



Annual Groundwater Monitoring Report - 2025

Mereenie Oil and Gas Field

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1 Introduction

Central Petroleum Ltd (CTP) operates four oil and gas fields across the Amadeus Basin in the Northern Territory (NT). Conditions of approval of Environmental Management Plans (EMPs) for the field operations required the development of groundwater monitoring plans (GMPs) to demonstrate that there is *no change in the groundwater quality as a result of activities*. Accordingly, the following plan was submitted to the NT Government in accordance with the EMP conditions:

- 9900-630-PLN-0002: Mereenie Oil and Gas Field Groundwater Monitoring Plan

This document has been prepared to satisfy the annual EMP reporting requirements of the GMP for the 2025 calendar year for the Mereenie Field.

In accordance with EMP requirements for an interpretative report of groundwater quality, this report includes:

- identification of any change to groundwater quality or level attributable to conduct of the regulated activity and discussion of the significance of and cause of any such change;
- interpretation of any statistical outliers observed from baseline measured values for each of the analytes listed in Table 6 of the Code;
- a summary of the results including descriptive statistics;
- discussion of any trends observed.

2 Monitoring Scope

The monitoring locations are shown on Figure 1. Table 1 provides a summary of the scope included in the GMP and the scope completed during the 2025 calendar year.

The end of wet season monitoring was performed on 14 May 2025 and the pre-wet season monitoring was performed on 2 October 2024.

Deviations from the GMP scopes included:

- Field parameters were not collected on either occasion from any of the bores. These are not required by the Code of Practice¹ but are included in the GMP for quality control purposes, and
- A field blind duplicate was not collected in October 2025.

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Table 1 Groundwater monitoring locations and scope

Field	Location	Water Quality	
		May	October
Mereenie	RN004620	✓	✓
	RN018955	✓	✓
	RN017898	✓	✓
	RN013861	✓	✓
	RN017657	✓	✓

* Datum = GD94

	Not in scope	✓	Partially completed
✓	Completed	✗	Not completed

3 Water quality monitoring results

The water quality monitoring suite is consistent with Table 6 of the Code of Practice: Onshore Petroleum Activities in the Northern Territory (NTG, 2025).

Water quality monitoring results for the 2025 calendar year are provided in Appendix A.

Quality of the laboratory results is assured, in addition to NATA accredited laboratory internal quality control checks, through the collection of field blind duplicates and calculation of relative percentage differences between primary and duplicate samples. Duplicate samples were however not collected in the October 2025 monitoring event.

Quality assurance results for the May 2025 event are provided in Appendix A. These show good agreement between the primary and duplicate samples (relative percentage differences (RPDs) <30%), therefore the laboratory analyses have acceptable repeatability.

3.1 Comparison with performance criteria

In accordance with the GMPs, the ANZECC (2000) livestock values have been used as interim performance standards while sufficient data is accumulated to develop site-specific performance standards. DES (2021) suggests that a minimum of eight samples are required to develop site-specific performance standards. Eight monitoring events have now been undertaken for most monitoring locations. Site specific performance standards will be developed for the 2025 annual report.

The results of the monitoring are tabulated in Appendix A and have identified the following exceedances of the interim performance standards:

- In May 2024:
 - Gross Alpha exceeded the ANZECC (2000) livestock guideline value (0.5 Bq/L) in RN013861 (1.22 Bq/L)
 - Gross Beta (excluding k-40) exceeded the ANZECC (2000) livestock guideline value (0.5 Bq/L) in RN004620 (0.63 Bq/L).
 - Sulphate exceeded the ANZECC (2000) livestock guideline value (1,000 mg/L) in RN013861 (1,560 mg/L)

- In October 2025:
 - Gross Alpha exceeded the ANZECC (2000) livestock guideline value (0.5 Bq/L) in RN013861 (1.24 Bq/L), RN011831 (0.6 Bq/L) and RN018955 (1.87 Bq/L)
 - Gross Beta (excluding k-40) exceeded the ANZECC (2000) livestock guideline value (0.5 Bq/L) in RN004620 (0.56 Bq/L)

3.2 Trend analysis

A Mann-Kendall test for trend has been performed for all bores and all chemical parameters where there are three or more results. The output of the Mann-Kendall test is included in the bore-by-bore statistical summaries provided as Appendix B. Where the Mann-Kendall test identified a trend (either rising or falling), a timeseries graph of the data was prepared. These graphs are also included in Appendix B.

The trends identified by the Mann-Kendall test are summarised in Table 2 below. Observations with respect to the total dissolved solids trends have been included. Total dissolved solids (TDS) provides an indication of the overall water quality. Despite the trends, none of these parameters exceed the performance criteria.

Table 2 Parameter trends

Location	Parameter	Trend direction	Trend description	Comments
RN004620	Field electrical conductivity	Falling	Gradual decline in electrical conductivity from a maximum of 1,390 $\mu\text{S}/\text{cm}$ in May 2021 to the most recent available value of 1,095 $\mu\text{S}/\text{cm}$ in October 2024.	RN004620 is one of the oldest water supply bores in the Mereenie field. The falling trends indicate a general improvement in water quality.
	pH (laboratory)	Falling	Some longer term cyclicity apparent in the field measured pH, but with overall gradual long term decline.	
	Gross alpha	Falling	Rising trend in gross alpha over 2021/2022, but with subsequent drop in concentration. The 2024 and 2025 results were roughly equal to the 20 th percentile of the results.	
	Gross beta	Falling	Gradual longer term declining trend from the start of monitoring (2021) through to May 2025. Greater decrease in concentration from May 2025 (0.8 Bq/L) to October 2025 (0.67 Bq/L).	
	Gross beta (excluding k-40)	Falling	Gradual longer term declining trend from May 2022 through to May 2025. Greater decrease in concentration from May 2025 (0.63 Bq/L) to October 2025 (0.56 Bq/L).	
	Calcium	Falling	The calcium concentration has shown some variability over a short range (54 mg/L to 61 mg/L) between May 2021 and October 2024. The most recent result in October 2025 returned a concentration of 42 mg/L.	
RN018955	Chloride	Rising	The chloride concentration exhibited a gradually rising trend from May 2021 (53 mg/L) to May 2025 (66 mg/L), however the most recent concentration (October 2025) increased to 103 mg/L, which is significantly greater than the P80 (67 mg/L).	The rapidly rising or falling trends in several parameters indicate that the quality of the water extracted from RN018955 may be starting to change. There have been no detections of petroleum hydrocarbons or dissolved gases, nor an increase in salinity, which would be indicative of petroleum activities.
	Sulphate	Falling	The sulphate concentration remaining between 31 mg/L and 38 mg/L between May 2021 and October 2024. The concentration decreased to 29 mg/L in May 2025 and then decreased significantly to 5 mg/L in October 2025.	
	Fluoride	Rising	The fluoride concentration was reported as 0.5 mg/L between May 2021 and October 2024. In May 2025 the concentration increased to 0.6 mg/L and then to 0.7 mg/L in October 2025.	

Location	Parameter	Trend direction	Trend description	Comments
	Magnesium	Rising	The magnesium concentration exhibits some variability between May 2021 and October 2024, ranging in concentration between 8 mg/L and 11 mg/L. There appears to be a more recent slight rising trend from October 2024 (9 mg/L) to October 2025, when the reported concentration was 11 mg/L. This trend is not unprecedented in the magnesium data.	
	Iron	Rising	Except for recent data and September 2023, the iron concentration has generally been reported <LOR. In September 2023 the reported concentration was 0.24 mg/L. The May 2025 concentration was reported as 0.19 mg/L and the October 2025 concentration was reported as 0.25 mg/L.	
	Chromium	Falling	When monitoring commenced in 2021, the chromium concentration was 0.006 mg/L. It fluctuated between 0.004 mg/L and 0.006 mg/L until October 2022 and then decreased to <LOR from May 2023 to May 2024. The October 2024 sample increased in concentration to 0.004 mg/L, but the May and October 2025 samples have been reported as <LOR.	
	Manganese	Rising	Prior to 2025, the manganese concentration fluctuated between 0.07 mg/L and 0.145 mg/L. In May 2025 the concentration was reported as 0.127 mg/L rising to 0.415 mg/L in October 2025.	
RN017898	Electrical conductivity (field)	Falling	Decline in electrical conductivity (EC) from 475 µS/cm in May 2021 to 382 µS/cm October 2024. Field electrical conductivity has not been measured in 2025.	RN017898 is regularly used to supply water to site operations. Observed trends suggest a marginal improvement in groundwater quality from this bore. Laboratory chemistry data from the Bore Report reported electrical conductivity of 445 µS/cm which is very similar to the median of the values reported (441 µS/cm). The trends are attributed to natural variation.
	pH (laboratory)	Falling	Some longer term cyclicity apparent in the laboratory measured pH, but with overall very gradual long term decline. October 2024 reported lowest pH on record – pH 7.0 – but increased to pH 7.45 in May 2025 and then declined to pH 7.1 in October 2025.	
	Fluoride	Rising	From May 2021 to May 2024 the fluoride concentration was reported to be 0.6 mg/L. In October 2024 the concentration increased to 0.7 mg/L but then decreased to 0.6 mg/L in May 2025. In October 2025 the concentration again increased to 0.7 mg/L.	

Location	Parameter	Trend direction	Trend description	Comments
RN013861	Calcium	Falling	The calcium concentration exhibited some variability between 510 mg/L and 578 mg/L between May 2021 and May 2025. In October 2025 the concentration decreased to 432 mg/L.	RN013861 is located in the East Mereenie field and is in regular use. Variable trends in only a small number of parameters alludes to natural variability or laboratory introduced variability. The presence of low concentrations of dissolved methane in the absence of ethane and propane is suggestive of a biogenic source as opposed to leakage from the gas reservoir which would be of thermogenic origin.
	Methane	Rising	Prior to April 2024 dissolved methane had not been detected in RN013861. The April 2024 concentration was reported as 37 µg/L, however the concentration in October 2024 was <LOR. In May 2025 the reported concentration was 42 µg/L and then 59 µg/L in October 2025.	
RN017657	Magnesium	Rising	The reported magnesium concentration in May 2021 was 27 mg/L. It rose to a local maximum of 32 mg/L in October 2022. No data was available from the sample collected in October 2022 to the sample collected in May 2025, when the reported concentration was 30 mg/L. The most recent reported concentration (October 2025) was 32 mg/L.	RN017657 is located in the central part of the Mereenie oil and gas field. The variable trends in only a small number of parameters alludes to natural variability.
	Silica	Rising	The dissolved silica concentration has exhibited a very gradual rising trend over the period of monitoring. The initial concentration (May 2021) was 15.7 mg/L and the October 2025 concentration was 16.9 mg/L.	

3.3 Exceedance investigations

The following investigation was undertaken in accordance with the exceedance response framework regarding the Gross Alpha and Gross Beta exceedances reported in the 2021-2025 sample results:

- Exceedances of the interim performance standards of Gross Alpha and Gross Beta are consistent with historical exceedances reported in previous Groundwater Monitoring Reports.
- Gross alpha and gross beta levels in excess of the guideline values are not uncommon across the Northern Territory, for example:
 - Power and Water Corporation report that roughly 50% of the communities sampled exceed the radiological guidelines (https://www.powerwater.com.au/data/assets/pdf_file/0026/26774/2018-Power-and-Water-Drinking-Water-Quality-Report.pdf).
 - Alice Springs, Borroloola and Pine Creek have had exceedances of the guideline values for gross alpha and gross beta from their water supply bores (https://water.australianmap.net/physical_chemical/radionuclides-other-beta-and-gamma-emitting/).
 - The values observed in the CTP groundwater monitoring program are roughly equal to the values reported by the NTG (https://depws.nt.gov.au/data/assets/pdf_file/0006/726585/betaloo-groundwater-monitoring-report.pdf).

It was considered likely that the presence of elevation concentrations in gross alpha and gross beta and the observed trends are due to natural occurrences and variability.

The repeated exceedance of the sulphate concentration in RN013861 was investigated during 2023 and 2024, with the following findings:

- RN013861 was drilled to 213 m in 1984. The Statement of Bore (SoB) for indicates a small supply was encountered at 70 mbgl, which was cased in the construction of the bore, however the annulus was not cemented.
- Chemistry records from the SoB identify the TDS as 614 mg/L (by summation) and the sulphate concentration as 192 mg/L in 1984. Only one set of analytical results is available prior to 2013.
- CTP has monitoring records from RN013861 from 2013 to 2015. The TDS ranged from 2,300 mg/L to 2,900 mg/L and sulphate ranged from 1,620 mg/L to 2,000 mg/L
- RN016889, drilled in 1996, is located within 20 m of RN013861. It was drilled to 71.5 m with a reported TDS of 5,010 mg/L and sulphate concentration of 250 mg/L. These concentrations are considered likely to represent the groundwater quality in the shallower aquifer.
- The sulphate concentration in RN013861 has since decreased to less than the ANZECC (2000) livestock drinking water guideline value, with the most recent report concentration of 869 mg/L.
- The increased salinity (as measured by TDS) in RN013861 may have been due to inter-aquifer leakage either through the bore annulus or through compromised casing. The source of the sulphate remains unknown.

RN018955 reported relatively large increases or decreases in several parameters in the October 2025 sample. The purged water when the sample was collected was dark coloured and had a strong odour. The bore is not in frequent use and it is suspected that either surface water has entered the bore or water from a shallow horizon is seeping into the bore over time via a compromised casing join. The bore will be purged for a minimum of six well volumes during the next sampling event.

Other statistically significant trends, as determined by the Mann-Kendall test for trend and identified in Table 2, are believed to be due to natural variability.

No further investigations or response actions have been performed since the 2024 report was prepared.

4 Conclusions

There is no evidence of a change in the groundwater quality due to CTP's activities at the Mereenie oil and gas field.

The previously elevated sulphate concentration in RN013861 decreased to less than the livestock drinking water quality guideline in the most recent sample collected. The recent presence and rising trend of dissolved methane in RN013861 is considered most likely to be related to biogenic methane rather than leakage from the gas reservoir to the Mereenie Sandstone. The parameter trends in this bore will continue to be watched, with further investigation if they indicate CTP's activities may be affecting water quality.

RN018955 will undergo additional purging prior to collection of the next sample to assist in investigating the observed increases and decreases in concentrations of several parameters in the October 2025 monitoring round.

CTP will ensure that field parameters are routinely collected in future monitoring events.

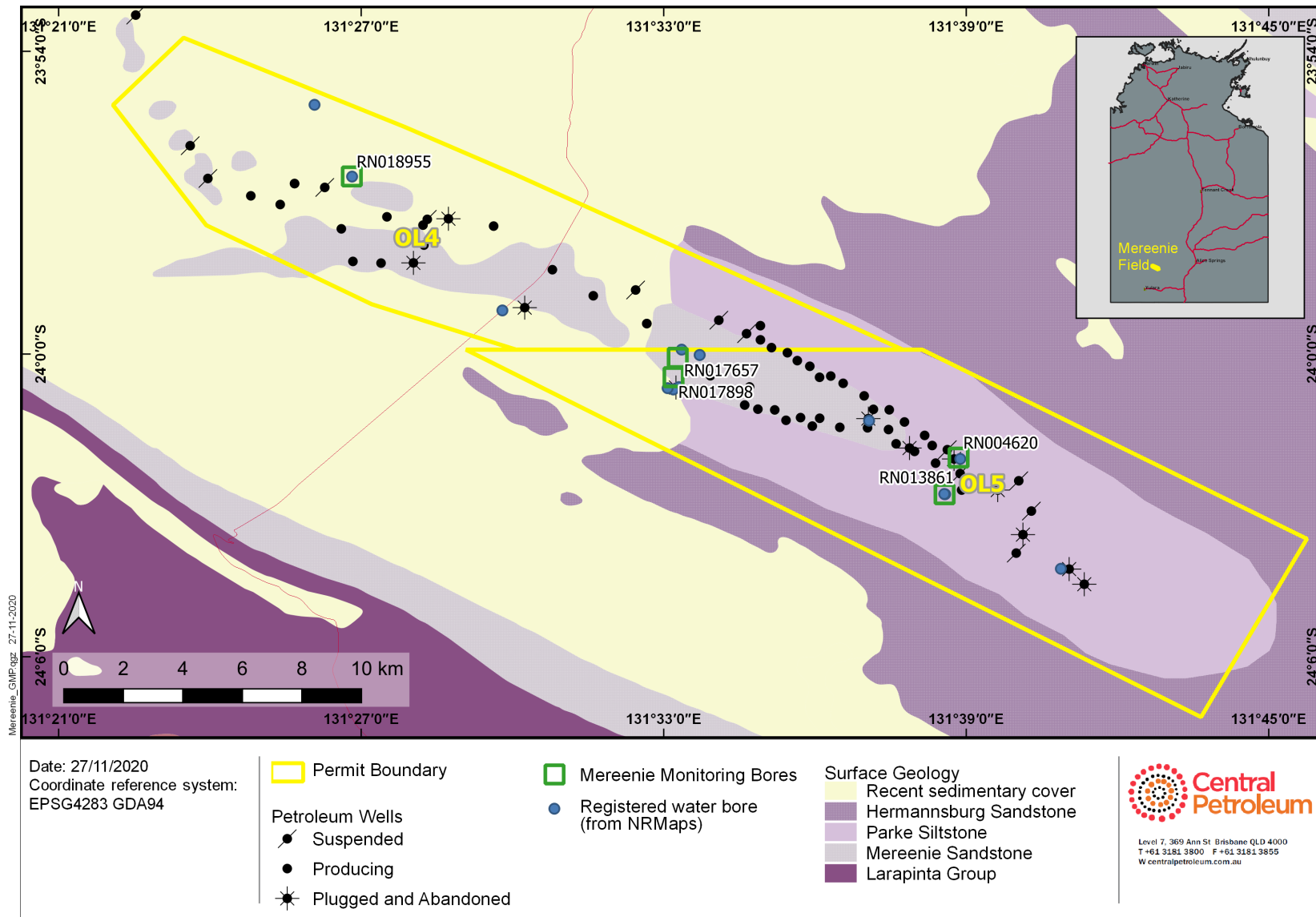
5 References

ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 1, The Guidelines. Australian and New Zealand Environment and Conservation Council (ANZECC) & Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), 2000.

DES (2021) Using monitoring data to assess groundwater quality and potential environmental impacts. Version 2. Department of Environment and Science (DES), Queensland Government, Brisbane.

NTG (2025) Code of Practice: Onshore Petroleum Activities in the Northern Territory. Department of Environment and Natural Resources, Department of Primary Industry and Resources. Northern Territory Government. 19 February 2025.

Figure 1 Groundwater monitoring locations relative to permit boundary – Mereenie Oil and Gas Field



Appendix A - Water Quality and Quality Control Results

Monitoring Event: May-2025		Field		Mereenie				
		Location	RN004620	RN018955	RN017898	RN013861	RN017657	
		Date	14/5/2025	14/5/2025	14/5/2025	14/5/2025	14/5/2025	
		ANZECC (2000) Livestock						
Field Parameters	Units	LOR						
Electrical conductivity	µS/cm	-	1	Not measured	Not measured	Not measured	Not measured	Not measured
pH	pH Unit	-	0.01	Not measured	Not measured	Not measured	Not measured	Not measured
Temperature	°C	-	0.1	Not measured	Not measured	Not measured	Not measured	Not measured
General Parameters								
pH (laboratory)	pH Unit	-	0.01	7.72	7.37	7.45	7.55	7.34
Electrical conductivity (laboratory)	µS/cm	-	1	1260	355	910	3510	957
Total dissolved solids ¹	mg/L	4000	1	819	231	592	2280	622
Total suspended solids	mg/L	-	1	<LOR	23	4	2	<LOR
Gross alpha	Bq/L	0.5	0.05	0.16	0.43	0.2	1.22	0.15
Gross beta	Bq/L	-	0.1	0.8	0.99	0.82	0.58	0.84
Gross beta activity - 40K	Bq/L	-	0.1	0.17	0.68	0.35	0.32	0.35
Gross beta (excluding k-40)	Bq/L	0.5	0.1	0.63	0.31	0.47	0.26	0.49
Major Anions and Cations								
Bicarbonate	mg/L	-	1	107	46	79	207	89
Carbonate	mg/L	-	1	<LOR	<LOR	<LOR	<LOR	<LOR
Chloride	mg/L	-	1	266	66	185	404	198
Sulphate	mg/L	1000	1	167	29	98	1560	109
Nitrate	mg/L	400	0.01	<LOR	<LOR	<LOR	<LOR	<LOR
Nitrite	mg/L	30	0.01	1.52	0.37	1.54	0.02	1.48
Fluoride	mg/L	2	0.1	0.5	0.6	0.6	0.9	0.5
Sodium	mg/L	-	1	122	43	84	160	88
Potassium	mg/L	-	1	24	12	18	9	19
Calcium	mg/L	1000	1	54	11	33	510	36
Magnesium	mg/L	-	1	39	10	28	134	30
Iron	mg/L	-	0.05	<LOR	0.19	0.06	0.36	<LOR
Hydrocarbons								
TRH: C6-C10	µg/L	-	20	<LOR	<LOR	<LOR	<LOR	<LOR
TRH: >C10-C40	µg/L	-	100	<LOR	<LOR	<LOR	<LOR	<LOR
Benzene	µg/L	-	1	<LOR	<LOR	<LOR	<LOR	<LOR
Toluene	µg/L	-	2	<LOR	<LOR	<LOR	<LOR	<LOR
Ethylbenzene	µg/L	-	2	<LOR	<LOR	<LOR	<LOR	<LOR
Total Xylenes	µg/L	-	2	<LOR	<LOR	<LOR	<LOR	<LOR
Naphthalene	µg/L	-	5	<LOR	<LOR	<LOR	<LOR	<LOR
PAH Suite	µg/L	-	0.5	<LOR	<LOR	<LOR	<LOR	<LOR
Dissolved Gases								
Methane	µg/L	-	10	<LOR	<LOR	<LOR	42	<LOR
Ethane	µg/L	-	10	<LOR	<LOR	<LOR	<LOR	<LOR
Propane	µg/L	-	10	<LOR	<LOR	<LOR	<LOR	<LOR
Dissolved Metals/metalloids								
Chromium	mg/L	1	0.001	0.002	<LOR	0.02	<LOR	0.005
Copper ²	mg/L	1	0.001	<LOR	<LOR	<LOR	<LOR	<LOR
Lead	mg/L	0.1	0.001	<LOR	<LOR	<LOR	<LOR	<LOR
Manganese	mg/L	-	0.001	0.002	0.127	<LOR	0.117	<LOR
Mercury	mg/L	0.002	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR
Silver	mg/L	-	0.001	<LOR	<LOR	<LOR	<LOR	<LOR
Arsenic	mg/L	0.5	0.001	<LOR	<LOR	<LOR	0.002	<LOR
Barium	mg/L	-	0.001	0.024	0.024	0.092	0.028	0.038
Boron	mg/L	5	0.05	0.22	0.17	0.18	0.33	0.19
Cadmium	mg/L	0.01	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR
Lithium	mg/L	-	0.001	0.009	<LOR	0.002	0.07	0.002
Selenium	mg/L	0.02	0.01	<LOR	<LOR	<LOR	<LOR	<LOR
Silica	mg/L	-	0.05	15.7	11	15.3	22.6	16.1
Strontium	mg/L	-	0.001	0.458	0.114	0.255	5.32	0.264
Zinc	mg/L	20	0.005	<LOR	<LOR	0.026	<LOR	0.028

1, 2 - guideline value for beef cattle

0.5	Guideline value exceeded
-	Not analysed

Monitoring Event: Oct-2025		Field	Mereenie					
		Location	RN004620	RN018955	RN017898	RN013861	RN017657	
		Date	2/10/2025	2/10/2025	2/10/2025	2/10/2025	2/10/2025	
		ANZECC (2000) Livestock						
Field Parameters	Units	LOR						
Electrical conductivity	µS/cm	-	1	Not collected	Not collected	Not collected	Not collected	Not collected
pH	pH Unit	-	0.01	Not collected	Not collected	Not collected	Not collected	Not collected
Temperature	°C	-	0.1	Not collected	Not collected	Not collected	Not collected	Not collected
General Parameters								
pH (laboratory)	pH Unit	-	0.01	7.55	6.83	7.1	7.88	7.48
Electrical conductivity (laboratory)	µS/cm	-	1	1100	428	433	3440	925
Total dissolved solids ¹	mg/L	4000	1	715	278	281	2240	601
Total suspended solids	mg/L	-	1	<LOR	104	<LOR	<LOR	<LOR
Gross alpha	Bq/L	0.5	0.05	0.17	1.87	0.14	1.24	0.15
Gross beta	Bq/L	-	0.1	0.67	2.75	0.64	0.54	0.92
Gross beta activity - 40K	Bq/L	-	0.1	0.11	2.44	0.32	0.25	0.43
Gross beta (excluding k-40)	Bq/L	0.5	0.1	0.56	0.31	0.32	0.29	0.49
Major Anions and Cations								
Bicarbonate	mg/L	-	1	100	33	57	239	104
Carbonate	mg/L	-	1	<LOR	<LOR	<LOR	<LOR	<LOR
Chloride	mg/L	-	1	250	103	67	442	175
Sulphate	mg/L	1000	1	102	5	35	869	99
Nitrate	mg/L	400	0.01	<LOR	<LOR	<LOR	<LOR	<LOR
Nitrite	mg/L	30	0.01	0.12	0.07	1.59	<LOR	1.02
Fluoride	mg/L	2	0.1	0.5	0.7	0.7	0.8	0.5
Sodium	mg/L	-	1	110	44	49	144	91
Potassium	mg/L	-	1	19	12	13	8	19
Calcium	mg/L	1000	1	42	14	13	432	39
Magnesium	mg/L	-	1	30	11	13	127	32
Iron	mg/L	-	0.05	0.98	0.25	<LOR	0.71	<LOR
Hydrocarbons								
TRH: C6-C10	µg/L	-	20	<LOR	<LOR	<LOR	<LOR	<LOR
TRH: >C10-C40	µg/L	-	100	<LOR	<LOR	<LOR	<LOR	<LOR
Benzene	µg/L	-	1	<LOR	<LOR	<LOR	<LOR	<LOR
Toluene	µg/L	-	2	<LOR	<LOR	<LOR	<LOR	<LOR
Ethylbenzene	µg/L	-	2	<LOR	<LOR	<LOR	<LOR	<LOR
Total Xylenes	µg/L	-	2	<LOR	<LOR	<LOR	<LOR	<LOR
Naphthalene	µg/L	-	5	<LOR	<LOR	<LOR	<LOR	<LOR
PAH Suite	µg/L	-	0.5	<LOR	<LOR	<LOR	<LOR	<LOR
Dissolved Gases								
Methane	µg/L	-	10	534	<LOR	<LOR	59	<LOR
Ethane	µg/L	-	10	<LOR	<LOR	<LOR	<LOR	<LOR
Propane	µg/L	-	10	<LOR	<LOR	<LOR	<LOR	<LOR
Dissolved Metals/metalloids								
Chromium	mg/L	1	0.001	<LOR	<LOR	<LOR	<LOR	0.004
Copper ²	mg/L	1	0.001	<LOR	<LOR	<LOR	<LOR	<LOR
Lead	mg/L	0.1	0.001	<LOR	<LOR	<LOR	<LOR	<LOR
Manganese	mg/L	-	0.001	0.314	0.415	0.006	0.186	0.002
Mercury	mg/L	0.002	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR
Silver	mg/L	-	0.001	<LOR	<LOR	<LOR	<LOR	<LOR
Arsenic	mg/L	0.5	0.001	<LOR	<LOR	<LOR	0.002	<LOR
Barium	mg/L	-	0.001	0.027	0.064	0.071	0.047	0.045
Boron	mg/L	5	0.05	0.19	0.1	0.24	0.39	0.23
Cadmium	mg/L	0.01	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR
Lithium	mg/L	-	0.001	0.01	<LOR	<LOR	0.096	0.003
Selenium	mg/L	0.02	0.01	<LOR	<LOR	<LOR	<LOR	<LOR
Silica	mg/L	-	0.05	9.5	3.32	14.7	23.3	16.9
Strontium	mg/L	-	0.001	0.401	0.169	0.144	5.45	0.323
Zinc	mg/L	20	0.005	0.012	<LOR	<LOR	<LOR	0.042

1, 2 - guideline value for beef cattle

0.5	Guideline value exceeded
-	Not analysed

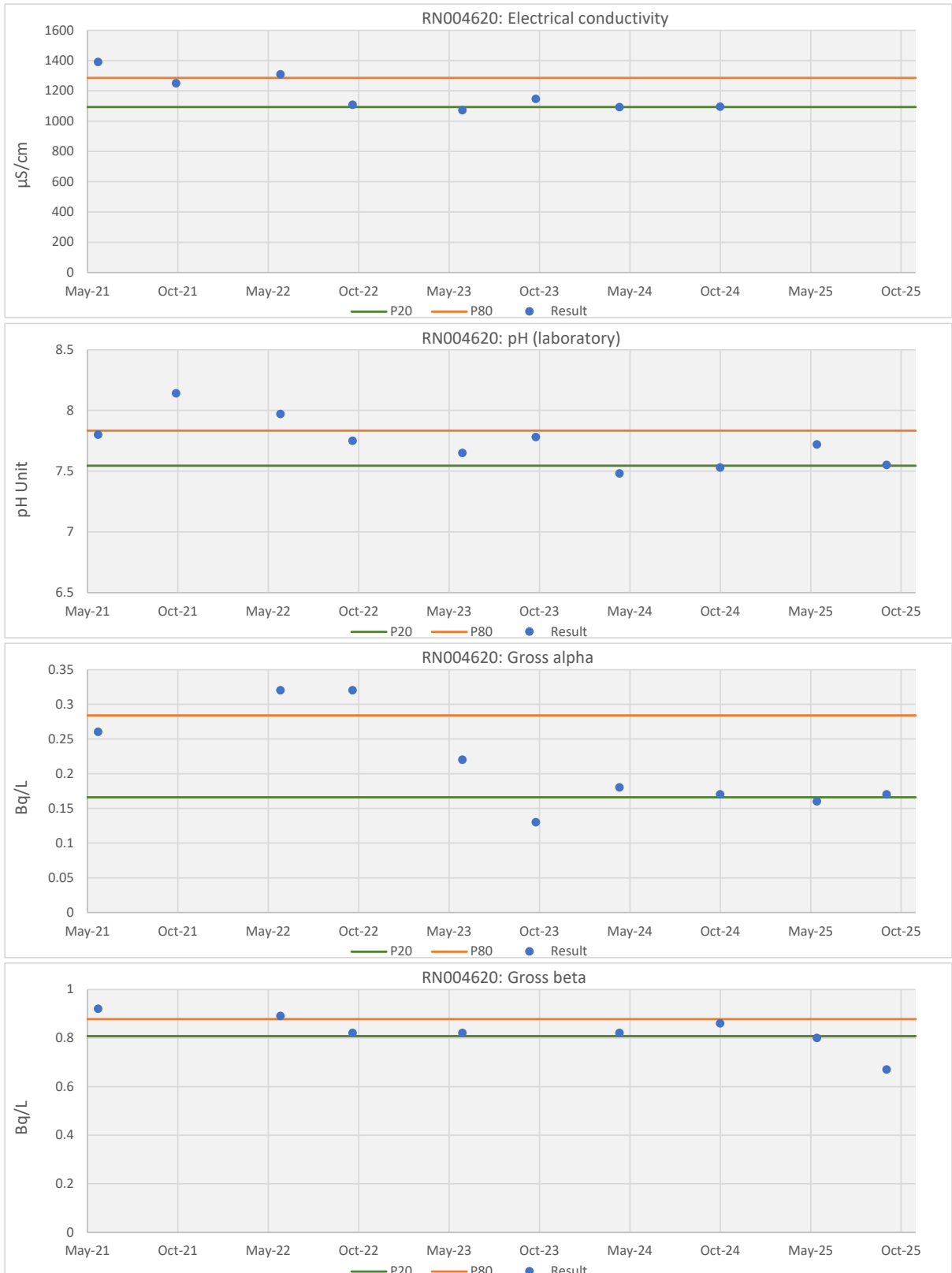
Sample Event	Parameter	RN004620	DUP-M	RPD
May-2025	Electrical Conductivity	1260	1210	4
May-2025	Total Dissolved Solids	819	786	4.1
May-2025	Chloride	266	267	0.4

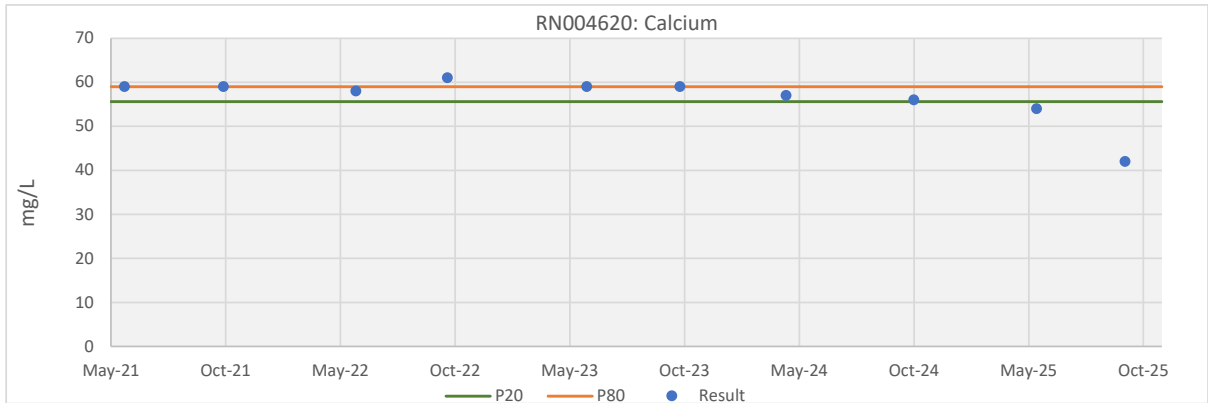
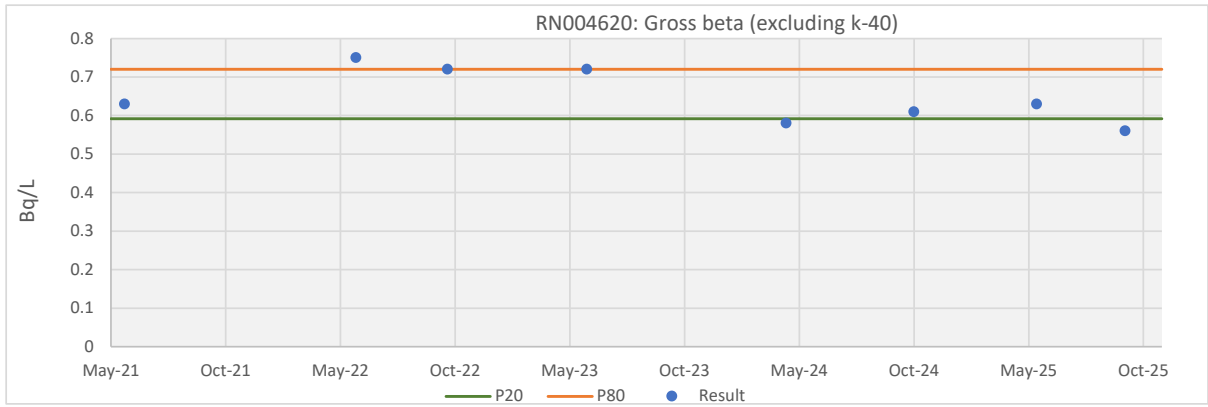
Appendix B – Bore-by-bore summary statistics and timeseries graphs

Field	Mereenie	Location:			RN004620					
Field Parameters	Units	ANZECC (2000) Livestock	LOR	No. Samples	Min	P20	P50	P80	Max	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	8	1072	1093	1127	1285	1390	Falling
pH	pH Unit	-	0.01	8	6.52	6.69	6.88	7.02	7.08	No Trend
Temperature	°C	-	0.1	8	25.0	25.5	26.0	27.5	27.9	No Trend
General Parameters										
pH (laboratory)	pH Unit	-	0.01	9	7.48	7.60	7.75	7.87	8.14	Falling
Electrical conductivity (laboratory)	µS/cm	-	1	9	1230	1266	1280	1300	1320	No Trend
Total dissolved solids	mg/L	4000 (1)	1	9	800	823	832	845	858	No Trend
Total suspended solids	mg/L	-	1	9	<LOR	<LOR	<LOR	5	5	No Trend
Gross alpha	Bq/L	0.5	0.05	8	0.13	0.16	0.20	0.30	0.32	Falling
Gross beta	Bq/L	-	0.1	7	0.80	0.82	0.82	0.88	0.92	Falling
Gross beta activity - 40K	Bq/L	-	0.1	8	<LOR	0.12	0.21	0.26	0.29	No Trend
Gross beta (excluding k-40)	Bq/L	0.5	0.1	7	0.58	0.61	0.63	0.72	0.75	No Trend
Major Anions and Cations										
Bicarbonate	mg/L	-	1	9	107	114	116	125	128	No Trend
Carbonate	mg/L	-	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Chloride	mg/L	-	1	9	221	238	246	257	266	No Trend
Sulphate	mg/L	1000	1	9	150	152	156	157	167	No Trend
Nitrate	mg/L	400	0.01	9	<LOR	<LOR	<LOR	<LOR	0.12	No Trend
Nitrite	mg/L	30	0.01	9	1.12	1.32	1.42	1.51	1.73	No Trend
Fluoride	mg/L	2	0.1	9	0.5	0.5	0.5	0.5	0.5	No Trend
Sodium	mg/L	-	1	9	122	123	128	130	136	No Trend
Potassium	mg/L	-	1	9	23	23	23	24	24	No Trend
Calcium	mg/L	1000	1	9	54	57	59	59	61	Falling
Magnesium	mg/L	-	1	9	37	39	41	42	42	No Trend
Iron	mg/L	-	0.05	9	<LOR	<LOR	<LOR	0.17	0.20	Falling
Hydrocarbons										
TRH: C6-C10	µg/L	-	20	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	-	100	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Benzene	µg/L	-	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Toluene	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethylbenzene	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Total Xylenes	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Naphthalene	µg/L	-	5	9	1	1	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	-	0.5	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases										
Methane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids										
Chromium	mg/L	1	0.001	9	<LOR	0.002	0.003	0.005	0.007	No Trend
Copper	mg/L	1 (2)	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lead	mg/L	0.1	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	-	0.001	9	0.002	0.003	0.006	0.011	0.029	No Trend
Mercury	mg/L	0.002	0.0001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	-	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.5	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Barium	mg/L	-	0.001	9	0.024	0.035	0.037	0.042	0.050	No Trend
Boron	mg/L	5	0.05	9	0.22	0.23	0.26	0.27	0.29	No Trend
Cadmium	mg/L	0.01	0.0001	9	<LOR	<LOR	<LOR	<LOR	0.00	No Trend
Lithium	mg/L	-	0.001	9	0.009	0.010	0.011	0.011	0.013	No Trend
Selenium	mg/L	0.02	0.01	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	-	0.05	9	15.70	16.06	16.40	16.80	17.20	No Trend
Strontium	mg/L	-	0.001	9	0.458	0.507	0.527	0.548	0.586	No Trend
Zinc	mg/L	20	0.005	9	<LOR	0.015	0.018	0.021	0.027	No Trend

(1),(2) - guideline value for beef cattle

0.5	Guideline value exceeded
-	Not analysed
<LOR	Less than the limit of reporting

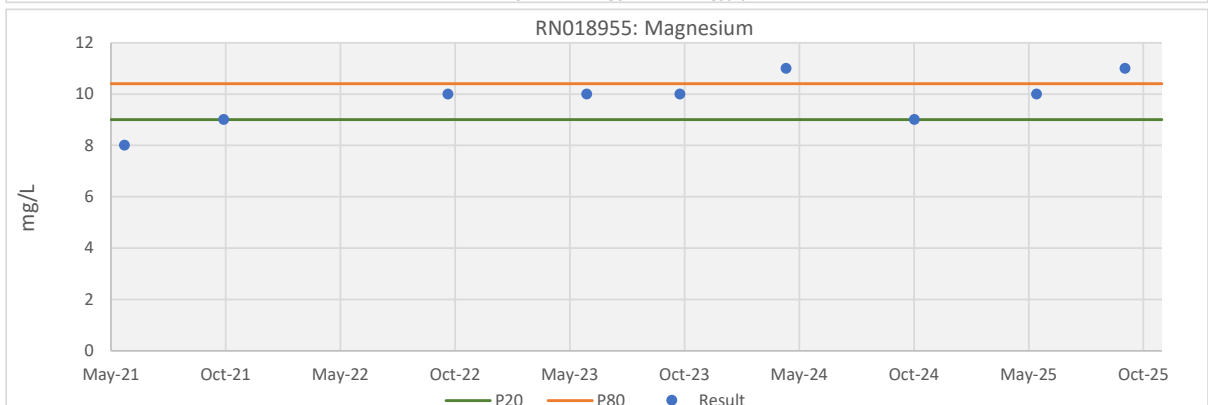
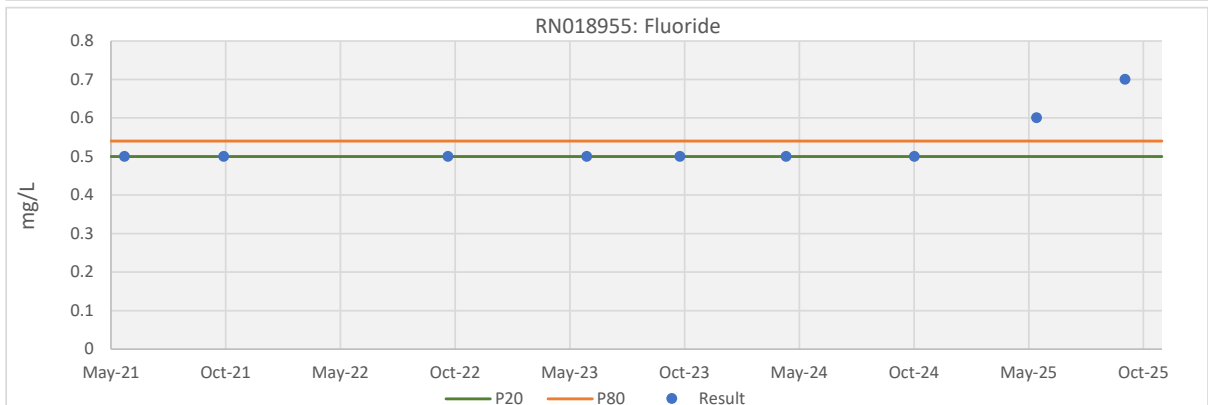
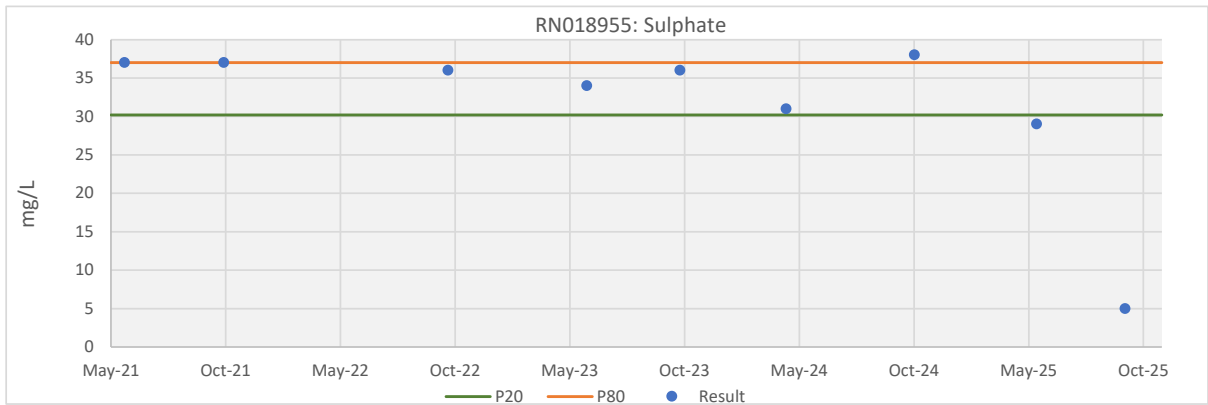
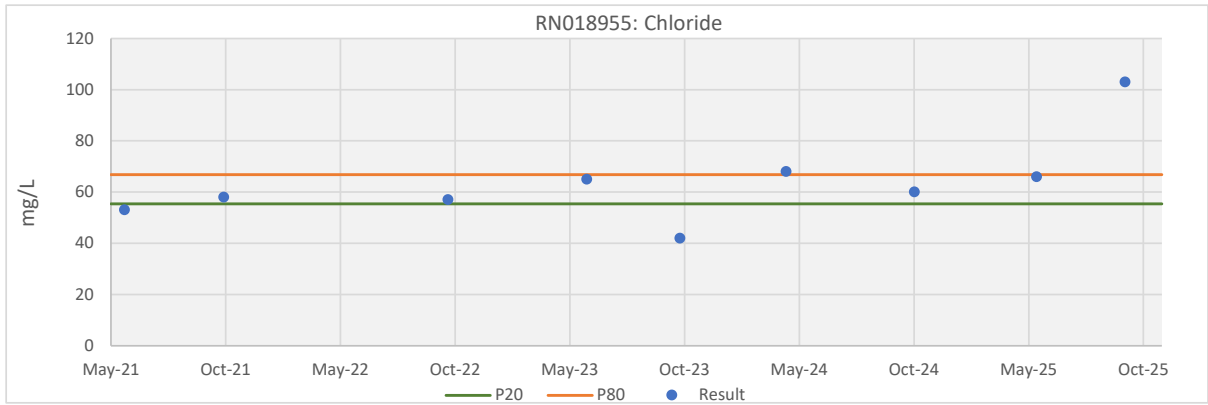


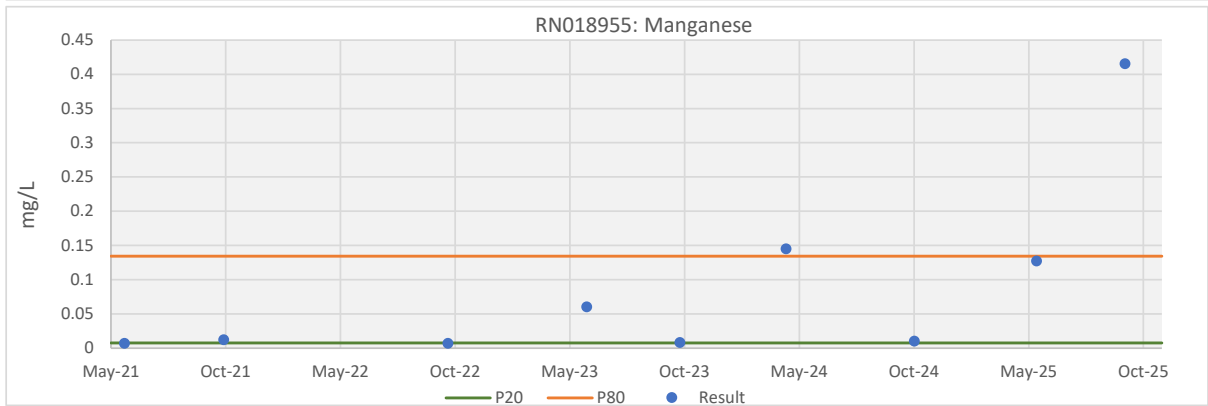
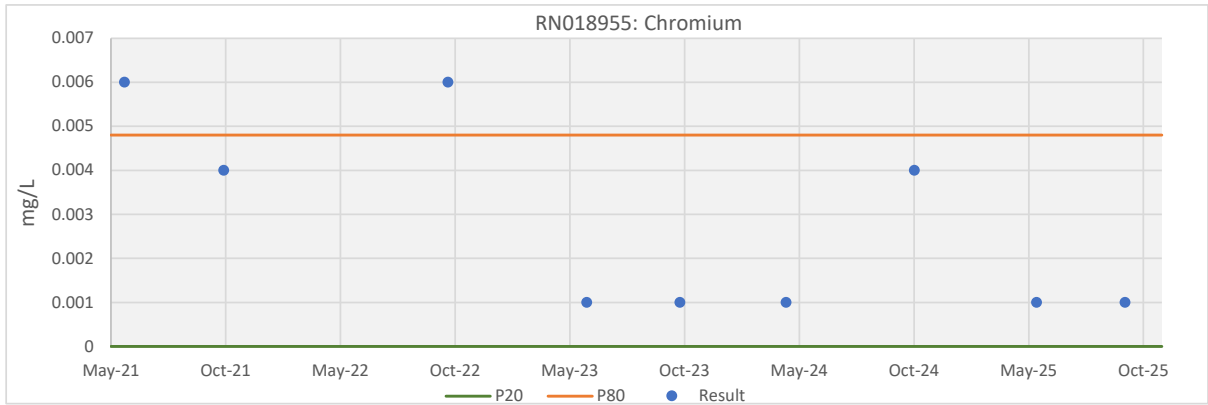
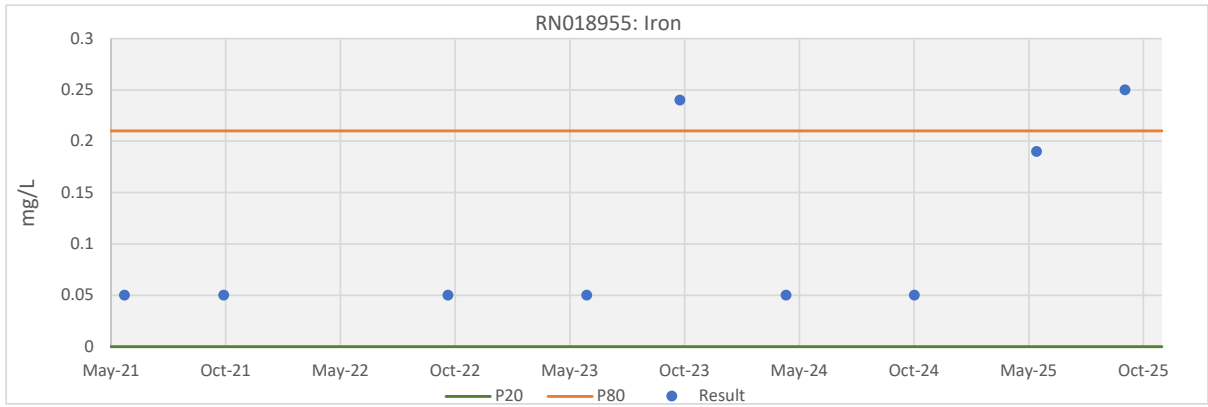


Field	Mereenie	Location:			RN018955					
Field Parameters	Units	ANZECC (2000) Livestock	LOR	No. Samples	Min	P20	P50	P80	Max	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	6	340	341	354	366	440	No Trend
pH	pH Unit	-	0.01	6	6.34	6.61	6.74	7.02	7.36	No Trend
Temperature	°C	-	0.1	6	23.1	24.3	25.2	25.7	28.3	No Trend
General Parameters										
pH (laboratory)	pH Unit	-	0.01	9	6.83	7.15	7.37	7.54	7.92	No Trend
Electrical conductivity (laboratory)	µS/cm	-	1	9	352	358	368	414	428	No Trend
Total dissolved solids	mg/L	4000 (1)	1	9	229	233	239	269	278	No Trend
Total suspended solids	mg/L	-	1	9	<LOR	<LOR	4	12	104	No Trend
Gross alpha	Bq/L	0.5	0.05	8	0.20	0.28	0.38	0.46	1.87	No Trend
Gross beta	Bq/L	-	0.1	7	0.81	0.85	0.89	1.05	2.75	No Trend
Gross beta activity - 40K	Bq/L	-	0.1	8	0.44	0.49	0.61	0.73	2.44	No Trend
Gross beta (excluding k-40)	Bq/L	0.5	0.1	7	0.30	0.30	0.31	0.35	0.43	No Trend
Major Anions and Cations										
Bicarbonate	mg/L	-	1	9	33	45	47	57	76	No Trend
Carbonate	mg/L	-	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Chloride	mg/L	-	1	9	42	55	60	67	103	Rising
Sulphate	mg/L	1000	1	9	5	30	36	37	38	Falling
Nitrate	mg/L	400	0.01	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Nitrite	mg/L	30	0.01	9	0.07	0.42	0.52	0.55	0.58	No Trend
Fluoride	mg/L	2	0.1	9	0.5	0.5	0.5	0.5	0.7	Rising
Sodium	mg/L	-	1	9	38	42	44	45	47	No Trend
Potassium	mg/L	-	1	9	11	11	12	12	12	No Trend
Calcium	mg/L	1000	1	9	10	11	11	12	14	No Trend
Magnesium	mg/L	-	1	9	8	9	10	10	11	Rising
Iron	mg/L	-	0.05	9	<LOR	<LOR	<LOR	0.21	0.25	Rising
Hydrocarbons										
TRH: C6-C10	µg/L	-	20	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	-	100	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Benzene	µg/L	-	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Toluene	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethylbenzene	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Total Xylenes	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Naphthalene	µg/L	-	5	9	1	1	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	-	0.5	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases										
Methane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids										
Chromium	mg/L	1	0.001	9	<LOR	<LOR	<LOR	0.005	0.006	Falling
Copper	mg/L	1 (2)	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lead	mg/L	0.1	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	-	0.001	9	0.007	0.008	0.012	0.134	0.415	Rising
Mercury	mg/L	0.002	0.0001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	-	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.5	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Barium	mg/L	-	0.001	9	0.024	0.029	0.039	0.066	0.081	No Trend
Boron	mg/L	5	0.05	9	0.10	0.14	0.20	0.21	0.22	No Trend
Cadmium	mg/L	0.01	0.0001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	-	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Selenium	mg/L	0.02	0.01	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	-	0.05	9	3.32	12.26	14.00	14.68	14.90	No Trend
Strontium	mg/L	-	0.001	9	0.114	0.128	0.133	0.142	0.169	No Trend
Zinc	mg/L	20	0.005	9	<LOR	<LOR	0.008	0.026	0.122	No Trend

(1),(2) - guideline value for beef cattle

0.5	Guideline value exceeded
-	Not analysed
<LOR	Less than the limit of reporting

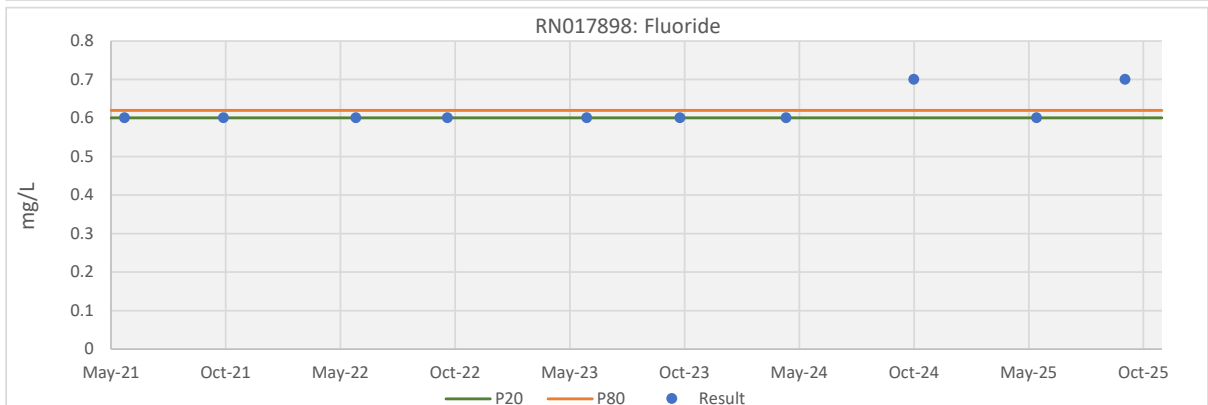
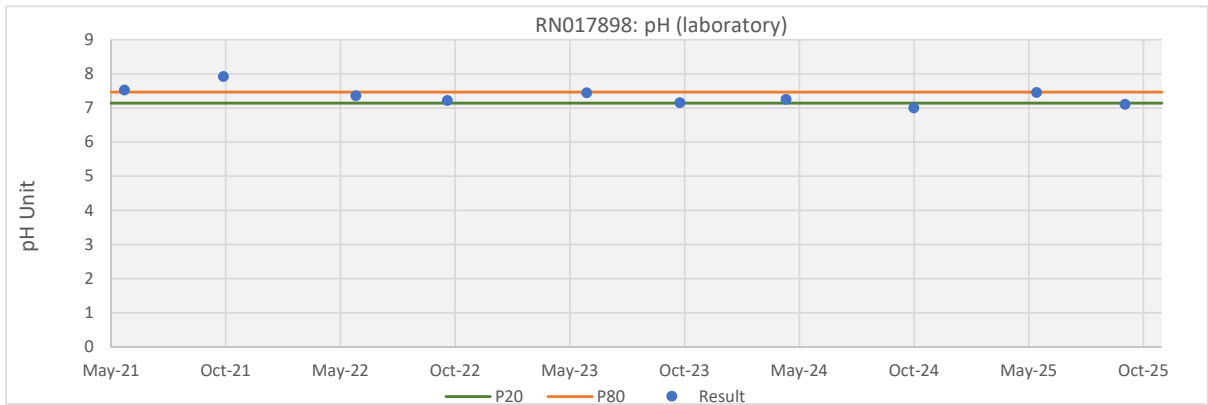
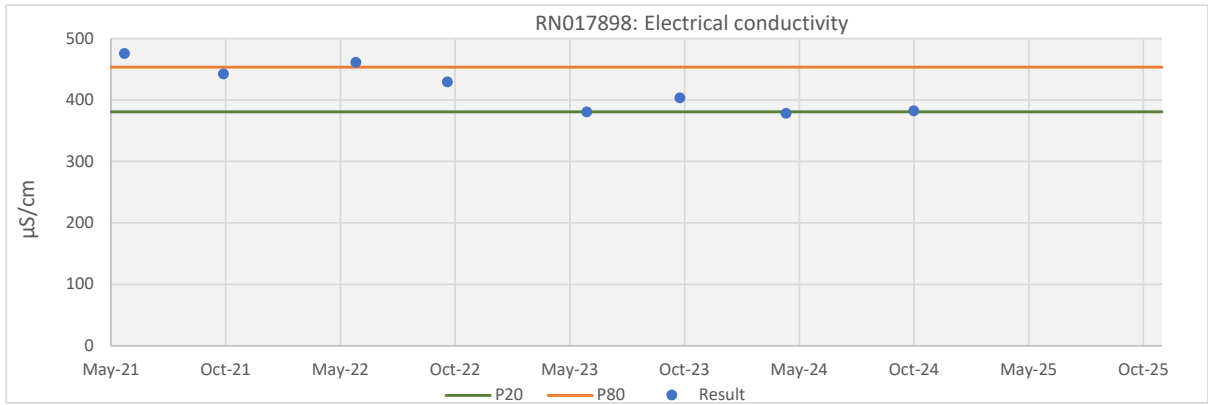




Field	Mereenie	Location:			RN017898					
Field Parameters	Units	ANZECC (2000) Livestock	LOR	No. Samples	Min	P20	P50	P80	Max	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	8	378	381	416	453	475	Falling
pH	pH Unit	-	0.01	8	6.38	6.63	6.98	7.28	7.67	No Trend
Temperature	°C	-	0.1	8	21.0	22.4	26.4	27.5	28.8	No Trend
General Parameters										
pH (laboratory)	pH Unit	-	0.01	10	7.00	7.14	7.30	7.46	7.92	Falling
Electrical conductivity (laboratory)	µS/cm	-	1	10	433	434	441	458	910	No Trend
Total dissolved solids	mg/L	4000 (1)	1	10	281	282	287	298	592	No Trend
Total suspended solids	mg/L	-	1	10	<LOR	<LOR	<LOR	2	5	No Trend
Gross alpha	Bq/L	0.5	0.05	9	0.13	0.16	0.20	0.36	0.43	No Trend
Gross beta	Bq/L	-	0.1	8	0.61	0.65	0.68	0.80	0.98	No Trend
Gross beta activity - 40K	Bq/L	-	0.1	9	0.17	0.26	0.35	0.36	0.61	No Trend
Gross beta (excluding k-40)	Bq/L	0.5	0.1	8	0.32	0.34	0.38	0.45	0.51	No Trend
Major Anions and Cations										
Bicarbonate	mg/L	-	1	10	54	56	58	58	79	No Trend
Carbonate	mg/L	-	1	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Chloride	mg/L	-	1	10	52	62	67	70	185	No Trend
Sulphate	mg/L	1000	1	10	35	41	42	43	98	No Trend
Nitrate	mg/L	400	0.01	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Nitrite	mg/L	30	0.01	10	1.37	1.54	1.62	1.68	1.96	No Trend
Fluoride	mg/L	2	0.1	10	0.6	0.6	0.6	0.6	0.7	Rising
Sodium	mg/L	-	1	10	47	49	51	55	84	No Trend
Potassium	mg/L	-	1	10	12	13	13	14	18	No Trend
Calcium	mg/L	1000	1	10	11	12	13	13	33	No Trend
Magnesium	mg/L	-	1	10	11	12	12	12	28	No Trend
Iron	mg/L	-	0.05	10	<LOR	<LOR	<LOR	0.05	0.06	No Trend
Hydrocarbons										
TRH: C6-C10	µg/L	-	20	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	-	100	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Benzene	µg/L	-	1	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Toluene	µg/L	-	2	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethylbenzene	µg/L	-	2	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Total Xylenes	µg/L	-	2	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Naphthalene	µg/L	-	5	10	1	1	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	-	0.5	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases										
Methane	µg/L	-	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethane	µg/L	-	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	-	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids										
Chromium	mg/L	1	0.001	10	<LOR	<LOR	<LOR	<LOR	0.020	No Trend
Copper	mg/L	1 (2)	0.001	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lead	mg/L	0.1	0.001	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	-	0.001	10	<LOR	<LOR	0.005	0.008	0.065	No Trend
Mercury	mg/L	0.002	0.0001	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	-	0.001	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.5	0.001	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Barium	mg/L	-	0.001	10	0.065	0.076	0.089	0.109	0.367	No Trend
Boron	mg/L	5	0.05	10	0.16	0.20	0.25	0.26	0.28	No Trend
Cadmium	mg/L	0.01	0.0001	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	-	0.001	10	<LOR	<LOR	<LOR	0.004	0.043	No Trend
Selenium	mg/L	0.02	0.01	10	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	-	0.05	10	13.60	13.88	14.50	14.84	15.30	No Trend
Strontium	mg/L	-	0.001	10	0.144	0.147	0.163	0.271	3.690	No Trend
Zinc	mg/L	20	0.005	10	<LOR	0.012	0.022	0.027	0.038	No Trend

(1),(2) - guideline value for beef cattle

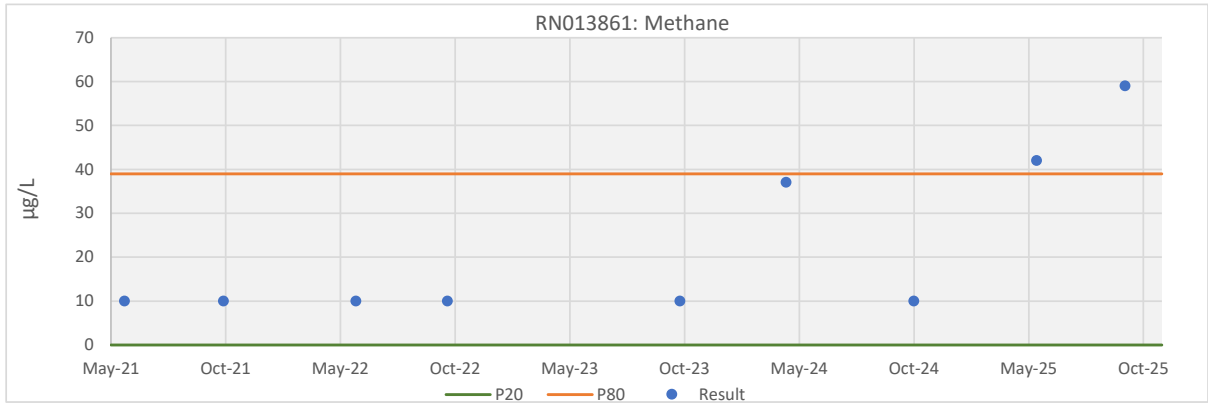
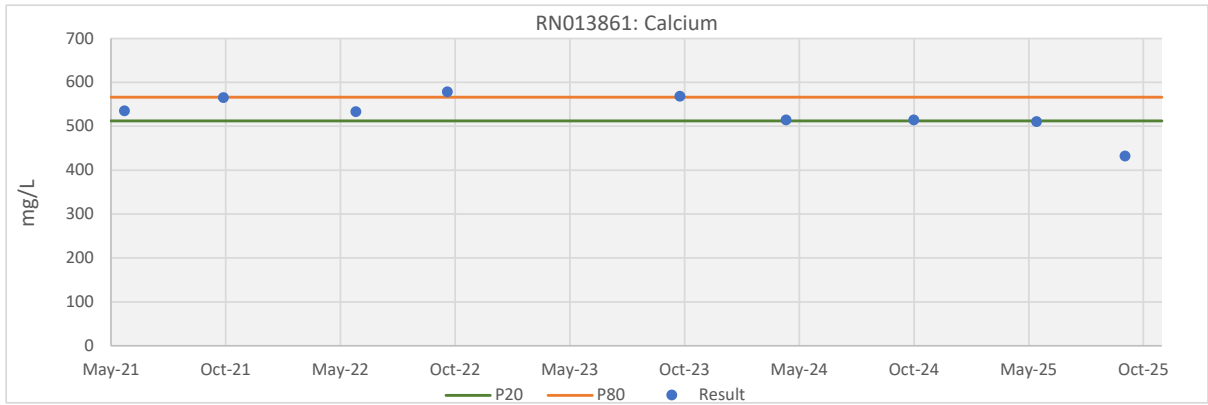
0.5	Guideline value exceeded
-	Not analysed
<LOR	Less than the limit of reporting



Field	Mereenie	Location:			RN013861					
Field Parameters	Units	ANZECC (2000) Livestock	LOR	No. Samples	Min	P20	P50	P80	Max	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	7	2660	2854	3040	3416	3680	No Trend
pH	pH Unit	-	0.01	7	6.65	6.88	6.99	7.33	7.70	No Trend
Temperature	°C	-	0.1	7	25.0	25.5	26.2	26.9	28.9	No Trend
General Parameters										
pH (laboratory)	pH Unit	-	0.01	9	7.48	7.52	7.71	8.01	8.18	No Trend
Electrical conductivity (laboratory)	µS/cm	-	1	9	3040	3122	3210	3546	3750	No Trend
Total dissolved solids	mg/L	4000 (1)	1	9	1980	2026	2090	2304	2440	No Trend
Total suspended solids	mg/L	-	1	9	<LOR	<LOR	<LOR	1	5	No Trend
Gross alpha	Bq/L	0.5	0.05	8	1.21	1.21	1.27	1.32	1.41	No Trend
Gross beta	Bq/L	-	0.1	7	0.48	0.50	0.54	0.56	0.58	No Trend
Gross beta activity - 40K	Bq/L	-	0.1	8	0.19	0.22	0.29	0.32	0.32	No Trend
Gross beta (excluding k-40)	Bq/L	0.5	0.1	7	0.22	0.24	0.26	0.29	0.30	No Trend
Major Anions and Cations										
Bicarbonate	mg/L	-	1	9	202	205	208	220	239	No Trend
Carbonate	mg/L	-	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Chloride	mg/L	-	1	9	68	92	151	439	483	No Trend
Sulphate	mg/L	1000	1	9	869	1342	1650	1684	1710	No Trend
Nitrate	mg/L	400	0.01	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Nitrite	mg/L	30	0.01	9	<LOR	<LOR	<LOR	<LOR	0.02	No Trend
Fluoride	mg/L	2	0.1	9	0.7	0.8	0.8	0.9	0.9	No Trend
Sodium	mg/L	-	1	9	136	143	147	159	179	No Trend
Potassium	mg/L	-	1	9	8	8	8	9	9	No Trend
Calcium	mg/L	1000	1	9	432	512	533	566	578	Falling
Magnesium	mg/L	-	1	9	105	110	114	136	145	No Trend
Iron	mg/L	-	0.05	9	<LOR	0.14	0.31	0.51	0.71	No Trend
Hydrocarbons										
TRH: C6-C10	µg/L	-	20	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	-	100	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Benzene	µg/L	-	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Toluene	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethylbenzene	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Total Xylenes	µg/L	-	2	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Naphthalene	µg/L	-	5	9	1	1	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	-	0.5	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases										
Methane	µg/L	-	10	9	<LOR	<LOR	<LOR	39	59	Rising
Ethane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	-	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids										
Chromium	mg/L	1	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Copper	mg/L	1 (2)	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lead	mg/L	0.1	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	-	0.001	9	0.083	0.088	0.101	0.140	0.186	No Trend
Mercury	mg/L	0.002	0.0001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	-	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.5	0.001	9	0.002	0.002	0.003	0.003	0.003	No Trend
Barium	mg/L	-	0.001	9	0.018	0.021	0.028	0.036	0.047	No Trend
Boron	mg/L	5	0.05	9	0.30	0.37	0.40	0.44	0.50	No Trend
Cadmium	mg/L	0.01	0.0001	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	-	0.001	9	0.045	0.056	0.070	0.086	0.100	No Trend
Selenium	mg/L	0.02	0.01	9	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	-	0.05	9	22.20	22.52	23.10	23.78	24.50	No Trend
Strontium	mg/L	-	0.001	9	5.320	5.480	6.150	6.384	6.740	No Trend
Zinc	mg/L	20	0.005	9	<LOR	<LOR	0.009	0.017	0.021	No Trend

(1),(2) - guideline value for beef cattle

0.5	Guideline value exceeded
-	Not analysed
<LOR	Less than the limit of reporting



Field	Mereenie	Location:			RN017657					
Field Parameters	Units	ANZECC (2000) Livestock	LOR	No. Samples	Min	P20	P50	P80	Max	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	4	855	886	929	4308	9343	No Trend
pH	pH Unit	-	0.01	4	6.77	6.94	7.13	7.25	7.31	No Trend
Temperature	°C	-	0.1	4	24.4	24.4	25.0	26.5	28.1	No Trend
General Parameters										
pH (laboratory)	pH Unit	-	0.01	6	7.34	7.48	7.64	8.03	8.06	No Trend
Electrical conductivity (laboratory)	µS/cm	-	1	6	900	912	933	945	957	No Trend
Total dissolved solids	mg/L	4000 (1)	1	6	585	593	606	614	622	No Trend
Total suspended solids	mg/L	-	1	6	<LOR	<LOR	<LOR	<LOR	5	No Trend
Gross alpha	Bq/L	0.5	0.05	5	0.15	0.15	0.35	0.38	0.44	No Trend
Gross beta	Bq/L	-	0.1	5	0.81	0.83	0.90	0.97	1.18	No Trend
Gross beta activity - 40K	Bq/L	-	0.1	5	0.23	0.30	0.35	0.48	0.70	No Trend
Gross beta (excluding k-40)	Bq/L	0.5	0.1	5	0.48	0.49	0.49	0.58	0.58	No Trend
Major Anions and Cations										
Bicarbonate	mg/L	-	1	6	89	91	97	98	104	No Trend
Carbonate	mg/L	-	1	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Chloride	mg/L	-	1	6	165	174	175	179	198	No Trend
Sulphate	mg/L	1000	1	6	90	91	96	100	109	No Trend
Nitrate	mg/L	400	0.01	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Nitrite	mg/L	30	0.01	6	1.02	1.42	1.50	1.54	1.55	No Trend
Fluoride	mg/L	2	0.1	6	0.4	0.5	0.5	0.5	0.5	No Trend
Sodium	mg/L	-	1	6	88	88	91	98	98	No Trend
Potassium	mg/L	-	1	6	18	18	19	19	19	No Trend
Calcium	mg/L	1000	1	6	36	38	39	39	42	Falling
Magnesium	mg/L	-	1	6	27	29	30	32	32	No Trend
Iron	mg/L	-	0.05	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Hydrocarbons										
TRH: C6-C10	µg/L	-	20	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	-	100	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Benzene	µg/L	-	1	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Toluene	µg/L	-	2	6	<LOR	<LOR	<LOR	<LOR	3	No Trend
Ethylbenzene	µg/L	-	2	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Total Xylenes	µg/L	-	2	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Naphthalene	µg/L	-	5	6	1	1	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	-	0.5	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases										
Methane	µg/L	-	10	6	<LOR	<LOR	<LOR	<LOR	<LOR	Rising
Ethane	µg/L	-	10	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	-	10	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids										
Chromium	mg/L	1	0.001	6	0.003	0.004	0.004	0.005	0.005	No Trend
Copper	mg/L	1 (2)	0.001	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lead	mg/L	0.1	0.001	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	-	0.001	6	<LOR	0.002	0.004	0.004	0.004	No Trend
Mercury	mg/L	0.002	0.0001	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	-	0.001	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.5	0.001	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Barium	mg/L	-	0.001	6	0.038	0.045	0.048	0.054	0.083	No Trend
Boron	mg/L	5	0.05	6	0.19	0.20	0.23	0.24	0.26	No Trend
Cadmium	mg/L	0.01	0.0001	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	-	0.001	6	0.002	0.003	0.003	0.003	0.005	No Trend
Selenium	mg/L	0.02	0.01	6	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	-	0.05	6	15.70	15.80	16.00	16.30	16.90	No Trend
Strontium	mg/L	-	0.001	6	0.264	0.323	0.336	0.344	0.372	No Trend
Zinc	mg/L	20	0.005	6	0.007	0.014	0.021	0.042	0.046	No Trend

(1),(2) - guideline value for beef cattle

0.5	Guideline value exceeded
-	Not analysed
<LOR	Less than the limit of reporting

