21 August 2026

Ms Sally Strohmayr
Acting Executive Director
Environmental Regulation
Department of Lands, Planning and Environment
PO Box 3675
Darwin NT 0801
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Dear Ms Strohmayr

Re: Annual Interpretative Groundwater Quality Report - Beetaloo Sub-Basin Multi-well Drilling, Stimulation and Well Testing Program Environment Management Plan ORI10-3 (the EMP)

Ministerial condition 5(iii) of approval for the above EMP requires "… *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. The interpretative report must be provided annually within 3 months of the anniversary of the approval date of the EMP and include:*

- *identification of any change to groundwater quality or level attributable to conduct of the regulated activity at the well site(s) and discussion of the significance and cause of any such observed change*
- *interpretation of any statistical outliers observed from baseline measured values for each of the analytes*
- *discussion of any trends observed*
- *a summary of the results including descriptive statistics*
- *description of the layout of the groundwater monitoring bores and wells, indicative groundwater flow directions and levels in accordance with the Preliminary Guideline Groundwater Monitoring Bores for Exploration Petroleum Wells in the Beetaloo Sub-basin."*

The Code refers to the *Code of Practice: Onshore petroleum activities in the Northern Territory* (DENR, 2019). It is referred to as the "Code" throughout this report.

This letter constitutes the annual interpretative groundwater quality report for the Amungee NW well site for the 2026 reporting period (20 May 2025 – 19 May 2026). This interpretive groundwater quality report has been produced by Mr Peter Evans, Senior Hydrogeologist on behalf of Tamboran B2 Pty Ltd (Tamboran).

Site layout and groundwater flow direction

Figure 1 presents the layout of the Amungee NW wellsite, showing the locations of the Amungee NW-1H, Amungee NW-2H and Amungee NW-3H appraisal wells, the control monitoring bore (CMB – RN040894) and the impact monitoring bore (IMB – RN040318).

The CMB is 100 m to the south-southeast of Amungee NW-2H and the IMB is 20 m northwest of the same well. The CMB is the up hydraulic gradient bore and IMB is the down hydraulic gradient bore based on the regional groundwater flow direction (refer Figure 1). The CMB and IMB fully penetrate the Gum Ridge Formation aquifer. The Anthony Lagoon Formation aquifer is not present at the Amungee NW well site.

The indicative groundwater flow direction, based on the SREBA (DEPWS, 2022) and monitoring results collected on site, is from the southwest to the northeast in the vicinity of the Amungee NW well site.

Amungee NW-1 and NW-1H were drilled 2015 and 2016, respectively. Amungee NW-1H was hydraulically fractured in 2016 and underwent production testing in 2021.

The Amungee NW-2H well was drilled in November/December 2022 and was hydraulically fractured between 19 February 2023 and 20 March 2023 with production testing from 25 April to 17 July 2023.

Amungee NW-3H was drilled between 25 September and 16 October 2023. It has not been hydraulically fractured.

There have been no further regulated sub-surface activities at the Amungee NW well site during this reporting period.

Groundwater Extraction

Currently the Amungee NW well site is inactive, with the Amungee NW-1H, Amungee NW-2H and Amungee NW-3H being suspended. The only water extraction occurring during this reporting period has been associated with the quarterly groundwater compliance monitoring program and minor well site maintenance.

Monthly meter readings are conducted and reported to Department of Lands, Planning and Environment (DLPE)Water Resources Team via the WALAPS website.

Total water extracted during this reporting period for the Amungee NW well site was 0.26 ML, well within the Water Extraction License (GRF10285) entitlement of 450 ML/annum.

Figure 1 Site layout and indicative groundwater flow direction

Water level trends

Water level monitoring commenced on Amungee NW in 2018. In 2022, the CMB and IMB had InSitu® LevelTroll automatic water level sensors installed which have been used for ongoing monitoring at the well site.

Figure 2 presents daily averaged timeseries water level data for the CMB (blue line) and IMB (orange line) for the full monitoring period. Figure 3 presents higher resolution data (4 hourly monitoring) since 20 May 2025. All data have been adjusted for offsets due to logger replacements and for barometric pressure fluctuations. These data show:

- Over the reporting period the CMB and IMB have largely not been used for regulated activities other than monitoring.
- The logger record for the CMB as presented in Figures 2 and Figure 3 ends on 24 April 2026. The water level logger in BET-MB019 data was downloaded on the 24 April 2026, and showed it had ample memory capacity (38% available) and battery capacity (70% available), however, when returned to the bore on 28 July 2026 the water level logger would not communicate. Tamboran will pursue data recovery from this logger with the manufacture and if recoverable the missing records will be processed and provided with future reports.
- While pumping, the water level in the bores draws down by up to approximately 2 to 3 m, with effectively instantaneous recovery thereafter.
- The groundwater levels across the duration of the annual reporting period, have largely been stable in net terms, however a slight transient rise in groundwater levels is evident with an approximate 10 cm difference in water levels between the start and the peak of the early 2026 wet season rainfall.
- A rising trend in groundwater level in both bores is observed following the 2023/2024 wet season, during which a significantly larger volume of rain fell compared with the five preceding wet seasons appears to be stabilising.
- There is some temporal correlation in small-scale water level fluctuations between the two bores indicating a strong hydraulic connection within the aquifer.
- The differences in groundwater depths measured in the bores is largely due to relative difference in the height of the reference point from which the measurement is made and to the groundwater gradient along the aquifer flow path.
- There has been no significant change to the water level in the Gum Ridge Formation due to the regulated activities.

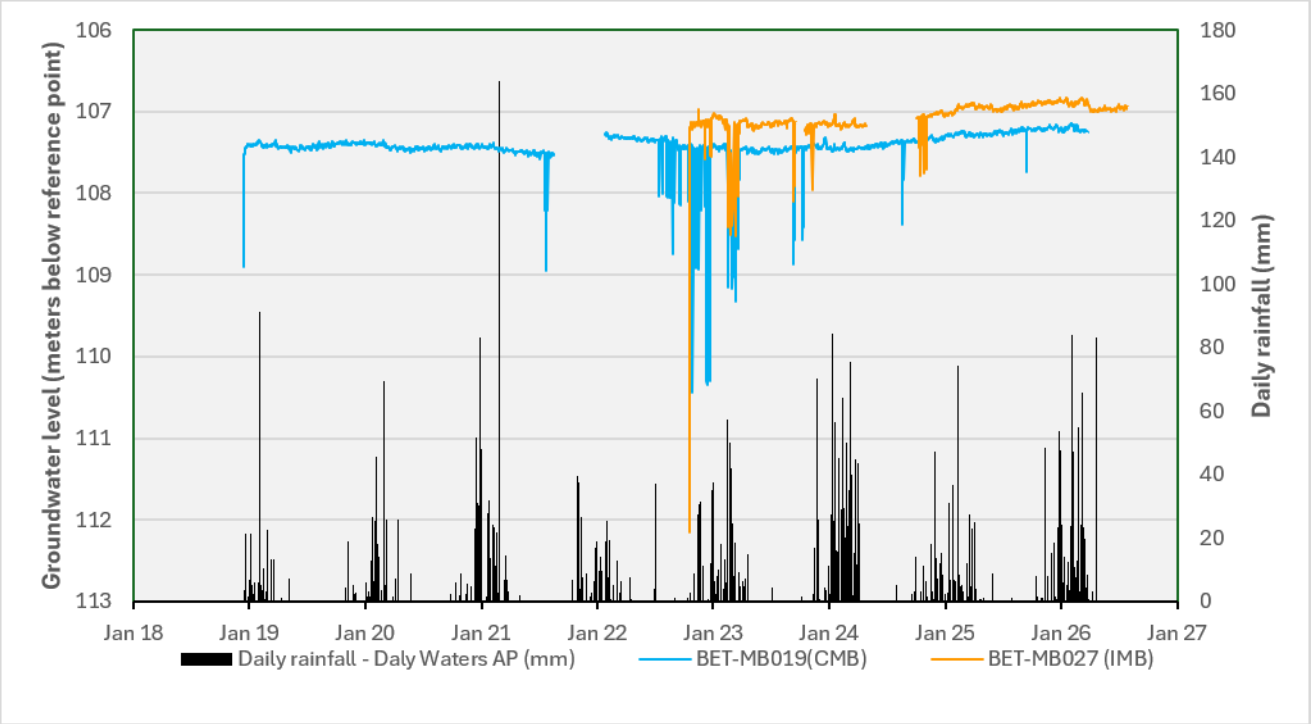

Figure 2 CMB and IMB daily average water levels full record

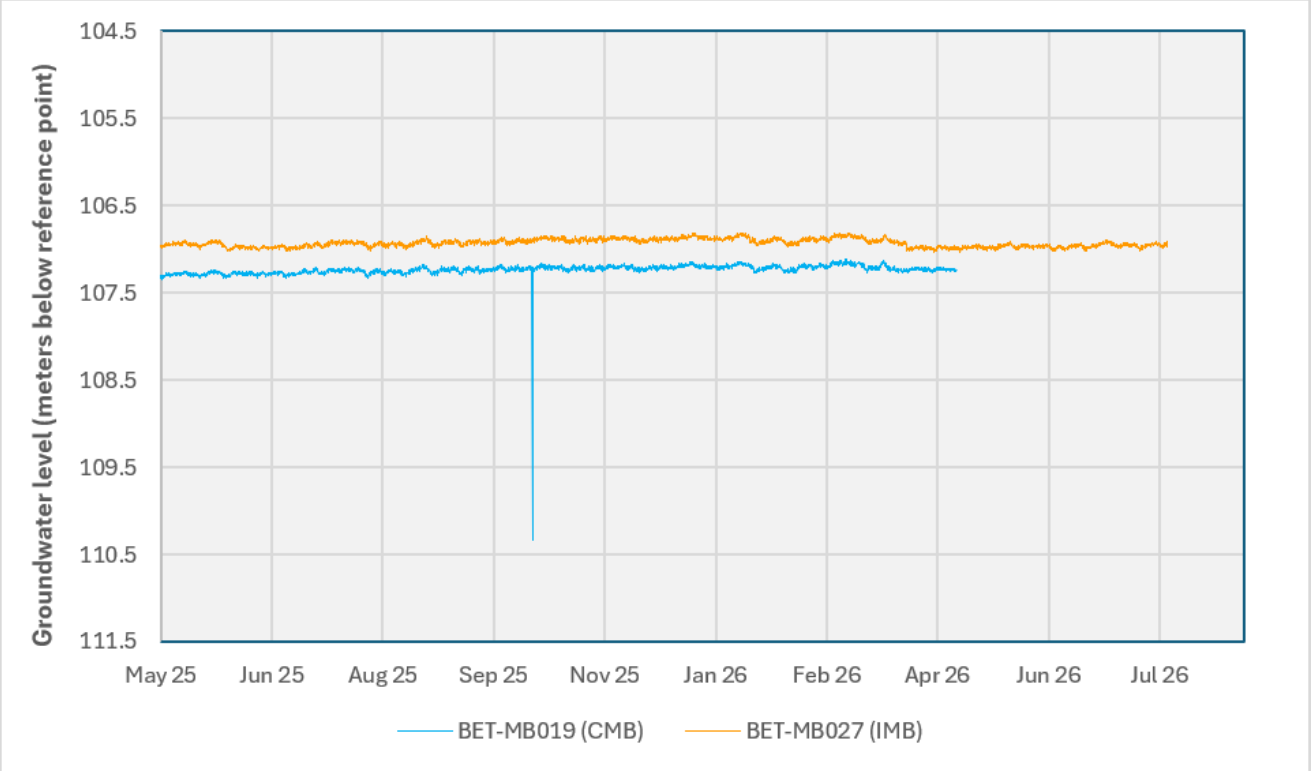

Figure 3 Higher temporal resolution data over current reporting period

Water quality trends

Groundwater from the CMB and IMB has been sampled for the suite of analytes listed in Table 6 of Section B.4.17 of the Code. Water quality monitoring of the CMB commenced on 17 December 2018, greater than four years prior to the hydraulic fracturing of Amungee NW-2H. Water quality monitoring of the IMB commenced on 5 December 2022, prior to the hydraulic stimulation of Amungee NW-2H. Sampling has not been conducted consistently since October 2023, due to ongoing issues with pumping equipment power supplies.

Summary statistics of the analytical results are provided in Table 1 and Table 2 for the CMB and IMB respectively.

To identify whether there has been any change in water quality due to the regulated activities, a statistical assessment was made using a Student T-Test to test whether there was a significant difference in the results between the CMB (upgradient) and the IMB (downgradient). An F-Test was used to determine whether the homoscedastic (statistically similar variance) or heteroscedastic (statistically different variance) formula for the T-Test was used. Where a concentration was reported as less than the limit of reporting, the limit of reporting was assumed as the sample concentration. The statistical significance was assessed to a 95% confidence. The results of the analysis are provided in Table 3.

The analytes where the P-value was less than 0.05 (95% confidence that there is a significant different between the CMB and IMB data) are listed below with timeseries graphs for these analytes provided in Attachment A. Discussion of the data trends are as follows:

- **pH (Field)** – The field observed pH of the CMB has shown some variability over the period of monitoring from a minimum of 6.55 to 7.21. The earliest CMB field pH value was 7.1 and with time the pH values broadly declined to a minimum of 6.55 in July 2021. Thereafter field pH values showed temporally variable values in the range of 6.58 to 6.82 until September 2024 when a slow rise in pH towards the most recent value of 7.21 was reached in April 2026. The field observed pH data for the IMB has ranged from a minimum of 6.54 to a maximum of 7.62 in April 2024. This peak value is an outlier and may well be unreliable. If this value is ignored, the IMB data from September 2024 in general closely correlates with the CMB values, suggesting no pH impact to the aquifer between these two monitoring bores. The reason for the slow, almost cyclic changes in the pH is not obvious but may well relate to changes in dissolved carbon dioxide, influenced by larger wet season events.
- **Electrical Conductivity (Lab)** – The electrical conductivity of the CMB has shown some variability over the period of monitoring from a minimum of 1,080 µS/cm to 1,180 µS/cm in the most recent sample, reaching a maximum reported concentration of 1,220 µS/cm in September 2024. Subsequent to this, values in the CMB largely declined, probably regional recharge associated with the large 2023/2024 wet season. However, CMB electrical conductivity values increased with the onset of the 2025/2026 wet season to a peak of 1,210 µS/cm but have since declined to 1,180 µS/cm.

Results from the IMB generally reported electrical conductivity greater than the average concentration from the CMB (1,156 mg/L). The electrical conductivity in the IMB has exhibited some variability over time, albeit showing some correlation in temporal behaviour. The most recent results (1,190 µS/cm in April 2026) are still reporting slightly above than the most recent CMB result.

- **Chloride** – Similarly to electrical conductivity (to which it is related), the chloride concentration in the IMB is generally greater than the CMB concentration. The key exception to this was after the drilling of Amungee NW-2H when the chloride concentration in the IMB decreased to be almost identical to that of the CMB. This may be indicative of the loss of drilling fluid, made up with water supplied from the CMB, into the formation in the vicinity of the IMB. Subsequent samples from the IMB exhibited a relatively rapid increase in chloride content to broadly stabilise between 100 mg/L and 140 mg/L, compared with roughly 100 mg/L in the CMB. Apart from a possible slow and gradual increase in the chloride content from the early time data of the CMB, there are no other clear trends in the chloride concentrations in the CMB and IMB.
- **Sulfate as SO_4** – Sulfate concentrations in the CMB have broadly gradually declined over time, with reported concentrations between 100 mg/L and 140 mg/L. In the IMB, the first reported sulfate concentration was 127 mg/L, but it then declined to 111 mg/L in the two subsequent samples coincident with the 2023/2024 wet season. The sample from February 2024 was low (79 mg/L) compared to preceding results, however the succeeding sample results have fluctuated between 90 and 126 mg/L. The last eight samples have shown somewhat close temporal correlation with the CMB values.
- **Potassium** – The potassium concentration in the CMB has been relatively stable throughout the monitoring period, with an average concentration of 10.3 mg/L and a maximum concentration of 13 mg/L. The first potassium concentration from the IMB was 42 mg/L with concentrations from samples thereafter oscillating between ~15 mg/L and 26-43 mg/L, although with time the temporal variability has dampened. Potassium values in the IMB remain generally higher than in the CMB. The early time temporal pattern of potassium values in the IMB suggest some relationship to drilling activities. However, since February 2025, notwithstanding higher potassium values) by approximately 15 mg/L) in the IMB compared to the CMB, the temporal patterns between these two bores is very similar.
- **Barium** – The dissolved barium concentration reported from the CMB has broadly declined since August 2019 from 0.105 mg/L to a most recent value of 0.054 mg/L. The temporal pattern of barium values in the IMB shows much greater variability from values close to those in the CMB. The initial value in the IMB was 0.196 mg/L in December 2022 and this has broadly declined with time towards the levels seen in the CMB with the most recent IMB value being 0.058 mg/L.
- **Iron** – The dissolved iron concentrations from the CMB are generally low in the range of 0.21 to 2.63 mg/L. There appears to be no obvious long-term trend in iron in the CMB data. The iron values in the IMB have a range of 0.05 mg/L to 4.06 mg/L (disregarding an anomalous and likely spurious value of 13.4 mg/L report on 1 April 2023) and are generally higher than those in the CMB. Since October 2024, the IMB iron values broadly (but not exclusively) started to increase to a most recent value of 6.08 mg/L. The reason for this trend is not readily apparent; however, this first occurred during the 2024/2024 wet season event and has continued with the 2025/2026 wet season event.

There is a coincidental increasing trend of field observed pH in both the CMB and IMB since October 2024 when pH values in the order of 6.5 prevailed. Possibly some iron was mobilised at the lower pH values and the increasing iron trend in the IMB might be a lagged impact as water flows laterally past the IMB.

- **Manganese** – The dissolved manganese concentrations from the CMB are generally low in the range of 0.031 to 0.152 mg/L. There appears to be no strong long-term trend in manganese in the CMB data. The manganese values in the IMB have a range of 0.024 mg/L to 0.694 mg/L (although the maximum number was obtained in the earliest sample and may reflect the influence of construction of the IMB). The IMB manganese values are generally higher than those in the CMB and the most recent three IMB samples show an increasing trend, albeit at relatively low levels (most recent IMB sample 0.294 mg/L at April 2026).
- **Methane** – Dissolved methane concentrations have consistently been reported at less than the EQL (<EQL) of 0.01 mg/L in the CMB. Samples from the IMB have reported oscillating dissolved methane concentrations, from <EQL to a maximum reported concentration of 0.023 mg/L. There is no apparent correlation to site-based activities.

There are few statistically significant differences in groundwater chemistry between the CMB and the IMB. The analytes which show statistically significant differences in their concentrations, as discussed above, may be due to natural variability within the aquifer; however, there appears to be some correlation in the concentration trends which indicate subtle changes to the groundwater quality in the immediate vicinity of the wells potentially relating to the loss of drilling fluid while drilling through the highly permeable Gum Ridge Formation. Lost circulation is commonly noted on Statements of Bore for registered groundwater bores drilled in the vicinity of the Amungee NW well site. The changes in chemistry are likely to be localised. The concentrations, where potentially affected by lost fluid, can generally be seen to return to background concentrations. There has been no significant change to the water quality in the Gum Ridge Formation at the Amungee NW well site due to the regulated activities.

Tamboran will continue to monitor the groundwater at the Amungee NW well site in accordance with ministerial conditions of ORI10-3 Beetaloo Multi-well EMP.

Kind regards

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References

DENR (2018) Preliminary Guideline: Groundwater Monitoring Bores for Exploration Petroleum Wells in the Beetaloo Sub-basin. Department of Environment and Natural Resources, November 2018.

DENR (2019) Code of Practice: Onshore Petroleum Activities in the Northern Territory. May 2019. https://nt.gov.au/_media/docs/business-and-industry/energy/petroleum/petroleum-activities/petroleum-operations-forms-and-guidelines/2019-code-of-practice-onshore-petroleum-activity-nt.pdf

DEPWS (2022) Regional Report: Strategic Regional Environmental and Baseline Assessment for the Beetaloo Sub-basin. DEPWS Technical Report 41/2022. Department of Environment, Parks and Water Security, Northern Territory Government. Berrimah, Northern Territory.

Table 1 Amungee NW1 Gum Ridge Formation CMB (BET-MB019/RN040894) Statistical Summary

Analyte	Output Unit	EQL	Count	Min	Max	Average	P10	P50	P90
pH (Field)	pH_Units	0.01	39	6.55	7.21	6.74	6.58	6.70	6.89
Electrical Conductivity (Field)	µS/cm	1	33	1,131	1,580	1,446.8	1,278.8	1,488	1,535
pH (Lab)	pH_Units	0.01	21	7.04	7.83	7.31	7.10	7.25	7.54
Electrical Conductivity (Lab)	µS/cm	1	21	1,080	1,220	1,160	1,120	1,160	1,210
Total Dissolved Solids	mg/L	10	22	658	842.00	736.32	686.20	730.50	826.50
Suspended Solids	mg/L	5	22	2	11.00	5.59	5.00	5.00	6.90
Alkalinity (Bicarbonate as $CaCO_3$)	mg/L	1	22	328	456.00	404.82	390.20	405.50	420.80
Alkalinity (Carbonate as $CaCO_3$)	mg/L	1	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Alkalinity (Hydroxide as $CaCO_3$)	mg/L	1	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Alkalinity (Total as $CaCO_3$)	mg/L	1	22	328	456.00	404.82	390.20	405.50	420.80
Chloride	mg/L	1	22	73	112.00	99.41	83.30	101.00	109.80
Sulphate as SO_4	mg/L	1	20	99	139.00	126.50	113.70	128.00	137.10
Sodium	mg/L	1	22	57	72	66.41	62.10	66.50	70.00
Potassium	mg/L	1	22	9	13	10.41	9.00	10.00	12.00
Calcium	mg/L	1	22	93	132	116.23	107.10	117.50	124.80
Magnesium	mg/L	1	22	39	50	46.32	43.00	47.00	49.00
Fluoride	mg/L	0.1	22	0.3	0.60	0.46	0.40	0.50	0.50
Nitrate (as N)	mg/L	0.01	22	0.010	0.160	0.020	0.010	0.020	0.030
Nitrite (as N)	mg/L	0.01	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Gross alpha activity	Bq/L	0.05	18	0.18	0.43	0.32	0.21	0.32	0.40
Gross beta activity (excluding activity of K-40)	Bq/L	0.1	18	0.10	0.28	0.15	0.10	0.16	0.21
Methane	mg/L	0.01	21	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Ethane	µg/L	10	21	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Propane	mg/L	0.01	21	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Arsenic	mg/L	0.001	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Barium	mg/L	0.001	22	0.040	0.105	0.060	0.042	0.054	0.078
Boron	mg/L	0.05	22	0.11	0.24	0.16	0.13	0.15	0.20
Cadmium	mg/L	0.0001	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Chromium (III+VI)	mg/L	0.001	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Copper	mg/L	0.001	22	<LOR	0.002	<LOR	<LOR	<LOR	<LOR
Iron	mg/L	0.05	22	0.21	2.63	1.08	0.33	1.07	1.80
Lead	mg/L	0.001	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Lithium	mg/L	0.001	21	0.041	0.064	0.050	0.044	0.052	0.058
Manganese	mg/L	0.001	22	0.031	0.15	0.08	0.05	0.07	0.11
Mercury	mg/L	0.0001	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Selenium	mg/L	0.01	22	0.004	0.01	0.01	0.01	0.01	0.01
Silicon as Si	mg/L	0.05	12	11.40	14.77	13.55	13.00	13.34	14.54
Silver	mg/L	0.001	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Strontium	mg/L	0.001	22	0.544	0.80	0.64	0.58	0.64	0.69
Zinc	mg/L	0.005	22	0.005	0.045	0.020	0.007	0.011	0.034
TRH C_6-C_{10} fraction (sum)	µg/L	20	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
TRH C_{10}-C_{40} fraction (sum)	µg/L	100	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Sum of BTEX	µg/L	1	22	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Total Reportable PAH	µg/L	0.5	21	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR

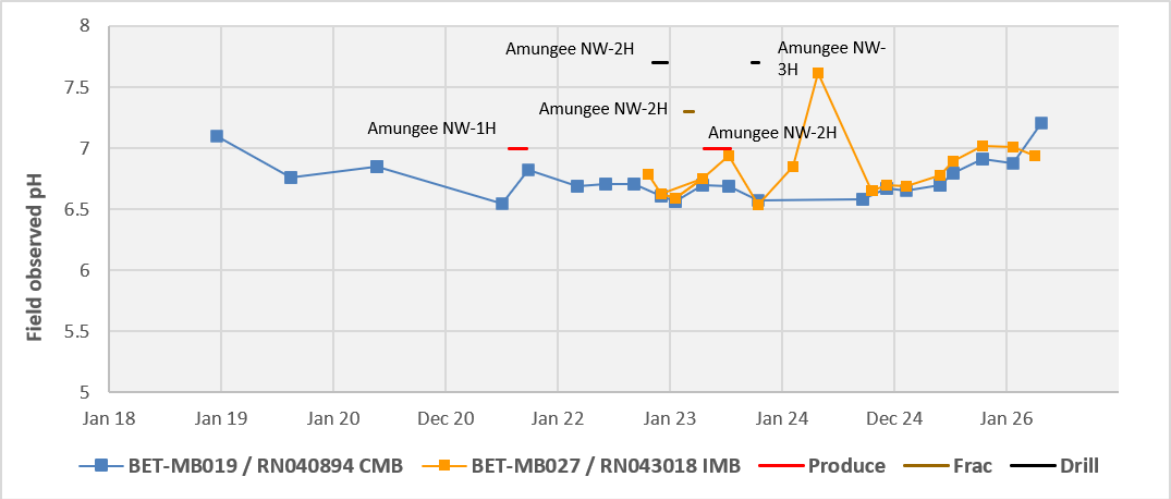
Table 2 Amungee NW Gum Ridge Formation IMB (BET-MB027/RN043018) Statistical Summary

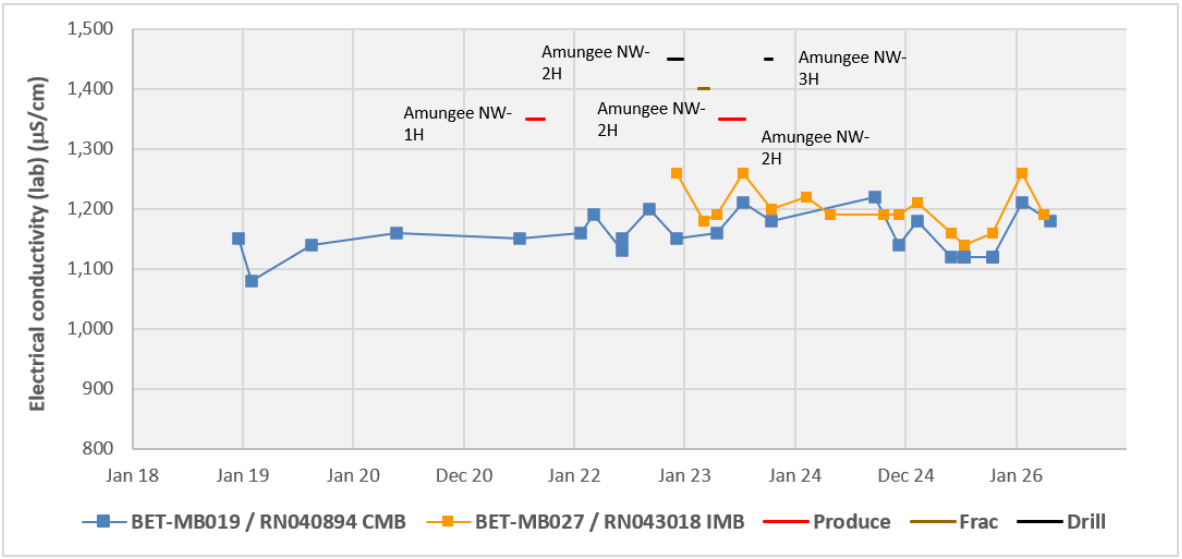
Analyte	Output Unit	EQL	Count	Min	Max	Average	P10	P50	P90
pH (Field)	pH_Units	0.01	29	6.54	7.62	6.87	6.62	6.78	7.14
Electrical Conductivity (Field)	µS/cm	1	24	1,172	1,649	1,495.5	1,305.3	1,560.0	1,608.3
pH (Lab)	pH_Units	0.01	15	7.07	7.87	7.34	7.13	7.28	7.60
Electrical Conductivity (Lab)	µS/cm	1	15	1,140	1,260	1,200.0	1,160.0	1,190.0	1,260.0
Total Dissolved Solids	mg/L	10	16	645	834.00	736.50	677.00	723.50	818.50
Suspended Solids	mg/L	5	16	2	12.00	6.06	5.00	5.00	9.50
Alkalinity (Bicarbonate as $CaCO_3$)	mg/L	1	16	377	411.00	394.50	378.00	396.50	406.50
Alkalinity (Carbonate as $CaCO_3$)	mg/L	1	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Alkalinity (Hydroxide as $CaCO_3$)	mg/L	1	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Alkalinity (Total as $CaCO_3$)	mg/L	1	16	377	411.00	394.50	378.00	396.50	406.50
Chloride	mg/L	1	16	100	151.00	124.6	101.5	124.5	144.0
Sulphate as SO_4	mg/L	1	14	79	127	111	94.5	112.5	123.9
Sodium	mg/L	1	16	62	75	68.5	62.0	69.0	73.0
Potassium	mg/L	1	16	14	43	26.9	16.5	26.0	39.0
Calcium	mg/L	1	16	92	129	111.6	97.0	111.5	127.0
Magnesium	mg/L	1	16	42	51	46.5	42.5	47.0	49.5
Fluoride	mg/L	0.1	16	0.3	0.50	0.46	0.40	0.50	0.50
Nitrate (as N)	mg/L	0.01	16	<LOR	0.05	0.02	0.01	0.02	0.04
Nitrite (as N)	mg/L	0.01	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Gross alpha activity	Bq/L	0.05	14	0.16	0.64	0.34	0.20	0.33	0.39
Gross beta activity (excluding activity of K-40)	Bq/L	0.1	14	0.1	0.33	0.17	0.10	0.15	0.28
Methane	mg/L	0.01	15	<LOR	0.023	0.010	0.010	0.012	0.021
Ethane	µg/L	10	15	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Propane	mg/L	0.01	15	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Arsenic	mg/L	0.001	16	<LOR	0.004	<LOR	<LOR	<LOR	<LOR
Barium	mg/L	0.001	16	0.049	0.20	0.09	0.06	0.08	0.13
Boron	mg/L	0.05	16	0.1	0.22	0.14	0.10	0.14	0.19
Cadmium	mg/L	0.0001	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Chromium (III+VI)	mg/L	0.001	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Copper	mg/L	0.0005 - 0.001	15	0.001	0.009	0	0.001	0.001	0.006
Iron	mg/L	0.05	16	0.05	13.40	2.99	0.67	2.42	5.07
Lead	mg/L	0.001	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Lithium	mg/L	0.001	15	0.039	0.06	0.05	0.04	0.05	0.06
Manganese	mg/L	0.001	16	0.024	0.69	0.19	0.08	0.15	0.31
Mercury	mg/L	0.0001	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Selenium	mg/L	0.01	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Silicon as Si	mg/L	0.05	15	7.53	14.12	12.84	11.64	13.32	13.95
Silver	mg/L	0.001	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Strontium	mg/L	0.001	16	0.573	0.69	0.64	0.58	0.65	0.68
Zinc	mg/L	0.005	16	0.007	0.03	0.02	0.0085	0.0165	0.0235
TRH C_6-C_{10} fraction (sum)	µg/L	20	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
TRH C_{10}-C_{40} fraction (sum)	µg/L	100	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Sum of BTEX	µg/L	1	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Total Reportable PAH	µg/L	0.5	16	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR

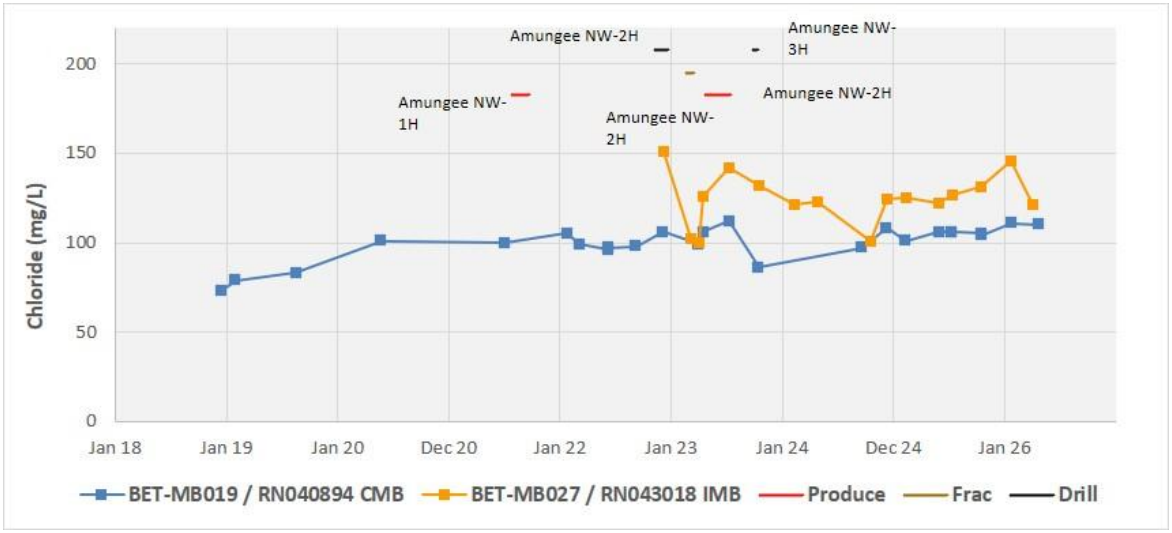
Table 3 Amungee NW1 Statistical Assessment

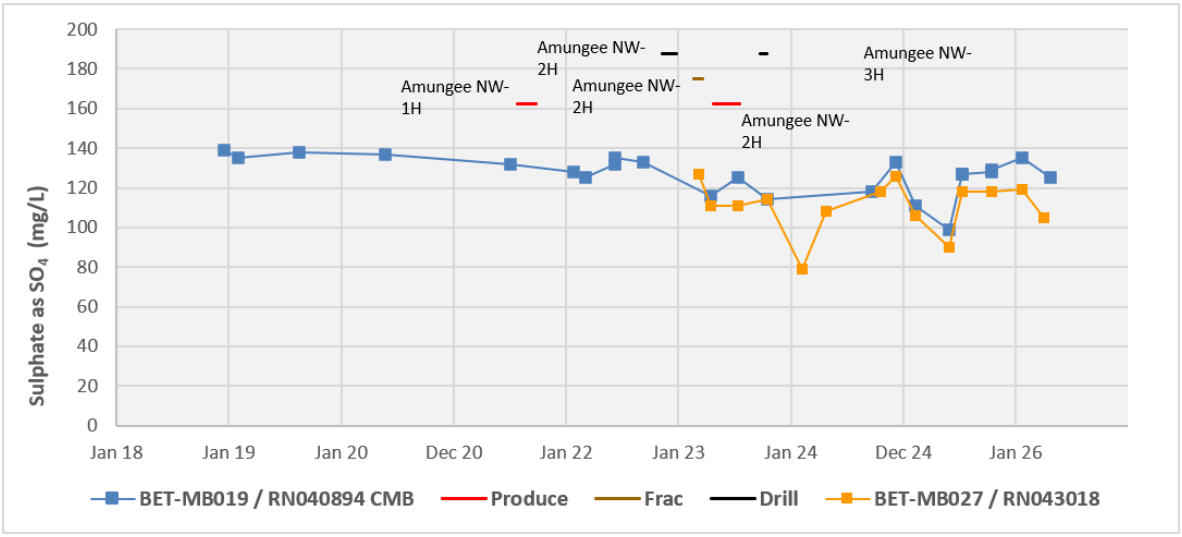
Analyte	Output unit	EQL	Sample size		Average Concentration		Statistics	
			Gum Ridge Formation CMB (BET-MB019)	Gum Ridge Formation IMB (BET-MB027)	Gum Ridge Formation CMB (BET-MB019)	Gum Ridge Formation IMB (BET-MB027)	F.Test Statistic	T-Test - P-value
pH (Field)	pH units	0.1	39	29	6.74	6.87	5.93	0.018
Electrical Conductivity (Field)	µS/cm	1	33	24	1,446.79	1,495.54	2.46	0.123
pH (Lab)	pH units	0.01	21	15	7.31	7.34	0.26	0.612
Electrical Conductivity (Lab)	µS/cm	1	21	15	1,159.52	1,200.00	10.95	0.002
Total Dissolved Solids	mg/L	10	22	16	736.32	736.50	0.00	0.992
Suspended Solids	mg/L	5	22	16	5.59	6.06	0.47	0.498
Alkalinity (Bicarbonate as $CaCO_3$)	mg/L	1	22	16	404.82	394.50	2.83	0.101
Alkalinity (Carbonate as $CaCO_3$)	mg/L	1	20	13	<LOR	<LOR	-	-
Alkalinity (Hydroxide as $CaCO_3$)	mg/L	1	20	13	<LOR	<LOR	-	-
Alkalinity (Total as $CaCO_3$)	mg/L	1	22	16	404.82	394.50	2.83	0.101
Chloride	mg/L	1	22	16	99.41	124.63	38.05	4E-07
Sulphate as SO_4	mg/L	1	20	14	126.50	110.71	15.38	0.0004
Sodium	mg/L	1	22	16	66.41	68.50	2.76	0.105
Potassium	mg/L	1	22	16	10.41	26.88	88.20	3E-11
Calcium	mg/L	1	22	16	116.23	111.56	2.19	0.148
Magnesium	mg/L	1	22	16	46.32	46.50	0.04	0.836
Fluoride	mg/L	0.1	22	16	0.46	0.46	0.02	0.901
Nitrate (as N)	mg/L	0.01	22	16	0.02	0.02	0.11	0.738
Nitrite (as N)	mg/L	0.01	22	16	0.01	0.01	-	-
Gross alpha activity	Bq/L	0.05	18	14	0.32	0.34	0.34	0.5616
Gross beta activity (excluding activity of K-40)	Bq/L	0.1	18	14	0.15	0.17	0.65	0.427
Methane	mg/L	0.01	21	15	0.01	0.01	13.37	0.001
Ethane	µg/L	10	19	12	<LOR	<LOR	-	-
Propane	mg/L	0.01	19	12	<LOR	<LOR	-	-
Arsenic	mg/L	0.001	22	16	0.00	0.0000	1.39	0.246
Barium	mg/L	0.001	22	16	0.06	0.09	11.64	0.002
Boron	mg/L	0.05	22	16	0.16	0.14	2.46	0.125
Cadmium	mg/L	0.0001	22	16	<LOR	<LOR	-	-
Chromium (III+VI)	mg/L	0.001	22	16	<LOR	<LOR	-	-
Copper	mg/L	0.001	22	16	0.00	0.00	0.72	0.401
Iron	mg/L	0.05	22	16	1.08	2.99	7.81	0.008
Lead	mg/L	0.001	22	16	<LOR	<LOR	-	-
Lithium	mg/L	0.001	21	15	0.05	0.05	1.09	0.304
Manganese	mg/L	0.001	22	16	0.08	0.19	10.64	0.002
Mercury	mg/L	0.0001	22	16	<LOR	<LOR	-	-
Selenium	mg/L	0.01	22	16	0.01	0.01	0.11	0.744
Silicon as Si	mg/L	0.05	12	15	28.98	27.47	1.72	0.201
Silver	mg/L	0.001	22	16	<LOR	<LOR	-	-
Strontium	mg/L	0.001	22	16	0.64	0.64	0.12	0.728
Zinc	mg/L	0.005	22	16	0.02	0.02	0.09	0.77
TRH C_6 - C_{10} fraction (Sum)	µg/L	20	20	13	<LOR	<LOR	-	-
TRH C_{10} - C_{40} fraction (Sum)	µg/L	100	19	13	<LOR	<LOR	-	-
Sum of BTEX	µg/L	1	20	13	<LOR	<LOR	-	-
Total Reportable PAH	µg/L	0.5	19	13	<LOR	<LOR	-	-

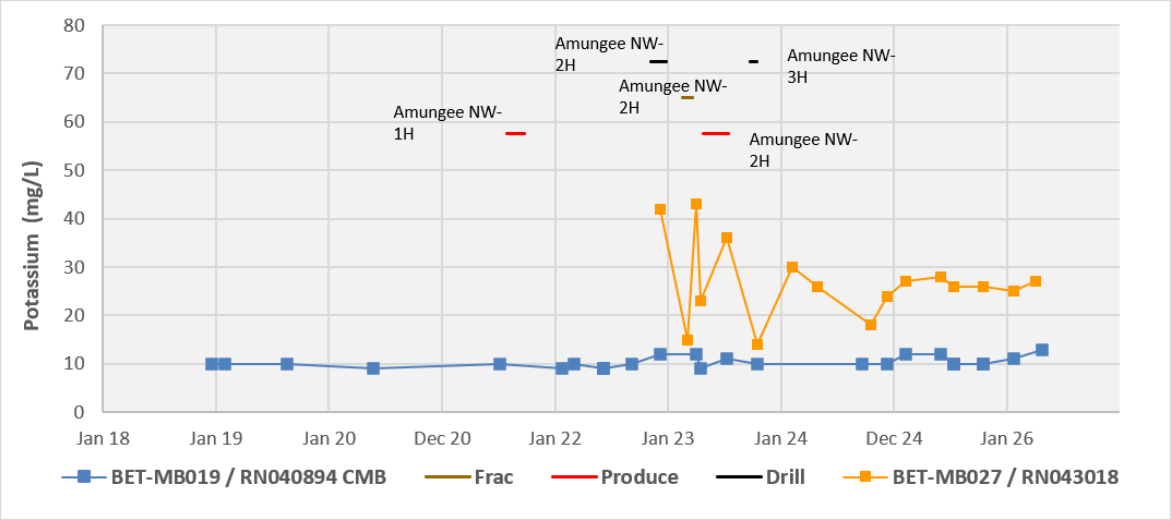
Attachment A - Timeseries chemistry charts

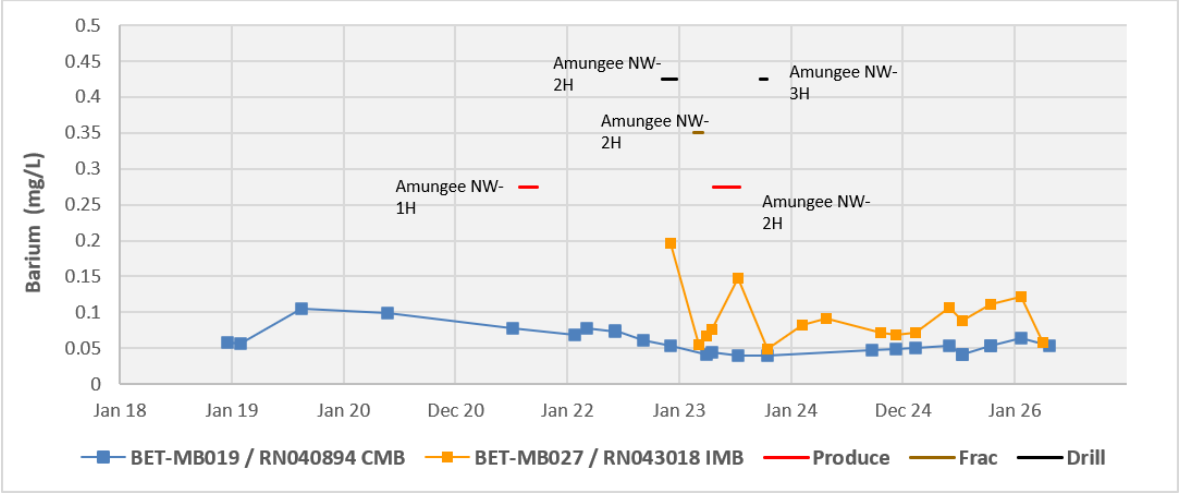


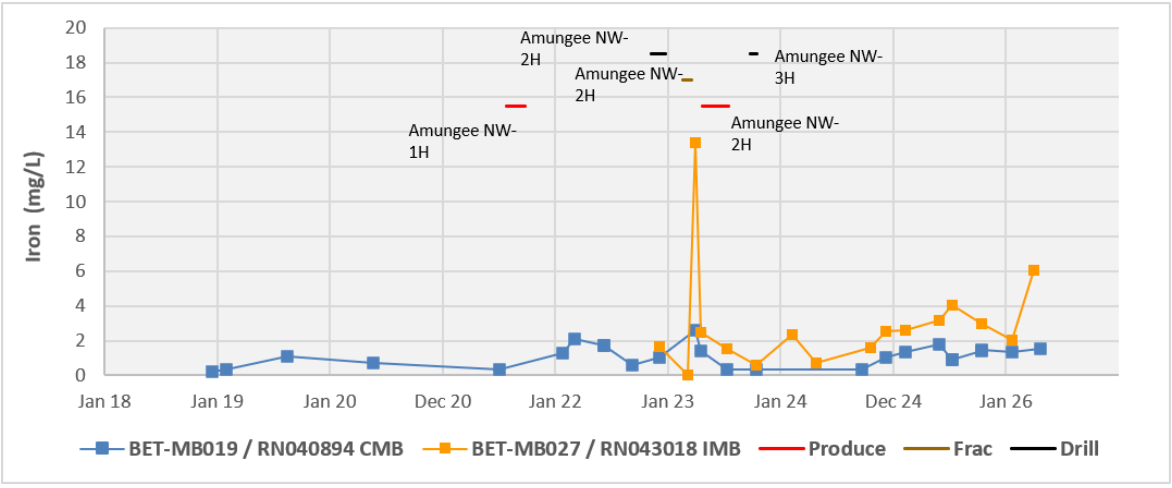


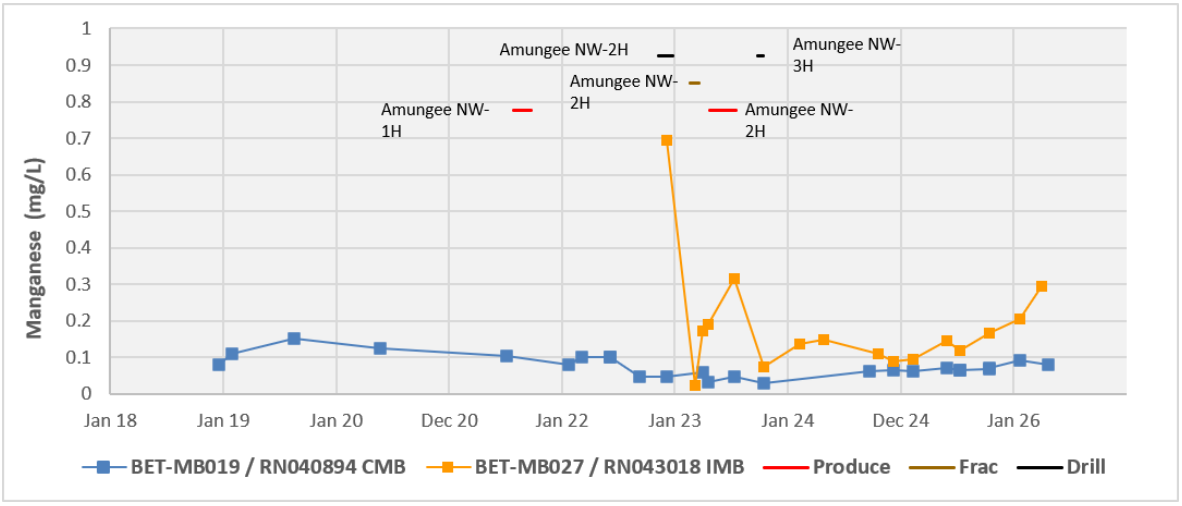

Amungee NW-2H
Amungee NW-3H
Amungee NW-1H
Amungee NW-2H
Amungee NW-2H
Chloride (mg/L)
200
150
100
50
0
Jan 18
Jan 19
Jan 20
Dec 20
Jan 22
Jan 23
Jan 24
Dec 24
Jan 26
BET-MB019 / RN040894 CMB
BET-MB027 / RN043018 IMB
Produce
Frac
Drill


Amungee NW-2H
Amungee NW-3H
Amungee NW-1H
Amungee NW-2H
Amungee NW-2H
Sulphate as SO_4 (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Jan 18
Jan 19
Jan 20
Dec 20
Jan 22
Jan 23
Jan 24
Dec 24
Jan 26
BET-MB019 / RN040894 CMB
Produce
Frac
Drill
BET-MB027 / RN043018


Potassium (mg/L)
80
70
60
50
40
30
20
10
0
Amungee NW-1H
Amungee NW-2H
Amungee NW-2H
Amungee NW-3H
Amungee NW-2H
Jan 18
Jan 19
Jan 20
Dec 20
Jan 22
Jan 23
Jan 24
Dec 24
Jan 26
BET-MB019 / RN040894 CMB
Frac
Produce
Drill
BET-MB027 / RN043018


Barium (mg/L)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Amungee NW-1H
Amungee NW-2H
Amungee NW-2H
Amungee NW-2H
Amungee NW-3H
Jan 18
Jan 19
Jan 20
Dec 20
Jan 22
Jan 23
Jan 24
Dec 24
Jan 26
BET-MB019 / RN040894 CMB
BET-MB027 / RN043018 IMB
Produce
Frac
Drill


Iron (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Amungee NW-1H
Amungee NW-2H
Amungee NW-2H
Amungee NW-2H
Amungee NW-3H
Jan 18
Jan 19
Jan 20
Dec 20
Jan 22
Jan 23
Jan 24
Dec 24
Jan 26
BET-MB019 / RN040894 CMB
BET-MB027 / RN043018 IMB
Produce
Frac
Drill


Manganese (mg/L)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Amungee NW-2H
Amungee NW-3H
Amungee NW-2H
Amungee NW-1H
Amungee NW-2H
Jan 18
Jan 19
Jan 20
Dec 20
Jan 22
Jan 23
Jan 24
Dec 24
Jan 26
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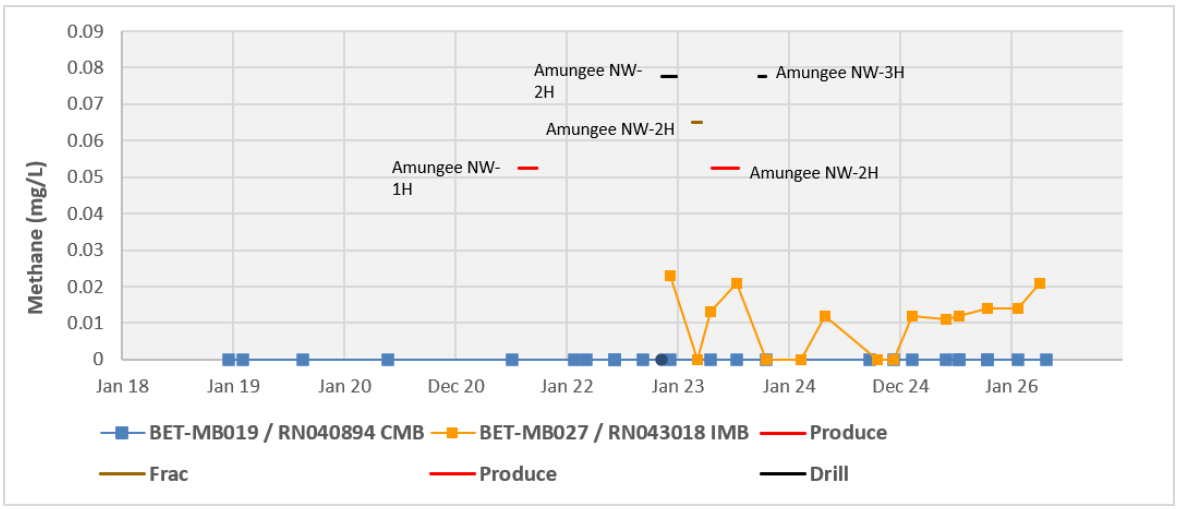
Produce
Frac
Drill


Methane (mg/L)
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Amungee NW-2H
Amungee NW-3H
Amungee NW-2H
Amungee NW-1H
Amungee NW-2H
Jan 18
Jan 19
Jan 20
Dec 20
Jan 22
Jan 23
Jan 24
Dec 24
Jan 26
BET-MB019 / RN040894 CMB
BET-MB027 / RN043018 IMB
Produce
Frac
Produce
Drill