive emissions methodology used in FY22 GHG reporting and EA predictions was Method 4. However the global warming potential (GWP) for Methane utilised in FY22 calculations has increased from 21 in the year of EA predictions to 28 for the FY22 GHG reporting. Fugitive emissions and therefore total emissions for FY22 have been recalculated using a comparable GWP. Therefore, the recalculated total



emissions using an EA comparable method is 461,099. The following sections detail the key contributors for the NGERS FY2022 reporting year.

## Scope 1 emissions

Scope 1 greenhouse gas emissions for the FY2022 NGERS reporting period were 519,704 t CO2-e. The FY2022 EA prediction for Scope 1 emissions was 357,890 CO<sub>2</sub>-e. The breakdown of contributors to the Scope 1 emissions total is as follows:

- Fuel combustion (emissions released from combustion of liquid fuels- stationary and transport, and petroleum based oils and greases): approximately 5033kl was consumed equating to 11,304 t CO2-e. The fuel usage figures have increased since the previous reporting period.
- Fugitive emissions (from extraction of coal): The reported figure of 508,385 t CO2-e is an increase from the previous reporting period. The recalculated fugitive emissions using EA comparable method is 2022 is 381,289 t CO2-e
- Industrial processes (emissions of hydrofluorocarbons and sulphur hexafluoride gases): The reported figure of 15 t CO2-e is a decrease from the previous reporting period.

# Scope 2 emissions

Approximately 87,510 MWh electricity was purchased by the mine during the 2022FY reporting period equating to 69,133 t CO<sub>2</sub>-e GHG emissions. This is less than the previous reporting period and above the FY22 EA predicted consumption of 52,239 t CO<sub>2</sub>-e.

### 6.5.3 Proposed Improvement Measures

NCO is currently working with Palaris to develop a Decarbonisation Pathway, which involves mapping carbon footprint, identifying abatement opportunities and pathway prioritisation.

#### 6.6 BIODIVERSITY

## 6.6.1 Environmental Management

Biodiversity is managed in accordance with:

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

To meet these BOS approval requirements; WHC established Kenna BOA (Kenna offset property) (Figure 9) and the Onsite BOA (includes offset properties: Greylands, Omeo, Rosevale, Greylands Road, Kurrajong Park and West Haven) (Figure 10). These properties are displayed at a regional scale in Figure 8. The Narrabri Coal Mine Stage 1 and 2 Biodiversity Offset Strategy (Eco Logical Australia, 2014 and revised 2019) confirmed the ability of these properties to meet "like for like or better" and "maintain or improve" conservation outcomes' and outlined that the Narrabri BOA covers an area of native vegetation greater than 1,243ha from the Kenna offset property and greater than 422ha from the Onsite offset properties. Furthermore, up to 1,168 ha of woodland vegetation that was subject to subsidence impacts at NCM, will also be established as the "future" offset, adjoining the Onsite offset properties to be progressed at the end of the mine life, resulting in an overall NCM BOS of 2,833ha. The NCM BOS includes the protection of B. opponens and Superb Parrot habitat within nearly 380 ha of Red Ironbark — Brown Bloodwood shrubby woodland and a further 297 ha of the same vegetation type occupied by B. opponens located within the 1,168 hectares affected by subsidence. The NCM BOS provides an estimated 327,094 plants in the Onsite offset properties with an additional estimated 169,184 plants within the "future" offset for a total of approximately 500,000 plants.



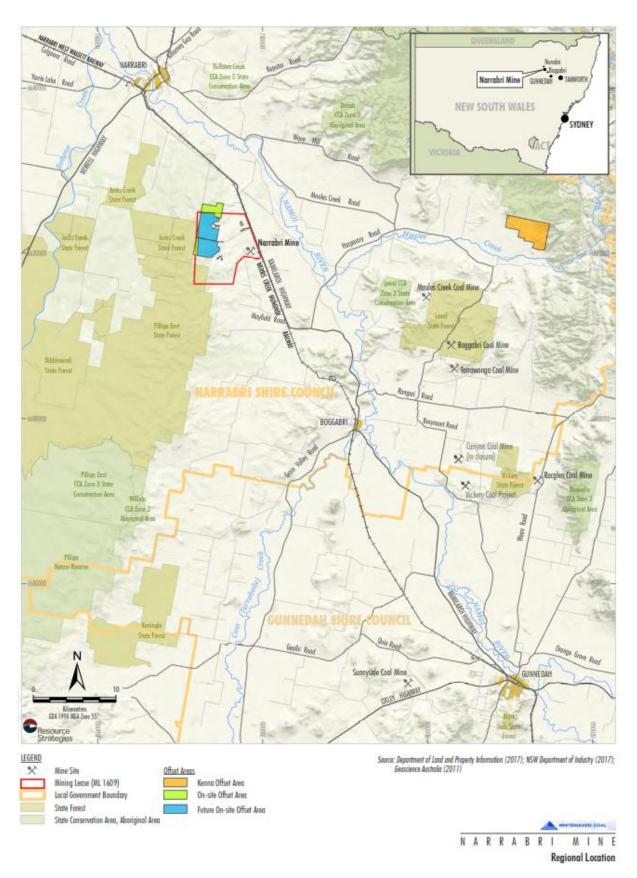


Figure 8: Regional location of Biodiversity Offset Areas

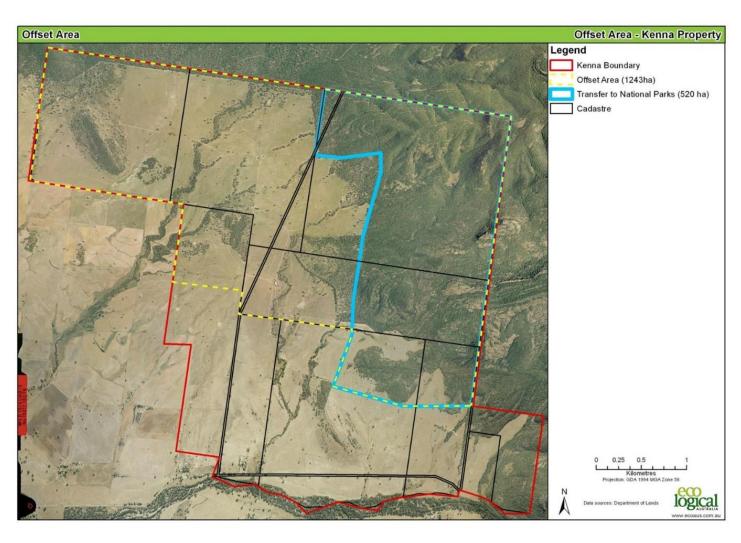


Figure 9: Kenna Biodiversity Offset Area

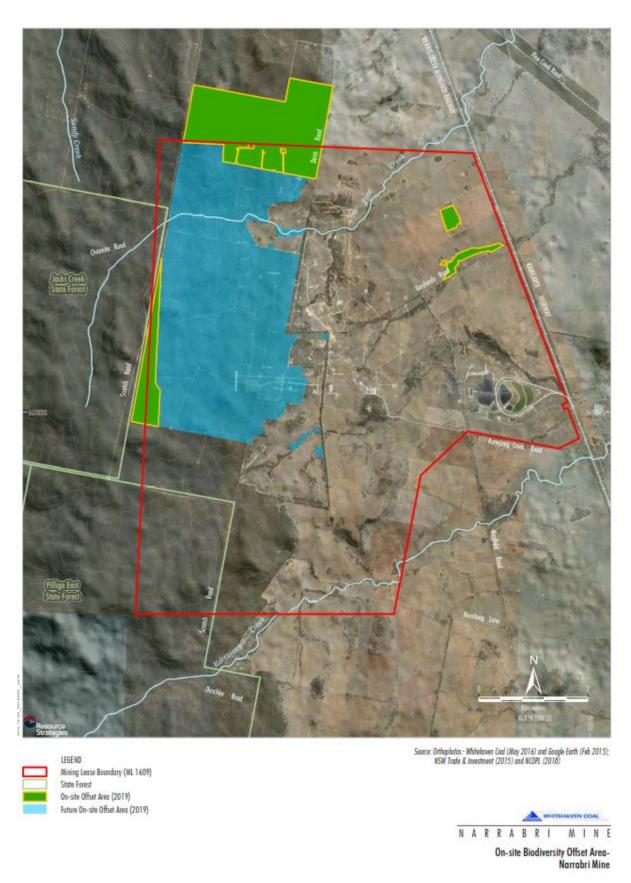


Figure 10: Onsite BOA and future onsite offset areas



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

- · Weed monitoring and inspections;
- · Feral animal monitoring, inspections and control;
- · Flora and Fauna monitoring.

### 6.6.2 Environmental Performance and BOMP Implementation

#### 6.6.2.1 Mine Site Environmental Performance

## Weed Management

Weed management programs were implemented at NCO during 2022. Weed management consists of spot spraying programs periodically throughout the year when conditions are favourable. Locations requiring management are identified through:

- Weed Management Mapping supported by the ArcGIS software application Field Maps;
- ecological monitoring reports and locations of listed weed species.

Weed control in the pastoral areas is planned to be managed by landholder management and pasture improvement (or as recommended in subsequent monitoring reports). Weeds targeted in the reporting period include African boxthorn, Common Pear and Mother of Millions.

#### Feral Animals

A vertebrate animal control program was undertaken at NCO in Spring 2022, targeting both feral pigs and foxes producing the following results;

- Feral pigs
  - o 3 sites were setup across site;
  - A total of 36 pigs were successfully baited.
- Foxes
  - o 44 baits were presented at 22 stations set up across site
  - A total of 16 foxes were successfully baited.

Motion sensors were used to record the number of foxes eating the baits.

Appropriately qualified and experienced feral animal contractors (appropriate feral animal management qualifications and pesticide accreditation where relevant) were engaged to undertake feral animal control works for WHC.

### Annual Extraction Plan Monitoring

The results of annual monitoring undertaken during the reporting period, as required by the Extraction Plan, which includes the LMP, are summarised in Table 14 and Table 15.

Table 14: Biodiversity Management Plan 2022 Monitoring Results

Performance Measures	BMP Performance Criteria	2022 Results
LW101-106		



Performance Measures	BMP Performance Criteria	2022 Results
Woodland vegetation (Inland Grey Box EEC) composition and health	Clearing does not exceed the allowable limit of the Project Approval	Performance criteria met (17.73 of 22.9ha)
	Less than 10% change in floristic composition (relative to natural variation found in control areas)	In-field vegetation monitoring was not completed in 2022 due to high rainfall and access limitations for fieldwork.
	Less than 10% increase in exotic species numbers and cover	In-field vegetation monitoring was not completed in 2022 due to high rainfall and access limitations for fieldwork. A review of previous years' monitoring data indicates that subsidence ponding is the key contributor to decreases in floristic composition, including fluctuations in weed cover.
		It is recommended to adopt an opportunistic and continual assessment approach to document any significant weed outbreaks. This has been addressed with the introduction of the Weed Management tool which operates on the ArcGIS platform as discussed in Section 6.6.2.1.
	No increase in feral animal presence	In-field fauna monitoring was limited to bird monitoring in 2022 due to high rainfall and access limitations for fieldwork.
		Review of previous years' monitoring results indicates that feral species remain present in low numbers consistent with the general landscape and continued management in accordance with the RMP is required (discussed above in Section 6.6.2.1)
	Clearing does not exceed the allowable limit of the Project Approval	Performance criteria met (2.28 of 4.1ha)
Riparian vegetation composition and health		In-field vegetation monitoring was not completed in 2022 due to high rainfall and access limitations for fieldwork.
	Less than 10% change in floristic composition (relative to natural variation found in control areas)	Multi-spectral image analysis was the key component of the BMP 2022 monitoring program. Most significant decreases in PAB (i.e. greater than 1 standard deviation from the mean change and greater than 0.1 ha in area) in 2022 since pre-mining conditions identified in LW101 to LW106 can be attributed to increased inundation of known subsidence ponds, caused by a combination of inundation and foliage cover loss from tree deaths. The construction of mining tracks and pads is also a significant contributor.
	Less than 10% increase in exotic species numbers and cover	In-field vegetation monitoring was not completed in 2022 due to high rainfall and access limitations for fieldwork. A review of previous years' monitoring data indicates that subsidence ponding is the key



Performance Measures	BMP Performance Criteria	2022 Results
		contributor to decreases in floristic composition, including fluctuations in weed cover.
		It is recommended to adopt an opportunistic and continual assessment approach to document any significant weed outbreaks. This has been addressed with the introduction of the Weed Management tool which operates on the ArcGIS platform.
	No increase in form or more	In-field fauna monitoring was limited to bird monitoring in 2022 due to high rainfall and access limitations for fieldwork.
	No increase in feral animal presence	Review of previous years' monitoring results indicates that feral species remain present in low numbers consistent with the general landscape and continued management in accordance with the RMP is required
	Less than 20% increase in length of eroding creek	Creek line surveys undertaken from baseline to 2022 did not detect significant changes in morphology or increases in erosion of greater than 20% when compared to controls.
	Fauna populations do not experience adverse impacts	Review of previous years' monitoring results indicates that fauna occurrences are relatively low for species other than birds, and variability between control land impacts sites year to year has not identified any trends (increases or decreases in fauna records).
Terrestrial fauna habitat for threatened species	Fauna records decrease by greater than 10% (relative to natural variation found in control areas)	Fauna habitat is assessed similarly to vegetation, indicating that the primary contributor to any decreases is subsidence ponding affecting plant health, particularly trees.  Water bird species richness has improved in 2022 coinciding with ponding events and continued inundation. The ponds continue to provide intermittent aquatic habitat for these birds.
Aquatic macro- invertebrate and macrophyte assemblages	No decline in aquatic habitat quality relatively to natural variation in control areas	Not able to be assessed in 2022 due to high rainfall and access limitations.
LW107-LW110		



Performance Measures	BMP Performance Criteria	2022 Results
	Areas of NDVI change greater than 1 standard deviation from the mean change and greater than 0.1 ha in area.	Significant decreases in PAB were identified from NDVI change along watercourses including Pine Creek above LW107, LW108 and LW110, which indicate a decrease in PAB may be due to increased water levels, potentially related to subsidence ponding.
Woodland and riparian vegetation health and habitat value	Canopy dieback is not substantially greater than that observed during baseline traverses and considered beyond natural seasonal dieback and natural variation due to weather.  Data does not indicate declining trend in vegetation and habitat conditions	Review of all years' monitoring data and the 2022 NDVI mapping indicated a decline in canopy health above LW107, both at the FBS plot locations and larger areas associated with a decline in PAB. FBS monitoring above LW108 showed a slight decline in canopy health to 2021, although this was not reflected in the 2022 NDVI analysis.
	Less than 10% increase in weed cover in impact quadrats in comparison to control quadrats.	Exotic species percentage cover has historically remained below 1% across FBS sites in previous monitoring years to 2021, with no markable increase in weed cover being recorded across FBS sites.
	Clearing does not exceed the estimated area of clearing assessed by the Stage 2 EA and as updated in Modification 5 (Resource Strategies, 2015) for infrastructure above LW107 to LW110.	Clearing amount to date is within the limits as set out in the Stage 2 EA and as updated in Modification 5.



Performance Measures	BMP Performance Criteria	2022 Results
Observance of trapped Delicate Mouse or Pale- headed Snake within surface cracks	Incidence of Delicate Mouse and/or Pale-headed snake becoming trapped in surface cracks.	Capture rates for the target species are low (Delicate mouse) or nil (Pale-headed snake). Neither species has been observed within or trapped within surface cracks. Cessation of monitoring is recommended.

Table 15: Land Management Plan 2022 Monitoring Results

Performance Measures	Performance Criteria	Comment	
LW101-LW106			
Surface Cracking			
Surface cracking inspection	Permanent cracks (which do not self- close within one month of longwall face passing) are remediated as soon as practicably possible (and safe to do so) Surface cracking is remediated to prevent erosion and slope instability issues within 6 months of each longwall pass.	No new subsidence cracks have been identified within past monitoring reports since undermining was completed in 2017. Routine inspections will continue to be carried out to identify cracks and ensure the appropriate contingency response is implemented in accordance with the LMP; however, it is likely that subsidence has stabilised across LW101 – 106.	
Topographic form (Lidar)			
Landscape morphology	Subsidence across landscape does not exceed subsidence predictions for LW101-LW106.	LIDAR analysis is undertaken every 3 years and was last undertaken in 2020. Therefore, LIDAR analysis was not undertaken in 2022.	



Performance Measures	Performance Criteria	Comment	
Creeklines	No identifiable change in overall drainage pattern.	Creek line surveys undertaken from baseline to 2022 did not detect significant changes in morphology.  As part of the SPMP, the Department of Planning and Environment (DPE) recommended the LW104, and upstream ponds be managed by pumping until a permanent solution be found. Given the further regression of riparian vegetation within this area, ELA recommends that a site-specific management report should be prepared and implemented where necessary that aligns with Narrabri Coal Rehabilitation Management Plan (RMP) (ELA, 2016) and a permanent solution to the LW104 - LW106 subsidence ponds be investigated.  Pumping was undertaken when inundation of subsidence ponds over the longwalls occurred. This was prevalent over November 2022 due to above average rainfall onsite.  NCO engaged a specialist during the reporting period to undertake geomorphic redesign options of Pine and Kurrajong Creek that would enable the subsidence pond areas to freely drain in a safe and stable way	
Multi-spectral image analysis			
Groundcover (multi-spectral images – erosion and pasture cover)	Identified areas of NDVI change (greater than 1 standard deviation from the mean change) investigated in the field to determine the source of the change.	Assessment of NDVI change between 2012 and 2022, and 2020 and 2022, were completed. Areas of significant decrease since 2012 have been previously identified, are largely associated with surface ponding, correlating with a decline in plant health.	
Pasture			



Performance Measures	Performance Criteria	Comment	
Pasture biomass	Less than 20% reduction in pasture biomass in impact zones in comparison to control zones	Assessment of monitoring data against performance criteria from baseline to 2021 identified that despite variability in both biomass and weed cover, no significant differences were detected between impact and control sites, indicating a failure in the performance criteria. NDVI change is considered a more accurate assessment of increases or reductions in biomass and has therefore been used to assess and monitor pasture parameters in 2022. NDVI change analysis identified multiple areas of decreases associated with surface ponding, correlating with declining plant health.	
Weed species	Weed species identified and managed according to the weed management measures provided in the Rehabilitation Management Plan	It is recommended to adopt an opportunistic and continual assessment approach to document any significant weed outbreaks, decline in pasture and identify rehabilitation	
Weed cover	Less than 10% increase in weed cover in impact zones in comparison to the control zone	issues as identified by mine staff and contractors. This has been addressed with the introduction of the Weed Management tool which operates on the ArcGIS platform as discussed in Section 6.6.2.1.  This would be supported via continuations of the remote sensing analysis, which would document significant changes in pasture PAB and therefore activate the existing monitoring trigger as set out in the LMP.	
Soil nutrient status			
pН	pH remains within +/- 0.5 pH unit of baseline pH. If soil amelioration is undertaken, pH is to remain within recommended pH range for pasture (5.2-8.0).	Soil surveys are to be undertaken at baseline and then at a frequency of every three years. The next soil survey is scheduled for spring 2023 as the last survey was undertaken in spring 2020	
EC	Less than 20% increase in EC in comparison to baseline values.	Soil surveys are to be undertaken at baseline and then at a frequency of every three years. The next soil survey is scheduled for spring 2023 as the last survey was undertaken in spring 2020	
Organic matter	Less than 20% reduction in organic matter in comparison to baseline values.	Soil surveys are to be undertaken at baseline and then at a frequency of every three years. The next soil survey is scheduled for spring 2023 as the last survey was undertaken in spring 2020	



Performance Measures	Performance Criteria	Comment
Nitrogen	Less than 20% reduction in total nitrogen in comparison to baseline values.	Soil surveys are to be undertaken at baseline and then at a frequency of every three years. The next soil survey is scheduled for spring 2023 as the last survey was undertaken in spring 2020
Phosphorous	Less than 20% reduction in phosphorous in comparison to baseline values.	Soil surveys are to be undertaken at baseline and then at a frequency of every three years.  The next soil survey is scheduled for spring 2023 as the last survey was undertaken in spring 2020
Creek stability and co	ndition	
Field survey of creek stability and condition	Field survey of creek stability and condition	LiDAR which is ordered annually by NCOPL, was used as a more accurate measurement for cross sectional change. Creek line surveys undertaken from baseline to 2022 did not detect significant changes in morphology or increases in erosion of greater than 20% when compared to controls. Significant rainfall experienced in the lead up to the LiDAR measurement for 2022 is likely to have resulted in higher water levels at a number of points, as LiDAR will not penetrate water resulting in false surface level, evidenced in LW104 control site and LW104 impact site. This is further demonstrated for the site which is now inundated within the subsidence pond on LW101.

# LW107-LW110

Surface cracking		
Surface cracking Inspection	Permanent cracks (which do not self- close within one month of longwall face passing) are remediated as soon as practicably possible (and safe to do so).	No notable subsidence cracks were recorded in the period.  Two subsidence cracks were observed above LW109 by ELA during field surveys in 2021,



Performance Measures	Performance Criteria	Comment	
	Surface cracking is remediated to	locations and dimensions of which are provided in the 2021 monitoring report (ELA 2022). Confirmation that these cracks have been remediated was provided by NCOPL in November 2022.	
	prevent erosion and slope instability issues within 6 months of mining of each longwall.	All known subsidence cracks identified within past monitoring reports that occur over LW107, LW108 and LW109 have been remediated since undermining was completed. LW110 is due for completion in 2023 – routine inspections will continue to be carried out to identify cracks.	
Topographic form (Lidar)			
Landscape morphology	Subsidence across the landscape does not exceed subsidence predictions for LW107 to LW110.	LiDAR analysis completed on a three-year cycle, due for completion in 2023.	
Creek lines  No identifiable change to overall drainage pattern.		PAB increased over time at all POI sites with the exception of POI 3. Further investigation in the field is required to determine the cause of a significant reduction in PAB, potentially due to creek bank erosion.	
Groundcover (multi- spectral images – erosion and pasture cover)	Identified areas of NDVI change (greater than 1 standard deviation from the mean change) investigated in the field to determine the source of the change.	Significant decreases in PAB were identified from NDVI change along watercourses including Pine Creek above LW107, LW108 and LW110, which indicate a decrease in	
	Site specific management report prepared and recommendations implemented where necessary.	PAB may be due to increased water levels, potentially related to subsidence ponding	

# Subsidence Pond Monitoring

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

- NDVI analysis in 2022 identified a continued decline in photosynthetically active biomass (PAB) which can be attributed to the increase in water within the site due to significant rainfall since 2020. Increased water in the subsidence ponds and creeks have resulted in a reduction in PAB of the area, whilst areas in depressions and surrounding water sources have experienced increases in groundcover.
- 2022 EC water quality data has decreased from 2020 in most samples, due to persistent and increased rainfall. A small amount of data points from 2022 are higher than 2020 results, likely due to localised environmental affects close to sampling dates (including increased sediment



runoff or subsurface disturbances). EC is currently below the Australian and New Zealand Environment and Conservation Council (ANZECC) water quality guideline limits for freshwater ecosystems, and therefore does not trigger any responses for water quality (ponding) under the Trigger Action Response Plan (TARP) within the Water Management Plan (WMP).

NCO engaged a specialist during the reporting period to undertake geomorphic re-design options of Pine and Kurrajong Creek that would enable the subsidence pond areas to freely drain in a safe and stable way, which is continued into 2023. While the geomorphic study is being conducted, temporary pumps have been used to pump ponded areas downstream, reducing vegetation stress.

The 2022 subsidence pond monitoring results are found in Appendix G.

# Pre-Clearing and Clearing Surveys

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

- · Fauna and flora Pre-clearing Surveys;
- · Clearance Supervision; and
- Post-felling inspections.

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

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

Fauna was encountered during clearance works undertaken during the reporting period, including species of birds, mammals and reptiles.

The following threatened fauna species were encountered during the clearing works in 2022:

 Pomatostomus temporalis (Grey-crowned Babblers) - listed as vulnerable under the State Biodiversity Conservation Act 2016 (BC Act 2016).

The following threatened flora species were encountered during the clearing works in 2022:

 Bertya opponens (Coolabah Bertya), which is listed as vulnerable under the NSW Biodiversity Conservation Act 2016 (BC Act) and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC),

### 6.6.2.2 BOS Environmental Performance

The Biodiversity Offset Strategy (BOS - Eco Logical, 2019) was approved by NSW DPIE on 25 September 2019 and by the Commonwealth DAWE on 16 September 2019 which commits NCO to managing the offset areas to achieve a 'like for like or better' and 'maintained or improved' biodiversity outcomes on the 1,244ha Kenna Offset property located offsite adjacent to the southern boundary of the Kaputar National Park and the 431 ha Onsite (Rosevale, Greylands, Omeo, Greylands Park,



Kurrajong Park and West Haven) Offset properties located within and adjacent to the western boundary NCO mining lease and to the east of Jacks Creek State Forest apart of the large "Pilliga Forest" remnant.

## **Offset Security Management**

Between 27 September 2019 and 16 July 2021; NCO successfully registered seven Conservation Agreements on the land titles for the seven Offset properties as required of the BOS. The Conservation Agreements were secured under Part 4 Division 12 of the NSW National Parks and Wildlife Act 1974 in accordance with Commonwealth EPBC Act Approval 2009/5003 Conditions 2a&b and NSW Project Approval 08\_0144 Schedule 5 Condition 7. WHC will reengage with NPWS that had previously shown interest in certain NCO Offset properties being transferred to National Park Estate.

## **Weather Summary of NCO Offset Properties**

Regionally central meteorological station to the BOAs is the Gunnedah Pool site (BOM 2023) which has recorded highly variable rainfall over the last 4 years; from driest in 140 years of 237mm in 2019, followed by above average rainfall years in 2020, 2021 and 2022 of 833mm, 990mm and 860mm respectively resulting in major flooding of the Namoi River in October and November 2022. NCO maintain two meteorological stations across the BOA with a summary of weather conditions experienced at Kenna Offset property during the 2022 reporting period being a maximum monthly average temperature of 33°C in January 2022 and a minimum monthly average temperature of 4°C in June 2022. Annual temperature ranges were -1°C to 38°C in 2022. The total annual rainfall in 2022 was 718mm with the maximum in October (149mm) and minimum in June (11mm). A summary of weather conditions experienced at Rosevale Offset property during the 2022 reporting period being a maximum monthly average temperature of 32°C in January 2022 and a minimum monthly average temperature of 1°C in June 2022. Annual temperature ranges were -3°C to 37°C in 2022. The total annual rainfall in 2022 was 813mm with the maximum in September (133mm) and minimum in June (18mm).

## **Infrastructure Management**

During the reporting period, a total of 4.4km of new fencing (fauna friendly) was constructed along the perimeter of the NCO Offset and prospective properties of Kenna, Greylands, Rosevale and Caloola North as well as maintenance of signage and gates undertaken as required to continue to restrict unauthorised access and minimise livestock incursion. Also during the reporting period, 4.5km of redundant internal fences were deconstructed on offset and prospective properties of Kenna, Greylands, Omeo, Rosevale and Caloola North and 66 items of redundant or derelict assets/infrastructure were removed, previously associated with the former agricultural use of the NCO BOA. Waste removed is either recycled (in the case for scrap metal) or disposed offsite (general municipal waste and tyres) at local Waste Management Facilities. Any remaining derelict assets/infrastructure items will continue to be assessed, removed and remediated as required prior to potential transfer of NCO Offset properties to National Park Estate.

# **Seed Management**

The routine seed assessments on the NCO BOA aims 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. During the reporting period, no seed collection onsite was undertaken but as part of the WHC group wide revegetation planning; previously collected onsite seed was supplemented with other collected regionally provident seed by reputable seed collectors as well as commercially sourced local seed stock. A local revegetation provider was engaged to propagate



the seed to produce Box Gum and non-EEC/CEEC Woodland overstorey species seedlings required for the 2022 revegetation program for the NCO BOA.

### **Revegetation Management**

The NCO BOMP revegetation strategy focuses on restoration and revegetation of cleared non-native grassland (former cultivation) and derived native grasslands and assisting natural regeneration in better quality woodland areas. During the reporting period, revegetation ground preparation utilised tractors augering holes (to a depth >0.3m) to relieve compaction, improve permeability and infiltration to increase sub-surface soil moisture for planting. During the reporting period, 13ha of understorey revegetation carried out on the Kenna Offset property. The overstorey revegetation program was undertaken between May and June 2022 with 1775 hiko seedlings of Box-Gum and other Woodland species planted over 37ha on the Kenna and Rosevale Offset properties. Combined with good seasonal conditions, routine tree watering and maintenance activities post planting have been successful to ensure that over 57% survival has been achieved for the NCO BOA which is commensurate with the target Woodland vegetation structure.

# Heritage Management

During the reporting period, annual heritage inspections were completed on the 15 known Aboriginal archaeological heritage sites within the NCO BOA with each site maintained with 1.5km of demarcation fencing around the heritage site perimeter and signage to mitigate access and inadvertent disturbance.

## **Habitat Management**

During the reporting period, habitat augmentation was undertaken with 16 nest boxes targeted for Small Gliders, Greater Gliders, Microbats, Turquoise Parrots, Brown Treecreepers and Pale-headed Snakes installed on the Kenna Offset Property.

## **Weed Management**

WHC coordinated routine formal weed monitoring/inspections undertaken across NCO BOA in February, May, September and December 2022. The priority weeds identified included legacy weeds inherited from previous owner's management regimes such as African Lovegrass, Mother of Millions, Fleabane, Green Cestrum, Coolatai Grass, Cobbler's Peg, Sweet Briar, Turnip, Bathurst Burr, Noogoora Burr, African Box Thorn, Thistles and Common Prickly Pear as well as a range of broadleaf weeds within revegetation areas. 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 NCO BOA for weed control. During the reporting period, WHC implemented a weed control program across the Narrabri BOA including 903ha treated between January and December 2022 targeting primarily Fleabane, Coolatai Grass, African Love Grass, Box Thorn, Prickly Pear, Mother of Millions, Cobbler's peg, Sweet Briar, Turnip, Bathurst Burr, Patterson's Curse, Marshmallow, St Barnaby's thistle and Broadleaf 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.

## **Pest Animals Management**

WHC coordinated routine formal pest animal monitoring across NCO BOA adopting the "monitor, measure and manage" approach to feral animal management; which will allow WHC to implement adaptive management in response to changes being measured through monitoring in pest animal abundance specific to the different geographical regions of the NCO BOAs. Pest animal monitoring



primarily utilises remote sensor cameras for pest animals generally in accordance with the NSW DPI Monitoring Techniques for Vertebrate Pests as cameras now provide the best option of detection for the greatest range of species as well as being complemented by pest animal sighting reports. Monitoring demonstrated that certain animals like Eastern Grey Kangaroos and Feral Pigs are in high abundance throughout the year; Feral Cats and Foxes can be seasonally in medium abundance and all other feral animal species recorded as low or scarce abundance levels across 2022. The pest animal monitoring ensures that timely and prioritised pest animal control is undertaken on a seasonal basis identifying what, where, when and how to target appropriate resources across the NCO BOAs for pest animal management. During the reporting period, WHC implemented a comprehensive pest animal control program across the NCO BOAs with routine 1080 baiting and canid pest ejectors as well as Hoggone baits and trapping programs for Feral Pigs undertaken throughout 2022. During the reporting period; the 1080 baiting program removed 86 Foxes from 337 baits presented and 5 from 19 canid pest ejectors were consumed. The Feral Pig control programs resulted in 21 of 56 Hoggone baits taken and a further 60 Feral Pigs trapped in 2022. There were 132 Goats harvested at the NCO BOA during the reporting period with saleable Goats on sold to an abattoir. Only appropriately qualified and experienced feral animal contractors (appropriate feral animal management qualifications, NSW fire arm licence and pesticide accreditation where relevant) were engaged to undertake feral animal control works for WHC.

## **Soil & Erosion Management**

Annual inspections were undertaken including unsealed fire break tracks and associated drainage structures across the NCO BOA to review appropriate erosion and sediment control measures required in accordance with the Blue Book (Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004)). Despite the above average rainfall during the reporting period; no locations of targeted additional maintenance was identified out of 3 observations within the NCO BOA to mitigate further erosion and sedimentation. The remaining sites and tracks/drainage structures are maintained during routine WHC Biodiversity fire break track maintenance program with no other erosion sites present on NCO BOA.

### **Grazing Management**

NCO BOA were destocked in September 2016 and continued to be destocked and no strategic grazing occurring during the reporting period. There were five instances of stock incursion during the reporting period; with stock on each occasion retrieved and fencing repaired as required.

### **Bushfire Management**

In accordance with the BOMP, annual fuel load monitoring was undertaken between September and November 2022 as part of planning and assessment of bushfire hazard and ecological burn program for 2023; with the results indicating moderate to high overall fuel loads present. No woodland ecological burns were possible across 2022 due to excessive fuel moisture and above average rainfall; but a brief window in April 2022 allowed one grassland ecological burns to be undertaken with 24.7 hectares burnt with moderate intensity on the Kenna Offset property. Other fire management implemented by WHC during the reporting period was maintenance carried out as required on 82.2km of fire trails to a zero fuel barrier standard across the NCO BOA. WHC maintains regular communications throughout the reporting period with both the Namoi-Gwydir Zone RFS teams around planning of WHC BOA site ecological burn programs as well as maintain contact points in case of emergency. WHC maintains a specialist fire fighting contractor for an oncall engagement during the fire season to respond in the event of a bushfire on WHC BOAs and non-mining lands.

### **Monitoring Program**



During the reporting period, the ecological monitoring program of the Narrabri BOA included winter bird surveys that were undertaken in June/July 2022 and annual spring flora monitoring of 43 plots across eight vegetation zones (VZs) undertaken during September - October 2022 while annual fauna monitoring was undertaken between January and October 2022 at 26 bird survey sites and 14 echolocation sites. During the winter bird surveys, no threatened species were recorded. During flora monitoring, three VZs (Western Slopes Dry Sclerophyll Forests - Good condition, at both Kenna and Onsite BOAs, Western Slopes Dry Sclerophyll Forests - DNG/Cleared and Western Slopes Grassy Woodlands – Semi-cleared condition) were recorded as meeting or exceeding completion criteria for all four biometrics. Native plant species richness (NPS) completion criteria (native species richness benchmark for relevant biometric vegetation communities) was met or exceeded at 6 out of 8 VZs. Native overstorey cover (NOS) completion criteria (minimum overstorey cover benchmark for relevant biometric vegetation communities) was met or exceeded at 3 out of 8 VZs. Native midstorey cover (NMS) completion criteria (minimum midstorey cover benchmark for relevant biometric vegetation communities) was met or exceeded at 6 out of 8 VZs. Native ground cover grass (NGCG) completion criteria (minimum groundcover benchmark for relevant biometric vegetation communities) was met or exceeded at all eight VZs. Comparison of individual plot data shows that NPS slightly decreased from 86% last year to 81% of plots meeting or exceeding completion criteria in 2022. Native overstorey cover (NOS) increased from 23% last year to 42% of plots meeting or exceeding the completion criteria. Native midstorey cover (NMS) increased from 56% last year to 63% of plots meeting or exceeding the completion criteria in 2022. Native ground cover grass (NGCG) increased from 84% last year to 86% of plots meeting or exceeding the completion criteria in 2022. A total of 72 bird species were recorded during standardised bird surveys compared with 73 bird species in 2021 were detected and 77 bird species in 2020. Across 26 sites, species richness values ranged between 0 to 29 per site. By habitat, 56 species were detected in 7 remnant woodland sites (average = 15.6; range 6 to 29), 29 species in 10 revegetation sites (average = 7.8; range 3 to 16), and 37 species in 9 naturally regenerating sites (average = 9.12; range 0 to 16). Up to 9 species of microbat were positively identified from echolocation recordings across 15 sites including one species listed as threatened under the BC Act. Species richness values ranged between 5 and 10. By habitat, 8 species were detected in remnant woodland sites (average 4.6, range 1-8), 10 species in naturally regenerating (average = 3.8, range 1 -10) and 1 species in revegetation sites (average 0.25, range 0 - 1).

## 6.6.3 Proposed Improvement Measures

- Subsidence Pond investigations: during the previous reporting period Narrabri Mine engaged specialists to undertake engineering studies into geomorphic design options that would enable the subsidence pond areas to freely drain in a safe and stable way. During the next reporting period, the engineering design options and an environmental assessment will be completed to determine the most appropriate options for implementation.
- Review the monitoring requirements in the BOS as per the above recommendations.
- Continue the weed control programs and subsequent monitoring utilizing the ArcGIS mapping software to generate greater efficiencies for targeted programs.
- Continue the feral animal control programs and subsequent monitoring.



### 6.7 ABORIGINAL CULTURAL HERITAGE

## 6.7.1 Environmental Management

Aboriginal Cultural Heritage is managed in accordance with the Aboriginal Cultural Heritage Management Plan (ACHMP), which was prepared to satisfy Schedule 4, Condition 23, and the Statement of Commitments (SoC) detailed in the PA 08\_0144. Revision 5 of the ACHMP was provided to the DPI&E for review and approval in April 2021. Revision 5 of the ACHMP incorporated additional Aboriginal cultural heritage sites identified during surveys for the *Narrabri Underground Mine Stage 3 Extension Project* (the Stage 3 Project). This plan was withdrawn June 2022 to avoid duplicated work that would be required to review the Stage 3 ACHMP (submitted July 2022 and accepted by NSW DPE December 2022).

### 6.7.2 Environmental Performance

### Soil Disturbance Monitoring

As outlined in the ACHMP, any soil disturbance work within 100 m of a drainage line or in areas not already cleared for agriculture requires the presence of the Registered Aboriginal Parties (RAPs) to minimise the risk of sites/objects of Aboriginal Cultural Heritage significance being disturbed by clearing activities.

### Archaeological Salvage Program

During risk assessments of the sites new Brine Dam (BR1), it was determined that nine (9) Aboriginal cultural heritage sites registered on AHIMS will be impacted by the proposed project. As a result, a short archaeological salvage program of surface collection was undertaken to recover artefacts from these sites. Archaeological salvage was undertaken in accordance with Section 3.6 of the approved Narrabri Coal Mine Aboriginal Cultural Heritage Management Plan (ACHMP) 2019 and involved an archaeologist and representatives of Registered Aboriginal Parties (RAPs).

A total of fifty-nine (59) artefacts were identified in the vicinity of the nine (9) AHIMS sites, exceeding the original artefact numbers recorded. All identified artefacts were recorded and collected, with each artefact allocated a Unique Reference Number (URN) for archival purposes. These artefacts have been stored in accordance with the 'application for the transfer of Aboriginal objects for safekeeping' which was submitted to the Heritage NSW office February 2022.

## **Ongoing Consultation**

Narrabri Mine maintains regular contact with a representative of the RAPs in order to ensure appropriate cultural heritage supervision is available for planned surface disturbance activities.

Formal biennial consultation meetings are held with the RAPs senior representatives.

# **Previously Unidentified Sites**

No new sites were recorded during the reporting period.

### Non-compliance

No non-compliances were recorded for the reporting period.



### 6.7.3 Proposed Improvement Measures

A fencing audit was undertaken during the 2020 reporting period identifying potential for improvements to be made to fencing around ACH sites. An improved fencing standard was established in late 2020 with improvement works commencing in early 2021. Fencing surrounding all registered ACH sites is to be upgraded to the new standard, with upgrades occurring throughout the reporting period and are expected to continue throughout the next reporting period.

#### 6.8 HISTORIC HERITAGE

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

#### 6.9 TRANSPORT

## 6.9.1 Environmental Management

Traffic impacts associated with the Narrabri Mine are managed in accordance with:

- Schedule 4, Conditions 25 to 27 of the PA 08\_0144.
- the Narrabri Mine Shuttle Bus Traffic Control Protocol prepared to satisfy the requirements of PA 08\_0144;

### 6.9.2 Environmental Performance

The portion of Greylands Road that traverses the mining area has been purchased by the mine and is no longer accessible to the public. Scratch Road, in the western portion of the mining lease, has not been utilised to construct mining related infrastructure and as such no agreement has been developed with Narrabri Shire Council (NSC) for the use of this road.

The mine constructed the intersection to the mine in consultation with both NSC and Transport for NSW (TfNSW). TfNSW has advised the mine that the ongoing maintenance of the intersection is the responsibility of the TfNSW.

Modification 7 to the Project Approval 08\_0144 for a change in mining method for longwall panels 201 and 202 to bord and pillar mining was approved on 23 November 2021. Schedule 4 Condition 25 requires at least 15 employees, calculated as a weekly average to be transported to and from site by shuttle bus, during the peak morning and evening traffic periods. To achieve this the Shuttle Bus Traffic Control Protocol was developed and approved by NSW DPE March 2022. Monitoring was conducted in accordance with the Shuttle Bus Traffic Control Protocol during the reporting period, with the overall daily average for shuttle bus usage equalling 18 employees.

## 6.9.3 Proposed Improvement Measures

During the 2022 Independent Environmental Audit (IEA), an observation that adherence with the shuttle bus protocol was not verified by onsite personnel. The development of a verification method will be developed and submitted for approval. The verification method will be implemented into operations during the next reporting period.



### 6.10 WASTE MANAGEMENT

## 6.10.1 Environmental Management

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

- Schedule 4, Condition 33 of PA 08\_0144;
- the Narrabri Mine Waste Management Plan (Waste MP) prepared to satisfy the requirements of PA 08 0144;
- the Pollution Incident Response Management Plan (PIRMP); and
- the legal and strategic framework for managing wastes in NSW.

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

#### 6.10.2 Environmental Performance

### Waste Streams

Inspections of waste management practices are carried out to ensure general, hydrocarbon and recyclable waste is segregated. Additional segregation of general waste occurs at the licenced contractor's facility to ensure the maximum amount of material can be recycled. Data on waste streams are collated using information provided by the licenced contractors. These records have been included in Figure 11 which shows waste stream volumes over a 5 year period. It should be noted that the licensed waste contractor changed halfway through 2018, which affected the availability of some waste records.

A total of approximately 1764 tonnes (t) of general waste was removed during the reporting period. These figures are comparable to the previous reporting period. Approximately 7 tonnes of cardboard/paper, 172 tonnes of timber and 859 tonnes of steel were recycled during the reporting period. Approximately 66,900 L of used oils were collected and recycled during the reporting period by an authorised contractor, which has increased from the previous reporting period.

Effluent from the sewage and ablutions facilities at the mine is managed through a Sewage Treatment Plant (STP) with a Continuous Extended Aeration Process. The plant is made up of a series of industrial plastic tanks. Each tank provides a separate function in order to treat the sewage for the required quality and quantity. During the STP process a waste product (sludge) is collected weekly and transported by a licensed contractor. During the reporting period a total of 687,100 L was collected and transported offsite, which is higher than previous reporting period quantities.

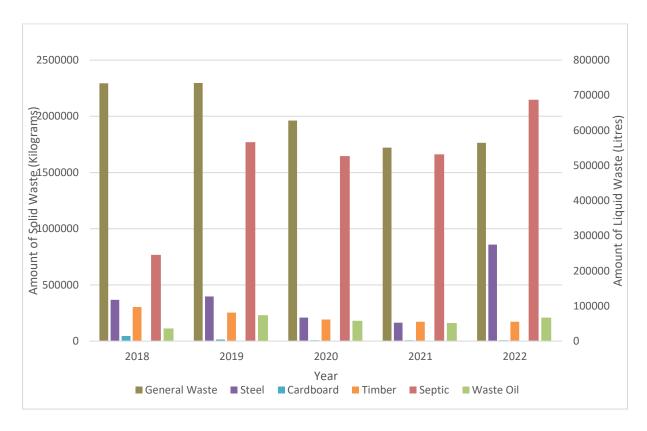


Figure 11: Comparison of waste streams over the previous 5 years

Drill cuttings from exploration, gas drainage and service borehole drilling are excavated from sumps and disposed of in the Rejects Emplacement Area as per site approval conditions.

#### Waste Incident

During the 2019 reporting period it was reported that an incident occurred involving the disposal of used underground self-rescuer emergency breathing canisters in to the General Waste stream at the mine which were subsequently disposed of into the Narrabri Landfill facility. The NSW EPA issued Narrabri Mine with several Clean-Up Notices during the 2019 reporting period. On the 2<sup>nd</sup> of June 2022, NCO provided a report to the EPA detailing the results of the leachate monitoring, and associated reports in response to Clean Up Notices #1593529 and #1597023. The EPA confirmed the requirements of the Clean Up Notices have been complied with and all clean up actions have been completed (dated 20 June 2022).

# 6.10.3 Proposed Improvement Measures

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

## 6.11 VISUAL & LIGHTING

### 6.11.1 Environmental Management

Visual amenity and lighting impacts associated with the Narrabri Mine are managed in accordance with Schedule 4, Conditions 28 and 29 of the PA 08\_0144 and the Statement of Commitments (SoC). As required by the SoC, the mine must not impact the Siding Springs Observatory, by following the Dark



Sky Planning Guideline. Various onsite measures have been implemented during previous reporting periods to mitigate visual impacts of the mine including (but not limited to):

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

#### 6.11.2 Environmental Performance

No direct community complaints were received during the reporting period relating to the visual amenity or lighting associated with the mine.

### 6.11.3 Proposed Improvement Measures

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

Management measures described above will continue to be implemented.

#### 6.12 BUSHFIRE

# 6.12.1 Environmental Management

Bushfire hazards and risks associated with the Narrabri Mine are managed in accordance with Schedule 5, Conditions 3 and 4 of PA 08\_0144, i.e. the Rehabilitation Management Plan (RMP) that forms part of the Landscape Management Plan (LMP). Various treatments have been implemented during the reporting period and previous periods to manage and control potential bushfire risks including:

- implementation of the Bushfire Prevention Standard and Bushfire Emergency Response Procedure:
- Supervisors providing bushfire ratings prior to contractors working on site and providing regular updates on bushfires nearby;
- implementing bushfire Trigger Action Plans (TARPs) and PIRMP;
- participation by Whitehaven Coal personnel in the Narrabri Rural Bushfire Brigade meetings;
- implementation of various bushfire hazard controls, including Hot Work areas/permits, the mine is a non-smoking site and maintenance of equipment/infrastructure;
- monitoring of fuel loads occurred in the Narrabri Mine offset area known as 'Kenna";
- implementing onsite training programs; and,
- maintenance of the roads and tracks within the Narrabri Mine ML was undertaken prior to the bushfire season. Roads and tracks can act as firebreaks and help to facilitate access across the site.

### 6.12.2 Environmental Performance

No bushfires occurred adjacent to or within the Narrabri Mine ML 1609 area during the reporting period.



Narrabri Mine have been in consultation with Forestry Corporation of NSW to undertake controlled hazard reduction burns in areas of Jacks Creek State Forest adjacent to the Western boundary of the Mine Lease. The burns were scheduled to occur during 2022, however, due to the high rainfall in the region from August to November, the burns have been delayed until an appropriate time can be determined.

### 6.12.3 Proposed Improvement Measures

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

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

## 6.13 MINE SUBSIDENCE

## 6.13.1 Environmental Management

During the reporting period longwall mining extracted panel 110. Underground development continued into longwall (LW) panels LW204 and the 200 Mains. The extraction height averaged 4.3 m and the depth of cover ranged between 250 m and 290 m.

### 6.13.1.1 Subsidence Monitoring

Subsidence monitoring was conducted in accordance with the approved Extraction Plan. Subsidence remained within predicted ranges for all matter except maximum compressive strain and maximum total tensile strain for 108 Line, and Maximum Subsidence in Line H (Table 16). Amendments to the Extraction Plan LW101-106 and LW107-LW110 were previously approved; the amendments included the removal of subsidence monitoring lines above LW106 and LW107

#### 6.13.2 Environmental Performance

# **Electricity Transmission Lines**

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

### **Telecommunications Infrastructure**

No telecommunications infrastructure exists within the Extraction Plan area for LW101 to LW110.

## **Public Roads**

The one public road within the mining area, known as Greylands Road, has been purchased by the mine and is no longer accessible to the public. Repairs required for traffic-ability for mine personnel are undertaken as required.

## **Land Surface**

One new subsidence related pond has been identified in LW110 during the reporting period. Subsidence monitoring has been undertaken in accordance with the Extraction Plan requirements, and the internal document 'Subsidence Management Procedure'. There have been rehabilitation activities of subsidence cracks across the active subsidence areas and previously subsided longwall panels.

An electronic GIS based monitoring platform for subsidence crack monitoring was implemented during the reporting period. It records the size and location of subsidence related cracking, rehabilitation records and inspection areas.



## **Buildings and Other Structures**

No buildings or sheds were undermined during the reporting period.

## **Water Storage Dams and Contour Banks**

A stock watering dam located on the northern section of LW110 was undermined during the reporting period. The dam is located within land owned by Narrabri Coal Operations and was monitored in accordance with the regime outlined in Extraction Plan 107-110 Appendix C Subsidence Monitoring Program. No subsidence related impacts were identified following monitoring.

### Fences and gates

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

#### Mine Infrastructure

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

### 6.13.2.1 Comparison against Predictions

Narrabri Mine has monitored the subsidence movement across the surface of LW 108, LW109, LW110, Line H and I in accordance with the approved Extraction Plans. The table below outlines the maximum subsidence parameters recorded as part of the subsidence monitoring program and a comparison with the maximum predicted subsidence parameters as outlined in the Extraction Plan. Subsidence prediction exceedances did not occur during the reporting period. The results are summarised below:

Summary of results for the most recently completed survey measurements indicate:

- The maximum subsidence measurement of Line H 2.55m was within the predicted value of 2.75m
- The maximum subsidence measurement of Line I 1.53m is within the predicted value of 2.75m
- The maximum tilt measurements recorded were within the predicted values.
- The maximum tensile and compressive strain measurements for LW108 exceeds predicted values. Line H measurements were within predicted values.

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

### 6.13.3 Proposed Improvement Measures

The integrated electronic GIS based monitoring platform for environmental monitoring, including subsidence crack monitoring was introduced during the previous reporting period. This system will continue to be refined during the next reporting period.



Table 16: Subsidence Parameters – Predicted and Measured

Longwall Panels (LW) 109				
	Maximum Predicted Extraction Plan	Maximum Measured		
Line 101 – Centre of LW101 – Monitoring h	Line 101 – Centre of LW101 – Monitoring has ceased			
Line 102 – Centre of LW102 – Monitoring h	nas ceased			
Line 103 – Centre of LW103 – Northern – I	Monitoring has ceased			
Line 103 – Centre of LW103 – Southern –	Monitoring has ceased			
Line 104 – Centre of LW104 – Northern – I	Monitoring has ceased			
Line 104 – Centre of LW104 – Southern –	Monitoring has ceased			
Line 105 – Centre of LW105 – Northern – I	Monitoring has ceased			
Line 105 – Centre of LW105 – Southern –	Monitoring has ceased			
Line 106 – Centre of LW106 – Northern – I	Being closed out			
Line 107 – Centre of LW107 – Northern – I	Monitoring has ceased			
Line 108 (measured 29/06/2022)				
Subsidence (m)	2.75	2.71		
Tilt (mm/m)	38	36.3		
Tensile Strain (mm/m)	10	16.2		
Compressive Strain (mm/m)	13	38.9		
Line 108 – Southern	Line 108 – Southern			
Line A - Cross Panel Survey Line - Being	closed out			
Line B – Pine Creek Tributary 1 – Monitorii	ng has ceased			
Line D – Pine Creek– Monitoring has ceas	ed			
Line E – Pine Creek Tributary 1 Crossline	1 – Monitoring has ceased			
Line F – Pine Creek Tributary 1 Crossline 2	2 – Monitoring has ceased			
Line G – Pine Creek Tributary 1 Crossline	3 – Monitoring has ceased			
Line H – Cross Panel Survey Line (measur	red 9/11/2022) (LW108-110)			
Subsidence (m)	2.75	2.55		
Tilt (mm/m)	53	31.80		
Tensile Strain (mm/m)	13 – 20^	17.5		
Compressive Strain (mm/m)	16 – 24^	18.3		
Line I – Cross Panel Survey Line (measured 10/10/2022)				
Subsidence (m)	2.75	1.53		
Tilt (mm/m)	53	11.1		
Tensile Strain (mm/m)	13 – 20^	6.1		
Compressive Strain (mm/m)	16 – 24^	4.9		



## 7 WATER MANAGEMENT

# 7.1 WATER SUPPLY

A pipeline from the Namoi River is the main source of raw water supply for the Narrabri Mine. Water from this pipeline can be taken from either the Namoi Alluvium or the Namoi River. Table 17**Error! Reference source not found.** summarises the water licences held by Narrabri Coal for mining purposes and water during the 2021/2022 water year (i.e. the 2022 financial year).



Table 17: Narrabri Mine Water Take

Water Access Licence	Water Sharing Plan	Water Source and Management Zone	Annual Use limit	Passive Take / Inflows	Water Take	Total Take
WAL 12833	Upper and Lower Namoi Groundwater Sources	Upper Namoi Zone 5 Namoi Valley (Gin's Leap to Narrabri) Groundwater Source	134 <sup>3</sup>		0	0
WAL 20131	Upper and Lower Namoi Groundwater Sources	Upper Namoi Zone 5 Namoi Valley (Gin's Leap to Narrabri) Groundwater Source	300 <sup>3</sup>	6 <sup>2</sup>	157	157
WAL 12822	Upper and Lower Namoi Groundwater Sources	Upper Namoi Zone 5 Namoi Valley (Gin's Leap to Narrabri) Groundwater Source	86 <sup>3</sup>		0	6
WAL15922	NSW Great Artesian Basin Groundwater Source	Southern Recharge Groundwater Source	322.4	21 <sup>1,2</sup>	0	21 <sup>1</sup>
WAL 29549	NSW Murray Darling Basin Porous Rock Groundwater Sources	Gunnedah – Oxley Basin MDB Groundwater Source	1,022.5	407	407	407
WAL43017	NSW Murray Darling Basin Porous Rock Groundwater Sources	Gunnedah – Oxley Basin MDB Groundwater Source	503.8	407	0	0
WAL 2671	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source	60		0	0
WAL 6762	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source (High security)	20	<b>7</b> <sup>2</sup>	0	7
WAL 2728	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source	12.5		0	0
WAL 20152	Upper Namoi and Lower Namoi Regulated River Water Sources	Lower Namoi Regulated River Water Source	750		116 <sup>4</sup>	68

<sup>&</sup>lt;sup>1</sup> Statement from NSW Water records 248 ML groundwater usage (total licenced units). No active pumping from Narrabri Mine was undertaken. The Predicted Peak Annual Inflow Volume during Mining from the 2020 NCO Groundwater Recalibration (AGE) modelled as 21 ML for the year. The 248ML has been included on WAL29549.

<sup>&</sup>lt;sup>2</sup> Predicted Peak Annual Inflow Volume during Mining, extracted from the 2020 NCO Groundwater Recalibration (AGE)

<sup>&</sup>lt;sup>3</sup> NRAR determined that the combined Annual Use Limit from the Namoi Groundwater Work Approval (WA) was determined to be 400ML in August 2020.

<sup>&</sup>lt;sup>4</sup>Water Order debits for WAL20152 totalled 116ML, actual water extraction was 68ML. WAL6762 water order debits was 0ML, total extraction was 0ML and reported Total Take includes Passive Take/Inflow equalled 7ML.



### 7.2 SURFACE WATER MANAGEMENT

### 7.2.1 Environmental Management

The Narrabri Mine water management system is managed in accordance with:

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

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

- Separation of clean water, i.e. surface water runoff where water quality is not affected by mining operations, utilizing clean water diversion drains;
- Collection of water from disturbed areas in sediment control dams, i.e. SD1- SD8;
- Containment of water potentially affected by coal or other substances and stored within HDPE lined ponds, e.g. hydrocarbons, either from the underground operation or as runoff from the surface facilities/coal processing area, i.e. SB1-SB4;
- The use of appropriate erosion and sediment controls, including silt fences, rock checks and other measures as required;
- No uncontrolled discharge of mine water off-site;
- Increased capacity of water treatment plants to reduce increased levels of stored mine process water captured as a result of the above average rainfall recorded during the reporting period;
- Engaged suitably qualified experts to design additional brine storage dam;
- Updated the site water balance model to ensure on-site water demands are satisfied whilst minimising offsite water impacts; and
- Regular sampling and inspections of the onsite and surrounding surface water system. Surface water monitoring locations are illustrated on Figure 3.

## 7.2.2 Environmental Performance

# Surface Water Quality

Narrabri Mine undertakes a surface water monitoring program which includes water pumped from the underground workings. The results of the water quality sampling conducted during the reporting are shown in Appendix D and F, refer to results for the 'Box Cut' sampling location for water pumped from the underground workings. All water contained within the rail loop dam complex and sediment basins (SB1-4) are contained in HDPE lined ponds and either processed via a Reverse Osmosis treatment plant or reused in operational areas of the mine. The additional hire RO treatment plant, which was commissioned in November 2021 to assist with treating an increased amount of water from excess runoff received throughout the year, continued to be used in 2022. The subsequent brine produced from the RO plant is stored in HDPE lined dams within the rail loop.

### Wet Weather Discharge Monitoring

Routine surface water monitoring undertaken around the site includes sediment dam discharges and upstream and downstream locations within the approved ML 1609 were sampled when flowing, for pH, Electrical Conductivity (EC), Oil & Grease (O&G) and Total Suspended Solids (TSS).

Controlled discharges were undertaken during the months August to November from EPL locations SD2, SD4 and SD7. The discharge events were in response to significant rainfall with the monthly totals



from the onsite meteorological station recording 114.4, 190.4, 172.4, and 111 millimetres respectively. Table 13 contains the full meteorological summary for the reporting period. There was a total of 18 discharge events during the reporting period.

During discharge events the sediment dams and streams were monitored according to discharge criteria limits and timings outlined within EPL 12789. Surface water results for pH, electrical conductivity, oil and grease and total suspended solids from discharge events are included in Appendix D and in Table 18 below. Results from the discharge samples are also reported to the NSW EPA in the Annual Return. All wet weather discharges were within EPL12789 criteria.

Table 18: Controlled Discharge Monitoring

Location Date		5 day Rolling Rainfall Total (mL)	pH (field)	Oil and Grease (mg/L)	Total Suspended Solids (mg/L)
	EPL Criteria	n/a	6.5 - 8.5	10	50*
	25-Aug-22	2	7.88	<5	<5
	30-Aug-22	1	8.04	<5	<5
SD2	16-Sep-22	71.8	7.75	<b>&lt;</b> 5	18
302	21-Oct-22	120.6	8.25	<5	128
	01-Nov-22	50.8	7.43	<5	176
	14-Nov-22	61	8.23	<5	64
	30-Aug-22	1	8.28	<5	19
	05-Sep-22	39	8.44	<5	27
SD4	16-Sep-22	71.8	8.36	<5	225
304	21-Oct-22	120.6	7.92	<5	53
	01-Nov-22	50.8	8.07	<5	122
	14-Nov-22	61	8.32	<5	421
	16-Sep-22	71.8	7.93	<5	1730
	22-Sep-22	48.6	8.31	<5	1040
SD7	09-Oct-22	43.6	8.50	<5	953
307	21-Oct-22	120.6	8.43	<5	4480
	01-Nov-22	50.8	8.2	<5	3700
	14-Nov-22	61	7.51	<5	595

\*as per EPL12789 L2.5 (a), TSS concentration limits are permitted to be exceeded for water discharged following rainfall measured at the premises that exceeds 38.4mm over any consecutive 5 day period

No raffinate was discharged to Namoi River during the reporting period. Development of the Raffinate Discharge Control and Monitoring Plan was commenced during the reporting period however ground water modelling and operational requirements meant that NCO were not faced with a need to discharge raffinate to the Namoi River. Investigations into methods for raffinate discharge will continue into the next reporting period.



## Subsidence Surface Water Impacts

Refer to Section 6.6.2.1 (Subsidence Pond Monitoring) of this report. Results of the subsidence ponding water quality sampling conducted during the reporting period are shown in Appendix G.

## Brine Management

The Narrabri Mine Water Balance Model was updated during 2021, identifying the requirement to have additional brine storage capacity onsite. The site for this new facility was presented in the previously approved Mining Operations Plan (MOP) 2021–2023 Amendment B, showing the location north of the existing Rail Loop Dams. The new dam will be connected to the existing infrastructure through a pipeline which will be installed underneath Kurrajong Creek. Construction of the new brine dam commenced in mid-2022 with completion expected to be in Quarter 2 of 2023.

Evaporator fans were used throughout the reporting period in an effort to enhance evaporation during a year where above average rainfall was received onsite. A weather station was installed at the power source for these evaporation fans to allow for them to be automatically shut down during unfavourable conditions, using wind speeds as the trigger.

# 7.2.3 Proposed Improvement Measures

The planned improvements for the next reporting period will be to complete the construction of the additional brine storage dam and associated sediment dam.

#### 7.3 GROUNDWATER

## 7.3.1 Groundwater Monitoring

Groundwater at the Narrabri Mine is managed in accordance with the WMP prepared to satisfy the requirements of the PA 08\_0144. Currently groundwater monitoring is conducted at sites located within and surrounding the mine as illustrated on Figure 3 and as outlined in Table 19.

Table 19: Groundwater Monitoring Summary

Location	Parameters	Frequency
All Standpipes	Water level	Monthly (water level, pH and
P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11,	EC	EC)
P12, P13, P16, P17, P19, P28, P29, P30, P31,	pН	Quarterly for P28-34 and P58
P32, P33, P34, P58, P39a, P39b, P43, P47,	TDS	(water Level, pH, EC, cations
P51, P52, P53, P58, WB2, WB3a, WB3b,	Metals	and anions)
WB4, WB5a, WB5b, WB6a, WB6b, and WB7	Anions and Cations	
		Annually (full water quality)
Vibrating Wire Piezometers	Water pressure (level)	Daily (Data Logger)
P40, P42, P44, P45, P46, P48, P54, P55 and P56		
Mine water pumped into and out of the mine	EC	
(Box Cut)	pН	Monthly (full water quality and
	TDS	flow)
	Metals	
	Anion and Cations	
	Flow	



## 7.3.2 Environmental Performance

### Annual Hydrogeological Review

An annual hydrogeological review was undertaken by Australasian Groundwater and Environmental Consultants (AGE) Pty Ltd for the period 1 January 2022 to 31 December 2022. The results of the review are summarised below. Groundwater monitoring results for this reporting period are provided in Appendix E as required by the WMP.

#### **Groundwater Levels**

Rainfall patterns over the past few years have been highly variable with an extended below average rainfall period occurring from early 2017 through to early 2020 followed by above average rainfall in 2020 to 2022. These climatic conditions are the primary driver to impacts in the alluvium bores.

Monitoring bore P9, which is installed in the Purlawaugh Formation and located near the central mains on longwall 203, was impacted by the progression of mining towards the bore in 2015. Since then, groundwater levels have been steadily declining. The groundwater level in P9 is above the modelled maximum predicted drawdown level by approximately 2 m.

Monitoring bores P11 and P16, screened in the Purlawaugh Formation and the Garrawilla Volcanics respectively, have been impacted by mining. No recovery of groundwater level has occurred during the above average periods of rainfall recorded in 2020 to 2022 and the consistent decline in P11 began at the start of operations on LW103. Groundwater levels at P11, which is located at the southern edge of longwall 206, remains 13 m above maximum predicted drawdown level. The groundwater level in P16, which is located on the western edge of longwall 111, is currently approximately 12 m below maximum predicted drawdown level.

It's worth mentioning that groundwater levels in monitoring bores outside the mine lease (i.e., P1 - P7) show no impacts of mining activities.

Groundwater monitoring bores installed near the rail loop and reject emplacement area all experienced fluctuations resulting in a correlation to the above average rainfall recorded between 2020 and 2022.

### **Groundwater Quality**

pH has exceeded the 97.5th percentile at sites that have recorded more than 18 data points above the limit of detection (P12, P16, P19, P8, P9 and WB7). It's important to note that all of the bores that have exceeded the 97.5th percentile, pH is within the ANZECC (2000) guidelines for stock watering and irrigation, which is a range between 6.0 and 8.5. Updated trigger values will be prepared and presented as part of the Stage 3 Groundwater Management Plan (Whitehaven, 20221) which will provide more accurate and robust trigger values for pH.

Electrical conductivity (EC) is an important analyte used to assess trends and potential unexpected impacts on the groundwater environment. It is acknowledged that with the implementation of the Stage 3 Groundwater Management Plan later in 2023, the TARP will provide a more robust statistical method of analysis for trigger levels of specific water quality parameters. In 2022 the most significant increases in EC were observed in bores P10 and P19. Pumps were installed in monitoring bores P10 and P19 following an earlier recommendation to review sample collection methods and it appears that a more appropriate purging method during sampling is responsible for these changes. Historical data collected from P10 and P19 prior to the pumps being installed was clearly not well understood, and the elevated EC levels being recorded at each bore since the new pumps were installed is representative of aquifer conditions.

<sup>&</sup>lt;sup>1</sup> The GWMP developed for the Stage 3, was submitted to NSW DPE-Water in late 2022 and is still under review and pending approval.



There were six additional monitoring bores in the Purlawaugh Formation (P8, P9 and P11), Garrawilla Volcanics (P16) and the Napperby Formation (P29 and P4) that recorded elevated EC values, i.e., above the 97.5th percentile, with an increasing trend forming. These monitoring bores will need to be monitored closely during the next reporting period when they have a more appropriate, statistically robust trigger value established.

Rail loop monitoring bores P29, P34 and P58 all recorded EC above the 97.5th percentile trigger with an increasing upward trend, as did monitoring bores P51 and P53 at the reject emplacement area. Monitoring bores P30 and P31 also exceeded the trigger value. The EC trigger value for these bores require a review with a more appropriate, statistically robust trigger value. In the case of P51 and P53, the EC is increasing which may be influenced by non-climatic factors, whereas the remaining bores could be experiencing elevated EC due to the above average rainfall and recharge experienced between 2020 and 2022.

A number of bores reported exceeding the 97.5<sup>th</sup> percentile trigger for dissolved metals and to a lesser degree nutrients and major anions and cations in 2022. These exceedances occurred in bores screened in the alluvium, Purlawaugh Formation, Garrawilla Volcanics and the Napperby Formation all of which had groundwater level responses to the above average rainfall observed between 2020 and 2022 indicating the exceedances may be linked to groundwater recharge after a period of below average rainfall. There were also observable upward trends in a small sub-set of these bores that will need to be fully understood, which will occur when the analysis for the new trigger exceedance methodology is released in the Stage 3 GWMP due in 2023.

## Rail loop seepage detection

Generally speaking, water levels measured in the vibrating wire piezometers at Narrabri Mine were stable throughout 2022. Water levels in the Digby Formation are declining and appear to be influenced by mining. The water levels in the Napperby formation, measured in VWPs P46, P54 and P56, have been recovering and all increased in pressure during the period of reporting. Data collected in the Napperby formation has either remained steady or recovered slightly. The Hoskissons coal seam measured at P55 declined by approximately 1.5 m during 2022 as a result of mining activities.

Data collected at P56 seems to have been compromised in December 2020. The sensors collecting data in the Pamboola Formation malfunctioned and either stopped working or started recording conflicting data compared to pre-December 2020. This data should be used with caution. The data collected in the Watermark Formation at P46, the Porcupine Formation P45 and the Digby Formation at P42 and P55 is erratic and may be due to a sensor malfunction.

### Compensatory Water Supply

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

## 7.3.3 Proposed Improvement Measures

In June 2022, NCO commissioned Australasian Groundwater and Environmental (AGE) to undertake a full re-calibration of the Groundwater Model. This recalibration will draw on updated groundwater level datasets for the entire site monitoring network. Once a satisfactory calibration has been achieved, the predicted simulations will then be rerun to generate revised predictions of drawdown and other impacts. Revised drawdown trigger levels will be incorporated into the site groundwater monitoring program.



### 7.4 SITE WATER BALANCE

#### Surface water

Table 20 presents an estimate of the volume of stored water at the beginning and end of the reporting period (i.e. calendar year). Narrabri Coal pumped 200ML into Dam D from Namoi Alluvium or the Namoi River water sources via approved Water Access Licences during the reporting period (i.e. calendar year). Narrabri Coal also utilised water from sediment basins for mine supply.

Table 20: Stored Water

	Volumes I	Capacity at the end		
	Start of Reporting Period	At end of Reporting Period	of the Reporting Period (ML)	
Raw Water (Dam D and B1 in Rail loop)	64.1	95.6	79.3	
Dirty Water (in Sediment Dams and Basins SD1-SD8 and SB1-SB4)	99.5	91.0	102.98	
Rail Loop Dams (A1-A3, B2 and C)	506.2	490.3	77.5	
* Additional 40ML of storage in containment bund in rail loop.				

#### **Groundwater Inflows**

The annual groundwater inflow to the workings has been less than the water use limits of WAL29549 (nominated works 90WA822539) of 818ML/year. In accordance with future impact predictions associated with the groundwater assessment, additional allocation was sought through a controlled action in 2019 for an additional 403 units. The WAL43017 (403 units) was issued in November 2019. The annual inflow that was predicted to be extracted from mining activities from the recalibrated groundwater model during 2021 was 813ML. The pumped volume from the box cut was 436ML during 2021 and 513ML for the reporting period. The modelled predicted groundwater inflows for 2022 predicted groundwater inflows at 2.5 ML/day (or 927 ML/year). The results for the 2021-2022 groundwater inflows are significantly lower than predicted at 0.3 ML/day (or 107 ML/yr).

The calculated water take utilising inputs and losses of water within the mine are represented by the waterfall chart below (Figure 12).

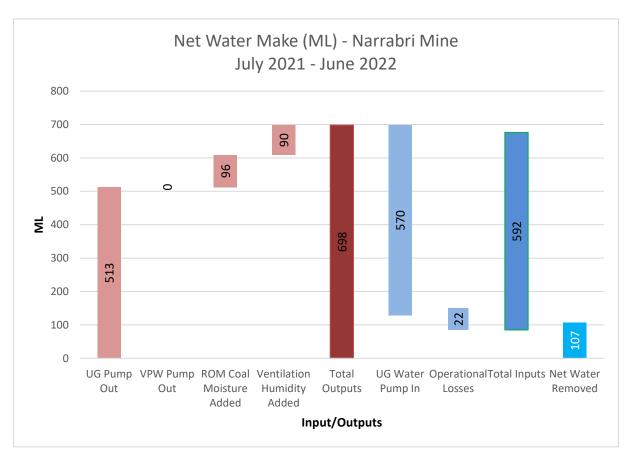


Figure 12: Waterfall Chart: Water Inputs/Outputs for 2022 water year (financial year).

## **8 REHABILITATION**

A Rehabilitation Management Plan (RMP) was prepared 1 August 2022 in accordance with Clause 9 of Schedule 8A to the NSW Mining Regulation 2016. The RMP addresses the rehabilitation objectives for the Narrabri Mine as described in Schedule 5, Conditions 1 to 4 of PA 08\_0144.

The RMP summarises the key elements for rehabilitation as well as providing a description of activities and mine landforms. As required by the Mining Regulation 2016, an Annual Rehabilitation Report and Forward Program (ARRFP) has been prepared and has been provided in **Error! Reference source not found.**. The ARRFP is required to be submitted on the NSW Resources Regulator Portal to highlight how key elements of the RMP are implemented.

The following section provides an overview of the rehabilitation practices that were conducted during the reporting period, consistent with the ARRFP.

### 8.1 REHABILITATION PERFORMANCE DURING THE REPORTING PERIOD

## 8.1.1 Status of Mining and Rehabilitation

Rehabilitation activities were undertaken over the disturbed areas above LW108-110 during the reporting period, with approximately 20 hectares progressed to Active Rehabilitation. Rehabilitation activities undertaken during the reporting period included: decommissioning drill holes; filling in sumps



associated with drilling activities; grading landforms and re-spreading topsoil/subsoil and weed management.

### 8.1.2 Post Rehabilitation Land Uses

The rehabilitation completion criteria is consistent with the description in the Rehabilitation Management Plan (RMP). The area in the west of ML1609 will be returned to native woodland and the area in the east of the ML will be returned to the relevant land capability class.

### 8.1.3 Rehabilitation Performance Indicators

Table 21 summarises the rehabilitation status for the Narrabri Mine, also refer to Figure 13 and Figure 14. Note that areas for each 'Main Area Type' have been reported to align with definitions in the *Annual Review Guideline* (DP&E 2015).

Table 21: Rehabilitation Status

Mine Area Type	Previous Reporting Period (2020)	This Reporting Period (31/12/2022-Actual)	Next Reporting Period 2023 (Forecast)
A. Total mine footprint	416	449	460
B. Total active disturbance	262	278	265
C. Land being prepared for rehabilitation	31	28	40
D. Land under active rehabilitation	123	143	155
E. Completed rehabilitation	0	0	0



## 8.1.4 Decommissioning and Demolition Activities

No decommissioning activities were undertaken during the reporting period outside of the reclaiming of gas drainage infrastructure, which is re-used where possible.

### 8.1.5 Other Rehabilitation Activities

Narrabri Coal Operations (NCO) Pty Ltd operates a groundwater monitoring network in accordance with a water management plan (WMP) under project approval PA08\_0144. The groundwater monitoring network is reviewed and revised as mining progresses and some of the network becomes obsolete once mining progresses through the area. Table 22 shows a list of monitoring bores that have become obsolete due to mine progression. The monitoring bores have been sealed with cement grout and decommissioned in accordance with the requirements within 'minimum construction requirements for water bores in Australia'. NCO have commenced the process to seek relinquishment for these locations, which is expected to be completed in the next reporting period.

Narrabri Coal Groundwater Bore Easting **Northing** Elevation Screen Grouted to ID licence ID (mAHD) surface Works **Depth** Number P14 72-78 GW968637 90BL254661 775221 6622816 277.41 YES P15 GW968638 90BL254961 24-30 YES 775221 6622818 277.41 P18 90BL254662 776826 6621802 270.9 143-146 YES 90BL254964 159-162 P20 GW968643 776482 6621837 272.94 YES P21 90BL254965 GW969508 776851 6620363 275 160 YES P22 GW969509 90BL254966 776744.9 6620406 274.12 165 YES P23(NC175CR) GW969510 90BL254967 776226.1 6620693 286.04 188 YES P24(NC179) 90BL254701 776674.9 277.60 180 GW969642 6621043 YES P25 GW969661 90BL255167 776702.5 6620327 270 165 YES P26 GW969973 90BL255168 776537.1 6620528 275.41 176 YES P27 GW969974 90BL255169 776539.6 6620485 275.35 176 YES 90BL255769 P35 GW969937 776429.5 6620348 278.71 173 YES GW969936 90BL255770 P36 776329.4 6620442 281.5 176 YES P37 GW969934 90BL255771 776474.1 6620492 277.38 177 YES P38 GW969933 90BL255772 776385.1 6621640 274.16 153.5 YES P40 90BL256064 772814.7 6620823 321.22 360 YES 90BL256293 P48 775295.7 6623039 YES 276.00 194.5 P50 90BL256289 775724.6 6620655 15-60 YES P57 90BL256042 773895.5 6624092 302.81 180 YES

Table 22 Decommissioned monitoring bores

### 8.1.6 Departmental Sign-off of Rehabilitated Areas

Departmental sign-off was not requested during the reporting period.

# 8.1.7 Variations in Activities against MOP/RMP

Narrabri Mine prepared a Mining Operations Plan to cover the period 01 December 2020 to 31 December 2023. The latest MOP Amendment (B) was approved 16 May 2022 to incorporate the:

- construction and operation of a new Brine Dam north-west of the existing pit-top surface water infrastructure;
- construction of a ventilation fan pad in the south-eastern area of ML1609;
- lengthening and widening an existing access track; and



widening an existing access track.

The MOP was superseded by a Rehabilitation Management Plan (RMP) and Forward Program from 1 August 2022 in accordance with Clause 9 of Schedule 8A to the NSW Mining Regulation 2016. The RMP and Forward Program addresses the rehabilitation objectives for the Narrabri Mine as described in Schedule 5, Conditions 1 to 4 of PA 08 0144.

Rehabilitation activities scheduled for the Reject Emplacement Area (REA) during the reporting period were unable to be completed, due to ongoing consultation with the Resources Regulator and subsequent changes to the landform design to incorporate elements of geomorphic design. This design is now finalised and will be incorporated onsite during the next reporting period.

### 8.1.8 Monitoring

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

## 8.1.9 Trials, Research Projects and Initiatives

During the reporting period Narrabri engaged specialist consultants to assist with the implementation of an electronic GIS based monitoring platform. The system has been built and is currently being tested and refined. Testing is expected to continue throughout the reporting period prior to transitioning to the online GIS program.

## 8.1.10 Key Issues to Achieving Successful Rehabilitation

The key issues to achieving successful rehabilitation include:

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

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

## 8.2 ACTIONS FOR THE NEXT REPORTING PERIOD

Work will continue to progress on removing houses and associated infrastructure on mine-owned land that are no longer required or that have been affected by subsidence. Asbestos assessments have been completed in the reporting period and now an appropriately licenced contractor is being sought to complete the remainder of these works.



Weed and pest animal control programs and monitoring will continue.

The rehabilitation actions for the next reporting period are detailed in the RMP Forward Program, which covers the next three calendar years. Narrabri Mine are amending the Rehabilitation Management Plan to ensure compliance with the new rehabilitation conditions required by the rehabilitation reform amendments to the *Mining Act 1992*.

Staged rehabilitation of the REA will progress following acceptance of the revised Rejects Emplacement Area Capping Assessment and Closure Design, which incorporates aspects of geomorphic design.

# 8.2.1 Proposed Research and Rehabilitation for 2023

An integrated electronic GIS based monitoring platform was proposed in the 2021 Annual Review. This project was originally delayed to ensure that NSW mining lease rehabilitation reforms were captured within this program. This application has been introduced onsite in sections, which deal with different aspects of environmental management onsite (i.e. subsidence crack monitoring and rehabilitation forms one component). In the 2023 reporting period, it is proposed that a Permit to Work (PTW) component be introduced onsite to be operated alongside the current paper-based format for the PTW. This method will be used to identify any issues or additional resources that will be required to introduce the electronic format, with the main objective being that the electronic GIS based format will take over as the sole system for PTW's.

The PTW system is a structured form that is required to be completed and signed by the relevant positions within the mine, prior to conducting any clearance or excavation works. This process requires an environmental constraints assessment which includes capturing the amount and type of vegetation that is to be cleared. By using an electronic format, it is expected that capturing rehabilitated areas will be made more efficient.

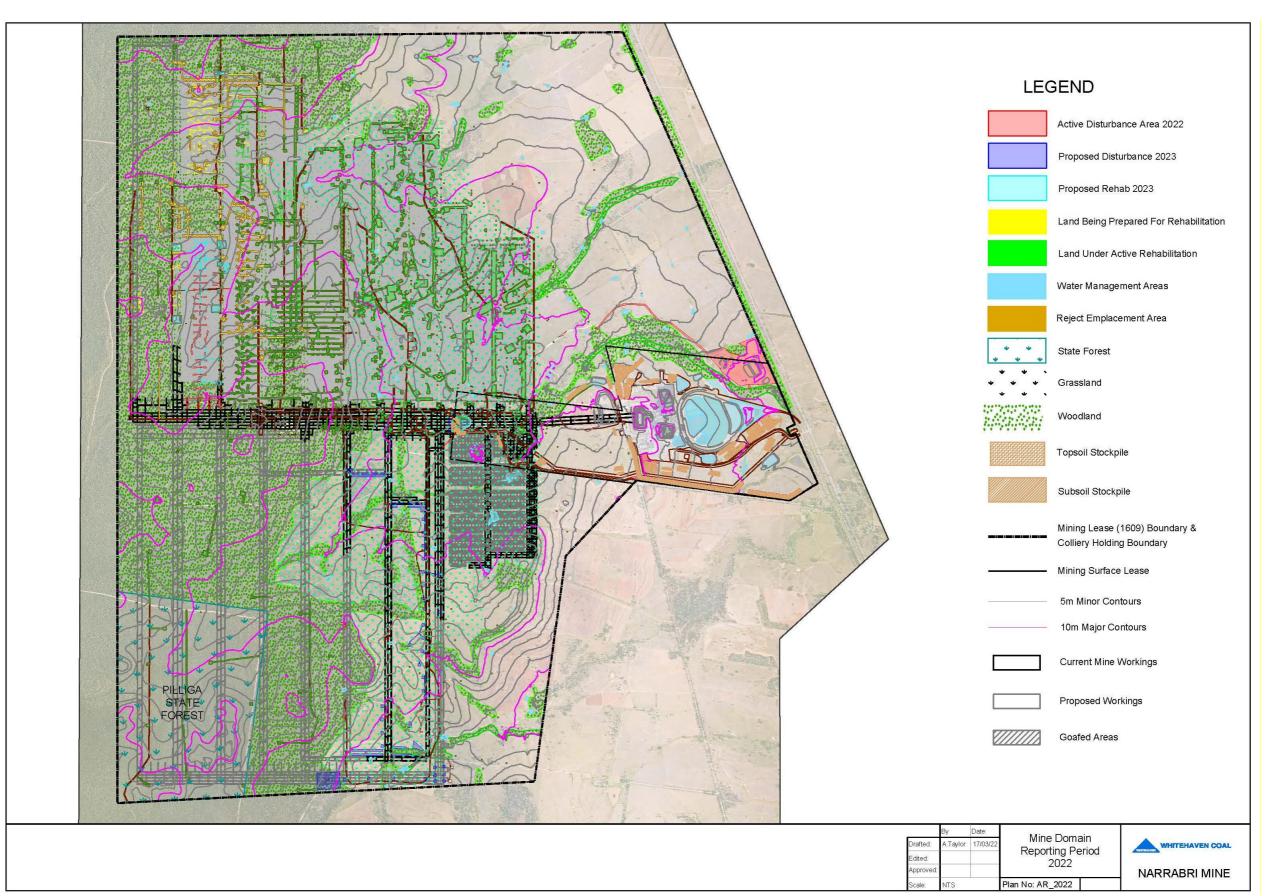


Figure 13: Mine Domains Reporting Period 2022

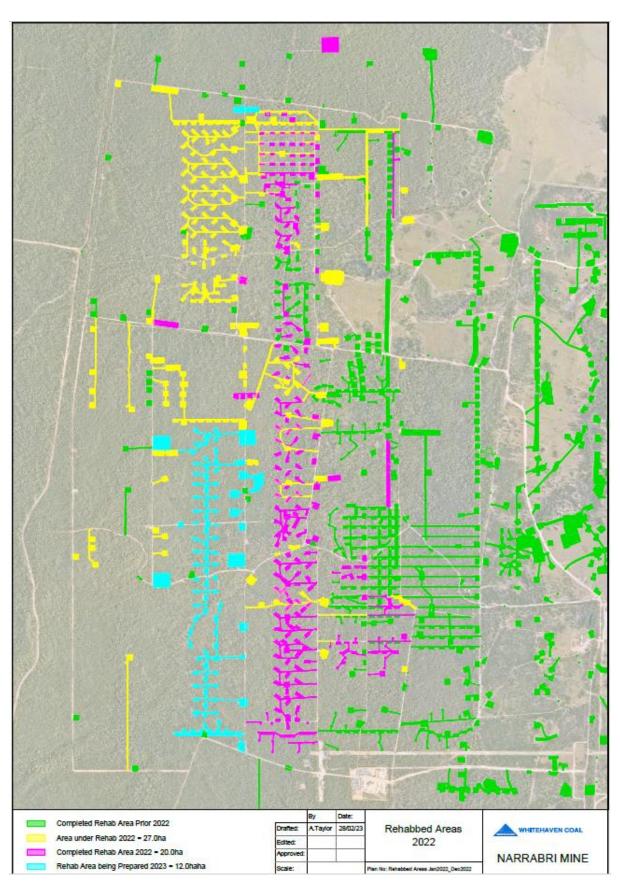


Figure 14 Rehabilitated Areas, Reporting Period 2022



#### 9 COMMUNITY

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

### 9.1 COMMUNITY ENGAGEMENT ACTIVITIES

In accordance with Schedule 6, Condition 9 of PA 08\_0144, a Community Consultative Committee (CCC) has been formed and operating since 2008. The committee comprises representatives of Narrabri Shire Council, Narrabri Mine and the community. Since its inception, the CCC has met quarterly. The CCC met four times during the reporting period on the 16 March 2022, the 15 June 2022, the 21 September 2022 and the 7 December 2022.

Narrabri Mine representatives continue to maintain contact with neighbours near the mine site. These contacts not only provide a means of information dissemination, but also enable Narrabri Mine to ascertain and address any potential concerns.

In addition, information relating to the mine is available: on the Whitehaven Coal website; the annual sustainability report; and at consultation meetings as required with neighbours and a range of stakeholders including government and non-government agencies. Whitehaven Coal meets regularly with the Narrabri Shire Council and is a regular attendee at the Narrabri and Boggabri Business Chamber meetings.

#### 9.2 COMMUNITY CONTRIBUTIONS & INITIATIVES

As well as attending functions, WHC and Narrabri Mine also contributed to the community by providing over \$135,00 in financial support to the Narrabri community and sponsorship to various community events and initiatives during the reporting period, these included:

2022 Annual Presentation Night

Advertising in the Boggabri Weekly

Assistance to cover daily operation expenses

Assistance to help high school students further their education

Attract Connect Stay Narrabri Group

Carols in the Park

Costs of installation of new electronic scoreboard

Donation to help run race meeting

Donation towards the cost of office & kitchen equipment

Funding Costs to hold the 2022 Science and Engineering Challenge

Funding for more sports equipment

Future EDU Community Group

Gomeroi Narrabri People Ltd

Namoi Gwydir Mining Industry Fire Safety Meeting

Narrabri and Boggabri Business Chamber meetings and Chamber Awards

Narrabri Childcare Focus Group

Narrabri Council regular meetings

Narrabri Create Festival

Narrabri GP Workforce group

Narrabri LALC NAIDOC Week 2022

Narrabri Native Grains Project

Narrabri SAP meetings



Narrabri town street Christmas party

New Trailer & dolly to move boat around the local water ways

**NIN Gala Evening** 

NIN Gold Membership Level

Pink up Narrabri

Platinum Sponsorship of 2022 Narrabri Show

Purchased 10 new student laptops and charging station

Purchase a new keyboard and licenced music sheets

purchase more resources for the kids

Repairs to the hall to keep the club running

Replacement of the fort

Send players on a South Sydney Trip

Sponsorship for Create 2022

Sponsorship for 2022 season

Sponsorship for Create 2023

Sponsorship for the 2023 Drovers Campfire

Sponsorship for the B to B Bash 2022

Sponsorship Lucas Summers Lawler for NW Primary Boys Softball

Sponsorship of 2022 Camp Draft

Sponsorship of event

Sponsorship seed funding to establish and innovation hub in Narrabri

Upgrade a new food safe BBQ trailer

### 9.3 COMMUNITY COMPLAINTS

Narrabri Mine maintains a designated complaints line. In the event of a complaint, details pertaining to the complainant, complaint and action taken are recorded on a complaint register. The complaints register is available on the Whitehaven Coal website.

During the reporting period, no complaints were made to the mine.

### 9.3.1 Complaint Trends

No complaints were received during the reporting period which is a decrease from the one complaint received in the 2021 annual review period (Figure 15).

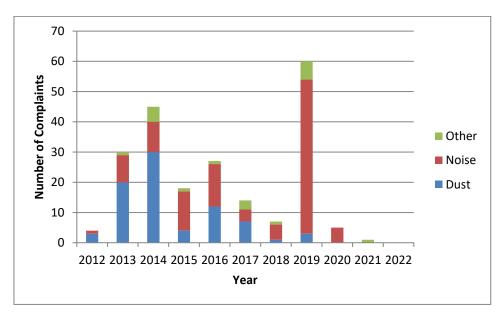


Figure 15: Complaints Trend since commencement of operations

### 9.4 ACTIONS & PROPOSED IMPROVEMENTS

Narrabri Mine is exploring opportunities with Narrabri Council for additional accommodation within the shire. Narrabri Mine will also continue to continue meeting with Council and the Narrabri Business Chamber regularly and support the Narrabri Shire Community through the Community Investment Committee.

### 10 INDEPENDENT AUDIT

#### 10.1 INDEPENDENT ENVIRONMENTAL AUDIT

During the reporting period, a 3-yearly Independent Environmental Audit (IEA) was conducted in accordance with PA08\_0144 Schedule 6 Condition 7. The IEA covered the period from the 5 December 2019 to 8 December 2022. Four (4) non-compliances were identified (one duplicate) against conditions of consent and one (1) non-compliance against the implementation of plans. Table 23 summarises the non-compliances and relevant recommendations from the auditor.

In accordance with Schedule 6, Condition 7 of PA 08\_0144, the next IEA will be commissioned by 13 September 2025. The full 2022 IEA Report and NCO's Response Action Plan (RAP) are available on the Whitehaven Coal (Narrabri Mine) website.



Table 23: 2022 Independent Environmental Audit (IEA) – non-conformance actions summary

Plan	Condition	Response/Action	Status
PA08_0144	Sched 4, Cond 1	Reported NC (duplicate). The mine will continue to implement the Noise Management Plan (NMP). Improvement opportunities will be	Complete
EPL12789	L4.1	reported on in the relevant Annual Review.	
PA08_0144	Sched 4, Cond 30	It is recommended the Energy Savings Action Plan (ESAP) is reviewed and updated to consider actual production data since 2013 and work currently underway to review GHG emissions.	31 March 2023
PA08_0144	Sched 6, Cond 4	Reported NC. NCO will update the Groundwater Management Plan (GWMP) in accordance with updated predictions following recalibration of the Groundwater Model.	28 April 2023
SOC	9.18	NCO will update the Aboriginal Cultural Heritage Management Plan (ACHMP) Training Package and revise training schedules.	28 April 2023



### 11 INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD

#### 11.1 NON-COMPLIANCES

The compliance status of the Narrabri Mine against relevant approvals during the reporting period was assessed in Section 1 as at the end of the reporting period (i.e. 31 December 2022). Further details of any non-compliance and actions undertaken or proposed for the following reporting period is summarised in Table 24.

**Date Due Date** Non - Compliance Cause **Action Plan** An incident was not 5 July 2022 A standing water level Completed. To ensure exceedances reported to NSW DPE (SWL) triggering are reported to the notification to NSW DPE as soon as possible or regulator as soon as in the form of a report (as an incident) was possible. NCO has 7-days recorded 5 July 2022. In within included trigger levels becoming aware of the accordance with the on each field monitoring incident. trigger action response sheet. This includes a plan (TARP) a consulting prompt to notify the company confirmed the Environmental exceedance Superintendent. September 2022. NCO informed NSW DPE of the incident in a detailed report 9 September 2022 via the Major Projects Portal.

Table 24: Non-Compliance Details and Proposed Action Plan

### 11.2 REPORTABLE INCIDENTS OR EXCEEDANCES

The standing water level (SWL) at groundwater monitoring location P16 exceeded the groundwater drawdown trigger as outlined in the Narrabri Mine Water Management Plan (WMP), classifying as an Incident under the Project Approval 08\_0144 definition (exceeds a performance measure).

As per the WMP TARP, NCO engaged a consulting hydrogeologist to review the field data to validate that the drawdown trigger level had been exceeded, and to conduct an investigation and report on any identified changes / likely causes and provide recommendations for contingency responses (if any).

The investigation determined that no immediate mitigation was required due to the isolated nature of the occurrence at P16. NCO had commissioned a consulting hydrogeologist company to undertake a full re-calibration of the Groundwater Model, which will draw on updated groundwater level data sets for the entire site monitoring network. Revised drawdown trigger levels will be incorporated into the site groundwater monitoring program. NCO will continue to monitor groundwater at P16 and other bores in the monitoring network in accordance with the Water Management Plan.

#### 11.3 REGULATORY ACTIONS

No regulatory actions were received during the reporting period.



#### 12 ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

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

- Subsidence Pond management- an engineering study into geomorphic design options that
  would enable the subsidence pond areas to freely drain in a safe and stable way was completed
  in the 2022 reporting period. An assessment into the most appropriate option will be completed
  and implementation will commence in the 2023 reporting period;
- Earthworks from the revised geomorphic design Reject Emplacement Area Capping Assessment and Closure Design (ATC Williams 2020) will be implemented onsite;
- Construction of the additional brine storage dam will be completed and commissioned in accordance with the relevant statutory requirements;
- Continue the weed and feral animal control programs and subsequent monitoring.
- Further actions will be undertaken to establish an improved GIS based monitoring platform for environmental monitoring, including the addition of an electronic Permit to Work (PTW) system;
- The ACH fencing improvement program will continue around all registered ACH sites;
- Review and revision of various Environmental Management Plans;
- Seeking approval to relevant approval modifications or amendments.
- Continued community liaison and engagement with local stakeholders.



## Appendix A - Flora Species List

-			S-1	S-2	1-G	1-G	ROV-2-G	3-G	ROV-4-G	5-G	ROV-6-D	ROV-7-D	ROV-8-D	0-6	0	2	Rep	ж	Rep	9	Rep	S-19-Rep		-1-6	Grand
			AMBS-1	AMBS-2	GRY-1-G	ROV-1-G	\ <u>`</u>	ROV-3-G	\ <u>`</u>	ROV-5-G	-\f	 C	\rightarrow \frac{7}{2}	ROV-9-D	S-10	S-12	S-12-Rep	S-13	S-13-Rep	<b>S-16</b>	S-16-Rep	19-	S-5	WEH-1-0	Total
Scientific Name	Common Name	Native/Exotic	⋖	⋖	ū	ž	ž	×	ž	ž	ž	ž	ž	ž			-S		Ÿ	ļ	Ÿ	-S	lacksquare	>	
Abutilon oxycarpum	Straggly Lantern-bush	native			<u> </u>									-									$\vdash \vdash$		6
Abutilon tubulosum	(blank)	native			<u> </u>		l	l						-						L			$\vdash \vdash$		X
Acacia burrowii	Burrow's Wattle	native		Х		Х	Х	Х	Х											Х		Χ	lacksquare	Χ	8
Acacia cheelii	Motherumbah	native				ļ		ļ							Х								igspace	لـــــا	3
Acacia deanei	Green Wattle	native								Χ		Х					Χ				Х		igspace	Χ	5
Acacia deanei subsp. deanei	Deane's Wattle	native				ļ		ļ														Χ	igspace	لـــــا	X
Acacia decora	Western Silver Wattle	native																					igspace		7
Acacia gladiiformis	Sword Wattle	native																			Х		igsquare	لـــــا	Х
Acacia ixiophylla	(blank)	native				ļ		ļ															igspace	Χ	Х
Acacia leiocalyx subsp. leiocalyx	Curracabah	native	Х	Χ	Х	Х	Х	Х	Χ	Χ											Χ	Χ		igcup	X0
Acacia penninervis	Mountain Hickory	native	Х				Χ													Χ	Χ				4
Acacia salicina	Cooba	native																							2
Acacia spp.	Wattle	native		Х		<u> </u>	<u> </u>	<u> </u>	Х							Χ				<u> </u>		Χ	Х	Χ	Х4
Acacia triptera	Spurwing Wattle	native													Χ									]	Х
Actinotus helianthi	Flannel Flower	native	Х		Χ																		┕	7	2
Ajuga australis	Austral Bugle	native																							7
Alectryon oleifolius	Western Rosewood	native																							3
Allocasuarina diminuta	(blank)	native	Х																		Χ			Χ	3
Allocasuarina luehmannii	Bulloak	native								Χ		Χ													2
Alphitonia excelsa	Red Ash	native		Х		Х	Х								Х							Х		Χ	Х8
Alstonia constricta	Quinine Bush	native					Х																	$\neg$	5
Alternanthera denticulata	Lesser Joyweed	native																						$\neg$	2
Alternanthera spp.	Joyweed	native																						$\neg$	3
Amyema pendula	(blank)	native																						$\neg$	Х
Amyema spp.	Mistletoe	native																						$\neg$	Х
Ancistrachne uncinulata	Hooked-hairy Panic Grass	native															Х							$\neg$	Х
Angophora floribunda	Rough-barked Apple	native																						$\neg$	3
Anthosachne scabra	Wheatgrass, Common Wheatgrass	native															Χ							$\dashv$	5
Arenaria leptoclados	Lesser Thyme-leaved Sandwort	exotic																						$\dashv$	8
Arenaria spp.	(blank)	exotic																					$\vdash$	$\dashv$	2
Argemone ochroleuca subsp. ochroleuca	Mexican Poppy	exotic																					$\vdash$	$\dashv$	X
Aristida caput-medusae	Many-headed Wiregrass	native			1	Х	Х			Х													$\vdash$	Х	4
Aristida lignosa	(blank)	native			1		_ ^			^													$\vdash$		X
Aristida ligilosa Aristida personata	(blank)	native		1		Х	Х	Х	Х											Х	Х		$\vdash$	-	6
Aristida personata  Aristida ramosa	Purple Wiregrass	native		1					^		Х	Х			Х		Χ				^	Х	Х	-	3X
Aristida ramosa Aristida spp.	(blank)	native									^	^			^		^	v		V	V	X	⊢^		X5
	,				1		Х									V		Х	Χ	Х	Х	Χ	$\vdash \vdash \vdash$	Х	2
Aristida vagans Arthropodium milleflorum	Threeawn Speargrass Pale Vanilla-lily	native native	+	1	+	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>					-	<del>                                     </del>	<u> </u>	Χ				<del>                                     </del>			$\vdash \vdash \vdash$		2
	•		+		1	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>						-	\ ,,					<del>                                     </del>			$\vdash \vdash$	لــــــ	
Arthropodium minus	Small Vanilla Lily	native	1-	1	1	1	1	1						1	Х					1			$\vdash \vdash$	ل	6 X
Arthropodium sp. B	(blank)	native	-	1	<u> </u>	<b> </b>	<b>!</b>	<b> </b>						<b> </b>	-					<b>!</b>			$\vdash$	لــــــ	
Arthropodium spp.	(blank)	native	-	1	<u> </u>	<b> </b>	<b>!</b>	<b> </b>						<b> </b>	-					<b>!</b>			Х	لــــــ	XX
Aster subulatus	Wild Aster	exotic		1	1	<u> </u>	<u> </u>	<u> </u>						<u> </u>	<u> </u>					<u> </u>			$\vdash \vdash$		X
Asteraceae indeterminate	Daisies	native	-		1	<u> </u>	ļ	<u> </u>		<u> </u>			Х		ļ					ļ			$\longmapsto$		X
Atalaya hemiglauca	Whitewood	native	4		<b> </b>	<u> </u>	ļ	<u> </u>					<u> </u>	Х						<u> </u>			$\vdash$	لـــا	X
Austrostipa scabra	Speargrass	native	1			<u> </u>	Х	<u> </u>		Χ			Χ	Χ		2	Χ	Х	Х	<u> </u>			Х	Χ	46
Austrostipa scabra subsp. scabra	Rough Speargrass	native			<u> </u>	<u> </u>	ļ	<u> </u>		igsquare				ļ	ļ					ļ			ш	لـــــا	2
Austrostipa spp.	(blank)	native			ļ	<u> </u>	<u> </u>	<u> </u>					Χ	ļ	Х					Х			ш	لــــا	6
Austrostipa verticillata	Slender Bamboo Grass	native				<u> </u>	<u> </u>	<u> </u>		Χ							Χ	Χ	Χ	Х				لـــــا	24
Bertya opponens	Coolabah Bertya	native	L	Χ	L	Х	Х		<u></u>	L l		<u></u>		L	L	L l			<u></u>		<u></u>	Χ	L ∣		4

Bertya spp.	(blank)	native																						Х	Х
Beyeria viscosa	Sticky Wallaby Bush	native																							XO
Bidens pilosa	Cobbler's Pegs	high threat													Х	Х							Х		X7
Bidens spp.	(blank)	high threat													^	^							^		2
Bidens subalternans	Greater Beggar's Ticks	high threat																							9
Boerhavia dominii	Tarvine	native																						$\rightarrow$	9
Boronia glabra	Sandstone Boronia	native			Х																V			$\rightarrow$	2
Boronia occidentalis	(blank)				^	· ·	V														X			$\longrightarrow$	3
Boronia spp.	(blank)	native native		· ·		Χ	Χ	V													Χ			$\longrightarrow$	2
Bothriochloa decipiens	Red Grass			Х				Χ															.,	$\longrightarrow$	2
·		native									.,												Х	$\longrightarrow$	3
Bothriochloa decipiens var. decipiens	Pitted Bluegrass	native									Х														
Bothriochloa macra	Red Grass	native																							3
Bothriochloa spp.	Redgrass, Bluegrass	native										Х													Х3
Brachychiton populneus	Kurrajong	native													Χ		Χ								X7
Brachychiton populneus subsp. populneus	(blank)	native																							3
Brachyscome goniocarpa	Dwarf Daisy	native								Х															X
Brachyscome spp.	(blank)	native				Χ	Χ					Χ		Χ		Χ									5
Breynia oblongifolia	Coffee Bush	native													Χ										4
Briza minor	Shivery Grass	exotic										Χ												[	X
Briza spp.	(blank)	exotic													Χ										X
Bromus catharticus	Praire Grass	exotic																							6
Bromus molliformis	Soft Brome	exotic																							4
Bromus spp.	(blank)	native																							3
Brunoniella australis	Blue Trumpet	native								Х								Χ	Χ			Χ	Х	Χ	Х8
Bryophyllum delagoense	Mother of millions	high threat														Χ	Χ	Χ	Χ						4
Buglossoides arvensis	Sheepweed	exotic																							9
Bulbine bulbosa	Bulbine Lily	native														Χ									2
Bulbine semibarbata	Wild Onion	native													Х										2
Bulbine spp.	(blank)	native																					Х		7
Caladenia fuscata	Dusky Fingers	native													Χ										2
Caladenia spp.	(blank)	native																						-+	3
Calandrinia spp.	(blank)	native													Χ										X
Callitris endlicheri	Black Cypress Pine	native						Х	Х						^					Х	Х			$\rightarrow$	4
Callitris glaucophylla	White Cypress Pine	native										Х	Х		Х	Х				^	^	Χ	Х	Х	35
Calochilus robertsonii	Purplish Beard Orchid	native	Х		Х				Х	Х		^			^	^						X	^		5
Calotis cuneifolia	Purple Burr-Daisy	native	^		^	Х	Х		^	X		Х								Х	Χ	X			8
Calotis curieriona  Calotis hispidula	Bogan Flea					^	^			^		^								^	^	^		$\longrightarrow$	2
		native											.,			.,		.,	.,				.,	$\longrightarrow$	47
Calotis lappulacea Calotis spp.	Yellow Burr-daisy (blank)	native									Χ		Χ	Х		Х		Χ	Χ				Х	$\longrightarrow$	X X
	,	native																							
Calytrix tetragona	Common Fringe-myrtle	native	Х		Х				Х											Χ	Χ			$\longrightarrow$	6 X
Capparis mitchellii	Native Orange	native																							
Capsella bursa-pastoris	Shepherd's Purse	exotic	<b> </b>							<u> </u>	<b> </b>		<b> </b>												XX
Carex inversa	Knob Sedge	native	ļ							<u> </u>	ļ		ļ					Х					Х		26
Carthamus lanatus	Saffron Thistle	high threat	ļ							<u> </u>	ļ		ļ										Χ		X2
Cassinia laevis	Cough Bush	native	ļ							<u> </u>	ļ		ļ	igsquare	Χ										5
Cassinia quinquefaria	(blank)	native								<u> </u>															X
Cassinia spp.	(blank)	native						Χ		<u> </u>														Χ	2
Cassytha glabella	(blank)	native		Χ	Χ																				2
Cassytha spp.	(blank)	native	Χ																						X
Casuarina cristata	Belah	native														Χ	Χ								4
Centaurea calcitrapa	Star Thistle	exotic																							2
Centaurea melitensis	Maltese Cockspur	exotic																Ì					Χ		25
Centaurium erythraea	Common Centaury	exotic												Х									Χ		7
Centaurium spp.	(blank)	exotic									Х		Х		Χ										Х5
F 1	<u> </u>				_											_								-	

Centipeda spp.	(blank)	native																	T						Х
Cerastium glomeratum	Mouse-ear Chickweed	exotic												$\vdash$				+						${oldsymbol{ op}}$	3
Cerastium spp.	(blank)	exotic											Х	$\vdash$										$\vdash$	X
Cestrum parqui	Green Cestrum	high threat											^											$\vdash \vdash$	2
Chamaesyce drummondii	Caustic Weed	native														V							Х	$\vdash \vdash$	7
· · · · · · · · · · · · · · · · · · ·																Х							Х	$\vdash \vdash$	X
Chamaesyce spp. Cheilanthes austrotenuifolia	(blank)	native																						$\vdash \vdash$	X
	Rock Fern	native																	Χ					$\vdash \vdash$	X X5
Cheilanthes distans	Bristly Cloak Fern	native		.,						.,	.,		.,		X		.,	.,		.,	.,	.,	X	$\vdash$	47
Cheilanthes sieberi	Rock Fern	native		Х		Х	Χ	Χ		Х	Χ	Χ	Χ	Х	Χ	Х	Χ	Х		Χ	Χ	Χ	Χ	Х	
Cheilanthes sieberi subsp. sieberi	Rock Fern	native																						$\vdash \vdash$	9
Chenopodium spp.	Goosefoot, Crumbweed	native																	Χ					ш	X
Chloanthes glandulosa	(blank)	native		Χ																				ш	X
Chloanthes parviflora	(blank)	native	Х		Χ			Χ	Χ															ш	4
Chloris divaricata var. divaricata	Slender Chloris	native															Χ							ш	Х
Chloris truncata	Windmill Grass	native														Χ			Χ					ш	7
Chloris ventricosa	Tall Chloris	native															Χ	Χ					Χ	ш	20
Chondrilla juncea	Skeleton Weed	exotic									Χ													╙	7
Chrysocephalum apiculatum	Common Everlasting	native									Χ		Χ							Χ	Χ		Χ	لي	Х6
Chrysocephalum semipapposum	Clustered Everlasting	native																		Χ	Χ	Χ		آا	5
Cirsium vulgare	Spear Thistle	exotic																							2
Cleistochloa rigida	(blank)	native	Χ	Х	Χ				Χ																4
Clematis decipiens	(blank)	native																							4
Commelina cyanea	Native Wandering Jew	native																							Х
Convolvulus spp.	(blank)	native											Х												7
Conyza bonariensis	Flaxleaf Fleabane	exotic																							Х
Conyza spp.	(blank)	exotic								Х	Х	Х	Х	Х	Х	Х	Х			Х				$\Box$	47
Coronidium oxylepis	(blank)	native														- / (					Х			$\Box$	Х
Corymbia trachyphloia	White Bloodwood	native	Х		Х		Х	Х	Х												Х			$\Box$	6
Cotula australis	Common Cotula	native																						一	X2
Crassula colorata	Dense Stonecrop	native																						$\Box$	X
Crassula sieberiana	Australian Stonecrop	native												Х										${oldsymbol{ o}}$	4
Crassula spp.	Stonecrop	native												^	Χ	Х				Х			Х	${oldsymbol{ o}}$	20
Crinum flaccidum	Darling Lily	native													X	^	Χ			^			^	$\vdash$	7
Crinum spp.	(blank)	native													^	Х	^							$\vdash$	X
Cyclospermum leptophyllum	Slender Celery	exotic														^								${oldsymbol{ o}}$	X8
Cymbidium canaliculatum	Tiger Orchid	native																						$\vdash \vdash$	X
Cymbonotus lawsonianus	Bear's Ear	(blank)																						$\vdash \vdash$	8
		ļ., , , , , , , , , , , , , , , , , , ,																					X	$\vdash$	
Cymbopogon refractus	Barbed Wire Grass	native				Х	Χ			Х	Х	Χ			Χ	Χ				Χ		Χ	X	Х	36
Cynodon dactylon	Common Couch	native																					Χ	igspace	XX
Cynoglossum australe	(blank)	native																						ш	2
Cyperus eragrostis	Umbrella Sedge	high threat															Χ							ш	Х
Cyperus gracilis	Slender Flat-sedge	native								Х	Χ					Χ		Χ	Χ			Χ	Χ	ш	36
Cyperus spp.	(blank)	native															Χ						Χ	igspace	XX
Dampiera lanceolata var. lanceolata	(blank)	native	Χ	Χ	Χ			Χ	Χ															ш	5
Daucus glochidiatus	Native Carrot	native					Χ					Χ		Χ	Χ					Χ			Χ	ш	44
Denhamia cunninghamii	(blank)	native																				Χ		Χ	2
Desmodium brachypodum	Large Tick-trefoil	native																							3
Desmodium gunnii	Slender Tick-trefoil	native																						ᆸᄀ	Х
Desmodium spp.	Tick-trefoil	native																							Х
Desmodium varians	Slender Tick-trefoil	native																					Χ		X5
Dianella longifolia	Blueberry Lily	native																Χ							3
Dianella revoluta	Blueberry Lily	native													Χ						Х	Χ		Х	6
Dianella spp.	(blank)	native		Х						Х														$\sqcap$	4
Dichanthium sericeum	Queensland Bluegrass	native									Х		Х	Х										$\Box$	XX
		ļ			-		-				· · ·		٠,												

Dichelachne micrantha	Shorthair Plumegrass	native																							2
Dichondra repens	Kidney Weed	native														Х	Χ		Х						X6
Dichondra sp. A	Kidney Weed	native											Х			^	^		^				Х		X0
Dichondra sp. Inglewood	(blank)	native								Х		Х	^		Х			Χ					^	Х	25
Dichondra spp.	(blank)	native								^		^		Х	^			^						^	X
Dichopogon fimbriatus	Nodding Chocolate Lily	native												^											2
Dichopogon spp.	Chocolate Lily	native																							X
Digitaria breviglumis	(blank)	native				Х																			X
Digitaria brevigidinis	Cotton Panic Grass	native				^										Х									X
Digitaria divaricatissima	Umbrella Grass	native														X									2
Digitaria divaricatissiria  Digitaria eriantha	Finger Panic Grass	exotic														Χ									4
-	(blank)	native		V			Х	V	· ·											V	· ·			V	XX
Digitaria spp.  Diuris spp.	(blank)	native		Х			Χ	Χ	Χ											Χ	X			Х	X
Dodonaea falcata	(blank)						· ·														Χ				4
		native	Х		Х		Χ		Χ																3
Dodonaea sinuolata	(blank)	native																							
Dodonaea sinuolata subsp. sinuolata	(blank)	native																							X
Dodonaea spp.	(blank)	native	-	1		.,		Х																,,	X
Dodonaea viscosa	Sticky Hop-bush	native	-	1		Х	Х								Χ		Χ			Χ	Χ	,.		Х	Х6
Dodonaea viscosa subsp. angustifolia	(blank)	native	-																			Χ			5
Drosera spp.	(blank)	native													Χ										X
Dysphania pumilio	Small Crumbweed	(blank)																							Х
Dysphania spp.	(blank)	native																							3
Echinochloa crus-galli	Barnyard Grass	exotic																							Х
Echium plantagineum	Patterson's Curse	exotic										Χ													3
Einadia hastata	Berry Saltbush	native																							2
Einadia nutans	Climbing Saltbush	native											Χ			Χ			Χ						Х9
Einadia polygonoides	Knotweed Goosefoot	native															Χ	Χ					Χ		X2
Einadia spp.	(blank)	native																				Χ			5
Einadia trigonos	Fishweed	native								Χ								Χ	Χ	Χ					30
Eleocharis spp.	Spike-rush, Spike-sedge	native																							2
Emex australis	Spiny Emex	exotic																							2
Enchylaena tomentosa	Ruby Saltbush	native														Χ		Χ	Χ						4
Enneapogon gracilis	Slender Nineawn	native																					Χ		2
Enneapogon nigricans	Niggerheads	native																							Х
Enneapogon spp.	Nineawn Grass, Bottlewashers	native																							6
Enteropogon acicularis	Curly Windmill Grass	native																Χ							2
Enteropogon spp.	Windmill Grass	native																							Х
Entolasia marginata	Bordered Panic	native														Χ									Х
Epaltes australis	Spreading Nut-heads	native										Χ													Х
Eragrostis alveiformis	(blank)	native																							Х
Eragrostis brownii	Brown's Lovegrass	native				Χ	Χ								Χ	Χ			Χ	Χ	Χ		Χ		X2
Eragrostis cilianensis	Stinkgrass	exotic																							Х
Eragrostis curvula	African Lovegrass	high threat									Χ	Χ	Χ					Χ					Х		Х8
Eragrostis elongata	Clustered Lovegrass	native										Χ													Х
Eragrostis lacunaria	Purple Lovegrass	native					Χ											Χ	Χ	Χ					7
Eragrostis leptostachya	Paddock Lovegrass	native									Χ	Χ				Χ		Χ	Χ				Χ		XX
Eragrostis megalosperma	(blank)	native																							2
Eragrostis parviflora	Weeping Lovegrass	native													Х										Х
Eragrostis spp.	(blank)	native								Х			Х	Х	Х							Χ			Х7
Eremophila debilis	Amulla	native																							3
Eremophila mitchellii	Budda	native																Х	Χ			Χ			3
Eriochloa pseudoacrotricha	Early Spring Grass	native															Χ							Х	4
Eriochloa spp.	(blank)	native												Х									Х		2
Erodium crinitum	Blue Crowfoot	native																							4
-			-																						

Erodium spp.	Crowfoot	native																						$\neg$	Х
Eucalyptus albens	White Box	native																					Х		20
Eucalyptus chloroclada	Dirty Gum	native																		Х			^		X
Eucalyptus cribra	Narrow-leaved Ironbark	native								Х										^		Χ	Х		2X
Eucalyptus crebra x nubila	(blank)	native								^												^	^		X
Eucalyptus dealbata	Tumbledown Red Gum	native													Х									$\rightarrow$	X0
Eucalyptus dwyeri	Dwyer's Red Gum	native	Х	Х											^									$\rightarrow$	2
Eucalyptus fibrosa	Red Ironbark	native	X	X	Х	Х	Х	Х	Х	Х												Х		Х	X0
Eucalyptus melanophloia	Silver-leaved Ironbark	native	^	^	^	^	^	^	^	^												^		^	3
Eucalyptus melliodora	Yellow Box	native																							3
Eucalyptus microcarpa	Western Grey Box	native										Х													3
Eucalyptus microcarpa  Eucalyptus pilligaensis	Narrow-leaved Grey Box	native								Х		Х				Х	Χ	Х	Х			V			4
Eucalyptus spp.	(blank)	native					V			Χ			V	V		Χ			Χ		V	Χ		$\longrightarrow$	4
Euchiton sphaericus	Star Cudweed						Χ						Χ	Х	.,						Χ			$\longrightarrow$	23
		native													Χ								Х	$\longrightarrow$	
Euchiton spp.	(blank)	native																						$\longrightarrow$	6
Eulalia aurea	Silky Browntop	native																							X
Euphorbia drummondii	Caustic Weed	native	<u> </u>						<u> </u>		<u> </u>					$\vdash$									3
Euphorbia spp.	(blank)	native	ļ						ļ		ļ					$\vdash$								$\longrightarrow$	X
Evolvulus alsinoides	Bindweed	native																							2
Exocarpos spp.	(blank)	native		Χ																					Х
Fimbristylis dichotoma	Common Fringe-sedge	native																							4
Fumaria spp.	Fumitory	exotic																							X
Gahnia aspera	Rough Saw-sedge	native																		Χ	Χ	Χ		Х	4
Gahnia spp.	(blank)	native								Χ															X
Galium aparine	Goosegrass	exotic																							X
Galium gaudichaudii	Rough Bedstraw	native																							4
Galium leptogonium	(blank)	native																							X
Galium spp.	(blank)	native																							6
Gamochaeta spp.	(blank)	exotic													Χ										Х4
Geijera parviflora	Wilga	native								Χ							Χ	Χ	Χ			Χ	Χ		23
Geranium homeanum	(blank)	native								Χ															2
Geranium solanderi	Native Geranium	native													Χ								Χ		2X
Geranium spp.	(blank)	native																							6
Glandularia aristigera	Mayne's Pest	exotic									Х	Х	Χ	Χ		Χ	Χ								6
Glossocardia bidens	Cobbler's Tack	native																					Χ		Х3
Glycine canescens	Silky Glycine	native													Χ										5
Glycine clandestina	Twining glycine	native					Х			Χ						Χ				Χ		Χ		Χ	Х7
Glycine microphylla	Small-leaf Glycine	native																							Χ
Glycine spp.	(blank)	native										Х					Х		Χ						6
Glycine tabacina	Variable Glycine	native												Χ			Х	Х				Χ	Х		32
Gomphocarpus fruticosus	Narrow-leaved Cotton Bush	exotic																							Χ
Gonocarpus elatus	(blank)	native	Х	Х	Χ	Х	Х	Х	Х	Х					Χ					Χ	Χ	Χ		Х	Х7
Goodenia cycloptera	Cut-leaf Goodenia	native																	Χ	Χ					2
Goodenia glabra	Smooth Goodenia	native																		Χ					4
Goodenia hederacea	Ivy Goodenia	native																							Х
Goodenia heteromera	(blank)	native		Х																					Х
Goodenia rotundifolia	(blank)	native	Х		Х	Х	Х	Х	Х		<b>†</b>										Х	Χ		Х	9
Goodenia spp.	(blank)	native	† ^						<u> </u>		<b>†</b>					Х									5
Grevillea floribunda subsp. floribunda	Seven Dwarfs Grevillea	native														- 1					Χ			$\dashv$	X
Haloragis heterophylla	Variable Raspwort	native	1							-	1	-			Χ						^		Х	$\dashv$	X5
Haloragis odontocarpa	(blank)	native	1							-	1	-			^								^	$\dashv$	X
Haloragis spp.	(blank)	native	1								1													$\dashv$	X
Hardenbergia violacea	False Sarsaparilla	native	<del>                                     </del>					-			<del>                                     </del>				Х	$\vdash$					Х			$\dashv$	2
Harmogia densifolia	(blank)	native	Х		Χ			Х							^			+			^			$\dashv$	3
nannogia densirona	(MIGHA)	HALIVE	۸ ا	ļ	٨		ļ	٨	ļ	L	<u> </u>														,

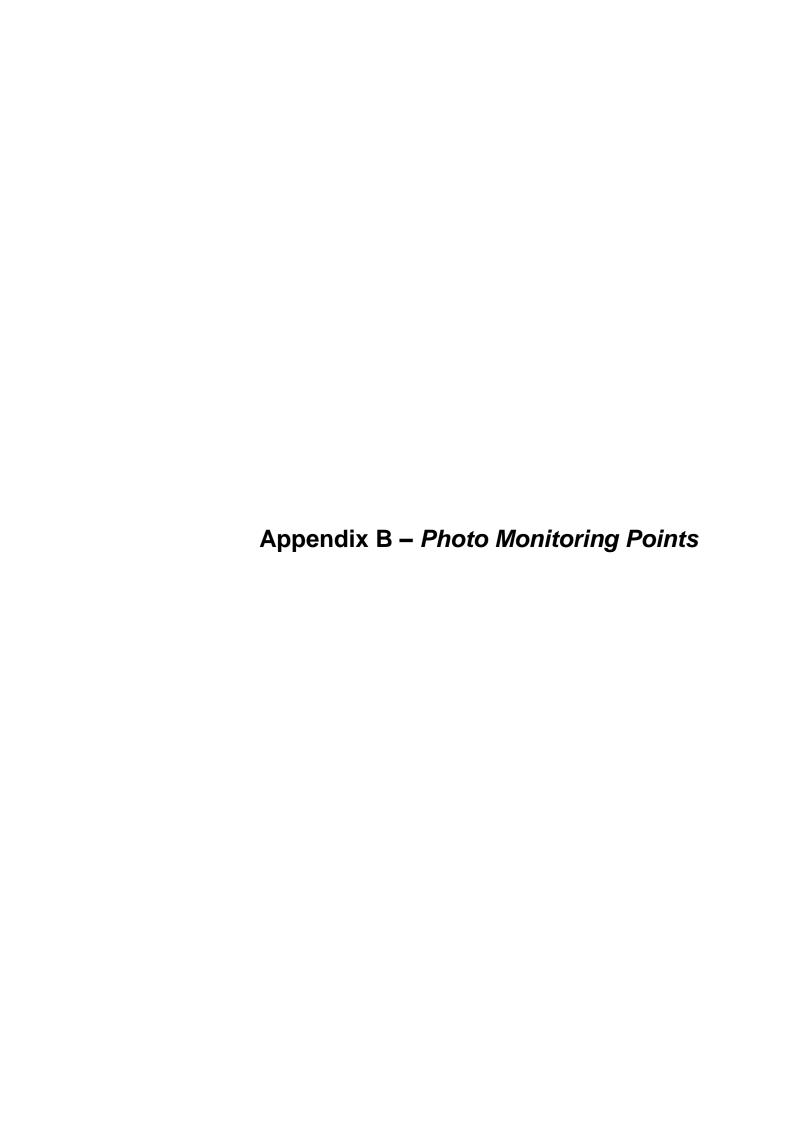
Hedypnois rhagadioloides	Cretan Weed	exotic	T	$\Box$		Г		П	$\overline{}$	$\Box$			П	$\Box$	$\overline{}$	П	<del></del> -		$\top$	$\top$	T	Х	П	Х
Heliotropium amplexicaule	Blue Heliotrope	high threat	+	$\vdash$	$\vdash \vdash$	$\vdash$	$\vdash$	$\Box$	一	$\vdash$	$\vdash$	t	$\vdash$	$\vdash$	$\sqcap$	$\vdash$	$\dashv$	$\vdash$	+	+	+	+~	++	X
Hibbertia circumdans	(blank)	native	Х	Х	Х	<del></del>			Х	$\vdash$		<del>                                     </del>	<del>                                     </del>	+		$\vdash$	$\dashv$		+	+	+	+	<del>+ +</del>	4
Hibbertia covenyana	(blank)	native	X	<del>- ^ -</del>	X	<del></del>			$\stackrel{\sim}{\Box}$	$\vdash$		<del>                                     </del>	<del>                                     </del>	+		$\vdash$	$\dashv$		+	+	+	+	<del>+ +</del>	2
Hibiscus sturtii	Hill Hibiscus	native	+~	$\vdash$	$\stackrel{\sim}{\vdash}$	Х				$\vdash$		<del>                                     </del>	<del>                                     </del>	+		$\vdash$	$\dashv$		+	+	+	+	<del>+ +</del>	X
Homoranthus flavescens	(blank)	native	+	$\vdash$	$\vdash \vdash$	X	Х			$\vdash$		<del>                                     </del>	<del>                                     </del>	+	$\vdash$	$\vdash$	$\dashv$		+	х х	Х	+-		5
Hordeum leporinum	Barley Grass	exotic	+	$\vdash$	$\vdash \vdash$	<u> </u>	H			$\vdash$		<del>                                     </del>	<del>                                     </del>	+	$\vdash$	$\vdash$	$\dashv$		十	$\stackrel{\cdot}{+}$	+~	+-		3
Hordeum marinum	Sea Barley Grass	exotic	+-	$\vdash$	$\vdash \vdash$	$\vdash$	$\vdash$	$\vdash$	$\overline{}$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	+-	$\overline{}$	$\vdash$	$\dashv$		+	+	+-	+-	+	X
Hordeum spp.	(blank)	exotic	+-	$\vdash$	$\vdash \vdash$	$\vdash$	$\vdash$	$\vdash$	$\overline{}$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	+-	$\overline{}$	$\vdash$	$\dashv$		+	+	+-	+-	+	X
Hordeum vulgare	Barley	exotic	+-	+-+	$\vdash \vdash \vdash$	+	₩	$\vdash$		+-+	┢	+	$\vdash$	₩	-	$\vdash \vdash$	$\dashv$	$\vdash$	+	+	+-	+-	+	2
Hovea spp.	(blank)	native	+-	$\vdash$	$\vdash \vdash$	$\vdash$	$\vdash$	$\vdash$	$\overline{}$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	+-	$\overline{}$	$\vdash$	$\dashv$		+	Х	+-	+-	+	X
Hydrocotyle spp.	(blank)	native	+-	${f  o}$	${ightarrow}$	<del>                                     </del>	$\vdash$	$\vdash$	$\overline{}$	${f  o}$	$\vdash$	+	+-	+-	$\sqcap$	$\vdash$	$\dashv$		+	<del></del>	+	+-	+-+	4
Hyparrhenia hirta	Coolatai Grass	high threat	+-	╁─┤	₩	$\vdash$		$\vdash$	<del>—</del>	╁─┤	<del>                                     </del>	Х	$\vdash$	┼─┤	г	$\vdash \vdash$	$\rightarrow$	$\vdash$	+	+	+	+-	+++	X
Hypericum gramineum	Small St John's Wort	native	+-	╁─┤	₩	$\vdash$		$\vdash$	<del>—</del>	╁─┤	<del>                                     </del>	X	$\vdash$	┼─┤	Х	$\vdash \vdash$	$\rightarrow$	$\vdash$	+	+	+	Х	+++	XX
Hypochaeris albiflora	White Flatweed	exotic	+-	+	$\vdash \vdash \vdash$			$\vdash$	—— <sup>'</sup>	+	<del>                                     </del>	+^	+	+		$\vdash$	$\rightarrow$	$\vdash$	+	+	+-	+^	+-+	2
Hypochaeris glabra	Smooth Catsear	exotic	+-	+	$\vdash \vdash \vdash$	Х	Х	$\vdash$	—— <sup>'</sup>	Х	Х	Х	Х	Х	Х	$\vdash$	$\rightarrow$	$\vdash$	+	х х	Х	Х	+-+	32
Hypochaeris microcephala	(blank)	exotic	+-	$\vdash$	$\vdash\!$		-	$\vdash$			_^	<del>  ^</del>		X	_^_	$\vdash \vdash$	$\dashv$	$\vdash$	+	<del>`                                    </del>	+^	+^	+	X
Hypochaeris radicata	Catsear	exotic	+-	$\vdash \vdash$	$\vdash \vdash$	$\vdash$	$\vdash \vdash$	$\vdash$		$\vdash \vdash$	<del>                                     </del>	$\vdash$	$\vdash$	+^-	┌─┤	Х	$\dashv$	$\vdash$	+	+	+	+-	++	4
Hypochaeris spp.	(blank)	exotic	+	$+\!-\!\!-\!\!\!-$	$\vdash \vdash$	$\vdash$	$\vdash \vdash$	$\vdash \vdash$		$+\!-\!\!-\!\!\!-$	<del>                                     </del>	+-	$\vdash$	$+\!-\!\!\!-$	┌─┤	<del>  ^  </del>	$\longrightarrow$	Х	+	+	+	+-	++	6
Indigofera adesmiifolia	Tick Indigo	native	+-		₩			$\vdash$	<del></del> '		<b></b> '	₩	₩	<b>├</b> ──	$\vdash \vdash$	$\vdash$	$\longrightarrow$	<b>⊢^</b> ⊢	+	+	<del></del>	+-	<del>                                     </del>	4
Indigofera australis	Australian Indigo	native	+-	$+\!-\!\!-\!\!\!-$	₩	$\vdash$	$\vdash \vdash$	$\vdash \vdash \vdash$	<del></del> '	$+\!-\!\!-\!\!\!-$	<del>                                     </del>	+-	$\vdash$	$+\!-\!\!\!-\!\!\!\!-$		$\vdash \vdash$		$\vdash \vdash$	+	+	X	_	Х	X X
	Grass Cushion		+-	$\vdash$	igwdapprox	₩	$\vdash$	$\vdash \vdash \vdash$	<del></del> '	$\vdash$	<u> </u>	—	₩	igspace		$\vdash \vdash$	$\dashv$	$\vdash$	+	+	<u> </u>	+-	+-+	4
Isoetopsis graminifolia	Club-rush	native	+-	$\vdash$	igwdapprox	₩	$\vdash$	$\vdash \vdash \vdash$	<del></del> '	$\vdash$	<u> </u>	—	₩	igspace	-	$\vdash \vdash$	$\dashv$	$\vdash$	+	+	+-	+-	+-+	X X
Isolepis spp.		native	$+\!-\!$	igwdapprox	igspace	₩	لـــــا	$\vdash \vdash$	<del></del>	igwdapprox	<del>                                     </del>	₩	₩	╨	Χ	$\vdash \vdash$	$\longrightarrow$	$\vdash$	+	$+\!-$	┿	+-	+-+	X
Jasminum lineare	Desert Jasmine	native	₩	igwdown	₩	₩	igwdapprox	$\vdash$	— <sup>'</sup>	igwdown	<u> </u>	₩	₩	igspace	-	$\vdash \vdash$		$\vdash$	+	+	+-	+	+-+	
Jasminum suavissimum	(blank)	native	—		ш	<b>↓</b>	<u>                                      </u>	$\vdash$	<u> </u>		<u> </u>	—	<b>↓</b>	<u> </u>	$\vdash$	$\vdash \vdash$	Х	₩.	$-\!\!\!\!+$		—	+		2
Juncus spp.	(blank)	native	₩		igspace	<u> </u>	<u>                                     </u>	lacksquare	<u></u> '		<u> </u>	—	—	<u>                                     </u>		igspace	Χ	$\vdash$	+	-	—		$\vdash$	9
Keraudrenia corollata	(blank)	native	—	$\vdash$	ш	Х	Χ	$\vdash \vdash$	<u> </u>	$\vdash$	<u> </u>	<del>                                     </del>	—	<u> </u>	-	$\longmapsto$		$\vdash \vdash$	$-\!\!\!\!+$	$-\!$	₩	—	+	2
Lachnagrostis filiformis	(blank)	native	₩		igspace	<del></del>	<u>                                     </u>	lacksquare	<u></u> '		<u> </u>	—	—	<u>                                     </u>		igspace		$\vdash$	+	-	—		$\vdash$	2
Lactuca serriola	Prickly Lettuce	exotic	—		ш	-	<u>                                     </u>	lacksquare	<u> </u>		<u> </u>	—	₩	<u> </u>	ш'	₩		$\vdash \vdash$	+	$\rightarrow$	₩	┷	$\vdash$	Х9
Lamium amplexicaule	Dead Nettle	exotic	<u> </u>	!			<u> </u>	igsquare	<u> </u>	!	<u> </u>	<u> </u>	<u> </u>	<u> </u> !	<u> </u>	igspace		$\vdash$					$\perp \perp$	7
Laxmannia gracilis	Slender Wire Lily	native	<u> </u>	!			<u> </u>	igsquare	<u> </u>	!	<u> </u>	<u> </u>	<u> </u>	<u> </u> !	<u> </u>	igspace		$\vdash$					$\perp \perp$	Х
Leiocarpa panaetioides	Wooly Buttons	native	Д	!	Ш		<u> </u>	ш	<u> </u>	!	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	igspace		lacksquare				Х	$\perp \perp$	Х
Leontodon rhagadioloides	Cretan Weed	exotic	<u> </u>	!			<u> </u>	igsquare	<u> </u>	!	<u> </u>	<u> </u>	Χ	Χ	<u> </u>	igspace		lacksquare					$\perp \perp$	4
Lepidium africanum	Common Peppercress	exotic	$oldsymbol{oldsymbol{oldsymbol{eta}}}$	igsquare		<u> </u>			<u> </u>	igsquare	<u> </u>	igspace	$oxed{oxed}$	$\perp \perp \perp \mid$	<u> </u>	$\sqcup$		$oldsymbol{\sqcup}$			┷	Х	$\perp \perp \downarrow$	25
Lepidium bonariense	Argentine Peppercress	exotic			<u> </u>		ļ!		L'		<u> </u>				'	ш							$\perp \perp$	4
Lepidosperma laterale	Variable Sword-sedge	native			Χ				L		<u> </u>					ш				X				2
Leptochloa asthenes	(blank)	native													Χ	Ш						Χ		X8
Leptochloa decipiens	Slender Canegrass	native														Ш								4
Leptochloa spp.	(blank)	native														Ш								Х
Linaria arvensis	(blank)	exotic					Χ									Ш						Χ		Х6
Linaria pelisseriana	Pelisser's Toadflax	exotic							l						Х									2
Linaria spp.	(blank)	exotic	1						1															Х
Lolium perenne	Perennial Ryegrass	exotic	T						1						i									X0
Lolium rigidum	Wimmera Ryegrass	exotic	T						1		Χ				,				$\Box$					8
Lolium spp.	(blank)	exotic	1						1			Х			ī				$\Box$					X0
Lomandra filiformis	Wattle Matt-rush	(blank)	1												i — '				Х			1		5
Lomandra filiformis subsp. filiformis	(blank)	native	1												i — '							1		Х
Lomandra longifolia	Spiny-headed Mat-rush	native	1												ı		Χ					1		Х
Lomandra multiflora	Many-flowered Mat-rush	native	<b>T</b>					$\Box$						$T^{T}$	一	$\Box$	$\neg$		$\top$	$\top$	Х	1	$\Box$	Х
Lomandra multiflora subsp. multiflora	Many-flowered Mat-rush	native	1	$\Box$			Х		$\overline{}$	Х				$\Box$		$\Box$	$\neg$		+	х х	_	1	Х	X0
Lomandra spp.	Mat-rush	native	1	$\Box$			$\vdash$		$\overline{}$	$\Box$				$\Box$		Х	$\neg$		+	+	1	1	+	3
Lycium ferocissimum	African Boxthorn	high threat	1	${}^{\dagger}$	$\vdash$	<del>                                     </del>	$\vdash$			${}^{\dagger}$		<b>†</b>	<del>                                     </del>	T	$\Box$	$\vdash$	$\dashv$		+	+	+	+	+	4
			+-	+	$\vdash$	+	-	$\vdash \vdash$		+	<del></del>	+	-	+		$\vdash \vdash$	-	$\vdash \vdash$	-+	$-\!$	+	+-	+-+	44
Lysimachia arvensis	Scarlet Pimpernel	exotic							١,		Х	Х	Х	Х	Х	X	ì	, j	1 .	X X	Х	Х	1 1	44

Macrozamia spp.	(blank)	native																	Х			$\overline{}$	$\neg$	Х
Maireana enchylaenoides	Wingless Fissure-weed	native																Χ	^			Х	$\rightarrow$	7
Maireana microphylla	Small-leaf Bluebush	native										Х					Х	^					-+	X0
Malva parviflora	Small-flowered Mallow	exotic															^							4
Malva spp.	Mallow	native							Х													$\overline{}$	$\rightarrow$	X
Marrubium vulgare	White Horehound	exotic							^															2
Marsdenia viridiflora subsp. viridiflora	Native Pear	native				Х																	-+	4
Medicago minima	Woolly Burr Medic	exotic				^																		6
Medicago minima  Medicago polymorpha	Burr Medic	exotic																				Х		9
Medicago spp.	(blank)	exotic									Х													8
Medicago spp.  Medicago truncatula	Barrel Medic	exotic									^		Х											3
Melaleuca bracteata	Black Tea-tree	native											^											4
Melaleuca uncinata	Broombush	native													-								Х	X
Melichrus erubescens	Ruby Urn Heath	native						V							-							-		X
	Urn Heath				· · ·			Χ												.,		$\longrightarrow$	$\longrightarrow$	7
Melichrus urceolatus  Mentha satureioides		native	Х	Χ	Х	Χ													Х	Χ		-	$\longrightarrow$	4
	Native Pennyroyal	native																						
Microlaena stipoides	Weeping Grass	native				Χ	Х												Χ		Χ		Χ	X5
Micromyrtus sessilis	(blank)	native												Χ										Х
Microtis spp.	(blank)	native								Х		Χ												3
Microtis unifolia	Common Onion Orchid	native									Χ													Х
Mimulus gracilis	Slender Monkey-flower	native																						Х
Mimulus prostratus	Small Monkey-flower	native																				$\longrightarrow$		Х
Mimulus spp.	(blank)	native											Χ									ı		2
Misopates orontium	Lesser Snapdragon	exotic												Χ								Χ		25
Notelaea microcarpa	Native Olive	native																			Χ	Χ		6
Notelaea microcarpa var. microcarpa	(blank)	native												Χ								ı		4
Nuttallanthus texanus	(blank)	exotic									Χ											ı		8
Oenothera spp.	(blank)	exotic																				ı		Х
Olearia decurrens	Clammy Daisy-bush	native							Χ															Х
Olearia elliptica	Sticky Daisy-bush	native																						Х
Olearia elliptica subsp. elliptica	(blank)	native																				1		2
Olearia spp.	(blank)	native																		Χ		1		Х
Oncinocalyx betchei	(blank)	native																				1		Х
Opercularia diphylla	Stinkweed	native																			Χ			Х
Opuntia spp.	(blank)	high threat													Χ							ı		3
Opuntia stricta	Common Prickly Pear	exotic							Х			Х		Χ		Х	Χ	Χ	Χ					X5
Ornithopus compressus	Yellow Serradella	exotic								Х														9
Oxalis perennans	(blank)	native																						X2
Oxalis spp.	(blank)	native					Х		Х	Х		Х	Х		Х									Х8
Oxytes brachypoda	Large Tick-trefoil	native																						20
Panicum effusum	Hairy Panic	native							Х		Х			Х	Х			Х				Х		30
Panicum simile	Two-colour Panic	native					Х													Х				3
Panicum spp.	Panicum	native				Х							Х			Χ	Х		Х		Х		Х	9
Papaver dubium	Longhead Poppy	exotic				^										^	^		^		^	$\overline{}$		X
Papaver somniferum	Opium Poppy	exotic																						Y
Papaver spp.	(blank)	exotic																						X
Parietaria debilis	Native Pellitory	native								<b>-</b>					-								$\dashv$	7
Parsonsia eucalyptophylla	Gargaloo	native							Х	<b>-</b>					Х		Χ						Χ	X7
Parsonsia spp.	(blank)	native							^						^		۸						^	X
Parsonsia straminea										<b> </b>					-								$\dashv$	X
	Common Silkpod	native			$\vdash$					-					$\vdash$								$\dashv$	
Paspalidium constrictum	Knottybutt Grass	native								<u> </u>					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Χ	Χ				,—-	<del> </del>	2
Paspalidium distans	(blank)	native							_						Х							لب		2
Paspalidium spp.	(blank)	native				Х	Χ		2	ļ						Χ	Χ	Χ	Χ		Χ	Х	Х	3X
Pelargonium spp.	(blank)	native								<u> </u>					Χ									Х

Petrorhagia dubia	(blank)	exotic										Х												3
Petrorhagia nanteuilii	Proliferous Pink	exotic									Х	^	Х									Х		25
Petrorhagia nanteulii	(blank)	exotic									^		^									^		4
Petrorhagia prolifera	Proliferous Pink	exotic																						X
Phebalium squamulosum	Scaly Phebalium	(blank)	Х		Χ	Х	Х	Х	Х	Х											Χ		Х	9
Philotheca ciliata	(blank)	native	X	Х	X	X	X	X	X	X									Х	Χ	X		X	X2
Phyllanthus fuernrohrii	(blank)	native	^	^	^	^	X	^	^	^									^	^	^		^	X
Phyllanthus virgatus	Wiry Spurge	native					X																	8
Pimelea curviflora var. sericea	(blank)	native					^																	3
Pimelea neo-anglica	Poison Pimelea	native													٧.									23
Pimelea spp.	(blank)	native					V								Χ									4
							Х											-						2
Pimelea strigosa	(blank)	native																						
Pittosporum angustifolium	Butterbush	native																						5
Plantago debilis	Shade Plantain	native																						9
Plantago spp.	Plantain	native																						5
Poa sieberiana	Snowgrass	native																						6
Poaceae indeterminate	Grasses, reeds and bamboos	exotic						Х																X
Polycarpon tetraphyllum	Four-leaved Allseed	exotic																						X2
Polygonum aviculare	Wireweed	exotic																						X
Pomaderris spp.	(blank)	native																			Χ			X
Pomax umbellata	Pomax	native	Χ	Χ	Χ			Χ	Χ										Χ	Χ	Χ		Χ	9
Poranthera microphylla	Small Poranthera	native								Χ									Χ		Χ			3
Portulaca oleracea	Pigweed	native																						X
Prostanthera ringens	Gaping Mint-bush	native																					Χ	X
Pseudognaphalium luteoalbum	Jersey Cudweed	native																						Х
Psydrax odorata	Shiny-leaved Canthium	native																						Х
Psydrax oleifolia	(blank)	native																			Χ			2
Pterostylis bicolor	Black-tip Greenhood	native																					Χ	Х
Pterostylis longifolia	Tall Greenhood	native																						Х
Pterostylis mutica	Midget Greenhood	native																						Х
Pterostylis spp.	Greenhood	native													Χ									2
Ranunculus sessiliflorus	Small-flowered Buttercup	native													Χ							Χ		26
Ranunculus spp.	(blank)	native																						4
Rapistrum rugosum	Turnip Weed	exotic																						Χ
Rhamnaceae indeterminate	Rhamnaceae	exotic						Х																Х
Rostellularia adscendens	Pink Tongues	native																						4
Rostraria cristata	Annual Cat's Tail	exotic																				Х		4
Rumex brownii	Swamp Dock	native									Х													25
Rytidosperma longifolium	Long-leaved Wallaby Grass	native																						Χ
Rytidosperma spp.	(blank)	native												Х	Х		Х	Х						X5
Salsola australis	(blank)	native															^							X
Schkuhria pinnata var. abrotanoides	Dwarf Marigold	exotic																						3
Schkuhria spp.	(blank)	exotic																						X
Schoenus apogon	Fluke Bogrush	native													Χ									X
Schoenus ericetorum	(blank)	native						Х			<del>                                     </del>	<del>                                     </del>			^	-+	 			-+				X
Scleria mackaviensis	(blank)	native					-	^			<del>                                     </del>	<del>                                     </del>				-+	 							3
Sclerolaena birchii	Galvinized Burr	native							1		1	1		Х		Х	 _	Х				Х		X9
Sclerolaena muricata var. semiglabra	Black Rolypoly	native	-						1		<b> </b>	<b> </b>	-	۸		^	 X	^		$\dashv$		^		X
Scutellaria humilis	Dwarf Skullcap						-	-	<u> </u>		<del>                                     </del>	<del>                                     </del>	-				 Х							6
Senecio quadridentatus	Cotton Fireweed	native							-		<b> </b>	<b> </b>			Χ		 							8
•	I .	native							-		<b> </b>	<b> </b>					 		Χ					
Senecio spp.	Groundsel, Fireweed	native															 				Χ			6
Senna artemisioides subsp. zygophylla	(blank)	native							ļ		ļ	ļ					 -		Χ					X
Senna barclayana	Smooth Senna	native									ļ	ļ					 							X
Setaria parviflora	(blank)	exotic										Χ												X

Sida corrugata	Corrugated Sida	native												Х		Х	Х			1	Х	$\overline{}$	X7
Sida cunninghamii	Ridge Sida	native												^		X	^			Х		Х	8
Sida rhombifolia	Paddy's Lucerne	exotic													Х	^				^	$\vdash$	$\stackrel{\frown}{\vdash}$	3
Sida sp. A	(blank)	native						Х							^						$\vdash$	$\vdash \vdash$	X
Sida spinosa	(blank)							^													$\vdash$	$\vdash \vdash$	XX
		exotic			٧.	· ·		· ·		V		2		V						2			X2
Sida spp. Sigesbeckia australiensis	(blank)	native			Χ	Χ		Χ		Χ		2		Х						2	Х	$\vdash \vdash$	
3	(blank)	native											Χ									igwdown	5
Sigesbeckia spp.	(blank)	native																				igwdown	2
Silene gallica	French Catchfly	exotic							Χ	Χ											$\vdash \vdash$	ightarrow	2
Silybum marianum	Variegated Thistle	exotic																			Щ	igspace	Х
Sisymbrium irio	London Rocket	exotic																			<b></b>	ш	Х
Sisymbrium orientale	Indian Hedge Mustard	exotic																			1	ш	9
Sisymbrium spp.	(blank)	exotic																			1	ш	7
Sisyrinchium spp.	(blank)	exotic																			l		X
Solanum cinereum	Narrawa Burr	native																			l		X2
Solanum ferocissimum	Spiny Potato-bush	native			Χ			Χ												Χ	1		3
Solanum jucundum	(blank)	native			Χ	Χ		Χ								Χ	Χ		Χ		╚	Χ	7
Solanum nigrum	Black-berry Nightshade	exotic													Χ	Χ					1		6
Solanum parvifolium subsp. parvifolium	Nightshade	native						Χ							Χ	Х	Х	Χ			ı		8
Solanum spp.	(blank)	native										Х		Х					İ	Χ	$\Box$	$\vdash$	4
Solenogyne bellioides	Solengyne	native																			Х	$\Box$	2
Solenogyne dominii	(blank)	native																				$\Box$	Х
Solenogyne spp.	(blank)	native																				$\Box$	Х
Soliva sessilis	Bindyi	exotic																				$\Box$	2
Soliva spp.	(blank)	exotic																			Πİ	abla	X
Sonchus asper	Prickly Sowthistle	exotic																			$\cap$	abla	3
Sonchus oleraceus	Common Sowthistle	exotic							Χ	Χ			Х	Х	Χ						Х	Х	43
Sonchus spp.	Sowthistle	native							^	^	Х				^								X
Sporobolus caroli	Fairy Grass	native									^										-	${oldsymbol{ o}}$	X
Sporobolus creber	Slender Rat's Tail Grass	native							Χ	Χ	Х	Х	Х	Х	Χ	Х	Х			Χ	Х	${oldsymbol{ o}}$	42
Sporobolus spp.	Rat's Tail Couch	native							^	^	^	^		^	^	^	^			^		$\vdash \vdash$	X
Stachys arvensis	Stagger Weed	exotic																			<del>  </del>	$\vdash \vdash$	X8
																					Х	$\vdash \vdash$	
Stackhousia spp.	(blank)	native																				$\vdash \vdash$	3
Stackhousia viminea	Slender Stackhousia	native																				igwdown	5
Stellaria media	Common Chickweed	exotic																			$\vdash \vdash$	ightarrow	4
Stellaria spp.	Prickly Starwort	native																			Щ.	igspace	Х
Stuartina muelleri	Spoon Cudweed	native			Χ	Χ							Χ					Χ	Χ		<b></b>	ш	XX
Swainsona galegifolia	Smooth Darling Pea	native											Χ								ш	ш	Х4
Swainsona spp.	(blank)	native												Χ							1	ш	Х
Taraxacum officinale	Dandelion	exotic																			1	ш	3
Teucrium betchei	(blank)	native																			1		6
Teucrium corymbosum	Forest Germander	native																			1		Х
Themeda triandra	(blank)	native												Χ							1		2
Thyridolepis mitchelliana	Mulga Mitchell Grass	native			Χ	Χ		Χ									Χ					Х	5
Tragus australianus	Small Burrgrass	native																			1		Х
Tribulus micrococcus	Spineless Caltrop	native																			ı		Х
Tricoryne spp.	(blank)	native												Х					İ		$\Box$	$\vdash$	Х
Trifolium arvense	Haresfoot Clover	exotic								Х	Χ	Х	Χ								Х	$\sqcap$	33
Trifolium campestre	Hop Clover	exotic							Χ	Х			Х									$\sqcap$	X2
Trifolium dubium	Yellow Suckling Clover	exotic	1								Х	Х									$\Box$	$\vdash$	4
Trifolium glomeratum	Clustered Clover	exotic							Χ			X									Х	$\sqcap$	X4
Trifolium spp.	(blank)	exotic	+ +						^			^									<u> </u>	$\sqcap$	9
Triptilodiscus pygmaeus	Common Sunray	native	+ +										Х					Χ			Х	$\sqcap$	X2
Unknown A	(blank)	native									Х		^	Х				^			<del>  ^  </del>	$\sqcap$	2
OHMHOWITA	(Midille)	HALIVE	1								٨			^									_

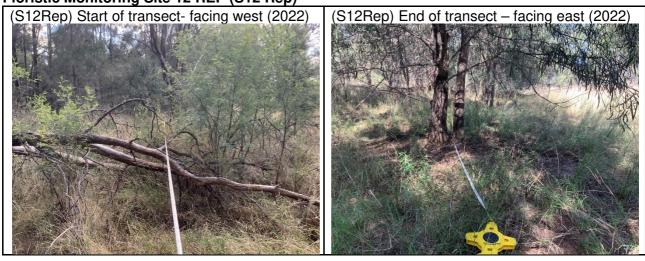
Urochloa foliosa	Leafy Panic	(blank)																Χ							Х
Urochloa panicoides	Urochloa Grass	exotic																							Х
Urtica incisa	Stinging Nettle	native																							3
	(blank)	native																							Х
Verbascum virgatum	Twiggy Mullein	exotic									Х														8
Verbena bonariensis	Purpletop	exotic																							6
Verbena caracasana	Shore Verbain	exotic																							Х
0	Verbena	native									Χ												Χ		X0
Verbena spp.	(blank)	native																							3
Vernonia cinerea	(blank)	native								Χ												Χ		Χ	7
Veronica arvensis	Wall Speedwell	exotic																							Х
Veronica plebeia	Trailing Speedwell	native																							Х
Vittadinia cervicularis	(blank)	native																							Х
Vittadinia cervicularis var. cervicularis	(blank)	native																							Х
Vittadinia cuneata	(blank)	native																					Χ		Х3
Vittadinia cuneata var. cuneata	(blank)	native																							3
Vittadinia dissecta	(blank)	native								Χ										Χ					X0
Vittadinia muelleri	(blank)	native											Χ		Х								Χ		2X
Vittadinia pustulata	Fuzzweed	native									Х														X2
Vittadinia spp.	Fuzzweed	native											Χ							Χ					X2
Vittadinia sulcata	(blank)	native																							Х
a to a at the	Rat's-tail Fescue	exotic										Χ	Χ		Χ					Χ					X7
Wahlenbergia communis	Tufted Bluebell	native									Χ	Χ	Χ	Χ		Χ							Χ	Χ	4X
Wahlenbergia gracilis	Sprawling Bluebell	native																					Χ		X7
Wahlenbergia graniticola	Granite Bluebell	native								Χ	Χ														2
	Bluebell	native																		Χ					7
Wahlenbergia spp.	Bluebell	native					Χ					Χ		Χ	Χ					Χ	Χ	Χ	Χ		33
Wahlenbergia stricta	Tall Bluebell	native																							Х
Wurmbea dioica subsp. dioica	Early Nancy	native													Χ								Χ		6
Xanthium spinosum	Bathurst Burr	high threat																							Х
	Golden Everlasting	native					Χ							Χ									Χ		9
Xerochrysum spp.	(blank)	native														Χ									4
, , , , ,	Zornia	native																							Х
Grand Total			23	22	22	33	47	23	2X	48	32	42	36	36	67	53	38	40	35	50	42	57	77	44	34XX



Greylands

<u> </u>	_			
Photo Point	Plot ID	Easting/Northing GDA 94 MGA 55	Photo bearing	Vegetation Community Represented
S12	C10 Don	777944/6622967	West	PCT 88 Pilliga Box- White Cypress - Buloke shrubby woodland in the
Rep	S12 Rep	777892/6622974	East	Brigalow Belt South Bioregion - moderate condition

Floristic Monitoring Site 12 REP (S12 Rep)



## Omeo

Photo Point	Plot ID	Easting/Northing GDA 94 MGA 55	Photo bearing	Vegetation Community Represented					
S13	S13	777504/6623536	West	PCT 81 Western Grey Box - cypress pine shrub grass shrub tall woodland in					
313	010	777455/6623552	East	the Brigalow Belt South Bioregion – moderate condition					
S13	C12 Dan	777518/6623447	West	PCT 81 Western Grey Box - cypress pine shrub grass shrub tall woodland in					
Rep	S13 Rep	777460/6623460	East	the Brigalow Belt South Bioregion – moderate condition					









**Greylands Road** 

Photo Point	Plot ID	Easting/Northing GDA 94 MGA 55	Photo bearing	Vegetation Community Represented
C14	CDV1	772042/6622013	SW	PCT 406: White Bloodwood - Motherumbah - Red Ironbark shrubby
S14	GRY1	772002/6621987	NE	sandstone hill woodland / open forest mainly in east Pilliga forests





## **West Haven**

Photo Point	Plot ID	Easting/Northing GDA 94 MGA 55	Photo bearing	Vegetation Community Represented
S14	WEH1	772007/6620721	West	PCT 404 Red Ironbark – White Bloodwood +/- Burrows Wattle heathy
Rep	VVCM I	771956/6620721	East	woodland on sandy soil in the Pilliga forests – good condition

Floristic Monitoring Site (S14 REP)





## Rosevale

Photo Point	Plot ID	Easting/Northing GDA 94 MGA 55	Photo bearing	Vegetation Community Represented
S15	ROV6	774822/6624361	NE	PCT 619 Derived Wire Grass grassland of the NSW Brigalow Belt South
313	11000	774865/ 6624384	SW	Bioregion and Nandewar Bioregion
S15	ROV7	775169/6625904	NE	PCT 619 Derived Wire Grass grassland of the NSW Brigalow Belt South
Rep	11017	775209/ 6625942	SW	Bioregion and Nandewar Bioregion
S16	S16	774550/6624448	West	PCT 409 Dirty (Baradine) Gum - White Bloodwood - White Cypress Pine - Motherumbah shrubby woodland on
310	310	774512/ 6624457	East	sandy soils in the Pilliga Scrub and surrounding region, Brigalow Belt South Bioregion – good condition
S16	S16 Rep	774579/6624563	NE	PCT 401 Rough-barked Apple- Blakely's Red Gum – Black Cypress Pine
Rep	Зтоттер	774610/ 6624602	SW	woodland on sandy flats, mainly in the Pilliga Scrub region – good condition
S17	ROV1	774876/6625271	NW	PCT 404 Red Ironbark – White Bloodwood +/- Burrows Wattle heathy
	11011	774843/ 6625302	SE	woodland on sandy soil in the Pilliga forests – good condition
S17	ROV2	774785/ 6624729	SW	PCT 406 White Bloodwood - Motherumbah - Red Ironbark shrubby sandstone hill woodland / open forest
Rep		774738/ 6624717	NE	mainly in east Pilliga forests – good condition
S18	ROV3	773697/ 6625385	SE	PCT 404 Red Ironbark – White Bloodwood +/- Burrows Wattle heathy
310	110 V3	773739/ 6625364	NW	woodland on sandy soil in the Pilliga forests – moderate condition
S18	ROV4	773626/ 6625135	ENE	PCT 406 White Bloodwood - Motherumbah - Red Ironbark shrubby sandstone hill woodland / open forest
Rep	11074	773678/ 6625141	WSW	mainly in east Pilliga forests – moderate condition
S19	ROV5	774783/ 6625874	NW	PCT 404 Red Ironbark – White Bloodwood +/- Burrows Wattle heathy
019	110 73	774748/ 6625907	SE	woodland on sandy soil in the Pilliga forests – good condition
S19	S19 Rep	774451/ 6625857	SE	PCT 404 Red Ironbark – White Bloodwood +/- Burrows Wattle heathy
Rep	Ототтер	774492/ 6625835	NW	woodland on sandy soil in the Pilliga forests – good condition

Appendix B – Flora Monitoring Points 2022

## Floristic Monitoring Site (S15)









## Floristic Monitoring Site (S16)











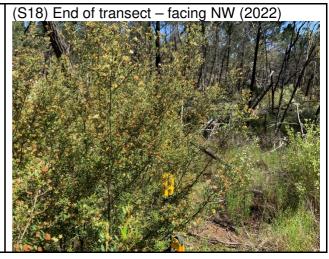


## Floristic Monitoring Site (S17 Rep)









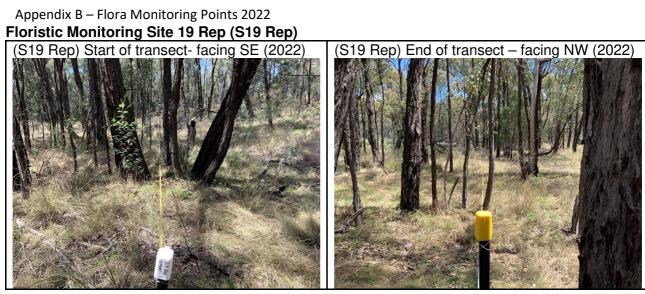




## Floristic Monitoring Site 19 (S19)







**Kurrajong Park** 

Photo Point	Plot ID	Easting/Northing GDA 94 MGA 55	Photo bearing	Vegetation Community Represented				
MP1	AMBS1	772041/6621848	SSW	PCT 406 White Bloodwood - Motherumbah - Red Ironbark shrubby				
IVIPI	AIVIDST	772014/6621800	NNE	sandstone hill woodland / open forest mainly in east Pilliga forests				
MP2	AMBS2	772013/6621505	SSW	PCT 404 Red Ironbark - White Bloodwood +/- Burrows Wattle heathy				
IVIPZ	AIVIDSZ	771989/6621452	NNE	woodland on sandy soil in the Pilliga forests				

Floristic Monitoring Site MP1





## Floristic Monitoring Site MP2







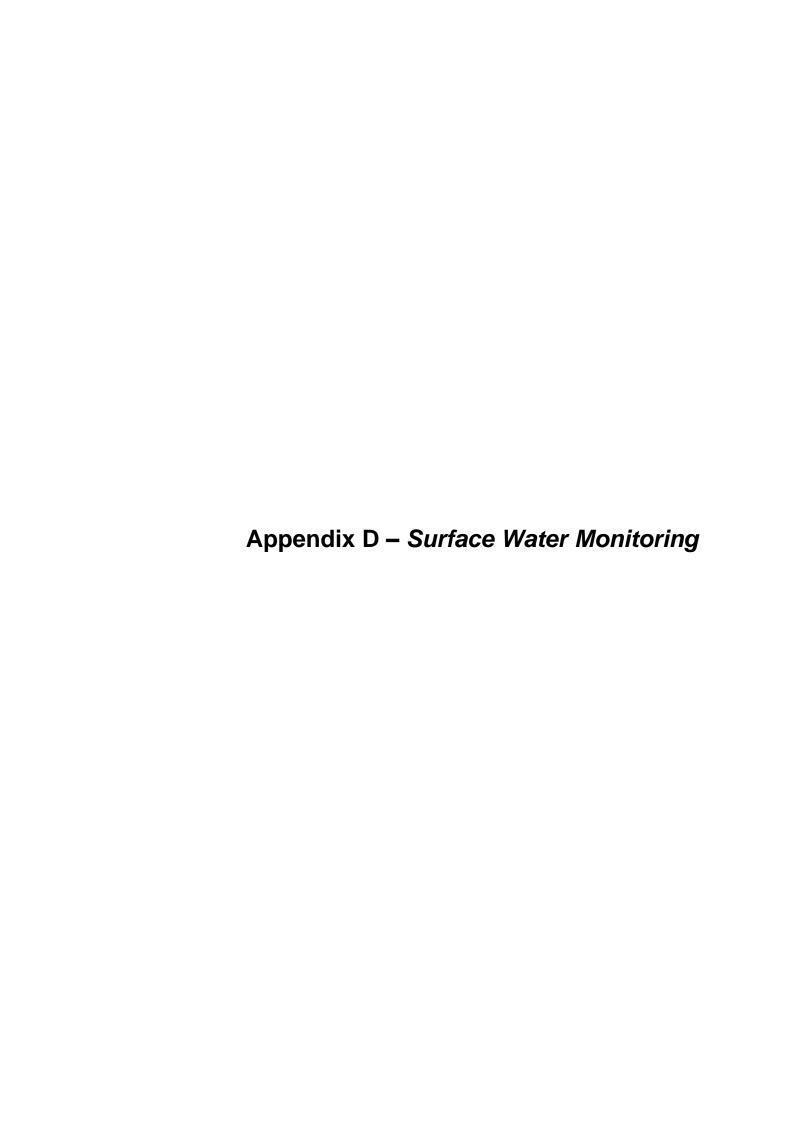
## Appendix C - Fauna Species List

Birds																
Common Name	Scientific Name	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	RB9	RB10	RB11	RB13	RB14	OPP	Total
apostlebird	Struthidea cinerea		8		8	11					6		2			35
australian magpie	Gymnorhina tibicen							3								3
australian raven	Corvus coronoides	2	2						1			1		1		7
bar-shouldered dove	Geopelia humeralis					1								1		2
black-eared cuckoo	Chalcites osculans								1				1	1		3
black-faced Cuckoo-shrike	Coracina novaehollandiae		2	1		1		4	1		1					10
blue-faced honeyeater	Entomyzon cyanotis							4		1						5
brown honeyeater	Lichmera indistincta		1				1									2
brown quail	Synoicus ypsilophorus		1	3		1			1							6
brown treecreeper	Climacteris picumnus														1	1
brown-headed honeyeater	Melithreptus brevirostris				2											2
chestnut-rumped thornbill	Acanthiza uropygialis						2			2		4				8
common bronzewing	Phaps chalcoptera		2					1								3
crested pigeon	Ocyphaps lophotes	1		1		2										4
diamond dove	Geopelia cuneata		1													1
double-barred finch	Taeniopygia bichenovii	4														4
dusky woodswallow	Artamus cyanopterus cyanopterus							2							1	3
eastern rosella	Platycercus eximius			8					1		2					11
eastern yellow robin	Eopsaltria australis		1		2	1	2	3		1	1	1	1			13
fan-tailed cuckoo	Cacomantis flabelliformis		1		2		1	1	2			1				8
galah	Eolophus roseicapilla	1						2								3
golden whistler	Pachycephala pectoralis				1					2	1			1		5
grey butcherbird	Cracticus torquatus					1										1
grey fantail	Rhipidura fuliginosa				4		2			4		2				12
grey shrike-thrush	Colluricincla harmonica		1						1	2			1	2		7
grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis					4			2		6					12
horsefields bronze cuckoo	Chrysococcyx basalis				1					1		1				3
inland thornbill	Acanthiza apicalis						2		2	1		2				7
jacky winter	Microeca fascinans			1					1					1		3
laughing kookaburra	Dacelo novaeguineae		1				1		1		1					4
leaden flycatcher	Myiagra rubecula							1								1
little corella	Cacatua sanguinea	2														2
magpie-lark	Grallina cyanoleuca			2							2					4
mistletoebird	Dicaeum hirundinaceum				1		1				1		1			4
musk lorikeet	Glossopsitta concinna		8					2					2			12
noisy friarbird	Philemon corniculatus				1				2				1			4
noisy miner	Manorina melanocephala		12				4	8			14					38
olive-backed oriole	Oriolus sagittatus		1													1
pallid cuckoo	Heteroscenes pallidus								1							1

peaceful dove	Geopelia placida				2					2		1				5
pied butcherbird	Cracticus nigrogularis		1					2			1			1		5
pied currawong	Strepera graculina					1		1								2
rainbow bee-eater	Merops ornatus							2		4				1		7
red-rumped parrot	Psephotus haematonotus			8			2									10
rufous songlark	Cincloramphus mathewsi	4						1								5
rufous whistler	Pachycephala rufiventris				2			4	2	2	2	1	2	1		16
sacred kingfisher	Todiramphus sanctus					1										1
shining bronze-cuckoo	Chalcites lucidus		1													1
singing honeyeater	Gavicalis virescens	1							1			2	3	1	2	10
speckled warbler	Chthonicola sagittata				1	2						1	2	2		8
spiny-cheeked honeyeater	Acanthagenys rufogularis				1	1		1				1				4
striated pardalote	Pardalotus striatus		1			1				1		1				4
striped honeyeater	Plectorhyncha lanceolata				2			2								4
superb fairy-wren	Malurus cyaneus					2					1		2			5
torresian crow	Corvus orru	1								2						3
turquoise parrot	Neophema pulchella														12	12
varied sittella	Daphoenositta chrysoptera									5						5
weebill	Smicrornis brevirostris				1	2	4	2	1			2	6	1		19
welcome swallow	Hirundo neoxena	11										1				12
western gerygone	Gerygone fusca				1							1				2
white-bellied cuckoo-shrike	Coracina papuensis				2											2
white-eared honeyeater	Nesoptilotis leucotis							1								1
white-throated gerygone	Gerygone olivacea				1									1		2
white-throated treecreeper	Cormobates leucophaea		2								2					4
white-winged chough	Corcorax melanorhamphos		14						8		4					26
white-winged triller	Lalage tricolor		1											1		2
willie wagtail	Rhipidura leucophrys	1						1			1					3
yellow thornbill	Acanthiza nana		8					2			2		2			14
yellow-faced honeyeater	Caligavis chrysops		2						4		2	2	4	1		15
zebra finch	Taeniopygia guttata	4		14	_	_					_	_		_		18
		32	72	38	35	32	22	50	33	30	50	25	30	17	16	482

	Mammals, I	Reptiles and	Frogs								
Group	Scientific Name	RVL-AF-	RVL-AF	RVL-AF-	RVL-AF	RVL-AF-	RVL-AF	RVL-AF-	RVL-AF	OPP	Total
Amphibian	Litoria rubella	0	0	0	0	0	1	0	0	C	) 1
Amphibian	Liotora latopalmata	0	0	0	0	0	0	4	0	C	) 4
Amphibian	Crinia signifera	0	0	0	0	0	0	1	0	C	) 1
Mammal	Sminthopsis murina	0	1	0	0	0	0	0	0	C	) 1
Reptile	Amphibolurus burnsi	0	0	0	0	0	0	0	0	1	. 1
Reptile	Amphibolurus muricatus	0	1	2	0	1	0	0	0	C	) 4
Reptile	Anamalopus luekartii	0	0	0	1	0	0	0	0	C	) 1
Reptile	Cryptoblepharus pulcher	0	0	0	0	0	1	0	0	C	) 1

Reptile	Cryptoblepharus pannosus	0	0	0	0	0	0	0	1	0	1
Reptile	Ctenotus allotropis	0	0	0	0	1	0	1	2	0	4
Reptile	Ctenotus robustus	1	0	0	0	0	0	0	0	0	1
Reptile	Diporiphora nobbi	0	0	3	0	0	0	0	0	0	3
Reptile	Lerista punctatovittata	0	0	0	0	0	1	0	0	0	1
Reptile	Lerista timida	0	1	0	0	0	0	0	0	0	1
Reptile	Morethia boulengeri	0	3	0	0	0	1	0	0	0	4
Reptile	Pogona barbata	0	1	0	0	0	0	0	0	0	1
Reptile	Delma inornata	0	0	0	1	0	0	0	0	0	1
Reptile	Diplodactylus vittatus	0	0	0	0	0	0	0	1	0	1
Reptile	Heteronotia binoei	0	1	0	0	1	1	0	1	0	4
Reptile	Pseudonaja textilis	0	0	0	0	0	0	0	0	1	1
Reptile	Pseudechis guttatus	0	0	0	0	0	0	0	0	1	1
Reptile	Demansia psammophis	0	0	0	0	0	0	0	0	2	2
Reptile	Egernia striolata	0	1	0	2	0	2	0	1	0	6
	Total	1	9	5	4	3	7	6	6	5	46



# **Appendix D - Surface Water Monitoring Results**

Data Point	Date	EC - Field (μS/cm)	Oil & Grease (mg/L)	pH - Field	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Comments
	25 January 2022	5570	<5	9.07	12	51	
	23 February 2022	5748	9	9.01	15	44	
	23 March 2022	6323	<5	8.88	26	29	
	28 April 2022	5201	<5	8.97	6	82	
	17 May 2022	4394	<5	9	4	93	
A1	21 June 2022	4451	<5	9.01	28	39	
	19 July 2022	5996	<5	9.03	5	25	
	23 August 2022	5601	<5	9.06	14	46	
	21 September 2022	4714	<5	9.13	6	106	
	18 October 2022	4567	<5	9	1	50	
	22 November 2022	4645	<5	9.03	7	34	
	6 December 2022	5425	<5	9.05	26	14	
	25 January 2022	35420	<5	9.8	3600	62	
	23 February 2022	36770	7	9.59	3530	93	
	23 March 2022	41170	<5	9.41	222	66	
	28 April 2022	37480	<5	9.41	153	75	
	17 May 2022	34030	<5	9.44	86	67	
A2	21 June 2022	32770	<5	9.46	111	28	
7,2	19 July 2022	42820	<5	9.5	66	21	
	23 August 2022	39830	6	9.55	294	84	
	21 September 2022	37690	7	9.62	3	65	
	18 October 2022	39870	<5	9.53	4	5	
	22 November 2022	38.41	<5	9.59	73	52	
	6 December 2022	40250	<5	9.52	43	27	
	25 January 2022	20630	<5	9.73	44	39	
	23 February 2022						Level too low to sample
	23 March 2022	39640	<5	9.68	246	54	

1	20.4 11.2022	25540		0.7	474	1 26	
	28 April 2022	35510	<5	9.7	174	36	
	17 May 2022	32460	<5	9.73	95	77	
А3	21 June 2022	36640	<5	9.75	289	240	
,	19 July 2022	39950	<5	9.73	63	44	
	23 August 2022	37120	<5	9.75	123	88	
	21 September 2022	33910	<5	9.87	3080	209	
	18 October 2022	36810	<5	9.79	6	51	
	22 November 2022	35440	<5	9.82	61	20	
	6 December 2022	38220	<5	9.75	86	60	
	25 January 2022	459	<5	7.92	2	5	
	23 February 2022	769	<5	7.99	4	5	
	23 March 2022	991	<5	8.49	6	5	
	28 April 2022	1025	<5	7.98	1	5	
	17 May 2022	959	<5	8.44	1	5	
B1	21 June 2022	765	<5	8.14	1	5	
D1	19 July 2022	990	<5	8.1	6	5	
	23 August 2022	927	<5	7.68	8	5	
	21 September 2022						Heavy rain - Not safe to sample
	18 October 2022	971	<5	8.2	1	5	
	22 November 2022	1201	<5	8.23	2	5	
	8 December 2022	1248	<5	8.06	18	5	
	25 January 2022	22790	<5	9.69	48	21	
	23 February 2022	23000	<5	9.64	47	31	
	23 March 2022	24640	<5	9.6	104	41	
	28 April 2022	22340	<5	9.59	90	24	
	17 May 2022	20840	<5	9.55	5	36	
B2	21 June 2022	19870	<5	9.56	98	30	
BZ	19 July 2022	24720	<5	9.41	52	18	
	23 August 2022	24280	<5	9.49	90	30	
	21 September 2022	21700	<5	9.49	84	65	
	18 October 2022	21210	<5	9.39	10	61	
	22 November 2022	20240	<5	9.4	41	16	
	6 December 2022	21280	<5	9.47	34	28	
	25 January 2022	39810	<5	9.7	113	226	

Ī	22 Fahruary 2022	35720	<5	9.71	88	38	
	23 February 2022						
	23 March 2022	39300	<5 -	9.71	127	54	
	28 April 2022	36040	<5	9.67	240	70	
	17 May 2022	35300	<5	9.66	69	67	
С	21 June 2022	28550	<5	9.65	365	32	
	19 July 2022	42210	<5	9.62	64	34	
	23 August 2022	41790	<5	9.62	26	36	
	21 September 2022	38630	8	9.67	217	96	
	18 October 2022	42480	<5	9.55	6	12	
	22 November 2022	41980	<5	9.55	57	37	
	6 December 2022	42950	<5	9.54	35	55	
	25 January 2022	572	<5	8.96	28	200	
	23 February 2022	1048	<5	8.75	18	340	
	23 March 2022	1004	<5	9.12	22	199	
	28 April 2022	781	<5	8.49	6	110	
	17 May 2022	467	<5	8.72	3	56	
	21 June 2022	459	<5	8.79	120	36	
D	19 July 2022	836	<5	8.61	7	20	
	23 August 2022	835	<5	8.8	1	81	
	21 September 2022	786	<5	8.59	1	52	
	18 October 2022	945	<5	8.79	15	116	
	22 November 2022	768	<5	8.53	3	51	
	6 December 2022	817	<5	8.58	20	60	
	19 January 2022	5068	666	8.5	75	545	
	16 February 2022	7945	20	8.57	56	1180	
	15 March 2022	5568	<5	8.53	51	558	
	6 April 2022	4981	<5	8.58	16	358	
	11 May 2022	3888	<5	8.98	15	1760	
	15 June 2022	3392	36	8.57	38	5330	
Box Cut	13 July 2022	7245	6	8.48	4	128	
	16 August 2022	5441	7	8.91	1	1800	
	14 September 2022	4806	51	8.55	624	1480	
	12 October 2022	5412	29	8.44	149	604	
	16 November 2022	4003	12	8.73	55	1710	
I	TO MOVEITIBEL 2022	4003	14	0./3	J3	I 1/10	

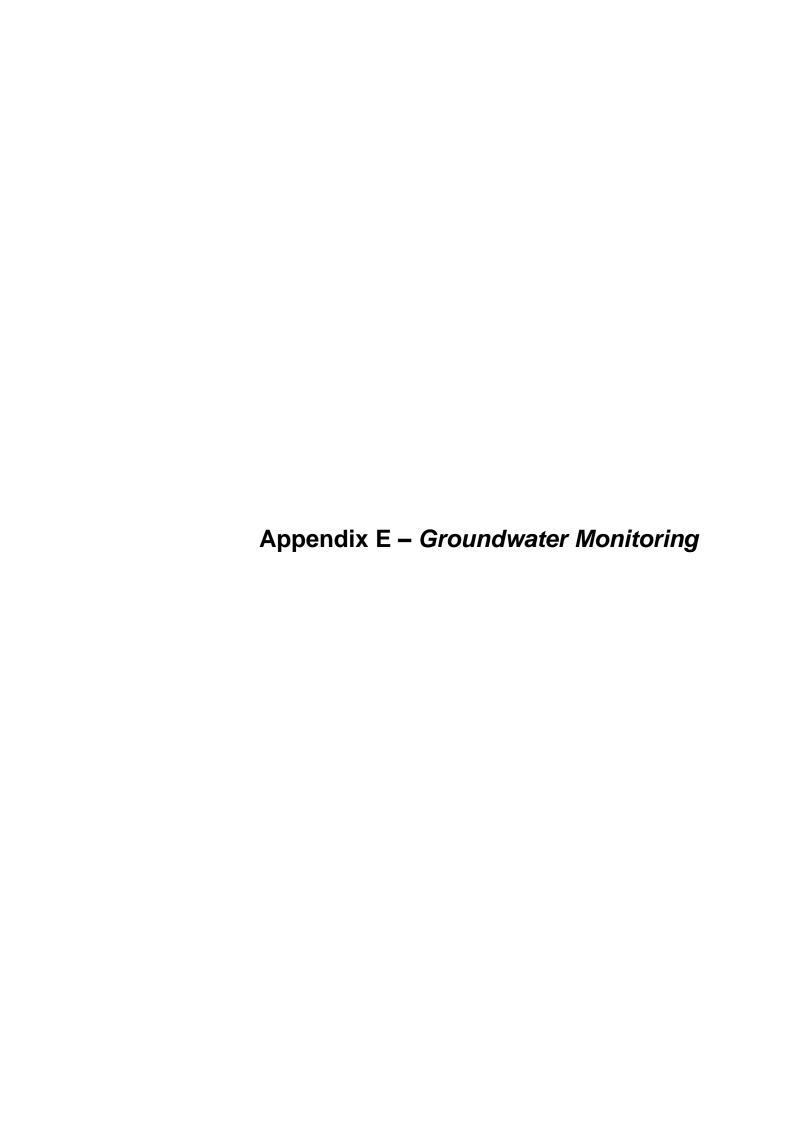
	6 December 2022	4049	13	8.53	15	3140	
	19 January 2022	2930	<5	9.3	24	101	
	16 February 2022	6736	<5	9.05	27	128	
	15 March 2022	6052	<5	9	18	53	
	6 April 2022	5588	10	9	13	63	
	11 May 2022	4280	<5	9.08	20	72	
	14 June 2022	4070	<5	9.05	63	56	
SB1	13 July 2022	5024	12	8.88	9	138	
	16 August 2022	5577	<5	9.05	17	82	
	20 September 2022	5566	<5	9.01	25	82	
	12 October 2022	5499	<5	9.03	5	79	
	16 November 2022	6069	<5	8.93	7	33	
	6 December 2022	9080	<5	8.97	36	9050	
	19 January 2022	2687	<5	9.44	11	47	
	16 February 2022	3138	<5	9.39	4	16	
	15 March 2022	3256	<5	9.45	16	13	
	6 April 2022	3001	<5	9.36	7	26	
	11 May 2022	3593	<5	9.27	16	18	
SB2	14 June 2022	2813	<5	9.29	4	5	
382	13 July 2022	4101	7	9.08	11	12	
	16 August 2022	2925	<5	9.28	9	48	
	20 September 2022	2157	<5	9.2	26	6	
	12 October 2022	2648	<5	9.19	4	8	
	16 November 2022	2792	<5	9.03	6	18	
	6 December 2022	5320	<5	9.1	18	27	
	19 January 2022	1624	<5	9.3	11	633	
	16 February 2022	2548	<5	9.28	18	75	
	15 March 2022	3170	<5	9.47	63	204	
	6 April 2022	2787	<5	9.4	27	588	
	11 May 2022	3320	<5	9.41	38	128	
SB3	14 June 2022	2274	<5	9.27	7	382	
383	13 July 2022	4371	8	9.04	30	249	
	16 August 2022	1410	<5	9.21	4	519	
	20 September 2022	860	<5	8.96	5	336	

	12 October 2022	1731	<5	8.99	6	436	
	16 November 2022	1402	10	8.84	8	922	
	6 December 2022	6060	<5	9.11	50	19	
	19 January 2022	1867	<5	9.32	9	36	
	16 February 2022	2098	<5	9.38	13	22	
	15 March 2022	2156	<5	9.35	12	19	
	6 April 2022	1933	5	9.27	12	26	
	11 May 2022	1720	<5	9.28	15	46	
SB4	14 June 2022	1473	<5	9.25	9	5	
304	13 July 2022	2069	<5	9.01	9	5	
	16 August 2022	1916	<5	9.13	6	179	
	20 September 2022	1593	<5	9.25	12	157	
	12 October 2022	15458	<5	9.21	8	46	
	16 November 2022	1116	<5	9.03	7	116	
	6 December 2022	1740	<5	8.84	9	8	
	5 January 2022	2832	<5	9.11	20	44	
	16 February 2022	2597	<5	9.33	28	15	
	15 March 2022	2880	<5	9.44	24	20	
	6 April 2022	2236	<5	9.27	22	22	
	11 May 2022	2008	<5	9.32	30	54	
SD1	15 June 2022	801	<5	8.47	26	21	
301	13 July 2022	1368	10	8.39	30	35	
	16 August 2022	1367	<5	8.86	14	52	
	20 September 2022	352	<5	8.02	10	14	
	12 October 2022	1139	<5	8.39	16	20	
	16 November 2022	1469	<5	8.46	14	71	
	6 December 2022	3140	<5	8.79	9	19	
	5 January 2022	2030	<5	9	9	5	
	16 February 2022	1830	<5	9.17	12	30	
	15 March 2022	1929	<5	9.37	12	17	
	6 April 2022	1535	<5	9.05	13	13	
	11 May 2022	1419	<5	9.16	30	13	
	15 June 2022	740	<5	8.92	13	5	
	13 July 2022	1225	10	8.71	15	5	

	16 August 2022	659	<5	8.01	11	25	
	25 August 2022	696	<5	7.88	19	5	EPL Discharge sample
SD2	30 August 2022	697	<5	8.04	14	5	EPL Discharge sample
	16 September 2022	353	<5	7.75	10	18	EPL Discharge sample
	20 September 2022	424	<5	8.12	11	8	
	12 October 2022	1310	<5	8.87	15	5	
	21 October 2022	444	<5	8.25	9	128	EPL Discharge sample
	1 November 2022	453	<5	7.43	14	176	EPL Discharge sample
	14 November 2022	592	<5	8.23	11	64	EPL Discharge sample
	16 November 2022	887	<5	8.53	13	52	
	6 December 2022	1510	<5	8.96	14	22	
	5 January 2022	618	<5	8.37	9	20	
	16 February 2022	655	<5	8.73	14	65	
	15 March 2022	710	<5	8.64	10	33	
	6 April 2022	652	<5	8.35	9	34	
	11 May 2022	539	<5	8.37	13	39	
602	15 June 2022	347	<5	8.18	15	9	
SD3	13 July 2022	776	6	8.09	15	12	
	16 August 2022	491	<5	7.87	9	57	
	20 September 2022	272	<5	7.92	5	72	
	12 October 2022	595	<5	8.97	10	40	
	16 November 2022	314	<5	8.17	9	92	
	6 December 2022	476	<5	8.13	6	97	
	5 January 2022	1400	<5	9.22	14	7	
	16 February 2022	1550	<5	9.2	16	21	
	15 March 2022						Dam being de-silted - no sample
	6 April 2022						Dam being de-silted - no sample
	11 May 2022						Dam being de-silted - no sample
	15 June 2022						Dam being de-silted - no sample
	13 July 2022						Dam being de-silted - no sample
	16 August 2022	661	<5	8.5	10	34	-
CD4	30 August 2022	841	<5	8.28	9	19	EPL Discharge sample
SD4	5 September 2022	943	<5	8.44	12	27	EPL Discharge sample
	16 September 2022	463	<5	8.36	8	225	EPL Discharge sample

	20 September 2022	420	<5	8.01	6	92	
	12 October 2022	445	<5	8.73	7	7	
	21 October 2022	698	<5	7.92	6	53	EPL Discharge sample
	1 November 2022	608	<5	8.07	10	122	EPL Discharge sample
	14 November 2022	699	<5	8.32	7	421	EPL Discharge sample
	16 November 2022	556	<5	8.14	8	47	
	6 December 2022	721	<5	8.7	3	8	
	5 January 2022	578	<5	8.69	11	10	
	16 February 2022	622	<5	9	12	5	
	15 March 2022	502	<5	9.04	15	5	
	6 April 2022	544	<5	8.9	14	13	
	11 May 2022	481	<5	8.99	7	11	
SD6	14 June 2022	340	<5	8.9	13	5	
300	13 July 2022	652	5	8.7	12	6	
	16 August 2022	605	<5	8.74	9	9	
	20 September 2022	498	<5	8.47	10	5	
	12 October 2022	485	<5	8.82	10	32	
	16 November 2022	432	<5	8.11	14	18	
	6 December 2022	481	<5	8.82	14	5	
	16 September 2022	61	<5	7.93	3	1730	EPL Discharge sample
	22 September 2022	92	<5	8.31	9	1040	EPL Discharge sample
	9 October 2022	153	<5	8.5	10	953	EPL Discharge sample
SD7	12 October 2022	188	<5	7.89	22	1420	
	21 October 2022	17	<5	8.43	6	4480	EPL Discharge sample
	1 November 2022	118	<5	8.2	14	3700	EPL Discharge sample
	14 November 2022	279	<5	7.51	8	595	EPL Discharge sample
	5 January 2022	158	<5	7.45	7	42	
	16 February 2022	176	<5	8.87	8	23	
	15 March 2022	204	<5	8.14	8	22	
	6 April 2022	165	<5	8.12	5	24	
	11 May 2022	154	<5	8.75	7	11	
SD8	14 June 2022	56	<5	8.5	6	27	
300	13 July 2022	287.8	<5	8.43	6	27	
	16 August 2022	148	<5	8.91	4	58	

20 September 2022	147	<5	8.07	5	74	
12 October 2022	139	<5	7.61	5	17	
16 November 2022	111	<5	7.92	6	80	
6 December 2022	177	<5	7.24	4	27	



	\ \ .			, ,	<del>,</del> L	Field	d Parame	ters						Total M	etals						<u></u>		Ę.		Major Ca	Cations					Major /	Anions				o o	N ~		,	및 [	Ъ
<u>e</u>	neter. r Bore	te .	e	mbgl	o Stan toc		-C E:-I4	<b></b>	Alii	Arsenic	Barium	Beryllium	Cadasissas	Cobalt	Copper	Iron	Lead	Mangane	Nickel	Manadissa Zina (2	7 (Hg)	Lab	- µs/c	Calcium	Magnesiu	Sodium	Potassiu	ations q/L	Chloride Si	ulfate		Carbonate		A II II i4	nions q/L	alanc	onia a: en (N	as N	as N	ž į	ssolve
Sign	iezon Nater	Da	🖹   🚦	Ē	pth to St mbtoc	H - Field	us/cm	Field - °C	Aluminium (Al) - mg/L	(As) - mg/L	(Ba) -	Beryllium (Be) - mg/L	(mg/L)	Chromium (Cr) - mg/L (Co) - mg/L	(Cu) -	Iron (Fe) - mg/L	(Pb) -	se (Mn) -	(Nii)	Vanadium Zinc (Z (V) - mg/L - mg/L		рн гар	- Lab	(Ca) -	m (Mg) -	(Na) -	m (K) - mg/L	Total Cation meq/L	(CI) - (S mg/L m	O4) - g/L	Alkalinity as CaCO3 -	as CaCO3 -	Alkalinity	Alkalinity - mg/L	otal A me	onic B	\mmo Jitrog	litrite mg	itrate	X as I	Sol
ANZECC Guideline -	stock drinking	water	å	3 2	e P				-	0.5			0.01		1116/1	1116/1	0.1	6/ L	1	20	0.002		EC	1000	6/ -	1116/1	6/1	ř		1000	mg/L	mg/L	ng/I		ř		Q 2	1500	Z 400	2	<u>2000</u>
P1			1450 5						3	0.5			0.01	1 1	1		0.1		1	20	0.002			1000						1000								1500	400		4000
Depth	50	17-Dec-07 23-Jan-08	1145 4	0.00 5																	-																			$\longrightarrow$	
Format.	Garrawilla	03-Mar-08	1230 4	6.51 4	17.51																																				
Standpipe height	1		1040 4 0826 4						<del>                                     </del>	-											+			-		_	$\vdash$													$\rightarrow$	
		02-Jun-08	1200 4	3.24 4	14.24																																				
			1150 4 1350 4						-												+																			+	
		14-Aug-08	1047 4	0.13 4	11.13																																				
			0925 3 0830 4			7.6	470	20.8		0.008	0.684	0.003	0.0008	0.094 0.041	0.128	56.7	0.516	2.33	0.154	0.11 0.25	0.0001		3710	26	25	933	24	44.6	641	43	<1	<1	1190	1190	42.7	2.06	1.62			-+	2380
			0956 4																																						
			1505 4 1255 4						<b>-</b>												+																			$\longrightarrow$	
			1500 -		)C 77	7.2	2020	22.5						0.001 0.002 0.094 0.051							<0.0001		3840		26		_	40.7	693	<10	<1	<1	1000	1000	39.6	1.33	0.24 0.48				2300 2520
			0930 3 0920 4			7.3 7.21	3920 2940							0.032 0.007							0.0002		4130 2370	20 7	27 20	892 471		42.6 22.8	614 346	48.2 40.4	<1	<1	1120 624	1120 624	40.6 23	2.24 0.57	0.48				1420
			1255 4 1515 3			7.44	4060	21		<0.001				<0.005	0.006	<0.0F	0.002	0.000	0.002	0.02	<0.0001	7.5	2010	22	20	020	28	44.6	663	44.2	<1	-1	1080	1000	41.2	3.9		<0.01	1.8	10	
			1100 3			7.53				V0.001				V0.003	0.006	V0.03	0.002	0.009	0.003	0.03	0.0001	7.5	3610	23	29	920	20	44.0	002	44.2	- 1	-1	1000	1080	41.2	3.9		V0.01	1.0	1.8	
			1340 3 1340 2				2960 3180			<0.001				<0.005	0.019	<0.05	0.012	0.06	0.004	0.08	<0.0001	7.47	3770	19	22	792	22	37.8	680	39	<1	<1	957	957	39.1	1.78		<0.01	0.69	0.69	
		27-Sep-11	930 2	5.61 2	26.61	7.41	3520	20.8	0.03	<0.001	0.301	<0.001	<0.0001	<0.001 <0.001	0.024	0.24	0.036	0.207	0.008	<0.01 0.04	<0.0001	8.31	3970	20	26	916	25	43.6	716	38	<1	5	994	999	41	3.12	0.24	<0.01	0.02	0.02	2260
			1350 2 1350 2			7.44			0.07	<0.001	0.316	<0.001	<0.0001	<0.001 <0.001	0.013	0.12	0.026	0.002	0.01	<0.01 0.05	4 <0.0001	7.96	3870	25	30	913	25	44.1	716	46	<1	<1	1050	1050	42.1	2.2	0.01	<0.01	0.49	0.49	2230
		25-Jun-12	1340 -	1.00	N	No access to	o propert	y																																	
			1415 2 1340 2				3800 3670		0.09	<0.001	0.328	<0.001	<0.0001	<0.001 <0.001	0.012	0.15	0.03	0.116	υ.003	<0.01 0.02	<0.0001	8.05	3980	8	26	884	24	41.6	685	41	<1	<1	1090	1090	42	0.46	0.02	<0.01	0.46	0.46	2140
		03-Apr-13	1350 -	1.00		7.77	3920	23.4	0.07	<0.001	0.331	<0.001	0.0001	<0.001 <0.001	0.057	0.18	0.017	0.022	0.002	<0.01 0.11	<0.0001	7.79	4040	23	31	925	29	44.7	687	37	<1	<1	1030	1030	40.7	4.58	<0.01	<0.01	0.6	0.6	2230
			1020 2			7.7 No access to			<u> </u>	<u> </u>					<u> </u>						<u> </u>																			+	
			1245 2 1330 2		22.23			24.1	0.09	<0.001	0.256	<0.001	<0.0001	0.004 <0.001	0.056	0.12	0.000	0.062	0.004	<0.01 0.06	7 <0.0001	7.0	2920	10	25	0.40	20	40.6	641	34	<1	<i>c</i> 1	949	949	37.8	3.6	0.05	<0.01	0.43	0.43	1780
			1345 2	_		-	3570		0.09	V0.001	0.330	V0.001	V0.0001	0.004 (0.00)	0.030	0.13	0.008	0.002	0.004	V0.01 0.00	V0.0001	7.5	3830	15	25	040	20	40.0	041	34	\ <u>1</u>	\1	343	343	37.8	3.0	0.03	V0.01	0.43	0.43	1780
			933 2 1355 2				3730 3680	22.9 21.8	0.08	<0.001	0.462	<0.001	<0.0001	<0.001 <0.001	0.03	0.18	0.002	0.036	0.005	<0.01 0.09	<0.0001	7.92	3890	17	24	861	22	40.8	613	36	<1	<1	902	902	36.1	6.17	0.02	<0.01	0.53	0.53	2080
			900 2				3780		0.04	<0.001	0.388	<0.001	<0.0001	<0.001 <0.001	0.014	0.1	0.01	0.026	0.007	<0.01 0.05	<0.0001	8	3910	23	30	926	24	44.5	676	37	<1	<1	1100	1100	41.8	3.08	0.02	<0.01	0.71	0.71	1860
			1105 2 1400 2	_		7.4	3690 3740		0.02	<0.001	0.388	<0.001	<0.0001	<0.001 <0.001	0.007	0.06	<0.001	0.08	0.002	<0.01 0.03	7 <0.0001	7.83	3970	32	51	1010	23	50.3	722	34	<1	<1	1010	1010	41.2	9.86	0.43	<0.01	0.54	0.54	2180
		14-Dec-15	1415 2	0.62 2	21.62	7.5	3750	23																																	
			1355 2 915 2			7.6 7.5	3770 3810		0.04	<0.001	0.397	<0.001	<0.0001	<0.0001 <0.001	0.019	0.06	0.002	0.326	0.005	<0.01 0.06	2 <0.0001	7.89	3960	24	26	840	23	40.5	654	38	<1	<1	1050	1050	40.2	0.26	0.28	<0.01	0.33	0.33	2000
		28-Sep-16	1325 2	0.56 2	21.56	7.5	3630	21.9	0.06	0.001	0.436	<0.001	<0.0001	<0.001 <0.001	0.008	0.08	<0.001	0.326	0.004	<0.01 0.07	<0.0001	7.9	3760	24	23	820	21	39.3	635	28	<1	<1	1080	1080	40.1	1.02	0.45	<0.01	0.38	0.38	1930
			1215 2 1120 2				3510 3580														+																			$\longrightarrow$	
		21-Dec-16	1300 2	1.30	22.3	7.6	3520	22.3																																	
			1345 2 1350 2			7.6	3680 3720		<b>-</b>												+																			$\longrightarrow$	
			1440 2 1345 2				4210 4140																																		
			1340 2				3840																																		
		29-Jun-17	1240 2	1.00		7.6															_																				
			1415 2																																					$\pm$	
			1415 2 1220 2				3830 3910	22.5	0.01	<0.001	0.47	<0.001	<0.0001	<0.001 <0.001	0.002	<0.05	0.003	0.352	0.002	<0.01 0.03	<0.0001	8.01	3890	31	34	814	21	40.3	621	25	<1	<1	1050	1050	39	1.6	0.37	<0.01	0.23	0.23	2180
		27-Nov-17	1410 2	2.04 2	23.04	7.6	3850	20.8																																<b>_</b>	
			1220 2 1015 2				3820 3890	22.7													-																			$\longrightarrow$	
		20-Feb-18	1340 2	8.95 2	29.95	7.6	3880	22																																	
			1445 2 1430 2					22.7 22.1													+																			-+	
			1315 2 1440 2					21.4 21.4																																ightharpoonup	=
			1320 2					21.4																																-+	
			1345 2 1355 2			7.6 7.7		21.6 21.9	0.03	<0.001	0.416	<0.001	<0.0001	<0.001 <0.001	0.003	0.06	0.002	0.030	<0.001	<0.01 0.00	7 <0.0001	7 97	4070	22	26	792	21	38.7	718	30	- 1	<i>c</i> 1	919	919	30.7	1 31	0.04	<0.01	0.84	0.84	2370
		29-Oct-18	1430 2		22.87	7.8	3700	22.4	0.03	VU.UU1	0.410	~U.UUI	-U.UUU1	10.001 (U.00)	0.003	0.00	0.002	0.033	~U.UUI	VO.U1 0.00	-0.0001	1.31	+070		20	132		J0.4	,10	30	'1	\1	J13	213	35.4	1.31	0.04	-0.01	J.04	0.04	2370
		29-Nov-18 20-Dec-18				No access to			<u> </u>	_					1						+		$+ \exists$	$-\Box$			$+$ $\top$		$\vdash \top$						$\vdash \vdash \vdash$		$\vdash$			$-\!$	
		24-Jan-19			Ν	No access t	o propert	у													1																			二士	
		25-Feb-19 19-Mar-19				No access to No access to			<u> </u>	1					-						+		+			<u> </u>									$\vdash$					-	
		26-Apr-19			N	No access t	o propert	y																																ightharpoons	
		31-May-19 24-Jun-19		_		No access to No access to		y y NCO to ac	dvise	1					1						+		+			_	+		<del>                                     </del>											$\longrightarrow$	
		29-Jul-19			N	No access t	o propert	y NCO to ad	dvise																															ightharpoons	
		23-Aug-19 23-Sep-19						y NCO to ac y NCO to ac		$\perp$											$\pm$																			_+	
		28-Oct-19			N	No access t	o propert	y NCO to ad		th novel	S NCO +-	advico																													
			1200 1430 2	1.60	22.6	7.7	3160	25.4					0.0003	<0.001 0.004	0.076	0.95	0.065	0.672	0.006	<0.01 0.17	<0.0001	7.86	4040	24	26	806	21	38.9	728	25	<1	<1	896	896	39	0.03	0.83	0.3	<0.01	0.01	2230
			1320 2 1255 2			7.6 7.6				1											1		$\vdash \Box$	$-\Box$			$\vdash \exists$		$\vdash \top$			-					$\vdash$			$ \mp$	
		27-Mar-20	1145 2	1.19 2	22.19	7.6	3540	21.6																																一士	
			1025 2 1035 2			7.5 7.6		21.6 21.3		_					1						+		+				$+$ $\mp$		$\vdash$						$\vdash$					-	
		30-Jun-20	1045 2	1.73 2	22.73	7.6	3970	20.8																																二	
			1100 2 1100 2					19.5 19.4	<del> </del>	-				<del>                                     </del>	1	-					+	-	+-				+		<del>                                     </del>						$\vdash$		-			$\longrightarrow$	
		18-Sep-20	1350 2	2.18 2	23.18	7.34	3829	19.4	0.17	7 0.002	0.53	<0.001	<0.0001	<0.001 <0.001	0.004	0.25	0.004	0.095	0.002	<0.01 <0.01	<0.0001	8.16	3860	25	24	791	. 22	38.2	761	31	<1	<1	1170	1170	45.5	8.72	0.38	0.03	0.66	0.69	2300
			920 2 1000 2					19.1 19.9	<del>                                     </del>	+					1	-					+		+			-	+		<del>                                     </del>						$\vdash$					$\longrightarrow$	—
		21-Dec-20	1215 2	2.40	23.4	7.5	4210	19.6													1																			二丰	
			920 2			7.6			-	+					1						+		+				+ +		<del>                                     </del>						$\vdash \vdash \vdash$		$\vdash$			$\longrightarrow$	
		30-Mar-21	920 2	2.32 2	23.32	7.4	3980	19.3							1						1																			ightharpoons	
			1015 2 905 2				3570		<u> </u>	+					1						+		+				+		<del>                                     </del>											-+	
			1000 2																																					ightharpoonup	

Ω				-		Fie	eld Parame	ters							Total Met	als									εI		Maior Ca	ations					Major An	nions								7	-
				ate	and	- 110		1		Т.					- Otal Mict								- (g)		ᇂㅏ			1		ė		I		, , E	Bicarbona		-su	oce.	(N)	ż	ż	mg/	<u>×e</u>
	B de	ŧ.	ae l	≥ ±	h to St mbtoc		FC 5:-14			Arsenic	Barium	Beryllium	C	Ch	Cobalt	opper Ir	on Le	ad Ma	angane Ni	ickel		7: (7)	\$ 1	울	- <del>-</del> - (	Calcium	Magnesiu S		Potassiu	g ig	Chloride	Sulfate   1	roxide Ca		te Alkalinity as CaCO3 -	Alkalinity -	양물	ala	en	as 3/L	s as	ż	sso
Site	iezom Nater	Da	i	oth to W mbgl	a b tc	pH - Field	us/sm	remp -	Aluminium (Al) - mg/L	(As) - mg/L	(Ba) -	(Be) -	Cadmium ( (mg/L) (	(Cr) ma/I	(Co) - (	Cu) - (F	on Lea ie) - (Pl ig/L ma	) - se	(Mn) - (N g/L m	ii) -   v	anadium V) - mg/L	ma/I	ercury mg/l	표	ੂ ਵ		m (Mg) -	(Na) - mg/L	m (K) -	a a		(SO4) - AIK	COCO 2	Cacoa	Alkalinity	ma/I	al A	i.	rog .	ᄩᇎ	ag ag	as	S D
	ξ. Ŗ.			)e pt	Sept		με/τιιι	rieiu - C	(Ai) - Ilig/L	mg/L	Barium (Ba) - mg/L	mg/L	(IIIg/L) (	Chromium (Cr) - mg/L	mg/L r	ng/L m	ig/L mg	/L mg	g/L m	g/L (	v) - IIIg/L	- IIIg/L	Mer		C- Lab	mg/L	mg/L I	mg/L	mg/L	Tota	mg/L	mg/L mg/	L m	ng/L	Alkalinity as CaCO3 -	IIIg/L	Tot	<u>o</u>	Nit An	ž	ž.	XOX	Tota
ANZECC Guideline - sto	tock drinking w	vater		_					5	0.5			0.01	1	1	1		0.1		1		20	0.002			1000						1000		- ,	mg/I					1500	400	_	4000
		29-Jul-21	810	22.57	23.57	8	3800	19.9																																			
		28-Aug-21	1350	22.00	23	7.52	3814	19.6																																			
		05-Oct-21	1430	22.49	23.49	7.43	3809	21.7	0.	.7 0.004	4 0.646	<0.001	<0.0001	0.002	0.002	0.008	1.52	0.011	0.421	0.009 <	0.01	0.019	<0.0001	8	4160	30	28	897	25	39.6	740	27 <1	<1	1	1150	1150	44.4	5.72	1.87	0.23	<0.01	0.15	2420
		11-Jan-22	1030	22.27	23.27	7.83		26.1																																			
		27-Mar-22	1000	21.67	22.67	7.68	3950	23.4																																			
		04-Jul-22	1415	21.04	22.04	7.27	21																																				
		15-Sep-22					5180		10.	.4 0.018	1.14	0.001	0.0004	0.023	0.009	0.048	14.8	0.03	0.743	0.035	0.04	0.072		7.76	4660	33	32	984	29	47.8	674	<1	<1	1	1530	1530	49.6	1.8		0.01	0.01	0.01	2860
		21-Nov-22	1500	21.31	22.31	7.03	5182	23.8																																			
P2	NG2	01-Nov-07	1420	30.58	31.50																																						
		17-Dec-07		29.58	-																																						
Depth	50	23-Jan-08	1120	28.98	29.90																																						
Format.	Napperby	03-Mar-08		29.48								,																															
		02-Apr-08																																									
		09-May-08	0846	29.46	30.38																																						
Standpipe height	0.92	02-Jun-08	1224	29.47	30.39																																						
		01-Jul-08	1215	29.43	30.35																																						
		11-Aug-08	1435	29.44	30.36																																						
		14-Aug-08																																									
		19-Aug-08	1055	29.45	30.37																																						
		09-Sep-08				7.2	15700	20.8		0.010	1.40	0.004	0.0006	0.024	0.029	0.057	33.4	.091	2.96	0.048	0.06	0.093	<0.0001		17100	189	453	4060	126	227	5650	366	<1	<1	2550	2550	218	1.97	4.52				12900
		14-Nov-08																																									
		03-Dec-08	_																																								
		16-Feb-09	1329		30.23																																						
		11-Jun-09		-0.92							0.613		<0.0001															3770			5790		<1		2890	2890	225	3.83	3.31				13400
		17-Aug-09					33100			0.004	0.896			0.026							0.02		0.0002			250	585	3650	83	222	5720		<1		3000	3000	226	1.12	2.47				12800
		17-Nov-09				6.58	20400	32.4		0.041	8.41	0.008	0.0009	0.215	0.103	0.463	167 C	.152	4.64	0.284	0.25	0.493	0.0002		18900	6	434	3630	78	196	5300	276	<1	393	2360	2750	210	3.51	2.88				12800
		24-Feb-10	_								$\perp$																																
		24-Jun-10					19740		<0.01	0.003	$\perp$			<0.005		0.002	<0.05	.012	1.53	0.035		0.098	<0.0001	6.92	17200	115	465	3320	108	191	5960	362	<1	<1	<1	<1	176	4.22		<0.01	0.2	0.2	
		03-Sep-10			29.97	6.8		21.5																																			
		08-Feb-11			-	6.27		25	0.01	0.005				<0.005		0.01	<0.05	.002	1.64	0.017		0.013	<0.0001	6.45	20600	170	440	4520	91	244	6080	408	<1	<1	3380	3380	248	0.82		<0.01	<0.01	<0.01	
		08-Jun-11	_			6.55	15990		<b>_</b>		1																				L												
		26-Sep-11		28.93	29.85	6.55		22.7	0.6	0.014	0.474	0.001	0.0001	0.004	0.016	0.024	1.38 (	.135	2.07	0.042	0.01	0.121	<0.0001	6.91	20500	157	432	4760	91	253	5880	344	<1	<1	2860	2860	230	4.65	3.1	<0.01	0.5	0.5	12500
		04-Jan-12	_			6.43	17090				1												L								L												
		28-Mar-12			29.2	6.85		22.8	0.12	<0.001	0.437	<0.001	<0.0001	0.008	<0.001	0.016	0.66	1.96	0.019	0.018	<0.01	0.087	<0.0001	7.44	20000	170	452	4660	87	251	6190	393	<1	<1	3020	3020	243	1.49	2.54	<0.01	0.16	0.16	13200
		25-Jun-12		28.72	29.64	6.71	17300				1																				L												
		11-Sep-12				6.53		23.3	0.03	0.003	0.417	<0.001	<0.0001	0.001	0.007	0.014	0.66	0.004	1.84	0.016	<0.01	0.047	<0.0001	7.4	20400	160	426	4600	98	246	5820	385	<1	<1	3030	3030	233	2.67	0.19	<0.01	0.12	0.12	12600
		06-Dec-12				6.51	18410				1																				L												
		03-Apr-13	1320	28.58	29.5	6.94	18500	24.2	0.12	<0.001	0.374	<0.001	0.0001	0.006	0.008	0.027	0.64	.024	1.8	0.025	<0.01	0.112	<0.0001	7.15	20400	184	475	4330	134	240	5580	331	<1	<1	2750	2750	219	4.5	2.9	<0.01	0.47	0.47	12000

	\ \ .			e.	ъ I	Fie	eld Paramet	ters						Total N	letals							Ŀ		я L		Major Cations		4		Maj	or Anions				l w	s ~			3/1	P
<u>Q</u>	neter. r Bore	l ej	ae l	h to Wat mbgl	o Stan itoc		EC - Field -	Tomp	Aluminium	Arsenic E		Beryllium	odmium Chromiu	Cobalt	Copper	Iron	Lead	Mangane I	Nickel	Vanadium	7inc (7n)	у (Hg) g/L	рн Гар		cium I	Magnesiu Sodiu	m Potassiu	ations q/L	Chloride	Sulfate   No. 15 - 14	e Carbonate	te	Alkalinity -	unions eq/L	salance	onia ag	e as N B/L	e as N g/L	Ę.	issolve
諾	iezom Water	ق	=	pth to	pth to mbt				(AI) - mg/L	(As) - ( mg/L r	(Ba) - (I mg/L n	(Be) - mg/L	ng/L) Chromiu	(Co) -	(Cu) - mg/L	(Fe) -	Lead (Pb) - mg/L	se (Mn) - (		(V) - mg/L	- mg/L	lercui m	표	다 (Ca mg	ı) -   r	m (Mg) - (Na) - mg/L mg/L	m (K) - mg/L	Total Catio meq/L		mg/L as CaCO3	Alkalinity as CaCO3	Alkalinity as CaCO3	mg/L	otal A me	onic B	Ammo	ditrite m	litrate	OX as	otal Di Sol
ANZECC Guideline	- stock drinkina	water		a	De				5	0.5			0.01 1				0.1		1		20	0.002		ŭ	1000			ř		1000 mg/L	mg/L	mg/I		F			1500	400	ž	4000
/IIIZZCC Guideline	Jeogra arming	04-Jul-13			29.54		18460																															İ		
		04-Sep-13 04-Dec-13		28.68 28.64	29.6 29.56	6.92	18200 18340	23	0.17	<0.010	0.331	<0.010 <	<0.0010 <0.010	0 <0.01	0.148	0.77	0.015	1.59	0.016	<0.10	0.163	<0.0001	7.15 2	400	147	400 429	0 107	230	5720	343 <1	<1	2950	2950	227	0.44	3.57	<0.01	0.66	0.66	12800
		_		28.64				22.5	0.14	<0.001	0.429	<0.001	0.0002 0.015	0.005	0.061	0.58	0.006	1.92	0.018	<0.01	0.131	<0.0001	7.17 2	800	189	449 466	0 130	252	5160	357 <1	<1	2750	2750	208	9.63	2.74	<0.01	0.28	0.28	12100
			1420 1405		29.18 29.63	6.9 6.9	19100 18910		0.16	<0.001	0.42	<0.001 <	<0.0001 0.002	0.002	0.009	1.12	0.004	1.91	0.005	<0.01	0.046	<0.0001	7.16 2	600	162	448 424	10 123	232	5700	365 <1	<1	3080	3080	230	0.54	3.93	<0.01	0.12	0.12	11200
				28.71 28.70	29.63 29.62	6.9 6.9	18850 19230	21.6 22.9	0.18	<0.001	0.346	<0.001	<0.0001 0.005	0.002	0.024	1.43	0.015	1.64	0.012	<0.01	0.151	<0.0001	7.32 2	300	162	418 417	70 90	226	6000	305 <1	<1	2470	2470	225	0.24	2.66	<0.01	0.31	0.31	12100
		04-Jun-15	1300	28.65	29.57	6.8	19290	21.6																																
				28.74 28.82	29.66 29.74	6.7	19320 19860		<0.10	<0.010	0.393	<0.010	<0.0010 <0.010	0 <0.01	<0.010	1.37	<0.010	1.7	<0.010	<0.10	0.169	<0.0001	6.9 20	1800	194	391 418	80 85	226	6100	338 <1	<1	3880	3880	257	6.41	3.52	0.02	0.02	0.04	12100
				28.95		7	19270		0.04	<0.001	0.354	<0.001 <	<0.0001 <0.003	1 0.001	0.024	0.62	0.002	1.58	0.014	<0.01	0.162	<0.0001	7.69 2	.000	134	328 325	65	177	5450	373 <1	<1	2560	2560	213	9.26	1.67	0.1	0.23	0.33	12000
		01-Jun-16 27-Sep-16		28.84 28.75	29.76 29.67	6.9	17520 17560		0.07	<0.001	0.399	<0.001 <	<0.0001 <0.003	1 <0.00	1 0.002	1.16	<0.001	1.9	0.006	<0.01	0.086	<0.0001	6.91 20	500	168	425 392	20 82	216	5060	255 <1	<1	3150	3150	211	1.14	2.72	0.06	0.08	0.14	12800
				28.78 28.77	29.7 29.69	6.8 6.8	17650 17420																																	
		19-Dec-16	1340	28.78	29.7	6.7	17910	22.8																																
				28.83 28.80	29.75 29.72	6.8	18100 17920			<del>                                     </del>				+	+									+					-											
		28-Mar-17	1415	28.71	29.63	6.9	18740	22.6																																
				28.77 28.75		6.8	18860 17960		-	<del>                                     </del>				+	+									+					-		-			-						
		27-Jun-17	1425	28.75	29.67	6.8	18150	21.8																																
				28.77 28.84	29.76		18790 18470							+	+									+	_				-		-									
		25-Sep-17	1230	28.84 28.81			19340 19240	21.6 22.4	0.04	<0.001	0.361	<0.001	<0.0001 <0.003	1 0.001	0.003	0.78	<0.001	1.79	0.004	<0.01	0.024	<0.0001	7.5 2	200	180	438 434	10 85	236	5240	323 <1	<1	2820	2820	211	5.62	3.55	<0.01	0.06	0.06	13400
		24-Nov-17	1435	28.82	29.74	6.8	19570	22.8																																
				28.82 28.91	29.74 29.83		19510 19420			$+ \top$	$-\Gamma$			+		$\vdash \vdash$	-1	-					$-\Gamma$	+	$-\top$		+							<u> </u>	$\vdash$		$-\top$			
		20-Feb-18	1315	28.78	29.7	6.8	19230	22.1	1															$\perp$																
				28.78 28.92	29.7 29.84	6.8	19170 19110		-	+	_			+	+									+	-		_		<del>                                     </del>		+	1		-						
				28.80	29.72	6.8	19050																																	
				28.91 29.05	29.83	6.8	19170 19400																	-																
				28.91 28.95	29.83 29.87	6.8 6.8	19500 19100	21.7 21.4	0.17	<0.001	0.309	<0.001	<0.0001 <0.000	1 0.003	0.011	0.76	0.012	1 61	0.008	<0.01	0.064	<0.0001	712 2	800	155	371 384	10 80	207	6000	364 <1	<1	2500	2500	227	4 48	2.79	0.01	0.4	0.41	14800
		29-Oct-18	1335	28.84	29.76	6.9	19080	22.4	0.17	10.001	0.303	10.001	0.0001	0.003	0.011	0.70	0.012	1.01	0.000	10.01	0.004	10.0001	7.12		133	371 304		207	0000	304	<u> </u>	2500	2300	227	4.40	2.75	0.01	0.4	0.41	14000
				28.77 28.81		6.9	19100 19180			+-+				+										+			_					-								
		24-Jan-19	1255	28.77	29.69	6.9	18970	23.5																$\Rightarrow$																
				28.83 28.73		6.9 7	19100 19730		1	+ +				_										+																
				28.88 28.94	29.8	7	19240 19350																	$\neg$																
		24-Jun-19	1440	28.92	29.84	7	19400	21.4																																
				28.81 28.83	29.73 29.75	7.1	19490 18850			-				+										+																
		23-Sep-19	1400	28.79	29.71	6.8	19580	22.5	0.22	<0.001	0.346	<0.001 <	<0.0001 0.001	0.01	0.012	0.56	0.008	1.8	0.014	<0.01	0.078	<0.0001	7.24 2	300	182	428 416	60 83	227	6110	365 <1	<1	2630	2630	232	1.11	4.29	<0.01	0.05	0.05	12500
				28.80 28.72	29.72 29.64		19460 19780			+ +				+			-							+							-									
				28.75 28.68																				$\blacksquare$																
		25-Feb-20	1445	28.64	29.56	6.9	20150	22.6																																
				28.58 28.59						+ +				+										+	-															
		28-May-20	1315	28.60	29.52	6.9	21800	21.3																																
				28.63 28.66						+ +				+	+									+					<del>                                     </del>											
				28.62 27.74					0.41	0.001	0.219	<0.001	0.0004 <0.001	0.01	2 0.004	0.21	<0.001	1 27	0.016	<0.01	0.005	<0.0001	7.65	7600	175	425 4	260 00	222	5000	343 <1	<1	2050	2850	230	0.34	4.28 <	·0.01	0.04	0.04	13100
		23-Oct-20	1305	28.59	29.51	6.5	22400	20.1	0.41	0.001	0.316	CO.001	0.0004 <0.001	0.01	2 0.004	0.31	V0.001	1.27	0.010	VU.U1	0.003	V0.0001	7.03	7000	1/3	433 4.	200 88	232	3900	343 (1	1	2830	2830	230	0.34	4.20	.0.01	0.04	0.04	13100
				28.58 28.56						-				+	+									+					-			-								
		25-Jan-21	1335	28.54	29.46	6.8	22300	19.8																																
				28.50 28.41										+	+									+																
		27-Apr-21	1310	28.53 28.44	29.45	6.9	22200	19.8																$\perp$																
		22-Jun-21	1320	28.41	29.33	6.8	20500	21.1																土																
<u> </u>				28.38 28.59										_			-							+												<del>                                     </del>				
		05-Oct-21	1530	28.33	29.25	6.664	19884	22.1	7.85	0.005	1.81 <	<0.001	0.0002 0.0	0.01	9 0.056	20.5	0.015	1.64	0.032	0.04	0.06	<0.0001	7.42	0300	170	372 3	690 81	202	5800	312 <1	<1	<1	<1	170	8.49	3.66 <	0.01	0.02	0.02	12600
				28.24 28.18							_			+										+	-+															
				28.13 28.34					0.12	0.001	0.274	0.001 <0	0.0001 <0.001	0.0	1 0.002	0.41	0.007	1 35	0.016	0.01	0.028	<0.0001	6.93	0900	187	410 4	070 84	227	6180	<1	<1	2940	2940	240	3.94	4 15	0.01	1 63	1.63	12700
				27.95					0.11	0.001	0.27	0.002	3,0001	0.0	0.002	0.12	0.007	1.55	0.010	0.01	0.020	10.0001	0.55		102	120	0,0		0200	-	1-	25.0	23.0		3.5 .	25	10.0	1.05	1.05	
-		+	1	$\vdash$					1	<del>                                     </del>	-+		-	+		$\vdash$						$\vdash$	_	+	$\dashv$		+	<del>                                     </del>				1		$\vdash$		<del>                                     </del>	+			
P3	NG3	01-Nov-07	1530	9.91	10.85									1										$\dashv$	1															
		17-Dec-07		10.06	11.00						_												_	$\perp$																
Depth Format.	45 Pamboola	03-Mar-08	1640	9.31 9.86	10.80						+			$\pm$										ightharpoons	+						$\pm$						+			
Standpipe height	0.94			9.89 9.89					-	$+ \Box$	$-\top$	- $$	- $$			$\vdash \Box$		-					$-\top$	$\mp$	$-\top$			$\vdash$	$\vdash$		+	+		$\vdash$			-		-	
ozanapipe neight	0.54	02-Jun-08	1353	9.90	10.84																			$\perp$																
-				9.90 9.91					1	+ +	-			+		$\vdash$							_	+	+		+	-						<del>                                     </del>		-				
		09-Sep-08	1300	9.76	10.70	7.07	1340	20.2		0.005	0.092	0.002	0.0002 0.004	0.006	0.002	0.76	0.030	0.496	0.014	<0.01	0.014	<0.0001	1	800	331	504 319	90 60	198	5250	1230 <1	<1	1310	1310	200	0.44	0.94				11700
		01-Dec-08	1120	9.89 9.86	10.80																																			
				9.86 9.89		6.64	18620	25 g	0.02	<0.001	$-\top$		<0.009	,	0.004	<0.05	<0.001	0.348	0.025		0.016	<0.0001	6.82	500	257	467 344	0 51	202	5230	1160 <1	<1	1270	1270	197	1.24		0.02	<0.01	<0.01	
		24-Feb-10	0920	9.89	10.83																																			
<u> </u>				9.91 9.88					<0.01	0.003	-+		<0.003	1	0.012	<0.05	0.003	0.358	0.014		0.069	<0.0001	6.68 1	900	266	450 349	0 53	203	5860	1310 <1	<1	1340	1340	219	3.79	<del>                                     </del>	<0.01	0.03	0.03	
		08-Feb-11	1200	9.89	10.83	6.48	14780	25.9	<0.01	0.003	_		<0.005	5	0.004	<0.05	<0.001	0.27	0.013		0.014	<0.0001	6.47 18	800	300	0.27 304	0 50	190	5100	1120 <1	<1	1240	1240	192	0.59		0.02	0.02	0.02	
		υ8-Jun-11	1240	9.88	10.82	0.55	14430	20.4																				L				1	1	L						

							Field Paran	motors							Total Met	ale									1 -	_	Maior (	Cations					Major	Anions									
				ate	Ē		rieia Paran	neters	+-	_	Т				Total ivie	ais							(S)		Ju	$\vdash$	Iviajor	Lations		ė	_	т —	1		Bicarbona	Τ	- s	e	S as	ż	ż	l g	Ne de
₽	B efe	9	_ e	مة خ	Sta					Arsenic	Barium	Beryllium			Cobalt	Copper I	ron Le	ead N	langane l	Nickel		l	폭국	e e	=	Calcium	Magnesiu	Sodium	Potassiu	흥국	Chloride	Sulfate	,	Carbonate	te		[ 흥빛	la la	nia (	as 7	as 1	1 1	los sb
ž	iter	Da		h to m	h to St mbtoc	pH - Fie	ld EC - Fiel	ld Temp -	Aluminium (Al) - mg/L	1 (As) -	(Ba) -	(Be) -	Cadmium	Chromium	(Co) -	(Cu) - (	Fe) - (P	Pb) - se	(Mn) -	(Ni) -	Vanadium (V) - mg/L	Zinc (Zn)	arcuny mg/l	표	- P	(Ca) -	m (Mg) -	(Na) -	m (K) -	S è	(CI) -	(SO4) -	Alkalinity as CaCO3 -	Alkalinity	Alkalinity	Alkalinity -	A P	S S	E &	l it i	ate d	as	S D
•,	Wa Wa			e pt	pt -		μs/cm	Field - C	. (AI) - mg/L	(As) - mg/L	(Ba) - mg/L	(Be) - mg/L	(mg/L)	Chromium (Cr) - mg/L	mg/L	(Cu) - ( mg/L r	ng/L m	ead N Pb) - se ng/L m	e (Mn) -	mg/L	(V) - mg/L	- mg/L	Je J	_	-	(Ca) - mg/L	mg/L	(Na) - mg/L	mg/L	Total Cation meq/L	(CI) - mg/L	mg/L	mg/L	mg/L	as CaCO3 -	mg/L	g _	o ii	Z A	Ş	불	ŏ	ota
***********		٠		Δ	ă	-			+ -														-		ŭ		-			_	-		IIIg/L	IIIg/L	mg/L		_		-			Ž	-
ANZECC Guideline	- stock arinking	_			10.01	6.51	16020	21.2	0.02	<b>0.5</b> <0.001	0.125	<0.001	<b>0.01</b> <0.0001	0.001	0.005	0.015	_	0.1	0.255	0.02	<0.01	20	0.002	77	10000	1000	F36	2760	44	222	F.C70	1000	-11	-11	1220	1220	212	2.20	0.35	1500	<b>400</b> <0.01	10.01	4000 12100
		27-Sep-11		9.87		6.51			0.02	<0.001	0.125	<0.001	<0.0001	0.001	0.005	0.015	0.2	0.004	0.355	0.02	<0.01	0.071	<0.0001	1.1	19000	275	526	3760	44	222	5670	1310	<1	<1	1230	1230	212	2.26	0.35	<0.01	<0.01	<0.01	12100
		03-Jan-12		8.84		6.56 7.15		22.5	0.11	0.001	0.116	<0.001	0.0001	0.001	<0.001	0.034	0.10	0.242	0.015	0.022	<0.01	0.167	<0.0001	7.42	10200	202	532	2000	48	230	5810	1450	<1	-1	1220	1220	210	2.5	<0.10	<0.01	0.38	0.38	11300
		28-Mar-12	_	9.83 9.86		6.82			0.11	0.001	0.110	V0.001	0.0001	0.001	<0.001	0.034	0.10	0.242	0.015	0.032	<u.u1< td=""><td>0.107</td><td>&lt;0.0001</td><td>7.42</td><td>10200</td><td>303</td><td>332</td><td>3900</td><td>40</td><td>230</td><td>2010</td><td>1430</td><td>- 1</td><td>&lt;1</td><td>1220</td><td>1220</td><td>218</td><td>2.5</td><td>V0.10</td><td>V0.01</td><td>0.36</td><td>0.36</td><td>11300</td></u.u1<>	0.107	<0.0001	7.42	10200	303	332	3900	40	230	2010	1430	- 1	<1	1220	1220	218	2.5	V0.10	V0.01	0.36	0.36	11300
		25-Jun-12 11-Sep-12	_	9.83		6.7		21.6	0.06	0.002	0.009	<0.001	0.0001	<0.001	0.002	0.041	0.17	0.004	0.204	0.015	<0.01	0.122	<0.0001	7.47	19400	200	540	2060	59	233	5010	1250	<1	<1	1440	1440	222	2.44	<0.10	<0.01	<0.01	<0.01	12300
		04-Dec-12		9.83	_	_	15790	_	0.00	0.003	0.036	V0.001	0.0001	V0.001	0.003	0.041	0.17	0.004	0.304	0.013	V0.01	0.132	<0.0001	7.47	10400	250	340	3900	33	233	3310	1230		``	1440	1440	- 222	2.44	V0.10	V0.01	V0.01	V0.01	12300
		03-Apr-13	_	9.86		6.95			0.88	<0.001	0.108	<0.001	0.0003	0.002	0.001	0.096	0.94	0.005	0.044	0.013	<0.01	0.308	<0.0001	7 22	18800	3/13	555	3620	70	222	5240	1350	<1	<1	1280	1280	202	4.83	0.04	<0.01	0.31	0.31	11700
		03-Apr-13 04-Jul-13		9.86			16920		0.88	V0.001	0.108	V0.001	0.0003	0.002	0.001	0.030	0.54	0.003	0.044	0.013	V0.01	0.306	<0.0001	7.22	10000	343	1 333	3020	10	222	3240	1330			1200	1200	202	4.03	0.04	V0.01	0.31	0.31	11700
		03-Sep-13		9.86		7.05	_		0.23	<0.001	0.101	<0.001	0.0003	<0.001	<0.001	0.219	1 //8	0.011	0.045	0.01	<0.01	0.306	<0.0001	7.76	18700	285	530	3900	58	229	5600	1200	<1	<1	1230	1230	208	4.89	0.04	<0.01	0.36	0.36	12000
		03-3ep-13 02-Dec-13		9.80	_	7.03			0.23	10.001	0.101	10.001	0.0003	10.001	40.001	0.213	1.40	0.011	0.043	0.01	10.01	0.300	40.0001	7.70	10700	203	1 330	3300	30	223	3000	1200	- 1		1230	1230	200	4.03	0.04	10.01	0.50	0.50	12000
<del>                                     </del>		07-Mar-14		9.82		7.1		) 22	0.44	0.001	0.13	<0.001	0.0002	0.016	0.002	0.111	1 61	0.026	0.243	0.018	<0.01	0.307	<0.0001	7 10	18700	302	539	4180	71	243	5060	1270	<1	<1	1220	1220	194	11.3	<0.10	<0.01	0.44	0.44	12300
<u> </u>		10-Jun-14			10.79	_		20.2	0.44	0.001	0.13	10.001	0.0002	0.010	3.002	J.111	1.01	5.520	5.245	3.010	~0.01	0.307	.0.0001	7.13	10,00	302	1 333	7100	/1	243	3000	12,3		``	1220	1220	134	11	10.10	10.01	0.44	0.44	12300
		29-Sep-14		9.83	_	6.6			0.03	<0.001	0.115	<0.001	0.0002	<0.001	0.004	0.057	0.08	0.004	0.288	0.013	<0.01	0.193	<0.0001	7.5	18700	188	482	2920	52	177	5380	1340	<1	<1	1120	1120	202	6.51	0.1	0.05	0.08	0.13	11900
		05-Dec-14		9.84		6.8		_	0.05	10.002	0.225	10.002	0.0002	10.001	0.001	0.037	0.00	0.001	0.200	0.015	-0.01	0.255	10.0002	7.5	10700	100	102		1 32	277	- 5500	10.0	12		1120	1120		0.51		0.05	0.00	0.15	
		12-Mar-15			_	6.9		22.3	0.02	<0.001	0.088	<0.001	<0.0001	0.007	0.004	0.021	0.26	0.004	0.262	0.013	<0.01	0.196	<0.0001	7.46	18600	318	544	3690	49	222	5250	1260	<1	<1	1330	1330	201	5.06	0.11	<0.01	0.07	0.07	11800
		03-Jun-15	_	9.84	_	6.8			+	+	1							+							1	1	+	+	1.0	<del></del>	1		<u> </u>						<del>  ••••</del>	1			
		08-Sep-15	-	9.76		6.9			0.05	0.001	0.132	<0.001	<0.0001	<0.001	0.003	0.012	0.86	0.004	0.295	0.01	<0.01	0.285	<0.0001	7.54	18600	290	390	3000	47	178	4440	1080	<1	<1	1160	1160	171	2.09	0.19	<0.01	0.01	0.01	12100
		09-Dec-15				7		21.9	+	1																	+	1	<del>  "</del>		1								1	10.00			
		08-Mar-16		9.79		7.1			0.09	<0.001	0.091	<0.001	0.0001	<0.001	<0.001	0.068	0.3	0.004	0.115	0.01	<0.01	0.226	<0.0001	7.72	18900	285	451	3170	45	190	5270	1390	<1	<1	1130	1130	200	2.53	0.03	<0.01	0.82	0.82	12600
		02-Jun-16		9.81		7.1																																	<b>-</b>				
		27-Sep-16						22.8	0.09	<0.001	0.087	<0.001	0.0002	<0.001	<0.001	0.034	0.22	0.002	0.143	0.012	<0.01	0.242	<0.0001	7.58	18600	283	493	3330	42	201	4780	1390	<1	<1	1350	1350	191	2.5	<0.01	<0.01	0.63	0.63	11800
		27-Oct-16		9.80		7.1																																					
		25-Nov-16			10.68	7.1	16430	22.6	1								-														-										$\overline{}$		$\overline{}$
		21-Dec-16	1115	9.73	10.67	7	16720	22.3																																			
		20-Jan-17	1220		10.7	7.1	16690	22.6	1																																		
		21-Feb-17		-0.94		No acce	SS		1																																		
		29-Mar-17	1350	9.64	10.58	7.1	15870	22.1	1																																		
		27-Apr-17	1015	9.74	10.68	7	16490	20.5																																			$\overline{}$
		30-May-17	1110	9.72	10.66	7	16240	19.8																																			$\overline{}$
		27-Jun-17	1115	9.75	10.69	7	16310	19.9																																			
		28-Jul-17	1030	9.72	10.66	7.1																																					
		28-Aug-17	1040	9.74	10.68	7	17320	20.3																																			
		25-Sep-17	1110	9.63	10.57	7.1		22.1	0.03	<0.001	0.084	<0.001	0.0001	<0.001	0.001	0.02	0.18	<0.001	0.182	0.01	<0.01	0.191	<0.0001	7.63	19900	282	472	3280	44	197	4920	1120	<1	<1	948	948	181	4.15	0.02	<0.01	0.68	0.68	10500
		27-Oct-17	1045	9.69	10.63	7.1	17140	22.4																																			
		28-Nov-17		9.77		6.9																																					
		20-Dec-17	1015	9.70	10.64	6.9																																					
		31-Jan-18			10.73			22.1																																			
		27-Feb-18			10.69	6.8																																					
		28-Mar-18	1020	9.76		6.8																																					
		26-Apr-18			10.69			21.7																																			
		28-May-18			10.73	_		20.9																																			
		25-Jun-18	_	-0.94		No acce			$\perp$																																<b>└</b>	<u> </u>	<b></b>
I		30-Jul-18	930	9.76	10.7	6.9	17440	20.8															I																			L	1

Part   Part		e			ıter .	<u> </u>	F	Field Parame	eters						Total Me	etals							- (g		<u> </u>	Major Ca	itions	- ½			Major Ar	nions	Bicarbona		- 51	ey e	N)	7	<u>'</u>	J/Br	ved
	Site ID	zomete ater Boı	Date	Time	h to Wa mbgl	h to Sta mbtoc	pH - Fiel			Aluminium		Barium (Ba) -	Beryllium (Be) -	Cadmium Chromius	Cobalt (Co) -	Copper (Cu) -	Iron Le (Fe) - (F	ead I Pb) - s	Mangane se (Mn) -	Nickel Ni) -	Vanadium	Zinc (Zn)	cury (H	рн Гар	(Ca) -	m (Mg) -	Sodium Potass (Na) - m (K) -	al Cation meq/L	Chloride (CI) -	Sulfate (SO4) -	Alkalinity Al	lkalinity	te Alkalinity	Alkalinity -	al Anior meq/L	ic Balan	monia rogen (	rite as l' mg/L	rate as I mg/L	as N - n	Il Dissol
Mary   Mary	ANIZECC Cuid-lin-	ĕ ≽			Dept	Dept		με/επ	rieid - C														Σ		ے mg/L		mg/L mg/L	Tot	mg/L	n	ng/L m	ng/L	as CaCO3 - mg/L	mg/L	Tota	, no	R A	ž	ž Ž	XON	Tota
March   Marc	ANZECC Guideline	e - Stock arinking v	30-Aug-18			10.50									1									7.26 20			2700 20	160	5400	1000			1140	1140	202	0.24				0.24	
March   Marc			30-Oct-18	900	9.75	10.69	6.9	18490	21.9	0.05	<0.001	0.072	<0.001	<0.0001 <0.001	0.004	0.013	0.54	0.001	0.195	0.009	<0.01	0.105	<0.0001	7.36 20	000 255	398	2/90 38	108	5490	1180	-1	<1	1140	1140	202	9.24	0.03	<0.01	0.21	0.21	8900
March   Marc			20-Dec-18			10.66	6.9	18900																																	
March   Marc			25-Feb-19				No acces	SS																	$\perp$																
March   Marc			26-Apr-19				No acces	SS																																	
			26-Jun-19	940	9.86	10.8	6.9		20.6																																
Second Column						10.83																																			
Second Column										0.06	<0.001	0.076	<0.001	<0.0001 <0.001	0.006	0.008	0.44	0.007	0.156	0.011	<0.01	0.104	<0.0001	7.63 1	9200	02 499	3390 4	4 20	5 5090	1340 <	1 <1	1	1150	1150	194	2.57	0.11 <	:0.01	0.12	0.12	11600
			30-Jan-20	1030	9.90	10.84	6.8	16230									_	_							_				-												=
No.   No.			27-Mar-20	1040	9.94	10.88	6.8	17420	21.7																				1												
			29-May-20	950	10.00	10.94	6.6	18430	21.1									_							$\perp$																=
Second Second			24-Jul-20	1005	10.01	10.95	6.6	18100	19.8																																
March   Marc			23-Sep-20	1400	10.01	10.95	6.42	18101	17	1.5	0.002	0.16	<0.001	0.001 0.00	0.006	0.014	2.23	0.006	0.096	0.008	<0.01	0.048	<0.0001	7.53 1	3900	96 476	3190 4	2 19	4 5250	985 <	1 <1	1	1430	1430	197	0.87	0.58 <	:0.01	0.01	0.01	12000
No.   1.0			27-Nov-20	930	9.99	10.93	6.6	19390	20.2																																
Part   Part			25-Jan-21	955	10.00	10.94	6.6	18750	20.3																																
Part						10.93	6.7	18180	19.3																																
										+								$\dashv$		-+		-+			+	+		+	+										-		
Part																																									
Part   Part										4.85	0.007	0.826	<0.001	0.0017 0.0	0.007	0.028	8.32	0.009	0.111	0.018	0.03	0.042	0.0007	7.23 1	3700	17 433	3050 4	1 18	5 5580	1190 <	1 <1	1	1190	1190	206	5.31	0.56 <	:0.01	0.04	0.04	12200
Part   100			11-Jan-22		10.04	10.98	6.9	18800	22.9																																
			04-Jul-22	1307	10.05	10.99	6.55	18266	22.1																$\perp$																=
Part   Part			25-1104-22	1130	3.54	10.20	0.13	20321																																	
Part   Part										1							_	_							$\perp$																=
Part   Part	P4	NG4		1610																																					=
Marchas   Marc			17-Dec-07	1225	18.13	19.00																																			
Property   17   18   18   18   18   18   18   18			03-Mar-08	1505	18.34	19.21																																			
Marchan   Marc	Standpipe neight	0.07	09-May-08	1110	18.30	19.17																			_			-	1												
Section   Sect			01-Jul-08	1448	18.28	19.15																						1	1												=
Column   C			09-Sep-08	1400	18.03	18.9	6.7	1560	21.2		0.008	0.265	0.003	<0.0001 0.005	0.033	0.006	3.93	0.027	6.20	0.024	<0.01	0.013	<0.0001	17	700 355	699	4550 124	276	7650	1700	<1	<1	1840	1840	288	2.10	1.70				16800
			01-Dec-08	1315	18.15	19.02											_																								
24   14   15   15   15   15   15   15   1			23-Feb-09	1045	18.09	18.96	6.9	25600	20.8		0.003	0.165	<0.001	<0.0001 0.056	0.026	0.006	14.4	0.047	4 99	0.066	0.02	0.044	<0.0001	25	200 288	640	5670 86	316	7850	1470	<1	<1	2220	2220	297	3.1	0.48				16200
Second Property   Second Pro			24-Aug-09	1310	18.12	18.99				0.04			10.001								0.02																0.10	<0.01	0.1	0.1	
Column   C			18-Feb-10	1100	17.89	18.76																																			
Column   1500   1794   1876   670   2319   225   030   0308   0			03-Sep-10	1130	17.99	18.86	6.69	24290	22.1																																=
1   1   1   1   1   1   1   1   1   1			08-Jun-11	1350	17.94	18.81	6.80	19820	20.8			0 104	<0.001																								0.8				17200
10   178   187   189   187   189   187   189   187   189			03-Jan-12	1000	17.83	18.70	6.45	22910	23.4																																
Marcia   1787   1874   6.53   2500   231   x   x   x   x   x   x   x   x   x			01-Jun-12	1100	17.88	18.75	6.69	17650	21.3																																
Column   C			04-Dec-12	1025	17.87	18.74	6.53	25500	23.1																																
Column   C			03-Jul-13	1300	17.98	18.85	6.91	24860	21.8																																
10-Jun-14   945   7.99   18.86   7   25450   20.5   7.99   18.86   7   25450   20.5   7.99   18.86   7   25450   20.5   7.99   18.86   7   25450   20.5   7.99   18.86   7   25450   20.5   7.99   18.86   7   25450   20.5   7.99   18.90   20.79			04-Dec-13	1100	17.95	18.82	6.9	24600	23.4																																
1-04-  1-1			10-Jun-14	945	17.99	18.86	7	25450	20.5																																
Column   C			04-Dec-14	1250	17.95	18.82	6.9	25190	21.7																																
99-Dec-15 135 17.76 18.63 6.5 2540 22.8			04-Jun-15	1400	17.92	18.79	6.7	23370	21.9																																
01-Jun-16 1220 17.69 18.56 7 23560 21.7			09-Dec-15	1135	17.76	18.63	6.5	25400	22.8																																
			01-Jun-16	1220	17.69	18.56	7	23560	21.7																																
			26-Oct-16	1325	17.60	18.47	6.8	24120	21.9					3.301	1									- 12				1	1		-	-									
190c-16 1315 17.54 18.41 6.7 2410 23			19-Dec-16	1315	17.54	18.41	6.7	24140	23								_	_	_						+			1	1												
21-Feb-17 1330 17.55 18.42 6.9 24010 22.2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			21-Feb-17	1330	17.55	18.42	6.9	24010	22.2								_	_	_						+																
20-Mpi-17   1320   17-52   18-39   6.7   23-940   22.5			20-Apr-17	1320	17.52	18.39	6.7	23940	22.5								_	$\dashv$	_						+																二
28-ind-y-17   1535   17-50   16-57   17-50   16-57   17-50   16-57   17-50   18-57   17-50   18-57   17-50   18-57   17-50   18-57   17-50   18-57   17-50   18-57   17-50   18-57   17-50   18-57			30-Jun-17	1210	17.49	18.36	6.6	24120	21.3								_	_							+																二
28-Jul-17 1110 17.49 18-35 6.5 24860 21.2			28-Aug-17	1115	17.51	18.38	6.5	23960	21.8		<0.001	0.076	<0.001	<0.0001 <0.001	0.012	0.001	2 92	<0.001	1 71	0.008	<0.01	0.019	<0.0001	5.05 20	100 219	501	4840 07	272	6820	1550	<1	<1	326	326	221	R 16	1.47	<0.01	<0.01	<0.01	17600
				±140	17.40	10.33	0.0	1 44400	1 44.1	0.02	1 ~U.UUI	0.070	~U.UU1	~0.0001   ~0.001	1 0.013	I O'OOT	4.70	-0.UU1	1./1	0.000	~U.UI	0.010	~U.UUU1	J. UJ 1 28	L	1 221	TUTU   0/	4/4	0020	1 2330	~±	~1	320	340	431	0.10	1.44		*U.UI	~U.U1	1,000

\$\\ \begs{8}{\ \begs{8}{\ \chicksig} \begs{8}{\chicksig} \begs{8}{\ \chicksig} \begs{8}{\ \chicksig} \begs{8}{\chicksig} \begs{8}{\chicksig} \begs{8}{\chicksig} \begs{8}{\chick						l ÷		Field Param	neters						Total N	/letals									E		Major C	ations					Major	Anions			١.,					र ।	ס
Separate service servi	Site ID	Piezometer / Water Bore	Date	Time	epth to Wate mbgl	epth to Stanc mbtoc	pH - Fiel	EC - Field µs/cm	d - Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium Be (Ba) - (B mg/L m	eryllium Be) - ng/L	admium (	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) - mg/L	Nickel (Ni) - mg/L		Zinc (Zn) - mg/L	Aercury (Hg) mg/L	pH Lab	ra Pa	Calcium (Ca) - mg/L	Magnesiu n (Mg) -	Sodium (Na) -	m (K) -	otal Cations meq/L	Chloride (CI) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 -	Carbonate Alkalinity as CaCO3 -	Bicarbona te Alkalinity as CaCO3 -	Alkalinity - mg/L	Fotal Anions meq/L	lonic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	OX as N - mg	otal Dissolve Solids
March   Marc	ANZECC Guideline -	stock drinking w	vater		Δ	Δ				5	0.5							0.1		1		20	0.002			1000							_	mg/L	mg/L		·			1500	400	Z	4000
Column   C																																										=	
Part																+									-														1			$\longrightarrow$	
																																										$\Box$	
Part   Part																+	_																						-			$\rightarrow$	-
The column   Column			28-May-18	1055	17.42	18.29	6.6	24890	21.5																																		
March   Marc										-			-	-		+	-					-+			$\dashv$											-			-			$\rightarrow$	$\overline{}$
Part			27-Aug-18	930	17.36	18.23	6.9	24160	21.6																																		
March   Marc										0.86	0.002	0.091	<0.001	<0.0001	0.003 0.012	0.039	4.32	0.038	1.51	0.011	<0.01	0.167	<0.0001	7.32	26200	199	572	4860	87	271	8350	1730	<1	<1	1960	1960	311	6.9	1.21	<0.01	0.27	0.27	20100
Marche   M			29-Nov-18	1130	17.28	18.15	6.8	24500	22																																		
March   Marc																+																							-				
Mary   10   10   10   10   10   10   10   1			28-Feb-19	1220	17.32	18.19	6.7	24320	22.7																																		
Mary   Mary																+									-+											-			-			$\longrightarrow$	
Marco   Marc			31-May-19	915	17.36	18.23	6.8	242500	21.9																																		
May   May																+	-	-				-+			-						$\vdash$						-		-			$\rightarrow$	
Part   Part								24750	21.7																																		
										0.13	3 <0.001	0.106	<0.001	<0.001	0.002 0.008	0.006	1.67	0.003	1.36	0.008	<0.01	0.171	<0.0001	7.32	27000	182	632	5240	96	291	8020	1830	<1	<1	1940	1940	303	1.95	0.91	<0.01	0.19	0.19	16900
																																										+	
State   Stat																																										$\overline{}$	
May										<del>                                     </del>						+						- +			$\dashv$														<b>†</b>			$\rightarrow$	
State   Stat																									-																	=	
Part																+									-														1			$\longrightarrow$	
Part																																										$\blacksquare$	
Part																+									-+														1			$\rightarrow$	
March   Marc										0.61	1 0.003	0.159 <0	0.001	0.0002	0.002 0.01	4 0.008	2.22	0.004	1.4	0.012	<0.01	0.02 <	0.0001	7.59	21100	258	760	6170	112	347	7630	1900	<1	<1	2560	2560	306	6.24	1.55	<0.01	0.05	0.05	18300
Marcha   M																+																							-			-+	
Part																																										=	
Part   Part																+								-	-														-			$\longrightarrow$	
Part   Part			01-Apr-21	1100	16.83	17.7	6.7	27600	20																																	$\blacksquare$	
Part																+																							1			+	
Part   Part			22-Jun-21	1155	16.78	17.65	6.6	26800																																		ightharpoons	
Part   Part																+																							1			-+	
Markey 1 100 100 100 100 100 100 100 100 100			05-Oct-21	1730	16.71	17.58	6.55	25485	21.1	1.26	0.004	0.274 <0	0.001	0.0002	0.003 0.01	.5 0.013	4.11	0.008	1.44	0.023	<0.01	0.033 <	0.0001	6.75	26000	216	546	4620	88	259	7800	1680	1	1	2170	2170	298	7.08	3 1.39	<0.01	<0.01 <	0.01	17600
Column   C																+									-+														-			-	
2 - No.			04-Jul-22	1245	16.83	17.7	6.33	26624	21.4																																		
M65										1.72	0.003	0.225	0.001	0.0001	0.003 0.01	.6 0.029	7.65	0.008	2.1	0.014	0.01	0.018 <	:0.0001	6.8	26300	246	622	5100	100	288	7300		<1	<1	2390	2390	288	0.04	1.74	0.01	0.04	0.04	17200
Sept   10e-607   1988   300   1																																											
Sept   10e-607   1988   300   1								+								+	_								$\dashv$														-			-+	
Permit   P	P5	NG5																																								$\dashv$	
From the part   Part	Depth	30														+																											
Sample belght   Marchang   135   275   284   2	Format.	Pamboola		1240	28.38	29.30																																				$\Box$	
90-May-08 120 26-94 27.86	Standpipe height	0.92						+	+							+									-+														1			+	
March   Marc			09-May-08	1120	26.94	27.86																																					
14-lego 8   515   52,80   27.5   7   105   05.5   55.8   27.5   7   105   0.5   55.8   27.5   7   105   0.5   55.8   27.5   7   105   0.5   55.8   27.5   7   105   0.5   10								+	+	-				-		+	-					-+			$\dashv$											-			-			$\rightarrow$	-
14-Nov-08   1059   27.8   28			14-Aug-08	1515	25.80	26.72			<b>.</b>							1	ļ.,																										
Coloration   Col								1050	20.8	<del>                                     </del>	0.007	0.368	0.003	U.U002	0.004 0.019	0.007	2.01	0.081	1.92	0.051	<0.01	0.031	<0.0001	-+	24600	456	494	3960	71	238	/300	719	<1	<1	1860	1860	258	4.16	2.03		<del>                                     </del>	-+	12700
16-feb-09   1356   25.80   26.72			01-Dec-08	1109	26.83	27.75																																					
1									+					+		+						+		-	$\dashv$																	$\rightarrow$	
18-Feb-10   115   25.01   25.93   7   7   7   7   7   7   7   7   7			09-Jun-09	1215	25.07	25.99	6.6						0.001	0.0003																										0.77			15900
23-Jun-10 1305 23.60 24.52 6.74 26100 22 <0.01 <0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.002 <0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 <								25600	25.8	<0.01	0.001	<del>   </del>		+	0.009	0.095	<0.05	U.008	0.659	0.053		0.167	<0.0001	6./6	20800	381	5/7	5830	/3	322	8480	/39	<1	<1	1940	1940	294	4.54	<del>                                     </del>	0.26	6.42	6.68	
9-Feb-11 120 23.07 23.99 6.69 1952 26.3 0.03 0.06 0.06 0.16 0.05 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.45 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.0			23-Jun-10	1305	23.60	24.52	6.74			<0.01	<0.001				<0.001	0.007	<0.05	<0.001	0.402	0.029		0.055	<0.0001	6.77	18300	314	503	5550	74	300	9320	996	<1	<1	1900	1900	322	3.43		<0.01	8.45	8.45	
31-May-11 130 2.92 2.84 6.70 2070 2.75ep-11 130 2.07 2.99 6.72 2.89 2.84 2.07 2.07 2.09 6.72 2.89 2.34 0.07 0.006 0.214 0.001 0.003 0.001 0.009 0.024 0.01 0.009 0.024 0.01 0.009 0.025 0.001 0.009 0.002 0.001 0.002 0.001 0.002 0.002 0.001 0.002 0.			03-Sep-10 09-Feb-11	1150 1230	23.55	24.47	6.75	16840 19520	22.5	0.03	0.006			+	0.006	0.16	<0.05	0.003	0.435	0.028		0.949	<0.0001	6.76	27200	359	570	3040	83	332	8610	1070	<1	<1	1970	1970	304	4.33	1	<0.01	5.32	5.32	
03-Jan-12 1120 22.74 23.66 6.61 22600 24.1			31-May-11	1130	22.92	23.84	6.70	20750	21.7																														l				
										0.07	0.006	0.214	0.001	U.U003	0.001 0.009	0.032	0.22	0.014	0.791	U.042	<0.01	0.095	<0.0001	/.71	2/000	208	578	5980	72	320	8460	918	<1	<1	1830	1830	294	4.14	0.62	<0.01	1.33	1.33	17400
										0.46	<0.001	0.2	<0.001	0.0002	0.002 0.009	0.185	0.87	0.026	0.525	0.032	<0.01	0.375	<0.0001	7.54	26500	202	592	6210	91	331	8990	993	<1	<1	1930	1930	313	2.84	0.95	<0.01	0.11	0.11	18700

	, a		ter .	ģ	-	Field Parame	eters						Total Meta	als						-		Ę _		Major Cations		ν̈		Ma	or Anions	Disarbons		- 's	e e	s c			g/L	ed
ā ⊡	ometer er Bor	)ate	th to Wa	th to Star mbtoc	nu Fie	EC - Field	Temp -	Aluminium	Arsenic Bar	rium Ber	yllium Cadmii	um Chromium	Cobalt	Copper Iron	.	Mangar se (Mn)	Nickel	Vanadiun (V) - mg/l	n Zinc (Zn	ury (Hg	E P	Sri - qe (Ca)	cium M	lagnesiu Sodiur (Mg) - (Na) -	n Potassiu	Cation leq/L	Chloride	Sulfate Alkalinit	Carbonate Alkalinity as CaCO3	te	Alkalinity	Anion leq/L	Balanc	nonia a	te as N ng/L	te as N ng/L	E - Z	Dissolv
জ	Piezom		Jepth n	Depth m	pn - Fie	μs/cm	Field - °C	Aluminium (Al) - mg/L	(As) - (Ba mg/L mg	i) - (Be) g/L mg/	/L (mg/L)	um (Chromium (Cr) - mg/L	mg/L r	ng/L mg	/L   (PD) -	mg/L	mg/L	(V) - mg/L	- mg/L	Merci	<u> </u>	면 (Ca)		ig/L mg/L	m (K) - mg/L	Total Cation meq/L	Chloride (Cl) - mg/L	mg/L as CaCO	as CaCO3	as CaCO3	mg/L	Total	lonic	Amn	Nitri	Nitra	ZOX as	Totall
ANZECC Guideline	- stock drinking v							5	0.5		0.01		1	1	0.1		1			0.002			1000					1000		mg/L					1500	400		4000
		01-Jun-12 1130 10-Sep-12 1130	22.50	23.42	6.4	15630	22.1 22.8	0.14	0.001 0	.159 <	0.001 <0.00	0.001	0.008	0.033 0	.41 0.00	8 0.712	0.028	<0.01	0.064	<0.0001	7.35 2	200 :	179	524 603	0 92	317	8140	926 <1	<1	2160	2160	292	4.02	1.06	0.01	0.45	0.46	17100
		<b>04-Dec-12</b> 1000 <b>07-Mar-13</b> 1300			6.47 6.58	26010 26100	22.8	3.18	0.005 0	.509 <	0.001 0.000	04 0.009	0.014	0.048 1	5.6 0.0	3 1.62	0.037	0.02	0.095	<0.0001	6.94 2	7500 2	283	593 553	0 101	306	7900	896 <1	<1	2150	2150	284	3.64	1.86	0.03	0.06	0.09	16700
		03-Jul-13 1320 04-Sep-13 1050			6.67 6.74		22.1	0.35	<0.010 0	.188 <	0.010 <0.00	010 < 0.010	0.012	0.156 0	.65 0.01	1 1.21	0.023	<0.10	0.246	<0.0001	7.36 2	100 2	221	545 582	0 106	312	8160	881 <1	<1	2110	2110	291	3.47	1.74	<0.01	0.53	0.53	17300
		02-Dec-13 1330 07-Mar-14 1130			6.6 6.6	_	23.7 23.6	0.68	0.002		0.001 <0.00			0.038 1							7.03 2				0 133		7560		<1	2170	2170		13.1	2.63	<0.01	0.03	0.03	17300
		<b>10-Jun-14</b> 1220	22.82	23.74	6.7	26500	21.8																															
		25-Sep-14 1040 03-Dec-14 1135	22.77	23.69		25870	21.8 21.6				0.001 <0.00										7.05 2				0 119			944 <1				289	1.43		<0.01		0.3	17000
		11-Mar-15 1310 03-Jun-15 1035			6.6 6.7		25.8 19.8	<0.10	<0.010 0	.241 <	0.010 <0.00	010 <0.010	0.016	<0.010 <0	0.50 <0.0	10 2.06	0.03	<0.10	<0.050	<0.0001	7.25 2	100 2	247	534 534	0 84	291	8900	932 <1	<1	2340	2340	317	4.38	2.73	<0.01	0.1	0.1	17200
		10-Sep-15 1115 09-Dec-15 1230			6.6 6.6		22.7 22.6	<0.10	<0.010 0	.189 <	0.010 <0.00	010 <0.010	0.01	<0.010 <0	0.50 <0.0	10 1.7	0.018	<0.10	0.07	<0.0001	6.97 2	7800 2	257	466 523	0 78	281	8660	812 <1	<1	2190	2190	305	4.17	3.38	<0.01	<0.01	<0.01	17000
		09-Mar-16 1120 01-Jun-16 1240	22.70	23.62	6.8	26310	24.1	0.52	0.002 0	.236 <	0.001 0.000	01 0.001	0.008	0.073 1	.26 0.00	7 1.78	0.018	<0.01	0.154	<0.0001	7.59	309	237	498 491	0 82	268	7780	950 <1	<1	2160	2160	282	2.55	5.45	0.04	0.1	0.14	16900
		<b>26-Sep-16</b> 1400	22.83	23.75	6.6	25710	21.8	0.08	0.002 0	.163 <	0.001 <0.00	001 <0.001	0.012	0.014 0	.14 0.00	2.16	0.035	<0.01	0.093	<0.0001	7.3 2	300 2	240	593 542	0 81	299	8400	964 <1	<1	2320	2320	303	0.81	1.75	<0.01	0.64	0.64	17500
		26-Oct-16 1050 23-Nov-16 1055			6.6 6.7		23.1 22.9	-				+										+									+							-
		19-Dec-16 1055 20-Jan-17 1100		_	6.7 6.6		23.4			_												-	-														==	
		21-Feb-17 1100 28-Mar-17 1100	23.00	23.92	6.6	25790																																
		20-Apr-17 1110	23.05	23.97	6.7	25380	22.1																															
		<b>24-May-17</b> 1120 <b>30-Jun-17</b> 1140	22.95	23.87	6.9		20.4								$\pm$							$\pm$																
<u> </u>		25-Jul-17 1145 24-Aug-17 1135	23.02	23.94	6.7 6.8	25660 25290	22.7 22.4			_							1	_		$\perp$		_							_	$\perp$	_							
		21-Sep-17 1135 25-Oct-17 1140	23.08	24	6.8	25520	23.1 23.1	0.18	0.001 0	.166 <	0.001 <0.00	001 <0.001	0.014	0.005 0	.41 <0.0	01 1.75	0.024	<0.01	0.038	<0.0001	7.35 2	800 2	226	549 547	0 80	296	8270	918 <1	<1	2440	2440	301	0.79	3.33	<0.01	0.08	0.08	16400
		24-Nov-17 1130	23.33	24.25	6.7	26100	23.7															$\perp$	$\perp$															$\square$
		19-Dec-17 1120 25-Jan-18 1115	23.32	24.24	6.7	25400	24															$\pm$															=	
		20-Feb-18 1120 27-Mar-18 1110	23.28	24.2		25690	22.3								$\perp$							$\pm$																
		24-Apr-18 1220 28-May-18 1120			6.5 6.6		22.9 21.8	<del>                                     </del>				_	$\vdash \vdash$		_	_	+-			+-		-F	$-\Gamma$		_	<del>                                     </del>	<u> </u>		+ -	_		H	<del>                                     </del>	$\vdash$			7	$\vdash$
		25-Jun-18 1115 25-Jul-18 1115	23.47	24.39		26030																																$\Box$
		27-Aug-18 1010	23.40	24.32	6.6	25320	22.2	<b>!</b>									İ		<b>.</b>							L			1 .	ļ		L	<b>.</b>					
		20-Sep-18 1140 29-Oct-18 1140	23.40	24.32	6.8	25180	22.8	0.34	0.002 0	.196 <	0.001 <0.00	001 <0.001	0.014	0.016 1	.27 0.00	1.54	0.022	<0.01	0.1	<0.0001	6.94 2	200 2	200	468 4//	0 /2	258	87/0	785 <1	<1	2040	2040	304	8.3	3.39	<0.01	0.16	0.16	20000
		26-Nov-18 1140 14-Dec-18 1215			6.8	24800 25780	22.9 23.9	-														-																
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		28-Oct-19 940 27-Nov-19 1000	23.22	24.14	6.8	26540	22.3																															==
		<b>16-Dec-19</b> 955	23.23	24.15	6.8	26050																	_															
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		18-Sep-19 830 22-Oct-20 1115	22.16	23.08	6.42	26611	17.8	0.42	0.002	0.17 < 0.0	0.00	002 <0.001	0.011	0.016	0.45 0.0	003 1.5	3 0.01	19 <0.01	0.049	9 <0.0001	7.76	2000	211	444 45	590 70	248	8400	800 <1	<1	251	0 2510	304	10	3.66	<0.01	<0.01	<0.01	18400
		<b>26-Nov-20</b> 910	23.11	24.03	6.5	28500	20.6																															
		23-Dec-20 1340 25-Jan-21 1020	23.06	23.98		28700																$\perp$																
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		27-Apr-21 930 27-May-21 915	23.04	23.96	6.6	25100	19.9									-				1		$\perp$																=
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		05-Oct-21 1800 12-Jan-22 1770	22.73	23.65		27950			0.003	v.305 <0.0	JU1 0.00	0.003	0.014	U.018	3.62 0.0	JU9 1.6	0.03	33 <0.01	0.034	4 < 0.0001	6.87	/100	226	475 49	3bU 82	268	8630	864 <1	<1	209	0 2090	303	6.12	5.13	<0.01	<0.01	<0.01	17400
		28-Mar-22 1300 04-Jul-22 1226			6.71 6.33		24.1 21.1						ĿŦ				_			$\pm$		_F				$\vdash$	$\vdash$		_	$\pm \overline{}$	<u> </u>	$\vdash$		$\vdash$			7	
		28-Sep-22 930 22-Nov-22 1515	22.27	23.19	6.97	29885	22.9	3.06	0.005	0.496	0.001 0.00	0.006	0.018	0.049	8 0.0	018 1.9	0.02	28 0.0	0.06	8 <0.0001	7.01	7200	244	532 53	380 83	292	7910	<1	<1	223	0 2230	287	0.85	4.25	0.01	0.47	0.47	17300
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P6	NG6	01-Nov-07 1640 11-Dec-07	90.11	91.00																																		
Depth Format.	90 Pilliga Sand.	17-Dec-07 23-Jan-08 1315	90.11	91.00				F														$\mp$				-			1									$\vdash \vdash \vdash$
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	~ w			te	ģ	F	ield Paramo	eters							Total Me	etals							⊣ ե			_	Majo	jor Cations		- 2	_		Majo	or Anions	Disarbana		- 'è	9	% =		. i	1/8	b ed
_	Piezometer / Water Bore	a	a l	≥ =	Sta					Arconic	Parium	Don Hirm			Coholt	Conner	Iron	Lood	Managana	Nickel			ercury (Hg) -	<u>ء</u>	Si	Calciu	m Magna	sin Cadin	m Dotossi		Chlorida	Culfata	Hydroxide Alkalinity as CaCO3 mg/L	Carbonate	DICAI DUIIA	/	l ig ᅱ	<u>a</u>	Ammonia as Nitrogen (N)	rite as N · mg/L	ate as N mg/L	Ę	등 S
Ę.	e ë	Date	<u>Ē</u>	pth to Wambgl	th to Sta mbtoc		_ EC - Field	l Temp -	Aluminiur (Al) - mg/l	m Arsenic	/D-)	(D-)	Cadmium (mg/L)	Chromium	(C-)	Copper	(F-)	(DL)	Mangane se (Mn) - mg/L	(NICKEI	Vanadiu	m Zinc (Z	(n) ≧ 🔁	=====================================	۵ ا	Calcius (Ca) - mg/L	III IVIAGILE:	\	m Potassiu m (K) - mg/L	Total Cation meq/L	CHIOTIGE	Sulfate (SO4) - mg/L	Alkalinity	Alkalinity	Allustinia.	Alkalinity	- A B	lonic Bala	no age	ng/s	ng/te	as N -	Signal Signal
_ ড	ezo Vat	"	-	ž.	를 돌	pH - Field	α μs/cm	Field - °C	(AI) - mg/l	L (AS) -	(Ba) -	(Be) -	(mg/L)	(Cr) - mg/L	(CO) -	(Cu) -	(Fe) -	(PD) -	se (ivin) -	(NI) -	(V) - mg/	L - mg/L	.   5 -	=	.   ==	(Ca) -	m (IVIg)	) - (Na) -	m (K) -	ᆿᇶ	(CI) -	(504) -	as CaCO3	- as CaCO3	- Alkalinity	mg/L	ᆿᄛᇃ	j.	E F	i ii c	tra -	ă	= 3
	≅ >			ă	Dep					mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			Σ		EC- Lab - μ	mg/L	mg/L	mg/L	mg/L	₽	mg/L	mg/L	mg/L	mg/L	as CaCO3		₽	2	∢ z	z	Ž	) Q	Þ
ANZECC Guideline -	- stock drinking v	water							5	0.5			0.01	1	1	1		0.1		1		20	0.002	1		1000	0			_	+	1000			Img/L		<del>1</del>			1500	400		4000
		02-Sep-10	1400			Dry																									$\overline{}$					$\overline{}$			$\overline{}$			$\overline{}$	$\overline{}$
		09-Feb-11	1400			Drv			_		_												1	$\top$	$\top$	$\top$				1	+-	$\top$		1		+-	1		+-		$\overline{}$	$\overline{}$	$\overline{}$
		08-Jun-11	930	89.81	90.70	7.60	2320	18.5																													1		1				
		26-Sep-11 04-Jan-12	930	89.97	90.86	Insufficie	ent to samp	ole																		$\neg$													1			$\neg$	$\overline{}$
		04-Jan-12	930	89.85	90.74	Insufficie	ent to samp	le																																		$\neg$	$\overline{}$
		28-Mar-12	1000	89.91	90.80	Insufficie	ent to samp	le																																			
		25-Jun-12	1020			Insufficie	ent to samp	le																		$\neg$																$\neg$	$\overline{}$
		11-Sep-12	1055			Dry																																					$\overline{}$
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		06-Dec-12 03-Apr-13	1110			Dry																																				$\neg$	$\overline{}$
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		03-Sep-13	1335			Dry																																					i
		02-Dec-13		90.43	91.32	Insufficie	ent to samp	ole																																			1
		06-Mar-14				Dry																																					i .
		10-Jun-14	1015			Dry																																					
		29-Sep-14	950			Dry																																					i .
		03-Dec-14				Dry																																					
		12-Mar-15				Dry																																					
		04-Jun-15	1120			Dry																																					
		09-Sep-15	1100			Dry																																					
		09-Dec-15	920			Dry																																					
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		24-Jan-17				Dry																																					
		21-Feb-17	1130			Dry																																				/	
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		20-Apr-17	1140			Dry																																	—			/	
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		25-Jul-17	1215			Dry																																	<b>↓</b>				$\overline{}$
		24-Aug-17	1200			Dry																	$\bot$	_		+						+							—				-
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		25-Jan-18	1140			Dry																		1																			

					÷	Fie	eld Parame	eters						Tota	l Metals							1 .		E		Major Catio	ons	1 .			Major	Anions			Ι.	1 .			l .	٦ ا	ס
<u>Q</u>	neter/ r Bore	Date	ae	o Wate bgl	o Stanc Itoc				Aluminium	Arsenic	Barium	Beryllium	admium Chrom			r Iron	Lead	Mangan	e Nickel	Vanadium	Zinc (7n	7 (Hg)	Lab	- µs/cı	Calcium			ations	Chloride	Sulfate			Bicarbona te	Alkalinity	unions :	salance	Ammonia as Nitrogen (N)	rite as N - mg/L	ate as N - mg/L	- Z	issolve
Site	Piezometer Water Bore	۵	Ē	epth to W mbgl	epth to St mbtoc	pH - Field	μs/cm	Field - °C	Aluminium (AI) - mg/L	Arsenic (As) - mg/L	(Ba) - mg/L	Beryllium (Be) - mg/L	Cadmium Chrom mg/L) (Cr) - n	g/L (Co	) - (Cu) - /L mg/L	(Fe) - mg/L	Lead (Pb) - mg/L	Mangan se (Mn) mg/L	- (Ni) - mg/L	Vanadium (V) - mg/L	- mg/L	Mercury (Hg mg/L	표	EC - Lab	Calcium (Ca) - mg/L	Magnesiu So m (Mg) - (N mg/L mg	dium Potass a) - m (K) - g/L mg/L	Total Cation	Chloride (Cl) - mg/L	(SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	as CaCO3 -	Alkalinity as CaCO3 -	mg/L	Total Anion meq/L	lonic Bal	Amme	Nitrite m	Nitrate	OX as	otalDi
ANZECC Guideline		_		Δ	ă					0.5			0.01 1				0.1		1		20	0.002		ŭ	1000					1000	IIIg/L	IIIg/L	mg/L					1500	400	Ž	4000
		27-Feb-18 27-Mar-18	1135			Dry Dry																																			
		26-Apr-18 25-May-18				Dry Dry										+	+	-	+																			+		$\vdash$	
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		20-Dec-18 24-Jan-19	1110			Dry Dry																																			
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P7	NG7	01-Nov-07 11-Dec-07		62.88 62.08												-																									
Depth Format.	90 Pilliga Sand.	17-Dec-07 23-Jan-08		62.08																																					
Standpipe height		03-Mar-08 02-Apr-08	1425	90.01	90.93																																				
Standpipe neight	0.92	09-May-08	1202	89.53	90.45																																				
		01-Jul-08	1544	92.08 92.08	93.00																																				
		12-Aug-08 10-Sep-08				7.95	1170	20.5		<0.001	0.031	<0.001	<0.0001 0.00	5 0.0	0.00	6 0.7	9 0.117	0.095	0.005	<0.01	0.033	<0.0001		149	1	1	25 3	1.33	26	4	<1	<1	19	19	1.20		0.55				101
		14-Nov-08 03-Dec-08												_	_	+	+	+	+		-	-						+	-							-	├	+		$\vdash$	
		23-Feb-09 09-Jun-09			90.10	Dry																																			
		24-Aug-09 17-Nov-09	1415	86.28		8.9							0.0002 0.00 0.0001 0.00											147 160			18 3 19 3		26.2 27		<1	<1	24 22	24 22			<0.01 <0.01				107 95
			1105	63.06	63.98			20	0.02			10.001					05 0.021					<0.0001															10.01		0.10	0.10	
		02-Sep-10	1350	62.88	63.80	6.81	202	23.9	0.02				0.00														36 4			4.28	<1		45	45	1.93				0.19	0.19	
			1010	63.92	64.84	6.55	263	24.3 21.3		<0.001			<0.0				0.001					<0.0001					66 4		92		<1			90					0.26		
		04-Jan-12	1010		89.53	6.38	148	22.3 22.3					0.0002 0.00														22 4		26			<1		27			0.35		0.24	0.24	104
		28-Mar-12 25-Jun-12						22.7 21.2		<0.001			<0.0001 0.00														24 4	1.36	25	4	<1	<1	35	35	1.49		0.14	<0.01	0.08	0.08	105
		11-Sep-12	1115		63.9	6.36 6.48	225	23.5 24.8	0.64	<0.001	0.037	<0.001	<0.0001 0.00	3 0.0	0.00	6 0.8	9 0.005	0.031	0.003	<0.01	0.05	<0.0001	6.56	172	2	2	25 4	1.7	33	6	<1	<1	42	42	1.89	<0.01	<0.10	<0.01	0.09	0.09	118
		03-Apr-13 04-Jul-13	1130	62.98		6.28		21.6	0.73	<0.001	0.046	<0.001	0.0002 0.00	4 0.0	003 0.02	8 1.4	3 0.026	0.047	0.003	<0.01	0.125	<0.0001	5.75	139	1	2	24 4	1.36	31	4	<1	<1	16	16	1.28		<0.01	<0.01	0.19	0.19	84
		03-Sep-13 02-Dec-13	1310	63.08	64	5.72	168	22.7	2.05	<0.001	0.07	<0.001	<0.0001 0.00	5 0.0	0.06	5 3.3	2 0.026	0.087	0.005	<0.01	0.165	<0.0001	6.34	175	1	1	28 4	1.45	34	4	<1	<1	22	22	1.48		0.82	<0.01	0.16	0.16	148
		06-Mar-14	1020	63.01	63.93	5.9	242	23	0.56	<0.001	0.036	<0.001	<0.0001 0.01	2 0.0	003 0.04	7 0.9	2 0.02	0.03	0.009	<0.01	0.12	<0.0001	6.07	221	2	2	31 3	1.69	41	10	<1	<1	26	26	1.88		0.04	<0.01	0.3	0.3	170
		10-Jun-14 29-Sep-14	1020	63.06	63.98	6.4	257	20.2	1.07	0.001	0.047	<0.001	<0.0001 0.00	4 0.0	004 0.01	3 1.8	3 0.008	0.059	0.004	<0.01	0.056	<0.0001	6.03	162	<1	1	26 3	1.29	36	4	<1	<1	17	17	1.44		0.02	<0.01	0.2	0.2	101
		03-Dec-14 12-Mar-15	1130	63.23	64.15	7	302	22.1 24.1	1.23	<0.001	0.047	<0.001	<0.0001 0.00	6 0.0	003 0.03	2.0	1 0.009	0.05	0.006	<0.01	0.1	<0.0001	6.08	218	2	3	35 3	1.95	40	3	<1	<1	24	24	1.67		0.02	<0.01	0.13	0.13	120
		04-Jun-15 09-Sep-15		63.05 63.05				23.5 22.4	0.06	<0.001	0.028	<0.001	<0.0001 0.00	1 0.0	002 0.00	7 0.3	5 0.009	0.011	0.002	<0.01	0.048	<0.0001	5.97	170	3	3	30 3	1.78	27	6	<1	<1	22	22	1.33		0.05	<0.01	0.07	0.07	112
		09-Dec-15 08-Mar-16	950	63.05	63.97	6.9	153	21.6 22.1					<0.0001 0.00														23 2		29		<1			16			0.03		0.14	0.14	100
		01-Jun-16 28-Sep-16	1050	62.12	63.04	6.1	256	20.3					0.0002 0.00																34			<1		30				<0.01			120
		26-Oct-16	1150	63.06	63.98	6	288	21.9	1.03	-0.001	5.040	-0.001		. 0.0	0.10	1.0	0.200	0.00	0.007	10.01	0.307	-5.0001	5.13	202		-	32 3	1./4			-,-	<u> </u>	50	30			0.03	10.01	0.24	5.24	
		23-Nov-16 19-Dec-16	1150	63.01	63.93	6.1	310	21.8							$\perp$	$\pm$																								$\square$	
		21-Feb-17	1200	63.09 63.15	64.07	6.2	402									$\pm$																									
		28-Mar-17 20-Apr-17	1200	63.06	63.98	6.3	415	22.5 22.2							$\blacksquare$	$\top$																								$\vdash$	
		24-May-17 27-Jun-17	1215	63.04	63.96	6.3	510	21.8		1					+	+			1										1												
L			1	55.00	٠.	5.5				1										1		1							-												

				1	l <u> </u>		Field Para	meters						Tota	l Metals									εΙ		Major Ca	ations					Major	Anions			١.,						ਰ
Site ID	ometer/ ter Bore	Date	Time	n to Wate	to Stanc mbtoc	pH - Fic	eld EC - Fi	eld · Temp - Field - °C	Aluminium	Arsenic (As) -	Barium (Ba) -	Beryllium (Be) - mg/L	Cadmium	Chromium (Cr) - mg/L	alt Copper	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) -	Nickel (Ni) -	Vanadium Z	Zinc (Zn)	rcury (Hg) mg/L	рн Гар	Lab - µs/c	Calcium N	Magnesiu n (Mg) -		Potassiu m (K) -	Total Cations meq/L	Chloride (CI) -	Sulfate (SO4) -		Carbonate		Alkalinity -	I Anions neq/L	c Balance	monia as	ite as N - mg/L	ate as N ·	as N - mg	Dissolve
	Piez			Dept	Depti		μs/cm	Field - "C	(AI) - mg/L			mg/L			L mg/L	mg/L		se (Mn) - mg/L	mg/L	(V) - mg/L -		Σ		L	mg/L n			mg/L	Tota	(CI) - mg/L		mg/L	mg/L	as CaCO3	mg/L	Tota	loni	R A	ž.	N.	XON	Tota
ANZECC Guideline	- stock drinking (	water 25-Jul-17	1245	63.10	64.02	6.2	393	3 21.5	5	0.5			0.01	1 1	1 1		0.1		1		20	0.002			1000						1000								1500	400		4000
		24-Aug-17		63.05 63.05				21.4		<0.001	0.033	<0.001	<0.0001	0.002 0.0	002 0.00/	0.7	0.009	0.019	0.002	<0.01	0.018	<0.0001	5.65	197	1	4	42	2	2 //1	30	2	<1	-1	23	23	1.62		0.02	<0.01	0.12	0.12	142
		25-Oct-17	1235	63.03	63.95	6.3	296	22.3	0.55	10.001	0.033	10.001	40.0001	0.002 0.0	0.00	0.7	0.003	0.013	0.002	40.01	0.010	10.0001	5.05	257		_	72	-	2.71	33	3	1	1	23	23	1.02		0.02	10.01	0.12	0.12	
				63.07 63.05				22.1	-	+			-		_																							1			$\vdash$	
		25-Jan-18	1210	63.06	63.98	6.3	357	7 22.5																=																		
				63.11				22.4	+	+					+									-+														<del> </del>			+	
				63.09 63.15				21.7																																		
		25-Jun-18	1210	63.16	64.08	6.4	468	3 21.3																																		
				63.07 63.10		_		21.6	+	+					_		+						-	$\dashv$														-			$\vdash$	-
		20-Sep-18	1040	63.09	64.01	6.3	256	20.6	0.52	<0.001	0.032	<0.001	<0.0001	0.002 0.0	0.002	0.67	0.004	0.025	0.002	<0.01	0.022	<0.0001	5.96	232	2	3	30	2	1.7	38	7	<1	<1	15	15	1.52		0.02	<0.01	0.15	0.15	153
				63.13 63.01				20.9	+	+			+		_	-	1							-+														<del>                                     </del>			+	
				63.07				20.6																=																		=
				63.11 63.20			_																																			
				63.18 63.22				22.1		+													$-\top$	$\dashv$				$\vdash \vdash \vdash$													+	
		28-May-19	9 1250	63.09	64.01	6.4	310	20.9																																		-
				63.08 63.11			_	20.3	+	+					-		1			+																					$\vdash$	
		29-Aug-19	1020	63.12	64.04	6.4	340	20.7		1																																
				63.17 63.14				22.8	0.38	<0.001	0.038	<0.001	<0.0001	0.008 0.0	0.014	0.58	0.029	0.028	0.002	<0.01	0.348	<0.0001	6.26	155	1	2	22	2	1.22	30	5	<1	<1	24	24	1.43		0.03	0.06	0.33	0.39	93
		28-Nov-19	1020	63.12	64.04	6.6	310	21.9																																		
				63.11 63.15				22.2	+	+			+		_									-+														<del> </del>			+	
				63.18				21.3		1														=																		=
				63.19 63.18				_																																		
		28-May-20		63.16 63.19				21.7	+	-			_																													
		23-Jul-20	1010	63.20	64.12	6.5	345	20.2																																		
GW Pum	installed			63.26 63.10			345	18.6	+	+					_		+						-	$\dashv$																	$\vdash$	$\overline{}$
		29-Oct-20	1040	63.19	64.11		1 127	7 17.2	0.02	<0.001			<0.0001	0.001 0.0	002 <0.00	1 <0.05	<0.001	0.007	0.002		0.005	<0.0001	6.07	114	<1	1	20	3	1.03	24	5	<1	<1	27	27	1.32		0.08	<0.01	0.12	0.12	217
				63.14 63.12			+	_	+	+			-		_		+							$\dashv$																	<del></del>	
		25-Jan-21	1135	63.15	64.07																																					
				63.18 63.25			+	-	-	+			+		_									-+																	<del>                                     </del>	
				60.27 63.23																	_			=																		
				63.26																																						
				62.35 63.15	_	_		20.4		+			-		_		+							$\dashv$																		
		04-Oct-21	1230	63.09	64.01	5.41	123	3 22.1		<0.001	0.052	<0.001	<0.0001	0.008 0.0	006 <0.00	1 0.87	0.001	0.088	0.06	<0.01	0.011	<0.0001	6.42	115	<1	1	21	2	1.05	28	3	<1	<1	17	17	1.19		<0.01	<0.01	<0.01	<0.01	81
				63.27 63.25				22.6	+-	+-	1				+	+	+			+ +			-+																		<del></del>	
		04-Jul-22	940	63.14	64.06	4.92	2 127	7 20.3		1			10.000	0.055	002	,	2 .0 00:			1	0.055	*0 000 ·							2			-1	-1				1					
								21.6	0.1	0.001	0.031	0.001	<0.0001	0.003 0	.002 0.00	0.	2 < 0.001	0.006	0.002	0.01	0.009	<u.uu01< th=""><th>6.12</th><th>123</th><th>1</th><th>1</th><th>22</th><th>3</th><th>1.12</th><th>27</th><th></th><th>&lt;1</th><th>&lt;1</th><th>14</th><th>14</th><th>1.1</th><th><u> </u></th><th>0.01</th><th>0.01</th><th>0.15</th><th>0.15</th><th>64</th></u.uu01<>	6.12	123	1	1	22	3	1.12	27		<1	<1	14	14	1.1	<u> </u>	0.01	0.01	0.15	0.15	64
									-	1																												1			-	=
						$\perp$																																				
P8	NC-110S			62.17 50.46				_	+	+						+				<del>                                     </del>	-			$\dashv$				+													$\vdash$	-
Depth	65	09-May-08	8 1220	50.53	51.36												1							$\dashv$																		
Format.	Purlawaugh			62.17 50.51			+	+	+-	+				<del>                                     </del>	+	+	+			+ +			+	$\dashv$	-			+													$\vdash$	-
Standpipe height	0.83	12-Aug-08	1230	50.56	51.39				1															$\dashv$																		
			0830	50.47	51.30	7.85	112	0 21.2		<0.001	0.057	<0.001	<0.0001	<0.001 <0.	001 0.001	0.09	0.004	0.037	<0.001	<0.01	0.007	<0.0001		805	33	10	121	9	7.96	64	20	<1	<1	276	276	7.74	1.35	0.14				455
				50.50 50.39			1		+	$\perp$											-		$-\top$	$\dashv$				$\Box$													$\vdash$	
		23-Feb-09	1326	50.47	51.30																			$\dashv$																		
		09-Jun-09 24-Aug-09		-0.83 50.41		SWL >		+	+	0.003	0.192	<0.001	0.0002	0.004 0.0	0.382	3.62	0.374	0.364	0.016	<0.01	0.967	<0.0001		490	29	8	59	7	4.85	44	<10	<1	<1	171	171	4.66	1.99	<0.01			$\vdash$	360
		17-Nov-09	1330	50.53	51.36	7.45		25.2	1	<0.001	0.121	<0.001	0.0001	<0.001 <0.	001 0.014	0.52	0.019	0.117	0.005	<0.01	0.07	<0.0001		423	12	4	57	6	3.59	27.2	10.3	<1	<1	137	137	3.72	1.81	0.06				240
				50.57 50.50			390	) 19	<0.01	<0.001				<0.001	0.002	<0.05	<0.001	0.006	0.003	<del>                                     </del>	0.04	<0.0001	7.05	358	14	4	55	7	3.56	27.7	8.75	<1	<1	131	131	3.58	0.33		<0.01	0.03	0.03	-
		02-Sep-10	1425	50.40	51.23	6.93	360	) 24																																		
		09-Feb-11	1120	50.65	51.48	7.1	355	23.6	<0.01	<0.001	1			<0.001	0.012	<0.05	0.001	0.029	0.001		0.096	<0.0001	6.65	387	22	5	55	6	4.06	28	12	<1	<1	151	151	4.06	0.08	Ь	<0.01	0.63	0.63	

	e			ıter	ģ.	Fie	eld Parame	ters						Tot	al Metals							- (g		E	N	Major Cations		- 8-		Majo	or Anions	Ricarhona		- 5	e e	as ()	, 2	, Z	Jg/L	ved
ite ID	iezomete Nater Bor	Date	Time	h to Wa mbgl	th to Sta mbtoc	pH - Field	EC - Field -	Temp -	Aluminiun (AI) - mg/I	Arsenic (As) -	Barium (Ba) -	Beryllium (Be) -	Cadmium Chror (mg/L) (Cr) -	nium (Co	balt Coppe (Cu) -	r Iron (Fe) -	Lead (Pb) - mg/L	Mangane se (Mn) -	Nickel (Ni) -	Vanadium (V) - mg/L	Zinc (Zn)	uny (H <sub>I</sub>	H Lab	Calc Calc (Ca)	ium Mag	ngnesiu Sodium (Mg) - (Na) -	Potassiu m (K) -	Total Catior meq/L	Chloride (Cl) - mg/L	Sulfate (SO4) - Hydroxide Alkalinity	Alkalinity - as CaCO3	te	Alkalinity -	l Anion neq/L	c Balan	monia ogen (I	ite as l' mg/L	ate as l	N - N	Dissolv
, o	Piez			Dept	Depth		μs/cm	Field - °C	(AI) - mg/I	n L (As) - mg/L		mg/L	(mg/L) (Cr) -	mg/L mg	g/L mg/L	mg/L	mg/L		mg/L	(V) - mg/L	- mg/L	Merc		mg/	L mg/	/L mg/L	mg/L	Total	mg/L	mg/L as CaCO3	- as CaCO3 mg/L	as CaCO3	mg/L	Tota	Onic	Nitr Am	ž.	Zi.	NOX	Total
ANZECC Guideline	- stock drinking w	08-Jun-11 11	110	50.38	51.21	7.05	327	19.5	5	0.5			0.01		1 1		0.1		1		20	0.002		10	000					1000							1500	400		4000
		26-Sep-11 12 04-Jan-12 12	200	50.42	51.25	6.98	321	19.8 22.5	0.98	0.006	0.143	<0.001	<0.0001 0.0	01 0	.002 0.02	1.56	0.067	0.51	0.005	<0.01	0.1	<0.0001	6.72 3	46 1	12	4 55	6	3.47	24	7 <1	<1	128	128	3.38	1.33	0.15	<0.01	0.06	0.06	213
		28-Mar-12 1:	130	50.43				22.5	0.29	<0.001	0.118	<0.001	<0.0001 <0.	001 <0	0.001 0.01	3 0.42	0.23	0.002	0.016	<0.01	0.067	<0.0001	7 3	41 1	15	5 48	7	3.43	26	6 <1	<1	122	122	3.3	1.92	0.17	<0.01	0.19	0.19	196
		25-Jun-12 12 11-Sep-12 12	230	50.42	51.25	6.87	308	22.8	0.15	<0.001	0.158	<0.001	<0.0001 <0.	001 0	.003 0.03	1 0.38	0.017	1.44	0.003	<0.01	0.134	<0.0001	7.23 3	35 1	12	5 50	8	3.39	28	6 <1	<1	122	122	3.35	0.53	0.2	<0.01	0.1	0.1	160
		06-Dec-12 12 03-Apr-13 12			51.8 51.2	6.72	310 362	21.1 21.2	0.2	<0.001	0.134	<0.001	<0.0001 0.0	01 0	.001 0.03	5 0.59	0.021	0.346	0.003	<0.01	0.308	<0.0001	6.8 3	44 1	17	4 46	9	3.41	32	7 <1	<1	119	119	3.43	0.27	1.02	<0.01	0.06	0.06	184
		04-Jul-13 14 03-Sep-13 12			51.17 51.4	6.92 6.85	378 332	20.6 21.6	0.25	<0.001	0.109	<0.001	<0.0001 <0.	001 0	.002 0.05	1 0.69	0.02	0.996	0.003	<0.01	0.1	<0.0001	7.36 3	55 1	10	4 51	7	3.23	30	8 <1	<1	112	112	3.25	0.41	0.01	<0.01	0.16	0.16	217
		02-Dec-13 12 06-Mar-14 12			51.27 51.3	6.7 7.1	357 340	20.9 21.7	0.17	<0.001	0.065	<0.001	<0.0001 0.	01 <0	0.001 0.08	1 0.24	0.008	0.059	0.005	<0.01	0.096	<0.0001	7.08 3	55 1	13	4 46	7	3.16	35	7 <1	<1	107	107	3.27	1.78	0.76	<0.01	0.41	0.41	199
		10-Jun-14 1:	140	50.47	51.3	7.2	370	19.6																																320
		29-Sep-14 13 03-Dec-14 10	040	50.51	51.34	7	413	21.8 21.8					<0.0001 0.0														12						194	5.35		0.6	<0.01		0.21	
		12-Mar-15 12 04-Jun-15 12			51.34 51.32	7.2	675 576		0.51	<0.001	0.407		<0.0001 <0.										7.47 6		18	5 120	10	6.79	49	11 <1	<1	271	271	7.03	1.78	0.35	<0.01	0.16	0.16	303
		09-Sep-15 12 09-Dec-15 12		_	51.35 51.37	7	427 447	22.3 21.2	0.19	<0.001	0.094	<0.001	<0.0001 <0.	001 <0	0.001 0.00	0.49	0.002	0.115	<0.001	<0.01	0.073	<0.0001	7.21 4	09 2	26	13 69	6	5.52	42	10 <1	<1	129	129	3.97	16.3	0.07	<0.01	1.32	1.32	226
		08-Mar-16 11 01-Jun-16 11	105	50.55	51.38	6.7 6.9	459	21.9 19.8	0.81	<0.001	0.209	<0.001	<0.0001 0.0	01 0	.004 0.02	3 2.57	0.01	0.855	0.003	<0.01	0.138	<0.0001	7.21 4	76 1	19	6 74	7	4.84	48	8 <1	<1	143	143	4.38	4.99	0.15	<0.01	0.4	0.4	283
		28-Sep-16 1	120	50.46	51.29	6.8	498	20.5	0.73	0.003	0.263	<0.001	<0.0001 0.0	02 0	.005 0.03	3.34	0.017	0.904	0.019	<0.01	0.136	<0.0001	7.12 5	07 2	22	6 75	8	5.06	46	8 <1	<1	178	178	5.02	0.35	0.15	<0.01	0.62	0.62	252
		26-Oct-16 12 23-Nov-16 12	235	50.53		7	558 637	21.2																																
		19-Dec-16 12 24-Jan-17 10	030	50.54		7 6.9	587 580		$\perp$	_				_+		_							+	_			_	<u> </u>			<u> </u>			$\vdash$	$\perp$					
		21-Feb-17 13 28-Mar-17 13			51.42 51.36		593 958	21.5 21.2																-																
		20-Apr-17 12 24-May-17 13	250 !	50.63			756		1															$\perp$																
		27-Jun-17 13	315	50.61	51.44	6.7	617	19.9																$\perp$																
		25-Jul-17 13 24-Aug-17 13	320 !	50.60	51.43	6.7	624 621	20.6																																
		21-Sep-17 13 25-Oct-17 13			51.43 51.41	6.5 6.5	612 620	21.8 22	0.17	0.003	0.276	<0.001	<0.0001 <0.	001 0	.004   0.01	2.49	0.014	1.28	0.003	<0.01	0.117	<0.0001	7.07 6	12 7	24	7 92	8	5.98	64	6 <1	<1	211	211	6.15	1.37	0.18	<0.01	0.02	0.02	364
		24-Nov-17 13 19-Dec-17 13				6.6 6.6	623 618																	-																
		25-Jan-18 13 27-Feb-18 13	300	50.59	51.42			21.9																_																
		27-Mar-18 13	300	50.78	51.61	6.8	713	21.2																																
		26-Apr-18 12 25-May-18 10	050	50.65	51.48	6.8 6.7	720 715	20.7																																
		25-Jun-18 13 25-Jul-18 13		_		6.9 6.9	725 657	20.2	-								+							+																
		29-Aug-18 12 26-Sep-18 12			51.5 51.48	6.9 6.8	680 615		0.16	0.001	0.283	<0.001	<0.0001 <0.	001 <0	0.001 0.02	0.9	0.013	0.69	0.002	<0.01	0.099	<0.0001	6.99 6	54 2	24	6 95	7	6	62	8 <1	<1	172	172	5.35	5.73	0.11	<0.01	0.06	0.06	446
		30-Oct-18 13 26-Nov-18 13	100	50.69	51.52	6.8		20.3																																
		20-Dec-18 12	240	50.61	51.44	6.7	729	21.4																																
		24-Jan-19 13 28-Feb-19 10	050	50.72	51.48 51.55	6.6 6.5	665 660	21.4																																
		28-Mar-19 9 30-Apr-19 10	040	50.69	51.52	6.5																		-																
		28-May-19 14 24-Jun-19 13																						-																
		29-Jul-19 11 24-Jan-03 11	100	50.72	51.55	6.6	655																	_																
		23-Sep-19 1	120	50.75	51.58	6.6	705	22.4	3.13	0.003	0.284	<0.001	0.0001 0.0	09 0	.003 0.07	5.01	0.151	0.369	0.01	<0.01	0.516	<0.0001	7.06 7	40 2	27	8 109	8	3.82	80	9 <1	<1	200	200	6.44	3.82	0.54	<0.01	0.34	0.34	431
		28-Oct-19 11 28-Nov-19 11	100	50.82	51.65	6.9	795	21.3																																
		16-Dec-19 11 29-Jan-20 11						21.8 21.6																+																
		25-Feb-20 12 24-Mar-20 12						21.2 20.8																																
		28-Apr-20 12 28-May-20 12	230	50.68	51.51	7		21.1																																
		29-Jun-20 1:	125	50.74	51.57	6.9	710	19.9																																
		22-Jul-20 11 26-Aug-20 11	120	50.75	51.58	6.9	745	17.6																																
		23-Sep-20 12 22-Oct-20 10	045	50.69	51.52	6.8	745		10	0.016	0.529	<0.001	0.0003	0.011	U.011 0.0	/9 12.	/ 0.053	0.053	1.14	0.012	0.118	<0.0001	7.64	732	28	8 1	22 8	7.57	76	7 <1	<1	276	276	7.8	3 1.54	0.05 <	:U.01	0.03	0.03	481
		26-Nov-20 10 21-Dec-20 10						18.8 18.9		+	+-		<u> </u>	$-\Gamma$					<del>-</del>				$-\Box$	+	$-\Gamma$		+								+	$\vdash$		-	$-\exists$	-
		25-Jan-21 12 24-Feb-21 12	200	50.71	51.54	7.1	763	19.9 18.7	$\vdash$														_	-																=
		30-Mar-21 10 27-Apr-21 11	050	50.74	51.57	7.1	925																	$\perp$																=
		27-May-21 1	105	50.78	51.61	7.3	840	19.7																$\perp$																=
		22-Jun-21 13 30-Jul-21 10	045	49.97	50.8	7.2	814	19.2						$\pm$										土																
		28-Aug-21 11 05-Oct-21 12	200	50.77	51.6	7.56	752	21.2	2	23 0.005	0.374	<0.001	<0.0001	0.005	0.005 0.0	56 4.1	3 0.057	1.56	0.011	<0.01	0.19	<0.0001	7.28	918	28	12 1	39 9	8.66	127	19 <1	<1	287	287	9.71	1 5.72	0.02 <	:0.01	0.07	0.07	523
		12-Jan-22 14 27-Mar-22 16						22.8 23.6																-															=	
		05-Jul-22 8 15-Sep-22 10	350	50.72	51.55	6.68	723	19.8	q	18 0.003	3 1.16	0,001	0.0003	0.008	0.01 0.0	32 1	1 0.021	0,581	0,012	0.04	0.076		7.69	940	42	10 1	60 12	10.2	113	<1	<1	330	330	9.93	3 1.28		0,01	0.01	0.01	609
		21-Nov-22 15							1	3.000					0.0		1	5.501		5.54	2.373						1	20.2	ļ	<u> </u>			330	5.55	1					
				$\Rightarrow$																				$\perp$																
P9	GWB5S	03-Mar-08 11																						$\pm$																
Depth	30	02-Apr-08 11 09-May-08 9	29	19.90	20.51																			$\pm$																
Format.	Purlawaugh	02-Jun-08 13 01-Jul-08 12	300	19.92	20.53																			-																
Standpipe height	0.61	14-Aug-08 12 12-Sep-08 12	217	19.93	20.54	6.8	1210	22.1	1	0,002	0.059	<0.001	0.0001 0.0	04 N	.003 0.01	1 1.32	0.036	0.037	0.012	<0.01	0.042	<0.0001	Δ	51	30	12 43	5	4.51	42	24 <1	<1	139	139	4.46	0.52	0.13		-		295
		14-Nov-08 13 01-Dec-08 13	103	19.83	20.44	5.0				0.002	3.033	5.001	5.552	- 1	0.01	2.52	0.000	3.037	3.012	-0.01	2.0 12	2.0001			-	3			Ë	``		133	100		0.52	5:25				
		12-Jan-09 09	930	19.82	20.43									+										$\perp$																
1		<b>23-Feb-09</b> 09	338	19.84	20.45																									<u> </u>	1	1								

Narrabri Mine

Groundwater Monitoring Data

				ċ	1 .		ield Param	otors							Total Met	tals									l c		Major (	^ations					Maior	Anions									
0	er/			Vate	tand		Tela r drain			T	Т							П					H	۰	ls/cu		I III I I			- suo		Ι		Carbonate	Bicarbona		- Sil	auce	a as (N)	ż	ż	/g m	olvec
ite II	omet er B	Date	i e	to V nbgl	h to S	nH - Fig	EC - Field	Temp -	Aluminium (AI) - mg/L			Beryllium	Cadmium	Chromium	Cobalt (Co) -		Iron I	Lead	Mangane	Nickel (Ni)	Vanadium		ury (	표	÷	Calcium	Magnesiu m (Mg) -		Potassiu m (K) -	Cati neq/		Sulfate (SO4) -	Alkalinity	Alkalinity	te Alkalinity	Alkalinity -	Anic Jeq/	Bala	noni ogen	te as	nte a:	ż	Disse
S	Pieze	_	_	epth	- bpth	Piti-Tic	μs/cm	Field - °C	(Al) - mg/L	(As) - mg/L	(Ba) - mg/L	(Be) - mg/L	(mg/L)	Chromium (Cr) - mg/L	mg/L	(Cu) - mg/L	(Fe) - (	Pb) - ng/L	se (Mn) - mg/L	mg/L	(V) - mg/L	- mg/L	Jerc .		C- Lat		mg/L	mg/L	mg/L	Total Ca mec		mg/L	as CaCO3 - mg/L	as CaCO3 - mg/L	as CaCO3 -	mg/L	lotal n	lonic	Amr	Ž ,	Nit.	Š	ot al
ANZECC Guideline	stock drinking	water		Δ	Ŏ	-			5	0.5			0.01		1	1		0.1		1		20	0.002		ŭ	1000				-	-	1000	IIIg/L	IIIg/L	mg/L		_			1500	400	Ž	⊢ 4000
ANZECC GUIGCIIIC	- Stock drinking	17-Aug-09	1430	19 90	20.51	6.7	22500	24			0.077	<0.001	<0.0001	0.003	0.002	0.01	6.94	0.001	0.122	<0.005	<0.01	0.009	<0.0001		23000	402	635	3560	62	229	7150	1830	<1	<1	641	641	253	4.96	1.6	1300	400	-	16000
		18-Nov-09			20.45	6.61		28.1	0.04	<0.001				<0.005		$\overline{}$	0.38	$\overline{}$	0.127	0.004		<0.005	<0.0001	6.63	21200	249	535		74	225	7260	1720	<1	<1	392	392	248	5.02		<0.01	<0.01	<0.01	
		17-Feb-10			20.53				1	10.000																		1	1		1200									,			
		22-Jun-10	1150	20.00	20.61	6.58	23010	23	<0.01	<0.001				<0.005		0.004	4.86	<0.001	0.098	0.002		0.008	<0.0001	6.69	22000	329	493	4020	59	233	7240	1570	<1	<1	599	599	249	3.22		<0.01	<0.01	<0.01	
		02-Sep-10	1050	19.92	20.53	7.07	17050	23.7																																			
		07-Feb-11	1215	20.18	20.79	6.5	17180	25.7	0.02	0.003				<0.001		0.004	2.96	<0.001	0.102	0.002		0.006	< 0.0001	6.4	22500	348	547	3830	61	230	7410	1590	<1	<1	604	604	254	4.86		<0.01	0.02	0.02	
		09-Jun-11	1115		20.92		17080																																	'			
		11-Oct-11	1220		19.47	6.40	15360		0.12	0.011	0.046	<0.001	<0.0001	0.01	0.001	0.012	6.14	0.021	0.182	0.003	<0.01	0.058	<0.0001	7.12	21000	354	534	4680	58	267	7310	1550	<1	<1	553	553	250	3.3	2.72	<0.01	0.52	0.52	15400
		08-Dec-11	_		20.17	6.60		23.1																																<b>└</b>	$\longrightarrow$		-
		04-Apr-12			20.66	7.2		24.7	0.61	0.003	0.046	<0.001	0.0001	0.002	0.006	0.03	1.22	0.411	0.008	0.041	<0.01	0.195	<0.0001	7.51	3350	74	60	585	22	34.6	828	212	<1	<1	257	257	32.9	2.55	27.2	0.7	2.48	3.18	1930
		31-May-12			20.48	6.8		21.7																																<b></b> -'	$\perp$		$\longrightarrow$
		29-Aug-12			20.57		14420		0.32	<0.001	0.076	<0.001	0.0002	0.006	0.001	0.028	2.27	0.029	0.338	0.004	<0.01	0.218	<0.0001	7.42	19100	336	516	4460	71	255	6670	1590	<1	<1	681	681	235	4.1	10.4	0.04	4.28	4.32	12400
		04-Dec-12			20.78	-	16220			<b>+</b>																	<u> </u>				L									<del></del> '	$\leftarrow$		
		07-Mar-13	_		20.7	_	18400	_	0.06	<0.001	0.031	<0.001	0.0002	<0.001	<0.001	0.034	7.28	0.006	0.167	0.001	<0.01	0.072	<0.0001	6.92	21900	372	536	4260	68	250	6320	1820	<1	<1	649	649	229	4.28	1.67	0.04	0.71	0.75	12900
		03-Jul-13		_	20.68		18960		+	0.000	0.005	.0.004	0.0005	0.040	0.000	0.224		2452	0.057	0.04	-0.04	0.553	0.0004	7.70	24200	240	504	4500		25.6	5500	4700	_	_	507	507	224	5.00	4.00	L 2 22	100		11100
		03-Sep-13	_		20.8	7.18		23.5	1.46	0.002	0.095	<0.001	0.0005	0.012	0.002	0.324	5.51	0.169	0.257	0.01	<0.01	0.567	<0.0001	7.78	21300	340	501	4500	71	256	6500	1700	<1	<1	607	607	231	5.03	1.86	0.03	4.88	4.91	14100
		27-Nov-13			20.97		19970		0.22	0.001	0.052	+0.001	0.0000	0.017	0.002	0.000	2.07	0.010	0.24	0.011	-0.01	0.264	-0.0001	7.20	21.000	205	F0C	4720		204	C1C0	1740	-1		C41	C41	222	0.42	0.00	L 0.04	1000	0.7	14400
-		05-Mar-14 11-Jun-14			20.61	6.9		24.2	0.23	0.001	0.053	<0.001	0.0003	0.017	0.003	0.099	2.07	0.018	0.21	0.011	<0.01	0.304	<0.0001	7.28	21600	305	506	4720	69	264	9190	1740	<1	<1	641	641	223	8.43	0.88	0.04	0.66	0.7	14400
		29-Sep-14	_		21.45	6.6		22.9	0.02	<0.001	0.046	<0.001	<0.0001	<0.001	<0.001	<0.001	4.00	<0.001	0.100	0.002	<0.01	0.047	<0.0001	7.25	21700	202	451	2270	58	199	6480	1620	<1	<1	582	582	228	6.77	1.78	<0.01	0.07	0.07	13400
		04-Dec-14	_		21.43	6.6		21.9	0.02	V0.001	0.046	VU.001	<0.0001	VU.001	VU.UU1	VU.UU1	4.99	VU.UU1	0.100	0.003	VU.U1	0.047	<0.0001	7.23	21/00	202	431	3370	36	199	0460	1020	- 1	1	362	302	220	0.77	1.76	V0.01	0.07	0.07	13400
		13-Mar-15			21.72	6.7		23.7	1 13	0.002	0.09	<0.001	0.0002	0.014	0.002	0.073	5.3/	0.028	0.17	0.011	<0.01	0.288	<0.0001	6.98	22000	355	475	/130	53	238	6860	1810	<1	<1	709	709	245	1.58	1.64	<0.01	0.44	0.44	14000
		03-Jun-15	_		22.21	6.9			1.13	0.002	0.03	10.001	0.0002	0.014	0.002	0.073	3.34	0.020	0.17	0.011	VO.01	0.200	VO.0001	0.50	22000	333	4/3	4130	33	230	0000	1010	\ <u>`</u>	- 1	703	703	243	1.50	1.04	10.01		-0.44	14000
		08-Sep-15	_		24.22		19870		0.59	<0.010	0.077	<0.010	<0.0010	<0.010	<0.010	<0.010	6.73	<0.010	0.151	<0.010	<0.10	0.055	<0.0001	7 55	21600	35/1	340	3190	15	186	5250	1610	<1	<1	677	677	195	2.53	1.91	<0.01	0.02	0.02	14400
		14-Dec-15			24.82	7		23.4	0.55	10.010	0.077	10.010	10.0010	10.010	10.010	10.010	0.73	10.010	0.131	40.010	40.10	0.033	VO.0001	7.55	21000	334	340	3130	1-3	100	3230	1010	<u> </u>	\ <u>``</u>	077	077	133	2.55	1.51	10.01	0.02	0.02	14400
		09-Mar-16	_		25.13	7.2	20930		0.55	0.001	0.73	<0.0001	<0.0001	0.003	0.001	0.034	5.5	0.006	0.176	0.005	<0.01	0.114	<0.0001	7.51	22100	401	443	3710	50	219	6040	1900	<1	<1	770	770	225	1.41	1.9	0.04	<0.01	0.02	14000
		02-Jun-16		25.09		7.2			0.55	0.001	0.75	10.0002	10.0001	0.003	0.001	0.031	5.5	0.000	0.270	0.003	-0.01	0.11	10.0001	7.51	22200	101		5710	1 30		00.10	1300	<u> </u>	1-				2.112	1.5	0.0.	10.01	-0.02	11000
		26-Sep-16	_		25.68		18540		0.23	0.001	0.072	<0.001	<0.0001	0.001	<0.001	0.012	3.79	0.002	0.151	0.003	<0.01	0.126	<0.0001	7.47	21800	412	498	3850	48	230	6350	1790	<1	<1	812	812	233	0.53	1.54	<0.01	0.42	0.42	14400
		25-Oct-16			25.93	7		22.4	1	1	T		1												1			1			1	1											
		24-Nov-16	_	_	25.76	7		22.6											$\neg \neg$																								
		20-Dec-16	1040		25.89	7.1		23.4																																			
		25-Jan-17	1045	25.31	25.92	7	19200	23.2																																			
		22-Feb-17	1150	25.60	26.21	6.9	19290	23.5																																			
		29-Mar-17	1020	25.67	26.28	6.8	19270	22.6																																			
		26-Apr-17			26.29		19350																																				
		29-May-17	1120	25.75	26.36	6.7	19450	21.7																																			
		29-Jun-17			26.47	6.6		21.8																																			
		26-Jul-17			26.47	6.7		22																																	$ldsymbol{\square}$		
		29-Aug-17			26.6	6.7																																		<b>↓</b> '	igcup	/	$\overline{}$
		26-Sep-17			26.49	6.9		22.4	0.48	<0.001	0.047	<0.001	<0.0001	<0.001	<0.001	0.006	5.56	0.002	0.15	0.002	<0.01	0.042	<0.0001	7.56	22800	334	454	3870	52	224	6020	1680	<1	<1	606	606	217	1.54	1.64	<0.01	0.14	0.14	15600
		26-Oct-17			26.45	6.9		22.8	_																															<b>↓</b> '	ullet		$\longrightarrow$
		27-Nov-17			26.5		19920																								<b>└</b>									<b></b> -'	$\vdash$		igwdown
		20-Dec-17	1135	25.86	26.47	6.8	19820	22.8																													L			'	oxdot		لــــــــا

				er.	<u> </u>		Field Paran	neters						Total M	etals									Ę.		Major Catio	ns				Major An	ions						١.		링 [	Ţ.
<u>Q</u>	neter,	ate	ue .	h to Wate mbgl	o Stan		EC Fiel	d - Temp -	Aluminium	Arsenic	Barium I	Beryllium	admium Chromiun	Cobalt	Copper	Iron	Lead	Mangane	Nickel	Vanadium	7inc (7n)	cury (Hg) mg/L	율			Magnesiu Sod			Chloride	Sulfate	Hydroxide Ca Alkalinity All	rbonate	Bicarbona te	Alkalinity -	inions iq/L	Salance	onia ag gen (N)	e as N	e as N g/L	Ę.	issolve
Site	ezon Wate	Dat	‡	pth te	pth to	pH - Fie	eld µs/cm	Field - °C	(Al) - mg/L	(As) - mg/L	(Ba) - (mg/L	Be) - ng/L	admium Chromiun mg/L) (Cr) - mg/	(Co) - mg/L	(Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	se (Mn) - mg/L	(Ni) - mg/L	Vanadium (V) - mg/L	- mg/L	lercur m	рн гар	()		m (Mg) - (Na mg/L mg		otal C	(CI) - mg/L	(SO4) - mg/L			Alkalinity as CaCO3 -	mg/L	otal A	onic B	Ammo	Zitrite Mg	litrate mg	OX as	sol Sol
ANZECC Guideline	- stock drinking w	vater		å	<u> </u>	+			5	0.5					1		0.1		1		20	0.002	_	ŭ	1000	<u> </u>		F		1000	6, -  6	g/L	mg/L		-		`-	1500	400	ž	<b>4000</b>
			1025																																						
		28-Feb-18 28-Mar-18	1150	25.96	26.57	6.7	19980	22.9																_																	
		30-Apr-18 29-May-18	1015		26.6 26.6				+			-+											_	$\dashv$				+	-												
		26-Jun-18	1230 1150	26.02	26.63	6.8	20180	21.7	1															_				1													
		30-Aug-18	1025	26.11	26.72	6.7	20250	21.5																																	
		25-Sep-18 30-Oct-18	1000 1220	26.13 26.15					0.05	<0.001	0.029	<0.001	<0.0001 <0.001	<0.001	0.005	5.64	0.002	0.133	<0.001	<0.01	0.026	<0.0001	6.9	21900	349	465 3	900 51	227	7030	1820	<1	<1	598	598	248	4.53	1.82	<0.01	0.08	0.08	16800
		28-Nov-18 21-Dec-18				_																																			
		31-Jan-19	1005	26.19	26.8	6.8	20750	23.4																																	
		28-Feb-19 28-Mar-19					20940																	-																	
		30-Apr-19 31-May-19	1155																					-																	
		25-Jun-19	1010	26.32	26.93	6.7	19850	21.3																																	
		28-Aug-19	1200 950				19760 19800																																		
		24-Sep-19 29-Oct-19							0.02	<0.001	0.04	<0.001	<0.0001 <0.001	<0.001	0.002	4.95	0.001	0.136	<0.001	<0.01	0.057	<0.0001	7.09	22000	370	452 3	820 48	224	6650	1880	<1	1	607	607	239	3.24	1.82	<0.01	0.15	0.15	13900
		28-Nov-19 16-Dec-19	1225	26.38	26.99	6.9			1															_																	
		30-Jan-20	1150	26.41	27.02	6.8	21240 20950	23.5																$\equiv$																	
		25-Feb-20 26-Mar-20	1030 1040				20880		+														_	$\dashv$				+	-												
		28-Apr-20 26-May-20	1255			6.8	21800	21.6	1														_	$\dashv$				1													
		25-Jun-20	1035	26.36	26.97	6.8	22900	21.2																																	
		23-Jul-20 28-Aug-20	1005 1130				21600		+														_	$\dashv$				+	1												
		23-Sep-20 28-Oct-20					1 21509 23700		0.2	2 <0.001	0.027	<0.001 <	0.0001 0.00	2 <0.001	0.01	5.9	0.005	0.124	0.001	<0.01	0.023	<0.0001	7.57	22100	336	471	3870 4	19 22	6290	1720	<1 <1		694	694	227	0.44	1.6	<0.01	0.18	0.18	14500
		27-Nov-20	1120	26.52	27.13	6.6	23500	20.9															_	$\dashv$																	
		23-Dec-20 27-Jan-21	1045		27.13 27.12	_			_															$\dashv$																	
		02-Mar-21 30-Mar-21	1050						_															$\dashv$				-													
		29-Apr-21	1120	26.60	27.21	6.7	21400	20.1																_																	
		31-May-21 23-Jun-21	1155	26.64	27.25	6.6		) 22																																	
		30-Jul-21 28-Aug-21	1030 1200		26.68 27.21		2 21550 2 21550		+			$\rightarrow$											_	$\dashv$				+	-												
		05-Oct-21	845	26.68	27.29	6.8		23.5	0.2	9 <0.001	0.027	<0.001 <	0.0001 0.00	2 <0.001	0.013	4.24	0.006	0.116	0.006	<0.01	0.048	<0.0001	7.56	21400	359	413	3600 4	16 21	6520	1700	<1 <1		724	724	234	5.44	1.45	0.02	0.08	0.1	14200
		27-Mar-22	1100	26.70	27.31	6.74	1 21313	23.8	1																			1													
		04-Jul-22 29-Sep-22	1553 1330		27.43 27.5	_			0.	.5 0.001	0.072	0.001 <	0.0001 0.00	2 0.001	0.033	5.64	0.003	0.145	0.002	0.01	0.01	<0.0001	7.86	21900	381	484	3980 5	52 23	6450		<1 <1		693	693	234	0.17	1.71	0.01	0.03	0.03	14700
		22-Nov-22	1420	27.02	27.63	6.59	23565	23.2	-															$\dashv$				-	-												
						-																		$\dashv$																	
P10	NC-030D	03-Mar-08																																							
Depth	130	02-Apr-08 09-May-08	1425			-		+	-															-+				+													
Format.	Napperby		1623	15.95	17.00																																				
Standpipe height	1.05	14-Aug-08	1635	16.23	17.28																																				
		09-Sep-08 14-Nov-08					2 1130	20.8	+	0.002	1.59	0.001	<0.0001 0.006	0.002	0.004	0.92	0.024	2.13	0.005	<0.01	0.023	<0.0001	-	6800	155	80 1	490 30	79.9	2410	188	<1	<1	546	546	82.9	1.88	1.73				4170
		03-Dec-08 12-Jan-09	1432	51.65	52.70																		_	_																	
		23-Feb-09	1355	43.63	44.68																																				
		11-Jun-09 24-Aug-09	+		-	_	nly	+	-	<0.001	1.4	<0.001	<0.0001 0.002	0.003	0.034	0.15	0.027	1.57	0.015	<0.01	0.249	<0.0001		7610	134	74 1	490 31	78.6	2160	40	<1	<1	774	774	77.1	0.9	<0.01				4370
			1400	41.76	42.81	7.4		25.2		0.001	1.34	<0.001	<0.0001 0.002	<0.001	0.014	0.31	0.035	1.35	0.018	<0.01	0.12	<0.0001	_	3200	41	78 1	550 30	76.8	2250	64.8	<1	<1	760	760	30.9	2.11	1.27				4610
		24-Jun-10	1250	35.72	36.77	7.28	8 8160		<0.01	0.002			<0.005		<0.001	<0.05	0.013	1.46	0.005		0.021	<0.0001	7.39	7010	83	83 1	560 32	79.7	2140	76.5	<1	<1	757	757	77.1	1.64		<0.01	0.02	0.02	
		03-Sep-10 09-Feb-11					7750 7020		<0.01	0.004			<0.005		0.002	<0.05	<0.001	3.29	0.004		0.01	<0.0001	6.91	9430	143	124 1	790 29	95.9	2920	308	<1	<1	793	793	105	4.35	-	<0.01	0.26	0.26	-
		08-Jun-11	1140	22.86	23.91	7.45	6240					<0.001	<0.0001 0.004	0.002						<0.01										142							1.06		0.28		4250
		04-Jan-12	1210	22.85	23.90	7.21	1 7154	23.5																																	
		28-Mar-12 25-Jun-12					4060 5 6190	22.6 20.6		<0.001	0.928	<0.001	<0.0001 <0.001	0.001	0.011	0.54	1.52	0.004	0.02	<0.01	0.101	<0.0001	7.87	5750	122	73 1	160 24	63.2	1580	123	<1	<1	534	534	57.8	4.42	1.31	0.03	0.34	0.37	3290
		11-Sep-12	1300	22.74	23.79	7.34		22.2		0.001	0.713	<0.001	<0.0001 <0.001	<0.001	0.016	0.3	0.004	1.29	0.003	<0.01	0.07	<0.0001	7.86	7280	111	87 1	300 25	69.9	1700	159	<1	<1	684	684	64.9	3.65	1.24	0.01	0.1	0.11	3920
		06-Dec-12 03-Apr-13	1250	22.75	23.8	8.51	1 6680	24.2	0.52	<0.001	0.959	<0.001	0.0002 0.003	0.002	0.057	1.32	0.11	1.91	0.011	<0.01	0.344	<0.0001	7.67	7330	142	90 1	.420 32	77.1	1890	189	<1	<1	629	629	69.8	4.92	1.45	0.01	0.19	0.2	3970
		04-Jul-13 03-Sep-13	1140 1415				5 5890 2 7490	21.6 21.7	0.54	<0.001	0.8	<0.001	<0.0001 0.002	0.001	0.087	1.28	0.058	1.72	0.008	<0.01	0.296	<0.0001	8.02	7950	150	105 1	480 34	81.4	2230	166	<1	<1	638	638	79.1	1.39	1.76	0.01	0.09	0.1	4420
		04-Dec-13 07-Mar-14	1200	22.71	23.76	7.6	7690						<0.0001 0.016																	217									0.18	0.18	
		10-Jun-14	1445	22.26	23.31	7.7	7850	21.4																											01.0	4.32					
		29-Sep-14 04-Dec-14					8520 7980	21.7 21.6		<0.001	0.774	<0.001	<0.0001 0.001	<0.001	0.007	0.25	0.004	2.46	0.004	<0.01	0.204	<0.0001	7.77	7780	189	121 1	360 30	ot Authori	2790	347	<1	<1	724	724			1.4	<0.01	0.14	0.14	3880
		12-Mar-15	1000	22.44	23.49	7.6		23.6		<0.001	0.592	<0.001	<0.0001 0.001	<0.001	0.028	0.4	0.011	1.56	0.005	<0.01	0.093	<0.0001	7.98	7350	142	108 1	.460 25	80.1	1970	200	<1	<1	644	644	72.6	4.9	1.06	<0.01	0.28	0.28	3990
		09-Sep-15		22.51	23.56	7.5	8700	21.6	0.33	<0.001	0.731	<0.001	<0.0001 <0.001	<0.001	0.018	0.8	0.009	2.42	0.004	<0.01	0.237	<0.0001	7.8	9350	179	106 1	460 22	81.7	2090	247	<1	<1	777	777	79.6	1.28	1.44	<0.01	0.02	0.02	5350
		15-Dec-15 08-Mar-16					8610 7330	22.6 24.4	0.21	<0.001	0.598	<0.001	<0.0001 <0.001	<0.001	0.02	0.8	0.009	1.97	0.006	<0.01	0.174	<0.0001	7.99	8810	180	111 1	480 21	83	2360	281	<1	<1	677	677	85.9	1.74	1.27	<0.01	0.07	0.07	5070
		01-Jun-16	925	22.42	23.47	7.8	7260																	_																	
		27-Sep-16 26-Oct-16	1355	22.39		7.4		22.1	0.04	<0.001	0.627	<0.001	<0.0001 <0.001	<0.001	<0.001	0.19	<0.001	2.04	0.002	<0.01	0.024	<0.0001	7.88	5730	115	75	988 16	55.3	1430	119	<1	<1	533	533	53.5	1.68	1.38	<0.01	0.02	0.02	3230
		23-Nov-16 19-Dec-16					7180 7540				+									+				-				+	1		$+$ $\mp$					-					
		24-Jan-17	1230	21.90	22.95	7.5	7110	22.6																																	
		21-Feb-17 28-Mar-17	1350	21.64	22.69	7.7	6810	22.3 21.6						$\perp$										+																	
		20-Apr-17 30-May-17					6810 6980	22 20.2																					-												
								20.2																																	

				-	1		Field P	Paramete	ers I						Total	Metals								l E		Maior	Cations					Maior	Anions								2 1	ъ
Site ID	Piezometer / Water Bore	Date	Time	epth to Wate mbgl	epth to Stand mbtoc	pH - F				Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Cadmium (mg/L)			Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) - mg/L	(NII)	Vanadium Zino		mg/L	C- Lab - μs/cr	Calcium (Ca) - mg/L	T	Sodium	Potassiu m (K) - mg/L	Total Cations - meq/L	Chloride (CI) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 -	Carbonate		Alkalinity - mg/L	Fotal Anions - meq/L	lonic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	OX as N - mg/	otal Dissolved Solids
ANZECC Guideline	  - stock drinking	g water	+	Δ_	1 0	+	+			5	0.5				1 1			0.1		1	2	0.00	02	ū ū	1000				_		1000	1116/1	IIIg/L	mg/L		·			1500	400	Z	4000
		25-Jul-17			22.58			6870	21																																	=
					22.55			7540 8910	20.7	0.55	<0.001	0.491	<0.001	<0.0001	0.002 <0.0	01 0.051	1.29	0.045	3.44	0.004	<0.01 0	.29 <0.0	001 7.	3 9880	207	151	1900	25	106	2710	321	<1	<1	919	919	101	2.19	1.1	<0.01	0.01	0.01	5460
					22.72			8830		0.00	1					-		1								1		1					_									
					22.65			7750															_		-																	
					22.84			-								+	+	1				-	+		+		+															
		27-Feb-1	8 1235	21.91	22.96	7.	-	7900																																		
					22.54 22.61			7720 8270	22.3							_	-		-						-		-	+														
					23.18			9120																																		
					23.18												_					_			1																	
					22.94			8520								+	+		-			-	_		1		+	+ -														
		26-Sep-1	8 1230	22.00	23.05	7.			21.1	0.06	<0.001	0.296	<0.001	<0.0001	<0.001 <0.0	01 0.002	0.59	0.003	3.76	0.002	<0.01 0.	022 <0.0	001 6.	6 11200	205	128	1640	22	92.7	3020	372	<1	<1	743	743	108	7.54	0.92	<0.01	0.03	0.03	6360
					23.38 21.98			9330			-					_	+	-	-				_	_	-	_	-	+	<u> </u>													
					22.07			9390																																		
					23.47																																					
					23.45			9100 9470									1		-				_		-		+	+														
		26-Apr-1	9 1250	22.14	23.19	7.	.3 9	9870	21.9																																	
					23.25 23.36			9720 9250			-					+	+	-	-			-	_	_	-		+	+	-													
					23.47			_	21.2																																	
					23.58						0.004	0.400		0.0004	0.000		4.55		2.74	0.000	201	245	204 7	40700	400	457	4000			2400	***		_	762	762		_	0.00	2.24	0.00	0.00	
					23.45			9900	21.6	0.1	<0.001	0.499	<0.001	<0.0001	0.002 0.02	24 0.011	1.bb	0.011	3./1	0.003	<0.01 0.	045 <0.0	001 /.	4 10/00	189	15/	1880	2/	111	3100	415	<1	<1	762	762	111	3	0.98	<0.01	0.03	0.03	5740
		27-Nov-1	9 1155	22.51	23.56	7.	.5 9	9720	21.4																																	
					23.68	_		9760			-					+			-				_	_	-	-	-	+	-													
					23.62											+			<u> </u>			1	+		1		1	1														
		_			23.51	_	.4 9	$\overline{}$																																		
					23.32		.2 9	9310			-						-		1						+		-	+	<del> </del>													
		29-Jun-20	1210	22.24	23.29	7.	.2 1	.0190	20.7																																	
					23.58 23.78				19.3 18.9		-					_	+		-			-	+	_	+			_	-													
GW Pump installe	d d				23.73		, ,	3070	10.5																																	
							03 1	.5841	18.3	<0.01	0.003			<0.0001	0.02 <0.0	01 <0.001	1 4.52	<0.001	1.03	0.016	<0	.005 <0.0	001 7.	17300	296	288	2410	39	144	5040	839	<1	<1	914	914	178	10.4	0.55	<0.01	0.01	0.01	10200
					21.69			-+								_	+	1				-	+		-		-	+	-													
		25-Jan-2	1 1300	20.43	21.48																																					
					21.52			$\rightarrow$								_	+	-	-				+	_	-		-	_	-													
					21.38											+						<u> </u>	+		1			1														
					21.39												1																									
					21.37 21.29		92 1	.5609	20.3										-			-					-	+ -														
		28-Aug-2	1 1220	21.20	22.25	6.7	78 1	.5874	18.2																																	
					21.18					0.2	<0.001	0.12	<0.001	<0.0001	0.002 <0.0	01 0.014	0.78	0.002	1.43	0.01	<0.01 0.	013 <0.0	001 7.	16300	324	308	2610	44	156	4940	770	<1	<1	1110	1110	178	6.41	1.24	<0.01	<0.01	<0.01	10200
		23-Mar-2	<b>2</b> 1320	23.93	24.98	6.1	17 1	6215	24																																	
					24.34					0.01	0.003	0.000	0.001	10 0001	0.001 0.0	201 0.00	1 200	0.000	1.63	0.004	0.01	0.027 +0.00	01	7.0 1630	0 24	10 22	1 204	0 40	100	4510				1040	1040	100	0.46	1.54	0.01	0.01	0.01	10200
					21.04	_	_	$\overline{}$		0.01	0.003	0.099	0.001	<0.0001	0.001 0.0	0.00	2.93	0.003	1.62	0.004	0.01	0.037	01	7.9 1620	34	19 33	284	U 48	109	4610		<1	<1	1040	1040	108	0.46	1.54	0.01	0.01	0.01	10300
																						$\bot$																				
-		+	+			+	+	$\dashv$			+					_	+		-		<del>                                     </del>	+	+	_	+	+		+		$\vdash$												-
P11	NC-030S	03-Mar-0																					士																			
Depth	50				23.13 23.25		+	-								+	+		-		+	+	+	-	+	+																
Format.		02-Jun-0	B 1620	22.25	23.29																		土																			
					23.32			-								_	_						$-\Gamma$	_	-	_																
Standpipe height	1.04	12-Sep-0	8 0730	22.86	23.90	8.2	23	980	17.6		0.004	0.162	<0.001	<0.0001	<0.001 0.08	0.004	0.81	0.006	2.98	0.159	<0.01 0.	016 <0.0	001	2490	89	40	341	4	22.7	581	16	<1	<1	248	248	21.7	2.24	0.04				1330
		14-Nov-0	8 1258	22.97	24.01			$\neg$															$\top$																			$\Box$
					24.00		+	-+									+				+ +	-	+	+	+	+				$\vdash$												
		23-Feb-0	9 1400	22.91	23.95			$\Rightarrow$			I							1							1																	
					23.98 25.18		only	$\rightarrow$	-		0.007	0.303	<0.001	U.0014	0.003 0.08	82   0.069	3.6	0.092	3.22	0.194	U.02 0	46 <0.0	U01	3230	122	54	495	6	32.2	878	<1	<1	<1	335	335	31.5	1.15	<0.01			-	1890
		17-Nov-0	9 1420	24.74	25.78	7.3		4900	25		0.005	0.303	<0.001	0.0004	0.001 0.0	9 0.048	0.57	0.056	2.43	0.215	<0.01 0.	294 <0.00	001	3200	64	48	493	6	28.7	863	10.2	<1	<1	320	320	30.9	3.68	<0.1				1870
<u> </u>					25.29 24.81		1 1	1360	20	<0.01	0.001				<0.005	0.004	0.14	0.011	3.16	0.356		133 -0.0	001 7	M 3500	153	60	621	+	40.4	1120	7 22	<1		202	202	39.6	1		<0.01	0.02	0.02	$\longrightarrow$
		03-Sep-1	1005	28.01	29.05	7.6	61 3	3650	21.1	VU.U1	0.001				CU.UU3							U.U	JU1 /.	3590	152	69	021	8	40.4	1130	1.32	<1	<1	362	382	39.0	1		<u.u1< td=""><td>0.02</td><td>0.02</td><td></td></u.u1<>	0.02	0.02	
		09-Feb-1	1 1240	27.35	28.39	7.0	05 3	3280	28.1	<0.01	0.002				<0.005	<0.001	0.33	0.006	5.17	0.3	0.	025 <0.00	001 6.	2 4360	132	77	652	6	41.4	1250	7	<1	<1	329	329	41.9	0.54		<0.01	0.37	0.37	$\Box$
					31.84 31.55					0.2	0.004	0.35	<0.001	0.0002	0.004 0.06	54 0.01	0.9	0.018	5.34	0.269	<0.01 0.	058 < 0.0	001 7.	2 4840	148	74	728	8	45.4	1210	19	<1	<1	327	327	41.1	4.95	0.27	<0.01	0.05	0.05	2710
•	-			50.51	32.33						1 2.007				2.22.   3.00		1 0.5	1 2.020						1 .0 70	1 2.5	· · · ·	1	, ,												2.33		

	Ι.					l <u>-</u>		Field Parame	eters						Tota	Il Metals									ΕΙ		Major Cations	•				Major Anio	ins			,				.	~	ъ
		eter/ Bore	æ	<u> </u>	Wate	Stand					Arsenio	Barium	Beryllium				Iron	Lead	Mangane	Nickel			(Hg) /	g ,	Cal	cium Ma	agnesiu Sodiu	ım Potassiu	tions /	Chloride	Sulfate Hydr	oxide Carb	onate te	rbona		nions .	alance	nia as en (N)	as N -	as N -	I- mg	ssolve
Site		ezom	Dat	i≟	oth to V mbg	mpt to	pH - Fie	EC - Field μs/cm	Temp - Field - °C	Aluminiu (Al) - mg	ım  ,, ,	(Ba) -	(Be) -	Cadmium Chrom (Cr) - n	ium ng/L (Co	(Cu) -	(Fe) - mg/L	(Pb) -	se (Mn) -	/AI:1	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	ercury (H mg/L	표 :		) - m	(Mg) - (Na) · g/L mg/L	m (K) -	Total Catio meq/L	(CI) -		inity Alkal	llinity aCO3 - as C	alinity M	lkalinity - ng/L	tal Ar mec	nic Ba	mmo	itrite	itrate	x as N	Soli
***********	, i	= >			Der	Dep				+-										_			Š	- 1	<u>.</u>		g/L mg/L	mg/L	2		IIIg/I	mg/I	L as C	acos -		٢	0	∢ Z	Z	ž	Ö	Þ
ANZECC Guideline	ie - stock		04-Jan-12	1240	30.16	31.20	6.93	4205	23.1	5	0.5			0.01 1		1 1		0.1		1		20	0.002	_	1	000		_			1000								1500	400		4000
			28-Mar-12 25-Jun-12			29.95 27.11			_		0.002	0.374	<0.001	<0.0001 0.04	14 <0	001 0.013	1.4	4.85	0.203	0.012	<0.01	0.066	<0.0001	7.57 43	10	168	75 67	1 8	44	1210	14	1 .	<1 :	290	290	40.2	4.43	0.24	<0.01	0.27	0.27	2590
			11-Sep-12	1320	22.85	23.89	7.22	4110	22.4	0.15	0.001	0.372	<0.001	<0.0001 <0.0	01 0.	056 0.041	0.76	0.07	4.66	0.23	<0.01	0.208	<0.0001	7.54 46	40	150	82 71	.7 8	45.6	1250	11	1 .	<1	320	320	41.9	4.27	<0.10	<0.01	0.28	0.28	2760
			06-Dec-12 03-Apr-13			21.63 19.6					0.002	0.489	<0.001	0.0001 0.00	02 0.	067 0.061	2.02	0.098	6.38	0.295	<0.01	0.335	<0.0001	7.46 48	80	194	85 75	0 10	49.6	1410	11	1 .	<1 :	271	271	45.4	4.36	0.15	<0.01	0.17	0.17	2940
			04-Jul-13 03-Sep-13		18.88 17.46	19.92	7.64 7.38	_	_		0.002	0.425	<0.001	0.0001 <0.0	01 0	0.111	1.2	0.036	4.86	0.213	<0.01	0.325	<0.0001	7.74 48	190	183	88 73	5 9	48.6	1380	11	1 .	<1 :	252	252	44.2	4.72	0.34	<0.01	0.1	0.1	2810
			04-Dec-13	1215	17.22	18.26	7.5	4680	23.9																																	
			07-Mar-14 10-Jun-14	_	17.76 17.80	18.8 18.84	_		22.3		0.002	0.407	<0.001	<0.0001 0.00	02 0.	0.092	2.27	0.029	6	0.193	<0.01	0.179	<0.0001	7.19 56	i90 :	207	93 84	9 8	55.1	1570	5	1 .	<1 :	225	225	48.9	5.99	0.22	<0.01	0.01	0.01	3750
			29-Sep-14 04-Dec-14			19.17 19.58	_				0.002	0.444	<0.001	<0.0001 0.00	02 0.	0.058	1.64	0.02	6.55	0.186	<0.01	0.119	<0.0001	7.44 56	90	176	82 63	5 7	43.3	1440	3	1 .	<1	209	209	44.9	1.73	0.27	<0.01	0.04	0.04	3140
			12-Mar-15	1020	18.71	19.75	7.5	6920	24.8	0.22	<0.00	1 0.346	<0.001	<0.0001 0.00	04 0.	0.06	1.72	0.027	4.08	0.168	<0.01	0.138	<0.0001	7.75 48	80	162	77 72	4 8	46.1	1410	23	1 .	<1	271	271	45.7	0.49	0.5	<0.01	0.05	0.05	2600
			04-Jun-15 09-Sep-15			20.21			21.5		<0.00	1 0.386	<0.001	<0.0001 0.00	03 0.	0.026	2.05	0.011	4.74	0.17	<0.01	0.124	<0.0001	7.62 51	.70	167	79 72	3 8	46.5	1280	17	1 .	<1	258	258	41.6	5.53	0.53	<0.01	<0.01	<0.01	3230
			15-Dec-15 08-Mar-16	_		20.89	_		22.5 24.4		<0.00	1 0.365	<0.001	<0.0001 <0.0	01 0	02 0.021	1.6	0.005	5	0.164	<0.01	0.106	<0.0001	7.85 51	30	180	84 76	i6 8	49.4	1320	18	1 .	<1 :	230	230	42.2	7.87	0.42	<0.01	<0.01	<0.01	3470
			01-Jun-16	945	20.37	21.41			20.4		10.00	0.303	10.001	V0.0001 V0.0	01 0	0.021	1.0	0.003	,	0.104	40.01	0.100	10.0001	7.05	.50	100	04 /		45.4	1320	10	-	``	230	250	72.2	7.07	0.42	40.01	10.01	10.01	3470
			27-Sep-16 26-Oct-16		#VALUE! 20.69	too wet 21.73	7.4	4100	22.2	0.02	<0.00	1 0.293	<0.001	<0.0001 <0.0	01 0.	0.002	1.8	<0.001	3.48	0.15	<0.01	0.023	<0.0001	7.72 39	180	113	57 56	0 7	34.9	1080	39	1 .	<1 :	289	289	37	3.04	0.52	<0.01	<0.01	<0.01	2500
			23-Nov-16 19-Dec-16			22.07 22.46	7.5 7.5		22.4 22.7																																	
			24-Jan-17	1250	21.83	22.87	7.3	4200	23.1																																	
			21-Feb-17 28-Mar-17	_	_	23.22	_		_						+									_	+	_		+		1			+	-								
			20-Apr-17 30-May-17	1410	22.57	23.61 23.59	7.2	4330	21.9		$\perp$	$\blacksquare$			$\top$	-									干	$\overline{}$							$\mp$	$\dashv$	$\dashv$							
			27-Jun-17	1400	22.80	23.84	7.2	4710	20.8						$\perp$										$\Rightarrow$								$\Rightarrow$									
	1		25-Jul-17 28-Aug-17		23.12 23.46	24.16 24.5	_				$\pm$	_			_										_	_						_	_+		+							
			21-Sep-17 25-Oct-17	1425	23.82	24.86 25.18	7.1	5640	22.3	0.2	0.001	0.445	<0.001	<0.0001 0.00	02 0.	0.02	1.7	0.013	5.86	0.183	<0.01	0.101	<0.0001	7.51 59	80	196	85 77	4 6	50.6	1740	4	1 .	<1 :	258	258	54.3	3.55	0.38	0.04	0.18	0.22	3220
			24-Nov-17	1415	23.98	25.02	7.2	5780	22.5						$\Rightarrow$										$\dashv$								$\Rightarrow$									
			19-Dec-17 31-Jan-18			25.72 25.75	_								+									_	+	+		+					_									
			27-Feb-18 27-Mar-18			24.67 26.88																			_																	
			26-Apr-18	1325	25.88	26.92	7.1	5990	21.5						$\pm$										#																	
			25-May-18 25-Jun-18			26.38 26.41	7.2			-	_	+			+									-+	+	+		+				_	+	-								
			25-Jul-18 29-Aug-18			26.59 26.89	_		21.8 21.5																																	
			26-Sep-18	1250		26.92	7	6140	21.2	0.04	0.002	0.491	<0.001	<0.0001 <0.0	01 0.	0.003	5.17	0.002	8.16	0.186	<0.01	0.017	<0.0001	7.32 68	10	230	117 10	10 10	65.3	1860	4	1 .	<1 :	208	208	56.7	7.04	0.15	<0.01	0.02	0.02	4270
			29-Oct-18 26-Nov-18			27.02 27.39	_		_						+									_	+	_		_					_									
			20-Dec-18 24-Jan-19	_		27.75 27.7	_		_																																	
			25-Mar-19	1310	26.66	27.7	7.4	6480	21.7																																	
			25-Mar-19 26-Apr-19			27.94 27.88	_								+									_	-	_		+					_									
			31-May-19 24-Jun-19			27.93 27.72			21 20.6																																	
			29-Jul-19	1240	27.07	28.11	7.2	6310	21.1																																	
			29-Aug-19 23-Sep-19			28.8 29.05			21.1		0.002	0.499	<0.001	<0.0001 0.00	02 0.	022 0.011	1.66	0.011	8.47	0.215	<0.01	0.087	<0.001	7.29 68	800	238	112	937 7	62	1990	8 <1	<1	_	241	241	61.1	0.74	0.25	<0.01	0.03	0.03	3990
			28-Oct-19	1245	28.38	29.42	7.2	6350 6510	22.4						_										_																	
			16-Dec-19	1320	28.60	29.64	7.3	6250	22.9																																	
			29-Jan-20 25-Feb-20					6210 6280							+									_	+	+		+		-			+	-								
			24-Mar-20 24-Apr-20				_	6130	21.5 21.3																																	
			28-May-20	1250	29.11	30.15	7.4	6020	21.2																																	
			29-Jun-20 22-Jul-20					6110 6030	19.9						+									_	+	+		+					_									
			26-Aug-20	1240	29.46	30.5	7.2	6150	18.7		0.005	0.574	10.001	+0.0001 0.0	2 0	202 0.000	0.16	0.147	0.005	c0.01	-0.01	0.035	-0.0001	7.64 76	10	205	115 1	070 7		2000	-1 -1	-1		200	200			0.13	10.01	10.01		4720
			18-Sep-20 22-Oct-20						18 19.9		0.005	0.5/1	<0.001	<0.0001 0.0	2 0.	0.006	9.16	0.147	0.005	<0.01	<0.01	0.025	<0.0001	7.64 /0	)10	265	115 1	070 7		2690	<1 <1	<1		280	280			0.12	<0.01	<0.01		4720
			26-Nov-20 21-Dec-20						20.3 19.5		-	+	$\vdash \exists$		$-\Gamma$								$\vdash \exists$		$-\Gamma$	$-\Gamma$						$\mp$	$-\Gamma$	-								
			25-Jan-21	1310	31.03	32.07	7.3	6100	20.1																$\perp$																	
	1		24-Feb-21 01-Apr-21					6110 5820	20 19.5		_				_										_				$\vdash$					_+								
			27-Apr-21	1240	31.59	32.63	7.5		19.4			<b>T</b>			$\perp$										$\perp$	$\blacksquare$		1					$\perp$	_	_							
			22-Jun-21	1250	31.84	32.88	7.6	5870	21.2						$\perp$										$\perp$								$\perp$									
-	-		16-Jul-21 18-Aug-20					5601	20.9 18.1		+	+			+	+	1						$\vdash$	_	+	+		+	-	-		+	+	+								
			05-Oct-21	1330	32.40	33.44	7.1	7902	21.9	1.74	0.006	0.725	<0.001	<0.0001 0.00	03 0	02 0.015	3.64	0.008	9.29	0.146	<0.01	0.044	<0.0001	7.46 83	20	270	116 1	090 7	70.6	2650	1 <1	<1		285	285	80.5	6.52	0.14	<0.01	<0.01	<0.01	5500
				1400	32.64	33.68	6.99	7833 7855	22.8						$\perp$										$\perp$																	
								7341			0.33 0.00	0.564	0.001 <	<0.0001	.001	.015 0.00	4 3.08	0.009	9.53	0.14	0.01	0.016	<0.0001	7.78	7780	279	121 1	1090 7	71 5	2380	<1	<1		296	296	73.1	1.11	0.21	0.01	0.1	0.1	5360
								7906				5.504	5.501			0.00	3.08	0.003	5.55	0.14	3.01	0.010						,	/1	2500	1,7				230	, 3.1	1.11	5.21	5.01	0.1	0.1	
P12	NC	C-098D	03-Mar-08 02-Apr-08																						$-\Gamma$										-							
Depth		90	09-May-08	0937	36.81	37.56									$\perp$										$\Rightarrow$																	
Format.	Na		02-Jun-08 01-Jul-08	1300	36.85	37.60		$\pm$		$\pm$	$\pm$				士	$\pm$									士							$\pm$	$\pm$	$\pm$	$\pm$							
Standpipe height	it (		11-Aug-08 12-Sep-08				6.8	1020	21.5	+	0.007	0.022	<0.001	<0.0001 0.00	12 0	008 0 002	0.67	0.132	0.053	0,002	<0.01	0.189	<0.001	2	67	30	10 2	8 5	3.62	74	16	1	<1	131	131	3,63	0.14	0.08				226
			14-Nov-08	1047	36.86	37.61		1520			3.007	0.022	5.001	0.00	- 0.0	3.002	0.07	3.132		2.00E		2.207	12.0001	T,			'		5.52					-		2.00	3.27	3.00				
			01-Dec-08 12-Jan-09	0915	36.82	37.57																			$\pm$																	
			18-Feb-09 17-Aug-09					2540	23.8		0.006	0.163	<0.001	0.0004 0.00	05 n	211 0.008	3	0.009	3.37	0.218	<0.01	0.04	<0.0001	25	30	82	49 45	3 6	28	370	8.67	1 .	<1 8	864	864	27.9	0.1	0.09				1540
			11-Nov-09	1035	37.19	37.94	7.5	2790						<0.0004 0.00												51		5 7	-	394		1 .					0.98					1660
				1030	36.36	37.11	7.38	2150			0.009			<0.0	05	<0.001	0.25	<0.001	1.02	0.027		<0.005	<0.0001	7.5 29	70	47	25 77	4 8	38.3	426	1.72	1 .	<1 1	180	1180	35.6	3.55		<0.01	0.04	0.04	
			02-Sep-10	1035	36.39	37.14	7.56	2700	21.9								1																									]

Narrabri Mine

Groundwater Monitoring Data

	, a			Į.	ģ		Field Para	neters	_							Total Me	tals							4		Į.Ę	⊢	Major	Cations		ż			Major	Anions	In:		٠,	9	s =	<u>.</u>	$( \cdot \cdot )$	g/L	P e
Ω	3or		۵	§ =	Stal C						conic	rium B	andlium			Coholt	Conner	lron I	Lood	Manaana	Nickel			🖺 ]	<u> </u>	%	Calaium	Magnesiu	Codium	Dotossiu		Chloride	Sulfate		Carbonate	Bicarbona		, ë 4	a i	ے ق	S _	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	Ę	S S
ţ.	E 5	) at	<u>۽</u> ا	o de	m to	nu Eig	EC - Fie	ld · Temp - Field - °	Alumin		rsenic Ba	) (B	erymum (	Cadmium	Chromium	Cobalt (Co) - mg/L	Copper	(Eo) (	Lead (Pb) - mg/L	Mangane se (Mn) -	/A1:\	Vanadium	Zinc (Zn)	mg/c	=	Lab -	(Ca) -		(Na) -	Potassiu m (K) -	Total Catio meq/L		(504)	Alkalinity		Alkalinity	Alkalinity -	- Fe B	Ba	non	ng/	# # /g	z	olic Diss
<b>⋈</b>	lezc	_	-	돭 -	15 -	pri-rie	μs/cm	Field - °	C (AI) - m	ng/L	s) - (Ba	1/1 m	Be) - Ig/L	(mg/L)	Chromium (Cr) - mg/L	ma/I	ma/I	(Fe) - (	ma/I		mg/L	(V) - mg/L	- mg/L	er e	표		mg/L	mg/L	mg/L	mg/L	ᇐ		mg/L	as CaCO3 -	as cacos -	as CaCO3 -	mg/L	<u>fa</u> _	i i	ŧ <u>ŧ</u>	Ē _	, <u>F</u>	×	s II
	_ = -			<u>a</u>	Del					""	g/L   III	, III	ig/ L			IIIg/L	IIIg/L	IIIg/L	ilig/L	IIIg/L	IIIg/L			Σ		<u> </u>	IIIg/L	liig/L	IIIg/L	liig/L	l º	liig/L	liig/L	mg/L	mg/L	ma/I		=	º	< 2	Z	2	2	P
ANZECC Guideline	- stock drinking	water							5		0.5			0.01	1	1	1		0.1		1		20	0.002			1000						1000								1500	400		4000
		07-Feb-11	1030	36.49	37.24	7.32	2560	25.8	0.0	03 (	0.011				<0.001			<0.001	0.002	0.943	0.024		0.009	<0.0001	7.46	2880	48	29	703	10	35.6	431	1	<1	<1	1040	1040	33.1	3.66		<0.01	0.01	0.02	
		09-Jun-11	1000	36.73	37.48	7.45	2610	19.8																																				
		11-Oct-11			37.55	7.50		22.9		98 (	0.011 0	.137	<0.001	<0.0001	0.003	0.005	0.038	2.17	0.02	1.13	0.028	<0.01	0.144	<0.0001	7.76	3170	40	24	732	8	36	442	9	<1	<1	1030	1030	33.2	3.97	0.51	<0.01	0.04	0.04	1870
		08-Dec-11	1010		37.52	7.50																																				$\longrightarrow$		
		04-Apr-12			38.08	7.8		23.2		64 (	0.011 0	.129	<0.001	<0.0001	0.005	<0.001	0.023	1.56	0.921	0.016	0.009	<0.01	0.104	<0.0001	7.94	3080	36	28	790	9	38.7	479	11	<1	<1	1070	1070	35.1	4.8	0.58	0.02	0.22	0.24	1960
		31-May-12			38.19	7.51				$\rightarrow$																<b>.</b>	<b>.</b>				<b>.</b>						<u> </u>		-			$\leftarrow$		
		29-Aug-12			38.24	7.68		21.6		11 (	0.009 0	.106	<0.001	<0.0001	<0.001	0.005	0.04	1.08	0.004	0.879	0.015	<0.01	0.202	<0.0001	7.98	3160	42	24	711	9	35.2	458	11	<1	<1	1170	1170	36.5	1.85	0.49	<0.01	0.07	0.07	1880
		04-Dec-12	_		38.4	7.67		24.1		-	204	405	0.004	0.0004	-0.004	0.005	0.000	0.00	0.005	0.000	0.040		0.000	0.0004	7.04	2220			754	+ -	25.4					4420	4420	242	204	0.07	0.00	<del> </del>		1000
		07-Mar-13		37.85		7.78				06	0.01 0	1.105	<0.001	<0.0001	<0.001	0.006	0.009	0.92	0.005	0.839	0.013	<0.01	0.038	<0.0001	7.81	3230	32	23	/51	9	36.4	416	11	<1	<1	1120	1120	34.3	2.84	0.37	0.02	0.11	0.13	1890
		03-Jul-13 03-Sep-13		40.35	38.58 41.1	7.81				20 (	0.011 0	110	<0.001	<0.0001	0.002	0.000	0.170	152	0.017	0.026	0.014	<0.01	0.000	<0.0001	0.00	3330	20	26	762	11	37.5	455	21	<1	<1	1140	1140	36	1.88	0.68	0.01	0.27	0.28	1780
		27-Nov-13			41.1	7.09		21.4		20   1	0.011 0	1.110	VU.UU1	<0.0001	0.002	0.008	0.178	1.52	0.017	0.650	0.014	VU.U1	0.000	<0.0001	8.09	3330	30	20	/02	111	37.3	433	21	\1	\1	1140	1140	30	1.00	0.00	0.01	0.27	0.20	1780
		05-Mar-14			42.21	7.9		24.3		14 (	0.012 0	102	<0.001	<0.0001	0.013	0.01	0.058	0.9	0.009	0.801	0.016	<0.01	0.087	<0.0001	7 96	3350	30	23	932	10	44.6	436	24	<1	<1	1100	1100	34.8	12.4	0.51	0.03	0.06	0.09	1870
		11-Jun-14		_	42.55	7.8		20.9		+	0.012 0	.102	10.001	10.0001	0.013	0.01	0.030	0.5	0.005	0.001	0.010	10.01	0.007	10.0001	7.50	3330	1 33	+ 23	1 332	10	44.0	1 730		``	``	1100	1100	34.0	12.7	0.51	0.03	0.00	-0.03	1070
		29-Sep-14	_		42.64			22.1		09 (	0.013 0	.104	<0.001	<0.0001	<0.001	0.007	0.009	1.09	0.006	0.748	0.013	<0.01	0.045	<0.0001	7.98	3190	25	16	550	9	26.7	417	15	<1	<1	994	994	31.9	8.94	0.62	0.02	0.05	0.07	2390
		04-Dec-14			42.86	7.5		21.7								0.001										1	1		1	1														
		13-Mar-15	1130	_	43.04	7.6		25.4		17 (	0.012 0	.093	<0.001	<0.0001	<0.001	0.006	0.012	1.05	0.001	0.576	0.015	<0.01	0.045	<0.0001	7.79	3260	42	35	864	10	42.8	431	17	<1	<1	1190	1190	36.3	8.2	0.76	<0.01	0.04	0.04	1660
		03-Jun-15	1310	42.36	43.11	7.7	3140	20.9																																				
		09-Sep-15	925	42.44	43.19	7.6	3110	21.1	0.3	33 (	0.016 0	.096	<0.001	<0.0001	0.001	0.006	0.012	1.83	0.004	0.666	0.016	<0.01	0.059	<0.0001	8.01	3270	38	22	704	8	34.5	319	17	<1	<1	1120	1120	31.7	4.18	0.72	<0.01	<0.01	<0.01	1740
		14-Dec-15	940	42.56	43.31	7.6	3140	22.9																																				
		09-Mar-16	1240	42.52	43.27	7.7	3120	24.5	0.0	05 (	0.017 0	.111	<0.001	<0.0001	< 0.001	0.006	0.02	1.74	0.002	0.866	0.018	<0.01	0.038	<0.0001	7.98	3250	41	25	680	8	33.9	407	20	<1	<1	1140	1140	34.7	1.2	0.73	0.02	0.09	0.11	1780
		02-Jun-16			43.38	7.7																																				$\longrightarrow$		
		26-Sep-16	_		43.36	7.6		22.1		68 (	0.014 0	.088	<0.001	<0.0001	0.001	0.007	0.003	1.52	0.003	0.369	0.019	<0.01	0.064	<0.0001	7.96	3190	36	22	638	8	31.6	400	15	<1	<1	1240	1240	36.4	7.12	0.58	<0.01	<0.01	<0.01	1730
		25-Oct-16			43.4	7.6		21.8																			_															$\longrightarrow$		
		24-Nov-16			43.41	7.6		21.6										$\vdash$						<u> </u>			—				<u> </u>	<b>├</b>							-			$\leftarrow$		
		20-Dec-16			43.41	7.6		22.2															_			_	-												-			$\leftarrow$		
		25-Jan-17			43.44	7.6		22.6		-+		-						<del>                                     </del>					_	<del>                                     </del>		+		+	+	+	$\vdash$	-					-	-	+			$\vdash$		
		22-Feb-17 29-Mar-17	_		43.49 43.43	7.7	_	22.6		-+		_						$\vdash$					-	1	_	+	+	+	+	+	1	$\vdash$		-			-	1	+	-	-	$\longrightarrow$		
-		29-IVIAT-17 26-Apr-17	_		43.45	7.7		22.1		-+	-	-+						$\vdash$					_	+	_	+	-	+	+	+	$\vdash$	$\vdash$					_	-	+	⊢—		$\overline{}$		
-		26-Apr-17 29-May-17			43.45			22.7		-		_	-					<del>                                     </del>					<del>                                     </del>	1		+	1	+	+	+								1				$\overline{}$		
		29-Jun-17	_		43.54	_		22.1		_														1		_	_				<u> </u>	<del>                                     </del>						<del> </del>	+			$\overline{}$		-
		26-Jul-17		_	43.79	_		21.3		-			-					<del>                                     </del>					1	1		+	1	+	1	1	1	<b> </b>					1	1	1	<del>                                     </del>		$\overline{}$		
		29-Aug-17			43.85	7.8	_				-	-											_	<del>                                     </del>		+	_		+	+	<b>-</b>	_						_	<del>                                     </del>			$\overline{}$	$\overline{}$	
		26-Sep-17			43.97	7.8		22.4		12 (	0.012 0	.078	<0.001	<0.0001	<0.001	0.005	0.006	0.96	0.004	0.505	0.017	<0.01	0.014	<0.0001	8.14	3210	30	19	627	7	30.3	405	14	<1	<1	1120	1120	34.1	5.9	0.68	<0.01	<0.01	<0.01	1930
		26-Oct-17		43.51		7.7																	1	1		1	1	<del> </del>	T	T .	1	T				1		T	T	T				
		27-Nov-17	_		44.01	7.6		22.1																1			-															$\Box$	-	-
		20-Dec-17			44.43	7.6		22.3																l		1			1	1	1	1						1					$\overline{}$	
		30-Jan-18	930	43.81	44.56	7.7	3200	22.7																			1				1	1							1				-	
		28-Feb-18	915	43.92	44.67	7.6	3180	22.4					1																															
			•	•	-	•	_	-																					-		•						•	•	•					

				·	÷ I	Fie	eld Parame	eters						1	Total Metals									Ε		Major C	Cations					Major	Anions			Ι,						σ
<u> </u>	r Bore	ą.	e e	o Wate	Stanc		EC El-Id	<b>T</b>	Alii	Arsenic	Barium	Beryllium	C- di	Characteristic	Cobalt Cop	per Iron	Lead	Mangane		Manadina	7: (7-)	cury (Hg) mg/L	rap	- µs/cı	Calcium	Magnesiu	Sodium	Potassiu	ations q/L	Chloride	Sulfate	lydroxide	Carbonate	Bicarbona te	A II II i4	nions q/L	alance	onia as en (N)	as N -	s as N -	E -	ssolve
Site	Vater	Da	Ė	mbgl	apth to St mbtoc	pH - Field	EC - Field μs/cm	Field - °C	Aluminium (Al) - mg/L	(As) - mg/L	(Ba) - mg/L	(Be) - mg/L	(mg/L)	Chromium (Cr) - mg/L	(Co) - (Cu)	) - (Fe) /L mg/	Lead - (Pb) - L mg/L	se (Mn) - mg/L		Vanadium (V) - mg/L		Mercur	표	:- Lab		m (Mg) - mg/L		m (K) - mg/L	otal C	Chloride (CI) - mg/L	(SO4) - (SO4)	s CaCO3 -	as CaCO3 -	te Alkalinity as CaCO3 -	Alkalinity - mg/L	otal A	onic B	Ammo	Nitrite mg	Vitrate	OX as I	otal Di Sol
ANZECC Guideline - sto	ck drinking wo	ater		ے م	ă				5	0.5				1		_	0.1		1		20	0.002		E	1000		-		F		1000	ng/L	mg/L	mg/I		├-	+-	1 -	1500	400	ž	₽ 4000
		28-Mar-18 30-Apr-18		43.81 44.87		7.7 7.9	3190 3180	22.9 21.8							_	-																										
		29-May-18 26-Jun-18	925	45.98 48.06	46.73	7.9 7.6	3090	21.7																																		
		26-Jul-18	1110	47.50	48.25	7.6	3400	20.9																																		
		30-Aug-18 25-Sep-18		46.65		7.7 7.9		19.8	0.05	0.015	0.092	<0.001	<0.0001	<0.001	0.019 0.	001 1.:	15 0.005	0.678	0.044	<0.01	0.013	<0.0001	7.82	3610	44	39	804	9	40.6	433	17	<1	<1	1000	1000	32.8	10.6	0.7	<0.01	0.13	0.13	1960
		30-Oct-18 28-Nov-18	_	46.40 46.13	_	7.8	3060 3100	22 21.8							_	+	-				-						-									-						
		21-Dec-18	900	46.04 46.02	46.79	7.7 7.6	3070	22 22.1							_	$\perp$																									=	
		28-Feb-19	1150	45.85	46.6	7.8	3210	23.1																																		
		30-Apr-19	1100	45.79 45.70	46.45	7.8	3210	22.9 22.7																																		
		31-May-19 25-Jun-19		45.62 45.52		7.6 7.6	3320 3230	20.6																																		
		30-Jul-19 28-Aug-19		45.56 45.54		7.6 7.6		20.8								+																										
		24-Sep-19 29-Sep-19		45.58 45.56	46.33	7.8 7.6		23 22.9	0.03	0.014	0.091	<0.001	<0.0001	<0.001	0.011 0.	002 1.	25 0.003	0.612	0.037	<0.01	0.018	<0.0001	8.15	3350	25	21	778	8	37	447	16	<1	<1	1000	1000	32.9	5.86	0.67	0.01	0.03	0.04	1870
		28-Nov-19	1135	45.69 45.35	46.44	7.7		22.9																																		
		30-Jan-20	1055	45.23	45.98	7.8	3260	22.8																																		
		25-Feb-20 26-Mar-20		45.21 45.26		7.7	3220 3130	22.5																																		
		30-Apr-20 28-May-20		45.18 45.18		7.7	3050 3100	21.2 21.3								_						<u> </u>														<del>                                     </del>						
		25-Jun-20 23-Jul-20	1015	45.21 45.17	45.96	7.7 7.7		20.8 20.6								$\overline{}$																										
GW Pump insta	alled	28-Aug-20	1100	45.17 45.18	45.92	7.7	3110		<0.01	0.01			<0.0001	<0.001	0.011	001 04	61 <0.001	0.563	0.043		<0.00F	<0.0001	2 10	3300	27	15	ESE	Q	37.6	161	8	<sub>&lt;1</sub>	<i>c</i> 1	1200	1200	27.7	6.59	0.59	<0.01	0.01	0.01	1910
		28-Oct-20	1230	46.90	47.65	, . <del>-1</del> 0	3030	10.3	VU.U1	0.01			-5.0001	-0.001	5.511	0.1	\0.001	0.303	0.043		~0.003	-0.0001	0.13	3300		1.5	560	,	32.0	704		`*	~1	1200	1200	31.2	0.09	0.33	\U.U1	0.01	5.01	1210
			1010	45.15 44.84	45.59											$\perp$																										
				44.72 44.76																																						
				44.67 44.59																																						
				45.10 45.12																																						
		16-Jul-21	1000	45.12	45.87		2984																																			
		29-Aug-21 05-Oct-21	930	45.15 45.14	45.89		2980	22	0.02	0.01	0.066	<0.001	<0.0001	<0.001	0.004 0.	.003 0.:	39 <0.001	0.414	0.038	<0.01	0.006	<0.0001	8.05	3160	27	14	656	8	31.2	433	<1	<1	<1	1180	1180	35.8	6.79	0.56	<0.01	<0.01	<0.01	1890
		29-Mar-22	1620	45.19 45.15	45.9	7.77 7.55		22.5 22.8																																		
		05-Jul-22 28-Sep-22		45.07 45.08		7.91	3351	22.4	0.17	0.014	0.078	0.001	<0.0001	0.002	0.004	0.001 1	1.08 0.00	2 0.58	0.037	0.01	0.006	<0.0001	8.3	3090	27	16	5 702	8	33.4	386		1	4	938	942	2 3	0 5.44	0.62	0.01	0.01	0.01	1920
		09-Dec-22	1225	45.19	45.94	7.22	3348	22.8								_																										
																-																					-					
P13	NC-098S			8.52												$\perp$																										
Depth		09-May-08	0939	8.63 8.89	9.75																																					
Format. C				9.02 9.19											_	+	_							$\vdash$			-			-						-						
standpipe height		11-Aug-08 12-Sep-08		9.35 9.44		7.1	1180	20.1		<0.001	0.153	<0.001	<0.0001	0.001	<0.001 0.	001 0.	11 0.007	0.134	0.002	<0.01	0.023	<0.0001		2040	50	89	253	7	21.0	279	30	<1	<1	556	556	19.6	3.47	0.24				1040
		14-Nov-08	1045	8.35 8.48	9.21									0.000				-			-					-																
		12-Jan-09	0920	7.53	8.39																																					
				7.37 8.04				24.3									51 0.002							1760		100		3		272	50.7	<1	<1	551	551	19.7	0.34	<0.01				978
				8.93 8.07		7.2	1310	27.5	-	0.001	0.125	<0.001	<0.0001	0.003	0.005 0.	006 2.5	57 0.005	0.625	0.016	<0.01	0.015	<0.0001		1820	54	105	218	3	20.9	362	45.8	<1	<1	520	520	21.6	1.66	14.9				1110
		22-Jun-10	0930	8.81 8.31	9.67	7.69 7.38		21 22.4	<0.01	<0.001				<0.005	<0	.001 <0.	.05 <0.001	<0.001	0.003		<0.005	<0.0001	7.47	1820	56	106	222	3	21.2	301	41.4	<1	<1	544	544	20.2	2.37		<0.01	2.77	2.77	
		07-Feb-11	1100	6.29 7.04	7.15	7.21		24.5	0.03	<0.001				<0.001	<0	.001 <0.	.05 <0.001	<0.001	0.001		<0.005	<0.0001	7.24	1480	70	86	191	2	19	283	54	<1	<1	512	512	19.3	0.97		0.02	1.95	1.97	
		11-Oct-11	1120	7.79	8.65	7.30	1336	21.4	0.31	0.004	0.072	<0.001	<0.0001	0.001	<0.001 0	.02 0.4	41 0.004	0.033	0.004	0.01	0.051	<0.0001	7.7	1730	56	88	191	<1	18.4	250	38	<1	<1	455	455	16.9	3.98	0.13	<0.01	2.75	2.75	942
		04-Apr-12	930	7.50 5.20	6.06	7.40	1103	21.2 22.5	0.32	<0.001	0.067	<0.001	<0.0001	<0.001	<0.001 0.	014 0.	.1 0.021	0.004	0.003	<0.01	0.063	<0.0001	7.82	1360	113	69	117	3	16.5	128	258	<1	<1	306	306	15.1	4.39	0.05	<0.01	1.48	1.48	922
				5.37 4.91		7.55 7.66		20.1 21.6	0.12	<0.001	0.066	<0.001	0.0001	0.002	<0.001 0.	.035 0.3	35 0.004	0.027	0.006	<0.01	0.101	<0.0001	7.88	1330	106	63	97	2	14.7	121	276	<1	<1	310	310	15.4	2.02	0.05	<0.01	2.48	2.48	846
		04-Dec-12	1250	5.48	6.34	7.68	1258	21 22.4	0.02								.05 0.002					<0.0001				64			14.8		268	<1	<1	288	288	14.5		<0.01		2.91		910
		03-Jul-13	1240	5.27	6.13	7.75	1292	21.6																																		
		27-Nov-13	1240	7.41 8.98	9.84	8.1	1813	21.5 20.7									25 0.004														263	<1	<1	298		15						929
	-			10.65 10.80		8.1		24.1 20.6	0.52	0.002	0.07	<0.001	<0.0001	0.008	<0.001 0	.06 1.:	35 0.02	0.066	0.013							59		1	17.1	135	266	<1	<1	310	310	15.5	4.76	0.04	<0.01	4.05	4.05	950
		29-Sep-14	1330	11.46 11.96	12.32	7.8 7.7		21.9 21.6	0.05	<0.001	0.059	<0.001	<0.0001	<0.001	<0.001 0.	014 0.	.1 0.001	0.017	0.01	<0.01	0.043	<0.0001	7.86	1480	81	61	145	2	15.4	143	295	<1	<1	335	335	16.9	4.5	0.02	<0.01	3.64	3.64	818
		13-Mar-15	1200	12.41	13.27	7.9	1592	25.7	0.41	0.001	0.079	<0.001	<0.0001	0.016	<0.001 0.	019 0.0	63 0.003	0.022	0.017	<0.01	0.097	<0.0001	7.89	1620	93	71	239	3	21	165	273	<1	<1	339	339	17.1	10.1	0.05	<0.01	3.6	3.6	846
		09-Sep-15	945	12.37 11.78	12.64	7.9	1464	20.2	0.06	<0.001	0.069	<0.001	<0.0001	<0.001	<0.001 0.	013 0.	.3 <0.001	0.013	0.007	<0.01	0.048	<0.0001	7.7	1520	86	82	173	3	18.6	150	294	<1	<1	274	274	15.8	8.15	0.04	<0.01	3.43	3.43	927
		09-Mar-16	1300	11.20 11.89	12.75	7.8		22.6	<0.01	<0.001	0.069	<0.001	<0.0001	<0.001	<0.001 0.	.017 <0.	.05 <0.001	0.004	0.008	<0.01	0.052	<0.0001	7.84	1610	88	76	189	3	18.9	174	321	<1	<1	287	287	17.3	4.45	0.06	<0.01	3.61	3.61	1000
				12.63 11.49		7.8 7.5		20.6 21.1	0.21	<0.001	0.076	<0.001	<0.0001	<0.001	<0.001 0.	012 0.4	45 0.003	0.034	0.007	<0.01	0.069	<0.0001	7.73	1400	99	79	118	2	16.6	106	336	<1	<1	264	264	15.3	4.27	0.02	<0.01	1.71	1.71	914
		25-Oct-16	945	10.90	11.76	7.4	1337	21		1 1 1									-	-	-						<u> </u>											<u> </u>				
		20-Dec-16	930	10.44	11.3	7.4	1375	21.8								$\perp$																										
		22-Feb-17	1050	10.75 11.05	11.91	7.5		22.1																																		
				11.20 11.20		7.5 7.7		21.6 21.4		+		-				_		1			<del>                                     </del>																					
		29-May-17	1005	11.23 11.25	12.09	7.7	1472	20.7																													1					
		26-Jul-17	940	11.06	11.92	7.8	1440	20.4								$\perp$																										
				11.12 11.32				20.2	0.04	<0.001	0.067	<0.001	<0.0001	<0.001	<0.001 0.	021 0.0	08 0.001	0.018	0.007	<0.01	0.054	<0.0001	7.97	1540	81	70	124	2	15.2	111	325	<1	<1	263	263	15.2	0.31	0.04	<0.01	1.92	1.92	910
							-	-										•	-	-	•																-					

				·	<u> </u>	l F	ield Param	neters						Total Me	etals									F I		Maior C	Cations					Maio	Anions			Ι.					-	-5
₽	eter/ Bore	u l	e l	Wate وا	Stand					Arsonie	c Barium	Beryllium			T	Iron	heal	Mangane	Nickel			E _	g	µs/cr	Calcium	Magnesiu	Sodium	Potassiu	tions ·	Chloride	Sulfato			Bicarbona		ions -	lance	n (N)	as N -	as N -	- mg/	solve
Site	ezom /ater	Dat	Ē	th to M mbgl	a the	pH - Fiel	d EC - Field μs/cm	d · Temp - Field - °C	Aluminium (AI) - mg/L	1  ,	(Ba) - mg/L	(Be) - (mg/L	Chromium (Cr) - mg/I	(Co) -	(Cu) -	Iron (Fe) - mg/L	Lead (Pb) - mg/L	se (Mn) - mg/L	(Ni) -	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	ercury (	рн Гар	Lab.	(Ca) -	m (Mg) -	(Na) -	m (K) -	tal Catio meq/L	(CI) -	(SO4) -	Hydroxide Alkalinity as CaCO3 - mg/L	Alkalinity as CaCO3 -	Alkalinity	Alkalinity - mg/L	tal Ar	nic Ba	mmoi	trite	trate mg/	( as N	al Dis Solic
	iš >			Dep	Dep																	ž		EC.		mg/L	mg/L	mg/L	Į,			U,	mg/L	as CaCO3 -		P	٥	₹Ż	ž	ž	ÔN	₫
ANZECC Guideline	- stock drinking v	26-Oct-17	940	11.51	12.37	7.6	1463	21.7	5	0.5		0.0.	1 1	1	1		0.1		1		20	0.002			1000						1000							_	1500	400		4000
		27-Nov-17	945	11.82	12.68	7.8	1468	21.3																																		
		20-Dec-17 30-Jan-18							_																											-	-	-	+			
		28-Feb-18					1443	21.9																																		
		28-Mar-18 30-Apr-18				8 8.1																															-	-	-			
		29-May-18							+																											<del>                                     </del>		1				
		26-Jun-18																																								$\overline{}$
		26-Jul-18 30-Aug-18				8			-													<b> </b>								-						<b>-</b>	1	<b>-</b>	+			
		25-Sep-18	910	13.70	14.56	7.8	1810	19.6	0.1	<0.00	1 0.083	<0.001 <0.00	001 <0.001	0.001	0.005	0.22	0.002	0.048	0.005	<0.01	0.017	<0.0001	7.55	2020	60	104	278	3	23.7	331	88	<1	<1	413	413	19.4	9.97	0.03	<0.01	2.5	2.5	1040
		30-Oct-18 28-Nov-18																																		-	-	-				
		21-Dec-18							+						1															<del>                                     </del>						<del>                                     </del>	1	+	+			
		31-Jan-19																																								
		28-Feb-19 28-Mar-19							-													-														-	1	+	+			
		30-Apr-19	1115	14.29	15.15	7.5	2010	21.6																																		
		31-May-19 25-Jun-19					1930 2010		1															$oxed{oxed}$							_	_	_		_	<u> </u>		1	_		$\vdash$	
		30-Jul-19							1	+														$\vdash$												<b>†</b>	1	1	+			
		28-Aug-19	920	13.99	14.85	7.4	1960	20.9	1	1	1 00==	10.004	204 5 5 5	.0.00	0.0	.0.0-	.0.0	0.000	0.0	200		-0.000	0.00	240-		***	24-		24 -	277						24.5		1	.0.51	2.55	2.55	1100
		24-Sep-19 29-Oct-19					2030 2040		0.01	<0.00	1 0.079	<0.001 <0.00	JU1 <0.001	<0.001	0.002	<0.05	<0.001	0.011	0.003	<0.01	0.02	<0.0001	8.09	2180	52	110	216	3	21.1	3/7	/1	<1	<1	458	458	21.3	0.34	<0.01	<0.01	2.66	2.66	1100
		29-Nov-19				7.7																																				
		16-Dec-19					1915 2010																																			
		30-Jan-20 25-Feb-20							w	ritten inco	orrectly on fi	eldsheet as 25.95 s	should read 14.9	95																						<del> </del>	1	1	+			
		26-Mar-20	930	13.81	14.67		2040				-																															
		30-Apr-20 29-May-20							-						1							-														<del>                                     </del>	-	1	+			
		25-Jun-20					1910	19.9																																		
		23-Jul-20																																								
		28-Aug-20 24-Sep-20							0.3	31 0.00	0.177	<0.001 <0.000	01 <0.001	0.002	2 0.003	0.61	0.004	0.044	0.004	<0.01	0.018	<0.0001	8	2080	55	85	259	7	21.2	360	54	<1	<1	638	638	3 24	1 6.2	8 0.2	8 < 0.01	0.2	0.2	1240
		28-Oct-20	1245	13.09	13.95	7.5	2460																																			
		27-Nov-20 23-Dec-20							-																											<u> </u>	-	-	+			
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		31-May-21	955	12.66	13.52	7.2																																				
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		29-Aug-21	1300	12.88	13.74	7.12																																				
		05-Oct-21							0.4	15 0.00	0.118	<0.001 <0.000	0.00	1 0.005	0.006	1.08	0.004	0.168	0.01	<0.01	0.018	<0.0001	7.77	1420	61	55	123	4	13	178	200	<1	<1	326	326	15.7	7 9.3	2 0.0	2 <0.01	<0.01	<0.01	878
		11-Jan-22 29-Mar-22							-																					-						<del> </del>	1	1	+			
		05-Jul-22																																								
		28-Sep-22 29-Nov-22								99 0.00	0.146	0.001 <0.000	0.00	0.032	0.008	4.21	0.004	0.907	0.019	0.01	0.014	<0.0001	7.92	1160	87	53	99	5	13.1	123	-	<1	<1	304	304	12.8	1.2	5 0.1	1 0.01	0.02	0.02	706
		2554-22	_555	5.75	3.01	5.51	1430	21.0																																		
P14	NC-100D	03-Mar-08	_			-	+	+	+	+	+		_	1					_			-				<del>                                     </del>				-	-	-	-	<u> </u>		-	-	+	+			
P14	MC-100D	02-Apr-08																																								
Depth Format.	78 Napperby	09-May-08 02-Jun-08																																				-				
roillat.	ivapperby	01-Jul-08																																								
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		12-Sep-08 14-Nov-08	+				+	+	+	1				1	+							<del> </del>										1				-		+	+			
		03-Dec-08						1	1																													1				
		12-Jan-09 24-Aug-09				12.6	9300	23.3	+	0.002	2 2.04	<0.001 <0.00	001 0.04	0,003	0.06	2.04	0.018	0,051	0,027	<0.01	0,158	<0.0001		5430	656	<1	205	112	44.5	5.71	2.58	<1	<1	<1	<1	0.21	99	3.03	+			2480
		18-Nov-09	1200	59.48	59.84				0.02	0.002		.5.00	0.018	1.003				<0.001				<0.0001	9.98		574		202		40.5	7.84				<1	2190	44.6	4.88	1	0.06	0.06	0.13	
<u> </u>		24-Feb-10 22-Jun-10				11 95	8980	71	0.01	0.002	, —		0.018	1	0.027	<0.05	<0.001	<0.001	0.018	-	<0.005	<0.0001	12.5	9070	562	<1	341	126	46.1	129	12.7	1960	78	<1	2040	44.6	1.64	+	0.06	0.06	0.12	
		02-Sep-10	1210	60.73	61.09	Insufficie	ent to samp	ple	0.01	0.002			0.018		0.027	10.03	~0.001	~0.001	0.010		~0.003	~0.0001	16.3	3070	302	``	341	120	70.1	143	12.7	1300	/6	`1	2040	74.0	1.04		3.00	0.00	0.12	
		07-Feb-11 08-Jun-11							+		+			1										$\Box$				$\vdash$				_			_	<u> </u>	$\perp$	+	+ -	_		
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		08-Dec-11	1130	60.86	61.22	Insufficie	ent to samp	ple																																		
		04-Apr-12 31-May-12		59.8	bU.1b		ent to samp ent to samp		1	$\pm$				$\perp$																								$\pm$	$\pm$			
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		10-Dec-12 03-Apr-13				Insufficie Dry	ent to samp	pie	1	+				1							-			$\vdash$		<del>                                     </del>				<del>                                     </del>	-	-	<del>                                     </del>	<del>                                     </del>		$\vdash$	1	+	+			
		03-Jul-13				Dry									1																1					1		1	1			. —
																								-																		-

	er/ ore			Vater	tand -	F	ield Param	neters	1	Т	1				otal Metals			1				- (Ян	ا م	rs/cm		Major Ca	ations	-	<u> </u>		Hydroxide	Carbonate	Bicarbona		- si -	auce	a as	ż	ž	mg/L	olved
ite 🗆	omet ter Bo	Date	Time	n to V mbgl	h to St mbtoc	pH - Fiel	EC - Field	d Temp -	Aluminium	Arsenio (As) -	Barium (Ba) -	Beryllium (Be) -	Cadmium	Chromium	Cobalt Copp Co) - (Cu) · mg/L mg/L	er Iron (Fe) -	Lead (Pb) - mg/L	Mangane N se (Mn) - (	Nickel Ni) -	Vanadium	Zinc (Zn)	ercury (H mg/L	F Lat			Magnesiu n (Mg) -		otassiu (K) -	Total Cation meg/L	thloride Su	iitate		te	Alkalinity	- Il Anic	c Bala	monik 'ogen	ite as mg/L	ate as mg/L	- N Se	Dissc
,	Piez			Deptl	Depth	ľ	μs/cm	Field - °C	(AI) - mg/L	mg/L	(Ba) - mg/L	(Be) - mg/L	(mg/L)	(Cr) - mg/L	mg/L mg/L	(Fe) - mg/L	mg/L	se (Mn) - ( mg/L	ng/L	(V) - mg/L	- mg/L	Mer	_	EC-1		ng/L		g/L	Total m		g/L as CaCO3 mg/L	mg/L	Alkalinity as CaCO3 -	mg/L	Tota	ō	Nit.	ž ž	Nitr	XON	Tota
ANZECC Guideline -			4420						5	0.5			0.01	1	1 1		0.1		1		20	0.002			1000						1000		11127					1500	400		4000
		03-Sep-13 27-Nov-13				Dry																																			
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		24-Nov-16 20-Dec-16				Dry																		=																	
		24-Jan-17							undermined a																																
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		29-Jun-17				Dry - Blo	cked @ 10	.2m (piezo u	undermined a	and blocke	d)													_																	
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		02-Mar-21				Dry - Blo	cked @ 10	.3m (piezo u	undermined a	and blocke	d)																														
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		29-Jul-21	700			Blocked Blocked		,,	-		1												_	$\dashv$			_	$\dashv$	$\dashv$	_					1	1					
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P15	NC-100S	03-Mar-08				$\vdash$	$\perp$	_	$\pm$		$\pm$																	_							$\vdash$	oxdot					
Depth	30	02-Apr-08 09-May-08								-														$\neg$				-	-						-		-				
Format.	Garrawilla	02-Jun-08																						$\dashv$																	
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		03-Dec-08 12-Jan-09	0050	16.21	16.56		1																					_	$\dashv$						1						
		24-Aug-09	1215	16.16	16.47			26.8				<0.001	0.0005			91 12.9				0.04				15300	193		2830			4340			1220		166	2.56	3.34				10400
		18-Nov-09 24-Feb-10	0955	16.23				29.3		<0.003				<0.005		08 <0.05						<0.0001					3090			4490			788		162			<0.01			
		22-Jun-10 02-Sep-10			16.49 16.47			22 23.8		<0.001	1			<0.005	0.0	05 <0.05	<0.001	1.9	0.016		0.02	<0.0001	7.36	11500	182	234	2690	47	146	4110	1020 <1	<1	1080	1080	159	3.99		<0.01	0.04	0.04	
		07-Feb-11 08-Jun-11	1350	16.13		6.47	12520	27.1	0.01	0.002				<0.001	0.0	06 <0.05	<0.001	3.3	0.013		0.019	<0.0001	6.69	15800	214	300	2900	59	163	4860	910 <1	<1	1050	1050	177	4.13		<0.01	0.02	0.02	
		11-Oct-11	1440	16.00	16.31	6.70	9850	23.1		0.006	0.127	<0.001	<0.0001	0.003	0.007 0.0	09 0.8	0.006	1.93	0.015	<0.01	0.052	<0.0001	7.43	12400	185	220	2510	46	138	3840	874 <1	<1	950	950	146	2.78	3.62	<0.01	0.03	0.03	8440
		08-Dec-11 04-Apr-12	1130		16.41 16.26			23.5 25.5	0.43	0.001	0.151	<0.001	<0.0001	0.002	0.002 0.0	3 1.04	0.094	0.007	0.019	<0.01	0.123	<0.0001	7.58	1730	36	28	331	11	18.8	240	28 <1	<1	541	541	18.2	1.64	0.74	<0.01	0.48	0.48	1040
		31-May-12 29-Aug-12			16.31 16.2	7.08 7.26		21.9 22.4	0.24	<0.001	1 0.127	<0.001	<0.0001	0.002	<0.001 0.1	09 0.44	0.015	0.024	0.005	<0.01	0.342	<0.0001	7.74	1780	38	28	342	13	19.4	258	36 <1	<1	600	600	20	1.57	0.06	<0.01	0.79	0.79	1010
		10-Dec-12	1420	15.99	16.3	7.32	1775	22.5																																	
		03-Apr-13 03-Jul-13	1140	15.96	16.3 16.27		1947	21 20.6			0.148					33 1.1				<0.01					41		384				41 <1		576	576	19.6		0.68		0.79		1050
		03-Sep-13 27-Nov-13			16.4 16.43			22.4		<0.003	0.135	<0.001	<0.0001	0.002	<0.001 0.1	1 0.8	0.03	0.177	800.0	<0.01	0.193	<0.0001	8.05	2950	45	40	592	19	31.8	500	145 <1	<1	607	607	29.2	4.1	0.1	<0.01	1.72	1.72	1730
		05-Mar-14 11-Jun-14	1200	16.38	16.69	7.4	4250	23.8 21.1	1.22	0.002	0.157	<0.001	<0.0001	0.024	0.008 0.0	87 2.33	0.021	1.25	0.028	<0.01	0.171	<0.0001	7.74	4700	51	54	911	24	47.2	840	336 <1	<1	766	766	46	1.29	0.21	<0.01	0.87	0.87	2600
		29-Sep-14	1300	19.93	20.24	6.8	10310	22.7	0.26	0.004	0.204	<0.001	0.0002	0.001	0.011 0.0	08 1.09	<0.001	2.7	0.018	<0.01	0.096	<0.0001	7.4	14300	156	217	2260	56	125	3940	918 <1	<1	1030	1030	151	9.24	2.61	<0.01	0.11	0.11	8020
		04-Dec-14	1145	20.33	20.64	6.8	9720	21.9	1																							1					ь				

				÷	<u> </u>		Field Parar	neters							Total M	etals							Ι.		F	1	Maior	Cations		l .			Maio	r Anions			Ι.						ъ
Site ID	Piezometer / Water Bore	Date	Time	Depth to Wate mbgl	Depth to Stand mbtoc	pH - Fie		ld · Temp - Field - °C	Alumini (Al) - m	nium ng/L Arse (As) mg/	enic Bariun - (Ba) - L mg/L	Beryllium (Be) - mg/L	Cadmium (mg/L)	Chromium (Cr) - mg/L	T	T	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium (V) - mg/L		ž	рн Гар	EC - Lab - μs/cr	Calcium (Ca) - mg/L	Magnesiu m (Mg) - mg/L	T	Potassiu m (K) - mg/L	Total Cations	Chloride (CI) - mg/L	Sulfate (SO4) - mg/L	T .	Carbonate	Bicarbona te Alkalinity as CaCO3 -		Total Anions - meq/L	lonic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/	Total Dissolve
ANZECC Guideline	- stock drinking								5	0.	.5		0.01	1	1	1		0.1		1		20	0.002			1000						1000								1500	400		4000
		12-Mar-15			26.85	Insuffic	ent to sam	· ·																																			
		03-Jun-15		18.45		6.1		21.1																																			
		08-Sep-15		17.12				21.9	30.	.6 0.0	0.54	0.006	0.0007	0.087	0.048	0.105	587	0.078	1.55	0.229	0.34	0.358	0.0016	6.34	1070	7	6	230	6	11	259	29	<1	<1	104	104	9.99	4.8	0.44	<0.01	0.17	0.17	992
		14-Dec-15		28.29	28.6	Insuffic	ent to sam	ple																																			
		10-Mar-16	1335			Dry																																					
		02-Jun-16				Dry																																					
		26-Sep-16				Dry																																					
		25-Oct-16				Dry																																					
		24-Nov-16				Dry																																					
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		26-Oct-17						9m (piezo ur																																			
		27-Nov-17						9m (piezo ur																																			
		20-Dec-17						9m (piezo ur																																			
		30-Jan-18				Dry - Bl	locked @ 1	9m (piezo ur	ndermined	d and block	ed)																																
		28-Feb-18				Dry - Bl	locked @ 1	9m (piezo ur	ndermined	d and block	ed)																																
		28-Mar-18						9m (piezo ur																																			
		30-Apr-18						9m (piezo ur																																			
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		26-Jul-18						9m (piezo ur																																			
		30-Aug-18				Dry - Bl	locked @ 1	9m (piezo ur	ndermined	and block	ed)																																
		25-Sep-18				Dry - Bl	locked @ 1	9m (piezo ur	ndermined	d and block	ed)						$\Box$																										

254m-12 1210 46.31 47.1 71.5 75.0 70.0 1.8 0.00 0.00 0.00 0.00 0.00 0.00 0.																											Major Catio	nc														
Column   C	_	_ ē			ater	- pu	Fi	ield Param	eters						1	Total Metal:	5						g) -		Į		iviajor Catio	113	- è				T F	Bicarbona		- 51	Se	as N)	<u> </u>	ż	ng/L	ved
	<u> </u>	nete r Bor	ate	me	o Wa	o Sta Itoc		EC Eigh	Tomp	Aluminium		Barium		Cadmium	Chromium	Cobalt Co	pper Iron	Lead	Mangane	Nickel	Vanadium	Zinc (Zn)	L Œ						atio ni	Chloride	Sulfate		rbonate	e	Mkalinity	union eq/L	Salan	onia gen (I	s as l	e as ľ	ż	issol
	, iš	ezon Vate	Ď	Ē	효교	를 를	pH - Field	d μs/cm	Field - °C		(As) -	(Ba) -	(Be) -	(mg/L)	(Cr) - mg/L	(Co) - (Ci	u) - (Fe)	- (Pb) -	se (Mn) -	(Ni) -			m m	표	- 1	(a) - m (			me tal C	(CI) -	(304) - a	s CaCO3 - as	CaCO3 - /	Alkalinity	ng/L	rtal A	nic B	m m itrog	it E	itrate m	x as	Sol
		<u> </u>			Dep	Dep					mg/L	mg/L	mg/L			mg/L mg	g/L mg/	L mg/L	mg/L	mg/L			ž		EC.	ig/L mg	g/L mg	/L mg/L	Į,	mg/L	mg/L n	ng/L m	g/L a	ng/L		ů	9	ΚZ	z	ž	Ô Z	Į d
	ANZECC Guideline - sto									5	_			0.01	1	1	1	0.1		1		20	0.002			1000					1000								1500	400		4000
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19.50   19.5							Dry - Bloo	cked @ 19	m (piezo un	dermined an	nd blocked)														$\Box$																	
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Seles   1												1					_	_							-+				-													
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			30-Apr-20				Dry - Bloo	cked @ 19	m (piezo un	dermined an	nd blocked)																															
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Part   Part			31-May-21				Dry - Bloo	cked @ 19	m (piezo un	dermined an	nd blocked)																															
Part									m (piezo un	dermined an	nd blocked)														$\perp$																	
Fig.   Fig.				710						+							_								$\dashv$				+													
March   Marc				710						1															$\dashv$				<u> </u>													
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Part   May	P16	NC-119D	03-Mar-08	1410	51.24	52.03		1		1		1													$\neg$				1							1						
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Hance 1 127	Standpipe height																																									
State   190   19							7.45	1085	20.5		0.001	0.029	<0.001	<0.0001	0.002	<0.001	0.002 4.	43 <b>0.394</b>	0.070	0.036	<0.01	0.204	<0.0001		132	5	1	14 3	1.05	22	<1	<1	<1	25	25	1.12		2.00				109
Fig.   154-100   155   165								+		-		1					_	_							-				+	$\vdash$												
Physical P										1															$\dashv$				1						1	t t					t i	
24-bage    165   27-58   63.7   63.																																										
17-Nove   150   18-Nove									d dry	+		-					-								-				+	$\vdash$												
Asher   March   Marc								-	24.1	+	<0.001	0.135	<0.001	<0.0001	0.001	<0.001	0.023 4.	79 0.119	0.299	0.043	<0.01	1.21	<0.0001		1530	23	13	208 14	13.3	324	1.36	<1	<1	235	235	13.9	2.11	23.4				682
Column   C											<0.001				<0.005	(	0.003 0.3	33 0.002	0.389	0.016		0.085	<0.0001	7.01	1740	32	16	265 23	15	371	2.78	<1	<1	298	298	16.5	4.61		0.02	0.33	0.35	
Mathematical Property   Math											0.002	1			<0.005		0.01 0.	.5 0.031	0.515	0.006		0.063	<0.0001	6.67	2460	38	14	297 32	16.8	478	6	<1	<1	497	497	23.5	16.6		0.23	0.38	0.61	
0.45   0.45			08-Jun-11	1030	47.01	47.80	6.85	2480	20.4																																	
28-Mar-12   1050   45:31   47:1   7:1   7:1   7:2   7:0   0.00   0.001											0.011	0.461	<0.001	0.0006	0.013	0.006	0.237 1	6 2.11	0.831	0.096	0.03	7.37	0.0004	7	3150	28	15	424 43	33.3	587	3	<1	<1	752	752	31.6	2.63	156	<0.01	0.46	0.46	1280
25-lun:12   120   46.31   47.1   71.5   550   20.3   71   71.5   750   20.3   71   71.5   750   72.5   72.5   73.5   74.5   75.5							0.81	2825	24.1		0.002	0.39	<0.001	0.0002	0.001	0.003 (	0.065 3.	6 0.407	0.009	0.238	<0.01	1.34	<0.0001	7.33	4230	9	15	632 45	39.8	825	2	<1	<1	841	841	40.1	0.38	133	<0.01	0.06	0.06	1830
66-pec-12   115   45.03   45.07   45							7.15	2500	20.3	1	1	1							-	0.200					+			100	1													
93-April 150 6.1 6.9 7.1 310 6.2 470. 6.97 320 2.1 4 0.29 0.00 0.00 0.00 0.00 0.00 0.00 0.00			11-Sep-12	1140	46.21	47	6.87				0.002	0.417	<0.001	0.0002	0.005	<0.001	0.188 4.	25 <b>0.382</b>	0.297	0.017	<0.01	3.03	0.0001	7.58	3790	27	14	609 37	38.4	719	13	<1	<1	769	769	35.9	3.36	119	<0.01	0.1	0.1	1480
Column   C	<b></b>										<0.001	0.346	<0.001	0,0001	0.002	0,001	0.078 2	42 0.072	0.269	0.009	<0.01	3.13	<0,0001	7,11	4010	27	13	688 46	33.5	761	4	<1	<1	772	772	37	4.93	125	<0.01	0.05	0.05	1650
Color   Colo											30.001	3.340	-0.001	0.0001	5.002	5.501	2.	0.072	3.203	3.003	-0.01	3.13	-5.0001					-50   40	33.3	701	- +			.,,_	.,,	3,	55	12.5	-5.01	5.05	5.05	
66.Mar-14   1100   46.57   46.56   7.1   3870   22   0.94   0.002   0.331   <0.001   0.002   0.037   0.002   0.037   0.002   0.037   0.002   0.037   0.002   0.037   0.002   0.037   0.003   0.002   0.037   0.003   0.002   0.037   0.003   0.002   0.037   0.003   0.002   0.003   0.002   0.003   0.002   0.003   0.002   0.003   0.002   0.003   0.002   0.003   0.002   0.003   0.002   0.003   0.002   0.003   0.003   0.002   0.003			03-Sep-13	1240	46.31	47.1	7.02	3790	22.6	1.24	<0.001	0.328	<0.001	<0.0001	0.002	<0.001	0.091 3.	07 <b>0.101</b>	0.315	0.006	<0.01	0.816	<0.0001	7.7	4110	22	12	660 45	31.9	735	<1	<1	<1	728	728	35.3	4.99	94.2	<0.01	0.03	0.03	1690
10-Jun-14   110   46.23   47.02   7.1   39.00   20.3   7.1   39.00   20.3   7.1   39.00   20.3   7.1   39.00   20.3   7.1   39.00   20.00   3.00											0.002	0.221	<0.001	0.0003	0.027	0.002	1.04	28 014	0.22	רכח ח	<0.01	2 10	<0.0001	7 79	4120	28	10	687 45	22.6	775	- a	c1	<1	721	721	36.6	4.4	122	<0.01	0.28	0.20	1700
29-Sep-14 1045 46.17 46.96 7 3950 21.6 0.37 <0.001 0.362 <0.001 0.002 0.003 0.002 0.005 0.										0.94	0.002	0.331	~U.UU1	0.0002	0.037	0.002	3.	0.14	0.32	0.027	-U.U1	2.13	~0.0001	7.20	.120	20		45	33.0	,,,	3	-1	-1	, 31	,31	30.0	7.4	123	~U.U1	0.20	0.20	
12-Mar-15 1150 47.42 48.21 7.1 3980 23.1 0.12 <0.001 0.275 <0.001 0.001			29-Sep-14	1045	46.17	46.96	7	3950	21.6		<0.001	0.362	<0.001	0.0002	0.003	0.002	0.045 2.	77 0.023	0.344	0.013	<0.01	0.327	<0.0001	7.48	4130	20	11	480 37	23.7	768	<10	<1	<1	706	706	35.8	20.3	93.5	<0.01	0.04	0.04	1650
Column   C											20.001	0.275	ZO 001	<0.0004	0.002	<0.001	0.01	12 0.000	0.353	0.005	Z0.04	0.122	<0.0004	7 5 1	4090	22	17	602	24.2	702			_1	975	975	20 €	611	126	0.01	0.06	0.07	1500
99-Sep-15 1200 46.67 47.46 6.1 274 21.9 16.9 0.003 0.071 <0.001 0.001 0.001 0.001 0.001 0.004 0.002 0.004 0.002 0.004 0.											<0.001	0.2/5	<0.001	<0.0001	0.002	VU.UU1	0.01 2.	13 0.006	0.253	0.005	<u.u1< td=""><td>U.132</td><td><u.uuu1< td=""><td>1.31</td><td>+000</td><td>32</td><td>1/</td><td>093   40</td><td>34.2</td><td>/82</td><td>2</td><td>×1</td><td>√1  </td><td>020</td><td>025</td><td>38.0</td><td>0.11</td><td>120</td><td>0.01</td><td>0.06</td><td>0.07</td><td>1590</td></u.uuu1<></td></u.u1<>	U.132	<u.uuu1< td=""><td>1.31</td><td>+000</td><td>32</td><td>1/</td><td>093   40</td><td>34.2</td><td>/82</td><td>2</td><td>×1</td><td>√1  </td><td>020</td><td>025</td><td>38.0</td><td>0.11</td><td>120</td><td>0.01</td><td>0.06</td><td>0.07</td><td>1590</td></u.uuu1<>	1.31	+000	32	1/	093   40	34.2	/82	2	×1	√1	020	025	38.0	0.11	120	0.01	0.06	0.07	1590
08-Mar-16         1020         47.09         47.88         6.9         501         22.2         2.55         0.001         0.004         0.002         0.14         6.32         0.09         0.019         4.35         0.001         6.97         501         6         3         67         7         3.64         74         1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1 <t< td=""><th></th><td></td><td>09-Sep-15</td><td>1200</td><td>46.67</td><td>47.46</td><td>6.1</td><td>274</td><td>21.9</td><td>16.9</td><td>0.003</td><td>0.071</td><td>&lt;0.001</td><td>&lt;0.0001</td><td>0.016</td><td>0.004</td><td>0.094 19</td><td>9.8 0.151</td><td>0.186</td><td>0.026</td><td>0.03</td><td>1.35</td><td>&lt;0.0001</td><td>6.13</td><td>244</td><td>4</td><td>2</td><td>37 6</td><td>2.13</td><td>46</td><td>6</td><td>&lt;1</td><td>&lt;1</td><td>37</td><td>37</td><td>2.16</td><td></td><td>3.33</td><td>0.01</td><td>0.81</td><td>0.82</td><td>184</td></t<>			09-Sep-15	1200	46.67	47.46	6.1	274	21.9	16.9	0.003	0.071	<0.001	<0.0001	0.016	0.004	0.094 19	9.8 0.151	0.186	0.026	0.03	1.35	<0.0001	6.13	244	4	2	37 6	2.13	46	6	<1	<1	37	37	2.16		3.33	0.01	0.81	0.82	184
01-Jun-16 1110 47.24 48.03 6.9 582 20.7											0.001	0.054	<0.001	0.0004	0.004	0.003	144	22 0.000	0.300	0.010	Z0.01	A 2F	<0.0004	6.07	501		, [	67 7	3.54	74			_1	0.3		2 07	422	14.7		0.07	007	300
28-Sep-16 1045 47.55 48.34 6.7 951 21 0.68 0.001 0.066 0.001										2.55	0.001	0.064	<0.001	0.0001	0.004	0.002	J.144 b.	32 0.089	0.298	0.019	<0.01	4.35	<0.0001	6.97	501	ь	3	6/ /	3.64	/4	1	<1	<1	93	93	3.97	4.32	14./	0.1	0.87	0.97	290
23-Nov-16 1210 47.96 48.75 6.7 980 21.5			28-Sep-16	1045	47.55	48.34	6.7	951	21	0.68	<0.001	0.066	<0.001	<0.0001	0.002	0.001	0.03 6.	34 0.036	0.206	0.013	<0.01	0.863	<0.0001	6.91	1010	7	4	154 10	9.42	191	1	<1	<1	194	194	9.28	0.73	25	0.04	0.13	0.17	448
19-Dec-16   1210   48.15   48.94   6.7   899   21.6											-	-	$\vdash$			$\vdash$		-	-			$\vdash\vdash\vdash$		+	$\dashv$			-	+	$\vdash$			-+									
24.4m-17 955 48.29 49.08 6.7 915 21.7										+	_	1					-	_							$\dashv$			_	+													
<b>21-Feb-7</b> 1225 48.72 49.51 6.8 921 21.8			21-Feb-17	1225	48.72	49.51	6.8	921	21.8																																	_
28-Mar-17 1225 48.97 49.76 6.7 942 22.1																$\vdash$ $\top$						$\Box$		$-\top$	-Т	$-\top$			1	$\Box$	一丁		$\Box$			$\Box$	$\Box$					
20-Apr-17   1230   49.13   49.92   6.7   960   21.8	<del>                                     </del>										-	1				<del>                                     </del>	-	-	1			$\vdash$			+				+	$\vdash$												
27-Jun-17 1245 50.39 51.18 6.8 1210 21.3											+	1				<del>                                     </del>	-		1						$\dashv$		-+	-	1		+	_	+	+								
<b>25-Jul-7</b> 1310 50.65 51.44 6.8 1240 21			25-Jul-17	1310	50.65	51.44	6.8	1240	21																																	
24-Aug-17 1245 51.77 52.56 6.8 1316 21										A E A	0.001	0.055	<0.001	0.0003	0.007	0.002	146	56 0 201	0.304	0.010	<0.01	2 50	<0.0001	7.46	1250	13	7	1/13 15	11 4	201	,		<i>c</i> 1	327	327	12.4	4.01	50.6	0.07	12	1 27	421
21-Sep-17 1250 52.12 52.91 6.7 1256 22.3 4.54 0.001 0.066 <0.001 0.006 <0.001 0.002 0.07 0.002 0.146 7.56 0.201 0.384 0.018 <0.001 7.46 1250 13 7 143 15 11.4 201 7 <1 <1 332 332 12.4 4.01 50.6 0.07 1.2 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <											0.001	0.000	<0.001	0.0002	0.007	0.002	/.140 /.	0.201	0.584	0.018	\U.U1	ა.აგ	~U.UUU1	7.40	1230	13	,	15	11.4	201	,	-1	~1	332	332	12.4	4.01	50.0	0.07	1.2	1.27	421
24-Nov-17 1245 52.94 53.73 6.7 1270 22.3			24-Nov-17	1245	52.94	53.73	6.7	1270	22.3		$\perp$						$\perp$	$\perp$																								
													$\perp$			$\perp$ $\top$	$-\Box$		1			$\Box$		-T	-Т	$-\top$		-	$\perp$	$\Box$		-T	-			$\Box$	$\Box$				$\Box$	
19-Dec-17 1235 53.17 53.96 6.7 1310 22.3												1				<del>                                     </del>	-	+	1						-+				-	$\vdash$			-+									
19-Dec-17 1235 53.17 53.96 6.7 1310 22.3												1				<del>                                     </del>	_							_	-			-	+				-								<del></del>	
19-Dec-17 1235 53.17 53.96 6.7 1310 22.3		Į.															-																									$\overline{}$
19-Dec-17     1235     53.17     53.96     6.7     1310     22.3       25-Jan-18     1230     53.43     54.22     6.7     1350     22.8       27-Feb-18     1115     53.70     54.99     6.7     1371     22.6			26-Apr-18	1150								_													=																	

	_			e l	<b>.</b>	F	ield Parame	eters							Total Me	etals							1 2		Ę		Major C	Cations					Majo	r Anions				l a	I " o	١,	l ,	1 3	9
<u>Q</u>	neter,	re re		n to wat	to Stan		EC Ei-ld	<b>-</b>	A l	Arsenic	Barium	Beryllium	Cardanium (	Ch	Cobalt	Copper	Iron	Lead	Mangane	Nickel	Manadian	. 7: (7:	cury (Hg) mg/L	P P	)/sri -	Calcium	Magnesiu	Sodium	Potassiu	ations q/L	Chloride	Sulfate	Hydroxide Alkalinity as CaCO3 -	Carbonate	Bicarbona te	All-aliaite.	nions q/L	alance	nia as	as N	as N	E -	ssolve
Site	iezomete Water Bo	Date			pth to	pH - Field	EC - Field μs/cm	Field - °C	Aluminium (Al) - mg/L	(As) - mg/L	(Ba) - mg/L	(Be) - mg/L	Cadmium (mg/L)	(Cr) - mg/L	(Co) - mg/L	(Cu) - mg/L	(Fe) - mg/L	Lead (Pb) - mg/L	se (Mn) - mg/L	(Ni) - mg/L	Vanadiun (V) - mg/	n   Zinc (Zi L  - mg/L	m mercur	표	- Fab	Calcium (Ca) - mg/L	m (Mg) - mg/L	(Na) - mg/L	m (K) - mg/L	Total Catio meq/L	Chloride (Cl) - mg/L	(SO4) - mg/L	as CaCO3 -	as CaCO3	Alkalinity	Alkalinity mg/L	otal A	onic B	Ammo	Litrite mg	litrate	X as I	Sol
ANZECC Guideline	L -	vater		<u> </u>	De				-	0.5			0.01					0.1		1		20	0.002		Ë	1000		1116/1	1116/1	ř		1000	mg/L	mg/L	mg/I		ř			1500	Z 400	2	₽ 4000
ANTELEC GUIDEIIIC	- Stock drinking w	<b>25-Jun-18</b> 123				6.8	1380			0.5			0.01	1	_	1		0.1		1		20	0.002			1000						1000								1300	400		4000
		25-Jul-18 124 29-Aug-18 112			55.59 55.84	6.8	1270 1320	21.7	-									_	-		+	_	-	-		-	-								-	-	-		+-	+			$\vdash$
		26-Sep-18 111	10 5	55.03	55.82	6.8	1590	19.9	4.74	0.003	0.078	<0.001	<0.0001	0.008	0.004	0.126	7.48	0.348	0.551	0.024	0.01	3.39	<0.0001	7.68	1690	18	11	247	21	13.1	309	14	<1	<1	317	317	15.3	7.94	59.2	0.07	2.79	2.86	687
		30-Oct-18 103 28-Nov-18 131			55.84 58.8	6.8		20.4	-										-		-	_	-	-		-					_				-		-		+-	_			$\vdash$
		<b>20-Dec-18</b> 120	05 5	9.24	60.03	6.8	1710	20.6																																			
		24-Jan-19 103 28-Feb-19 121			61.24			21.8	-		-								-		+	-		-		-	-								-	-	-		₩				-
		28-Mar-19 131						21.8																																			
		<b>30-Apr-19</b> 101 <b>28-May-19</b> 132			62.48			21.9	-																												<u> </u>	-	1				
		24-Jun-19 122			63.3			20.4	+										_		+	+	+	+							<del>                                     </del>				_	+	$\vdash$	+	+-	+			
		29-Jul-19 102			63.83			20.2																																			
		29-Aug-19 105 23-Sep-19 102			64.44			22.9		0.004	0.112	<0.001	<0.0001	0.017	0.004	0.062	5.92	0.342	0.524	0.022	0.01	1.87	<0.0001	7.29	1780	22	10	226	20	16.3	326	15	<1	<1	286	286	15.2	3.49	56	0.08	7.37	7.45	789
		28-Oct-19 110			64.71																																						
		28-Nov-19 102 16-Dec-19 110			66.2 65.9			22.8	+	1									-				+	+		<del> </del>	+		$\vdash$							-	+	1	+-	+			$\vdash \vdash \vdash$
		29-Jan-20 110	05 6	55.12	65.91	6.8	1780	22.9																														1					
<u> </u>		25-Feb-20 130 24-Mar-20 113			68.05 69.1			22.2	1	1			<del>                                     </del>					-	-		1	+	+	+		$\vdash$	-		$\vdash$		<del>                                     </del>		-		-	+-	1	+	+-	+	+		$\vdash$
		28-Apr-20 115	55 6	9.77	70.56	6.7	2100	21.2																																			
		28-May-20 105 29-Jun-20 105					2570 2590	21.7 21.5	-	1									-			_	-	+		-	-		$\vdash$				-		-	-	1	+	+-	+			$\vdash \vdash \vdash$
		22-Jul-20 103	35 7	75.48	76.27	6.8	2580	20.5																																			
GW Pump installed		26-Aug-20 104 22-Oct-20 100				6.8	2270	18.9	+										-		+	-	-			-	-		$\vdash$						-	-	-		╂	+			$\longleftarrow$
		<b>29-Oct-20</b> 950	0 7	77.36	78.15	7.48	4310	17.7	<0.01	<0.001			<0.0001	<0.001	<0.001	<0.001	1.6	<0.001	0.066	0.014		0.005	5 <0.0001	7.84	4760	78	22	799	25	41.1	1160	<1	<1	<1	674	674	46.2	5.83	17.6	<0.01	0.01	0.01	2510
		26-Nov-20 101 21-Dec-20 950			78.79 78.75				+										-		+	-	-	-		-	-								-	-	-		+	+			
		<b>25-Jan-21</b> 113	30 7	78.20	78.99																																						
		24-Feb-21 110 30-Mar-21 111		78.19	78.98 Din tar	e stoped	at 82m		-										-					-		-									-		<b>├</b>						-
		27-Apr-21 104			Dip tap	e stoped	at 82m																																				
		27-May-21 103 22-Jun-21 105				e stoped se stoped			-																	-											-		-				$\vdash$
		30-Jul-21 110		79.23				20.6																																			
		29-Aug-21 950 04-Oct-21 113			80.11 81.2		4311 4370		0.03	<0.001	2.28	<0.001	<0.0001	<0.001	<0.001	0.008	1.64	0.001	0.067	0.021	<0.01	0.03	0.0001	7.45	4660	66	20	833	27	/11 Q	1120	<1	- 1	<1	709	709	45.8	4.45	16.9	0.03	1.3	1.33	2490
		12-Jan-22 163	30 8	31.21	82	7.16	4567	24.6	0.03	10.001	2.20	10.001	10.0001	10.001	10.001	0.000	1.04	0.001	0.007	0.021	40.01	0.03	0.0001	7.43	4000	- 00	20	033	27	41.5	1120	1	1	1	703	703	45.0	4.43	10.5	0.03	1.5	1.55	2430
		30-Mar-22 212 05-Jul-22 101						22.8 18.7																															1				-
		28-Sep-22 162	25 8	39.07	89.86	7.79	4276	23.1	0.05	0.001	1.8	0.001	<0.0001	<0.001	0.001	0.002	0.11	<0.001	0.107	0.013	0.01	0.01	<0.0001	8.13	4620	77	22	815	27	41.8	1010		<1	<1	685	685	42.2	0.46	19.2	0.01	0.06	0.06	2430
		09-Dec-22 104	40 9	90.94	91.73	7.13	4877	24.1											-		-	_		-											-					_			
P17	NC-119S	03-Mar-08 140	15 5	5 98	56.56		<u> </u>	_		<u> </u>								<u> </u>	_	<u> </u>	+	+	+	<u> </u>	1						_				_	_	_		-	+			
	140-1155	02-Apr-08 135	50 5	9.42	60.00																																						
Depth Format.	56 Purlawaugh	09-May-08 115 02-Jun-08 153			59.65 60.00				-												+		-			-	-								-		1	-	-	+			$\vdash$
		01-Jul-08 152	27 4	13.42	44.00																																1	1		1			
		12-Aug-08 115 12-Sep-08					+		1	1									<del>                                     </del>				+	+		<del>                                     </del>	1		$\vdash$							+		+	+	+	+		$\vdash$
		14-Nov-08 123	33 5	7.42	58.00																																						
		03-Dec-08 140 12-Jan-09 110							+										_		+	+	+	+							<del>                                     </del>				_	+	$\vdash$	+	+-	+			
		23-Feb-09 125	_	18.92	49.50	Des																																					
		09-Jun-09 134 24-Aug-09 145				Dry Dry																																					
		17-Nov-09 132				Dry													_		_		_			-									_	_	-	1	<b>↓</b>				-
		<b>24-Feb-10</b> 111 <b>24-Jun-10</b> 102	25			Dry Dry																																					
		02-Sep-10 132 09-Feb-11 105		<del></del>		Dry Dry	<del>                                     </del>		1										<del>                                     </del>				+	1		<del>                                     </del>			$\vdash \vdash \vdash$							<del>                                     </del>	1	1	<del>                                     </del>	+			$\vdash$
		<b>08-Jun-11</b> 105	50			Dry																																					
		26-Sep-11 112 04-Jan-12 110		+		Dry Dry	-			1									-					+		-	-		$\vdash$								-	+-	$\vdash$	+	-		$\vdash$
		28-Mar-12 110	00	_		7.2	2440	22.8	1																															1			
<u> </u>		25-Jun-12 114 11-Sep-12 120		$\rightarrow$		Dry Dry	+-		1	+			<del>                                     </del>					-	+		+	+	+	+		$\vdash$	_		$\vdash$		<del>                                     </del>		-		-	+-	+	+	+-	+	+		$\vdash$
		06-Dec-12 114	40	$\Rightarrow$		Dry																																					
		03-Apr-13 120 04-Jul-13 124		+		Dry Dry	+		1	1									-			+	+	+		<del>                                     </del>	+									+		+	+-	+	+		$\vdash$
		03-Sep-13 123	30	_		Dry																	1	1		<u> </u>											1	1	1				
		02-Dec-13 114 06-Mar-14 104		+		Dry Dry	-		+	1													+	+		$\vdash$	<del>                                     </del>		$\vdash$							-	1	1	+-	+			$\vdash \vdash \vdash$
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	~ n		e.	<u> </u>	Fiel	d Paramet	ters						Total Met	als							_			Major Cations		<u>.</u>		Maj	or Anions			1 :	e e	s c   -		B/L	pa
te ID	Piezometer Water Bore	Date	oth to Wat	th to Stan mbtoc	au Fiold	EC - Field -	Temp -	Aluminium	Arsenic Ba	arium Ber	ryllium Cadn	mium Chromium	Cobalt	Copper	on Lead	d Mai	ngane Nick	el Vana	dium Zin	nc (Zn)	Mercury (Hg)	pH Lab	Calciun (Ca) - mg/L	Magnesiu Sodium	Potassiu	Total Cations meq/L	Chloride	Sulfate (SO4) - mg/L Hydroxic as CaCO: mg/L	e Carbonat Alkalinity	e Bicarbona te	Alkalinity -	Total Anions meq/L	Balanc	Ammonia as Nitrogen (N) Nitrite as N -	ate as N	as N - m	al Dissolw Solids
া স	Piezc		Depth	Depth	pn - rieiu	μs/cm	Field - °C	Aluminium (Al) - mg/L	Arsenic Ba (As) - (B mg/L m	ig/L mg/	t/L (mg/	nium Chromium (Cr) - mg/L	mg/L r	ng/L m	e) - (Pb)	L mg/	ngane Nick Mn) - (Ni) 'L mg/	(V) - I	dium Zin ng/L - m	ng/L	Merc	pH L	mg/L	m (Mg) - (Na) - mg/L	m (K) - mg/L	Total	Chloride (CI) - mg/L	mg/L as CaCO:	as CaCO3 mg/L	as CaCO3	mg/L	Total	lonic Bal	Amn Nitro	Nitra	NOX a	Total
ANZECC Guideline	- stock drinking w	10-Jun-14 1115			Dry			5	0.5			01 1			0	.1		!		20 (	0.002		1000					1000						1500	400		4000
		29-Sep-14 1100 03-Dec-14 1000			Dry Dry																																
		12-Mar-15 1200 04-Jun-15 1210			Dry Dry																		-														
		09-Sep-15 1215 09-Dec-15 1035			Dry Dry																		-														
		08-Mar-16 1035 01-Jun-16 1125			Dry Dry															-+			+														
		<b>28-Sep-16</b> 1050 <b>26-Oct-16</b> 1230			Dry Dry																																
		<b>23-Nov-16</b> 1220 <b>19-Dec-16</b> 1220			Dry Dry																																
		<b>24-Jan-17</b> 1005 <b>21-Feb-17</b> 1235			Dry Dry																		$\vdash$														
		28-Mar-17 1235 20-Apr-17 1235			Dry Dry																																
		<b>24-May-17</b> 1255 <b>27-Jun-17</b> 1255			Dry Dry																																
		<b>25-Jul-17</b> 1320 <b>24-Aug-17</b> 1255			Dry Dry																																
		21-Sep-17 1300 25-Oct-17 1300			Dry Dry																																
		24-Nov-17 1255 19-Dec-17 1245			Dry Dry											$\pm$				_																	
		25-Jan-18 1240 27-Feb-18 1125			Dry Dry									_		$\pm$			$\pm$	$\pm$	$\dashv$		$\vdash$		+				+								
		27-Mar-18 1230 26-Apr-18 1200			Dry Dry									$\Rightarrow$		+	$\perp$		+	$\dashv$	+		$\vdash$		+				+								
		25-May-18 1025 25-Jun-18 1240 25-Jul-18 1250			Dry Dry									_		+	$\perp$		+	_					1				1								
		29-Aug-18 1135 26-Sep-18 1120			Dry Dry									_																							
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		20-Dec-18 1210 24-Jan-19 1040			Dry Dry									_		$\perp$				_	_																
		28-Feb-19 1020 28-Mar-19 1325			Dry Dry																																
		30-Apr-19 1015 28-May-19 1330			Dry Dry									_		+	+			_			1														
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		29-Aug-19 1055 23-Sep-19 1035			Dry Dry/Stick u	D								_		+	+			-																	
		10-Oct-19 1115 28-Nov-19 1035			Dry/Stick u Dry/Stick u	р								_		_				_																	
		16-Dec-19 1110 29-Jan-20 1110			Dry/Stick u Dry/Stick u																																
		25-Jan-20 1310 24-Mar-20 1145		E	Broken stic Dry/Broker	k up																															
		28-Apr-20 1205 28-May-20 1100		ı	Dry/Broker Dry/Broker	stick up																	+														
		<b>29-Jun-20</b> 1100 <b>22-Jul-20</b> 1045			Dry/Broker Dry/Broker																																
		26-Aug-20 1050 24-Sep-20			Dry/Broker Dry/Broker																																
		22-Oct-20 1015 29-Oct-20 930			Dry/Broker Dry/Broker																																
		26-Nov-20 1020 21-Dec-20			Dry/Broker Dry/Broker																																
		<b>25-Jan-21</b> 1135 <b>24-Feb-21</b> 1105			Dry/Broker Dry/Broker																																
		<b>30-Mar-21</b> 1115 <b>27-Apr-21</b> 1050			Dry Dry																		+														
		<b>27-May-21</b> 1040 <b>22-Jun-21</b> 1100			Dry Dry									$\dashv$		+	+			-+	-+		+		+												
		<b>30-Jul-21</b> 1130 <b>29-Aug-21</b> 930			Dry Dry																																
		<b>04-Oct-21</b> 1145 <b>12-Jan-22</b> 1700			Dry Dry											$\pm$			Ŧ				E						$oxed{\mathbb{L}}$								
		<b>31-Mar-22</b> 930 <b>05-Jul-22</b> 1200			Dry Dry											$\pm$			$\pm$	$\pm$	$\equiv$		E														
		28-Sep-22 1700 09-Dec-22 1100			Dry Dry											$\pm$			$\pm$	$\pm$			E														
P18	NC-122	<b>03-Mar-08</b> 1530		14.24					$oxed{\Box}$		$\equiv$					$\pm$	$\equiv$		$\pm$	$\pm$			$\vdash$														
Depth	146	02-Apr-08 1225 09-May-08 1027	13.40 13.45	14.24 14.29												$\pm$			$\pm$	$\pm$			$\vdash$														
Format.	Hoskissons	02-Jun-08 1425 01-Jul-08 1414	13.56	14.37 14.40							$\equiv$				$\pm$	$\pm$	$\pm$		$\pm$	$\pm$			E														
		11-Aug-08 1650 11-Sep-08 1030	13.16	14.50 14.00	6.75	1410	22.9		0.003 (	0.817 <	0.001 <0.0	0001 0.008	0.032	0.007	3.75 0.	046 0.	137 0.0	0.59 0.	03 0	0.022 <	0.0001	3650	30	27 824	38	40.6	80	38 <1	<1	1870	1870	40.5	0.04	2.61			2370
		14-Nov-08 1123 01-Dec-08 1251	12.79	13.58										$\perp$		$\pm$	$\perp$		$\pm$	$\pm$	$\perp$				1												
		12-Jan-09 1015 23-Feb-09 1003	13.00	13.67 13.80						105						_			+	+	-		1	1	1	<u> </u>			1			<u> </u>		475			
		09-Jun-09 0900 24-Aug-09 1320	17.87	18.68						1.98 <	v.001 <0.0	0.009											66							5100		106	4.62				6720
		18-Nov-09 1400 17-Feb-10 1200	31.91	32.72		6180	27.5	0.2	0.009		$\perp$	0.009		0.03	3.44 0.	042 0.	306 0.0	91	0	).694 <(	0.0001	7.03 6100	58	48 1450	63	71.7	110	18 <1	<1	3710	3710	77.6	3.99	0.02	0.06	0.08	
		16-Mar-10 1610 07-May-10 1500	33.89	34.15 34.70		7400	**	0.01	0.000			2.55		0.000	0.00	202	70.4	ne l	+	12	0.0001	6.75	<b>+</b>	427		75.0	001	01.2		2007	2005	02 -	4.00				
		23-Jun-10 0950 02-Sep-10 1130			6.65		18 23.2	0.04	0.003			0.004		0.002	0.08 0.0	JUZ   0.	/84 0.	00	+	U.13 <	v.0001	0./5 6210	80	137 1370	37	/5.8	861	91.2 <1	<1	2880	2880	83.7	4.99	<0.03	0.1	0.1	
		10-Feb-11 1200 08-Jun-11 1200 11-Oct-11 1240			Dry Dry									$\Rightarrow$		+	$\perp$		+	+			+		+				+								
		08-Dec-11 1200 04-Apr-12 1150			Dry Dry Dry									_		+	$\perp$		+	_	_		1		+				+								
		<b>31-May-12</b> 1210 <b>29-Aug-12</b> 1300			Dry Dry									$\rightarrow$		+	+		+	_	_		1		+				+								
		25-Mug-12   1300			ыу																																

							ield Param							Total M	-4-1-										Na-i C	-4:					B4-1	Anions									
	e			te	2				-	_					_	_	_	_	_		<b>⊣</b> ⊹		5	⊢	Major C	ations	_	ģ			Iviajor	Anions	Ricarhona	_	- 2	8	& > /	<u>-</u>	<u> </u>	/g/	e e
Site ID	Piezometer / Water Bore	Date	Time	Depth to Wa mbgl	Depth to Sta mbtoc	pH - Field	EC - Field μs/cm	d · Temp - Field - °C	Aluminium (Al) - mg/L	Arsenio (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Cadmium (mg/L)	Chromium (Cr) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium Zinc (Z (V) - mg/L - mg/L	Mercury (Hg	pH Lab	EC - Lab - μs/	Calcium (Ca) - mg/L	m (Mg) - mg/L	Sodium (Na) - mg/L	Potassiu m (K) - mg/L	Total Catior meq/L	Chloride (CI) - mg/L	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	te Alkalinity as CaCO3 -	Alkalinity - mg/L	Total Anion meq/L	lonic Balan	Ammonia as Nitrogen (N)	Nitrite as N	Nitrate as N mg/L	NOX as N - m	Total Dissolv Solids
ANZECC Guideline	- stock drinking v	vater							5					1 1			0.1		1		0.002			1000						1000			Img/I					1500	400		4000
		10-Dec-12	1345			Dry															_																			$\overline{}$	$\overline{}$
		03-Apr-13				Dry			1							+		_						-													+			$\overline{}$	
		03-Jul-13	1050			Dry			i									_						_													1			$\neg \neg$	
		04-Sep-13	1240			Dry																																		-	
		27-Nov-13	1110			Dry																																			
		05-Mar-14	1110			Dry																																			$\Box$
		11-Jun-14	1100			Dry			1																															-	$\overline{}$
		29-Sep-14	1150			Dry																																			
		05-Dec-14				Dry																																			
		11-Mar-15	1210			Dry																																			
		03-Jun-15				Dry																																			
		08-Sep-15	1140			Dry																																			
		14-Dec-15	1200			Dry																																			ullet
		10-Mar-16				Dry																																			
		02-Jun-16	1200			Dry																															<b></b>				-
		26-Sep-16	1200			Dry																															<b></b>				-
		25-Oct-16				Dry																															<b></b>				-
		24-Nov-16				Dry																															<b></b>				-
		20-Dec-16				Dry																															<b></b>				-
		25-Jan-17				Dry			<b>_</b>																		$\perp$										<b></b> '				$\longleftarrow$
		23-Feb-17	945			Dry									_	_								_													<b>↓</b> ′				-
		29-Mar-17				Dry				_	_				_	_		_				_		—			+										<b></b> -				-
		26-Apr-17	1210			Dry																		_													<b>↓</b> ′				
		29-May-17	1200			Dry				_	_				_	_		_				_		—			$\perp$										<b></b> '				$\longleftarrow$
		29-Jun-17	1220			Dry			<b>├</b>	-	_						_		_	+		+	+			_	+										<b></b>				-
		26-Jul-17	1135			Dry	_		-	_	_				_	+	-	+				+		₩													<b>├</b> ──'				$\leftarrow$
		29-Aug-17	1130			Dry	+	+	<del>                                     </del>	-	_				+	+	-	+	-		_	+	+			-	+			-							<b></b>				-
		26-Sep-17 26-Oct-17			-	Dry	+	+	-	+	_				+	+	_	+	+	+	_	+	+	-		-	+		$\vdash$								<b>├</b> ──′				$\leftarrow$
-		26-Oct-17 27-Nov-17				Dry	+	+	$\vdash$	+	_				+	+	_	+	_	-		+	+				+		$\vdash$		-						<b>├</b> ──′				$\leftarrow$
		27-Nov-17 20-Dec-17				Dry	+	+	-	+	+				+	+	-	+	-	+	1	+	+	-	_	-	+		-	-	<del>                                     </del>						<del></del> '				$\leftarrow$
		20-Dec-17 30-Jan-18			-	Dry	+	_	-	-	_				+	+	-	+	-	+	+	+	+	+		-	+		-		-						+'				$\leftarrow$
						Dry	+	+	-	+	+				+	+	+	+	-	+	+	+	+	-		-	+		-	-	<del>                                     </del>		-				<del></del> '	-			$\longleftarrow$
-		28-Feb-18 28-Mar-18	1035			Dry	-	_	-	-	_				+	+	-	+	-	+	-	+	+	+		-	+		-		-						+'	-			$\leftarrow$
<b>—</b>		28-Mar-18 30-Apr-18				Dry	+	_	-	-					+	_	-	+	_	-	+	+	-	$\vdash$			+		_		_						+'				$\leftarrow$
		30-Apr-18 29-May-18	1035			Dry	+	+		+					+	+	-	+	_	<del>                                     </del>	+	+	+	$\vdash$	_		+		_		_						+'				$\vdash$
		29-May-18 26-Jun-18				Dry	+	+	$\vdash$	+	+				+	+	+	+	_		+-	+	+	_	+	_	+		$\vdash$							<del>                                     </del>	+'				$\leftarrow$
-		26-Jun-18 26-Jul-18				Dry	+	+	<del>                                     </del>	+	+				+	+	+	+	+	<del>                                     </del>	+	+	+	_	+	_	+ +		<del>                                     </del>	<del>                                     </del>	_				<b>—</b>		<del></del>				$\leftarrow$
I	I	70-Jui-18	1220		I	Dry	I	I	I	I	1		ı	l	1	I	1	1	I	1 1	1	1	I	1	I	I	1 I		ı	I	I	I	1	I	I	ı	1 '	I	1	,	4 I

<u> </u>	eter/ Bore	te l	эe	Water .	Stand -		ield Paramet			Arsenic	Barium B	Beryllium		Cabal	Metals t Copper	Iron	Lead	Mangane	Nickel		, (Hg) -	Lab	- µs/cm	Calcium	Major C Magnesiu		Potassiu	rtions -	Chloride S	ulfate	Major A	arhonate B	icarbona		nions -	alance	nia as en (N)	as N - /L	as N -	N-mg/L	ssolved
Site	iezom Water	Da D	<u>=</u>	pth to W mbgl	pth to Stambtoc	pH - Field	EC - Field · μs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	(As) - mg/L	(Ba) - (I	Be) - ng/L	(mg/L)	Chromium (Cr) - mg/L (Co) - mg/L	(Cu) -	Iron (Fe) - mg/L	Lead (Pb) - mg/L	se (Mn) - mg/L	(Ni) - mg/L	Vanadium Zinc (V) - mg/L - mg	(Zn) (HZn) /L	,   <u>₹</u>	.   rap	(Ca) -	m (Mg) -	(Na) -	m (K) - mg/L	Total Cation meq/L	(CI) - (9 mg/L n	604) - ng/L	Alkalinity A as CaCO3 - a mg/L	Alkalinity as CaCO3 -	lkalinity	Alkalinity - mg/L	otal Anio meq/L	onic Bal	Ammo	Vitrite as mg/L	iitrate	OX as N-	Soli
ANZECC Guideline	- stock drinking v	water		2	De					0.5				1 1			0.1		1	20	0 0.002		ËĊ	1000				ř		1000	mg/L n	ng/L m	ng/L		F	2	\-	1500		z	4000
		30-Aug-18				Dry																																		二	
		25-Sep-18 30-Oct-18	1300			Dry Dry																																		士	
		28-Nov-18 21-Dec-18				Dry Dry										-						+	+										-							+	-+
		31-Jan-19	1055			Dry															_		1																	#	
		27-Feb-19 28-Mar-19	1055			Dry Dry																																		二	
		30-Apr-19 31-May-19				Dry Dry									+							+-	+																	-+	
		25-Jun-19 31-Jul-19	1105			Dry Dry																-																		<b>—</b>	
		28-Aug-19	1035			Dry																																		_	
		24-Sep-19 29-Oct-19				Dry Dry																																		士	
		28-Nov-19 18-Dec-19				Dry Dry															-	+																		$\vdash$	
		30-Jan-20	1240			Dry																																		#	
		25-Feb-20 26-Mar-20	1140			Dry Dry																																		士	
		30-Apr-20 26-May-20				Dry Dry	+								+	-						+	+					-			-						-			+	
		25-Jun-20 23-Jul-20	1120			Dry															_		1																	_	
		28-Aug-20	1015			Dry Dry																																		二	
		23-Sep-20 22-Oct-20				Dry Dry	Potentially	/ blocked or	wrong depth	1					+							+-	+																	+	
		27-Nov-20 21-Dec-20				Dry Dry																																		=	
		20-Jan-21	1040			Dry																																		二	
		22-Feb-21 30-Mar-21	1230			Dry Dry																																		士	
		22-Apr-21 31-May-21				Dry Dry									_							+-	_																	+	
		23-Jun-21 30-Jul-21	1110			Dry																																		_	
		29-Aug-21	800			Dry																																		二	
		05-Oct-21	800			Dry									+							+																		$\pm$	
P19	NC-123R	03-Mar-08 02-Apr-08																																						=	=
Depth	187	09-May-08	1033	16.59	17.05																																			二	
Format.	Pamboola	02-Jun-08 01-Jul-08		16.78 16.86											+						-	+	+					-												+	
Standpipe height	0.46	14-Aug-08		16.83 16.64		6.7	1340	22.2		0.001	1 26	<0.001	0.0001	0.018 0.04	2 0.005	2 10	0.015	0.720	0.220	<0.01 0.0	see <0.000	11	11000	99	141	1040	1400	07.6	1880	28	<1	<1	1880	1000	91.2	3.40	6.15			$\rightarrow$	6220
		14-Nov-08	1130	19.72	20.18	0.7	1340	25.2		0.001	1.20	V0.001	0.0001	0.016 0.04	0.003	3.19	0.013	0.728	0.320	V0.01 0.0	0.000	1	11000	99	141	1040	1400	97.0	1000	20	1	4	1000	1000	91.2	3.40	0.13			二	6220
		01-Dec-08 12-Jan-09		17.75 17.36			+								_	-					-	+	+					-	-		-	-								+	
		23-Feb-09	1008	24.14	24.60	-	5000	24.2		+0.001	0.275	10.001	-0.0001	0.029 0.003	2 0.002	244	0.003	1.24	0.014	10.01	20 40 000		5220	40	02	1030	10	54	1170	-20			1000	1000	542	0.16	3.83			_	2910
		24-Aug-09	1322		25.30	SWL only	/	21.2		<0.001	0.275	<0.001	<0.0001	0.029 0.00						<0.01 0.0			5230						1170	<20		<1	1060	1060	54.2	0.16	3.83			士	2910
		18-Nov-09 17-Feb-10		24.13 23.77		7.34	3690	23.8	<0.01	0.003				<0.005	0.002	0.12	<0.001	0.93	0.005	0.0	11 <0.000	1 7.71	1 3050	28	45	551	19	29.6	624	22.1	<1	<1	663	663	31.3	2.9		<0.01	0.04	0.04	
		23-Jun-10	1100	22.97	23.43		3970 3120		0.01	0.003				0.002	<0.001	0.13	<0.001	1.09	0.007	0.0	08 <0.000	1 7.28	3330	32	57	672	24	36.1	708	29.4	<1	<1	838	838	37.3	1.67		<0.01	<0.01	<0.01	
		10-Feb-11	1230	21.90	22.36	7.1	1714	26.4	0.01	0.003				0.006	0.003	0.09	<0.001	0.701	0.005	0.0	18 <0.000	1 7.45	5 2900	25	39	501	22	26.9	581	26	<1	<1	587	587	28.6	3.23		0.06	9.43	<0.01	
		08-Jun-11 11-Oct-11					2720 3170		0.13	0.004	0.138	<0.001	<0.0001	0.002 0.002	2 0.012	0.62	0.003	1.06	0.007	<0.01 0.0	31 <0.000	1 7.64	4 4060	29	55	709	23	37.4	819	22	<1	<1	706	706	37.7	0.38	41.2	2.75	7.22	9.97	2000
		08-Dec-11 04-Apr-12				7.80 7.7	2490 2150	23.3 25.8	0.29	0.002	0.084	<0.001	<0.0001	0.003 0.003	1 0.021	0.69	0.515	0.006	0.006	<0.01 0.1	75 <0.000	11 7.8	7 2680	20	33	408	29	30.7	476	45	<1	<1	660	660	28.5	3.7	119	6.49	6.31	12.8	1150
-		31-May-12	1200	20.73	21.19	7.31	2760	22.3																																	
		29-Aug-12 10-Dec-12				7.45 7.49		23.4 23	0.13	0.002	0.072	<0.001	<0.0001	0.003 0.003	2 0.066	0.38	0.008	0.601	0.005	<0.01 0.2	54 <0.000	7.82	2 3120	21	34	411	31	32.6	512	53	<1	<1	764	764	30.8	2.84	110	11.1	6.4	17.5	1200
				20.64		7.11 7.04	4920 4660		0.73	0.002	0.212	<0.001	0.0002	0.003 0.003	3 0.147	1.73	0.011	1.06	0.008	<0.01 0.4	68 <0.000	7.1	1 5150	42	74	835	40	45.5	846	<1	<1	<1	1310	1310	50	4.75	166	<0.01	0.03	0.03	2190
		04-Sep-13	1300	20.85	21.31	7.11	4760	23.5	0.09	0.002	0.243	<0.001	<0.0001	0.002 0.00:	1 0.007	0.39	0.002	0.964	0.004	<0.01 0.0	38 <0.000	1 7.58	8 5110	40	75	798	38	52.4	873	<1	<1	<1	1260	1260	49.8	2.54	121	<0.10	<0.10	<0.10	2240
		27-Nov-13 05-Mar-14		21.03 20.96		7.1			0.12	0.002	0.148	<0.001	<0.0001	0.007 0.002	2 0.059	0.38	0.006	0.829	0.005	<0.01 0.0	63 <0.000	1 7.62	2 4890	37	60	909	33	47.2	797	47	<1	<1	1160	1160	46.6	0.53	149	0.46	0.4	0.86	2140
		11-Jun-14	1115	20.81	21.27		4190							0.002 0.003												758		41.4	769	45	<1	<1	968	968	42	0.7	94.6	2.24			1920
		05-Dec-14	1145	20.86	21.32	7	5070	22.3																																	
				20.82		7.4		23.6 20.8	0.66	0.003	U.116	<0.001	0.0001	0.002 0.003	0.014	0.82	U.004	U./67	U.005	<u.u1 0.0<="" th=""><th>&lt;0.000</th><th>7.64</th><th>4 4530</th><th>30</th><th>65</th><th>643</th><th>33</th><th>35./</th><th>825</th><th>38</th><th>&lt;1</th><th>&lt;1</th><th>1170</th><th>1170</th><th>47.4</th><th>14.2</th><th>116</th><th>0.51</th><th>2.81</th><th>3.32</th><th>2000</th></u.u1>	<0.000	7.64	4 4530	30	65	643	33	35./	825	38	<1	<1	1170	1170	47.4	14.2	116	0.51	2.81	3.32	2000
		08-Sep-15	1150		21.44	7.4 7.5		22.9 22.3	0.05	0.001	0.114	<0.001	<0.0001	<0.001 0.003	1 0.005	0.21	0.001	0.654	0.002	<0.01 0.0	<0.000	7.7	4070	44	69	646	29	36.7	577	33	<1	<1	887	887	34.7	2.81	110	2.45	0.93	3.38	1910
		10-Mar-16	1250	20.74	21.2	7.6	3460	23.5	0.16	0.002	0.093	<0.001	<0.0001	0.001 0.003	2 0.012	0.54	0.002	0.65	0.002	<0.01 0.0	05 <0.000	7.66	6 3360	29	47	509	30	28.2	587	45	<1	<1	749	749	32.5	7.02	0.1	1.24	<0.01	0.9	1690
		02-Jun-16 26-Sep-16		20.78		7.6 7.5		21.8 22.5	0.36	0.002	0.059	<0.001	<0.0001	0.001 0.002	2 0.008	0.54	0.002	0.502	0.003	<0.01 0.0	51 <0.000	1 7.72	2 2650	31	49	516	28	28.7	470	45	<1	<1	547	547	25.1	6.68	62.6	2.16	7.09	9.25	1340
		25-Oct-16 24-Nov-16		20.60		7.4 7.5																											$\neg$							$-\mp$	
		20-Dec-16	1135	20.81	21.27	7.6	2500	22.8																																_	
		25-Jan-17 23-Feb-17		20.92		7.6 7.5																																		$\pm$	
		29-Mar-17 26-Apr-17	1110	20.96	21.42	7.5 7.5									1					+ -	-	+																		<b>—</b>	
		29-May-17	1210	20.91	21.37	7.5	2770	22.5													$\bot$																			二	
		29-Jun-17 26-Jul-17		20.93 20.94		7.4									+						+	+																		+	
		29-Aug-17	1125		21.47			22.2 22.7	0.05	0.001	0.053	<0.001	<0.001	<0.001 0.003	1 0.006	0.13	<0.001	0.514	0 003	<0.01	26 <n nnr<="" th=""><th>1 79</th><th>1 2900</th><th>43</th><th>63</th><th>59/</th><th>30</th><th>33.9</th><th>495</th><th>46</th><th>&lt;1</th><th>&lt;1</th><th>519</th><th>519</th><th>25.2</th><th>14.6</th><th>54.5</th><th>0.18</th><th>12.9</th><th>13.1</th><th>1470</th></n>	1 79	1 2900	43	63	59/	30	33.9	495	46	<1	<1	519	519	25.2	14.6	54.5	0.18	12.9	13.1	1470
		26-Oct-17	1100	21.15	21.61	7.5		23.4	0.03	5.001	5.055	10.001	-0.0001	-0.001 0.00.	0.000	0.13	-5.001	5.514	0.002	.0.01 0.0		7.8.	2,000		0.5	354	30	55.5	.55	70	``_	-1	313	313	23.3	17.0	54.5	5.10	12.5		
		27-Nov-17 20-Dec-17		21.20 21.23		7.4	2730	22.8 23.8			<del>                                     </del>				+					<del>                                     </del>	+	+		$\vdash$			<del>                                     </del>		-		+	-	+		$\vdash$				-	+	
			1100	-0.46		7.4 7.4	2750 2680								1						$\perp$	+																		<b>—</b>	
		28-Mar-18	1220	21.13	21.59	7.5	2260	23.3													$\bot$	$\perp$																		二	
		30-Apr-18 29-May-18									$\vdash$				+	-				<del>                                     </del>	+	+		$\vdash$			$\vdash$	-			+	+	+		$\vdash$					+	—
		26-Jun-18	1155		21.72	7.4	2980	22																																二	
							2480																																	士	

Ω	eter/ Bore	9	e e	Water	Stand -		eld Parame			Arsenic	Barium	Bervllium			Metals It Copper	r Iron	Lead	Mangane	Nickel			/ (Hg) -	ab	· µs/cm	Calcium	Major Cati		tions -	Chloride	Sulfate		Anions Carbonate	Bicarbona te		nions -	alance	nia as en (N)	as N -	as N -	I- mg/L	ssolved
Site	Piezometer Water Bor	Date	Time	mbgl	mbtoc	oH - Field	EC - Field · μs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	(As) - mg/L	(Ba) - mg/L	(Be) - mg/L	Cadmium Chromi (mg/L) (Cr) - m	g/L (Co) -	(Cu) -	(Fe) - mg/L	(Pb) -	se (Mn) -	(Ni) - mg/L	Vanadium (V) - mg/L	Zinc (Zn)	Mercury mg	됩	ੂ ਦੂ	(Ca) -	m (Mg) - (N	Na) - m (K)	otal Ca	Chloride (CI) - mg/L	(SO4) - mg/L	Alkalinity as CaCO3 -	Alkalinity as CaCO3 - mg/L	te Alkalinity as CaCO3 -	Alkalinity - mg/L	rotal Anior meq/L	onic Ba	Ammo	Nitrite as mg/L	Nitrate as mg/L	OX as N	otal Dis Soli
ANZECC Guideline		water		<u> </u>	ă				5	0.5			0.01 1	1	1		0.1		1			0.002		ŭ.	1000			-		1000	mg/L	mg/L	mg/L		-	_		1500	400	ž	4000
		25-Sep-18 1 30-Oct-18 1							0.3	0.001	0.1	<0.001	<0.0001 0.00	2 0.00	0.005	0.57	0.001	0.717	0.004	<0.01	0.022	<0.0001	7.39	3900	34	59	570 29	32.1	648	34	<1	<1	690	690	32.8	1.06	73.6	0.09	5.7	5.79	1540
		28-Nov-18 1 21-Dec-18 1						23.1 23.4																																	
		31-Jan-19 1 27-Feb-19 1	050	0.46		7.4	2560	24																																	
		28-Mar-19 1 30-Apr-19 1	110	22.24	22.7	7.1	3360	22.8																																	
		31-May-19 1	125	21.14	21.6	7.1	3380	21.8																																	
		25-Jun-19 1 31-Jul-19	950 2	21.16	21.62	7.2	2880	21.9																																	
		28-Aug-19 1 24-Sep-19 1	150	21.32	21.78	7.3	3010	22.8	0.7	0.001	0.084	<0.001	<0.0001 0.00	1 0.00	0.006	5 1.25	0.002	0.596	0.006	<0.01	0.029	<0.0001	7.63	1620	26	52	523 31	29.1	606	35	<1	1	571	571	29.2	0.19	46.7	0.08	10.3	10.4	1620
		29-Oct-19 1 28-Nov-19 1																																							
		18-Dec-19 1 30-Jan-20 1						22.6 23.4																																	
		25-Feb-20 1 26-Mar-20 1	100	21.42	21.88	7.4	3030	22.8								1								_																	
		30-Apr-20 1 26-May-20 1	000	21.18	21.64	7.3	2840	22.6																																	
		25-Jun-20 1	115	21.29	21.75	7.3	2670	21.8		<u> </u>	in																														
	True location	23-Jul-20 1 28-Aug-20 1	010 1	30.77 1	31.23 pe			20.1	s previously	been mon	itorea																														
GW Pump installed	1	22-Oct-20 1 28-Oct-20 1	100 1	31.22 1	31.68	7.25	11064	20.8	<0.10	<0.010			<0.010 <0.01	0 <0.0	10 <0.01	0 0.96	<0.010	0.025	0.016		<0.050	<0.0001	7.68	12000	119	194	2800 15	7 148	581	<1	<1	<1	5700	5700	130	6.27	7.77	<0.01	0.04	0.04	8170
		27-Nov-20 1 21-Dec-20 1	240 1	29.22 1	29.68																																				
		20-Jan-21 1 22-Feb-21 1															+	-																							
		30-Mar-21 1 22-Apr-21 1	240 1	30.60 1	31.06											_	-																				-				
		31-May-21 1 23-Jun-21 1	125 1	31.16 1	31.62																																				
		16-Jul-21 1	230 1	32.49 1	32.95												1																								
		29-Aug-21 1 05-Oct-21	315 1	31.54	132																																				
		12-Jan-22 28-Mar-22	000 1	33.47 1	33.93	6.88	11151	23.5																																	
		05-Jul-22 1 29-Sep-22 1	400 1	34.02 1	34.48	7.2	13484	22.9	0.04	0.003	4.52	0.001	<0.0001 0.00	3 0.01	15 0.003	0.46	0.028	0.023	0.045	0.01	0.537	<0.0001	8.01	12400	158	203	3330 14	7 173	490		<1	<1	8500	8500	184	2.93	8.66	0.01	0.08	0.08	9050
		22-Nov-22	100 1	34.02 1	34.48	6.7	13282	23.7																																	
P20	NC-127	03-Mar-08 1	610	13.52 1	14.39																																				
Depth	162	02-Apr-08 1 09-May-08 1																																							
Format.	Arkarula	02-Jun-08 1 01-Jul-08 1	408	13.64	14.55 14.51																																				
		11-Aug-08 1 09-Sep-08 1			14.57 14.35	6.7	1140	19.6		<0.001	4.80	0.002	0.0003 0.00	3 0.00	0.005	5 1.57	0.004	0.035	0.014	<0.01	0.009	<0.0001		10500	62	68	2860 11	3 136	425	<1	<1	<1	5970	5970	131	1.83	10.3				9630
		14-Nov-08 1 01-Dec-08 1																																							
		12-Jan-09 1 23-Feb-09 0			14.86 14.95																																				
		09-Jun-09 1 24-Aug-09 1						21		<0.001	4.12	<0.001	0.0002 0.00	2 <0.00	0.004	0.4	0.001	0.014	0.003	<0.01	0.036	<0.0001		12500	74	80	3290 11	1 156	174	<10	<1	<1	8420	8420	173	5	9.14				9910
		18-Nov-09 1 17-Feb-10 1				7.26	10210	26.1	<0.01	<0.001			<0.00	5	0.002	0.13	0.002	0.046	0.016		0.1	<0.0001	7.52	10300	8	120	2510 96	122	599	26.9	<1	<1	5960	5960	136	4.97	$\vdash$	<0.01	0.01	0.01	
		16-Mar-10 1 07-May-10 1	555 3	7.69	38.60	SWL only																		-																	
		23-Jun-10 1 Cemented u	030 4	19.45	50.36	6.95	5830	20	<0.01	<0.001			0.00	3	0.001	<0.05	<0.001	0.185	0.043		0.226	<0.0001	6.73	4840	169	219	826 21	62.9	1400	107	<1	<1	799	799	57.7	4.29		<0.01	0.1	0.1	
P28		01-Jun-12 1 24-Jul-12 1				Dry Dry																																			
Depth Format.	15 Napperby	02-Sep-12 1 10-Dec-12 1	315			Dry Dry											-																								
Standpipe height	0.93	07-Mar-13 1 03-Jul-13 1				Dry Dry																		-																	
		04-Sep-13 1 27-Nov-13	200			Dry Dry																		$\Box$																	
		05-Mar-14 1 11-Jun-14 1	050	-		Dry Dry																		$\dashv$					$\vdash$												
		30-Sep-14 1 05-Dec-14 1	205	+		Dry Dry																		$\dashv$					1												=
		11-Mar-15 1 03-Jun-15 1	120			Dry Dry			-									-				1		$\dashv$					-							1	1				
		08-Sep-15 1 14-Dec-15 1	100	+		Dry Dry			-								+	1										-	1								1				
		10-Mar-16 1 31-May-16 1	055			Dry Dry											1	1				1		$\dashv$					1								1				
		27-Sep-16 1 25-Oct-16 1	300	_		Dry Dry			1						_	+	+					1		#				1	1							1	1	1			
		24-Nov-16 1 20-Dec-16 1	350			Dry Dry											+							#													1				
		25-Jan-17 1 23-Feb-17 1	225			Dry											1												1								1	1			
		30-Mar-17 1 26-Apr-17 1	025			Dry Dry											1												1								1				
		29-May-17 1	345			Dry Dry										1	1												1								1	1			
		29-Jun-17 1 26-Jul-17 1	350	_		Dry																		$\Rightarrow$					+												
		29-Aug-17 1 26-Sep-17 1	320			Dry Dry										+	+							=					+												
		26-Oct-17 1 27-Nov-17 1	310			Dry Dry											+							$\dashv$																	
		20-Dec-17 1 30-Jan-18 1	315	$\perp$		Dry Dry									$\pm$	$\pm$	$\perp$							$\equiv \pm$				$\pm$	$\pm$									$\perp$			
		28-Feb-18 1 28-Mar-18 1	400			Dry Dry																																			
		30-Apr-18 1 29-May-18 1				Dry Dry			$\vdash$								$\pm$	$oxed{-}$		$\perp$		$oxed{oxed}$				$oxed{+}$		_	$\pm \overline{}$	$\pm \overline{}$						$oxed{\mathbb{H}}$	oxdot	$\pm \overline{}$			
		26-Jun-18				Dry																																			

				<u>.</u>	<u> </u>		Field Paran	neters						Total N	letals								Ε		Major Ca	tions					Major	Anions				-				ऱ	ō.
<u> </u>	neter/	ate	me :	h to Wate	th to Stand mbtoc		FC - Fiel	d Temp	Aluminium	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Lead M	1angane Ni	ickel	anadium Zinc (Zn	cury (Hg) mg/L	рн Гар	- µs/c	Calcium M	agnesiu S	odium Po	otassiu	ations	Chloride	Sulfate	Hydroxide	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbona te	Alkalinity -	Anions eq/L	Salance	onia as gen (N)	ite as N - mg/L	e as N · B/L	- N	issolve
, sign	Piezor	ă	=   ;	epth t	epth to	pH - Fie	ld μs/cm	d · Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	(mg/L)	Chromium (Cr) - mg/L Cobalt (Co) - mg/L	(Cu) - mg/L	Iron (Fe) - mg/L	Lead M (Pb) - se mg/L m	langane Ni e (Mn) - (N ng/L mg	li) - g/L	anadium Zinc (Zn /) - mg/L - mg/L	Mercu	표	EC - Lab - I	Calcium M (Ca) - m mg/L m	agnesiu S (Mg) - ( g/L r	Na) - m ng/L m	(K) - g/L	Total Cation meq/L	(CI) - mg/L	(SO4) - mg/L	as CaCO3 -	as CaCO3 -	Alkalinity as CaCO3 -	mg/L	Total Anion meq/L	lonic Bal	Amme	Nitrite	Nitrat	OX as	otal D So
ANZECC Guideline	  - stock drinking \			<u> </u>	Δ					0.5				1 1			0.1		1	20	0.002		ш	1000				-		1000	IIIg/L	IIIg/L	mg/L					1500	400	Z	4000
			3 1240			Dry Dry																																			
		25-Sep-18 26-Oct-18				Dry Dry																						-													
		28-Nov-18	B 1330			Dry			1																		_														
		31-Jan-19				Dry Dry																																			
		27-Feb-19 28-Mar-19	9 1000 9 1320			Dry Dry																																			
		30-Apr-19 31-May-19	9 1400 9 1250			Dry Dry																					-	-													
		25-Jun-19	1310 1215			Dry Dry																					_														
		31-Aug-19	1230			Dry																																			
		10-Oct-19				Dry Dry																					_														
		18-Dec-19				Dry Dry																																			
		31-Jan-20 27-Feb-20	1100 1200			Dry Dry		+	+		_										<u> </u>					_	-	-									+				
		27-Mar-20 30-Apr-20				Dry Dry																						=													
			0 1105			Dry																					1														
		23-Jul-20	1235			Dry			1																		_														
		28-Aug-20 24-Sep-20	700			Dry Dry																																			
		28-Oct-20 27-Nov-20	1140 1320			Dry Dry			+												1																+				
		18-Dec-20 23-Dec-20	930 1200			Dry Dry																																			
		27-Jan-21				Dry Dry																					_	=													
		25-Mar-21	1 700			Dry																																			
		29-Apr-21	1 1400 1 13.05			Dry Dry																			$\Rightarrow$		#														
		31-May-21 20-Jun-21	930			Dry Dry																																			
		23-Jun-21 30-Jul-21				Dry Dry															1				-+		-	-									+				
		27-Aug-21 06-Oct-21				Dry Dry																						=													
			830			Dry Dry																					_														
		08-Jun-22	1500			Dry																																			
		14-Sep-22 20-Dec-22				Dry Dry																					_														
P29		01-Jun-12	2 1010	8.19	9.03	8.02	11700	21.4	+									-+	_		-		-				$\pm$														
Depth	25		1150	8.14	8.98	7.53	9950		15.6 2.34			<0.001 <0.001		0.018 0.013 0.006 0.001								7.8 7.83	13100 14400	67 79	196 216	2590 2690	16 16	132 139	3780 4050	717 839	1 <1	<1	1090 1100	1090 1100	143 154	3.94 5	<0.10 <0.01	<0.01 <0.01		0.93 1.76	8170 8750
Depth Format.	25 Napperby	02-Sep-12 10-Dec-12	2 1300 2 1315	8.14 8.50 8.13	8.98 9.34 8.97	7.53 8.08 7.69	9950 12440 10870	22.7 22.3	2.34	0.002	0.259	<0.001	<0.0001	0.006 0.001	0.01	3.77	0.061	0.076	0.004	0.01 0.042	0.0002	7.83	14400	79	216	2690	16	139	4050	839	<1	<1	1100	1100	154	5	<0.01	<0.01	1.76	1.76	8750
	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13	2 1300 2 1315 3 1050 4 1015	8.14 8.50 8.13 8.14 8.09	8.98 9.34 8.97 8.98 8.93	7.53 8.08 7.69 7.7 7.69	9950 12440 10870 11100 11530	22.7 22.3 22.3 20.8	0.06	0.002	0.259	<0.001	<0.0001	0.006 0.001 0.002 <0.000	0.01	0.13	0.061	0.076 (	0.004	<pre>0.01</pre>	0.0002 <0.0001	7.83	14400	79 39	216	2690	16	139	4050 3720	839 735	<1	<1	1100	1100	154	1.91	<0.01 0.04	<0.01	0.44	0.44	7800
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13	2 1300 2 1315 3 1050 1 1015 3 1150 3 920	8.14 8.50 8.13 8.14 8.09 8.07 7.92	8.98 9.34 8.97 8.98 8.93 8.91 8.76	7.53 8.08 7.69 7.7 7.69 7.92 8.5	9950 12440 10870 11100 11530 10800 16220	22.7 22.3 22.3 20.8 22.4 21.9	0.06	0.002 0.001 0.002	0.259 0.145 0.188	<0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.000 0.001 <0.000	0.01	3.77 0.13 1.76	0.061	0.076 ( <0.001 < 0.032 (	0.004	<ul> <li>0.01 0.042</li> <li>&lt;0.01 0.012</li> <li>&lt;0.01 0.079</li> </ul>	0.0002 <0.0001 <0.0001	7.83	14400 14000 12400	79 39 60	216 205 178	2690 2720 2540	16 16	139 138 128	3720 3370	735 632	<1	<1 <1 <1	1100 1130 1160	1100 1130 1160	154 143 131	1.91	0.04	<0.01	0.44	0.44 0.52	7800 7470
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14	2 1300 2 1315 3 1050 1015 3 1150 3 920 4 1040 1 1015	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9	9950 12440 10870 11100 11530 10800 16220 9940 9200	22.7 22.3 22.3 20.8 22.4 21.9 22.5 20.3	0.06 0.71 0.46	0.002 0.001 0.002 0.001	0.259 0.145 0.188 0.146	<0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00	0.01 0.002 1 0.054 1 0.042	3.77 0.13 1.76	0.061 0.005 0.031	0.076 ( <0.001 < 0.032 ( 0.028 (	0.004	<ul> <li>0.01 0.042</li> <li>&lt;0.01 0.012</li> <li>&lt;0.01 0.079</li> <li>&lt;0.01 0.069</li> </ul>	0.0002 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97	14400 14000 12400 10800	79 39 60 43	205 178 131	2690 2720 2540 2410	16 16 15	139 138 128 118	3720 3370 2520	735 632 552	<1 <1 <1 <1	<1 <1 <1 <1 <1	1100 1130 1160 1240	1100 1130 1160	154 143 131	1.91 1.14 4.72	0.04 0.05 0.08	<0.01 <0.01 0.24 <0.01	0.44 0.28	0.44 0.52 0.42	7800 7470
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14	2 1300 2 1315 3 1050 1 1015 3 1150 3 920 4 1040 1 1015 1 1140	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 7.7	9950 12440 10870 11100 11530 10800 16220 9940 9200	22.7 22.3 22.3 20.8 22.4 21.9 22.5 20.3 22.7	0.06 0.71 0.46	0.002 0.001 0.002 0.001	0.259 0.145 0.188 0.146	<0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.000 0.001 <0.000	0.01 0.002 1 0.054 1 0.042	3.77 0.13 1.76	0.061 0.005 0.031	0.076 ( <0.001 < 0.032 ( 0.028 (	0.004	<ul> <li>0.01 0.042</li> <li>&lt;0.01 0.012</li> <li>&lt;0.01 0.079</li> <li>&lt;0.01 0.069</li> </ul>	0.0002 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97	14400 14000 12400 10800	79 39 60 43	205 178 131	2690 2720 2540 2410	16 16 15	139 138 128 118	3720 3370	735 632 552	<1	<1 <1 <1 <1 <1	1100 1130 1160 1240	1100 1130 1160	154 143 131	1.91 1.14 4.72	0.04 0.05 0.08	<0.01 <0.01 0.24 <0.01	0.44 0.28	0.44 0.52 0.42	7800 7470
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 11-Jun-14 29-Sep-14 05-Dec-14	2 1300 2 1315 3 1050 1015 3 1150 3 920 4 1040 1 1015 4 1140 1 1040 5 1110	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29 6.94 6.63	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 7.4 8.1	9950 12440 10870 11100 11530 10800 16220 9940 9200 10710 5010	22.7 22.3 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4	0.06 0.71 0.46	0.002 0.001 0.002 0.001	0.259 0.145 0.188 0.146	<0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00	0.01 1 0.002 1 0.054 1 0.042	3.77 0.13 1.76 1.11	0.061 0.005 0.031 0.01	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 (	0.004 <0.001 0.002 0.003 0.007	<ul> <li>0.01 0.042</li> <li>&lt;0.01 0.012</li> <li>&lt;0.01 0.079</li> <li>&lt;0.01 0.069</li> <li>&lt;0.01 0.073</li> </ul>	<0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04	14400 14000 12400 10800 8690	79 39 60 43	205 205 178 131	2720 2540 2410 1890	16 16 15 12 8	139 138 128 118 91.8	3720 3370 2520	735 632 552 428	<1 <1 <1 <1 <1 <1	4 4 4 4 4 4 4 4 4	1100 1130 1160 1240	1100 1130 1160 1240	154 143 131	1.91 1.14 4.72 9.02	0.01 0.04 0.05 0.08	<0.01 <0.01 0.24 <0.01 <0.01	0.44 0.28 0.42	0.44 0.52 0.42 0.29	7800 7470 5920
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 05-Dec-14 11-Mar-15 03-Jun-15	2 1300 2 1315 3 1050 1015 3 1150 3 920 4 1040 1 1015 4 1140 4 1040 5 1110 6 1005 6 1005	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29 6.94 6.63 6.36 6.05	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 7.4 8.1 8	9950 12440 10870 11100 11530 10800 16220 9940 10710 5010 3970 3830 3650	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20	0.06 0.71 0.46 0.42	0.002 0.001 0.002 0.001 0.002	0.259 0.145 0.188 0.146 0.136	<0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014	1.76 1.11 1.1	0.061 0.005 0.031 0.01 0.011 0.008	0.076 ( 0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 (	0.004 0.001 0.002 0.003 0.007	<ul> <li>0.01 0.042</li> <li>&lt;0.01 0.012</li> <li>&lt;0.01 0.079</li> <li>&lt;0.01 0.069</li> <li>&lt;0.01 0.073</li> <li>&lt;0.01 0.041</li> </ul>	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04	14400 14000 12400 10800 8690	79 39 60 43 31	216 205 178 131 95 29	2720 2540 2410 1890	16 16 15 12 8	139 138 128 118 91.8	3720 3370 2520 1590	839 735 632 552 428	<1 <1 <1 <1 <1 <1	4 4 4 4 4 4 4 4 4	1100 1130 1160 1240 1140 1460	1100 1130 1160 1240	154 143 131 107 76.5	1.91 1.14 4.72 9.02	0.01 0.04 0.05 0.08 0.04	<0.01 <0.01 0.24 <0.01 <0.01	0.44 0.28 0.42	0.44 0.52 0.42 0.29	7800 7470 5920
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 05-Dec-14 11-Mar-15 03-Jun-15 08-Sep-15 14-Dec-15 10-Mar-16	2 1300 2 1315 3 1050 1015 8 1150 3 920 4 1040 1 1015 1 1040 1 1040 5 1110 6 1005 6 1050 6 1045	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29 6.94 6.63 6.36 6.05 5.73 5.56	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 7.4 8.8 8.3 8.3	9950 12440 10870 11100 11530 16220 9940 9200 10710 5010 3970 3970 4150 4460	22.7 22.3 22.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20 22.9	2.34 0.06 0.71 0.46 0.42 0.07	0.002 0.001 0.001 0.002 0.002 0.004	0.259 0.145 0.188 0.146 0.136 0.093	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.006	3.77 0.13 1.76 1.11 1.1 0.3	0.061 0.005 0.031 0.01 0.011 0.008	0.076 ( <0.001 < 0.032 ( 0.038 ( 0.037 ( 0.005 ( 0.002 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29	14400 14000 12400 10800 8690 4120	79 39 60 43 31 14	216 205 178 131 95 29	2690 2720 2540 2410 1890 1120	16	139 138 128 118 91.8	3720 3370 2520 1590	735 632 552 428 155	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	4 4 4 4 4 4 4 4 4	1100 1130 1160 1240 1140 1460	1100 1130 1160 1240 1140	154 143 131 107 76.5	1.91 1.14 4.72 9.02 4.3	0.01 0.04 0.05 0.08 0.04	<0.01 <0.01 0.24 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6	0.44 0.52 0.42 0.29	7800 7470 5920 4590
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 11-Mar-15 03-Jun-15 08-Sep-15 14-Dec-15 10-Mar-16 02-Jun-16	2 1300 2 1315 3 1050 3 1050 6 1015 8 1150 3 920 4 1040 1 1040 1 1040 1 1040 5 1110 5 1050 6 1050 6 1320	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29 6.94 6.63 6.36 6.05 5.73 5.56 5.54	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 7.4 8.1 8 8	9950 12440 10870 11100 11530 10800 16220 9940 9200 10711 5010 3970 3830 3650 4460	22.7 22.3 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20	2.34 0.06 0.71 0.46 0.42 0.07 0.06	0.002 0.001 0.001 0.001 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 0.002 0.054 0.042 0.014 0.006 0.003	3.77 0.13 1.76 1.11 1.1 0.3 0.13	0.061 0.005 0.031 0.01 0.011 0.008 0.006	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.004 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.017	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29 8.32	14400 14000 12400 10800 8690 4120 3780	79 39 60 43 31 14 10	216 205 178 131 95 29 23 30	2720 2720 2540 2410 1890 1120 948 959	16 16 15 12 8 11 5	139 138 128 118 91.8 52.1	3720 3370 2520 1590 544 405	839 735 632 552 428 155 125	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	4 4 4 4 15	1100 1130 1160 1240 1140 1460	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6	5 1.91 1.14 4.72 9.02 4.3 6.2	0.04 0.05 0.08 0.04 0.04 0.09	<0.01 <0.01 0.24 <0.01 <0.01 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6	0.44 0.52 0.42 0.29 0.6 0.59	7800 7470 5920 4590 2250
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 11-Mar-15 03-Jun-15 03-Jun-15 14-Dec-15 10-Mar-16 02-Jun-16 25-Sep-14	2 1300 2 1315 3 1050 1015 3 1150 3 1950 4 1040 1 1015 4 1040 1 1015 4 1040 5 1110 5 1005 6 1050 6 1045 6 1030 6 1255 6 1355	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29 6.63 6.36 6.05 5.73 5.56 5.54 5.17 5.06	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.6 7.4 8.1 8 8 8.3 8.3 8.3 8.3 8.3	9950 12440 10870 111000 111000 16220 9940 9200 10710 5010 3970 3830 3650 4450 4460 4470 4430	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20 20 20.9 21.6 20.7 21.5 20.7	2.34 0.06 0.71 0.46 0.42 0.07 0.06	0.002 0.001 0.001 0.001 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 0.002 0.054 0.042 0.014 0.006 0.003	3.77 0.13 1.76 1.11 1.1 0.3 0.13	0.061 0.005 0.031 0.01 0.011 0.008 0.006	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.004 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.017	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29 8.32	14400 14000 12400 10800 8690 4120 3780	79 39 60 43 31 14 10	216 205 178 131 95 29 23 30	2720 2720 2540 2410 1890 1120 948 959	16 16 15 12 8 11 5	139 138 128 118 91.8 52.1 43.8	3720 3370 2520 1590 544 405	839 735 632 552 428 155 125	4 4 4 4 4 4	4 4 4 4 15	1100 1130 1160 1240 1140 1460 1220	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6	5 1.91 1.14 4.72 9.02 4.3 6.2	0.04 0.05 0.08 0.04 0.04 0.09	<0.01 <0.01 0.24 <0.01 <0.01 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6 0.59	0.44 0.52 0.42 0.29 0.6 0.59	8750 7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 10-Mar-14 11-Jun-14 129-Sep-14 10-Mar-15 10-Mar-15 10-Mar-16 26-Sep-16 26-Sep-16 26-Sep-16 26-Sep-16 26-Sep-16	2 1300 2 1315 3 1050 1015 3 1150 3 1150 4 1040 4 1040 4 1040 5 1110 5 1050 6 1045 6 1045 6 1030 6 1255 6 1355 6 1355 6 1350	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29 6.94 6.63 6.36 6.05 5.73 5.56 5.54 5.17 5.06 5.06 5.06	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 7.4 8.1 8 8 8 8.3 8.3 8.2 7.9 8 8.3	9950 12440 10870 11100 11500 16220 9940 9200 10710 5010 3870 3830 4150 4460 4460 4470 4430 4430 9690	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 20.0 20 20 20 20 21.6 20.7 21.1 21.1	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05	0.002 0.001 0.001 0.001 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 0.002 0.054 0.042 0.014 0.006 0.003	3.77 0.13 1.76 1.11 1.1 0.3 0.13	0.061 0.005 0.031 0.01 0.011 0.008 0.006	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.004 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.017	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29 8.32	14400 14000 12400 10800 8690 4120 3780	79 39 60 43 31 14 10	216 205 178 131 95 29 23 30	2720 2720 2540 2410 1890 1120 948 959	16 16 15 12 8 11 5	139 138 128 118 91.8 52.1 43.8	3720 3370 2520 1590 544 405	839 735 632 552 428 155 125	4 4 4 4 4 4	4 4 4 4 15	1100 1130 1160 1240 1140 1460 1220	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6	5 1.91 1.14 4.72 9.02 4.3 6.2	0.04 0.05 0.08 0.04 0.04 0.09	<0.01 <0.01 0.24 <0.01 <0.01 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6 0.59	0.44 0.52 0.42 0.29 0.6 0.59	8750 7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 07-Mar-11 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 05-Dec-14 11-Mar-15 03-Jun-15 10-Mar-16 20-Jun-16 24-Nov-16 24-Nov-16 25-Jan-17 23-Feb-17	2 1300 2 1315 3 1050 1015 3 1150 3 1150 4 1040 1 1015 4 1040 1 1015 4 1040 5 1110 5 1110 6 1005 6 1045 6 1030 6 1255 6 1350 6 1340 6 1350 7 1240	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.64 7.29 6.94 6.63 6.05 5.73 5.56 5.54 5.06 5.04 5.05 5.14 5.13	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.99 5.98	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.6 7.4 8.1 8 8 8.3 8.3 8.3 8.2 9.8 8.3 8.3 8.3	9950 12440 11870 11100 11530 11800 19800 19940 19710 5010 3970 3970 4150 4460 4460 4450 4530 9690	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 20.0 20.7 21.5 20.7 21.1 21.1 21.1 21.3 22.2 21.5	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05	0.002 0.001 0.001 0.001 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 0.002 0.054 0.042 0.014 0.006 0.003	3.77 0.13 1.76 1.11 1.1 0.3 0.13	0.061 0.005 0.031 0.01 0.011 0.008 0.006	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.004 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.017	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29 8.32	14400 14000 12400 10800 8690 4120 3780	79 39 60 43 31 14 10	216 205 178 131 95 29 23 30	2720 2720 2540 2410 1890 1120 948 959	16 16 15 12 8 11 5	139 138 128 118 91.8 52.1 43.8	3720 3370 2520 1590 544 405	839 735 632 552 428 155 125	4 4 4 4 4 4	4 4 4 4 15	1100 1130 1160 1240 1140 1460 1220	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6	5 1.91 1.14 4.72 9.02 4.3 6.2	0.04 0.05 0.08 0.04 0.04 0.09	<0.01 <0.01 0.24 <0.01 <0.01 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6 0.59	0.44 0.52 0.42 0.29 0.6 0.59	8750 7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 10-Mar-15 08-Sep-15 14-Dec-15 10-Mar-16 26-Sep-16 25-Oct-16 25-Jun-17 23-Feb-17 23-Feb-17	2 1300 2 1315 3 1050 1015 3 1150 3 1150 3 1150 3 1150 4 1040 1 1015 4 1040 5 1110 5 1005 6 1030 6 1045 6 1030 6 1355 6 1340 6 1350 7 1240	8.14 8.50 8.13 8.14 8.09 8.07 7.92 7.87 7.64 7.29 6.63 6.36 6.05 5.73 5.56 5.54 5.17 5.06 5.04 5.05 5.14 6.14	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.98 5.98 5.98	7.53 8.08 7.69 7.77 7.69 7.92 8.5 7.9 7.6 7.4 8.1 8.3 8.3 8.3 8.2 7.9 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3	9950 12440 11870 11100 11530 10800 10800 9940 9200 10710 5010 3970 3650 4450 4470 4430 4430 4430 9690 4910 55340	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.1 21.1 21.1 21.1 21.1 21.1	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05	0.002 0.001 0.001 0.001 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 0.002 0.054 0.042 0.014 0.006 0.003	3.77 0.13 1.76 1.11 1.1 0.3 0.13	0.061 0.005 0.031 0.01 0.011 0.008 0.006	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.004 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.017	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29 8.32	14400 14000 12400 10800 8690 4120 3780	79 39 60 43 31 14 10	216 205 178 131 95 29 23 30	2720 2720 2540 2410 1890 1120 948 959	16 16 15 12 8 11 5	139 138 128 118 91.8 52.1 43.8	3720 3370 2520 1590 544 405	839 735 632 552 428 155 125	4 4 4 4 4 4	4 4 4 4 15	1100 1130 1160 1240 1140 1460 1220	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6	5 1.91 1.14 4.72 9.02 4.3 6.2	0.04 0.05 0.08 0.04 0.04 0.09	<0.01 <0.01 0.24 <0.01 <0.01 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6 0.59	0.44 0.52 0.42 0.29 0.6 0.59	8750 7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 11-Mar-15 03-Jun-15 08-Sep-15 10-Mar-16 20-Jun-16 24-Nov-16 20-Dec-16 25-Oct-16 25-Jun-17 23-Feb-17 29-Mar-17 29-Mar-17 29-May-17	2 1300 2 1315 3 1050 1015 3 1150 3 1950 4 1040 1 1015 4 1040 1 1015 4 1040 5 1110 5 1005 6 1045 6 1030 6 1030 6 1030 6 1320 6 1320 6 1340 7 1240 7 1205 7 1040 7 1255 7 1040 7 1425 7 1355	8.14 8.50 8.13 8.14 8.09 8.07 7.62 7.87 7.64 6.63 6.36 6.36 6.36 6.35 5.54 5.54 5.54 5.54 5.50 5.17 5.06 5.03 5.05	8.98 9.34 8.97 8.98 8.93 8.76 8.71 8.78 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.97 6.98 6.04	7.53 8.08 7.69 7.77 7.69 7.92 8.5 7.9 7.6 7.4 8.1 8.8 8.8 8.3 8.2 7.9 8.8 8.8 8.3 8.3 8.4 8.3 8.4 8.4 8.4 8.4 8.4 8.4 8.5 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6	9950 12440 11870 11100 11530 11800 19800 19940 9200 10710 5010 3830 3650 4150 4460 4470 4430 9690 4530 9690 5160 5340 5340	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 20.3 22.7 20.0 20.7 21.5 22.4 20 20.7 21.6 20.7 21.2 21 21.2 21 21.2 21 21.2 21 21.2	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05	0.002 0.001 0.001 0.001 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 0.002 0.054 0.042 0.014 0.006 0.003	3.77 0.13 1.76 1.11 1.1 0.3 0.13	0.061 0.005 0.031 0.01 0.011 0.008 0.006	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.004 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29 8.32	14400 14000 12400 10800 8690 4120 3780	79 39 60 43 31 14 10	216 205 178 131 95 29 23 30	2720 2720 2540 2410 1890 1120 948 959	16 16 15 12 8 11 5	139 138 128 118 91.8 52.1 43.8	3720 3370 2520 1590 544 405	839 735 632 552 428 155 125	4 4 4 4 4 4	4 4 4 4 15	1100 1130 1160 1240 1140 1460 1220	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6	5 1.91 1.14 4.72 9.02 4.3 6.2	0.04 0.05 0.08 0.04 0.04 0.09	<0.01 <0.01 0.24 <0.01 <0.01 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6 0.59	0.44 0.52 0.42 0.29 0.6 0.59	8750 7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-11 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 11-Jun-14 11-Mar-15 03-Jun-15 03-Jun-15 14-Dec-15 10-Mar-16 02-Jun-16 25-Oct-16 25-Oct-16 25-Jun-17 23-Feb-17 29-Mar-11 26-Apr-17 29-Mar-11 26-Jul-17 29-Jul-17	2 1300 2 1315 3 1050 1 1015 3 1150 3 1150 3 1150 4 1040 4 1040 5 1110 5 1005 6 1045 6 1045 6 1030 6 1030 6 1255 6 1320 6 1030 6 1255 6 1350 7 1240 7 1240 7 1240 7 1425 7 1355 7 1355 7 1355 7 1355 7 1340	8.14 8.50 8.13 8.14 8.09 8.09 7.792 7.87 7.64 6.63 6.63 6.63 6.63 5.56 6.05 5.73 5.56 6.36 6.05 5.73 5.56 6.63 6.53 6.54 6.54 6.54 6.55	8.98 9.34 8.97 8.98 8.93 8.93 8.71 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.89 5.98 5.99 6.93 6.93 6.94 5.94 5.95 5.95	7.53 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 8.1 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3	9950 12440 10877 11100 11530 10800 16222 9940 9200 10710 5010 3970 4460 4430 4430 4430 45690 4910 5140 5340 5340 5340 5380 5380 5380	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20 21.9 21.6 20.7 21.2 21 21.1 21.3 22.2 21 21.2 21.2 21.	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05	0.002 0.001 0.001 0.001 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 0.002 0.054 0.042 0.014 0.006 0.003	3.77 0.13 1.76 1.11 1.1 0.3 0.13	0.061 0.005 0.031 0.01 0.011 0.008 0.006	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.004 <	0.004 0.001 0.002 0.003 0.007 0.002 0.001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023	<ul> <li>0.0002</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> <li>&lt;0.0001</li> </ul>	7.83 7.73 8.03 7.97 8.04 8.29 8.32	14400 14000 12400 10800 8690 4120 3780	79 39 60 43 31 14 10	216 205 178 131 95 29 23 30	2720 2720 2540 2410 1890 1120 948 959	16 16 15 12 8 11 5	139 138 128 118 91.8 52.1 43.8	3720 3370 2520 1590 544 405	839 735 632 552 428 155 125	4 4 4 4 4 4	4 4 4 4 15	1100 1130 1160 1240 1140 1460 1220	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6	5 1.91 1.14 4.72 9.02 4.3 6.2	0.04 0.05 0.08 0.04 0.04 0.09	<0.01 <0.01 0.24 <0.01 <0.01 <0.01 <0.01	0.44 0.28 0.42 0.29 0.6 0.59	0.44 0.52 0.42 0.29 0.6 0.59	8750 7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 05-Dec-14 10-Mar-15 03-Jun-15 08-Sep-15 14-Dec-15 14-Dec-15 14-Dec-15 25-Det-16 26-Sep-16 20-Dec-16 25-Jun-17 29-May-17 29-May-17 29-May-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 26-Sep-17	2 1300 2 1315 3 1050 1150 3 11	8.14 8.50 8.13 8.14 8.09 7.92 7.87 7.64 7.69 6.94 6.63 6.05 5.73 5.06 5.55 5.55 5.56 5.55	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.98 5.98 5.98 5.99 5.94 5.94 5.95 5	7.53 8.088 7.69 7.7 7.69 7.7 7.92 8.5 7.9 7.6 8.1 8.1 8.3 8.3 8.3 8.3 8.3 8.3 8.4 8.3 8.3 8.4 8.3 8.4 8.3 8.3 8.4 8.3 8.3 8.4 8.3 8.3 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4	9950 12440 108770 111100 11530 11800 10800 10800 10800 10900 10710 5010 3970 3650 4150 4450 4670 4400 4530 9690 4910 5340 5340 5340 5380 5490 55840	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20 20 21.9 21.9 21.1 21.1 21.3 22.2 21 21.4 21.3 22.2 21 21.6 20.6 20.6 20.6 20.6	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05	0.002 0.001 0.002 0.002 0.002 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.003 1 0.003 1 0.002	0.13 1.76 1.11 1.1 0.3 0.13 0.10 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.003  0.007	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < 0.002 <	0.0004 0.0001 0.0002 0.0003 0.0007 0.0007 0.0001 0.0001 0.0001 0.0001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.023 <0.01 0.023 <0.01 0.023	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08	14400 14000 12400 10800 8690 4120 3780 4710 4680	79 39 60 43 31 14 10 13	216  205  178  131  95  29  23  30  26	2690 2720 2540 2410 1890 1120 948 1010	116 116 115 115 112 11 11 11 11 11 11 11 11 11 11 11 11	139 138 128 118 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 15	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1460 1230	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	0.04 0.05 0.08 0.04 0.09 5.7 <0.01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	0.44 0.28 0.42 0.29 0.6 0.59 7.65 8.35	0.44 0.52 0.42 0.29 0.6 0.59	7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 11-Jun-14 11-Jun-14 11-Mar-15 03-Jun-15 08-Sep-15 10-Mar-16 12-Jun-16 12-Jun-16 12-Jun-16 12-Jun-16 12-Jun-17 12-Jun	2 1300 2 1315 3 1050 1150 3 1050 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1150 3 1050 5 1320 6 1045 6 1045 6 1030 6 1045 6 1355 6 1340 7 1205 7 1355 7 1340 7 1325 7 1335 7 1340 7 1325	8.14 8.50 8.13 8.14 8.09 8.09 7.792 7.87 7.64 6.63 6.63 6.605 5.73 5.56 6.605 5.73 5.56 5.06 5.05 5.14 5.13 5.10 5.05 5.05 5.05 5.05 5.05 5.06 5.0	8.98 9.34 8.97 8.98 8.93 8.93 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.98 5.99 6.94 5.94 5.94 5.95 5.92 5.95 5.96 5.97 6.97 6.94 5.97 6.9	7.53 8.088 7.69 7.7 7.69 7.7 7.92 8.5 7.9 7.6 8.1 8.1 8.3 8.3 8.3 8.3 8.3 8.3 8.4 8.3 8.3 8.4 8.3 8.4 8.3 8.3 8.4 8.3 8.3 8.4 8.3 8.3 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4	9950 12440 10877 11100 11530 10800 1622C 9940 9200 10710 5010 3870 4460 4400 4430 4530 4560 4570 5380 5540 5580 6670	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.1 21.1 21.3 22.2 21 21.5 22.4 20 20.6 20.7 20.0 20.0 20.0 20.0 20.0 20.0 20.0	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05 0.04	0.002 0.001 0.002 0.002 0.002 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.003 1 0.003 1 0.002	0.13 1.76 1.11 1.1 0.3 0.13 0.13	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.003  0.007	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < 0.002 <	0.0004 0.0001 0.0002 0.0003 0.0007 0.0007 0.0001 0.0001 0.0001 0.0001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.023 <0.01 0.023 <0.01 0.023	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08	14400 14000 12400 10800 8690 4120 3780 4710 4680	79 39 60 43 31 14 10 13	216  205  178  131  95  29  23  30  26	2690 2720 2540 2410 1890 1120 948 1010	116 116 115 115 112 11 11 11 11 11 11 11 11 11 11 11 11	139 138 128 118 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	41 41 41 15 95	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	0.04 0.05 0.08 0.04 0.09 5.7 <0.01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	0.44 0.28 0.42 0.29 0.6 0.59 7.65 8.35	0.44 0.52 0.42 0.29 0.6 0.59 7.65	7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 11-Jun-14 29-Sep-14 11-Mar-15 03-Jun-15 10-Mar-16 10-Mar-16 24-Nov-16 24-Nov-16 25-Jan-17 23-Feb-17 29-Mar-17 29-Mar-17 26-Jul-17 29-Jun-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Sep	2 1300 2 1315 3 1050 1150 3 1050 1150 3 1150	8.14 8.50 8.13 8.14 8.09 7.92 7.87 7.64 7.29 6.94 6.63 6.05 5.73 5.06 6.36 6.05 5.54 5.17 5.06 5.54 5.17 5.06 6.36	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.99 5.98 6.04 5.97 5.97 5.92 5.99 5.85 5.87 5.99 5.85 5.87 5.99 5.85 5.87 5.99 5.85 5.87 5.99 5.88 5.89 5.89 5.89 5.89 5.89 5.89 5.89 6.98 6.	7.53 8.088 7.69 7.7 7.69 7.7 7.92 8.5 7.9 7.6 8.1 8.1 8.3 8.3 8.3 8.3 8.3 8.4 8.4 8.3 8.3 8.4 8.4 8.5 8.5 8.5 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6	9950 12440 110870 111100 11530 11820 9940 9200 10710 5010 3970 3650 4150 4450 4670 4400 4530 9590 5160 5340 5340 5340 5380 5490 5580 5870 66410	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.2 21 21.3 22.2 21.4 21.2 21.2 21.2 21.2 21.2 21.2	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05 0.04	0.002 0.001 0.002 0.002 0.002 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.003 1 0.003 1 0.002	0.13 1.76 1.11 1.1 0.3 0.13 0.13	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.003  0.007	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < 0.002 <	0.0004 0.0001 0.0002 0.0003 0.0007 0.0007 0.0001 0.0001 0.0001 0.0001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.023 <0.01 0.023 <0.01 0.023	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08	14400 14000 12400 10800 8690 4120 3780 4710 4680	79 39 60 43 31 14 10 13	216  205  178  131  95  29  23  30  26	2690 2720 2540 2410 1890 1120 948 1010	116 116 115 115 112 11 11 11 11 11 11 11 11 11 11 11 11	139 138 128 118 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	41 41 41 15 95	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	0.04 0.05 0.08 0.04 0.09 5.7 <0.01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	0.44 0.28 0.42 0.29 0.6 0.59 7.65 8.35	0.44 0.52 0.42 0.29 0.6 0.59 7.65	7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-11 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 11-Jun-14 11-Jun-14 11-Mar-15 03-Jun-15 08-Sep-15 10-Mar-16 02-Jun-16 25-Oct-16 25-Jun-16 25-Jun-17 29-Mar-17 29-Mar-17 29-Mar-17 29-Jun-17 20-Jun-17 20-Jun-18 20-Jun	2 1300 2 1315 3 1050 1150 3 1050 1 1015 3 1150 3 11	8.14 8.50 8.13 8.14 8.09 7.792 7.87 7.64 6.63 6.05 5.73 5.56 6.36 6.05 5.73 5.56 6.36 6.05 5.73 5.56 6.36	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.89 5.98 5.99 5.98 5.94 5.89 5.94 5.89 5.92 5.92 5.92 5.92 5.85 5.87 5.82 5.84 6.07	7.53 8.08 8.08 7.69 7.7 7.69 7.92 8.5 7.9 7.6 8.1 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.4 8.4 8.5 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6	9950 12440 10877 11100 11530 10800 16222 9940 9200 10710 5010 3970 3650 4150 4460 4430 4430 4570 4400 5530 5540 5540 5680 5870 6670 6610 6780 77010	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 22.9 21.2 21. 21.1 21.1 21.3 22.2 21.2 21.5 22.3 21.4 21.2 21.5 22.3 21.4 21.2 21.5 22.3 21.4 21.2 21.5 22.3 21.4 21.2 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 21.3	2.34 0.06 0.71 0.46 0.42 0.07 0.06 0.05 0.04	0.002 0.001 0.002 0.002 0.002 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.003 1 0.003 1 0.002	0.13 1.76 1.11 1.1 0.3 0.13 0.13	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.003  0.007	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < 0.002 <	0.0004 0.0001 0.0002 0.0003 0.0007 0.0007 0.0001 0.0001 0.0001 0.0001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.023 <0.01 0.023 <0.01 0.023	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08	14400 14000 12400 10800 8690 4120 3780 4710 4680	79 39 60 43 31 14 10 13	216  205  178  131  95  29  23  30  26	2690 2720 2540 2410 1890 1120 948 1010	116 116 115 115 112 11 11 11 11 11 11 11 11 11 11 11 11	139 138 128 118 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	41 41 41 15 95	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	0.04 0.05 0.08 0.04 0.09 5.7 <0.01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	0.44 0.28 0.42 0.29 0.6 0.59 7.65 8.35	0.44 0.52 0.42 0.29 0.6 0.59 7.65	7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 129-Sep-14 05-Dec-14 11-Jun-14 11-Mar-15 08-Sep-15 14-Dec-15 14-Dec-15 14-Dec-15 14-Dec-15 126-Sep-16 25-Dec-16 25-Jun-17 26-Jul-17 29-Mar-17 29-Mar-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 29-Jun-17 20-Dec-16 20-Dec-16 20-Dec-16 20-Dec-16 20-Dec-16 20-Dec-16 20-Dec-16 20-Dec-17 20-Dec-18 20-D	2 1300 2 1315 3 1305 2 1315 3 135 5 135 5 1355 7 1240 7 1340 7 1340 7 1340 7 1340 7 1345 8 1330 8 1255 8 1330 8 1325 7 1340 7 13	8.14 8.50 8.13 8.14 8.09 7.792 7.87 7.64 6.63 6.05 5.73 6.64 6.05 5.73 5.06 6.36 6.05 5.73 6.14 5.00 5.10 5.00	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.98 5.97 5.99 5.92 5.91 5.92 5.93 5.85 5.87 5.87 5.82 5.84 6.07 5.93	7.53 8.088 7.69 7.7 7.69 7.7 7.69 7.92 8.5 7.9 7.6 8.1 8 8.3 8.3 8.3 8.4 8.4 8.4 8.6 8.6 8.6 8.6 8.8 8.6 8.8 8.8 8.8 8.8	9950 12440 10877 11100 11530 10800 16220 9940 9200 10710 5010 3970 3650 4150 4450 4450 4450 4530 9690 4910 5340 5340 5340 5580 5870 6610 6780 7010 71500 7230	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.9 21.9 21.2 21 21.1 21.3 22.2 21 21.4 21.2 20.6 20.6 20.6 20.7 21.2 21.4 21.2 21.5 21.3 21.4 21.2 21.4 21.2 20.6 20.6 20.6 20.7 21.9 21.9 21.9 21.9 21.9 21.9 21.9 21.9	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.002 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.003 1 0.003 1 0.002	0.13 1.76 1.11 1.1 0.3 0.13 0.13	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.003  0.007	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < 0.002 <	0.0004 0.0001 0.0002 0.0003 0.0007 0.0007 0.0001 0.0001 0.0001 0.0001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.023 <0.01 0.023 <0.01 0.023	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08	14400 14000 12400 10800 8690 4120 3780 4710 4680	79 39 60 43 31 14 10 13	216  205  178  131  95  29  23  30  26	2690 2720 2540 2410 1890 1120 948 1010	116 116 115 115 112 11 11 11 11 11 11 11 11 11 11 11 11	139 138 128 118 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	41 41 41 15 95	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	0.04 0.05 0.08 0.04 0.09 5.7 <0.01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	0.44 0.28 0.42 0.29 0.6 0.59 7.65 8.35	0.44 0.52 0.42 0.29 0.6 0.59 7.65	7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 11-Jun-14 11-Jun-14 11-Mar-15 03-Jun-15 03-Jun-15 10-Mar-16 10-Jun-16 10-Jun-16 10-Jun-16 10-Jun-16 10-Jun-16 10-Jun-16 10-Jun-17 10-Jun	2 1300 2 1315 3 1050 1150 3 1050 1150 3 1050 1 1015 4 1040 1 1015 4 1040 1 1015 5 1050 5 1320 6 1045 6 1045 6 1030 6 1045 6 1355 7 1240 7 1205 7 1355 7 1340 7 1325 7 1340 7 1325 7 1340 7 1325 7 1340 7 1325 7 1415 3 1305 8 1415 3 1305 8 1255 8 1350 7 1445 7 1325 7 1445 7 1325 7 1445 8 1306 8 1415 8 1306 8 1415 8 1306 8 1415 8 1306 8 1255 8 1415 8 1306 8 1415 8 1306 8 1255 8 1415 8 1306 8 1415 8 1415 8 1306 8 1415 8 1415 8 1306 8 1415	8.14 8.50 8.13 8.14 8.09 7.92 7.87 7.64 7.29 6.94 6.36	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.97 6.98 6.04 5.97 5.98 5.97 6.98 6.04 5.99 5.87 5.87 5.99 5.87 5.87 5.89 5.87 5.89 5.87 5.87 5.89 5.89 5.87 5.89 5.87 5.89 5.87 5.89 5.87 5.87 5.87 5.87 5.89 5.89 5.87 5.89 5.87 5.89 5.87 5.89 5.87 5.89 5.87 5.89 5.	7.53 8.08 8.08 8.08 7.69 7.7 7.69 7.7 7.69 8.5 7.9 8.5 7.9 8.8 8.3 8.3 8.3 8.4 8.4 8.4 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.8	9950 12440 11870 11100 11530 11800 11620 9940 10710 5010 3970 3970 3430 3650 4150 4460 4670 4400 4430 5340 5540 5540 5580 5870 6670 6670 6710 77150 77210	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.1 21.3 22.2 21 21.5 22.3 21.4 21.2 21 21.5 22.4 21.5 22.1 21.5 22.1 21.5 22.1 21.5 22.1 21.1 21	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.002 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.003 1 0.003 1 0.002	0.13 1.76 1.11 1.1 0.3 0.13 0.13	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.003  0.007	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < 0.002 <	0.0004 0.0001 0.0002 0.0003 0.0007 0.0007 0.0001 0.0001 0.0001 0.0001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.023 <0.01 0.023 <0.01 0.023	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08	14400 14000 12400 10800 8690 4120 3780 4710 4680	79 39 60 43 31 14 10 13	216  205  178  131  95  29  23  30  26	2690 2720 2540 2410 1890 1120 948 1010	16 16 15 15 12 12 8 4 4 4	139 138 128 118 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	41 41 41 15 95	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	0.04 0.05 0.08 0.04 0.09 5.7 <0.01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	0.44 0.28 0.42 0.29 0.6 0.59 7.65 8.35	0.44 0.52 0.42 0.29 0.6 0.59 7.65	7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 05-Dec-14 11-Mar-15 03-Jun-15 03-Jun-15 03-Jun-15 10-Mar-16 26-Sep-16 26-Sep-16 25-Oct-16 25-Jun-17 29-Mar-17 29-Mar-17 29-Mar-17 29-Jun-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 26-Jul-17 29-Jun-17 29-Jun-17 29-Jun-17 20-Sep	2 1300 2 1315 3 1050 1150 3 1050 1 150 3 150 1 150 3 150 1 1	8.14 8.50 8.13 8.14 8.09 7.79 7.87 7.64 7.64 6.63 6.05 5.73 6.64 6.36 6.05 5.73 5.06 5.55 5.54 5.17 5.00	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.98 5.97 5.9 5.92 5.92 5.93 5.84 6.07 5.93 5.84 6.07 5.93 5.93 5.84 6.07 5.93 5.84 6.07 5.93 5.84 6.07 5.93 5.84 6.07 5.93 5.84 6.07 5.93 5.85 5.87 5.99 5.89 5.89 5.89 5.89 5.89 5.89 5.89 5.89 5.99 5.89 5.89 5.89 5.99 5.89 5.89 5.89 5.89 5.99 5.99 5.89 5.89 5.89 5.89 5.99 5.89 5.89 5.99 5.89 5.89 5.89 5.89 5.99 5.89 5.89 5.89 5.89 5.89 5.99 5.89 5.89 5.89 5.89 5.89 5.89 5.89 5.99 5.80 5.8	7.53 8.088 7.69 7.7 7.69 7.7 7.69 7.9 7.9 8.5 7.9 7.6 8.1 8 8.3 8.3 8.3 8.3 8.4 8.4 8.6 8.6 8.6 8.6 8.8 8.6 8.8 8.6 8.8 8.8	9950 12440 108770 11100 11530 10800 10800 10800 10900 10710 5010 3970 3650 4150 4450 4460 4670 4400 4530 9690 4910 5340 5340 5340 5380 670 670 670 6710 77230 77230 77240	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.3 22.2 21 21.4 21.2 20.6 20.6 20.7 21.2 21.4 21.5 22.3 21.4 21.5 22.3 21.4 21.5 20.6 20.6 20.7 21.2 21.9 20.6 20.7 21.2 21.9 20.6 20.7 21.2 21.9 20.6 20.7 21.2 21.9 20.9 21.1 21.1 21.3 20.6 20.6 20.7 21.2 21.1 21.3 20.6 20.6 20.7 20.9 20.9 21.3 21.9 20.9 20.9 20.1	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.002 0.002 0.002	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.042 1 0.014 1 0.003 1 0.003 1 0.002	0.13 1.76 1.11 1.1 0.3 0.13 0.13	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.003  0.007	0.076 ( <0.001 < 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < 0.002 <	0.0004 0.0001 0.0002 0.0003 0.0007 0.0007 0.0001 0.0001 0.0001 0.0001	0.01 0.042 <0.01 0.012 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.023 <0.01 0.023 <0.01 0.023	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08	14400 14000 12400 10800 8690 4120 3780 4710 4680	79 39 60 43 31 14 10 13	216  205  178  131  95  29  23  30  26	2690 2720 2540 2410 1890 1120 948 1010	16 16 15 15 12 12 8 4 4 4	139 138 128 118 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	41 41 41 15 95	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	0.04 0.05 0.08 0.04 0.09 5.7 <0.01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	0.44 0.28 0.42 0.29 0.6 0.59 7.65 8.35	0.44 0.52 0.42 0.29 0.6 0.59 7.65	7800 7470 5920 4590 2250 2290 2800
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 11-Jun-14 11-Jun-14 11-Mar-15 03-Jun-15 08-Sep-15 10-Mar-16 10-Sep-15 10-Mar-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-17 10-Sep	2 1300 2 1315 3 1050 1150 3 1050 1150 3 1050 1150 3 1050 1150 11	8.14 8.50 8.13 8.14 8.09 7.92 7.87 7.64 7.29 6.94 6.36 6.05 5.73 6.36 6.05 5.73 6.36 6.05 5.73 6.05 5.73 6.05 5.74 5.17 5.00	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.42 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.97 6.98 6.04 5.97 6.98 6.97 6.98 6.97 6.98 6.97 6.98 6.99 6.99 6.98 6.99 6.	7.53 8.088 7.69 7.7 7.699 7.7 7.699 8.5 7.9 8.5 7.9 8.8 8.3 8.3 8.2 7.9 8 8.3 8.4 8.4 8.5 8.4 8.5 8.4 8.6 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.8	9950 12440 11870 11100 11530 11800 11800 11800 10800 10910 10910 3970 3330 3650 4150 4460 4470 4400 4430 5340 5540 5540 5580 5870 6610 6770 6610 77150 77230 77210 7720 77040 73300 8370	22.7 22.3 20.8 22.4 21.9 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.1 21.3 22.2 21.2 21.5 22.4 20 20.9 21.9 21.9 21.1 21.1 21.3 22.2 21.5 22.1 21.1 21.3 21.2 21.2 21.9 20.6 20.6 20.6 20.6 20.6 20.6 20.9 21.4 20.9 21.4 20.9 21.9 20.9 21.9 20.9 20.9 20.9 20.9 20.9 20.9 20.9 20	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.004 0.002 0.003	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085 0.061	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.014 1 0.006 1 0.003 1 0.002	3.77 0.13 1.76 1.11 1.1 0.3 0.13 0.11 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.007	0.076 ( <0.001 < 0.032 ( 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < <0.001 <	0.004 0.001 0.002 0.003 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	0.01 0.042 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023 <0.01 0.023 <0.01 0.017 <0.01 0.020	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08 8.54	14400 14000 12400 10800 8690 4120 4710 4680	79 39 60 43 31 14 10 13 13 20	216 205 178 131 95 29 23 30 26	2690 2720 2540 2410 1890 1120 948 959 1010	16 116 115 112 112 11 11 11 11 11 11 11 11 11 11 1	139 138 128 118 91.8 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	<01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	1.76  0.44  0.28  0.42  0.29  0.6  0.59  7.65  8.35	0.44 0.52 0.42 0.29 0.6 0.59 7.65	7800 7470 5920 4590 2250 2290 2800 2480
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 129-Sep-14 05-Dec-14 11-Mar-15 10-Mar-16 11-Mar-15 10-Mar-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-17 10-Se	2 1300 2 1315 3 1050 1015 3 1050 1015 3 1050 1015 3 1050 1015 3 1050 1015 3 1050 1015 3 1050 1015 3 1015 1015	8.14 8.50 8.13 8.14 8.50 8.14 8.09 7.792 7.87 7.64 6.63 6.05 5.73 5.56 6.36 6.05 5.57 5.10 5.06 5.08 5.00 5.08 5.09 5.09 5.09 5.09 5.09 5.09 5.09 5.09	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.98 5.98 5.98 5.99 5.92 5.92 5.85 5.87 5.85 5.87 5.82 6.03 5.93 5.89 6.07 5.99 5.89 6.01 5.99 5.89 6.01 5.99 5.89 6.01 5.99 5.89 6.01 5.99 5.89 6.01 5.99 5.89 6.01 5.99 5.89 6.01 6.0	7.53 8.088 7.69 7.7 7.69 7.7 7.69 7.92 8.5 7.9 7.6 8.1 8 8.3 8.3 8.3 8.4 8.4 8.5 8.6 8.6 8.6 8.5 8.4 8.3 8.2 8.2 8.4 8.3 8.4 8.5 8.6 8.6 8.6 8.6 8.8 8.6 8.6 8.8 8.6 8.6	9950 12440 110870 11100 11530 10800 16222 9940 9200 10710 5010 3970 3650 4450 4460 4450 450 450 5540 5540 554	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 21.9 21.6 20.7 21.2 21 21.2 21 21.2 21 21.3 21.2 21.2	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.004 0.002 0.003	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085 0.061	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.014 1 0.006 1 0.003 1 0.002	3.77 0.13 1.76 1.11 1.1 0.3 0.13 0.11 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.007	0.076 ( <0.001 < 0.032 ( 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < <0.001 <	0.004 0.001 0.002 0.003 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	0.01 0.042 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023 <0.01 0.023 <0.01 0.017 <0.01 0.020	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08 8.54	14400 14000 12400 10800 8690 4120 4710 4680	79 39 60 43 31 14 10 13 13 20	216 205 178 131 95 29 23 30 26	2690 2720 2540 2410 1890 1120 948 959 1010	16 116 115 112 112 11 11 11 11 11 11 11 11 11 11 1	139 138 128 118 91.8 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	<01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	1.76  0.44  0.28  0.42  0.29  0.6  0.59  7.65  8.35	1.76  0.44  0.52  0.42  0.29  0.6  0.59  7.65  8.35	7800 7470 5920 4590 2250 2290 2800 2480
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 05-Dec-14 10-Mar-15 03-Jun-15 08-Sep-15 14-Dec-15 14-Dec-15 14-Dec-15 14-Dec-16 26-Sep-16 26-Sep-16 26-Sep-16 25-Jun-17 29-May-17 26-Apr-17 29-May-17 29-May-17 29-May-17 29-May-17 20-Dec-16 20-Dec-16 21-Dec-16 25-Jun-17 29-May-17 26-Jul-17 29-May-17 29-May-17 20-Dec-17 29-May-17 20-Dec-18 30-Apr-18	2 1300 2 1315 3 1050 1150 3 1050 1 1015 1 10	8.14 8.50 8.13 8.14 8.99 8.17 8.99 8.99 8.97 8.76 8.99 8.99 8.90 8.90 8.90 8.90 8.90 8.90	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.99 5.98 6.04 5.97 5.92 5.93 5.87 5.97 6.93 6.	7.53 8.08 8.08 8.08 7.69 7.7 7.69 7.7 7.69 7.9 8.5 7.9 7.6 8.1 8 8.3 8.3 8.3 8.4 8.4 8.3 8.3 8.3 8.4 8.5 8.4 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.6 8.8 8.7 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9	9950 12440 108770 11100 11530 11820 19940 9200 10710 5010 3970 3650 4150 4460 4670 44400 4530 9590 4910 5380 5380 5380 5490 5380 5680 570 6710 7150 7230 7210 7040 7330 8490 9410 9310	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20 20 21.9 21.9 21.1 21.1 21.3 22.2 21 21.4 21.2 21 21.4 20.6 20.6 20.7 21.2 21 21.1 21.3 21.3 22.2 21.4 20.6 20.6 20.7 21.2 21 21.4 20.6 20.6 20.7 21.2 21.4 20.6 20.6 20.6 20.7 21.1 21.3 21.5 22.3 21.4 20.6 20.6 20.6 20.6 21.3 20.9 20.1 20.6 20.6 20.9 21.3 20.6 20.6 20.6 20.6 20.6 20.6 20.6 20.6	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.004 0.002 0.003	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085 0.061	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.014 1 0.006 1 0.003 1 0.002	3.77 0.13 1.76 1.11 1.1 0.3 0.13 0.11 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.007	0.076 ( <0.001 < 0.032 ( 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < <0.001 <	0.004 0.001 0.002 0.003 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	0.01 0.042 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023 <0.01 0.023 <0.01 0.017 <0.01 0.020	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08 8.54	14400 14000 12400 10800 8690 4120 4710 4680	79 39 60 43 31 14 10 13 13 20	216 205 178 131 95 29 23 30 26	2690 2720 2540 2410 1890 1120 948 959 1010	16 116 115 112 112 11 11 11 11 11 11 11 11 11 11 1	139 138 128 118 91.8 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	<01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	1.76  0.44  0.28  0.42  0.29  0.6  0.59  7.65  8.35	1.76  0.44  0.52  0.42  0.29  0.6  0.59  7.65  8.35	7800 7470 5920 4590 2250 2290 2800 2480
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 129-Sep-14 05-Dec-14 11-Mar-15 10-Mar-16 11-Mar-15 10-Mar-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-16 10-Sep-17 10-Se	2 1300 2 1315 3 1050 1150 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 1050 1 1015 3 10	8.14 8.50 8.13 8.14 8.09 7.792 7.87 7.64 6.63 6.05 5.73 6.64 6.05 5.73 6.10 5.06 6.36 6.05 5.54 5.17 5.06 6.36 6.05 5.54 5.17 5.06 6.36 6.36 6.36 6.36 6.36 6.36 6.36 6	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.98 5.98 5.97 5.99 5.85 5.87 5.85 5.87 5.82 6.01 5.99 5.93 5.89 6.01 5.99 5.89 5.89 5.89 5.89 5.89 5.89 5.89 5.89 5.89 5.99 5.99 5.89 5.99 5.89 6.01 5.97 5.89 5.89 5.89 5.89 6.01 5.99 5.8	7.53 8.088 7.69 7.7 7.69 7.7 7.69 7.7 7.69 7.7 7.69 8.5 7.9 7.6 8.1 8.8 8.3 8.3 8.3 8.4 8.4 8.5 8.6 8.6 8.6 8.5 8.4 8.3 8.2 8.2 8.2 8.4 8.3 8.3 8.4 8.6 8.6 8.7 8.9 8.8 8.7 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9	9950 12440 108770 11100 11530 108000 16220 9940 9200 10710 5010 3970 3650 4150 4460 4470 4430 9690 4910 5340 5340 5340 5540 670 670 6770 6780 7710 7720 77210 77210 77210 77210 77210 77210 77230 77330 8370 8490 9410 9410 9350	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.1 21.1 21.1 21.2 21.2 21.2	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.004 0.002 0.003	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085 0.061	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.014 1 0.006 1 0.003 1 0.002	3.77 0.13 1.76 1.11 1.1 0.3 0.13 0.11 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.007	0.076 ( <0.001 < 0.032 ( 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < <0.001 <	0.004 0.001 0.002 0.003 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	0.01 0.042 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023 <0.01 0.023 <0.01 0.017 <0.01 0.020	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08 8.54	14400 14000 12400 10800 8690 4120 4710 4680	79 39 60 43 31 14 10 13 13 20	216 205 178 131 95 29 23 30 26	2690 2720 2540 2410 1890 1120 948 959 1010	16 116 115 112 112 11 11 11 11 11 11 11 11 11 11 1	139 138 128 118 91.8 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	<01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	1.76  0.44  0.28  0.42  0.29  0.6  0.59  7.65  8.35	1.76  0.44  0.52  0.42  0.29  0.6  0.59  7.65  8.35	7800 7470 5920 4590 2250 2290 2800 2480
Format.	Napperby	02-Sep-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Dec-12 10-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 11-Jun-14 11-Jun-14 11-Mar-15 03-Jun-15 08-Sep-15 10-Mar-16 10-Sep-15 10-Mar-16 10-Sep-16 10-Sep-16 10-Sep-17 10-Mar-17 10-Sep	2 1300 2 1315 3 1050 1150 3 1050 1 1015 4 1140 1 1015 4 1015 5 1110 5 1005 5 1320 6 1045 6 1045 6 1030 6 1045 6 1355 7 1240 7 1205 7 1335 7 1340 7 1325 7 7 1340 7 1325 7 7 1335 7 7 1340 7 1325 7 7 1335 7 7 1340 7 1325 7 7 1335 7 7 1340 7 1325 7 7 1335 7 7 1340 7 1325 7 7 1335 7 7 1340 7 1325 7 7 1335 7 7 1340 7 1325 7 7 1335 7 7 1340 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 1325 7 7 13	8.14 8.50 8.13 8.14 8.99 8.17 7.92 7.87 7.64 7.29 6.94 6.63 6.63 6.63 6.63 6.53 6.63 6.53 6.63 6.6	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.99 5.98 6.04 5.97 5.92 5.97 5.92 5.93 5.82 5.84 6.03 5.99 5.87 5.99 5.87 5.99 5.87 5.99 5.87 5.99 5.87 5.99 5.87 5.99 5.87 5.99 5.87 5.99 5.87 5.99 5.89 5.89 5.99 5.89 5.99 5.89 5.99 5.89 5.89 5.89 5.99 5.89 5.89 5.89 5.89 5.99 5.89 5.89 5.89 5.89 5.89 5.99 5.89 5.99 5.89 5.89 5.99 5.89 5.99 5.89 5.99 5.89 5.99 5.89 5.99 5.89 5.99 6.99 6.	7.53 8.088 7.69 7.7 7.69 7.7 7.69 7.7 7.69 8.5 7.9 7.6 8.1 8 8.3 8.3 8.3 8.4 8.3 8.3 8.4 8.3 8.3 8.4 8.5 8.4 8.3 8.3 8.4 8.5 8.4 8.6 8.8 8.6 8.8 8.6 8.8 8.7 9.7 9.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7	9950 12440 10870 11100 11530 11800 16220 9940 9200 10710 5010 3970 3650 4150 4460 4670 4400 4430 5160 5160 5340 5340 5380 5490 5470 5470 5720 7040 7730 7220 7040 7730 8490 9410 9410 9580 9310 9680 9310	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.1 21.3 22.2 21.2 21.2 21.5 22.3 21.4 20.6 20.6 20.6 20.7 21.2 21 21.1 21.3 21.2 21 21.2 21 21.3 21.4 20.6 20.6 20.6 20.6 20.6 20.6 20.6 20.6	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.002 0.004 0.002 0.003	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085 0.061	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.014 1 0.006 1 0.003 1 0.002	3.77 0.13 1.76 1.11 1.1 0.3 0.13 0.11 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.007	0.076 ( <0.001 < 0.032 ( 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < <0.001 <	0.004 0.001 0.002 0.003 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	0.01 0.042 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023 <0.01 0.023 <0.01 0.017 <0.01 0.020	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08 8.54	14400 14000 12400 10800 8690 4120 4710 4680	79 39 60 43 31 14 10 13 13 20	216 205 178 131 95 29 23 30 26	2690 2720 2540 2410 1890 1120 948 959 1010	16 116 115 112 112 11 11 11 11 11 11 11 11 11 11 1	139 138 128 118 91.8 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	<01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	1.76  0.44  0.28  0.42  0.29  0.6  0.59  7.65  8.35	1.76  0.44  0.52  0.42  0.29  0.6  0.59  7.65  8.35	7800 7470 5920 4590 2250 2290 2800 2480
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 11-Jun-14 11-Jun-14 11-Mar-15 03-Jun-15 08-Sep-15 14-Dec-15 10-Mar-16 26-Sep-16 25-Oct-16 25-Jan-17 26-Jun-18 26-Jul-17 29-Mar-17 29-Mar-17 29-Mar-17 29-Mar-17 29-Mar-17 29-Jun-17 29-Jun-17 20-Dec-17 30-Jan-18 28-Mar-18 30-Aug-18 28-Feb-18 28-Mar-18 30-Aug-18 28-Nov-18 21-Dec-18 31-Jan-19 21-Teb-19	2 1300 2 1315 3 1315 3 1320 6 1045 6 1030 6 1320 6 1045 6 1320 6 1030 6 1330 7 1340 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1345 7 1355 7 1345 7 1345 7 1355 7 1345 7 1355 7 1345 7 1355 7 1355 7 1345 7 1355 7	8.14 8.50 8.13 8.14 8.50 8.14 8.09 7.79 7.87 7.64 6.63 6.63 6.63 6.63 6.55 5.73 5.56 5.54 5.17 5.06 5.55 5.14 5.07 5.08 5.08 5.09 6.08 5.19 5.10 5.08 5.08 5.08 5.09 5.10 5.08 5.08 5.10 5.08 5.08 5.09 5.10 5.08 5.08 5.09 5.10 5.08 5.10 5.08 5.10 5.08 5.08 5.09 5.10 5.08 5.10 5.08 5.10 5.08 5.10 5.10 5.10 5.10 5.10 5.10 5.10 5.10	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 7.2 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.89 5.98 5.92 5.92 5.92 5.92 5.92 5.93 5.95 5.87 5.87 5.89 6.01 5.97 5.98 6.01 5.99 6.03 6.01 6.01 6.01 6.01 6.02 6.03 6.04 6.05 6.04 6.05 6.05 6.06 6.07 6.07 6.07 6.09 6.07 6.07 6.09 6.07 6.09 6.07 6.09 6.07 6.09 6.09 6.00 6.0	7.53 8.08 8.08 7.69 7.7 7.69 7.7 7.69 7.7 7.69 7.69 7.	9950 12440 10877 11100 11530 10800 16222 9940 9200 10710 5010 3970 3650 4450 4460 4430 4430 4530 9690 4910 5340 5340 5540 5680 5680 6700 6410 7150 7210 7020 7040 7330 8490 9310 9350 9370 9940 9370 9940	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 22.9 21.6 20.7 21.2 21 21.1 21.3 22.2 21 21.2 21.2 21.	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.001 0.002 0.002 0.003	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085 0.061	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.014 1 0.006 1 0.003 1 0.002	3.77 0.13 1.76 1.11 1.1 0.3 0.13 0.11 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.007	0.076 ( <0.001 < 0.032 ( 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < <0.001 <	0.004 0.001 0.002 0.003 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	0.01 0.042 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023 <0.01 0.023 <0.01 0.017 <0.01 0.020	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08 8.54	14400 14000 12400 10800 8690 4120 4710 4680	79 39 60 43 31 14 10 13 13 20	216 205 178 131 95 29 23 30 26	2690 2720 2540 2410 1890 1120 948 959 1010	16 116 115 112 112 11 11 11 11 11 11 11 11 11 11 1	139 138 128 118 91.8 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	<01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	1.76  0.44  0.28  0.42  0.29  0.6  0.59  7.65  8.35	1.76  0.44  0.52  0.42  0.29  0.6  0.59  7.65  8.35	7800 7470 5920 4590 2250 2290 2800 2480
Format.	Napperby	02-Sep-12 10-Dec-12 07-Mar-13 03-Jul-13 04-Sep-13 27-Nov-13 05-Mar-14 11-Jun-14 29-Sep-14 05-Dec-14 10-Mar-15 03-Jun-15 08-Sep-15 14-Dec-15 14-Dec-15 14-Dec-15 14-Dec-16 26-Sep-16 26-Sep-16 26-Sep-16 26-Sep-16 25-Jun-17 29-May-17 29-May-17 29-May-17 29-May-17 20-Dec-16 26-Jun-17 29-May-17 20-Dec-16 30-Apr-19 20-May-17 21 29-May-17 26-Sep-17 30-Jan-18 28-Mar-18 30-Aug-18 28-Mar-18 30-Aug-18 28-Mar-18 30-Aug-18 28-Mar-18 30-Aug-18 28-Mar-18 30-Aug-18 28-Mar-18 30-Aug-18 27-Feb-19 27-Feb-19 27-Feb-19 27-Feb-19 31-Jun-19 31-	2 1300 2 1315 3 1315 3 1050 1 1315 3 135 5 1 135 6 1320 5 1 135 6 1320 6 1 135 6 1320 6 1 135 6 1320 6 1 135 6 1320 6 1 135 6	8.14 8.50 8.13 8.14 8.99 8.17 8.99 8.99 8.94 8.99 8.94 8.63 8.63 8.63 8.63 8.63 8.63 8.63 8.63	8.98 9.34 8.97 8.98 8.93 8.91 8.76 8.71 8.48 8.13 7.78 7.47 6.89 6.57 6.4 6.38 6.01 5.9 5.88 5.99 5.98 6.04 5.97 5.92 5.93 5.95 5.97 6.94 6.04 5.99 5.97 5.99 5.97 5.99 5.87 5.99 5.87 5.99 5.99 5.89 5.99 5.89 5.99 5.89 5.99 5.89 5.99 5.89 5.99 6.00 5.99 5.99 6.00 5.99 5.99 6.00 5.99 6.00 5.99 6.00 5.99 6.00 5.99 6.00 5.99 6.00 6.	7.53 8.088 7.69 7.7 7.69 7.7 7.69 7.7 7.92 8.5 7.9 7.6 8.1 8 8.3 8.3 8.3 8.4 8.3 8.3 8.4 8.3 8.3 8.4 8.5 8.4 8.3 8.3 8.4 8.6 8.6 8.8 8.6 8.8 8.6 8.8 8.7 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9 8.9	9950 12440 108770 11100 11530 11800 16220 9940 9200 10710 5010 3970 3650 4150 4460 4460 4460 4450 4450 4530 9690 4910 5340 5340 5340 5680 5870 6610 6770 6770 6770 7020 7040 7330 8490 9410 9350 9310 9680 9370	22.7 22.3 20.8 22.4 21.9 22.5 20.3 22.7 21.5 22.4 20 20 20 20 21.2 21 21.3 22.2 21 21.3 22.2 21 21.4 21.5 22.3 21.4 21.2 21 21.5 22.3 21.4 20.6 20.6 20.7 21.2 21 21.1 21.3 22.2 21 21.4 20.6 20.6 20.7 21.1 21.5 21.5 22.3 21.4 20.6 20.6 20.6 21.1 21.5 21.5 21.5 21.5 21.5 21.5 21.5	2.34  0.06  0.71  0.46  0.42  0.07  0.06  0.05  0.04  <0.01	0.002 0.001 0.002 0.001 0.002 0.002 0.003	0.259 0.145 0.188 0.146 0.136 0.093 0.074 0.085 0.061	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	0.006 0.001 0.002 <0.00 0.001 <0.00 0.004 <0.00 0.002 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00 <0.001 <0.00	0.01 1 0.002 1 0.054 1 0.014 1 0.006 1 0.003 1 0.002	3.77 0.13 1.76 1.11 1.1 0.3 0.13 0.11 0.07	0.061  0.005  0.031  0.01  0.011  0.008  0.006  0.007	0.076 ( <0.001 < 0.032 ( 0.032 ( 0.028 ( 0.037 ( 0.005 ( 0.002 < 0.002 < 0.002 < <0.001 <	0.004 0.001 0.002 0.003 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0	0.01 0.042 <0.01 0.079 <0.01 0.069 <0.01 0.073 <0.01 0.041 <0.01 0.023 <0.01 0.023 <0.01 0.023 <0.01 0.017 <0.01 0.020	0.0002 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	7.83 7.73 8.03 7.97 8.04 8.29 8.32 8.08 8.54	14400 14000 12400 10800 8690 4120 4710 4680	79 39 60 43 31 14 10 13 13 20	216 205 178 131 95 29 23 30 26	2690 2720 2540 2410 1890 1120 948 959 1010	16 116 115 112 112 11 11 11 11 11 11 11 11 11 11 1	139 138 128 118 91.8 91.8 52.1 43.8 44.9 46.8	3720 3370 2520 1590 544 405 851 758	839 735 632 552 428 155 125 126 126	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	1100 1130 1160 1240 1140 1220 1040 951	1100 1130 1160 1240 1140 1240 1040 1040 1040	154 143 131 107 76.5 47.7 38.6 44.8	5 1.91 1.14 4.72 9.02 4.3 6.2 2.94 2.18	<01	<0.01 -(0.01 -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01) -(0.01)	1.76  0.44  0.28  0.42  0.29  0.6  0.59  7.65  8.35	1.76  0.44  0.52  0.42  0.29  0.6  0.59  7.65  8.35	7800 7470 5920 4590 2250 2290 2800 2480

	_ e			ater	힏		ield Param	eters	+	_				I	Total Me	tais						— <u>`</u>		5	. —	Major	Cations		ė	$\vdash$		Major Anions		na	:	9	S as	<u> </u>	ż	- 18/	ved
e D	mete er Bo	ate	me	to Wi	th to Sta mbtoc		EC - Field	Temp -	Aluminium (Al) - mg/L	Arsenic	Barium	Beryllium	Cadmium	Chromium (Cr) - mg/L	Cobalt	Copper	Iron Lea	Man	gane Nicke	el Vana	dium Zinc	(Zn) (Zn)	<u>.</u>	- Lab	Calci	um Magnesiu	Sodium	Potassiu	Total Cation meq/L	Chloride	Sulfate Hydro	cos - as Caco mg/L	ate itv	Alkalinit	h lior	Balan	onia gen (	e as I	e as   g/L	ż	issol
is is	ezol	^	F	ž E	를 를 를	pH - Fiel	d μs/cm	Field - °C	(AI) - mg/L	(As) -	(Ba) -	Beryllium (Be) - mg/L	(mg/L)	(Cr) - mg/L	(Co) -	(Cu) -	Iron Lea (Fe) - (Pb mg/L mg	- se (N	ln) - (Ni) - mg/L	(V) - r	dium Zinc mg/L - mg	/L no	E   7	됩	(Ca) - mg/L	m (Mg) - mg/L	(Na) - mg/L	m (K) - mg/L	1 ta 1	(CI) - mg/L	(SO4) - Alkali as Cat	:03 - as CaC	O3 - Alkalini	mg/L	tal Ar	- i	it a	i i i	itra	as ×	문문
	<u>i</u> >			Pe	Dep					IIIg/L	IIIg/L	IIIg/L			IIIg/L	IIIg/L	ilig/L lilig	L IIIg/L	illg/L			Σ		EC.	IIIg/L	IIIg/L	IIIg/L	IIIg/L	P	IIIg/L	mg/L	mg/L	mg/L	13 -	ľ	2		Z	Z	Š.	P
ANZECC Guideline	- stock drinking v								5	0.5			0.01		1	1	- (		1		20		_		100						1000							1500	400		4000
		24-Sep-19		5.20		8	10340		0.03	1 0.001	0.192	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.05 <0.0	01 <0.00	0.00	1 <0.01	<0.0	0.00	01	8.37 105	500	48 11	4 20	80 7	10	3630	372 <1		23 6	94 7	17	124 9.	71 0.0	1 <0.01	13.1	13.1	5700
		29-Oct-19		5.21		7.8		20.8							_										$\perp$		_												$\longrightarrow$		ı——
		29-Nov-19		5.19		7.8		21.1														_			—					—						_			++		
		18-Dec-19				7.8			-						-				_	_		_		_	_		_			_					_	_			+-+		
		31-Jan-20				7.8		21.4	+	+					-			_	_	_		_	_	_	+		+	+	<u> </u>	-			_		+	_	+		++	$\longrightarrow$	
		27-Feb-20 30-Apr-20		5.12	5.96 5.95	7.8 7.7	10340 8960	21.6	+						-			_	_	_		-	_	_	+				<u> </u>	+		_			-		+		++		
		26-May-20		5.11		7.7			+	_					_			_	_	_		_	_	_	+	_	_	_	-	-		_		_	_	-	+	_	+	$\rightarrow$	
		25-Jun-20		5.07		7.7	8950	20.9	+	_					_					_		_	_		+	_			1	<del>                                     </del>	<del>                                     </del>				_	_	+		++		
		23-Jul-20		5.05		7.9			+	+					<del>                                     </del>				_	_			_		+		+			+					_		+		+	$\longrightarrow$	
		08-Aug-20		5.04			+		1	+					<del>                                     </del>			_	_	_		_	-	_	+		+	+	t -	<del>                                     </del>		_		_	+		+-	+	$\vdash$	$\rightarrow$	
		28-Aug-20		5.06		7.7	9160	18.3	<u> </u>																$\top$										1		+-		$\vdash$	$\rightarrow$	
		23-Sep-20		4.99		7.47			0.15	5 0.002	0.191	<0.001	<0.0001	0.002	<0.001	<0.001	0.25	0.001 0	.007 0.	001 < 0.01	<0.0	0.0	001	7.93 90	30	49 12	0 20	80 7	10:	3090	419 <1	<1	7	71 7	71	111 3.	.88 <0.01	<0.01	12	12	6180
		28-Oct-20	1155	5.00	5.84	8.1	9610	18.5	1																															$\neg$	<i></i>
		27-Nov-20	1325	5.01	5.85	8.1	9690	18.9																						1										$\neg$	
		18-Dec-20	900	4.96	5.8	7.47	10354	16.5							1									7.99 107	700	46 10	8 19	60 7	96.0	3010	497 <1	<1	7	68 7	68	111 6.	75			$\neg$	5930
		23-Dec-20	1215	4.98	5.82	8	9870	18.1																	$\neg$															$\neg$	
		27-Jan-21		4.96		7.9																																			
		02-Mar-21		4.92		7.8	9700	20																																	
		26-Mar-21		4.79		7.7	10825																	7.95 110	000	56 12	9 21	50 10	10	7 3110	450 <1	<1	- 6	38 6	38	110 1.	22 0.0	2 <0.01	11.9	11.9	6780
		30-Mar-21		4.90		7.8									_			_									_					_					4		$\longrightarrow$		
		29-Apr-21		4.82		8.1	9170															_			—					—					_	_			++		
		31-May-21		4.70		8.2																		7.67 445				20 0		2540	544.4					425			++		
		20-Jun-21		4.59			11035 9410		-														_	7.67 112	200	58 14	4 23	80 8	113	3510	514 <1	<1	- '	80 7	80	125 2	2.8		++		6720
		23-Jun-21 30-Jul-21		4.77 4.58		7.9 7.71			+	+					-			_	_	_		_	_		+	_	+	_	<u> </u>	-		_	_		+	-	+	_	++	$\longrightarrow$	
		27-Aug-21				7.71		16.5	+	+					-			_	_	_		_	_	_	+	_	_	_	-	-		_		_	+	-	+	_	+	$\rightarrow$	
		06-Oct-21		4.44		7.84		19.1	0.00	6 0.001	0.237	<0.001	<0.0001	<0.001	<0.001	0.001	0.11 <0.0	01 0	.006 0.	002	0.02 <0.0	1 <0.00	)1	7.98 121	100	64 13	1 21	30 8	10	7 3540	507 <1	<1	+ -	28 7	28	125 7.	.82 <0.01	<0.01	11.7	11.7	8870
		11-Jan-22		4.33		7.64			1 0.00	0.001	0.237	-5.001	-5.0001	-5.001	-0.001	0.001	0.11 (0.1		.550 0.	-	5.02 30.0.			7.92 157		88 23			140			<1		606 6		178 12	_	10.01	11./		9990
		30-Mar-22		3.29		7.05			<del>                                     </del>	+					<del>                                     </del>	$\vdash$		-	-	+			+	137			+	1	<del>                                     </del>	1	<del>  </del>	<del>-</del>	<del>  `</del>	-	+		+-	+		$\rightarrow$	
		08-Jun-22		3.99			15310		1	1					<u> </u>									8.10 149	900	97 25	4 32	30 7	16	4540	700	<1	<1 5	66 5	66	154 3.	.89	+		$\rightarrow$	9170
		14-Sep-22		3.99	4.83	7.87		21.3	0.13	3 0.001	0.299	0.001	<0.0001	0.001	0.001	0.001	0.4	0.002 0	.015 0.	002	0.01 0	.006		7.91 180		136 29			17:			<1		36 5		182 3.	_	0.03	16.4	16.4	
		20-Dec-22					19661															$\neg$	_	7.98 221	_	191 49	_	_	229			<1	_	87 5	_	246 3.	_			$\rightarrow$	14200
		1							1						1										$\neg$										1		1	1		$\neg$	
P30		01-Jun-12	1000			Dry																																			
		24-Jul-12				Dry																																			
Depth	15	02-Sep-12				Dry																			$\bot$							$\perp$			$\perp$				$\bot$		
Format.	Napperby	10-Dec-12				Dry																			—												—		++		
I		07-Mar-13				Dry		-	-							$\vdash$				_					—				<u> </u>		-								++		
Standpipe height	0.74	03-Jul-13	945			Dry																																			

	<b>~</b> a			ter .	- -	Fi	eld Paramet	ters						Total M	etals						1		E I		Major C	Cations		- 0				Anions			- <u>'</u>	e,	l s :		<u>.</u>	g/L	pa
ite ID	ometer ter Bore	Date	Time	h to Wat mbgl	th to Star mbtoc	pH - Field	EC - Field	Temp -	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium Ber (Ba) - (Be mg/L mg	ryllium Ca	admium Ch	cobalt (Co) - mg/L	Copper (Cu) -	Iron (Fe) -	Lead (Pb) -	Mangane Mangane	Nickel	Vanadium Zinc (Zr (V) - mg/L - mg/L	Mercury (Hg mg/L	pH Lab	/sr - qe	Calcium (Ca) - mg/L	Magnesiu m (Mg) - mg/L	Sodium (Na) -	Potassiu m (K) -	Cation	Chloride S (CI) - ( mg/L r	iulfate SO4) -	Hydroxide Alkalinity	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbona e Alkalinity	Alkalinity -	Total Anions meq/L	: Balanc	monia a ogen (N	ite as N mg/L	ate as N mg/L	N - N	Dissolv
S	Pieze Wai			Depth	Depth n	pii ricio	μs/cm	Field - °C										mg/L r	ng/L				EC.			mg/L	m (K) - mg/L	Total				as CaCO3 - a	is CaCO3 -	mg/L	Tota	lonic Bal	Amı	Nitri	Nit.	NON	Total
ANZECC Guideline	stock drinking w	04-Sep-13				Dry			5	0.5			0.01	1 1	1		0.1		1	20	0.002			1000						1000								1500	400		4000
		27-Nov-13 05-Mar-14	1020			Dry Dry																																		$\Rightarrow$	
		11-Jun-14 30-Sep-14	1110			Dry Dry																																		$\Rightarrow$	
		05-Dec-14 11-Mar-15	1040			Dry Dry																																		ightharpoonup	
		03-Jun-15 08-Sep-15				Dry Dry																																		二十	
		14-Dec-15 10-Mar-16	1010			Dry Dry																																		=	
		31-May-16 27-Sep-16	1240			Dry Dry																																		<u></u>	
		25-Oct-16 24-Nov-16	1330			Dry Dry																																			
		20-Dec-16 25-Jan-17	1250			Dry Dry																																			
		23-Feb-17 30-Mar-17	1045			Dry Dry																																			
		26-Apr-17 29-May-17	1405			Dry Dry																																			
			1415	-0.78		Dry No samp	le, about 15	cm of mudd	y slime																																
		29-Aug-17 26-Sep-17	1350			Dry																																			
		26-Oct-17 27-Nov-17	1335			Dry Dry																																		=	
		20-Dec-17 30-Jan-18	1340			Dry Dry							_																											<u></u>	
		28-Feb-18 28-Mar-18	1420			Dry Dry												_																						<u></u>	
		30-Apr-18 29-May-18	1215			Dry Dry																																			
			1205	15.31	16.05		18230 19760																																		
		25-Sep-18	1335	14.68	15.42	Insufficie	nt water to 9	sample																																	
		28-Nov-18	1400	14.41 14.50	15.15	7.1	24320	22.1																																	
		31-Jan-19	1310		15.27	7.1	24320	22.8					_								1																				
		28-Mar-19	1400		15.22	7.4	25150	22.3																																	
		31-May-19	1315	14.34 14.37	15.08	7.4	23770 21610	21.9																																	
		31-Jul-19	1255	14.27	15.01	7.4	20760 20750	20.9																																	
		25-Sep-19	1200	14.21	14.95	7.1		21.9	0.55	0.003	0.152 <0.0	.001 <0	0.0001	0.001 0.00	0.006	0.9	0.027	0.749	0.014	<0.01 0.0	4 <0.0001	7.97	27700	301	698	5120	26	296	10400	1930	<1	<1	586	586	345	7.71	0.66	0.01	1.11	1.12	18300
		29-Nov-19	1055	14.04 14.01	14.78	7.1	25800 23700	22.3										_																						<b>=</b>	
		31-Jan-20	1130	13.90	14.64	7.2	22850 23320	22.4										_																							
		26-Mar-20	1405	13.82	14.56	7.2	22760 24500	22																																_	
		26-May-20	1135	13.62	14.36	6.9	28200 28500	21.1																																<del></del>	
			1300		14.24		27200																																	=	
			1330	-0.74			26800 22958		0.9	0.002	0.097 <0.0	001 <0	0.0001	0.002 0.00	1 0.003	2.03	0.012	0.03	0.005	<0.01 0.01	4 <0 0001	7.74	23700	217	552	4350	18	246	6920	1510	<1	<1	714	714	241	1.03	<0.01	<0.01	7.52	7 52	15400
			1210	13.28	14.02	7		19.7	0.5	0.002	0.037	.001		0.002	0.003	2.03	0.012	0.03	0.003	0.01	10.0002		25700		332	1550	100	2.0	0320	1510	-	-	721	721		1.00	-0.02	10.01	7.52		
		18-Dec-20	830		13.92	7.08	22958 23400	16.9														7.72	21900	194	452	3750	17	210	6230	1580	<1	<1	768	768	224	3.12				$\rightarrow$	13500
		27-Jan-21	1105	13.24	13.98	6.8	22000 22100	19.8																																	
		26-Mar-21	1340		13.79	7.6	19603 23000	24.5														7.72	19900	173	432	3670	17	204	6360	1260	<1	<1	732	732	220	3.77	0.04	0.03	8.79	8.82	12800
		29-Apr-21	1330	13.02	13.76	7		19.5																																	
		20-Jun-21	1030		13.70	7.37	19014	21					_					_			1	7.59	18900	170	444	3780	8	210	6380	1300	<1	<1	833	833	224	3.19				_	12700
		30-Jul-21	800	12.94	13.68	7.34	19151 22989	20.2					_					-																						$\dashv$	=
		06-Oct-21	1000	12.78	13.52	7.01		19.5	0.3	0.002	0.078 <0.0	.001 <0	0.0001	0.001 0.00	0.001	0.51	0.002	0.012	0.002	<0.01 <0.005	<0.0001		7 19600 2 18000			3380 3720			6040 6540			<1	811 867				<0.01	<0.01	8.77	8.77	12400 12600
		30-Mar-22	1400	12.44	13.18	6.79	20995 21459	25.6															20200			4270			6330 1			<1 7	31	731	224	2.99				1	4100
							19727 17343		0.32	0.001	0.053	0.001 <0	0.0001	0.003 0.00	0.002	0.46	0.002	0.012	0.003	0.01 0.0			17900 17500						5320 5550 1			<1 8		757 895	189 199	3.49 6.02		0.01	8.72	8.72	11200 11000
P31							7870																																	$\dashv$	
Depth	25		1110	15.58	16.50	7.38	6160	22.3 21.6												<0.01 0.07 <0.01 0.052									1970 1680	367 379		<1 <1	854 918	854 918	80.3 73.6	0.73 0.59	0.08 0.02			7.62 10.2	4810 4250
Format.	Napperby	10-Dec-12	1255	15.50	16.42	7.28	6960 6980	22.9												<0.01 0.052											<1	<1	858			4.63					4430
Standpipe height	0.92		935	15.51	16.43	7.38	7080	20.5												<0.01 0.087							17		2000	331		<1	862	862	80.5	1.3	0.05	<0.01			4500
-p.p.s neight		27-Nov-13 05-Mar-14	1005	15.42	16.34	7.2	_	22												<0.01 0.044														851					9.41		4020
		11-Jun-14	930	15.54 15.56	16.46	7.2	7170	21.3												<0.01 0.025															63.9		0.03				3620
			1005	15.41	16.33	7.2	7270													<0.01 0.023									1840	339	<1	<1	920	920	77.3	4.21		<0.01			3430
		03-Jun-15	935		16.67	7.2	7150													<0.01 0.143											<1	<1	820		71.9						4470
		14-Dec-15	1255	15.49	16.41	7.3	7180	23.4																																	
		31-May-16	1020	15.57	16.49	7.3		21.4												<0.01 0.078											<1			867		1.21			10		4280
				15.38 15.44			6840 6776		0.03	0.001	U.1/1 <	VU.UU1 <	VU.UUU1	VU.UU1 <0.001	0.003	U.U6	<0.001	0.003	0.001	<0.01 0.024	<0.0001	1.7	/310	95	161	1280	12	74	1350	299	<1	<1	932	932	62.9	8.04	0.02	<0.01	9.78	9.78	3640

Site ID	Piezometer / Water Bore	Date	Time Depth to Water	lgdm .	Depth to Stand - mbtoc		EC - Field μs/cm		Aluminium (Al) - mg/L				Cadmium Chro	omium - mg/L	Cobalt Cool (Cool on one)	opper I Cu) - ( ng/L r		ead Pb) - ng/L	Mangane se (Mn) - mg/L		Vanadium (V) - mg/L	- IIIg/L	Š	рн Гар	EC - Lab	Ca) - ng/L	Major Ca Magnesiu : m (Mg) - mg/L	Sodium (Na) - r	Potassiu m (K) - mg/L	Total Cations - meq/L	Chloride (CI) - mg/L		T	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbona te Alkalinity as CaCO3 -		Total Anions - meq/L	lonic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg/L	Total Dissolved Solids
ANZECC Guideline	- Stock anniking v	24-Nov-16 20-Dec-16 25-Jan-17	1320 15 1325 15 1215 15 1145 15	i.37 1	16.29 16.34		6750 6820	21.3 22.5 23 22.3	5	0.5			0.01		1	1		0.1		1		20	0.002			1000						1000								1500	400		4000
		30-Mar-17 26-Apr-17 29-May-17 29-Jun-17	1020 15 1400 15 1330 15 1050 15	5.40 1 5.36 1 5.48 5.40 1	16.32 16.28 16.4 16.32	7.3 7.3 7.3 7.1	6750 6890 6870 7120	23 21.8 22.4 20.5																																			
		29-Aug-17 26-Sep-17 26-Oct-17	1340 15 1315 15 1310 15 1310 15 1300 15	i.47 1 i.45 1 i.34 1	16.39 16.37 16.26	7.3 7.3 7.3	7040 7040 7050 6990 7130	21.3 21.7 23.1 22.7 21.8	0.02	<0.001	0.181	<0.001	<0.0001 <	0.001	<0.001	<0.001	<0.05	<0.001	0.002	<0.001	<0.01	0.013	<0.0001	7.66	7170	82	149	1120	11	65.4	1420	287	<1	<1	798	798	62	2.65	<0.01	<0.01	9.1	9.1	4140
		20-Dec-17 30-Jan-18 28-Feb-18	1355 15 1305 15 1200 15 1350 15	i.40 1 i.38 i.50 1	16.32 16.3 16.42	7.2 7.3 7.3	7090 7100	23.1																																			
		29-May-18 26-Jun-18 30-Jul-18	1240 15 1255 15 945 15 1125 15	i.58 i.73 1 i.69 1	16.5 16.65 16.61	7.3 7.4 7.4	7120 7030 6730 6820	22.2 21 21.3																																			
		25-Sep-18 26-Oct-18 28-Nov-18	1230 15 1250 15 1020 15 1325 15 1230 15	i.83 1 i.90 1 i.87 1	16.75 16.82 16.79	7.4 7.3	6740 7030	21.7	0.02	0.001	0.133	<0.001	<0.0001 <	0.001	<0.001	<0.001	<0.05	<0.001	0.005	<0.001	<0.01	<0.005	<0.0001	7.51	8250	88	158	1180	11	69	1890	352	<1	<1	781	781	76.2	4.99	0.03	<0.01	10.2	10.2	4400
		27-Feb-19 28-Mar-19 30-Apr-19	1230 15 1025 15 1315 15 1355 15 1245 16	i.89 1 i.97 1 i.96 1	16.81 16.89 16.88	7.2 7.2	7090 7110	22.2 22.4 21.8 21.7 21.1																																			
		25-Jun-19 31-Jul-19 31-Aug-19 25-Sep-19	1230 16 1210 16 1225 16 1110 16	5.06 1 5.06 1 5.00 1 5.06 1	16.98 16.98 16.92 16.98	7.5 7.5	7020 7080 6950 7180	21.3 21.5 22.1 21.8	0.0	02 <0.001	0.177	<0.001	<0.0001 <0.0	01 <	<0.001 <	0.001 <	:0.05 <	:0.001	0.006	<0.001	<0.01	0.011	<0.0001	8.24	7380	92	166	1290	13	74.7	1820	368	3 <1	<1	871	871	76.4	1.13	3 0.00	<0.01	10.3	10.3	4030
		29-Nov-19 18-Dec-19 31-Jan-20	1240 16 1015 15 1200 16 1055 16 1155 15	5.99 1 5.00 1 5.04 1	16.91 16.92 16.96	7.4 7.4	7060 6840	22.4 22.4 22.7																																			
		20-Mar-20 30-Apr-20 25-May-20 25-Jun-20	1330 16 1125 16 1055 16 1210 16	5.08 5.00 1 5.08 5.11 1	17 16.92 17 17.03	7.4 7.3 7.3 7.3	7080 7160 7100 7150	21.7 21.4 21.4 20.8																																			
		08-Aug-20 28-Aug-20 24-Sep-20	1230 16 16 1300 16 730 16 1130 16	5.00 1 5.12 1 5.08	16.92 17.04 17	7.3 6.99	6910 6760 7550 7090	19.5 19.5 16.7 19.8	0.4	14 <0.001	0.128	<0.001	<0.0001 <0.0	01	0.002	0.002	1.14	0.005	0.387	0.002	<0.01	0.008	<0.0001	7.85	6670	128	213	1220	15	77.4	1780	332	! <1	<1	939	939	75.9	0.97	7 0.05	6 0.02	2 5.04	5.06	4480
		18-Dec-20 23-Dec-20 27-Jan-21	1315 16 945 16 1155 16 1035 16 1250 15	5.04 1 5.05 1 5.01 1	16.96 16.97 16.93	6.99 7.4 7.4		16.9 19.6 20.1																7.92	7350	90	153	1170	14	68.3	1660	372	! <1	<1	919	919	72.9	3.26	5				4020
		25-Mar-21 30-Mar-21 29-Apr-21 31-May-21	800 16 1410 16 1300 16 1250 16	5.06 1 5.10 1 5.40 1 5.16 1	16.98 17.02 17.32 17.08	7.5 7.6 7.7	7030 6750 6560	19.6 19.9 21.6																																			
		23-Jun-21 30-Jul-21 27-Aug-21	1130 16 1315 16 820 16 800 16 1300 16	5.19 1 5.14 1 5.09 1	17.11 17.06 17.01	7.6 7.28 6.99	6590 7000 7521	21.2 20.1 16.7	0.2	27 <0.001	0.126	<0.001	<0.0001 <0.0	01 <	<0.001	0.002	0.56	0.003	0.048	0.002	<0.01	0.006	<0.0001		7330			1260	14	78.5	1790			<1	879	930				3 <0.01	9.65	9.65	4220
		30-Mar-22 08-Jun-22 14-Sep-22	1200 14 1000 15 1100 16 1230 15 1300 15	i.89 1 i.01 1 i.98	16.81 16.93 16.9	6.94 7.1 7.7	7114 7190 8052	23.9 22.2 22.2	0.3	37 0.00	1 0.112	0.001	<0.0001	0.003	0.001	0.001	0.54	0.004	0.133	0.003	0.01	0.005		8.16 7.96		97 106	186		12 14 14	77.9 71.2 74.4	1720 1670 1710 1750	391	<1	<1	911	807	71.4 73.5	4.39	9	0.09	9 8.81		4180 4120 4230 4220
P32  Depth	15	01-Jun-12 24-Jul-12 02-Sep-12	1040 7 1220 7 1330 7	.25	8.17 8.19 8.11	7.39 7.79 7.57	13050 6710 5590	21.2 22.9 24.2					<0.0001 0 <0.0001 <										<0.0001	7.89	8480	10	67	1810		84.8 61.6				<1		981			0.1		11.6 7.22	11.6	
Format. Standpipe height	Napperby 0.94	10-Dec-12 07-Mar-13 13-May-13	1109 7 1335 7 1115 7 1420 7	.99 .00	8.26 8.93 7.94	7.95 8.03	3620	23.4 22.9	0.09	<0.001	0.007	<0.001	<0.0001 0	.002	<0.001	<0.001	0.12	0.002	0.001	<0.001	0.02	0.007	0.0002	8.08	3780	2	15	965	<1	43.3	376	411	<1	<1	1030	1030	39.7	4.24	<0.01	<0.01	2	2	2360
		04-Sep-13 27-Nov-13	1030 7 1210 8 1025 9 955 6	.18	7.98 8.95	8.26 8.6	2230 2240	23.4 22.4					<0.0001 0																	27.8		111			972					<0.01	0.21		1460
		11-Jun-14 30-Sep-14 05-Dec-14	1045 5 1220 5 1115 6	.94 .98	7.52 6.88 6.92	8.3 8.4 8.5	2490 2560 2540	21.2 23.4 22.3	0.23	0.003	0.011	<0.001	<0.0001 0	.002	<0.001	0.011	0.29	0.009	0.008	0.003	0.02	0.026	<0.0001	8.49	2660	1	6	777	<1	34.3	189	221	<1	39	796	835	26.6	12.6	0.02	<0.01	1.68	1.68	1420
		03-Jun-15 08-Sep-15	1140 6 1025 6 1115 6 1340 6	.71	7.76 7.65	8.3 8.5	1807 1658	21.3 22.2	0.13	0.004	0.009	<0.001	<0.0001 <	0.001	<0.001	0.003	0.16	<0.001	0.003	<0.001	0.04	0.02	<0.0001	8.52	1720	1	4			23.4	40				763		18.3	6.4	0.04	<0.01		0.41	998
		10-Mar-16	1120 8 1105 6	.17	7.12	8.7	1688	23.2	0.09	0.004	0.008	<0.001	<0.0001 0	.006	<0.001	0.008	0.16	<0.001	0.003	<0.001	0.04	0.015	<0.0001	8.49	1770	<1	4	466	<1	20.6	40	66	<1	36	803	839	19.3	3.28	5.2	<0.01	1.04	1.04	1030

Narrabri Mille																																									illoring Data
0	er/ ore		Vater	tand -	, –	Field	d Paramet	ters							Metals	T	T					нв) -	ا م	rs/cm		Major Catio		ous -		T	Major Hydroxide	Anions	Bicarbona		- Suc	ance	a as (N)	Z	Z	mg/L	olved
Site II	Piezometer Water Bore	Date	th to v	mbgl th to Sta	PH ph	- Field	C - Field -1	Temp -	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Cadmium Chromi (mg/L) (Cr) - m	Coba (Co)	It Coppe (Cu) -	r Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) - mg/L	Nickel (Ni) -	Vanadium (V) - mg/L	Zinc (Zn)	ercury (H mg/L	PH Lai	운 (0	Calcium Ca) -	Magnesiu So m (Mg) - (N	a) - m (K)	al Catio	Chloride (Cl) -	Sulfate (SO4) - mg/L	Alkalinity as CaCO3 - mg/L	Alkalinity	te Alkalinity	Alkalinity	al Anior meq/L	ic Bala	nmonit	rite as mg/L	rate as mg/L	as N -	al Disso Solids
			De p.	Dept			.5, c		(//	IIIg/L				_						(*)9/2		Σ		Ü m		mg/L mg	g/L mg/L	1º	mg/L		mg/L	mg/L	as CaCO3 -	6/ =	Tot	ō	Amı	Ē	ž	χον	Tot
ANZECC Guideline		27-Sep-16 133					1695		0.13	0.004		<0.001			01 0.019		0.002		0.003	0.04	0.026		8.58		<b>1000</b>	3	444 <1	19.6	47	<b>1000</b> 72	<1	68	817	884	20.5	2.38	0.32		1.15	1.31	<b>4000</b> 1000
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		27-Nov-20 125 18-Dec-20 100	00 8.	.04 8.	95	8.39	1974	17.2	-					_	+								8.42	3310	1	16	764 <1	34.	6 35	9 276	<1	39	969	1010	0 36	2.0	6			-	2000
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		<b>30-Mar-22</b> 150	00 6.	.74 7.	68	8.05	1900 1865	24.2																1860			505	<1 22.												$\rightarrow$	1220
		08-Jun-22 91 14-Sep-22 143	30 6.	.81 7.	75	8.84	1982	22.4	0	0.003	0.006	0.001	<0.0001 0.	002 0.0	0.0	01 0.2	4 <0.001	0.004	0.001	0.03	0.005		8.57	1820	<1 1	4	442	1 19.	6 3		<1		887	954	4 21.2	4.1		0.01	2.84	2.84	1130
		20-Dec-22 110		.04 7.			3332	24															8.51 3	220 3	1	12 74	7 <1	33.6	615	113	<1	51	746	797	35.6	2.88				ightharpoonup f	1960
P33		<b>01-Jun-12</b> 93 <b>24-Jul-12</b> 104	45	$\perp$		Dry Dry																		=											$\perp$						
Depth Format.	15 Napperby	02-Sep-12 134 10-Dec-12 123	35			Dry Dry			$\vdash$							$\pm$												$\pm$	$\pm$						$\pm$				${f ar{\Box}}$		
Standpipe height		07-Mar-13 100 03-Jul-13 91	00			Dry Dry																		-											$\vdash$					$\blacksquare$	
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		14-Dec-15 123 10-Mar-16 92	5	$\pm$		Dry Dry								$\pm$			+						$\equiv \pm$	$\dashv$					+						士					一	
		<b>31-May-16</b> 100 <b>27-Sep-16</b> 120	05			Dry Dry																																			
		25-Oct-16 130 24-Nov-16 130	05	$\perp$		Dry Dry	-		+		$+ \blacksquare$			+				1			-	$\vdash$	$\overline{}$	干			-		+	1					+		1		$\vdash$	$\Box$	-
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		23-Feb-17 112 30-Mar-17 95	25	+		Dry Dry			1														_	$\dashv$					1						1					$\blacksquare$	
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	<b>~</b> 6:			id ter		Field Parar	meters							Metals						-		_ E_ [		Major Ca	Cations		,			Major	Anions	Diag 1		, 'A	ø	s c	7	<u>.</u>	g/L	Pa
Site ID	Piezometer, Water Bore	Date	Time	bgl bgl		FC F	ld Torre	Aluminium	Arsenic	Barium	Beryllium	Cadmina	Coba	t Copper	Iron	Lead	Mangane	Nickel	Vanadium Zinc (Zn (V) - mg/L - mg/L	у (Hg. g/L	pH Lab	- µs/e	Calcium	Magnesiu	Sodium	Potassiu	ation: q/L	Chloride !	Sulfate	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate	Bicarbona te	Alkalinit	nions q/L	alano	Ammonia as Nitrogen (N)	ite as N mg/L	ate as N mg/L	Ĕ Z	issolv
Site	iezon Nater	Pa	🖹	mbgl mbgl pth to Wa	pH ·	Field EC - Fie	Field - °C	(AI) - mg/L	(As) -	(Ba) -	(Be) - mg/I	(mg/L)	(Co) -	(Cu) -	(Fe) -	(Pb) -	se (Mn) -	(Ni) -	(V) - mg/L - mg/L	ercur	표	EC - Lab - µs	Calcium (Ca) - mg/L	Magnesiu m (Mg) - mg/L	(Na) -	m (K) -	otal C	Chloride : (CI) - mg/L	(SO4) - mg/I	as CaCO3 -	as CaCO3 -	Alkalinity	mg/L	Total Anion meq/L	lonic Bala	\mmo	litrite mg	itrate	X as N	tal Di Sol
ANZECC Guideline		water		<u>a</u> <u>a</u>	+				0.5				1 1	_		0.1		1					1000			a, -	ř		1000	mg/L	mg/L	mg/L		F			1500	400	ž	4000
Willes Gardenie	Jeour unining .	26-Oct-17				Ory			0.5			0.01				0.1		_	20	0.002			1000						1000								1300	400		4000
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I		ou-iviar-17	1002	1	1 (	лу	I	ı	I	1 1	I	- 1	I	I	I	I	I	I	1 I	1	I	ı <b>I</b>	ı I	I	I	1 I		ı l		ı I	ı		I	ı 1		1	I	ا ا	ı <b>I</b>	

			1 10	<u> </u>	Fi	ield Paramet	ters					Total Me	etals									Ε		Major Cations				Major	Anions							. 1		ō
<u>Q</u>	Piezometer, Water Bore	Date	pth to Wate	th to Stan		. EC - Field -	Temp -	Aluminium	Arsenic Bar	rium Bery	yllium Cadmium Chromiur	Cobalt	Copper	Iron I	Lead	Mangane	Nickel	Vanadium	Zinc (Zn)	Mercury (Hg) mg/L	рн Гар	o/srl Cal	cium	Magnesiu Sodium Pot	assiu uisas	Chlor	de Sulfate	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity	Bicarbona te	Alkalinity -	Anions eq/L	Balance	Ammonia as Nitrogen (N)	rite as N mg/L	ate as N mg/L	E E	oissolve olids
sit	Piezo Wate	Δ   <u>F</u>	Septh 1	Septh t	pH - Field	μs/cm	Field - °C	(AI) - mg/L	Arsenic Bar (As) - (Ba mg/L mg,	i) - (Be) ·/L mg/	yllium  -  L   Cadmium   Chromiur  (mg/L)   (Cr) - mg/	(Co) - mg/L	(Cu) - mg/L	mg/L	(Pb) - mg/L	se (Mn) - mg/L	(Ni) - mg/L	Vanadium (V) - mg/L	- mg/L	Mercu	Ŧ	Cal (Ca mg	ı) - ı/L	Magnesiu Sodium Pot m (Mg) - (Na) - m ( mg/L mg/L mg	assiu Lotal Cation	Ĕ (CI) - mg/L	Sulfate (SO4) - mg/L	as CaCO3 -	as CaCO3 - mg/L	Alkalinity as CaCO3 -	mg/L	Total Anion meq/L	lonic Bal	Amm	Sitrib B E	Nitrat	IOX as	rotal D So
ANZECC Guideline											0.01 1				0.1		1		20	0.002			1000				1000	<i>J</i>	U.	mg/L					1500	400		4000
		26-Apr-17 1345 29-May-17			Dry Dry																															=	=	
		<b>29-Jun-17</b> 1110 <b>26-Jul-17</b> 1325			Dry Dry																															$\equiv$		
		29-Aug-17 1300 26-Sep-17 1250			Dry Dry			-														-			_											$\rightarrow$		
		26-Oct-17 1255 27-Nov-17 1245			Dry Dry																	=														=	=	
		20-Dec-17 1340 30-Jan-18 1250			Dry Dry																	_														=	=	
		28-Feb-18 1140			Dry																																	
		<b>28-Mar-18</b> 1335 <b>30-Apr-18</b> 1230			Dry Dry																	#														=		
		<b>29-May-18</b> 1305 <b>26-Jun-18</b> 930			Dry Dry																															$\equiv \pm$		
		30-Jul-18 1110 30-Aug-18		+	Dry Dry			-														+	_		-	+		+ +								$\rightarrow$	-	
		25-Sep-18 1235 26-Oct-18 1140			Dry Dry																	-														=	=	
		28-Nov-18 1310 21-Dec-18 1210			Dry																	_														=		
		<b>31-Jan-19</b> 1210			Dry Dry																	#														=		
		<b>27-Feb-19</b> 1110 <b>28-Mar-19</b> 1250			Dry Dry																																	
		<b>30-Apr-19</b> 1345 <b>31-May-19</b> 1230			Dry Dry			-														+			-	+											+	
		25-Jun-19 1240 31-Jul-19 1150			Dry Dry					$\overline{}$		1									$\neg$	$\top$	$\neg$		$\top$	$\top$										=	=	
		31-Aug-19 1205 25-Sep-19 1040			Dry Dry							1										$\perp$				$\perp$											$\Rightarrow$	
		29-Oct-19 1225 29-Nov-19 955			Dry																				$\perp$												=	
		18-Dec-19 1145			Dry Dry																															=		
		<b>31-Jan-20</b> 1035 <b>27-Feb-20</b> 1140			Dry Dry																					$\pm$										$\equiv \pm$	$= \pm$	
		26-Mar-20 1310 30-Apr-20 1120		+	Dry Dry			-														+			-	+											-	
		26-May-20 1040 25-Jun-20 1310			Dry Dry																															=	=	
		23-Jul-20 1215 28-Aug-20 1250			Dry Dry																	_																
		24-Sep-20 900			Dry																															=		
		28-Oct-20 1110 27-Nov-20 1305			Dry Dry																																	
		<b>18-Dec-20</b> 1045 <b>23-Dec-20</b> 1140			Dry Dry																															=		
		27-Jan-21 1020 02-Mar-21 1300		+	Dry Dry			-													_	+	_		+	+											-	
		<b>25-Mar-21</b> 900 <b>30-Mar-21</b> 1415			Dry Dry																															=	=	
		29-Apr-21 1250 31-May-21 1240			Dry Dry																	_														=	=	
		<b>23-Jun-21</b> 1300			Dry																	=														=	〓	
		<b>30-Jul-21</b> 930 <b>27-Aug-21</b> 910			Dry Dry																																	
		06-Oct-21 1300 04-Jan-22 1120			Dry Dry																																$\longrightarrow$	
		30-Mar-22 1500 08-Jun-22 1030			Dry Dry																																	
		14-Sep-22 1630 20-Dec-22 1700			Dry Dry																	_																
047		18-Jun-12			5.,																	_														$\rightarrow$		
P47		17-Oct-12 1350																																		=		
Depth Format.	Garrawilla	<b>31-Oct-12</b> 1400 <b>14-Nov-12</b> 1215	24.15	5 25.13				Data Logger	Installed 14 No	ovember 2	012																											
Standpipe height		13-May-13 1530 11-Jul-13 1510																				-																
		01-Aug-13 1205 04-Sep-13 1400			7.18	5310	23.7	18.7	0.006 0	0.28 0	.001 0.0003 0.111	0.056	0.292	32.3	0.034	0.53	0.183	0.09	0.463	<0.0001	7.64	5880	30	121 1250	44 6	7 90	2 334	<1	<1	1430	1430	61	4.64	0.15	<0.01	0.02	0.02	3550
		27-Nov-13 1140 05-Mar-14 1140	23.89	9 24.87		5380	23.6				0.001 <0.0001 0.021							0.01						112 1080			5 341		<1		1430	59.5	0.73	0.97	<0.01		0.02	3470
		11-Jun-14 1145 29-Sep-14 1230	23.96	5 24.94	7 6.9	5350	21.6 22.7	0.91								0.119					7.68		29	111 1030					<1	1390	1390	64	6.3	1.43	<0.01		0.21	3290
		04-Dec-14 1220	23.93	3 24.91	6.9	5890	21.9																															
		12-Mar-15 1345 03-Jun-15 1120	23.94	4 24.92	7	5980	23.7				0.001 <0.0001 0.01																8 353					62.1		0.09	<0.01		0.02	2770
		<b>08-Sep-15</b> 1200 <b>14-Dec-15</b> 1140	23.89	9 24.87		6010			0.002 0.		0.001 <0.0001 0.031													111 1100							1450	58.4	0.99	0.59	<0.01		0.03	3940
		<b>10-Mar-16</b> 1315 <b>02-Jun-16</b> 1150	23.90	24.88	7.2 7.1	5420	25 22.1		0.003 0.		0.001 0.0002 0.095												29	113 1110			1 358		<1	1410	1410	61	0.96	0.5			0.02	3880
		28-Sep-16 1415 27-Oct-16 1115			7.1 7.1		22.9 22.5	0.16	0.001 0.	.053 <0	0.001 <0.0001 <0.001	0.002	0.002	2.38	<0.001	0.084	0.006	<0.01	0.062	<0.0001	7.56	6140	34	113 1240	37 65	.9 93	7 349	<1	<1	1640	1640	66.5	0.48	0.3	<0.01	0.01	0.01	3410
		24-Nov-16 1120 20-Dec-16 1105	23.88	3 24.86	7.1	5360						+										$\perp$	_		+	+												
		<b>24-Jan-17</b> 1110	23.84	4 24.82	7	5430	23 23.2					+										_			+	+												
		22-Feb-17 1215 29-Mar-17 1040	23.80	24.78		5680	23.6															$\pm$			$\perp$	$\pm$										=		
		<b>26-Apr-17</b> 1145 <b>29-May-17</b> 1120	23.78	3 24.76		5560	22.8 22.7															$\pm$			$\perp$											=	==	
		29-Jun-17 26-Jul-17 1110		24.78	7	ss too wet 5520																																
		29-Aug-17 1100 26-Sep-17 1030	23.92	2 24.9		5450																-	$\dashv$			-										=	$\dashv$	
		26-Oct-17 27-Nov-17	-0.98	3	damaged damaged	d						1										$\perp$						1								=	=	
		20-Dec-17 30-Jan-18	-0.98	3	damaged	d						1										$\perp$				+											=	
		28-Feb-18	-0.98	3	damaged	d				$\perp$												$\pm$			$\pm$	$\pm$										$\equiv$		
		28-Mar-18 30-Apr-18	-0.98	3	damaged	d																			$\pm$											=	$\equiv \equiv$	
		29-May-18 26-Jun-18	-0.98 -0.98	3	damaged damaged	d																																
		<b>18-Jul-18</b> 1130	25.79	26.77	7.2	5650	22.3																		T									I				

				Ė		l Fi	ield Paramet	ters						Total Me	tals						_	. 1		: I	N	Major Cations				Maio	or Anions									75
	eter/ Bore	2	<u>е</u>	. Wate	Stand					Arsenic Ba	arium Be	eryllium			Copper I	ron Lea	ad Ma	angane Nicl	kel			/(Hg)	ا	Calci		gnesiu Sodiun	n Potassiu	tions -	Chloride		Ta	Bicarbona		nions -	alance	nia as en (N)	as N -	as N -	- mg/	ssolved
Site	iezom	Date	Time	pth to W mbgl	pth to	pH - Field	EC - Field · μs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	(As) - (B	ia) - (Be	e) - Cadn g/L (mg/	nium Chromium (Cr) - mg/l	(Co) -	(Cu) - ( mg/L r	ron Lea Fe) - (Pt mg/L mg	)) - se	(Mn) - (Ni) g/L mg/	) -   var	nadium Zi - mg/L  - ı	inc (Zn) mg/L	ercury (I	표 :		- m (f	Mg) - (Na) -		Total Cation meq/L	(CI) -	(SO4) - as CaCO3	- as CaCO3	Alkalinity	Alkalinity - mg/L	otal Ar	nic B	\mmo ditroge	litrite	itrate mg	X as N	tal Dis
ANZECC Guideline	- stock drinking v	water		D	De					0.5			01 1				0.1		1	_	20	0.002	- 1	ú	00	/	III 6/ L	ř		1000 mg/L	mg/L	mg/I		ř		9 2	1500	2 400	0	₽ 4000
71112200 Galacimic	Stook armany .	26-Jul-18			25.9	7.2	5570			0.5		0	01 1				0.1					0.002		1						1000							1500	400		4000
		30-Aug-18 25-Sep-18	1025	24.21	25.19	7.2	5640	21.4	16.6	0.003	0.458 <	<0.001 0.0	0.086	0.044	0.056	26.4 0	.016 (	0.714 0.	.156	0.07	0.1	0.0001	7.23 71	.00 3	19 1	149 1380	34	75.1	1040	407 <1	<1	1360	1360	65	7.22	0.07	<0.01	0.02	0.02	4150
		30-Oct-18 28-Nov-18			25.16 25.14	7.2 7.2	5870 5910	23.1 22.9																+																
		21-Dec-18 31-Jan-19			25.14 25.17																-			-																
		27-Feb-19	1210	24.21	25.19	7	5750	23.4																$\perp$																
		28-Mar-19 30-Apr-19	1215	24.23	25.22 25.21	7	5680 5710	22.4																																
		31-May-19 25-Jun-19			25.24 25.26		5680 5880																	_																
		31-Jul-19 28-Aug-19			25.25 25.24	7.2 7.2	5840 5940																	-																
		24-Sep-19 29-Oct-19	1110	25.27	26.25		6030	22	4.36	0.002	0.127 <0.	.001 <0.00	0.02	0.017	0.015	6.88	0.004	0.226	0.056	0.02	0.049 <	<0.0001	7.53	3570	44	144 13	70 38	74.6	989	393 <1	1	1 1380	1380	63.6	7.92	0.21	1 <0.01	0.03	0.03	3570
		28-Nov-19	1245	24.32	25.3	7.2	6180	23.3																$\perp$																
		18-Dec-19 30-Jan-20	1215	24.24	25.24 25.22		5790 5730																																	
		25-Feb-20 26-Mar-20	_		25.22 25.24				-				_				_				-			+							+		-			-				
		28-Apr-20 26-May-20	1320	24.26		7.1 7		22.1																-																
		26-Jun-20	1055	24.29	25.27	7	5850	21.6																																
		23-Jul-20 28-Aug-20			25.3 25.27	7.1	5820 6090																																	
		24-Sep-20 27-Oct-20			25.29 25.25	6.94 7	6072 6150		4.65	0.002	0.093 <0.	0.001 <0.00	0.02	0.022	0.02	6.64	0.005	0.173	0.058	0.02	0.025 <	<0.0001	7.95	670	32	123 12	30 38	66.2	1040	390 <1	<1	1650	1650	70.4	3.1	0.34	4 <0.01	0.01	0.01	3880
		27-Nov-20 23-Dec-20			25.24 25.26	7	6260 6320																	-																
		27-Jan-21	1245	24.27	25.25	7	6290	20.5																																
		02-Mar-21 30-Mar-21			25.24 25.27	7 6.9	6360 6090	20.9 20.6																																
		29-Apr-21 31-May-21			25.28 25.35		5910 5830		-				_				_				-			+							+		-			-				
		23-Jun-21 30-Jul-21	1135	24.32	25.3		5770	22																-				-												
		29-Aug-21	1400	24.40	25.38	6.96	6063	18.4	100	0.000	2054		204	0.045	0.043	2.05	2.002	0.442	0.007		0.047	2 2224	7.00		25	442	50 20		4400	204 4	1.	420	4200		2.25			.0.04	.0.04	2020
		05-Oct-21 12-Jan-22	730	23.93	25.31 24.91		6383	23.2	1.92	0.002	0.064 < 0.	0.001 <0.00	0.00	0.015	0.012	2.85	0.002	0.113	0.037 <0.	01	0.017	<0.0001	7.88	0610	35	112 11	60 38	62.4	1100	384 <1	<1	1380	1380	66.6	3.26	0.45	5 <0.01	<0.01	<0.01	3920
		28-Mar-22 04-Jul-22			24.88	7.15 6.92	4835	21.3																$\pm$																
		15-Sep-22 21-Nov-22				7.34 6.71	7050 6781		1.3	0.002	0.049	0.001 <0.00	0.000	0.011	0.004	1.99	0.001	0.083	0.027	0.01	0.016		7.4	5460	37	119 12	30 42	66.2	1040	<1	<1	1530	1530	68.4	1.62		0.01	0.01	0.01	4000
P39A		02-Jun-16			7.56		3340														$\dashv$			$\perp$																
		26-Sep-16		#VALUE!	too wet				242	0.000	0.074	2001	2004	0.004	0.004	0.5		2200	204	2.24	0.000	0.0004	704			50 607	42	27.0	000				520	25.2	2.25			2004	201	1010
Depth Format.	80 Watermark	27-Oct-16 25-Nov-16	1010	5.88 5.90	6.88		3510		0.12	0.002	0.0/1 <	<0.001 <0.0	0001 <0.001	<0.001	0.001	0.5 <	0.001	J.209 U.	.004	<0.01	0.033	<0.0001	7.84 37	30 5	8	58 687	12	37.8	803	55 <1	<1	620	620	36.2	2.26	0.08	<0.01	<0.01	<0.01	1840
Standpipe height	1	21-Dec-16 20-Jan-17		5.86 5.86	6.86	7.5 7.6	3660 3610																	+																
		21-Feb-17 29-Mar-17		-1.00 5.80	6.8	No acces 7.7		22.7													-			-												-				
		27-Apr-17	945	5.83	6.83	7.9	3960	19.6																_																
		30-May-17 27-Jun-17	1050	5.80	6.8		3880	20.2																																
		28-Jul-17 28-Aug-17			6.82 6.82		3950	20.1																																
		25-Sep-17 27-Oct-17		5.85 5.83	6.85 6.83			21.5 21.1	<0.01	0.001	0.091 <	<0.001 <0.0	0001 <0.001	<0.001	0.003	0.17 <	0.001 (	0.281 0.	.004	<0.01	0.008	<0.0001	7.95 40	80 6	60	62 812	13	43.7	793	76 <1	<1	604	604	36	9.69	0.81	<0.01	<0.01	<0.01	2260
		28-Nov-17 20-Dec-17	1050	5.88	6.88	7.9 7.9	3910	21.2																-																
		31-Jan-18	930	5.94	6.94	7.9	3970	21.2																																
		27-Feb-18 28-Mar-18	930	5.98	6.98	8	3980	21.2																																
		26-Apr-18 28-May-18		5.92 6.06	6.92 7.06	8	3890 3760		-								-+							+	_						-					-				
		25-Jun-18 30-Jul-18				No acces No acces	is																																	
		30-Aug-18		6 10	7.1	No acces	is	10.2	0.21	0.002	0.004	<0.001 <0.0	0001 <0.001	<0.001	0.004	11 4	0.001	226 0	003	<0.01	0.010	<0.0001	0.10 43	00 7	,	70 050	15	47.0	020	156 41	-1	F16	F16	40	0.02	1 22	0.03	0.12	0.16	2540
		26-Sep-18 30-Oct-18				No acces			0.51	0.002	0.034	-U.UU1 <u.(< td=""><td>VU.UU1</td><td>\U.UU1</td><td>0.004</td><td>1.1</td><td>J.001 (</td><td>. 0. دد.ر</td><td>.003</td><td>~U.U1</td><td>0.019</td><td>~0.0001</td><td>0.13 42</td><td></td><td>-</td><td>70 839</td><td>15</td><td>47.8</td><td>338</td><td>130 &lt;1</td><td>&lt;1</td><td>210</td><td>210</td><td>40</td><td>0.02</td><td>1.22</td><td>0.03</td><td>0.15</td><td>0.10</td><td>2540</td></u.(<>	VU.UU1	\U.UU1	0.004	1.1	J.001 (	. 0. دد.ر	.003	~U.U1	0.019	~0.0001	0.13 42		-	70 839	15	47.8	338	130 <1	<1	210	210	40	0.02	1.22	0.03	0.15	0.10	2540
		29-Nov-18 20-Dec-18	1005			8.1	4280 4200										$\perp$		$\perp$					$\pm$																
		31-Jan-19 25-Feb-19				No acces No acces			$\vdash$		$-\Gamma$							$-\Box$	$-\Box$	$-\top$	$\dashv$			+					$\vdash$		+		+	H			+			
		25-Mar-19 26-Apr-19				No acces No acces	s				_						+	$\perp$	+	_	_			+	-				-											
		30-May-19	945	6.28		8.1	3970				_								$\Rightarrow$					$\bot$																
		26-Jun-19 31-Jul-19				No ac	ccess - hand ccess - hand	feeding											$\pm$					士																
		29-Aug-19 26-Sep-19				No ad	ccess - hand ccess - hand	feeding feeding																																
		29-Oct-19 28-Nov-19					ccess - hand ccess - hand														-			+																
		18-Dec-19 30-Jan-20		6.50	7.5	No ac	ccess - hand	feeding			$\perp$						_		$\perp$	_	_			$\dashv$																
		27-Feb-20	1000	6.44	7.44	8.1	4280	21.2			#								$\Rightarrow$					$\bot$																
		27-Mar-20 28-Apr-20	850	6.42	7.53 7.42	7.8	4310	21.2											$\perp$					$\pm$																
		29-May-20 30-Jun-20		6.39 6.41	7.39 7.41	7.9 8																		_																
		24-Jul-20 27-Aug-20	920	6.42	7.42	8.1	4310	18.8			$\perp$						_		$\perp$	_	_			$\dashv$																
6	install- d	23-Sep-20	1000	6.48	7.48		5819		1.35	0.008	0.11 <0.	.001 <0.00	0.00	0.009	0.004	11.2 <0.	001	0.68	0.006 <0.	01	0.022 <	<0.0001	7.88	310	96	98 12	10 22	66	1630	318 <1	<1	813	812	68.8	2.06	0.44	4 <0.01	<0.01	<0.01	4150
GW Pump	instailed	03-Nov-20 27-Nov-20	900		7.52 7.54						$\pm$								$\pm$		$=$ $\pm$			$\pm$																
		23-Dec-20 25-Jan-21		6.58	7.58	No Ad	ccess - Tracks	s to wet													-			-																
		24-Feb-21 01-Apr-21	900	6.58	7.58 7.52						$\perp$						$\perp$		$\perp$	_	_			+																
		29-Apr-21	900	6.67	7.67						$\perp$								$\Rightarrow$					$\bot$																
		28-May-21 23-Jun-21			7.53 7.47	<del>                                     </del>				$\vdash$	+				$\vdash$	_	+	-+	+	-+	$\dashv$		_	+	+		+-	$\vdash$	_		+	+	+	-	-	$\vdash$				-
			,									•						•			•			-	-					•										-

			.er	<u> </u>	F	ield Param	eters						Ţ	otal Metals							-		Ę		Major C	ations		1 10		, N	ajor Anions			<u> </u>	ę.	s =			\/ <sub>8</sub>	p
Site ID	Water Bore	Time	Depth to Wat mbgl	Depth to Star mbtoc	pH - Field	EC - Field μs/cm	Temp - Field - °C	Aluminium (Al) - mg/L	Arsenic (As) - mg/L		Beryllium (Be) - mg/L	Cadmium (mg/L)	Chromium (Cr) - mg/L	Cobalt Cor (Co) - (Cu mg/L mg	pper Iron (Fe) /L mg/	Lead (Pb) - /L mg/L	Mangane se (Mn) - mg/L	/AI:\	Vanadium (V) - mg/L		Mercury (Hg mg/L	pH Lab	EC - Lab - μs/		Magnesiu m (Mg) - mg/L	(Na) -	Potassiu m (K) - mg/L	Total Cation	(CI) -	Sulfate Alkalir	ide Carbona ity Alkalinit 03 - as CaCO3 mg/L	te		Total Anions meq/L	lonic Balanc	Ammonia a Nitrogen (N	Nitrite as N mg/L	Nitrate as N mg/L	NOX as N - m	Total Dissolv Solids
ANZECC Guideline - stock d	rinking water 16-Jul-2	1			No A	ccess - Trac	ks to wet	5	0.5			0.01	1	1	1	0.1		1		20	0.002			1000						1000							1500	400		4000
	29-Aug-2	1 1000 1 1330	5.66 5.34	6.66 6.34	7.21		17.8	2.16	0.005	0.153	<0.001	<0.0001	0.011	0.000	0.004	7.72 0.00	0.063	0.010	<0.01	0.017	<0.0001	7.06	6440	98	07	1080	20	59.5	1520	149 <1	<1	77	8 778	61.5	5 1.64	1.57	<0.01	0.01	0.01	3620
	12-Jan-2	<b>2</b> 1230	6.10	7.10	6.99	5203	22.5	2.10	0.005	0.152	<0.001	<0.0001	0.011	0.008	0.004	7.72 0.00.	2 0.963	0.019	<0.01	0.017	<0.0001	7.96	6440	98	8/	1080	20	59.5	1520	149 <1	Α1		8 7/8	61.:	1.04	1.57	<0.01	0.01	0.01	3620
		2 1720 2 1515	5.83 5.73		7.01		19																																-	
1	12-Sep-2 23-Nov-2	2 955	5.41			ooded creel 8363		<u> </u>							_																					-			-	
								ļ																																
P39B		6 950	6.05		8.1	5850	20.2																																	
Depth 3		<b>6</b> 950	5.96		7.8			0.04	<0.001	0.025	<0.001	<0.0001	0.006	<0.001 0	.001 0.	.05 <0.001	0.012	<0.001	<0.01	0.078	<0.0001	8.17	6520	84	135	1150	12	65.6	1320	568 <1	<1	577	577	60.6	3.99	<0.01	<0.01	0.31	0.31	3840
Format. Allu		.6 950 .6 1025	6.10 6.03	7.17	7.9 7.9			-						-+	-																+	+	+		1	-			-+	-
standpipe height 1.	07 20-Jan-1 21-Feb-1	7 1145 7	6.00 -1.07	7.07	7.9 No acces		22.6	-																																
	29-Mar-	7 1320 7 930	5.96	7.03 7.11	8	6380																																		
	30-May-	1020	6.04 5.95	7.02	8	6370	20.3																																	
		7 1030 7 1000	5.93 5.92	6.99	8			<u> </u>																																
		7 1015 7 1030	5.94 5.96	7.01 7.03	8	6400 6490		0.05	<0.001	0.031	<0.001	0.0001	0.002	<0.001 0	.004 0.	.16 <0.001	0.033	<0.001	<0.01	0.08	<0.0001	8.07	6820	95	152	1300	13	74.1	1240	659 <1	<1	555	555	59.8	10.7	0.1	0.03	2.01	2.04	4130
	27-Oct-1	7 1015 .7 1030	6.11 6.17	7.18 7.24	8 7.8	6360 6570	20.7	1						_																										
	20-Dec-1	7 935	6.12	7.19	7.9	6650	21.4	<b>_</b>																																
	27-Feb-1	8 945 8 945	6.11 6.09	7.18 7.16	7.9 8	6430	20.5																																	
		8 945 8 955	6.12 6.20	7.19 7.27	8.1 8.2	6530 6730																																		
	28-May- 25-Jun-1	1 <b>8</b> 940	6.34 -1.07	7.41	8.2 No acces		20.9	-																																
	30-Jul-1 30-Aug-1	8	-1.07 -1.07		No acces	S																																		
	26-Sep-1	8 915	6.61		8.2	6450	18.9	0.24	<0.001	0.047	<0.001	0.0002	0.001	<0.001 0	.007 0.	76 0.002	0.026	0.002	<0.01	0.068	<0.0001	8.14	7090	89	134	1160	12	66.2	1440	655 <1	<1	451	451	63.3	2.29	0.04	<0.01	3.18	3.18	3910
		8 1000	-1.07 6.40		No acces 8.2	7050																																		
	20-Dec-1 31-Jan-1		6.40	7.47	8.3 No acces	6920 s	20.9	-						_																										
	25-Feb-1 25-Mar-				No acces No acces			<u> </u>																																
	26-Apr-1 30-May-		5.02	6.09	No acces 8.4		20.3	ļ																																
	26-Jun-1	9	3.02	0.03	No ad	ccess - hand	d feeding																																	
	31-Jul-1 29-Aug-1	9			No ac	ccess - hand ccess - hand	d feeding																																	
	26-Sep-1 29-Oct-1					ccess - hand ccess - hand																																		
	28-Nov-: 18-Dec-1					ccess - hand ccess - hand																																		
	30-Jan-2 27-Feb-2	0 1000 0 940	6.64 6.60	7.71 7.67		6910 6860																																		
	27-Mar-	1010	6.55	7.62	8.1	6920	22.3																																	
	28-Apr-2 29-May-	<b>0</b> 910 <b>0</b> 920	6.47 6.53	7.54 7.6	7.9 7.8																																			
		0 915 0 935	6.63	7.7	7.6		20																																	
	27-Aug-2	930	6.68 6.67				18.6 18.4																																	
		<b>0</b> 900 <b>0</b> 930	6.68 6.71	7.75 7.78			16.7 18.2	5.1	1 0.003	0.071	<0.001	<0.0001	0.027	0.037	0.005	16.6 0.00	3 0.81	0.016	0.03	0.015	<0.0001	7.85	8000	151	237	1530	17	94	2620	779 <1	<1	52	5 525	10:	1 3.38	0.02	<0.01	<0.01 <0	0.01	5940
	27-Nov-	. <b>0</b> 850	6.74		8.2	7270	19.2																																	
	23-Dec-2 25-Jan-2	0 1 935	6.74	7.81		ccess - Trac 7090	ks to wet 19.9	-																																
	24-Feb-2	1 925	6.79	7.86	7.9	7340	19.2																																	
	29-Apr-2	1 940 1 915		7.71 7.86	•		18.2 19.9																																	
		1 1000 1 915		7.65 7.69			20.3 19	-						-	+																			-	-	-			$\dashv$	
	16-Jul-2	1			No Ad	ccess - Trac	ks to wet																																	
		1 900 1 1400		7.71 7.46			16.6 22.4	48.8	8 0.01	2.12	0.004	0.0003	0.139	0.303	0.083	89.5 0.058	8 1.52	0.227	0.2	0.186	<0.0001	7.79	8880	143	202	1410	16	85.5	2270	857 <1	<1	48	8 488	91.0	5 3.46	1.46	0.04	2.56	2.6	5450
	12-Jan-2	2 1330 2 1740	5.85	6.92 6.71	7.41	8899	22.6																																_	
	05-Jul-2	1520					20.1																																	
	12-Sep-	22 1015	5.06					to water in cr	reek	$\vdash$	-			_	-		-						$\vdash\vdash\vdash$				$\vdash$		$\vdash$						1					
043																																			1					
P43	26-Sep-1	6	#VALUE!	too wet			21.8																												<u> </u>					
Depth 6 Format. Wate	rmark 25-Nov-	.6 920	20.08	21.04	7.2	10660	22.8		<0.001	0.179	<0.001	<0.0001	<0.001	<0.001 0	.006 0.	.12 <0.001	0.808	0.004	<0.01	0.056	<0.0001	7.95	11500	122	207	2060	35	114	3360	383 <1	<1	821	821	119	2.38	0.06	<0.01	0.04	0.04	6670
standpipe height 0.		6 1000 7 1130					23.9 23.4																																	
	21-Feb-1		-0.96		No acces	s																																		
	27-Apr-1	7 915	14.76	15.72	7.4	10830	21.3																																	
	27-Jun-1	7 1000 7 1010	12.55	13.51	7.3	10870	21.7																																	
	28-Aug-1	7 920 . <b>7</b> 930	11.73	12.69	7.4	10900	21.9 22.2																																+	
		7 940 7 925					23.7 22.8	0.89	0.002	0.145	<0.001	0.0002	0.001	<0.001 0	.005 1.	.07 0.001	0.566	0.003	<0.01	0.049	<0.0001	7.89	12100	112	214	2160	34	118	3040	442 <1	<1	722	722	109	3.8	0.03	<0.01	0.88	0.88	6080
	28-Nov-	7 1000 7 905	11.12	12.08	7.4	11080	23.1																																	=
	31-Jan-1	8 900	10.49	11.45	7.4	11150	22.8							_			1																		1					
	28-Mar-	.8 900	10.14	11.1	7.4	11180	22.4																																	
		8 915 18 910					23.4 22.1								_		<u> </u>											<u> </u>				_			$\perp$					
	25-Jun-1		-0.96		No acces																																			

1					ė I	,		Field Param	otors						Total N	Motals									c		Major Catio	ns			Mai	or Anions									
Second Second	₽	eter/ Bore	a a	e l	Wate	Stand					Arsenio	Rarium	Reryllium				Iron	Lead	Mangane	Nickel		Τ	(8) (9)	g	hs/cu	Calcium			tions -	Chloride		Ta	Bicarbona	1	ions -	lance	nia as n (N)	as N -	as N -	- mg/	solvec
Column   C	Site	ezome	Dat	Ē	th to	abte	pH - Fi	EC - Field μs/cm	Temp - Field - °C			(Ba) -	(Be) -	Cadmium Chromiu (mg/L) (Cr) - mg	m (Co) -	(Cu) -	(Fe) -	(Pb) -	se (Mn) -	(Ni) -			arcuny mg/		ਵ ਵ	(Ca) -	m (Mg) - (Na	) - m (K) -	tal Cat	(CI) -		- as CaCO3		Alkalinity -	tal An	nic Ba	mmor	itrite a	trate a	( as N	al Dis
Second Second		<u> </u>			Dep	Dep														mg/L			ž		ŭ			/L mg/L	è	mg/L	mg/L	mg/L	as CaCO3		P	٥	₹Ż	ž	ž	ô	ğ
Section   Sect	ANZECC Guideline	- Stock arinking (			-0.96		No acc	ess		5	0.5			0.01 1	1	1		0.1		1		20	0.002			1000					1000							1500	400		4000
Section   Sect				845		9.74	_		21.8	0.58	<0.003	1 0.124	<0.001	<0.0001 <0.000	1 <0.00	0.005	1.01	0.002	0.046	0.004	<0.01	0.037	<0.0001	7.94	12900	114	194 1	960 32	108	3690	464 <1	<1	630	630	126	7.95	0.02	<0.01	1.4	1.4	6010
Second Second			30-Oct-18			9.76			23.1																																
Second Second			20-Dec-18	_			7.6	11430																																	
Second Property   Second Pro			25-Feb-19				No acc	ess																																	
Column   C																														-											i
A C				900	8.99	9.95			-		+														-+			_		-											
Second Second			31-Jul-19				No	access - hand	d feeding																																
Section   Sect			26-Sep-19				No	access - hand	d feeding																																
March   Marc			28-Nov-19				No	access - hand	d feeding																																
Column   C				920	7.51	8.47				1	+				+		+					-			$\dashv$			_	1	$\vdash$		-				+					
			27-Feb-20	920	7.68																																				
			28-Apr-20	825	8.11	9.07	7.4	11370	22.1																																
Column   C			_		8.29	9.25	7.4	12080																																	
Section   Sect										-	+				+		+					-							-	-		1		-		-					
March   Marc			23-Sep-20	1100	8.65	9.61	6.96	11476	18.5	9.8	0.00	7 0.261	<0.001	<0.0001 0.0	14 0.01	18 0.01	5 17	7 0.01	2.35	0.02	0.02	0.052	<0.0001	7.83	9680	108	209	2080 3	3 114	4 3500	397 <1	<1	79	7 797	123	3.8	0.52	2 <0.01	0.02	0.02	6660
Column   C			27-Nov-20			9.92	6.8	12100																																	
900 10 10 10 10 10 10 10 10 10 10 10 10 1			25-Jan-21	_		9.46	7.3	11650							$\perp$	$\pm$																									
March   Marc										+-	+-	+ -			+-	+	+-	+-	<del>                                     </del>			<del>                                     </del>		$\vdash$	$\dashv$		+		<del>                                      </del>	<del>                                      </del>		+ -		<del>                                     </del>	<u> </u>	+	H =	+-			-
March   Marc			29-Apr-21	830	8.69	9.65	7.3	9590	20.8							+	1	1							=																
Column   C			23-Jun-21			9.72	7.2	10200																																	
March   Marc				1100	8.36				18.4																																
Marcia   M										0.22	0.00	0.155	<0.001	<0.0001 0.0	0.00	0.00	2 0.72	2 <0.001	2.95	0.004	<0.01	0.02	<0.0001	7.91	11800	122	194	2010 3	3 110	3520	430 <1	<1	79	796	124	5.84	4.62	0.85	0.88	1.73	6930
Marcha   M			31-Mar-22	1630	7.67	8.63	7.21	11856	24.3																																
			12-Sep-22				NST - N	lo landholde	access due	e to water in c	creek																										1				
Sect   Sect			23-Nov-22	920	7.54	8.5	6.99	12967	23.1																																
The column   The	P51																															<1	964	964	203	1.18					
Secondary   Seco			03-Jun-15	1040	4.57	5.17	7.6	16670	23.2																																
	Format.	Napperby							_	0.11	0.004	0.083	<0.001	<0.0001 <0.00	<0.00	0.013	0.14	0.001	0.012	0.002	<0.01	0.112	0.0002	8.09	18200	41	308 2	960 10	156	4490	851 <1	1	842	842	161	1.53	0.04	<0.01	0.47	0.47	11200
Mary all 100   1		0.6								0.09	0.002	0.092	<0.001	<0.0001 <0.003	L <0.00	0.033	0.14	<0.001	0.021	0.006	<0.01	0.193	<0.0001	8.07	18800	49	366 3	230 10	173	5760	954 <1	<1	893	893	200	7.22	1.2	<0.01	0.84	0.84	12000
Store   100   10			26-Sep-16	1245	4.90	5.5	7.9	17550	22.7	0.07	0.002	0.077	<0.001	<0.0001 <0.003	0.00	1 0.002	0.09	<0.001	0.097	<0.001	0.01	0.013	<0.0001	7.95	19800	51	453 3	700 13	201	6110	843 <1	<1	933	933	208	1.84	0.16	0.02	0.04	0.06	11600
Transport   130			24-Nov-16	1200	4.91	5.51	7.8	16240	21.8																																
1										+	+				_		-								-+			_		$\vdash$		+		-		+-					
March   100   10			23-Feb-17	1025	4.97	5.57	7.6	17860	23.6																-																
Property   15   15   15   15   15   15   15   1			26-Apr-17	1230	5.00	5.6	7.6	17420	24.4																																
Property   15   75   75   75   75   75   75   75										1	+				_													-	1	$\vdash$		1									
March   Marc																														-											
Proof   170   18			26-Sep-17	1130	5.30	5.9	8	19260	22.6		0.002	0.112	<0.001	<0.0001 <0.003	0.002	2 0.006	0.09	<0.001	0.241	0.003	<0.01	0.038	<0.0001	8.02	21800	51	425 3	640 11	196	6020	880 <1	<1	744	744	203	1.72	0.25	<0.01	0.17	0.17	14000
Section   Sect																																									
Seption   1907   200   61   73   1900   33										1	+				-													_				_		-		1					
195   195			28-Feb-18	1050	5.50	6.1	7.3	19850																																	
Part   196   197			30-Apr-18	1115	5.63	6.23	7.4	20200	23.9																																
38-04-81 175 217 4 531 776 1930 277										1	+				+		+					-			$\dashv$			_	-	$\vdash$		+		-		+					
28-sp-38   115   5.56   6.57   19230   221   0.66   0.022   0.093   0.001   0.			26-Jul-18	1250	5.71	6.31	7.6	19190	23.7	1																															
2-New-18   110   5.02   6.52   7.7   1980   2.7			25-Sep-18	1115	5.96	6.56	7.7	19230	23.1		0.002	0.093	<0.001	<0.0001 <0.003	0.00	1 <0.001	0.13	<0.001	0.166	0.004	<0.01	0.007	<0.0001	7.78	21200	44	479 4	000 12	216	7170	885 <1	<1	743	743	236	4.34	0.31	<0.01	0.18	0.18	15300
31-48-19   11/5   23   633   637   75   15/5   15/5   75   15/5   15/5   75   15/5										<u> </u>								_											<u> </u>	$\perp$						$\pm$					
27-Feb-39   1115   6.23   6.83   7.8   1970   24.3																		1							$\dashv$					$\Box$											
304-pri 9 125 612 672 78 1970 238			27-Feb-19	1115	6.23	6.83	7.8	19270	24.3																																
25-Jun-19   130   6.52   6.85   7.7   1920   23.6			30-Apr-19	1255	6.12	6.72	7.8	19270	23.8						$\perp$																										
31-Jul 20   100   6.33   6.93   7.7   1980   23.9   23.9   1980   23.9   23.0										+								-							$-\top$		+	$-\Gamma$		+											
24-Sep-19   1225   6.60   7.2   7.8   19910   23.9   0.04   0.002   0.073   0.001			31-Jul-19	1020	6.33	6.93	7.7	19890	23.9																																
28-Nov-19 1302 6.73 7.33 7.6 19870 23.5			24-Sep-19	1225	6.60	7.2	7.8	19910	23.9	0.04	0.00	2 0.073	<0.001	<0.0001 <0.001	<0.001	1 <0.001	0.:	1 <0.001	0.081	0.002	<0.01	0.006	<0.0001	7.83	12500	36	412	3480 1	2 18	7 6620	847 <1	1	1 810	810	220	8.13	0.10	5 <0.01	0.1	0.1	12500
18-Dec-19   1045   6.80   7.4   7.6   18710   23.4											+				+		+	+-				<del>                                     </del>			$-\top$				1	$\vdash$		_				1					
25-Feb-20 1135 6.82 7.42 7.5 1987 24.1			18-Dec-19	1045	6.80	7.4	7.6	18710	23.4																																
30-Apr-20 102 7.02 7.62 7.5 2600 23.5			25-Feb-20	1135	6.82	7.42	7.5	19870	24.1																																
26-May-20 1155 6.87 7.47 7.4 2180 23.7											+				+		+	+-	<del>                                     </del>			<del>                                     </del>	$\vdash$		$-\top$				1	_		+		-			1				
23-Jul-20 120 6.97 7.57 7.4 2140 21.3			26-May-20	1155	6.87	7.47	7.4	21800	23.7							1																									
23-Sep-20 930 7.05 7.65 7.16 20362 18.6 2.01 0.002 0.134 0.001 0.002 0.134 0.001 0.002 0.003 0.009 2.3 0.00 0.276 0.005 0.01 0.023 0.000 1.777 21400 29 474 4040 12 216 6360 750 0.1 0.1 905 905 213 0.79 0.05 0.01 0.01 0.01 13200			23-Jul-20	1120	6.97	7.57	7.4	21400	21.3																																
											0.00	2 0.134	<0.001	<0.0001 0.0	04 0.00	0.00	9 2.3	3 0.00	0.276	0.005	<0.01	0.023	<0.0001	7.77	21400	29	474	4040 1	2 21	6360	750 <1	<1	90:	905	213	3 0.79	0.0	5 <0.01	0.01	0.01	13200
																							1						1	1		1				1					

Narrabri Mine
Groundwater Monitoring Data

				÷	<u> </u>	l F	ield Parame	ters						Total Me	tals								l F		Major Ca	itions					Major A	Anions								٦	σ
Site ID	Piezometer / Water Bore	Date	Time	Depth to Wate mbgl	Depth to Stand mbtoc				Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L Cadmium (mg/L)	Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) - mg/L	Nickel (Ni) - mg/L	Vanadium Zind (V) - mg/L - m		pH Lab	EC - Lab - µs/cı		Magnesiu m (Mg) -	Sodium Po	otassiu (K) - ig/L	a e	(CI) -	Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 -	Carbonate	Bicarbona te Alkalinity as CaCO3 -	Alkalinity - mg/L	Total Anions · meq/L	lonic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg	Total Dissolve Solids
ANZECC Guideline	- stock drinking v	vater							5	0.5		0.01	1	1	1		0.1		1		0.00	2		1000						1000								1500	400		4000
		27-Nov-20	1210	7.12	7.72	7.3	22700	21.6																																	$\overline{}$
		21-Dec-20	1300	7.14	7.74	7.5	22300	20.4	1																																
		20-Jan-21	1115	7.18	7.78	7.5	22000	21.9	1																																
		02-Mar-21	1125	7.07	7.67	7.4	22100	21.3																																	
		30-Mar-21	1250	7.13	7.73	7.4	22100	21.4																																	
		29-Apr-21		7.17	7.77	7.5	20900	21.5																																	
		31-May-21		7.04	7.64	7.5	20800	22.3	1																																
		23-Jun-21	1030	7.20	7.8	7.4	21200	22.8	1																																
		30-Jul-21	1500	7.11	7.71	7.05	19558	22.8																																	
		27-Aug-21		7.05	7.65	7.21	20389	18.6																																	
		06-Oct-21		7.06	7.66	7.25	19615	21.7	1.3	4 0.002	0.12	<0.001 <0.0001	0.002	0.002	0.005	1.46	0.003	0.168	0.005	<0.01	0.019 < 0.00	1 7.	95 20500	40	400	3560	11	190	6610	802	<1	<1	824	824	220	7.22	0.02	<0.01	0.04	0.04	12800
		11-Jan-22	1230	6.83	7.43	7.4	20843	24.3	1																																
		28-Mar-22	800	6.47	7.07	7.39	20560	23.8																																	
		05-Jul-22	1605	6.29	6.89	7.24	20549	22.2																																	
		15-Sep-22	836	6.61	7.21	7.6	22223	21.5	0.	9 0.002	0.075	0.001 < 0.0001	0.004	0.001	0.003	0.73	0.001	0.101	0.003	0.01	0.011	7.	99 20200	43	424	3670	11	197	6040		<1 .	<1	772	772	202	1.37		0.01	0.04	0.04	12800
		22-Nov-22		6.34	6.94	7.1	22041	22.2																																	
P52		15-Dec-15	1100	7.51	8.02	7.1	2480	22.8	40.5	0.022	0.802	0.004 0.0004	0.17	0.091	0.292	66.7	0.072	1.56	0.224	0.14 0.	322 0.00	7.56	2490	104	144	245	6	27.8	455	126	<1	<1	578	578	27	1.53	0.34	0.01	3.08	3.09	2030

The column		_			-	-	Fi	ield Paramet	ters						Total Met	tals								E		Major Ca	ations	- 1			Major	Anions				0			,	링 [	2
**************************************	₽	eter/ Bore	2	e	Wate	Stanc					Arsenic Ba	rium Ber	rvllium		Cobalt	Copper II	ron Lea	ıd Ma	ngane Nicl	kel			(Hg)	ab /su .	Calcium	Magnesiu	Sodium Pot	assiu si s	Chloride	Sulfate	Hydroxide	Carbonate	Bicarbona te		ions 1/t	alance	nia as en (N)	as N -	as N ·	m -	ssolve
**************************************	Site	ezom /ater	Dat	Ė	th to	th to	pH - Field	EC - Field · μs/cm	Temp - Field - °C	Aluminium (AI) - mg/L	(As) - (Ba	a) - (Be	Cad (mg	dmium   Chromium g/L)   (Cr) - mg/L	(Co) -	(Cu) - (I	Fe) - (Pb	se (	Mn) - (Ni)	Van:	adium   Zir mg/L   - n	nc (Zn) ng/L	mg.	F   B	(Ca) -	m (Mg) -	(Na) - m (	() -   E	(CI) -	(SO4) -	Alkalinity as CaCO3 -	Alkalinity as CaCO3 -	Alkalinity	Alkalinity - mg/L	tal Ar	nic Bg	mmoi	itrite	trate mg,	( as N	Soli
Part Street   Part Street					Dep	Dep						g/L mg			-					/L   · ·			ž	<u> </u>			mg/L mg	r Þ	mg/L	"	mg/L	mg/L	as CaCO3 -		P	٥	₹Ź	Z	ž	ô	Tot
	ANZECC Guideline	- stock drinking v		1210	7.79	8.3	7.2	2540	24.1	•		.131 <							_	1		20 0	0.002				250	6 26.3	434		<1	<1	604	604	26.9	1.19	0.6			1.73	
			02-Jun-16	1245	8.03	8.54	7.2	2610	20.3																																
**************************************	Format.	Napperby								0.05	0.003 0	1.178 <	<0.001 <0	0.0001 <0.001	0.004	<0.001	0.08 <	0.001 0	.258 0.	.014 <	0.01 (	0.024 <	0.0001	7.95 2080	89	100	205	7 21.8	287	78	<1	<1	627	627	22.2	1.11	0.09	<0.01	0.7	0.7	1060
State   Stat	standpipe height	0.51	24-Nov-16	1215	5.81	6.32	7.7	2180	21.6																1-				1												
Part   Part															$\vdash$				+	+		$\dashv$	_		+			_	+-							+	<del>                                     </del>				
Section   Sect																																									
Part																									+	+ +		-	+							1	<b>†</b>				
			29-May-17		6.92	7.43	7.9	2260																																	
				1215					22.3		_				$\vdash$				+			-			+	+ +			+							1	<del>                                     </del>				
Part										0.05	0.002	162	-0.001 -0	0.0001 +0.001	10.001	0.000	0.07	0.001	015 0	004	0.01	000	0.0001	0.02 220		107	25.0	24	252	0.4	-1	-1	F24	F24	22.4	4.04	0.03	-0.01	0.00	0.00	1100
Mart   Mart										0.05	0.002 0	1.103 <	:0.001 <0	7.0001 <0.001	<0.001	0.006	0.07	0.001	.015 0.	.004 <	0.01	J.U26 <	0.0001	8.03 2290	<del>'   ''</del>	107	250	9 24	352	84	<1	<1	524	524	22.1	4.04	0.02	<0.01	0.89	0.89	1190
Column																																					ļ				
Column   C															$\vdash$				+	_					+-	+ +			+							1	<del>                                     </del>			-	
Mark 100   100																																									
Part															$\vdash$				-						+	1			+								<del>                                     </del>				
Mart   Mart															$\Box$							-																			
Part																																									
March   Marc										0.03	<0.001	215	10 001	0.0001 <0.004	0.003	<0.001	<0.05	0.001	366	014	0.01	0.007	0.0001	73/ 252	102	111	219	7 220	424	9.4		<i>2</i> 1	557	552	24.7	1 75	0.17	<0.01	0.04	0.04	1290
			30-Oct-18	1330	8.87	9.38	7.3	2200	22.8	0.03	~0.001 U	(	-0.001		V.UU3	~0.001	ا> دن.ن.		.500 0.		U.U.		0.0001	2531	, 102	111	210	. 23.9	424	04	``	\1	332	332	24./	1./3	0.17	~U.U1	J.U4	0.04	1200
Fig. 1										1		-			$\vdash$			-	-	_		-			-	+		-	+		<del>                                     </del>					1				-	
			31-Jan-19	1120	9.31	9.82	7.1	2170	23																			$\bot$								1					
Martine   Mart										1	-+	+			+	-	_	+	+	+	+	+	-+	-	+	+		+-	+	-					-	1		1			
			30-Apr-19	1310	9.58	10.09	7.5	2260	22.5			$\perp$							$\perp$				$\rightarrow$					$\dashv$	$\perp$												
Part   Part												+		-	$\vdash$		_	-	-	+	-+	+	+	_	+	+ +		+	+							1					-
			31-Jul-19	1040	9.81	10.32	7.3	2150	21.7			$\perp$							$\perp$	$\perp$		_	$\rightarrow$		1			$\dashv$	1												
										0.05	<0.001	0.201 <0.0	.001 <0.0	0001 <0.001	0.009	0.001	0.22 <0.	001	0.379	0.012 <0.0	1	0.016 <0	0.0001	7.53 11	30 9	3 107	209	8 2	2.7 34	5 85	<1	1	562	562	22.7	7 0.03	0.28	3 < 0.01	0.08	0.08	1130
			29-Oct-19	1200	10.02	10.53	7.3	2160	22.4																1				1												
Seed 1 26															$\vdash$				+	+		$\dashv$			+			_	+							1	<del>                                     </del>				
Secret   S																																									
											_				$\vdash$				+			-			+			_	+							1	<del>                                     </del>				
Mart   Mart															$\vdash$				_						4				4							-					
																									+																
1500  1000   1500   1								_		0.22	<0.001	0.206 <0.0	001 <0.0	0001 <0.001	0.005	0.004	0.51 <0	001	0.252	0.016 <0.0	1	0.022 <0	0001	7 95 20	50 10	100	102	7 2	2.4 22	5 92	c1	<b>_1</b>	65.4	654	24.2	2 2 00	0.11	<0.01	0.15	0.15	1100
Note   Note				_						0.55	V0.001	0.206 (0.1	.001 (0.1	0001 (0.001	0.003	0.004	0.31 (0.	001	0.552	0.016 < 0.0	1	0.023 <0	1.0001	7.83 20	50 10	100	192	/ - 2	2.4 33	83	(1	<u> </u>	654	054	24.3	5.99	0.11	0.01	0.15	0.15	1190
Section   Sect												_			$\vdash$				-	_	_	$\dashv$			+-	+ +		-	+	-					-	-	├				
March   Marc			20-Jan-21	1130	9.69	10.2	7.4	2320	20.2																																
May   May															+				_			-+			+	+ +			+							1	<del> </del>				
Part			29-Apr-21	1210	8.85	9.36	7.4	2100	20.4																																
Section   Sect															+										+	+ +		_	+							-	-				
Property   Property			30-Jul-21	1530	7.42	7.93	7.4	2161	21.5																																
Property   Property										0.33	<0.001	0.218 <0.0	.001 <0.0	0001 <0.001	0.006	0.003	0.59 <0.	001	0.428	0.024 <0.0	1	0.022 <0	0.0001	7.91 22	40 10	1 99	188	8 2	1.6 37	7 87	<1	<1	661	661	25.6	5 8.64	0.04	<0.01	0.01	0.01	1310
Part																						_																			
Part   Part											_				+		_		+			$\dashv$	-		+-				+-							1	$\vdash$				
15. 15. 15. 15. 15. 15. 15. 15. 15. 15.										0.15	0.001	0.191	0.001 <0.0	0001 0.003	0.001	0.003	0.27 <0.	001	0.066	0.008	0.01	0.028		7.98 20	90 10	7 104	186	8 2	2.2 33	0	<1	<1	632	632	23.6	3.12		0.01	0.67	0.67	1190
March   Marc			21-NOV-22	1220	5.4b	5.9/	ბ.ან	2288	21./													+	+		$\pm$			$\pm$	$\pm$	<u> </u>								<u>_</u> _			
Performe. 1	P53																																								
Secretary 125 126 126 137 140 140 150 140 140 140 140 140 140 140 140 140 14			02-Jun-16	1300	10.26	10.77	7.7	1045	20.1																																
Second Person   Second Perso	Format.	Garrawilla								0.03	<0.001 0	.136 <	(0.001 < 0	0.0001 <0.001	<0.001	<0.001	<0.05	0.001 0	.078 <0	0.001 <	0.01	0.016	0.0001	8.02 980	45	42	157	4 12.6	52	14	<1	<1	481	481	11.4	5.23	0.04	<0.01	0.12	0.12	494
34-9-17 (30) 8.0 9.11 79 105; 23 22   10   10   10   10   10   10   10	Standpipe height	0.51	24-Nov-16	1230	8.13	8.64	7.7	1012	21.8			$\perp$							$\perp$							$\perp$		$\bot$													
2-Mer-27 1955 8 89 934 77 9100 227												+			+-+	-		_	_	+	-+	+	+		+	+		+-	+	-					-	$\vdash$	-				
26-Age-77   120   9.18   8.6   8   1509   22.4			23-Feb-17	1055	8.83	9.34	7.9	1043	22.7			$\perp$							$\perp$							$\Box$		$\dashv$	1							1					
29-May-17   120   217   218   219										1		+			+			-+	+	+	-	-+	-+		+	+		+	+							1					
26-ult7 [130 9.1] 987 8 1012 19			29-May-17	1230	9.17	9.68	8	1066	21.7																			$\Box$	1												
24-May 1-74   29-May 1-74   30-May																					+	+															<u> </u>				
25-04-17 [155] 9.80 [103] 7.7 [170] 231			29-Aug-17	1215	9.61	10.12	8.1	1038	22.2	0.04	<0.001	135	10.001	0.0001 <0.004	<0.001	0.004	<0.05	0.001 /	001 -0	001	0.01	0.015	0.0001	Q 1111	AE.	AE.	121	5 11 3	£1	13	_1	-/1	420	420	10.6	2 5 5	0.03	<0.01	0.35	0.35	EE2
27-Nov.17   120   9.89   10.49   10.52   7.8   11.54   12.52   7.8   10.52   12.54   7.8   10.55   12.52   7.8   10.55   12.52   7.8   10.55   12.52   12.55   10.55			26-Oct-17	1155	9.80	10.31	7.7	1070	23.1	0.04	<0.001 0	,133   <	·0.001 <0	.0001 <0.001	<0.001	U.UU4	\U.U3 <	J.UU1 (	,.01 <0		0.01	.015 <	0.0001	0 1110	45	45	121	11.3	61	12	<1	<1	430	430	10.6	3.55	0.03	<0.01	0.35	0.35	352
39-in-18 1150 1030 1081 7.8 1070 23.2			27-Nov-17	1200	9.98	10.49	7.8	1058	22.4			$\neg$			$\Box$			$\neg$	$\perp$	$\perp$	$\neg$	$\neg$	$\neg$		$\perp$			$\neg$	$\perp$												
28-May-18   1310   10.51   11.02   7.8   10.95   21.9			30-Jan-18	1150	10.30	10.81	7.8	1070	23.2																																
30-Agr-18 1145 10.64 11.15 7.8 1048 22.2										$\vdash$	-	<u> </u>			+	$-\top$	$-\Gamma$	$ \Gamma$	$-\Gamma$		$-\Gamma$	$-\Gamma$	$-\mp$		+	+			$+\overline{}$		$\vdash$				H		H			-	
26-Jul-18   135   10.83   11.44   7.8   1010   21.6   11.55			30-Apr-18	1145	10.64	11.15	7.8	1048	22.2																				$\bot$												
26-Jul 8 1 320 9 9 10.4 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 22.5 1 9 10.0 11.3 11.6 7.8 105 22.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 105 12.5 1 9 10.0 11.3 11.6 7.8 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10												_			+	-						$-\Gamma$	$-\Gamma$		+	+		-	+	_	<u> </u>				<del></del>						
25-Sep-18   120   11.3   11.64   7.8   105   2.1   0.04   <0.001   0.16   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <			26-Jul-18	1320	9.90	10.41	7.8	1015	22.5																																
30-Oct-18 1345 11.21 11.72 7.9 1080 22.9 1080 22.9 1080 22.9 11.02										0.04	<0.001	0.16 <	:0.001 <0	0.0001 <0.001	<0.001	<0.001	0.33	0.001	.047 <0	0.001 <	0.01	0.005	0.0001	7.75 108	) 45	47	128	4 11.8	71	14	<1	<1	431	431	10.9	3.87	0.14	<0.01	0.06	0.06	632
21-Dec-18 1145 11.36 11.87 7.6 1150 22.1			30-Oct-18	1345	11.21	11.72	7.9	1080	22.9					0.001										2001		<u> </u>			<u> </u>	1 -	_					1	<u> </u>	12.32			
31-Jan-19 1130 11.40 11.91 7.6 1130 22.8												-			+			_	-	-	_	+	+		+	+ +		+	+							1					
28-Mar-19 1210 11.59 12.1 7.8 1150 22.4 1 150 12.1 7.8 1150 22.4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			31-Jan-19	1130	11.40	11.91	7.6	1130	22.8			$\perp$							$\perp$	$\perp$		_			1			$\dashv$	1												
30-Apr-19 1325 11.71 12.22 7.7 1165 22.4											_	+		-	+		-	+	+	+	+	+	+		+	+ -		+	+	1						1					-
31-Widy 12 12.00   11./4   12.25   /./   1180   22.0			30-Apr-19	1325	11.71	12.22	7.7	1165	22.4			=							$\neg$			1	$\dashv$						$\top$												
	1		21-way-19	1200	11./4	12.25	1./	I TIQU	<sub> </sub> 22.b																					1											

	, e			ıter .	- pu	Fi	ield Parame	eters						Total N	Metals							- (8		m /		Major Ca	ations		- s				Anions	Bicarbona		- 51	9	as (i	, 2	<u> </u>	J/Br	ved
Site ID	zomete ater Boi	Date	Time	h to Wa mbgl	th to Sta mbtoc	pH - Field	EC - Field	Temp -	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Barium B (Ba) - (I mg/L n	Beryllium Be) - ng/L	Cadmium (	Chromium (Cr) - mg/L (Co) - mg/L	Copper (Cu) -	Iron (Fe) - mg/L	Lead (Pb) -	Mangane se (Mn) - mg/L	Nickel (Ni) -	Vanadium Z	inc (Zn)	cury (H	рн Гар	Lab - µs		Magnesiu m (Mg) -		Potassiu m (K) -	tal Cation meq/L	Chloride S (Cl) - (Smg/L n	ulfate SO4) -	Alkalinity	Carbonate			al Anior meq/L	ic Balan	ımonia rogen (	rite as I mg/L	ate as mg/L	as N - n	l Dissol Solids
	Pie.			Dept	Dept		μs/cm	Field - C	(AI) - mg/L	IIIg/L					mg/L	mg/L	mg/L	mg/L				Š		ū		mg/L	mg/L	mg/L	Tota			mg/L	Alkalinity as CaCO3 - mg/L	as CaCO3 - mg/L	mg/L	Tota	lo	Nit Am	ž	ž ži	Š	Tota
ANZECC Guideline	- stock drinking (	25-Jun-19	1200			7.5			5	0.5			0.01	1 1	1		0.1		1		20	0.002			1000						1000								1500	400		4000
		28-Aug-19	1100	12.09	12.6			22																																#		
		29-Oct-19	1315	12.24		7.5	1080			<0.001	0.156 <	0.001 <	:0.0001	0.002 <0.001	0.002	0.33	<0.001	0.03	0.001	<0.01	0.024 <0	0.0001	7.75	596	47	50	125	4	12	65	15	<1	<1	347	347	9.08	13.8	3 0.09	<0.01	0.1	13 0.13	596
			1350			7.5 7.5	1120		Duplet																															$\pm$		
		31-Jan-20	955	12.29	12.8	7.6	1080	22.7																																$\pm$		
			1210 1230			7.5 7.6		22.3 22.4																																$\pm$	<del></del> '	
			1045 1225			7.6 7.6		22.9 22.2					-																-											+-	+	-
			1155 1135			7.6 7.6	1060 970	21.9 20.1																																+	+	
			1235				1010 1072	19.9 18.4	6.19	9 < 0.001	0.206 <	:0.001 <	:0.0001	0.026 0.00	0.01	10.6	0.001	0.103	0.022	0.02	0.086 <0	0.0001	7.95	1070	51	49	118	4	11.8	62	13	<1	<1	526	526	12.5	2.94	1 0.11	<0.01	<0.01	<0.01	610
		27-Oct-20	1155 1230	11.47	11.98		980	20.5 21.1																																$\mp$	+	
		21-Dec-20	1330	11.77	12.28	7.6	1065	19.9																																#	##	
		02-Mar-21	1 1205 1 1310	11.70	12.21	7.5	1065																																	#	##	
		29-Apr-21	1220 1 1200	11.07	11.58	7.6	1050	20.4																																丰	##	
		23-Jun-21	1055	10.54	11.05	7.7		21.9																																#		
		27-Aug-21	1545	10.47	10.98			18.4		1		-										+																		#		
		11-Jan-22	1600	8.58	9.09		1120	22.1 23.9	1.43	3 <0.001	0.18 <	:0.001 <	(0.0001	0.006 0.00	0.008	2.13	0.002	0.16	0.015	<0.01	0.036 <0	0.0001	8	1070	50	44	112	5	11.1	76	17	<1	<1	494	494	12.4	5.33	0.13	0.2	27 1.8	81 2.08	586
		05-Jul-22	930	9.72	10.23	7.17	1485	21.6																																+-	+	
			846 1250			7.64 7.14	1220 1250	21.4 22.5	0.31	1 0.001	0.164	0.001 <	0.0001	0.002 0.00	0.001	0.67	<0.001	0.012	0.001	0.01	0.023		8.12	1100	56	50	121	5	12.3	74		<1	<1	479	479	12	1.36	5	0.0	0.0	0.05	602
P58		28-Aug-20	930	20.54	20.94	7	9190	18.3					-		1						-+	-+	-+	$\dashv$	-+				-											+-	+-	$\vdash$
			1100 1210			6.97 7	9860 8750	17 19.6	0.22	2 0.03	0.536 <	:0.001 <	(0.0001	<0.001 0.00	0.005	0.36	0.001	0.432	0.03	0.03	0.034 <0	0.0001	7.83	8660	95	100	2300	33	114	1060	159	<1	<1	3940	3940	112	0.85	2.79	<0.01	<0.01	<0.01	6860
standpipe height	0.4	27-Nov-20	1245	13.12	13.52																		7.4	11100	78	93	2680	60	130	1130	89	<1	<1	5130	5130	136	2.47	7		1	#	7230
		23-Dec-20	1115 920	16.66	17.06	7.1	9460	19.8																											-					#	##	
		02-Mar-21	1320	18.42	18.82	7.2	9610	20.6															7.0	40000	70	0.5	2700		424	4040	7.		_	5530	5500	- 440	2.55		.0.20	1000		
		30-Mar-21	1 900 1 1325	18.63	19.03	7.2	10556 9620	20.2															7.8	10900	73	85	2790	64	134	1010	75	<1	<1	5530	5530	140	2.52	2 5.33	<0.20	<0.20	<0.20	7730
		31-May-21	1130 1 1215	18.47	18.87	7.3	9140	21.6																																$\pm$		
			1000				10437 9370						-+										7.37	10800	68	99	3090	64	148	999	78	<1	<1	5600	5600	142	2.04	1		+-	+'	7520
			1600 1100			6.76 7.01	10435 9863																	-+																+-	+-	
			700			6.92 7.16	10330 11031	19.4 25.9	0.24	4 0.019	0.587 <	0.001 <	0.0001	0.004 0.00	0.004	0.55	0.001	0.732	0.017	0.01	0.041 <0	0.0001		11100 11300	66 50		2670 2860		127 135	1030 1170	83 90		<1 <1	5080 4510					<0.01	<0.01	<0.01	7520 7470
		30-Mar-22	730	18.24	18.64	6.72	11219	24.4																		75				1130			<1							#	#	7780
		14-Sep-22	830	18.59	18.99	7.32	12446	22.2	1.21	1 0.006	0.506	0.001 <	0.0001	0.003 0.00	0.009	1.63	0.002	0.721	0.009	0.01	0.022		7.53		43	68	2770 2910	70	130	1230 1280 9		<1	<1	4950					0.0	0.0	0.02	
				18.02	10.42				0.05	0.003	4.71	-0.001	-0.0001	0.003	2 0 000	111	-0.001	0.027	0.003	10.01	0.205																	12.2	+0.10	-0.10	<0.10	
VPW		03-Jul-13	1230			7.43	12630	27.8 11.6						0.002 0.003																		<1			8670		2.84					
		04-Sep-13 27-Nov-13	940			7.38	12780	23.2						<0.010 <0.01													4120		189	216	<1	<1	<1	9650	9650	199	2.65	12.4				10500
			1000			7.1	13210	24.6 13.2	0.09					<0.001 <0.00															186	187	<1		<1	7380	7380	153	9.8					8210
		05-Dec-14				7.1		26.7	0.01					0.001 0.009								<0.0001			46		4330		199	184	<10	<1	<1	9830	9830	202	0.59	12.1	<0.10			8760
		03-Jun-15	955			7	13840		0.1			<0.001		0.004 0.004							0.074 <		7.58		63		4160		194	172	<1	<1	<1	7780	7780	160	9.47	12.2	<0.01			8340
			1310			7.4	13860	15.5 34.2	0.15					<0.010 <0.01													4520		216	160	<5	<1	<1		10100	206	2.28					10300
		31-May-16	1025 1120			7.6 Tap remo	oved	28						<0.010 <0.01													4100		191	185		<1	<1	8750	8750	180	2.95	2	0.53			7580
		27-Oct-16				7.2	12550	22.8 25.7	0.07	0.029	8.67	<0.001	<0.0001	0.011 0.013	3 0.04	3.13	<0.001	0.028	0.036	<0.01	0.045 <	<0.0001	7.41	14400	121	94	4130	140	197	178	<1	<1	<1	10400	10400	213	3.92	15.2	<0.10	<0.10	<0.10	9060
		20-Dec-16	i 1240 i 1235			7.2 7.4	13270	26.6 31.5																$=$ $\mathbb{F}$																$\pm \overline{}$		
			1135			7.2 7.3		31.5 31.9													$=$ $\mathbb{F}$																			$\pm \overline{}$	$\pm \overline{}$	
		30-Mar-17 26-Apr-17				7.3 7.3	13190	28.9 24.1																																+	+	
		29-May-17	7 1240 1025			7.1 7.1	12450	20.5 13.5													-	-		$\dashv$	-					-										+	+	$\square$
		26-Jul-17	1245			7.2 6.9	12500	19.4 17.6													_	_	_	_	-													-		<del></del>	#	
		26-Sep-17	1215			7.4	13260	28.9 27.3	0.02	0.005	6.53	<0.001	<0.0001	0.004 0.05	1 0.023	0.28	<0.001	0.041	0.034	<0.01	0.072 <	<0.0001	7.47	14800	86	85	3830	144	182	219	<1	<1	<1	9340	9340	193	3	14.6	<0.01	0.26	0.26	9450
		27-Nov-17	1210			7.1 7.2	14290	25.1 31.8													_		_	#	_													1		#	##	口
		30-Jan-18	1210			7.2	14020	29														_		_														1		#	#	口
		28-Mar-18	1200 3 1320			7.1	14680	28.4													_	$\Rightarrow$		$\Rightarrow$						_								1		#	#=	
		29-May-18				7.1	14140	23													=		_	=																#		
		30-Jul-18	1040			7.4	13140	15.1 15.4																=																#	+	
		30-Aug-18	1205			7.2	12650	12.9																			I		T				I				<u> </u>				]	

Site ID	Piezometer / Water Bore	Date	Time	pth to Water - mbgl	pth to Stand - mbtoc	u Eiold	eld Parame EC - Field μs/cm	Temp -	Aluminiur (Al) - mg/l		ic Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Cadmium (mg/L)	Chromium (Cr) - mg/L	Total Me Cobalt (Co) -	Copper (Cu) -	(Fe) -		Mangane se (Mn) - mg/L	/AI:\	Vanadium (V) - mg/L			pH Lab		Calcium (Ca) - mg/L	m (Mg) -	Sodium (Na) -	Potassiu m (K) - mg/L				Hydroxide Alkalinity as CaCO3 -	as CaCO3 -	te	Alkalinity -	otal Anions - meq/L	onic Balance	Ammonia as Vitrogen (N)	litrite as N - mg/L	itrate as N - mg/L	X as N - mg/L	rtal Dissolved Solids
ANZECC Guideline				- De	Del				5	0.5			0.01	1	1	1		0.1		1		20	0.00-	_	ŭ	1000				To		1000			mg/L		ĭ	2	4 2		400	<u> </u>	4000
		20-Sep-18 26-Oct-18 26-Nov-18	1150			7 7.4 7.4	12430 12560 13900	20.6 28.9 26.9	0.16	0.00	4 7.1	<0.001	<0.0001	0.013	0.002	<0.001	4.08	<0.001	0.035	0.003	<0.01	0.025	<0.0001	7.5	13700	73	73	3410	119	161	200	<1	<1	<1	8990	8990	185	7	15.3	<0.01	0.9	0.9	10600
		18-Dec-18 31-Jan-19	1200			7.4	13410 13800	31.4 32.1				-																															
		27-Feb-19 26-Mar-19	910			7.1		25.3																																			
		29-Apr-19 30-May-19	1230			7.4	14620 13540	18.6																																			
		26-Jun-19 31-Jul-19	1110				14580																																				
		27-Aug-19 25-Sep-19 29-Oct-19	945				14290 13910 13750	22.3 20.6 28.7	0.12	0.0	03	7 <0.001	0.0004	0.006	0.006	0.024	2.28	<0.001	0.063	0.01	1 <0.01	0.03	88 <0.0001	7.49	14400	95	108	3750	138	180	310	<1	<1	<1	8720	8720	183	0.74	15.1	<0.10	<0.10	<0.10	9720
		29-Nov-19 18-Dec-19	930			7.2	14570 13430	27.4																																			
		31-Jan-20 27-Feb-20	905 1120			7.3 7.5		28.7 28.6																																			
		26-Mar-20 28-Apr-20	1335			7.4	14870 15180	27.2																																			
		26-May-20 30-Jun-20	940			no	15880 pressure a	t tap	1																																		
		22-Jul-20 27-Aug-20 27-Oct-20				7.4	15600 16300	19.6																																			
		26-Nov-20 21-Dec-20	900			7.4	16990 pe Discarte	28.6	1																																		
		27-Jan-21 02-Mar-21				Pi	pe Discarto	ed?	1																																		
		30-Mar-21 27-Apr-21				Pi	pe Discarto pe Discarto		}																																		
					Discarted																										<u> </u>											ldot	
Mayfield S Depth Merrilo	0	28-Sep-16 27-Oct-16 25-Nov-16	1235	No flo No flo	w	8.8 9 7.6	156 188 2480	23.9 24.7 24.5					<0.0001										<0.0001			36		10 372	9	1.75	672	70	<1		152	152	23.4	1.09	<0.01	<0.01	<0.01	0.03 <0.01	1490
Wernio	ig Daili	21-Dec-16 24-Jan-17	1220	Flow <1 Slow tri	m/s	7.7	2960	28 28.5	0.28	<0.00	0.278	<0.001	<0.0001	<0.001	0.001	<0.001	1.11	<0.001	0.634	0.008	<0.01	0.009	<0.0001	1.12	2510	30	70	3/2	9	24	6/2	70	<1	<1	152	152	23.4	1.09	<0.01	<0.01	<0.01	<0.01	1490
		22-Feb-17 29-Mar-17	1315	Flow <1 Slow tri	m/s	7.6		22.8																																			
		27-Apr-17 30-May-17	1300	No flo No visible	w	7.6 7.3	2900	16.2 12.6																																			
		27-Jun-17 28-Jul-17	1200	No visible	flow	7.5 7.7	3270	12.6 11.3																																			
		28-Aug-17 25-Sep-17	1315	No visible	flow	7.6 7.6	3820	15.3 18	0.45	<0.00	0.243	<0.001	<0.0001	<0.001	0.007	<0.001	0.71	<0.001	0.611	0.047	<0.01	0.006	<0.0001	7.67	4010	56	132	517	17	36.6	960	132	<1	<1	104	104	31.9	6.82	0.01	<0.01	<0.01	<0.01	2070
		30-Oct-17 28-Nov-17	1210	No visible	ckle	7.9	3920	24.6																																			
		21-Dec-17 31-Jan-18 27-Feb-18	1335	No visible No visible Flow <1	flow	7.8 Dry	4650 4420	24	<u> </u>																																		
		28-Mar-18 30-Apr-18	1500	No visible	flow	Dry Dry	4420	27.2	1			1											1																				
		25-May-18 26-Jun-18	1240	No visible	flow	Dry Dry																																					
		30-Jul-18 30-Aug-18	1325	Slow tri Slow tri	ckle	7 8.5	4360 5440	19.2																																			
		25-Sep-18 29-Oct-18	1400	Small tri	ickle	7.7	4410			<0.00	0.267	<0.001	0.0003	<0.001	0.096	<0.001	1.84	<0.001	1.47	0.48	<0.01	0.112	<0.0001	6.69	5450	78	203	725	18	52.6	1380	245	<1	<1	43	43	44.9	7.91	0.06	<0.01	0.04	0.04	3240
		26-Nov-18 20-Dec-18	1430	Small tri Small tri Small tri	ickle		4670	26.8 27.8 32.4																																			
		24-Jan-19 25-Feb-19 25-Mar-19	1400	Clear, No	inflow		5120	25.5 23.2																																			
		26-Apr-19 30-May-19	1415	Small tri	ickle	7.9	4480		1																																		
		24-Jun-19 31-Jul-19	1500	Slightly T	urbid	7.1	3760	17.5 18.4																																			
		23-Aug-19 25-Sep-19		mall trickle	, slightly		4460																											_									
		28-Oct-19 27-Nov-19	1350		urbid	8.1 8.2 8.7		23.6 27.8		.16 <0.001	0.292	2 <0.001	<0.0001	U.002	0.043	<0.001	2.39	<0.001	1.39	0.223	3 <0.01	0.03	89 <0.0001	/.08	5190	85	212	663	18	51	1620	309	<1	<1	55	55	53.2	2.15	0.02	<0.01	0.01	0.01	3030
		18-Dec-19 29-Jan-20	1320	Slightly to	urbid		3580	25.3 28.1				1																															
		25-Feb-20 24-Mar-20	1510 1230				620 1123	27.8 24.5	Dam ful Dam ful	II																																	
		24-Apr-20 28-May-20	1340				970 2050	21.1 17.9	Dam ful	II	flowing into	o dam																															884
		29-Jun-20 22-Jul-20	1310	Spring flo Trickle f			2920 3000																																				
		26-Aug-20 02-Oct-20	930			8.4 7		14 20.7	<0.01	<0.00	0.096	<0.001	0.0001	<0.001	0.033	0.003	0.41	<0.001	0.84	0.289	<0.01	0.068	3 <0.0001	7.01	3810	54	124	436	11	32.1	1080	227	<1	<1	47	47	36.1	5.84	0.02	<0.01	<0.01	<0.01	1920
		23-Oct-20 26-Nov-20		Slightly to	urbid	8.9 8.8		24.2 25.6																																		$\vdash$	
		21-Dec-20 25-Jan-21	1050	-		8.5 8.6	5820	20.7	Dam 1/2 f	full																																	4450
		24-Feb-21 01-Apr-21	1350		-	9.1	2310	23.7	1																																		
		27-Apr-21 31-May-21	1340			8.8	1400	18.8 15.7	1			1	1																														
		22-Jun-21 20-Sep-21	1400		_	8.8		14.1	1														<0.0004	0 50	2270	26	70	317	10	21.6							21.4	0.43					1360
		20-3ep-21	_	completed	by Rodne			25.12	1														\U.UUU1	0.39	22/0	30	/0	31/	10	21.0							21.4	0.43					1300
Mayfield S	oring Btm	28-Sep-16 27-Oct-16					150 182		1.79	<0.00	0.054	<0.001	<0.0001	0.002	<0.001	0.002	2	<0.001	0.059	0.006	<0.01	0.007	<0.0001	7.64	152	10	5	10	11	1.63	6	6	<1	<1	62	62	1.53		0.07	<0.01	0.06	0.06	112
Depth	0	27-001-10	2230			J.1	102		1																																		
WB1		14-Aug-08	1445	8.34	9.00																																						
Depth	Unknown	12-Sep-08				7.9	1060	23.5		0.00	5 3.96	0.002	0.0003	0.001	<0.001	0.002	0.64	0.002	0.015	<0.001	<0.01	0.091	<0.0001		14200	102	209	3740	204	190	53	3	<1	<1	8700	8700	175	4.06	11.9			$\Box$	8510

	<b>\</b>			e.	٥		Field Para	neters						Total	Metals							<u> </u>		E		Major (	Cations		<u>.</u>				Anions				o o	\ s ~			g/L	٥٥
± ⊡	meter er Bore	Jate	in e	h to Wat mbgl	th to Star mbtoc	5:-1	EC - Fie	ld · Temp -	Aluminium	Arsenic	Barium	Beryllium	Cadmium	Coba	Copper	Iron	Lead	Mangane	Nickel	Vanadium	Zinc (Zn)	cury (Hg mg/L	рн Гар	/sr - q	Calcium	Magnesiu	Sodium	Potassiu	Fotal Cation	Chloride	Sulfate	Hydroxide Alkalinity	Carbonate Alkalinity	Bicarbona te	Alkalinity -	Anions leq/L	Balanc	nonia a igen (N	te as N	te as N ng/L	N - N	Dissolv
ফ	Piezo Wat	"	-	epth	epth	pn - Fie	μs/cm	ld · Temp - Field - °C	(AI) - mg/L	(As) - mg/L	(Ba) - mg/L	(Be) - mg/L	(mg/L)	Chromium (Cr) - mg/L (Co) - mg/L	t Copper (Cu) - mg/L	lron (Fe) - mg/L	Lead (Pb) - mg/L	se (Mn) - mg/L	mg/L	(V) - mg/L	- mg/L	Merci	<u> </u>	C - Lab	Calcium (Ca) - mg/L	m (Mg) - mg/L	(Na) - mg/L	m (K) - mg/L	Total m	(CI) - mg/L	(SO4) - mg/L	Alkalinity as CaCO3 - mg/L	as CaCO3 - mg/L	as CaCO3 -	mg/L	Total	lonic	Amn	Nitrii	Nitra	OX as	otall
ANZECC Guideline	- stock drinking	water							5	0.5			0.01	1 1	1		0.1		1		20	0.002			1000						1000	_		mg/L					1500	400	2	4000
Format.	Unknown	14-Nov-08 01-Dec-08																																								
WB2				8.46		+	+		+	+					+	+																										
				8.53		7.2	1010	20.7		<0.001	0.033	<0.001	<0.0001	<0.001 <0.0	0.001	<0.05	<0.001	0.003	0.002	<0.01	<0.005	<0.0001		239	12	6	32	1	2.53	16	6	<1	<1	101	101	2.61		0.06				153
Depth Format.	Unknown Garrawilla	14-Nov-08 01-Dec-08				$\vdash$	+		1	+-					+	+																						<b>-</b>				
		18-Feb-09	1250	4.13	4.60					ļ						ļ.,																										
standpipe height	0.47			-0.47 6.25		7.4	1150	18.5						<0.001 <0.0 <0.001 <0.0										1130 1210	64 71	60	83 74		11.6 11.8	156 227	17 34.3		<1	340 248	340 248	11.5 12.1	0.21 1.27	<0.01 <0.01				628 744
		11-Nov-09	1200	8.09	8.56									0.021 0.00						0.03	0.058	<0.0001		1130	62	53		6	10.4	217	29.5	<1	<1	194	194	10.6	1.11	<0.01				1200
				5.63 6.93		7.83	1158	17	0.01	<0.001				<0.001	0.009	<0.05	<0.001	0.001	<0.001		<0.05	<0.0001	7.5	1080	61	53	60	6	10.2	197	27.6	<1	<1	215	215	10.4	1.24		<0.01	3.04	3.04	
		02-Sep-10	1045	5.32	5.79	7.53	1304	22.4																																		
				3.13 7.83		7.2	855	24.5	0.11	<0.001				<0.001	0.012	0.06	<0.001	0.084	0.002		0.025	<0.0001	7.46	500	28	22	46	7	5.39	57	13	<1	<1	182	182	5.5	1.08		0.02	0.7	0.72	
				9.09		7.1	1654	23.9	2.38	0.004	0.132	<0.001	0.0001	<0.001 <0.0	0.166	0.48	0.008	0.078	0.007	<0.01	0.303	<0.0001	7.54	2350	137	115	137	1	22.3	495	62	<1	<1	359	359	22.4	0.31	0.24	0.12	4.1	4.22	1210
		08-Dec-11				7.2			0.06	<0.001	0.100	<0.001	<0.0001	<0.001 <0.0	0.035	0.06	0.01	0.005	0.005	<0.01	0.102	<0.0001	7.54	1080	70		01	-	11.4	182	28	-1	-1	265	265	11	1.86	0.06	0.02	0.57	0.59	616
		04-Apr-12 31-May-12	2 1010		+	7.23			0.06	<0.001	0.108	<0.001	<0.0001	<0.001 <0.0	0.025	0.06	0.01	0.005	0.005	<0.01	0.192	<0.0001	7.54	1080	70	53	81	2	11.4	182	28	<1	<1	265	265	11	1.86	0.06	0.02	0.57	0.59	919
		29-Aug-12				6.95			1.02	<0.001	0.109	<0.001	<0.0001	<0.001 <0.0	0.07	0.58	0.014	0.038	0.005	<0.01	0.547	<0.0001	7.44	609	36	22	47	3	5.73	112	13	<1	<1	123	123	5.89	1.37	0.01	0.03	1.09	1.12	340
		04-Dec-12 07-Mar-13		-	+	7.26 7.15			0.99	<0.001	0.12	<0.001	<0.0001	<0.001 <0.0	0.087	0.06	0.011	0.014	0.004	<0.01	0.604	<0.0001	7.18	1730	111	90	113	2	17.9	340	42	<1	<1	336	336	17.2	2.1	0.02	<0.01	0.4	0.4	1030
		03-Jul-13	1215			7.34	1410	18.3																																		
		03-Sep-13	1050		-	7.33			0.28	<0.001	0.125	<0.001	<0.0001	<0.001 <0.0	0.069	<0.05	0.004	0.008	0.004	<0.01	0.34	<0.0001	7.74	2140	138	118	134	2	22.5	455	60	<1	<1	355	355	21.2	2.99	0.04	0.07	4.07	4.14	1360
		05-Mar-14	1320			6.9	2410	27.3	0.06	0.001	0.115	<0.001	<0.0001	<0.001 <0.0	0.019	<0.05	0.001	0.001	0.002	<0.01	0.02	<0.0001	7.36	2540	164	139	188	1	27.8	508	82	<1	<1	444	444	25.4	4.48	0.02	<0.01	7.27	7.27	1710
			1330			7.1			1.66	<0.001	0.122	<0.001	<0.0001	<0.001 <0.0	01 0 102	<0.05	0.005	0.022	0.005	<0.01	0.262	<0.0001	756	2160	110	110	00	2	19.3	464	60	<1	<1	211	211	20.6	3.13	0.03	0.08	3.5	3.58	1140
		04-Dec-14			1	7			1.00	V0.001	0.132	V0.001	V0.0001	V0.001 V0.0	0.102	\0.03	0.003	0.023	0.003	V0.01	0.302	<0.0001	7.50	2100	110	110	1 33	-	15.5	404	- 00	,1	<u> </u>	311	311	20.0	3.13	0.03	0.08	3.3	3.36	1140
		13-Mar-15				6.7		_	0.03	<0.001	0.13	<0.001	<0.0001	<0.001 <0.0	0.015	<0.05	<0.001	<0.001	<0.001	<0.01	0.021	<0.0001	7.03	2850	175	155	167	2	28.8	639	83	<1	<1	496	496	29.7	1.46	0.04	<0.01	7.18	7.18	1620
		03-Jun-15 09-Sep-15			+	7	_		5.53	<0.001	0.111	<0.001	<0.0001	0.002 <0.0	0.182	0.2	0.015	0.02	0.007	<0.01	0.791	<0.0001	7.48	2350	141	129	136	2	23.6	474	74	<1	<1	396	396	22.8	1.72	0.04	<0.01	1.87	1.87	1620
		14-Dec-15					<u> </u>	essure @ pui																			1															
		09-Mar-16	1325		+	7.1 6.9			0.39	<0.001	0.125	<0.001	<0.0001	<0.001 <0.0	0.132	5.5	0.011	0.022	0.008	<0.01	0.521	<0.0001	/.3/	2520	164	140	145	1	26	520	84	<1	<1	412	412	24.6	2.75	0.14	<0.01	4.67	4.67	1550
		26-Sep-16				7			1.1	<0.001	0.123	<0.001	0.0003	<0.001 <0.0	0.214	0.08	0.002	0.008	0.02	<0.01	1.34	<0.0001	7.61	2820	170	136	144	2	26	617	98	<1	<1	457	457	28.6	4.73	0.02	<0.01	4.11	4.11	1940
		25-Oct-16 24-Nov-16			+	7.2			-	+					_	1																						-				
		20-Dec-16	945			7.2	2640	26.5																																		
		25-Jan-17 22-Feb-17			+	7.2			-	_	-				+	+	-										-											<u> </u>				
		29-Mar-17				7.3																																				
		26-Apr-17				7.4 7.5			-							-													-													
		29-May-17 29-Jun-17		-	+	7.5			+	+-					+	+																				<b>-</b>		<u> </u>				
		26-Jul-17				7.3																																				
		29-Aug-17 26-Sep-17			+	7.5 7.3			3.14	<0.001	0.098	<0.001	0.0004	0.001 <0.0	01 0.25	<0.05	0.028	0.007	0.02	<0.01	1.36	<0.0001	7.74	2790	159	142	182	2	27.6	588	84	<1	<1	392	392	26.2	2.64	0.02	<0.01	5.86	5.86	1940
		26-Oct-17	955			7.3																																				
		27-Nov-17	1000			7.3 7.4			-	+	-				_	+																										
		30-Jan-18	1000			7.4	2680	28.4																																		
		28-Feb-18 28-Mar-18				7.3 7.6			1	+	_				_	1													-									<u> </u>				
		30-Apr-18	920			7.5	2610	22.5																																		
		29-May-18	900			7.6 7.6		20.4																																		
		26-Jun-18 26-Jul-18						essure @ pui		+	_				+	+			_							_			<b> </b>						-	-		<b>-</b>				
		30-Aug-18						essure @ pui						0.000		1					0.555				25.5	4			25.5		4						0				4.55	2252
		25-Sep-18	935			7	3100	17.5	3.58	<0.001	0.168	<0.001	0.0001	0.002 <0.0	0.123	<0.05	0.005	0.014	0.009	<0.01	0.637	<0.0001	7.07	3710	206	177	178	2	32.6	771	120	<1	<1	416	416	32.6	0.12	0.06	0.1	4.78	4.88	2360

<u> </u>	ster/ Bore	٥	9	Water	Stand -		Field Paran			Arconic	Rarium	Rondlium		Total M	Connor	Iron	lead	Mangane	Nickol		(Hg) -	de de	ms/cm	Calcium	Major C Magnesiu		Potassiu	ions - /L	Chloride	Sulfato	Hvdroxide	Carbonate	icarbona		ions - /L	lance	lia as n (N)	L 3S N -	as N -	- mg/L	solved
Site	Piezome Water	Date	Ē	oth to W	oth to Sta	pH - Fiel	EC - Fiel μs/cm	ld · Temp - Field - °C	Aluminium (Al) - mg/L	(As) -	Barium (Ba) - mg/L	(Be) - mg/L	Cadmium (mg/L)	Chromium (Cr) - mg/L (Co) - mg/L	(Cu) -	Iron (Fe) - mg/L	Lead (Pb) - mg/L	se (Mn) - mg/L	(Ni) -	Vanadium Zinc ( (V) - mg/L - mg/	ercury (H	PH Lab		(Ca) -	m (Mg) -	(Na) -	m (K) -	Total Cation meq/L	(CI) - mg/L	(SO4) - mg/L	Alkalinity as CaCO3 -	Alkalinity as CaCO3 - mg/L	lkalinity	Alkalinity - mg/L	tal Anior meq/L	nic Ba	Ammor Nitroge	itrite as mg/L	itrate as mg/L	IOX as N	Solic
ANIZECC Cuid-lin				Dep	Dep																Ž		Ü			mg/L	mg/L	Ď			mg/L	mg/L a	s CaCO3 -		70	ē		Ž	ž	Z	Ę E
ANZECC Guideline	- Stock arinking v	30-Oct-18	1155			7	3090	24.7	5	0.5			0.01	1 1	1		0.1		1	20	0.002			1000						1000								1500	400	$\overline{}$	4000
		28-Nov-18 21-Dec-18				7.2 7.2			-																															=	
		31-Jan-19	945			7	3470	23.7																																	
		28-Feb-19 28-Mar-19				7.1 7.2		27.8	<del>                                     </del>						-	-					+	+																		-+	
		30-Apr-19 31-May-19				7.1 7.1		22.9 16.8													1																			$\overline{}$	
		25-Jun-19	1010			7.1	3970	15.9																																	
		30-Jul-19 28-Aug-19				7.1 6.8		17.2 17.2	-												-	1																			
		24-Sep-19	1005			7	3530	20.2	0.11	<0.001	0.169	<0.001	<0.0001	<0.001 <0.001	0.026	<0.05	0.003	0.008	0.003	<0.01 0.2	< 0.000	7.06	3700	201	203	174	2	34.4	873	149	<1	1	390	390	35.5	1.66	0.03	<0.01	5.23	5.23	2300
		29-Oct-19 28-Nov-19				7 No samp		25.3 essure @ tap																																$=\pm$	
		18-Dec-19 30-Jan-20						essure @ tap essure @ tap														-	-																		
		25-Feb-20	1000		No samp	ole - no pre	essure @ ta	ар													1																				
		26-Mar-20 09-Apr-02				7.5 7.3		20.8 19.9	<u> </u>													+	+																	-+	
		29-May-20 25-Jun-20				7.3 7.1		23.8 14.2																																	
		23-Jul-20	945			7.2	1720	16.8																																	
		28-Aug-20 24-Sep-20		12.47	12.94	7.1 ment iss		23.8	<del>                                     </del>							-					+	+																		$\longrightarrow$	
		28-Oct-20 27-Nov-20				7.5 7.6		23.2																																	
		23-Dec-20	1025			7.6	1650	22.4																																	
		27-Jan-21 02-Mar-21				7.7		24.8 22.6	-																																
		30-Mar-21	1010			7.4	1890	20.4																																	
		29-Arp-21 31-May-21	1020			7.6 7.6	1750																																	$=\pm$	
		23-Jun-21 29-Jul-21		11.84	12.31	7.5 NA?		20.5	<u> </u>													-																		$\longrightarrow$	
		29-Aug-21	1500	12.39	12.86	6.91		19.2	224	+0.001	0.11	-0.001	+0.0001	10 001 0 003	0.020	0.22	0.003	0.007	0.002	-0.01	c +0.000	7.70	2200	427	112	124	_	21.6	F22	0.4	-1	-1	202	202	24.5	C 42	40.01	+0.01	2.22	2.22	1500
		11-Jan-22	1430	12.38 11.23	11.7	7.13	2497		2.34	<0.001	0.11	<0.001	<0.0001	<0.001 0.002	0.028	0.23	0.002	0.067	0.003	<0.01 0.08	6 <0.000.	7.78	2280	137	113	124	2	21.0	523	94	<1	<1	392	392	24.5	6.42	<0.01	<0.01	2.22	2.22	1560
				11.52				21.6 12.6														-	+																	+	
		14-Sep-22	1400	11.95	12.42	Unable t	to take wa	ter sample - p	oump not wor	rking																															
		22-Nov-22	1445	10.08	10.55	No field	sample - p	oump not wor	rking													+	+																	-+	
WB3a		11-Sen-08	1230	8.09	8.60	7.7	1050	20.1	-	<0.001	0.179	<0.001	<0.0001	<0.001 <0.001	0.002	0.34	0.002	0.259	0.002	<0.01 0.00	9 <0.000		703	39	20	78	4	7 11	54	10	<1	<1	268	268	7.08	0.10	0.26			$\dashv$	431
GW030229.1.1		14-Nov-08	0856	8.14	8.65		1050	20:2		10.002	0.173	10.001	10.0001	10.001	0.002	0.51	0.002	0.233	0.002	10.01	10.000		705	33	- 20	,,,	·	,.11		- 10	-		200	200	7.00	0.20	0.20				
Depth Format.	Unknown Alluvium		1301	7.94	8.45																																				
		01-Dec-09 18-Feb-10		8.21 8.11			+	_	-													+																		$\longrightarrow$	
		23-Jun-10	1315	8.19	8.70		010	22.5																																	
		09-Feb-11	1300	7.55	8.06		919	22.5																																	
		31-May-11 27-Sep-11		7.41 7.50			+		-												+	+	+																	$\longrightarrow$	
			1150	6.79	7.30		1																																	$\overline{}$	
		01-Jun-12	1200	6.21	6.72																																				
		04-Dec-12	930	6.41 6.64	7.15																																			$\pm$	
				6.21			+		-												-	+	+																	$\longrightarrow$	
		04-Sep-13	1020	7.33	7.84		1															$\vdash$																		=	=
		04-Dec-13 07-Mar-14	1210	7.49	8.00																																				
		10-Jun-14 25-Sep-14	1250	7.42	7.93 8.17		+		-												+	+																		+	
		03-Dec-14	1210	7.84 8.04	8.35																																			=	
		05-Jun-15	1015	8.07	8.58																																				
		09-Dec-15	1305	7.88 8.14	8.65																																			一十	
				8.32 8.34					<del>                                     </del>	1	$\vdash$							<del>-</del>		<del>                                     </del>	+	+	+	$\vdash$			$\vdash \vdash \vdash$										<u> </u>				
		26-Sep-16	1315	7.71	8.22																	1	1																	$\dashv$	
		23-Nov-16	1010	7.72	8.23																1																			二	
		20-Jan-17	1020	7.71 7.71	8.22																$\pm$	$\pm$																			
		21-Feb-17	1020	7.77 7.84	8.28				<del>                                     </del>						<u> </u>	<del>                                     </del>					_	+-	+	$\vdash$			$\vdash \exists$					$-\top$								$ \mp$	
		20-Apr-17	1030	7.90	8.41				1												$\perp$		1																		
		30-Jun-17	1110	8.07 8.28	8.79																																			$= \pm$	
		24-Aug-17	1055	8.16 8.07	8.58				$oldsymbol{ol}}}}}}}}}}}}}}}}}}$	$\perp$											$\pm$	$\pm$	$\pm$																	+	
		21-Sep-17	1055	8.06 8.24	8.57																1		1																	$\dashv$	=
		24-Nov-17	1050	8.21	8.72																																			二	
		25-Jan-18	1035	8.09 8.26	8.77					$\pm$								$\vdash$				$\pm$	$\pm$																	+	
		20-Feb-18 27-Mar-18	1035	8.10	8.61		T	T	-												$\overline{}$	$\blacksquare$	Ŧ																	$\dashv$	$\blacksquare$
		24-Apr-18	1130	8.41	8.92																																			二	
		25-Jun-18	1035	8.44 8.55	9.06																	$\perp$																			
				8.38 8.50					<del>                                     </del>							_						+-	_									$-\top$								-	
		20-Sep-18	1050	8.37	8.88				1												1		1																	<b>_</b>	
		26-Nov-18	1050	8.61 8.42	8.93																																				
		25-Jan-19	1110	8.40 8.69	9.20				<del>                                     </del>													_										-								-	
		25-Feb-19	1100	8.82	9.33	1			1	1					1					1	$\top$	1	1																	$\neg \uparrow$	$\neg \neg$

		_		ΙĖ	· ·	l F	ield Paramete	ters						Total	Metals							.		s I		Major Ca	ations	_				Maior	Anions									7.
0	ter/			Vate	tand					T								T		T	1	(g)	ا م	rs/cr					suo J	T		Hydroxide	Carbonate	Bicarbona		ons -	auce	a as (N)	ż	ż	mg/	olve
크	er B	Date	Time	mbgl	th to St mbtoc	l	EC - Field 1	Temp -	Aluminium	Arsenic	Barium	Beryllium	Cadmium	Chromium Coba	lt Copper	Iron	Lead	Mangan	e Nickel	Vanadium Zi	inc (Zn)	mg/L	рн Гар	rab (c	Calcium	Magnesiu m (Mg) -	Sodium	Potassiu	eq/I	Chloride S	Sulfate	Alkalinity	Alkalinity	te	Alkalinity -	al Anio meq/L	Bala	gen	ite as mg/L	te as	as N -	Dissc Olids
స	iezo		-	#a "	£ E	pH - Fiel	d EC - Field -1 μs/cm F	Field - °C	(AI) - mg/L	(AS) -	(Ba) -	Beryllium (Be) - mg/L	(mg/L)	Chromium (Cr) - mg/L (Co) mg/l	- (Cu) -	(Fe) - mg/L	Lead (Pb) - mg/L	Mangan se (Mn) mg/L	- (NI) -	Vanadium Zi (V) - mg/L - i	mg/L	erci	=	. L	Calcium   I Ca) - I ng/L I	m (IVIg) -   mg/L	mg/L	m (K) - mg/L	Total Catio meq/L	Chloride (CI) - ( mg/L r	SO4) - mg/I	Alkalinity as CaCO3 - mg/L	as CaCO3 -	as CaCO3 -	mg/L	otal m	ij	it is	<u> </u>	itra	ä	ral r
				De	De											IIIg/L			IIIg/ L			Σ		ш		5/ L	1116/ L	1116/1	ř	1116/1	116/ L	mg/L	mg/L	mg/L		ř	2	9 2	2	z	2	₽
ANZECC Guideline	- stock drinking								5	0.5			0.01	1 1	1		0.1		1		20 0	0.002			1000						1000								1500	400		4000
		25-Mar-19 26-Apr-19				-	+			-						+		+	+			-		-																		
		26-Apr-19 28-May-19				1	+ +		-	+	$\vdash$			<del>                                     </del>	+	+	+	+	+	+ +	-	-	-	-+						-								-			-	-
		24-Jun-19			3.00	no a	ccess - lock ch	hanged								1																						1			-	-
		31-Jul-19				no a	ccess - lock ch	hanged																																	-	
		23-Aug-19					ccess - lock ch																																			
		25-Sep-19					ccess - lock ch							$\vdash$		_		+						$\rightarrow$	$\rightarrow$																	
		29-Oct-19 29-Nov-19				no a	ccess - lock ch ccess - lock ch	hanged		-						+	-	-		-	-+																-	-			$\longrightarrow$	
		18-Dec-19				no a	ccess - lock ch	hanged		+						+	+	+	+			_	-	_						-								1			$\longrightarrow$	
		16-Dec-21			6.55	6.49	879	22.187	WaterNSW	started mo	nitoring													-																	-	
		12-Jan-22	828		6.57	7.46	921	21.341																																		
		21-Feb-22			6.92					_					$\perp$	_	_	_	_							$\Box$		$\perp$		$\perp$		$\vdash$										-
		18-Mar-22			7.11 7.12					+	$\vdash$		-		+-	+	+	+	+	+	-+	$\rightarrow$	-+	-	$\rightarrow$			<del>                                     </del>		$\vdash$		<del>                                     </del>						-			$\longrightarrow$	
		01-Apr-22 17-May-22			7.12		931 948			+	$\vdash$			<del>                                     </del>	_	+	+	+	+	+ +		-	-	-+	-					<del>                                     </del>								1			-	
		01-Jun-22			7.32		791			1						1	1	1	+	+ +				-+						<del>                                     </del>											-	-
		07-Sep-22					815			0.001			<0.0001	<0.001	0.00	1	<0.001	0.78	8 < 0.001	<(	0.005		7.59	884	63	37	62	2	8.94	78		<1	<1	315	315	8.87	0.38	0.04	0.01	0.06	0.06	456
																																									-	
		44.6 00	4345	7.00	0.50	1 7.5	1250	40.0		0.004	0.475	.0.004	-0.0004		04 0 000	0.24	0.004	0.255	0.004	1 221	0.007	0.0004		705	20	20		<b>.</b>	7.04		40		-	250	250	7.00	0.47	0.40				
WB3b GW030229.1.2		11-Sep-08 14-Nov-08			8.50	7.6	1250	19.8		<0.001	0.175	<0.001	<0.0001	<0.001 <0.0	0.002	0.31	0.001	0.255	0.001	<0.01	0.007 <0	0.0001		706	38	20	//	4	7.01	52	10	<1	<1	268	268	7.02	0.17	0.18				415
Depth	Unknown	01-Dec-08				1	+ +			+					+	+	+	+	+		-	-	-	-	-													<del>                                     </del>			-	-
Format.	Alluvium	12-Jan-09				1										1			1																						-	
		01-Dec-09																																								
				8.05		1	$\perp$								$\perp$	_						$\rightarrow$		$\rightarrow$	$\rightarrow$																	-
		23-Jun-10			8.39	7.38	693	22.7		+					_	+	+	+	+		-	-	-	-	-					-								-			-	-
		09-Feb-11				7.50	093	22.7		+					+	+	+	+	+	+ +		_	-	-														1			-	-
		31-May-11													$\top$			1	1			-		$\neg$																	-	-
		27-Sep-11	1210	7.45	7.96																																					
		03-Jan-12	1200	6.73	7.24	-	+								+	_		+-				$\rightarrow$		$\rightarrow$	$\rightarrow$			$\vdash$														-
		22-Mar-12		6.17		+	+ +			+	$\vdash$				+	+	+	+	+	+ +	-+	-	-	-						-		<del>                                     </del>				_	-	<del>                                     </del>				-
		10-Sep-12	1100	6.34	6.85	1																																			-	
		04-Dec-12	935	6.57	7.08											_								-	-																-	
		07-Mar-13 03-Jul-13	1330	6.24	6.75 7.43	1				-					_	-		-	-	-	-																	<u> </u>			$\longrightarrow$	
		04-Sep-13	1005	7.24	7.75	<u> </u>				<del>                                     </del>					_	1		+	+	1				-														<b>†</b>				
		04-Sep-13 04-Dec-13	1010	7.85	8.36																																					
		07-Mar-14 10-Jun-14	1220	7.40	7.91	1	+ +			+	$\vdash$					+	+	+	+	+		-		-+														-				
		25-Sep-14	1130	7.99		1	+ +			1	$\vdash$			<del>                                     </del>	+	+	+	+	+	+ +	-+	-+	$\overline{}$	-						<del>                                     </del>								<del>                                     </del>			$\rightarrow$	-
		03-Dec-14	1220	7.73	8.24	1																																				
		11-Mar-15	1340	8.07	8.58	1	+			1						1		_	_																			1				$\vdash$
		05-Jun-15 10-Sep-15	1005	7.77	8.28	+	+ +			+	$\vdash$			<del>                                     </del>	+	+	+	+	+	+ +		-+	+	-+				<del>   </del>		<del>                                     </del>		<del>                                     </del>						1			$\longrightarrow$	$\overline{}$
		09-Dec-15	1315	8.28	8.79	1																																				
		09-Mar-16	1010	8.55	9.06		$\perp$			_	$\Box$					_	_		_	1				-	-			$\vdash$		$\vdash$		$\vdash$										-
-		01-Jun-16 26-Sen-16	1320	7.92	8.72 8.43	+	+ +		<b>—</b>	+	$\vdash$			<del>                                     </del>	+	+	+	+	+	+ +	-+	-+	+	-+	-			<del>   </del>		<del>                                     </del>							$\vdash$	<del>                                     </del>			$\longrightarrow$	$\overline{}$
		26-Oct-16	1015	7.57	8.08																																					
		23-Nov-16	1020	7.56	8.07																																					
		19-Dec-16	1010	7.59	8.10	-	+ +			+	$\vdash$		-			+	+	+	+	+	-+	-		-+				<del>     </del>				$\vdash$						-			$\longrightarrow$	
		20-Jan-17 21-Feb-17 28-Mar-17	1010	7.69	8.20	1	+ +			1	$\vdash$				+	+	+	+	+	+ +	-	$\overline{}$	-+	-+					-	<del>                                     </del>								<b>†</b>			$\rightarrow$	$\overline{}$
		28-Mar-17	1010	8.28	8.79																																				ightharpoonup	$\Box$
		20-Apr-17	1020	7.85	8.36	-	+									+	+	+	+	+	-+	$\rightarrow$		-+				$\vdash$				$\vdash$						-			-	$\vdash$
-		24-May-17 30-Jun-17	1100	7.93 8.05	8.56	+-	+ +		<del></del>	+	$\vdash$			<del>                                     </del>	+	+	+	+	+	+ +	-+	$\rightarrow$	-+	-+	-			<del>   </del>	-	$\vdash$		<del>                                     </del>				$\vdash$	<u> </u>	$\vdash$			-	-
•	1	1 30-3411-17	1 1100	1 0.03	1 0.55	•	1 1			I	1 1		1	1 1	1	1	1	1	1	1 1		ı	ı		- 1	ı	ı					1 1	- 1	-	1		•			- 1		

				Ė		l Fi	ield Param	neters						Total Me	tals								F	Ma	ior Cations					Maior	Anions							- I	ъ 1
_	ster/ Bore	۰	o o	Wate وا	Stand					Arconic	Rarium	Rondlium				Iron	Load	Mangano	Nickol		E	g .	µs/cr	Calcium Magne	siu Sodiu	m Potassiu	i ion 1	Chlorido	Sulfato			bona	lions -	lance	n (N)	S N -	- as N	- mg/	solved
Site	zome	Dat	Ë	th to W mbgl	th to St mbtoc	pH - Field	EC - Field μs/cm	d · Temp - Field - °C	Aluminium (Al) - mg/L	(As) - mg/L	(Ba) -	Beryllium (Be) - mg/L	Cadmium (mg/L)	Chromium (Cr) - mg/L	(Cu) -	Iron (Fe) - mg/L	Lead (Pb) - mg/L	Mangane se (Mn) - mg/L	(Ni) -	Vanadium Zinc (Zn) (V) - mg/L - mg/L	rcury (H mg/L	pH Lab	Lab -	Calcium Magne (Ca) - m (Mg mg/L mg/L	siu Sodiu ) - (Na) - mg/L	m (K) -	Total Catio meq/L	Chloride (Cl) - mg/L	(SO4) -	Alkalinity as CaCO3 -	Carbonate Alkalinity as CaCO3 - mg/L Bicar te Alkali as Ca	inity Alkalir	uity - ration	ic Ba	nmon	trite a	mg/	as N	al Diss
	Pie ≽			Dept	Dept		µ3, c	l'icia c									mg/L	mg/L	mg/L	(*,g/2  g/2	Ž		ш		mg/L	mg/L	Tot	mg/L	mg/L	mg/L	mg/L as Ca	CO3	Tot	0	R A B	ž	ž	XON	Tot
ANZECC Guideline	- stock drinking v		1100	8.00	8.51				5	0.5			0.01	1 1	1		0.1		1	20	0.002			1000					1000						_	1500	400	_	4000
		24-Aug-17	1045 1045	8.52	9.03																																		
		25-Oct-17	1045	8.07	8.58																																		
		24-Nov-17 19-Dec-17	1040					+	-																_	+	-						+	-	+	-		$\dashv$	
		25-Jan-18	1025	8.74	9.25																																		
			1025						1																	+	1												
		24-Apr-18	1120	8.85	9.36																																		$\Box$
			1210 1025					+																		+							+		+				_
		25-Jul-18	1025 1105	8.29	8.80																																		
		20-Sep-18	1040	8.28	8.79																																		
			1040																																			_	
		14-Dec-18	1100	8.34	8.85																																		
			1100 1050					+	-																_	+	<u> </u>						+	+	+	-		-+	
		25-Mar-19	1050	9.36	9.87																																		=
		28-May-19	1040 1040																																				
		24-Jun-19					cess - Lock cess - Lock																																
		31-Jul-19 23-Aug-19						changed.																															
		25-Sep-19						changed.																															
		29-Oct-19 29-Nov-19	)			No Ac	cess - Lock																																
		18-Dec-19 31-Jan-20						changed.															$\vdash \exists$				H	$\vdash$					+	+		H		$-\Gamma$	$\dashv$
		27-Feb-20				No Ac	cess - Lock	changed.																											1				
		26-Mar-20 30-Jan-20	1340	9.47	9.98			changed. 22.7	Water	NSW agree	ment initi	     iated 13/05	/2020												_	+	<del>                                     </del>						-	+	+	-		-	
		20-Mar-20	1046	8.72	9.23	7.54	711	22.7		"		,														$\perp$							$\perp$						
			1010 1350					21.8 21.1	<0.01	<0.001			<0.0001	<0.001 <0.001	<0.001		<0.001	0.502	<0.001	<0.005	<0.0001	7.55	809	55	26	85 3	8.66	,					8.20	2.70	0.14	<0.01	<0.01 <0.0	)1 45	6
			1501 1148					21.9 21.6																															
		16-Jul-20	1537	8.89	9.40	7.14	755	21.6																															
			1028 1557					21.5 22.1	<0.01	<0.001			<0.0001	<0.001 <0.001	<0.001	0.19	<0.001	0.472	<0.001	<0.005	<0.0001	7.38	778	50	24	80 3	8.03	58	17	<1	<1	336	336 8	3.7 4.	04 0.18	8 < 0.01	<0.01 <0.0	01	520
		20-Oct-20	1233	8.66	9.17	6.95	768	22.9	10.01	10.001			10.0001	10.001	10.001	0.23	10.002	0.172	10.001	10.003	10.0001	7.50	,,,,	30	-		0.00	30		-		330	350		0.10	-0.01	10.01		
			958 943				754 733		<del>                                     </del>																_	+	<del> </del>						_	+	+			-	-
		21-Jan-21	1447	8.63	9.14	7.4	730	23.1																															=
			1003				741 735																																
			959 1352					21.4 21.9																									_		-				
		16-Jun-21	1628	8.35	8.86	7.03	737	21.5																															
-			1557 1248						<del> </del>																_	+	<u> </u>						+	-	+	-		-+	
		21-Sep-22	1139	8.44	8.95	7.1	760	21.4		0.004				0.004	0.004	0.24		0.467	-0.004	0.005	-0.0004	7.05	700		26							200	200				201		100
		09-Nov-21	1420 1038	8.13	8.64	7.19	767		<0.01	<0.001			<0.0001	<0.001 <0.001	<0.001	0.21	<0.001	0.467	<0.001	<0.005	<0.0001	7.95	790	51	26	81 3	8.28	70	1/	<1	<1	300	300 8.	32 0.	23 0.13	3 <0.01	<0.01 <0.0	)1	498
								21.9 21.5																															
		21-Feb-22	802	6.22	6.73	6.87	764	21.4																															
			1021					21.9 21.1	-																		<u> </u>						_	_	_				
		17-May-22	1146	6.73	7.24	7.06	811	21.1																															
		01-Jun-22 07-Sep-22	1240	6.74	7.25			20.4		0.001			<0.0001	<0.001	0.001		<0.001	0.424	<0.001	<0.005		7.68	828	50	26	84 3	8.36	65		<1	<1	293	293 8.	02 2	.1 0.13	3 0.01	0.01	0.01	424
																																	_		_				
WB4			1430			7.3	1120	19.8		<0.001	0.042	<0.001	<0.0001	<0.001 <0.001	0.002	<0.05	<0.001	0.003	0.002	<0.01 0.006	<0.0001		1040	61 35	11	6 1	11.0	93	30	<1	<1 3	60 36	0 10.4	2.39	0.06				461
GW030230.1.1 Depth	Unknown		0902 1258			-	1	+	-														$\vdash$		_		-						+	+	+	-		_	
Format.	Alluvium	01-Dec-09	1305	8.38	8.93																																		
			1220 1310			L	$\perp$	$\pm$																	_	_						_	_	1	1	$\perp$			
		03-Sep-10		9.40	9.95	7.35	2174	21.8																										$\mathbf{I}$	$\perp$				=
		31-May-11	1145	8.04	8.59																																		
		27-Sep-11 03-Jan-12	1150 1140			-	+	+	1														$\vdash$		+	+	-	$\vdash$				_	+	+-	+	+		$\dashv$	
		22-Mar-12	1140	7.63	8.18																																		
		01-Jun-12 10-Sep-12	1145 1110					+	<u> </u>																	+	<u> </u>						-	-	+			-	
		04-Dec-12		7.21	7.76																					-							-	$\mathbf{I}$	$\mathbf{I}$				
		03-Jul-13	1330	6.93	7.48																																		$\equiv$
			1035 1030					+	<del> </del>																	-	<u> </u>							-					
		07-Mar-14	1150	7.54	8.09																																		=
		10-Jun-14 25-Sep-14	1240 1100				1	+	1														$\vdash$		+	_		$\vdash$					+	+	+			-+	_
		03-Dec-14	1150	7.71	8.26				1																														
		05-Jun-15	1320 1025	7.92	8.47																																		
		10-Sep-15	1050 1250	8.00	8.55																													$\mathbf{I}$					=
		09-Mar-16	1050	8.09	8.64																																		
			1255 1335				+ -	+ =	-														$\vdash \exists$			+		$\vdash$					+	+	+	_		$-\Gamma$	$\dashv$
		26-Oct-16	1030	8.18	8.73																																		
			1040				1																$\vdash \vdash \vdash$		-	-		$\vdash$					-	+	1	+			
		20-Jan-17	1040	8.13	8.68			1																											1				
		21-Feb-17 28-Mar-17	1035				1	+	1														$\vdash$		+	_							+	+	+			-+	_
		20-Apr-17	1045	8.12	8.67				1																														
1	I	24-May-17	1050	8.1/	8./2	1	1	I	ı	I	I	I	I	ı I	I	I	ı l	-	I	1 1	ı	I	ı <b>I</b>	I	I	I	ı	1	I	I	I	1	1	ı	ı	1	1 1	ı	ı

Site ID	Piezometer / Water Bore	Date	Time	Depth to Water . mbgl	Depth to Stand - mbtoc		C - Field - To s/cm		(Al) - mg/L				Chromium (Cr) - mg/L			(Pb) - mg/L		Nickel (Ni) - mg/L	Vanadium (V) - mg/L	- mg/L	Mer		Calcium (Ca) - mg/L	m (Mg) - mg/L	Sodium Potassiu (Na) - m (K) - mg/L mg/L	Total Cations - meq/L	Chloride Sulfate (Cl) - (SO4) - mg/L mg/L		Bicarbona te Alkalinity as CaCO3 -	Total Anions - meq/L	lonic Balance	Ammonia as Nitrogen (N) Nitrite as N - mg/L	Nitrate as N - mg/L	Total Dissolved Solids
ANZECC Guideline	e - stock drinking	30-Jun-17	1125	8.17	8.72				5	0.5		0.01	1	1 1		0.1		1		20	0.002		1000	)			1000					1500	400	4000
		25-Jul-17 24-Aug-17	1125	8.19	8.74																		_											
		21-Sep-17	1110	8.20	8.75																													
		25-Oct-17 24-Nov-17					-																_			1				-			+ + -	$\vdash$
		19-Dec-17	1055	8.27	8.82																													
		25-Jan-18 20-Feb-18	1050	8.30	8.85																													
		27-Mar-18 24-Apr-18																					_											$\vdash$
		28-May-18	1145	8.33	8.88																													
		25-Jun-18 25-Jul-18	1050	8.40	8.95		_																+	+		<del> </del>	<del>                                     </del>	+ + -					+ +	$\vdash$
		27-Aug-18 20-Sep-18																					_											
		29-Oct-18	1110	8.39	8.94																													
	-	26-Nov-18 14-Dec-18																						-		<u> </u>	-			-				$\vdash$
		25-Jan-19	1130	8.53	9.08																													
		25-Feb-19 25-Mar-19	1120	8.57	9.12																													
		26-Apr-19 28-May-19	1110 1110	8.59 8.55	9.14 9.10																													$\vdash$
		24-Jun-19	1010	5.55	3.20		ss - lock cha																											
		31-Jul-19 23-Aug-19				No acces	ss - lock cha ss - lock cha	anged																										
		25-Sep-19 29-Oct-19				No acces	ss - lock cha	anged							$\neg$							$\neg$	$\mp$	T										+
		29-Nov-19				No acces	ss - lock cha	anged															$\perp$											
		18-Dec-19 30-Jan-20		8.82	9.37	6.82		22.9	WaterN	SW agreen	nent initiated 13/05	/2020																						
		20-Mar-20 03-Apr-20																					_											
		22-Apr-20	1439	8.85	9.40	7.19	910	22.4	<0.01	<0.001		<0.0001	<0.001	<0.001 <0.001	-	<0.001	0.001	<0.001		<0.005	<0.0001	7.68 939	65	34	88 1	9.90				9.82	0.36	<0.01 <0.01	0.04 0.04	544
						6.84 7.04																												
			1556 1050			7.11 6.81																	_											
		21-Sep-20	1437	8.89	9.44	6.65	912	22.3	<0.01	<0.001		<0.0001	<0.001	<0.001 <0.001	<0.05	<0.001	0.002	<0.001		<0.005	<0.0001	7.47	902	59 3	3 82 1	1 9.25	82	32 <1 <1	345 345	9.87	3.24	<0.01 <0.01	<0.01 <0.01	582
		20-Oct-20 13-Nov-20				6.87 6.83																												
		09-Dec-20 21-Jan-21				7.09 7.26																	-											
		23-Feb-21	1022	8.91	9.46	7.03	913	22.4																										
						6.74 6.8																												
						7.17 6.98																	+			1				$\vdash$				1
		08-Jul-21	1614	8.88	9.43	6.96	905	21.2	<0.01	<0.001		<0.0001	<0.001	<0.001 0.001	<0.05	<0.001	<0.001	0.002		<0.005	<0.0001	8	332	51 2	6 81 3	3.36	28	28 <1 <1	108 108	3.53	2.44	<0.01 <0.01	<0.01 <0.01	280
		21-Sep-21	1112	8.80	9.35	6.92 7.06	891	21.1																										
	+					6.57 7.16																	+	+		1	$\vdash$			$\vdash$			+ +	$\vdash$
		16-Dec-21	1300	8.69	9.24	7.03	909	22.71																										
						6.72																												
	-					7.05 6.9																		-		<u> </u>	-			-				$\vdash$
		17-May-22	1213	7.95	8.50	6.96	917	21.606																										
		01-Jun-22 07-Sep-22		7.91	8.46	6.75 6.88				0.001		<0.0001	<0.001	0.001		<0.001	0.021	<0.001		<0.005		7.79	896	54 3:	1 84 1	1 8.92	88	<1 <1	328 328	8 9.6	3.63	0.01 0.0	1 0.04 0.04	462
	+	+					-+	-														_	+	+		1				$\vdash$			+ +	$\vdash$
WIDE		12 Son 09	1/20	0.09	11 10	75	1200	21		<0.001	0.026 <0.001	<0.0001	<0.001	<0.001 0.004	0.1	0.006	0.022	<0.001	<0.01	0.000	<0.0001		10 26	10	22 2	4.66	20 20	<1 <1	160 160	4.50	0.72	0.05		201
WB5a GW036004.1.1		14-Nov-08	0832	10.29	11.41	7.5	1200	21		\U.UU1	0.020 \0.001	VU.UUU1	\U.UU1	V.UU1 U.UU4	0.1	0.000	0.033	~U.UU1	~U.UI	0.008	~U.UUU1	5	3b	18	32 2	4.00	23 28	1 (1	100 100	4.39	0.72	0.03		281
Depth Format.	Unknown Alluvium	01-Dec-08 12-Jan-09																						_										
		01-Dec-09 18-Feb-10	1345	10.38	11.50		-															-	-											
		23-Jun-10	1350	10.38	11.50																													
		03-Sep-10 09-Feb-11			10.83		_	-															_										+ +	$\vdash$
		31-May-11 27-Sep-11																												-				
		03-Jan-12	1250	8.52	9.64																													
	<u> </u>	22-Mar-12 01-Jun-12	1245	8.50	9.62		+																$\pm$	$\pm$		$\pm$								
		10-Sep-12 04-Dec-12	1030	8.39	9.51	$\vdash$	$\neg \top$	$\neg \neg$		$\vdash \exists$		$+ \Box$			-		$\vdash \exists$				$\vdash \exists$		+			$\vdash$				+				+
		07-Mar-13	1350	7.15	8.27																		$\perp$											
	<u> </u>	03-Jul-13 04-Sep-13					+																_	_		<u> </u>								
		04-Dec-13 07-Mar-14	930	9.01	10.13																		1											
		10-Jun-14	1330	9.56	10.68		=															$\perp$	$\bot$											
		25-Sep-14 03-Dec-14					_+															_+	_	_		<u> </u>								
		11-Mar-15																						Т										

				į.	,	Fie	eld Paramet	ters						Total M	etals								F	Maior	Cations					Maior	Anions								2	73
₽	ieter/ Bore	ţe.	e e	. Wate	Stand					Arsenic	Barium B	Beryllium				Iron	Lead	Mangane	Nickel		v (Hg)	rab	- µs/cr			Potassiu	itions -	Chloride S	ulfate	Hydroxide	Anions  Carbonate Alkalinity as CaCO3 - mg/L	rbona		nions -	alance	nia as en (N)	as N -	Ar /L	BE - B	ssolve
Site	ezon Water	Date	Ē	pth to W	pth to Sta mbtoc	pH - Field	EC - Field - μs/cm	Temp - Field - °C	(Al) - mg/L	(As) - mg/L	(Ba) - (I	Be) - ng/L	(mg/L)	Chromium (Cr) - mg/L	(Cu) - mg/L	(Fe) - mg/L	(Pb) - mg/L	se (Mn) - mg/L	(Ni) - mg/L	Vanadium Zinc (Zn) (V) - mg/L - mg/L	Mercury (H <sub>I</sub>	рн Гар	EC - Lab - µs	Calcium Magnesiu (Ca) - m (Mg) - mg/L mg/L	(Na) - mg/L	m (K) - mg/L	otal C	Chloride S (Cl) - (S mg/L	SO4) - ng/L	as CaCO3 -	as CaCO3 -	alinity aCO3 -	g/L	Total Anion meq/L	onic Bal	Ammo Nitrog	Vitrite as mg/L	Vitrate mg	OX as I	otal Di Soli
ANZECC Guideline	- stock drinking v	vater		ă	De									1 1			0.1		1	20	0.002			1000	1		F		1000	mg/L	mg/L mg/	1		-	_		1500	400	ž	<u>∓</u>
		05-Jun-15 10-Sep-15																																					=F	=
		09-Dec-15	1350	9.59	10.71																																		_	
		09-Mar-16 01-Jun-16	1400	10.08	11.20																																		〓	
		27-Sep-16 26-Oct-16																																					$\pm$	
		23-Nov-16 19-Dec-16																															-					-	$\dashv$	
		20-Jan-17 21-Feb-17	935	9.14	10.26																												_						=	
		28-Mar-17	930	9.75	10.87																																		_	
		20-Apr-17 24-May-17	950	9.68	10.80																																			
		30-Jun-17 25-Jul-17								-																		$\vdash$				+	-+						$\dashv$	
		24-Aug-17 21-Sep-17	955	9.57	10.69																																		=	
		25-Oct-17	955	9.41	10.53																																		_	
		24-Nov-17 19-Dec-17	940	9.27	10.39																																		二	
		25-Jan-18 20-Feb-18																										$\vdash$											$\dashv$	
		27-Mar-18 24-Apr-18																																					=	
		28-May-18	1300	9.77	10.89																																		_	
		25-Jun-18 25-Jul-18	940	9.79	10.91																																		二	
		27-Aug-18 20-Sep-18	940	9.90	11.02																												$\perp$						ightharpoons	$\equiv$
		29-Oct-18 26-Nov-18																										$\vdash$				+	-+						$\dashv$	
		14-Dec-18 25-Jan-19																																					=	
		25-Feb-19	950	10.56	11.68																																		_	
		25-Mar-19 26-Apr-19																																					$\pm$	
		28-May-19 24-Jun-19		10.64	11.76	no acc	cess - lock ch	hanged																				$\vdash$					_						$\dashv$	
		31-Jul-19				no acc	cess - lock ch	hanged																																
		23-Aug-19 26-Sep-19					cess - lock ch cess - lock ch																									+	-						+	
		28-Oct-19 29-Nov-19					cess - lock ch cess - lock ch																																=	
		18-Dec-19				no acc	cess - lock cl	hanged																															二	
		30-Jan-20 20-Mar-20	953	10.48	11.60	7.05	403.5 600		Water	NSW agree	ment initiat	ted 13/05/2	2020																										$\pm$	
		03-Apr-20 22-Apr-20					471.9 439.8	21.6 22.7	<0.01	0.013			<0.0001	<0.001 <0.001	<0.001		<0.001	0.730	0.001	<0.005	<0.0001	7.64	463	38 20	26	3	4.75					-	4.7	76 0	0.09	0.12	<0.01	0.06 0.0	06 28	34
		19-May-20	1416	10.71	11.83	6.79		21.8																																
		09-Jul-20	1351	10.93	12.05	6.85	515	21.1																																
			1228	10.37	11.49	6.41	418.2	22.5	<0.01	0.012			<0.0001	<0.001 <0.001	<0.001	0.92	<0.001	1.09	<0.001	<0.005	<0.0001	7.07	394	33 1	9 2	3 3	4.29	27	56	<1	<1	129	129	4.5	2.47	0.11	<0.01	0.08	0.08	283
		20-Oct-20 13-Nov-20																										$\vdash$											$\dashv$	
		09-Dec-20 21-Jan-21					427.3 472.9																																=	
		23-Feb-21 19-Mar-21	1057	9.90	11.02	6.67	355.2	20.8																															_	
		12-Apr-21	835	9.73	10.85	6.47	424	20.3																																
		11-May-21 16-Jun-21	1540	9.56	10.68	6.87	355	21.4																															士	
		08-Jul-21 04-Aug-21						21.0 20.1																															-+	
		21-Sep-21 18-Oct-21					348.3 332.6	19.4 20.6	<0.01	0.008			<0.0001	<0.001 <0.001	<0.001	0.63	<0.001	0.674	<0.001	<0.005	<0.0001	7.72	325	23 1	3 2	3 2	3.27	21	22	<1	<1	128	128	3.61	4.92	0.04	<0.01	<0.01 <0	0.01	206
		09-Nov-21	932	8.11	9.23	6.93	335 363	20.0																															_	
		12-Jan-22	1147	8.49	9.61	7.19	283.1	19.4																															二	
			919	8.61	9.73	6.83	330	19.6																															二	
		01-Apr-22 17-May-22					353.6 450.3																																士	
		01-Jun-22 07-Sep-22		8.74	9.86		415.5 401.9			0.007			<0.0001	<0.001	0.001		<0.001	0.619	<0.001	<0.005		7.36	446	30 1	.7 3	0 3	4.28	34		<1	<1	135	135	4.16	1.44	0.1	0.01	0.01	0.01	232
																									+														二	
11155		12.5= 25	1420	10.00	14 22	7.0	1150	24		40.004	0.030	<0.001	40 0004	40.004 - 0.000	0.000	-0.0-	0.000	0.024	0.001	40.01 0.00	40 000¢		F0F	25 47	1 24	1	450	30	20			166	166	4.60	1 20	0.05			ightharpoons	270
WB5b GW036004.1.2		12-Sep-08 14-Nov-08	0833	10.43	11.55	7.6	1150	21		<0.001	0.028	<u.001< td=""><td>&lt;0.0001</td><td>&lt;0.001</td><td>0.003</td><td>&lt;0.05</td><td>0.006</td><td>U.U31</td><td>U.001</td><td>&lt;0.01 0.007</td><td>&lt;0.0001</td><td></td><td>505</td><td>35 17</td><td>31</td><td>2</td><td>4.56</td><td>28</td><td>28</td><td>&lt;1</td><td>&lt;1</td><td>TDP</td><td>Tpp</td><td>4.68</td><td>1.39</td><td>0.05</td><td></td><td></td><td>士</td><td>278</td></u.001<>	<0.0001	<0.001	0.003	<0.05	0.006	U.U31	U.001	<0.01 0.007	<0.0001		505	35 17	31	2	4.56	28	28	<1	<1	TDP	Tpp	4.68	1.39	0.05			士	278
Depth Format.	Unknown Alluvium	01-Dec-08 12-Jan-09							<u> </u>																_															
		01-Dec-09 18-Feb-10	1345	10.78	11.90							$\neg$																				$\blacksquare$		$\dashv$					丰	=
		23-Jun-10 09-Feb-11	1355																						1								_						二	=
		31-May-11	1240																						+								_						二	$\equiv$
		27-Sep-11 03-Jan-12	1300	9.07	10.19																												$\pm$						<u></u>	
		22-Mar-12 01-Jun-12	1320	8.44	9.56							-											$\vdash \exists$					$\vdash$						-					干	$\neg$
		10-Sep-12 04-Dec-12	1035	8.37	9.49																																		二	
		07-Mar-13	1355	7.50	8.62																												$\perp$	$\rightarrow$					二	$\equiv$
		03-Jul-13 04-Sep-13	920	9.00	10.12																																		士	$\equiv$
		04-Dec-13 07-Mar-14				$\vdash$	$oxed{+}$		<u> </u>		<u> </u>										$\vdash$		$oxed{oxed}$		$\pm \overline{}$	$\pm \overline{-}$	$\vdash$	┢┤					F						F	
		10-Jun-14 25-Sep-14	1340	9.59	10.71																				1								_	_					丰	=
		03-Dec-14	1310	9.70	10.82																																		二	二
I	I	11-Mar-15	1410	10.11	11.23	ı	ı I	ı I	ı	I	1	I	ı I	I	I	I I	ı l		I	ı I	I	I	ı <b>İ</b>	I	I	I I	ı	ı	ı	I	I	I	ı	ı	ı	ı	I	1	I	I

				-	<u> </u>	Fi	ield Parame	eters						Total N	Metals								E		Major Ca	ations					Major	Anions					l " -			₹ T	9
<u>Q</u>	neter,	Date	ae	to Wat	rth to Stan mbtoc		FC - Field	Temn -	Aluminium	Arsenic	Barium Be	eryllium	admium	Cobalt	Copper	Iron	Lead	Mangane	Nickel	Vanadium Zinc (7	cury (Hg)	рн Гар	o/srd - o	Calcium M	1agnesiu	Sodium I	Potassiu	ations eq/L	Chloride	Sulfate	Hydroxide Alkalinity	Anions Carbonate Alkalinity as CaCO3 - mg/L	Bicarbona e	Δlkalinity -	Anions eq/L	3alance	onia ag gen (N)	e as N . g/L	e as N g/L	- m	issolve
sit	Piezor Wate		F	epth t	epth t	pH - Field	μs/cm	Field - °C	Aluminium (AI) - mg/L	(As) - mg/L	Barium Be (Ba) - (B mg/L mg	Be) - ng/L (n	mg/L)	Chromium Cr) - mg/L Cobalt (Co) - mg/L	(Cu) - mg/L	(Fe) - mg/L	(Pb) - mg/L	Mangane se (Mn) - mg/L	(Ni) - mg/L	Vanadium Zinc (Z (V) - mg/L - mg/L	Mercu	_ <u>=</u>	EC - Lab -	(Ca) - m	n (Mg) - ng/L	Sodium I (Na) - I mg/L I	m (K) - mg/L	Total Cation meq/L	Chloride (CI) - ( mg/L i	(SO4) - mg/L	as CaCO3 -	as CaCO3 -	Alkalinity as CaCO3 -	mg/L	Total /	lonic I	Amm	Nitrit	Nitrat	OX as	otalD
ANZECC Guideline	- stock drinking v	vater		Δ	Δ					0.5				1 1			0.1		1	20	0.002			1000				_		1000	ilig/L	mg/L r	ng/L		·			1500	400	Z	4000
		05-Jun-15 10-Sep-15																																							
		09-Dec-15	1400	9.94	11.06																																				
		09-Mar-16 01-Jun-16							<del>                                     </del>												+	+										-					<del>                                     </del>				
		27-Sep-16 26-Oct-16	930	9.28	10.40																																				
		23-Nov-16	940	9.50	10.62																																				
		19-Dec-16 20-Jan-17					-		-												-	1															-				
		21-Feb-17	915	10.11	11.23																																				
		28-Mar-17 20-Apr-17							<u> </u>												-	+															<u> </u>				
		24-May-17 30-Jun-17							-													-																			
		25-Jul-17	1000	9.60	10.72																																				
		24-Aug-17 21-Sep-17							-			_									+							-									<del> </del>				
		25-Oct-17	945	9.55	10.67																1																				=
		24-Nov-17 19-Dec-17	930	9.82	10.94																																				
		25-Jan-18 20-Feb-18				<u> </u>	<del>                                     </del>		<u> </u>	+						1							+		-			-													
		27-Mar-18	930	9.99	11.11																																				
		24-Apr-18 28-May-18				-	+		<del>                                     </del>		-	-+	-+		+	+					+	+		$\vdash$			-+	-								-				-+	
		25-Jun-18	930	9.82	10.94				1																																
		25-Jul-18 27-Aug-18	1220	9.86	10.98																																				
		20-Sep-18 29-Oct-18							-												+											-					-				
		26-Nov-18	930	10.27	11.39																																				
		14-Dec-18 25-Jan-19							<del>                                     </del>												+	+										-					<del>                                     </del>				
		25-Feb-19 25-Mar-19																																							
		26-Apr-19	940	10.98	12.10																																				
		28-May-19 24-Jun-19		10.91	12.03		ccess - lock o	changed	<del>                                     </del>			_									1																<del> </del>				
		31-Jul-19				no ac	cess - lock o	changed													1																				=
		23-Aug-19 26-Sep-19				no ac	cess - lock o	changed																																	
		28-Oct-19 29-Nov-19				no ac	cess - lock o	changed changed	<u> </u>												-																1				
		18-Dec-19			42.07	no ac	cess - lock o	changed				/ /																													
-		30-Jan-20 20-Mar-20					525 357.6		Water	NSW agree	ment initiate	ed 13/05/20	020								+	+										-					<del>                                     </del>				
		03-Apr-20 22-Apr-20						21.4 21.2	<0.01	<0.001		-(	0.0001	0.001 <0.001	<0.001		<0.001	0.107	<0.001	<0.00	<0.0001	7 5 7	550	<1 <1	1	248 2	248 !	5.86							6.08	1.84	<0.01	<0.01	<0.01 <	10 01 2	83
		19-May-20	1427	11.09	12.21	6.97	397.3	21.5	10.01	10.001			0.0001	10.002	10.001		10.002	0.107	10.001	10.000	10.0001	7.57	333					3.00							0.00	1.01	10.02	10.02	10.02	.0.01	
		02-Jun-20 09-Jul-20						21.4	<del>                                     </del>			_									1																<del> </del>				
		21-Aug-20 21-Sep-20	1130	10.73	11.85	7.07	451.6	20	<0.01	<0.001		-(	0.0001	:0.001 <0.001	<0.001	<0.0F	<0.001	0.111	<0.001	<0.000	<0.0001	7 22	F20	49	20	31	2	5.49	32	14	-1	<1	240	240	5.99	4.34	0.01	<0.01	<0.01 <	r0.01	264
		20-Oct-20	1139	10.89	12.01	6.92	467.8	22.6	V0.01	V0.001			0.0001	.0.001	VU.001	VU.U3	VU.001	0.111	VU.001	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	V0.0001	7.22	520	49	20	31	2	5.49	32	14	\1	1	240	240	3.99	4.54	0.01	C0.01	V0.01	.0.01	364
		13-Nov-20 09-Dec-20							<u> </u>												-																1				
		21-Jan-21	1323	10.67	11.79	7.45	444.3	20.9																																	
		23-Feb-21 19-Mar-21	1316	10.50	11.62	7.2	408.8	21.0																																	
		12-Apr-21 11-May-21	1457	9.95	11.07	7.27	370	21.0	F	-											1						-													-	
		16-Jun-21	1548	10.04	11.16	7.22	397	21.3																																	
		08-Jul-21 04-Aug-21	1457 1156	9.95 9.70	11.07 10.82	7.27	370 498.6	21.0	+	+			-+		+	+					+	1	+			$\vdash$	-	-	-							$\vdash$				-+	
		21-Sep-21 18-Oct-21	1026	9.59	10.71	7.26	438.7	20.0	<0.01	<0.001		-	0.0001	0.001 <0.001	<0.001	0.22	<0.001	0.160	<0.001	20.000	<0.0004	7.07	500	46	10	30		E 22	3,	12	-1		200	200	E 30	1.44	0.04	<0.01	<0.01	10.01	204
		09-Nov-21	9.39	9.48	10.60	7.26	398.4	20.4	VU.U1	NU.UU1		<(	0.0001	VO.UU1 (<0.00]	. \U.UU1	0.32	<0.001	0.166	×0.001	<0.005	<0.0001	7.82	800	46	19	30	2	5.22	34	12	~1	<1	208	208	5.36	1.41	0.04	<b>~</b> 0.01	\U.U1 <	·0.01	294
		16-Dec-21 12-Jan-22						18.5 19.5	$\vdash$	+	$ \Gamma$		-			<del>                                     </del>							+		-		$-\top$	-	$-\top$										$\vdash$	-	
		21-Feb-22	1003	9.12	10.24	6.81	313.1	20.0																																	
		18-Mar-22 01-Apr-22	952	8.80	9.92	7.06	369.8	19.6				+	+								<u> </u>	<u> </u>					+		+											+	
		17-May-22 01-Jun-22	1049	8.76	9.88	7.12	440.7	19.7																																	$\Box$
		01-Jun-22 07-Sep-22		0.02	3.34			21.0		0.001		<(	0.0001 <	:0.001	0.001	ı	<0.001	0.116	<0.001	<0.005		7.5	540	49	21	32	2	5.62	30		<1	<1	226	226	5.67	0.51	0.01	0.01	0.01	0.01	278
		-	$\vdash$		-	-	+		+			_	-+		+	+					+	1	+	<del>                                     </del>		$\vdash$	-+	-	-+			-			_	$\vdash$				$\dashv$	-
Mark		12 5 02	1530	12.02	14.00		1130	20.4	1	40.001	0.050	<0.004	<0.0004	<0.001 -0.00	1 0.000	0.22	0.020	0.202	0.002	40.01 0.00	20.0004		700	45	22	77		7.40	22	24			204	204	7.24	1.55	0.00				380
WB6a			1530	13.93	14.80	6.8		20.4												<0.01 0.02 <0.01 0.01				45 58								<1					0.09 0.87				389 525
Depth Format.	Unknown Alluvium	14-Nov-08 01-Dec-08					+		$\vdash$	+	$-\Gamma$		$-\top$			<del>                                     </del>							+		-		-1		-										$\vdash$	-	
		12-Jan-09	1326	14.24	15.12																																				
		01-Dec-09 18-Feb-10	1310	14.31	15.15		$\vdash$						+		_	$\perp$					1	<u> </u>																		+	
		03-Sep-10	1345	14.31	15.15				1																																
		09-Feb-11	1400	11.68	12.52	1	1	1		1						1																									

				į	<u>-</u>	l Fie	eld Parameter	ers I						Total Me	etals								E I	Maior C	Cations					Major A	nions		Ι.					- T	To
Site ID	neter/	Date	e e	o Wate	Stand toc		FC Field To			Arsenic	Barium B	eryllium	Cdi	Cobalt	Copper	Iron	Lead	Mangane	Nickel	Vanadium Zinc (Zn) (V) - mg/L - mg/L	у (Hg) у/L	P P	- hs/cı			Potassiu	ations q/L	Chloride Sul	fate	Hydroxide C	arbonate alkalinity s CaCO3 - ng/L Bicarbon te Alkalinit as CaCO mg/L	na Alles lissies	nions -	alance	Ammonia as Nitrogen (N)	rite as N - mg/L	s as N -	- mg	ssolve
Site	Piezometer Water Bore	Da	‡	pth to	apth to	pH - Field	μs/cm Fi	ield - °C	(Al) - mg/L	(As) - mg/L	(Ba) - (E mg/L m	Be) - ng/L	mg/L)	(Co) - (Cr) - mg/L	(Cu) - mg/L	(Fe) - mg/L	(Pb) - mg/L	se (Mn) - mg/L	(Ni) - mg/L	(V) - mg/L - mg/L	Aercur mg	표	:- Lab	Calcium Magnesiu (Ca) - m (Mg) - mg/L mg/L	(Na) - mg/L	m (K) - mg/L	otal C	(CI) - (SC mg/L mg	4) -   <sup>4</sup> /L	as CaCO3 - a	s CaCO3 -	y mg/L	otal A	lonic Bala	Ammo	Nitrite mg	Vitrate	OX as I	otal Di Sol
ANZECC Guideline		vater							5	0.5			0.01	1 1	1		0.1		1	20	0.002		8	1000	167 -		ř		1000	ng/L n	ng/L mg/L		F			1500	400	ž	4000
		31-May-11 27-Sep-11	1250	11.41	12.25																																	$\dashv$	$\equiv$
		03-Jan-12	1320	11.29	12.13																																		
		22-Mar-12 01-Jun-12																											-+				-		1			-+	
		10-Sep-12 04-Dec-12	930	10.35	11.19																																	=	
		07-Mar-13	1410	11.57	12.41																																	<b>=</b>	
		03-Jul-13 04-Sep-13	1440 845	10.87	11.71 11.70																																	-+	
		04-Dec-13 07-Mar-14	900	11.20	12.04							-																	-						-			=	
		10-Jun-14	1350	11.41	12.25																																		
		25-Sep-14 03-Dec-14	1325	11.50	12.34																																	$=\pm$	
		11-Mar-15 05-Jun-15	1420 915	11.57	12.41							-																	-						-			-	
		10-Sep-15	925	11.42	12.26																																		
		09-Dec-15 09-Mar-16	850	11.59	12.43																																		
		01-Jun-16 27-Sep-16	1425 850	11.61 11.58	12.45 12.42																														-				
		26-Oct-16 23-Nov-16	910	11.50	12.34							$\rightarrow$																							1			$\overline{}$	
		19-Dec-16	900	11.55	12.39																																		
		20-Jan-17 21-Feb-17	910	11.56	12.40																				L		L		_+	+			_		L			+	
		28-Mar-17 20-Apr-17	910	11.57	12.41																																	<b>—</b>	
		24-May-17	920	11.60	12.44																								=									二	$\equiv$
		30-Jun-17 25-Jul-17	940	11.58	12.42																																	ightharpoons	
		24-Aug-17 21-Sep-17	925 920	11.34 11.41	12.18 12.25																								$-\top$									$ \mp$	-
		25-Oct-17	925	11.49	12.33																												1		1			ightharpoons	=
		24-Nov-17 19-Dec-17	910	11.54	12.38																																		
		25-Jan-18 20-Feb-18	910 910	11.57 11.57	12.41 12.41							$\rightarrow$													_				$\rightarrow$			_	+		1			$\longrightarrow$	
		27-Mar-18 24-Apr-18	910	11.59	12.43							-																										$\rightarrow$	
		28-May-18	1335	11.62	12.46																																	<b>=</b>	
		25-Jun-18 25-Jul-18																											-						1			-+	
		27-Aug-18 20-Sep-18	1240	11.62	12.46																																	=	
		29-Oct-18	910	11.65	12.49																																		
		26-Nov-18 14-Dec-18	930	11.66	12.50																																	$=\pm$	
		25-Jan-19 25-Feb-19																							-				-						-				
		25-Mar-19 26-Apr-19	910	11.70	12.54																																	=	
		28-May-19	920	11.73																																			
		24-Jun-19 31-Jul-19					cess - lock cha cess - lock cha																						-									+	
		23-Aug-19 26-Sep-19					ess - lock cha ess - lock cha																						-									=	
		28-Oct-19				no acc	cess - lock cha	anged																															
		29-Nov-19 18-Dec-19					cess - lock cha cess - lock cha																															<u></u>	
WB6b		12-Sep-08	1530	11.33	12.20	7.2	1080	20.7		<0.001	0.052	<0.001	<0.0001	<0.001 <0.001	0.007	0.28	0.028	0.297	0.006	<0.01 0.050	<0.0001		781	45 22	83	3	7.78	35	21	<1	<1 305	305	7.52	1.62	0.09			$\longrightarrow$	405
GW036005.1.2 Depth	Unknown	14-Nov-08 01-Dec-08	0825	12.21	13.09			=																					-									=	
Format.	Alluvium	12-Jan-09	1328	17.89	18.77																																		
		01-Dec-09 18-Feb-10	1315	13.94	14.78																																	$\pm$	
		03-Sep-10 09-Feb-11																											_									$\rightarrow$	
		31-May-11 27-Sep-11	1300	10.98	11.82																								_	_								二	=
		03-Jan-12	1330	16.81	17.65																								$\rightarrow$									ightharpoons	
		22-Mar-12 01-Jun-12	1335	9.74	10.58																														<u> </u>				
		10-Sep-12 04-Dec-12	940	14.80	15.64																								$-\top$									$ \mp$	
		07-Mar-13	1415	10.96	11.80			=																					_									$\Rightarrow$	=
		03-Jul-13 04-Sep-13	900	15.40	16.24																								=									二士	
		04-Dec-13 07-Mar-14																									<u> </u>							<u> </u>	<u> </u>			+	
		10-Jun-14 25-Sep-14	1400	9.56	10.40																																	$\dashv$	
		03-Dec-14	1335	16.02	16.86																																	二	
		11-Mar-15 05-Jun-15	910	10.43	11.27																																	ightharpoons	
		10-Sep-15 09-Dec-15	915	10.60	11.44			一				-											$\vdash \exists$			$+ \Box$						+						$\dashv$	$\overline{}$
		09-Mar-16	900	14.88	15.72																												1		1			ightharpoons	=
		01-Jun-16 27-Sep-16	900	10.59	11.43																																	士	
		26-Oct-16 23-Nov-16				<u> </u>		-			<del>-  </del>		-										$\vdash \vdash \vdash$		<del>                                     </del>	+		<del>-  </del>	-		<del>-   -</del>	+	_		$\vdash$			$\dashv$	-
		19-Dec-16 20-Jan-17	910	15.97	16.81			=																					$\dashv$				1					$\rightrightarrows$	=
		21-Feb-17	900	15.42	16.26																																	士	
		28-Mar-17 20-Apr-17	900	11.38 11.10	12.22 11.94																				$\perp$		$\vdash$			+			$\pm$		$\perp$			+	
		24-May-17 30-Jun-17	910	10.86	11.70																								$\dashv$			1						$\dashv$	=
		25-Jul-17	930	10.60	11.44																								=									二	
		24-Aug-17 21-Sep-17						-+															$\vdash$		+				$\dashv$	+			+	1	1			$\dashv$	-
• '						-				. '		'	'			. '	. '			. '	- '	. '	•		*		•	- '	'	'			-	-	-		. '	•	•

Narrabri Mine

Groundwater Monitoring Data

				Ė	l <u>-</u>	1 1	Field Paran	neters								Total Met	tals								lε		Major (	Cations					Major	Anions			I .					<b>ا</b> ا	ъ
Site ID	Piezometer / Water Bore	Date	Time	Depth to Wate mbgl	Depth to Stanc mbtoc	pH - Fiel	EC - Fiel μs/cm	ld - Temp - Field - °	Alur C (Al)	minium - mg/L	A = \ (/	Barium E Ba) - ( mg/L r	Beryllium (Be) - mg/L	Cadmium (mg/L)	Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Iron Lead (Fe) - (Pb) mg/L mg/	se (M	ane Nicke n) - (Ni) - mg/L	Vanad	ium Zinc ( g/L - mg/	Mercury (Hg)	pH Lab	EC - Lab - μs/c	Calcium (Ca) - mg/L	Magnesiu m (Mg) - mg/L		Potassiu m (K) - mg/L	Total Cations meq/L		Sulfate (SO4) - mg/L	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbona te Alkalinity as CaCO3 -	Alkalinity mg/L	Total Anions meq/L	lonic Balance	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	NOX as N - mg	Total Dissolve Solids
ANZECC Guidel	ne - stock drinking	water								5	0.5			0.01	1	1	1	0.	1	1		20	0.002			1000						1000								1500	400		4000
		25-Oct-17	915	10.98	11.82																																						
		24-Nov-17	910	11.44	12.28				$\neg$																																		
		19-Dec-17	900	18.83	19.67																																						
		25-Jan-18	900	21.70	22.54																																						
		20-Feb-18	900	16.83	17.67																																						
		27-Mar-18	900	11.58	12.42																																						
		24-Apr-18	1000	11.29																																							
		28-May-18	1345	11.11	11.95																																						
		25-Jun-18	910	10.57	11.41																																						
		25-Jul-18	910	15.25	16.09																																						
1		27-Aug-18	1250	12.92	13.76	ı																																	l				

				i.	<u> </u>	Field	d Paramet	ters						Total M	etals									E		Major Cat	tions					Major Anions						I .			ō
O O	neter / r Bore	ate	e l	n to Wate mbgl	o Stanc otoc	pH - Field	C - Field .	Temp -	Aluminium	Arsenic	Barium I	Beryllium Cad	mium Chromiun	Cobalt	Copper	Iron	Lead	Mangane		Vanadium	Zinc (Zn)	cury (Hg) mg/L	율			Magnesiu S		otassiu :	₩ Chle	oride Sulfate	Hydr	oxide Carbonate	Bicarbona te	Alkalinity -	Anions eq/L	3alance	onia as gen (N)	g/L	e as N ·	N - mg	issolve
ž.	Piezom Water	ا م	=	epth t m	epth to mbt	pH - Field	ıs/cm	Field - °C	(Al) - mg/L	(As) - mg/L	(Ba) - (mg/L	Be) - ng/L	mium Chromiun (Cr) - mg/	(Co) - mg/L	(Cu) - mg/L	Iron (Fe) - mg/L	(Pb) - mg/L	se (Mn) - mg/L		(V) - mg/L		Mercu	표	C- Lab				(K) -   C	T/be (CI)	- (SO4) · /L mg/L	as Ca	oxide Carbonate inity Alkalinity as CaCO3 mg/L	Alkalinity as CaCO3 -	mg/L	Total /	lonic E	Amm	Nitrite B	Nitrat	IOX as	rotal D So
ANZECC Guideline	- stock drinking w			Δ	Δ				5	0.5			.01 1				0.1		1		20	0.002		ш	1000					100			mg/L					1500	400	Z	4000
		20-Sep-18 29-Oct-18	900	19.69	20.53																			=					$\pm$												
		26-Nov-18 14-Dec-18	920	13.55	14.39																																				
		25-Jan-19 25-Feb-19																																							
		25-Mar-19 26-Apr-19																						-+							-										
		28-May-19 24-Jun-19	910			no acce	ss - lock ch	hanged																$\dashv$					$\dashv$												=
		31-Jul-19 23-Aug-19				no acce	ss - lock ch	hanged																_					_												
		26-Sep-19 28-Oct-19	505			no acce	ss - lock ch ss - lock ch	hanged																#			_		$\mp$		+										
		28-Oct-19				no acce	ss - lock ch ss - lock ch	hanged																_																	
		29-Nov-19 18-Dec-19				no acce	ss - lock ch	hanged		1						L								_					$\perp$		$\perp$										
		30-Jan-20 20-Mar-20	928	13.18	14.02		836	22.9		WaterN	ISW agreen	nent initiated 13	/05/2020, WL ha	s been cor	nfirmed coi	rrect																									
		03-Apr-20 22-Apr-20	1059	13.65	14.49	6.99 7.16	784 615	20.8 21.6	<0.01	<0.001		<0.0	001 <0.001	<0.001	<0.001		<0.001	0.367	<0.001		<0.005	<0.0001	7.76 64	44 46	6	20 6	56 2	6.86							6.98	0.86	0.02	<0.01	0.05	0.05	330
		19-May-20 02-Jun-20		12.41 12.37	13.25 13.21	6.79 6.87	646 630	21.0 19.7																$\dashv$					-		+										
		09-Jul-20 21-Aug-20					634 631	20.3 20.0																																	
		21-Sep-20 20-Oct-20	1129	12.17		6.71	592 618	21.8	<0.01	<0.001 WaterN	SW confirm		001 <0.001 /2020) is correc		<0.001 m the sam		<0.001	0.343	<0.001		<0.005	<0.0001	7.48	591	42	20	65	2	6.62	28 22	+	1 <1	292	292	7.08	3.37	0.03	3 <0.01	0.08	0.08	410
		13-Nov-20 09-Dec-20	849	12.35	13.19	6.86	611 591	21.0			5511111		122710 001160		o ouill									丰			_		$\dashv$		+										
		21-Jan-21	1221	11.83	12.67	7.26	586	22.0																_			_		$\Rightarrow$		+										
		23-Feb-21 19-Mar-21	1227	12.15	12.99		585 588	21.7																$\Rightarrow$					$\Rightarrow$		$\pm$										
		12-Apr-21 11-May-21	1140	11.62	12.46	6.82	596 581	20.0																$\pm$					$\perp$		$\pm$										
		16-Jun-21 08-Jul-21	1415	11.23	12.07		591 582	20.7																=			$\pm$		$\pm$		$\pm$										
		04-Aug-21 21-Sep-21			11.86 11.64	7.09 7.37	586 582	20.0 19.4																																	
		18-Oct-21 09-Nov-21		10.62 11.21			613 614	21.6 21.3	<0.01	<0.001		<0.0	001 <0.001	<0.001	<0.001	0.59	<0.001	0.359	<0.001		<0.005		8.03	598	41	19	63	2	6.4	28 23	+ '	1 1	289	289	7.04	4.77	0.04	4 <0.01	<0.01	<0.01	348
		16-Dec-21 12-Jan-22					608 596	21.3 21.5																-																	
		17-May-22 01-Jun-22	950	9.72	10.56	7.41	588	20.3																$\dashv$	-				$\mp$		+										
		07-Sep-22					597	21.7		0.001		<0.0	001 <0.001		0.006		<0.001	0.001	<0.001		<0.005		7.61	1610	92	50	150	2	15.3	266	<1	<1	230	230	15.6	1.15	0.01	1 0.01	15.8	15.8	909
																													=												
WB7 GW036005.1.1		11-Sep-08 14-Nov-08		4.09	4 99	6.9	1175	20.5		<0.001	0.006	<0.001 <0.	0001 <0.001	<0.001	0.013	<0.05	<0.001	<0.001	<0.001	<0.01	0.040	<0.0001		765	33	18	92	2 7	.16	60 23	+	1 1	250	250	7.16	0.06	0.04				410
Depth	Unknown	01-Dec-08	1045	2.24																																					
Format.	Alluvium	12-Jan-09 25-Aug-09	1500	-0.91	5.10	0.40	4000		0.05			<0.001 <0.								<0.01	0.044	<0.0001	704	633	26	14		2		17.4 23		1 1	224	224	0.05	4.00	<0.01	0.00	4.45	4.40	348
standpipe height	0.91	01-Dec-09 18-Feb-10	1240					23.3					<0.001					0.038				<0.0001								55.2 32		1 <1			8.05			0.02		1.48	
		23-Jun-10 03-Sep-10	1305	1.02	1.93	7.39	796 625		<0.01	<0.001			<0.001		0.01	<0.05	<0.001	<0.001	<0.001						29	16	93	2 6	.89	51 17.		1 <1	250	250	6.81	0.59		<0.01	0.31	0.31	
		08-Feb-11 31-May-11			2.12 3.01	7.55	964 613	27.3 14.8		<0.001			<0.005					<0.001				<0.001			41		125			65 33		1 (1	345	345	9.41	0.52		<0.01	0.43	0.43	
		27-Sep-11 03-Jan-12					701 732	22.3 25.7	<0.01	<0.001	0.007	<0.001 <0.	0001 <0.001	<0.001	0.016	0.2	0.002	0.004	<0.001	<0.01	0.009	<0.0001	7.95	740	30	17	105	2 7	.51	61 25	+	1 1	260	260	7.44	0.5	<0.01	<0.01	0.35	0.35	402
		22-Mar-12 01-Jun-12			3.09 3.76	7.45 7.55	722 704	24.2 16.1	<0.01	0.007	0.011	<0.001 <0.	0001 <0.001	<0.001	0.016	1.14	0.006	0.163	0.002	<0.01	0.012	<0.0001	7.69	654	24	14	112	3	7.3	60 23	+	1 4	245	245	7.07	1.58	0.14	<0.01	<0.01	<0.01	490
		10-Sep-12 04-Dec-12			1.14 3.12	7.27	597	17.5	0.01	<0.001	0.008	<0.001 <0.	0001 <0.001	<0.001	0.008	<0.05	<0.001	0.027	<0.001	<0.01	0.005	<0.0001	7.65	636	23	12	98	2 6	.45	56 20	-	1 <1	234	234	6.67	1.72	<0.01	<0.01	0.05	0.05	362
		07-Mar-13 03-Jul-13	1340	0.79	1.7		673 668	25.2 13.4	<0.01	<0.001	0.009	<0.001 <0.	0001 <0.001	<0.001	0.064	0.16	0.042	0.01	<0.001	<0.01	0.015	<0.0001	7.3	693	34	17	90	2 7	.06	54 18	<u> </u>	1 1	255	255	6.99	0.46	<0.01	<0.01	0.51	0.51	398
		04-Sep-13 02-Dec-13	945	2.43	3.34	7.1	688	17.1 19.2	0.02	<0.001	0.012	<0.001 <0.	0001 <0.001	<0.001	0.022	0.87	0.002	0.306	0.002	<0.01	0.021	<0.0001	7.63	715	32	18	102	2 7	.57	58 26	Τ.	1 1	254	254	7.27	1.97	<0.01	<0.01	0.06	0.06	387
		07-Mar-14	1320	1.71	2.62	7.7	992 846	26.2	<0.01	<0.001	0.01	<0.001 <0.	0001 <0.001	<0.001	0.014	<0.05	<0.001	0.002	<0.001	<0.01	0.008	<0.0001	7.46	821	38	21	107	2 8	.33	75 28	+	1 1	268	268	8.05	1.66	0.01	<0.01	1.85	1.85	491
		10-Jun-14 25-Sep-14	1150	2.80	3.71	7.7	740 704	18.1	0.02	<0.001	0.009	<0.001 <0.	0001 <0.001	<0.001	0.011	<0.05	<0.001	0.012	0.002	<0.01	0.012	<0.0001	7.53	708	28	17	92	2 6	.85	61 28	+	1 1	222	222	6.74	0.78	0.01	<0.01	0.52	0.52	393
		03-Dec-14 11-Mar-15	1350	1.74		7.8	702 1010		<0.01	<0.001	0.011	<0.001 <0.	0001 <0.001	<0.001	0.013	<0.05	<0.001	0.005	0.001	<0.01	0.026	<0.0001	7.6	810	42	25	114	2 9	.16	64 46	+	1 <1	292	292	8.6	3.16	0.03	<0.01	1.76	1.76	426
		05-Jun-15 10-Sep-15	1010	0.83	1.74			9.1	<0.01	<0.001	0.009	<0.001 <0.	0001 <0.001	<0.001	0.011	0.13	0.002	0.042	0.002	<0.01	0.024	<0.0001	7.46	657	29	17	95	2 7	.03	53 22		1 <1	230	230	6.55	3.52	0.03	<0.01	0.07	0.07	410
		09-Dec-15 09-Mar-16	1040	2.96		7.1		24.7 26.7	<0.01	<0.001	0.01	<0.001 <0.	0001 <0.001	<0.001	0.073	1.68	<0.001	1.78	<0.001	<0.01	0.009	<0.0001	7.59	809	41	20	111	2 8	.57	60 37	+	1 1	283	283	8.12	2.7	0.06	<0.01	0.03	0.03	439
		01-Jun-16 27-Sep-16	950	1.44		7.5 7.5	794 760	16.3 15.1	<0.01	<0.001	0.005	<0.001 <0.	0001 <0.001	<0.001	<0.001	3.29	<0.001	0.196	<0.001	<0.01	<0.005	<0.0001	7.8	739	34	20	104	1 7	.89	54 20	╁.	1 <1	283	283	7.59	1.89	<0.01	<0.01	<0.01	<0.01	390
		26-Oct-16 23-Nov-16				7.1	642	24.1																			Ŧ		F		$\pm$						oxdot	$\pm \overline{}$			
		19-Dec-16 20-Jan-17			2.9 1.79		735 832	22.9 24.9																																	
		21-Feb-17 28-Mar-17	950	2.64	3.55	7.1	783 673	20.3																$\dashv$					$\dashv$		+										
		20-Apr-17 24-May-17	1000	1.20	2.11	7	674 669	20.5							1								_	一			_	-	$\mp$	_	+							-			
		30-Jun-17 25-Jul-17	1040	0.48	1.39	7.1	617	14.8															_	$\dashv$			_		$\Rightarrow$		+										
		24-Aug-17	1020	0.26	1.17	7	668	12.3	20.04	ZO 000	0.000	<0.001	0001 20.001	ZO 000	0.004	~0.0r	<0.004	0.002	∠0.004	ZO 01	0.005	<0.0004	7.26	701	26	10	94	, .	42	52 ~	+	1 -1	267	267	7 77	0.22	0.03	20.01	1 25	1 25	256
		21-Sep-17 25-Oct-17	1020	2.84	3.75	6.7	772	20.7	<0.01	<0.001	0.006	<u.uu1 <u.<="" td=""><td>0001 &lt;0.001</td><td>&lt;0.001</td><td>0.004</td><td>\U.U5</td><td><u.uu1< td=""><td>0.002</td><td>&lt;0.001</td><td>VU.U1</td><td>U.UU5</td><td>&lt;0.0001</td><td>7.20</td><td>701</td><td>30</td><td>18</td><td>94</td><td>2 7</td><td>.42</td><td>53 26</td><td></td><td>1 1</td><td>20/</td><td>20/</td><td>/.3/</td><td>0.32</td><td>0.03</td><td>&lt;0.01</td><td>1.25</td><td>1.25</td><td>356</td></u.uu1<></td></u.uu1>	0001 <0.001	<0.001	0.004	\U.U5	<u.uu1< td=""><td>0.002</td><td>&lt;0.001</td><td>VU.U1</td><td>U.UU5</td><td>&lt;0.0001</td><td>7.20</td><td>701</td><td>30</td><td>18</td><td>94</td><td>2 7</td><td>.42</td><td>53 26</td><td></td><td>1 1</td><td>20/</td><td>20/</td><td>/.3/</td><td>0.32</td><td>0.03</td><td>&lt;0.01</td><td>1.25</td><td>1.25</td><td>356</td></u.uu1<>	0.002	<0.001	VU.U1	U.UU5	<0.0001	7.20	701	30	18	94	2 7	.42	53 26		1 1	20/	20/	/.3/	0.32	0.03	<0.01	1.25	1.25	356
		24-Nov-17 19-Dec-17	1005	0.76	_	7	843																	$\pm$					土												=
		25-Jan-18 20-Feb-18	1005	1.42		7		24.8 21.8																=					$\pm$		$\pm$										
		27-Mar-18 24-Apr-18					678 685	18.3 20.9	<u> </u>															F	=				F		$\pm$										
		28-May-18 25-Jun-18	1240	2.57	3.48	7.1	672	20.7 14.4																$\dashv$					$\mp$												
		25-Jul-18 27-Aug-18	1005	3.29	4.2	7.2	665																	$\dashv$					$\dashv$		+										
		20-Sep-18							<0.01	<0.001	0.011	<0.001 <0.	0001 <0.001	<0.001	0.011	<0.05	<0.001	0.002	<0.001	<0.01	0.027	<0.0001	7.29	897	49	26	135	2 1	0.5	72 43		<1 <1	274	274	8.57	10.1	0.03	<0.01	2.38	2.38	482

				-	1 -		Field Para	ameters						To	otal Metal	ls						1 .			ε <b>Ι</b>	N	Major Cati	tions					Majo	r Anions			1 .					٦	ס
_	ster/ Bore	۰	9	Wate	Stand					Arconi	c Rarium	Rondlium					on I	ood N	langano l	Nickol		(§	ا بر	g .	ız/cı		Ť		Potacciu	ions	Chlorido	Sulfato			Bicarbona		ions 1	lance	n (N)	S Z -	- as N	188 E	solve
ite –	o me	Date	i i	h to W mbgl	th to St mbtoc	pH - Fie	EC - Fi	eld Temp -	Aluminiur	n (As) -	c Barium (Ba) -	Beryllium (Be) - mg/L	Cadmium	Chromium	Co) - (C	opper Ir (u) - (F g/L m	e) - (F	ead N Pb) - se ng/L m	langane l e (Mn) - ( ng/L r	Ni) -	Vanadium Zinc	(Zn)	mg/L	pH Lab	- (Ca	icium   Iviag	gnesiu So Mg) - (N	Na) - n	Potassiu m (K) -	neq.	Chloride (Cl) - mg/L	(SO4) -	Alkalinity	Alkalinity	Alkalinity	Alkalinity	- An	c Ba	mom oge	mg/	ate a	Z se	Diss
,	Piez Wa			eptl	epth	ľ	μs/cm	Field - *	C (AI) - mg/	m L (As) - mg/L	(Ba) - mg/L	mg/L	(mg/L)	Chromium (Cr) - mg/L	ng/L m	g/L m	ıg/L m	ng/L m	ng/L r	ng/L	(V) - mg/L   - mg	Me   Me			mg این mg	lcium Mag a) - m (f g/L mg/	/L m	Na) - n	m (K) - mg/L	Total Catio meq/L	mg/L	mg/L	as CaCO3	as CaCO3 -	as CaCO3	Alkalinity mg/L	Total An	o ii	Nit.	Z E	Z it	ŏ	ota
ANZECC Guideline	- stock drinking	water				+	+		5	0.5				1	_	_	_	0.1		1	2	0 0.0	02			1000			_	•		1000	87 -		mg/I		+	+	+	1500	400	2	4000
		29-Oct-18	1010	2.54	3.45	7	79	5 19.3	_	0.5	_		0.02	1		-		0.2					-		_		_	_	$\overline{}$			1000						_	_	1500	100	$\overline{}$	-1000
		26-Nov-18					_		_																-																$\overline{}$	-	
		14-Dec-18						3 21.5	1		_					-							-		-												1	1	1			$\rightarrow$	
			1025					3 24.6																																		$\neg$	
		25-Feb-19	1020	0.82	1.73	7	97	3 20.5																													1					$\neg$	
		25-Mar-19	1020	0.91	1.82	7	980	20.9																																			
		26-Apr-19						20.3																																			
		28-May-19		1.12			74:	2 12.4																																			
					2.16			13.6																														1					
		31-Jul-19		1.81			_																																		$\longrightarrow$		
		23-Aug-19						_																																			
			1150							<0.001	0.01	7 <0.001	<0.0001	<0.001 <	0.001	0.055 <	0.05	0.002	0.003 <	<0.001	<0.01 0	0.027	001	7.34	1160	60	31	152	2	12.2	125	82	<1	<1	273	3 273	10.7	7 6.6	4 0.02	2 <0.01	5.74	5.74	693
			910																																						$\longrightarrow$		
			910			7.2		0 21.4									$\rightarrow$								_													1			+		
					2.43																		-		_													_			$\longrightarrow$		
			1355					0 22.4						-								_			_													1			$\leftarrow$		
					2.29							+										_	-		-			-									-	+	-		++		
			1355								+	+		<del>                                     </del>	-	-	-	-	-			_	-		-	-	-	$\rightarrow$	-	-			_	-	_			+	+		++	$\longrightarrow$	
					2.06 1.85			21.5		_	_						-	_				_	_	_	-												-		_		$\leftarrow$		
		24-Apr-20 28-May-20		0.94		7.5 7				_	_			<del>                                     </del>									_		-		-+		-+				_				-	+	-		+		
			850					14.3		_	_	_				-	-+	_				_	_	_	+		_	-	-+	-			_				-	1	1		$\leftarrow$		-
			1200					13.2		+-	+-	+		<del>                                     </del>	_	-	-+	-	-			-	-	_	-	-	-+	-	-+	-			_		_		+	+	+		$\overline{}$		
		26-Aug-20		2.47		7.2				+	+	+		<del>                                     </del>	_	-	-+	-	-			_	-	_	-	-	-	-	-+	-			_		_		+	+	+		$\leftarrow$		
			1123					3 17.8		<0.001	0.00	8 < 0.001	<0.0001	c0 001	0.001	0.037 <	2.05	0.001 <	0.001	r0 001	<0.01	0.022 <0.00	201	7.97	804	38	21	116	- 1	8.72	51		1	<1	265	265	8.22	2 20	7 <0.01	<0.01	2.37	2.37	472
		29-Oct-20		1.77				17.8		\0.003	. 0.00	0 0.001	V0.0001	\0.001	.0.001	0.037	5.05	0.001	0.001	0.001	VO.01 0	7.022 \0.00	JU1	7.57	804	30	- 21	110		0.72	31	00	1	1	20.	20.	0.22	2 2.3	7 (0.01	V0.01	2.37	2.37	4/2
		26-Nov-20						20.5			+	_		<del>                                     </del>	_	_	_						-	_	-	-	-+		-+	-			_		_	<del> </del>	+	+	+		<del></del>		
					3.44			17.6		+	+	+		<del>                                     </del>	_	_	_	-				_	-	_	-	-	-+	-	-+	-			_		_	_	+	+	+		$\overline{}$		
				1.57										<del>                                     </del>			_						_		-												1		1		<del></del>		$\overline{}$
					2.48			2 21.6		_	_	+		<del>                                     </del>	-	_	-	_	_			_	_	_	-	_	_	_	-								<del> </del>	1	+		1		
			1330					ate locked	-					<del>                                     </del>			_	_					_		-		_	_	-+								1	1	1		+	+	-
		27-Apr-21		3.26					_		_			<del>                                     </del>			_					_	_		-				-+				_				1	1	1		+		
			845					5 12.7		_	_							_					_		-		_	_	-								<del>                                     </del>	+	_		+	$\rightarrow$	$\overline{}$
			900					11.6		_	_			<del>                                     </del>				_				_	_	_	-	_	_	_	-								<del>                                     </del>	+	1		+		
			1120			8.42				+	+	+			_							-	-		-		-		-+	-				<del>                                     </del>	_	<del>                                     </del>	+	+	+		$\overline{}$	$\longrightarrow$	
		29-Aug-21						17.8		_	+	1						_					_		-		_		-+								1	+	1		$\overline{}$	$\rightarrow$	
			1300		5.00	7.43				<0.001	0.00	7 <0.001	<0.0001	<0.001 <	0.001	0.010	256	0.001	0.348 <	-0.001	0.01 0	0.012 <0.00	001	7.74	927	36	21	107	1	8.2	84	//2	<1	<1	274	1 274	1 8.74	1 21	6 < 0.01	<0.01	0.04	0.04	466
			1530					1 26	10.01	10.00	0.00	7 10.001	10.0001	10.001	.0.001	0.015	2.50 \	0.001	0.540	.0.001	0.01	7.012 40.00	101	7.74	037	- 50		107		0.2	- 04	7.	1 1	11	2/-		0.7	7 3	10.01	10.01	0.04	0.04	400
					5.50			3 18	+	+	+	+		+ +		$\overline{}$	$\overline{}$		-+			-	-		-				-+	-	$\vdash$		_		_		$\vdash$	<del>                                     </del>	+	1	$\overline{}$		i
			1420			7.57				_	+	1	1	+ +	-	-	-+		-+			-	-		-				-+	-	$\vdash$		<del>                                     </del>		<del>                                     </del>		1	1	1	1	$\overline{}$		i
		07-Sep-22		3.00	3.51	6.53		0 20.87		0.0	01	1	<0.0001	<0.001		0.001	<	0.001	0.325 <	:0.001	<0.0	105	-	7.76	642	40	18	64	2	6.31	28		<1	<1	283	3 283	6.86	6 4.1	6 0.0:	1 0.01	0.01	0.01	328
		21-Sep-22		3.14	4.05	7.5						0.001		<0.001	0.001				0.325 <			0.03 < 0.00			615	28	13		2	6.48	50		<1	<1	228								327
					4.01			23.3		3.0	3.007	5.001	12.2002						5.155		0.02								-1	UU	50		T .	1	1	1	1	1	1 3.0	0.01	0.02	- 5.52	J-71
		12-1101-22	1333	3.23		1	1 30	25.5	$\top$	_		1		<del>                                     </del>			$\overline{}$						-		-				-+									1	1	1	$\overline{}$		i
WB8		12-Sep-08			1	1	$\vdash$		$\overline{}$			1	1	<del>                                     </del>	$\overline{}$	$\overline{}$	<del>- +</del>					$\neg$	$\overline{}$		-		_							İ			1	1	1		$\overline{}$	$\neg$	, 1
		14-Nov-08					$\top$		$\top$	$\top$	$\top$					$\neg$	$\neg$	-	$\neg$			$\neg$	$\neg$		$\neg$		-	-	-	$\neg \neg$							1	1	1		$\Box$	$\overline{}$	-
WB9	NC-008	01-Dec-08		19.2	19.67	1	$\top$		1		$\overline{}$	1	İ		<u> </u>	_	_	_				$\neg$	$\neg$		$\neg$				_					İ		İ	1	1	1	1	$\overline{}$	$\overline{}$	-
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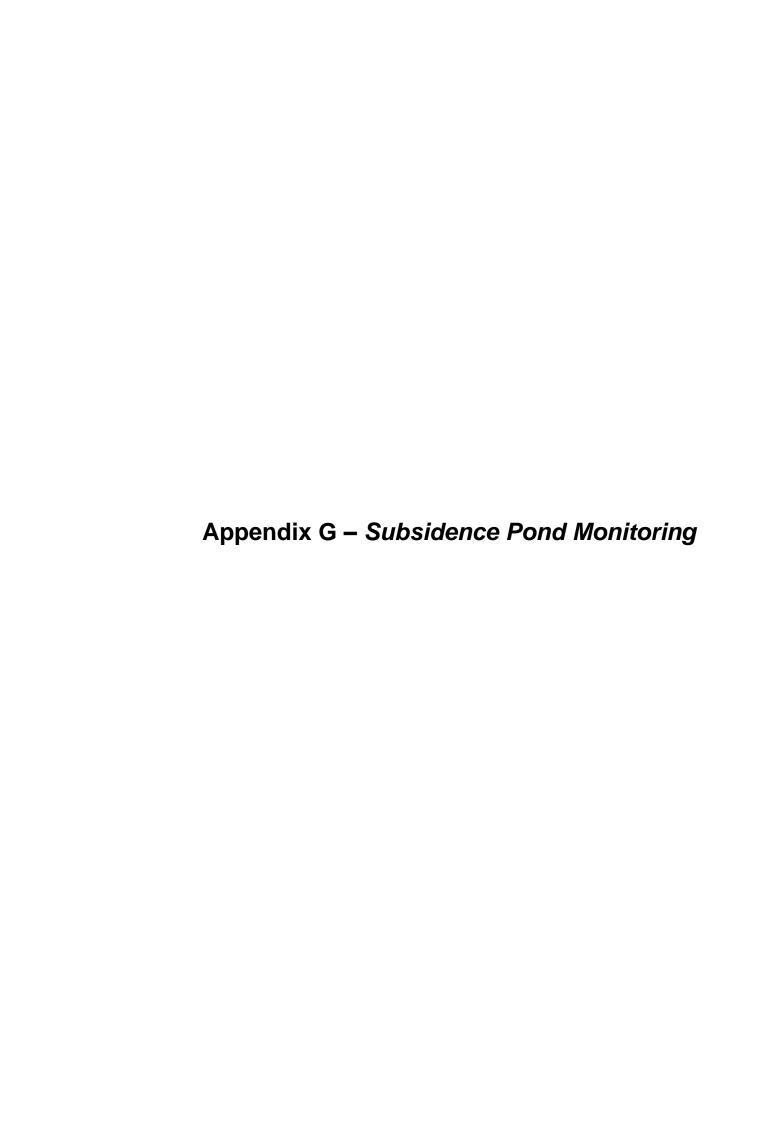
## Appendix F - Ambient Flow Monitoring Results 2022

Date	Data Point	EC - Field (μS/cm)	Oil & Grease (mg/L)	pH - Field	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Comments
2 February 2022	KC1DS						No flow
2 February 2022	KC2DS						No flow
2 February 2022	KCDS						No flow
2 February 2022	KC2US						No flow
2 February 2022	KCUS						No flow
2 February 2022	KC1US						No flow
2 February 2022	PC1						No flow
2 February 2022	PCa						No flow
2 February 2022	KC1TOP						No flow
2 February 2022	PC3US						No flow
2 February 2022	PCUS						No flow
25 February 2022	KC1DS						No flow
25 February 2022							No flow
25 February 2022							No flow
25 February 2022							No flow
25 February 2022							No flow
25 February 2022	KC1US						No flow
25 February 2022	PC3US						No flow
25 February 2022	PCUS						No flow
25 February 2022	KC1TOP						No flow
25 February 2022	PCa						No flow
25 February 2022	PC1						No flow
28 March 2022	PC1						No flow
28 March 2022	PCa						No flow
28 March 2022	PCUS						No flow
28 March 2022							No flow
28 March 2022	KC1TOP						No flow
28 March 2022	KC1DS						No flow
28 March 2022	KC2DS						No flow
28 March 2022							No flow
28 March 2022	KC2US						No flow
28 March 2022	KCUS						No flow

28 March 2022	KC1US					No flow
13 May 2022						No flow
13 May 2022						No flows
13 May 2022						No flow
13 May 2022			7.04	4.0		No flow
13 May 2022		<5	7.94	18		Steady flow, brown sample, no odour
13 May 2022						No flow
13 May 2022						No flow
13 May 2022						No flow
13 May 2022						No flow
13 May 2022						No flow
13 May 2022			8.93	20		Steady flow, brown sample, turbid, no odour
5 August 2022		3 <5	8.81	16		Fast flow
5 August 2022		<5	7.49	17		Steady/light flow
5 August 2022		<5	6.79	14	170	Steady/fast flow
5 August 2022	KC2US 119	<5	6.61	23	48	Fast flow
5 August 2022	KCUS 34	<5	6.69	12	434	Fast flow
5 August 2022	KC1US 92	<5	7.48	12	686	Fast flow
5 August 2022	PCUS					No Flow
5 August 2022	KC1TOP					No Flow
5 August 2022	PC3US					No Flow
5 August 2022	PC1 14:	. <5	7.55	18	59	Steady flow
5 August 2022	PCa					No Flow
25 August 2022	KC2DS 24	3 <5	7.62	19	13	Low flow
25 August 2022						No Flow
25 August 2022						No Flow
25 August 2022						No Flow
25 August 2022						No Flow
25 August 2022						No Flow
25 August 2022						No Flow
25 August 2022		i <5	7.03	12		Low flow. LW104 pond pumping upstream
5 September 2022		′ <5	8.35	12		Steady flow rate
5 September 2022		<5	7.49	14		Slow flow rate
5 September 2022			,,,,	17		Pooled water, no flow
5 September 2022						Pooled water, no flow
5 September 2022		<5	7.54	12		Steady flow rate
5 September 2022		. <5	7.93	14		Low flow
3 September 2022	12.	. ~-	1.33	14	23	LOW HOW

5 September 2022	PCa	141	<5	7.58	15	28	Low flow, pigs
5 September 2022	PC1	156	<5	7.35	12	25	Steady flow
16 September 2022	PCa						No access to sample point
16 September 2022	PC1	77	<5	7.22	7	135	Slightly turbid. no water. Fast flow.
16 September 2022	KC1DS	112	<5	7.29	9	177	Slightly turbid. No odour. Very fast flow.
16 September 2022	KC2DS	105	<5	6.8	9	43	Quite Clear. No Odour. Very fast flow.
16 September 2022	KCDS	114		6.63	7	118	Very fast flow. Slightly turbid.
16 September 2022	KC2US	57	<5	7.1	8	84	Turbid sample. brown sample. Slow/steady flow.
16 September 2022	KCUS	183	<5	7.25	8	153	Fast flow. Slightly turbid.
16 September 2022	KC1US	77	<5	6.74	8	71	Steady/fast flow. Slightly turbid. No odour.
22 September 2022	PCa						No access to sample point
22 September 2022	KC1DS	133	<5	7.51	11	99	Fast flow. Rubbish near sample site
22 September 2022	KC2DS	221	<5	7.49	10	28	Steady flow. Frogs nearby
22 September 2022	KCDS	108		7.31	10	88	Fast flow
22 September 2022	KC2US	49	<5	7.17	9	59	Steady flow
22 September 2022	KCUS	96	<5	7.13	9	139	Fast flow
22 September 2022	PC1	90	<5	7.3	8	83	Fast flow across road
22 September 2022	KC1US	90	<5	7.29	12	58	
9 October 2022	PC1	125	<5	7.06	9	30	Steady flow
9 October 2022	PCa	120	<5	6.51	15	26	Steady flow
9 October 2022	KC1US	133	<5	7.28	14	46	Slow/steady flow
9 October 2022	KCUS	276	<5	7.25	12	60	
9 October 2022	KC2US	71	<5	7.23	14	52	Low flow
9 October 2022	KCDS	223	<5	7.04	12	51	Fast flow
9 October 2022	KC2DS	91		7.3	13	52	Steady flow
9 October 2022	KC1DS	165	<5	7.22	11	442	
21 October 2022	PC3US						No access to sample point
21 October 2022	KC1TOP						No access to sample point
21 October 2022	PCa						No access to sample point
21 October 2022	PCUS						No access to sample point
21 October 2022	KC1DS	86	<5	7.23	8	274	
21 October 2022	KC2DS	48		7.81	8	338	
21 October 2022	KCDS		<5	7.08	8	142	
21 October 2022	KC2US		<5	7.31	6	48	
21 October 2022	KCUS	40	<5	7.35	6	78	
21 October 2022		56		8.27	7	126	
21 October 2022	PC1	29	<5	7.5	6	24	

1 November 2022	DC2						No access to sample point
		128	٧٢	Г 4Г	44		• •
1 November 2022				5.45			steady flow, no odour, slightly turbid
1 November 2022		133		5.86	53		very low flow, no odour, slightly turbid
1 November 2022	KC1DS	146	<5	8.06	16	214	strong flow, no odour, slightly turbid
1 November 2022	KC2DS	74	<5	6.93	17	40	strong flow, no odour, slightly turbid
1 November 2022	KC1TOP	91	<5	5.37	45	27	very low flow, no odour, slightly turbid
1 November 2022	KCDS	144	<5	7.16	16	80	strong flow, no odour, slightly turbid
1 November 2022	KC2US	73	<5	7.11	17	44	strong flow, no odour, slightly turbid
1 November 2022	KCUS	116	<5	6.99	14	148	strong flow, no odour, slightly turbid
1 November 2022	KC1US	105	<5	7.17	16	108	strong flow, no odour, slightly turbid
1 November 2022	PC1	100	<5	7.28	13	58	strong flow, no odour, slightly turbid
14 November 2022	PCa						Inaccessible
14 November 2022	PC3US						No Flow
14 November 2022	KC2DS	66	<5	7.26	11	40	Strong flow
14 November 2022	KCDS	100	<5	6.31	10	55	Strong flow
14 November 2022	KC2US	62	<5	6.47	10	20	Strong flow
14 November 2022	KC1DS	117	<5	7.94	11	327	Strong flow
14 November 2022	KC1US	88	<5	7.59	14	125	Strong flow
14 November 2022	KCUS	100	<5	6.78	11	94	Strong flow
14 November 2022	PCUS	131	<5	6.86	41	8	Low flow
14 November 2022	KC1TOP	133	<5	6.47	33	8	Low flow
14 November 2022	PC1	100	<5	6.6	10	74	Strong flow



## **Appendix G - Subsidence Pond Monitoring**

Date	Data Point	EC - Field (μS/cm)	Comments
24 January 2022	LW104 North	237	
24 January 2022	LW105 North	172	
24 January 2022	LW106 North	129	
24 January 2022	LW108 North	DRY	
24 January 2022	LW107 North	206	
24 January 2022	LW108 South	260	
24 January 2022	LW105 South	70	
24 January 2022	LW103 Ponding	421	
24 January 2022	LW102 South	192	
24 January 2022	LW102 North	377	
24 January 2022	LW101 Ponding	194	
22 February 2022	LW104 North	308	
22 February 2022	LW105 North	168	
22 February 2022	LW106 North	250	
22 February 2022	LW107 North	232	
22 February 2022	LW108 North	DRY	
22 February 2022	LW108 South	282	
22 February 2022	LW105 South	DRY	
22 February 2022	LW103 Ponding	679	
22 February 2022	LW102 South	212	
22 February 2022	LW102 North	505	
22 February 2022	LW101 Ponding	245	
22 March 2022	LW104 North	414	
22 March 2022	LW105 North	222	
22 March 2022	LW106 North	DRY	
22 March 2022	LW107 North	312	
22 March 2022	LW108 South	376	
22 March 2022	LW108 North	DRY	
22 March 2022	LW105 South	DRY	
22 March 2022	LW103 Ponding	912	
22 March 2022	LW102 South	232	
22 March 2022	LW102 North	635	
22 March 2022	LW101 Ponding	315	
30 March 2022	LW104 North	275	
30 March 2022	LW105 North	171	
30 March 2022	LW107 North	233	
30 March 2022	LW108 North	206	
30 March 2022	LW108 South	268	
30 March 2022	LW103 Ponding	569	
30 March 2022	LW102 South	184	
30 March 2022	LW102 North	491	
30 March 2022	LW101 Ponding	228	
30 March 2022	LW105 South	DRY	
30 March 2022	LW106 North	DRY	
21 April 2022	LW104 North	156	
21 April 2022	LW105 North	154	
21 April 2022	LW106 North	DRY	
21 April 2022	LW107 North	DRY	
21 April 2022	LW108 North	DRY	
21 April 2022	LW105 South	DRY	
21 April 2022	LW108 South	255	
21 April 2022	LW103 Ponding	630	
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21 April 2022	LW102 South	184	
21 April 2022	LW102 North	539	
21 April 2022	LW101 Ponding	257	
13 May 2022	LW105 South	20	
13 May 2022	LW108 South	220	
13 May 2022	LW104 North	158	
13 May 2022	LW105 North	306	
13 May 2022	LW106 North	DRY	
13 May 2022	LW107 North	257	
13 May 2022	LW108 North	DRY	
13 May 2022	LW103 Ponding	369	
13 May 2022	LW102 South	123	
13 May 2022	LW102 North	327	
13 May 2022	LW101 Ponding	191	
22 June 2022	LW104 North	1	EC probe faulty - inaccurate result
22 June 2022	LW105 North	54	
22 June 2022	LW106 North	DRY	
22 June 2022	LW108 North	DRY	
22 June 2022	LW107 North	27	
22 June 2022	LW108 South	20	
22 June 2022	LW105 South	DRY	
22 June 2022	LW103 Ponding	149	
22 June 2022	LW102 South	1	EC probe faulty - inaccurate result
22 June 2022	LW101 Ponding	1	EC probe faulty - inaccurate result
22 June 2022	LW102 North	431	
21 July 2022	LW104 North	256	
21 July 2022	LW105 North	360	
21 July 2022	LW106 North	DRY	
21 July 2022	LW107 North	318	
21 July 2022	LW108 North	DRY	
21 July 2022	LW105 South	DRY	
21 July 2022	LW108 South	300	
21 July 2022	LW102 South	196	
21 July 2022	LW101 Ponding	277	
21 July 2022	LW102 North	786	
21 July 2022	LW103 Ponding	597	
5 August 2022	LW109 North	DRY	
5 August 2022	LW110 North	DRY	
5 August 2022	LW109 South	151	
5 August 2022	LW108 South	226	
5 August 2022	LW104 North	174	
5 August 2022	LW105 North	131	
5 August 2022	LW106 North	123	
5 August 2022	LW107 North	216	
5 August 2022	LW108 North	67	
5 August 2022	LW105 South	119	
5 August 2022	LW101 Ponding	186	
15 August 2022	LW101 Ponding	129	
15 August 2022	LW104 North	110	
15 August 2022	LW106 North	105	
15 August 2022	LW107 North	120	
15 August 2022	LW108 North	70	
15 August 2022	LW105 North	105	
15 August 2022	LW105 South	123	
15 August 2022	LW108 South	164	
15 August 2022	LW109 South	207	
15 August 2022	LW109 North	DRY	
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15 August 2022	LW110 North	DRY	
	LW104 North	151	
6 September 2022 6 September 2022		143	
	LW105 North	133	
6 September 2022	LW106 North		
6 September 2022	LW107 North	150 90	
6 September 2022	LW108 North		
6 September 2022	LW108 South	213	
6 September 2022	LW109 South	256	
6 September 2022	LW109 North	DRY	
6 September 2022	LW110 North	DRY	
6 September 2022	LW105 South	121	
6 September 2022	LW101 Ponding	153	
16 September 2022	LW105 North	DRY	
16 September 2022	LW106 North	DRY	
16 September 2022	LW108 North	32	
16 September 2022	LW107 North	96	
16 September 2022	LW108 South	117	
16 September 2022	LW105 South	64	
16 September 2022	LW109 South	166	
16 September 2022	LW110 North	DRY	
16 September 2022	LW109 North	99	
16 September 2022	LW101 Ponding	68	
16 September 2022	LW104 North	75	
10 October 2022	LW104 North	131	
10 October 2022	LW105 North	118	
10 October 2022	LW106 North	156	
10 October 2022	LW107 North	201	
10 October 2022	LW108 North	100	
10 October 2022	LW109 North	138	
10 October 2022	LW109 South	275	
10 October 2022	LW108 South	245	
10 October 2022	LW110 North	DRY	
10 October 2022	LW105 South	140	
10 October 2022	LW101 Ponding	141	
24 October 2022	LW104 North	117	
24 October 2022	LW105 North	115	
24 October 2022	LW106 North	169	
24 October 2022	LW108 South	237	
24 October 2022	LW105 South	132	
24 October 2022	LW109 South	265	
24 October 2022	LW109 North	143	
24 October 2022	LW110 North	148	
24 October 2022	LW108 North	124	
24 October 2022	LW107 North	211	
24 October 2022	LW101 Ponding	94	
2 November 2022	LW105 North	DRY	
2 November 2022	LW106 North	DRY	
2 November 2022	LW104 North	119	
2 November 2022	LW105 South	113	
2 November 2022	LW109 North	143	
2 November 2022	LW110 North	145	
2 November 2022	LW109 South	151	
2 November 2022	LW108 South	217	
2 November 2022	LW101 Ponding	106	
2 November 2022	LW107 North	150	
2 November 2022	LW108 North	180	
20 December 2022	LW104 North	198	
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20 December 2022	LW105 North	221	
20 December 2022	LW105 South	DRY	
20 December 2022	LW108 North	219	
20 December 2022	LW107 North	256	
20 December 2022	LW106 North	219	
20 December 2022	LW108 South	477	
20 December 2022	LW109 South	DRY	
20 December 2022	LW109 North	203	
20 December 2022	LW110 North	DRY	
20 December 2022	LW101 Ponding	162	