
Annual Groundwater Monitoring Report - 2026

Dingo Gas Field and Surprise Oil Field

Palm Valley 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). The following groundwater monitoring plans (GMPs) were developed to demonstrate that there is *no change in the groundwater quality as a result of activities*:

- DIN-630-PLN-0003: Dingo Gas Field and Surprise Oil Field Groundwater Monitoring Plan
- PVL-630-PLN-0001: Palm Valley Gas Field Groundwater Monitoring Plan

This document has been prepared to satisfy the annual Environmental Management Plan (EMP) reporting requirements of the GMPs for 2026. 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.

Site-specific performance standards (SSPS) have been derived for the laboratory analysed parameters since the previous annual groundwater monitoring report was prepared. Comparison with the SSPS is included in Section 3.1.

2 Monitoring Scope

Table 1 provides a summary of the scope included in the GMPs and the scope completed during the 2025/26 financial year. The monitoring locations are shown on Figure 1 to Figure 3.

The pre-wet season monitoring was undertaken in August and late September/early October 2025 and the end of wet season monitoring was mostly undertaken in May and June 2025. Actual dates are included with the chemistry results in Appendix A.

Deviations from the GMP scopes included:

- In September/October 2025, the following items were not completed:
 - A sample could not be collected from RN002943 as the pump was removed and the bore was found to be dry; and
 - Field parameters were not measured in RN011831, RN012024 and RN006503 due to equipment issues
- In May/June 2026, the following items were not or partially completed:
 - A sample could not be collected from RN002943 as the pump was removed and the bore was found to be dry; and
 - A sample was not collected from RN 018851 as the pump could not be operated.

Table 1 Groundwater monitoring locations and scope

Field	Location	Water Quality		Water Level		Wellhead Pressure		Field Water Quality and Photograph	
		October	May	October	May	October	May	October	May
Dingo	Dingo 2					✓	✓		
	Dingo 3					✓	✓		
	RN002943	✓	✓	✓	✓				
	RN010853	✓	✓	✓	✓				
	RN011831	✓	✓	✓	✓				
	RN017540			✓	✓				
Surprise	Surprise 1					✓	✓		
	Johnstone West 1					✓	✓		
	RN018851	✓	✗	✓	✗				
	RN018397			✓	✓				
	RN018463			✓	✓				
	RN018398			✓	✓				
Palm Valley	Palm Creek Lower Oasis							✓	✓
	Palm Valley Area Spring No 8							✓	✓
	Palm Valley Area Spring No 9							✓	✓
	Pimelia Spring							✓	✓
	RN006503	✓	✓						
	RN012024	✓	✓						
	RN007292			✓	✓				
	RN018732			✓	✓				
	RN014165			✓	✓				
	RN018706			✓	✓				
	RN018707			✓	✓				
	RN018708			✓	✓				

* 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).

The full water quality monitoring record for each bore is 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. A duplicate sample was however not collected from the Dingo/Surprise fields in either the October 2025 or May 2026 monitoring events.

Quality assurance results 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

Site-specific performance standards (SSPS) have been derived on a bore-by-bore basis for the laboratory analysed parameters. Following the removal of outliers, statistics were generated. The compliance approach to using the SSPS is, when preparing the annual groundwater monitoring report:

- To flag the result when it exceeds the SSPS
- To investigate when the result exceeds the SSPS in two consecutive monitoring events with a rising trend identified by the Mann-Kendall test for trend. A rising trend is indicative of a deterioration in water quality over time.

The results of the monitoring are tabulated in Appendix A, with statistical summaries and comparison with performance standards presented in Appendix B. Table 2 identifies exceedances of the SSPS, noting that the SSPS were developed after the October 2025 monitoring event.

While several parameters exceeded their respective SSPS, only the sulphate concentration in RN18851 exceeded the SSPS in the two most recent events and exhibits a rising trend. The most recent sample collected from RN018851 was in August 2025 as the pump was not operational in the May 2026 monitoring event. This exceedance is investigated in Section 3.3.

3.2 Trend analysis

A Mann-Kendall test for trend has been performed for all bores and all chemical parameters. The output of the Mann-Kendall test is included in the bore-by-bore statistical summaries provided in 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 Site-specific performance standard exceedances

Field	Location	Parameter	SSPS Exceedance			
			October 2025	May 2026	Mann-Kendall Trend	Investigation Required
Surprise	RN018851	Electrical Conductivity	No	Yes	No trend	No

Field	Location	Parameter	SSPS Exceedance			
			October 2025	May 2026	Mann-Kendall Trend	Investigation Required
		Total dissolved solids	No	Yes	No trend	No
		Total suspended solids	No	Yes	No trend	No
		Chloride	No	Yes	Rising	No
		Sulphate	Yes	Yes	Rising	Yes
		Nitrite	Yes	Yes	No Trend	No
Dingo	RN011831	Electrical Conductivity	Yes	No	No Trend	No
		Total dissolved solids	Yes	No	No Trend	No
		Chloride	Yes	No	Rising	No
		Nitrite	Yes	Yes	No Trend	No
		Fluoride	Yes	No	Rising	No
		Potassium	Yes	No	No Trend	No
		Magnesium	Yes	No	No Trend	No
Palm Valley	RN006503	Silica	Yes	No	No Trend	No
		Zinc	Yes	No	No Trend	No
	RN012024	Nitrite	Yes	Yes	No Trend	No
		Potassium	No	Yes	Rising	No

Table 3 below in conjunction with a description of the timeseries data.

Table 2 Site-specific performance standard exceedances

Field	Location	Parameter	SSPS Exceedance			
			October 2025	May 2026	Mann-Kendall Trend	Investigation Required
Surprise	RN018851	Electrical Conductivity	No	Yes	No trend	No
		Total dissolved solids	No	Yes	No trend	No
		Total suspended solids	No	Yes	No trend	No
		Chloride	No	Yes	Rising	No
		Sulphate	Yes	Yes	Rising	Yes
		Nitrite	Yes	Yes	No Trend	No
Dingo	RN011831	Electrical Conductivity	Yes	No	No Trend	No
		Total dissolved solids	Yes	No	No Trend	No
		Chloride	Yes	No	Rising	No
		Nitrite	Yes	Yes	No Trend	No
		Fluoride	Yes	No	Rising	No
		Potassium	Yes	No	No Trend	No
		Magnesium	Yes	No	No Trend	No
Palm Valley	RN006503	Silica	Yes	No	No Trend	No
		Zinc	Yes	No	No Trend	No
	RN012024	Nitrite	Yes	Yes	No Trend	No
		Potassium	No	Yes	Rising	No

Table 3 Parameter trends

Field	Location	Parameter	Trend direction	Trend description	Comments
Surprise	RN018851	Electrical Conductivity	Falling	The EC was effectively stable between May 2021 and May 2022. It declined from ~1,410 $\mu\text{S}/\text{cm}$ to 1,233 $\mu\text{S}/\text{cm}$ in October 2022 before rising to 1,284 $\mu\text{S}/\text{cm}$ in October 2023 and then falling to its minimum reported value of 1,139 $\mu\text{S}/\text{cm}$ in May 2024. Field EC has not been measured since December 2024.	This bore is located at the Surprise oil field, which has been shut-in since August 2015. The bore is rarely used. The electrical conductivity as measured by the driller was 1,530 $\mu\text{S}/\text{cm}$. The trends are attributed to natural variation, potentially affected by the lack of use and insufficient purging of the bore prior to sample collection.
		Chloride	Rising	Notwithstanding some minor variability, the chloride concentration as gradually increased from 235 mg/L in May 2021 to 250 mg/L in May 2025. The concentration increased to 285 mg/L, the highest reported, in August 2025.	
		Sulphate	Rising	The sulphate concentration was effectively stable from May 2021 to October 2022 at ~114 mg/L. It has then has gradually risen to 129 mg/L in May 2025, and then 151 mg/L in August 2026.	
Dingo	RN011831	Gross alpha	Falling	The gross alpha concentration remained relatively stable between May 2021 and May 2024 inclusive, with a median concentration of 0.78 Bq/L over that period. In October 2024 the concentration declined to 0.6 Bq/L and since remained between 0.49 Bq/L and 0.6 Bq/L.	This is a stock bore that is regularly used. It was originally drilled to 373 m and was then deepened to 433 m in 1978. A hydrogeologist's log from the Statement of Bore (SoB) identifies the screened formation as the Hermannsburg Sandstone. The SoB. includes several sets of chemistry results. The most recent data was from 1987 when the total dissolved solids (TDS) (gravimetric) was reported as 880 mg/L, however the maximum reported TDS was 980 mg/L in 1978. The most recent (October 2024) sample reported 988 mg/L TDS. The groundwater chemistry trends from this bore are attributed to natural variation.
		Gross beta activity -40K	Falling	Anomalously high concentration in May 2021 (1.09 Bq/L), with concentrations mostly less than 0.15 Bq/L or <LOR since except for May 2023 (0.2 Bq/L).	
		Chloride	Rising	Chloride concentrations were roughly stable from May 2021 to June 2024, at ~250 mg/L. In October 2024, the concentration increased to 306 mg/L and then increased to 334 mg/L in May 2025, but has since declined back to 250 mg/L	
		Sulphate	Rising	Some variability in the chloride concentration between May 2021 and October 2024, moving around 120 mg/L. In 2026, the concentration increased above 135 mg/L, but has subsequently declined to 126 mg/L.	

Field	Location	Parameter	Trend direction	Trend description	Comments
		Fluoride	Rising	Fluoride concentrations were relatively stable between May 2021 and May 2023 at ~1.1 mg/L. From October 2023 onward, the reported fluoride concentration has been 1.2 mg/L, with the sample from September 2025 reporting 1.4 mg/L, but subsequently reducing back down to 1.2 mg/L.	
		Calcium	Falling	Calcium concentrations were relatively consistent from May 2021 to May 2024, with a median concentration of 73 mg/L over that period. The concentration fell to 42 mg/L in May 2025 but rose to 69 mg/L in July 2026.	
		Chromium	Rising	The apparent rising trend is due to increased LOR due to matrix interference	
		Manganese	Falling	The May 2021 reported manganese concentration was 0.008 mg/L. It declined relatively rapidly to 0.002 mg/L in May 2022 and then decline to <LOR in October 2023 where it has remained since.	
		Silica	Rising	There has been a gradual rise in the silica concentration from 16.8 mg/L in May 2021 to 21.1 mg/L in October 2025. The concentration declined to 16.2 mg/L in July 2026, which is the lowest concentration in the monitoring record.	
		Strontium	Falling	The strontium concentration remained around the 0.7 mg/L to 0.8 mg/L range from 2021 to 2024. The two samples in 2025 reported concentrations less than 0.5 mg/L, but the concentration increased to 0.712 mg/L in July 2026	
		Zinc	Falling	The concentration of zinc in the initial samples collected from this bore were around 0.1 mg/L. It has remained less than 0.04 mg/L since October 2022, with the most recent concentration (July 2026) reported as 0.03 mg/L	
Palm Valley	RN006503	Electrical conductivity (field)	Falling	The field EC has gradually declined over the monitoring period, with some variability, from an initial value of 1,647 µS/cm in May 2021 to 1,325 µS/cm.	RN006503 was drilled to ~487 m in 1969 as an exploration water supply bore for the Hermannsburg Misson, but is now used for stock watering. The bore was cased to ~30 m and open hole below. The bore was initially recorded as dry, but later started flowing very slightly. Observations of the water level during
		Total suspended solids	Falling	TSS is a function of the bore construction rather than aquifer chemistry. The first sample reported 39 mg/L, the maximum, and concentrations were generally higher prior to 2024. Since 2024, concentrations have been less than 10 mg/L.	

Field	Location	Parameter	Trend direction	Trend description	Comments
		Gross beta	Falling	Notwithstanding and anomalous concentration of 1.42 Bq/L in October 2023, concentrations have gradually declined from 0.6 Bq/L in May 2021 to 0.41 Bq/L in the two most recent samples.	CTP monitoring activities show some fluctuation, estimated in the order of 0.5 m, with unobservable flow. A sample record from the Statement of Bore from 1991 reported 800 mg/L TDS. All concentrations of other analytes which were analysed in 1991 were less than the concentrations reported during CTP monitoring activities. The decline in concentrations ~October 2023 may be related to a recharge event associated with above average rainfall in late 2021/ early 2022, also resulting in increases pressure and flow through the bore and reducing colloidal material included in the TSS and iron concentrations. It is considered likely the observed trends are related to climate or bore construction rather than CTP activities.
		Iron	Falling	Prior to 2023, dissolved iron concentrations exceeded 0.5 mg/L. Thereafter, concentrations have been <LOR or thereabouts.	
	RN012024	Potassium	Rising	From May 2021 to October 2024 inclusive, the potassium concentration has been reported as either 6 mg/L or 7 mg/L. In May 2025 it increased to 9 mg/L before dropping to 6 mg/L in September 2025. In April 2026, it increased to 11 mg/L.	RN012024 is located in the Finke Gorge National Park and is used to supply water to the camp site. Records are ambiguous but it appears that the bore was originally drilled to 34 m in 1978, but then deepened to 67.2 m in 1994. Historical water quality information available from NR Maps indicates that prior to 1994, the EC was in the order of 1,500 $\mu\text{S}/\text{cm}$ but decreased to ~1,000 $\mu\text{S}/\text{cm}$ when the bore was deepened. The salinity has decreased over the time that the potassium concentration has risen. It is considered likely that the increasing potassium concentration is related to natural changes in aquifer conditions rather than CTP activities.

3.3 Exceedance investigations

The only exceedance investigation pertains to the sulphate concentration in RN018851 due to the two most recent results exceeding their SSPS and the Mann-Kendall test identifying a rising trend.

RN018851 was installed to supply water to the Surprise oil field. The Surprise 1 well was in production between March 2014 and August 2015. The associated production facilities comprised wellhead pumping equipment, a heater treater, oil storage, water handling and an evaporation pond. A permanent camp was also located at the well and production facility. The well and facilities have been mothballed since August 2015.

The bore was drilled to 60 m and intersects a sandstone aquifer at approximately 45 m. The electrical conductivity (EC) was recorded on the Statement of Bore as 1,530 $\mu\text{S}/\text{cm}$. The most recent laboratory EC (August 2025) was 1,480 $\mu\text{S}/\text{cm}$.

From May 2021 when monitoring commenced, to April 2024, the sulphate concentration varied between 114 and 119 mg/L. It increased to 127 mg/L in December 2024, and then to 129 mg/L in May 2025. In August 2025 it was reported as 151 mg/L. The ANZECC (2000) livestock drinking water guideline of 1,000 mg/L and the Australian Drinking Water Guideline aesthetic limit is 250 mg/L. RN018463 (~10km northeast) was sampled in February 2020 with a reported a sulphate concentration of 350 mg/L, thus the concentrations observed in RN018851 remain well within the range of variability of the shallow aquifer in the vicinity of the Surprise oil field.

Potential sources of sulphate in groundwater include gypsum dissolution, sulphide oxidation (e.g. through acid rock drainage), wastewater (e.g. septic systems) or brines (e.g. from the evaporation pond). The absence of a rising salinity trend or declining pH indicate sulphide oxidation or leakage from the evaporation pond unlikely. Similarly, the absence of a rising trend in nitrate negates the potential for wastewater contamination. Gypsum is reasonably common in arid areas with a shallow water table and is unlikely to have been used in the Surprise production facility. The increased residence time due to infrequent use of the bore relative to the previous samples may have resulted in the increase concentration of sulphate.

The source of the rising sulphate concentration is unclear. However, in the absence of other clear trends in associated parameters, it is unlikely to be related to CTPs activities. It should be ensured that the pump is repaired and a sample is collected from RN018851 in October 2026.

4 Water level monitoring

Water level monitoring data is tabulated in Appendix C and timeseries graphs are also provided. These data identify:

- Two of the bores at Dingo are dry and or blocked;
- At Dingo, the water level in RN010853 declined by 5.5 m between the May and October 2021. From October 2021 and through 2022 the water level was relatively stable at approximately 125.35 m below top of casing but then declined marginally to 125.46 m below top of casing as measured in October 2024. The May 2025 water level was measured at 64.6 m below top of casing. This value is likely to be erroneous, as the water level was 125.97 m in September 2025 and 125.6 in July 2026;
- At Surprise the water level trends are variable, with RN018397 and RN018851 generally rising over the period May 2021 to October 2024, and then stabilising and/or falling from August 2025. RN018463 and RN018397 have exhibited an overall falling trend despite an indication of recharge in April 2024. The water level in RN018851 dropped rapidly from 10.4 m in October 2024 to 14.7 m in May 2025 where it has essentially remained. This magnitude of change in water level is not unprecedented in this bore as the first water level measured was 14.6 m.; and
- At Palm Valley, the water levels have generally been relatively stable, except for RN014165 which shows a significant decline in water level of over 30 m between October 2021 and October 2022. During 2023, the water level recovered by roughly 28 m to around 22 m below top of casing but was measured at 28.3 m below top of casing in October 2024. It was reported to be dry in May 2025. These water level responses are most likely related to pumping of the Power and Water Corporation borefield in which the bores that are monitored are situated.

5 Wellhead pressure monitoring

Wellhead pressure monitoring data is tabulated in Appendix C and timeseries graphs are also provided. These data identify:

- Significant reductions in wellhead (tubing) pressures in Dingo 2 and Dingo 3 from May to October 2021. The Dingo 3 tubing pressure very gradually declined from October 2021 through May 2025 when the rate of decline increased. The Dingo 2 tubing pressure gradually rose over the period October 2021 to May 2023, and then decreased between May 2023 and May 2024. It increased marginally again through May 2025 and September 2025 and then declined again to April 2026. These pressure changes are likely related to gas production from the Ding Gas Field;
- The Johnstone West 1 pressure declined between April 2021 and October 2021, but has since recovered and has shown a very gradual decline from ~2,000 kPa from October 2022 to 1,880 kPa in September 2026; and
- Then tubing pressure in Surprise 1 has fluctuated greatly over the period of monitoring. The maximum recorded pressure was 2273 kPa in August 2025, with the minimum pressures recorded April and October 2024 (4 kPa). These pressure fluctuations are most likely related to equipment issue rather than the formation pressure.

6 Springs Monitoring

The scope of the monitoring for Palm Valley Gas Field includes the monitoring of condition of four spring vents in the Finke Gorge National Park. This includes the collection of field water qualities and photographs of the springs.

Field water quality results are included in the tables in Appendix A.

Photographs of each of the spring pools are included in Appendix D.

Most notably Pimelia Spring and Spring No. 8 have dried out (only prior to April 2025) whereas Lower Oasis and Spring No. 9 have consistently contained water over the eleven monitoring events. The number of dry events are included in the tabulated results included in Appendix A.

Fish were observed in the Palm Creek Lower Oasis spring in March and October 2022 and May 2023, however the pool was almost dried out in October 2023 and October 2024 with no fish recorded. In Spring No 9, fish were observed in May 2022 and May 2023, but not in the October field visits. Algae and aquatic plants were noted in Spring No 9 April 2024. In May 2025, there were thick algal mats across much of the water surface in Spring No 9.

7 Conclusions

There is no evidence of a change in the groundwater quality due to CTP's activities at Dingo, Surprise, or Palm Valley.

8 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 – Dingo Gas Field

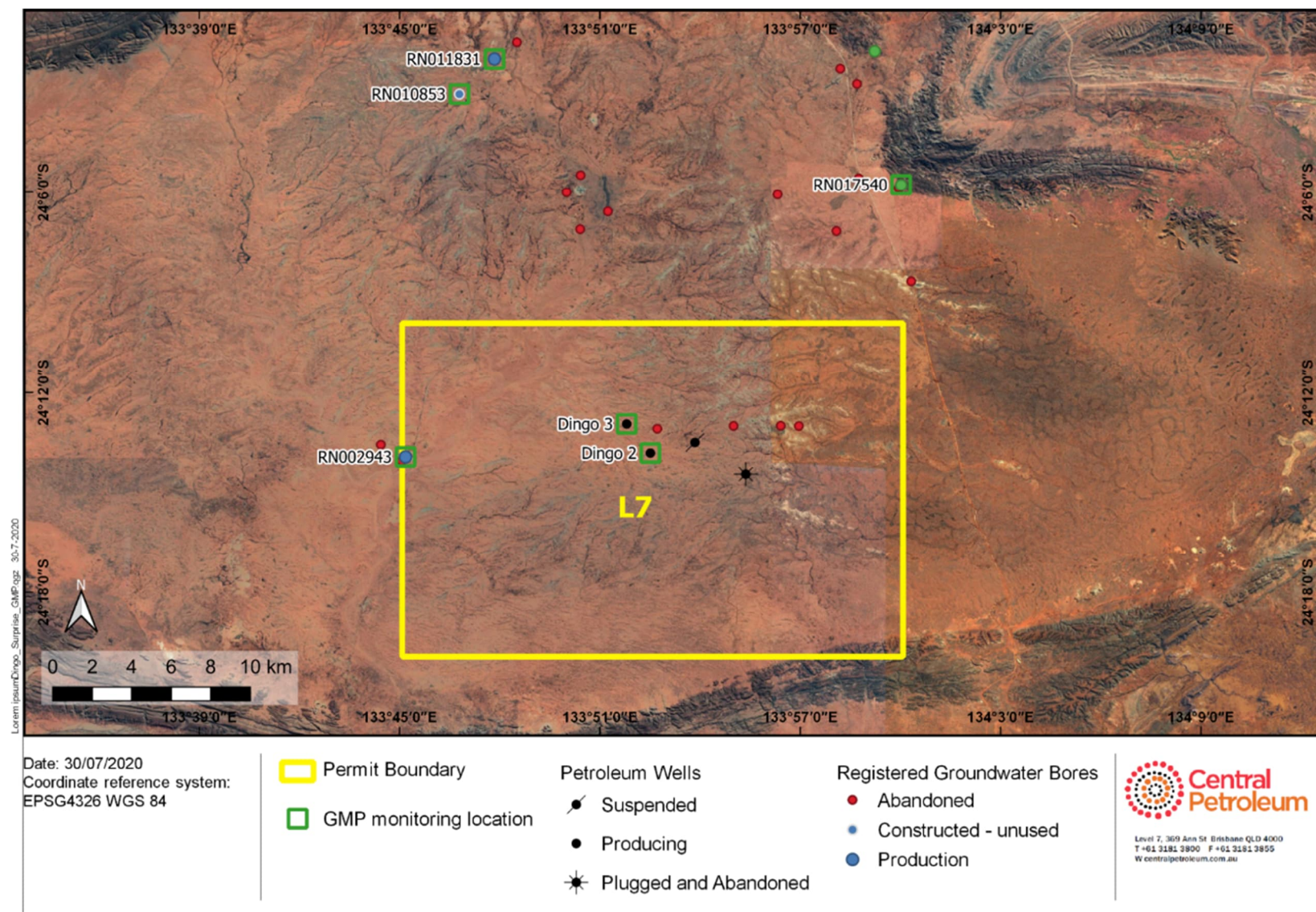


Figure 2 Groundwater monitoring locations relative to permit boundary – Surprise Oil Field

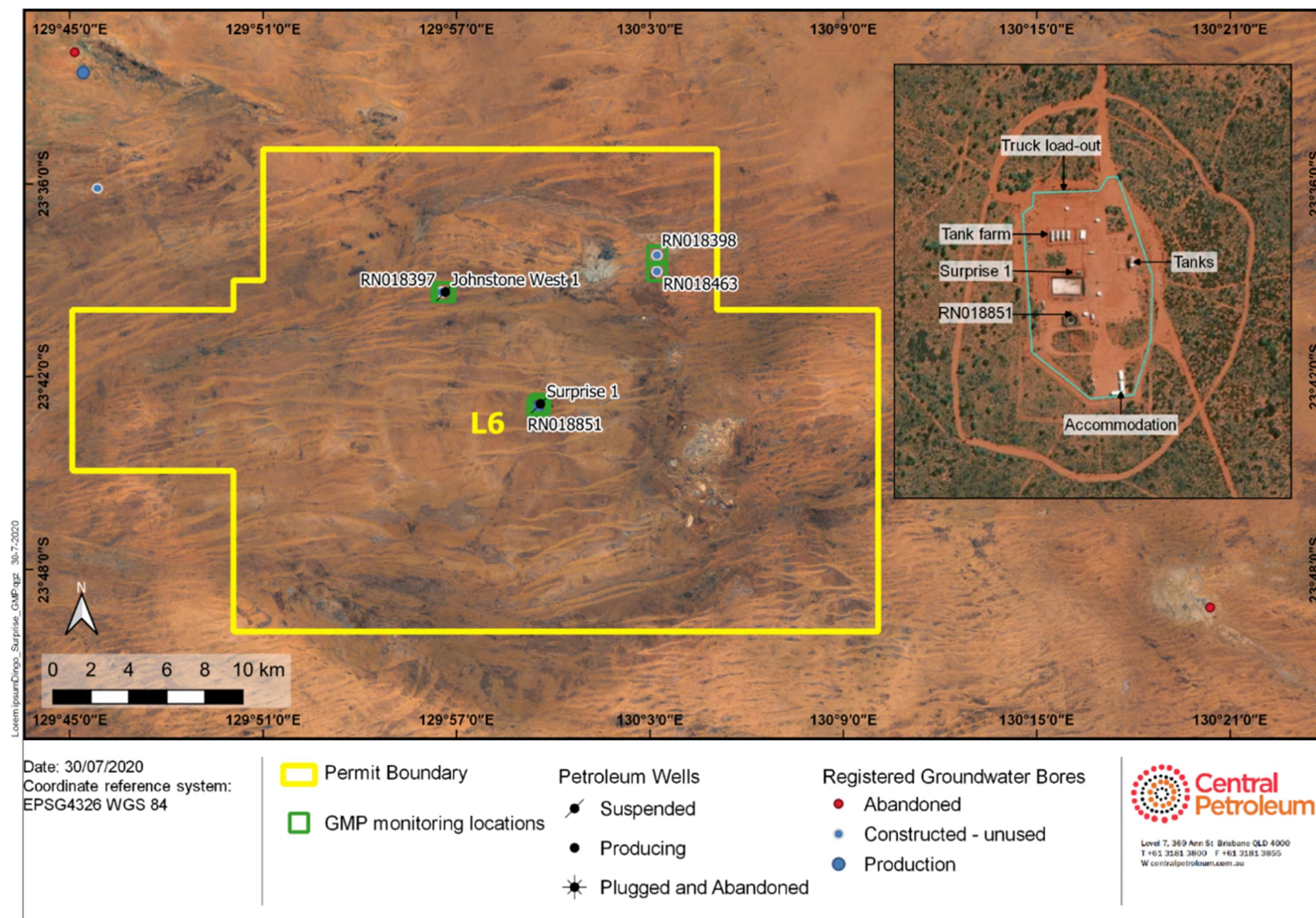
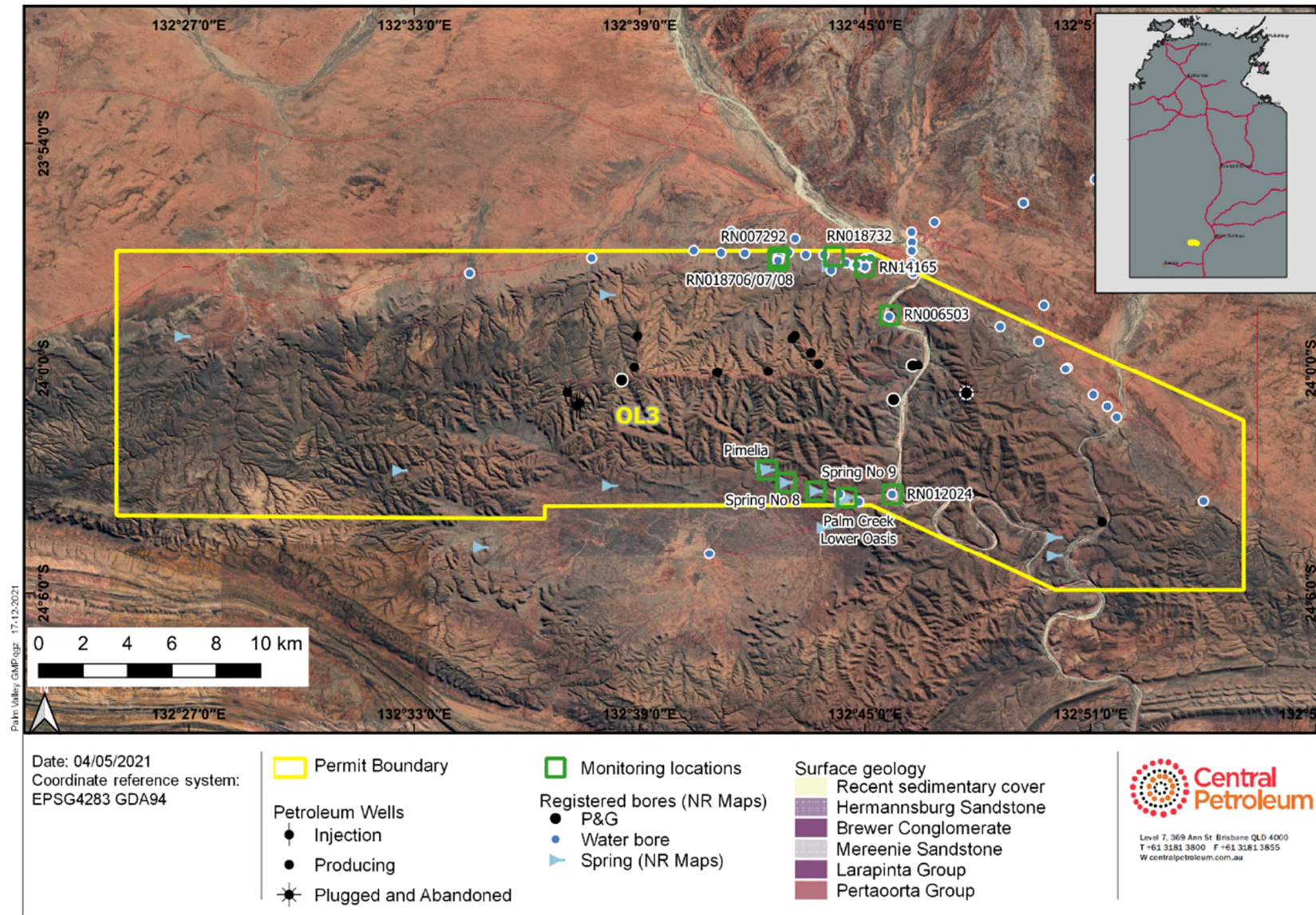


Figure 3 Groundwater monitoring locations relative to permit boundary – Palm Valley Gas Field



Appendix A - Water Quality and Quality Control Results

Field: Dingo		Location RN011831												
Field Parameters	Units	LOR	19 May 2021	24 Oct 2021	16 Oct 2022	24 May 2022	26 Oct 2023	28 May 2023	09 Apr 2024	25 Jun 2024	27 Oct 2024	17 Jun 2025	26 Sep 2025	12 Jul 2026
Electrical conductivity	µS/cm	1	1518	1433	1235	1930	1364	1357	-	1230	-	Not measured	Not collected	1931
pH	pH Unit	0.01	7.04	7.36	7.45	7.76	6.69	7.35	-	6.9	-	Not measured	Not collected	7.28
Temperature	°C	0.1	26.3	27.4	27.7	18	20	13.6	-	24	-	Not measured	Not collected	17.9
General Parameters														
pH (laboratory)	pH Unit	0.01	8	8.3	8.44	8.4	8.29	8.28	-	7.97	8.29	8.49	8.41	8.16
Electrical conductivity (laboratory)	µS/cm	1	1390	1420	1520	1510	1460	1470	1480	1350	1520	1630	1640	1420
Total dissolved solids	mg/L	10	904	923	988	982	949	956	962	878	988	1060	1070	923
Total suspended solids	mg/L	1	<LOR	5	4	<LOR	<LOR	<LOR	-	<LOR	3	2	<LOR	<LOR
Gross alpha	Bq/L	0.05	0.78	-	0.75	0.78	0.77	0.86	-	0.73	0.6	0.49	0.59	0.49
Gross beta	Bq/L	0.1	1.49	-	0.63	0.59	0.64	0.64	-	0.55	0.6	0.6	0.64	0.47
Gross beta activity - 40K	Bq/L	0.1	1.09	-	0.13	<LOR	0.2	0.12	-	<LOR	0.12	<LOR	<LOR	<LOR
Gross beta (excluding k-40)	Bq/L	-	0.4	-	0.5	-	0.44	0.52	-	-	0.48	-	-	-
Major Anions and Cations														
Bicarbonate	mg/L	1	274	292	278	265	314	319	-	309	298	251	302	299
Carbonate	mg/L	1	<LOR	3	20	12	<LOR	<LOR	-	<LOR	<LOR	28	20	<LOR
Chloride	mg/L	1	243	236	286	247	247	257	241	251	306	334	312	250
Sulphate	mg/L	1	124	105	123	112	121	106	-	119	125	137	136	126
Nitrate	mg/L	0.01	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Nitrite	mg/L	0.01	0.55	0.62	0.12	0.15	0.15	0.31	-	0.39	0.11	0.02	0.07	0.35
Fluoride	mg/L	0.1	1.1	1.1	1.1	1	1.2	1.1	-	1.2	1.2	1.2	1.4	1.2
Sodium	mg/L	1	130	134	153	145	141	145	-	140	145	192	189	133
Potassium	mg/L	1	15	15	17	16	15	16	-	16	16	20	21	15
Calcium	mg/L	1	73	75	71	73	71	76	-	70	58	42	55	69
Magnesium	mg/L	1	53	58	64	61	61	62	-	59	60	70	74	58
Iron	mg/L	0.05	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Hydrocarbons														
TRH: C6-C10	µg/L	100	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
TRH: >C10-C40	µg/L	100	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Sum of BTEX	µg/L	1	<LOR	<LOR	4	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
PAH Suite	µg/L	0.5	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Dissolved Gases														
Methane	µg/L	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	-	<LOR	<LOR	<LOR	<LOR
Ethane	µg/L	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	-	<LOR	<LOR	<LOR	<LOR
Propane	µg/L	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	-	<LOR	<LOR	<LOR	<LOR
Dissolved Metals/metalloids														
Chromium	mg/L	0.001	<LOR	<LOR	<LOR	0.002	0.002	<LOR	-	0.003	<LOR	<LOR	0.003	0.003
Copper	mg/L	0.001	<LOR	<LOR	0.002	0.003	<LOR	<LOR	-	<LOR	<LOR	0.002	<LOR	<LOR
Lead	mg/L	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Manganese	mg/L	0.001	0.008	0.005	0.002	0.002	<LOR	0.002	-	<LOR	<LOR	<LOR	<LOR	<LOR
Mercury	mg/L	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Silver	mg/L	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Arsenic	mg/L	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Barium	mg/L	0.001	0.073	0.072	0.079	0.064	0.07	0.054	-	0.08	0.077	0.031	0.042	0.066
Boron	mg/L	0.05	0.26	0.3	0.32	0.64	0.26	0.27	-	0.25	0.3	0.32	0.36	0.26
Cadmium	mg/L	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Lithium	mg/L	0.001	0.012	0.015	0.014	0.024	0.012	0.012	-	0.011	0.012	0.015	0.016	0.011
Selenium	mg/L	0.01	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	-	<LOR	<LOR	<LOR	<LOR	<LOR
Silica	mg/L	0.1	16.8	16.7	18.6	17.7	18.7	17.8	-	18.2	19.7	19.5	21.1	16.2
Strontium	mg/L	0.001	0.742	0.768	0.825	0.75	0.756	0.776	-	0.712	0.682	0.384	0.478	0.712
Zinc	mg/L	0.005	0.105	0.095	0.024	0.046	0.016	0.016	-	0.033	0.014	0.024	0.012	0.03

LOR limit of reporting

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Not analysed

Field: Surprise Location RN018851											
Field Parameters	Units	LOR	20 May 2021	26 Oct 2021	17 Oct 2022	25 May 2022	26 Oct 2023	14 Apr 2024	09 Dec 2024	18 May 2025	13 Aug 2025
Electrical conductivity	µS/cm	1	1413	1412	1223	1406	1284	1139	-	-	Not collected
pH	pH Unit	0.01	6.79	7.01	6.97	6.93	6.71	6.8	-	-	Not collected
Temperature	°C	0.1	27.5	28.5	28.8	25.1	10	28.3	-	-	Not collected
General Parameters											
pH (laboratory)	pH Unit	0.01	7.93	8.25	8.05	8.11	7.52	7.68	7.83	7.87	7.98
Electrical conductivity (laboratory)	µS/cm	1	1330	1430	1270	1400	1350	1420	1360	1390	1480
Total dissolved solids	mg/L	10	864	930	826	910	878	923	884	904	962
Total suspended solids	mg/L	1	2	5	<LOR	<LOR	<LOR	3	<LOR	3	6
Gross alpha	Bq/L	0.05	0.41	-	0.42	0.44	0.46	0.37	0.41	0.35	0.39
Gross beta	Bq/L	0.1	1.56	-	1.23	1.15	1.2	1.16	1.27	0.98	1.13
Gross beta activity - 40K	Bq/L	0.1	0.74	-	0.31	<LOR	0.37	0.32	0.51	0.22	0.26
Gross beta (excluding k-40)	Bq/L	-	0.82	-	0.92	-	0.83	0.84	0.76	0.76	0.87
Major Anions and Cations											
Bicarbonate	mg/L	1	190	203	91	184	172	189	221	180	212
Carbonate	mg/L	1	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Chloride	mg/L	1	235	239	225	221	228	250	246	250	285
Sulphate	mg/L	1	118	115	114	114	122	119	127	129	151
Nitrate	mg/L	0.01	<LOR	0.02	0.04	0.04	0.04	0.03	<LOR	<LOR	<LOR
Nitrite	mg/L	0.01	11	10.6	10.8	11.1	9.96	10.5	9.67	11.2	10.6
Fluoride	mg/L	0.1	1.1	0.9	1	0.9	1	1.1	0.9	1.1	0.9
Sodium	mg/L	1	128	144	136	125	133	137	126	116	130
Potassium	mg/L	1	31	34	32	31	31	32	30	29	31
Calcium	mg/L	1	70	72	73	73	75	69	94	67	72
Magnesium	mg/L	1	38	40	42	39	42	43	42	39	42
Iron	mg/L	0.05	0.07	0.18	0.09	0.07	<LOR	<LOR	<LOR	0.09	<LOR
Hydrocarbons											
TRH: C6-C10	µg/L	100	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
TRH: >C10-C40	µg/L	100	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Sum of BTEX	µg/L	1	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
PAH Suite	µg/L	0.5	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Dissolved Gases											
Methane	µg/L	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Ethane	µg/L	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Propane	µg/L	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Dissolved Metals/metalloids											
Chromium	mg/L	0.001	0.002	<LOR	<LOR	0.002	<LOR	<LOR	<LOR	<LOR	<LOR
Copper	mg/L	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Lead	mg/L	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Manganese	mg/L	0.001	0.015	0.03	0.018	0.016	0.014	0.022	0.09	0.023	0.041
Mercury	mg/L	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Silver	mg/L	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Arsenic	mg/L	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Barium	mg/L	0.001	0.045	0.053	0.045	0.046	0.043	0.058	0.071	0.041	0.05
Boron	mg/L	0.05	0.5	0.42	0.53	0.58	0.49	0.52	0.49	0.47	0.41
Cadmium	mg/L	0.0001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Lithium	mg/L	0.001	0.008	0.008	0.009	0.01	0.009	0.008	0.012	0.008	0.009
Selenium	mg/L	0.01	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Silica	mg/L	0.1	49.3	48.3	49.8	49.1	48.3	48.6	41.4	46.9	41.9
Strontium	mg/L	0.001	0.761	0.859	0.818	0.765	0.789	0.704	0.812	0.711	0.804
Zinc	mg/L	0.005	0.012	0.024	0.012	0.014	<LOR	0.043	0.042	0.016	0.032

LOR limit of reporting

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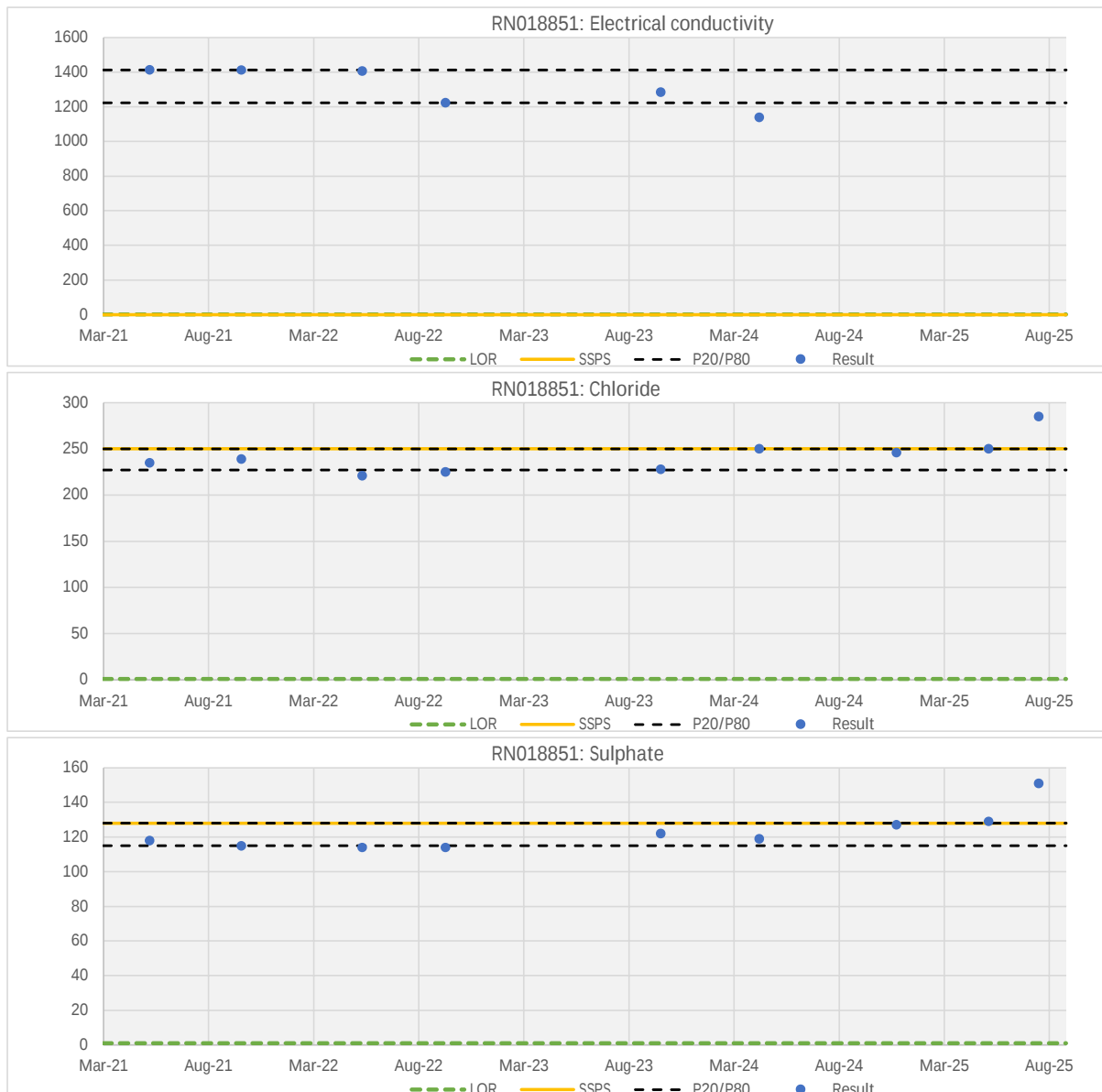
Not analysed

Sample Event	Parameter	RN012024	DUP-P	RPD
Oct-2025	Electrical Conductivity	1260	1240	1.6
Oct-2025	Total Dissolved Solids	819	806	1.6
Oct-2025	Chloride	173	186	7.2

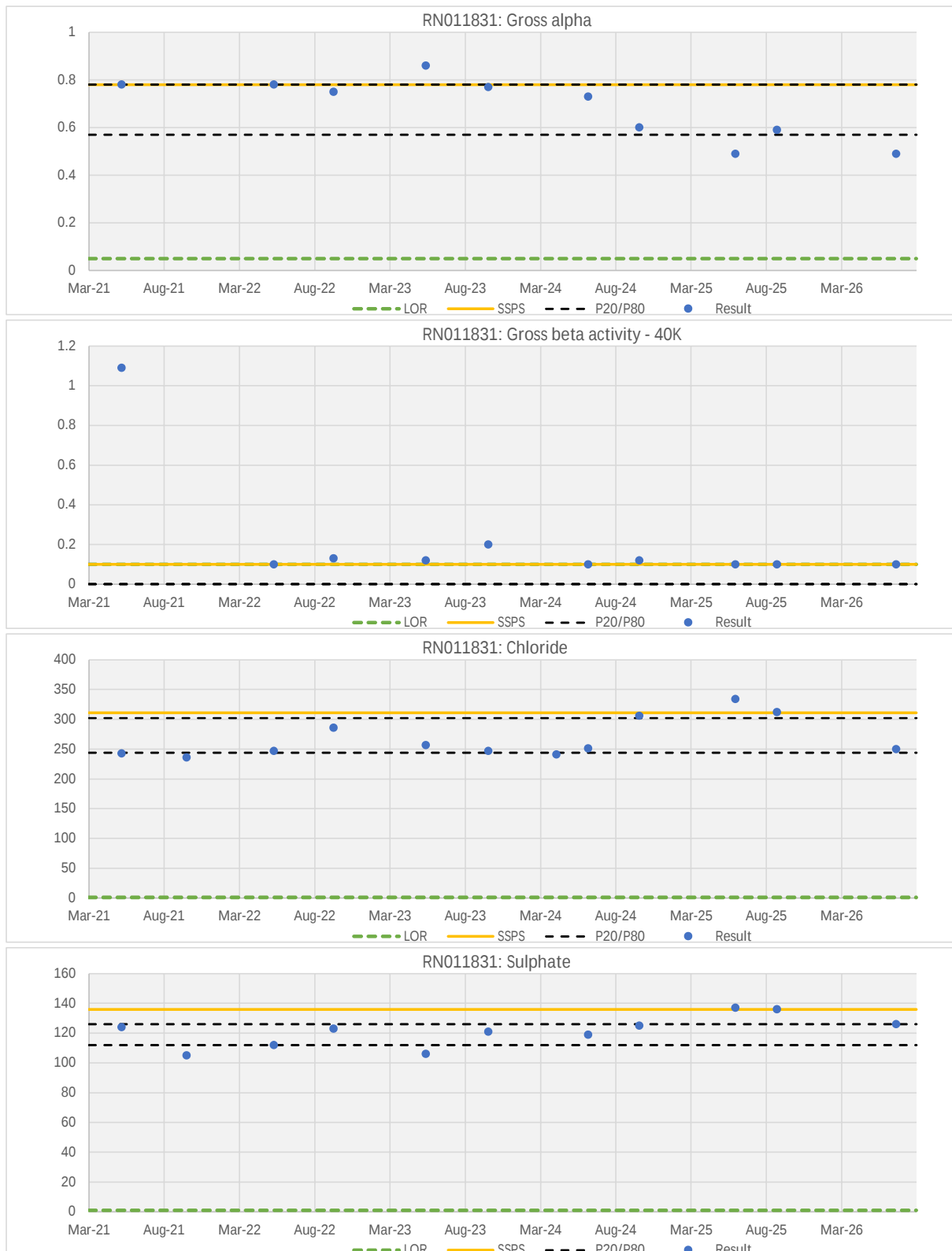
Sample Event	Parameter	RN006503	DUP1	RPD
May-2026	Electrical Conductivity	1480	1560	5.3
May-2026	Total Dissolved Solids	962	1010	4.9
May-2026	Chloride	215	190	12.3

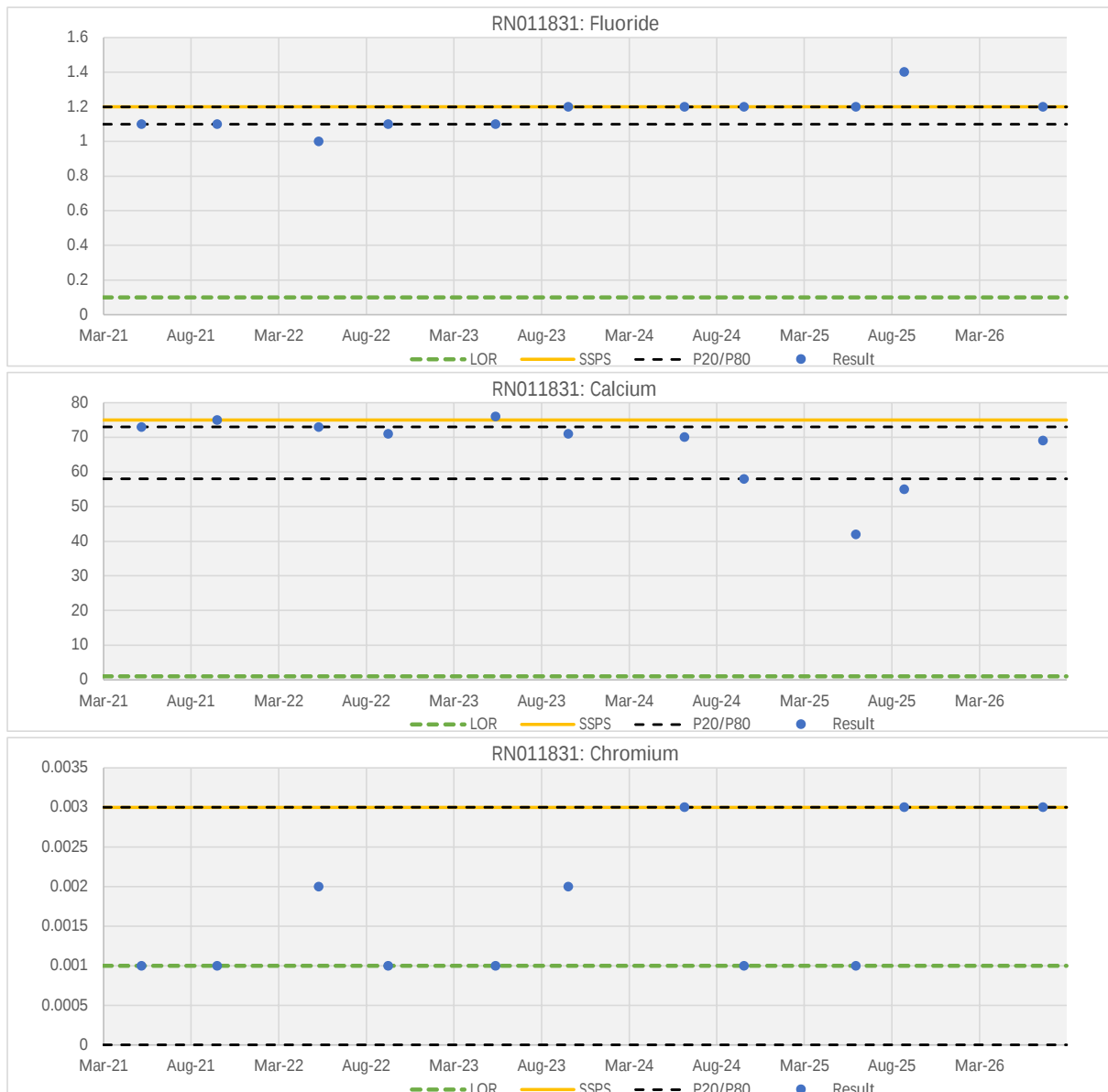
Appendix B – Location-by-location summary statistics and timeseries graphs

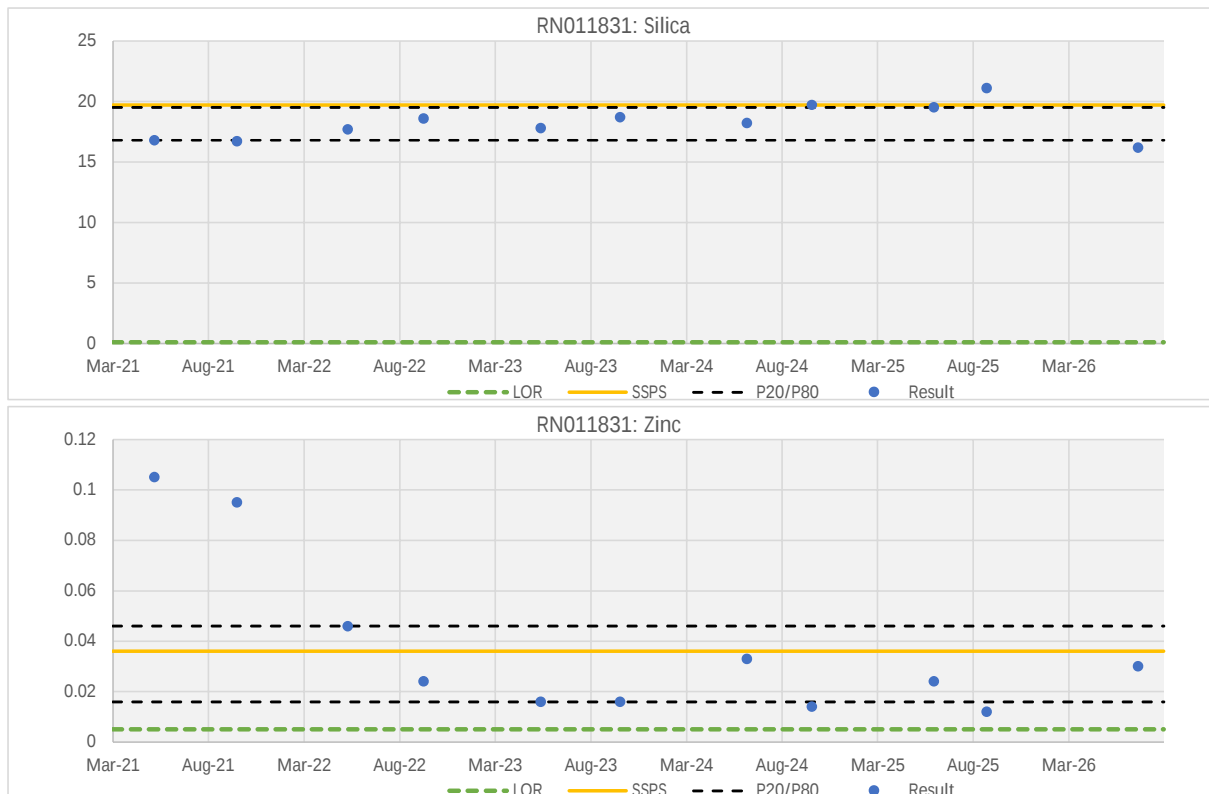
Field		Surprise	Location: RN018851							18 May 2025	13 Aug 2025	Mann-Kendall Trend
Field Parameters	Units	SSPS	LOR	No. Samples	Min	P20	P50	P80	Max			
Electrical conductivity	µS/cm	-	1	6	1139	1223	1345	1412	1413	-	-	Falling
pH	pH Unit	-	0.01	6	6.71	6.79	6.87	6.97	7.01	-	-	No Trend
Temperature	°C	-	0.1	6	10.0	25.1	27.9	28.5	28.8	-	-	No Trend
General Parameters												
pH (laboratory)	pH Unit	7.65 - 8.14	0.01	9	7.52	7.77	7.93	8.07	8.25	7.87	7.98	No Trend
Electrical conductivity (laboratory)	µS/cm	1440	1	9	1270	1342	1390	1424	1480	1390	1480	No Trend
Total dissolved solids	mg/L	936	10	9	826	872	904	926	962	904	962	No Trend
Total suspended solids	mg/L	5	1	9	<LOR	<LOR	2	4	6	3	6	No Trend
Gross alpha	Bq/L	0.45	0.05	8	0.35	0.38	0.41	0.43	0.46	0.35	0.39	No Trend
Gross beta	Bq/L	1.4	0.1	8	1.0	1.1	1.2	1.3	1.6	1.0	1.1	No Trend
Gross beta activity - 40K	Bq/L	0.6	0.1	8	<LOR	0.2	0.3	0.5	0.7	0.2	0.3	No Trend
Gross beta (excluding k-40)	Bq/L	-	-	8	0.76	0.78	0.84	0.90	1.05	0.76	0.87	No Trend
Major Anions and Cations												
Bicarbonate	mg/L	215	1	9	91	177	189	207	221	180	212	No Trend
Carbonate	mg/L	1	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Chloride	mg/L	250	1	9	221	227	239	250	285	250	285	Rising
Sulphate	mg/L	128	1	9	114	115	119	128	151	129	151	Rising
Nitrate	mg/L	11.12	0.01	9	<LOR	<LOR	0.02	0.04	0.04	<LOR	<LOR	No Trend
Nitrite	mg/L	0.04	0.01	9	9.67	10.28	10.60	11.04	11.20	11.20	10.60	No Trend
Fluoride	mg/L	1.1	0.1	9	0.9	0.9	1.0	1.1	1.1	1.1	0.9	No Trend
Sodium	mg/L	138	1	9	116	126	130	136	144	116	130	No Trend
Potassium	mg/L	32	1	9	29	31	31	32	34	29	31	No Trend
Calcium	mg/L	73	1	9	67	70	72	74	94	67	72	No Trend
Magnesium	mg/L	42	1	9	38	39	42	42	43	39	42	No Trend
Iron	mg/L	0.09	0.05	9	<LOR	<LOR	0.07	0.09	0.18	0.09	<LOR	No Trend
Hydrocarbons												
TRH: C6-C10	µg/L	20	100	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	100	100	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Sum of BTEX	µg/L	1	1	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	0.5	0.5	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases												
Methane	µg/L	10	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethane	µg/L	10	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	10	10	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids												
Chromium	mg/L	0.002	0.001	9	<LOR	<LOR	<LOR	<LOR	0.002	<LOR	<LOR	No Trend
Copper	mg/L	0.001	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lead	mg/L	0.001	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	0.051	0.001	9	0.014	0.016	0.022	0.034	0.090	0.023	0.041	No Trend
Mercury	mg/L	0.0001	0.0001	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	0.001	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.001	0.001	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Barium	mg/L	0.061	0.001	9	0.041	0.044	0.046	0.055	0.071	0.041	0.050	No Trend
Boron	mg/L	0.54	0.05	9	0.41	0.45	0.49	0.52	0.58	0.47	0.41	No Trend
Cadmium	mg/L	0.0001	0.0001	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	0.01	0.001	9	0.008	0.008	0.009	0.009	0.012	0.008	0.009	No Trend
Selenium	mg/L	0.01	0.01	9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	49.4	0.1	9	41.4	44.9	48.3	49.2	49.8	46.9	41.9	Falling
Strontium	mg/L	0.826	0.001	9	0.704	0.741	0.789	0.814	0.859	0.711	0.804	No Trend
Zinc	mg/L	0.042	0.005	9	<LOR	0.012	0.016	0.036	0.043	0.016	0.032	No Trend
0.5	SSPS exceeded											
-	Not analysed/not available											
<LOR	Less than the limit of reporting											



Field	Dingo		Location: RN011831									
Field Parameters	Units	SSPS	LOR	No. Samples	Min	P20	P50	P80	Max	26 Sep 2025	12 Jul 2026	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	8	1230	1284	1399	1765	1931	-	1931	No Trend
pH	pH Unit	-	0.01	8	6.69	6.96	7.32	7.41	7.76	-	7.28	No Trend
Temperature	°C	-	0.1	8	13.6	17.9	22.0	27.0	27.7	-	17.9	No Trend
General Parameters												
pH (laboratory)	pH Unit	8.00 - 8.44	0.01	11	7.97	8.16	8.29	8.41	8.49	8.41	8.16	No Trend
Electrical conductivity (laboratory)	µS/cm	1619	1	12	1350	1420	1475	1520	1640	1640	1420	No Trend
Total dissolved solids	mg/L	1053	10	12	878	923	959	988	1070	1070	923	No Trend
Total suspended solids	mg/L	4	1	11	<LOR	<LOR	<LOR	3	5	<LOR	<LOR	No Trend
Gross alpha	Bq/L	0.78	0.05	10	0.49	0.57	0.74	0.78	0.86	0.59	0.49	Falling
Gross beta	Bq/L	0.6	0.1	10	0.5	0.6	0.6	0.6	1.5	0.6	0.5	No Trend
Gross beta activity - 40K	Bq/L	0.1	0.1	10	<LOR	<LOR	<LOR	<LOR	1.1	<LOR	<LOR	Falling
Gross beta (excluding k-40)	Bq/L	-	-	10	0.37	0.43	0.49	0.50	0.54	0.54	0.37	No Trend
Major Anions and Cations												
Bicarbonate	mg/L	314	1	11	251	274	298	309	319	302	299	No Trend
Carbonate	mg/L	20	1	11	<LOR	<LOR	<LOR	20	28	20	<LOR	No Trend
Chloride	mg/L	311	1	12	236	244	251	302	334	312	250	Rising
Sulphate	mg/L	136	1	11	105	112	123	126	137	136	126	Rising
Nitrate	mg/L	0.55	0.01	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Nitrite	mg/L	0.01	0.01	11	0.02	0.11	0.15	0.39	0.62	0.07	0.35	No Trend
Fluoride	mg/L	1.2	0.1	11	1.0	1.1	1.2	1.2	1.4	1.4	1.2	Rising
Sodium	mg/L	189	1	11	130	134	145	153	192	189	133	No Trend
Potassium	mg/L	20	1	11	15	15	16	17	21	21	15	No Trend
Calcium	mg/L	75	1	11	42	58	71	73	76	55	69	Falling
Magnesium	mg/L	70	1	11	53	58	61	64	74	74	58	No Trend
Iron	mg/L	0.05	0.05	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Hydrocarbons												
TRH: C6-C10	µg/L	20	100	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	100	100	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Sum of BTEX	µg/L	1	1	11	<LOR	<LOR	<LOR	<LOR	4	<LOR	<LOR	No Trend
PAH Suite	µg/L	0.5	0.5	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases												
Methane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids												
Chromium	mg/L	0.003	0.001	11	<LOR	<LOR	<LOR	0.003	0.003	0.003	0.003	Rising
Copper	mg/L	0.002	0.001	11	<LOR	<LOR	<LOR	0.002	0.003	<LOR	<LOR	No Trend
Lead	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	0.002	0.001	11	<LOR	<LOR	<LOR	0.002	0.008	<LOR	<LOR	Falling
Mercury	mg/L	0.0001	0.0001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Barium	mg/L	0.079	0.001	11	0.031	0.054	0.070	0.077	0.080	0.042	0.066	No Trend
Boron	mg/L	0.32	0.05	11	0.25	0.26	0.30	0.32	0.64	0.36	0.26	No Trend
Cadmium	mg/L	0.0001	0.0001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	0.015	0.001	11	0.011	0.012	0.012	0.015	0.024	0.016	0.011	No Trend
Selenium	mg/L	0.01	0.01	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	19.7	0.1	11	16.2	16.8	18.2	19.5	21.1	21.1	16.2	Rising
Strontium	mg/L	0.786	0.001	11	0.384	0.682	0.742	0.768	0.825	0.478	0.712	Falling
Zinc	mg/L	0.036	0.005	11	0.012	0.016	0.024	0.046	0.105	0.012	0.030	Falling
0.5	SSPS exceeded											
-	Not analysed/not available											
<LOR	Less than the limit of reporting											

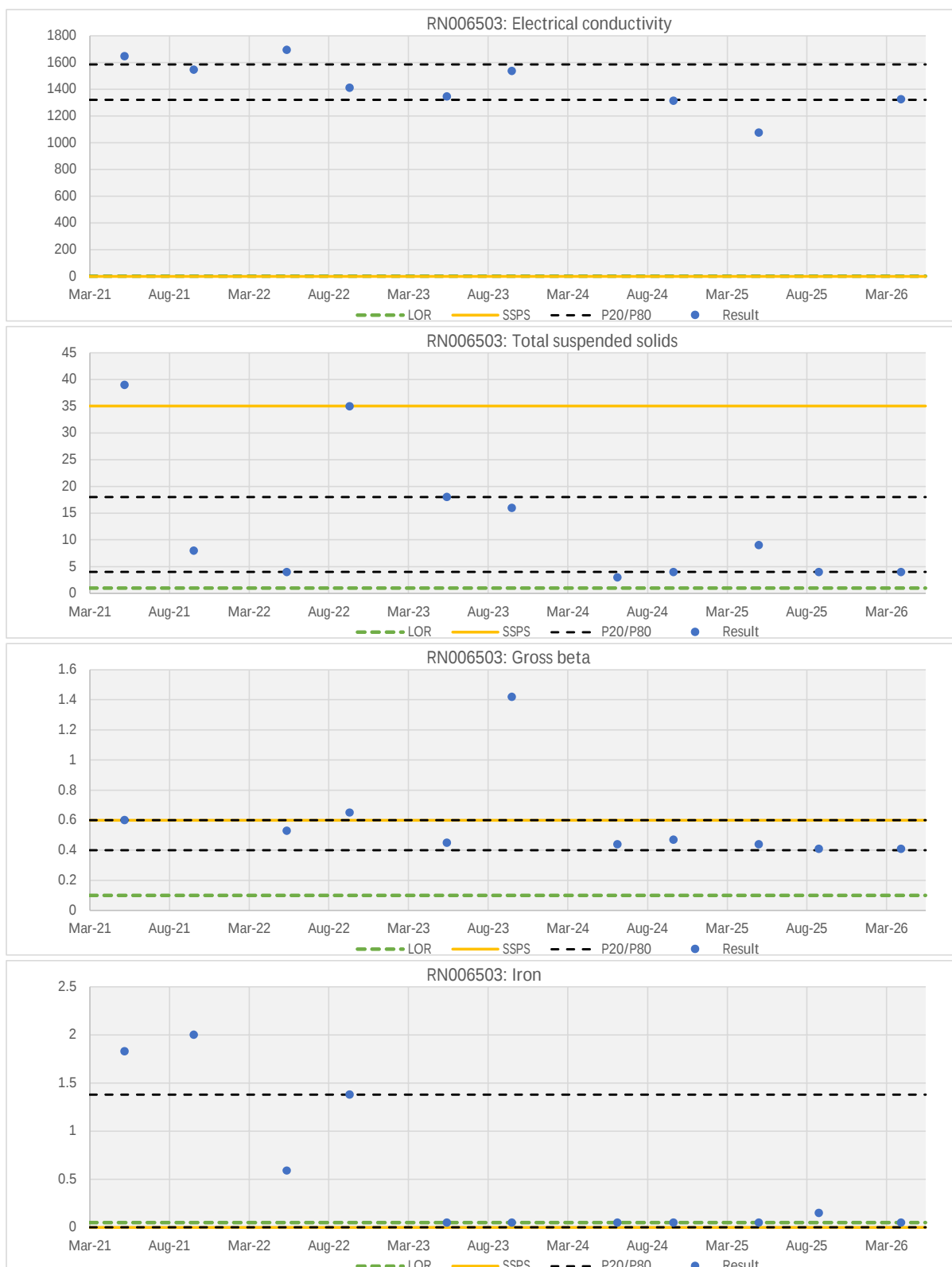




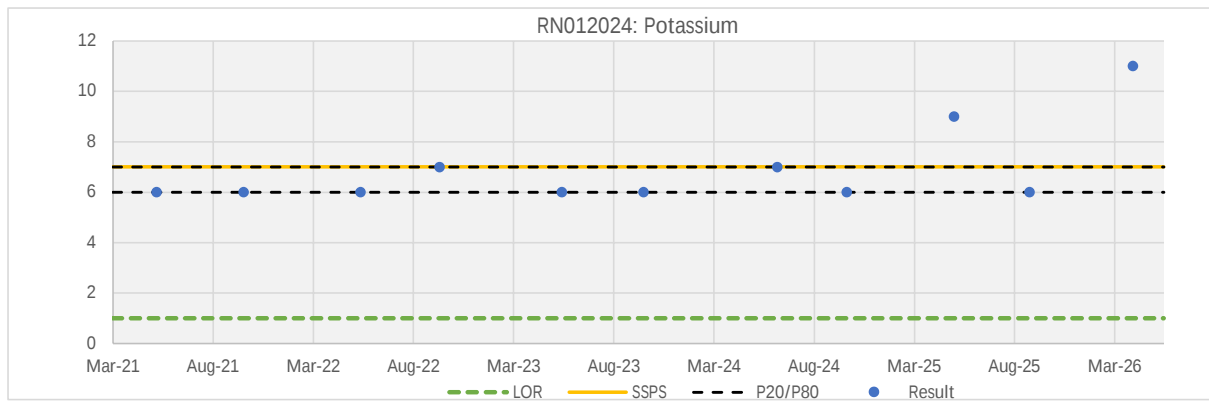


Field	Palm Valley		Location: RN006503									
Field Parameters	Units	SSPS	LOR	No. Samples	Min	P20	P50	P80	Max	28 Sep 2025	04 Apr 2026	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	9	1075	1321	1411	1586	1693	-	1325	Falling
pH	pH Unit	-	0.01	9	6.93	7.12	7.21	7.82	8.88	-	7.87	No Trend
Temperature	°C	-	0.1	8	22.0	23.9	24.3	26.6	29.5	-	29.5	No Trend
General Parameters												
pH (laboratory)	pH Unit	7.77 - 8.27	0.01	11	7.65	7.95	8.06	8.19	8.30	8.19	8.27	No Trend
Electrical conductivity (laboratory)	µS/cm	1690	1	11	1400	1440	1500	1620	1690	1440	1480	No Trend
Total dissolved solids	mg/L	1100	10	11	910	936	975	1050	1100	936	962	No Trend
Total suspended solids	mg/L	35	1	11	3	4	8	18	39	4	4	Falling
Gross alpha	Bq/L	0.78	0.05	10	0.37	0.56	0.64	0.78	1.81	0.58	0.37	No Trend
Gross beta	Bq/L	0.6	0.1	10	0.4	0.4	0.5	0.6	1.4	0.4	0.4	Falling
Gross beta activity - 40K	Bq/L	0.3	0.1	10	<LOR	<LOR	0.2	0.3	1.0	0.2	<LOR	No Trend
Gross beta (excluding k-40)	Bq/L	-	-	10	0.24	0.27	0.31	0.33	0.42	0.24	0.30	No Trend
Major Anions and Cations												
Bicarbonate	mg/L	274	1	11	217	239	266	274	276	274	266	No Trend
Carbonate	mg/L	1	1	11	<LOR	<LOR	<LOR	<LOR	3	<LOR	<LOR	No Trend
Chloride	mg/L	265	1	11	193	198	217	258	274	193	215	No Trend
Sulphate	mg/L	280	1	11	244	248	270	275	285	244	270	No Trend
Nitrate	mg/L	0.02	0.01	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Nitrite	mg/L	0.01	0.01	11	<LOR	<LOR	<LOR	0.02	0.45	<LOR	<LOR	No Trend
Fluoride	mg/L	0.1	0.1	11	<LOR	<LOR	<LOR	<LOR	0.2	<LOR	<LOR	No Trend
Sodium	mg/L	151	1	11	127	131	138	148	154	131	131	No Trend
Potassium	mg/L	11	1	11	9	9	11	11	15	9	9	No Trend
Calcium	mg/L	126	1	11	108	115	118	121	130	117	115	No Trend
Magnesium	mg/L	53	1	11	46	48	50	53	56	49	50	No Trend
Iron	mg/L	<LOR	0.05	11	<LOR	<LOR	<LOR	1.38	2.00	0.15	<LOR	Falling
Hydrocarbons												
TRH: C6-C10	µg/L	20	100	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	100	100	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Sum of BTEX	µg/L	1	1	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	0.5	0.5	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases												
Methane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids												
Chromium	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Copper	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lead	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	0.083	0.001	11	0.011	0.050	0.054	0.072	0.088	0.050	0.056	No Trend
Mercury	mg/L	0.0001	0.0001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Barium	mg/L	0.162	0.001	11	0.041	0.051	0.054	0.113	0.315	0.048	0.051	No Trend
Boron	mg/L	0.13	0.05	11	0.08	0.09	0.10	0.12	0.14	0.10	0.09	No Trend
Cadmium	mg/L	0.0001	0.0001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	0.084	0.001	11	0.039	0.046	0.052	0.071	0.100	0.048	0.052	No Trend
Selenium	mg/L	0.01	0.01	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	21.3	0.1	11	19.7	20.2	20.5	21.3	21.8	21.8	19.7	No Trend
Strontium	mg/L	2.91	0.001	11	0.783	0.910	0.977	1.610	3.270	0.861	0.940	No Trend
Zinc	mg/L	0.035	0.005	11	<LOR	<LOR	0.012	0.033	0.051	0.051	0.033	No Trend

0.5 SSPS exceeded
- Not analysed/not available
<LOR Less than the limit of reporting



Field	Palm Valley		Location: RN012024									
Field Parameters	Units	SSPS	LOR	No. Samples	Min	P20	P50	P80	Max	28 Sep 2025	04 Apr 2026	Mann-Kendall Trend
Electrical conductivity	µS/cm	-	1	10	1036	1059	1155	1211	1315	-	1060	No Trend
pH	pH Unit	-	0.01	10	6.99	7.06	7.10	7.35	7.69	-	7.04	No Trend
Temperature	°C	-	0.1	10	19.9	25.1	25.9	27.2	28.3	-	28.3	No Trend
General Parameters												
pH (laboratory)	pH Unit	7.72 - 8.31	0.01	11	7.64	7.73	7.96	8.23	8.33	8.12	8.23	No Trend
Electrical conductivity (laboratory)	µS/cm	1340	1	12	1060	1136	1250	1338	1370	1260	1120	No Trend
Total dissolved solids	mg/L	871	10	12	689	738	813	870	890	819	728	No Trend
Total suspended solids	mg/L	1	1	11	<LOR	<LOR	<LOR	<LOR	5	<LOR	<LOR	No Trend
Gross alpha	Bq/L	0.34	0.05	10	0.16	0.26	0.30	0.34	0.38	0.27	0.16	No Trend
Gross beta	Bq/L	0.3	0.1	10	0.2	0.2	0.2	0.3	1.1	0.2	0.2	No Trend
Gross beta activity - 40K	Bq/L	0.2	0.1	10	<LOR	<LOR	<LOR	<LOR	0.9	<LOR	<LOR	No Trend
Gross beta (excluding k-40)	Bq/L	-	-	10	0.08	0.12	0.15	0.17	0.27	0.13	0.14	No Trend
Major Anions and Cations												
Bicarbonate	mg/L	377	1	11	291	303	321	370	378	370	355	No Trend
Carbonate	mg/L	<LOR	1	11	<LOR	<LOR	<LOR	<LOR	7	<LOR	<LOR	No Trend
Chloride	mg/L	192	1	12	114	142	172	178	201	173	154	No Trend
Sulphate	mg/L	101	1	11	58	63	72	98	110	86	58	No Trend
Nitrate	mg/L	8	0.01	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Nitrite	mg/L	0.01	0.01	11	1.42	2.42	4.22	7.49	8.75	3.02	1.42	No Trend
Fluoride	mg/L	0.7	0.1	11	0.5	0.6	0.6	0.7	0.7	0.7	0.6	No Trend
Sodium	mg/L	121	1	11	78	84	98	119	122	104	79	No Trend
Potassium	mg/L	7	1	11	6	6	6	7	11	6	11	Rising
Calcium	mg/L	85	1	11	67	72	75	84	86	80	72	No Trend
Magnesium	mg/L	66	1	11	47	54	58	65	68	62	54	No Trend
Iron	mg/L	0.05	0.05	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Hydrocarbons												
TRH: C6-C10	µg/L	20	100	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
TRH: >C10-C40	µg/L	100	100	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Sum of BTEX	µg/L	1	1	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
PAH Suite	µg/L	0.5	0.5	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Gases												
Methane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Ethane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Propane	µg/L	10	10	10	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Dissolved Metals/metalloids												
Chromium	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Copper	mg/L	0.004	0.001	11	<LOR	0.002	0.002	0.004	0.009	0.002	0.002	No Trend
Lead	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Manganese	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	0.020	<LOR	<LOR	No Trend
Mercury	mg/L	0.0001	0.0001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silver	mg/L	0.001	0.001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Arsenic	mg/L	0.002	0.001	11	<LOR	<LOR	0.002	0.002	0.003	0.002	<LOR	No Trend
Barium	mg/L	0.074	0.001	11	0.053	0.061	0.062	0.072	0.315	0.062	0.061	No Trend
Boron	mg/L	0.38	0.05	11	0.19	0.20	0.28	0.36	0.39	0.28	0.20	No Trend
Cadmium	mg/L	0.0001	0.0001	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Lithium	mg/L	0.021	0.001	11	0.015	0.015	0.017	0.020	0.031	0.015	0.016	No Trend
Selenium	mg/L	0.01	0.01	11	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	No Trend
Silica	mg/L	43.7	0.1	11	29.6	31.1	41.5	43.6	48.7	41.5	30.5	No Trend
Strontium	mg/L	0.425	0.001	11	0.308	0.327	0.362	0.382	1.520	0.354	0.324	No Trend
Zinc	mg/L	0.017	0.005	11	<LOR	<LOR	<LOR	0.010	0.020	<LOR	<LOR	No Trend
0.5	SSPS exceeded											
-	Not analysed/not available											
<LOR	Less than the limit of reporting											



Field: Palm Valley			Location:		Palm Creek Lower Oasis				
Field Parameters	Units	LOR	No. Samples	No Dry Events	Min	P20	P50	P80	Max
Electrical conductivity	µS/cm	1	11	0	11	501	1187	1566	3100
pH	pH Unit	0.01	11	0	7.38	7.80	8.12	8.63	9.06
Temperature	°C	0.1	11	0	17.0	20.0	22.3	26.4	31.2

Field: Palm Valley			Location:		Palm Valley Area Spring No 8				
Field Parameters	Units	LOR	No. Samples	No Dry Events	Min	P20	P50	P80	Max
Electrical conductivity	µS/cm	1	11	4	168	331	529	1282	1527
pH	pH Unit	0.01	11	4	8.37	9.00	9.03	9.45	9.55
Temperature	°C	0.1	11	4	19.0	19.4	20.7	21.2	28.6

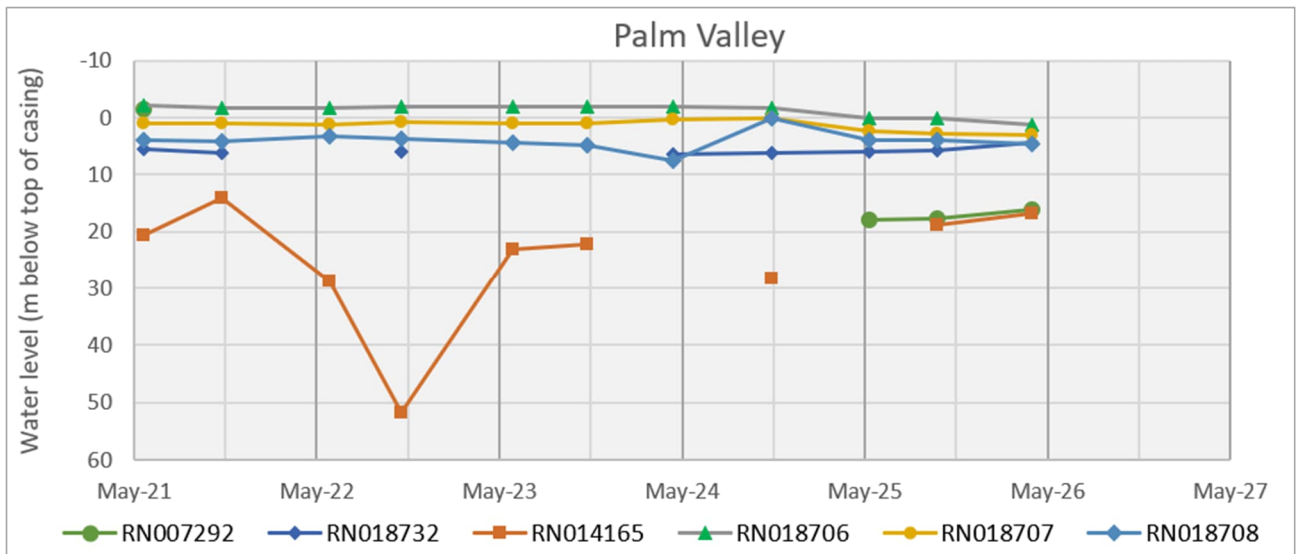
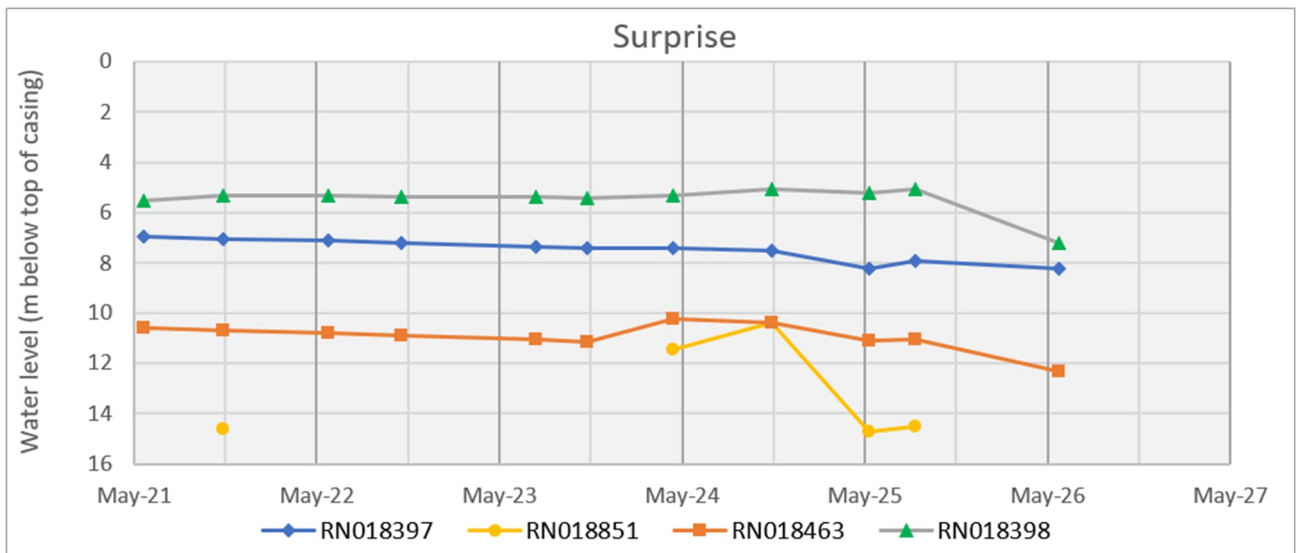
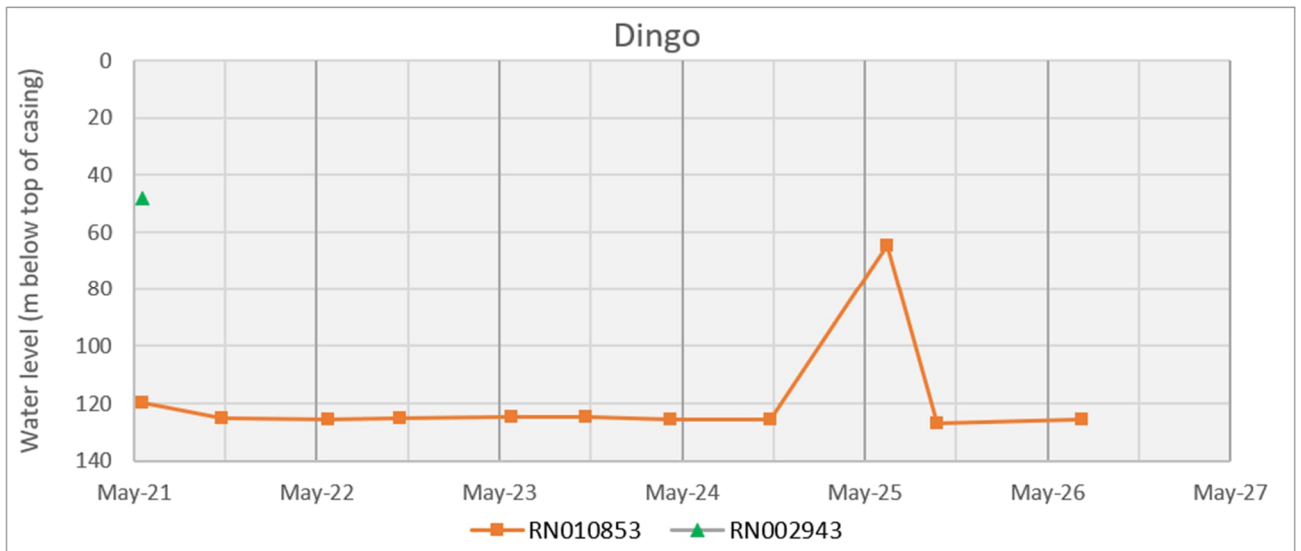
Field: Palm Valley			Location:		Palm Valley Area Spring No 9				
Field Parameters	Units	LOR	No. Samples	No Dry Events	Min	P20	P50	P80	Max
Electrical conductivity	µS/cm	1	11	0	408	829	1450	5200	7740
pH	pH Unit	0.01	11	0	8.20	8.66	9.19	9.47	9.61
Temperature	°C	0.1	11	0	19.2	20.7	23.3	27.4	30.7

Field: Palm Valley			Location:		Pimelia Spring				
Field Parameters	Units	LOR	No. Samples	No Dry Events	Min	P20	P50	P80	Max
Electrical conductivity	µS/cm	1	11	4	176	545	848	2049	3290
pH	pH Unit	0.01	11	4	7.76	8.62	8.76	9.38	9.71
Temperature	°C	0.1	11	4	20.7	21.4	23.2	24.8	29.2

Appendix C - Water Level and Wellhead Pressure Monitoring

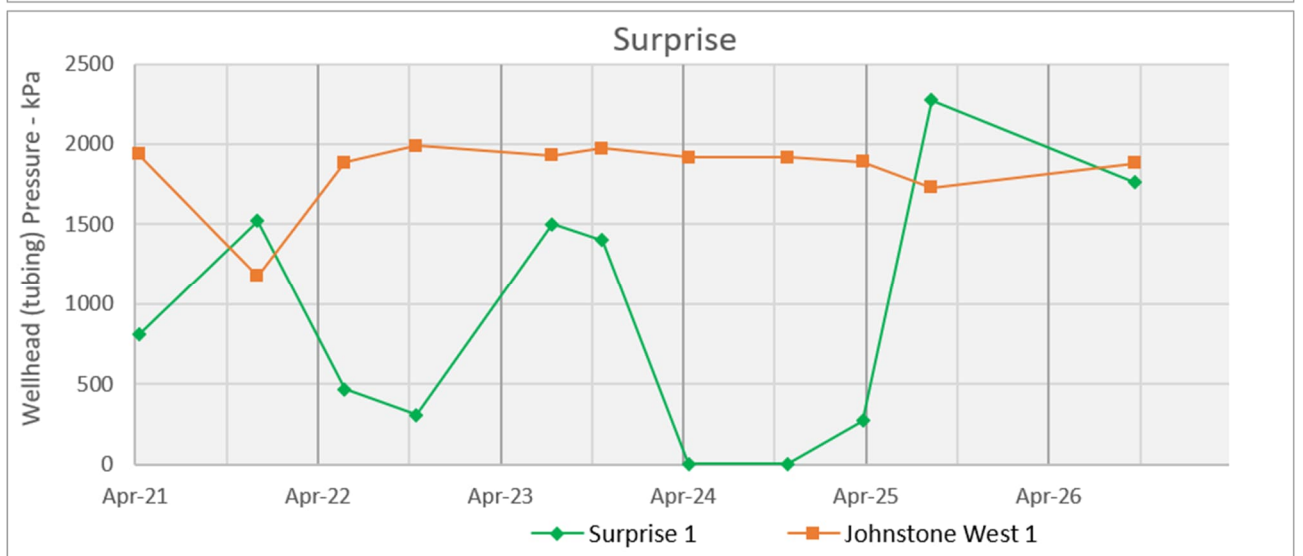
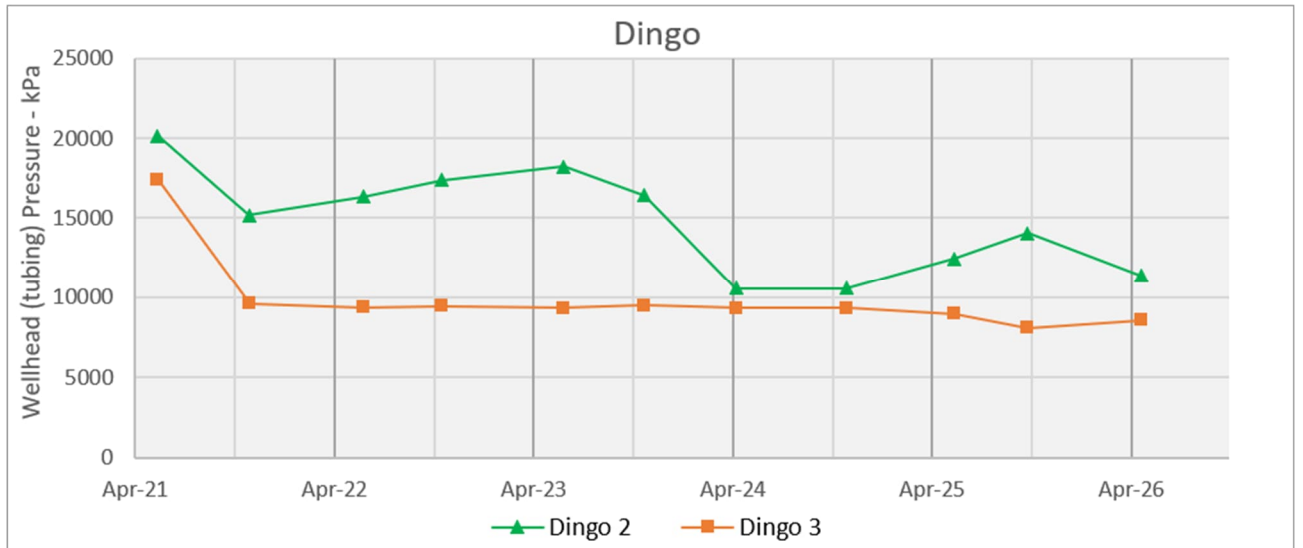
Dingo	RN002943		RN010853		RN017540							
	18/05/2021	48.09	19/05/2021	119.74	18/05/2021	Blocked at 97.13m						
	24/10/2021	dry at 50.6m	24/10/2021	125.33	24/10/2021	dry at 54m						
	24/05/2022	Dry at 51m	24/05/2022	125.38	24/05/2022	Dry at 29.6m						
	16/10/2022	Dry at 51m	16/10/2022	125.34	16/10/2022	Dry at 28.2m						
	28/05/2023	Bore collapsed	28/05/2023	124.5	28/05/2023	Bore collapsed						
	23/10/2023	Bore collapsed	23/10/2023	124.8	23/10/2023	Bore collapsed						
	9/04/2024	Dry	9/04/2024	125.44	9/04/2024	No access						
	28/10/2024	Bore collapsed	28/10/2024	125.46	28/10/2024	Dry						
	17/06/2025	Bore collapsed	17/06/2025	64.6	17/06/2025	Bore collapsed						
	26/09/2025	Not visited	26/09/2025	126.97	26/09/2025	Not visited						
	12/07/2026	Collapsed	12/07/2026	125.6	12/07/2026	Collapsed						
Surprise	RN018851		RN018397		RN018463		RN018398					
	20/05/2021	No Access	20/05/2021	6.94	20/05/2021	10.595	20/05/2021	5.525				
	26/10/2021	14.62	26/10/2021	7.04	26/10/2021	10.7	26/10/2021	5.31				
	25/05/2022	Not measured	25/05/2022	7.1	25/05/2022	10.82	25/05/2022	5.34				
	17/10/2022	Not measured	19/10/2022	7.2	19/10/2022	10.91	19/10/2022	5.38				
	15/07/2023	Not measured	15/07/2023	7.35	15/07/2023	11.06	15/07/2023	5.38				
	26/10/2023	Not measured	26/10/2023	7.4	26/10/2023	11.14	26/10/2023	5.43				
	14/04/2024	11.46	14/04/2024	7.42	14/04/2024	10.23	14/04/2024	5.31				
	29/10/2024	10.38	29/10/2024	7.5	29/10/2024	10.38	29/10/2024	5.08				
	13/05/2025	14.7	13/05/2025	8.2	13/05/2025	11.1	13/05/2025	5.2				
	13/08/2025	14.5	13/08/2025	7.9	13/08/2025	11.05	13/08/2025	5.05				
	29/05/2026	Not measured	29/05/2026	8.2	29/05/2026	12.35	29/05/2026	7.2				
Palm Valley	RN007292		RN018732		RN014165		RN018706		RN018707		RN018708	
	21/05/2021	-1.43	20/05/2021	5.45	20/05/2021	20.56	21/05/2021	-2.14	20/05/2021	1.03	20/05/2021	3.92
	25/10/2021	No access (subartesian)	25/10/2021	6.15	25/10/2021	14.02	25/10/2021	-1.63	25/10/2021	1.01	25/10/2021	4.27
	27/05/2022	No access	27/05/2022	No access	27/05/2022	28.73	27/05/2022	-1.6	27/05/2022	1.2	27/05/2022	3.16
	18/10/2022	Locked	18/10/2022	5.97	18/10/2022	51.84	18/10/2022	-2	18/10/2022	0.73	18/10/2022	3.8
	29/05/2023	No access	29/05/2023	No access	29/05/2023	23.05	29/05/2023	-2.03	29/05/2023	1	29/05/2023	4.4
	25/10/2023	No access	25/10/2023	No access	25/10/2023	22.15	25/10/2023	-1.93	25/10/2023	1.1	25/10/2023	4.8
	14/04/2024	No access	14/04/2024	6.5	14/04/2024	Fused closed	14/04/2024	-1.93	14/04/2024	0.29	14/04/2024	7.6
	30/10/2024	No access	30/10/2024	6.17	30/10/2024	28.26	30/10/2024	-1.73	30/10/2024	0	30/10/2024	0
	13/05/2025	17.95	13/05/2025	5.95	13/05/2025	Dry	13/05/2025	0	13/05/2025	2.3	13/05/2025	3.85
	27/09/2025	17.6	27/09/2025	5.7	27/09/2025	18.85	27/09/2025	0	27/09/2025	2.7	27/09/2025	3.95
	04/04/2026	16.2	04/04/2026	4.5	04/04/2026	16.9	04/04/2026	1.2	04/04/2026	3.1	04/04/2026	4.6

Water level measured as meters below reference point. Negative denotes artesian conditions



Dingo	Dingo 2		Dingo 3	
	12/05/2021	20159	12/05/2021	17408
	27/10/2021	15165	28/10/2021	9610
	24/05/2022	16343	24/05/2022	9350
	16/10/2022	17364	16/10/2022	9463
	28/05/2023	18200	28/05/2023	9312
	23/10/2023	16423	23/10/2023	9471
	9/04/2024	10560	9/04/2024	9312
	28/10/2024	10560	28/10/2024	9312
	15/05/2025	12432	15/05/2025	8968
	26/09/2025	14047	26/09/2025	8102
	24/04/2026	11372	24/04/2026	8568
Surprise	Surprise 1		Johnstone West 1	
	8/04/2021	810	8/04/2021	1938
	1/12/2021	1520	1/12/2021	1175
	25/05/2022	468	25/05/2022	1885
	16/10/2022	308	16/10/2022	1991
	15/07/2023	1501	15/07/2023	1931
	23/10/2023	1402	23/10/2023	1973
	14/04/2024	4	14/04/2024	1916
	29/10/2024	4	29/10/2024	1916
	28/03/2025	270	28/03/2025	1889
	13/08/2025	2273	13/08/2025	1730
	25/09/2026	1760	25/09/2026	1880

Wellhead pressure measured in kPa



Appendix D – Photographs of Springs

Palm Creek Lower Oasis

October 2025



April 2026



Palm Valley Area Spring No 8

October 2025



April 2026



Palm Valley Area Spring No 9

October 2025



April 2026



Pimelia Spring

October 2025



April 2026

