Annual Review 2022

Tarrawonga Coal Mine

Name of operation	Tarrawonga Coal Mine
Name of operator	Whitehaven Coal Mining Pty Ltd
Development consent/project approval number	MP 11_0047
Name of holder of development consent/project approval	Tarrawonga Coal Pty Ltd
Mining lease number	ML 1579, ML 1685, ML 1693, ML1749
Name of holder of mining lease	Tarrawonga Coal Pty Ltd
Water licence number	WAL 31084
Name of holder of water licence	Whitehaven Coal
MOP/FWP start date	4/12/2015 /2/8/22
MOP/FWP end date	1/08/2022 /31/12/24
Annual review start date [1]	1/01/2022
Annual review end date	31/12/2022

I, _____Dean Scott, certify that this audit report is a true and accurate record of the compliance status of the Tarrawonga Coal Mine for the period 1st January 2021 until 31st December 2021, and that I am authorised to make this statement on behalf of Tarrawonga Coal Pty Ltd.

Note. a) The Annual Review is an 'environmental audit' for the purposes o 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	Dean Scott
Title of authorised reporting officer	General Manager – Open Cut Operations
Signature of authorised reporting officer	
Date	30/3/23

[1] NSW Annual Review Guideline published in October 2015

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TABLES

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1 STATEMENT OF COMPLIANCE

The compliance status of the Tarrawonga Coal Mine (TCM) as at 31st December 2022 is summarised in Table 1-1 and Table 1-2 below.

Table 1-2 notes non-compliances that occurred during the reporting period, and non-compliances from previous reporting periods that still require management action. References to the Environment Protection Licence (EPL) are limited to those that relate to the Project Approval conditions, specifically Schedule 3 Condition 22, 28(c), 33 and 39(c)(ii).

Table 1-1 -Statement of Compliance

Were all conditions of the relevant approval(s) complied with (Yes/No)?	
MP 11_0047	No
ML 1579	Yes
ML 1693	Yes
ML 1685	Yes
ML 1749	Yes
WAL 31084	Yes

Compliance status key for Table 1-2- Non-Compliances

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

Table 1-2- Non-Compliances

Relevant Approval	Condition Number	Condition Description (summary)	Compliance status	Comment	Where Addressed in Annual Review
MP 11_0047	Schedule 2 conditions 2a	The Proponent shall carry out the project: (a) generally in accordance with the EA; (b) in accordance with the statement of commitments; and (c) in accordance with the conditions of this approval.	Non-compliant	On March 1st 2022 TCPL became aware of clearing activities by a mulching contractor operating outside of a demarcated area during planned 2022 clearing activities. This clearing exceeded the approved disturbance boundary by 0.017ha. This was reported to DPE in accordance with MP 11_0047 and TCM were issued with an Official Caution on 19th August 2022.	Section 11
ML 1693	Condition 3a	The lease holder must comply with an approved Mining Operations Plan.	Non-compliant	On March 1st 2022 TCPL became aware of clearing activities by a mulching contractor operating outside of a demarcated area during planned 2022 clearing activities. This clearing exceeded the approved disturbance boundary by 0.017ha. This was reported to the Resources Regulator and TCM were issued with an Official Caution on the 1st September 2022.	Section 11

2 INTRODUCTION

This Annual Review (AR) for Tarrawonga Coal Mine (TCM) has been prepared in accordance with Condition 3 of Mining Lease (ML) 1579, Condition 3 of ML 1685, Condition 4 of ML 1693 (Mining Act 1992) and Condition 4 (Schedule 5) of MP 11_0047, as modified.

TCM is located approximately 16km east of Boggabri (Refer Figure 1). TCM is owned by Tarrawonga Coal Pty Ltd (TCPL) and operated by Whitehaven Coal Mining Pty Ltd (WCMPL). Biodiversity offsets locations are shown in Figure 2 and Figure 3.

The current Mining Operations Plan for TCM was prepared under "ESG3: Mining Operations Plan (MOP) Guidelines" which managed mining operations until 1 July 2022. In line with the new standard rehabilitation conditions for all mining leases, TCM has prepared a Rehabilitation Management Plan (RMP) and a Forward Program which took effect from 2 August 2022. The AR follows the format required by the NSW Government Annual Review Guideline (October 2015). Though primarily covering the period from 1st January 2022 to 31st December 2022 (the reporting period), where relevant the AR provides information on historical aspects of the operations, longer term trends in environmental monitoring results and provides relevant information on activities to be undertaken during the ensuing period, (i.e. from 1st January 2023 to 31st December 2023, or beyond).

2.1 Mine Contacts

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

- Mr Dean Scott, General Manager-Open Cut Operations:
  Contact: (02) 6741 9309.
- Mr Craig Sullivan, Operations Manager:
  Contact: (02) 6741 5030.
- Ms Megan Martin, Environmental Superintendent:
  Contact: (02) 6741 5009.

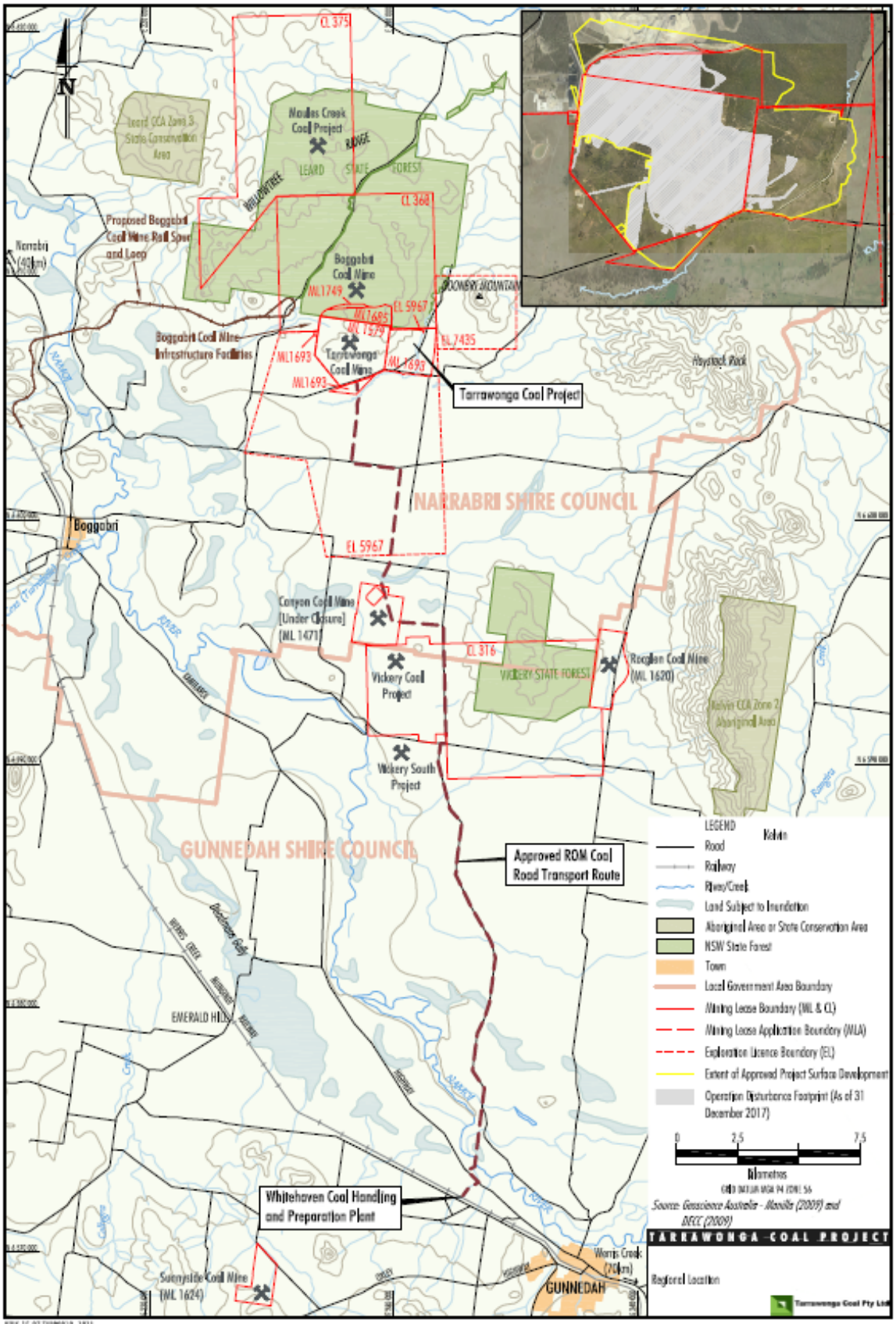


Figure 1- Locality Plan

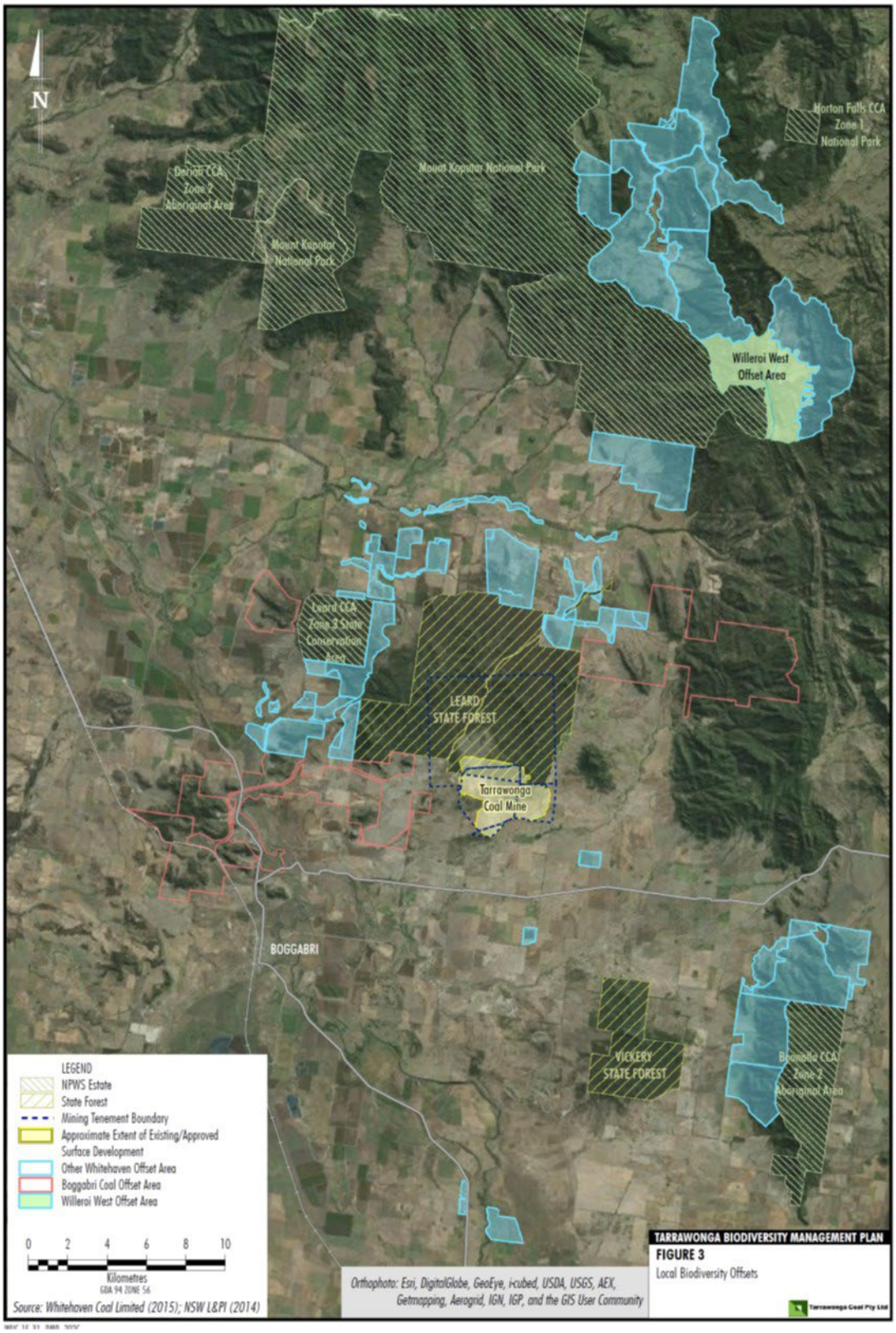


Figure 2: Local Biodiversity Offsets

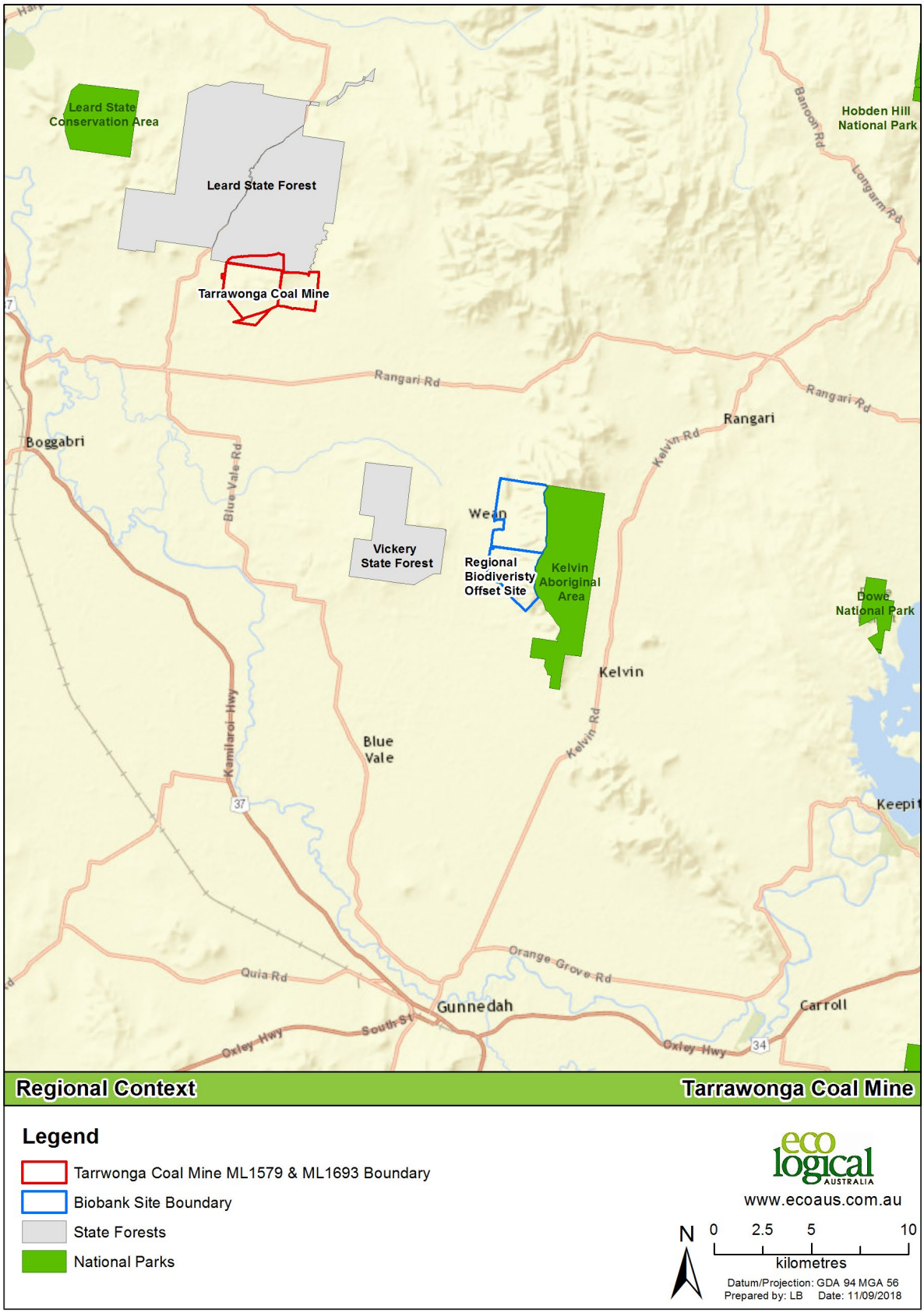


Figure 3- Regional Location of Biobank Site

3 APPROVALS

3.1 Tenements, Licences and Approvals

Table 3-1 Identifies the approvals in place for the TCM at the end of the reporting period, the issuing/responsible Authority, dates of issue, expiry date and relevant comments.

Table 3-1- Tenements, Licences and Approvals

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Division of Resources and Energy (DRE)	Exploration Licence (EL 5967)	10/01/2017	24/07/2021	Application review submitted in July 2021.
Environment Protection Authority (EPA)	Environment Protection Licence (EPL) No. 12365	09/01/2006	N/A	EPL12365
Environment Protection Authority (EPA)	Variation- Environment Protection Licence (EPL) No. 12365	13/12/2021	N/A	Variation
NSW Department Primary Industry - Water	90BL253276 90BL253278 90BL253279 90BL253280 90BL254253 90BL254254 90BL254255 90BL254221 90BL254214 90BL255766 WAL31084 WAL29548	18/05/2006 18/05/2006 18/05/2006 18/05/2006 18/05/2006 18/05/2006 24/04/2007 05/04/2007 04/04/2007 19/08/2012 02/08/2013 26/07/2012	Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity	Monitoring bores 250 units 50 units
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	22/01/2013	31/12/2030	
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	2014	31/12/2030	MOD1 (continued coal haulage to Gunnedah CHPP)
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	2016	31/12/2030	MOD2 (allow receipt of all types of coal reject)

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	February 2017	31/12/2030	MOD3 (Traffic Management Plan)
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	May 2017	31/12/2030	MOD4 (Sound Power Level modification)
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	August 2017	31/12/2030	MOD5 (Open Cut Augmentation)
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	October 2018	31/12/2030	MOD6 (Coal Haulage)
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	June 2020	31/12/2021	MOD8 (Trucking water) for 18 months
Department of Planning Infrastructure & Environment (DPIE)	Project Approval MP 11_0047	February 2021	31/12/2030	MOD7 (Life of Mine)
Department of Planning Infrastructure & Environment (DPIE))	Project Approval MP 11_0047	May 2021	31/12/2030	MOD9 (Disposal of Waste Tyres)
Department of Agriculture, Water and Environment (DAWE)	EPBC 2011/5923	11/03/2013	31/12/2053	Conditional Federal Project Approval for LOM Project
Department of Regional NSW – Division of Mining, Exploration and Geoscience (DMEG)	Mining Lease (ML) 1579	03/04/2006	02/04/2027	Expires 21 years from commencement. Varied on 17 October 2022 to include the new standard conditions from *Mining Regulation 2016*, Schedule 8A, Part 2.
Department of Regional NSW – Division of Mining, Exploration and	Mining Lease (ML) 1685	18/07/2013	14/11/2032	Varied on 17 October 2022 to include the new standard conditions from

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Geoscience (DMEG)				*Mining Regulation 2016*, Schedule 8A, Part 2.
Department of Regional NSW – Division of Mining, Exploration and Geoscience (DMEG)	Mining Lease (ML) 1693	14/10/2013	14/10/2034	Expires 21 years from commencement. Varied on 17 October 2022 to include the new standard conditions from *Mining Regulation 2016*, Schedule 8A, Part 2.
Department of Regional NSW – Division of Mining, Exploration and Geoscience (DMEG)	Mining Lease (ML) 1749	17/11/2017	14/11/2032	Varied on 17 October 2022 to include the new standard conditions from *Mining Regulation 2016*, Schedule 8A, Part 2.
Division of Department of Regional NSW – Division of Mining, Exploration and Geoscience (DMEG)	Mining Operations Plan (MOP) Amendment G	13/12/2021	01/11/2022	MOP Amendment G approved 13/12/2021
Division of Department of Regional NSW – Division of Mining, Exploration and Geoscience (DMEG)	Forward Program	2/8/22	31/12/24	FWP0001053

4 OPERATIONS SUMMARY

4.1 Mining Operations

Table 4-1 presents the production summary at the end of the reporting period.

Table 4-1 - Production Summary

Material	Approved Limit (Project Approval PA11_0047)	Previous Reporting Period 2021	This Reporting Period 2022 (actual)	Next Reporting Period 2023 (forecast)
Waste Rock/ Overburden (bcm)	***n/a***	20,996,248	21,378,464	25,500,000
ROM Coal/Ore (t)	***3,500,000***	2,189,672	21,129,000	2,300,000
Coarse and Fine Reject (t)	***700,000***	497,917	445,200	700,000
Saleable Product (t)	***n/a***	1,714,781	1,494,329	2,019,834
Gravel Production (m^3)	***90,000***	0	0	90,000

4.1.1 Other Operations

MP 11_0047 permits 24-hour operation of mining activities. TCPL has made some minor changes to operating times to accommodate changes in the working roster for improved production and economic stability.

Open cut mining activities, including processing of coal, generally occurred between the hours of 6:30 am and 5:00 pm (day shift) and 4:30 pm and 3:00 am (night shift) from Monday to Friday. Processing of coal on day shift also occurs almost every Saturday whereas mining activity on Saturday day shift has only occurred on an occasional basis to meet production deadlines.

4.1.2 Coal Haulage

For the reporting period **1,792,796** tonnes of coal was hauled along the approved haulage route from TCM to the Whitehaven Gunnedah CHPP. During the same period **87300** tonnes of coal was distributed from TCM to the domestic market. There was no coal haulage from Vickery or Rocglen Coal Mines during the reporting period. The total tonnage of coal rejects received by TCM during

2022 was 445,200 tonnes. Transport of coal from the site or receipt of coal reject from the Whitehaven CHPP by truck has only occurred during the approved hours of:

(a) 6 am to 9.15 pm Monday to Friday;

(b) 7 am to 5.15 pm Saturday; and

(c) at no time on Sundays or public holidays.

4.1.3 Exploration

No exploration drilling was carried out during the reporting period.

Exploration drilling will continue to be undertaken at the TCM to further assess the coal reserves within the tenements. The term of licence (EL5967) ended on the 24th of July 2021, and a renewal application is currently being assessed by the Department of Regional NSW MEG (Exploration and Mining).

4.2 Next Reporting Period

4.2.1 Mine Operations

The mine production rates are planned for 2,300,000 tonnes per annum of ROM coal and 25,500,000 bank cubic metres (bcm) of overburden during calendar year 2022. TCM may produce gravel up to 90,000m^3 over the next calendar year.

Vegetation clearing activities in mining areas over the next reporting period will be conducted in accordance with the approved Biodiversity Management Plan (BMP) and the updated Mining Operations Plan Amendment G (2021). The clearing program will be undertaken during the annual twelve week clearing campaign from the 15th February to the 30th April, except under exceptional circumstances and with the approval of the Secretary of the DPIE.

5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

DPE requested more information upon the submission of last year's annual review. The annual review was revised and resubmitted and then accepted on the 7th of July 2022.

6 ENVIRONMENTAL PERFORMANCE

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

6.1 Noise

6.1.1 Criteria

The Project Approval (MP 11_0047) and EPL 12365 describe the noise criteria for site operations and coal haulage as seen in Table 6-1.

Table 6-1- Noise Compliance

Noise Criteria dB(A)			
Location	*Day, Evening & Night LAeq (15 min)*	*Night LAeq (1 min)*	
All other privately-owned residences	35	45	
Road Traffic Noise Criteria dB(A) LAeq (1 hour)			
Location	*Day*	*Evening*	*Night*
Any residence on privately-owned land	60	60	55

Note: Day = 7:00am –6:00pm; Evening = 6:00pm –10:00pm; Night = 10:00pm –7:00am

A number of other specific conditions (i.e. acquisition, monitoring protocols and cumulative impacts) are listed in the PA and EPL 12365.

6.1.2 Environmental Management Measures

In accordance with the Noise Management Plan, a number of operational measures continue to be implemented on site to maintain compliance with limits. These include but are not limited to:

- Real-time noise monitor and web-based interface;
- Automated SMS alarms notifying site personnel of elevated noise levels approaching noise criteria;
- Modification of operations where required.

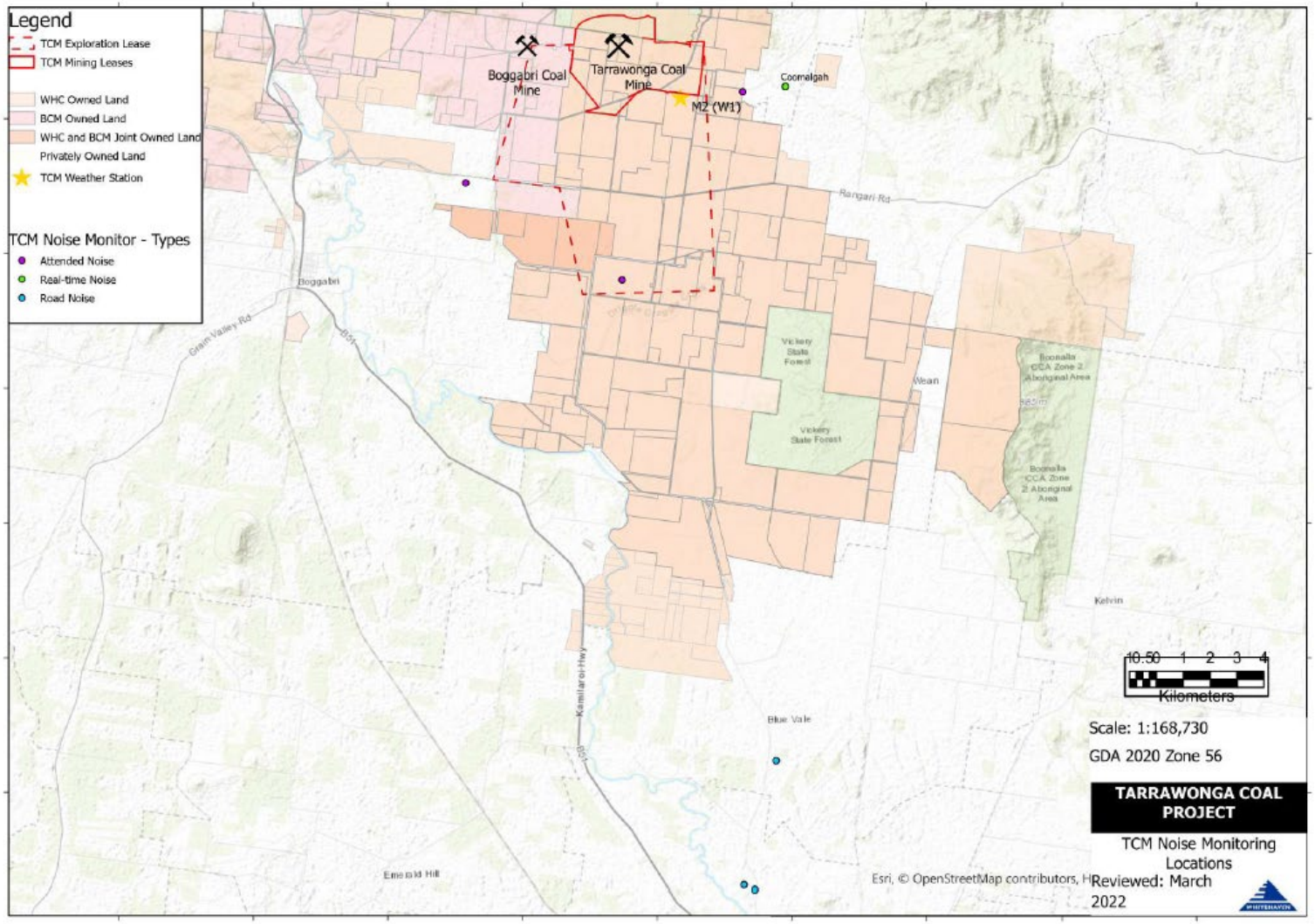


Figure 4 - Noise monitoring locations.

6.1.3 Key Environmental Performance

Attended Noise Monitoring

An independent consultant completed attended noise monitoring programs on a quarterly basis during the reporting period. The noise monitoring sites are identified on Figure 4 and include 3 sites: "Bungalow" (TN4), "Barbers Lagoon" (TN3) and "Matong-Coomalgah" (TN2) properties. Attended noise monitoring results are shown in the table below and show compliance with the criteria specified in the project approval on all occasions during the reporting period.

Table 6-2 Attended Noise Monitoring results comparison

	TN2 – Coomalgah*			Limits (day/evening/night/night)
	2020	**2021**	**2022**	
Q1	<27/<24/<24/35	<21 / <27 / <20/IA	<30 / <30 / <30 / <30	**35 / 35 / 35 / 45**
Q2	<25/<20/28/29	<18 / <25 / <29/36	<30 / <30 / <30 / <35	
Q3	<25/34/<29/35	<26 / <24 / <21/31	<20 / <20 / <20 / <20	**LAeq, 15min/LAeq, 15min/LAeq, 15min/LA1, 1min**
Q4	30/35/<34/IA	<21 / <24 / <24/42	<20 / <20 / <20 / <20	
	TN3 - Barbers Lagoon			
	2020	**2021**	**2022**	
Q1	32/33/32/NM	<28 / <30 / <30/IA	<30 / <31 / <30 / <30	
Q2	35/33/34/35	<35 / <30 / <30/37	I/A	
Q3	<23/<16/<20/NM	<24 / <20 / <30/34	<20 / <20 / <21 / 25	
Q4	<16/<35/<35/IA	<35 / <35 / <30/IA	<20 / <20 / <20 / <20	
	TN4 – Bungalow			
	2020	**2021**	**2022**	
Q1	34/<34/<30/IA	<40 IA / IA <30 / IA <30 / IA	<35 / <35 / <35 / <35	
Q2	<30/<30/32/35	<26 / <30 / <30/29	I/A	
Q3	<16/<22/27/NM	<21 / <23 / <26/29	<20 / <20 / <23 / 27	
Q4	<27/<26/<34/NM	<35 / <30 / <30/IA	<20 / <20 / <20 / <20	

Note: Above values are the maximum or only measurements recorded for the indicated period.
Key:
IA = Mine noise inaudible
** = taken at TN2 monitor, 9dB reduction to nearest private property not added. Reading within compliance levels.*

Attended noise monitoring to date indicates that results are generally consistent with previous reporting year's results for all other measurements taken.

Road Noise Monitoring

TCM is required to ensure that the noise generated by road transport along public sections of the coal haulage route was in accordance with the Tarrawonga Noise Management Plan and with Schedule 3 condition 12 of MP 11_0047. A road noise survey was undertaken in June and December 2022. The monitoring occurred at the privately owned residences on the "Weroona" property and "Brooklyn" properties located off Blue Vale Road. Results showed compliance on all occasions, which is consistent with the predictions of the Whitehaven ROM Coal Haulage Modification Environmental Assessment for the southern section of the approval transport route.

Real Time Noise Monitoring

In accordance with the requirements of MP 11_0047 and EPL 12365, TCM continued to undertake real time noise monitoring and managed noise according to the Noise Management Plan during the reporting period.

Annual Sound Power level Testing

In December 2022, Sound Power Level (SPL) testing of all the operating fixed and mobile plant was undertaken. According to MOD 4 (May 2017) of the MP 11_0047, there is no criteria applicable for SPL and levels identified in the Noise and Blasting Environmental Assessment (EA, 2011) are only used for comparison purposes. Each plant item was assessed for different types of activities (i.e. Dynamic and Stationary).

A comparison of SPL levels in Table 6-3 below indicates that the overall average measured values for the reporting period were generally consistent with the assumed and modelled values in the EA (2011), and with previous years.

Table 6-3 - Average Sound Power Levels against EA (2011)

Type	Average Overall - dB(A)				EA (2011) - Compliance Level
	2022	2021	2020	2019	
Haul Truck - CAT 785C Dump Truck	N/A	*117.7*	*118.0*	*120.4*	*121*
Haul Truck - HITACHI EH4000-AC2	115	*111.4*	*108.9*	*N/A*	*116*
Haul Truck - CAT 789 Dump Truck	117	*112.4*	*116.0*	*116.4*	*121*
Water Carts	**114**	*108.8*	*107.0*	***113.7***	*111*
Bulldozers	116	*110.7*	*114.0*	***120.8***	*116*
Frontend Loaders	N/A	*108.0*	*105.5*	*107.5*	*117*
Graders	N/A	*104.5*	*104.0*	*107.3*	*108*
Drills	N/A	*116.7*	***117.7***	***117.3***	*117*
Excavators	113	*109*	*109.5*	***118.0***	*115*
Crushing Plant	N/A	*110*	*111.0*	*112.0*	*113*

Note: N/A = Plant was not available for testing.

Acoustic model annual validation

An independent consultant was engaged to assess and validate the noise model prediction developed in 2011 against the monitoring results for 2022. The validation was conducted in accordance with Schedule 3 Condition 12(g) of MP 11_0047 and the Noise Management Plan (NMP) which states:

"In accordance with the requirements of the consent, TCM will seek validation of the tenth percentile methodology used in the noise impact assessment for the Tarrawonga Coal Project. This will be completed on an annual basis by the provision of a report from an appropriately qualified acoustical consultant, utilising the data obtained over a 12 month period from the monitoring program and providing a comparative assessment against the modelled predictions from the tenth percentile methodology."

Attended monitoring data for 2022 was compared against the 90th percentile (tenth percentile exceedance levels, statistically the 90th percentile) predicted noise contours for the worst case night time Year 4 scenario using the Environmental Noise Model software. Table 6-4 shows a comparison of the 2022 90th percentile operator attended measured noise levels against the corresponding 90th percentile predicted noise levels for each location.

Table 6-4 Comparison of 2022 Attended Noise Monitoring against Year 4 TCM EA Noise Predictions

Location	2022 90th Percentile Measured Noise Level (dBA)	EA (2011) 90th Percentile Predicted Noise Level (dBA)[1]	Criterion (dBA)
Coomalgah	21	32	35
Bungalow	23	31	35
Barber's Lagoon	<20	34	35

Note 1: 90th percentile predicted noise levels refer to the 10th percentile exceedance levels in accordance with the tenth percentile methodology.

As displayed in Table 6-4, all measured levels were below the modelled level, confirming that the model has not under-predicted noise levels at the receiver location.

6.1.4 Proposed Improvements to Environmental Management

The Introduction to Site (ITS) process is utilised to ensure commissioned new plant items are were tested for sound power levels before use and fitted with noise suppressant technology as required.

A revised NMP was approved by the Department in May 2021. TCM will review the NMP as required.

6.2 Blasting

6.2.1 Criteria

Blasting criteria for the TCM are noted in MP 11_0047, and Condition L5 of EPL 12365.

- Blasting must only be carried out between 9.00 am and 5.00 pm, Monday to Saturday inclusive. Blasting is not allowed on Sundays, public holidays or at any other time without the written approval of the Director-General.
- A maximum of one (1) blast per day, unless an additional blast is required following a blast misfire and a maximum of 4 blasts per week averaged over a calendar year for the project:
- For non-project related residences, the overpressure level from blasting operations must not:
    - Exceed 115dB (Lin Peak) for more than 5% of the total number of blasts over a period of 12 months; or
    - Exceed 120dB (Lin Peak) at any time.
- For non-project related residences, ground vibration peak particle velocity from the blasting operations must not:
    - Exceed 5mm/s for more than 5% of the total number of blasts over a period of 12 months; and
    - Exceed 10mm/s at any time, at any residence on privately owned land.

6.2.2 Key Environmental Performance

During the reporting period, 83 blasts were initiated. There was one instance where two or more blasts were required to be fired on one day due to safety reasons under Sch 3 Cn 15. These were blasts 1117 and 1118. They were electronic shots and could not be fired together due to potential interference from the electronic signal of the separate blasts. The weather conditions in the area of TCM had not been generally favourable to blasting on the days that the blasts were scheduled and TCM identified a suitable window of weather conditions on Friday 3rd June. Approval was sought from the Secretary and the EPA prior to firing the blasts however both blasts were under the 0.5mm/s vibration threshold described in Sch 3 Cn 16. All blasts on non-project related residences during the reporting period were below overpressure and ground vibration criteria.

The maximum ground vibration recorded at the compliance monitor during the reporting period was 2.41mm/s recorded at “Coomalgah” on 30th May 2022 which is below the consent criterion of 5mm/s.

Two overpressure was recorded above 115dB on project-related property “Tarrawonga” during the reporting period which is equivalent to 2 in 83 (~2.4%) above the 115dB limit over a 12 month period, noting that the criteria only applies to privately owned properties.

Performance during the reporting period was consistent with the EA prediction for blasting.

The maximum fume rating for the reporting period was classified as a ‘3B’ per the Australian Explosives Industry And Safety Group Inc. – Code of Practice: Prevention and Management of Blast Generated NOx Gases in Surface Blasting. No instances of a blast fume leaving the premises boundary was recorded in the reporting period.

6.2.3 Proposed Improvements to Environmental Management

A revised Blast Management Plan (BMP) was submitted to DPE in October 2022 for approval, following receipt of DPE comments.

TCM implemented the updated the BMP in October 2022 and will continue to review and update the BMP as required.

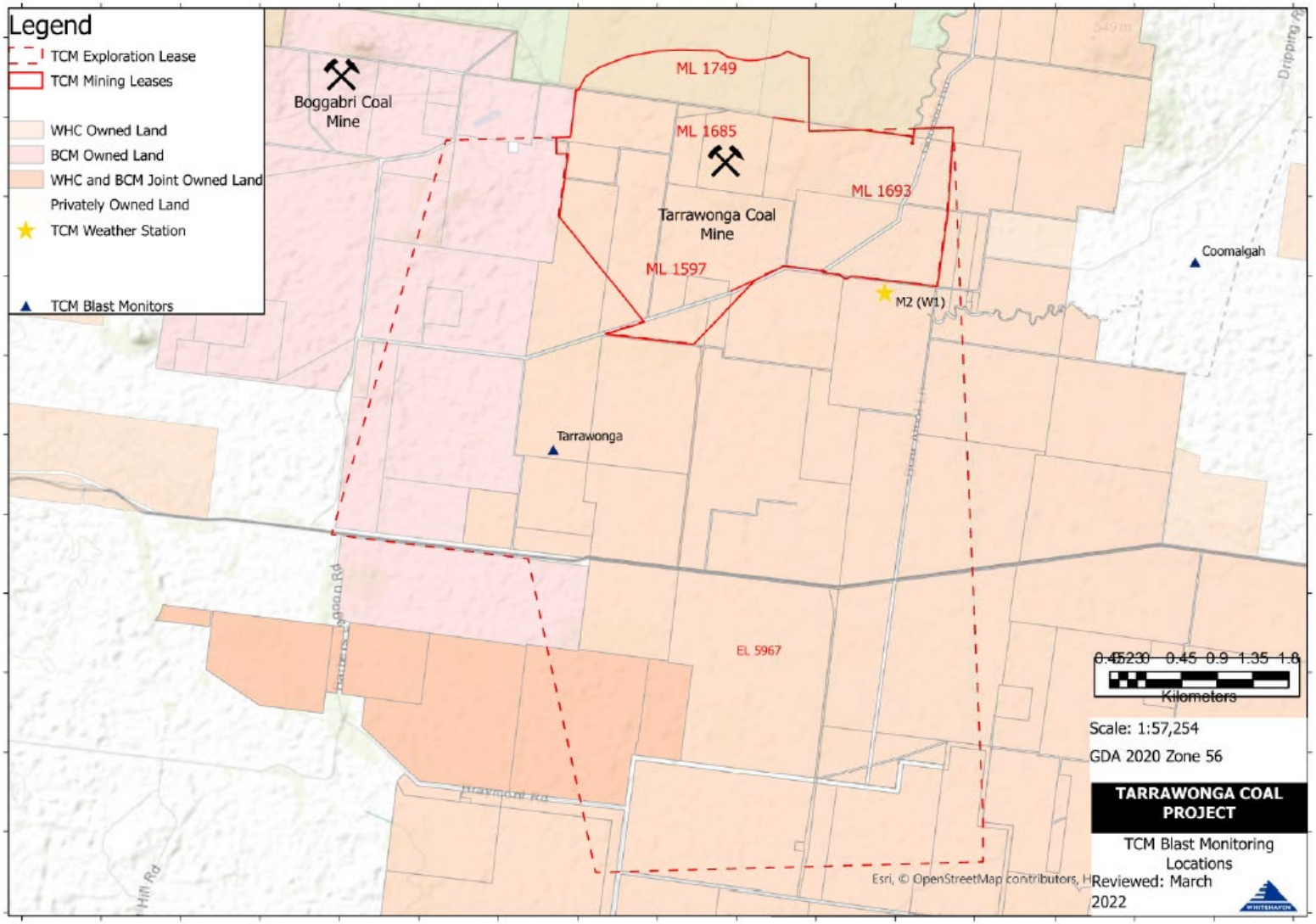


Figure 5: Blast Monitoring Locations

6.3 Air Quality and Greenhouse Gas

6.3.1 Criteria

The air quality criteria applicable to the TCM are specified in MP 11_0047 Schedule 3. Air quality criteria is summarised below:

- Acceptable mean annual increase in deposited dust – 2g/m^2/month.
- Mean annual dust deposition (all sources) – 4g/m^2/month.
- Mean annual Total Suspended Particles (TSP) (all sources) – 90 µg/m^3.
- Mean annual Particle Matter under 10 microns (PM10) – 30 µg/m^3.
- 24-hour average PM10 particulate level – 50 µg/m^3.

6.3.2 Environmental Management Measures

TCM employs a range of air pollution control measures specified in the Air Quality and Greenhouse Gas Management Plan (AQGGMP), including:

- Maintaining a real time SMS alarming system to key operational personnel;
- Using a prediction and dust forecasting system;
- Modification of work practices where required including changing of excavation and dumping strategies;
- Temporary cessation of operational equipment if required;
- Limiting ground cover removal in advance of mining consistent with operational requirements;
- Application of water to exposed surfaces, with emphasis on those areas subject to frequent vehicle/equipment movements which may cause dust generation and dispersal;
- Use of dust suppressant product on the roads;
- Water injection on drilling rigs;
- Use of aggregates for blast hole stemming;
- Water application at the crusher and on the conveyor discharge point to the coal bin;
- Cessation of coal processing activities during periods of concurrent high winds and temperatures which cause coal dust dispersal, independent of water applications.
- ROM coal pad watering;
- Progressive shaping and rehabilitation of areas once they are no longer required for mining purposes;

- Speed limit restrictions on all vehicles and equipment on the mine site;
- Use of covers on the trays of all product coal trucks. All coal haulage vehicles (road trucks only), including those operated by sub-contractors, are fitted with roll-over tarpaulins.
- TCM continues to liaise with Boggabri Coal Mine (BCM) and Maules Creek Coal Mine (MCCM) during periods of elevated air quality events to manage cumulative impacts.

Figure 6 displays the air quality monitoring locations including the deposited dust gauges (DDG), two Tapered Element Oscillating Micro balance units (TEOM) installed on project related properties (Flixton and Wil-gai), 3 mobile real-time dust samplers (E-samplers) installed near the mine boundary and one High Volume Air Sampler (HVAS) on privately owned property (Coomalgah) operating and serviced during the reporting period.

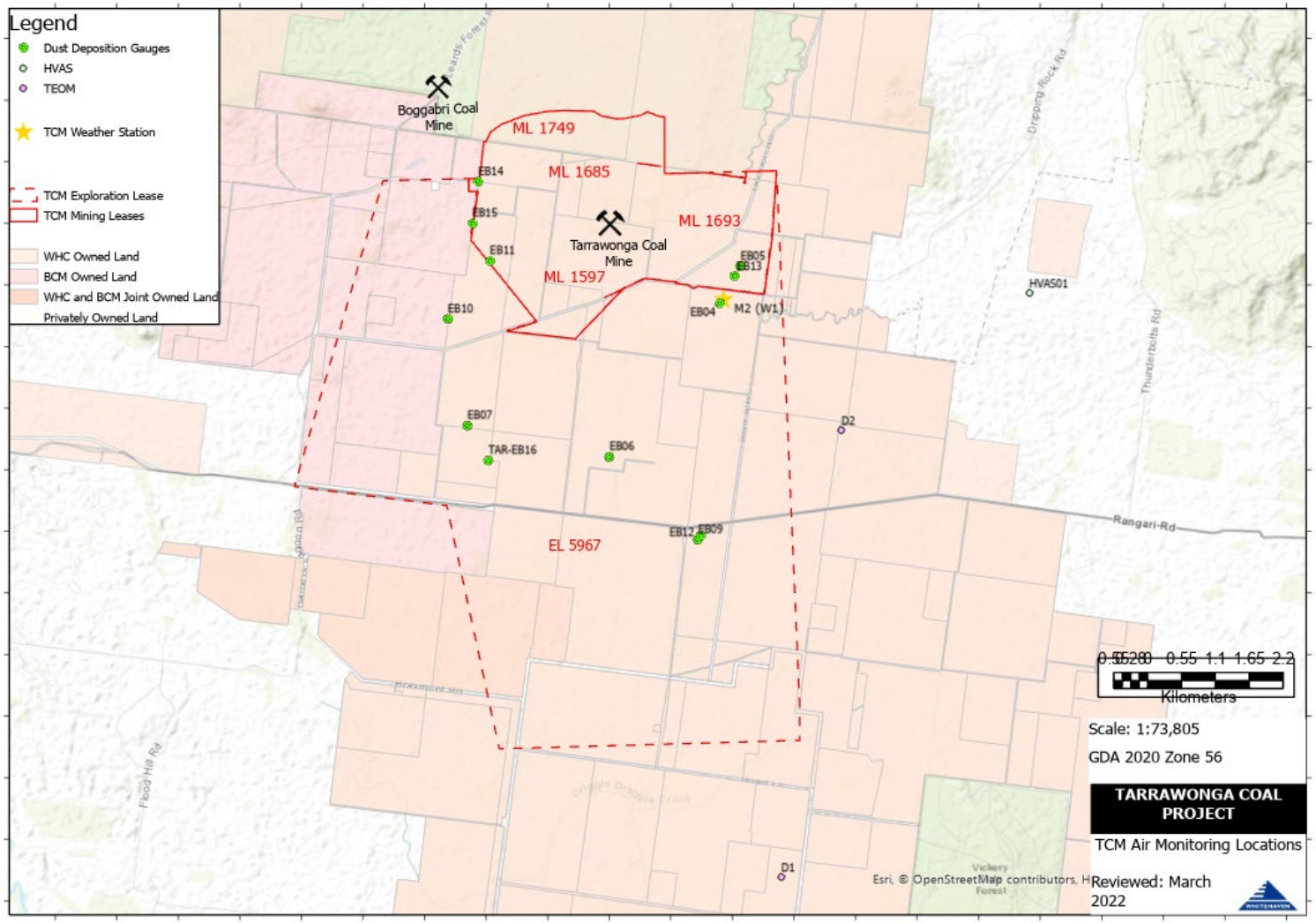


Figure 6: Air quality monitoring locations

6.3.3 Key Environmental Performance

Greenhouse Gas

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 and Scope 2 GHG emissions attributed to TCM reported for the NGERS FY2022 reporting year were 67,270 t CO2-e. The FY2022 EA prediction was 196,042 t CO2-e.

Fugitive emissions methodology used in FY22 GHG reporting and EA predictions was not comparable. Method 1 was utilised for estimating EA predictions using a default emissions factor and method 2 was used for FY22 GHG data reporting utilising an operations emissions model which was created by a comprehensive gas sampling program to determine site specific emission factors for each coal seam. Fugitive emissions have been reported using method 2 at TCM since 2016.

To allow for a comparison between total and fugitive emissions, total and scope 1 emissions have been recalculated using method 1. Method 2 and the running of the emissions model is unable to be retrospectively applied to EA predictions due to limitations in data availability.

Table 6-5 shows a comparison of the actual and recalculated total and scope 1 emissions using EA comparable methods against the EA 2021 predictions.

Table 6-5: Comparison of Emissions Compared to Prediction in EA

	Predicted GHG Emissions (EA 2012)	Actual emissions FY22	Recalculated emissions FY22
Scope 1	196,042 t CO2-e	• 67,270 t CO2-e	171,264 t CO2-e
Total Emissions	196,042 t CO2-e	• 67,275 t CO2-e	171,269 t CO2-e

As displayed in Table 6-5, the actual and recalculated total and scope 1 emissions using an EA comparable method were below EA predictions.

Scope 2 emissions

Approximately 6,28 kWh electricity was purchased by the mine during the FY2022 reporting period equating to 5 t CO2-e GHG emissions. Tarrawonga is not connected to the electricity grid and relies on generators for power generation. The electricity purchased was from TCM owned properties that contain monitoring equipment. From October 2022 WHC offset Scope 2 emissions by purchasing 100% carbon neutral electricity across all sites.

Dust Deposition Gauges:

Table 6-3 details the monthly dust deposition levels measured at 10 dust deposition gauges (DDG). Monitoring criteria in Sch 3 Cn 24 of MP 11_0047 is not applicable at these locations because they are situated on project related land.

Table 6-5 -Deposited Dust monitoring data summary 2022 [g/month/m^2]

MONTH	TEMPLEMORE (EB-4)[1]	BOLLOL CREEK STN (EB-5)[1]	AMBARDO (EB-6)[1]	TARRAWONGA (EB-7)[1]	PINE GROVE (EB-9)[1]	TARRAWONGA MINE (EB-10)[1]	TARRAWONGA MINE (EB-11)[1]	TARRAWONGA MINE (EB-14)[1]	TARRAWONGA MINE (EB-15)[1]	JERALONG NORTH (EB-16)[2]
Jan 22	1.8	9.1c	0.7	0.9	7.1c	17.8c	4.8	3.7	1.2	3.2c
Feb 22	16.4c	7.3c	0.8	0.5	5.5c	10.3c	3.5	2.5	1.5	6.5c
Mar 22	1.9	6.6c	6.2c	0.7	1.2	2.3	3.8	2.6	0.6	2
Apr 22	7.4c	8c	0.1	0.4	1.8	3	2.8	5.6c	0.7	0.9
May 22	2.8	4.8	1.4	1.1	0.6	13.8c	2.7	2.8	1	1.8
Jun 22	15.3c	12.2c	0.5	0.5	0.6	23.3c	5.2	4.5	46.3c	48.2c
Jul 22	3.5c	5.3c	0.4	1.9	7.3	7.4c	3.2	2.6	1.3	0.4
Aug 22	5.1	3.6	0.4	0.6	0.3	124c	3	3.6	1.6	3.6
Sep 22	0.4	5.6	0.4	0.4	0.5	24.3c	2.9	6	2.8	8.3c
Oct 22	28.7c	8.9c	1.1	0.9	2.2	92.8c	6.6c	3.9	2.9	1.7
Nov 22	42.2c	4.7c	0.7	1.1	3.2c	16.3c	0.9	3.8	1.9	7c
Dec 22	22.3c	1.9	1.2	1.2	4.1c	11.8c	4.5	4.2	2.4	32.3c
2022 Average	**2.40**	**3.98**	**0.70**	**0.85**	**1.81**	**2.65**	**3.39**	**3.65**	**1.63**	**1.73**

C= Results contaminated by deposits deemed unrelated to mining activities (bird droppings, insects and vegetation).

High Volume Air Sampler (HVAS)

TCM has one HVAS which is located at the privately-owned property "Coomalgah". All the results recorded at the HVAS are summarised in Appendix 2.

Including the PM_{10} elevated level below, the PM_{10} annual average at Coomalgah was 7.7 µg/m^3, which is below the 30 µg/m^3 criterion specified in Schedule 3 condition 24.

PM_{10} measurements have been summarised in Table 6-4, and Figure 7 shows the trend from 2019 to December 2022 (excluding the values measured during days of "adverse weather").

Table 6-6 - HVAS PM10 24 hour average elevated results [µg/m³]

Date Sampled	24hr average level (µg/m³)	24hr average Limit (µg/m³)	24hr average Regional Air Quality Index (RAQI) value
6/12/2022	**57.3**	50	It was noted on the field sheet during the scheduled filter change that dust generating agricultural activities were occurring at the Coomalgah property on 6 December 2022 and thus it is likely that this localised source of dust impacted the 24-hour PM10 reading. E-sampler and PM10 monitoring station located between the mine and the HVAS recorded no exceedances. Air specialist consultant confirmed that this level was not mine-related, and attributed only 4% of this result to TCM operations. This was reported to DPE on 12th January 2023 and is included in annual average.

N=North; S=South; E=East; W=West

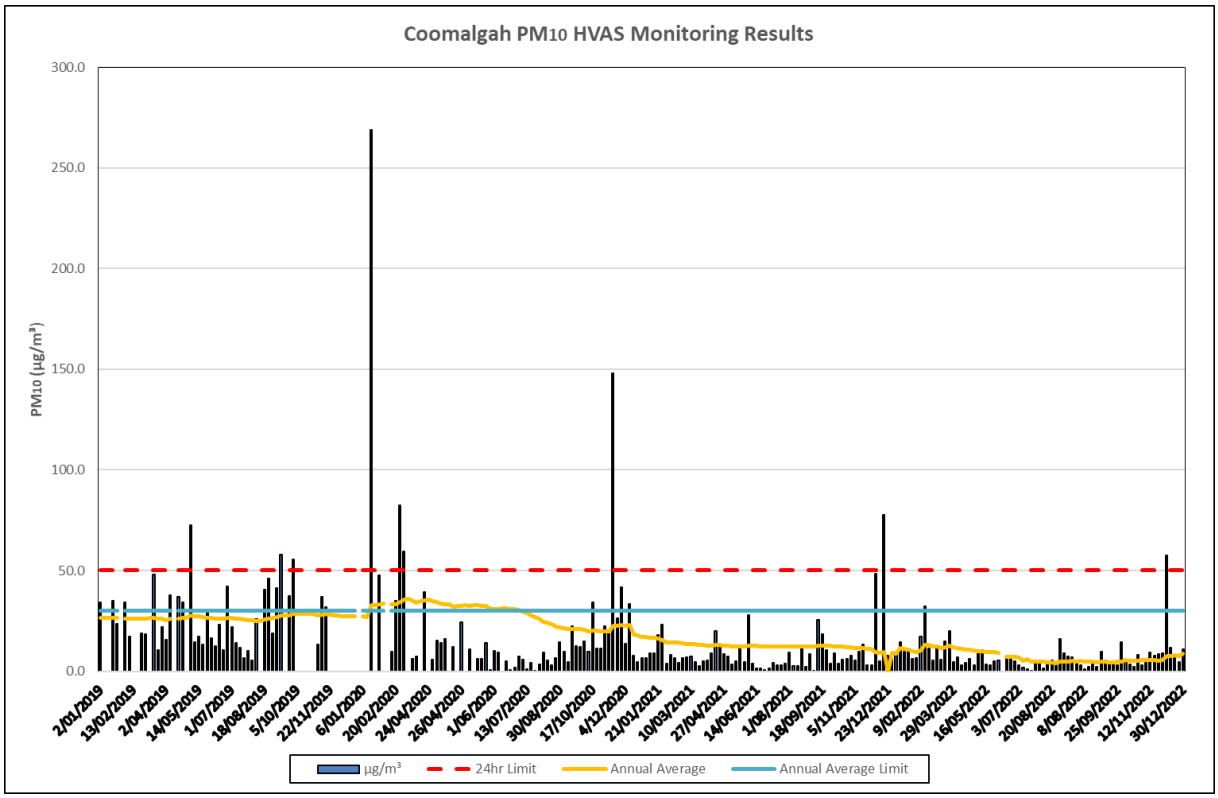


Figure 7- HVAS-PM_{10} 24hr average monitoring data (2019-2022)

Total Suspended Particulate (TSP) is calculated from the measured PM_{10} data using monitoring conducted at the 'Coomalgah' HVAS. Results indicated the TSP rolling annual average remained below the applicable criteria of 90 µg/m for the reporting period. These are illustrated in Figure 8.

The EA predicted no exceedance of the annual average TSP criterion. TSP results inferred from PM_{10} data were consistent with the EA for the reporting period.

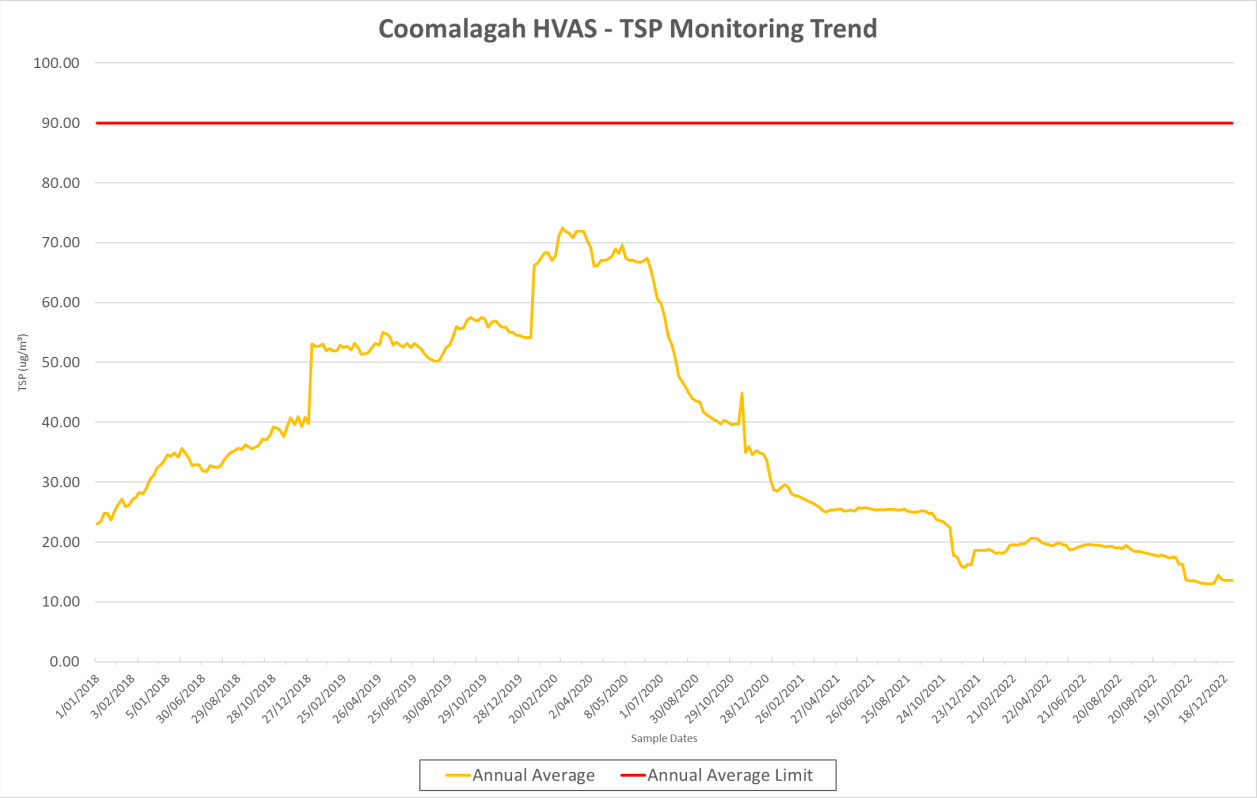


Figure 8 – Coomalgah HVAS- calculated TSP Monitoring Trend (2018- 2022)

E-samplers

Three (3) E-samplers are installed on mine owned land (no criterion applies) and monitor continuously and real-time PM_{10} levels. The monitors are used as a management tool to facilitate the day to day mine operations and for investigation purposes.

TEOMs

Throughout the reporting period, the TEOM located on a mine owned property 'Flixton' monitored continuously and real-time PM_{10} levels. The monitor is used as a management tool to facilitate the day to day mine operations and therefore there is no criterion applicable at that location.

Results recorded at the $PM_{2.5}$ monitor on the project related property 'Wil-gai' remained generally consistent with those recorded during previous reporting periods for most of the year. The Air Quality Greenhouse Gas Management Plan (AQGHGMP) states that whilst no criteria applies, TCM will compare results against $PM_{2.5}$ annual average target level (no levels stipulated within the project approval) of 8.0 $\mu g/m^3$ and target level of 25$\mu g/m^3$ for 24hr average. Including all the valid $PM_{2.5}$ 24hr average values measured during the reporting period, the annual average calculated is 0.94$\mu g/m^3$.

An air specialist prepared a report to assess TCM performance against the Key Performance Indicators (KPI's) listed in Table 6-5 of *Tarrawonga Coal Mine – Particulate Matter Control Best Practice Pollution Reduction Program (PRP)*. The assessment of KPI-1, KPI-2 and KPI-4 has shown that:

- KPI – 1 (PM_{10}/ROM (kilograms/tonne))

For 2022, calculated PM_{10} was 383,293kg/year and ROM was 2,129,011t/year giving a PM_{10}/ROM ratio of 0.2 (kg/t) which is consistent with the baseline ratio of 0.2 specified in the PRP.

- KPI – 2 (PM10 Emission Control (%)):

The level of control applied to operations has not changed since the PRP. As the level of dust control applied to activities at TCM has not changed from previous years the KPI-2 value would also be unchanged.

Table 6-7 - KPI – 2 Summary of PM10 control factor (TAS, 2022)

Mining Activity	Current Control Factor	Control Factor with additional best practicable controls.	K2y
Hauling on unsealed roads	75	80	94%
Unloading Coal to hopper	30	79	38%
Wind Erosion and Maintenance - Stockpiles	25	62.5	40%

- KPI – 4 (Water Intensity for Hauling (L/VKT)):

Whilst total kilometres are not precisely measured there has generally been a significant increase in total water applied to haul roads between 2020 and the end of 2022. Since April 2018 a dust suppressant has been used on the haul roads in periods of low rainfall in order to assist with water management on site. As 2022 was a high rainfall year due to a La Nina event, the use of dust suppressant and watercarts dropped accordingly and this can affect the utility of this KPI as it now stands. Nevertheless, the air specialist report shows that sufficient water was utilised in 2022 to maintain the required control level (even when ignoring the additional benefit from the higher rainfall and dust suppressant).

6.3.4 Proposed Improvements to Environmental Management

The predictive air dispersion model system will continue to be implemented in accordance with the BTM Air Quality Management Strategy. The Air Quality and Greenhouse Gas Management plan will be reviewed, updated and submitted as necessary.

6.4 Biodiversity and Offsets

The revised Biodiversity Management Plan (WHC, 2022) was approved by NSW DPE on 10 August 2022 and by the Commonwealth DAWE on 24 June 2022 which outlines a Biodiversity Offset Strategy (BOS) for the Willeroi West Biodiversity Offset Area (BOA for the Tarrawonga Coal Mine, TCM) of maintaining and improving 1,660ha of native woodland and forest adjacent to the south eastern boundary of Mount Kaputar National Park.

6.4.1 Weather Summary of Willeroi Offset Property

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. A meteorological station is maintained for the BOA with a summary of weather conditions experienced at the Willeroi Offset property during the 2022 reporting period being a maximum monthly average temperature of 30°C in January 2022 and a minimum monthly average temperature of 7°C in June 2022. Annual temperature ranges were 3°C to 34°C in 2022. The total annual rainfall in 2022 was 606mm with the maximum in October (143mm) and minimum in June (12mm).

6.4.2 Infrastructure Management

During the reporting period, 1.43km of boundary fence between Willeroi West BOA and Mount Kaputar National Park was removed as well as maintenance of signage and gates undertaken as required to continue to restrict unauthorised access and minimise livestock incursion. There are no known remaining derelict assets/infrastructure items to be removed but if any are found, those items will continue to be assessed, removed and remediated as required prior to transfer of Willeroi Offset property to National Park Estate.

6.4.3 Seed Management

No seed was collected on the Willeroi West BOA during the reporting period as it was not required.

6.4.4 Flora and Fauna Monitoring Program

During the reporting period, the ecological monitoring program of the Willeroi West BOA included winter bird surveys that were undertaken in June/July 2022, and flora monitoring of 26 plots across four vegetation zones (VZs) undertaken during October and November 2022 while annual fauna monitoring was undertaken between January and October 2022 at 28 bird survey sites, 12 echolocation sites and 4 passive acoustic recorder sites. During the winter bird surveys, four threatened species (Dusky Woodswallow, Brown Treecreeper, Little Lorikeet and Turquoise Parrot) were recorded. During flora monitoring, two VZs (North-west Slopes Dry Sclerophyll Woodlands – Good condition and 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 all four VZs. Native overstorey cover (NOS) completion criteria (minimum overstorey cover benchmark for

relevant biometric vegetation communities) was met or exceeded at 2 out of 4 VZs. Native midstorey cover (NMS) completion criteria (minimum midstorey cover benchmark for relevant biometric vegetation communities) was met or exceeded at all four VZs. Native ground cover grass (NGCG) completion criteria (minimum groundcover benchmark for relevant biometric vegetation communities) was met or exceeded at all 4 VZs. Comparison of individual plot data shows that NPS decreased from 92% of plots last year to 85% of plots meeting or exceeding the completion criteria in 2022. Native overstorey cover (NOS) increased from 50% of plots last year to 54% of plots meeting or exceeding the completion criteria in 2022. Native midstorey cover (NMS) remained consistent with 77% of plots meeting or exceeding the completion criteria in 2021 and 2022. Native ground cover grass (NGCG) decreased slightly from 92% of plots last year to 88% of plots meeting or exceeding the completion criteria in 2022. A total of 96 bird species were recorded during standardised bird surveys compared with 81 bird species in 2021 were detected and 105 bird species in 2020. Across 28 sites, species richness ranged from 1 to 30 per site. By habitat, bird species richness across 10 woodland sites was 72 (average 23.6; range 19 to 30), 23 species were detected at naturally regenerating sites (average = 8.25; range 1 to 14), and 56 species were recorded at naturally regenerating sites (average 18.9; range 11 to 27). Bird survey site access and survey replication was heavily impacted by large rainfall events and flooding. Up to 19 species of microbat were positively identified from echolocation recordings across 12 sites including six species listed as threatened under the BC Act with species richness values ranging between 0 and 15 per site. By habitat, 15 species were detected in remnant woodland sites (average 11.6, range 11 - 14), 18 species in naturally regenerating sites (average = 13, range 9 - 15) and 12 species in revegetated woodland sites (average 5.66, range 0 - 12).

6.4.5 Habitat Management

During the reporting period, habitat augmentation was undertaken with 37 new nest boxes targeted for Small Gliders, Greater Gliders, Microbats, Turquoise Parrots, Brown Treecreepers and Pale-headed Snakes installed on the Willeroi Offset Property during reporting period. This brings the total nest box habitats on Willeroi West BOA to 112.

6.4.6 Feral Animal Management

WHC undertook routine pest animal monitoring across the Willeroi West BOA in 2022 adopting the “monitor, measure and manage” approach to pest animal management; which will allow WHC to implement adaptive management in response to changes being measured through monitoring in feral animal abundance specific to the different geographical regions of the Willeroi West BOA. 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 can be high in abundance seasonally with all other pest animal species recorded as scarce to low abundance levels across 2022. The pest animal monitoring ensures that timely and prioritised feral animal control is undertaken on a seasonal basis identifying what, where, when and how to target appropriate resources across the Willeroi West BOA for pest animal management.

During the reporting period, WHC implemented a comprehensive pest animal control program across the Willeroi West BOA with routine 1080 baiting and pig trapping programs. During the reporting period; the 1080 baiting program removed 22 Foxes from 90 baits across the Willeroi West BOA resulting in 24% of baits taken by target feral animals. A further 78 Feral Pigs were trapped and removed from the Willeroi West BOA in 2022. There were 223 Goats harvested at the Willeroi West BOA during the reporting period with saleable Goats on sold to an abattoir. Only appropriately qualified and experienced pest animal contractors (appropriate pest animal management qualifications, NSW fire arm licence and pesticide accreditation where relevant) were engaged to undertake feral animal control works for WHC Revegetation Management.

The BMP 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. The revegetation program was successfully completed for the Willeroi West BOA in the 2019 reporting period with good survival achieved to date. There was no additional revegetation works undertaken on the Willeroi West BOA during this reporting period as not required.

6.4.7 Audits and Reviews

There was no Independent Biodiversity Audit or Leard Forest Regional Biodiversity Strategy Review during the reporting period. Next Independent Biodiversity Audit is due by the end of September 2023.

6.4.8 Clearing

6.4.8.1 Flora

During the pre-clearing survey, a qualified ecologist tagged a total of 62 habitat features (hollow bearing trees, large woody debris or nests) within the overall area to be cleared (approximately

20.9Ha). The ecologist was present during clearing activities in accordance with the Biodiversity Management Plan (BMP).

6.4.8.2 Fauna

No threatened fauna species were observed during the time of pre-clearing survey.

Over the duration of the clearance supervision 2022 a total of 72 identified habitat features were cleared. Fauna found during the survey included six *Egernia striolata* (Tree Skink), three unidentified *Scincidae Spp,* four *Gehyra dubia* (*Dubious Dtella*), two unidentified *Gekkonidae spp*, one unidentified snake species (likely *Elapidae spp*), and four *Rattus spp* (likely to be *Rattus rattus* given they occurred within HBTs). Formal identifications for these species was difficult as not all key identification features could be examined under the field conditions.

No bat species were observed during the clearing operation. Therefore, no radio tracking of displaced bats was undertaken. No fauna were observed to be injured throughout the clearing operations.

6.4.9 Grazing Management

During the reporting period, the Willeroi BOA was not stocked and subsequently grazing was excluded. There was no reported stock incursion within the reporting period.

6.4.10 Soil & Erosion Management

Annual inspections were undertaken including unsealed fire break tracks and associated drainage structures across the Willeroi West 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)). Throughout the reporting period there was above average rainfall, with a number of flood events in the region. A total of 1 observation was recorded within the Willeroi West BOA with no locations requiring targeted additional track maintenance to mitigate further erosion and sedimentation. The tracks/drainage structures are maintained during routine WHC Biodiversity fire break track maintenance program with no other erosion sites present on Willeroi West BOA.

6.4.11 Weed Management

WHC coordinated routine formal weed monitoring/inspections undertaken across Willeroi West BOA in February, May, September and December 2022. The priority weeds identified included legacy

weeds inherited from previous owner's management regimes such as Green Cestrum, St John's Wort, Sweet Briar 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 information directly given to spraying contractors to identify what, where, when and how to target appropriate resources across the Willeroi West BOA for weed control. During the reporting period, WHC implemented a weed control program of the Willeroi West BOA including 461ha treated between January, May, June, November and December 2022 targeting primarily Coolatai Grass, Sweet Briar and Common Prickly Pear weed species as required. Only appropriately qualified and experienced weed contractors (AQF3 accreditation or higher for use of herbicide) were engaged to undertake weed control works for WHC.

6.4.12 Key Environmental Performance

On 24th June 2021; TCM successfully registered a Conservation Agreement on the land titles for the Willeroi West Offset property as required of the Biodiversity Offset Strategy. The Conservation Agreement was secured under Part 5 Division 3 of the Biodiversity Conservation Act 2016 and thus completing the in perpetuity legal mechanism required by the Commonwealth EPBC Act Approval 2011/5923 Condition 10 and NSW Project Approval MP 11_0047 Schedule 3 Condition 46. WHC will reengage with NPWS whom have previously shown interest in the Willeroi West Offset property being transferred to National Park Estate.

6.4.13 Proposed Improvements to Environmental Management

The TCM BMP was approved in August 2022 and it will be reviewed as necessary.

6.5 Aboriginal Heritage Management

6.5.1 Environmental Management Measures

During the reporting period (2022), annual heritage inspections were completed on the 13 known Aboriginal archaeological heritage sites within the Willeroi West BOA. During the reporting period, 1 new Aboriginal Archaeological Heritage site was identified and 308m of demarcation fencing was installed around this site. A fencing audit was completed in reporting people. No issues were identified.

Each site is maintained with demarcation fencing around the heritage site perimeter and signage to mitigate access and disturbance with 1km of demarcation fencing around these heritage sites across the Willeroi West BOA.

A Cultural Heritage Assessment was completed in September 2011 as part of the Tarrawonga Coal Project EA. A total of 57 sites (21 open artefacts, 11 scarred trees and 21 isolated artefacts) were located during the surveys of the Project Area. An additional requirement of MP 11_0047 includes the development of an Aboriginal Cultural Heritage Strategy (ACHS) in conjunction with the Boggabri Coal Mine and Maules Creek Project. This Strategy was approved by DPIE in 2017.

To date, the measures in place to protect Aboriginal cultural heritage are considered satisfactory, with all measures identified in the EA, Project Approval and Heritage Management Plan (HMP) in place.

Of the 106 sites listed on the Heritage NSW Aboriginal Heritage information and Management System, many of which have been salvaged or reassessed as 'Not a Site'. This includes nine scar trees within the Mining Lease.

6.5.2 Key Environmental Performance

In accordance with the current HMP, a registered archaeologist and RAPs inspected archaeological site fences and salvaged any remaining artefacts located in close proximity of the pit or in areas that were cleared in 2022. The HMP was reviewed in 2021 and will continue to be reviewed and updated as required.

6.5.3 Proposed Improvements to Environmental Management

No specific management procedures are required.

6.6 Bushfire Management

6.6.1 Environmental Management Measures

In accordance with the BMP, 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 overall fuel loads present. During the reporting period, no bushfires occurred and no ecological burns were undertaken. Other fire management implemented by WHC during the reporting period was maintenance on 27.9 kilometres to zero fuel barrier standard across the Willeroi West BOA.WHC maintains regular communications throughout the reporting period with both the Liverpool Range and Namoi-Gwydir Zone RFS teams around planning of WHC Biodiversity's ecological burn programs as well as maintaining 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.

A bushfire audit was carried out over the mining lease area at TCM in preparation for a Bushfire Management Plan update. This audit was a recommendation following an internal risk assessment.

6.6.2 Key Environmental Performance

No instances occurred where TCM was required to assist to the RFS team or any other landholder or body. TCM installed a water tank connected to a groundwater bore in a property adjacent the mine to assist fire fighter in case of an emergency. In 2020, local RFS teams were invited to site to discuss Emergency Response Plan and familiarise with TCM firefighting capabilities and protocols.

6.6.3 Proposed Improvements to Environmental Management

TCM will continue to engage with the local RFS and with the community via CCC meetings and their members. TCM will continue to conduct mowing and slashing activities along access roads and tracks to keep grass to acceptable levels.

6.7 Meteorological Data

Meteorological monitoring is conducted onsite in accordance with Schedule 3 Condition 30 of the MP 11_0047. Table 6-8 summarises the monthly meteorological conditions at TCM for the 2022 reporting period.

The total annual rainfall for the reporting period was 1065mm; which it was consistent with recorded rainfall for 2021 (1070mm) and almost double the long term mean annual rainfall (583.4mm) for this area. The maximum monthly rainfall was recorded during October with 170.2 mm.

A minimum temperature of -2°C was recorded in July and a maximum temperature of 36.6°C in January.

In 2022, prevailing winds were predominately between the South (S), South East (SE) and South-South Easterly (S-SE) direction for the whole of the year.

Table 6-8: Templemore weather station monitoring data 2022

Month	2m Temperature (°C)			10m Temperature (°C)			Average Wind Speed (m/s)	Prevailing Wind Direction	Monthly Rainfall (mm)
	Min	Mean	Max	Min	Mean	Max			
January	9.7	23.67	36.8	0	25.2	36.6	11.8	SSE 161°	106.6
February	7.8	21.1	33.7	12	23.1	34.1	2.8	S 176°	74.4
March	8.2	19.7	32.8	12.2	21.5	32.5	2.5	SSE 146°	100
April	2.9	16.2	28.8	6.2	18.4	29.1	2.1	SSE 164°	60.8
May	-2	12.5	26	2.6	14.8	26.5	2	SSE 166°	59
June	-4.2	7	19.8	0.8	9.6	20.1	1.9	SSE 162°	14.4
July	-5.8	7.9	20.2	-2	10.4	20.5	2.2	S 170°	32.4
August	-1.7	9.7	22.9	1.3	12.1	23.7	2.2	SSE 153°	116.6
September	-0.1	12.3	24.1	3.6	14.3	24.6	2.4	SE 140°	166.2
October	2.6	16.4	29	5.9	18.1	29.5	2.4	SSE 161°	170.2
November	3.2	17.4	33.1	6.1	19.1	32.6	2.8	SSE 151°	129.8
December	3.2	19.6	33.7	6.9	21.4	34	2.8	E 95°	34.4
Total									**1064.8**

Regionally central meteorological station to the BOAs is the Gunnedah Pool site (BOM 2021) which has recorded highly variable rainfall over the last 3 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 1065mm respectively. TCM maintains a meteorological station for the BOA with a summary of weather conditions experienced at the Willeroi Offset property during the 2022 reporting period being annual temperature ranges were 2°C to 34°C in 2022. The total annual rainfall in 2022 was 686mm with the maximum in October (170mm) and minimum in June (14mm).

6.8 Waste

6.8.1 Environmental Management

During 2022, TCM engaged a contractor (Namoi Waste Corporation) that is responsible for the collection and management of the entire waste streams generated at the mine.

During the reporting period, waste removed from site for disposal or recycling are summarised in Table 6-9.

Table 6-9- Waste management summary

Waste Stream	Container size	Unit of Measure	2022	2021	2020	2019
General Waste	$3m^3$	Kg	**275,675**	290,485	326,490	306,530
Tyres*	n/a	each	**69**	53	43	61
Batteries **	As listed	Kg/ each	**84 Batteries**	12 pallets	2,037 kg	21 pallets
Waste Oil	IBC	L	**209,700**	244,200	312,200	273,800
Oil Filters	$3m^3$	Kg	**9,455**	8,170	12,285	28,165
Hydraulic Hoses	$3m^3$	Kg	**2,410**	2,535	460	1,685
Coolant	IBC	L	**0**	7,500	0	0
Grease	N/A	L	**1000**	140	-	-
RimTreat	IBC	L	**3000**	6000	-	-
Scrap Metal* **	$15m^3$	Kg	**33,000**	65,500	54,000	68,000
Cardboard	$10m^3$	Kg	**9,485**	5,985	9,390	11,535
Timber	$15m^3$	Kg	**1,020**	7,000	28,110	33,480
Septic Waste	Pumped out	L	**223,158**	73,300	127,500	90,300
Paper/Plastic/ Aluminium Can	240Lts	Kg	**2,410**	0	115	320

**Heavy machine Tyres were reused onsite for traffic management, or are in a storage area pending disposal; **Battery Type N200, N150 & N70 donation to Westpac helicopter; ***Major clean-up of the yard; n/a not applicable or data not available; #to be able to assess*

performance over the years, TCM has extrapolated using values provided by the Waste contractor from August to December 2018. ## coolant is stored onsite in a 10kL tank that is emptied by the waste contractor before it reaches 100% capacity

TCM added some waste items from the workshop waste stream, such as Grease and RimTreat (a liquid used to prevent corrosion on rims). These have been added to the table above and are recycled via Namoi Waste Corp.

In November 2022, TCM disposed of 152 tyres that had been historically stockpiled on site. TCM disposed of these in pit in accordance with EPL 12365.

6.8.2 Key Environmental Performance

During the reporting period no incidents relating to waste management occurred.

6.8.3 Proposed Improvements to Environmental Management

Tarrawonga aims to reduce waste via a number of initiatives including recycling (oils, greases, scrap steel and domestic recyclables) and increasing tyre life through education and training of machine operators.

During the reporting period, TCM kept all Paper/Plastic/ Aluminium Cans on site, and will research a recycling program that will suit site operations in the next reporting period.

6.9 Environmental Performance Summary

An environmental performance summary for TCM is presented in Table 6-10- Environmental Performance:

Table 6-10- Environmental Performance

Aspect	Approval Criteria or EIS/EA Prediction	Performance during the reporting period	Trend / Key Management Implications	Implemented / proposed management actions
Noise	Refer s6.1	Approval criteria met.	Nil	Nil
Blast	Refer s6.2	Approval criteria met.	Nil	Nil
Air Quality	Refer s6.3	Approval criteria not met.	Nil	TCM's notified DPE regarding one (1) PM10 24 hour average exceeding the 50µg/m^3 limit at the 'Coomalgah' property. This high result was investigated and was concluded to be non-mining related but it was included in the annual average calculation of the Annual Review 2022.
Biodiversity	Refer s6.4	Approval criteria met.	Nil	Nil
Heritage	Refer s6.5;s6.6	Approval criteria met.	Nil	Nil
Spontaneous Combustion	Refer s6.7	Approval criteria met.	Nil	Nil
Bushfire Management	Refer s6.8	Approval criteria met.	Nil	Nil
Waste Management	Refer s6.10	Approval criteria met	Nil	Nil
Water management	Refer s7	Approval criteria met	Nil	Nil

7 WATER MANAGEMENT

The mine lies within the catchment of the Namoi River. Locally and within proximity of the project site, Goonbri Creek, Bollol Creek and Nagero Creek all provide flows to the Namoi River during runoff events. The design of sediment basins within the disturbed area of the mine aims to limit the opportunity of discharge of runoff from mine-disturbed area, i.e. after appropriate detention time to satisfy licensed discharge criteria.

Detailed Surface Water and Groundwater monitoring results are provided in Appendix 3 and Appendix 4 respectively.

7.1 Surface Water Performance and Management

Sediment basins, storage dams and associated banks and drains have been designed by an engineering consultant in accordance with the Managing Urban Stormwater: Soils and Construction Vol 2E Mines and Quarries (DECC, 2008) in conjunction with the references to Volume 1 (Landcom, 2004). Water within the Project Approval area is nominally classified either as “clean”, “dirty”, “contaminated” or “pit water” depending on the source of the flow and it’s potential for physical or chemical contamination. The definition of these classifications follows:-

- “Clean Water” comprises water that has not come in contact with mine disturbance and does not have potential to contain hydrocarbons.
- “Dirty Water” comprises water that has come into contact with mine disturbance and does not have potential to contain hydrocarbons.
- “Pit Water” comprises water contained within the open cut sump or pumped to the void water dam for containment and use for dust suppression across the site.
- “Contaminated Water” comprises runoff water, which could potentially contain hydrocarbons.

There are five wet weather discharge points nominated in the current EPL12365 (relevant to MP 11_0047 Schedule 3 Conditions 33 and 39). These are SD9 (LDP2), SD28 (LDP3), SD17 (LDP1), SB23B (LDP26) and SB24B (LDP27).

7.1.1 Surface Water Monitoring

TCM has a requirement to undertake surface water monitoring on a quarterly basis in addition to the monitoring of any wet weather discharge event. Historical data is available in Appendix 3. Surface water monitoring locations are shown in Figure 9.

Whilst there are no criteria or concentration limits specified for the quarterly surface water samples, the results do provide an indication as to the quality of water on-site. The assessment of sediment load, salinity, pH, oil and grease and other monitoring parameters during these quarterly water monitoring events was consistent with previous reporting years and summarised in Appendix 3.

In summary, levels of oil and grease were low overall, with levels below the discharge limits. Level of Total Suspended Solids (TSS) fluctuated between 5 and 1,880 mg/L with approximately 60% of the measurements below the 50mg/L.

Overall pH values showed that water samples were generally between neutral and alkaline. Concentration levels of antimony, arsenic, molybdenum and selenium were monitored throughout the period. Results remained consistently low and below thresholds outlined in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC, 2000).

Surface water monitoring results showed generally similar trends with previous reporting periods.

Commitments with regard to the surface water-monitoring program are detailed in the Water Management Plan which was approved in September 2020.

7.1.2 Water Discharges

Throughout the 2022 reporting period, there were 28 wet weather discharges and 15 controlled water releases.

In accordance with relevant EPL12365 conditions, water samples were collected after discharge and results can be found in Table 7-1.

Table 7-1: Discharge Results 2022

LDP	No. of discharges	pH		EC (uS/cm)		TSS (mg/L)		Oil and Grease (mg/L)	
		Average	Max	Average	Max	Average	Max	Average	Max
LDP1	13	7.6	8.1	220.5	277	64	233	<5	<5
LDP2	17	7.7	8.1	369.3	573.0	76.2	284.0	<5	<5
LD3	3	7.7	8	310.3	401	363	708	<5	<5
LDP26	7	7.4	7.6	124	132	104	447	<5	<5
LDP27	3	7.5	7.8	177.7	290	2960	4380	<5	<5

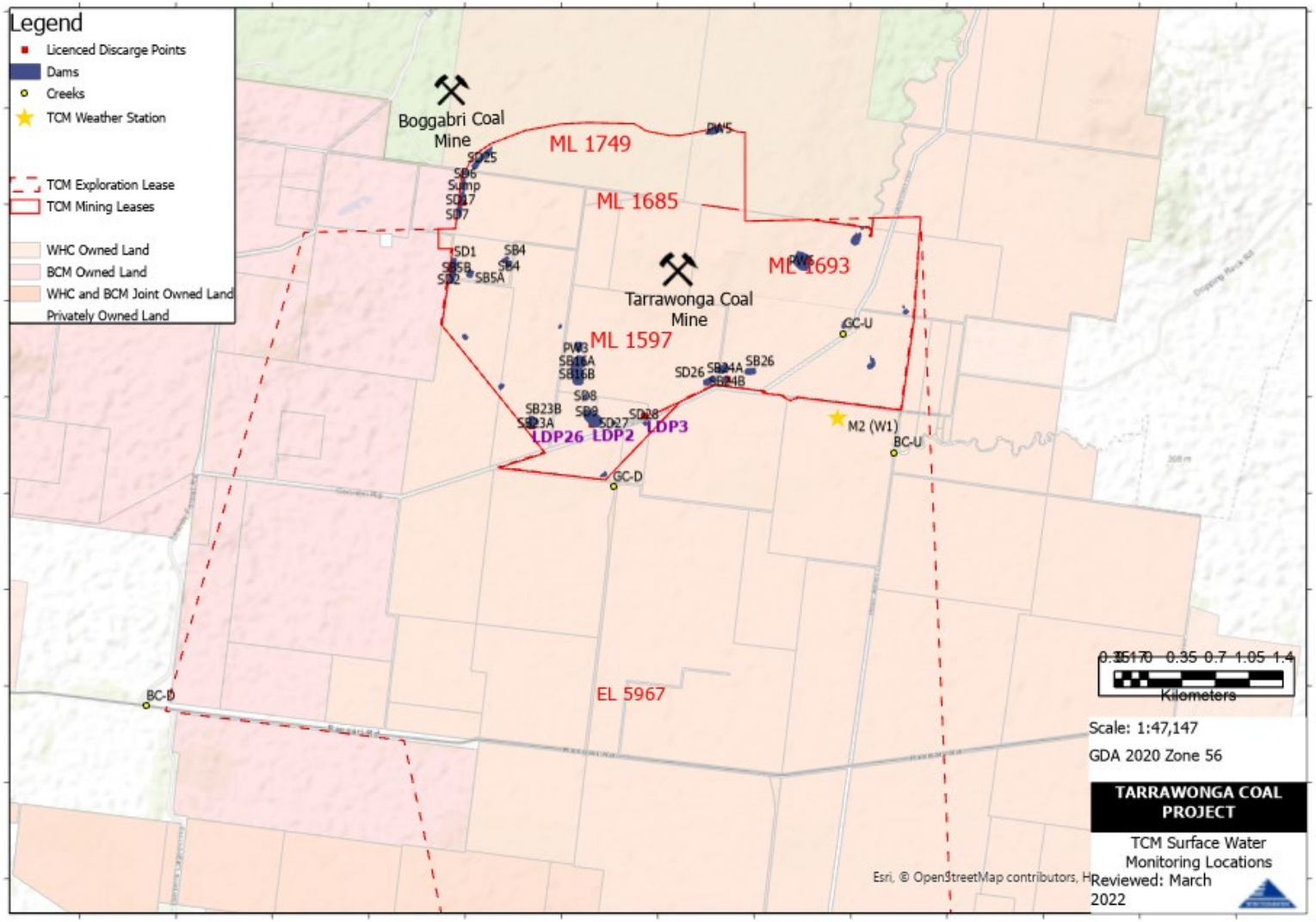


Figure 9 – 2022 Surface water monitoring locations

7.2 Groundwater Management

7.2.1 Environmental Performance and Management

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

7.2.2 Groundwater Monitoring

Groundwater monitoring was undertaken by a contracted company, accountable for water level measurement, collection of samples and laboratory analysis. Two data loggers monitored water levels at MW1 and MW2 to the South and one Vibrating Wire Piezometers (VWP) sites (TA65) was operating to the East of the mine.

The groundwater monitoring sites are shown in Figure 10. Historical groundwater quality data and standing water level plots are available in Appendix 4.

With the assistance of a groundwater consultant, TCM has assessed the best locations to install three new monitoring bores to the East of the mine. This work was hoped to be completed at the close of CY21, but due to flooding in 2021 and 2022, COVID-19 impacts and contractor availability, this has been pushed back to April 2023.

Groundwater levels

Graphs available in Appendix 4 show that groundwater levels at the majority of nominated monitoring bores maintained a steady trend throughout the reporting period. Most of the bore levels show a significant increase at the beginning of 2020, likely related to rainfall recorded over that year. Sampling and water levels have not been monitored at MW6 since the beginning of 2019, due to a broken casing. This bore is located on Boggabri Coal Mine property. Samples could not be collected at MW8 due to a damaged casing however, water level could regularly be checked for at that site.

The 110m intake shows a more responsive water level plot, whilst an overall increased rate of depressurisation is observed in the 97m, 136m and 153m intakes from approximately March 2017. Excluding the 56m intake which, as noted above may be faulty, during 2022 depressurisation remained relatively stable in the 30m, 35m, and 47m, ranging from 0.17m in the 30m intake to a maximum of 0.77m in the 47m intake. These results reflect changes consistent with the presence of an open cut mining operation in proximity to TA65.

During 2022, minor repressurisation was seen in four of the intakes (35m, 47m, 136m and 153m), however a significant repressurisation of some 1.5m was recorded in the 110m. This is in addition to the repressurisation which has occurred in this intake since 2019.

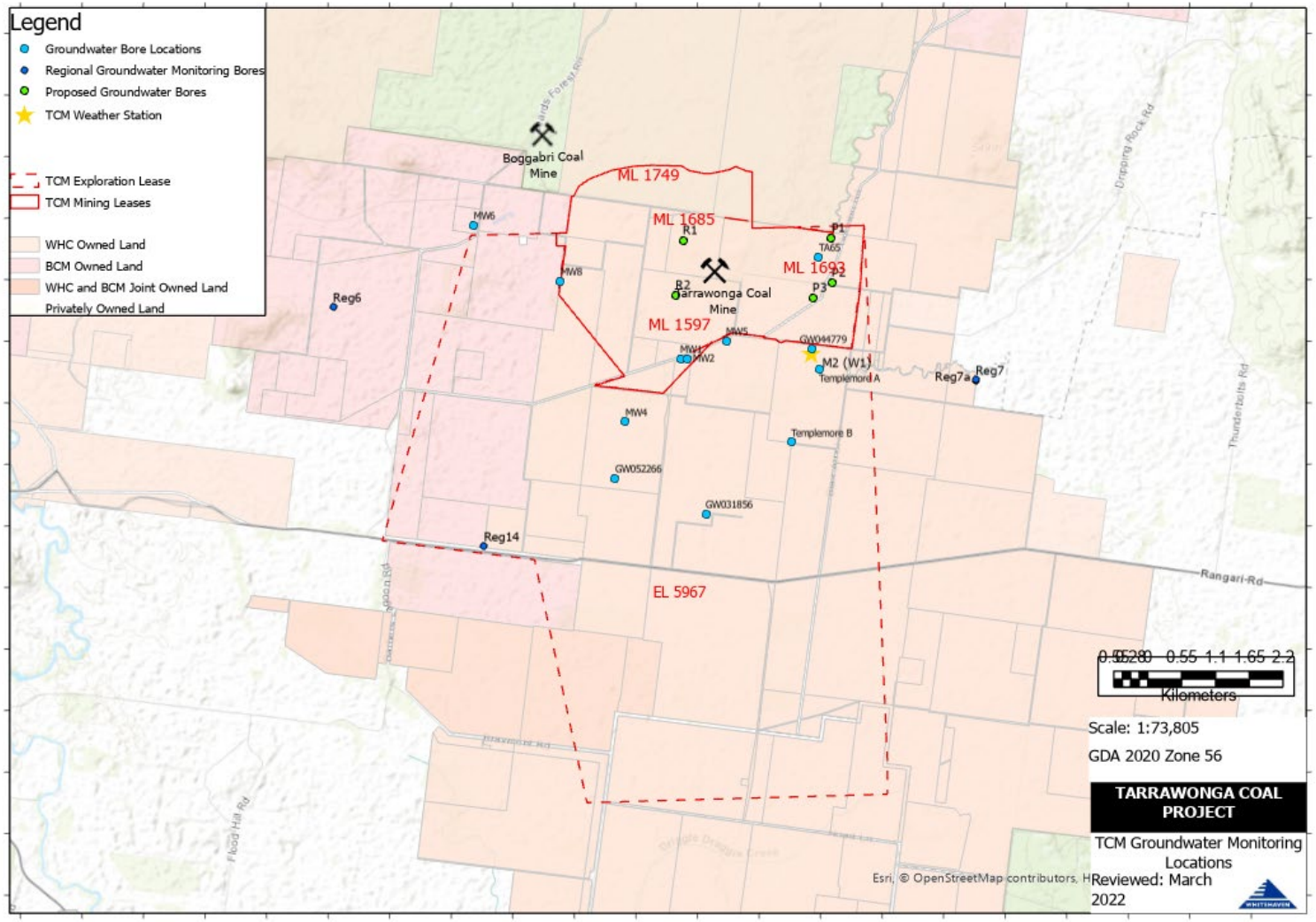


Figure 10 – Groundwater monitoring locations

Groundwater quality

Analysis of samples taken during the reporting period showed that groundwater quality remained generally in line with historical data at all locations monitored. Water quality was compared to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC, 2000) guidelines for stock watering (cattle). There were no recorded instances of groundwater quality exceeding the limits prescribed by those guidelines during the reporting period.

Water quality has also been compared to the National Environment Protection Council (NEPC) Agricultural and Livestock Guidelines. The following instances occurred where water quality did not meet the parameters identified in the guidelines:

- Since there is no Iron limits for livestock in the ANZECC, the agricultural irrigation guidelines for iron (0.2mg/L) was used for comparison. Most of the monitoring sites were above the 0.2mg/l limit on at least one occasion during the reporting period. Throughout historical data (back to 2009), iron has been seen to fluctuate with high peaks (up to 47mg/L) at most bores on more than one occasion.
- Almost all bores, except for MW2 were above the agricultural irrigation guideline for TDS (600mg/L) when sampled throughout 2022. No sites were above the 2,400mg/L NEPC livestock guideline limit. No sites measured above the ANZECC guideline for stock drinking water (4,000mg/L) value.

7.2.3 Groundwater Management

Pit water inflow is a result of combination of rainfall and groundwater seepage:

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

To prevent any potential risk of contamination with chemical and hydrocarbon, TCM implemented control measures such as:

- Vehicle maintenance carried out in designated areas;
- Any spills being cleaned up; and
- Hydrocarbons products being stored within a bunded area, constructed in accordance with AS 1940-2004 and/or EPA requirements.

Monitoring occurs in surrounding groundwater bores on a regular basis to detect and assess any changes in quality or level that may be mine attributed.

The Tarrawonga Coal Project EA identified that there would be a reduction in the potentiometric head in the aquifers of the porous rock systems to the east and the north. In the past, the Vibrating Wire Piezometers installed in TA60 and TA65 have demonstrated depressurisation as predicted as the mine moves toward the east. Due to pit progression, site TA60 was decommissioned in 2019.

Regional Bores (Reg. 6, 7a and 14) maintained a steady trend during the period for all parameters including Electrical conductivity (EC). EC was compared to the performance indicators outlined in TCM's Groundwater Response Plan within the WMP, and none of these bores were above performance indicators (the 95th percentile of historical data) at the time of this report. Water levels at each of the regional bores rose substantially due to above average annual rainfall, and therefore none were below performance indicators (5th percentile of historical data) during the reporting period.

The BTM Complex finalised the updated BTM Ground Water model and submitted and approved by DPE during the reporting period. This model was prepared in consultation with groundwater experts and regulatory agencies.

During the reporting period, no complaints have been received in relation to impacts upon any other groundwater users. This is consistent with the predictions of the EA; that no significant impact would therefore affect beneficial use of groundwater of other groundwater users.

7.2.4 Water Take

During the water year 2022, no water was extracted from the licenced groundwater bores. Instead, TCM used rainfall and runoff captured in the sediment dams and pit to provide operational water requirements. Any water in the pit occurred through passive take and is in accordance with Water licences as listed in Table 7-2 that give units of entitlement per water annum.

In accordance with respective sites approvals and principles of the BTM Water Management Strategy, water sharing opportunities were discussed.

Passive Take Licenses						
Water Licence #	**Water Sharing Plan**	**Water Source and Management Zone**	**Share units (ML)**	**Available Water (ML)**	**Passive take (ML)**	**Take deducted (ML)**
WAL 12716	Upper and Lower Namoi Groundwater Sources 2003	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gin's Leap) Groundwater Source	43	86	**36**	36
WAL36548	Upper and Lower Namoi Groundwater Sources 2003	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gin's Leap) Groundwater Source	36	72		0
WAL 12491	Upper and Lower Namoi Groundwater Sources	Upper Namoi Zone 11 Maules Creek Groundwater Source	77	153	**1**	1
WAL 29548	NSW Murray Darling Basin Porous Rock Groundwater Sources	Gunnedah - Oxley Basin Mdb Groundwater Source	50	62.5	**228**	50
WAL 31084	NSW Murray Darling Basin Porous Rock Groundwater Sources	Gunnedah - Oxley Basin Mdb Groundwater Source	250	312.5		178
WAL 29461	NSW Murray Darling Basin Porous Rock Groundwater Sources	Gunnedah - Oxley Basin Mdb Groundwater Source	120	150		0

Table 7-2 - Water take

7.3 Site Water Balance

According to the site water balance developed by a water consultant, the water management system for 2022 had the capacity to be operated and meet operational objectives in normal average weather conditions;

- Wet weather releases and controlled water releases occurred on numerous occasions throughout 2022. This allowed excess water release from site and this is discussed in Section 7.1
- Rainfall and runoff captured in the sediment and pit water dams provided for the majority of water demand in the dry, median and wet years;

These predictions were consistent with the actual outcomes observed during this monitoring period.

Table 7-3 provides an overview of water stored and used on site during the reporting period.

Table 7-3 - Water Stored and used during the reporting period

				Table 2-3 EA values (2012) (ML)		
	Jan 2022 – Dec 2022 (ML)	Jan 2021 – Dec 2021 (ML)	Jan 2020 – Dec 2020 (ML)	Dry Year- 25%-ile (17 years)	Average Year (17 years)	Wet Year - 75%ile (17 years)
Total Runoff	1,983	2,273	2,036	325	402	480
Groundwater inflow	62	58	59	255	255	255
External Source	0	0	17	n/a	n/a	n/a
TOTAL INPUT	**2,045**	**2,544**	**2,112**	**580**	**657**	**735**
Evaporation	284	241	217	118	130	141
Crusher Dust suppression	35	35	30	8	8	8
Haul Road and ROM pad dust suppression	374	378	329	389	394	399
Offsite release/ discharge	423	146	279	0	0	0
Water contained in spoil/ Other	2 (Vehicle Washdown)	900 (Water Contained in Spoil)	20	n/a	n/a	n/a
TOTAL OUTPUT	**1,118**	**1,914**	**894**	**515**	**532**	**548**
Change in inventory	*927*	*630*	*1,218*	*64*	*125*	*193*

Note: For Jan-Dec (annual) period, values must be compared with caution as the EA value is based on 17 year annual average with changing catchment and land uses over time.

8 REHABILITATION

8.1 Post Rehabilitation Land Uses

According to the Mine Site Rehabilitation Management Plan and the MOP, woodland areas will be established on slopes and upper terraces of the Northern and Southern Emplacement Areas.

Rehabilitation on the Southern Emplacement is still immature while it is further advanced on the Northern Emplacement (including in ML1685 adjacent to Boggabri Coal Mine) with some older sections close to achieving open woodland land use target.

However, no rehabilitation to Box Gum Endangered Ecological Community (EEC) woodland was undertaken nor has rehabilitation to agricultural land occurred during the reporting period.

8.2 Rehabilitation Performance during the Reporting Period

8.2.1 Status of Mining and Rehabilitation

Integration with Boggabri Coal's waste emplacement has started with rehabilitation activities to follow as per the RMP. The EA Total disturbance Area generally aligns with the most recent total disturbance Areas.

Flooding events during September to November 2022 impacted the completion of the landform planned to be established by the end of December 2022. Access to site was cut off for significant amounts of time and consequently total material moved was impacted and equipment was engaged in repairing access in the mining areas. This meant that only 26 out of 36 ha of landform was completed. As at the end of March 2023 this landform is undergoing internal quality assurance checks for 'sign off' so that it can progress to growth medium development. Tarrawonga achieved 12.3ha of ecosystem development in excess of the target of 11.7ha. The status of mining and rehabilitation at the completion of the reporting period is summarised in Table 8-1 and Figure 11.

Table 8-1- Rehabilitation Status

Mine Area Type 1 [Ha]	2017	2018	2019	2020	*2021*	*2022*	*2023**
0 Total Mine Footprint	600.1	627.6	687.5	741.8	*772.2*	*786.3*	*828.4*
1 Total Active Disturbance	498.4	540.7	579.4	607.8	*625.6*	*607.6*	*586.5*
2 Land Being Prepared for Rehabilitation	8.9	12.9	29.6	27.6	*11.7*	*26.2*	*26.1*
3 Land Under Active Rehabilitation	67.2*	74.1	78.5	106.4	*146.7*	*152.4*	*189.4*
4 Completed Rehabilitation	0.0	0.0	0.0	0.0	*0.0*	*0*	*0*

[1] *Refer Annual Review Guideline (p.11) for description of mine area types.*
**Active rehabilitation area was incorrectly calculated and reported for 2017 with 83.3Ha.*
[+] *Forecast for 2022 based on MOPG*

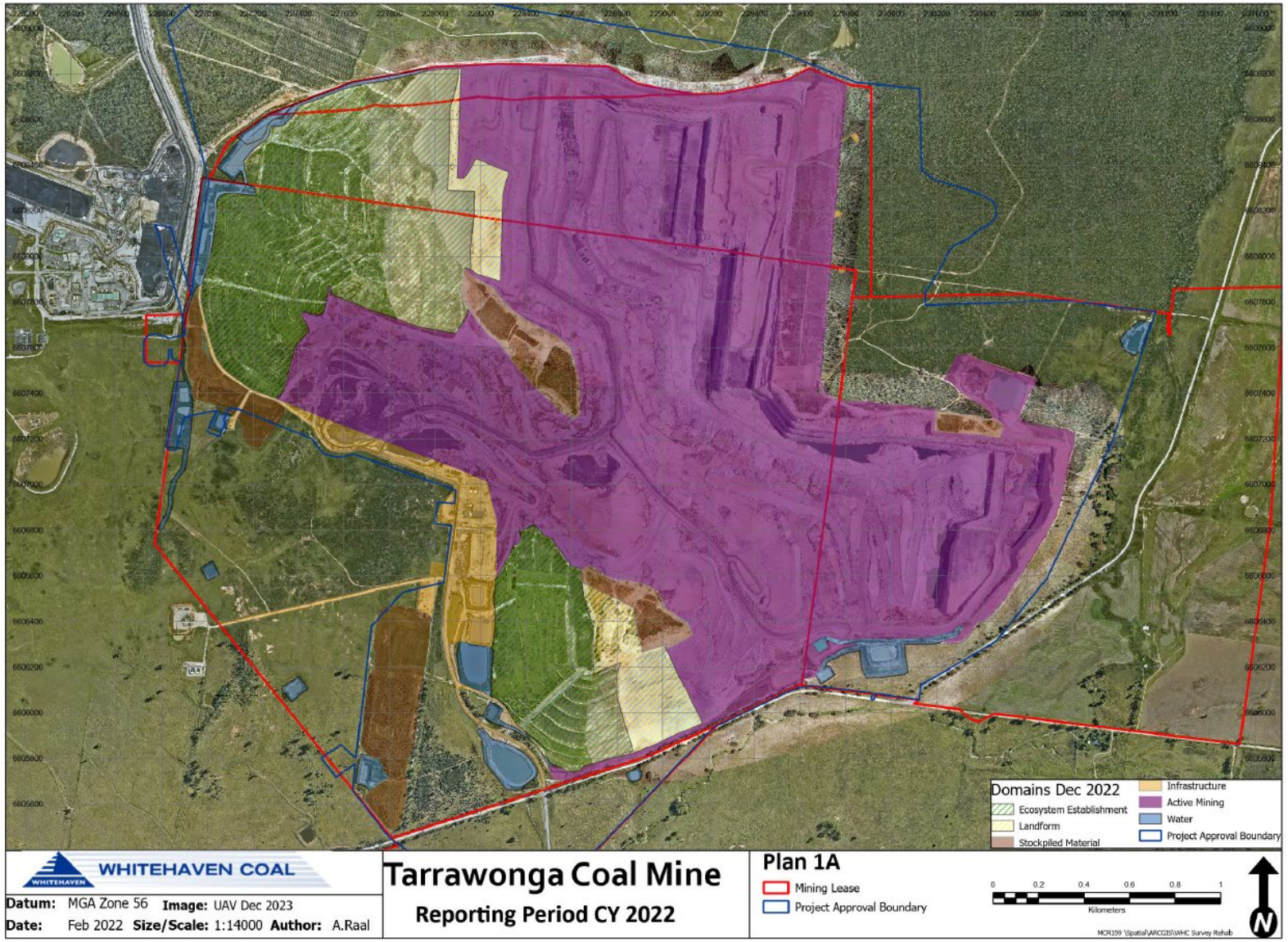


Figure 11- Status of mining rehabilitation as at December 2021

8.2.2 Rehabilitation Fauna and Flora Monitoring

Investigations undertaken by Geoff Cunningham Natural Resource Consultants Pty Ltd as part of the original Mine EIS identified no significant impact on threatened flora species, endangered ecological communities, endangered flora populations or critical habitat as a consequence of the development. Establishment of monitoring plots commenced in April 2007 and has continued as required. Over the life of the mine, quadrats are to be established across rehabilitation sites and control sites. Potential impacts noted in the EA included the clearing of Box-Gum Woodland EEC/CEEC and the groundwater dependent ecosystem - Bracteates Honey myrtle low riparian forest. However these areas had not yet been disturbed or cleared for mining purposes.

On the 25th July 2019 the Resources Regulator issued a Notice under section 240 of the Mining Act 1992 to Whitehaven Coal Mining Limited to prepare and submit a TCM Mine Rehabilitation report prepared by a persons approved by the Director Compliance Operations. Whitehaven Coal Mining Limited engaged an independent ecologist to undertake a gap analysis and prepare the report. They identified inconsistencies regarding the current status of progressive rehabilitation undertaken at TCM and report outlined proposed measures and actions to improve the progressive rehabilitation performance including annual monitoring and data collection.

As a result, the annual flora and fauna monitoring program was developed, however slightly varied from previous years, taking into account the recommendations detailed in the gap analysis report.

Qualified ecologists completed this annual monitoring program in accordance with the MOP, the Mine Site Rehabilitation Management Plan, the Biodiversity Management Plan and the recommendations from the gap analysis report.

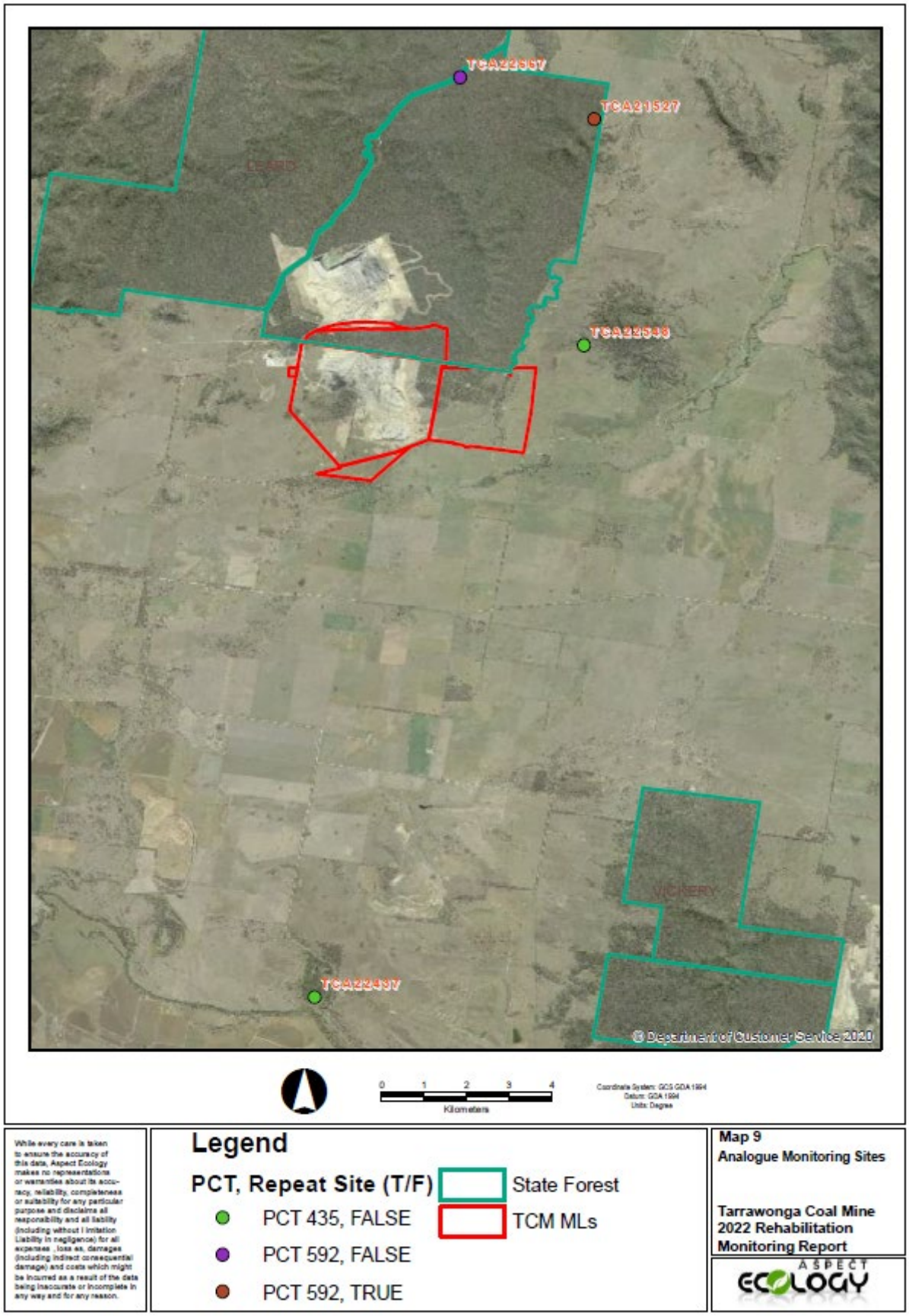


Figure 12 – Analogue site locations – Rehabilitation monitoring 2022

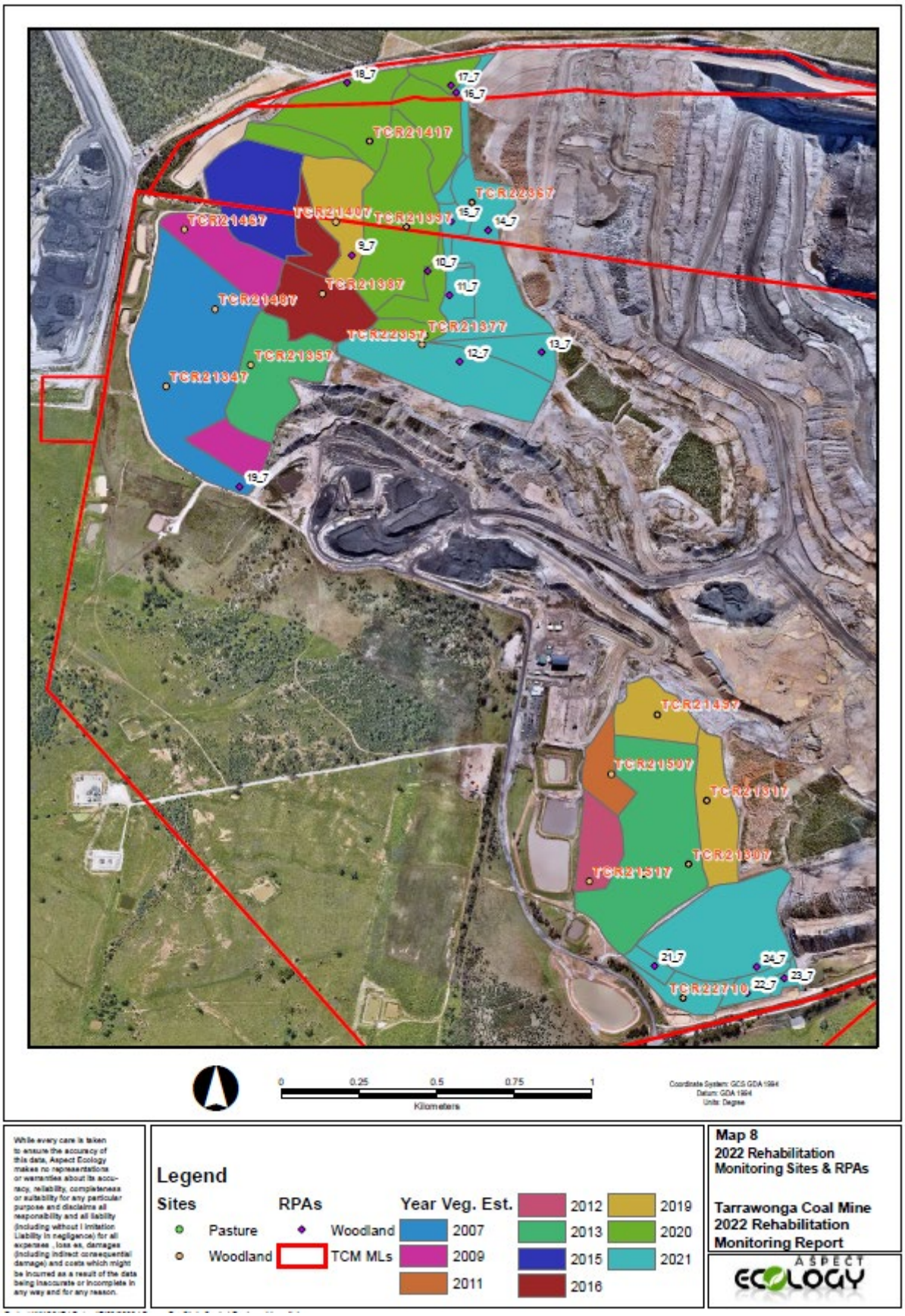


Figure 13 – Monitoring locations – Rehabilitation Monitoring 2022

8.2.2.1 Flora Monitoring

A detailed ecological field assessment of rehabilitated areas and analogue sites was undertaken during October/November 2022. Monitoring was undertaken using the Whitehaven Annual Rehabilitation Monitoring Methodology (WARMM v1.4—Aspect Ecology 2022). Monitoring comprised:

- the establishment of one new 'best-on-offer' (DPIE 2020) local analogue woodland sites established in Leard State Forest, situated in native vegetation communities specified in the MOP (table 14), being Narrow-leaved Ironbark - cypress pine - White Box shrubby (Plant Community Type ID 592 in the BioNet Vegetation Classification System);
- the repeat monitoring of one site in PCT592;
- the establishment of two new 'best-on-offer' (DPIE 2020) local analogue woodland sites, situated in native vegetation communities compliant with White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland critically endangered ecological community; in the MOP s3.2.3 (in the form of the grassy variant of White Box - White Cypress Pine shrub grass hills woodland in the Brigalow Belt South Bioregion and Nandewar Bioregion (Plant Community Type ID 435 in the BioNet Vegetation Classification System);
- sixteen Woodland Domain repeats, capturing all extant years seeded (2007–2020);
- four new rehabilitation site were established; and
- fifteen categorical Rehabilitation Point Assessments across the rehabilitation focused on young rehabilitation.

Groundcover

Coverage levels in the Woodland domain in Tarrawonga were highly variable; especially between the sites established prior to 2020 and the new 2022 sites. However, none reached or approached equivalence with the average ground cover values observed at analogue sites, which is 98%. In relation to the ground cover sites of the 16 plots monitored in 2021 and 2022, there is an increase in the desirable ground cover in 14 plots. In these plots, an increase in the ground cover of native species and litter, and a reduction in the percentage of bare earth, was recorded. The lowest values of desirable ground cover are on the four new plots instituted in 2022 these being TCR22357, TCR22367, TCR22407 and TCR22710.

Total groundcover (including exotic cover) at Tarrawonga Rapid Point Assessment sites was generally moderate to high, with 67% of sites having groundcover above 70%, while two sites (13%) had very low groundcover

Tree cover

All repeat sites in young rehabilitation (years seeded 2019–2021) exhibited an increase in seedling density, except for TCR21317 which remained similar. In the Northern Emplacement Area, all sites in recently established rehabilitation exhibited tree seedling densities ≥500 stems/ha, with most sites exhibiting around 1000 stems/ha. In the Southern Emplacement Area, densities were lower, with one site having 330 stems/ha and the other having 140 stems/ha. The 2021 rehabilitation was monitored for the first time in 2022, and all three sites had around 200 stems/ha.

Trees less than two metres tall were frequent to common at the majority of Tarrawonga RPAs (53%), with the remainder of RPAs having occasional (20%) or absent (27%) juvenile trees.

Trees more than two metres tall were absent at most RPAs (80%), and frequent (7%) to common (7%) at the remainder.

Eucalypts are the dominant tree within the native woodland target analogues for Tarrawonga, and as the rehabilitation is often quite shrubby, stem density analyses isolating eucalypts are the most informative.

Eucalypt tree density (>2 m tall) within older rehabilitation (prior to 2017) was variable among sites but showed little difference from the values recorded in 2021; the highest densities were from the Northern Emplacement Area (2015), and one site from 2007. The three lowest density sites (0–70 stems/ha) were all from the Southern Emplacement Area, however two of these exhibited increases since the 2021 monitoring. The remaining sites were within the range 150–480 stems/ha . Within younger rehabilitation (years 2019 and 2020), eucalypt density was similar to that of older sites, being in the range 120–240 stems/ha, apart from site TCR21497 Southern Emplacement Area, which had 10 stems/ha.

Approximately half of sites (47%) assessed using the Rapid Assessment methodology at Tarrawonga were determined to require no further retreatment in the 2023 rehabilitation season; however, 40% were considered likely to benefit from herbicide treatment, reploughing and reseeding with native seedstock, with the remainder likely benefiting from tubestock planting, or ploughing and reseeding

It was recommended that:

- check the topsoil and manure sources used to establish the 2021 rehabilitation on both the Southern and Northern Emplacement areas, as it was mostly dominated by weed species, including some apparently new to the Tarrawonga site (e.g. the legume Biserrula pelecinus);
- additional tube stock plantings be carried out, particularly in the Southern Emplacement Areas, and some 2021 rehabilitation in the Northern Emplacement, where there has been low seedling germination, survival or recruitment;
- spot spraying of groundcover weeds be conducted in areas of good tree and shrub establishment;
- ploughing and seeding of some 2021 rehabilitation polygon sections (TCM055), that appear not to have been topsoiled or seeded, in the north-eastern section of the Northern Emplacement Area; and
- erosion control and monitoring be conducted.

Soil pits

Soil profile and condition assessments were recommended every three years. Two soil pits were established in 2011, one in the rehabilitation zone, and one in each control zone. Soil pits are described using standard field measures with particular notice of horizon boundaries and ecological functionality (e.g. root establishment, evidence of soil fauna). Soil pits are analysed every three years. As soil pits were analysed in 2018, this parameter was due in the 2021 reporting period. Due to outward impacts such as flooding and overall site access issues due to saturated grounds, soil pits were unable to be dug in 2022, but will be done in the 2023 reporting period.

In the 2018 survey, the soil pit in the rehabilitation zone (Rehabilitation Zone 2) showed a profile reconstruction with topsoil depth at 15 cm and depth to overburden at 30 cm. The control zone shows a similar profile reconstruction with topsoil depth at 10 cm and depth to compact clays at 30 cm. The rehabilitation zone exhibited good establishment of grass. The control zone also showed good establishment of grass and other plant roots including larger tree roots, which were present in all horizons. Soil fauna were not identified in any pits.

An extensive soil testing program was conducted in 2020 to obtain representative soil samples within each rehabilitation area. This program is discussed further in section 8.2.3.2.

Revegetation Management

Between July and December 2022, TCM coordinated rehabilitation activities including seeding of approximately 12.3Ha on the Northern Rehabilitation Area. Hiko tree planting occurred in Autumn which included the following species: *Eucalyptus albens*; *Eucalyptus mellidora*; *Eucalyptus crebra*; *Brachychiton populnesus*; *Cymbopogon refractus*; *Austrostipa filiformis*; *Callitris glaucophylla* and *Angophora floribunda*.

Topsoil throughout all rehabilitated areas was mixed with mulch from previous tree clearing campaigns, spread in 200 to 300mm layers and ameliorated with gypsum and manure.

The above average rainfall recorded throughout the period had a noticeably positive impact with an estimated seedling survival rate of 80-90%.

8.2.2.2 Fauna Monitoring

Fauna habitat broadly consisted of stag trees, rocks of mixed size, course woody debris, emerging tree canopies, and pondage areas, yet some sites had minimal habitat features. Native fauna observations included a variety of birds, including wrens and ravens, and skinks. Macropod scats were present at several sites. Feral pigs were observed at one site.

Woodland birds monitoring was undertaken during winter 2022 and Spring 2022. Woodland birds were recorded using songometers (audio recording) set to automatically record at dawn and dusk. The recordings are then listened to by bird experts and species identified. Whilst recording is occurring, ecologists will make visual notes regarding birds in the area immediate to the recording system.

Bats have been previously monitored using anabat technology (audio recording of bat sonar) that is then interpreted by experts. Anabats are unable to pick up sonar of particular species such as Long-eared bats (Nyctophilius sp.)

Winter Bird Survey:

A total of 39 bird species were recorded during the 2022 monitoring surveys, of which only one was an exotic species. No threatened species were recorded. Six species were recorded across all five survey sites (Weebill, Willie Wagtail, White-plumed Honeyeater, Superb Fairy-wren, Striated Pardalote and Noisy Miner). The winter 2022 surveys recorded four species not previously recorded at any of the TCM survey sites, these were the Brown Quail, Little Raven, Red Wattlebird and Common Myna.

The average species richness for the five survey sites was 19.6 species in 2022. Only 2014 and 2015 recorded a higher species richness during the winter survey period. However, it should be noted that since 2014 the number of survey sites per year and the survey sites have not remained the same.

Spring Bird Survey:

A total of 36 bird species were recorded during the 2022 spring monitoring surveys No threatened species were recorded. The Common Koel was audible however not observed at site RO2 and recorded as migratory. The average species richness for the five survey sites in 2022 was 18.8 species. This is the lowest figure across the survey years. Of note is that site C04 always yielded high species numbers and is no longer included in the analysis. Also, the number and location of sites have varied since 2019. The last two years of data has been generated from the same sites and the averages are comparable.

Bats

Bat monitoring was unable to occur in this reporting period due to site access issues in the period it is usually undertaken, but will be done in the next clearing period during monitoring of clearing operations.

During the 2020 bat monitoring `There were least eight (8) and up to fourteen (14) species recorded during the 2020 Spring bat survey (Table 8-2) including up to two (2) species that are listed as Vulnerable under the NSW BC Act. Based on the call profiles, two species listed as Vulnerable could potentially have been present within the study area, Large Bent-winged Bat (*Miniopterus orianae oceanensis*) and Corben's Long-eared Bat (*Nyctophilus corbeni*). Corben's Long-eared Bat is also listed as Vulnerable under the EPBC Act.

The most commonly recorded species / species group within the study area were the *Ozimops species* complex (Inland Free-tailed Bat, South-eastern Free-tailed Bat and Ride's Free-tailed Bat). Collectively, there were 90 (60%) of the identifiable calls attributed to the *Ozimops species* complex.

General microbat activity was regarded as being low to moderate at the site with one microbat call recorded every seven or eight minutes on average throughout the survey period, equating to 94 calls recorded per night.

Table 8-2 - Microbat species diversity recorded ultrasonically at Tarrawonga Mine surveys between 4th and 6th November 2020.

Scientific Name	Common Name	Result
Chalinolobus gouldii	Gould's Wattled Bat	D
Chalinolobus morio	Chocolate Wattled Bat	P
*Miniopterus orianae oceanensis**	Large Bent-winged Bat	P
*Nyctophilus corbeni*1*	Corben's Long-eared Bat	P
Nyctophilus geoffroyi	Lesser Long-eared Bat	P
Nyctophilus gouldii	Gould's Long-eared Bat	P
Ozimops petersi	Inland Free-tailed Bat	P
Ozimops planiceps	South-eastern Free-tailed Bat	P
Ozimops ridei	Ride's Free-tailed Bat	P
Scotorepens balstoni	Inland Broad-nosed Bat	D
Scotorepens greyii	Little Broad-nosed Bat	D
Vespadelus darlingtoni	Large Forest Bat	D
Vespadelus regulus	Southern Forest Bat	P
Vespadelus vulturnus	Little Forest Bat	P

*D = Definitely recorded, P = Potentially recorded, *listed as threatened under the BC Act, 1 listed as threatened under the EPBC Act*

Reptiles

A pilot project investigating reptile diversity was undertaken across five (5) locations within the rehabilitation area. Roofing tiles were placed out randomly in 2020 to see whether these could service both as habitat for small reptiles and be used to survey reptiles. On inspection in the Summer months, none of the tiles were being used by reptiles. The ecologists undertaking the survey commented that it may be too early to monitor for reptiles as it can be up to 10 years before the effects of management can be detected even in remnant areas due to the poor dispersal ability of many small reptiles.

8.2.3 Habitat Management

On TCM's Southern Emplacement Rehabilitated area, woody debris and dead trees were deposited on the ground during the rehabilitation process to generate habitat and protection for species. Cover crop was sown during seeding processes to establish vegetation cover, weed suppression and erosion control while natives germinate.

Figure 14 - Photo: Salvaged trees laid down and erected in the Northern Rehabilitation area in 2020

8.2.3.1 Weeds Management

During 2022, a noxious weed monitoring program was conducted at TCM by site personnel. These inspections noted an increase in Noogoora Burr on the Southern OEA and African Boxthorn in other areas of the lease. Given the large amount of rainfall recorded onsite in 2022, the infestation of the noxious weeds at TCM was generally high. Management of targeted weed within the mine leases was undertaken at opportune times following suitable weather and with consideration to the NIWAC Weed Management Guide for North West NSW (NSW DPI) including:

- Manual removal of African Boxthorn, spraying of stumps to prevent regrowth;
- Spot spraying of general weeds and grasses in the vicinity of monitoring stations, administration building, magazine and ROM areas,
- Spot spraying of Prickly Pear around site,
- Spraying of Noogoora Burr and other aggressive species surrounding dams and on the rehabilitated areas.
- Spot spraying of weeds including boxthorn and prickly pear prior to clearing, to try and exclude them from the topsoil.

8.2.3.2 Feral Animal Management

TCM coordinated the implementation of the Vertebrate Pest Management Plan using infra-red motion cameras installed at strategic locations around the Mining Leases. Findings indicate overall vertebrate pest sighting onsite has significantly dropped since 2018.

The survey for 2022 (Table 8-3) showed there were no sightings of feral goats, cats, or dogs. Sightings for rabbits and hares have decreased significantly from 163 in 2018 to 1 during the reporting period. Fox sightings also decreased significantly from 168 in 2018 to 2 in this reporting period.

Feral pig sightings continued to decrease from 159 in 2018 to 34 total sightings for this reporting period. In response to an increase in feral pigs, a baiting program was conducted within the Mining Lease in 2022 however TCM will continue to monitor and manage feral animals according to the BMP and MSRMP.

Table 8-3- Summary of Vertebrate Pest sighting (2018-2022)

	Feral Pig (descendant of various breeds of Sus scrofa)	Fox (Vulpes vulpes)	Feral Cat Felis catus)	Rabbit/Hare (Oryctolagus cuniculus) / (Lepus capensis))	Wild Dog (canis familiaris)	Other
Quarter 1	1	0	0	0	0	0
Quarter 2	16	1	0	1	0	2
Quarter 3	13	1	0	0	0	0
Quarter 4	4	0	0	0	0	0
Total 2022	34	2	0	1	0	2
Total 2021	**6**	**1**	**0**	**1**	**0**	**0**
Total 2020	***17***	***4***	***0***	***22***	***0***	***0***
Total 2019	***54***	***73***	***2***	***140***	***0***	***2***
Total 2018	**159**	**168**	**1**	**163**	**0**	**2**

8.2.3.3 Soil & Erosion Management

During 2022, significant efforts were made to improve soil management and minimise erosion on site.

Soil Management

A soil specialist conducted an extensive soil testing program in 2020. The objective was to provide a soil inventory of rehabilitated areas through field soil assessment and laboratory testing aimed at improving the growth medium for future revegetation.

The field program was designed to obtain representative samples within each rehabilitation area. Sampling points were irregularly located according to the survey team judgement to enable the delineation of potential soil boundaries based on year of rehabilitation or change in soil type used as growth medium. Soil test sites were excavated by hand to 0.3-0.5m. The number of survey points totalled 35 sites in the Northern Rehabilitation Area and 20 sites in the Southern Rehabilitation Area. This survey density fulfilled the requirement of a 1:10,000 soil survey. Sampling consisted of one bulked topsoil sample at each site with typical sample depth 0-10cm, with occasional 'subsoil' samples taken at 30-40cm for assessment of erosion tunnelling risks.

The laboratory testing suite for these sites included pH and EC (1:5 water); pH (1:5 CaCl); Available (Ammonium, Nitrate, Sulfur); Exchangeable Sodium, Potassium, Calcium, Magnesium, Hydrogen, Aluminium, Cation Exchange Capacity; Colwell Phosphorus; Available Micronutrients Zinc, Manganese, Iron, Copper, Boron, Silicon; Total Carbon (TC), Total Nitrogen (TN), TC/TN Ratio, Organic Matter; Basic Colour, Basic Texture.

The findings indicate that the soil resources used on the rehabilitated areas at TCM, depth and characteristic of the top soil layer provide an adequate growth medium to establish the desired vegetation species. Following recommendations of the soil specialist approximately 68 tonnes of gypsum was used to improve characteristics of top soil spread on the Northern Emplacement area prior to the start of revegetation activities.

Topsoil was stripped from areas cleared of vegetation in accordance with the stripping ratio recommended by a soil consultant. Where possible topsoil was directly placed onto prepared rehabilitation areas or stockpiled in accordance with the Mine Site Rehabilitation Management Plan.

Erosion and Sediment control

Several water infrastructures including drop structures, diversion drains and contour banks were designed and sized in accordance with the managing-urban-stormwater-soils and construction guide (volume-2E-fourth-edition). TCM constructed engineered drop structures in the Northern Rehabilitation area (Figure 15). The inlet and spillway of SD26 and a new clean water diversion and dirty water drain for the south eastern portion of the mine were completed in the reporting period.

Figure 15 - Photo: Rock-lined Drop structure and completed contours on the Northern Rehabilitation area prior to topsoil placement - December 2022.

Inlets and spillways of some of the sediment dams were remediated using armour rock and a dam and drain desilted. Coir logs were installed for sediment control during the construction and civil works activities of the culvert and associated dams and drains. TCM undertook seeding activities with cover crop at some of new water infrastructures.

The water management network capacity that was sized to manage 38.4mm of rain over 5 days (as per EPL12365 requirement). High intensity rainfall events throughout the reporting period (1065mm over the calendar year), resulted in high rates of flow in some of the drop structures and contour banks generating gullies, scouring and erosion that required development of specific remediation plans. A contractor has been engaged to enact remediation plans on most affected water structures. A new method of inlet and spillway lining is proposed to be installed in 2023, it is expected that this lining will be more robust during high flow run-off events.

In accordance with RMP requirement and TARPs, TCM will continue to implement erosion control measures and remediate affected areas to meet the completion criteria for mine landform stability.

8.2.4 Renovation or Removal of Buildings

During the reporting period the Tarrawonga North (TN) Crib hut was moved to the east as the dumps progressed. No other buildings have been moved or erected in the reporting period.

8.2.5 Other Rehabilitation Undertaken

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

8.2.6 Departmental Sign-off of Rehabilitated Areas

Departmental sign-off has not been requested for any rehabilitated areas during the reporting period.

8.2.7 Variations in Activities against MOP/Forward Program

Table 4: Summary of Variations in Activities against Forward Program

Activity	MOP/FWP Proposed Amount	Actual CY22 Amount
ROM tonnes	3.5 Mt	2.13 Mt
Overburden tonnes	38,200,000 bcm	21,378,464 bcm
Rejects Disposed	700,000 Mt	0.45 Mt
Disturbance	11.99ha *	20.9ha
Landform establishment	38.14ha	26.1ha
Ecosystem establishment	11.7ha	12.33ha

* The Forward Program was submitted in July 2022 when the CY disturbance had already occurred this figure was included but was the proposed clearing area for CY23

The 2022 calendar year disturbance had already been completed when the forward program was submitted. Therefore the CY 2022 disturbance activities were already submitted as disturbed areas in July 2022. For Calendar year 2023 (Year 1 in the new Forward Program) some clearing has been brought forward to enable construction of a new mine water dam to replace the existing dam which will be mined through in FY24/25.

The 2022 rehabilitation activities were significantly impacted by regional flooding events of the Namoi River and smaller creeks closer to the mine. Access was significantly impaired between

September and November, production was affected and normal shifts did not recommence until site access was re-established reliably. Following re-establishment of site access the dig area in the Southern Emplacement Area (SEA) was saturated which slowed progress on the landform establishment in December. For the Northern Emplacement Area (NEA) operations were also impacted due to operators not being able to access site for the times when flooding impacted the surrounding roads. However the ecosystem establishment activities were completed in December and landform scheduled to be completed in 2024 was brought forward to offset the delay in the SEA. However overall the total scheduled landform establishment area was not achieved due to the delays from the flooding events.

The rejects material submitted for 2022 was cited in t not Mt. Therefore the reported amount of 0.45Mt should be compared to 0.7Mt

8.2.8 Trials, Research Projects and Initiatives

In 2021 TCM engaged Aspect Ecology to undertake a Ground Flora Rehabilitation Study. The overall study aims were to:

1. Identify and evaluate management methods to reduce exotic ground flora, and
2. Identify and evaluate methods to enhance groundcover diversity and cover/abundance
3. Apply findings from aims 1 and 2 to produce management recommendations for Whitehaven Coal.

In 2022, project activities focussed on:

- database searches;
- review of abstracts against article inclusion criteria; and
- research article compilation and evaluation.

The interim report evaluated the existing literature and concluded that control of exotic species is crucial in the first few years following seeding. This Ground Flora Rehabilitation Study will continue into 2023. TCM will continue to implement weed spraying controls in rehabilitated areas as vegetation establishes.

The nearby Whitehaven Coal mine, Maules Creek coal mine has a requirement to undertake a $1M research program into rehabilitation of Box Gum Grassy Woodland upon mine rehabilitation, the findings from which has been considered by TCM and will be integrated into Rehabilitation Management Plans (replacement of the MOP) as appropriate.

8.2.9 Key challenges to Achieving Successful Rehabilitation

The key issues to achieving successful rehabilitation include:

- Improved landform design and site water modelling to reduce erosion and sedimentation (e.g. gullying and sedimentation resulting in land stability and vegetation growth issues);
- weed and feral animal control;
- Native vegetation establishment corresponding to identified PCT (Plant Community types);
- landform stability; and
- climate/ and extreme weather conditions

In cases where the performance is sub-optimal, additional management measures will be implemented (e.g. replanting, repairing landforms and water management features, application of mulch/fertilisers, feral animal and weed control etc.). A Trigger Action Response Plan (TARP) for rehabilitation at the TCM has been included in the MOP, which outlines appropriate actions and varied responses that will be implemented as required.

8.3 Actions for Next Reporting Period

- TCM will undertake a significant improvement of sediment dam inlets and spillways during 2023. A new lining material is proposed to be used instead of traditional placement of rocks as an armour.
- A 'ring-main' water piping system will be installed in 2023 to better enable the transfer of water around site following significant wet weather.
- Vegetation clearing will be undertaken during the approved window from 15th Feb to 30th April 2023. 30.2ha of vegetation is proposed to be cleared in the 2023 clearing program. Improvement measures identified following the investigation of the clearing incident in March 2022 will be implemented as described in the updated Biodiversity Management Plan.

9 COMMUNITY AND COMPLAINTS

In accordance with MP 11_0047, a Community Consultative Committee (CCC) meeting was held on a quarterly basis at TCM. The committee comprised representatives of Gunnedah Shire Council, Narrabri Shire Council, TCM and the community including landholders.

Community contributions continued to be managed in accordance with the Whitehaven Coal Donations and Sponsorship Policy. Approximately $51,700 was donated on behalf of TCM to several organisations including Narrabri Rugby League Club, Clontarf Foundation, Winanga-Li Early Learning and the Dorothea Mackellar Poetry Awards.

TCM maintained a designated community complaints line. In the event of a complaint, details pertaining to the complainant, complaint and action taken are recorded. Each complaint is investigated and documented with individual complaint records maintained. Any Complaints is reported and findings discussed with CCC members during the meeting. Those meetings give an opportunity to provide an update of the environmental and operations performance.

TCM recorded one complaint during 2022 regarding Blasting. The complaint was in relation to the vibration emitted from a blast. Tarrawonga Environmental personnel called the resident to informed them that the second blast did not originate from Tarrawonga. Tarrawonga personnel confirmed with the resident that their query had been answered.

The number of complaints has significantly decreased in recent years. This is the result of continuous collaboration and constant engagement with community members. Table 9-1 provides a comparison of complaints received since 2016 annual reporting period.

Table 9-1- Complaints Summary

Category	2016	2017	2018	2019	2020	2021	2022
Air Quality	1	3	1	0	0	0	0
Traffic	1	0	0	0	0	0	0
Surface Water	1	0	0	0	0	0	0
Visual Amenity	0	0	0	0	0	0	0
Noise / Vibration	1	0	0	0	1	0	1
Blast	2	0	0	0	1	1	0
Other	0	0	0	0	0	0	0
TOTAL	**5**	**3**	**1**	**0**	**1**	**1**	**1**

Note: Some complaints may relate to more than one category.

9.1 Community Contributions

Community contributions are managed in accordance with the Whitehaven Coal Donations and Sponsorship Policy. Whitehaven Coal donated $184k to local Gunnedah and Regional groups during the reporting period. Groups which received contributions included, but were not limited to the following;

Quirindi District Cricket Association
Allsop Signs
Mountain City Signs
Nungaroo LALC
GHFC Pty Ltd
Isaac Regional Charity Fund
Swimming Gunnedah Incorporated
Coona Connections
Gunnedah Touch Associaton
Gunnedah Baptist Community Preschool
Gunnedah Homes for the Aged
Gunnedah Basketball Association
Swimming Gunnedah Incorporated
Special Childrens Christmas Party
Gunnedah High School
Black and Blue Boxing Gunnedah
Highlanders Womens Rugby League
Country North Police Football
Dorothea Mackellar Poetry Awards
Branch Media
Winanga-Li Aboriginal Child and Family Centre
McLean Care Mackellar
IWIMRA
Gunnedah Ministers Fraternal
Gunnedah Public School P&C Association
St Mary's College
Rotary Club of Gunnedah West Inc
Week of Speed
Curlewis Public School P&C
Winanga-Li Aboriginal Child and Family Centre
Movember
The Rotary Club of Gunnedah
Upper Horton Sports Club Ltd

10 INDEPENDENT AUDIT

In 2022, TCM was not required to complete any Independent Environmental Audits (IEAs). Details of previous audits are discussed below.

10.1 Independent Biodiversity Audit (EPBC)

The Commonwealth Department of Agriculture, Water and Environment (DAWE) directed TCM to undertake an Independent Compliance Audit of the EPBC Approval 2011/5923 including site inspections of the mine site and Willeroi BOA which was completed in January 2020 with no Non-Compliance (NC) identified. TCM will engage an auditor for an Independent Compliance Audit of the EPBC approval in 2023.

10.2 Independent Environmental Audit (IEA)

In accordance with Sch 5, cn 10 of MP 11_0047, a 3 yearly Independent Environmental Audit (IEA) and Biodiversity component were conducted between July and August 2020. There are no outstanding actions from the 2020 IEA. The next independent audit will take place in CY2023.

11 INCIDENTS AND NON-COMPLIANCES FOR THE REPORTING PERIOD

11.1 Reportable Incidents

Reportable incidents are discussed more in detail in Table 1-2 and Table 11-1 section 6.3.

11.2 Non-compliances

Tarrawonga had one non-compliance during the reporting period which is discussed in Table 11-1.

Table 11-1- Non-compliance Action plan

Non - Compliance	Date / Location	Cause	Action Plan	Status/Estimated Completion Date
Clearing contractor accidentally cleared outside the boundary of ML1693 and the Project Approval boundary	1st March 2022 TN Pit	Boundary demarcation was inadequate.	Update the Biodiversity Management Plan to include a Boundary Marking Protocol that dictates the use of continuous flagging along approval or disturbance limit boundaries Update the Land Disturbance Protocol to include a 'hold point' that assesses risk in regard to vegetation clearing near a boundary and suggests additional controls. These controls include considering a 'buffer' between planned clearing and the boundary, where practicable	Complete

11.3 Regulatory Actions

- The EPA issued an Official Caution on the 22nd May 2022 for an alleged breach of Condition O5.1 of EPL12365 "Offensive Blast Fume may not leave the premises" and s148 of the Protection of the Environment Operations Act 1997 for not reporting the alleged event of the 7th June 2021.
- The EPA issued a Penalty Notice on the 20th June 2022 in response to a blast fume incident on the 16th December 2021 that TCM reported. This event was discussed in the 2021 Annual Review.

- The Department of Planning and Environment issued an Official Caution on the 19th August 2022 for a breach of section 4.2 of the Environmental Planning and Assessment Act 1979. This event is discussed in more detail in sections 1 and 11.2.
- The Resources Regulator issued an Official Caution for a breach of section 378D(1) (Contravention of condition of authorisation) of the Mining Act 1992. This event is discussed in more detail in sections 1 and 11.2.

12 ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

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

Table 12-1- Summary of activities for 2023

	Activity Description	Timing
1	Update and review Environmental management plans as required by the MP 11_0047.	Ongoing throughout the year
2	Undertake rehabilitation and mining activities in accordance with the most recent Forward Program.	Ongoing throughout the year
3	Continue environmental monitoring and management.	Ongoing throughout the year
4	Continue implementation of approved Leard State Forest Precinct Strategies.	Ongoing throughout the year
5	Continue community liaison and engagement with local stakeholders	Ongoing throughout the year

Appendix 1: Blast Monitoring Data

BLAST MONITORING DATA

Environmental Blast Monitoring

Tarrawonga Coal Pty Ltd ACN 100 742 185

SHOT NO	LOCATION I.D	DATE	MONITOR LOCATION	PEAK OVERPRESSURE (dBL)	PEAK GROUND PRESSURE (mm/s)	TIME	Fume Rating
1083	TN252627_0506_RL280	04-Jan-22	Coomalgah	94.5	0.28	9:13 AM	1a
			Tarrawonga	91.8	0.25		
1084	TN252627_0506_RL280	18-Jan-22	Coomalgah	97.3	0.31	9:17 AM	1a
			Tarrawonga	96.4	0.27		
1085	TC48_1920_VY	24-Jan-22	Coomalgah	87.3	0.03	9:22 AM	
			Tarrawonga	93.7	0.02		
1086	TC53_1624_JE	05-Feb-22	Coomalgah	95.5	0.25	9:11 AM	
			Tarrawonga	99.8	0.12		
1087	TC31_0507_BC 5 TC48_1315_VY	11-Feb-22	Coomalgah	102	0.44	11:54 AM	
			Tarrawonga	97.6	0.2		
1088	TC48_1618_VY	16-Feb-22	Coomalgah	90.2	0.19	11:59 AM	
			Tarrawonga	96	0.07		
1089	TC30_0102_NG	18-Feb-22	Coomalgah	101.2	0.14	12:04 PM	
			Tarrawonga	93.4	0.24		
1090	TC54_1624_JE	25-Feb-22	Coomalgah	103.5	0.27	4:03 PM	3b
			Tarrawonga	108.3	0.18		
1091	TH30_0509_NG	03-Mar-22	Coomalgah	89	0.06	2:02 PM	
			Tarrawonga	86.2	0.14		
1092	TN2527_0910_JE	05-Mar-22	Coomalgah	90.2	0.04	11:24 AM	
			Tarrawonga	92.1	0.04		
1093	TN30_0304_NG	08-Mar-22	Coomalgah	85.8	0.1	3:35 PM	1b
			Tarrawonga	93.6	0.19		
1094	TC48-1922-NG	11-Mar-22	Coomalgah	91.3	0.36	2:16 PM	1b
			Tarrawonga	93.1	0.27		
1095	TN2527_0708_JE & TC31_02_BC_HARD	16-Mar-22	Coomalgah	77.7	0.01	4:15 PM	
			Tarrawonga	96.3	0.01		
1096	TC49_13_NG-PS-EW & TC49_1318_M	18-Mar-22	Coomalgah	84.4	0.26	4:10 PM	
			Tarrawonga	93.7	0.14		
1097	TN2527_0106_JE	24-Mar-22	Coomalgah	102.6	0.06	1:04 PM	
			Tarrawonga	100.5	0.1		
1098	TC54_13_JE & TC55_1316_JE_PS	25-Mar-22	Coomalgah	91.3	0.3	4:21 PM	1b
			Tarrawonga	110.6	0.23		
1099	TC31_0310_JE_PS	29-Mar-22	Coomalgah	75	0.43	4:10 PM	2c
			Tarrawonga	99	0.48		
1100	TC31_0310_JE_PS_Pt2	31-Mar-22	Coomalgah	103	0.12	9:03 AM	1a
			Tarrawonga	89	0.08		
1101	TC5455_1416_JE	06-Apr-22	Coomalgah	100.2	0.27	1:55 PM	
			Tarrawonga	106.1	0.18		
1102	TC54_12_RL280	12-Apr-22	Coomalgah	95.8	0.14	3:59 PM	
			Tarrawonga	96.5	0.09		
1103	TC48_19_NG	14-Apr-22	Coomalgah	106.6	0.17	4:03 PM	1b
			Tarrawonga	97.7	0.11		
1104	TC31_0710_JE	23-Apr-22	Coomalgah	101.8	0.52	10:46 AM	
			Tarrawonga	104.9	0.38		
1105	TN_0910_MN	28-Apr-22	Coomalgah	100.7	0.01	4:34 PM	
			Tarrawonga	93.7	0.02		
1106	TC49_2224_MN_PS	29-Apr-22	Coomalgah	85.2	0.59	10:07 AM	1b
			Tarrawonga	91.2	0.31		
1107	TC48_1517_NG	02-May-22	Coomalgah	82.5	0.25	10:55 AM	
			Tarrawonga	92.6	0.09		
1108	TC31_0103_EW_PS & TC31_0103_JE_PS	03-May-22	Coomalgah	95.6	0.22	11:44 AM	2c
			Tarrawonga	86.5	1.01		
1109	TN2526_0205_MN	06-May-22	Coomalgah	97.9	0.07	4:07 PM	1b
			Tarrawonga	95.8	0.11		
1110	TC49_2324_MN	09-May-22	Coomalgah	95.7	0.62	1:08 PM	
			Tarrawonga	110.1	0.31		
1111	TC31_0506_JE	13-May-22	Coomalgah	84.9	0.7	12:05 PM	
			Tarrawonga	107.9	0.91		
1112	TN26_0608_MN	11-May-22	Coomalgah	80	0.04	1:25 PM	
			Tarrawonga	105.7	0.07		
1113	TN25_0508_MN	16-May-22	Coomalgah	84.4	0.02	3:05 PM	
			Tarrawonga	90.9	0.03		
1114	TC48_1314_NG	19-May-22	Coomalgah	91.6	0.54	11:05 AM	
			Tarrawonga	95.3	0.22		
1115	TC31_0304_JE	25-May-22	Coomalgah	100	0.47	12:43 PM	
			Tarrawonga	106.3	0.54		
1116	TC49_2022_MN	30-May-22	Coomalgah	100.5	2.41	9:12 AM	1b
			Tarrawonga	121.8	0.52		
1117	TN2931_12_PS_RL310	03-Jun-22	Coomalgah	89.1	0.07	10:13 AM	1b
			Tarrawonga	88.7	0.12		
1118	TC54_1417_JE	03-Jun-22	Coomalgah	105.2	0.23	9:46 AM	2b
			Tarrawonga	113.5	0.12		
1119	TC54_1213_JE	08-Jun-22	Coomalgah	100.7	0.25	10:14 AM	
			Tarrawonga	94.4	0.16		
1121	TN27_0506_JE	10-Jun-22	Coomalgah	92.6	0.05	11:34 AM	
			Tarrawonga	87.5	0.04		
1120	TC31_0102_JE & TN25_0109_NG_PS	16-Jun-22	Coomalgah	102	0.36	4:53 PM	1a
			Tarrawonga	105.6	0.74		
1122	TC49_1819_MN	20-Jun-22	Coomalgah	100	0.28	12:09 PM	
			Tarrawonga	113.4	0.37		
1123	TN28_0812_RL310_PS	21-Jun-22	Coomalgah	100.8	0.2	12:01 PM	1a
			Tarrawonga	91.8	0.41		
1124	TN28_0812_RL325	24-Jun-22	Coomalgah	93.2	0.16	3:32 PM	
			Tarrawonga	96.7	0.1		
1125	TN25_0204_VY	29-Jun-22	Coomalgah	88.5	0.19	9:12 AM	
			Tarrawonga	99.2	0.34		
1126	TN25_0609_VY	01-Jul-22	Coomalgah	88	0.25	3:39 PM	1a
			Tarrawonga	89.4	0.27		
1127	TC49_1517_MN	11-Jul-22	Coomalgah	92.4	0.7	1:19 PM	
			Tarrawonga	110.2	0.17		
1128	TC31_0410_NG_PS	12-Jul-22	Coomalgah	103.3	0.27	1:33 PM	1b
			Tarrawonga	96.6	0.25		
1129	TN27_0507_MN	15-Jul-22	Coomalgah	89	0.12	11:05 AM	
			Tarrawonga	94.2	0.09		
1130	TC49_1214_MN	19-Jul-22	Coomalgah	99.4	0.42	1:00 PM	
			Tarrawonga	103.5	0.32		

1131	TC31_0710_MN	20-Jul	Coomalgah	103.3	0.19	1:08 PM	
			Tarrawonga	96.9	0.28		
1132	TN27_0104_JE	22-Jul	Coomalgah	100.2	0.17	10:06 AM	
			Tarrawonga	103.5	0.18		
1133	TC33_0110_BC_PS	23-Jul	Coomalgah	92.7	0.27	1:14 PM	1b
			Tarrawonga	102.7	0.19		
1134	TC33_0405_BR	30-Jul	Coomalgah	96.9	0.22	1:10 PM	
			Tarrawonga	103.7	0.33		
1135	TN27_0304_280RL	02-Aug	Coomalgah	82	0.03	1:12 PM	
			Tarrawonga	93.3	0.05		
1136	TC33_0610_RL312_A	04-Aug	Coomalgah	95.4	0.11	9:10 AM	
			Tarrawonga	100.4	0.16		
1137	TC33_0610_RL312_B	09-Aug	Coomalgah	90.8	0.12	4:02 PM	
			Tarrawonga	97	0.14		
1138	TN30_0911_BW 325RL	11-Aug	Coomalgah	91.8	0.09	4:03 PM	
			Tarrawonga	101.6	0.06		
1139	TC49_2023_NG_PS	12-Aug	Coomalgah	89	0.21	11:04 AM	
			Tarrawonga	90.8	0.13		
1140	TN30_0104_BW_300RL	18-Aug	Coomalgah	94.6	0.16	12:53 PM	1a
			Tarrawonga	97.1	0.19		
1141	TN28_0608_BW RL310 + TN28_05_BW	19-Aug	Coomalgah	103.3	0.3	11:23 AM	
			Tarrawonga	95.7	0.19		
1142	TN27_0304_JE	22-Aug	Coomalgah	99.4	0.02	4:03 PM	
			Tarrawonga	90.1	0.03		
1143	TC49_2023_NG	24-Aug	Coomalgah	93	0.41	1:03 PM	2b
			Tarrawonga	87	0.23		
1144	TC49_1318_NG_PS	25-Aug	Coomalgah	88.7	0.41	4:01 PM	2b
			Tarrawonga	87.7	0.27		
1145	TN31_0104_NG_PS	30-Aug	Coomalgah	106.9	0.33	4:02 PM	
			Tarrawonga	90.6	0.84		
1146	TC31_0106_MN	02-Sep	Coomalgah	83.3	0.3	2:13 PM	
			Tarrawonga	93.6	0.43		
1147	TC31_0106_MN_B	06-Sep	Coomalgah	84.6	0.1	1:40 PM	1b
			Tarrawonga	93.1	0.12		
1148	TN49_1318_VY	09-Sep	Coomalgah	110.8	0.58	4:05 PM	1b
			Tarrawonga	107.8	0.42		
1149	TN27_0104_MN	13-Sep	Coomalgah	100	0.15	12:11 PM	
			Tarrawonga	88.2	0.22		
1150	TN25_0508_NG	16-Sep	Coomalgah	112.4	0.05	2:35 PM	
			Tarrawonga	101.6	0.09		
1151	TC49_19_NG_PS, TC49_19_VY	21-Sep	Coomalgah	94.9	0.24	3:04 PM	
			Tarrawonga	108.3	0.09		
1152	TN25_0104_NG	27-Sep	Coomalgah	91.2	0.05	4:17 PM	
			Tarrawonga	96.8	0.09		
1153	TC33_0410_BR	05-Oct	Coomalgah	90.3	0.21	4:18 PM	
			Tarrawonga	109.1	0.27		
1154	TC51_1323_MN-PS	13-Oct	Coomalgah	91.6	0.37	4:04 PM	
			Tarrawonga	89.5	0.22		
1155	TN29_0508_BW_310RL	18-Oct	Coomalgah	91.3	0.17	12:09 PM	
			Tarrawonga	101.4	0.15		
1156	TC51_1317_MN	21-Oct	Coomalgah	93.3	1.3	9:10 AM	2b
			Tarrawonga	110.5	0.37		
1157	TN26_0210_VY_PS	31-Oct	Coomalgah	83.1	0.14	1:49 PM	1a
			Tarrawonga	94.6	0.42		
1158	TN26_0508_VY	10-Nov	Coomalgah	92.5	0.29	1:11 PM	
			Tarrawonga	105.7	0.52		
1159	TC51_1617MN	12-Nov	Coomalgah	104.5	1.5	10:00 AM	
			Tarrawonga	106.2	0.75		
1160	TN26_0204_VY & TN27_0112_NG_PS	24-Nov	Coomalgah	89.3	0.23	11:22 AM	
			Tarrawonga	94.5	0.68		
1161	TC31_0104_VY	02-Dec	Coomalgah	101.7	0.19	12:09 PM	
			Tarrawonga	98.7	0.23		
1162	TN25 _0910_VY	07-Dec	Coomalgah	96.4	0.22	1:00 PM	
			Tarrawonga	102.7	0.3		
1163	TN29_0912_BR, TN29_05_BW_RL310	13-Dec	Coomalgah	91.3	0.22	1:09 PM	2a
			Tarrawonga	95.4	0.19		
1164	TC52_1217_MN	17-Dec	Coomalgah	112.1	0.65	12:02 PM	
			Tarrawonga	118	0.26		
1165	TC31_0508_NG_TS	23-Dec	Coomalgah	103.4	0.35	12:26 PM	
			Tarrawonga	108.1	0.33		

Appendix 2: HVAS Monitoring Data

HVAS MONITORING DATA

COOMALGAH PM_{10} 24Hrs average at HIGH VOLUME AIR SAMPLER		
Date	**µg/m³**	**Comments**
4-Jan-22	8.7	
10-Jan-22	14.6	
16-Jan-22	9.5	
22-Jan-22	10.6	
28-Jan-22	6.1	
3-Feb-22	6.4	
9-Feb-22	17.3	
15-Feb-22	32.4	
21-Feb-22	11.1	
27-Feb-22	5.3	
5-Mar-22	11.9	
11-Mar-22	5.7	
17-Mar-22	14.8	
23-Mar-22	20	
29-Mar-22	4.5	
4-Apr-22	7.0	
10-Apr-22	3.0	
16-Apr-22	4.2	
22-Apr-22	6.0	
28-Apr-22	3.1	
4-May-22	10.6	
10-May-22	10.4	
16-May-22	3.2	
22-May-22	2.8	
28-May-22	4.9	
3-Jun-22	5.3	
9-Jun-22	-	filter missing
15-Jun-22	6.5	
21-Jun-22	7.7	
27-Jun-22	4.8	
3-Jul-22	3	
9-Jul-22	1.6	
15-Jul-22	1.1	
21-Jul-22	0.2	
27-Jul-22	5.3	
2-Aug-22	2.8	
8-Aug-22	0.9	
14-Aug-22	2	
20-Aug-22	3.2	
26-Aug-22	2.3	
1-Sep-22	9.8	
7-Sep-22	5.4	
13-Sep-22	4.5	
19-Sep-22	4.2	
25-Sep-22	2.9	
1-Oct-22	14.5	
7-Oct-22	4.4	
13-Oct-22	3.2	
19-Oct-22	2.1	
25-Oct-22	8.2	
31-Oct-22	3.1	
6-Nov-22	4.2	
12-Nov-22	9.4	
18-Nov-22	7.7	
24-Nov-22	8.5	
30-Nov-22	8.9	
6-Dec-22	57.3	Noted on the field sheet that 'wheat harvesting occurring on the adjoining paddock'. Lab confirmed results - significant deposition on filter Air specialist consultant confirmed that this level was not mine-related; TCM did not contribute more than 50ug/m3.
12-Dec-22	11.6	
18-Dec-22	6.5	
24-Dec-22	4.5	
30-Dec-22	10.7	

Appendix 3: SW Monitoring Data

SURFACE WATER MONITORING DATA

Quarterly Surface Water Monitoring Results

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
08-Sep-06	SD5	6.5	930	144		<2					
08-Sep-06	SD6	7.5	310	104		<2					
08-Sep-06	SD8	8.9	190	25		<6					
08-Sep-06	SD9	9	285	1940		<2					
2007											
11-Jan-07	SD5	8.4	3750	20		<2					
11-Jan-07	SD8	8.2	420	84							
11-Jan-07	SD9	8.6	440	15		<2					
11-Jan-07	MV1	7.7	3970	293		<2					
18-Apr-07	SD1	8.6	605	86		<2					
18-Apr-07	SD2	8.5	395	102		<2					
18-Apr-07	SD8	8.6	270	36		<2					
18-Apr-07	SD9	8.4	310	133		<2					
18-Apr-07	SD20	9.1	520	80		<2					
18-Apr-07	MV	7.8	4260	<2		<2					
25-Jul-07	SD1	7.5	990	23		<2					
25-Jul-07	SB5	8	1150	17		<2					
25-Jul-07	MV1	7.6	3130	15		30					
25-Jul-07	SD8	8.1	260	25		<2					
25-Jul-07	SD9	7.7	290	22		<2					
25-Jul-07	SD5	8.4	3370	8		<2					
31-Oct-07	SD9	7.8	310	16		<2					
31-Oct-07	SD8	8.8	780	32		<2					
31-Oct-07	SB5	8.9	1200	60		<2					
31-Oct-07	SB8*	9	2000	110		<2					
31-Oct-07	SB7	8.4	560	27		<2					
31-Oct-07	MV	8.1	2780	45		<2					
31-Oct-07	SD5	8.3	2620	44		<2					
2008											
18-Mar-08	SD9	6.9	245	27		<2					
18-Mar-08	SD8	8.4	1340	19		<2					
18-Mar-08	SD5										
18-Mar-08	SD20	7.4	385	44		<2					
18-Mar-08	Pit Water Dam	8.4	1620	14		<2					
18-Mar-08	MV	7.8	3110	10		<2					
18-Mar-08	SB5	7.8	870	54		<2					
18-Mar-08	SB7	7.5	365	387		<2					
18-Mar-08	SD17	7.4	460	58		<2					
22-Aug-08	SD9	7.9	275	35		<2					
22-Aug-08	SD8	8.9	1450	20		<2					
22-Aug-08	SB16	8.8	1440	16		<2					
22-Aug-08	SD5	8.7	1310	35		<2					
22-Aug-08	SB4	8.7	1980	31		<2					
22-Aug-08	SB5	8.5	955	13		<2					
22-Aug-08	Pit Water Dam	8.7	2420	17		<2					
05-Sep-08	BCD	7.2	75	150		<2					
05-Sep-08	DAM1	7.4	185	4930		<2					
23-Sep-08	BCU	6.8	95	92		<2					
23-Sep-08	BCD	6.7	115	107		<2					
23-Sep-08	SD8	8.9	995	24		<2					

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
23-Sep-08	SD17	8.3	720	456		<2					
07-Oct-08	SD17	8.2	735	75		<2					
07-Oct-08	SD8	8.9	775	22		<2					
07-Oct-08	SB14	8.5	255	43		<2					
15-Dec-08	SD17	7.4	435	152		<2					
15-Dec-08	SD9	7.3	245	24		3					
15-Dec-08	SD8	8.2	635	22		<2					
15-Dec-08	BCD	6.9	135	30		<2					
2009											
10-Feb-09	MV	8.2	3370	13		<2					
10-Feb-09	SD8	8.9	790	11		<2					
10-Feb-09	SD9	8.5	330	16		<2					
10-Feb-09	SB14	8	380	32		<2					
10-Feb-09	SB5	8.8	1070	7		<2					
10-Feb-09	SB16	9	1200	6		<2					
24-Jun-09	SB7	8.21	401	90	6	<5					
24-Jun-09	SB5	8.62	1180	12	8	<5					
24-Jun-09	Pit water	8.87	2330	148	5	<5					
24-Jun-09	SD9	8.33	335	5	8	<5					
24-Jun-09	SD16	8.16	550	20	5	<5					
24-Jun-09	SB14	7.71	351	29	9	<5					
27-Aug-09	SB7	8.1	418	62	5	<10					
27-Aug-09	SB5	8.64	1210	29	8	<10					
27-Aug-09	Pit water	8.2	2580	264	6	<10					
27-Aug-09	SD9	8.36	389	12	8	<10					
31-Aug-09	SB14	8.73	342	56	10	<10					
31-Aug-09	SD16	8.3	547	158	5	<10					
22-Dec-09	NCD	7.8	137	164	16	19					
22-Dec-09	BCU	7.32	150	220	25	-					
22-Dec-09	BCD	7.04	146	32	43	-					
29-Dec-09	BCD	6.88	75	47	15						
29-Dec-09	NCD	6.73	143	32	10						
29-Dec-09	NCU	6.79	95	34	18						
29-Dec-09	SD14	8.12	1080	65	4						
29-Dec-09	SB14	7.41	374	128	19						
29-Dec-09	Goonbri Creek	7.02	60	38	12						
2010											
25-Feb-10	SB7	8.14	197	194	3	5					
25-Feb-10	SB5	8.06	681	77	4	<5					
25-Feb-10	SD9	7.95	123	18	8	5					
25-Feb-10	SD16	8.49	734	257	3	<5					
25-Feb-10	SB14	8.03	232	40	6	<5					
25-Feb-10	SD2	8.37	276	15	<5	<5					
24-May-10	SB7	8.41	291	17	4	13					
24-May-10	SB5	8.59	531	48	5	13					
24-May-10	SD9	8.62	148	10	8	6					
24-May-10	SD16	8.93	810	9	4	8					
24-May-10	SB14	7.76	251	538	8	6					
06-Jul-10	SB14	8.09	245	95	5	<5					
09-Aug-10	SB16	8.39	1170	10	3	<5					
09-Aug-10	Pit water	7.07	1940	37	2	<5					
09-Aug-10	SD9	7.72	147	24	9	<5					
09-Aug-10	SD16	8.29	793	40	5	<5					

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
09-Aug-10	SB14	7.69	260	1300	6	<5					
02-Nov-10	SB7 (pre floc)	8.33	332	38	4	<5					
04-Nov-10	SB7 (post floc)	8.72	339	10	3	<5					
10-Nov-10	SB16	9.19	1140	14	3	<5					
10-Nov-10	SD9	7.94	168	16	11	<5					
10-Nov-10	SD16	9.49	831	11	5	<5					
10-Nov-10	SB14	7.72	323	56	5	<5					
2011											
09-Mar-11	SD17	8.38	393	42	6	<5					
09-Mar-11	SB16	7.17	968	20	6	<5					
09-Mar-11	VOID	7.95	2540	78	6	<5					
09-Mar-11	SD9	7.98	186	30	11	<5					
09-Mar-11	SD16	8.71	762	27	5	<5					
09-Mar-11	SB14	8.17	361	43	6	<5					
03-May-11	SD16	8.58	1020	22	6	<5	<0.001	0.002	0.014	<0.01	
03-May-11	SB14	7.9	434	24	6	<5	<0.001	0.002	0.004	<0.01	
03-May-11	SD17	8.92	2040	20	6	<5	<0.001	0.004	0.014	<0.01	
03-May-11	SB16	8.58	1030	13	4	<5	0.003	0.2	0.029	<0.01	
03-May-11	VOID	Dry									
04-Aug-11	SD16	8.64	975	32	8	<5	<0.001	0.002	0.011	<0.01	
04-Aug-11	SB14	8.33	414	24	6	<5	<0.001	0.001	0.003	<0.01	
04-Aug-11	SD17	8.53	925	10	8	<5	<0.001	0.002	0.006	<0.01	
04-Aug-11	SB16	8.52	891	24	4	<5	0.004	0.002	0.028	<0.01	
04-Aug-11	VOID	8.52	2890	49	5	<5		0.015			
09-Nov-11	SD16	9.03	791	20	7	<5	<0.001	0.003	0.01	<0.01	
09-Nov-11	SB14	7.84	431	20	5	<5	<0.001	0.002	0.004	<0.01	
09-Nov-11	SD17	8.39	448	56	6	<5	<0.001	0.002	0.003	<0.01	
09-Nov-11	SB16	8.39	646	6	3	<5	0.003	0.002	0.026	<0.01	
09-Nov-11	VOID	8.08	1790	158	3	<5					
2012											
29-Feb-12	SD16	7.96	365	34	2	<5	<0.001	0.001	0.009	<0.01	
29-Feb-12	SB14	8.15	443	174	5	<5	<0.001	0.002	0.003	<0.01	
29-Feb-12	SD17	8.23	434	18	7	<5	<0.001	0.003	0.004	<0.01	
29-Feb-12	SB16	8.17	433	23	1	<5	0.001	0.001	0.012	<0.01	
29-Feb-12	VOID	8.3	727	1620	2	<5		0.008			
09-Mar-12	SB23 Pre-floc	7.84	148	70	4	<5					
10-Mar-12	SB23 24hrs post floc	7.82	159	60	16	<5					
11-Mar-12	SB23 48hrs post floc	7.75	158	61	16	<5					
02-Mar-12	SD16 Pre-floc	8.17	351	16	2	<5					
02-Mar-12	SB14 Pre-floc	8.13	452	50	5	<5					

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
02-May-12	SD16	8.37	388	14	2	<5	<0.001	<0.001	0.008	<0.01	
02-May-12	SB14	9.08	1060	57	5	<5	<0.001	0.002	0.004	<0.01	
02-May-12	SD17	8.74	602	8	6	<5	<0.001	0.001	0.006	<0.01	
02-May-12	SB16	7.87	456	6	1	<5	0.001	0.001	0.013	<0.01	
02-May-12	VOID	8.26	2080	10	1	<5	0.002	0.009	0.048	<0.01	
02-May-12	GCR1	7.99	689	104	35	<5	<0.001	0.003	0.002	<0.01	
11-May-12	SB23		246	18	8	<5					
22-May-12	SB24		373	42	11	<5					
22-May-12	SB14		980	42	5	<5					
22-May-12	SD16		400	35	2	<5					
22-May-12	SD9		133	36	8	<5					
22-May-12	SD17		618	20	6	<5					
28-May-12	SD17	8.58	558	16	7	<5					
28-May-12	SD9	7.97	136	37	8	<5					
28-May-12	SB14	8.21	661	53	5	<5					
28-May-12	SB24	8.21	351	42	11	<5					
18-Jun-12	SB14	8.05	513	92	5	<5					
18-Jun-12	SD16	8.13	445	25	4	<5					
18-Jun-12	SD9	7.95	137	23	8	<5					
18-Jun-12	SD17	8.54	533	14	6	<5					
18-Jun-12	Canyon SD	8.13	304	87	9	<5					
11-Jul-12	NCD	7.19	174	150	19	<5					
20-Jul-12	SB23-After Floc	7.92	254	16	3	<5					
23-Jul-12	SD16-Background info water	8.02	450	25	3	<5					
23-Jul-12	SD14-After floc	7.94	590	35	3	<5					
14-Aug-12	SD16	8.1	454	<5	3	<5	<0.001	0.001	0.008	<0.01	
14-Aug-12	SB14	8.11	646	<5	7	<5	<0.001	0.002	0.007	<0.01	
14-Aug-12	SD17	8.08	465	<5	5	<5	<0.001	0.001	0.004	<0.01	
14-Aug-12	SB16	7.96	561	<5	2	<5	0.003	0.002	0.02	<0.01	
14-Aug-12	VOID	8.39	2220	<5	2	<5					
14-Aug-12	GCR1	7.82	190	16	19	<5	<0.001	0.002	<0.001	<0.01	
14-Aug-12	GCR2	7.72	182	12	17	<5	<0.001	0.002	<0.001	<0.01	
14-Nov-12	SD16	9.84	679	100	6	<5	<0.001	0.004	0.01	<0.01	
14-Nov-12	SB14	8.85	890	24	3	<5	<0.001	<0.001	0.006	<0.01	
14-Nov-12	SD17	8.7	700	14	4	<5	<0.001	<0.001	0.006	<0.01	
14-Nov-12	SB16	8.69	707	76	1	<5	0.004	0.002	0.026	<0.01	
14-Nov-12	VOID	8.62	2870	10	<1	<5					
2013											
01-Feb-13	SD9 pre floc	7.44	262	43	7	<5					
01-Feb-13	SD9 post floc	7.39	267	82	8	<5					
20-Feb-13	SD9-Pre Discharge	7.89	275	18	8	<5					
06-Mar-13	SD16	7.69	252	288	5	<5	<0.001	0.005	0.001	<0.01	
06-Mar-13	SB14	7.81	378	99	4	<5	<0.001	0.001	0.002	<0.01	
06-Mar-13	SD17	8	229	91	4	<5	<0.001	<0.001	0.002	<0.01	
06-Mar-13	SB16A	8.01	365	240	4	<5	0.002	0.004	0.013	<0.01	
06-Mar-13	VOID	8.23	1620	16	2	<5					
06-Mar-13	GCR1	7.43	126	106	5	<5	<0.001	<0.001	<0.001	<0.01	
06-Mar-13	GCR2	7.42	173	48	16	<5	<0.001	0.002	<0.001	<0.01	
30-May-13	SD16	8.16	341	100	7	<5	<0.001	0.003	0.003	<0.01	
30-May-13	SB14	8.42	538	38	6	<5	<0.001	0.002	0.003	<0.01	
30-May-13	SD17	8.47	334	49	6	<5	<0.001	0.002	0.003	<0.01	

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
30-May-13	SB16A	8.25	530	108	10	<5	0.004	0.004	0.018	<0.01	
30-May-13	VOID	8.51	3120	45	4	<5					
07-Aug-13	SD16	8.49	390	7	6	<5	<0.001	0.001	0.003	<0.01	
07-Aug-13	SB14	8.96	570	8	7	<5	<0.001	<0.001	0.002	<0.01	
07-Aug-13	SD17	8.59	371	9	4	<5	<0.001	<0.001	0.003	<0.01	
07-Aug-13	SB16A	8.05	585	20	7	<5	0.005	0.003	0.022	<0.01	
07-Aug-13	VOID	8.35	2660	29	6	<5					
07-Aug-13	TAR-GCD	7.4	155	52	16	<5	<0.001	0.002	<0.001	<0.01	
07-Aug-13	TAR-GCU	7.42	208	14	20	<5	<0.001	0.003	<0.001	<0.01	
05-Nov-13	SD16	9.42	538	29	15	<5	<0.001	0.004	0.004	<0.01	
05-Nov-13	SB14	8.55	1070	172	17	<5	<0.001	0.002	0.005	<0.01	
05-Nov-13	SD17	8.87	573	21	9	<5	<0.001	0.002	0.005	<0.01	
05-Nov-13	SB16A	8.8	918	38	8	<5	0.008	0.005	0.04	<0.01	
05-Nov-13	VOID	8.25	2530	11	29	<5		0.01			
2014											
20-Feb-14	TAR-SD16	8.35	432	65	6	<5	<0.001	0.006	0.003	<0.01	
20-Feb-14	TAR-SB14	8.09	393	1280	8	<5	<0.001	0.005	<0.001	0.01	
20-Feb-14	TAR-SD17	8.79	712	46	8	<5	<0.001	0.002	0.007	<0.01	
20-Feb-14	TAR-SB16A	8.61	713	330	8	<5	0.004	0.01	0.023	<0.01	
20-Feb-14	TAR-VOID	8.63	1350	22	1	<5	0.007	0.026	0.101	<0.01	
20-Feb-14	TAR-GCU	6.69	115	433	23	<5	<0.001	0.005	0.001	<0.01	
06-May-14	TAR-SD16	8.12	404	19	3	21	<0.001	0.004	0.003	<0.01	
06-May-14	TAR-SB14	8.92	1980	10	4	5	<0.001	0.002	0.008	<0.01	
06-May-14	TAR-SD17	8.26	351	25	3	<5	<0.001	0.002	0.0002	<0.01	
06-May-14	TAR-SB16A	8.2	483	134	1	<5	0.003	0.008	0.02	<0.01	
06-May-14	TAR-VOID	8.31	3280	213	<1	<5		0.006			
06-May-14	TAR-GCU	7.89	318	<5	14	<5	<0.001	0.002	0.001	<0.01	
06-May-14	TAR-GCD	7.88	301	<5	17	<5	<0.001	0.001	<0.001	<0.01	
06-Aug-14	TAR-SD16	8.7	439	5	6	<5	<0.001	0.002	0.002	<0.01	
06-Aug-14	TAR-SB14	8.67	1450	22	7	<5	<0.001	0.001	0.004	<0.01	
06-Aug-14	TAR-SD17	8.44	397	48	7	<5	<0.001	0.002	0.003	<0.01	
06-Aug-14	TAR-SB16A	8.25	609	63	8	<5	0.005	0.004	0.024	<0.01	
06-Aug-14	TAR-VOID	8.5	3260	515	16	<5					
06-Aug-14	TAR-GCU	8.31	392	42	14	<5	<0.001	0.002	<0.001	<0.01	
11-Nov-14	TAR-SD16	8.7	507	14	6	<5	<0.001	0.002	0.004	<0.01	
11-Nov-14	TAR-SB14	8.85	1480	50	14	<5	<0.001	0.003	0.012	<0.01	
11-Nov-14	TAR-SD17	8.7	539	34	7	<5	<0.001	<0.001	0.005	<0.01	
11-Nov-14	TAR-SB16A	8.51	740	18	5	<5	0.006	0.003	0.032	<0.01	
11-Nov-14	TAR-GCU	7.7	549	1230	57	<5	<0.001	0.022	0.006	<0.01	
11-Nov-14	TAR-GCD	7.64	751	62	50	<5	<0.001	0.011	0.004	<0.01	
08-Dec-14	TAR-VOID	8.04	3060	170	<1	<5					

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
2015											
18-Feb-15	TAR-SD16	8.19	451	16	4	<5	<0.001	0.004	0.006	<0.01	
18-Feb-15	TAR-SB14	8	626	12	4	<5	<0.001	0.004	0.005	<0.01	
18-Feb-15	TAR-SD17	8.13	313	123	5	<5	<0.001	0.007	0.006	<0.01	
18-Feb-15	TAR-SB16A	8.29	574	71	2	<5	0.003	0.007	0.025	<0.01	
18-Feb-15	TAR-GCU	7.43	242	86	6	<5	<0.001	0.01	0.02	<0.01	
18-Feb-15	TAR-GCD	7.22	444	748	26	<5	<0.001	0.016	0.002	<0.01	
18-Feb-15	TAR-VOID	8.72	3170	10	<1	<5					
07-May-15	TAR-SD16	8.27	409	16	6	<5	<0.001	0.003	<0.001	<0.01	
07-May-15	TAR-SB14	8.85	1300	17	8	<5	<0.001	0.002	0.002	<0.01	
07-May-15	TAR-SD17	8.3	539	44	5	<5	0.001	0.003	0.007	<0.01	
07-May-15	TAR-SB16A	8.19	571	44	2	<5	0.005	0.003	0.008	<0.01	
07-May-15	TAR-VOID	8.62	2910	5	5	<5					
07-May-15	TAR-GCD	7.35	147	29	8	<5	<0.001	0.003	<0.001	<0.01	
17-Aug-15	TAR-SD16	8.43	426	19	4	8	<0.001	0.003	0.011	<0.01	
17-Aug-15	TAR-SB14	8.91	1070	7	5	<5	0.001	0.001	0.02	<0.01	
17-Aug-15	TAR-SD17	8.81	902	192	8	7	<0.001	0.002	0.043	<0.01	
17-Aug-15	TAR-SB16A	7.95	658	65	2	7	0.007	0.004	0.05	<0.01	
17-Aug-15	TAR-GCU	7.67	161	96	6	6	<0.001	0.004	0.001	<0.01	
17-Aug-15	TAR-GCD	7.59	202	35	7	<5	<0.001	0.007	<0.001	<0.01	
27-Aug-15	TAR-VOID	8.41	1020	49200	<20	6					
17-Nov-15	TAR-SD16	8.9	440	10	6	<5	<0.001	0.004	0.004	<0.01	
17-Nov-15	TAR-SB14	8.21	455	100	9	<5	<0.001	0.003	0.005	<0.01	
17-Nov-15	TAR-SD17	7.98	361	191	10	<5	<0.001	0.004	0.004	<0.01	
17-Nov-15	TAR-SB16A	8.08	550	64	6	<5	0.001	0.002	0.048	<0.01	
17-Nov-15	TAR-VOID	8.36	1350	43	4	<5					
17-Nov-15	TAR-GCU	7.47	157	33	15	<5	<0.001	0.006	<0.001	<0.01	
2016											
11-Feb-16	TAR-SD16	8.2	289	95	5	<5	<0.001	0.006	0.004	<0.01	
11-Feb-16	TAR-SB14	8.29	722	21	4	<5	<0.001	0.004	0.007	<0.01	
11-Feb-16	TAR-SD17	8.26	698	174	2	<5	0.002	0.007	0.014	<0.01	
11-Feb-16	TAR-SB16A	7.99	622	84	1	<5	0.002	0.003	0.035	<0.01	
11-Feb-16	TAR-VOID	8.28	882	53	<1	<5					
11-Feb-16	TAR-GCD	7.45	159	129	10	<5	<0.001	0.01	0.002	<0.01	
10-May-16	TAR-VOID	8.33	3270	<5	2	<5		0.011		<0.01	
10-May-16	TAR-SD16	8.04	340	66	5	<5	<0.001	0.004	0.003	<0.01	
10-May-16	TAR-SB14	8.45	535	108	8	<5	<0.001	0.005	0.004	<0.01	
10-May-16	TAR-SD17	8.45	774	25	9	<5	<0.001	0.003	0.016	<0.01	
10-May-16	TAR-SB16A	8.42	847	21	4	<5	<0.001	0.002	0.03	<0.01	
10-May-16	TAR-GCD	7.25	170	119	14	<5	<0.001	0.005	<0.001	<0.01	
10-Aug-16	TAR-SD16	8.13	427	19	6	<5	<0.001	0.004	0.003	<0.01	
10-Aug-16	TAR-SD14	8.13	644	154	6	<5	<0.001	0.004	0.003	<0.01	
10-Aug-16	TAR-SD17	7.85	267	87	5	<5	<0.001	0.005	0.003	<0.01	
10-Aug-16	TAR-SB16A	8.13	474	45	3	<5	<0.001	0.002	0.017	<0.01	
10-Aug-16	TAR-GCU	7.29	136	18	16	<5	<0.001	0.003	<0.001	<0.01	
10-Aug-16	TAR-GCD	7.08	95	33	12	<5	<0.001	0.002	<0.001	<0.01	

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
10-Aug-16	TAR-VOID	8.55	3010	6	1	<5					
15-Nov-16	TAR-SD16	8.72	712	7	5	<5	<0.001	0.005	0.004	<0.01	
15-Nov-16	TAR-SD17	8.77	557	37	10	<5	<0.001	0.003	0.01	<0.01	
15-Nov-16	TAR-SB16A	8.36	603	14	6	<5	<0.001	0.003	0.025	<0.01	
15-Nov-16	TAR-VOID	8.6	3000	26	2	<5					
15-Nov-16	TAR-GCU	7.89	242	26	16	<5	<0.001	0.004	0.002	<0.01	
15-Nov-16	TAR-GCD	8.15	526	12	12	<5	<0.001	0.004	<0.001	<0.01	
2017											
02-Aug-17	SD14	7.9	459	28	12	<5	<0.001	0.008	0.002	<0.01	
02-Aug-17	SD17	8.1	528	202	22	<5	<0.001	0.009	0.006	<0.01	
02-Aug-17	SB16a	8.4	551	93	8	<5	<0.001	0.003	0.017	<0.01	
02-Aug-17	GCU	7.3	208	70	29	<5	<0.001	0.009	0.001	<0.01	
02-Aug-17	GCD	8.1	489	169	33	<5	<0.001	0.026	0.002	<0.01	
02-Aug-17	VOID	8.1	3360	8	2	<5	----	----	----	----	
05-Sep-17	SB14	8.9	757	67	5	5	<0.001	0.008	0.004	<0.01	
05-Sep-17	SD17	9.1	1300	170	12	12	<0.001	0.005	0.023	<0.01	
05-Sep-17	SB16a	8.4	957	41	1	1	<0.001	0.003	0.03	<0.01	
05-Sep-17	QCU	8.3	15	878	7	7	<0.001	0.006	<0.001	<0.01	
05-Sep-17	QCD	7.4	678	225	37	37	<0.001	0.006	0.003	<0.01	
05-Sep-17	VOID	8.6	3100	12	1	<5	----	0.006	----	----	
08-Sep-17	SD16	9.4	463	19	9	<5	<0.01	<0.01	<0.01	<0.01	
08-Sep-17	SD14	9.7	580	47	11	<5	<0.01	<0.01	<0.01	<0.01	
08-Sep-17	SD17	8.2	416	120	10	<5	<0.01	<0.01	<0.01	<0.01	
08-Sep-17	SB16a	8.1	703	62	6	<5	<0.01	<0.01	0.02	<0.01	
08-Sep-17	GCU	7.5	114	121	8	<5	<0.01	<0.01	<0.01	<0.01	
08-Sep-17	GCD	7.9	280	161	12	<5	<0.01	<0.01	<0.01	<0.01	
09-May-17	VOID	8.5	3050	21	1	<5	---	---	---	---	
13-Nov-17	SB14	8.1	440	130	11	<5	<0.001	0.007	0.002	<0.01	
13-Nov-17	SD17	9.1	958	122	29	<5	<0.001	0.006	0.017	<0.01	
13-Nov-17	SB16A	8.6	901	85	7	<5	<0.001	0.004	0.026	<0.01	
13-Nov-17	VOID	8.6	2970	19	2	<5	----	----	----	----	
13-Nov-17	GCU	6.5	175	22	14	<5	<0.001	0.007	0.001	<0.01	
13-Nov-17	GCD	6.7	234	125	14	<5	<0.001	0.005	0.001	<0.01	
2018											
22-Feb-18	SD16	9.2	1400	216	34	<5	<0.001	0.018	0.015	<0.01	
22-Feb-18	SB14	8.9	823	60	11	<5	<0.001	0.01	0.007	<0.01	
22-Feb-18	SB16a	9.4	1330	280	36	<5	<0.001	0.012	0.028	<0.01	
22-Feb-18	Void	8.7	3600	15	1	<5	----	----	----	----	
22-Feb-18	GCU	7	170	166	25	<5	<0.001	0.004	<0.001	<0.01	
22-May-18	Void	8.9	3340	14	1	6	----	----	----	----	
21-Aug-18	SB16A	9.3	5300	54	51	<5	0.002	0.022	0.192	<0.01	
21-Aug-18	Void	8.9	3590	<5	2	<5	----	----	----	----	
13-Nov-18	SD16	8.5	407	634	4	<5	<0.001	0.014	0.001	0.01	
13-Nov-18	SD14	8.9	2020	26	10	5	<0.001	0.004	0.006	<0.01	
13-Nov-18	SD17	8.1	439	898	10	<5	<0.001	0.01	0.002	<0.01	

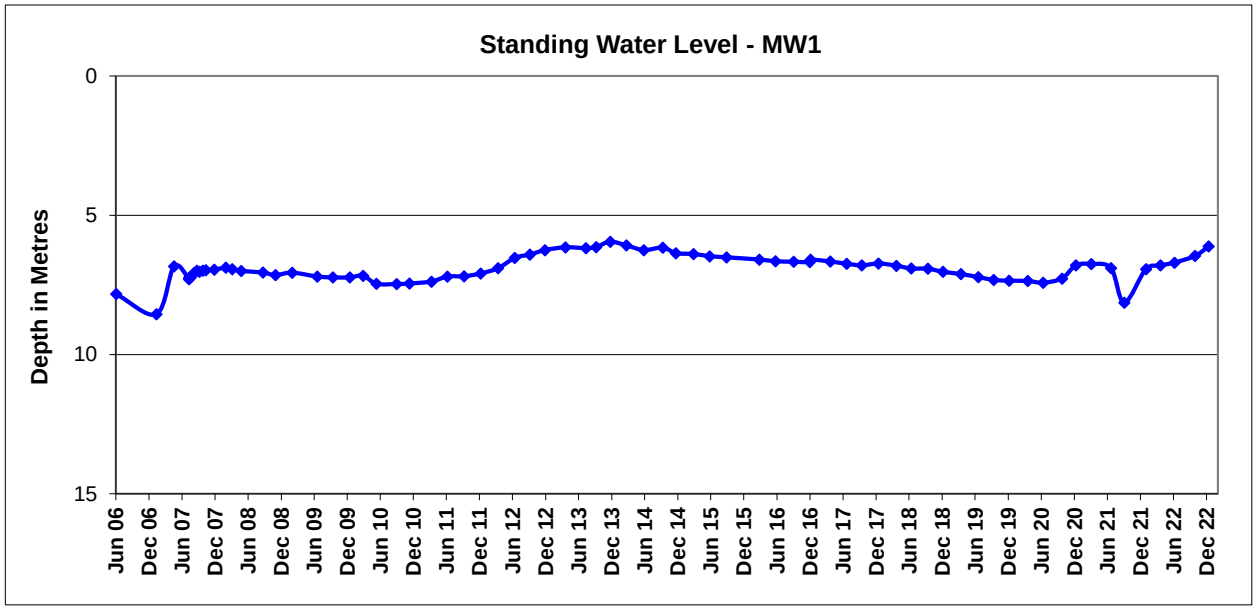
Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
13-Nov-18	SB16A	8.4	1090	436	20	<5	<0.001	0.014	0.011	<0.01	
13-Nov-18	GCU	7.1	253	14	18	<5	<0.001	0.005	0.001	<0.01	
13-Nov-18	GCD	7.2	260	65	18	<5	<0.001	0.011	0.001	<0.01	
13-Nov-18	Void	8.2	2880	18	5	<5	----	----	----	----	
2019											
22-Feb-19	SB14	8.8	2410	536	24	<5	<0.001	0.016	0.007	<0.01	
22-Feb-19	SB16A	10	6840	47	126	<5	0.002	0.058	0.238	<0.01	
22-Feb-19	Void	8.6	3720	19	3	<5	----	----	----	----	
23-May-19	Void	8	3070	<5	<1	<5	----	----	----	----	
05-Sep-19	SD16	7.6	169	83	5	<5	<0.001	0.01	<0.001	0.01	
05-Sep-19	SD14	8.4	971	20	5	<5	<0.001	0.002	0.003	<0.01	
05-Sep-19	SD17	7.4	435	141	10	<5	0.001	0.003	0.004	<0.01	
05-Sep-19	SD16A	8.2	509	276	11	<5	<0.001	0.006	0.005	<0.01	
05-Sep-19	GCU	6.8	90	16	10	<5	<0.001	0.002	<0.001	<0.01	
05-Sep-19	GCD	6.7	101	39	8	<5	<0.001	0.002	<0.001	<0.01	
23-May-19	Void	8	3070	<5	<1	<5	----	0.046	----	----	
13-Aug-19	SD16	7.8	297	434	4	<5	<0.001	0.012	0.001	0.01	
13-Aug-19	SD17	7.9	393	181	6	<5	<0.001	0.002	0.002	<0.01	
13-Aug-19	VOID	8.6	3000	15	<1	<5	----	----	----	----	
11-Aug-19	VOID	8.6	3700	13	4	<5	----	----	----	----	
2020											
13-Feb-20	SD16	7.9	421	262	8	<5	<0.001	0.004	0.002	<0.01	Approx. 180mm of rain that week from Saturday 8th to Thurs 13th
13-Feb-20	SB14	8.2	938	37	7	<5	<0.001	0.004	0.005	<0.01	
13-Feb-20	SD17	8	166	1170	4	<5	<0.001	0.004	<0.001	<0.01	
13-Feb-20	SB16A	8.2	493	282	7	<5	<0.001	0.004	0.004	<0.01	
13-Feb-20	GCU	7.3	147	95	14	<5	<0.001	0.002	<0.001	<0.01	
13-Feb-20	GCD	7.2	269	64	14	<5	<0.001	0.002	<0.001	<0.01	
05-Mar-20	VOID	8.17	2420	380	4	<5	0.001	0.001	0.001	0.01	
06-May-20	SD16	8.8	397	21	10	<5	<0.001	0.001	0.005	<0.01	
06-May-20	SB14	8.7	2250	92	12	<5	<0.001	0.003	0.005	<0.01	
06-May-20	SD17	8.4	293	120	8	<5	<0.001	0.001	0.002	<0.01	
06-May-20	SB16a	8.8	543	33	9	<5	<0.001	0.002	0.013	<0.01	
06-May-20	VOID	7.8	3290	34	<1	<5	----	0.012	----	----	
19-Aug-20	SD17	8.27	367	42	6	<5	<0.001	0.001	0.002	<0.01	
19-Aug-20	SD16	7.75	444	37	5	<5	<0.001	0.001	0.004	<0.01	
19-Aug-20	SB14	8.97	1320	32	9	<5	<0.001	0.003	0.004	<0.01	
28-Aug-20	VOID	8.36	3600	25	30	<5	----	----	----	----	
12-Nov-20	SB16A	8.44	967	78	8	6	0.001	0.003	0.021	0.01	
12-Nov-20	SD17	8.53	645	62	4	6	0.001	0.001	0.003	0.01	
12-Nov-20	VOID	8.58	1700	40	2	5	----	----	----	----	

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
2021											
12-Feb-21	VOID	8.5	2040	42	<1	<5	0.03	0.008	0.06	<0.01	
12-Feb-21	SD17	8.15	342	322	5	<5	0.001	0.003	0.002	<0.01	
12-Feb-21	SD16A	8.41	430	4600	3	<5	<0.001	0.01	0.002	<0.01	
17-May-21	SD17	7.88	236	212		<5		0.005	0.001	<0.01	
17-May-21	SD27	7.96	256	257		<5		0.003	0.001	<0.01	
17-May-21	SB16A	8.23	391	220		<5		0.005	0.007	<0.01	
17-May-21	Void	8.72	1540	17		<5		0.004			
17-May-21	GCU	7.78	160	62		<5		0.002	<0.001	<0.01	
17-May-21	GCD	7.53	210	68		<5		0.002	<0.001	<0.01	
17-May-21	SB23B	8.12	224	22		<5		0.002	<0.001	<0.01	
16-Aug-21	SD17	7.64	213	185		<5		0.006	0.001	0.01	
16-Aug-21	SD27	8.15	320	124		<5		0.003	0.003	0.01	
16-Aug-21	SB16A	8.2	406	48		<5		0.006	0.006	0.01	
16-Aug-21	Void	8.84	1240	11		<5		0.006			
16-Aug-21	GCU	7.95	196	35		<5		0.002	0.001	0.01	
16-Aug-21	GCD	7.84	493	24		<5		0.002	0.001	0.01	
17-Nov-21	GCU	7.57	164	12		<5		0.003	0.001	0.01	
17-Nov-21	GCD	7.38	234	79		<5		0.005	0.002	0.01	
17-Nov-21	SD17	8.15	255	143		<5		0.002	0.006	0.01	
17-Nov-21	SD27	8.61	384	15		<5		0.001	0.006	0.01	
17-Nov-21	SB16A	8.38	406	31		<5		0.006	0.006	0.01	
19-Nov-21	Void	8.78	1970	64		<5		0.014		0.01	
19-Nov-21	SB16B	8.94	408	20		<5		0.002	0.007	0.01	
2022											
16-Feb-22	SD17	8.35	213	22				0.001	0.001	<0.01	
16-Feb-22	SD25	7.85	190	140				<0.001	<0.001	<0.01	
16-Feb-22	SB6	7.92	205	46				<0.001	0.002	<0.01	
16-Feb-22	SD7	8.99	236	40				0.003	<0.001	<0.01	
16-Feb-22	SD1	8.81	260	9				0.003	0.002	<0.01	
16-Feb-22	SD2	8.81	293	48				0.002	0.001	<0.01	
16-Feb-22	SB5A	8.44	455	325				0.001	<0.001	<0.01	
16-Feb-22	SB5B	8.94	284	22				<0.001	0.002	<0.01	
16-Feb-22	SB4	8.27	433	71				0.002	0.012	<0.01	
16-Feb-22	PW3	9	329	30				<0.001	0.005	<0.01	
16-Feb-22	SB16B	8.51	354	22				0.002	0.004	<0.01	
16-Feb-22	SD8	8.36	356	33				0.002	0.005	<0.01	
16-Feb-22	SB23A	8.52	152	16				0.002	<0.001	<0.01	
16-Feb-22	SB23B	8.88	205	18				0.002	<0.001	<0.01	
16-Feb-22	SD9	8.43	329	17				0.001	0.005	<0.01	
16-Feb-22	SD28	8.96	683	136				0.005	0.006	<0.01	
16-Feb-22	SD26	8.68	616	14				0.002	0.003	<0.01	
16-Feb-22	SB26	9.1	409	80				0.003	0.002	<0.01	
16-Feb-22	SB24A	8.8	1340	17				0.003	0.031	<0.01	
16-Feb-22	SB24B	8.16	174	392				0.002	<0.001	<0.01	
16-Feb-22	PW5	8.51	333	21				0.001	<0.001	<0.01	
16-Feb-22	PW6	8.69	1830	8				0.002	0.045	<0.01	
14-Mar-22	Void	8.36	3060	8	4	<5	0.003	0.002	0.068	<0.01	
06-Jun-22	SD17	8.08	255	36	0.003	0.005	0.002	<0.001	0.003	<0.01	
06-Jun-22	SD27	7.59	234	152	0.004	0.003	0.003	0.017	0.001	0.01	
06-Jun-22	SB16A	8.24	526	191	0.01	0.002	0.001	0.004	0.01	<0.01	
06-Jun-22	SB23B	8.29	303	50	0.002	0.003	0.002	0.001	<0.001	<0.01	
06-Jun-22	SD9	8.17	413	52	0.007	<0.001	0.001	0.001	0.008	<0.01	

Date	Sample Location	pH	EC (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Grease & Oil (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Comments
04-Jul-22	Void	8.52	2730	31	4	<5		0.02	0.064	<0.01	
18-Aug-22	SD17	7.83	275	286	0.002	0.032	0.001	0.003	0.002	<0.01	
18-Aug-22	SD27	7.79	220	45	0.001	0.005	0.002	0.004	<0.001	<0.01	
18-Aug-22	SB16A	8.11	464	48	0.007	0.002	0.001	0.003	0.009	<0.01	
18-Aug-22	Void	8.59	1050	18				0.004			
18-Aug-22	GC-U	7.19	190	18	<0.001	0.01	0.004	0.001	<0.001	<0.01	
18-Aug-22	GC-D	7.3	185	46	<0.001	0.009	0.004	0.003	<0.001	<0.01	
18-Aug-22	BC-D	7	152	10	<0.001	0.006	0.003	0.002	<0.001	<0.01	
18-Aug-22	SB6	7.62	186	58	<0.001	0.008	0.001	<0.001	<0.001	<0.01	
18-Aug-22	SB7	7.81	190	104	<0.001	0.014	0.001	0.002	<0.001	<0.01	
18-Aug-22	SD1	8.07	319	28	0.002	<0.001	0.022	0.002	0.002	<0.01	
18-Aug-22	SD2	8.25	288	71	0.002	<0.001	0.002	<0.001	0.002	<0.01	
18-Aug-22	SB5A	8.12	374	433	0.004	0.002	0.001	0.001	0.003	<0.01	
18-Aug-22	SB5B	8.26	248	15	0.001	0.003	0.001	<0.001	0.002	<0.01	
18-Aug-22	SB4	8.09	472	45	0.011	0.001	0.001	0.002	0.014	<0.01	
18-Aug-22	PW3	7.38	543	21	0.017	0.037	0.002	0.002	0.018	<0.01	
18-Aug-22	SB16B	7.87	402	73	0.006	<0.001	<0.001	0.002	0.006	<0.01	
18-Aug-22	SD8	7.67	283	161	0.003	0.003	0.001	0.002	0.002	<0.01	
18-Aug-22	SB23A	7.57	183	8	<0.001	0.012	0.002	<0.001	<0.001	<0.01	
18-Aug-22	SB23B	7.75	197	39	<0.001	0.006	0.002	<0.001	<0.001	<0.01	
18-Aug-22	SD9	8.11	387	64	0.005	<0.001	0.001	0.001	0.006	<0.01	
18-Aug-22	SD28	8.12	367	21	0.001	<0.001	0.002	0.001	0.002	<0.01	
18-Aug-22	SD26	8.2	449	270	0.005	<0.001	0.001	0.008	0.002	<0.01	
18-Aug-22	SB26	8.17	481	1880	0.016	<0.001	<0.001	0.004	0.004	<0.01	
18-Aug-22	SB24A	8.94	1340	13	0.025	<0.001	0.001	0.002	0.03	<0.01	
18-Aug-22	SB24B	7.74	197	268	0.006	<0.001	0.002	0.002	<0.001	<0.01	
18-Aug-22	PW5	7.74	388	42	0.004	0.02	0.012	0.002	0.003	<0.01	
18-Aug-22	PW6	8.8	1990	5	0.034	<0.001	0.002	0.003	0.048	<0.01	
18-Nov-22	SD17	7.45	165	54	0.001	0.014	0.001	0.002	0.001	<0.01	
18-Nov-22	SD27	7.4	126	267	0.001	0.002	0.001	0.001	<0.001	<0.01	
18-Nov-22	SB16A	8.27	372	60	0.007	0.004	0.001	0.002	0.006	<0.01	
18-Nov-22	Void	8.5	1850	7	0.024	<0.001	0.004	0.003	0.025	<0.01	
18-Nov-22	GC-U	7.45	416	14	<0.001	0.049	0.004	0.002	<0.001	<0.01	
18-Nov-22	GC-D	7.87	375	26	<0.001	0.025	<0.001	0.002	<0.001	<0.01	
18-Nov-22	BC-U	7.94	379	20	<0.001	0.017	0.001	0.002	<0.001	<0.01	
18-Nov-22	BC-D	7.52	286	6	<0.001	0.026	0.001	0.002	<0.001	<0.01	
18-Nov-22	SB23B	7.65	163	24	<0.001	0.047	0.003	0.002	<0.001	<0.01	
18-Nov-22	SD9	8.21	305	51	0.005	<0.001	<0.001	0.002	0.005	<0.01	
18-Nov-22	SB24B	7.2	141	66	0.003	<0.001	0.001	0.004	<0.001	<0.01	
18-Nov-22	Blank	6.62	<1	<5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	
18-Nov-22	Duplicate	7.43	412	16	<0.001	0.048	0.004	0.002	<0.001	<0.01	

Appendix 4: GW Monitoring Data

GROUNDWATER MONITORING DATA


Standing Water Level - MW1
Depth in Metres
0
5
10
15
Jun 06
Dec 06
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Jun 10
Dec 10
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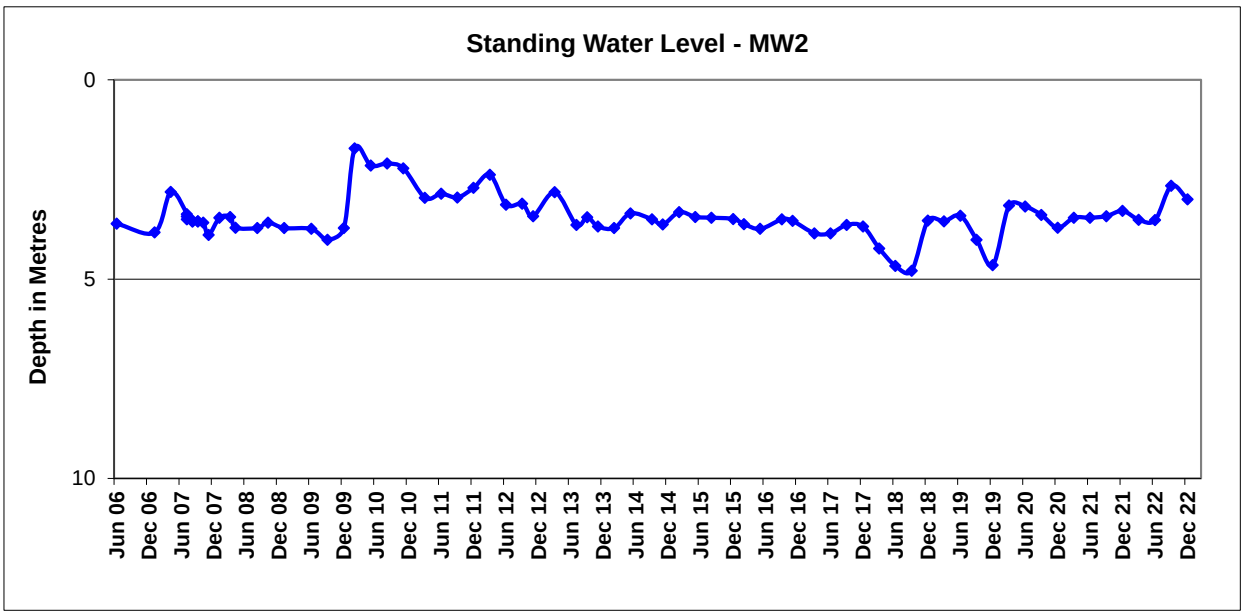
Dec 22


Standing Water Level - MW2
Depth in Metres
0
5
10
Jun 06
Dec 06
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Jun 11
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Jun 12
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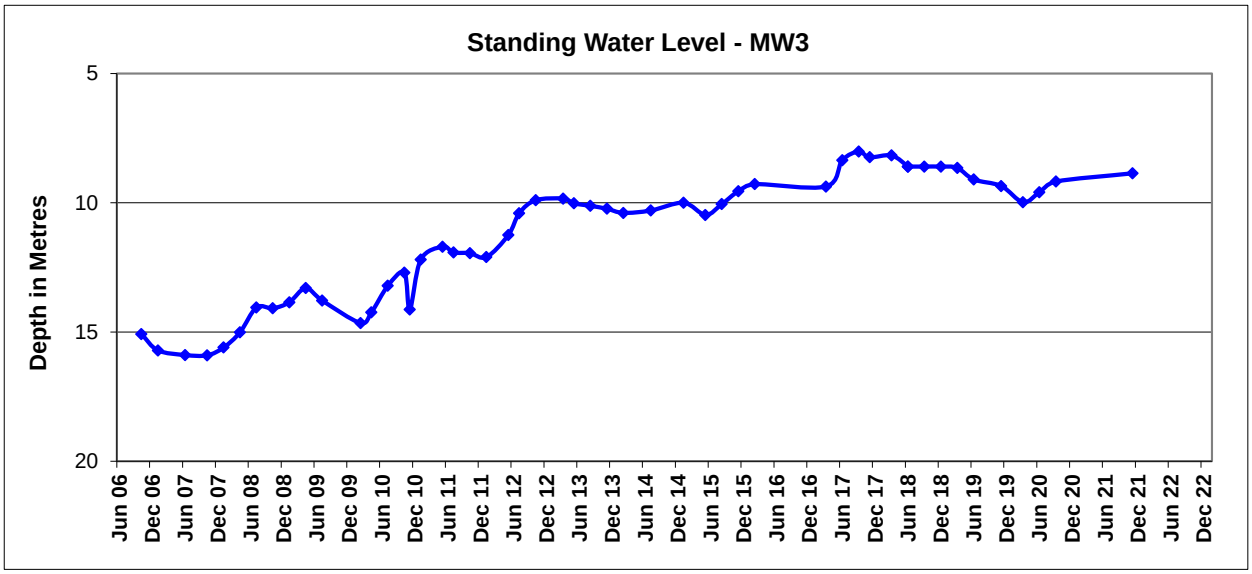
Dec 22


Standing Water Level - MW3
Depth in Metres
5
10
15
20
Jun 06
Dec 06
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Jun 10
Dec 10
Jun 11
Dec 11
Jun 12
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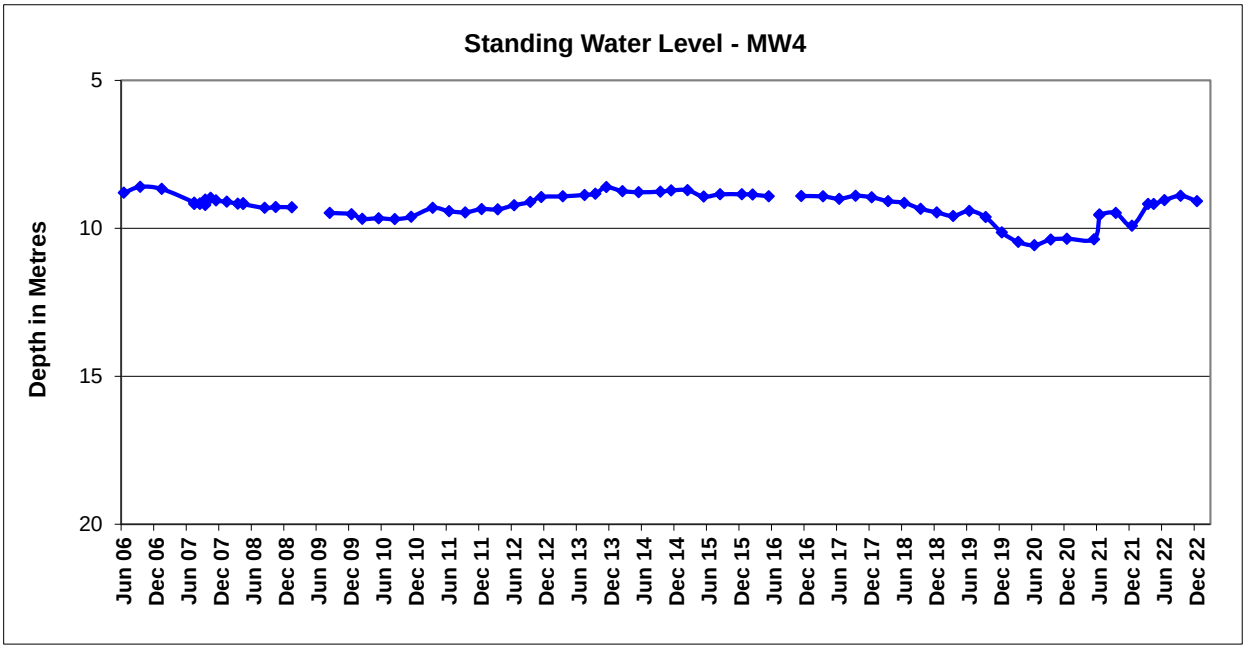
Dec 22


Standing Water Level - MW4
Depth in Metres
5
10
15
20
Jun 06
Dec 06
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Jun 10
Dec 10
Jun 11
Dec 11
Jun 12
Dec 12
Jun 13
Dec 13
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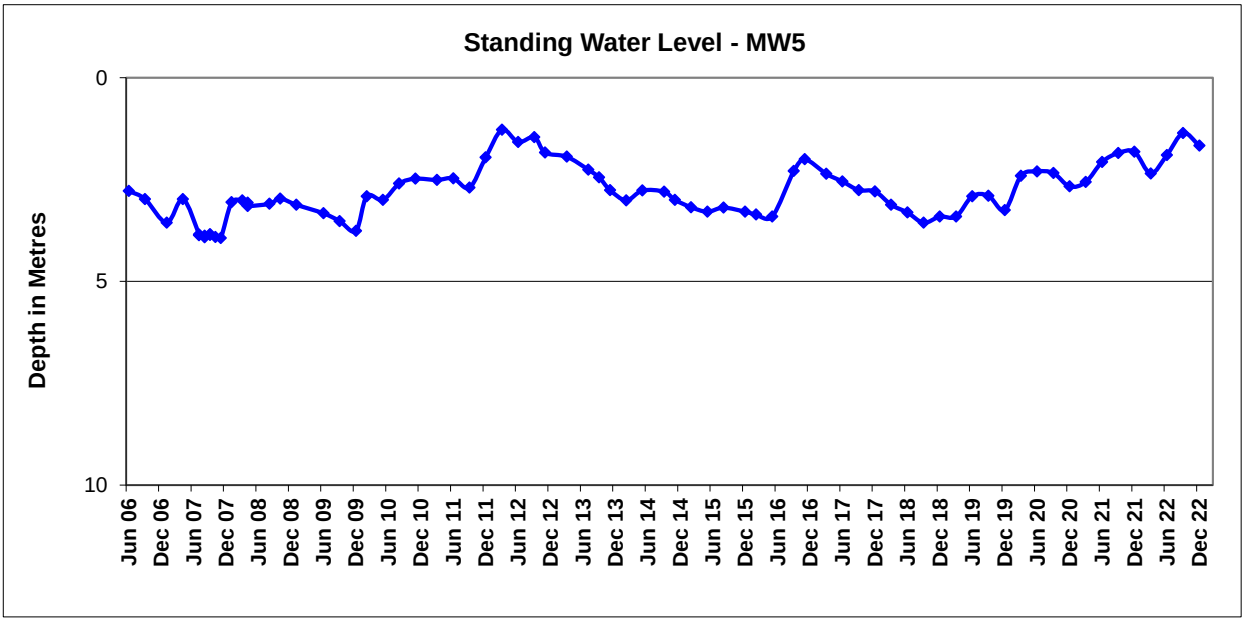
Dec 22


Standing Water Level - MW5
Depth in Metres
0
5
10
Jun 06
Dec 06
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Jun 09
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Jun 11
Dec 11
Jun 12
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Jun 13
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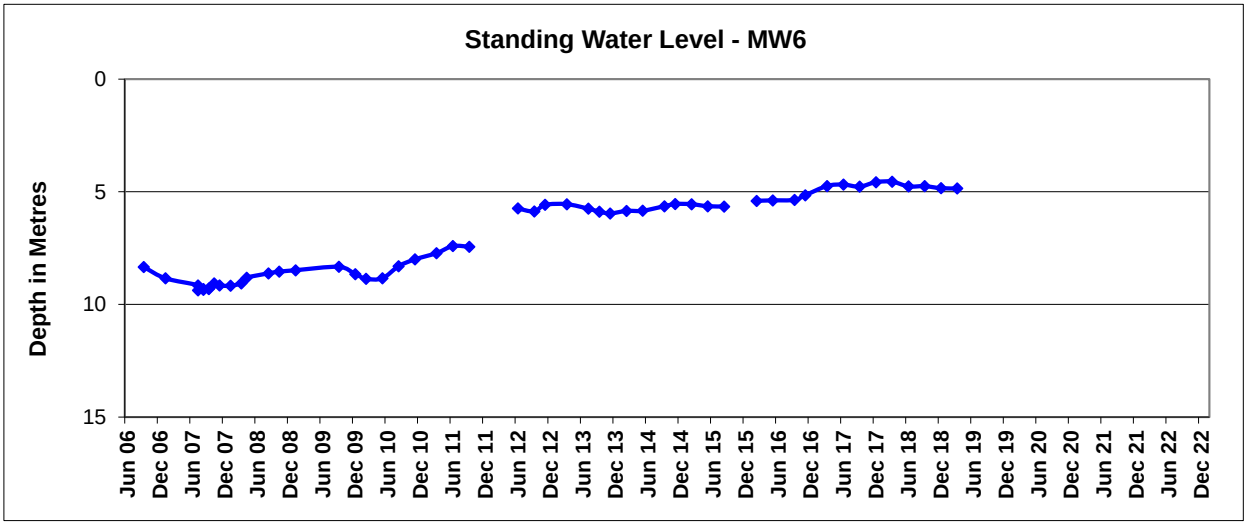
Standing Water Level - MW6
Depth in Metres
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5
10
15
Jun 06
Dec 06
Jun 07
Dec 07
Jun 08
Dec 08
Jun 09
Dec 09
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Dec 10
Jun 11
Dec 11
Jun 12
Dec 12
Jun 13
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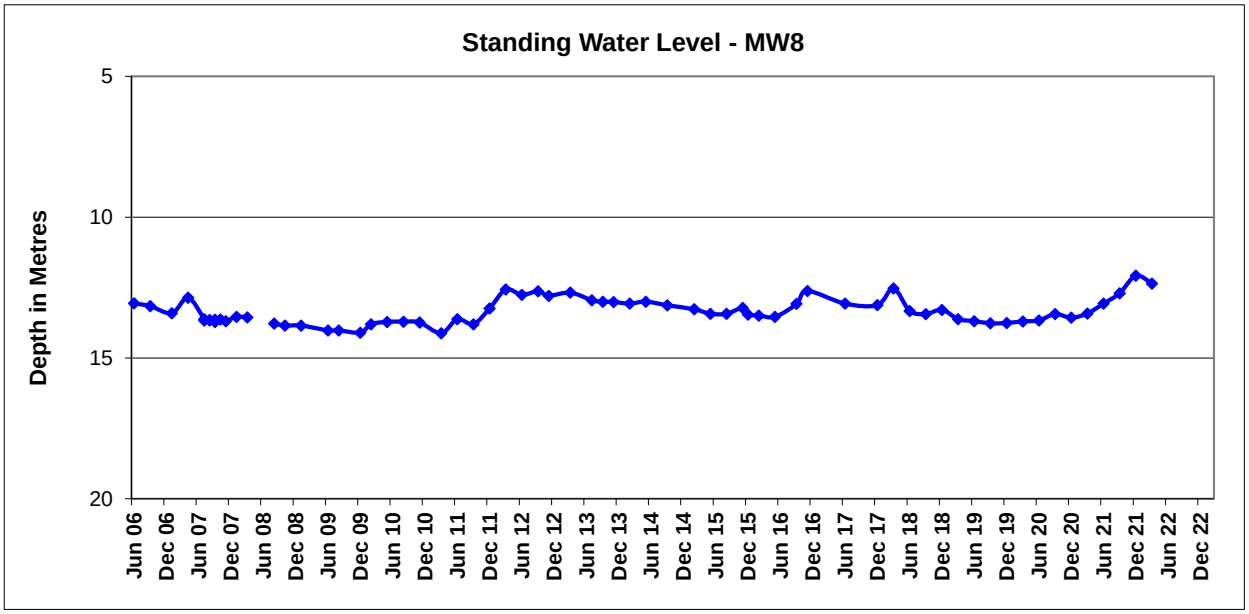
Dec 22


Standing Water Level - MW8
Depth in Metres
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20
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Dec 06
Jun 07
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Jun 08
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Dec 10
Jun 11
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Jun 12
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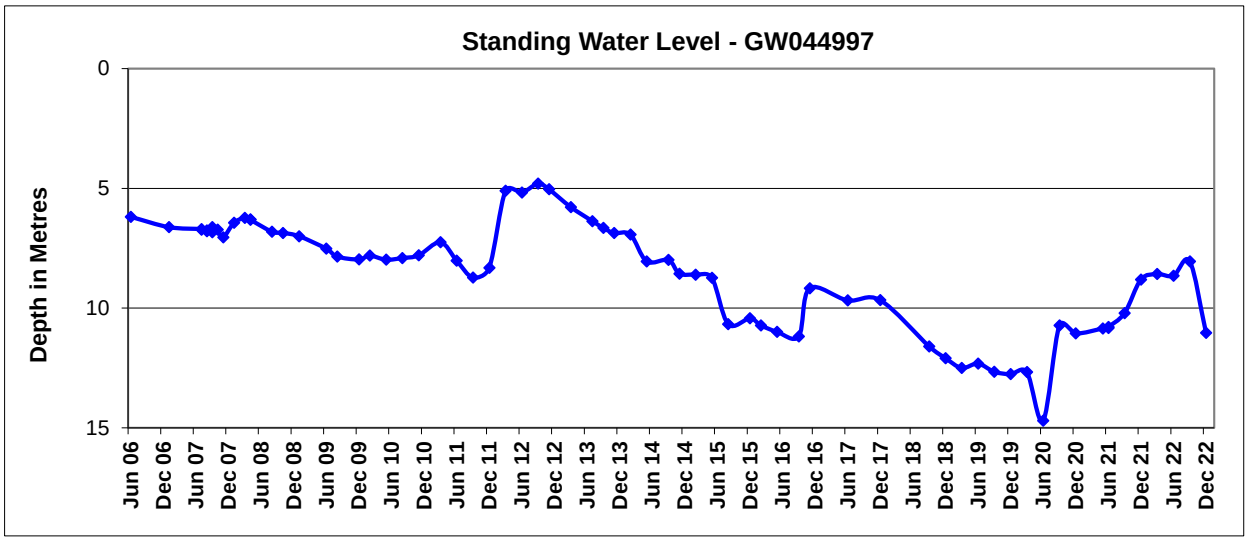
Standing Water Level - GW044997
Depth in Metres
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5
10
15
Jun 06
Dec 06
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Dec 10
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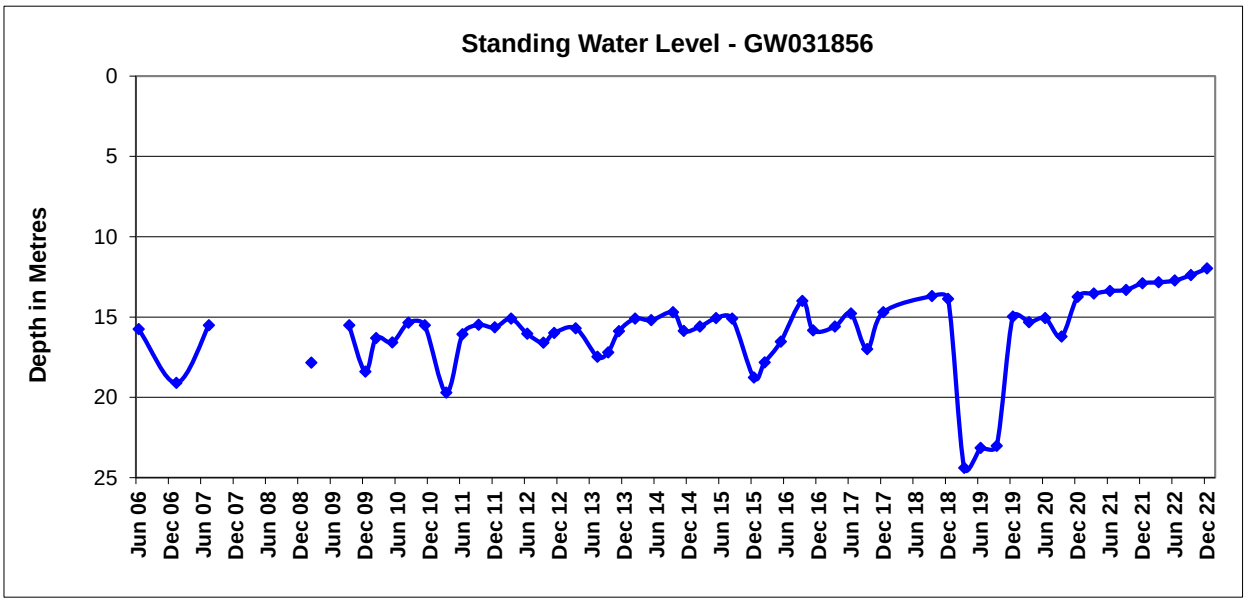
Standing Water Level - GW031856
Depth in Metres
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20
25
Jun 06
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Jun 07
Dec 07
Jun 08
Dec 08
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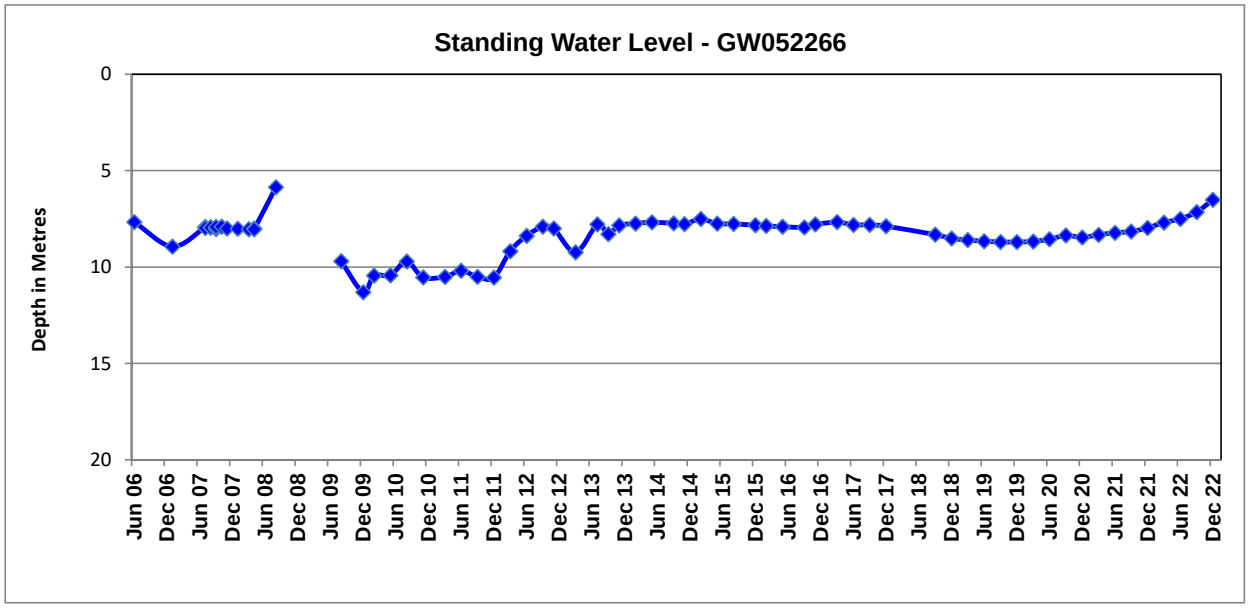
Standing Water Level - GW052266
Depth in Metres
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10
15
20
Jun 06
Dec 06
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Dec 07
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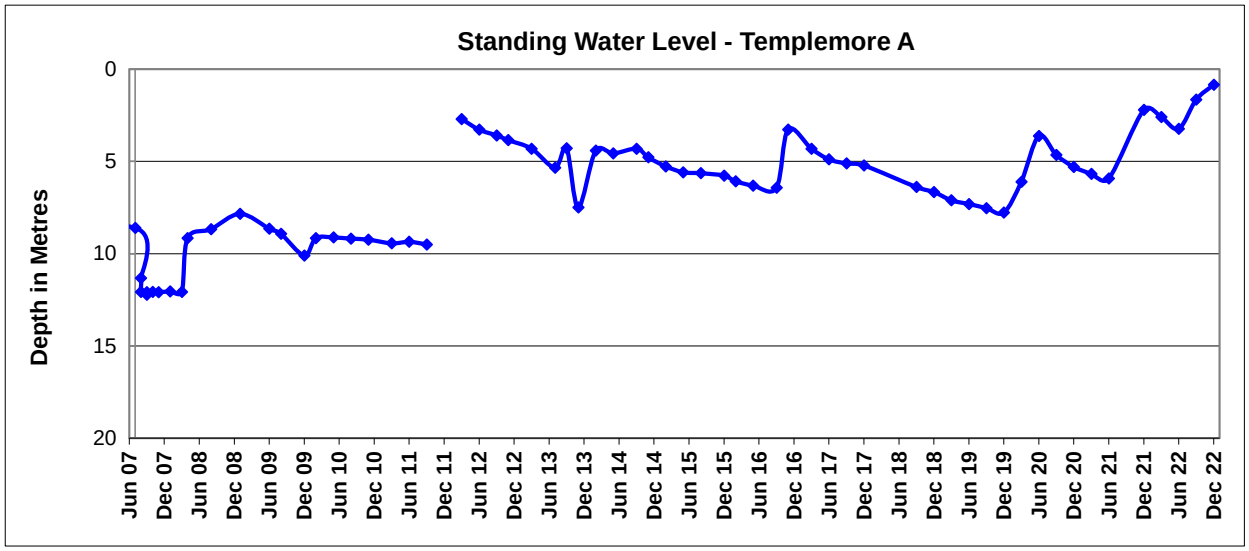
Dec 22


Standing Water Level - Templemore A
Depth in Metres
0
5
10
15
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Jun 07
Dec 07
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Dec 10
Jun 11
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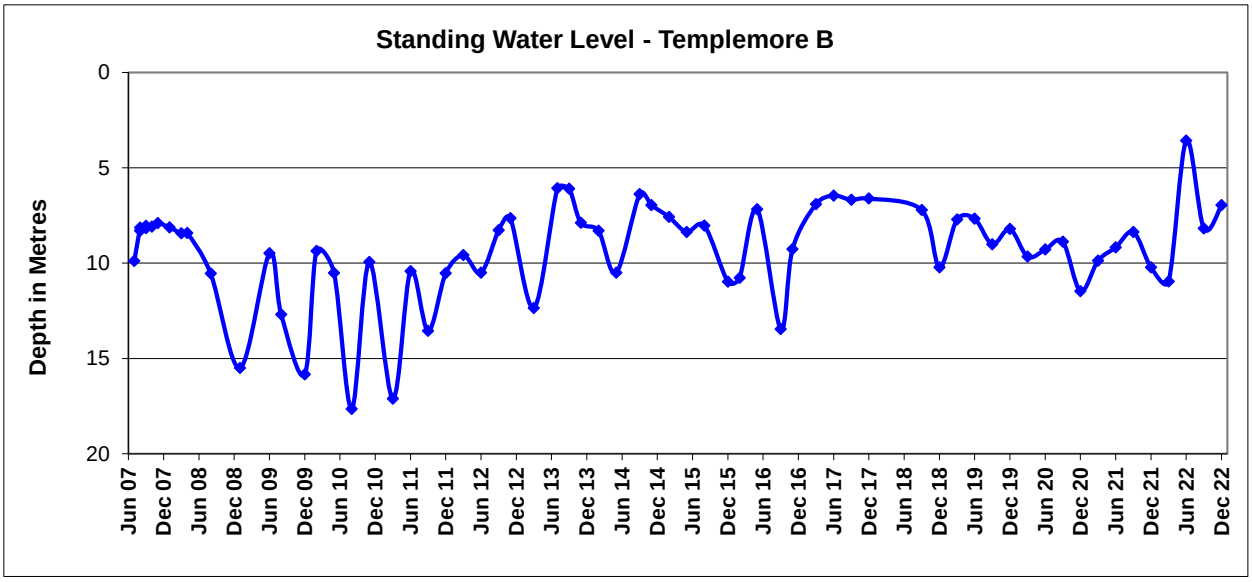
Dec 22


Standing Water Level - Templemore B
Depth in Metres
0
5
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15
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Jun 07
Dec 07
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Jun 11
Dec 11
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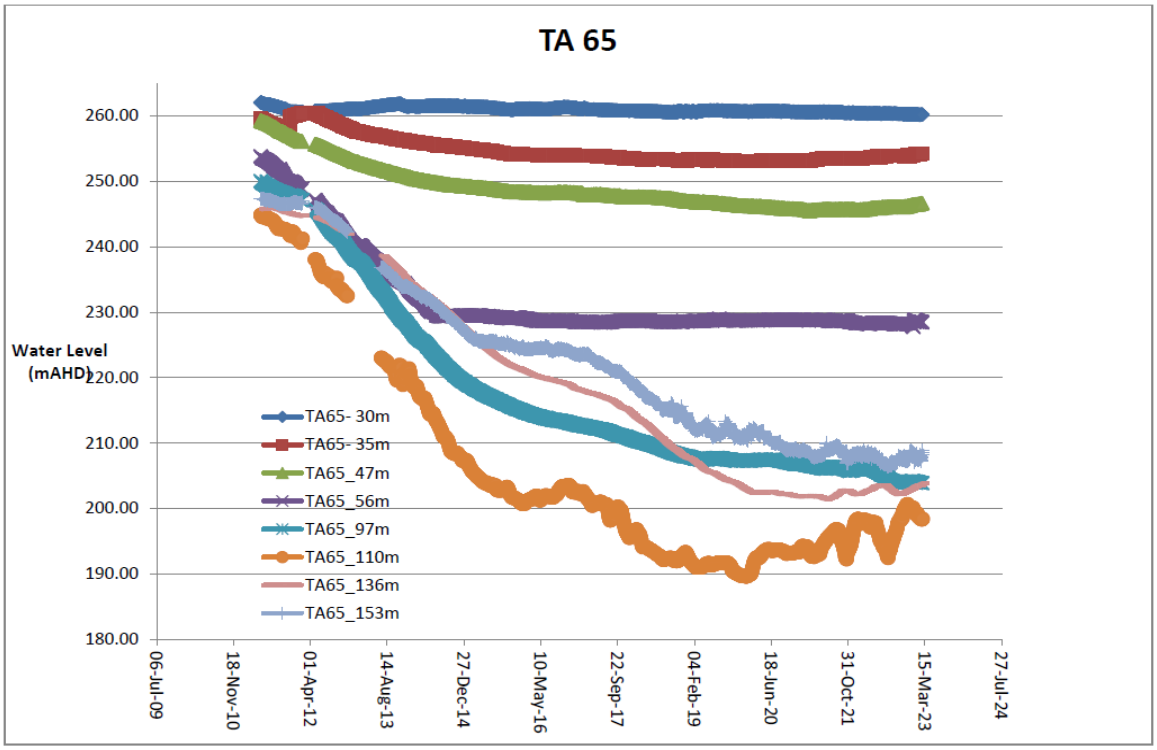
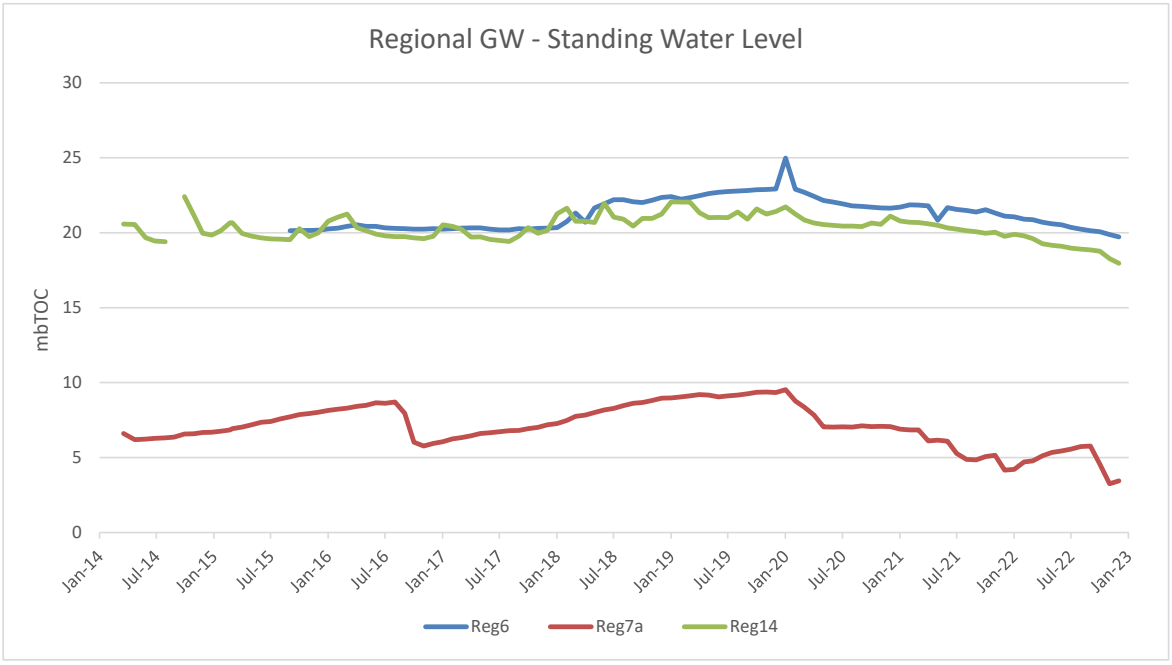
Dec 22

Vibrating Wire Piezometers:



Regional Bores:



					Field Parameters						Major Anions						Major Cations				Total Metals																													
Sample Location	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	pH - Field	EC - Field - µs/cm	Temp - Field - °C	pH - Lab	EC - Lab - µs/cm	Total Dissolved Solids	Hydroxide Alkalinity as CaCO3 - mg/L	Carbonate Alkalinity as CaCO3 - mg/L	Bicarbonate Alkalinity as CaCO3 - mg/L	Alkalinity - mg/L	Sulfate (SO4) - mg/L	Chloride (Cl) - mg/L	Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L	Potassium (K) - mg/L	Aluminium (Al) - mg/L	Arsenic (As) - mg/L	Boron (B) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Cadmium (Cd) - mg/L	Cobalt (Co) - mg/L	Chromium (Cr) - mg/L	Copper (Cu) - mg/L	Manganese (Mn) - mg/L	Nickel (Ni) - mg/L	Lead (Pb) - mg/L	Selenium (Se) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L	Iron (Fe) - mg/L	Mercury (Hg) - mg/L	Ammonia as Nitrogen (N)	Nitrite as N - mg/L	Nitrate as N - mg/L	Nitrite + Nitrate as N - mg/L	Total Anions - meq/L	Total Cations - meq/L	Ionic Balance	Dissolved oxygen	TPH C6-C9	TPH C10-C36	TRH C6- C10	TRH C10-C40
ANZECC Guideline - stock drinking water										**4000**					**1000**		**1000**				**5**	**0.5**				**0.01**	**1**	**1**	**1**		**1**	**0.1**	**0.02**		**20**		**0.002**			**400**									
NEPC Guideline - Agricultural Irrigation (mg/L)										**600**											**5**	**0.1**	**0.5**			**0.01**	**0.05**	**1**	**0.2**	**2**	**0.02**		**0.02**		**2**	**0.2**	**0.002**												
NEPC Guideline - Livestock (mg/L)										**2400**					**1000**		**1000**				**5**	**0.5**	**5**			**0.01**	**1**		**0.5**		**1**				**20**		**0.002**		**30**	**400**									
THUIN																																																	
MW1	02-Jun-06		7.83	8.50	7.48				6330					772	424	2680	92	138	1710	43		0.006																											
MW1	11-Jan-07		8.55	9.22	7.12				2410					684	145	346	26	33	554	18		0.001				<0.0001		<0.005	<0.006		0.026	<0.001			0.11		<0.0001												
MW1	18-Apr-07		6.83	7.50																																													
MW1	09-Jul-07		7.29	7.96	7.30	2440	17.4		2500					614	143	385	21	29	504	25		<0.001				<0.0001		<0.005	0.0005		0.008	<0.001			0.09		<0.0001								3.1	<20	380		
MW1	10-Jul-07		7.24	7.91																																													
MW1	18-Jul-07		7.24	7.91																																													
MW1	07-Aug-07	1250	7.07	7.74																																													
MW1	22-Aug-07	1355	6.99	7.66																																													
MW1	05-Sep-07	1005	7.03	7.70																																													
MW1	24-Sep-07	1320	6.99	7.66																																													
MW1	11-Oct-07	1110	6.97	7.64																																													
MW1	26-Nov-07	1400	6.95	7.62																																													
MW1	29-Jan-08	1430	6.88	7.55																																													
MW1	04-Mar-08	1210	6.93	7.60																																													
MW1	23-Apr-08	1240	7.00	7.67	7.30	3100	21.3		3120					665	247	567	46	50	614	29		<0.001				<0.00005		<0.01	0.002		0.01	0.0036			0.007		0.0002									<0.025	0.027		
MW1	21-Aug-08	1251	7.06	7.73																																													
MW1	29-Oct-08	1615	7.15	7.82	7.80	3430	21.6		3500					690	210	680	44	51	670	32		0.001				0.00023		0.015	0.13		0.03	0.37			0.22		<0.0001									<0.025	<0.100		
MW1	29-Jan-09	1030	7.06	7.73																																													
MW1	17-Jun-09		7.20	7.87	7.20	5470	19.8		3870	2320	<1	<1	725	725	167	777	46	61	762	28		0.001		0.091	<0.001	<0.0001	0.001	0.013	0.047	0.103	0.009	0.008		<0.01	0.019	0.71	<0.0001	<0.01				39.9	41.2	1.58					
MW1	11-Sep-09	1344	7.23	7.90																																													
MW1	14-Dec-09	1000	7.23	7.90	7.5	4670	17.5	7.83	4510		<1	<1	780	780	234	882	70	95	875	28	<0.01	0.001						<0.005	0.014	0.131	0.038	0.001			0.048	<0.05	<0.0001		<0.01	0.2	0.2	45.3	50.1	4.99					
MW1	25-Feb-10	1025	7.17	7.84																																													
MW1	11-May-10	1045	7.46	8.13	7.56	4330	22.6		4090	1850	<1	<1	694	694	229	795	43	60	779	26		0.001		0.075	<0.001	0.0001	0.002	0.002	0.011	0.204	0.009	0.005		<0.01	0.012	0.88	<0.0001	0.16				41	41.7	0.75					
MW1	30-Aug-10	1010	7.47	8.14	7.47	3890	21.5																																										
MW1	09-Nov-10	1050	7.45	8.12	7.06	3170	24.6																																										
MW1	10-Mar-11	1310	7.38	8.05	7.1	3280	23.7	7.26	3650		<1	<1	658	658	210	839	44	62	771	29	0.04	0.002						0.003	0.063	0.035	0.006	0.006			0.016	0.3	<0.0001		<0.01	0.09	0.09	41.2	41.6	0.49					
MW1	06-Jun-11	1110	7.20	7.87	7.2	3110	19.9																																										
MW1	06-Sep-11	1050	7.19	7.86	7.09	3200	22.5	7.72	3990	2080	<1	<1	620	620	246	774	41	56	739	26	0.1	0.003		0.057	<0.001	0.0001	0.002	0.002	0.019	0.193	0.005	0.01		<0.01	0.014	0.99	<0.0001	<0.01	<0.01	0.04	0.04	39.3	39.5	0.12					
MW1	07-Dec-11	1020	7.09	7.76	7.16	3150	20.1																																										
MW1	13-Mar-12	1100	6.90	7.57	7.44	3140	21.9	7.78	3590	2040	<1	<1	629	629	232	748	44	58	758	30	0.12	<0.001		0.067	<0.001	<0.0001	<0.001	0.003	0.081	0.028	0.009	0.001		<0.01	0.027	0.23	<0.0001	<0.01	<0.01	0.12	0.12	38.5	40.7	2.76					
MW1	13-Jun-12	1100	6.53	7.20	7.37	3730	20.3																																										
MW1	04-Sep-12	1220	6.41	7.08	7.44	3340	20.8	7.8	3570	2090	<1	<1	681	681	212	676	39	55	662	26	0.03	<0.001		0.069	<0.001	<0.0001	<0.001	0.005	0.09	0.067	0.007	0.003		<0.01	0.067	0.2	<0.0001	<0.01	<0.01	0.06	0.06	37.1	35.9	1.62					
MW1	27-Nov-12	1020	6.25	6.92	7.54	3140	20.8																																										
MW1	20-Mar-13	1055	6.15	6.82	7.52	3180	21.9	7.65	3400	1830	<1	<1	690	690	182	575	35	48	700	25	0.05	0.002		0.055	<0.001	<0.0001	<0.001	0.007	0.1	0.031	0.016	0.008		<0.01	0.125	0.25	<0.0001	0.08	<0.01	0.1	0.1	33.8	36.8	4.2					
MW1	11-Jul-13	1040	6.18	6.85	7.49	3110	20.1																																										
MW1	05-Sep-13	1120	6.14	6.81	7.48	3040	21.4	7.99	3330	1900	<1	<1	672	672	205	586	31	44	677	27	0.15	<0.001	0.06	0.058	<0.001	<0.0001	<0.001	0.003	0.113	0.088	0.012	0.005	<0.01	<0.01	0.079	0.24	<0.0001	0.02				34.2	35.3	1.52					
MW1	22-Nov-13	1100	5.95	6.62	7.6	3140	20.8																																										
MW1	20-Feb-14	1100	6.08	6.75	7.5	3150	20.2	7.65	3440	1800	<1	<1	624	624	195	516	29	45	710	30	1.23	0.001	<0.05	0.062	<0.001	0.0004	0.001	0.023	0.487	0.073	0.016	0.031	<0.01	<0.01	0.624	2.49	<0.0001	0.07				31.1	36.8	8.39					
MW1	27-May-14	0950	6.25	6.92	7.6	3140	20.7																																										
MW1	09-Sep-14	1040	6.16	6.83	7.7	3220	20.2	7.97	3320		<1	<1	714	714	206	520	29	40	594	24	0.13	0.002						0.01	0.058	0.077	0.009	0.006			0.098	0.53			<0.01	0.17	0.17	33.2	31.2	3.19					
MW1	20-Nov-14	0945	6.36	7.03	7.7	3190	21.6																																										
MW1	26-Feb-15	1110	6.39	7.06	7.6	3170	27.7	7.13	800	1700	<1	<1	739	739	210	551	34	45	634	22	0.08	0.001		0.056	<0.001	<0.0001	<0.001	0.004	0.045	0.078	0.009	0.003	<0.01	<0.01	0.118	0.3	<.00001	0.05	<0.01	0.15	0.15	34.7	33.5	1.71					
MW1	26-May-15	1005	6.47	7.14	7.5	3210	19.2																																										
MW1	27-Aug-15	1200	6.51	7.18	7.6	3280	18.5	8.03	3440	1900	<1	<	636	636	225	<1	28	42	651	22	0.1	0.001	<0.05	0.066	<0.001	<0.0001	<0.001	<0.001	0.026	0.019	0.004	<0.001	<0.01	<0.01	0.073	0.18	<0.0001	0.06	<0.01	0.11	0.11	30.1	33.7	5.68					
MW1	04-Dec-16	1100	6.59	7.26	7.7	3270	21																																										
MW1	24-Feb-16	1130	6.59	7.26	7.6	3290	23.2	8.09	3400	1950	<1	<1	686	686	233	582	40	48	715	24	0.02	0.001	<0.05	0.061	<0.001	<0.0001	<0.001	<0.001	0.032	0.016	0.006	0.001	<0.01	<0.01	0.049	0.12	<0.0001	0.1	<.01	0.15	0.15	35	37.7	3.66					
MW1	23-May-16	1130	6.65	7.32	7.7	3340	21.4																																										
MW1	01-Sep-16	1100	6.67	7.34	7.6	3270	20.8	8	3350		<1	<1	674	674	210	572	36	45	545	20	0.22	0.002						0.008	0.062	0.708	0.026	0.008				2.07	<0.0001		<0.01	0.03	0.13	34	34.1	0.1					
MW1	29-Nov-16	1200	6.68	7.35	7.6	3170	21.7																																										
MW1	23-Mar-17		6.66	7.33	7.7	3210		8.36	3380	2060	<1	17	708	725	188	578	34	45	634	23	0.11	0.002	<0.05	0.069	<0.001	<0.0001	0.001	0.003	0.086	0.323	0.016	0.011	<0.01	<0.01	0.135	0.93	<0.0001	0.03	<0.01	0.15	0.15	34.7	33.6	1.67					
MW1	21-Jun-17	1000	6.74	7.41	7.8	3290	19.4																																										
MW1	13-Sep-17		6.80	7.47	7.8	3270		8.31	3370	1850	<1	8	784	792	214	550	31	46	656	22	0.05	<0.001	<0.05	0.047	<0.001	<0.0001	<0.001	0.001	0.025	0.065	0.009	0.002	<0.01	<0.01	0.028	0.17	<0.0001	0.01	<0.01	0.07	0.07	35.8	34.4	1.94					
MW1	13-Dec-17	12:50	6.73	7.4	7.7	3280																																											
MW1	22-Mar-18		6.81	7.48	7.9	3360	20.2	8.41	3360	1950	<1	32	754	786	212	646	33	44	581	24	0.76	0.002	<0.05	0.068	<0.001	<0.0001	0.002	0.012	0.071	0.286	0.018	0.038	<0.01	<0.01	0.2	3.81	<0.0001	0.05	0.06	0.14	0.2	38.3	31.2	10.3					
MW1	12-Jun-18		6.91	7.58	7.9	3350																																											
MW1	13-Sep-18		6.92	7.59	7.7	3300	21.9	8.09	3430	1810	<1	<1	704	704	208	639	33	44	603	21	0.73	0.002	<0.05	0.061	<0.001	<0.0001	0.004	0.005	0.036	0.325	0.01	0.004	<0.01	<0.01	0.037	1.38	<0.0001	0.19	<0.01	0.01	0.01	36.4	32	6.41					
MW1	05-Dec-18		7.03	7.7	7.8	3420	21.7																																										
MW1	14-Mar-19		7.11	7.78	8.1	3430	20.8	8.22	3640	2190	<1	<1	755	755	211	561	31	45	693	27	0.11	0.001	<0.05	0.054	<0.001	<0.0001	<0.001	0.005	0.017	0.064	0.014	0.005	<0.01	<0.01	0.04	0.62	<0.0001	<0.01	0.03	0.11	0.14	35.3	36.1	1.09		<20	<50	<20	<100
MW1	19-Jun-19		7.22	7.89	8	3320	20.3																																										
MW1	11-Sep-19		7.32	7.99	8	3440	21.7	8.21	3430	2010	<1	<1	672	672	224	36.3	40	51	701	24	0.06	<0.001	<0.05	0.046	<0.001	<0.0001	0.001	0.002	0.012	0.199	0.008	0.003	<0.01	<0.01	0.037	0.33	<0.0001		<0.01	0.04	0.04	36.3	37.3	1.34		<20	<50	<20	<100
MW1	05-Dec-19		7.35	8.02	8	3510	21.3																																										
MW1	18-Mar-20		7.36	8.03	7.9	3410	21.6	8.06	3520	2020	<1	<1	687	687	224	675	38	48	652	22	<0.01	<0.001	<0.05	0.047	<0.001	<0.0001	<0.001	<0.001	0.005	0.208	0.01	<0.001	<0.01	<0.01	0.013	0.11	<0.0001	0.02	<0.01	<0.01	<0.01	37.4	34.8	3.68		<20	<50	<20	<100
MW1	11-Jun-20		7.42	8.09	7.8	3490	20.3																																										
MW1	23-Sep-20		7.27	7.94	7.9	3500	19	8.16	3260	2040	<1	<1	780	780	211	616	34	49	665	23	0.07	<0.001	<0.05	0.05	<0.001	<0.0001	<0.001	0.002	0.015	0.064	0.004	0.002	<0.01	<0.01	0.015	0.25	<0.0001	0.03	<0.01	0.14	0.14	37.4	35.2	2.91		<20	<50	<20	<100
MW1	08-Dec-20		6.80	7.47	7.9	3510	17.7																																										
MW1	04-Mar-21		6.75	7.42	7.97	3390	21.4	8	3420	2220	<1	7	796	802	240	654	32	49	694	23	0.05	<0.001	<0.05	0.047	<0.001	<0.0001	<0.001	0.022	0.039	0.085	0.136	0.004	<0.01	<0.01	0.026	0.72	<0.0001	0.14	<0.01	0.22	0.22	39.5	36.4	4.04		<20	<50	<20	<100
MW1	21-Jun-21		6.90	7.57	7.84	3480	19.1																																										
MW1	02-Sep-21		8.14	8.81	6.72	3520	16.5	7.57	3530	2290	<1	<1	729	729	208	628	45	53	669	25	0.71	<0.001	<0.05	0.061	<0.001	<0.0001	<0.001	0.013	0.029	0.129	0.02	0.008	<0.01	<0.01	0.078	1.4	<0.0001	0.7	0.17	0.31	0.31	0.7	0.07	0.02	<20	<20	<100	<20	<100
MW1	31-Dec-21		6.93	7.6	7.32	3600	26.2																																										
MW1	21-Mar-22		6.80	7.47	7.54	3910	22.2	7.72	3540	2300	<1	<1	693	693	214	680	41	53	645	24	0.03	<0.001	<0.05	0.053	<0.001	<0.0001	<0.001	0.017	0.015	0.041	0.015	0.002	<0.01	<0.01	0.029	0.23	<0.0001	0.03	<0.01	0.26	0.26	37.5	35.1	3.32		<20	<50	<20	<100
MW1	06-Jun-22		6.70	7.37	7.52	3580	18.2																																										
MW1	28-Sep-22		6.46	7.13	7.58	3490	21	7.8	3470	2260	<1	<1	713	713	222	710	42	54	640	26	0.1	<0.001	<0.05	0.052	<0.001	<0.0001	<0.001	0.023	0.026	0.06	0.027	0.006	<0.01	<0.01	0.047	0.45	<0.0001	0.04	<0.01	0.85	0.85	38.9	35	5.21		<20	<50	<20	<100
MW1	12-Dec-22		6.12	6.79	7.75	3420	22.4																																										
THUIN																																																	
MW2	02-Jun-06		3.61	4.40	7				5440					432	475	2230	132	106	1400	14		<0.001																											
MW2	11-Jan-07		3.83	4.62	6.8				511					176	9	25.1	1	<1	101	1		0.002				0.0001									0.09		<0.0001												
MW2	18-Apr-07		2.81	3.60																																													
MW2	09-Jul-07		3.37	4.16	7.15	446	18.8		496					175	11	27.2	<1	<1	99	1		0.002				0.0002		<0.005	0.003		0.002	<0.001			0.233		<0.0001								7.89	<20	250		
MW2	10-Jul-07		3.43	4.22																																													
MW2	18-Jul-07		3.5	4.29																																													
MW2	07-Aug-07	1245	3.56	4.35																																													
MW2	22-Aug-07	1350	3.53	4.32																																													
MW2	05-Sep-07	1040	3.55	4.34																																													
MW2	24-Sep-07	1315	3.55	4.34																																													
MW2	11-Oct-07	1105	3.58	4.37																																													
MW2	26-Nov-07	1355	3.89	4.68																																													
MW2	29-Jan-08	1435	3.46	4.25																																													
MW2	04-Mar-08	1200	3.44	4.23																																													
MW2	23-Apr-08	1115	3.71	4.50	7.3	400	19.9		440					165	10	39	8.9	5.8	99	17		0.005				0.00018		0.11	0.13		0.15	0.14			0.37		0.0004									<0.025	<0.1		
MW2	21-Aug-08	1244	3.715	4.51																																													
MW2	29-Oct-08	1655	3.58	4.37	6.9	600	19.2		620					180	27	93	6.8	7.1	120	6.8		0.008				0.00007		0.026	0.027		0.031	0.061			0.17		0.0002									<0.025	<0.100		
MW2	29-Jan-09	1040	3.72	4.51																																													
MW2	17-Jun-09		3.74	4.53	7.7	660	19.1		602	1540	<1	<1	195	195	<10	59	1	1	128	2		0.006		0.311	0.004	0.0002	0.052	0.025	0.047	1.54	0.041	0.052		0.08	0.172	32.6	0.0005	0.1				5.57	5.76	1.62					
MW2	11-Sep-09	1348	4.01	4.8																																													
MW2	14-Dec-09	1100	3.72	4.51	7.7	691	18.3	7.5	640		<1	<1	202	202	12.8	55.3	2	1	134	2	<0.01	<0.001						<0.001	<0.001	0.018	<0.001	<0.001			<0.005	<0.05	<0.0001		<0.01	0.45	0.45	5.86	6.07	1.73					
MW2	25-Feb-10	1029	1.72	2.51																																													
MW2	11-May-10	1115	2.15	2.94	7.61	717	22.3		618	780	<1	<1	149	149	24.3	76.7	2	1	129	2		0.014		0.441	0.006	0.0002	0.058	0.071	0.073	1.06	0.094	0.071		0.13	0.3	88.3	0.0002	0.01				5.66	5.84	1.6					
MW2	30-Aug-10	1020	2.1	2.89	7.4	590	20.5																																										
MW2	09-Nov-10	1040	2.22	3.01	7.32	513	24.1																																										
MW2	10-Mar-11	1330	2.96	3.75	7.31	566	24.2	7.23	457		<1	<1	156	156	24	69	2	2	124	2	0.28	0.001						0.001	0.018	0.018	0.006	0.002			0.045	0.3	0.0001		<0.01	0.07	0.07	5.57	5.69	1.02					
MW2	06-Jun-11	1130	2.86	3.65	7.3	553	20.3																																										
MW2	06-Sep-11	1120	2.95	3.74	6.9	585	19.8	7.33	692	340	<1	<1	169	169	32	92	3	3	144	2	1.93	<0.001		0.016	<0.001	<0.0001	<0.001	0.002	0.005	0.028	0.003	0.001		<0.01	0.021	1.76	<0.0001	<0.01	<0.01	0.02	0.02	6.64	6.71	0.5					
MW2	07-Dec-11	1040	2.71	3.5	7.08	600	19.2																																										

MW2	13-Mar-12	1130	2.38	3.17	7.06	912	22	7.41	1060	640	<1	<1	232	232	50	164	12	10	224	4	0.3	<0.001		0.012	<0.001	<0.0001	<0.001	0.002	0.002	0.058	0.004	<0.001		<0.01	0.01	0.28	<0.0001	0.03	<0.01	0.05	0.05	10.3	11.3	4.44					
MW2	13-Jun-12	1120	3.13	3.92	7.02	1320	20																																						
MW2	04-Sep-12	1250	3.11	3.9	7.07	1260	19.7	7.47	1310	802	<1	<1	319	319	68	221	20	17	252	5	3.48	0.001		0.034	<0.001	<0.0001	0.002	0.002	0.009	0.145	0.004	0.003		<0.01	0.075	2.86	0.0002	<0.01	<0.01	0.06	0.06	14	13.5	1.99					
MW2	27-Nov-12	1035	3.42	4.21	7.29	905	19.1																																						
MW2	20-Mar-13	1115	2.82	3.61	7.39	670	22.7	6.9	686	376	<1	<1	179	179	26	95	3	3	150	3	1.3	0.002		0.022	<0.001	<0.0001	0.004	<0.001	0.036	0.293	0.005	0.006		<0.01	0.078	0.88	0.0002	0.04	<0.01	0.05	0.05	6.8	7	1.41					
MW2	11-Jul-13	1050	3.64	4.43	7.03	739	19.8																																						
MW2	05-Sep-13	1130	3.45	4.24	6.78	680	19.8	7.46	674	389	<1	<1	173	173	28	83	2	2	142	3	6.39	0.001	<0.001	0.1	0.039	<0.0001	0.002	0.005	0.037	0.134	0.006	0.006	<0.01	0.02	0.095	5.54	0.0002	0.04				6.38	6.52	1.01					
MW2	22-Nov-13	1120	3.68	4.47	6.9	694	19.4																																						
MW2	20-Feb-14	1120	3.72	4.51	7.4	675	21.2	7.01	694	395	<1	<1	171	171	27	85	2	2	155	3	1.32	0.001	<0.001	0.06	0.012	<0.0001	<0.001	0.004	0.055	0.058	0.004	0.006	<0.01	<0.01	0.08	1.32	<0.0001	<0.01				6.38	7.08	5.2					
MW2	27-May-14	10.20	3.35	4.14	7.4	618	20.9																																						
MW2	09-Sep-14	1040	3.5	4.29	7.6	845	21.4	7.27	615		<1	<1	219	219	19	57	<1	<1	131	2	14.8	0.004						0.01		0.22	0.012	0.01			0.086	11.8	<0.0001		<0.01	0.08	0.08	6.38	5.75	5.25					
MW2	20-Nov-14	1005	3.63	4.42	7.4	615	20.4																																						
MW2	26-Feb-15	1110	3.32	4.11	7.3	495	21.6	7.59	567	306	<1	<1	214	214	16	27	<1	<1	113	2	0.01	0.002	0.05	0.007	<0.001	<0.0001	0.001	<0.001	0.006	0.066	0.002	0.001	<0.01	<0.01	0.027	0.75	<0.0001	0.02	<0.01	0.02	0.02	5.37	4.97	3.97					
MW2	26-May-15	1025	3.44	4.23	7.2	522	19.7																																						
MW2	27-Aug-15	1225	3.46	4.25	7.1	540	18	7.32	538	298	<1	<	188	188	13	28	1	1	119	1	0.87	0.002	<0.05	0.015	<0.001	<0.0001	<0.001	<0.001	0.006	0.035	0.002	0.001	<0.01	0.01	0.028	0.69	<0.0001	0.04	<0.01	<0.01	0.02	4.82	5.33	5.04					
MW2	04-Dec-15	1120	3.49	4.28	7.1	528	20.2																																						
MW2	24-Feb-16	1150	3.62	4.41	7	562	21.4	7.38	575	305	<1	<1	209	209	3.1	37	2	2	131	2	0.48	0.002	<0.05	0.008	<0.001	<0.0001	<0.001	<0.001	0.032	0.038	0.002	<0.001	<0.01	<0.01	0.016	0.45	<0.0001	<0.01	<0.01	0.03	0.03	5.66	6.01	3					
MW2	23-May-16	1145	3.74	4.53	6.9	597	21																																						
MW2	01-Sep-16	1125	3.5	4.29	6.9	554	19.6	7.04	557		<1	<1	207	207	19	36	<1	<1	130	2	11.7	0.004						0.01	0.02	0.287	0.011	0.007			0.091	11.4	0.0001		<0.01	0.27	0.27	5.55	5.7	1.35					
MW2	29-Nov-16	1220	3.54	4.33	7	524	21.2																																						
MW2	23-Mar-17		3.85	4.64	7	650		7.7	639	432	<1	<1	232	232	18	48	<1	1	138	2	4.76	0.002	0.06	0.032	<0.001	<0.0001	0.004	0.004	0.019	0.235	0.005	0.004	<0.001	0.02	0.045	4.7	<0.0001	0.02	<0.01	0.74	0.74	6.36	6.14	1.82					
MW2	21-Jun-17	10:20	3.85	4.64	7	591	18.9																																						
MW2	13-Sep-17		3.64	4.43	6.9	548		7.54	533	295	<1	<1	226	226	16	31	2	1	130	2	0.32	0.001	0.07	0.006	<0.001	<0.0001	0.001	<0.001	0.002	0.077	0.001	<0.001	<0.01	<0.01	0.01	0.21	<0.0001	0.02	<0.01	1.11	1.11	5.72	5.89	1.42					
MW2	13-Dec-17	13:10	3.68	4.47	7	545	20.2																																						
MW2	22-Mar-18		4.23	5.02	7.3	519	21.2	7.4	498	348	<1	<1	204	204	15	34	3	2	102	1	17.5	0.004	0.06	0.073	<0.001	<0.0001	0.011	0.013	0.013	0.8	0.012	0.01	<0.01	0.03	0.056	16.8	0.0004	0.04	0.01	0.97	0.98	5.35	4.78	5.64					
MW2	12-Jun-18		4.67	5.46	7.3	547																																							
MW2	13-Sep-18		4.79	5.58	6.8	600	21.2	7.21	615	612	<1	<1	192	192	18	63	2	2	119	2	18.3	0.003	0.07	0.077	0.001	<0.0001	0.009	0.015	0.013	0.492	0.013	0.009	<0.01	0.03	0.06	19.2	<0.0001	0.04	<0.01	0.89	0.89	5.99	5.49	4.32					
MW2	05-Dec-18		3.53	4.32	6.8	545	20.4																																						
MW2	14-Mar-19		3.55	4.34	7.1	560	21	7.38	532	532	<1	<1	186	186	20	40	<1	<1	122	2	4	0.002	0.07	0.02	<0.001	<0.0001	0.002	0.004	0.004	0.168	0.003	0.002	<0.01	0.01	0.014	3.68	<0.0001	0.01	<0.01	3.08	3.08	5.26	5.36	0.91				<20	<100
MW2	19-Jun-19		3.41	4.2	7	461	20.4																																						
MW2	11-Sep-19		4.01	4.8	6.9	530	21	7.35	530	379	<1	<1	166	166	22	44	2	1	113	2	11.9	0.003	0.07	0.049	<0.001	<0.0001	0.006	0.01	0.007	0.341	0.009	0.006	<0.01	0.02	0.028	9.97	<0.0001		<0.01	2.32	2.32	5.02	5.15	1.3					
MW2	05-Dec-19		4.65	5.44	7.1	560	21.2																																						
MW2	18-Mar-20		3.15	3.94	7.1	470	22.8	7.59	496	310	<1	<1	162	162	19	34	2	2	106	2	2.78	0.001	0.07	0.008	<0.001	<0.0001	<0.001	0.004	<0.001	0.028	0.002	<0.001	<0.01	<0.01	0.009	1.8	<0.0001	0.01	<0.01	1.8	1.8	4.59	4.66	0.71				<20	<50	<20	<100
MW2	11-Jun-20		3.18	3.97	7.3	490	20.8																																						
MW2	23-Sep-20		3.39	4.18	7.2	505	18.2	7.39	435	299	<1	<1	187	187	14	29	<1	<1	101	1	1.22	0.001	0.06	0.008	<0.001	<0.0001	<0.001	0.001	0.002	0.054	0.001	<0.001	<0.01	<0.01	0.01	1.1	<0.0001	<0.01	<0.01	0.15	0.15	4.84	4.42	4.61				<20	<50	<20	<100
MW2	08-Dec-20		3.71	4.5	7.3	535	16.5																																						
MW2	04-Mar-21		3.46	4.25	6.99	462	21.3	7.03	468	304	<1	<1	176	176	19	33	2	1	104	2	1.91	0.002	<0.05	0.022	<0.001	<0.0001	0.005	0.002	0.02	0.245	0.005	0.003	<0.01	<0.01	0.014	1.43	<0.0001	<0.01	<0.01	0.71	0.71	39.5	36.4	4.04				<20	<50	<20	<100
MW2	21-Jun-21		3.46	4.25	7.05	527	17.7																																						
MW2	02-Sep-21		3.42	4.21	6.36	676	16.5	6.97	615	400	<1	<1	254	254	24	43	2	2	138	2	0.92	<0.001	0.06	0.015	<0.001	<0.0001	0.003	<0.001	0.003	0.127	0.003	0.002	<0.01	<0.01	0.017	0.61	<0.0001	0.01		1.09	109						<20	<50	<20	<100
MW2	29-Dec-21		3.29	4.08	6.74	822	26.6																																						
MW2	21-Mar-22		3.51	4.3	6.82	952	21.5	6.94	848	551	<1	<1	275	275	38	81	2	2	185	2	0.59	<0.001	0.05	0.014	<0.001	<0.0001	0.002	<0.001	0.004	0.108	0.002	0.002	<0.01	<0.01	0.053	0.38	<0.0001	0.03	0.02	0.66	0.68	8.57	8.36	1.23				<20	<50	<20	<100
MW2	06-Jun-22		3.52	4.31	6.59	826	17.8																																						
MW2	28-Sep-22		2.66	3.45	6.69	806	19.9	7.03	754	484	<1	<1	304	304	30	60	3	2	176	3	4.8	0.002	<0.05	0.031	<0.001	<0.0001	0.005	0.003	0.003	0.17	0.004	0.003	<0.01	0.01	0.013	4.47	<0.0001	<0.01	0.01	4.28	4.29	8.39	8.05	2.1				<20	<50	<20	<100
MW2	12-Dec-22		3	3.79	6.91	906	20.7																																						
NAGERO																																													
MW3	02-Jun-06		15.08		7.65		20		1525					642	16	139	25	10	356	4		<0.001																								
MW3	15-Oct-06		15.71		7.85		23.1		1534																																				
MW3	11-Jan-07		15.89		7.66		24.9		1600					696	4	127	19	7	381	4		<0.001						<0.001	0.006		0.004	<0.001												
MW3	09-Jun-07		15.9		7.69		19.7		1028					673	3		15	5	389	3		<0.001				<0.0001		<0.005	<0.001		0.01	<0.001		0.1										
MW3	05-Oct-07		15.6		6.8		19.8		1710																																				
MW3	08-Jan-08		15.01		7.9		23.8		1620																																				
MW3	23-Apr-08		14.05		7.8		23.5		1740																																				
MW3	10-Jul-08		14.08		7.8		19		1630																																				
MW3	29-Oct-08		13.85		7.8		22.8		1770																																				
MW3	20-Jan-09		13.3		7.8		21.7		1770																																				
MW3	22-Apr-09		13.78		7.9		21.8		1780																																				
MW3	22-Jul-09		14.13		7.9		21.2		1780	890																																				
MW3	12-Nov-10		14.65		8		23.1		1800	890																																				
MW3	15-Feb-10		14.24		7.9	1440	21.5		1440	720																																				
MW3	16-Apr-10		13.21		8	1440	23.3		1440	720																																				
MW3	19-Jul-10		12.7		7.8	1700	20.3	7.93	1730	1020	<1	<1	871	871	<1	104	12	4	479	3		0.002				<0.0001		<0.001	0.003		0.003	<0.001			0.013	0.27		0.17	<0.01	<0.01	<0.01	20.3	21.8	3.56					
MW3	26-Oct-10		12.2		7.83	1730	21.7																																						
MW3	28-Jan-11		11.7		7.35	1750	26.1	7.6	1740		<1	<1	815	815	<1	108	10	4	436	3		0.001				<0.0001		<0.005	<0.001		0.003	<0.001			0.005	0.16		0.33	<0.01	<0.01	<0.01	19.3	19.8	1.27					
MW3	02-May-11		11.92		8.05	1760	22.2																																						
MW3	18-Jul-11		11.95		7.9	1760	20.8	7.96	1840	1060	<1	<1	798	798	<1	104	11	4	3	454		<0.001				0.0001		0.003	<0.001		0.004	<0.001			0.017	<0.005		0.33	<0.01	0.02	0.02	18.9	20.7	4.55					
MW3	24-Oct-11		12.1		8.08	1810	23.5																																						
MW3	18-Jan-12		11.25		6.86	1670	23.6	7.63	1690		<1	<1	715	715	40	112	29	9	5	410		0.002				<0.0001		0.004	0.001		0.007	<0.001			0.02	0.49		0.14	<0.01	<0.01	<0.01	18.3	20.2	4.82					
MW3	01-May-12		10.4		7.18	1840	22.5																																				910					
MW3	23-Jul-12		9.9		7.56	1700	20.6	8.05	1730	1010	<1	<1	765	765	35	104	19	5	398	4		<0.001				<0.0001		0.001	<0.001		0.004	<0.001			0.01	<0.05		0.31	<0.01	0.02	0.02	19	18.8	0.52					
MW3	23-Oct-12		9.84		7.66	1900	21.7			1020																																				
MW3	07-Mar-13		10.02		7.25	1650	21.9	7.68	1830	1190	<1	<1	815	815	31	103	18	5	470	4		0.001				<0.0001		0.008	0.001		0.013	<0.001			0.022	0.17		0.17	<0.01	<0.01	<0.01	19.8	21.9	4.79					
MW3	16-May-13		10.12		7.78	1730	20.7																																					0.86			
MW3	21-Aug-13		10.23		7.57		20.1	7.93	2020		<1	<1	592	592	52	284	12	4	504	4		0.003				<0.0001		<0.001	<0.001		0.002	<0.001			0.008	<0.05		0.23	<0.01	<0.01	<0.01	20.9	23	4.58					
MW3	14-Nov-13		10.39		8.13	1820	23.6																																					0.91			
MW3	03-Feb-14		10.3		8.41	1.87	23.3	7.76	2140		<1	<1	477	477	60	319	17	5	464	4		0.001				<0.0001		<0.001	0.002		0.002	<0.001			0.013	<0.05		0.12	<0.01	0.12	0.12	19.8	21.5	4.23	0.93				
MW3	17-Jul-14		10.00		7.98	2150																																								
MW3	29-Jan-15		10.47					7.92	2050		<1	<	398	398	74	369	17	5	436	3		0.001				<0.0001	<0.001		0.001		0.002	<0.001			0.026	<0.05		0.2	<0.01	0.02	0.02	20.5	20.3	0.66					
MW3	19-May-15		10.05		7.96	1790	21.9																																						
MW3	13-Aug-15		9.55				20.2	7.96	2060		<1	<1	451	451	78	285	15	5	403	3		<0.001				<0.0001		<0.001	0.028		0.003	<0.001			0.584	<0.05		0.32	<0.01	0.02	0.02	18.7	18.8	0.2					
MW3	30-Nov-15		9.28		7.22		23.2																																						
MW3	24-Feb-16		9.37		6.93		22.9	7.94	2050		<1	<1	348	348	83	397	17	5	450	3		<0.001				<0.0001		<0.001	<0.001		0.002	<0.001			0.014	<0.05		0.22	<0.01	<0.01	<0.01	19.9	20.9	2.49					
MW3	01-Mar-17		8.35		7.48	2060																																						
MW3	01-Jun-17		8.02		7.93	2060																																						
MW3	01-Sep-17		8.24		7.44	2070																																						
MW3	01-Nov-17		8.17		7.64	2030																																						
MW3	28-Mar-18		8.6		7.87	2050	23.3																																						
MW3	04-Jun-18		8.6		7.31	2050	21.5	6.79	2430																																						
MW3	05-Jun-18		8.6		6.33	2040																																						
MW3	03-Sep-18		8.6		7.35	2050	22.5																																						
MW3	05-Dec-18		8.65		7.37	2020	24.1	7.77	2130																																						
MW3	22-Mar-19		9.1		7.87	2050	36.2																																						
MW3	19-Jun-19		9.35		7.76	2129	23.5	8.28	2120		<1	<1	384	384	82	367	16	5	436	3		<0.001				<0.0001		<0.0001	<0.001	0.105	0.005	<0.001			<0.005	<0.05		0.19	<0.01	0.01	0.01								
MW3	25-Nov-19		9.98		7.85	2097	26.6	7.87	2090		<1	<1	419	419	80	447	15	5	431	3		<0.001				<0.0001		<0.0001	<0.001	0.069	0.006	<0.001			<0.005	<0.05		0.22	<0.01	<0.01	<0.01								
MW3	23-Mar-20		9.59			2102				1.37																																			
MW3	02-Jun-20		9.18		7.61	2085	14.7	7.89	2150		<1	<1	429	429	74	353	14	5	426	3		<0.001				<0.0001		<0.0001	<0.001	0.079	0.008	<0.001			<0.005	<0.05		0.18	<0.01	0.12	0.12								
MW3	16-Sep-20		8.86		7.61	2176	27.7			1.42ppt																																			
MW3	24-Nov-21		8.95		7.89	2431	31.8	7.94	2680		<1	<1	466	466	122	511	20	24	484	5		<0.001				<0.001		<0.001	<0.001	0.016	0.008	<0.001			0.006	<0.05		0.19	<0.01	0.06	0.06								
TARRAWONGA																																													
MW4	02-Jun-06		8.8	9.5	7				3290					1010	155	905	157	118	614	19		0.006																								
MW4	09-Sep-06		8.6	9.3																																									
MW4	11-Jan-07		8.67	9.37	7.06				3430					1050	143	787	152	103	594	17		0.004				0.0003		<0.005	0.011		0.014	0.029			0.1		<0.0001								
MW4	09-Jul-07		9.13	9.83	6.82	5410	18.9		5400					989	235	1480	211	166	829	16		0.001				0.0004		<0.005	0.008		0.011	0.011			0.13		<0.0001									0.6	<20	330	
MW4	18-Jul-07		9.18	9.88																																								
MW4	07-Aug-07	1305	9.17	9.87																																								
MW4	22-Aug-07	1340	9.17	9.87																																								
MW4	05-Sep-07	1000	9.21	9.91																																								
MW4	24-Sep-07	1310	9.03	9.73																																								
MW4	11-Oct-07	1055	8.97	9.67																																								
MW4	26-Nov-07	1350	9.06	9.76																																								
MW4	29-Jan-08	1425	9.1	9.8																																								
MW4	04-Mar-08	1150	9.17	9.87																																								
MW4	04-Apr-08	1220	9.15	9.85																																								
MW4	23-Apr-08	1015	9.18	9.88	7.1	5160	18		4960					995	317	1240	210	158	802	21		0.004				0.0015		0.042	0.29		0.16	0.44			0.62		0.001									<0.025	<0.1		
MW4	21-Aug-08	1230	9.31	10.01																																								
MW4	29-Oct-08	1740	9.28	9.98	7	5740	22.2		5800					980	280	1400	220	170	840	23		0.001				0.00009		0.008	0.008		0.016	0.18			0.2		<0.0001									<0.025	<0.100		

MW4	29-Jan-09	0900	9.29	9.96																																												
MW4	17-Jun-09			10.05	6.8	5400	21.5		4920	2980	<1	<1	977	977	156	1160	189	147	755	16		0.007		1.16	0.003	0.0004	0.015	0.023	0.207	1.82	0.055	0.106		0.04	0.278	24.9	0.0004	<0.01				55.6	54.8	0.8					
MW4	28-Aug-09	1215	9.48	10.1																																												
MW4	14-Dec-09	0900	9.52	10.14	6.94	5060	25.6	7.35	5040		<1	<1	783	783	31.6	64.1	187	149	746	16	<0.01	0.001						<0.005	0.001	0.671	0.016	<0.001			0.114	<0.05	<0.0001		0.02	0.45	0.48	45.3	54.5	3.41					
MW4	25-Feb-10	1330	9.68	10.3																																												
MW4	11-May-10	1000	9.66	10.28	7.58	5660	21.8		5210	3120	<1	<1	942	942	200	1180	149	115	821	14		0.012		1.84	0.006	0.0006	0.03	0.033	0.17	1.26	0.096	0.138		0.08	0.238	25.3	0.0002	0.02				56.2	53	3.01					
MW4	30-Aug-10	0940	9.69	10.31	7.33	4740	20																																										
MW4	09-Nov-10	0940	9.61	10.23	6.9	3810	24.4																																										
MW4	10-Mar-11	1130	9.31	9.93	7.18	3060	24.9	7.37	3460		<1	<1	893	893	87	730	78	63	741	11	0.77	<0.001						0.005	0.084	0.188	0.014	0.15			0.801	1.08	<0.0001		0.04	0.38	0.41	40.2	41.6	1.61					
MW4	06-Jun-11	1000	9.42	10.04	7.25	3080	18.7																																										
MW4	06-Sep-11	0950	9.46	10.08	7.12	3196	21	7.77	3910		<1	<1	861	861	104	700	74	58	702	10	0.65	<0.001		0.146	<0.001	<0.0001	0.002	0.001	0.008	0.175	0.006	0.006		<0.01	0.418	0.7	<0.0001	0.2	<0.01	0.43	0.43	39.1	39.3	0.15					
MW4	07-Dec-11	0940	9.35	9.97	7.1	3180	20.5																																										
MW4	13-Mar-12	0940	9.36	9.98	7.6	2580	22.1	8.01	3690	2130	<1	<1	898	898	103	700	90	64	759	13	0.16	<0.001		0.159	<0.001	<0.0001	<0.001	<0.001	0.01	0.017	0.004	<0.001		<0.01	0.27	0.3	<0.001	<0.01	<0.01	0.85	0.85	39.8	43.1	3.92					
MW4	13-Jun-12	0935	9.22	9.84	7.52	3850	20.6																																										
MW4	04-Sep-12	1120	9.11	9.73	7.72	3410	21.8	7.98	3770	2170	<1	<1	962	962	108	674	82	65	664	12	0.07	<0.001		0.167	<0.001	<0.0001	<0.001	<0.001	0.058	0.116	0.007	0.005		<0.01	0.513	0.44	<0.0001	0.02	0.02	1.04	1.06	40.5	38.6	2.37					
MW4	27-Nov-12	0920	8.94	9.56	7.74	3440	21.7																																										
MW4	20-Mar-13	0945	8.92	9.54	7.53	3420	21.6	7.65	3730	2020	<1	<1	880	880	49	652	104	73	672	12	0.27	0.001		0.156	<0.001	<0.0001	<0.001	0.011	0.05	0.158	0.01	0.006		<0.01	0.338	0.4	<0.0001	0.02	<0.01	1.68	1.68	37	40.7	4.78					
MW4	11-Jul-13	940	8.87	9.49	7.76	3410	20.9																																										
MW4	05-Sep-13	950	8.83	9.45	7.63	3560	21.8	7.99	3950	2260	<1	<1	908	908	110	745	110	81	704	15	0.21	<0.001	<0.001	<0.05	0.182	0.0002	0.005	0.001	0.144	0.282	0.008	0.018	<0.01	<0.01	0.453	0.68	<0.0001	0.09				41.4	43.2	2					
MW4	22-Nov-13	940	8.61	9.23	7.6	3720	21.7																																										
MW4	24-Feb-14	940	8.74	9.36	7.6	3920	21.4	7.98	3890	2010	<1	<1	875	875	113	676	93	78	644	15	0.14	<0.001	<0.001	<0.05	0.166	0.0003	<0.001	0.005	0.128	0.116	0.007	0.006	<0.01	<0.01	0.444	1.22	<0.0001	0.06				38.9	39.5	0.68					
MW4	27-May-14	930	8.78	9.4	7.6	3840	21.3																																										
MW4	09-Sep-14	0940	8.76	9.38	7.2	4090	20.5	7.83	4170		<1	<1	1020	1020	118	679	108	79	597	11	0.13	<0.001						0.003	0.057	0.235	0.008	0.007			0.334	0.86	<0.0001		0.2	0.54	0.74	42	38.1	4.83					
MW4	20-Nov-14	0930	8.72	9.34	7.3	3970	21.8																																										
MW4	26-Feb-15	930	8.71	9.33	7.3	4030	21.6	7.7	4430	2200	<1	<1	1090	1090	132	786	131	107	687	14	0.13	<0.001	<0.05	0.159	<0.001	<0.0001	0.002	0.002	0.033	0.373	0.007	0.02	<0.01	<0.01	0.244	3.4	<0.0001	0.18	0.01	0.97	0.98	46.7	45.6	1.23					
MW4	26-May-15	940	8.93	9.55	7.3	4120	20.7																																										
MW4	27-Aug-15	1000	8.85	9.47	7.2	4340	19.5	7.72	4680	2550	<1	<1	870	870	151	711	123	107	719	14	0.02	<0.001	<0.05	0.159	<0.001	<0.0001	<0.001	<0.001	0.004	0.359	0.004	0.002	<0.01	<0.01	0.149	1.21	<0.0001	0.56	<0.01	0.6	0.6	40.6	46.6	6.85					
MW4	04-Dec-15	1000	8.85	9.47	7.3	4410	21.1																																										
MW4	24-Feb-16	930	8.86	9.48	7.4	4450	21.7	7.85	4650	2610	<1	<1	988	988	152	899	156	119	767	17	0.2	0.003	<0.05	0.18	0.002	0.0004	0.003	0.003	0.02	0.46	0.006	0.014	<0.01	<0.01	0.209	1.84	<0.0001	2.22	<0.01	0.07	0.07	48.3	51.4	3.1					
MW4	23-May-16	930	8.92	9.54	7.4	4480	21.4																																										
MW4	01-Sep-16	No access																																														
MW4	29-Nov-16	950	8.91	9.53	7.3	4330	22.8																																										
MW4	23-03-17		8.92	9.54	7.4	4370		8.13	4610	2800	<1	<1	982	982	101	882	145	113	710	16	0.54	<0.001	<0.05	0.184	<0.001	0.0002	0.002	<0.001	0.036	0.356	0.008	0.011	<0.01	<0.01	1.57	1.05	<0.0001	0.1	0.05	1.36	1.41	46.6	47.8	1.3					
MW4	21-06-17	9:30	9	9.62	7.4	4370	19.7																																										
MW4	13-09-17		8.9	9.52	7.3	4420		7.82	4570	2450	<1	<1	1040	1040	147	848	141	116	730	15	0.75	<0.001	<0.05	0.166	<0.001	<0.0001	0.001	<0.001	0.015	0.316	0.005	0.009	<0.01	<0.01	0.686	1.46	<0.0001	0.03	0.08	1.15	1.23	47.8	48.7	0.99					
MW4	13-Dec-17	12:30	8.95	9.57	7.2	4440	22.6																																										
MW4	22-Mar-18		9.08	9.7	7.4	4610	21.3	7.4	4470																								0.013																	
MW4	12-Jun-18		9.14	9.76	7.3	4430																																											
MW4	13-Sep-18		9.34	9.96	6.9	4370	22.1	7.49	4560	2310	<1	<1	919	919	142	959	155	102	611	10	0.05	0.001	<0.05	0.161	<0.001	<0.0001	0.001	<0.001	0.004	0.307	0.004	0.002	<0.01	<0.01	0.077	0.12	<0.0001	0.33	<0.01	0.06	0.06	48.4	43	5.92					
MW4	05-Dec-18		9.46	10.08	7	4610	21.9																																										
MW4	14-Mar-19		9.58	10.2	7.2	4480	21.9	7.67	4840	2460	<1	<1	1010	1010	145	818	145	112	702	16	0.14	<0.001	<0.05	0.181	<0.001	<0.0001	<0.001	0.001	0.005	0.394	0.003	0.008	<0.01	<0.01	0.079	0.65	<0.0001	2	0.05	0.21	0.26	46.3	47.4	1.2				<20	360
MW4	19-Jun-19		9.41	10.03	7.3	3860	20.5																																										
MW4	11-Sep-19		9.62	10.24	7.4	3460	20.8	7.95	3460	1930	<1	<1	715	715	112	682	78	52	685	8	0.12	<0.001	<0.05	0.075	<0.001	<0.0001	<0.001	0.001	0.002	0.141	0.002	0.002	<0.01	<0.01	0.023	0.4	<0.0001		<0.01	0.08	0.08	35.8	38.2	3.13					
MW4	05-Dec-19		10.14	10.76	7.3	3530	21.8																																										
MW4	18-Mar-20		10.46	11.08	7.5	3490	22.5	7.74	3600	2040	<1	<1	822	822	124	716	70	50	674	8	0.02	<0.001	<0.05	0.077	<0.001	<0.0001	<0.001	<0.001	0.002	0.13	<0.001	<0.001	<0.01	<0.01	0.017	0.21	<0.0001	0.82	0.02	0.05	0.07	39.2	36.6	3.49		<20	<50	<20	<100
MW4	11-Jun-20		10.57	11.19	7.4	3530	21.5																																										
MW4	23-Sep-20		10.38	11	7.3	3580	19.4	8.02	3380	2050	<1	<1	953	953	94	650	67	50	653	8	0.06	<0.001	<0.05	0.086	<0.001	<0.0001	<0.001	<0.001	0.002	0.174	0.002	0.002	<0.01	<0.01	0.051	0.14	<0.0001	8.34	0.03	0.12	0.15	39.3	36.1	4.33		<20	<50	<20	<100
MW4	08-Dec-20		10.35	10.97	7.4	3640	19.2																																										
MW4	14-May-21		10.37	10.99	8.1	3820	18.7	7.71	3750	2440	<1	20	876	896	103	684	75	56	701	14	0.15	<0.001	0.11	0.092	<0.001	<0.0001	<0.001	<0.001	0.006	0.236	0.006	0.008	<0.01	<0.01	0.134	0.32	<0.0001	14.9	0.11	0.22	0.33	39.3	39.2	0.18		<20	680	<20	<100
MW4	07-Jun-21		9.56	10.18	7.26	3530	15.5	7.37	3400	2210	<1	<1	805	805	98	587	84	59	644	11	0.24	<0.001	<0.05	0.166	<0.001	<0.0001	<0.001	0.001	0.01	0.419	0.009	0.013	<0.01	<0.01	0.169	0.58	<0.0001	5.34	0.16	0.07	0.23	34.7	37.3	3.69		<20	<50	<20	<100
MW4	21-Jun-21		9.53	10.15	7.26	3250	18.9																																										
MW4	02-Sep-21		9.48	10.1	6.76	3060	16.5	7.62	3100	2020	<1	<1	871	871	70	490	50	35	613	6	0.13	<0.001	<0.05	0.088	<0.001	<0.0001	<0.001	<0.001	0.002	0.166	0.005	0.003	<0.01	<0.01	0.083	0.003	<0.001	0.9		0.08	0.09					<20	<50	<20	<100
MW4	31-Dec-21		9.91	10.53	7.56	3040	20.2																																										
MW4	21-Mar-22		9.18	9.8	7.55	3290	23.5	7.7	3080	2000	<1	<1	821	821	80	524	40	31	608	6	0.13	<0.001	0.06	0.07	<0.001	<0.0001	<0.001	<0.001	0.003	0.143	0.003	0.002	<0.01	<0.01	0.086	0.21	<0.0001	0.71	0.15	0.2	0.35	32.8	31.1	2.66		<20	280	<20	270
MW4	05-Apr-22		9.18	9.8	7.6	3360	19.3	7.69	2740	1780	<1	<1	889	889	81	501	40	32	625	6	0.11	<0.001	<0.05	0.07	<0.001	<0.0001	0.001	<0.001	0.005	0.151	0.005	0.006	<0.01	<0.01	0.105	0.21	<0.0001	0.67	<0.01	0.37	0.37	33.6	32	2.46		<20	<50	<20	<100
MW4	06-Jun-22		9.05	9.67	7.45	3090	19.2																																										
MW4	28-Sep-22		8.9	9.52	7.39	3010	22.8	7.64	3000	1950	<1	<1	854	854	85	536	40	31	604	6	0.04	<0.001	<0.05	0.058	<0.001	<0.0001	<0.001	<0.001	0.004	0.005	0.002	0.002	<0.01	<0.01	0.078	0.11	<0.0001	0.04	0.01	0.37	0.38	34	31	4.59		<20	<50	<20	<100
MW4	12-Dec-22		9.08	9.7	7.51	3050	22.7																																										
TEMPLEMORE																																																
MW5	02-Jun-06		2.78	3.4	6.9				1530					472	138	169	17	13	373	6		0.006																										
MW5	09-Sep-06		2.98	3.6																																												
MW5	11-Jan-07		3.56	4.18	7.25				4870					836	435	1060	44	49	1070	13		0.003				<0.0001		<0.001	<0.001		0.013	<0.001			0.09													
MW5	18-Apr-07		2.98	3.6																																												
MW5	10-Jul-07		3.85	4.47	7.59	1360	19.7		1930					380	161	291	14	15	13	5		0.002				<0.0001		<0.005	0.001		0.009	<0.001			0.111		<0.0001								1.32	<20	3490		
MW5	18-Jul-07		3.87	4.49																																												
MW5	07-Aug-07	1230	3.92	4.54																																												
MW5	22-Aug-07	1500	3.88	4.5																																												
MW5	05-Sep-07	1200	3.84	4.46																																												
MW5	24-Sep-07	1410	3.86	4.48																																												
MW5	11-Oct-07	1200	3.91	4.53																																												
MW5	26-Nov-07	1515	3.94	4.56																																												
MW5	29-Jan-08	1520	3.06	3.68																																												
MW5	04-Mar-08	1405	3.01	3.63																																												
MW5	04-Apr-08	1200	3.07	3.69																																												
MW5	23-Apr-08	1500	3.15	3.77	7.9	3550	19.9		3260					630	332	553	29	33	696	13		0.012				0.00017		0.006	0.027		0.042	0.054			0.11		<0.0001											
MW5	21-Aug-08	1305	3.10	3.72																																												
MW5	29-Oct-08	1840	2.97	3.59	7.3	3300	19.1		3400					680	290	560	21	24	640	11		0.008				<0.00005		0.005	0.004		0.007	0.018			0.028		<0.0001									<0.025	0.57		
MW5	29-Jan-09	1050	3.12	3.73																																												
MW5	17-Jun-09		3.33	4.18	7.7	2390	19.6		2120	1370	<1	<1	486	486	120	315	13	15	485	8		0.012		0.054	<0.001	<0.0001	0.003	0.002	0.02	0.586	0.006	0.019		<0.01	0.105	1.66	<0.0001	0.07				21.1	23.2	4.6					
MW5	14-Sep-09	1314	3.52	4.32																																												
MW5	14-Dec-09	1200	3.76	4.56	7.21	6900	28.4	7.44	7460		<1	<1	1110	1110	678	1720	9	106	1870	28	0.04	0.016						<0.001	0.002	1.4	0.022	<0.001			0.078	0.19	<0.0001		<0.01	<0.01	<0.01	84.9	91	3.44					
MW5	25-Feb-10	1035	2.91	3.71																																												
MW5	11-May-10	1145	3	3.8	7.73	6590	22		5920	3630	<1	<1	838	838	491	1260	38	70	1210	17		0.032		0.426	0.001	0.009	0.032	0.024	0.07	1.59	0.071	0.068		0.05	0.277	23	<0.0001	0.1				62.4	60.5	1.53					
MW5	30-Aug-10	1210	2.6	3.4	7.85	1740	22.8																																										
MW5	09-Nov-10	1115	2.48	3.28	7.35	2620	24.1																																										
MW5	10-Mar-11	1400	2.51	3.31	7.39	1917	25.2	7.69	1980		<1	<1	416	416	150	396	11	13	474	8	0.81	0.01						0.001	0.03	0.64	0.003	0.007			0.139	0.79	<0.0001		<0.01	0.11	0.11	22.6	22.4	0.49					
MW5	06-Jun-11	1200	2.47	3.27	7.45	1032	20.8																																										
MW5	06-Sep-11	1240	2.7	3.5	7.39	1910	22.6	7.89	2310	1360	<1	<1	427	427	177	385	10	11	501	7	6.24	0.012		0.051	<0.001	<0.0001	0.001	0.004	0.006	0.081	0.005	0.004		<0.01	0.032	4.1	<0.0001	0.11	<0.01	0.04	0.04	23.1	23.4	0.6					
MW5	07-Dec-11	1100	1.96	2.76	7.36	2275	20.5																																										
MW5	13-Mar-12	1320	1.28	2.08	7.52	1110	25.1	7.78	1250	736	<1	<1	269	269	45	262	8	7	292	5	1.91	0.006		0.027	<0.001	<0.0001	<0.001	0.002	0.005	0.122	0.003	<0.001		0.01	0.02	1.2	<0.0001	<0.01	<0.01	0.43	0.43	13.7	13.8	0.33					
MW5	13-Jun-12	1150	1.58	2.38	7.81	977	20.3																																										
MW5	04-Sep-12	1320	1.46	2.26	7.63	1980	20.1	7.92	2120	1400	<1	<1	439	439	146	380	9	11	473	8	7.89	0.016		0.056	<0.001	<0.0001	<0.001	0.004	0.014	0.073	0.004	0.007		<0.01	0.086	5.13	<0.0001	<0.01	<0.01	<0.01	<0.01	22.5	22.1	0.93					
MW5	27-Nov-12	1105	1.84	2.64	7.65	2650	22.5																																										
MW5	20-Mar-13	1300	1.94	2.74	7.54	1430	24.7	7.61	1520	956	<1	<1	323	323	46	236	7	8	321	6	0.53	0.011		0.029	<0.001	<0.0001	<0.001	0.002	0.054	0.33	0.004	0.008		<0.01	0.158	0.56	<0.0001	0.08	<0.01	0.06	0.06	14.1	15.1	3.57					
MW5	11-Jul-13	1120	2.26	3.06	7.62	846	21.5																																										
MW5	05-Sep-13	1200	2.45	3.25	7.55	1640	21.8	8.07	1810	1040	<1	<1	396	396	115	287	5	7	406	8	4.62	0.011	<0.001	0.12	0.038	<0.0001	<0.001	0.003	0.062	0.07	0.004	0.009	<0.01	<0.01	0.118	3.25	<0.0001	0.02				18.4	18.7	0.73					
MW5	22-Nov-13	1155	2.76	3.56	7.7	2430	21.1																																										
MW5	20-Feb-14	1145	3.01	3.81	7.9	1790	22.7	7.77	1850	964	<1	<1	377	377	111	282	7	8	394	6	2.6	0.014	<0.001	<0.05	0.039	0.0004	0.002	0.01	0.166	0.232	0.007	0.024	<0.01	<0.01	0.46	2.68	<0.0001	<0.01				17.8	18.3	1.34					
MW5	27-May-14	11.50	2.77	3.57	7.7	925	22.5																																										
MW5	09-Sep-14	1500	2.80	3.6	7.7	2130	20.5	7.99	2200		<1	<1	476	476	159	319	7	8	462	8	12.7	0.014						0.009	0.059	0.379	0.019	0.016			0.141	8.81	<0.0001		0.02	0.65	0.67	21.8	21.3	1.23					
MW5	20-Nov-14	1240	3.00	3.8	7.8	3020	22.3																																										
MW5	26-Feb-15	1155	3.18	3.97	7.8	1890	23.7	8.15	2060	1060	<1	<1	433	433	130	299	5	6	399	6	1.18	0.01	<0.05	0.026	<0.001	<0.0001	<0.001	<0.001	0.005	0.044	0.002	<0.001	<0.01	<0.01	0.04	0.74	<0.0001	0.01	<0.01	0.14	0.14	19.8	18.2	4.09					
MW5	26-May-15	1240	3.29	4.08	7.8	2120	21.3																																										
MW5	27-Aug-15	1250	3.19	3.98	7.7	2110	19.7	8.08	2210	1300	<1	<1	424	424	174	262	8	9	465	6	1.29	0.023	<0.05	0.051	<0.001	<0.0001	<0.001	<0.001	0.002	0.373	0.002	<0.001	<0.01	<0.01	0.036	1.67	<0.0001	0.04	<0.01	0.02	0.02	19.5	21.5	4.92					
MW5	04-Dec-15	1200	3.29	4.08	7.7	3070	21.2																																										
MW5	24-Feb-16	1215	3.36	4.15	7.7	2060	23.5	7.76	2230	1180	<1	<1	471	471	184	361	12	13	519	7	0.95	0.01	<0.05	0.036	<0.001	<0.0001	<0.001	<0.001	0.013	0.209	0.003	0.002	<0.01	<0.01	0.071	0.79	<0.0001	0.09	<.01	0.24	0.24	23.4	24.4	2.04					
MW5	23-May-16	1210	3.41	4.2	7.7	1632	23.4																																										
MW5	01-Sep-16	1200	2.29	3.08	7.7	1700	21	7.96	1750		<1	<1	382	382		256	6	7	378	5	5.55	0.009						0.003	0.007	0.071	0.004	0.002			0.05	3.86	<0.0001		<0.01	1.1	1.1	17.5	17.4	0.25					
MW5	29-Nov-16	1310	2	2.79	7.6	3010	20.7																																										
MW5	23-Mar-17		2.36	3.15	7.7	1750		8.24	1750	1100	<1	<1	340	340	92	293	8	9	352	7	0.59	0.007	<0.05	0.042	<0.001	<0.0001	0.002	<0.001	0.03	0.638	0.004	0.005	<0.01	<0.01	0.144	0.5	<0.0001	0.94	0.14	2.4	2.54	17	16.6	1.02					
MW5	21-Jun-17	10:45	2.55	3.34	7.9	1288	20.7																																										
MW5	13-Sep-17		2.76	3.55	7.8	2610		8.19	2640	1520	<1	<1	561	561	200	421	12	14	567	8	1.13	0.014	<0.05	0.035	<0.001	<0.0001	<0.001	<0.001	0.007	0.082	0.001	0.005	<0.01	<0.01	0.085	0.74	<0.0001	0.06	<0.01	0.06	0.06	27.2	26.6	1.17					
MW5	13-Dec-17	14:10	2.79	3.58	7.7	2630	21.4																																										
MW5	22-Mar-18		3.12		7.9	2320																																											
MW5	12-Jun-18		3.31	4.1	7.9	1413																																											

MW5	13-Sep-18		3.56	4.35	7.8	1980	22	8.07	2040	1080	<1	<1	418	418	146	341	8	8	386	5	1.43	0.01	<0.05	0.03	<0.001	<0.0001	<0.001	<0.001	0.005	0.035	<0.001	0.002	<0.01	<0.01	0.024	1.09	<0.0001	0.04	<0.01	0.03	0.03	21	18	7.78						
MW5	05-Dec-18		3.41	4.2	7.7	2130	21.5																																									
MW5	14-Mar-19		3.41	4.2	7.9	1240	24.1	8.11	1220	764	<1	<1	313	313	69	162	3	3	286	4	1.65	0.01	<0.05	0.023	<0.001	<0.0001	<0.001	<0.001	0.004	0.044	0.002	0.001	<0.01	0.01	0.028	1.4	<0.0001	0.02	<0.01	0.17	0.17	12.3	12.9	2.69				<20	<100
MW5	19-Jun-19		2.91	3.7	7.6	1292	22.5																																								
MW5	11-Sep-19		2.9	3.69	7.8	2100	20.4	8.12	2120	1170	<1	<1	393	393	164	370	10	10	450	7	2.47	0.009	<0.05	0.032	<0.001	<0.0001	<0.001	0.002	0.004	0.044	0.002	0.002	<0.01	0.01	0.031	1.63	<0.0001		<0.01	0.09	0.09	21.7	21.2	1.47		<20	<50	<20	<100
MW5	05-Dec-19		3.25	4.04	7.8	2080	21.4																																								
MW5	18-Mar-20		2.41	3.2	7.5	835	24.5	7.81	874	504	<1	<1	180	180	48	115	4	3	182	3	1.8	0.006	<0.05	0.018	<0.001	<0.0001	<0.001	<0.001	<0.001	0.04	0.001	<0.001	<0.01	0.01	0.02	1.35	<0.0001	0.03	<0.01	1.51	1.51	7.84	7.89	0.33		<20	<50	<20	<100
MW5	11-Jun-20		2.3	3.09	7.6	675	20.7																																								
MW5	23-Sep-20		2.34	3.13	7.7	1920	18.3	8.09	2090	1390	<1	<1	461	461	142	360	9	10	432	7	4.41	0.01	<0.05	0.034	<0.001	<0.0001	<0.001	0.002	0.006	0.055	0.002	0.003	<0.01	<0.01	0.029	3.28	<0.0001	0.02	<0.01	0.28	0.28	22.3	20.2	4.89		<20	<50	<20	<100
MW5	08-Dec-20		2.67	3.46	7.8	1960	18.1																																								
MW5	04-Mar-21		2.56	3.35	7.36	874	23	7.47	885	575	<1	<1	245	245	42	129	4	4	193	3	5.72	0.006	<0.05	0.029	<0.001	<0.0001	<0.001	0.004	0.013	0.068	0.004	0.002	<0.01	0.01	0.029	4.01	<0.0001	0.03	<0.01	0.54	0.54	9.41	9	2.22		<20	<50	<20	<100
MW5	21-Jun-21		2.07	2.86	7.65	766	18.1																																								
MW5	02-Sep-21		1.85	2.64	6.8	1771	19.8	7.7	1810	1180	<1	<1	423	423	90	282	7	8	373	7	5.73	0.009	<0.05	0.041	<0.001	<0.0001	<0.001	0.005	0.016	0.221	0.008	0.011	<0.01	<0.01	0.102	3.5	<0.0001	0.31		0.12	0.12					<20	<50	<20	<100
MW5	29-Dec-21		1.82	2.61	7.7	2054	21.6																																								
MW5	21-Mar-22		2.35	3.14	8.01	1529	23.1	7.96	1410	916	<1	<1	423	423	64	173	4	5	249	9	1.49	0.01	<0.05	0.026	<0.001	<0.0001	0.001	0.002	0.01	0.193	0.002	0.016	<0.01	<0.01	0.169	1.44	<0.0001	25.4	0.94	<0.01	0.05	14.7	13.5	4.21		<20	<50	<20	<100
MW5	06-Jun-22		1.9	2.69	7.52	830	20																																								
MW5	28-Sep-22		1.36	2.15	7.66	1874	19.9	7.76	1750	1140	<1	<1	436	436	105	309	8	9	364	8	3.75	0.008	<0.05	0.034	<0.001	<0.0001	0.001	0.003	0.016	0.124	0.004	0.008	<0.01	<0.01	0.146	2.99	<0.0001	7.14	0.73	0.03	0.76	19.6	17.2	6.62		<20	<50	<20	<100
MW5	12-Dec-22		1.67	2.46	7.88	2022	21.8																																								
NAGERO																																														
MW6	02-Jun-06		8.34	9	7.3				2030					720	55	308	59	29	440	8		<0.001																										
MW6	09-Sep-06		8.84	9.5																																											
MW6	11-Jan-07		9.15	9.81	6.89				2030					724	51	252	62	30	426	7		<0.001				<0.0001		<0.005	<0.001		0.011	<0.001			0.08		<0.0001										
MW6	10-Jul-07		9.37	10.03	7.5	2060	18.1		2000					666	47	283	58	27	411	8		0.0005				0.00005		0.0025	0.001		0.004	0.0005			0.01		0.00005								5.99				
MW6	18-Jul-07		9.35	10.01																																										
MW6	07-Aug-07	1105	9.32	9.98																																										
MW6	22-Aug-07	1320	9.29	9.95																																										
MW6	05-Sep-07	1110	9.31	9.97																																										
MW6	24-Sep-07	1250	9.07	9.73																																										
MW6	11-Oct-07	1035	9.16	9.82																																										
MW6	26-Nov-07	1325	9.17	9.83																																										
MW6	29-Jan-08	1400	9.06	9.72																																										
MW6	04-Mar-08	1125	8.815	9.475																																										
MW6	22-Apr-08	1700	8.62	9.28	7.1	2000	21.1		2120					670	51	273	64	29	391	9.8		0.001				<0.00005		0.001	0.002		0.006	0.0031			0.005		<0.0001								<0.025	<0.1		
MW6	21-Aug-08	1051	8.545	9.205																																										
MW6	29-Oct-08	1530	8.48	9.15	7.1	2050	23.9		2100					680	50	280	60	27	380	8.5		0.001				0.00005		0.003	0.003		0.004	0.077			0.034		<0.0001								<0.025	0.18		
MW6	29-Jan-09	1010	8.33	9.1																																										
MW6	14-Sep-09	1246	8.65	9.43																																										
MW6	14-Dec-09	1130	8.86	9.64	7.13	2112	23.4	7.3	2100		<1	<1	652	652	39.4	252	56	26	385	8	<0.01	<0.001						<0.005	<0.001	0.336	0.008	0.002			0.01	<0.05	<0.0001		0.02	0.53	0.55	21	21.9	2.24						
MW6	25-Feb-10	1010	8.84	9.62																																										
MW6	11-May-10	1515	8.3	9.08	7.56	2360	21.5		2030	1160	<1	<1	645	645	42.2	261	56	26	380	7		<0.001		0.193	<0.001	<0.0001	0.002	0.002	0.002	0.278	0.003	0.006		<0.01	0.008	2.13	<0.0001	<0.01				21.1	21.6	1.14						
MW6	30-Aug-10	1230	8	8.78	7.2	1927	23.8																																								
MW6	09-Nov-10	1015	7.72	8.5	7.03	1835	24.3																																								
MW6	10-Mar-11	1220	7.41	8.19	7.08	1783	24	7.53	1790		<1	<1	627	627	42	293	55	27	406	9	0.15	<0.001						0.002	0.034	0.047	0.003	0.015			0.216	0.32	<0.0001		0.03	0.97	1	21.7	22.9	2.61						
MW6	06-Jun-11	1040	7.44	8.22	7.15	1670	19.6																																								
MW6	06-Sep-11	1020	Piezo damaged																																												
MW6	07-Dec-11	1000	Piezo damaged																																												
MW6	13-Mar-12	1030	5.74	6.52	7.49	1840	23.4	7.68	1980	1150	<1	<1	624	624	46	262	55	24	390	9	0.15	<0.001		0.125	<0.001	<0.0001	<0.001	0.002	0.009	0.013	0.004	0.001		<0.01	0.071	0.12	<0.0001	<0.01	<0.01	1.44	1.44	20.8	21.9	2.54						
MW6	13-Jun-12	1025	5.87	6.65	7.45	2040	21.3																																								
MW6	04-Sep-12	1150	5.58	6.36	7.82	1840	22	8.08	1990	1210	<1	<1	681	681	39	276	53	25	381	8	0.09	<0.001		0.143	<0.001	<0.0001	<0.001	<0.001	0.012	0.013	0.003	0.003		<0.01	0.072	0.18	<0.0001	<0.01	<0.01	1.13	1.13	22.2	21.5	1.69						
MW6	27-Nov-12	0950	5.55	6.33	7.6	1817	21.1																																								
MW6	20-Mar-13	1025	5.75	6.53	7.46	343	22.8	7.43	351	252	<1	<1	106	106	28	16	12	3	49	8	0.49	0.001		0.037	<0.001	<0.0001	<0.001	0.003	0.081	0.095	0.006	0.009		0.02	0.402	0.56	<0.0001	0.23	0.1	0.6	0.7	3.15	3.18	0.44						
MW6	11-Jul-13	1020	5.88	6.66	7.62	452	20.8																																								
MW6	05-Sep-13	1105	5.96	6.74	7.21	465	21.3	7.8	496	327	<1	<1	132	132	60	25	18	3	75	10	0.86	<0.001	<0.001	0.08	0.038	<0.0001	<0.001	0.002	0.075	0.058	0.005	0.006	<0.01	0.02	0.151	0.93	<0.0001	0.09				4.59	4.66	0.74						
MW6	22-Nov-13	1255	5.85	6.63	7.2	486	20.8																																								
MW6	24-Feb-14	1050	5.84	6.62	7.8	215	22.1	7.51	212	182	<1	<1	66	66	26	5	8	1	29	8	0.48	<0.001	<0.001	<0.05	0.02	<0.0001	0.001	0.008	0.045	0.094	0.005	0.004	<0.01	0.02	0.185	0.5	<0.0001	0.35				2	1.95							
MW6	27-May-14	12.40	5.64	6.42	7.5	360	22.1																																								
MW6	09-Sep-14	1010	5.54	6.32	7.6	845	21.4	7.61	854		<1	<1	274	274	46	83	24	7	140	8	1.63	0.002						0.005	0.006	0.154	0.012	0.016			0.13	1.55	<0.0001		<0.01	<0.01	<0.01	8.77	8.07	4.22						
MW6	20-Nov-14	1140	5.55	6.33	7.5	712	21.6																																								
MW6	26-Feb-15	1040	5.64	6.43	7.6	543	22.2	7.67	617	353	<1	<1	173	173	42	43	25	5	89	10	0.13	<0.01	<0.05	0.036	<0.01	<0.0001	<0.001	0.001	0.012	0.059	0.007	0.002	<0.01	<0.01	0.238	0.32	<0.0001	0.06	<0.01	0.62	0.62	5.54	5.79	2.11						
MW6	26-May-15	1135	5.65	6.44	7.5	692	19.7																																								
MW6	27-Aug-15	NO ACCESS																																													
MW6	04-Dec-15	1035	5.4	6.18	7.8	946	21.2																																								
MW6	24-Feb-16	1025	5.38	6.16	7.6	1012	21.2	7.85	1080	620	<1	<1	327	327	46	125	41	12	203	10	0.31	0.002	0.06	0.083	<0.001	<0.0001	<0.001	0.004	0.018	0.063	0.01	0.006	<0.01	<0.01	0.211	1.94	<0.0001	0.09	<0.01	0.98	0.98	11	12.1	4.73						
MW6	23-May-16	1010	5.36	6.14	7.6	1090	21.8																																								
MW6	06-Sep-16	1145	5.15	5.93	7.6	1080	23.3	7.77	1100		<1	<1	331	331		129	34	10	181	9	0.04	<0.001						<0.001	0.004	0.016	0.007	<0.001			0.079	0.49	<0.0001		<0.01	0.42	0.42	11	10.6	1.97						
MW6	29-Nov-16	1020	4.74	5.52	7.5	1416	21.2																																								
MW6	13-Mar-17		4.68	5.46	7.5	1600	22.8	8.25	1630	980	<1	<1	481	481	45	269	44	20	296	9	0.04	<0.001	0.07	0.103	<0.001	0.0001	<0.001	0.003	0.026	0.008	0.007	0.002	<0.01	<0.01	0.156	0.21	<0.0001	0.01	<0.01	1.1	1.1	18.1	16.9	3.39						
MW6	21-Jun-17	14:00	4.77	5.55	7.5	1660	21.8																																								
MW6	13-Sep-17		4.57	5.35	7.6	1660		8.15	1710	1710	<1	<1	573	573	46	221	51	22	318	9	0.05	<0.001	0.08	0.09	<0.001	<0.0001	<0.001	0.007	0.006	0.006	0.008	<0.001	<0.01	<0.01	0.121	0.14	<0.0001	0.03	<0.01	1.7	1.7	18.6	18.4	0.6						
MW6	13-Dec-17	11:35	4.55	5.33	7.6	1738	21.7																																								
MW6	22-Mar-18		4.76	5.54	7.8	1833																																								
MW6	12-Jun-18		4.75	5.53	7.7	1828																																								
MW6	13-Sep-18		4.84	5.62	8	2020	21.8	8.23	2090	2090	<1	<1	566	566	48	347	38	26	344	6	0.06	<0.001	0.07	0.11	<0.001	<0.0001	<0.001	0.001	0.002	0.005	0.003	<0.001	<0.01	<0.01	0.007	0.09	<0.0001	0.04	<0.01	1.35	1.35	22.1	19.2	7.14						
MW6	05-Dec-18		4.85	5.63	7.6	2200	21.3																																								
MW6	14-Mar-19		Casing broken																																												
MW6	19-Jun-19		Casing broken																																												
MW6	11-Sep-19		Casing broken																																												
MW6	05-Dec-19		Casing broken																																												
MW6	10-Jun-20		Casing broken																																												
MW6	23-Sep-20		Casing broken																																												
MW6	08-Dec-20		Casing broken																																												
MW6	04-Mar-21		Casing broken																																												
TARRAWONGA MINE : MW7 Decomissioned																																														
TARRAWONGA MINE																																														
MW8	02-Jun-06		13.06	13.8	6.7				2240					588	46	426	161	48	298	9		<0.001																										
MW8	09-Sep-06		13.16	13.9																																											
MW8	11-Jan-07		13.41	14.15	6.7				2260					587	80	411	180	53	319	7		<0.001				<0.0001		<0.005	0.002		0.007	0.001			0.16		<0.0001										
MW8	18-Apr-07		12.86	13.6																																										
MW8	09-Jul-07		13.62	14.36	6.8	2530	18.9		2610					616	80	483	196	55	308	8		<0.001				<0.0001		<0.005	0.005		0.006	0.004			0.102		<0.0001								7.77	<20	250		
MW8	18-Jul-07		13.67	14.41																																										
MW8	07-Aug-07	1325	13.66	14.4																																										
MW8	22-Aug-07	1415	13.66	14.4																																										
MW8	05-Sep-07	1130	13.72	14.46																																										
MW8	24-Sep-07	1340	13.64	14.38																																										
MW8	11-Oct-07	1120	13.63	14.37																																										
MW8	26-Nov-07	1410	13.69	14.43																																										
MW8	29-Jan-08	1445	13.54	14.28																																										
MW8	04-Mar-08	1220	13.56	14.3																																										
MW8	22-Apr-08		Bore blocked no sample																																												
MW8	21-Aug-08	1510	13.78	14.52																																										
MW8	29-Oct-08	1030	13.85	14.59	ocked no sample																																									
MW8	28-Jan-09	1600	13.85	14.6																																										
MW8	17-Jun-09		14.02	14.77	mple - casing blocked																																									
MW8	27-Aug-09	1145	14.02	14.77																																										
MW8	23-Dec-09	1415	14.1	14.85	mple - casing blocked																																									
MW8	25-Feb-10	1520	13.8	14.55																																										
MW8	11-May-10	1440	13.72	14.47	Unable to sample - casing blocked																																									
MW8	30-Aug-10	1420	13.71	14.46	Unable to sample - casing blocked																																									
MW8	09-Nov-10	1255	13.74	14.49	Unable to sample - casing blocked																																									
MW8	14-Mar-11	1120	14.12	14.87	Unable to sample - casing blocked																																									
MW8	21-Jun-11	1420	13.62	14.37	Unable to sample - casing blocked																																									
MW8	08-Sep-11	1030	13.80	14.55	Unable to sample - casing blocked																																									
MW8	09-Dec-11	1040	13.24	13.99	Unable to sample - casing blocked																																									
MW8	14-Mar-12	1235	12.57	13.32	Unable to sample - casing blocked																																									
MW8	14-Jun-12	1115	12.76	13.51	Blocked 3.2 down pipe																																									

MW8	06-Sep-12	1220	12.63	13.38	Blocked 3.2 down pipe																																												
MW8	28-Nov-12	1005	12.79	13.54	Blocked about 3m down pipe																																												
MW8	20-Mar-13	1230	12.68	13.43	Blocked 3.2 down pipe																																												
MW8	11-Jul-13	1230	12.95	13.7	Blocked 3.2 down pipe																																												
MW8	05-Sep-13	1300	13.00	13.75	Blocked 3.2 down pipe																																												
MW8	22-Nov-13	1045	13.01	13.76	Blocked 3.2 down pipe																																												
MW8	20-Feb-14	1040	13.07	13.82	Blocked 3.2 down pipe																																												
MW8	27-May-14	1330	13.00	13.75	Blocked 3.2 down pipe																																												
MW8	09-Sep-14	1240	13.13	13.88	Blocked 3.2 down pipe																																												
MW8	20-Nov-15	1110	13.22	13.97	Blocked 3.2 down pipe																																												
MW8	26-Feb-15	1315	13.27	14.02	Blocked 3.2 down pipe																																												
MW8	26-May-15	1110	13.43	14.22	Blocked 3.2 down pipe																																												
MW8	27-Aug-15	1115	13.43	14.22	Blocked 3.2 down pipe																																												
MW8	04-Dec-15	1330	13.46	14.25	Blocked 3.2 down pipe																																												
MW8	24-Feb-16	1100	13.49	14.28	Blocked 3.2 down pipe																																												
MW8	23-May-16	1110	13.54	14.33	Blocked 3.2 down pipe																																												
MW8	01-Sep-16	1300	13.08	13.87	Blocked 3.2 down pipe																																												
MW8	29-Nov-16	1120	12.62	13.41	Blocked 3.2 down pipe																																												
MW8	21-Jun-17	11:40	13.07	13.86	Blocked 3.2 down pipe																																												
MW8	13-Dec-17	11:00	13.12	13.91	Blocked 3.2 down pipe																																												
MW8	22-Mar-18		12.53	13.32	Blocked 3.2 down pipe																																												
MW8	12-Jun-18		13.33	14.12	Blocked 3.2 down pipe																																												
MW8	13-Sep-18		13.44	14.23	Blocked 3.2 down pipe																																												
MW8	05-Dec-18		13.29	14.08	Blocked 3.2 down pipe																																												
MW8	14-Mar-19		13.62	14.41	Blocked 3.2 down pipe																																												
MW8	19-Jun-19		13.69	14.48	Blocked 3.2 down pipe																																												
MW8	11-Sep-19		13.77	14.56	Blocked 3.2 down pipe																																												
MW8	06-Dec-19		13.76	14.55	Blocked 3.2 down pipe																																												
MW8	18-Mar-20		13.7	14.49	Blocked 3.2 down pipe																																												
MW8	10-Jun-20		13.67	14.46	Blocked 3.2 down pipe																																												
MW8	24-Sep-20		13.44	14.23	Blocked 3.2 down pipe																																												
MW8	08-Dec-20		13.57	14.36	Blocked 3.2 down pipe																																												
MW8	04-Mar-21		13.42	14.21	Blocked 3.2 down pipe																																												
MW8	21-Jun-21		13.07	13.86	Blocked 3.2 down pipe																																												
MW8	02-Sep-21		12.7	13.49	Blocked 3.2 down pipe																																												
MW8	29-Dec-21		12.08	12.87	Blocked 3.2 down pipe																																												
MW8	21-Mar-22		12.36	13.15	Blocked 3.2 down pipe																																												
MW8	06-Jun-22			Dry	Blocked 3.2 down pipe																																												
MW8	28-Sep-22			Dry	Blocked 3.2 down pipe																																												
MW8	12-Dec-22			Dry	Blocked 3.2 down pipe																																												
TEMPLEMORE																																																	
GW044997	02-Jun-06		6.19	6.4	6.9				3000					768	170	758	112	102	544	4		0.001																											
GW044997	11-Jan-07		6.62	6.83	6.95				1570					495	55	200	45	36	298	1		0.009				<0.0001		<0.005	0.001		0.002	<0.001			0.04		<0.0001												
GW044997	10-Jul-07		6.7	6.91	7.06	785	17.1		1590					441	84	211	46	41	270	1		0.009				0.0002		<0.005	0.001		0.001	<0.001			0.088		<0.0001								9	<20	740		
GW044997	18-Jul-07		6.73	6.94																																													
GW044997	07-Aug-07	1130	6.79	7																																													
GW044997	22-Aug-07	1505	6.76	6.97																																													
GW044997	05-Sep-07	1205	6.83	7.04																																													
GW044997	24-Sep-07	1415	6.62	6.83																																													
GW044997	11-Oct-07	1210	6.73	6.94																																													
GW044997	26-Nov-07	1525	7.05	7.26																																													
GW044997	29-Jan-08	1525	6.44	6.65																																													
GW044997	04-Mar-08	1410	6.23	6.44																																													
GW044997	04-Apr-08	1140	6.295	6.505																																													
GW044997	22-Apr-08	1615	6.31	6.52	7	3370	21.8		3150					585	276	656	135	125	461	1.7		0.007				<0.00005		<0.001	0.005		0.012	0.0003			0.008		<0.0001									<0.025	<0.1		
GW044997	21-Aug-08	1410	6.81	7.02																																													
GW044997	29-Oct-08	1815	6.86	7.06	ocked, no sample																																												
GW044997	29-Jan-09	1130	7	7.2																																													
GW044997	17-Jun-09		7.52	7.77	7.1	3580	18.9		3350	2020	<1	<1	693	693	132	626	112	111	486	8		0.066		0.523	<0.001	0.0003	0.002	0.001	0.134	0.204	0.006	0.016		0.09	0.327	46.9	0.0001	2.93				34.2	36	2.53					
GW044997	28-Aug-09	1240	7.85	8.05																																													
GW044997	23-Dec-09	1130	7.97	8.17	6.95	3050	24.2	6.87	3050		<1	<1	517	517	203	636	40	118	546	3	0.02	0.008						<0.001	0.005	0.021	0.004	<0.0010			0.065	0.07	<0.0001		0.22	21	21.2	32.5	35.5	4.4					
GW044997	25-Feb-10	1040	7.81	8.01																																													
GW044997	11-May-10	1200	7.98	8.18	7.49	3720	22.7		3480	1770	<1	<1	593	593	192	640	114	119	434	2		0.018		0.258	<0.001	<0.0001	<0.001	<0.001	0.014	0.04	0.006	0.002		0.04	0.048	7.2	<0.0001	2.03				33.9	34.4	0.66					
GW044997	30-Aug-10	1120	7.91	8.11	6.82	3720	22.2																																										
GW044997	09-Nov-10	1140	7.8	8	6.8	3010	24.2																																										
GW044997	14-Mar-11	1040	7.25	7.45	6.83	1670	25.9	7.15	1620		<1	<1	410	410	87	333	131	67	160	2	0.04	0.002						<0.001	0.013	0.004	<0.001	<0.001			0.032	<0.05	<0.0001		<0.01	1.8	1.8	19.4	19.1	0.84					
GW044997	06-Jun-11	1320	8.02	8.22	7.3	1514	16.8																																										
GW044997	06-Sep-11	1220	8.73	8.93	6.98	1525	16.7	7.64	1830	1000	<1	<1	400	400	110	308	122	58	174	2	0.05	0.002		0.174	<0.001	<0.0001	<0.001	<0.001	0.01	0.007	<0.001	<0.001		0.02	0.047	<0.05	<0.0001	0.51	<0.01	1.43	1.43	19	18.5	1.31					
GW044997	07-Dec-11	1130	8.32	8.52	7.27	1545	20.6																																										
GW044997	13-Mar-12	1230	5.1	5.3	pump not operational																																												
GW044997	14-Jun-12	940	5.18	5.38																																													
GW044997	06-Sep-12	1100	4.8	5	7.95	1750	17.5	7.69	1840	1130	<1	<1	409	409	147	323	120	56	211	2	0.02	0.002		0.128	<0.001	<0.0001	<0.001	<0.001	0.011	0.005	<0.001	<0.001		0.01	0.027	0.07	<0.0001	0.05	<0.01	5	5	20.3	19.8	1.29					
GW044997	27-Nov-12	1145	5.04	5.24	7.61	1665	24.6																																										
GW044997	21-Mar-13	1230	5.78	5.98																																													
GW044997	11-Jul-13	1205	6.37	6.57																																													
GW044997	05-Sep-13	1145	6.65	6.85																																													
GW044997	22-Nov-13	1140	6.87	7.07																																													
GW044997	20-Feb-14	1205	6.93	7.13																																													
GW044997	27-May-14	1210	8.05	8.25																																													
GW044997	09-Sep-14	1120	7.99	8.19																																													
GW044997	20-Nov-14	1215	8.56	8.76																																													
GW044997	26-Feb-15	1355	8.61	8.81																																													
GW044997	26-May-15	1200	8.74	8.94																																													
GW044997	27-Aug-15	1315	10.67	10.87																																													
GW044997	04-Dec-15	1140	10.43	10.63																																													
GW044997	24-Feb-16	1300	10.72	10.92																																													
GW044997	23-May-16	1245	10.99	11.19																																													
GW044997	01-Sep-16	1220	11.18	11.38																																													
GW044997	29-Nov-16	1240	9.17	9.37																																													
GW044997	21-Jun-17	12:20	9.68	9.88																																													
GW044997	13-Dec-17	13:25	9.67	9.87																																													
GW044997	13-Sep-18		11.6	11.8	7	6120	20.8	7.6	6400	3400	<1	<1	1010	1010	618	1270	179	183	897	3	0.08	0.005	0.14	0.137	<0.001	<0.0001	<0.001	<0.001	0.009	0.028	0.002	<0.001	<0.01	0.02	0.012	1.08	<0.0001	0.04	<0.01	24	24	68.9	63.1	4.38					
GW044997	05-Dec-18		12.09	12.29	7.1	5710	20.7																																										
GW044997	14-Mar-19		12.5	12.7	7.3	5710	21.1	7.75	6350	3810	<1	<1	1050	1050	555	994	166	172	956	4	0.05	0.005	0.13	0.144	<0.001	<0.0001	<0.001	0.004	0.008	0.024	0.002	<0.001	<0.01	0.02	0.021	0.35	<0.0001	0.06	<0.01	17	17	60.6	64.1	2.85				<20	<100
GW044997	19-Jun-19		12.32	12.52	7.1	3470	20.1																																										
GW044997	11-Sep-19		12.66	12.86	7.3	5260	19.9	7.77	5490	3430	<1	<1	892	892	479	1080	181	166	933	4	0.08	0.006	0.12	0.125	<0.001	<0.0001	<0.001	0.001	0.007	0.043	0.002	<0.001	<0.01	0.02	0.017	3.25	<0.0001		<0.01	13.2	13.2	58.3	63.4	4.21		<20	<50	<20	<100
GW044997	05-Dec-19		12.76	12.96	7.3	5290	20.6																																										
GW044997	18-Mar-20		12.67	12.87	7.3	3840	21.5	7.57	3980	2460	<1	<1	549	549	324	791	141	123	555	6	<0.01	0.005	0.15	0.106	<0.001	<0.0001	<0.001	<0.001	0.027	0.056	0.003	<0.001	<0.01	0.02	0.009	0.1	<0.0001	0.05	0.74	47.6	48.3	40	41.4	1.68		<20	<50	<20	<100
GW044997	11-Jun-20		14.7	14.9	7.2	2960	19.5																																										
GW044997	23-Sep-20		10.72	10.92	7.2	3550	20	7.9	3320	2130	<1	<1	926	926	185	624	100	92	543	9	0.22	0.35	0.12	0.154	<0.001	<0.0001	0.001	<0.001	0.012	0.324	0.002	<0.001	<0.01	<0.01	0.029	0.79	<0.0001	<0.01	<0.01	0.02	0.02	40	36.4	4.64		<20	<50	<20	<100
GW044997	08-Dec-20		11.06	11.26	7.2	3580	19.6																																										
GW044997	05-May-21		10.85	11.05	7.11	4870	9.7	7.34	4590	2980	<1	<1	877	877	379	874	115	128	744	11	0.06	0.043	0.13	0.251	<0.001	<0.0001	<0.001	<0.001	0.004	0.195	0.004	<0.001	<0.01	0.01	0.014	16.2	<0.0001	5.56	0.05	0.58	0.63	50.1	48.9	1.16		<20	<50	<20	<100
GW044997	07-Jun-21		10.83	11.03	7.23	4800	14.1	7.32	4550	2960	<1	<1	790	790	382	879	149	132	776	5	0.03	0.013	0.12	0.164	<0.001	<0.0001	0.002	<0.001	0.006	0.181	0.003	<0.001	<0.01	0.02	0.016	4.43	<0.0001	0.02	0.35	4.71	5.06	48.5	52.3	3.7		<20	<50	<20	<100
GW044997	21-Jun-21		10.79	10.99	7.27	4730	17.7																																										
GW044997	02-Sep-21		10.21	10.41	6.44	4010	20.7	7.43	3960	2570	<1	<1	731	731	286	712	111	100	631	3	0.04	0.002	0.1	0.103	<0.001	<0.0001	0.002	<0.001	0.003	0.184	0.002	<0.001	<0.01	<0.01	0.009	0.98	<0.0001	0.04		4.87	5.35					<20	<50	<20	<100
GW044997	29-Dec-21		8.81	9.01	7.18	1253	20.5																																										
GW044997	21-Mar-22		8.58	8.78	7.1	1669	21.9	7.18	1500	975	<1	<1	472	472	84	199	52	42	233	4	0.08	0.004	0.08	0.081	<0.001	<0.0001	0.003	<0.001	0.01	0.388	0.004	<0.001	<0.01	<0.01	0.015	8.69	<0.0001	0.04	<0.01	0.01	0.01	16.8	15.8		2.88	<20	<50	<20	<100
GW044997	06-Jun-22		8.65	8.85	7.25	1915	20.3																																										
GW044997	28-Sep-22		8.05	8.25	7.27	3480	20.4	7.45	3460	2250	<1	<1	719	719	184	688	122	117	473	4	0.14	0.009	0.08	0.16	<0.001	<0.0001	<0.001	<0.001	0.004	0.047	0.002	<0.001	<0.01	0.02	0.009	3.84	<0.0001	0.02	0.03	29.1	29.1	37.6	36.4	1.64		<20	<50	<20	<100
GW044997	12-Dec-22		11.04	11.24	8.02	2990	22.4																																										
AMBARDO																																																	
GW031856	02-Jun-06		15.76	16.4	7.3				1150					459	22	105	50	33	156	3		<0.001				<0.0001		<0.001	0.036		0.001	0.001			0.126		<0.0001									<20	<50		
GW031856	11-Jan-07		19.1	19.74	7.27	910	23.1		1080					457	18	75	47	30	164	3		<0.001				<0.0001		<0.005	0.005		<0.001	<0.001			<0.005		<0.0001								3.37	<20	<50		
GW031856	10-Jul-07		15.51	16.15	7.9	1080	13.5		1180					440	20	94.8	48	34	162	3		<0.001				<0.0001		<0.005	0.008		0.0005	0.0005			2.29		0.00005								3.11	10	25		
GW031856	22-Apr-08	1650			7.4	1090	19.8		1060					480	18	106	50	33	145	3.6		0.001				<0.00005		<0.001	0.008		0.003	0.0004			0.048		<0.0001									<0.025	<0.1		

GW031856	29-Oct-08	1225																																															
GW031856	10-Feb-09	0915	17.85	18.49	7.3	1090	26.9		1100					440	19	81	51	30	150	2.8		0.002				<0.00005		0.003	0.009		0.002	0.0006			0.26		<0.0001									<0.025	<0.025		
GW031856	17-Jun-09	1005			7.4	1170	20.1		1110	704	<1	<1	453	453	15	92	51	33	149	3		0.001		0.156	<0.001	<0.0001	<0.001	<0.001	0.004	0.001	<0.001	<0.001		<0.01	0.037	0.06	<0.0001	<0.01				12	11.8	0.52					
GW031856	11-Sep-09	1330	15.51	16.28																																													
GW031856	23-Dec-09	1450	18.4		7.73	1029	29.3	7.45	1060		<1	<1	422	422	17.4	92.2	40	34	169	3	0.01	0.001						<0.001	0.001	0.012	0.001	0.001			0.205	<0.05	<0.0001		<0.01	0.14	0.14	11.4	12.2	3.24					
GW031856	25-Feb-10	1245	16.31	16.91	7.61	1240	25.3	7.54	1110		<1	<1	436	436	17.6	90.8	47	34	160	3	<0.01	0.001						<0.005	0.002	0.001	<0.001	<0.001			0.014	<0.05	<0.0001		<0.01	0.19	0.19	11.6	12.2	2.42					
GW031856	11-May-10	1310	16.58	17.18	8.2	1292	14.9		1140	576	<1	<1	431	431	16.8	91.8	49	32	154	3		<0.001		0.15	<0.001	0.0002	<0.001	<0.001	0.116	<0.001	<0.001	0.006		<0.01	0.51	<0.05	<0.0001	0.02				11.5	11.9	1.45					
GW031856	30-Aug-10	1310	15.35	15.95	7.35	1106	18.2	7.33	1140		<1	<1	426	426	20	98	49	33	159	3	<0.01	<0.001						<0.001	0.008	0.009	<0.001	<0.001			1.88	<0.05	<0.0001		<0.01	0.24	0.24	11.7	12.2	1.99					
GW031856	10-Nov-10	1310	15.52	16.12	7.08	990	27.8	7.42	1160		<1	<1	440	440	18	103	22	33	163	3	<0.01	0.001						<0.005	0.014	0.004	<0.001	<0.001			1.26	<0.05	<0.0001		<0.01	0.2	0.2	12.1	11	4.84					
GW031856	14-Mar-11	1250	19.71	20.31	7.19	945	26.5	7.46	887		<1	<1	414	414	20	92	45	30	151	3	<0.01	<0.001						0.001	0.004	<0.001	<0.001	<0.001			0.015	<0.05	<0.0001		<0.01	0.2	0.2	11.3	11.4	0.4					
GW031856	07-Jun-11	1430	16.08	16.68	7.35	929	19.2																																										
GW031856	09-Sep-11	1150	15.49	16.09	7.33	970	17	7.71	1120	620	<1	<1	412	412	22	109	52	35	161	3	<0.01	<0.001		0.146	<0.001	<0.0001	<0.001	<0.001	0.005	<0.001	0.001	<0.001		<0.01	1.25	<0.05	<0.0001	<0.01	<0.01	0.16	0.16	11.8	12.6	3.22					
GW031856	07-Dec-11	1230	15.65	16.25	7.64	940	20.9																																										
GW031856	19-Mar-12	1150	15.1	15.7	7.27	1070	24.3	7.82	1110	666	<1	<1	421	421	23	106	53	34	155	3	0.02	0.002		0.161	<0.001	<0.0001	<0.001	0.002	0.012	0.002	<0.001	<0.001		0.02	0.034	0.06	<0.0001	<0.01	<0.01	0.27	0.27	11.9	12.3	1.55					
GW031856	14-Jun-12	1210	16.04	16.64	7.57	1170	25.1																																										
GW031856	19-Sep-12	1040	16.6	17.2	7.39	1060	21.2	7.84	1160	670	<1	<1	410	410	21	115	48	33	158	4	0.01	0.001		0.176	<0.001	<0.0001	<0.001	<0.001	0.012	0.004	<0.001	0.002		0.01	0.027	0.29	<0.0001	<0.01	<0.01	0.17	0.17	11.9	12.1	0.86					
GW031856	27-Nov-12	1230	16	16.6	7.43	1048	25.4																																										
GW031856	21-Mar-13	1300	15.7	16.3	7.42	1020	24.2	7.78	1100	640	<1	<1	435	435	21	90	49	32	157	3	<0.01	0.001		0.166	<0.001	<0.0001	<0.001	0.003	0.027	0.005	<0.001	0.006		0.01	0.193	<0.05	<0.0001	<0.01	<0.01	0.22	0.22	11.7	12	1.31					
GW031856	11-Jul-13	850	17.47	18.07	7.54	1064	19.6																																										
GW031856	05-Sep-13	915	17.2	17.8	7.56	1070	19.2	7.92	1130	660	<1	<1	432	432	20	100	49	33	158	4	<0.01	<0.001	<0.001	<0.05	0.141	<0.0001	<0.001	<0.001	0.005	0.002	<0.001	<0.001	<0.01	<0.01	0.017	0.06	<0.0001	<0.01				11.9	12.1	1.08					
GW031856	22-Nov-13	900	15.88	16.48	7.6	1120	24.9																																										
GW031856	24-Feb-14	1020	15.1	15.7	7.7	1120	24.5	7.84	1150	684	<1	<1	430	430	22	99	48	32	155	3	<0.01	0.001	<0.001	<0.05	0.156	<0.0001	<0.001	<0.001	0.007	<0.001	<0.001	<0.001	<0.01	0.01	0.138	<0.05	<0.0001	0.02				11.8	11.8	<0.01					
GW031856	27-May-14	1050	15.20	15.8	7.5	1097	20.1																																										
GW031856	09-Sep-14	900	14.70	15.3	7.3	1120	18	7.82	1140		<1	<1	388	388	23	101	46	30	142	3	<0.01	0.002						0.002	0.006	<0.001	<0.001				0.056	0.12	<0.0001		<0.01	0.2	0.2	11.1	11	0.31					
GW031856	20-Nov-14	0845	15.87	16.47	7.2	1120	24.5																																										
GW031856	26-Feb-15	1000	15.6	16.2	7.5	1090	25.6	7.94	1220	570	<1	<1	478	478	22	99	48	33	150	3	<0.01	0.001	<0.05	0.143	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	0.001		<0.01	0.01	0.197	<0.05	<0.0001	0.02	<0.01	0.21	0.21	12.8	11.7	4.47					
GW031856	26-May-15	1345	15.07	15.67	ressure at tap.																																												
GW031856	27-Aug-15	900	15.1	15.7	6.9	1120	14.7	7.8	1120	592	<1	<1	406	406	23	66	49	35	157	2	0.01	0.001	<0.05	0.126	<0.001	<0.0001	<0.001	<0.001	0.022	0.002	0.001	0.003	<0.01	<0.01	0.348	0.19	<0.0001	0.04	<0.01	0.21	0.21	10.4	12.2	7.71					
GW031856	04-Dec-15	905	18.77	19.37	7	1118	22.1																																										
GW031856	24-Feb-16	955	17.83	18.43	7.1	1117	23.8	7.89	1140	656	<1	<1	454	454	23	75	57	38	173	3	0.01	0.002	<0.05	0.154	<0.001	<0.0001	<0.001	<0.001	0.007	0.005	<0.001	<0.001	<0.01	0.01	0.035	0.09	<0.0001	0.05	<0.01	0.21	0.21	11.7	13.6	7.53					
GW031856	23-May-16	910	16.53	17.13	7.2	1121	21																																										
GW031856	06-Sep-16	1110	14	14.6	7.3	1140	16.7	7.61	1120		<1	<1	424	424		96	53	33	142	2	<0.01	0.001						0.001	0.057	0.001	0.002	0.009			0.594	0.25	<0.0001		<0.01	0.2	0.2	11.6	11.6	0.06					
GW031856	29-Nov-16	900	15.83	16.43																																													
GW031856	23-Mar-17		15.6	16.2	7.2	1130		8.08	1110	682	<1	<1	460	460	18	102	50	34	149	3	<0.01	0.001	<0.05	0.158	<0.001	<0.0001	<0.001	<0.001	0.03	0.002	<0.001	0.002	<0.01	0.01	0.068	0.06	<0.0001	0.02	<0.01	0.22	0.22	12.4	11.8	2.44					
GW031856	21-Jun-17	13:05	14.79	15.39	7.5	1152	14.7																																										
GW031856	13-Sep-17		17	17.6	7.4	1150		7.99	1130	601	<1	<1	497	497	22	82	56	35	159	3	<0.01	0.001	<0.05	0.146	<0.001	<0.0001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.01	<0.01	0.008	<0.05	<0.0001	0.03	<0.01	0.23	0.23	12.7	12.7	0.13					
GW031856	13-Dec-17	15:00	14.7	15.3	7.4	1133	25.6																																										
GW031856	13-Sep-18		13.7	14.3	7.3	1130	16.1	7.76	1150	598	<1	<1	433	433	20	110	51	32	139	2	0.01	0.002	<0.05	0.132	<0.001	<0.0001	<0.001	0.003	0.054	0.002	<0.001	0.018	<0.01	<0.01	0.527	0.82	<0.0001	0.02	<0.01	0.2	0.2	12.2	11.3	3.82					
GW031856	05-Dec-18		13.87	14.47	7.1	1190	24.4																																										
GW031856	14-Mar-19		24.4	25	7.2	1100	22.2	7.86	1050	736	<1	<1	451	451	19	68	42	29	155	3	0.01	0.001	<0.05	0.147	<0.001	<0.0001	<0.001	0.001	0.031	0.002	<0.001	0.002	<0.01	0.01	0.022	<0.05	<0.0001	0.01	<0.01	0.22	0.22	11.3	11.3	0.1				<20	<100
GW031856	19-Jun-19		23.16	23.76	7.3	1120	18.6																																										
GW031856	11-Sep-19		23.03	23.63	7.4	1160	16.9	7.92	1160	636	<1	<1	429	429	21	104	63	38	156	3	<0.01	0.001	<0.05	0.166	<0.001	<0.0001	<0.001	0.002	0.013	0.002	0.001	<0.001	<0.01	<0.01	0.2	<0.05	<0.0001		<0.01	0.26	0.26	11.9	13.1	4.75		<20	<50	<20	<100
GW031856	06-Dec-19		14.98	15.58	7.4	1180	25.9																																										
GW031856	17-Mar-20		15.32	15.92																																													
GW031856	11-Jun-20		15.07	15.67	7.3	1150	16.3																																										
GW031856	24-Sep-20		16.22	16.82	7.3	1090	19.5																																										
GW031856	08-Dec-20		13.75	14.35	7.5	1150	16.3	7.92	1110	654	<1	<1	480	480		105	54	35	152	3	<0.01	0.001	<0.05	0.149	<0.01	<0.0001	<0.001	<0.001	0.015	0.002	0.001	0.001	<0.01	0.01	1.12	0.08	<0.0001	<0.01	<0.01	0.24	0.24	13	12.3	2.79		<20	<50	<20	<100
GW031856	04-Mar-21		13.54	14.14	7.41	1135	23.4	7.46	800	520	<1	<1	273	273	34	66	64	18	93	<1	0.06	0.003	<0.05	0.082	<0.001	<0.0001	<0.001	0.001	0.006	0.11	<0.001	0.002	<0.01	0.02	0.03	2.68	<0.0001	<0.01	<0.01	6.92	6.92	8.02	8.72	4.16		<20	<50	<20	<100
GW031856	21-Jun-21		13.38	13.98	7.33	1145	17.5																																										
GW031856	02-Sep-21		13.31	13.91	6.97	1123	17.3	7.7	1120	728	<1	<1	498	498	21	99	56	34	153	3	0.03	0.002	<0.05	0.068	<0.001	<0.0001	<0.001	<0.001	<0.001	0.04	<0.001	<0.001	<0.01	0.01	0.01	0.59	<0.0001	<0.01	<0.01	7.05	7.05					<20	<50	<20	<100
GW031856	29-Dec-21		12.9	13.5	7.32	1206	19.3																																										
GW031856	21-Mar-22		12.84	13.44	7.23	1260	19.8	7.39	1130	734	<1	<1	463	463	20	107	55	35	152	3	0.1	0.002	<0.05	0.093	<0.001	<0.0001	<0.001	<0.001	0.001	0.453	0.002	<0.001	<0.01	0.02	0.024	6.43	<0.0001	0.04	<0.01	7.4	7.4	12.7	12.3	1.49		<20	<50	<20	<100
GW031856	06-Jun-22		12.73	13.33	7.1	1146	18.5																																										
GW031856	28-Sep-22		12.39	12.99	7.07	1126	21.5	7.43	1110	722	<1	<1	455	455	20	112	56	36	148	3	<0.01	0.001	<0.05	0.136	<0.001	<0.0001	<0.001	0.003	0.001	0.005	0.001	<0.001	<0.01	<0.01	<0.005	0.4	<0.0001	<0.01	<0.01	0.34	0.34	12.7	12.3	1.58		<20	<50	<20	<100
GW031856	12-Dec-22		11.98	12.58	7.21	1149	21.2																																										
TARRAWONGA																																																	
GW052266	02-Jun-06		7.67	8.1	7.9				1360					488	65	134	17	13	301	5		<0.001																											
GW052266	11-Jan-07		8.94	9.37	7.58				1950					457	126	362	45	29	389	8		<0.001				<0.0001		<0.005	<0.001		<0.001	<0.001			0.02		<0.0001												
GW052266	10-Jul-07		7.92	8.35	8.01	1330	13.3		1480					435	79	170	23	14	315	6		<0.001				<0.0001		<0.005	<0.001		<0.001	<0.001			0.01		<0.0001								10.61	<20	250		
GW052266	18-Jul-07		7.97	8.4																																													
GW052266	07-Aug-07	1300	7.94	8.37																																													
GW052266	22-Aug-07	1335	7.95	8.38																																													
GW052266	05-Sep-07	0955	8.02	8.45																																													
GW052266	24-Sep-07	1305	7.92	8.35																																													
GW052266	11-Oct-07	1050	7.9	8.33																																													
GW052266	26-Nov-07	1345	8	8.43																																													
GW052266	29-Jan-08	1420	8.01	8.44																																													
GW052266	04-Mar-08	1145	8.04	8.47																																													
GW052266	04-Apr-08	1210	8	8.43																																													
GW052266	22-Apr-08	0915	8.04	8.47	7.2	1230	20.6		1250					465	19	131	94	48	110	4.5		<0.001				<0.00005		<0.001	<0.001		0.006	0.0002			<0.005		<0.0001									<0.025	<0.1		
GW052266	21-Aug-08	1225	5.86	6.29																																													
GW052266	29-Oct-08	1725			8.7	1600	28.4		1600					450	93	220	19	17	270	6.5		<0.001				<0.00005		0.002	0.001		<0.001	0.0003			0.013		0.0006									<0.025	<0.100		
GW052266	28-Aug-09	1205	9.7	10.13																																													
GW052266	14-Dec-09	0840	11.3	11.35	7.4	922	23.3	7.51	838		<1	<1	252	252	31.6	64.1	55	16	84	<1	<0.01	0.003						<0.001	0.003	0.006	0.003	<0.001			0.018	<0.05	<0.0001		<0.01	6.09	6.09	7.51	7.72	1.36					
GW052266	25-Feb-10	1320	10.44	10.49																																													
GW052266	11-May-10	0940	10.43	10.48	8.23	954	18.6		813	446	<1	<1	241	241	34	68.3	54	16	80	<1		0.002		0.078	<0.001	<0.0001	<0.001	<0.001	0.002	0.017	0.004	0.002		0.01	0.024	0.54	<0.0001	0.05				7.46	7.52	0.42					
GW052266	16-Aug-10	1450	9.71	10.21	7.4	860	18.7																																										
GW052266	09-Nov-10	0900	10.53	10.58	6.98	817	24.1																																										
GW052266	10-Mar-11	1045	10.51	11.01	7.04	786	23.5	7	640		<1	<1	262	262	34	72	53	17	94	1	0.15	0.004						<0.001	0.024	0.034	0.001	0.002			0.103	1.28	<0.0001		0.34	4.32	4.66	7.98	8.2	1.34					
GW052266	06-Jun-11	0930	10.19	10.24	7.05	663	20.2																																										
GW052266	06-Sep-11	0920	10.51	10.56	6.94	714	20.2	7.48	823	464	<1	<1	260	260	38	71	57	16	90	<1	0.96	0.003		0.106	<0.001	<0.0001	<0.001	0.002	0.009	0.085	0.008	0.002		0.02	0.061	2.63	<0.0001	0.14	<0.01	6.35	6.35	7.99	8.08	0.53					
GW052266	07-Dec-11	0910	10.55	10.60	6.95	705	20.6																																										
GW052266	13-Mar-12	0900	9.18	9.23	7.04	784	21.6	7.54	821	498	<1	<1	267	267	37	68	57	17	99	<1	0.03	0.002		0.086	<0.001	<0.0001	<0.001	<0.001	0.113	0.005	0.012	0.003		0.02	0.15	0.1	<0.0001	<0.01	<0.01	5.92	5.92	8.44	8.55	0.65					
GW052266	13-Jun-12	900	8.38	8.43	7.05	837	20.4																																										
GW052266	04-Sep-12	1040	7.91	7.96	7.41	780	22.4	7.56	802	562	<1	<1	260	260	32	76	50	17	93	<1	0.04	0.003		0.078	<0.001	<0.0001	<0.001	<0.001	0.018	0.03	<0.001	0.002		0.01	0.068	0.92	<0.0001	0.07	0.01	5.53	5.54	8	7.94	0.42					
GW052266	27-Nov-12	0850	8.00	8.05	7.28	750	22																																										
GW052266	20-Mar-13	0915	9.24	9.29	7.18	740	21.4	7.13	798	326	<1	<1	244	244	28	80	54	17	89	<1	0.02	0.004		0.072	<0.001	<0.0001	<0.001	<0.001	0.034	0.007	0.001	0.002		0.01	0.176	0.16	<0.0001	0.02	<0.01	5.9	5.9	7.71	7.97	1.58					
GW052266	11-Jul-13	0920	7.79	7.84	7.25	822	18.1																																										
GW052266	05-Sep-13	935	8.29	8.34	7.09	590	22.4	7.62	782	493	<1	<1	238	238	35	73	48	16	95	<1	1.02	0.002	<0.001	<0.05	0.091	<0.0001	0.002	0.004	0.324	0.036	0.009	0.006	<0.01	0.02	0.19	1.72	<0.0001	<0.01				7.54	7.84	1.94					
GW052266	22-Nov-13	0920	7.84	7.89	7.2	670	21.8																																										
GW052266	24-Feb-14	910	7.74	7.79	7	727	21.2	7.48	737	514	<1	<1	203	203	33	66	42	14	83	<1	0.2	0.002	<0.001	<0.05	0.072	<0.0001	<0.001	0.001	0.112	0.03	0.003	0.007	<0.01	0.01	0.152	0.86	<0.0001	0.05				6.6	6.86	1.87					
GW052266	27-May-14	900	7.68	7.73	7.2	692	20.6																																										
GW052266	09-Sep-14	920	7.73	7.78	7.4	684	20.6	7.83	693		<1	<1	222	222	34	66	34	12	82	<1	0.22	0.0001						<0.001	0.007	0.318	0.003	<0.001			0.048	3.63	<0.0001		<0.01	1.75	1.75	7.01	6.25	4.83					
GW052266	20-Nov-14	0910	7.77	7.82	7.2	748	21.5																																										
GW052266	26-Feb-15	900	7.51	7.56	7.2	752	21.6	7.13	800	430	<1	<1	168	168	81	62	47	15	89	1	0.44	0.006	<0.05	0.086	<0.001	<0.0001	0.001	0.001	0.012	0.141	0.008	0.002	<0.01	0.03	0.214	22.9	<0.0001	0.54	0.74	5.12	5.86	9.56	7.48	14.2					
GW052266	26-May-15	915	7.75	7.8	7.3	713	20.2																																										
GW052266	27-Aug-15	925	7.76	7.81	7.2	707	19.7	7.61	712	380	<1	<1	218	218	36	48	40	15	85	2	0.06	<0.001	<0.05	0.049	<0.001	<0.0001	<0.001	<0.001	0.006	0.273	0.002	<0.001	<0.01	<0.01	0.093	16	<0.0001	0.19	0.03	0.46	0.49	6.46	6.98	3.85					
GW052266	04-Dec-15	930	7.83	7.88	7.1	734	20.5																																										
GW052266	24-Feb-16	900	7.86	7.91	7	752	21.7	7.5	508	508	<1	<1	219	219	37	56	52	15	90	<1	0.14	0.007	<0.05	0.084	<0.001	<0.0001	<0.001	<0.001	0.008	0.096	<0.001	<0.001	<0.01	0.03	0.067	30.6	<0.0001	0.1	<0.01	6.21	6.21	7.74	7.74	3.82					
GW052266	23-May-16	900	7.91	7.96	7	746	20.6																																										
GW052266	06-Sep-16	920	7.94	7.99	7.1	712	21.5	7.51	719		<1	<1	224	224		66	43	14	80	<1	0.12	0.001						<0.001	0.002	0.03	<0.001	<0.001			0.026	0.34	<0.0001		<0.01	3.05	3.05	7	6.78	1.65					
GW052266	29-Nov-16	930	7.79	7.84	7.3	752	21.3																																										
GW052266	23-Mar-17		7.67	7.72	7.3	780	21.5	7.81	780	490	<1	<1	246	246	29	67	47	17	90	<1	0.07	0.002	<0.05	0.071	<0.001	<0.0001	<0.001	<0.001	0.013	0.03	<0.001	<0.001	<0.01	0.01	0.05	0.39	<0.0001	0.02	<0.01	5.97	5.97	7.41	7.66	1.66					
GW052266	21-Jun-17	9:00	7.81	7.86	7.3	776	19.9																																										
GW052266	13-Sep-17		7.81	7.86	6.9	793	21	7.72	779	404	<1	<1	264	264	35	60	58	18	93	<1	0.61	0.001	<0.05	0.067	<0.001	<0.0001	<0.001	<0.001	0.002	0.176	0.001	<0.001	<0.01	0.01	0.029	2.56	<0.0001	0.04	<0.01	6.17	6.17	7.7	8.42	4.5					
GW052266	13-Dec-17	12:05	7.88	7.93	7.1	815	22.3																																										
GW052266	13-Sep-18		8.32	8.37	7	770	21.9	7.54	795	442	<1	<1	233	233	34	65	50	15	81	<1	0.14	0.004	<0.05	0.067	<0.001	<0.0001	<0.001	<0.001	0.002	0.055	0.001	<0.001	<0.01	0.01	0.019	0.49	<0.0001	0.03	<0.01	6.71	6.71	7.2	7.25	0.39					
GW052266	05-Dec-18		8.51	8.56	7	818	21.8																																										
GW052266	14-Mar-19		8.6	8.65	7.1	855	21.6	7.46	824	581	<1	<1	285	285	31	64	53	17	95	<1	0.18	0.003	<0.05	0.094	<0.001	<0.0001	<0.001	<0.001	0.002	0.284	0.002	<0.001	<0.01	0.02	0.047	2.92	<0.0001	0.03	<0.01	6.68	6.68	8.14	8.18	0.19				<20	<100
GW052266	19-Jun-19		8.66	8.71	7	780	19.8																																										
GW052266	11-Sep-19		8.7	8.75	6.9	810	21	7.6	814	478	<1	<1	227	227	33	62	61	17	89	<1	0.39	0.002	<0.05	0.075	<0.001	<0.0001	<0.001	0.002	<0.001	0.168	<0.001	<0.001	<0.01	0.01	0.016	1.69	<0.0001		<0.01	6.85	6.85	7.47	8.31	5.38		<20	<50	<20	<100
GW052266	05-Dec-19		8.7	8.75	7.1	840	21.8																																										
GW052266	17-Mar-20		8.67	8.72																																													
GW052266	11-Jun-20		8.56	8.61	7.1	795	21.1																																										
GW052266	23-Sep-20		8.36	8.41	7.2	780	19	7.73	751	527	<1	<1	263	263	34	60	57	17	91	<1	0.1	0.002	<0.05	0.078	<0.001	<0.0001	<0.001	<0.001	<0.001	0.056	<0.001	<0.001	<0.01	0.01	0.02	0.79	<0.0001	<0.01	<0.01	7.32	7.32	7.66	8.2	3.45		<20	<50	<20	<100

GW052266	08-Dec-20		8.46	8.51	7.1	795	18.7
GW052266	15-Mar-21		8.33	8.38	6.99	808	20.3	7.14	1120	728	<1	<1	497	497	22	114	51	36	161	3	<0.01	0.003	<0.05	0.151	<0.001	<0.0001	<0.001	0.003	0.004	0.002	<0.001	<0.001	<0.01	0.01	0.104	0.73	<0.0001	<0.01	<0.01	0.24	0.24	13.6	12.6	3.88						
GW052266	21-Jun-21		8.22	8.27	7.08	802	18.3
GW052266	02-Sep-21		8.16	8.21	6.28	796	17.1	7.19	790	514	<1	<1	283	283	33	65	57	17	90	<1	0.08	0.001	<0.05	0.141	<0.001	<0.0001	<0.001	0.006	0.007	0.03	0.002	0.004	<0.01	0.01	0.168	1.74	<0.001	<0.001	<0.01	0.23	0.23						<20	<50	<20	<100
GW052266	19-Dec-21		7.97	8.02	7	818	19
GW052266	21-Mar-22		7.69	7.74	7.03	872	22.4	7.14	799	519	<1	<1	247	247	33	70	56	17	88	<1	<0.01	<0.001	<0.05	0.139	<0.001	<0.0001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.01	<0.01	0.009	<0.05	<0.0001	<0.01	<0.01	0.23	0.23	7.6	8.02	2.72			<20	<50	<20	<100
GW052266	06-Jun-22		7.5	7.55	6.85	814	17.5
GW052266	28-Sep-22		7.15	7.2	8.82	785	21.7	7.17	737	479	<1	<1	245	245	33	70	56	17	86	<1	<0.01	0.002	<0.05	0.07	<0.001	<0.0001	<0.001	<0.001	<0.001	0.028	<0.001	<0.001	<0.01	0.01	<0.005	0.67	<0.0001	0.03	<0.01	8.04	8.04	7.56	7.93	2.44			<20	<50	<20	<100
GW052266	12-Dec-22		6.51	6.56	6.84	778	22.2
TEMPLEMORE A								
Templemore A	18-Jul-07		8.61	9.07
Templemore A	07-Aug-07	1135	11.33	11.79
Templemore A	22-Aug-07	1515	12.08	12.54
Templemore A	05-Sep-07	1208	12.09	12.55
Templemore A	24-Sep-07	1420	12.22	12.68
Templemore A	11-Oct-07	1215	12.08	12.54
Templemore A	26-Nov-07	1530	12.09	12.55
Templemore A	29-Jan-08	1540	12.05	12.51
Templemore A	04-Mar-08	1420	12.07	12.53
Templemore A	04-Apr-08	1145	9.16	9.62
Templemore A	21-Aug-08	1325	8.68	9.14
Templemore A	29-Jan-09	1118	7.84	8.3
Templemore A	17-Jun-09		8.65	9.39	7.7	1640	19.7	0.16	1500	1000	<1	<1	426	426	56	228	165	42	106	1		0.003		0.132	<0.001	<0.0001	<0.001	<0.001	0.021	0.247	0.002	0.002		<0.01	0.02		<0.0001	0.01				16.1	16.3	0.7
Templemore A	28-Aug-09	1242	8.92	9.4
Templemore A	23-Dec-09	1110	10.1	10.58	7.2	1473	24	7.54	1400		<1	<1	241	241	79	246	72	41	125	1	<0.01	0.002						<0.001	0.007	0.013	0.001	<0.001			0.025	<0.05	<0.0001		0.07	3.25	3.32	13.6	12.4	4.61
Templemore A	25-Feb-10	1055	9.16	9.64
Templemore A	11-May-10	1230	9.12	9.6	7.92	1083	21.2		1600	906	<1	<1	376	376	68.3	241	152	38	105	3		0.004		0.21	<0.001	0.0001	<0.001	<0.001	0.011	1.9	0.006	<0.001		0.01	0.019	0.11	<0.0001	3.1				15.7	15.4	1.13
Templemore A	30-Aug-10	1100	9.19	9.67	7.77	1590	22.1
Templemore A	09-Nov-10	1130	9.24	9.72	7.67	1485	23.7
Templemore A	14-Mar-11	1020	9.44	9.92	7.35	1486	24.8	7.56	1420		<1	<1	402	402	49	297	175	41	120	4	0.02	0.003						<0.001	0.011	3.31	0.005	<0.001			0.079	0.76	<0.0001		<0.01	0.09	0.09	17.4	17.4	0.03
Templemore A	06-Jun-11	1255	9.36	9.84	7.45	1392	20.2
Templemore A	06-Sep-11	1150	9.5	9.98	7.61	1395	21.8	8.04	1670	790	<1	<1	405	405	62	285	169	41	120	3	0.08	0.004		0.266	<0.001	<0.0001	<0.001	<0.001	0.004	1.81	0.004	<0.001		<0.01	0.033	0.1	<0.0001	1.37	0.12	0.46	0.58	17.4	17.1	0.9
Templemore A	09-Dec-11	1120	access to well - paddock flooded
Templemore A	13-Mar-12	1200	2.7	3.18	7.62	960	22.9	7.79	988	578	<1	<1	222	222	59	103	92	25	74	8	0.1	0.003		0.093	<0.001	<0.0001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001		<0.01	0.023	0.11	<0.0001	0.04	0.01	19.7	19.7	9.98	10.1	0.6
Templemore A	13-Jun-12	1250	3.28	3.76	7.31	826	20.2
Templemore A	06-Sep-12	1000	3.59	4.07	7.32	816	20.1	7.67	820	500	<1	<1	203	203	66	103	80	22	54	4	0.05	0.002		0.071	<0.001	<0.0001	<0.001	<0.001	0.017	0.008	<0.001	<0.001		<0.01	0.026	0.09	<0.0001	<0.01	<0.01	2.79	2.79	8.34	8.25	0.48
Templemore A	27-Nov-12	1130	3.85	4.33	7.42	812	21.1
Templemore A	21-Mar-13	1210	4.31	4.79	7.67	943	21.8	7.75	1020	614	<1	<1	242	242	74	116	97	24	60	9	1.68	0.003		0.114	<0.001	0.0001	0.001	0.001	0.142	0.501	0.005	0.01		<0.01	0.279	2.56	<0.0001	2.75	3.32	0.18	3.5	9.65	9.66	0.06
Templemore A	11-Jul-13	1120	5.34	5.82	7.68	1162	19.2
Templemore A	05-Sep-13	1220	4.29	4.77	7.57	1150	20.4	7.96	1240	765	<1	<1	284	284	96	175	119	30	93	5	0.07	0.003	<0.001	<0.05	0.119	<0.0001	<0.001	<0.001	0.068	0.688	0.003	0.003	<0.01	<0.01	0.103	0.12	<0.0001	0.07				12.6	12.6	0.1
Templemore A	22-Nov-13	1215	7.5	7.98	7.7	1189	19.8
Templemore A	20-Feb-14	1220	4.41	4.89	7.7	1110	20.7	7.71	1150	669	<1	<1	272	272	84	150	104	27	80	6	0.23	0.004	<0.001	<0.05	0.1	<0.0001	<0.001	0.001	0.105	0.432	0.005	0.012	<0.01	<0.01	0.204	0.75	<0.0001	4.83				11.4	11	1.63
Templemore A	27-May-14	1130	4.57	5.05	7.6	1281	20
Templemore A	09-Sep-14	1210	4.31	4.79	7.8	1150	19.3	7.98	1190		<1	<1	272	272	98	164	105	26	78	2	0.02	0.004						<0.001	0.012	0.011	<0.001	<0.001			0.031	0.86	<0.0001		<0.01	2.6	2.6	12	10.8	5.3
Templemore A	20-Nov-14	1300	4.78	5.26	7.9	1117	21.2
Templemore A	26-Feb-15	1340	5.27	5.75	7.9	1100	23.7	7.69	1210	674	<1	<1	242	242	105	157	109	27	84	4	0.2	0.003	<0.05	0.079	<0.001	<0.0001	<0.001	<0.001	0.015	0.1	0.002	<0.001	<0.01	<0.01	0.064	0.22	<0.0001	0.73	0.14	0.3	0.44	12.9	11.4	13.7
Templemore A	26-May-15	1300	5.59	6.07	7.9	1125	19.4
Templemore A	27-Aug-15	1335	5.64	6.12	7.9	1180	18.4	8.03	1190	755	<1	<1	264	264	82	134	113	27	87	3	0.04	0.002	<0.05	0.077	<0.001	<0.0001	<0.001	<0.001	0.019	0.014	<0.001	<0.001	<0.01	<0.01	0.034	0.05	<0.0001	0.04	<0.01	0.93	0.93	10.8	11.7	4.28
Templemore A	04-Dec-15	1215	5.77	6.25	7.8	1192	22.7
Templemore A	24-Feb-16	1245	6.08	6.56	7.8	1234	22.5	8.09	1300	668	<1	<1	340	340	88	176	147	30	102	4	0.03	0.004	<0.05	0.105	<0.001	<0.0001	<0.001	<0.001	0.012	0.415	0.001	0.001	<0.01	<0.01	0.037	0.11	<0.0001	0.5	0.44	<0.01	0.27	13.6	14.3	2.71
Templemore A	23-May-16	1230	6.31	6.79	7.9	1302	20.7
Templemore A	06-Sep-16	1340	6.43	6.91	7.9	1280	23.8	7.89	1300		<1	<1	338	338		183	134	26	89	4	0.04	0.003						<0.001	0.023	0.404	0.001	0.002			0.26	0.26	<0.0001		<0.01	2.14	2.14	13.5	12.8	2.64
Templemore A	29-Nov-16	1250	3.27	3.75	7.5	810	20.5
Templemore A	23-Mar-17		4.31	4.79	7.4	824	22.1	7.99	816	530	<1	<1	189	189	53	112	65	20	65	4	0.31	0.002	<0.05	0.07	<0.001	<0.0001	<0.001	<0.001	0.026	0.086	0.001	0.001	<0.01	<0.01	0.097	0.35	<0.0001	0.56	0.1	3.14	3.24	8.04	7.82	1.39
Templemore A	21-Jun-17	12:35	4.89	5.37	7.6	943	18.7
Templemore A	13-Sep-17		5.11	5.59	7.5	1050	20.3	8.08	1030	575	<1	<1	259	259	76	143	110	24	75	4	0.1	0.003	<0.05	0.076	<0.001	0.0002	<0.001	<0.001	0.02	0.018	<0.001	<0.001	<0.01	<0.01	0.07	0.1	<0.0001	0.05	<0.01	1.79	1.79	10.8	10.8	0.18
Templemore A	13-Dec-17	13:45	5.22	5.7	7.7	1091	210
Templemore A	13-Sep-18		6.39	6.87	7.7	1250	20.2	7.9	1280	762	<1	<1	287	287	84	201	114	26	86	2	0.03	0.003	<0.05	0.087	<0.001	<0.0001	<0.001	<0.001	0.025	0.078	<0.001	0.001	<0.01	<0.01	0.024	0.17	<0.0001	0.05	<0.01	1.54	1.54	13.2	11.6	6.19
Templemore A	05-Dec-18		6.66	7.14	7.7	1278	21.2
Templemore A	14-Mar-19		7.11	7.59	7.8	1230	21.3	7.77	1200	850	<1	<1	276	276	82	177	112	30	83	2	0.02	0.003	<0.05	0.096	<0.001	<0.0001	<0.001	<0.001	0.006	0.018	<0.001	<0.001	<0.01	0.01	0.025	0.11	<0.0001	0.12	0.08	3.49	3.57	12.2	11.7	2.07					<20	<100
Templemore A	19-Jun-19		7.31	7.79	7.5	1240	19.5
Templemore A	11-Sep-19		7.53	8.01	7.6	1290	19.6	8.06	1310	778	<1	<1	271	271	107	206	142	34	94	2	0.02	0.002	<0.05	0.092	<0.001	<0.0001	<0.001	<0.001	0.006	0.006	<0.001	<0.001	<0.01	<0.01	0.158	0.05	<0.0001		<0.01	2.19	2.19	13.4	14	2.08			<20	<50	<20	<100
Templemore A	05-Dec-19		7.77	8.25	7.7	1360	20.7
Templemore A	18-Mar-20		6.1	6.58	7.5	1480	21.6	7.9	1310	823	<1	<1	257	257	91	198	135	31	94	2	0.02	0.003	<0.05	0.061	<0.001	<0.0001	<0.001	<0.001	0.005	0.049	<0.001	<0.001	<0.01	<0.01	0.067	0.07	<0.0001	0.03	<0.01	6.39	6.39	12.6	13.4	2.98			<20	<50	<20	<100
Templemore A	11-Jun-20		3.62	4.1	7.6	785	19.6
Templemore A	23-Sep-20		4.65	5.13	7.8	950	17.8	7.56	930	6.18	<1	<1	233	233	67	125	81	20	69	3	0.07	0.002	<0.05	0.076	<0.001	<0.0001	<0.001	<0.001	0.003	0.006	<0.001	<0.001	<0.01	<0.01	0.072	0.09	<0.0001	<0.01	<0.01	5.19	5.19	9.58	8.77	4.42			<20	<50	<20	<100
Templemore A	08-Dec-20		5.3	5.78	7.9	1040	17.9
Templemore A	04-Mar-21		5.67	6.15	7.42	1175	22.5	7.55	1180	767	<1	<1	281	281	94	194	121	32	85	2	0.03	0.002	<0.05	0.102	<0.001	<0.0001	<0.001	<0.001	0.006	0.025	<0.001	<0.001	<0.01	0.01	0.149	<0.05	<0.0001	<0.01	0.02	9.49	9.51	13	12.4	2.45			<20	<50	<20	<100
Templemore A	21-Jun-21		5.93	6.41	7.36	1352	17.6
Templemore A	02-Sep-01		5.07	5.55	7.01	1398	20.3	7.94	1380	897	<1	<1	289	289	89	203	141	34	96	2	0.04	0.003	<0.05	0.098	<0.001	<0.001	<0.001	<0.001	0.002	0.014	0.001	<0.001	<0.01	0.01	0.082	<0.05	<0.0001	0.02		15	15						<20	<50	<20	<100
Templemore A	29-Dec-21		2.21	2.69	7.41	1387	20.4
Templemore A	21-Mar-22		2.6	3.08	7.23	822	21.6	7.34	754	490	<1	<1	253	253	42	64	68	19	57	5	0.03	0.003	<0.05	0.06	<0.001	<0.0001	<0.001	<0.001	0.006	0.0015	<0.001	<0.001	<0.01	<0.01	0.062	<0.05	<0.0001	0.03	<0.01	2.02	2.02	7.73	7.56	1.11			<20	<50	<20	<100
Templemore A	06-Jun-22		3.23	3.71	6.94	822	18.1
Templemore A	28-Sep-22		1.65	2.13	7.17	1058	19.6	7.38	967	628	<1	<1	250	250	75	155	101	28	69	6	0.04	0.002	<0.05	0.079	<0.001	<0.0001	<0.001	<0.001	<0.001	0.004	0.001	<0.001	<0.01	<0.01	0.036	0.11	<0.0001	<0.01	0.01	4.28	4.29	10.9	10.5	2			<20	<50	<20	<100
Templemore A	12-Dec-22		0.84	1.32	7.09	1009	22.6
TEMPLEMORE B								
Templemore B	18-Jul-07		9.89	9.89
Templemore B	07-Aug-07	1145	8.14	8.14
Templemore B	22-Aug-07	1525	8.31	8.31
Templemore B	05-Sep-07	1211	8.17	8.17
Templemore B	24-Sep-07	1425	8.05	8.05
Templemore B	11-Oct-07	1220	8.09	8.09
Templemore B	26-Nov-07	1535	7.9	7.9
Templemore B	29-Jan-08	1545	8.13	8.13
Templemore B	04-Mar-08	1425	8.44	8.44
Templemore B	04-Apr-08	1150	8.42	8.42
Templemore B	21-Aug-08	1329	10.55	10.55
Templemore B	29-Jan-09	1145	15.5	15.5
Templemore B	17-Jun-09		9.49	9.63	7.3	1810	19.5		1700	1080	<1	<1	419	419	106	240	118	52	175	2		0.002		0.145	<0.001	<0.0001	<0.001	<0.001	0.055	0.008	<0.001	<0.001		0.01	0.052	<0.05	<0.0001	<0.01				17.4	17.9	1.46
Templemore B	28-Aug-09	1250	12.69	12.83
Templemore B	23-Dec-09	1040	15.84	15.98	6.75	1491	24.4	7.44	1420		<1	<1	291	291	134	196	31	31	221	2	<0.01	0.003						<0.001	0.022	0.003	0.002	<0.001			0.068	<0.05	<0.0001		<0.01	0.74	0.74	14.1	13.8	1.29
Templemore B	25-Feb-10	1112	9.36	9.5
Templemore B	11-May-10	1250	10.52	10.66	8.01	1722	22.2		1540	854	<1	<1	328	328	129	204	85	30	194	2		0.002		0.059	<0.001	<0.0001	<0.001	<0.001	0.007	0.024	<0.001	<0.001		0.01	0.02	0.11	<0.0001	0.02				15	15.1	0.48
Templemore B	30-Aug-10	1145	17.65	17.79	7.23	1532	23.8
Templemore B	09-Nov-10	1215	9.94	10.08	7.19	1405	24.8
Templemore B	14-Mar-11	0940	17.11	17.25	7.21	1460	24.7	7.28	1400		<1	<1	339	339	136	264	97	37	200	2	0.28	0.002						<0.001	0.055	0.034	0.002	0.003			0.185	0.43	<0.0001		<0.01	2.85	2.85	17	16.6	1.3
Templemore B	06-Jun-11	1230	10.42	10.56	7.3	1370	21.5
Templemore B	08-Sep-11	1100	13.56	13.7	7.12	1387	20.8	7.54	1630	982	<1	<1	325	325	137	254	62	38	202	2	0.03	0.003		0.076	<0.001	<0.0001	<0.001	<0.001	0.015	0.005	<0.001	<0.001		0.01	0.019	<0.05	<0.0001	0.03	<0.01	0.73	0.73	16.5	15.1	4.62
Templemore B	07-Dec-11	1150	10.53	10.67	7.21	1360	21
Templemore B	13-Mar-12	1250	9.58	9.72	7.28	1680	23	7.7	1790	1040	<1	<1	338	338	142	307	116	42	228	2	0.07	0.002		0.09	<0.001	<0.0001	<0.001	<0.001	0.013	0.004	<0.001	<0.001		0.02	0.036	0.1	<0.0001	0.11	<0.01	3.37	3.37	18.4	19.2	2.24
Templemore B	13-Jun-12	1220	10.51	10.65	7.34	1704	20.8
Templemore B	04-Sep-12	1350	8.28	8.42	7.3	1770	21.4	7.63	1920	1200	<1	<1	364	364	181	326	110	46	248	2	0.05	0.002		0.099	<0.001	<0.0001	<0.001	<0.001	0.01	0.005	<0.001	<0.001		0.01	0.072	0.1	<0.0001	<0.01	<0.01	7.25	7.25	20.2	20.1	0.31
Templemore B	27-Nov-12	1200	7.65	7.79	7.37	1611	21.8
Templemore B	20-Mar-13	1330	12.36	12.5	7.29	1570	22.4	7.51	1700	886	<1	<1	335	335	137	255	94	36	235	2	0.04	0.004		0.069	<0.001	<0.0001	<0.001	<0.001	0.019	0.012	<0.001	0.001		0.01	0.064	0.09	<0.0001	0.03	<0.01	4.44	4.44	16.7	17.9	3.41
Templemore B	11-Jul-13	1145	6.08	6.22	7.22	1523	21.7
Templemore B	05-Sep-13	1240	6.1	6.24	7.24	1470	22.3	7.79	1620	988	<1	<1	304	304	158	242	78	32	230	2	0.28	0.003	<0.001	0.06	0.076	<0.0001	<0.001	<0.001	0.046	0.035	<0.001	0.002	<0.01	0.02	0.148	0.3	<0.0001	0.03				16.2	16.6	1.18
Templemore B	22-Nov-13	1235	7.89	8.03	7.4	1483	20.7
Templemore B	20-Feb-14	1240	8.31	8.45	7.5	1400	21.6	7.47	1470	829	<1	<1	293	293	142	199	69	29	204	1	0.1	0.004	<0.001	0.06	0.061	<0.0001	<0.001	<0.001	0.045	0.022	0.002	0.005	<0.01	0.02	0.129	0.38	<0.0001	0.02				14.4	14.7	1.03
Templemore B	27-May-14	1110	10.51	10.65	7.4	1566	19.7
Templemore B	09-Sep-14	1220	6.38	6.52	7.4	1390	21.5	7.7	1480		<1	<1	325	325	141	195	63	25	192	1	0.05	0.004						<0.001	0.007	0.004	<0.001	<0.001			0.028	0.07	0.0001		<0.01	2.3	2.3	14.9	13.6	4.76
Templemore B	20-Nov-14	1330	6.96	7.1	7.4	1523	22.3
Templemore B	26-Feb-15	1220	7.58	7.72	7.4	1450	23.6	7.89	1580	955	<1	<1	328	328	144	211	70	30	205	2	0.15	0.003	<0.05	0.064	<0.001	<0.0001	<0.001	<0.001	0.01	0.013	0.002	<0.001	<0.01	0.01	0.078	0.2	<0.0001	0.09	<0.01	2.38	2.38	15.5	14.9	1.9
Templemore B	26-May-15	1320	8.37	8.51	7.4	1453	20.6
Templemore B	27-Aug-15	1400	8.03	8.17	7.3	1480	19.2	7.73	1520	826	<1	<1	286	286	158	179	74	31	202	1	0.03	0.003	<0.05	0.061	<0.001	<0.0001	<0.001	<0.001	0.006	0.005	<0.001	0.003	<0.01	0.02	0.046	0.07	<0.0001	0.04	<0.01	2.07	2.07	14	15	3.43
Templemore B	04-Dec-15	1230	10.98	11.12	7.3	1572	22.8

Templemore B	24-Feb-16	1330	10.77	10.91	7.2	1465	23.4	7.77	1510	874	<1	<1	307	307	158	214	82	32	219	1	0.31	0.004	<0.05	0.069	<0.001	<0.0001	<0.001	<0.001	0.007	0.005	<0.001	<0.001	<0.01	0.01	0.046	1.7	<0.0001	0.05	<0.01	0.21	0.21	15.5	16.3	2.56					
Templemore B	23-May-16	1315	7.18	7.32	7.2	1481	21.8																																										
Templemore B	06-Sep-16	1425	13.46	13.6	7.2	1510	23.5	7.58	1560		<1	<1	325	325		240	90	30	196	2	0.25	0.004						<0.001	0.024	0.021	<0.001	0.003			0.153	1.12	<0.0001		<0.01	2.14	2.14	16.1	15.5	1.84					
Templemore B	29-Nov-16	1330	9.27	9.41	7.2	1345	21.3																																										
Templemore B	23-Mar-17		6.91	7.05	7.3	1500	23	8.02	1520	1040	<1	<1	322	322	129	235	71	31	197	1	0.04	0.003	<0.05	0.069	<0.001	<0.0001	<0.001	<0.001	0.014	0.012	<0.001	<0.001	<0.01	0.02	0.035	0.08	<0.0001	0.02	<0.01	2.42	2.42	15.7	14.7	3.48					
Templemore B	21-Jun-17	13:30	6.46	6.6	7.4	1613	19.7																																										
Templemore B	13-Sep-17		6.68	6.82	7.6	1600	21.13	8.3	1620	916	<1	<1	360	360	149	245	89	37	213	2	<0.01	0.003	<0.05	0.07	<0.001	<0.0001	<0.001	0.001	0.011	0.009	0.004	<0.001	<0.01	0.01	0.044	0.23	<0.0001	0.04	<0.01	2.31	2.31	17.2	16.8	1.19					
Templemore B	13-Dec-17	14:40	6.61	6.75	7.4	1425	22.4																																										
Templemore B	13-Sep-18		7.22	7.36	7.1	1440	22	7.59	1480	777	<1	<1	305	305	135	233	74	27	180	2	0.07	0.003	<0.05	0.058	<0.001	<0.0001	<0.001	<0.001	0.001	0.004	<0.001	<0.001	<0.01	0.02	0.033	0.09	<0.0001	0.05	<0.01	1.89	1.89	15.5	13.8	5.74					
Templemore B	05-Dec-18		10.22	10.36	7.1	1520	21.7																																										
Templemore B	14-Mar-19		7.71	7.85	7.3	1390	22.9	7.58	1410	874	<1	<1	319	319	138	194	66	66	66	66	0.03	0.003	0.05	0.063	<0.001	<0.0001	<0.001	<0.001	0.001	0.003	<0.001	<0.001	<0.01	0.02	0.025	0.11	<0.0001	0.01	<0.01	1.3	1.3	14.7	14.4	0.96				<20	<100
Templemore B	19-Jun-19		7.67	7.81	7.2	1580	20.5																																										
Templemore B	11-Sep-19		9.01	9.15	7.4	1780	21.3	7.84	1820	1010	<1	<1	376	376	121	322	143	65	174	2	<0.01	0.002	<0.05	0.134	<0.001	0.0003	<0.001	0.001	0.02	0.006	0.06	0.003	<0.01	0.02	0.394	1.04	<0.0001		<0.01	1.55	1.55	19.1	20.1	2.52		<20	<50	<20	<100
Templemore B	05-Dec-19		8.21	8.35	7.4	1820	22.1																																										
Templemore B	18-Mar-20		9.66	9.8	7.5	1480	21.6	7.71	1550	856	<1	<1	291	291	142	242	91	32	202	2	0.02	0.003	<0.05	0.061	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	0.02	0.019	<0.05	<0.0001	0.01	<0.01	1.41	1.41	15.6	15.5	0.37		<20	<50	<20	<100
Templemore B	11-Jun-20		9.29	9.43	7.4	1460	20.4																																										
Templemore B	23-Sep-20		8.88	9.02	7.3	1380	19	7.78	1450	878	<1	<1	340	340	132	224	77	26	162	2	0.03	0.002	<0.05	0.06	<0.001	<0.0001	<0.001	<0.001	0.001	0.003	<0.001	0.001	<0.01	0.02	0.022	<0.05	<0.0001	<0.01	<0.01	1.36	1.36	15.9	13.1	9.61		<20	<50	<20	<100
Templemore B	08-Dec-20		11.47	11.61	7.3	1420	19.8																																										
Templemore B	04-Mar-21		9.87	10.01	7.41	1412	23.4	7.41	1400	520	<1	<1	345	345	143	233	84	30	197	2	<0.01	0.003	<0.05	0.059	<0.001	<0.0001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.01	0.02	0.019	<0.05	<0.0001	0.04	<0.01	1.33	1.33	16.4	15.3	3.66		<20	<50	<20	<100
Templemore B	21-Jun-21		9.17	9.31	7.13	1493	18.3																																										
Templemore B	02-Sep-21		8.37	8.51	6.29	1581	21.3	7.36	1580	1030	0.7	<1	362	362	128	238	94	32	200	1	0.02	0.002	<0.05	0.057	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	0.01	0.029	<0.05	<0.0001	<0.01		2.51	2.51							<20	<100
Templemore B	29-Dec-21		10.22	10.36	7.2	1670	21.8																																										
Templemore B	21-Mar-22		10.96	11.1	7.24	1708	22.5	7.37	1530	994	<1	<1	344	344	136	244	91	31	188	2	0.02	0.003	<0.05	0.058	<0.001	<0.0001	<0.001	<0.001	0.001	0.007	<0.001	<0.001	<0.01	0.02	0.02	<0.05	0.0004	0.03	<0.01	2.54	2.54	16.6	15.3	3.97		<20	<50	<20	<100
Templemore B	06-Jun-22		3.57	3.71	6.94	822	18.1																																										
Templemore B	28-Sep-22		8.18	8.32	7.18	1030	21.9	7.34	1500	975	<1	<1	359	359	147	263	95	36	197	2	0.05	0.002	<0.05	0.066	<0.001	<0.0001	<0.001	<0.001	0.006	0.033	<0.001	<0.001	<0.01	0.01	0.033	0.16	<0.0001	<0.01	<0.01	2.34	2.34	17.6	16.3	3.91		<20	<50	<20	<100
Templemore B	12-Dec-22		6.96	7.1	7.19	2135	23.3																																										
REGIONAL BORES																																																	
Reg 6																																																	
Reg 6	21-Aug-15			20.08																																													
Reg 6	24-Sep-15			20.13	12.28	2580	19.2	11.6	2270	1170	<1	90	60	150	111	520	14	<1	491	42	<0.01	<0.001	<0.05	0.126		<0.0001		0.006	0.005	<0.001	0.001	<0.001			0.027	<0.05		0.84	<0.01	0.14	0.14	20	23.1	7.29					
Reg 6	29-Oct-15			20.16																																													
Reg 6	27-Nov-15			20.15																																													
Reg 6	29-Dec-15			20.17	8.02	2310	33.9	8.15	2360	1420	<1	<1	234	234	147	532	47	23	358	9	<0.01	<0.001	0.08	0.048		<0.0001		<0.001	<0.001	0.13	0.001	<0.001			0.006	<0.05		0.16	<0.01	0.01	0.01	22.7	20	6.33					
Reg 6	15-Jan-16			20.25																																													
Reg 6	17-Feb-16			20.31																																													
Reg 6	11-Mar-16			20.43	7.95	2336	25.3	8.05	2300	1250	<1	<1	228	228	151	527	49	28	359	10	<0.01	0.001	0.06	0.054		<0.0001		<0.001	<0.001	0.129	0.004	<0.001			<0.005	<0.05		0.12	<0.01	<0.01	<0.01	22.6	20.6	4.52					
Reg 6	18-Apr-16			20.52																																													
Reg 6	12-May-16			20.42																																													
Reg 6	14-Jun-16			20.43	11.61	2480	16.3	10.7	2270	943	30	95	<1	124	112	528	12	<1	408	31	0.04	0.003	0.07	0.107		<0.0001		<0.001	0.006	0.001	0.004	<0.001			0.006	<0.05		1.13	0.43	1.89	2.32	19.7	19.1	1.48					
Reg 6	21-Jun-16			20.36	8.33	2280	11.7	7.33	2240	1370	<1	<1	283	283	148	466	46	21	348	8	<0.01	<0.001	0.07	0.058		<0.0001		<0.001	<0.001	0.047	0.001	<0.001			<0.005	<0.05		0.13	<0.01	0.01	0.01	21.9	19.4	6.12					
Reg 6	12-Jul-16			20.33																																													
Reg 6	08-Aug-16			20.29																																													
Reg 6	05-Sep-16			20.27	7.77	2148	17.8	8.16	2160	1080	<1	<1	216	216	161	478	52	23	401	8	<0.01	0.002	0.08	0.053		<0.0001		<0.001	<0.001	0.129	0.002	<0.001			<0.005	0.08		0.1	<0.01	0.04	0.04	21.2	22.1	2.25					
Reg 6	05-Oct-16			20.24																																													
Reg 6	04-Nov-16			20.24																																													
Reg 6	23-Dec-16			20.27	8.46	2108	27.1	8.26	2050	1350	<1	<1	226	226	137	458	47	22	326	11	<0.01	0.001	0.07	0.069		<0.0001		<0.001	<0.001	0.071	0.002	<0.001			<0.005	<0.05		0.2	0.03	0.02	0.05	20.3	18.6	4.29					
Reg 6	18-Jan-17			20.24																																													
Reg 6	14-Feb-17			20.27																																													
Reg 6	09-Mar-17			20.3	8.31	2156	20.8	8.23	2140	1160	<1	<1	197	197	137	462	41	22	350	11	<0.01	0.001	1.7	0.076		<0.0001		<0.001	<0.001	0.017	0.003	0.012			<0.05	0.21		<0.01	<0.01	0.07	19.8	1.17							
Reg 6	05-Apr-17			20.32																																													
Reg 6	10-May-17			20.32																																													
Reg 6	06-Jun-17			20.23	8.65	2126	13.7	8.32	2050	1480	<1	1	194	195	133	452	46	25	378	10	<0.01	0.002		0.055		<0.0001		<0.001	<0.001	0.012	0.003	0.009			<0.05	0.11		<0.01	0.03	10.9	19.4	4.04							
Reg 6	04-Jul-17			20.19																																													
Reg 6	08-Aug-17			20.19																																													
Reg 6	26-Sep-17			20.27	9.06	2450	18.9	8.58	2320	1200	<1	29	219	248	109	510	22	29	457	22	<0.01	0.001		0.028		<0.0001		0.001	<0.001	0.047	0.009	0.047			<0.05	0.27		0.11	0.2	0.07	21.6	5.08							
Reg 6	12-Oct-17			20.23																																													
Reg 6	09-Nov-17			20.29																																													
Reg 6	20-Dec-17			20.3	7.9	2210	41.8	8.25	2090	1080	<1	<1	224	224	156	481	40	16	325	9	<0.01	<0.001		0.05		<0.0001		<0.001	<0.001	0.017	0.003	0.01			<0.05	0.13		0.03	0.1	0.17	21.3	9.27							
Reg 6	11-Jan-18			20.34																																													
Reg 6	07-Feb-18			20.75																																													
Reg 6	27-Mar-18			21.31	8.28	2060	27.1	8.41	2130	1100	<1	10	184	195	182	482	40	16	328	13	<0.01	<0.001		0.052		<0.0001		<0.001	<0.001	0.02	0.002	0.021			<0.05	0.26		<0.01	0.08	0.08	21.3	8.6							
Reg 6	10-Apr-18			20.7																																													
Reg 6	07-May-18			21.65																																													
Reg 6	14-Jun-18			21.92	8.14	2080	15.4	8.21	2020	1080	<1	<1	234	234	135	472	45	20	344	9	<0.01	<0.001		0.043		<0.0001		<0.001	<0.001	0.013	0.002	0.006			<0.05	0.1		<0.01	0.02	0.76	20.8	4.3							
Reg 6	05-Jul-18			22.2																																													
Reg 6	09-Aug-18			22.2																																													
Reg 6	03-Sep-18			22.07	7.69	2076	16.9	8.52	2060	782	<1	14	200	214	130	429	42	20	340	10	<0.01	<0.001		0.048		<0.0001		<0.001	<0.001	0.014	0.002	0.008			<0.05	0.11		<0.01	<0.01	0.07	19.1	0.78							
Reg 6	08-Oct-18			22.02																																													
Reg 6	08-Nov-18			22.16																																													
Reg 6	11-Dec-18			22.36	8.01	2040	29.2	8.5	2060	1150	<1	21	200	220	147	459	50	22	350	11	<0.01	0.001		0.049		<0.0001		<0.001	<0.001	0.013	0.002	0.006			<0.05	0.06		<0.01	<0.01	0.76	20.4	1.47							
Reg 6	08-Jan-19			22.4																																													
Reg 6	11-Feb-19			22.23																																													
Reg 6	05-Mar-19			22.34	8.2	2044	29.9	7.94	2090	1090	<1	<1	188	188	88	444	40	19	346	10	<0.01	<0.001		0.056		<0.0001		<0.001	<0.001	0.017	0.002	0.011			<0.05	0.13		<0.01	<0.01	0.13	18.1	2.03							
Reg 6	02-Apr-19			22.48																																													
Reg 6	02-May-19			22.61																																													
Reg 6	05-Jun-19			22.7	8.15	2146	22.2	8.19	2100	1100	<1	<1	200	200	144	459	38	18	335	10	<0.01	<0.001		0.055		<0.0001		<0.001	<0.001	0.016	0.006	0.01			<0.05	0.12		0.07	0.12	0.07	19.9	4.55							
Reg 6	03-Jul-19			22.75																																													
Reg 6	05-Aug-19			22.79																																													
Reg 6	05-Sep-19			22.81	7.58	2336	33.4	7.98	2440	1320	<1	<1	201	201	156	508	43	30	378	15	<0.01	0.001		0.057		<0.0001		<0.001	<0.001	0.017	0.017	0.029			0.06	0.12		<0.01	0.02	<0.01	21.6	0.36							
Reg 6	10-Oct-19			22.87																																													
Reg 6	04-Nov-19			22.89																																													
Reg 6	28-Nov-19			22.92	8.01	2062	27.5	8	2060	1060	<1	<1	216	216	148	509	40	18	324	10	<0.01	0.001		0.052		<0.0001		<0.001	<0.001	0.013	0.004	0.008			<0.05	0.11		<0.01	<0.01	0.03	21.8	9.93							
Reg 6	14-Jan-20			24.98																																													
Reg 6	13-Feb-20			22.9																																													
Reg 6	12-Mar-20			22.69	8.45	2025	9.9	8.21	2080	1140	<1	<1	209	209	146	488	42	17	333	11	<0.01	<0.001	0.06	0.063		<0.0001			<0.001	0.07	0.006	<0.001			<0.005	<0.05		0.08	0.09	0.02	0.11	21	18.3	6.93					
Reg 6	07-Apr-20			22.43																																													
Reg 6	12-May-20			22.15																																													
Reg 6	10-Jun-20			22.04	7.7	2042	17.2	7.98	2000	1060	<1	<1	212	212	134	469	40	19	349	10	<0.01	0.001	0.07	0.06		<0.0001			0.001	0.091	0.004	<0.001			0.008	<0.05		0.06	<0.01	0.02	0.02	20.2	19	3.21					
Reg 6	07-Jul-20			21.93																																													
Reg 6	10-Aug-20			21.79																																													
Reg 6	10-Sep-20			21.75	7.89	2046	15.8	7.79	2020	1110	<1	<1	218	218	134	437	42	18	342	9	<0.01	0.001	<0.05	0.048		<0.0001			0.004	0.117	0.002	<0.001			0.008	<0.05		0.06	<0.01	0.03	0.03	19.5	18.7	2.07					
Reg 6	19-Oct-20			21.71																																													
Reg 6	04-Nov-20			21.65																																													
Reg 6	26-Nov-20			21.64	7.98	2005	32.4	7.97	2120	1220	<1	<1	216	216	204	425	48	20	333	9	<0.01	<0.001	0.06	0.042		<0.0001			0.002	0.105	0.004	<0.001			0.013	<0.05		0.05	<0.01	<0.01	<0.01	20.6	18.8	4.57					
Reg 7a																																																	
Reg 7a	20-Mar-14			6.61	7.23	1230	21.7	7.83	950	606	<1	<1	374	374	25	84	62	30	108	2	<0.01	0.007	<0.05	0.084		<0.0001		<0.001	0.002	2.53	0.002	<0.001			0.029	1.23		0.1	<0.01	0.05	0.05	10.4	10.3	0.26					
Reg 7a	23-Apr-14			6.19																																													
Reg 7a	27-May-14			6.23																																													
Reg 7a	26-Jun-14			6.28	7.01	846	16.9	7.52	884		<1	<1	369	369	28	64	58	26	103	2	<0.01	0.005	<0.05	0.084		<0.0001		<0.001	<0.001	1.83	<0.001	<0.001			0.013	1.38		0.03	<0.01	0.12	0.12	9.76	9.57	1.03					
Reg 7a	29-Jul-14			6.32																																													
Reg 7a	26-Aug-14			6.37				7.77	871	354	<1	<1	358	358	35	61	55	28	106	2	<0.001	0.006	<0.05	0.08		<0.0001		<0.001	0.003	1.42	0.001	<0.001			0.048	<0.05		0.03	<0.01	0.06	0.06	9.6	9.71	0.54					
Reg 7a	29-Sep-14			6.57																																													
Reg 7a	28-Oct-14			6.58																																													
Reg 7a	27-Nov-14			6.67																																													
Reg 7a	17-Dec-14			6.69	7.6	805	23.8	8.11	853	428	<1	<1	300	300	38	66	45	22	89	2	<0.01	0.004	<0.05	0.072		<0.0001		<0.001	0.002	1.23	0.002	<0.001			0.076	<0.05		0.03	<0.01	0.02	0.02	8.65	7.98	4.04					
Reg 7a	20-Jan-15			6.76																																													
Reg 7a	18-Feb-15			6.85																																													
Reg 7a	17-Mar-15			6.93	7.51	857	22	7.61	834	491	<1	<1	393	393	43	48	56	30	111	2	<0.01	0.008	<0.05	0.09		<0.0001		<0.001	0.002	1.25	0.002	<0.001			0.051	0.69		0.03	<0.01	0.17	0.17	10.1	10.1	0.18					
Reg 7a	21-Apr-15			7.04																																													
Reg 7a	27-May-15			7.19																																													
Reg 7a	29-Jun-15			7.35	7.19	778	20	7.31	793	486	<1	<1	336	336	42	45	55	26	97	2	<0.1	0.008	<0.05	0.084		<0.0001		<0.001	<0.001	0.956	<0.001	<0.001			0.019	0.7		0.01	<0.01	0.02	0.02	8.86	9.15	1.63					
Reg 7a	24-Jul-15			7.41	7.32	1985	19.1																																										
Reg 7a	21-Aug-15			7.58																																													
Reg 7a	18-Sep-15			7.71	7.86	747	20.1	7.41	772	450	<1	<1	297	297	36	55	52	27	104	2	<0.01	0.008	<0.05	0.085		<0.0001		<0.001	<0.001	0.86	<0.001	<0.001			0.037	0.29		0.07	<0.01	0.09	0.09	8.24	9.39	6.54					
Reg 7a	29-Oct-15			7.87																																													

Reg 7a	26-Nov-15			7.93																																													
Reg 7a	29-Dec-15			8.03	7.05	841	23.5	7.79	860	468	<1	<1	332	332	45	53	51	24	94	1	<0.01	0.009	<0.05	0.089		<0.0001		<0.001	<0.001	1.05	0.001	<0.001			0.008	0.7		<0.01	<0.01	<0.01	<0.01	9.06	8.63	2.45					
Reg 7a	15-Jan-16			8.15																																													
Reg 7a	17-Feb-16			8.22																																													
Reg 7a	11-Mar-16			8.29	7.47	778	17.4	7.77	788	418	<1	<1	310	310	31	45	44	24	100	2	<0.01	0.008	<0.05	0.076		<0.0001		<0.001	<0.001	0.711	0.002	<0.001			0.029	0.35		0.04	<0.01	0.02	0.02	8.11	8.57	2.75					
Reg 7a	19-Apr-16			8.42																																													
Reg 7a	11-May-16			8.48																																													
Reg 7a	14-Jun-16			8.65	7.38	786	15	7.77	758	374	<1	<1	300	300	20	40	44	21	86	1	<0.01	0.007	<0.05	0.078		<0.0001		<0.001	<0.001	0.68	0.001	<0.001			0.022	0.31		0.03	<0.01	<0.01	<0.01	7.54	7.69	0.97					
Reg 7a	12-Jul-16			8.62																																													
Reg 7a	08-Aug-16			8.7																																													
Reg 7a	05-Sep-16			7.96	7.25	780	15.7	7.49	790	416	<1	<1	304	304	33	41	50	21	98	1	<0.01	0.006	<0.05	0.09		<0.0001		<0.001	<0.001	0.81	0.002	<0.001			0.019	0.44		0.03	<0.01	0.05	0.05	7.92	8.51	3.59					
Reg 7a	05-Oct-16			6.03																																													
Reg 7a	04-Nov-16			5.76																																													
Reg 7a	15-Dec-16			5.94	7.66	742	16.2	7.8	714	496	<1	<1	296	296	26	46	43	20	79	2	0.06	0.006	<0.05	0.058		<0.0001		0.002	0.003	0.005	0.006	<0.001			0.023	<0.05		0.02	<0.01	0.56	0.56	7.75	7.28	3.15					
Reg 7a	18-Jan-17			6.06																																													
Reg 7a	14-Feb-17			6.25																																													
Reg 7a	09-Mar-17			6.34	7.22	878	17.8	7.81	860	456	<1	<1	305	305	43	58	53	24	92	2	<0.01	0.006	0.3	0.096		<0.0001		<0.001	<0.001	0.001	0.011	0.002			0.43	0.03		<0.01	<0.01	0.14	8.62	0.28							
Reg 7a	03-Apr-17			6.45																																													
Reg 7a	11-May-17			6.61																																													
Reg 7a	06-Jun-17			6.66	7.31	869	14.1	7.67	833	496	<1	<1	311	311	36	58	53	24	98	2	<0.01	0.006		0.093		<0.0001		<0.001	<0.001	0.002	0.003	0.002			0.36	0.02		0.02	0.02	0.07	8.6	1.91							
Reg 7a	04-Jul-17			6.72																																													
Reg 7a	09-Aug-17			6.8																																													
Reg 7a	08-Sep-17			6.81	7.45	806	15.4	7.92	774	452	<1	<1	345	345	26	45	45	20	89	2	<0.01	0.003		0.075		<0.0001		0.001	<0.001	<0.001	0.003	0.002			0.35	0.46		0.04	0.04	0.22	8.7	5.39							
Reg 7a	17-Oct-17			6.93																																													
Reg 7a	08-Nov-17			7.01																																													
Reg 7a	20-Dec-17			7.18	6.79	898	34.5	7.74	850	421	<1	<1	358	358	38	54	52	26	108	2	<0.01	0.005		0.094		<0.0001		0.008	<0.001	0.003	0.001	0.003			0.12	<0.01		<0.01	<0.01	0.08	9.47	0.08							
Reg 7a	09-Jan-18			7.27																																													
Reg 7a	06-Feb-18			7.48																																													
Reg 7a	27-Mar-18			7.75	7.05	852	15.3	7.44	899	506	<1	<1	329	329	47	58	54	24	92	1	<0.01	0.004		0.087		<0.0001		0.008	<0.001	<0.001	0.002	0.002			0.3	0.02		0.07	0.07	0.1	9.19	2.74							
Reg 7a	09-Apr-18			7.84																																													
Reg 7a	07-May-18			8.01																																													
Reg 7a	14-Jun-18			8.18	7.35	790	20.9	7.73	799	427	<1	<1	350	350	34	48	49	23	96	1	<0.01	0.005		0.089		<0.0001		0.004	<0.001	<0.001	<0.001	0.002			0.23	<0.01		13.7	13.7	0.12	9.05	2.93							
Reg 7a	05-Jul-18			8.28																																													
Reg 7a	09-Aug-18			8.46																																													
Reg 7a	10-Sep-18			8.62	7.28	822	22.2	7.69	766	398	<1	<1	295	295	28	46	41	21	89	1	<0.01	0.005		0.077		<0.0001		0.007	<0.001	<0.001	0.002	0.001			0.22	0.02		0.02	0.02	0.11	7.77	0.67							
Reg 7a	08-Oct-18			8.68																																													
Reg 7a	08-Nov-18			8.81																																													
Reg 7a	19-Dec-18			8.97	7.33	794	26	8.51	752	460	<1	30	293	323	36	51	54	25	100	2	<0.01	0.004		0.092		<0.0001		<0.001	<0.001	0.001	0.001	0.002			0.26	0.02		0.04	0.04	0.12	8.64	2.87							
Reg 7a	08-Jan-19			8.98																																													
Reg 7a	11-Feb-19			9.05																																													
Reg 7a	13-Mar-19			9.11	7.28	821	30.5	7.61	784	485	<1	<1	336	336	35	52	48	22	94	1	<0.01	0.003	0.2	0.089		<0.0001		<0.001	<0.001	<0.001	0.001	0.002			0.2	0.06		0.07	0.07	0.1	8.91	3.42							
Reg 7a	02-Apr-19			9.21																																													
Reg 7a	02-May-19			9.16																																													
Reg 7a	05-Jun-19			9.04	7.2	936	22.1	7.85	881	525	<1	<1	320	320	43	60	52	27	96	1	<0.01	0.003		0.096		<0.0001		<0.001	<0.001	<0.001	<0.001	0.002			0.31	<0.01		0.07	0.07	0.1	8.98	0.2							
Reg 7a	04-Jul-19			9.12																																													
Reg 7a	05-Aug-19			9.17																																													
Reg 7a	09-Sep-19			9.25	9.53	862	22.1	7.32	912	510	<1	<1	287	287	36	47	51	25	97	1	<0.01	0.004		0.096		<0.0001		0.007	<0.001	<0.001	0.003	0.002			0.21	<0.01		0.04	0.04	0.09	7.81	6.23							
Reg 7a	10-Oct-19			9.35																																													
Reg 7a	04-Nov-19			9.38																																													
Reg 7a	27-Nov-19			9.34	7.28	839	24.6	7.4	888	482	<1	<1	341	341	39	55	49	24	96	2	<0.01	0.004		0.093		<0.0001		0.004	<0.001	0.001	0.002	0.002			0.09	0.02		0.02	0.02	0.01	9.18	2.97							
Reg 7a	21-Jan-20			9.53																																													
Reg 7a	25-Feb-20			8.77																																													
Reg 7a	12-Mar-20			8.37	7.28	912	22.4	7.29	885	533	<1	<1	376	376	43	59	65	28	100	2	<0.01	0.003	<0.05	0.11		<0.0001			<0.001	0.416	0.002	<0.001			0.064	0.17		0.02	<0.01	<0.01	<0.01	10.1	9.95	0.62					
Reg 7a	07-Apr-20			7.83																																													
Reg 7a	13-May-20			7.05																																													
Reg 7a	10-Jun-20			7.03	6.99	961	9	7.19	968	558	<1	<1	344	344	60	65	62	28	110	2	<0.01	0.002	<0.05	0.123		<0.0001			<0.001	0.353	<0.001	<0.001			0.044	0.1		<0.01	0.02	0.4	0.42	9.96	10.2	1.38					
Reg 7a	07-Jul-20			7.05																																													
Reg 7a	11-Aug-20			7.04																																													
Reg 7a	11-Sep-20			7.11	7.07	984	20.4	7.18	957	551	<1	<1	360	360	60	67	60	27	116	2	<0.01	<0.001	<0.05	0.113		<0.0001			0.001	0.343	0.001	<0.001			0.052	0.13		<0.01	<0.01	0.42	0.42	10.3	10.3	0.09					
Reg 7a	19-Oct-20			7.06																																													
Reg 7a	04-Nov-20			7.08																																													
Reg 7a	07-Dec-20			7.06	7.07	469	27.9	7.4	896	540	<1	<1	343	343	59	60	58	26	103	2	<0.01	<0.001	<0.05	0.109		<0.0001			0.006	0.317	0.002	<0.001			0.064	0.07		<0.01	0.01	0.24	0.25	9.77	9.56	1.08					
Reg 14																																																	
Reg 14	18-Mar-14			20.58	7.63	1575	26.9	7.76	1260	959	<1	<1	354	354	36	188	35	14	233	3	0.7	0.012	<0.05	0.08		0.0002		<0.001	0.019		0.006	0.008			0.043	3.08		0.13	<0.01	<0.01	<0.01	13.1	13.1	0.09					
Reg 14	23-Apr-14			20.54																																													
Reg 14	27-May-14			19.67																																													
Reg 14	25-Jun-14			19.45				7.72	1290		<1	<1	396	396	34	170	38	13	268	4	0.03	0.003	<0.05	0.072		<0.0001		<0.001	0.002		0.004	<0.001			0.015	0.09		0.2	<0.01	0.34	0.34	13.4	14.7	4.62					
Reg 14	29-Jul-14			19.4																																													
Reg 14	27-Aug-14																																																	
Reg 14	29-Sep-14			22.41																																													
Reg 14	28-Oct-14			21.2																																													
Reg 14	27-Nov-14			19.97																																													
Reg 14	17-Dec-14			19.85	7.85	1198	29.1	8.14	1250	710	<1	<1	347	347	24	181	30	10	205	3	<0.01	0.01	<0.05	0.056		<0.0001		<0.001	<0.001		0.001	<0.001			0.024	<0.05		0.29	<0.01	0.05	0.05	12.5	11.3	5.17					
Reg 14	20-Jan-15			20.14																																													
Reg 14	18-Feb-15			20.67																																													
Reg 14	17-Mar-15			20.67	8.23	1226	22.9	8.09	1220	758	<1	<1	449	449	30	175	38	12	253	2	<0.01	0.01	0.05	0.05		<0.0001		<0.001	<0.001		0.002	<0.001			0.009	<0.05		0.32	<0.01	0.03	0.03	14.5	13.9	2.12					
Reg 14	21-Apr-15			19.95																																													
Reg 14	27-May-15			19.77																																													
Reg 14	29-Jun-15			19.65	8.62	1178	21	7.85	1200	699	<1	<1	380	380	29	164	44	11	239	3	0.02	0.008	<0.05	0.044		<0.0001		<0.001	0.001		0.001	<0.001			0.01	<0.05		0.25	<0.01	0.05	0.05	12.8	13.6	2.81					
Reg 14	24-Jul-15			19.59																																													
Reg 14	21-Aug-15			19.57																																													
Reg 14	24-Sep-15			19.54	8.24	786	17.6	7.85	797	480	<1	<1	287	287	38	59	22	8	167	2	<0.01	0.004	<0.05	0.041		<0.0001		<0.001	<0.001		0.002	<0.001			0.039	0.07		0.01	<0.01	0.05	0.05	8.19	9.07	5.06					
Reg 14	29-Oct-15			20.27																																													
Reg 14	27-Nov-15			19.74																																													
Reg 14	29-Dec-15			20	7.26	917	27	7.95	959	535	<1	<1	329	329	48	77	27	8	179	2	<0.01	0.009	<0.05	0.038		<0.0001		<0.001	<0.001		0.002	<0.001			0.006	0.41		0.03	<0.01	0.02	0.02	9.74	9.84	0.46					
Reg 14	15-Jan-16			20.76																																													
Reg 14	17-Feb-16			21.04																																													
Reg 14	11-Mar-16			21.24	7.62	995	29.6	8.01	983	504	<1	<1	320	320	40	78	26	10	184	2	<0.01	0.004	<0.05	0.034		<0.0001		<0.001	<0.001		0.004	<0.001			0.007	0.09		0.04	<0.01	<0.01	<0.01	9.43	10.2	3.78					
Reg 14	18-Apr-16			20.34																																													
Reg 14	11-May-16			20.14																																													
Reg 14	14-Jun-16			19.92	8.08	876	17	8.15	871	444	<1	<1	292	292	40	68	25	7	154	2	<0.01	0.004	<0.05	0.044		<0.0001		<0.001	<0.001		0.002	<0.001			0.01	0.12		0.12	<0.01	0.04	0.04	8.58	8.57	0.11					
Reg 14	12-Jul-16			19.79																																													
Reg 14	05-Aug-16			19.75																																													
Reg 14	05-Sep-16			19.75	8	886	17.4	7.96	921	519	<1	<1	291	291	45	64	21	7	159	1	<0.01	0.003	<0.05	0.043		<0.0001		<0.001	<0.001		0.002	<0.001			<0.005	0.09		0.16	<0.01	0.04	0.04	8.56	8.56	0.01					
Reg 14	05-Oct-16			19.65																																													
Reg 14	04-Nov-16			19.6																																													
Reg 14	15-Dec-16			19.76	8.15	888	17.2	8.12	856	600	<1	<1	297	297	36	83	26	7	162	2	<0.01	0.004	<0.05	0.041		<0.0001		<0.001	<0.001		0.002	<0.001			<0.005	0.08		0.16	<0.01	0.05	0.05	9.02	8.97	0.3					
Reg 14	18-Jan-17			20.53																																													
Reg 14	14-Feb-17			20.43																																													
Reg 14	09-Mar-17			20.23	7.36	972	20.1	7.88	938	660	<1	<1	320	320	47	76	22	8	177	2	<0.01	0.005	0.3	0.034		<0.0001		<0.001	<0.001		0.007	0.003			0.34	0.05		0.01	0.01	0.28	9.52	0.05							
Reg 14	05-Apr-17			19.7																																													
Reg 14	10-May-17			19.72																																													
Reg 14	06-Jun-17			19.56	8.22	908	14.9	8.34	935	504	<1	5	271	276	34	82	29	8	169	2	<0.01	0.002		0.042		<0.0001		<0.001	<0.001		0.002	0.004			0.1	0.21		<0.01	<0.01	0.09	8.54	5.39							
Reg 14	03-Jul-17			19.49																																													
Reg 14	08-Aug-17			19.42																																													
Reg 14	15-Sep-17			19.77	8.16	916	17.3	8.15	893	419	<1	<1	298	298	41	81	26	7	163	2	<0.01	0.003		0.039		<0.0001		<0.001	<0.001		0.002	0.003			0.09	0.23		0.03	0.03	0.12	9.09	0.43							
Reg 14	12-Oct-17			20.33																																													
Reg 14	08-Nov-17			19.97																																													
Reg 14	20-Dec-17			20.15	7.1	938	24.6	8.34	928	576	<1	6	306	312	44	104	26	7	158	2	<0.01	0.003		0.033		<0.0001		<0.001	<0.001		0.001	0.002			0.09	0.18		0.04	0.04	0.08	10.1	6.81							
Reg 14	09-Jan-18			21.27																																													
Reg 14	06-Feb-18			21.65																																													
Reg 14	26-Mar-18			20.77	7.14	1002	18.1	7.62	1050	595	<1	<1	325	325	75	102	26	8	178	2	<0.01	0.004		0.028		<0.0001		<0.001	<0.001		0.002	0.005			0.28	0.03		0.02	0.02	0.26	10.9	5.72							
Reg 14	09-Apr-18			20.77																																													
Reg 14	07-May-18			20.68																																													
Reg 14	14-Jun-18			21.96	7.4	980	18.4	7.84	978	566	<1	<1	335	335	54	78	24	8	184	2	<0.01	0.003		0.03		<0.0001		<0.001	<0.001		0.003	<0.001			0.37	0.03		<0.01	<0.01	0.25	10	0.54							

Reg 14	05-Jul-18			21.04																																													
Reg 14	09-Aug-18			20.91																																													
Reg 14	03-Sep-18			20.44	6.9	1024	22.4	8.55	988	520	<1	22	288	310	41	65	22	7	170	1	<0.01	0.004		0.032		<0.0001		<0.001	<0.001		0.002	<0.001			0.27	0.05		<0.01	<0.01	0.24	8.88	1.18							
Reg 14	08-Oct-18			20.96																																													
Reg 14	08-Nov-18			20.96																																													
Reg 14	11-Dec-18			21.25	7.51	948	25	8.55	951	588	<1	29	332	361	45	81	26	9	189	2	<0.01	0.003		0.038		<0.0001		<0.001	<0.001		0.003	0.001			0.08	0.03		<0.01	<0.01	0.23	10.4	0.6							
Reg 14	08-Jan-19			22.07																																													
Reg 14	11-Feb-19			22.05																																													
Reg 14	04-Mar-19			22.05	7.67	988	29.4	7.6	993	608	<1	<1	269	269	58	92	26	8	185	2	<0.01	0.003		0.021		<0.0001		<0.001	<0.001		0.003	0.002			<0.05	0.08		<0.01	<0.01	0.16	9.18	4.56							
Reg 14	02-Apr-19			21.33																																													
Reg 14	02-May-19			21.01																																													
Reg 14	05-Jun-19			21.03	7.51	1017	23.8	8.22	972	588	<1	<1	305	305	41	88	25	9	177	2	<0.01	0.003		0.032		<0.0001		<0.001	<0.001		0.005	0.006			0.06	0.08		<0.01	<0.01	0.21	9.43	1.61							
Reg 14	04-Jul-19			21																																													
Reg 14	05-Aug-19			21.38																																													
Reg 14	04-Sep-19			20.91	7.22	1223	31.2	7.8	1240	670	<1	<1	265	265	70	157	29	14	202	4	<0.01	0.003		0.034		<0.0001		<0.001	<0.001		0.012	0.011			0.13	0.15		0.02	0.02	0.16	11.2	1.36							
Reg 14	10-Oct-19			21.59																																													
Reg 14	04-Nov-19			21.24																																													
Reg 14	26-Nov-19			21.41	7.48	1435	30.9	7.75	1360	713	<1	<1	255	255	243	168	50	12	222	7	<0.01	0.003		0.032		<0.0001		<0.001	<0.001		0.009	0.029			<0.05	0.12		<0.01	<0.01	0.1	14.9	5.58							
Reg 14	14-Jan-20			21.72																																													
Reg 14	13-Feb-20			21.25																																													
Reg 14	11-Mar-20			20.85	7.75	994	21.4	7.72	1010	654	<1	<1	337	337	54	114	29	9	175	2	<0.01	0.003	<0.05	0.026		<0.0001			<0.001		0.009	<0.001			0.008	<0.05		0.15	<0.01	<0.01	<0.01	11.1	9.85	5.84					
Reg 14	07/04/202			20.64																																													
Reg 14	12-May-20			20.54																																													
Reg 14	10-Jun-20			20.5	7.27	1048	19.2	7.58	1040	488	<1	<1	320	320	49	126	24	9	199	2	<0.01	0.003	<0.05	0.034		<0.0001			0.001		0.011	<0.001			0.02	<0.05		0.05	<0.01	0.01	0.01	11	10.6	1.49					
Reg 14	07-Jul-20			20.45																																													
Reg 14	11-Aug-20			20.44																																													
Reg 14	10-Sep-20			20.41	7.45	1034	17	7.47	1060	646	<1	<1	343	343	81	106	28	9	194	2	<0.01	0.003	<0.05	0.031		<0.0001			<0.001		0.004	<0.001			0.016	<0.05		0.06	<0.01	0.04	0.04	11.5	10.6	4.07					
Reg 14	19-Oct-20			20.65																																													
Reg 14	04-Nov-20			20.57																																													
Reg 14	27-Nov-20			21.1	7.52	472	30.5	7.54	1040	694	<1	<1	348	348	78	109	26	8	184	2	<0.01	0.003	<0.05	0.027		<0.0001			<0.001		0.004	<0.001			0.013	<0.05		0.04	<0.01	0.02	0.02	11.6	10	7.58					