Groundwater Interpretative Report

Imperial Oil and Gas Pty Ltd

Environmental Management Plan

2021-2025 EP187 Work Program IMP4-3

Reporting period 17 October 2024 to 16 October 2025

Document Control

Date	Rev	Description	Author(s)	Reviewed	Approved
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Table 1 Document Overview

Document title	Groundwater Interpretative Report
EMP title	2021-2025 EP187 Work Program IMP4-3
Exploration Permit	EP187
Interest holder details	Imperial Oil & Gas Pty Limited Level 19, 20 Bond Street, Sydney NSW 2000 ABN - 92 002 699 578
Operator details	Imperial Oil & Gas Pty Limited Level 19, 20 Bond Street, Sydney NSW 2000 ABN - 92 002 699 578

Acronyms & Definitions

Acronyms/Terms	Definition
C2/3/5, C4, C2-H, C3-H, C4-H, C4-V	Abbreviated form of Carpentaria 2, Carpentaria 3, Carpentaria 4 and Carpentaria 5 well pads. Sometimes followed by a "H" or "V" when referring to the well on the well pad, meaning Horizontal or Vertical respectively
Code	*Code of Practice: Onshore Petroleum Activities in the Northern Territory*
CMB	Control Monitoring Bore
DLPE	Department of Lands, Planning and Environment, previously known as DEPWS
EC	Electrical Conductivity
EMP	Environment Management Plan
EP	Exploration Permit
Guideline	*Preliminary Guideline: Groundwater Monitoring Bores for Exploration Petroleum Wells in the Beetaloo Sub-Basin*
IMB	Impact Monitoring Bore
LOR / LOD	Limit of Reporting / Detection

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1 Introduction

The EMP IMP4-3 – Imperial OG 2021-2025 EP187 Program, Rev 3, dated 20 July 2021 (IMP4-3) was approved on 17 October 2021. Ministerial Condition 5.iii of the IMP4-3 Approval Notice requires Imperial Oil & Gas (Imperial) to provide an interpretative report of groundwater quality based on the groundwater monitoring required to be conducted at the well site.

Ministerial Condition 5.iii of the Approval Notice is as follows:

> *"...in support of clause B.4.17.2 of the code, the interest holder must provide to DEPWS, via Onshoregas.depws@nt.gov.au, an interpretative report of groundwater quality based on the groundwater monitoring required to be conducted at the well site(s) in accordance with Table 6 of the Code of Practice: Onshore Petroleum Activities in the Northern Territory. The interpretative report must be provided annually within 3 months of the anniversary of the approval date of the EMP and include:*
>
> - *demonstration that there is no change to groundwater quality or level attributable to conduct of the regulated activity at the well site(s);*
> - *interpretation of any statistical outliers observed from baseline measured values for each of the analytes;*
> - *discussion of any trends observed; and*
> - *a summary of the results including descriptive statistics."*

Table 2 provides the status of all Impact and Control Monitoring Bores currently present on EP187 during the reporting period of 17 October 2024 to 16 October 2025.

Table 2 Monitoring Status of Bores

Bore	Well pad	Monitoring for Ministerial Condition 5.iii
RN042461	Carpentaria 2, 3, 5	Completed
RN042462	Carpentaria 2, 3, 5	Completed
RN042463	Carpentaria 2, 3, 5	Completed
RN042464	Carpentaria 2, 3, 5	Completed
RN043012	Carpentaria 4	Ongoing

Monitoring data for bores on C2/3/5 well pad were provided in IMP 4-3 Annual Groundwater Interpretative Report 2023-2024.

Groundwater monitoring for the Carpentaria 4 (C4) bores has been ongoing since August 29, 2022. In accordance with the Department of Environment and Natural Resources (DENR) Preliminary Guideline: Groundwater Monitoring Bores for Exploration Petroleum Wells in the Beetaloo Sub-Basin(Guideline), monitoring should continue for three years, after which its fitness for purpose should be reviewed. In line with Ministerial Condition 5.iv, this report marks the end of the required scheduled groundwater monitoring and reporting for the bore RN043012 and the site-specific performance standards are presented in Appendix B.

Ministerial Condition 5.iv of the Approval Notice is as follows:

> "...in support of clause B.4.17.2 of the code, the interest holder must develop site-specific performance standards for groundwater quality and interquartile ranges for analytes at each of the impact monitoring bores established, based on the first 3 years of groundwater monitoring, and provide to DEPWS, via Onshoregas.depws@nt.gov.au within 6 months of the 3 year anniversary of approval of the EMP.

This Annual Groundwater Interpretative Report provides a summary of the sampling data for RN043012 for the current reporting period. Having completed the required three-year monitoring cycle, this document formally concludes the scheduled sampling for RN043012 and establishes the site-specific performance standards in accordance with Ministerial Condition 5.iv.

Therefore, this report only covers the RN03012 bore present on Carpentaria 4 well pad.

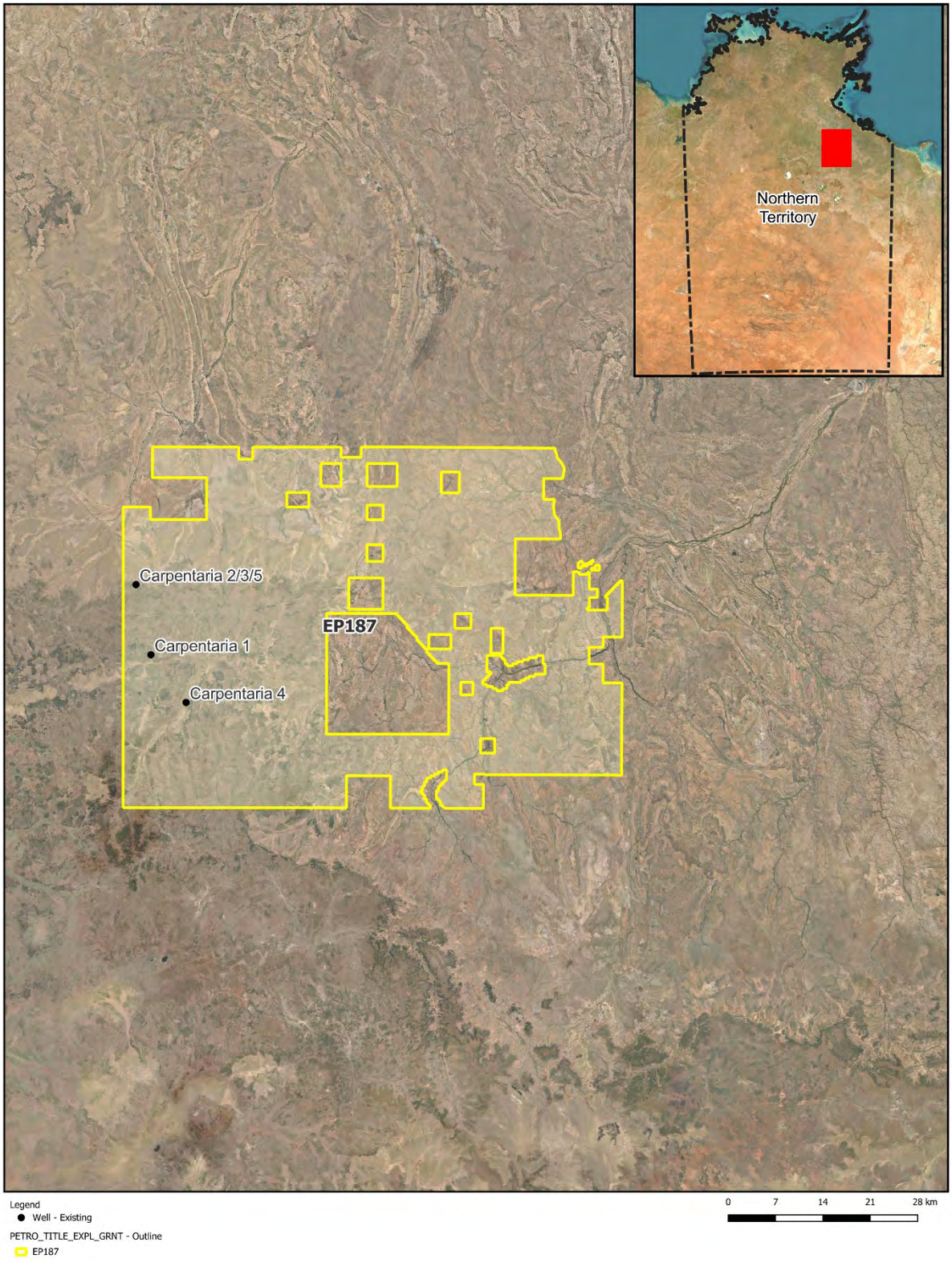

Figure 1 – Location of the Carpentaria 4well pad

2 Groundwater Monitoring Program Details

2.1 Water Monitoring Bores

As per the *Guideline*, a Control Monitoring Bore (CMB) is located approximately 100 m up-gradient from the Carpentaria 4 vertical petroleum well. No Impact Monitoring Bore (IMB) has been established at this well has not had any hydraulic fracturing. Details of the bore is presented in **Table 3**.

Table 3 – Monitoring bores information

Well site	Carpentaria 4
Aquifer	Gum Ridge
Bore Number	**RN043012**
Category	CMB
Total Depth (m)	142.5
Length of slotted liner (m)	58
ID of casing (mm)	158
Total Vol. of bore (L)	2688
Production rate (L/s)	10+
Time of produce one full volume (min)	4.5

The location of the monitoring bore on the Carpentaria 4 wellsite is shown on **Figure 2**.

Figure 2 – Schematic of the Monitoring Bore Locations in Relation to Carpentaria-4 Well

2.2 Water Sampling

Water sampling has been undertaken from the Carpentaria 4 well pad since 29 August 2022. The timeframe of drilling and hydraulic fracturing activities during this timeframe are as follows:

- Drilling of Carpentaria 4 was initiated on 15/12/2022 and completed on 5/1/2023.

Groundwater samples were taken and analysed in accordance with the suite of analytes presented in *Table 6: Minimum suite of analytes for groundwater monitoring* from the *Code of Practice: Onshore Petroleum Activities in the Northern Territory* (*the Code*).

3 Methodology

The CMB serves as the reference point or baseline, positioned hydraulically upgradient and thus assumed to be unaffected by external influences from well pad activities. It reflects the current state of local groundwater quality and its natural change over time. Conversely, the IMB is located hydraulically downgradient of the well, the potential source of contamination, and is used to monitor changes in groundwater quality that may be due to these activities.

Therefore, the CMB results will always inform the baseline groundwater quality at the well pad.

As the Carpentaria 4 well pad does not yet have an IMB no analysis of impact is possible.

4 Results and Discussions

The Preliminary Guideline: Groundwater Monitoring Bores for Exploration Petroleum Wells in the Beetaloo Sub-basin states that the analytes of particular interest include total dissolved solids, chloride, electrical conductivity (EC), strontium, barium and dissolved methane. This is because drilling fluids, hydraulic fracturing fluids, well suspension fluids and produced formation fluids may have orders of magnitude (100s~1000s) higher concentrations than background values in potable waters. In addition, Strontium and Barium are typically elevated in produced water from unconventional shale gas reservoirs and serve among others as additional useful tracers. Dissolved methane is important to monitor as a baseline and over the longer term.

All raw results are presented **Appendix A**.

4.1 Gum Ridge Aquifer

4.1.1 Electrical Conductivity

The results of monitoring for electrical conductivity in the Gum Ridge Aquifer are presented in **Figure 3**.

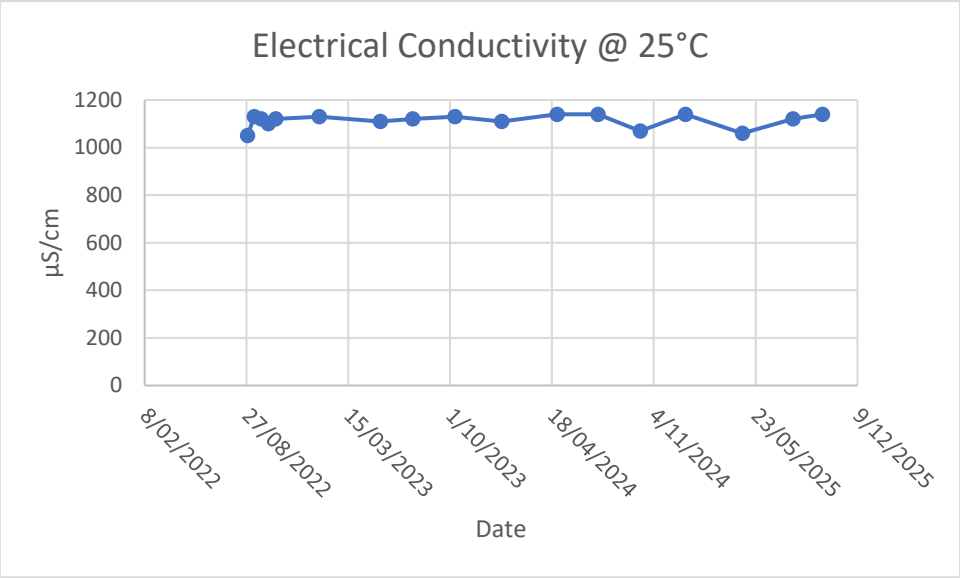

Figure 3 – C4 Electrical Conductivity Measurements in the Gum Ridge Aquifer

Preliminary data from the control monitoring bore is beginning to demonstrate a stable range for the analyte.

4.1.2 Total Dissolved Solids

The results of monitoring for total dissolved solids in the Gum Ridge Aquifer are presented in **Figure 4**.

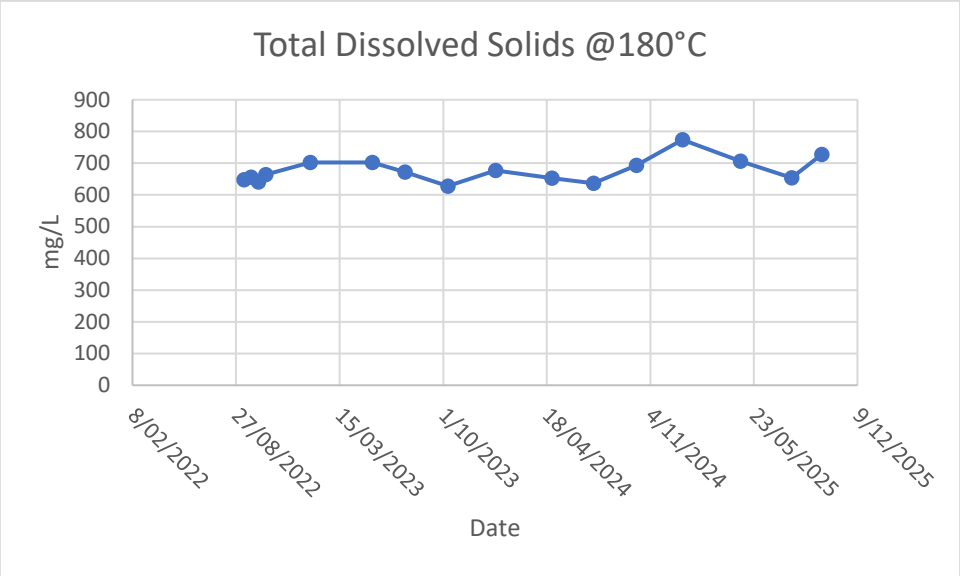

Figure 4 – C4 Total Dissolved Solids Measurement in the Gum Ridge Aquifer

Preliminary data from the control monitoring bore is beginning to demonstrate a stable range for the analyte.

4.1.3 Chloride

The results of monitoring for chloride in the Gum Ridge Aquifer are presented in **Figure 5**.

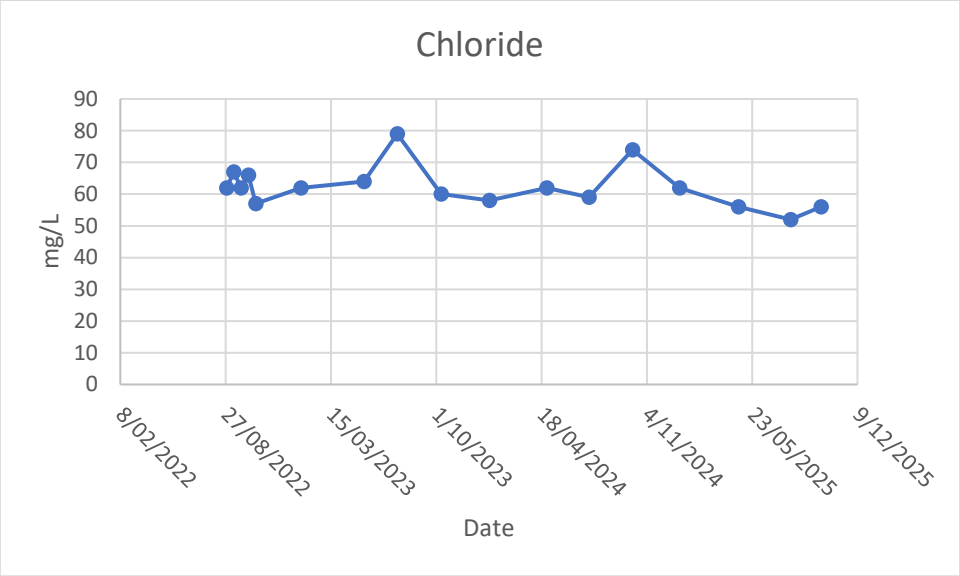

Figure 5 – C4 Chloride Measurements in the Gum Ridge Aquifer

Preliminary data from the control monitoring bore is beginning to demonstrate a stable range for the analyte.

4.1.4 Barium

The results of monitoring for barium in the Gum Ridge aquifer are presented in **Figure 6.**

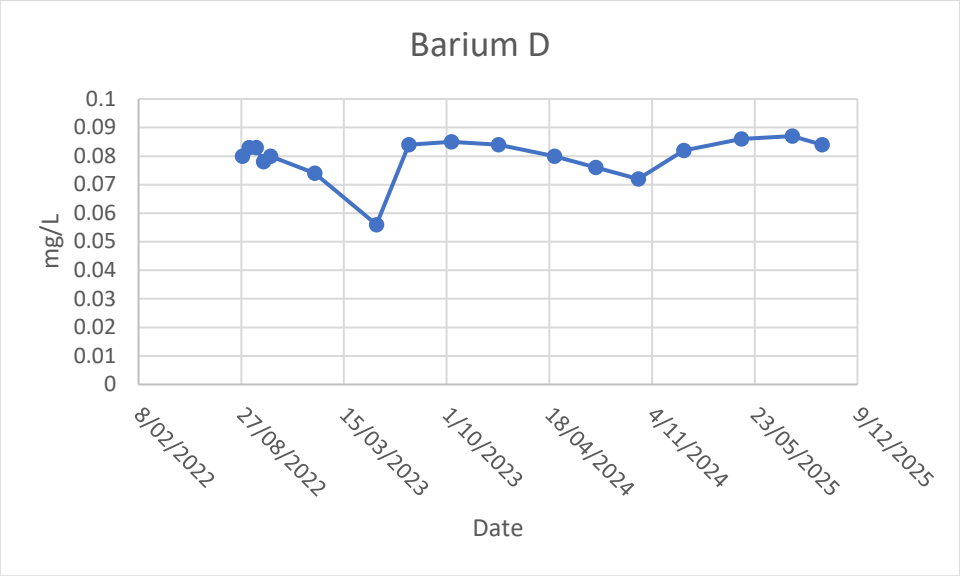

Figure 6 – C4 Total Barium Measurements in the Gum Ridge Aquifer

Preliminary data from the control monitoring bore is beginning to demonstrate a stable range for the analyte.

4.1.5 Strontium

The results of monitoring for strontium in the Gum Ridge Aquifer are presented in **Figure 7**.

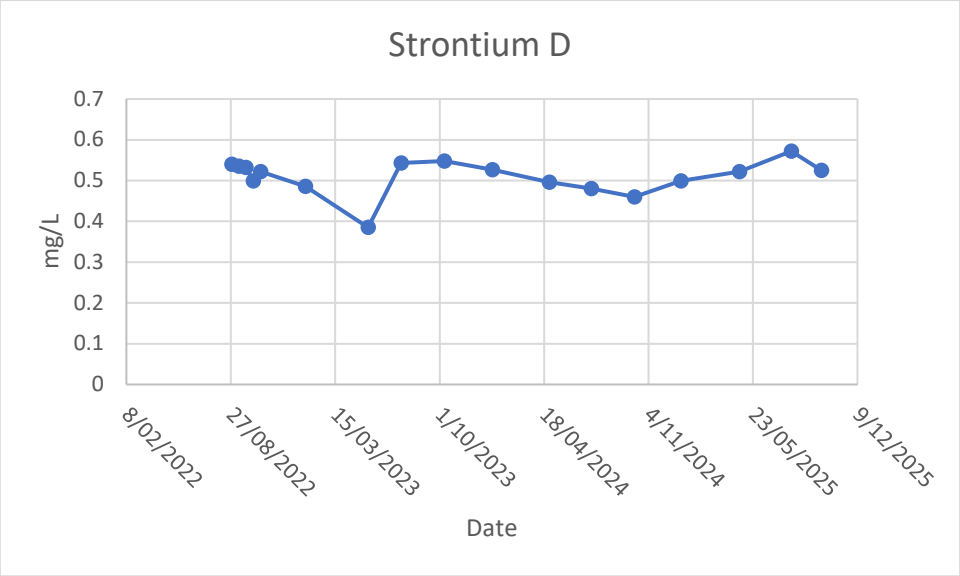

Figure 7 – C4 Total Strontium measurements in Gum Ridge Aquifer

Preliminary data from the control monitoring bore is beginning to demonstrate a stable range for the analyte.

4.1.6 Methane

The results of monitoring for methane in the Gum Ridge Aquifer are presented **Figure 8**. Measurements with values below the LOD of 0.01 mg/L were assumed to be equal to 0.01 mg/L.

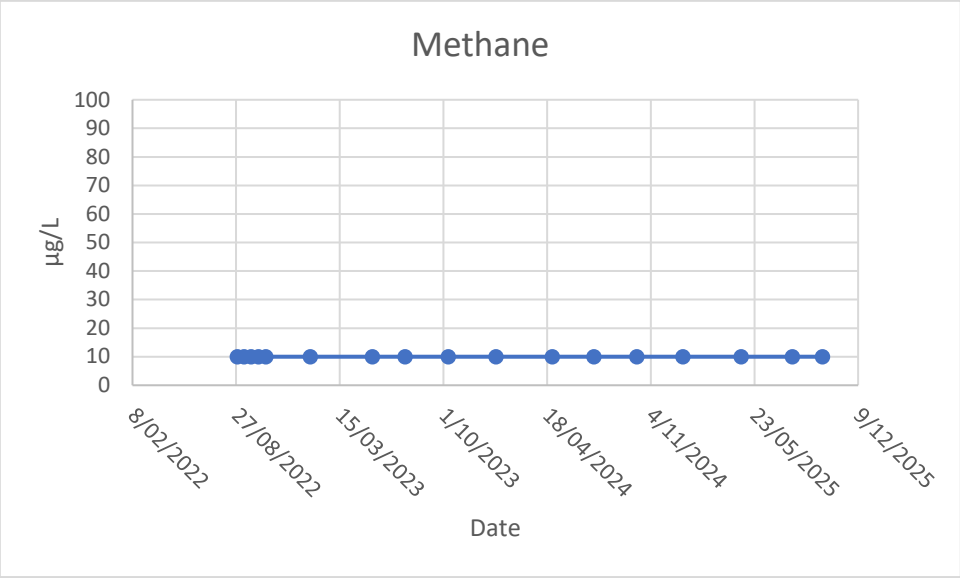

Figure 8 – C4 Methane Measurements in the Gum Ridge Aquifer

Preliminary data from the control monitoring bore consistently shows no reading above the LOD for the analyte.

4.1.7 Water Level

Water level data for the Gum Ridge Aquifer is presented in **Figure 9**.

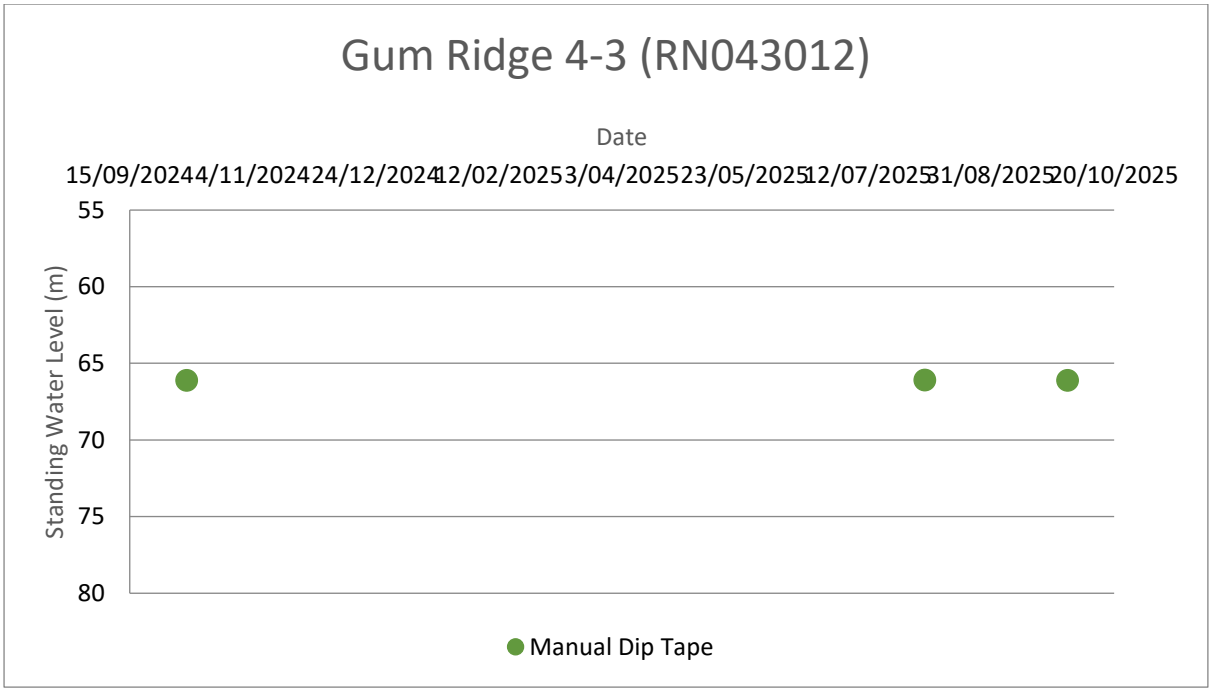

Figure 9 – Gum Ridge Aquifer Water Level

5 Conclusions

In conclusion, the Carpentaria 4 CMB has consistently demonstrated water quality values typical of the Gum Ridge Aquifer. The completion of this three-year monitoring period successfully establishes a robust baseline, marking the conclusion of the initial sampling phase and providing the necessary reference data for comparison once an IMB is established.

6 Appendix A – Groundwater Monitoring Data Tables

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RN043012
CARPENTARIA 4

Category	CHEMICAL NAME	FRACTION D/T/N	RESULT UNIT	LIMIT OF DETECTION	29/08/2022	11/09/2022	25/09/2022	9/10/2022	23/10/2022	17/01/2023	17/05/2023	19/07/2023	10/10/2023	10/01/2024	28/04/2024	17/07/2024	8/10/2024	5/01/2025	27/04/2025	4/08/2025	1/10/2025
General, anions, cations and metal	pH - Lab	N	pH Unit	0.01	7.16	7.56	7.46	7.11	7.46	6.97	6.97	7.11	7.38	7.09	7.08	6.88	7.09	7.06	6.97	7.55	6.96
	Electrical Conductivity @ 25°C	N	µS/cm	1	1050	1130	1120	1100	1120	1130	1110	1120	1130	1110	1140	1140	1070	1140	1060	1120	1140
	Total Dissolved Solids @180°C	T	mg/L	10	---	648	656	641	664	702	702	672	628	677	653	637	693	774	706	654	728
	Suspended Solids (SS)	N	mg/L	1	<1	<1	<1	<1	1	<1	5	4	63	2	2	3	<1	2	7	5	2
	Gross beta	T	Bq/L	0.1	0.22	0.28	0.35	0.31	<0.10	0.28	0.39	0.34	0.43	---	0.3	0.29	0.31	0.2	0.38	0.23	0.33
	Hydroxide Alkalinity as CaCO3	T	mg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Carbonate Alkalinity as CaCO3	D	mg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Bicarbonate Alkalinity as CaCO3	D	mg/L	1	433	496	485	440	401	472	461	474	489	488	476	450	469	496	491	502	474
	Total Alkalinity as CaCO3	D	mg/L	1	433	496	485	440	401	472	461	474	489	488	476	450	469	496	491	502	474
	Sulfate as SO4 2-	N	mg/L	1	81	81	81	86	79	86	90	80	94	78	92	52	78	84	89	76	80
	Chloride	N	mg/L	1	62	67	62	66	57	62	64	79	60	58	62	59	74	62	56	52	56
	Calcium D	N	mg/L	1	140	143	136	122	136	135	116	135	138	123	139	127	132	141	139	157	153
	Magnesium D	N	mg/L	1	50	49	50	50	53	46	43	54	52	52	51	47	51	53	51	53	56
	Sodium D	N	mg/L	1	41	40	44	40	43	40	37	45	42	42	44	39	43	44	41	44	45
	Potassium D	D	mg/L	1	9	8	8	7	8	9	9	9	8	8	9	8	8	8	8	9	8
	Calcium T	D	mg/L	1	140	141	136	140	138	147	160	128	145	136	136	131	149	147	146	149	143
	Magnesium T	N	mg/L	1	52	52	48	51	55	52	45	53	52	52	57	40	52	54	55	54	52
	Sodium T	N	mg/L	1	45	40	39	38	45	44	39	44	42	42	44	37	42	45	43	42	42
	Potassium T	N	mg/L	1	9	8	8	8	9	9	8	8	9	8	9	8	9	9	9	7	8
	Arsenic D	N	mg/L	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Barium D	N	mg/L	0.001	0.08	0.083	0.083	0.078	0.08	0.074	0.056	0.084	0.085	0.084	0.08	0.076	0.072	0.082	0.086	0.087	0.084
	Cadmium D	N	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium D	D	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Copper D	T	mg/L	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
	Lead D	T	mg/L	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	#N/A	<0.001
	Lithium D	D	mg/L	0.001	0.041	0.044	0.039	0.039	0.041	0.034	0.035	0.042	0.037	0.04	0.038	0.038	0.043	0.038	0.04	0.041	0.042
	Manganese D	T	mg/L	0.001	0.056	0.008	0.008	0.007	0.005	0.008	0.005	0.006	0.006	0.008	0.006	0.006	0.004	0.004	0.005	0.004	0.008
	Selenium D	T	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Silver D	D	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Strontium D	T	mg/L	0.001	0.54	0.535	0.532	0.499	0.522	0.486	0.385	0.543	0.548	0.527	0.496	0.48	0.46	0.499	0.522	0.572	0.525
	Zinc D	D	mg/L	0.005	0.007	<0.005	0.007	0.016	0.008	0.011	0.01	0.019	0.028	0.031	0.018	0.046	0.022	0.014	0.015	0.015	0.034
	Boron D	T	mg/L	0.05	0.11	0.12	0.08	0.1	0.08	0.09	0.11	0.1	0.08	0.1	0.12	0.12	0.14	0.12	0.11	0.11	0.11
	Iron D	D	mg/L	0.05	0.36	0.1	0.08	<0.05	0.1	0.49	0.18	0.29	0.36	0.35	0.19	0.44	0.35	0.33	0.59	0.27	0.25
	Arsenic T	T	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Barium T	D	mg/L	0.001	0.08	0.083	0.073	0.08	0.082	0.08	0.12	0.079	0.084	0.086	0.086	0.077	0.092	0.087	0.089	0.081	0.084
	Cadmium T	T	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium T	D	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Copper T	T	mg/L	0.001	0.002	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005
	Lead T	D	mg/L	0.001	0.004	<0.001	<0.001	<0.001	0.007	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Lithium T	T	mg/L	0.001	0.038	0.039	0.04	0.038	0.038	0.044	0.044	0.049	0.04	0.04	0.037	0.039	0.043	0.036	0.036	0.041	0.04
	Manganese T	D	mg/L	0.001	0.052	0.007	0.007	0.007	0.005	0.008	0.398	0.005	0.007	0.009	0.009	0.006	0.005	0.004	0.004	0.005	0.007
	Selenium T	T	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Silver T	T	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Strontium T	D	mg/L	0.001	0.522	0.53	0.486	0.514	0.518	0.516	0.533	0.512	0.525	0.526	0.506	0.479	0.563	0.53	0.523	0.503	0.5
	Zinc T	T	mg/L	0.005	0.007	<0.005	<0.005	0.008	0.008	0.011	0.027	0.018	0.03	0.036	0.018	0.025	0.027	0.013	0.016	0.016	0.031
	Boron T	T	mg/L	0.05	0.12	0.12	0.07	0.07	0.11	0.11	0.14	0.11	0.09	0.1	0.11	0.12	0.12	0.1	0.1	0.12	0.11
	Iron T	D	mg/L	0.05	0.72	0.34	0.5	0.45	0.76	0.17	1.72	2.86	1.83	1.68	0.44	0.75	1.11	1.17	0.42	1.07	1.87
	Mercury D	T	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Mercury T	D	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Reactive Silica	T	mg/L	0.05	30.6	32	31.6	33.8	31.6	30.8	28.8	29.5	31	30.5	30.4	31.4	31	29.9	29.3	27.2	30.3
	Fluoride	D	mg/L	0.1	0.4	0.5	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4
	Nitrite as N	T	mg/L	0.01	0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.09	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01
	Nitrate as N	T	mg/L	0.01	0.04	0.11	0.11	0.11	0.11	0.08	0.09	1.34	0.12	0.11	0.09	0.1	0.1	0.09	0.1	0.1	0.1
	Nitrite + Nitrate as N	D	mg/L	0.01	0.05	0.11	0.11	0.14	0.11	0.08	0.09	1.34	0.12	0.11	0.09	0.11	0.1	0.1	0.1	0.1	0.1
	Total Anions	T	meq/L	0.01	12.1	13.5	13.1	12.4	11.3	13	12.9	13.4	13.4	13	13.2	11.7	13.1	13.4	13.2	13.1	12.7
	Total Cations	T	meq/L	0.01	13.1	13.1	13	12.1	13.2	12.5	11.2	13.4	13.2	12.4	13.3	12.1	12.8	13.5	13.1	14.3	14.4
	Ionic Balance	N	%	0.01	4.08	1.4	0.4	1.31	8	1.88	7.16	0.01	0.84	2.2	0.39	1.55	0.86	0.4	0.46	4.6	6.23
Disc. pet. gases	Methane	N	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Ethane	N	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Propane	N	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
PAH Suite	Naphthalene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Acenaphthylene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Acenaphthene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Fluorene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Phenanthrene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Anthracene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Fluoranthene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Pyrene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Benz(a)anthracene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Chrysene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Benzo(b+j)fluoranthene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Benzo(k)fluoranthene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Benzo(a)pyrene	N	µg/L	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5
	Indeno(1,2,3,cd)pyrene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Dibenz(a,h)anthracene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Benzo(g,h,i)perylene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0
	Sum of polycyclic aromatic hydrocarbons	N	µg/L	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (zero)	N	µg/L	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5
Total Recoverable Hydrocarbons	C6 - C9 Fraction	N	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C14 Fraction	N	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C15 - C28 Fraction	N	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C29 - C36 Fraction	N	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C10 - C36 Fraction (sum)	N	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C6 - C10 Fraction	N	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C6 - C10 Fraction minus BTEX (F1)	N	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	>C10 - C16 Fraction	N	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	>C16 - C34 Fraction	N	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	>C34 - C40 Fraction	N	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	>C10 - C40 Fraction (sum)	N	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	>C10 - C16 Fraction minus Naphthalene (F2)	N	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
BTEXN, Alpha/Beta, Surrogates	Benzene	N	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	N	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	N	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	meta- & para-Xylene	N	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	ortho-Xylene	N	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total Xylenes	N	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Sum of BTEX	N	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	N	µg/L	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<5	<5	<5	<5	<5	<1.0	<5	<5	<5
	Gross alpha	N	Bq/L	0.05	0.23	0.25	0.22	0.25	<0.05	0.21	0.22	0.28	0.33	---	0.21	0.28	0.18	0.15	0.18	0.16	0.19
	Gross beta activity - 40K	N	Bq/L	0.1	<0.10	<0.10	0.13	<0.10	<0.10	<0.10	0.13	<0.10	0.14	---	<0.10	<0.10	<0.10	<0.10	0.14	<0.10	0.12
	Phenol-d6	N	%	1	43	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-Chlorophenol-D4	N	%	1	75.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2.4.6-Tribromophenol	N	%	1	77.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-Fluorobiphenyl	N	%	1	77.5	66.9	63.5	73.4	72.1	60.8	51.7	59.4	76.2	63.4	90	88.7	67.4	58.4	56.8	58.3	59.1
	Anthracene-d10	N	%	1	77.1	80.9	66.7	83.3	81.1	74.9	71.6	67.4	87.4	67.4	95.3	94.3	73.6	65.3	66.3	66.9	65.8
	4-Terphenyl-d14	N	%	1	83.7	80.2	69.2	84.2	81.2	77.7	87.2	70.1	97.8	69.9	94.8	102	73.6	72.6	71.4	70.1	95.8
	1.2-Dichloroethane-D4	N	%	2	104	98.5	104	101	110	102	108	110	107	127	118	108	81.8	114	111	125	109
	Toluene-D8	N	%	2	109	88.2	111	120	100	116	108	114	92.9	119	109	97.5	77.4	112	100	118	111
	4-Bromofluorobenzene	N	%	2	102	79.6	102	121	99.6	114	90.7	105	107	121	111	96.1	87.1	116	91.6	129	111

RN043012
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Statistics for All Data *

Category	CHEMICAL NAME	FRACTION D/T/N	RESULT UNIT	No. results	Min	Q1	Median	Mean	Q3	Max	20th Percentile	80th Percentile	Standard Deviation	LIMIT OF DETECTION
General, anions, cations and metal	pH - Lab	N	pH Unit	17	6.88	6.97	7.09	7.17	7.42	7.56	6.97	7.46	0.22	0.01
	Electrical Conductivity @ 25°C	N	µS/cm	17	1050.00	1105.00	1120.00	1113.53	1135.00	1140.00	1088.00	1140.00	27.43	1
	Total Dissolved Solids @180°C	T	mg/L	16	628.00	649.25	668.00	677.19	702.00	774.00	643.80	704.40	37.28	10
	Suspended Solids (SS)	N	mg/L	17	1.00	1.00	2.00	6.00	4.50	63.00	1.00	5.00	14.36	1
	Gross beta	T	Bq/L	16	0.10	0.24	0.31	0.30	0.35	0.43	0.22	0.37	0.08	0.1
	Hydroxide Alkalinity as CaCO3	T	mg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0	1
	Carbonate Alkalinity as CaCO3	D	mg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0	1
	Bicarbonate Alkalinity as CaCO3	D	mg/L	17	401.00	455.50	474.00	470.41	490.00	502.00	446.00	493.00	25.79	1
	Total Alkalinity as CaCO3	D	mg/L	17	401.00	455.50	474.00	470.41	490.00	502.00	446.00	493.00	25.79	1
	Sulfate as SO4 2-	N	mg/L	17	52.00	78.50	81.00	81.59	87.50	94.00	78.00	89.40	9.00	1
	Chloride	N	mg/L	17	52.00	57.50	62.00	62.24	65.00	79.00	56.60	66.40	6.43	1
	Calcium D	N	mg/L	17	116.00	129.50	136.00	136.00	140.50	157.00	125.40	141.80	10.02	1
	Magnesium D	N	mg/L	17	43.00	49.50	51.00	50.65	53.00	56.00	48.20	53.00	3.05	1
	Sodium D	N	mg/L	17	37.00	40.00	42.00	42.00	44.00	45.00	40.00	44.00	2.22	1
	Potassium D	D	mg/L	17	7.00	8.00	8.00	8.29	9.00	9.00	8.00	9.00	0.57	1
	Calcium T	D	mg/L	17	128.00	136.00	141.00	141.88	147.00	160.00	136.00	147.80	7.47	1
	Magnesium T	N	mg/L	17	40.00	51.50	52.00	51.53	54.00	57.00	49.80	54.40	3.90	1
	Sodium T	N	mg/L	17	37.00	39.50	42.00	41.94	44.00	45.00	39.00	44.40	2.46	1
	Potassium T	N	mg/L	17	7.00	8.00	8.00	8.41	9.00	9.00	8.00	9.00	0.60	1
	Arsenic D	N	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.0002	0.001
	Barium D	N	mg/L	17	0.056	0.077	0.082	0.080	0.084	0.087	0.075	0.084	0.007	0.001
	Cadmium D	N	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0	0.0001
	Chromium D	D	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0	0.001
	Copper D	T	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.0002	0.001
	Lead D	T	mg/L	16	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.0002	0.001
	Lithium D	D	mg/L	17	0.034	0.038	0.040	0.040	0.042	0.044	0.038	0.042	0.003	0.001
	Manganese D	T	mg/L	17	0.004	0.005	0.006	0.009	0.008	0.056	0.005	0.008	0.012	0.001
	Selenium D	T	mg/L	17	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0	0.01
	Silver D	D	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0	0.001
	Strontium D	T	mg/L	17	0.385	0.491	0.522	0.510	0.538	0.572	0.484	0.541	0.041	0.001
	Zinc D	D	mg/L	17	0.005	0.009	0.015	0.018	0.025	0.046	0.008	0.029	0.011	0.005
	Boron D	T	mg/L	17	0.08	0.10	0.11	0.11	0.12	0.14	0.09	0.12	0.02	0.05
	Iron D	D	mg/L	17	0.05	0.14	0.29	0.28	0.36	0.59	0.10	0.39	0.15	0.05
	Arsenic T	T	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0	0.001
	Barium T	D	mg/L	17	0.073	0.080	0.083	0.085	0.087	0.120	0.080	0.088	0.010	0.001
	Cadmium T	T	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0	0.0001
	Chromium T	D	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.0002	0.001
	Copper T	T	mg/L	17	0.001	0.001	0.001	0.002	0.002	0.008	0.001	0.002	0.002	0.001
	Lead T	D	mg/L	17	0.001	0.001	0.001	0.002	0.001	0.007	0.001	0.001	0.002	0.001
	Lithium T	T	mg/L	17	0.036	0.038	0.040	0.040	0.042	0.049	0.038	0.043	0.003	0.001
	Manganese T	D	mg/L	17	0.004	0.005	0.007	0.032	0.009	0.398	0.005	0.009	0.092	0.001
	Selenium T	T	mg/L	17	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0	0.01
	Silver T	T	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0	0.001
	Strontium T	D	mg/L	17	0.479	0.505	0.518	0.517	0.528	0.563	0.502	0.530	0.019	0.001
	Zinc T	T	mg/L	17	0.005	0.008	0.016	0.018	0.027	0.036	0.008	0.028	0.010	0.005
	Boron T	T	mg/L	17	0.07	0.10	0.11	0.11	0.12	0.14	0.10	0.12	0.02	0.05
	Iron T	D	mg/L	17	0.17	0.45	0.76	1.05	1.70	2.86	0.43	1.76	0.70	0.05
	Mercury D	T	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0	0.0001
	Mercury T	D	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0	0.0001
	Reactive Silica	T	mg/L	17	27.20	29.70	30.60	30.57	31.50	33.80	29.42	31.60	1.40	0.05
	Fluoride	D	mg/L	17	0.30	0.40	0.40	0.39	0.40	0.50	0.36	0.40	0.05	0.1
	Nitrite as N	T	mg/L	17	0.01	0.01	0.01	0.02	0.01	0.09	0.01	0.01	0.02	0.01
	Nitrate as N	T	mg/L	17	0.04	0.09	0.10	0.17	0.11	1.34	0.09	0.11	0.29	0.01
	Nitrite + Nitrate as N	D	mg/L	17	0.05	0.10	0.10	0.17	0.11	1.34	0.09	0.11	0.29	0.01
	Total Anions	T	meq/L	17	11.30	12.55	13.10	12.85	13.30	13.50	12.28	13.40	0.61	0.01
	Total Cations	T	meq/L	17	11.20	12.45	13.10	12.98	13.35	14.40	12.28	13.44	0.76	0.01
	Ionic Balance	N	%	17	0.01	0.43	1.40	2.46	4.34	8.00	0.40	5.25	2.50	0.01
Diss. pet. gases	Methane	N	mg/L	17	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0	0.01
	Ethane	N	µg/L	17	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0	10
	Propane	N	µg/L	17	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0	10
PAH Suite **	Naphthalene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Acenaphthylene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Acenaphthene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Fluorene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Phenanthrene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Anthracene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Fluoranthene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Pyrene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Benz(a)anthracene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Chrysene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Benzo(b+j)fluoranthene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Benzo(k)fluoranthene	N	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.10	1.00	0	1
	Benzo(a)pyrene	N	µg/L	17	0.05	0.05	0.05	0.18	0.50	0.50	0.05	0.50	0	0.5
	Indeno(1.2.3.cd)pyrene	N	µg/L	17	0.10	0.10	0.10	0.95	1.00	10.00	0.10	1.00	2	1
	Dibenz(a.h)anthracene	N	µg/L	17	0.10	0.10	0.10	0.95	1.00	10.00	0.10	1.00	2	1
	Benzo(g.h.i)perylene	N	µg/L	17	0.10	0.10	0.10	0.95	1.00	10.00	0.10	1.00	2	1
	Sum of polycyclic aromatic hydrocarbons	N	µg/L	17	0.05	0.05	0.05	0.18	0.50	0.50	0.05	0.50	0	0.5
	Benzo(a)pyrene TEQ (zero)	N	µg/L	17	0.05	0.05	0.05	0.18	0.50	0.50	0.05	0.50	0	0.5
Total Recoverable Hydrocarbons	C6 - C9 Fraction	N	µg/L	17	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0	20
	C10 - C14 Fraction	N	µg/L	17	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	0	50
	C15 - C28 Fraction	N	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	100
	C29 - C36 Fraction	N	µg/L	17	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	0	50
	C10 - C36 Fraction (sum)	N	µg/L	17	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	0	50
	C6 - C10 Fraction	N	µg/L	17	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0	20
	C6 - C10 Fraction minus BTEX (F1)	N	µg/L	17	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0	20
	>C10 - C16 Fraction	N	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	100
	>C16 - C34 Fraction	N	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	100
	>C34 - C40 Fraction	N	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	100
	>C10 - C40 Fraction (sum)	N	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	100
	>C10 - C16 Fraction minus Naphthalene (F2)	N	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	100
BTEXN, Alpha/Beta, Surrogates	Benzene	N	µg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0	1
	Toluene	N	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0	2
	Ethylbenzene	N	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0	2
	meta- & para-Xylene	N	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0	2
	ortho-Xylene	N	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0	2
	Total Xylenes	N	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0	2
	Sum of BTEX	N	µg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0	1
	Naphthalene **	N	µg/L	17	0.10	0.10	5.00	2.75	5.00	5.00	0.10	5.00	2.40	1
	Gross alpha	N	Bq/L	16	0.05	0.18	0.22	0.21	0.25	0.33	0.17	0.27	0.06	0.05
	Gross beta activity - 40K	N	Bq/L	16	0.10	0.10	0.10	0.11	0.13	0.14	0.10	0.13	0.02	0.1
	Phenol-d6	N	%	1	43.00	-	43.00	43.00	-	43.00	---	---	0.00	1
	2-Chlorophenol-D4	N	%	1	75.20	-	75.20	75.20	-	75.20	---	---	0.00	1
	2.4.6-Tribromophenol	N	%	1	77.40	-	77.40	77.40	-	77.40	---	---	0.00	1
	2-Fluorobiphenyl	N	%	17	51.70	58.75	63.50	67.27	74.80	90.00	58.36	76.72	10.66	1
	Anthracene-d10	N	%	17	65.30	66.80	73.60	75.61	82.20	95.30	66.54	84.94	9.69	1
	4-Terphenyl-d14	N	%	17	69.20	70.75	80.20	81.26	91.00	102.00	70.10	95.20	10.62	1
	1.2-Dichloroethane-D4	N	%	17	81.80	103.00	108.00	108.14	112.50	127.00	101.60	115.60	10.00	2
	Toluene-D8	N	%	17	77.40	98.75	109.00	106.06	115.00	120.00	95.66	116.80	11.46	2
	4-Bromofluorobenzene	N	%	17	79.60	93.85	105.00	104.92	115.00	129.00	91.24	118.00	12.93	2

CHEMICAL NAME	29/08/2022	11/09/2022	25/09/2022	9/10/2022	23/10/2022	17/01/2023	17/05/2023	19/07/2023	10/10/2023	10/01/2024	28/04/2024	17/07/2024	8/10/2024	5/01/2025	27/04/2025	4/08/2025	1/10/2025
pH - Lab	7.16	7.56	7.46	7.11	7.46	6.97	6.97	7.11	7.38	7.09	7.08	6.88	7.09	7.06	6.97	7.55	6.96
Electrical Conductivity @ 25°C	1050.00	1130.00	1120.00	1100.00	1120.00	1130.00	1110.00	1120.00	1130.00	1110.00	1140.00	1140.00	1070.00	1140.00	1060.00	1120.00	1140.00
Total Dissolved Solids @180°C	-	648.00	656.00	641.00	664.00	702.00	702.00	672.00	628.00	677.00	653.00	637.00	693.00	774.00	706.00	654.00	728.00
Suspended Solids (SS)	1.00	1.00	1.00	1.00	1.00	1.00	5.00	4.00	63.00	2.00	2.00	3.00	1.00	2.00	7.00	5.00	2.00
Gross beta	0.22	0.28	0.35	0.31	0.10	0.28	0.39	0.34	0.43	-	0.30	0.29	0.31	0.20	0.38	0.23	0.33
Hydroxide Alkalinity as CaCO3	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Carbonate Alkalinity as CaCO3	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bicarbonate Alkalinity as CaCO3	433.00	496.00	485.00	440.00	401.00	472.00	461.00	474.00	489.00	488.00	476.00	450.00	469.00	496.00	491.00	502.00	474.00
Total Alkalinity as CaCO3	433.00	496.00	485.00	440.00	401.00	472.00	461.00	474.00	489.00	488.00	476.00	450.00	469.00	496.00	491.00	502.00	474.00
Sulfate as SO4 2-	81.00	81.00	81.00	86.00	79.00	86.00	90.00	80.00	94.00	78.00	92.00	52.00	78.00	84.00	89.00	76.00	80.00
Chloride	62.00	67.00	62.00	66.00	57.00	62.00	64.00	79.00	60.00	58.00	62.00	59.00	74.00	62.00	56.00	52.00	56.00
Calcium D	140.00	143.00	136.00	122.00	136.00	135.00	116.00	135.00	138.00	123.00	139.00	127.00	132.00	141.00	139.00	157.00	153.00
Magnesium D	50.00	49.00	50.00	50.00	53.00	46.00	43.00	54.00	52.00	52.00	51.00	47.00	51.00	53.00	51.00	53.00	56.00
Sodium D	41.00	40.00	44.00	40.00	43.00	40.00	37.00	45.00	42.00	42.00	44.00	39.00	43.00	44.00	41.00	44.00	45.00
Potassium D	9.00	8.00	8.00	7.00	8.00	9.00	9.00	9.00	8.00	8.00	9.00	8.00	8.00	8.00	8.00	9.00	8.00
Calcium T	140.00	141.00	136.00	140.00	138.00	147.00	160.00	128.00	145.00	136.00	136.00	131.00	149.00	147.00	146.00	149.00	143.00
Magnesium T	52.00	52.00	48.00	51.00	55.00	52.00	45.00	53.00	52.00	52.00	57.00	40.00	52.00	54.00	55.00	54.00	52.00
Sodium T	45.00	40.00	39.00	38.00	45.00	44.00	39.00	44.00	42.00	42.00	44.00	37.00	42.00	45.00	43.00	42.00	42.00
Potassium T	9.00	8.00	8.00	8.00	9.00	9.00	8.00	8.00	9.00	8.00	9.00	8.00	9.00	9.00	9.00	7.00	8.00
Arsenic D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barium D	0.08	0.08	0.08	0.08	0.08	0.07	0.06	0.08	0.09	0.08	0.08	0.08	0.07	0.08	0.09	0.09	0.08
Cadmium D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Lithium D	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Manganese D	0.06	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01
Selenium D	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Silver D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strontium D	0.54	0.54	0.53	0.50	0.52	0.49	0.39	0.54	0.55	0.53	0.50	0.48	0.46	0.50	0.52	0.57	0.53
Zinc D	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.05	0.02	0.01	0.02	0.02	0.03
Boron D	0.11	0.12	0.08	0.10	0.08	0.09	0.11	0.10	0.08	0.10	0.12	0.12	0.14	0.12	0.11	0.11	0.11
Iron D	0.36	0.10	0.08	0.05	0.10	0.49	0.18	0.29	0.36	0.35	0.19	0.44	0.35	0.33	0.59	0.27	0.25
Arsenic T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barium T	0.08	0.08	0.07	0.08	0.08	0.08	0.12	0.08	0.08	0.09	0.09	0.08	0.09	0.09	0.09	0.08	0.08
Cadmium T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Lead T	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lithium T	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Manganese T	0.05	0.01	0.01	0.01	0.01	0.01	0.40	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01
Selenium T	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Silver T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strontium T	0.52	0.53	0.49	0.51	0.52	0.52	0.53	0.51	0.53	0.53	0.51	0.48	0.56	0.53	0.52	0.50	0.50
Zinc T	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.02	0.03	0.04	0.02	0.03	0.03	0.01	0.02	0.02	0.03
Boron T	0.12	0.12	0.07	0.07	0.11	0.11	0.14	0.11	0.09	0.10	0.11	0.12	0.12	0.10	0.10	0.12	0.11
Iron T	0.72	0.34	0.50	0.45	0.76	0.17	1.72	2.86	1.83	1.68	0.44	0.75	1.11	1.17	0.42	1.07	1.87
Mercury D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reactive Silica	30.60	32.00	31.60	33.80	31.60	30.80	28.80	29.50	31.00	30.50	30.40	31.40	31.00	29.90	29.30	27.20	30.30
Fluoride	0.40	0.50	0.30	0.40	0.40	0.30	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.30	0.40	0.40
Nitrite as N	0.01	0.01	0.01	0.03	0.01	0.01	0.09	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate as N	0.04	0.11	0.11	0.11	0.11	0.08	0.09	1.34	0.12	0.11	0.09	0.10	0.10	0.09	0.10	0.10	0.10
Nitrite + Nitrate as N	0.05	0.11	0.11	0.14	0.11	0.08	0.09	1.34	0.12	0.11	0.09	0.11	0.10	0.10	0.10	0.10	0.10
Total Anions	12.10	13.50	13.10	12.40	11.30	13.00	12.90	13.40	13.40	13.00	13.20	11.70	13.10	13.40	13.20	13.10	12.70
Total Cations	13.10	13.10	13.00	12.10	13.20	12.50	11.20	13.40	13.20	12.40	13.30	12.10	12.80	13.50	13.10	14.30	14.40
Ionic Balance	4.08	1.40	0.40	1.31	8.00	1.88	7.16	0.01	0.84	2.20	0.39	1.55	0.86	0.40	0.46	4.60	6.23
Methane	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Ethane	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Propane	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Naphthalene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Acenaphthylene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Acenaphthene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Fluorene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Phenanthrene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Anthracene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Fluoranthene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Pyrene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Benz(a)anthracene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Chrysene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Benzo(b+j)fluoranthene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Benzo(k)fluoranthene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00
Benzo(a)pyrene	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.50	0.50	0.50	0.50	0.50
Indeno(1.2.3.cd)pyrene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	10.00	0.10	1.00	1.00	1.00	1.00	1.00
Dibenz(a.h)anthracene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	10.00	0.10	1.00	1.00	1.00	1.00	1.00
Benzo(g.h.i)perylene	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	10.00	0.10	1.00	1.00	1.00	1.00	1.00
Sum of polycyclic aromatic hydrocarbons	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.50	0.50	0.50	0.50	0.50
Benzo(a)pyrene TEQ (zero)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.50	0.50	0.50	0.50	0.50
C6 - C9 Fraction	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
C10 - C14 Fraction	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
C15 - C28 Fraction	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
C29 - C36 Fraction	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
C10 - C36 Fraction (sum)	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
C6 - C10 Fraction	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
C6 - C10 Fraction minus BTEX (F1)	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
>C10 - C16 Fraction	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
>C16 - C34 Fraction	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
>C34 - C40 Fraction	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
>C10 - C40 Fraction (sum)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
>C10 - C16 Fraction minus Naphthalene (F2)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Benzene	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Toluene	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Ethylbenzene	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
meta- & para-Xylene	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ortho-Xylene	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Total Xylenes	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Sum of BTEX	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Naphthalene **	0.10	0.10	0.10	0.10	0.10	0.10	0.10	5.00	5.00	5.00	5.00	5.00	5.00	1.00	5.00	5.00	5.00
Gross alpha	0.23	0.25	0.22	0.25	0.05	0.21	0.22	0.28	0.33	-	0.21	0.28	0.18	0.15	0.18	0.16	0.19
Gross beta activity - 40K	0.10	0.10	0.13	0.10	0.10	0.10	0.13	0.10	0.14	-	0.10	0.10	0.10	0.10	0.14	0.10	0.12
Phenol-d6	43.00	-	-	-	-	-	-	-	-	-	-	-	-				
2-Chlorophenol-D4	75.20	-	-	-	-	-	-	-	-	-	-	-	-				
2.4.6-Tribromophenol	77.40	-	-	-	-	-	-	-	-	-	-	-	-				
2-Fluorobiphenyl	77.50	66.90	63.50	73.40	72.10	60.80	51.70	59.40	76.20	63.40	90.00	88.70	67.40	58.40	56.80	58.30	59.10
Anthracene-d10	77.10	80.90	66.70	83.30	81.10	74.90	71.60	67.40	87.40	67.40	95.30	94.30	73.60	65.30	66.30	66.90	65.80
4-Terphenyl-d14	83.70	80.20	69.20	84.20	81.20	77.70	87.20	70.10	97.80	69.90	94.80	102.00	73.60	72.60	71.40	70.10	95.80
1.2-Dichloroethane-D4	104.00	98.50	104.00	101.00	110.00	102.00	108.00	110.00	107.00	127.00	118.00	108.00	81.80	114.00	111.00	125.00	109.00
Toluene-D8	109.00	88.20	111.00	120.00	100.00	116.00	108.00	114.00	92.90	119.00	109.00	97.50	77.40	112.00	100.00	118.00	111.00
4-Bromofluorobenzene	102.00	79.60	102.00	121.00	99.60	114.00	90.70	105.00	107.00	121.00	111.00	96.10	87.10	116.00	91.60	129.00	111.00

*All readings below the limit of detection (LOD) have been assumed to be equal to the limit of detection.

** Limit of detection has changed, all readings are equal to limit of detection (LOD)

7 Appendix B – Site Specific Standards

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Site-Specific Performance Standards for RN043012

			Gum Ridge at C4							
Category	**CHEMICAL NAME**	**RESULT UNIT**	No. results	Min	Q1	Median	Mean	Q3	Max	IQR
General, anions, cations and metal	pH - Lab	pH Unit	17	6.88	6.97	7.09	7.17	7.42	7.56	0.45
	Electrical Conductivity @ 25°C	µS/cm	17	1050.00	1105.00	1120.00	1113.53	1135.00	1140.00	30.00
	Total Dissolved Solids @180°C	mg/L	16	628.00	649.25	668.00	677.19	702.00	774.00	52.75
	Suspended Solids (SS)	mg/L	17	1.00	1.00	2.00	6.00	4.50	63.00	3.50
	Gross beta	Bq/L	16	0.10	0.24	0.31	0.30	0.35	0.43	0.11
	Hydroxide Alkalinity as CaCO3	mg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	0.00
	Carbonate Alkalinity as CaCO3	mg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	0.00
	Bicarbonate Alkalinity as CaCO3	mg/L	17	401.00	455.50	474.00	470.41	490.00	502.00	34.50
	Total Alkalinity as CaCO3	mg/L	17	401.00	455.50	474.00	470.41	490.00	502.00	34.50
	Sulfate as SO4 2-	mg/L	17	52.00	78.50	81.00	81.59	87.50	94.00	9.00
	Chloride	mg/L	17	52.00	57.50	62.00	62.24	65.00	79.00	7.50
	Calcium D	mg/L	17	116.00	129.50	136.00	136.00	140.50	157.00	11.00
	Magnesium D	mg/L	17	43.00	49.50	51.00	50.65	53.00	56.00	3.50
	Sodium D	mg/L	17	37.00	40.00	42.00	42.00	44.00	45.00	4.00
	Potassium D	mg/L	17	7.00	8.00	8.00	8.29	9.00	9.00	1.00
	Calcium T	mg/L	17	128.00	136.00	141.00	141.88	147.00	160.00	11.00
	Magnesium T	mg/L	17	40.00	51.50	52.00	51.53	54.00	57.00	2.50
	Sodium T	mg/L	17	37.00	39.50	42.00	41.94	44.00	45.00	4.50
	Potassium T	mg/L	17	7.00	8.00	8.00	8.41	9.00	9.00	1.00
	Arsenic D	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.002	0.000
	Barium D	mg/L	17	0.06	0.08	0.08	0.08	0.08	0.09	0.01
	Cadmium D	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000
	Chromium D	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.000
	Copper D	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.002	0.000
	Lead D	mg/L	16	0.001	0.001	0.001	0.001	0.001	0.002	0.000
	Lithium D	mg/L	17	0.03	0.04	0.04	0.04	0.04	0.04	0.00
	Manganese D	mg/L	17	0.00	0.01	0.01	0.01	0.01	0.06	0.00
	Selenium D	mg/L	17	0.01	0.01	0.01	0.01	0.01	0.01	0.00
	Silver D	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.000
	Strontium D	mg/L	17	0.39	0.49	0.52	0.51	0.54	0.57	0.05
	Zinc D	mg/L	17	0.01	0.01	0.02	0.02	0.03	0.05	0.02
	Boron D	mg/L	17	0.08	0.10	0.11	0.11	0.12	0.14	0.03
	Iron D	mg/L	17	0.05	0.14	0.29	0.28	0.36	0.59	0.22
	Arsenic T	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.000
	Barium T	mg/L	17	0.07	0.08	0.08	0.08	0.09	0.12	0.01
	Cadmium T	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000
	Chromium T	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.002	0.000
	Copper T	mg/L	17	0.001	0.001	0.001	0.002	0.002	0.008	0.001
	Lead T	mg/L	17	0.001	0.001	0.001	0.002	0.001	0.007	0.000
	Lithium T	mg/L	17	0.04	0.04	0.04	0.04	0.04	0.05	0.00
	Manganese T	mg/L	17	0.00	0.01	0.01	0.03	0.01	0.40	0.00
	Selenium T	mg/L	17	0.01	0.01	0.01	0.01	0.01	0.01	0.00
	Silver T	mg/L	17	0.001	0.001	0.001	0.001	0.001	0.001	0.000
	Strontium T	mg/L	17	0.48	0.50	0.52	0.52	0.53	0.56	0.02
	Zinc T	mg/L	17	0.01	0.01	0.02	0.02	0.03	0.04	0.02
	Boron T	mg/L	17	0.07	0.10	0.11	0.11	0.12	0.14	0.02
	Iron T	mg/L	17	0.17	0.45	0.76	1.05	1.70	2.86	1.26
	Mercury D	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000
	Mercury T	mg/L	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000
	Reactive Silica	mg/L	17	27.20	29.70	30.60	30.57	31.50	33.80	1.80
	Fluoride	mg/L	17	0.30	0.40	0.40	0.39	0.40	0.50	0.00
	Nitrite as N	mg/L	17	0.01	0.01	0.01	0.02	0.01	0.09	0.00
	Nitrate as N	mg/L	17	0.04	0.09	0.10	0.17	0.11	1.34	0.02
	Nitrite + Nitrate as N	mg/L	17	0.05	0.10	0.10	0.17	0.11	1.34	0.02
	Total Anions	meq/L	17	11.30	12.55	13.10	12.85	13.30	13.50	0.75
	Total Cations	meq/L	17	11.20	12.45	13.10	12.98	13.35	14.40	0.90
	Ionic Balance	%	17	0.01	0.43	1.40	2.46	4.34	8.00	3.91
Diss. pet. gases	Methane	mg/L	17	10.00	10.00	10.00	10.00	10.00	10.00	0.00
	Ethane	µg/L	17	10.00	10.00	10.00	10.00	10.00	10.00	0.00
	Propane	µg/L	17	10.00	10.00	10.00	10.00	10.00	10.00	0.00
PAH Suite **	Naphthalene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Acenaphthylene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Acenaphthene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Fluorene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Phenanthrene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Anthracene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Fluoranthene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Pyrene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Benz(a)anthracene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Chrysene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Benzo(b+j)fluoranthene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Benzo(k)fluoranthene	µg/L	17	0.10	0.10	0.10	0.36	1.00	1.00	0.90
	Benzo(a)pyrene	µg/L	17	0.05	0.05	0.05	0.18	0.50	0.50	0.45
	Indeno(1.2.3.cd)pyrene	µg/L	17	0.10	0.10	0.10	0.95	1.00	10.00	0.90
	Dibenz(a.h)anthracene	µg/L	17	0.10	0.10	0.10	0.95	1.00	10.00	0.90
	Benzo(g.h.i)perylene	µg/L	17	0.10	0.10	0.10	0.95	1.00	10.00	0.90
	Sum of polycyclic aromatic hydrocarbons	µg/L	17	0.05	0.05	0.05	0.18	0.50	0.50	0.45
	Benzo(a)pyrene TEQ (zero)	µg/L	17	0.05	0.05	0.05	0.18	0.50	0.50	0.45
Total Recoverable Hydrocarbons	C6 - C9 Fraction	µg/L	17	20.00	20.00	20.00	20.00	20.00	20.00	0.00
	C10 - C14 Fraction	µg/L	17	50.00	50.00	50.00	50.00	50.00	50.00	0.00
	C15 - C28 Fraction	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	0.00
	C29 - C36 Fraction	µg/L	17	50.00	50.00	50.00	50.00	50.00	50.00	0.00
	C10 - C36 Fraction (sum)	µg/L	17	50.00	50.00	50.00	50.00	50.00	50.00	0.00
	C6 - C10 Fraction	µg/L	17	20.00	20.00	20.00	20.00	20.00	20.00	0.00
	C6 - C10 Fraction minus BTEX (F1)	µg/L	17	20.00	20.00	20.00	20.00	20.00	20.00	0.00
	>C10 - C16 Fraction	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	0.00
	>C16 - C34 Fraction	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	0.00
	>C34 - C40 Fraction	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	0.00
	>C10 - C40 Fraction (sum)	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	0.00
	>C10 - C16 Fraction minus Naphthalene (F2)	µg/L	17	100.00	100.00	100.00	100.00	100.00	100.00	0.00
BTEXN, Alpha/Beta, Surrogates	Benzene	µg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	0.00
	Toluene	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	0.00
	Ethylbenzene	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	0.00
	meta- & para-Xylene	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	0.00
	ortho-Xylene	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	0.00
	Total Xylenes	µg/L	17	2.00	2.00	2.00	2.00	2.00	2.00	0.00
	Sum of BTEX	µg/L	17	1.00	1.00	1.00	1.00	1.00	1.00	0.00
	Naphthalene **	µg/L	17	0.10	0.10	5.00	2.75	5.00	5.00	4.90
	Gross alpha	Bq/L	16	0.05	0.18	0.22	0.21	0.25	0.33	0.07
	Gross beta activity - 40K	Bq/L	16	0.10	0.10	0.10	0.11	0.13	0.14	0.03
	Phenol-d6	%	1	43.00	-	43.00	43.00	-	43.00	-
	2-Chlorophenol-D4	%	1	75.20	-	75.20	75.20	-	75.20	-
	2.4.6-Tribromophenol	%	1	77.40	-	77.40	77.40	-	77.40	-
	2-Fluorobiphenyl	%	17	51.70	58.75	63.50	67.27	74.80	90.00	16.05
	Anthracene-d10	%	17	65.30	66.80	73.60	75.61	82.20	95.30	15.40
	4-Terphenyl-d14	%	17	69.20	70.75	80.20	81.26	91.00	102.00	20.25
	1.2-Dichloroethane-D4	%	17	81.80	103.00	108.00	108.14	112.50	127.00	9.50
	Toluene-D8	%	17	77.40	98.75	109.00	106.06	115.00	120.00	16.25
	4-Bromofluorobenzene	%	17	79.60	93.85	105.00	104.92	115.00	129.00	21.15