April 21st, 2023

Alberta Energy Regulator
Compliance Verification | Compliance & Liability Management
Suite 1000, 250 – 5 Street SW
Calgary, Alberta
T2P 0R4

Attn: Ashley Zemlak

Re: Approval No. 12832L 2022 Annual Report

Enhance Energy Inc. submits the attached 2022 Annual Report for Approval No. 12832L. The Clive D-3A Enhanced Oil Recovery Project.

If you have any comments, questions, or concerns about the Annual Technical Report, please contact the undersigned at (403) 984-0207 or by e-mail at cmarkwart@enhanceenergy.com

Sincerely,



Chris Markwart, P.Tech.(Eng.)
Reservoir Engineering Specialist
Enhance Energy Inc.

Enhance Energy Inc.
Approval No. 12832L
Clive D-3A Enhanced Oil Recovery Project



2022 Annual Report

Enhance Energy Inc. I 2000-500 4 Ave SW, Calgary AB T2P 2V6 I Phone: 403.984-0202 I Fax: 403.984.0226

10) The Operator must submit annual progress reports and make presentations on the CO_2 EOR scheme to the Compliance Verification Group in the AER Compliance & Liability Management Branch, with the first to occur after one year commencement of the miscible fluid injection. These reports and presentations shall include the following information in metric units:

- ***a) a summary of the scheme operations including:***
  - ***i) any new project wells drilled in the reporting period, any workovers/treatments done on the injection and monitoring wells including the reasons for and results of the workovers/treatments,***
  - ***ii) changes in injection equipment and operations,***
  - ***iii) identification of problems, remedial action taken, and impacts on scheme performance, and***
  - ***iv) a table of analysis data including baseline values and testing results. The table must include the unique well indicators, sample dates, test dates and results for all soil, CBM, water and deep monitoring wells, and wells for vent flowing tests.***

This is the third annual progress report and covers the significant development activities in the expanded Part 1 Area of the Clive D-3A EOR scheme during 2022.

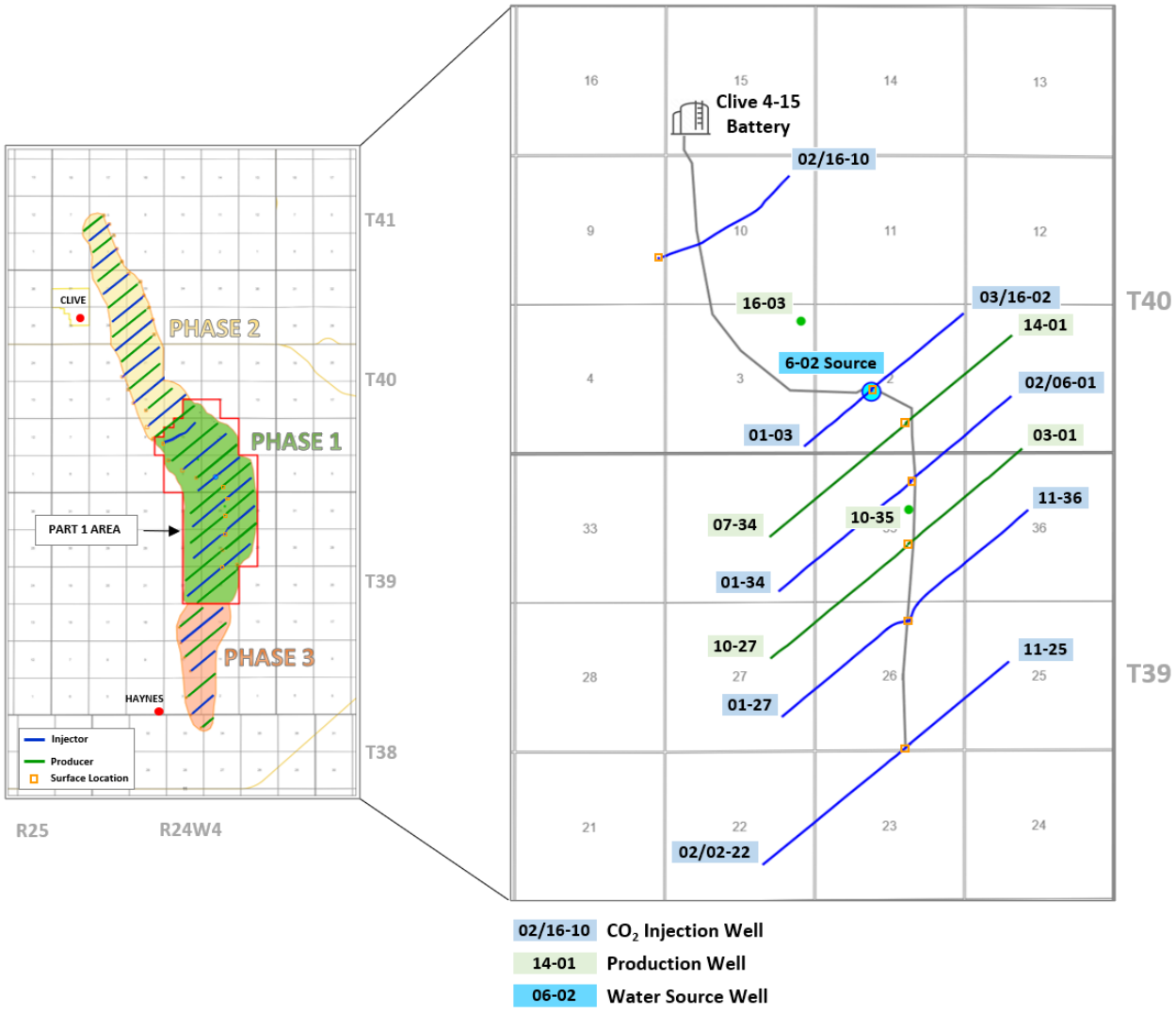
A new CO_2 injection well at 102/16-10-040-24W4/00 was drilled during May 2022, and began injection on September 2nd, 2022. This was the first CO_2 injection well drilled North of Central Clive into the expanded Part 1 Area of the scheme.

The 100/10-35-039-24W4/00 vertical producer was tied into the EOR production system on August 16th, 2022, to allow higher production rates.

To supply more water for WAG operations the 103/06-02-040-24W4/00 water disposal well was converted into a water source well on August 23rd, 2022. This conversion supplied an extra 985 m^3/d of water for WAG operations.

The first WAG cycle into the 100/01-03-040-24W4/00 injector began on January 20th, 2022, while the first WAG cycle into the 102/06-01-040-24W4/00 injector began on November 3rd, 2022 (Figure 1).

Figure 1: Clive D-3A Part 1 Area Activity Map

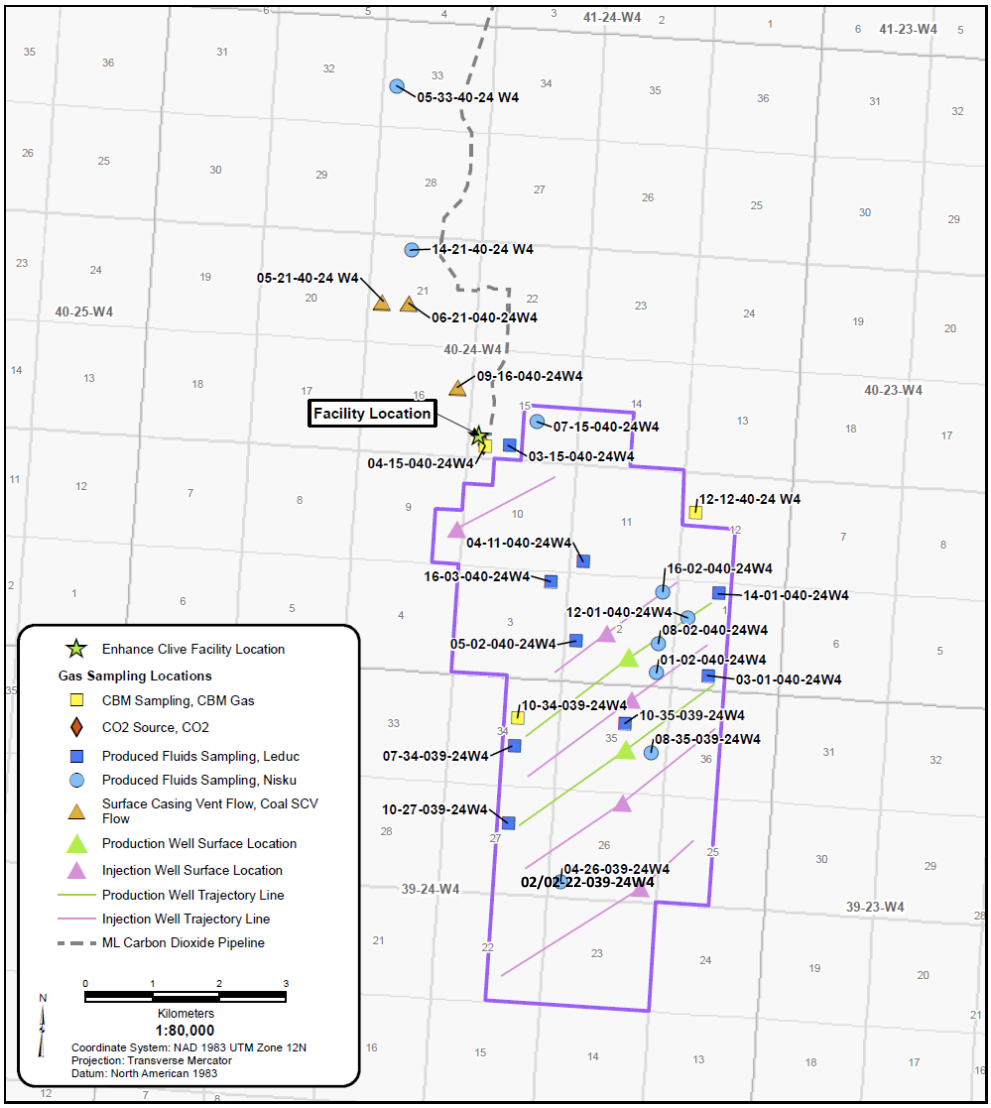


In 2019 the Clive D-3A CO_2 EOR Part 1 MMV baseline and monitoring program was started, and in 2020 Enhance Energy began the yearly monitoring program. Details of the 2019-2022 Soil & Groundwater Baseline Monitoring Program, sampling procedures, test dates, and results are included in Attachment 1 (MMV Soil & Groundwater Monitoring 2022 Annual Report). Details of the 2019-2022 SCVF Baseline Monitoring Program, test dates, and results are included in Attachment 2 (2019-2022 SCVF Baseline Monitoring Program). No SCVF's were detected during this reporting period, and the Geosphere, hydrosphere, and biosphere monitoring programs verify that CO_2 is still contained within the Leduc formation.

b) a full discussion of the pressures of the Leduc and Nisku formations, including stabilized shut-in formation pressures and on how the pressure compares with the formation pressure expected for the cumulative volume of the CO_2 injected, along with an updated estimate of what the actual cumulative injection volume will be at the maximum shut-in formation pressure specified in clause 6, subclause a,

During 2022 pressure surveys were conducted on one Leduc monitoring well at 100/04-11-040-24W4/00, and on two Leduc injection wells at 100/01-34-039-24W4/00 and 100/11-25-039-24W4/00. Nisku pressure surveys were conducted on four Nisku Monitoring wells at 100/04-26-039-24W4/02, 100/08-35-039-24W4/02, 100/16-02-040-24W4/02 and 100/14-10-040-24W4/02 (Figure 2).

Figure 2: Clive D-3A Part 1 Monitoring Wells



The discovery pressure of the Clive Leduc D-3A reservoir was 17,593 kPa at the pool datum depth of 1,017.8 meters sub-sea. Under the current approval, the maximum Leduc reservoir pressure cannot exceed 17,500 kPag and must not be less than 13,000 kPag. The current average reservoir pressure of the four Leduc wells surveyed in the Part 1 Area in 2022 is 13,391 kPa, which is approximately 24% lower than the original discovery pressure (Table 1).

Table 1: Summary of Clive D-3 A Part 1 Area Monitoring Well Pressures

	Clive D-3 A Monitoring Wells (Pressures at 1,017.8 mss)			Clive D-2 A Monitoring Wells (Pressures at 982.5 mss)					
	100/10-35	100/05-02	100/04-11	100/04-26	100/08-35	100/12-01	100/01-02	100/16-02	100/14-10
Mar-19									
May-19									
Jun-19									
Oct-19						11,256		9,573	
Oct-20									
Nov-20	13,317	13,426	13,166	12,713	12,677		12,705	9,559	
May-21	13,340	13,478							
Jun-21				12,764	12,762		12,761	9,629	
Aug-21	13,363	13,488	13,248						
Aug-22									12,856
Nov-22			13,251	12,864	12,898			9,779	

The discovery pressure of the Clive Nisku D-2A reservoir was 17,097 kPa at the pool datum depth of 982.5 meters sub-sea. Pressures from the Nisku monitoring wells at 100/04-26-039-24W4/02, 100/08-35-039-24W4/02, and 100/14-10-040-24W4/02 averaged 12,873 kPa in 2022, which is approximately 25% lower than the discovery pressure (Table 1).

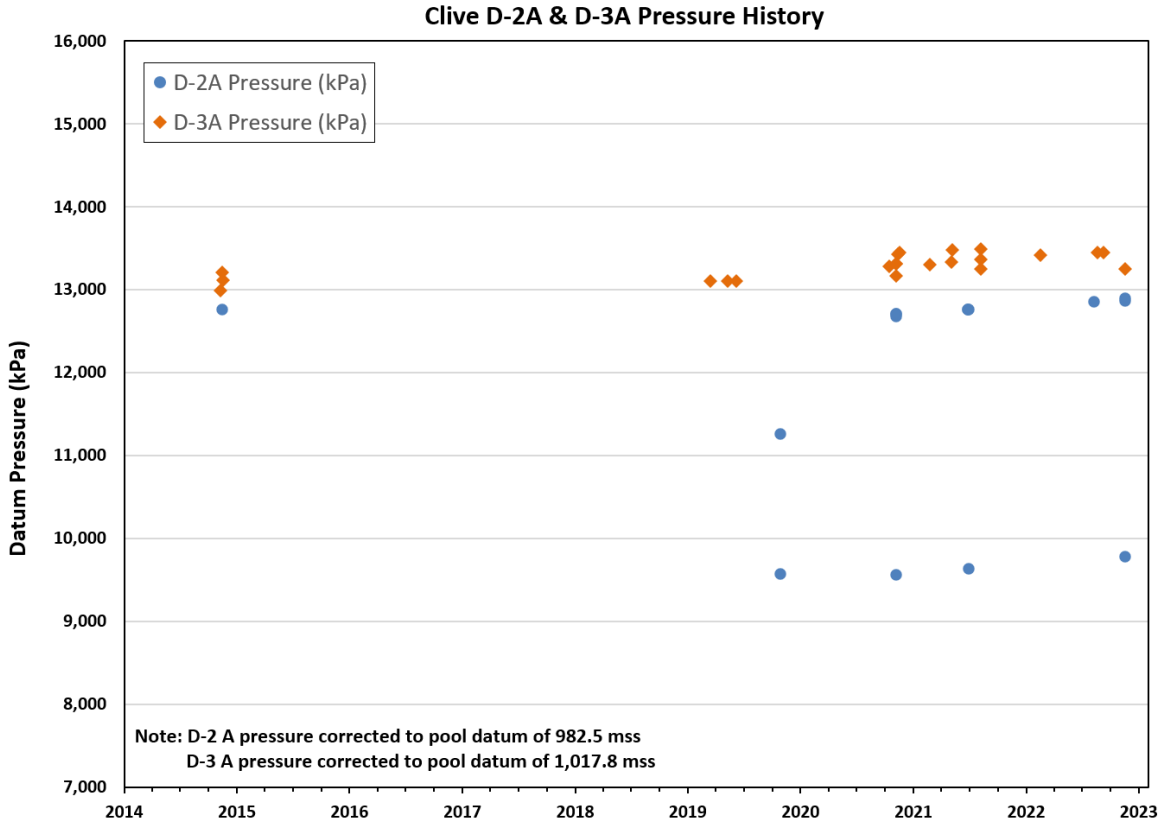
Due to the more heterogeneous nature of the Clive D-2A reservoir's geology, there is more variability in Nisku reservoir pressures across the Part 1 Area as seen in Figure 3. Pressure from the Nisku 100/16-02-040-24W4/00 well is currently 9,779 kPa. Based on previous pressure survey results on this well, this diminished pressure in comparison to the rest of the Nisku deep monitoring wells suggests that a portion of the Nisku pool around the 100/16-02-040-24W4/00 well is partially hydraulically isolated from the lower part of the Nisku pool (represented by 100/04-26-039-24W4/02, 100/08-35-039-24W4/02 and 100/01-02-040-24W4/02). A review of the 100/16-02-040-24W4/02 well log reveals that there is a one-meter-thick impermeable layer of anhydrite at 1,889 m, which is the probable cause of the partial hydraulic isolation.

Table 2: Summary of Clive D-3 A Part 1 Area Additional Well Pressures

	Clive D-3 A Additional Pressures (Pressures at 1,017.8 mss)						
	100/01-34	100/10-27	100/14-01	102/11-36	103/16-02	100/11-25	102/02-22
Mar-19					13,101		
May-19	13,110						
Jun-19				13,107			
Oct-19							
Oct-20		13,286					
Nov-20			13,450				
Feb-21							13,300
Feb-22	13,413						
Aug-22						13,451	
Sep-22	13,449						

A graphical plot of reservoir datum pressures for the Clive D-2A and D-3A reservoirs from 2014-2022 is presented below in Figure 3.

Figure 3: Clive D-2A and D-3A Datum Pressure 2014-2022



The average reservoir pressure in the Clive D-3A Part 1 Area has increased by 290 kPa since the project started (Figure 3). The average reservoir pressure of the Clive D-3A Part 1 Area increased by 25 kPa to 13,391 kPa during 2022. Reservoir simulation models predicted an average reservoir pressure of approximately 15,000 kPa during CO_2 injection. Due to the greater than expected transmissivity of the Clive D-3A reservoir and the underlying Bashaw Platform water leg, the average stabilized reservoir pressure is not expected to increase significantly because the pressure will continue to be dissipated into the Leduc reservoir and Bashaw platform water leg.

Pressure communication amongst the Leduc and Nisku pools of the Bashaw Reef Complex via the water leg has been documented as early as 1966 and discussed by Springer & Tsang in (CIM 83-34-24) Innisfail-Clive-Nevis Reef Chain Revisit (Attachment 3). Because of this connectivity, it is not expected that the maximum shut-in formation pressure of 17,500 kPag specified in clause 6, subclause a, will be encountered over the lifespan of the project. Enhance Energy continues to closely watch reservoir pressures and will report any changes to this assessment as the project progresses.

The Clive D-2A monitoring well pressure continues to be stable in 2022 and shows no evidence of direct pressure communication with the underlying Leduc reservoir. However, as previously discussed above, the Nisku and Leduc pools in the Clive area are directly connected hydraulicly via the Bashaw Platforms water leg. It is not surprising, therefore, that the average Clive D-2A monitoring well pressures have also increased by about 120 kPa as pressure in the aquifer is dissipated.

c) a discussion of the overall performance of the scheme, including the incremental oil recovery and the volume of incremental oil produced as a result of the miscible fluid injection, how the reservoir pressure is changing over time; updated geological maps; and updated CO_2 plume extent and pressure distribution models, if needed. The updated geological maps should be based on all new data obtained since the commencement of the injection to the end of the reporting period,

The injection and production capacity of the Clive D-3A pool has exceeded our initial expectations. Having good reservoir processing capacity is key to EOR performance. The extremely high processing capacity of the reservoir makes it possible to keep both injection and production pressure above minimum miscibility pressure (determined by Slim Tube tests to be between 11.4-12.5 MPa). After 34 months of gas injection, the average reservoir pressure is approximately 13.4 MPa, below the reservoir discovery pressure of 17.5 MPa, above the minimum miscibility pressure of less than 12.5 MPa, and above the approved minimum operating pressure of 13.0 MPa.

As planned Enhance injected an initial slug of CO_2 before bringing on production, and as predicted by the simulation model breakthrough of CO_2 in 2020 was expected. Enhance had an existing 8 MMcf/d battery compressor ready to manage gas volumes at the commencement of production. While CO_2 breakthrough was predicted, initial recycle rates were higher than

expected. A larger 52 MMcf/d recycle compressor had already been pre-ordered and was running by mid-January 2021 to manage the actual CO_2 recycle volumes. Yearly average gas production climbed from 39.5 MMcf/d in 2021 to 48.2 MMcf/d in 2022.

A new CO_2 injection well at 102/16-10-040-24W4/00 was drilled in May 2022 and began injection on September 2nd, 2022. This was the first CO_2 injection well drilled North of Central Clive into the expanded Part 1 Area of the scheme.

The 100/10-35-039-24W4/00 vertical producer was tied into the EOR production system on August 16th, 2022, to allow higher production rates.

Enhance converted the 100/01-03-040-24W4/00 Injector to WAG in January 2022, and the 102/06-01-040-24W4/00 injector was converted to WAG in November 2022. Water alternating gas (WAG) is the most widely deployed and effective reservoir engineering tool to manage CO_2 EOR conformance. Enhance planned to use WAG in the flood design and built the WAG pipelines with the CO_2 injection and production pipelines. WAG will manage conformance, and efficiently push the miscible oil bank to the production wells. As planned, Enhance successfully applied to have WAG introduced into the EOR approval in 2021 and drilled two more injection wells to enable the commencement of WAG into the most mature patterns. Enhance expects to continue to use WAG as the CO_2 flood matures. Initial results have been promising, but more source water is needed. Enhance continues to watch CO_2 EOR responses across the pool as we refine our understanding of the flood's performance.

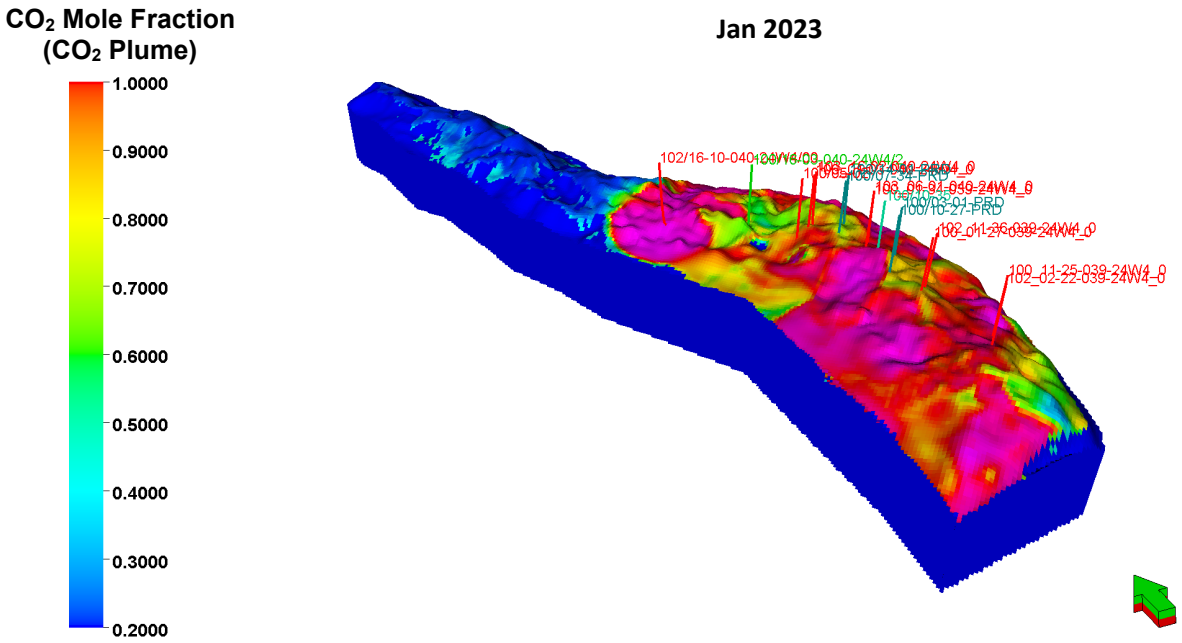
To supply more water for WAG operations the 103/06-02-040-24W4/00 water disposal well was converted into a water source well on August 23rd, 2022. This conversion supplied an extra 985 m3/d of water for WAG operations. Getting more source water and converting other patterns to WAG is planned in 2023 and beyond.

Simulation modeling continues to be a valuable tool for Enhance to predict and monitor CO_2 plume behavior and enhanced oil recovery performance. Before the commencement of CO_2 injection, Enhance built a robust reservoir simulation model of the Leduc Formation in Clive. The geological model was constructed on a framework of geomodelling which captured the complex relationships that recorded constantly fluctuating conditions during carbonate platform growth at Clive distilled from detailed core studies and petrophysical work. The simulation model was history matched to over 50 years of production and injection history and was used to aid in the design of CO_2 injection plans and the development of the MMV Plan for the Clive Part 1 area.

During 2022 Enhance continued to introduce further refinements to the geomodelling techniques used in characterizing the Clive Leduc reservoir and its hydraulic connection to the Bashaw platform. Enhance Energy built a much larger simulation model to manage the project's expansion Northward and to accurately capture the CO_2 plumes movement and storage in the reservoir.

Enhance used the expanded simulation model to update this year's annual report. The movement of CO_2 in the reservoir was as expected (Figure 4). As the CO_2 flood advances, the simulation model area will continue to grow in size and complexity.

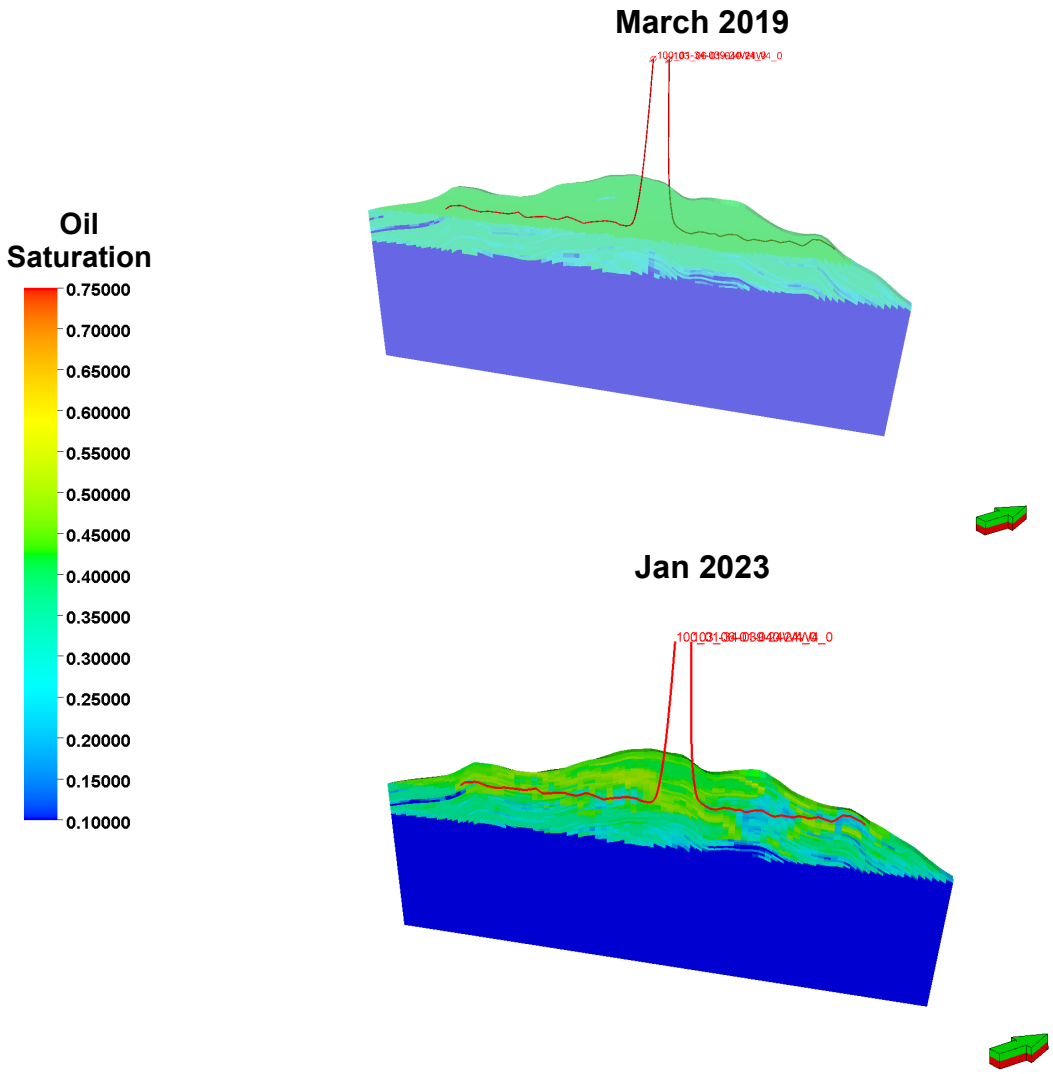
Figure 4: 2022 Simulation Study CO_2 Plume Forecast



No unexpected movement of CO_2 was detected during the 2022 MMV monitoring program (Attachment 1), and no Surface Casing Vent Flows were seen in the MMV area during the 2022 reporting period (Attachment 2).

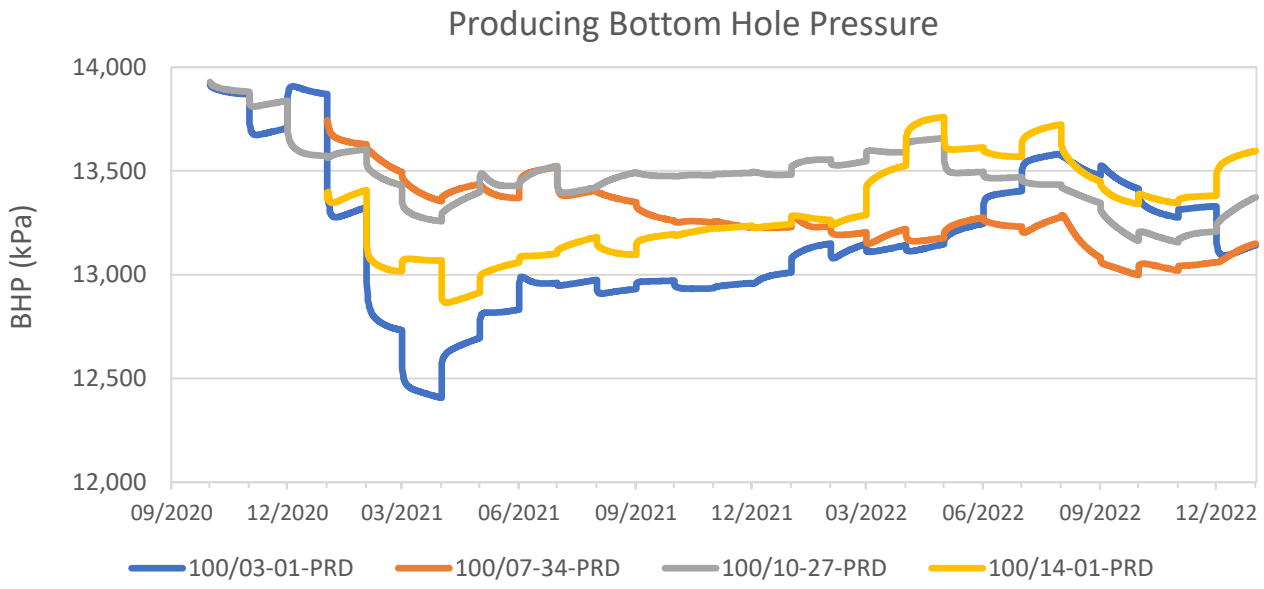
The oil saturation in the vicinity of the CO_2 injectors has continued to decline, showing that CO_2 is being miscibly absorbed into the oil. This results in oil swelling, viscosity reduction, and mobilization of the residual oil with CO_2. Figure 5 below shows the oil saturation along a cross-sectional slice at the 100/01-34-039-24W4/00 and 102/06-01-040-24W4/00 injectors before injection and after 34 months of CO_2 injection.

Figure 5: 2022 Simulation Study Oil Saturation Forecast



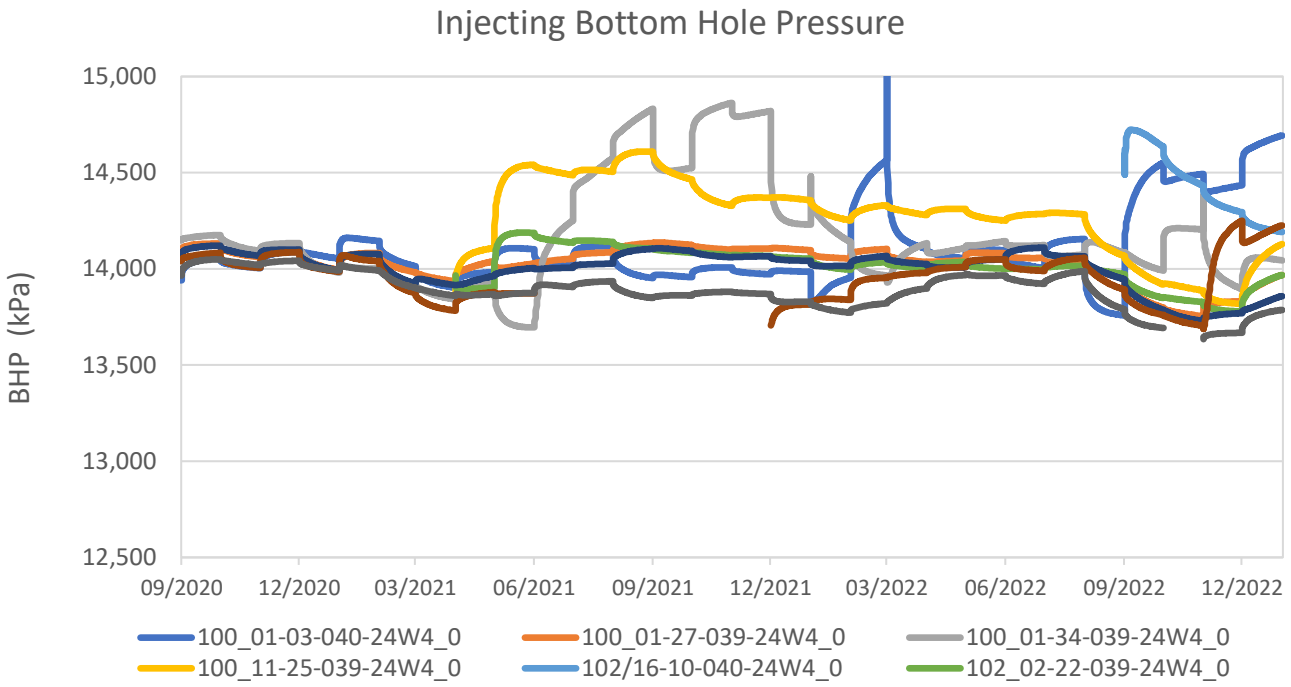
Producing bottom hole pressures during 2022 averaged 13.1 MPa, and fluid withdrawal rate is limited by bottom hole pump capacity. The 2022 Simulation Study prediction of bottom hole producing pressures for the four production wells can be seen below in Figure 6.

Figure 6: 2022 Simulation Study Producing Bottom Hole Pressure Forecasts



Estimated average bottom hole injection pressures in 2022 have ranged from 13.7-14.1 MPa (Table 5) with injection rates limited by wellbore design. The 2022 Simulation Study prediction of bottom hole injection pressures for the nine injection wells is below in Figure 7.

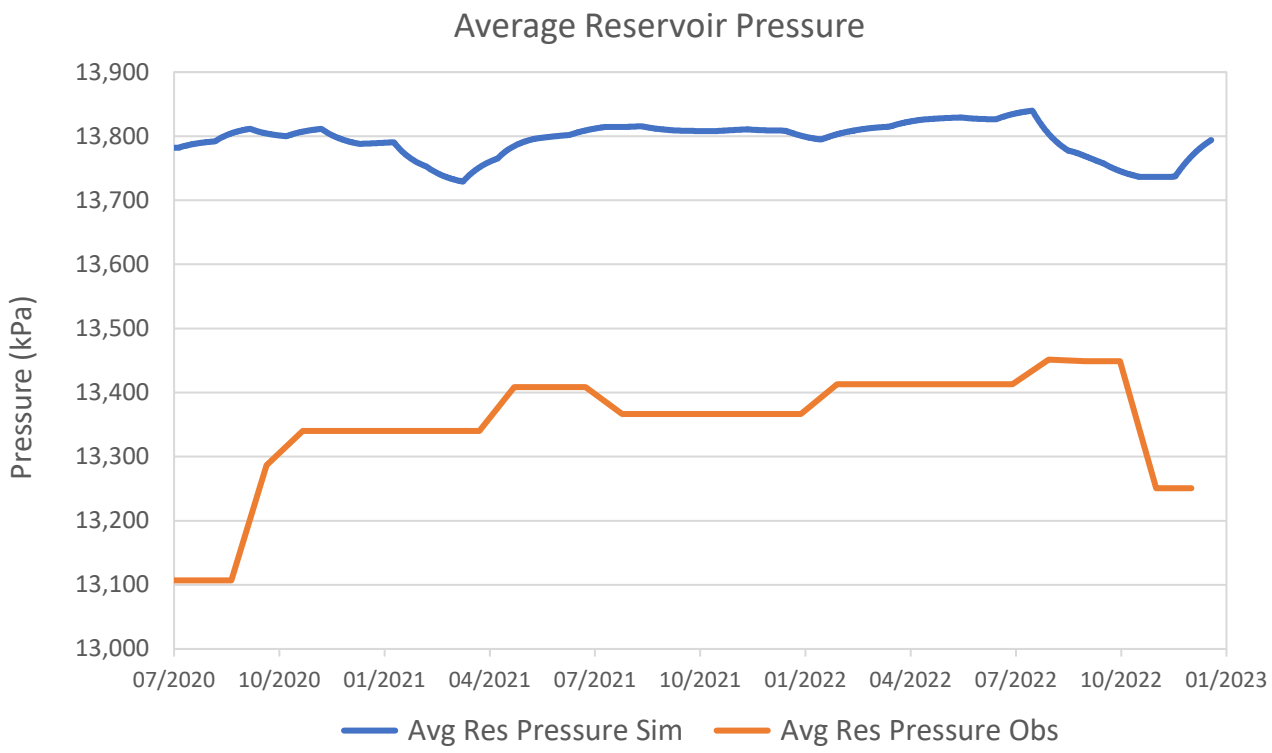
Figure 7: 2022 Simulation Study Bottom Hole Injection Pressure Forecasts



The injection pressure in the 100/01-34-039-24W4/00 injector rose in May 2021 after the pattern was converted to WAG (Water) and is expected as the primary injection fluids are changed during the WAG cycle. A similar spike was seen in 100/01-03-040-24W4/00 as it was switched over to WAG in January 2022, and again in August 2022.

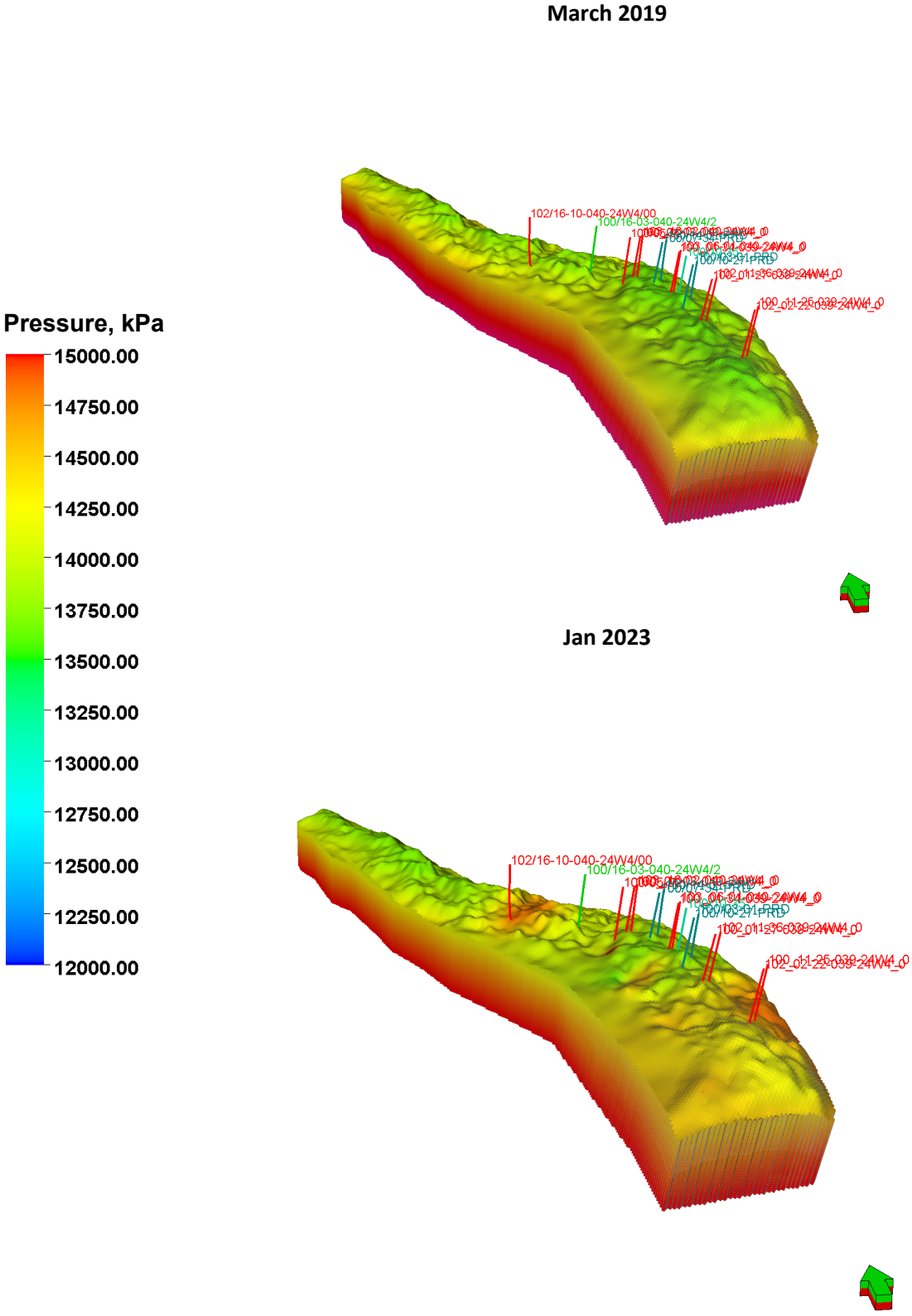
The simulation studies Average Reservoir Pressure prediction is in close agreement to pressure survey observations and is approximately 400 kPa higher than the actual field observation of approximately 13,450 kPa (Figure 8).

Figure 8: 2022 Simulation Study Average Reservoir Pressure Forecast vs Actual



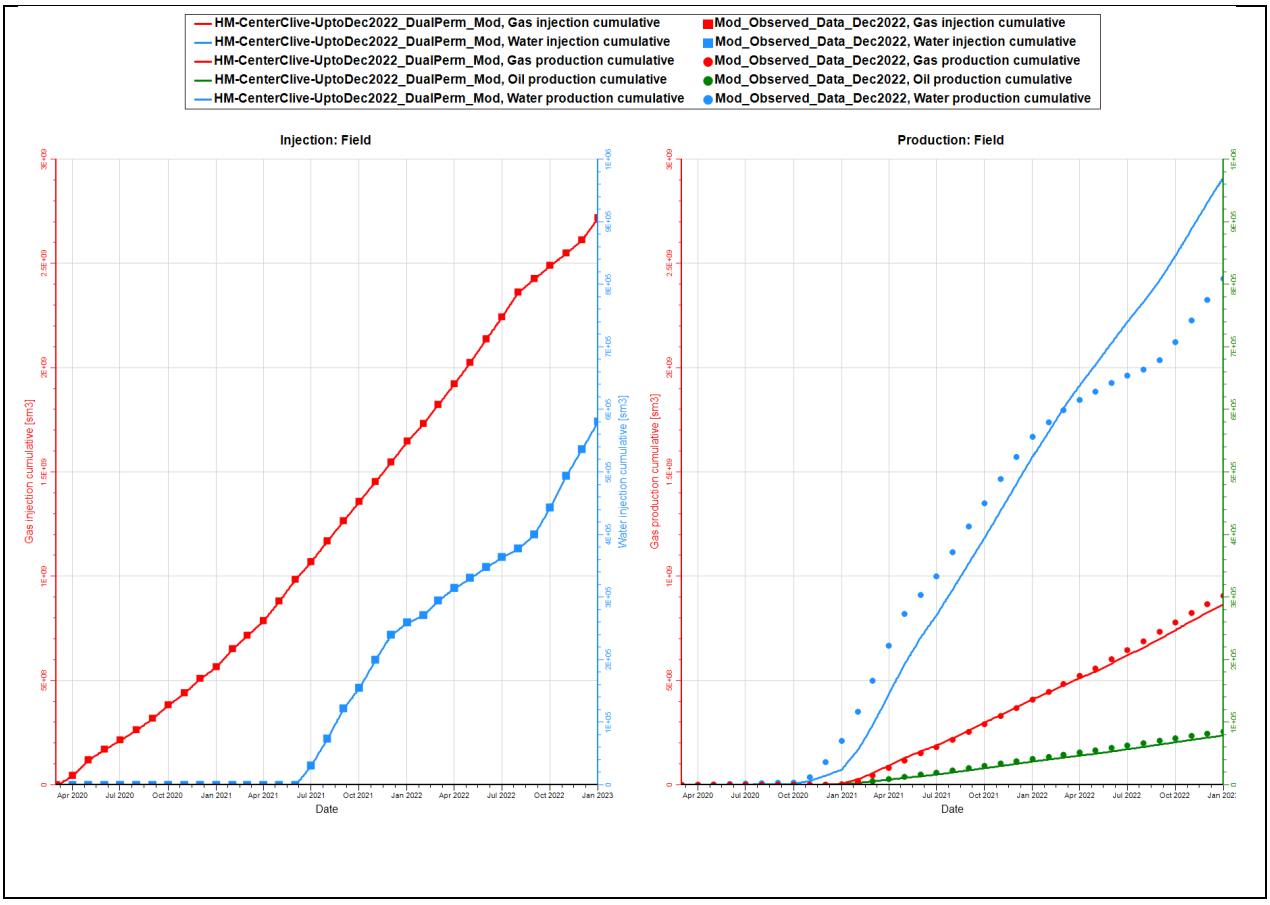
A graphical depiction of the simulation models Average Reservoir Pressure is in Figure 9 below. Pressure propagates almost uniformly across the reservoir boundary, which confirms the high deliverability of the Leduc formation in the Clive field.

Figure 9: 2022 Simulation Study Total Model Average Reservoir Pressure Forecast



A history match of the 2022 Simulation Study is displayed below (Figure 10). The results are in close agreement with field production and injection history based on injection and production cumulative volumes.

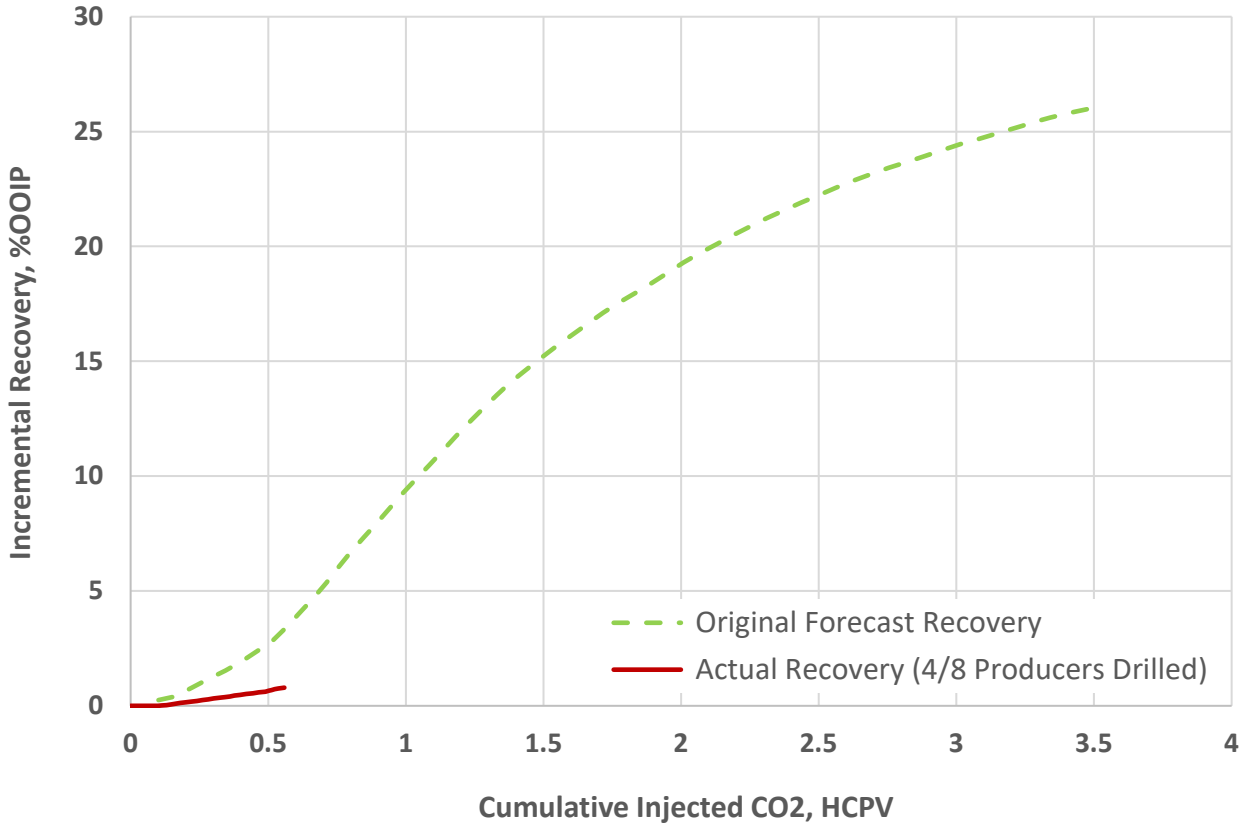
Figure 10: 2022 Simulation Study History Match



Due to battery start-up constraints in Q4 2020, only two production wells were initially brought onstream. All four drilled producers were online by mid-January 2021 when the main recycle compressor was commissioned. The graph below shows an updated recovery factor curve for oil production from our simulation model in comparison to CO_2 HCPV injected for Central Clive.

However, it must be noted that the Original Forecast Recovery Curve below (Figure 11) includes four additional horizontal producers (8 Total) in Central Clive. Enhance has not drilled the remaining four producers yet due to facility recycle capacity constraints and is evaluating optimal design and recovery strategies.

Figure 11: HCPV CO_2 Injected vs Incremental Recovery Factor



d) ***a discussion on how an increase pressure due to the miscible fluid injection could have an adverse effect on hydraulic fracturing of the target formation or caprock, and the displacement of brine upward out of the target formation via a conduit such as fracture or fault, and wellbores within the area of influence. In addition, a list of all wells that penetrated the injection target formation surrounding the*** **injection well where the pressure increase could also have an adverse effect,**

The average reservoir pressure in the Clive D-3A Part 1 Area has increased by 290 kPa since the project started (Figure 3). Because of the reservoir's connectivity to the Bashaw Reef Complex via the water leg, it is not anticipated that the maximum shut-in formation pressure of 17,500 kPa specified in clause 6, subclause (a), will be encountered over the lifespan of the project.

Containment assurance is a top priority for Enhance Energy and a detailed wellbore containment study was undertaken, reviewed by the AER, and submitted in Directive 065 application no. 1923727 (Approval 12832B). Enhance Energy has also implemented a comprehensive MMV program over the area to monitor for any sign of a containment breach and live reservoir injection and production pressures are monitored via SCADA.

e) ***results and evaluation of all monitoring done during the reporting period including but not limited to: pressure surveys, corrosion protection, fluid analyses, logs and any other data collected that would help in determining the success of the scheme,***

Pressure surveys for the reporting period are included in Attachment 4, and Fluid Analyses are included in Attachment 5.

f) a table showing the following data for each month of the reporting period:

i) a representative composition for the injected fluids,

Average composition of the injected fluids is summarized in attached Table 3.

ii) a representative composition for the re-injection streams,

Average composition of the re-injected fluids is summarized in attached Table 4.

iii) mole fraction of the CO_2 and impurities in the injection stream,

Monthly mole fractions of CO_2 and impurities in the injection and re-injection streams are summarized in attached Table 3 and 4, respectively.

iv) standard volume of the CO_2 injected,

v) cumulative volume of the CO_2 injected at standard conditions following the commencement of the scheme,

vi) CO_2 stream formation volume factor,

vii) volume of the CO_2 injected at reservoir conditions,

viii) cumulative volume of the CO_2 injected at reservoir conditions following the commencement of the scheme,

ix) hours on injection, the net amount of the CO_2 injected in the reservoir, in reservoir cubic meters and in standard cubic meters, the difference between total CO_2 injected into and that produced from the scheme,

x) maximum daily injection rate at standard conditions,

xi) average daily injection rate at standard conditions,

xii) maximum wellhead injection pressure and corresponding wellhead injection temperature,

xiii) average wellhead injection pressure and corresponding average wellhead injection temperature,

xiv) estimated or measured average reservoir pressure in the target formation, and

xv) estimated average bottomhole injection pressure.*

**** Include a discussion in detail on how the hydrostatic head of the miscible fluid in the wellbore, friction losses in the tubing, and pressure losses in the reservoir are accounted for in the determination of the average reservoir pressure.***

Monthly tabular data for items 10.f (iv-xv) are attached in Table 5.

To improve our understanding of operating reservoir pressures, Enhance Energy has installed real-time bottom hole production well monitoring sensors on all horizontal oil wells which have continuous monitoring at the pump intake and are tied directly into SCADA. Enhance Energy has also equipped two of our injection wells 100/01-34-039-24W4/00, and 100/11-25-039-24W4/00 with real-time bottom hole injection pressure and temperature sensors tied into SCADA. This creates an additional level of confidence that we are operating the scheme well under the maximum shut-in formation pressure of 17,500 kPag as specified in clause 6, subclause a, of AER Approval 12832I.

Production Wells:

- 100/10-27-039-24W4/00 – BHG landed at reservoir depth (no correction factor)
- 100/07-34-039-24W4/00 – BHG landed at reservoir depth (no correction factor)
- 100/03-01-040-24W4/00 – BHG landed at reservoir depth (no correction factor)
- 100/14-01-040-24W4/00 – BHG landed at reservoir depth (no correction factor)

Injection Wells:

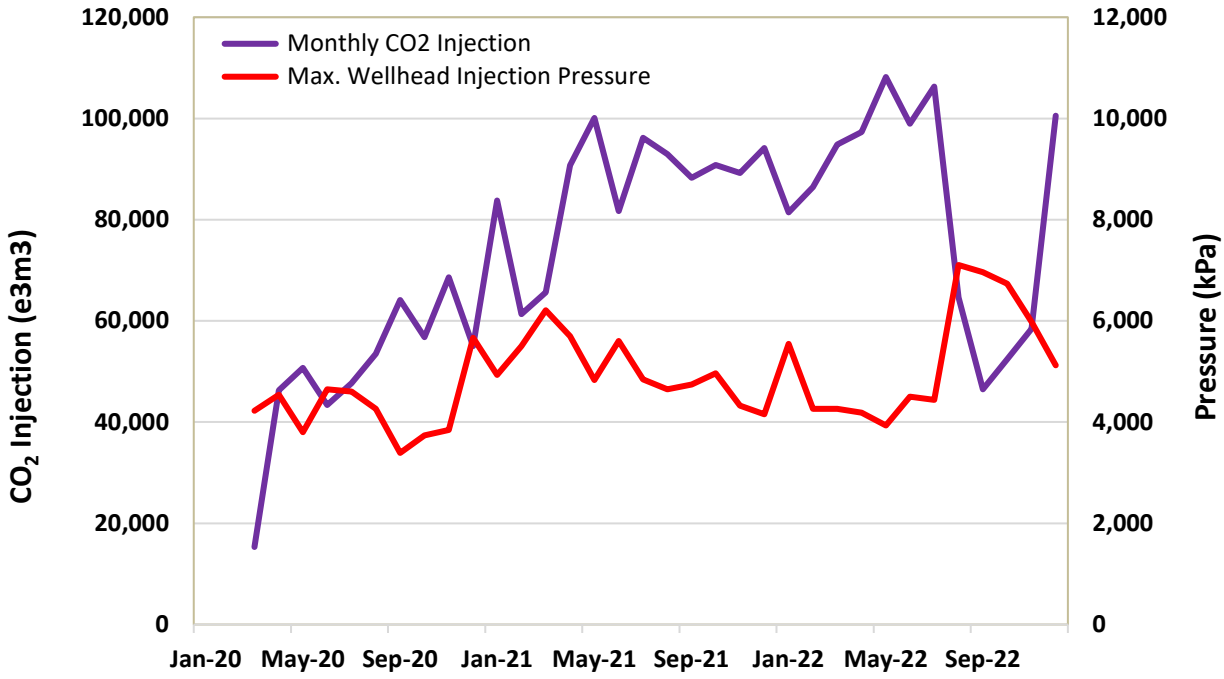
- 100/01-34-039-24W4/00 – BHG landed 60 m above reservoir depth
- 100/11-25-039-24W4/00 – BHG landed at reservoir depth (no correction factor)

Enhance landed the bottom hole gauges at 90 degrees in the horizontal entry point/'midpoint of perfs' in five of six wells. These gauges are tied directly back to SCADA and have an accuracy of +/-70 kPa based on the manufacturer's specs. No correction factor to a reservoir datum needs to be applied as it would only be a few meters depending on the well. The 100/01-34-039-24W4/00 well gauges were hung 60 m above the midpoint perfs. The estimated average bottom hole injection pressure for this well was calculated by determining the average pressure gradient between the wellhead tubing pressure and the downhole pressure sensor. This pressure gradient (kPa/m) plus 100 kPa was then applied to the 60 m offset distance between the recorder and the reservoir sand face and then added to the downhole pressure sensor's recorded pressure. This method accounts for actual frictional pressure losses in the tubing, temperature gains, and viscosity and density changes of the CO_2 over the 1,839 mMD distance from the injection wellhead to the downhole pressure sensor and only extrapolates the pressure for the final 60 m representing only 3.3% of the total distance from the injection wellhead to the reservoir sand face.

g) a plot showing ongoing monthly injection volumes and the maximum wellhead injection pressure versus time. The plot must display the scheme on an ongoing basis and not just for the reporting period,

A plot of monthly CO_2 injection volume vs max wellhead injection pressure is displayed below in Figure 12.

Figure 12: Monthly CO_2 Injection Volume vs Max Wellhead Injection Pressure



h) a table showing the calculated net tonnes of the CO_2 injected in reservoir and in standard conditions, which is a difference between the miscible fluid injected into and that produced from the scheme:

i) on a monthly basis for the reporting period, and
ii) on an annual basis since the commencement of injection.

Monthly tabular data for item 10.h is attached in Table 6.

i) a table and plot of the calculated voidage replacement ratios both on a monthly and cumulative basis from the start of scheme operations, and

Monthly tabular data of the instantaneous and cumulative voidage replacement ratio is attached in Table 7. Injection of CO_2 into the Part 1 Area began in March 2020 and production did not start until October 2020. Production was restricted due to an initial recycle capacity limitation of

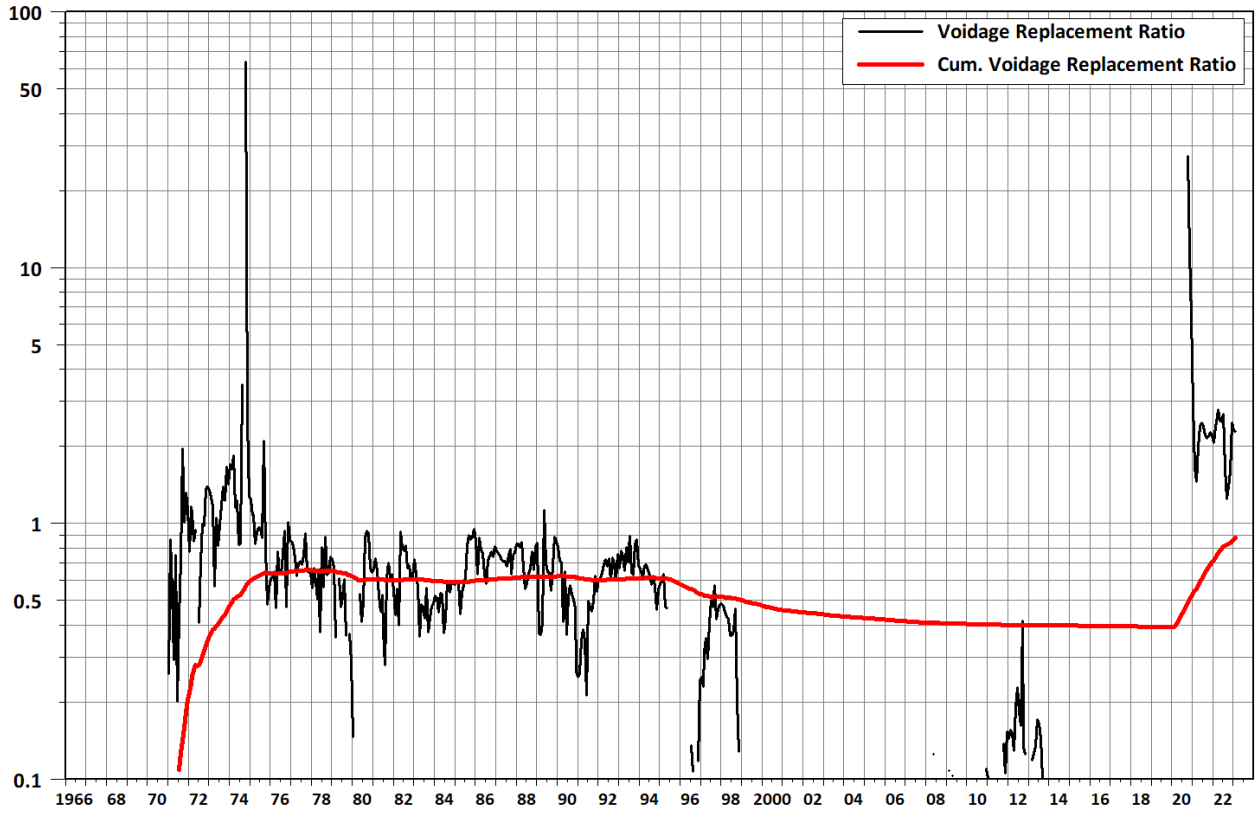
8 MMcf/d at the Battery. Due to the eight month delay between initial injection and production, voidage replacement calculations are not very meaningful for this period.

6) The Operator must conduct the miscible fluid injection in the well(s) referred to in clause 3 in accordance with the following requirements:

d) a voidage replacement ratio must not exceed 1.0 on the basis of cumulative production and injection volumes following commencement of production,

The cumulative voidage replacement ratio for the Part 1 Area is 0.85 (Figure 13).

Figure 13: Monthly Reservoir Voidage for Clive Part 1 Area



j) verification that all conditions of this approval have been met during the reporting period. All non-compliance events should be summarized, and should be voluntarily self- disclosed as soon as they occur to the Resource Compliance in the AER Environment & Operational Performance Branch.

Enhance Energy confirms that all conditions of Approval No. 12832L have been satisfied during the reporting period based on the facts as we know them at the time of this submission.

TABLES

Table 3: Composition of Injection Stream for Clive D-3A CO_2 Enhanced Oil Recovery Project

		Components Mole %														
	Month	H2	He	N2	CO2	H2S	C1	C2	C3	iC4	nC4	iC5	nC5	C6	C7+	Total
2020	January															
	February															
	March	1.77	0.00	0.27	97.94	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	April	1.21	0.00	0.04	98.59	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	May	1.55	0.00	0.06	98.25	0.00	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	June	1.51	0.00	0.02	98.28	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	July	2.13	0.00	0.08	97.66	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	August	2.13	0.00	0.13	97.61	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	September	0.67	0.00	0.04	99.20	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	October	1.04	0.00	0.06	98.67	0.02	0.18	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	100.00
	November	1.14	0.00	0.15	97.62	0.22	0.66	0.07	0.05	0.01	0.03	0.01	0.01	0.01	0.03	100.00
	December	0.99	0.00	0.11	97.76	0.22	0.65	0.08	0.06	0.01	0.03	0.01	0.01	0.01	0.03	100.00
	2020 Average	1.41	0.00	0.10	98.16	0.05	0.23	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.01	100.00

	Month	H2	He	N2	CO2	H2S	C1	C2	C3	iC4	nC4	iC5	nC5	C6	C7+	Total
2021	January	0.87	0.00	0.21	97.13	0.34	1.02	0.14	0.12	0.02	0.06	0.02	0.03	0.03	0.01	100.00
	February	1.22	0.00	0.45	95.20	0.63	1.73	0.25	0.21	0.03	0.11	0.03	0.05	0.04	0.05	100.00
	March	0.82	0.00	0.52	93.70	1.03	2.66	0.38	0.33	0.06	0.19	0.06	0.08	0.09	0.08	100.00
	April	0.89	0.00	0.22	96.18	0.45	1.54	0.21	0.18	0.03	0.09	0.03	0.04	0.03	0.10	100.00
	May	1.09	0.00	0.15	96.48	0.45	1.32	0.21	0.14	0.02	0.07	0.02	0.02	0.02	0.01	100.00
	June	1.95	0.00	0.17	96.56	0.28	0.76	0.10	0.08	0.01	0.04	0.01	0.01	0.01	0.01	100.00
	July	1.05	0.00	0.16	96.49	0.37	1.43	0.17	0.15	0.02	0.07	0.02	0.02	0.02	0.02	100.00
	August	1.28	0.00	0.23	95.91	0.41	1.61	0.19	0.17	0.03	0.08	0.02	0.03	0.02	0.01	100.00
	September	1.28	0.00	0.22	95.56	0.57	1.72	0.22	0.19	0.03	0.10	0.03	0.04	0.02	0.01	100.00
	October	0.61	0.00	0.58	95.21	0.86	1.89	0.28	0.23	0.05	0.13	0.04	0.05	0.04	0.03	100.00
	November	0.66	0.00	0.36	95.36	0.76	2.10	0.32	0.22	0.04	0.11	0.03	0.03	0.02	0.01	100.00
	December	0.70	0.00	0.27	95.18	0.88	2.20	0.29	0.24	0.04	0.11	0.03	0.04	0.02	0.01	100.00
	2021 Average	1.03	0.00	0.29	95.75	0.59	1.66	0.23	0.19	0.03	0.10	0.03	0.04	0.03	0.03	100.00

	Month	H2	He	N2	CO2	H2S	C1	C2	C3	iC4	nC4	iC5	nC5	C6	C7+	Total
2022	January	0.79	0.00	0.86	94.82	0.64	2.04	0.26	0.22	0.04	0.11	0.03	0.04	0.03	0.12	100.00
	February	0.72	0.00	0.38	94.55	0.68	2.72	0.34	0.28	0.05	0.13	0.04	0.04	0.03	0.04	100.00
	March	0.63	0.00	0.23	95.65	0.71	2.03	0.26	0.22	0.04	0.11	0.03	0.04	0.02	0.03	100.00
	April	0.60	0.00	0.28	95.73	0.65	2.10	0.24	0.19	0.03	0.08	0.02	0.03	0.02	0.04	100.00
	May	0.39	0.00	0.26	95.45	0.69	2.45	0.26	0.22	0.04	0.10	0.02	0.03	0.02	0.05	100.00
	June	0.72	0.00	0.36	93.62	0.73	3.42	0.39	0.35	0.06	0.18	0.05	0.06	0.03	0.04	100.00
	July	0.77	0.00	0.72	94.39	0.64	2.69	0.32	0.22	0.04	0.10	0.03	0.04	0.02	0.02	100.00
	August	0.56	0.01	0.58	91.40	1.15	4.67	0.52	0.47	0.09	0.25	0.06	0.08	0.06	0.10	100.00
	September	0.58	0.01	0.57	89.27	1.62	5.02	0.69	0.66	0.13	0.42	0.18	0.26	0.24	0.36	100.00
	October	0.74	0.01	0.74	90.17	1.67	4.97	0.65	0.51	0.09	0.24	0.06	0.07	0.04	0.04	100.00
	November	0.64	0.01	0.45	91.46	1.21	4.64	0.56	0.44	0.11	0.24	0.06	0.07	0.05	0.06	100.00
	December	0.75	0.00	0.28	94.53	1.11	2.45	0.33	0.26	0.04	0.13	0.03	0.04	0.02	0.03	100.00
	2022 Average	0.66	0.00	0.48	93.42	0.96	3.27	0.40	0.34	0.06	0.17	0.05	0.07	0.05	0.08	100.00

Table 4: Composition of Recycle Stream for Clive D-3A CO_2 Enhanced Oil Recovery Project

		Components Mole %														
	Month	H2	He	N2	CO2	H2S	C1	C2	C3	iC4	nC4	iC5	nC5	C6	C7+	Total
2020	January															
	February															
	March															
	April															
	May															
	June															
	July															
	August															
	September															
	October	0.51	0.01	1.90	68.29	4.49	19.70	2.09	1.53	0.25	0.70	0.18	0.21	0.10	0.07	100.00
	November	0.49	0.01	1.54	80.22	3.82	10.23	1.20	0.90	0.15	0.45	0.14	0.20	0.18	0.47	100.00
	December	0.67	0.00	0.78	85.03	2.80	7.50	1.01	0.80	0.14	0.43	0.14	0.18	0.17	0.37	100.00
	2020 Average	0.56	0.01	1.41	77.84	3.70	12.48	1.43	1.08	0.18	0.53	0.15	0.20	0.15	0.30	100.00

	Month	H2	He	N2	CO2	H2S	C1	C2	C3	iC4	nC4	iC5	nC5	C6	C7+	Total
2021	January	0.71	0.00	0.72	89.76	1.68	4.87	0.67	0.59	0.10	0.30	0.10	0.14	0.13	0.21	100.00
	February	0.69	0.00	0.64	90.44	1.67	4.53	0.67	0.54	0.09	0.29	0.09	0.12	0.10	0.13	100.00
	March	0.72	0.00	0.79	90.22	1.65	4.22	0.61	0.54	0.10	0.31	0.10	0.14	0.14	0.47	100.00
	April	0.65	0.00	0.51	91.20	1.31	4.27	0.59	0.52	0.09	0.27	0.08	0.11	0.10	0.30	100.00
	May	0.69	0.00	0.46	90.25	1.73	4.89	0.80	0.55	0.09	0.27	0.07	0.09	0.06	0.05	100.00
	June	0.67	0.00	0.44	90.97	1.82	4.35	0.61	0.52	0.09	0.26	0.07	0.09	0.05	0.06	100.00
	July	0.66	0.00	0.54	89.42	1.56	5.75	0.72	0.61	0.10	0.31	0.08	0.10	0.07	0.08	100.00
	August	0.87	0.00	0.59	89.93	1.41	5.26	0.66	0.58	0.11	0.27	0.08	0.10	0.06	0.09	100.00
	September	0.69	0.00	0.58	90.09	1.71	4.94	0.67	0.58	0.10	0.30	0.09	0.11	0.05	0.11	100.00
	October	0.73	0.00	0.59	89.34	2.27	4.94	0.68	0.59	0.11	0.32	0.09	0.11	0.08	0.16	100.00
	November	0.81	0.01	0.68	87.64	2.28	6.28	0.95	0.65	0.12	0.32	0.08	0.10	0.05	0.06	100.00
	December	0.72	0.00	0.58	89.25	2.15	5.33	0.70	0.59	0.09	0.28	0.08	0.10	0.06	0.08	100.00
	2021 Average	0.72	0.00	0.59	89.87	1.77	4.97	0.69	0.57	0.10	0.29	0.08	0.11	0.08	0.15	100.00

	Month	H2	He	N2	CO2	H2S	C1	C2	C3	iC4	nC4	iC5	nC5	C6	C7+	Total
2022	January	0.70	0.00	1.55	88.47	1.78	5.40	0.71	0.61	0.11	0.32	0.09	0.11	0.06	0.10	100.00
	February	0.73	0.01	0.65	89.11	1.52	5.94	0.75	0.62	0.10	0.29	0.08	0.09	0.05	0.07	100.00
	March	0.67	0.00	0.57	89.59	1.91	5.30	0.70	0.59	0.10	0.28	0.08	0.09	0.05	0.07	100.00
	April	0.72	0.01	0.86	85.99	2.40	7.67	0.88	0.69	0.11	0.31	0.08	0.09	0.06	0.13	100.00
	May	0.63	0.01	0.70	86.13	2.27	7.90	0.86	0.72	0.12	0.33	0.08	0.10	0.06	0.09	100.00
	June	0.61	0.01	0.68	87.26	1.60	7.38	0.85	0.74	0.12	0.38	0.10	0.12	0.07	0.08	100.00
	July	0.63	0.01	0.66	87.83	1.72	7.05	0.86	0.60	0.11	0.26	0.08	0.10	0.05	0.04	100.00
	August	0.61	0.01	0.70	86.57	1.88	7.61	0.85	0.76	0.14	0.40	0.10	0.13	0.09	0.15	100.00
	September	0.59	0.01	0.63	87.59	1.89	5.86	0.81	0.77	0.15	0.49	0.21	0.30	0.28	0.42	100.00
	October	0.61	0.01	0.65	89.70	1.82	5.40	0.71	0.55	0.10	0.26	0.06	0.07	0.03	0.03	100.00
	November	0.63	0.01	0.60	87.37	1.87	7.14	0.86	0.68	0.15	0.33	0.09	0.11	0.07	0.09	100.00
	December	0.61	0.00	0.59	89.32	2.42	5.20	0.68	0.56	0.09	0.27	0.07	0.08	0.05	0.06	100.00
	2022 Average	0.64	0.01	0.74	87.91	1.92	6.49	0.79	0.66	0.12	0.33	0.09	0.12	0.08	0.11	100.00

Table 5: Monthly Report of Reservoir and Production Data for Clive D-3A CO_2 Enhanced Oil Recovery Project

	Month	Monthly CO_2 Injection (e3m3)	Cumulative CO_2 Injection (e3m3)	CO_2 Formation Vol. Factor (m3/m3)	Reservoir Volume of CO_2 Injected (m3)	Cum. Reservoir Volume of CO_2 Injected (m3)	Hours on Gas Injection (hours)	Net CO_2 Injection (e3m3)	Net Reservoir CO_2 Injection (m3)	Maximum Injection Rate (e3m3/d)	Average Injection Rate (e3m3/d)	Maximum Wellhead Pressure (kPag)	Maximum Wellhead Temperature (˚C)	Average Wellhead Pressure (kPag)	Average Wellhead Temperature (˚C)	Average Reservoir Pressure (kPag)	Estimated Average Bottom Hole Injection Pressure (kPag)
2020	January																
	February																
	March	15,320.9	15,320.9	0.003991	61,144.2	61,144.2	257.8	257.8	61,144.2	868.1	418.5	4,221	42.0	2,345	-13.3	13,100	13,281
	April	46,293.6	61,614.5	0.003991	184,753.1	245,897.3	449.7	449.7	184,316.7	1,029.1	764.3	4,538	36.1	2,553	-12.6	13,100	13,350
	May	50,706.1	112,320.6	0.003991	202,363.0	448,260.3	744.0	744.0	202,363.0	1,204.7	714.9	3,799	13.8	2,286	-14.1	13,100	13,373
	June	43,364.4	155,685.0	0.003991	173,063.0	621,323.3	720.0	720.0	173,063.0	987.2	512.0	4,647	15.0	2,572	-11.9	13,100	13,474
	July	47,701.4	203,386.4	0.003991	190,371.5	811,694.8	744.0	744.0	190,371.5	988.2	581.6	4,601	7.7	2,603	-11.6	13,100	13,497
	August	53,501.6	256,888.0	0.003991	213,519.5	1,025,214.3	744.0	744.0	213,519.5	997.8	582.2	4,260	5.9	2,647	-11.2	13,100	13,506
	September	64,089.8	320,977.8	0.003991	255,776.0	1,280,990.3	720.0	720.0	255,776.0	1,001.6	715.0	3,391	3.3	2,593	-11.4	13,100	13,544
	October	56,769.1	377,746.9	0.003911	222,036.8	1,503,027.1	744.0	744.0	222,036.3	988.9	642.0	3,736	8.6	2,622	-11.3	13,277	13,518
	November	68,613.8	446,360.7	0.003866	265,243.7	1,768,270.8	720.0	720.0	265,225.1	1,014.6	803.4	3,843	0.4	2,835	-9.3	13,378	13,485
	December	55,029.0	501,389.7	0.003866	212,728.3	1,980,999.1	744.0	744.0	212,645.1	1,029.3	678.5	5,663	5.2	3,076	-8.1	13,378	13,445
2021	January	83,785.7	585,175.4	0.003866	323,894.5	2,304,893.5	744.0	83,649.9	260,953.0	1,196.7	919.2	4,935	7.5	3,383	-4.4	13,378	13,505
	February	61,351.6	646,527.0	0.003901	239,303.4	2,544,196.9	672.0	61,351.6	144,166.0	1,322.3	748.7	5,502	13.6	3,796	-1.6	13,300	13,499
	March	65,645.7	712,172.7	0.003901	256,052.6	2,800,249.6	744.0	65,645.7	129,079.6	1,210.9	729.7	6,207	17.5	4,516	4.6	13,300	13,531
	April	90,714.2	802,886.9	0.003901	353,832.9	3,154,082.5	720.0	74,433.4	229,712.2	1,402.7	916.0	5,699	15.6	3,770	-0.9	13,300	13,690
	May	100,084.1	902,971.0	0.003883	388,613.8	3,542,696.2	744.0	75,696.1	264,416.8	1,435.9	922.2	4,829	18.4	3,509	-2.7	13,340	13,894
	June	81,691.5	984,662.5	0.003883	317,197.6	3,859,893.9	720.0	49,142.7	215,233.1	1,419.8	923.8	5,601	14.8	3,727	-0.9	13,340	14,145
	July	96,169.1	1,080,831.6	0.003883	373,412.3	4,233,306.2	744.0	64,351.4	250,779.5	1,400.1	1,052.9	4,844	9.0	3,986	1.9	13,340	14,465
	August	92,962.0	1,173,793.6	0.003872	359,973.0	4,593,279.2	744.0	60,977.2	227,964.2	1,183.7	1,020.9	4,649	7.2	4,053	2.2	13,363	14,737
	September	88,299.1	1,262,092.7	0.003872	341,917.1	4,935,196.3	720.0	62,039.9	212,697.7	1,531.3	1,020.9	4,744	17.4	4,078	2.3	13,363	14,414
	October	90,820.8	1,352,913.5	0.003872	351,681.8	5,286,878.0	744.0	59,238.8	215,009.4	1,403.4	1,046.2	4,965	9.9	4,032	1.1	13,363	14,630
	November	89,235.6	1,442,149.1	0.003872	345,543.4	5,632,421.5	720.0	55,142.4	217,391.8	1,387.5	1,015.7	4,327	2.9	3,649	-2.6	13,363	14,563
	December	94,166.2	1,536,315.3	0.003872	364,636.0	5,997,057.5	744.0	60,793.4	225,453.0	1,282.3	858.1	4,152	1.5	3,338	-5.9	13,363	14,139
2022	January	81,413.9	1,617,729.2	0.003872	315,255.8	6,312,313.3	744.0	48,340.2	187,194.4	1,266.8	740.1	5,543	7.9	3,455	-5.9	13,363	13,718
	February	86,463.3	1,704,192.5	0.003850	332,864.5	6,645,177.8	672.0	52,789.9	203,222.0	1,410.2	921.8	4,261	6.4	3,276	-7.0	13,413	13,887
	March	94,830.3	1,799,022.8	0.003850	365,075.6	7,010,253.4	744.0	59,862.2	230,448.5	1,725.7	932.4	4,263	3.9	3,193	-8.0	13,413	14,020
	April	97,333.9	1,896,356.7	0.003850	374,714.0	7,384,967.4	720.0	66,978.6	257,846.1	1,612.9	1,000.1	4,185	3.8	3,168	-8.4	13,413	14,046
	May	108,182.2	2,004,538.9	0.003850	416,477.5	7,801,444.9	744.0	69,840.9	268,863.5	1,333.4	1,020.7	3,934	-1.3	3,446	-5.5	13,413	14,056
	June	98,967.3	2,103,506.2	0.003850	381,002.2	8,182,447.1	720.0	61,035.1	234,963.3	4,492.9	979.3	4,504	18.7	3,727	-2.3	13,413	14,076
	July	106,273.0	2,209,779.2	0.003850	409,127.5	8,591,574.6	744.0	69,164.1	266,258.3	1,189.5	1,008.6	4,437	6.8	3,821	-0.9	13,413	14,032
	August	64,614.2	2,274,393.4	0.003832	247,628.2	8,839,202.8	744.0	25,111.1	96,252.3	1,190.3	690.2	7,104	22.4	4,832	7.2	13,451	13,954
	September	46,485.9	2,320,879.3	0.003834	178,207.7	9,017,410.5	536.0	7,015.7	26,879.1	2,681.2	576.3	6,960	21.5	4,771	8.8	13,449	13,799
	October	52,401.1	2,373,280.4	0.003834	200,884.1	9,218,294.6	744.0	11,694.5	44,815.1	3,303.0	772.7	6,732	19.4	4,615	7.2	13,449	13,940
	November	58,417.5	2,431,697.9	0.003834	223,948.5	9,442,243.2	720.0	21,699.6	83,171.9	3,087.0	723.5	5,984	8.9	3,958	1.4	13,449	13,741
	December	100,508.7	2,532,206.6	0.003834	385,308.8	9,827,551.9	744.0	64,227.5	246,206.5	3,375.5	1,024.1	5,121	6.7	3,443	-2.7	13,449	13,936

Table 6: Monthly Net CO_2 Report for the Clive D-3A CO_2 Enhanced Oil Recovery Project

	Month	Average Reservoir Pressure (kPag)	CO_2 Formation Vol. Factor (m3/m3)	Monthly Gas Production (e3m3)	Monthly CO_2 Concentration (%)	Monthly CO_2 Production (e3m3)	Monthly CO_2 Injection (e3m3)	Net CO_2 Injection (e3m3)	Net CO2 Injection (Tonne)	Reservoir Volume of CO_2 Produced (m3)	Reservoir Volume of CO_2 Injected (m3)	Net Reservoir Volume of CO_2 Injected (m3)	Net Reservoir CO_2 Injection (Tonne)
2020	January												
	February												
	March	13,100	0.003991				15,320.9	15,320.9	28,521.5	0.0	61,144.2	61,144.2	28,521.5
	April	13,100	0.003991	142.2	76.90%	109.4	46,293.6	46,184.2	85,977.1	436.4	184,753.1	184,316.7	85,977.1
	May	13,100	0.003991	0.0			50,706.1	50,706.1	94,395.0	0.0	202,363.0	202,363.0	94,395.0
	June	13,100	0.003991	0.0			43,364.4	43,364.4	80,727.6	0.0	173,063.0	173,063.0	80,727.6
	July	13,100	0.003991	0.0			47,701.4	47,701.4	88,801.4	0.0	190,371.5	190,371.5	88,801.4
	August	13,100	0.003991	0.0			53,501.6	53,501.6	99,599.1	0.0	213,519.5	213,519.5	99,599.1
	September	13,100	0.003991	0.0			64,089.8	64,089.8	119,310.2	0.0	255,776.0	255,776.0	119,310.2
	October	13,277	0.003911	0.2	68.29%	0.1	56,769.1	56,769.0	105,681.7	0.5	222,036.8	222,036.3	105,681.7
	November	13,378	0.003866	6.0	80.22%	4.8	68,613.8	68,609.0	127,723.2	18.6	265,243.7	265,225.1	127,723.2
	December	13,378	0.003866	25.3	85.03%	21.5	55,029.0	55,007.5	102,402.5	83.2	212,728.3	212,645.1	102,402.5
	2020	13,173	0.00388	173.7	78.19%	135.8	501,389.7	501,253.9	933,139.2	538.7	1,980,999.1	1,980,460.4	933,139.2
2021	January	13,378	0.003866	18,137.3	89.76%	16,280.8	83,785.7	67,504.9	125,667.9	62,941.4	323,894.5	260,953.0	125,667.9
	February	13,300	0.003901	26,965.9	90.44%	24,388.0	61,351.6	36,963.6	68,811.9	95,137.4	239,303.4	144,166.0	68,811.9
	March	13,300	0.003901	36,077.6	90.22%	32,548.8	65,645.7	33,096.9	61,613.4	126,973.1	256,052.6	129,079.6	61,613.4
	April	13,300	0.003901	34,887.8	91.20%	31,817.7	90,714.2	58,896.5	109,642.4	124,120.7	353,832.9	229,712.2	109,642.4
	May	13,340	0.003883	35,440.2	90.25%	31,984.8	100,084.1	68,099.3	126,774.4	124,196.9	388,613.8	264,416.8	126,774.4
	June	13,340	0.003883	28,865.8	90.97%	26,259.2	81,691.5	55,432.3	103,193.3	101,964.5	317,197.6	215,233.1	103,193.3
	July	13,340	0.003883	35,318.7	89.42%	31,582.0	96,169.1	64,587.1	120,236.0	122,632.8	373,412.3	250,779.5	120,236.0
	August	13,363	0.003872	37,912.5	89.93%	34,093.2	92,962.0	58,868.8	109,590.8	132,008.9	359,973.0	227,964.2	109,590.8
	September	13,363	0.003872	37,043.8	90.09%	33,372.8	88,299.1	54,926.3	102,251.4	129,219.3	341,917.1	212,697.7	102,251.4
	October	13,363	0.003872	39,511.5	89.34%	35,297.6	90,820.8	55,523.2	103,362.5	136,672.3	351,681.8	215,009.4	103,362.5
	November	13,363	0.003872	37,766.9	87.64%	33,097.0	89,235.6	56,138.6	104,508.1	128,151.7	345,543.4	217,391.8	104,508.1
	December	13,363	0.003872	40,276.1	89.25%	35,946.0	94,166.2	58,220.2	108,383.3	139,183.0	364,636.0	225,453.0	108,383.3
	2021	13,343	0.003881	408,204.1	89.82%	366,667.8	1,034,925.6	668,257.8	1,244,035.4	1,423,202.1	4,016,058.4	2,592,856.3	1,244,035.4
2022	January	13,363	0.003872	37,384.5	88.47%	33,073.7	81,413.9	48,340.2	89,990.6	128,061.3	315,255.8	187,194.4	89,990.6
	February	13,413	0.003850	37,789.4	89.11%	33,673.4	86,463.3	52,789.9	98,274.2	129,642.5	332,864.5	203,222.0	98,274.2
	March	13,413	0.003850	39,030.8	89.59%	34,968.1	94,830.3	59,862.2	111,440.1	134,627.1	365,075.6	230,448.5	111,440.1
	April	13,413	0.003850	35,299.3	85.99%	30,355.3	97,333.9	66,978.6	124,688.1	116,867.8	374,714.0	257,846.1	124,688.1
	May	13,413	0.003850	44,515.6	86.13%	38,341.3	108,182.2	69,840.9	130,016.5	147,614.0	416,477.5	268,863.5	130,016.5
	June	13,413	0.003850	43,470.3	87.26%	37,932.2	98,967.3	61,035.1	113,623.6	146,038.9	381,002.2	234,963.3	113,623.6
	July	13,413	0.003850	42,250.8	87.83%	37,108.9	106,273.0	69,164.1	128,756.6	142,869.2	409,127.5	266,258.3	128,756.6
	August	13,451	0.003832	45,631.4	86.57%	39,503.1	64,614.2	25,111.1	46,747.1	151,375.9	247,628.2	96,252.3	46,747.1
	September	13,449	0.003834	45,062.4	87.59%	39,470.2	46,485.9	7,015.7	13,060.6	151,328.6	178,207.7	26,879.1	13,060.6
	October	13,449	0.003834	45,380.8	89.70%	40,706.6	52,401.1	11,694.5	21,770.6	156,069.0	200,884.1	44,815.1	21,770.6
	November	13,449	0.003834	42,025.8	87.37%	36,717.9	58,417.5	21,699.6	40,396.1	140,776.6	223,948.5	83,171.9	40,396.1
	December	13,449	0.003834	40,619.4	89.32%	36,281.2	100,508.7	64,227.5	119,566.5	139,102.3	385,308.8	246,206.5	119,566.5
	2022	13,424	0.003846	498,460.5	87.90%	438,131.8	995,891.3	557,759.5	1,038,330.6	1,684,373.2	3,830,494.5	2,146,121.2	1,038,330.6

Table 7: Monthly Report of Reservoir Voidage for Clive D-3A CO_2 Enhanced Oil Recovery Project

	Month	Average Reservoir Pressure (kPag)	Monthly Oil Production (m3)	Oil Formation Vol. Factor (m3/m3)	Reservoir Volume of Oil Produced (m3)	Monthly Gas Production (e3m3)	Gas Formation Vol. Factor (m3/m3)	Solution Gas/Oil Ratio (m3/m3)	Reservoir Volume of Gas Produced (m3)	Monthly Water Production (m3)	Water Formation Vol. Factor (m3/m3)	Reservoir Volume of Water Produced (m3)	Monthly Water Injection (m3)	Reservoir Volume of Water injected (m3)	Monthly Gas Injection (e3m3)	Monthly CO_2 Injection (e3m3)	Gas Inj. Formation Vol. Factor (m3/m3)	Reservoir Volume Injected (m3)	Cumulative Reservoir Volume Injected (m3)	Reservoir Volume Produced (m3)	Cumulative Reservoir Volume Produced (m3)	Voidage Replacement Ratio	Cum. Voidage Replacement Ratio	Part 1 Area Cum. Voidage Replacement Ratio
2020	January																							0.39
	February																							0.39
	March	13,100.0		1.38697			0.00801	131.4	0.0		1.02004				323.6	15,320.9	0.00546	85,340.0	85,340.0	0.0	0.0			0.40
	April	13,100.0	130.4	1.38697	180.9	142.2	0.00801	131.4	1,002.0	697.9	1.02004	711.9			662.9	46,293.6	0.00406	190,485.6	275,825.6	1,894.7	1,894.7	100.53	145.58	0.41
	May	13,100.0	0.0	1.38697	0.0	0.0	0.00801	131.4	0.0	0.0	1.02004	0.0			899.5	50,706.1	0.00438	226,069.7	501,895.3	0.0	1,894.7		264.89	0.42
	June	13,100.0	0.0	1.38697	0.0	0.0	0.00801	131.4	0.0	0.0	1.02004	0.0			762.5	43,364.4	0.00414	182,856.3	684,751.6	0.0	1,894.7		361.40	0.43
	July	13,100.0	0.0	1.38697	0.0	0.0	0.00801	131.4	0.0	0.0	1.02004	0.0			1,143.1	47,701.4	0.00418	204,208.8	888,960.4	0.0	1,894.7		469.18	0.45
	August	13,100.0	0.0	1.38697	0.0	0.0	0.00801	131.4	0.0	0.0	1.02004	0.0			1,314.6	53,501.6	0.00423	231,695.8	1,120,656.2	0.0	1,894.7		591.46	0.46
	September	13,100.0	0.0	1.38697	0.0	0.0	0.00801	131.4	0.0	0.0	1.02004	0.0			515.9	64,089.8	0.00399	257,842.3	1,378,498.4	0.0	1,894.7		727.55	0.47
	October	13,276.7	86.5	1.39010	120.2	0.2	0.00427	132.8	0.0	8,450.8	1.02001	8,619.9			597.4	56,769.1	0.00429	245,983.0	1,624,481.5	8,740.2	10,634.9	28.14	152.75	0.49
	November	13,377.5	215.5	1.39188	300.0	6.0	0.00406	133.6	0.0	23,743.1	1.02000	24,218.0			766.3	68,613.8	0.00411	285,073.4	1,909,554.8	24,517.9	35,152.8	11.63	54.32	0.51
	December	13,377.5	486.9	1.39188	677.7	25.3	0.00403	133.6	0.0	33,902.8	1.02000	34,580.8			844.8	55,029.0	0.00408	227,696.8	2,137,251.7	35,258.5	70,411.3	6.46	30.35	0.52
2021	January	13,377.5	2,046.0	1.39188	2,847.8	18,137.3	0.00401	133.6	71,602.3	46,563.2	1.02000	47,494.4			2,477.9	83,785.7	0.00409	352,895.7	2,490,147.4	121,944.5	192,355.9	2.89	12.95	0.53
	February	13,300.4	2,753.9	1.39052	3,829.3	26,965.9	0.00421	133.0	111,928.5	49,553.4	1.02001	50,544.9			3,082.2	61,351.6	0.00425	273,559.5	2,763,706.8	166,302.8	358,658.6	1.64	7.71	0.54
	March	13,300.4	3,496.7	1.39052	4,862.2	36,077.6	0.00397	133.0	141,350.4	55,981.8	1.02001	57,102.0			4,424.1	65,645.7	0.00424	296,866.1	3,060,572.9	203,314.6	561,973.2	1.46	5.45	0.56
	April	13,300.4	3,514.8	1.39052	4,887.4	34,887.8	0.00405	133.0	139,485.7	50,852.3	1.02001	51,869.8			3,594.7	90,714.2	0.00414	390,000.2	3,450,573.2	196,242.9	758,216.1	1.99	4.55	0.57
	May	13,339.5	3,768.8	1.39121	5,243.2	35,440.2	0.00410	133.3	143,076.2	30,213.1	1.02001	30,817.5			3,648.0	100,084.1	0.00414	428,983.3	3,879,556.4	179,136.9	937,353.1	2.39	4.14	0.59
	June	13,339.5	2,908.1	1.39121	4,045.8	28,865.8	0.00431	133.3	122,728.9	29,796.0	1.02001	30,392.1	31,069.8	31,691.3	2,909.5	81,691.5	0.00423	358,183.7	4,269,431.5	157,166.8	1,094,519.8	2.48	3.90	0.61
	July	13,339.5	3,555.9	1.39121	4,947.0	35,318.7	0.00419	133.3	145,976.0	38,553.9	1.02001	39,325.2	42,883.4	43,741.3	3,497.2	96,169.1	0.00414	412,452.5	4,725,625.2	190,248.1	1,284,768.0	2.40	3.68	0.62
	August	13,363.1	3,780.3	1.39163	5,260.8	37,912.5	0.00424	133.5	158,632.3	41,151.6	1.02000	41,974.7	48,342.0	49,308.9	3,968.1	92,962.0	0.00421	407,985.1	5,182,919.2	205,867.8	1,490,635.7	2.22	3.48	0.64
	September	13,363.1	3,560.0	1.39163	4,954.2	37,043.8	0.00419	133.5	153,165.8	37,005.2	1.02000	37,745.4	32,847.2	33,504.2	4,098.4	88,299.1	0.00421	389,050.5	5,605,473.9	195,865.4	1,686,501.1	2.16	3.32	0.66
	October	13,363.1	3,774.7	1.39163	5,253.0	39,511.5	0.00402	133.5	156,954.6	38,824.2	1.02000	39,600.7	44,826.1	45,722.7	4,575.8	90,820.8	0.00415	395,912.2	6,047,108.8	201,808.3	1,888,309.4	2.19	3.20	0.67
	November	13,363.1	3,559.3	1.39163	4,953.2	37,766.9	0.00401	133.5	149,338.0	35,206.1	1.02000	35,910.3	40,048.9	40,849.9	4,349.4	89,235.6	0.00417	389,753.9	6,477,712.6	190,201.5	2,078,510.9	2.26	3.12	0.69
	December	13,363.1	3,635.7	1.39163	5,059.5	40,276.1	0.00397	133.5	157,938.3	32,254.6	1.02000	32,899.7	19,744.2	20,139.1	4,746.1	94,166.2	0.00416	411,588.2	6,909,440.0	195,897.6	2,274,408.6	2.20	3.04	0.70
2022	January	13,363.1	3,337.3	1.39163	4,644.3	37,384.5	0.00406	133.5	149,931.3	23,141.9	1.02000	23,604.8	11,543.7	11,774.6	4,440.7	81,413.9	0.00417	357,682.3	7,278,896.8	178,180.3	2,452,588.9	2.07	2.97	0.72
	February	13,412.9	3,445.4	1.39251	4,797.8	37,789.4	0.00391	133.9	145,884.7	19,337.4	1.02000	19,724.0	23,520.3	23,990.6	4,978.4	86,463.3	0.00417	381,273.6	7,684,161.0	170,406.5	2,622,995.3	2.38	2.93	0.73
	March	13,412.9	3,644.6	1.39251	5,075.1	39,030.8	0.00391	133.9	150,543.0	16,427.0	1.02000	16,755.5	19,876.3	20,273.7	4,281.1	94,830.3	0.00408	404,759.5	8,109,194.3	172,373.6	2,795,368.9	2.47	2.90	0.75
	April	13,412.9	3,386.5	1.39251	4,715.7	35,299.3	0.00394	133.9	137,277.1	13,241.2	1.02000	13,506.0	16,206.4	16,530.5	4,346.1	97,333.9	0.00410	416,444.6	8,542,169.3	155,498.8	2,950,867.7	2.78	2.89	0.76
	May	13,412.9	3,984.6	1.39251	5,548.6	44,515.6	0.00387	133.9	170,043.3	13,854.1	1.02000	14,131.1	17,404.7	17,752.7	5,144.6	108,182.2	0.00409	462,903.3	9,022,825.4	189,723.0	3,140,590.7	2.53	2.87	0.78
	June	13,412.9	3,782.0	1.39251	5,266.5	43,470.3	0.00393	133.9	168,857.1	11,750.4	1.02000	11,985.3	15,779.6	16,095.1	6,747.6	98,967.3	0.00423	446,604.0	9,485,524.5	186,108.9	3,326,699.6	2.49	2.85	0.79
	July	13,412.9	3,670.6	1.39251	5,111.3	42,250.8	0.00404	133.9	168,542.3	9,621.7	1.02000	9,814.1	13,935.1	14,213.7	6,319.9	106,273.0	0.00423	476,477.6	9,976,215.9	183,467.7	3,510,167.3	2.67	2.84	0.81
	August	13,451.4	3,950.7	1.39319	5,504.1	45,631.4	0.00395	134.2	177,985.4	15,088.0	1.01999	15,389.6	22,339.8	22,786.4	6,048.5	64,614.2	0.00430	303,682.9	10,302,685.1	198,879.0	3,709,046.4	1.64	2.78	0.82
	September	13,448.8	3,847.9	1.39314	5,360.7	45,062.4	0.00393	134.1	174,898.7	28,839.7	1.01999	29,416.2	42,836.7	43,693.0	5,572.3	46,485.9	0.00418	217,545.2	10,563,923.4	209,675.6	3,918,721.9	1.25	2.70	0.82
	October	13,448.8	3,833.3	1.39314	5,340.3	45,380.8	0.00396	134.1	177,812.1	34,610.4	1.01999	35,302.3	48,895.7	49,873.1	5,694.8	52,401.1	0.00439	254,735.2	10,868,531.7	218,454.7	4,137,176.6	1.39	2.63	0.83
	November	13,448.8	3,495.7	1.39314	4,870.0	42,025.8	0.00391	134.1	162,627.5	32,866.6	1.01999	33,523.6	44,395.7	45,283.2	5,440.4	58,417.5	0.00430	274,713.9	11,188,528.8	201,021.1	4,338,197.7	1.59	2.58	0.84
	December	13,448.8	3,347.2	1.39314	4,663.1	40,619.4	0.00391	134.1	156,916.0	33,794.1	1.01999	34,469.7	44,291.0	45,176.4	5,841.4	100,508.7	0.00414	440,262.1	11,673,967.3	196,048.8	4,534,246.5	2.48	2.57	0.85

ATTACHMENTS

ATTACHMENT 1

MMV Soil & Groundwater Monitoring 2022 Annual Report

Clive CO_2 Injection & Enhanced Oil Recovery Project

MMV Soil & Groundwater Monitoring

2022 Annual Report

Prepared for

Enhance Energy Inc.

Integrated Sustainability

23 March 2023

Report Submission To:	Nico Vandersalm
Legal Company Name:	Enhance Energy Inc.
Company Address:	#2000 - 500 4 Ave SW, Calgary Alberta, T2P 2V6
Contact Phone Number:	+1(403) 984-5251
Contact Email Address:	NVandersalm@enhanceenergy.com

Submitted By:	Emily Guzman
Legal Company Name:	Integrated Sustainability.
Company Address:	#1600 – 400 3 Ave SW, Calgary Alberta, T2P 4H2
Contact Phone Number:	+1 (403) 863-9819
Contact Email Address:	Emily.Guzman@integratedsustainability.ca

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Any questions concerning the information, or its interpretation should be directed to Emily Guzman.

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INTEGRATED SUSTAINABILITY

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EXECUTIVE SUMMARY

Enhance Energy Inc. (Enhance) currently operates an enhanced oil recovery project near the town of Clive, Alberta. The solvent used is carbon dioxide (CO_2) sourced from two facilities located in Sturgeon County northeast of Edmonton, Alberta. The CO_2 is transported via pipeline to Enhance's facility where it is injected into existing wells completed in the Leduc Formation. The injection zone is located at a depth of roughly 1,800 m to 1,900 m below ground level.

Enhance prepared a Measurement, Monitoring, and Verification (MMV) plan for monitoring this CO_2 injection operation. This plan includes routine measurement gases in the bedrock formations (Geosphere) within the Leduc Formation and Nisku Formation, located above the Ireton caprock, as well as shallower formations hosting CBM (coal bed methane) intervals. Enhance has conducted regular production well (Geosphere), groundwater (Hydrosphere), and soil gas (Biosphere) monitoring in the areas since 2019. Samples of the local Atmosphere have also been collected as part of the program.

Results of monitoring associated with the Leduc wells indicates an increase in CO_2 concentrations since initiation of injection activities in March 2020. Conversely, no changes have been noted in the overlying Nisku Formation or other shallower bedrock formations. This is direct evidence that the CO_2 containment is being achieved.

With respect to the Hydrosphere, groundwater sampling has not yielded any changes due to operations in the area. Elevated CO_2 and CH_4 values have been detected in some wells, as well as various types of bacteria (in >70% of the wells assessed). This has resulted in iron and manganese concentrations above the current Canadian drinking water guidelines at several locations. The presence of bacteria in water wells is not uncommon and is typically related to lack of well maintenance. Stable isotopes of carbon in CO_2 and CH_4 fractions ($\delta^{13}C_{CO2}$ and $\delta^{13}C_{CH4}$, respectively), as well as sulphur in the sulphate present in the water ($\delta^{34}S_{SO4}$), indicate conditions favourable for bacterially-mediated sulphate-reduction and methanogenesis via CO_2 reduction. However, contributions from coal (known to be present in the shallow bedrock) cannot be ruled out.

As for Biosphere monitoring, the majority of soil gas probe locations continue to yield results that fall within established baseline conditions. Two exceptions remain where anomalous CH_4 detections occur – the 12-25 locations and 14-23 location.

The 12-25 soil gas monitoring location has consistently yielded the highest CH_4 concentrations in the study area since monitoring began. Minor detections (a few ppm) of hydrogen sulphide (H_2S) have also been noted. The presence of H_2S is a concern given the potential connection with deeper Devonian intervals, like the Leduc Formation. Forensic analysis using stable carbon and sulphur, as well as radiogenic carbon, isotopes indicates that the anomalous CH_4 readings are consistent with a deeper hydrocarbon source of thermogenic origin (based on $\delta^{13}C_{CH4}$ values). Measurement for $\delta^{13}C_{CO2}$ and $\delta^{13}C_2H_6$ also support a connection with gas originating from the lower Mannville Group, again confirming that the injected CO_2 is remaining intact.

With respect to the 14-23 location, the CH_4 detected there appears to be related to gas originating from underlying coal deposits. Coalbed methane production does occur in the area indicating the presence of this source gas. This conclusion is based on the lack of detectable C_2H_6 and H_2S values, typically associated with deeper hydrocarbon sources, and a previously measured $\delta^{13}C_{CH4}$ value (in the fall of 2021) consistent with a biogenic source.

Based on the Geosphere, Hydrosphere, and Biosphere monitoring completed to date it is clear that the CO_2 being injected into the Leduc Formation by Enhance is achieving the goal of containment.

1 INTRODUCTION

1.1 Project Background

Enhance Energy Inc. (Enhance) is an Alberta-based company that specializes in enhanced oil recovery (EOR) using the injection of carbon dioxide (CO_2). Enhance operates the Clive Project (the Project) located in Lacombe County, Alberta and about 30 km northeast of the City of Red Deer.

Enhance receives captured carbon dioxide (CO_2) from two sources via the Alberta Carbon Trunk Line - Nutrien Ltd. (Nutrien) and Northwest Redwater Partnership (NWR). The CO_2 is injected into the Leduc Formation at a depth of roughly 1,800 m to 1,900 m below ground surface (mbgs). The Leduc Formation is capped by the Ireton Shale, a tight formation separating the Leduc Formation from overlying formations, including the Nisku Formation, other Mannville and Colorado Group shales, siltstones, and sandstones, the shallower (and coal-bearing) Horseshoe Canyon formation, and unconsolidated glacial deposits and surficial soils blanketing the area.

Enhance developed a Monitoring, Measurement & Verification (MMV) plan in 2019 and has been following that since then. The monitoring that supports this plan has been purposely designed to ensure containment of injected CO_2 by assessing conditions in the Geosphere (deeper bedrock formations), the Hydrosphere (nearer surface freshwater aquifers) and the Biosphere (shallow surficial deposits). Field programs completed during 2019, 2020, 2021 and 2022 have developed a useful baseline of soil gas and groundwater quality conditions across the project area to identify any trends in conditions that may suggest a CO_2 containment breach.

1.2 Scope of Report

This report represents the fourth edition of the MMV baseline monitoring program. The key objectives are as follows:

- Identify key chemical characteristics of the injected CO_2 compared to other bedrock formation gases (including Nisku, Mannville and Horseshoe Canyon production wells).
- Summarize results of the most recent field campaigns (summer and fall 2022).
- Assess temporal trends of monitoring data to determine if any changes outside of anticipated baseline conditions is evident.
- Investigate anomalous conditions detected in the soil and/or groundwater and assess the source and cause of such detections using geochemical forensics (i.e. gas composition and isotopic signatures).
- Document the findings of the 2022 program and update understanding of the baseline conditions in the Geo-, Hydro-, and Biospheres against which CO_2 containment is confirmed.

1.3 Changes to MMV program

Some modifications and refinements were made to the monitoring portion of the MMV program in 2022. These included:

- The removal of four soil gas sample locations, as per direction from Enhance, as sufficient baseline data has been collected.
- A change in soil gas sampling frequency at 13 locations, as these locations were sampled once during the 2022 program as per direction from Enhance and are approaching sufficient baseline data collection.
- All soil gas samples were analyzed for carbon isotopes ($\delta^{13}C_{CO2}$) as per direction from Enhance.
- The addition of two more landowners water wells to the existing annual schedule for groundwater sampling and analysis.
- A change in groundwater sampling frequency at the Enhance monitoring wells located at 10-35-039-24 W4M, as the monitoring wells were only sampled in the summer of the 2022 program as directed by Enhance as sufficient baseline data has been collected.
- The addition of one soil gas probe at 08-09-040-24 W4M.

2 GEOSPHERE MONITORING

2.1 Purpose

Monitoring of the Geosphere, or the deeper bedrock formations forming the CO_2 injection zone (i.e. Leduc Formation) and overlying intervals represents the first line of defense in ensuring CO_2 containment. Monitoring of the gas compositions in those intervals is critical to identifying changes in injection zone from the CO_2 introduced, and more importantly identify that it is remaining contained as evidenced by lack of change in the overlying formations.

2.2 Monitoring infrastructure

Enhance's Project extends from the southern half of Township 41, Range 24 West of the 4th Meridian, just east of Clive, AB down to the northern half of Township 39, Range 24 W4M. The location of the active MMV area is shown in Figure 1. This represents an area of roughly 18 sections of land or about 50 km^2 that is mainly used for crop production. Of course, oil and gas development also occurs in the area, as well as the current CO_2 injection scheme. Several private residences are also located throughout the area.

Enhance has been monitoring gases in the bedrock formations across the study area since 2019. This has included existing gas production wells completed in various formations including the Leduc, Nisku, Mannville Group and coalbed methane (CBM) completed in Horseshoe Canyon Formation. The data from these existing production wells forms the basis of comparison to confirm containment of CO_2 injected into the Leduc Formation.

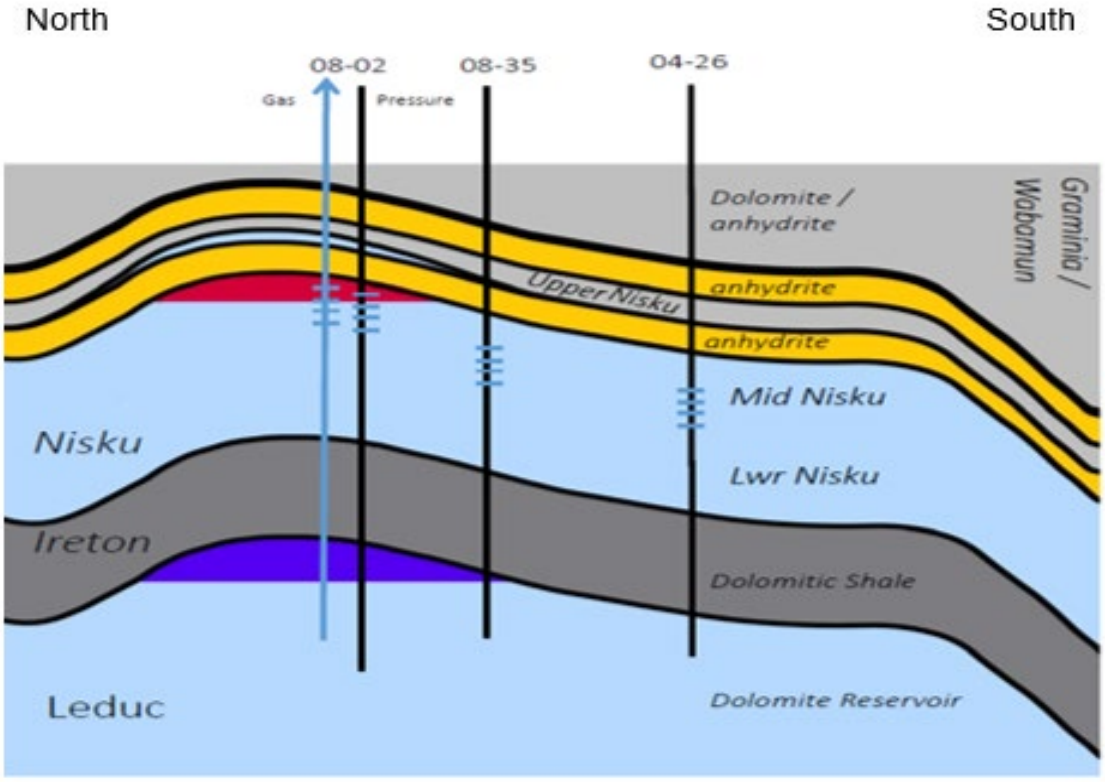


Figure A. **Configuration of monitoring in the Nisku Formation to ensure containment of CO_2 injected into the Leduc Formation.**

(Note: purple = CO_2; red = CH_4 and other related natural gases)

Figure A provides a schematic of the configuration of monitoring in the Nisku Formation above the Leduc injection interval and the presence of the Ireton Formation caprock. It is evident from this configuration of wells that any CO_2 that may migrate from the Leduc zone would first be detected in the Nisku wells.

2.3 Monitoring Activities

To facilitate evaluation of the Geosphere environment, gases from a number of operating oil and gas wells in the area as well as the injected CO_2 have been collected analyzed over the years for gas composition, stable and radiogenic isotopes of carbon, and recently stable sulphur (a good indicator of Devonian influence). The database developed to date has allowed similarities and difference to be established between each interval, which has proven extremely useful in determining sources when anomalous detections are made.

All samples were collected into SUMMA cannisters, provided by AGAT Laboratories (AGAT) and delivered to AGAT's Red Deer laboratory. Gases were collected from established sampling ports on the various gas wells and CO_2 injection equipment to

ensure isolation from atmospheric air contamination. Locations of where samples were taken are shown in Figure 2.

2.3.1 Injected CO_2

Concentrations

Enhance measures the composition of the gases that they are injecting as part of the Clive Project on a monthly basis at three different sample points. The gases in question are received from Nutrien and NWR and comprises 95-100 mole% CO_2 with a minor component of methane (up to 20 ppm or so).

Isotopic Characteristics (Stable & Radiogenic)

Stable carbon isotope values for the CO_2 received from Nutrien are quite unique in character ($\delta^{13}C_{CO2}$ = -42 ‰ to -41‰) compared to the CO_2 received from the NWR facility ($\delta^{13}C_{CO2}$ = -27‰ to -25‰). Measurement of the combined stream injected down into the Leduc formation yielded a value of -29.2‰ in 2021. This value indicates a greater contribution of CO_2 from the NWR source as opposed to CO_2 received from the Nutrien facility.

2.3.2 Formation Gases

Composition

Gas compositions from the Leduc Formation, the overlying Nisku Formation, Mannville and CBM wells in the immediate vicinity of the EOR project have been measured to identify any changes from expected values, particularly with respect to CO_2 in the Nisku. Detection of an increasing trend of this acid gas at any given location would be an indication of a possible breach of the Ireton Formation caprock.

Gas monitoring results provided by Enhance indicate that differing compositions of gas occur for the various formations being assessed as part of this program. Table A provides a summary of the differences in some of the major gas components for each Geosphere interval:

Table A. Comparison of gas compositions in various bedrock formations

Formation	CO_2 mole %	CH_4 mole %	C_2H_6 mole %	H_2S mole %
Injected CO_2	95-100	≤ 0.2	≤ 0.05	0
Leduc	≤ 98	≤ 75	≤ 8	≤ 17
Nisku	≤ 7	≤ 97	≤ 21	≤ 39
CBM	≤ 1	≤ 99	≤ 1	0

One of the most notable differences in gas composition is the concentration of hydrogen sulphide (H_2S) in the Nisku and Leduc formations. The sour nature of the gases sourced from those formations provides a useful diagnostic to detect leakage from those intervals to shallower horizons, and hence a possible breach of CO_2 containment. However, the detection of measurable H_2S is not, by itself, an indicator of a CO_2 breach given that the gas could migrate upward from the Nisku Formation if a suitable pathway, or pathways, exists (the most notable being a compromised well bore). As such additional evidence is required to attribute a source.

Isotopic Characteristics

Isotopes of various elements comprising subsurface gases can be extremely useful in determining the source and types of physical, chemical, and biological processes that may have altered it from its original composition. Isotopes of carbon in the CO_2 and methane (CH_4) gas fractions, and stable sulphur in the H_2S (or resulting sulphate [SO_4] molecule following oxidation) are particularly helpful in this regard.

Enhance has collected a considerable amount of data on the isotopic composition of various gas fractions from bedrock formations beneath the operating area, including the injected CO_2. Table B summarized these compositions, highlighting their similarities and differences.

Table B. Comparison of isotope compositions in various gas fractions and related formations

Formation	$\delta^{13}C_{CO2}$ (‰)	$\delta^{13}C_{CH4}$ (‰)	$\delta^{13}C_{C2H6}$ (‰)	$\delta^{34}S$ (‰)	$F14C_{CO2}$
Injected CO_2	-43.1 to -26.7	-44.5 to -29.9	-31.5 to -29.6	--	<0.002 to 0.051
Leduc	-4.6 to 0.5	-40.5 to -30.8	-34.3 to -30.8	9.4 to 17.0	<0.001
Nisku	-8.4 to -0.2	-45.0 to -30.9	-33.9 to -30.8	13.0 to 15.0	<0.002
Mannville	-13.7 to -1.6	-47.2 to -46.0	-28.4 to -27.4	--	--
CBM	-13.8 to 24.5	-58.3 to -52.8	-39.0 to -37.1	--	--

Note: -- denotes that isotope compositions have not been measured. $F14C_{CO2}$ values for the Mannville and CBM intervals are also assumed to be low (i.e. <0.002, or essentially zero indicating ages greater than 50,000 years).

Sulphurous gases contained in Devonian formations of the Alberta Basin have uniquely positive $\delta^{34}S$ values and are therefore useful to identify migration of deeper gases up into shallower groundwater or soil intervals. $\delta^{34}S$ values measured in the Nisku and Leduc samples range from 9.4‰ to 17‰. In contrast, shallower groundwater (i.e. upper 30 m) in the central portion of Alberta has been shown to have $\delta^{34}S$ values ranging from -10.3‰ to 0.1‰, with an average of 5.4‰ (Cheung et al. 2010). Fennell and Bentley (1996) similarly found that shallow soils in the Alberta Plains area could have baseline $\delta^{34}S$ values

of the soluble and organic sulphur in the soil horizons ranging from -20‰ to -5‰ and associated groundwater values averaging around -15‰.

A completed listing of historical gas composition and isotope measurements for the various bedrock intervals assessed, as well as the CO_2 being injected, is provided in Appendix 1.

2.4 Data Trends

Figure B provides a temporal history of mole% CO_2 measurements in various Nisku and Leduc wells located in the MMV area. The start of CO_2 injection occurred around March 2020 and has continued since that time. The impact to CO_2 levels in the Leduc interval is obvious after the commencement of operations. The Nisku interval, however, shows no sign of change from baseline CO_2 values. This is direct evidence that CO_2 containment is remaining intact.

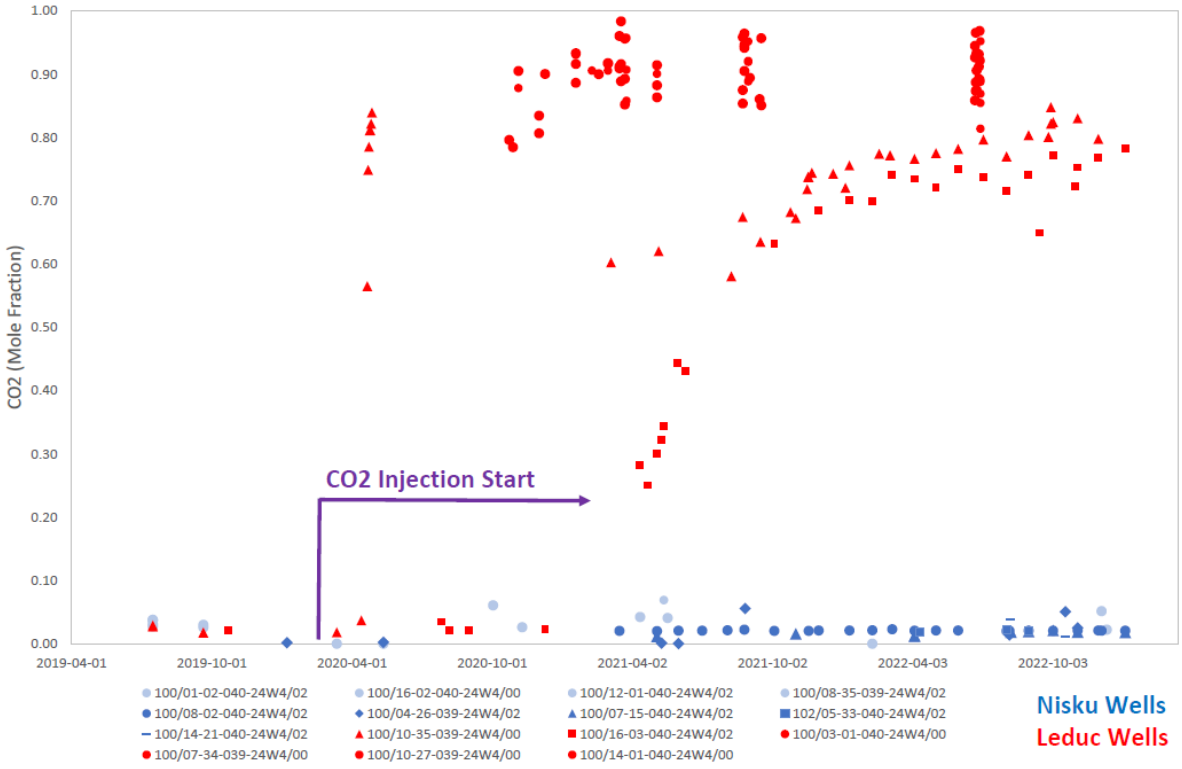


Figure B. Time Series Plot of in CO2 within the Nisku and Leduc formations.

3 HYDROSPHERE MONITORING

3.1 Purpose

Hydrosphere monitoring is equally important to ensuring CO_2 containment in the underlying formations and represented the second line of defence in the effort. If a detection for leaked CO_2 is made in the deeper Geosphere intervals this does not necessarily mean that the shallower intervals are at risk. The considerable thickness of the lower permeability formation as well as aquifer intervals that could intercept this CO_2 is significant. Nevertheless, monitoring of this intermediate to shallower interval of the bedrock formations is critical in the assessment of CO_2 containment.

Hydrosphere monitoring in 2022 consisted of two groundwater sampling programs occurring in summer and fall. This included major and trace element chemistry as well dissolved gas composition.

3.2 Monitoring infrastructure

Enhance's current monitoring well network consists of the following:

- Five dedicated monitoring wells associated with the Project, as follows:
  - Three located near Enhance's existing 10-35-039-24 W4M well pad.
  - One water supply/monitoring well at Enhance's main facility located in 04-15-040-24 W4M.
  - One dedicated well installed at the 12-25-039-24W4 location to investigate consistently anomalous soil gas readings for CH_4.
- Thirty-four (34) private landowner water wells.

Locations of the Project and landowner water wells across the study area are shown on Figure 3.

3.3 Monitoring activities

The 2022 summer and fall sampling programs occurred during the months of June and September. Table C summarizes the number of samples collected, as well as duplicates to assess data integrity.

Table C. Groundwater Samples Collected During Each Campaign

	Summer 2022 Event		Fall 2022 Event	
Types	Planned	Completed	Planned	Completed
Project Monitoring Wells	5	5	2	2
Landowner Water Wells	33	29	33	30
Blind Duplicates	5	5	5	5
Total Samples	43	39	40	37

Prior to accessing private water wells, the owners were contacted for consent. Sampling was not conducted at properties where the landowner could not be contacted during the duration of both sampling events, or where there was no power to the well as confirmed by the landowner(s). All sample collection and handling activities conducted by Integrated Sustainability followed the established methodology for the program. Details of this methodology are provided in Appendix 2.

3.4 Data Evaluation

Groundwater sampling results are included in the following tables:

- Table 1A - Field Measured Parameters
- Table 1B - General, Major Ions, Nutrients
- Table 2 – Groundwater Analytical Results: Dissolved Metals
- Table 3 – Groundwater Analytical Results: Isotopic Abundance
- Table 4 – Microbiological Parameters

The groundwater in the study area can be described as fresh, low mineralization (Total dissolved solid = 518 ± 158 mg/L), alkaline (pH = 8.3 ± 0.3), and very hard (203 ± 140 mg/L as $CaCO_3$) water, with a few exceptions. Most of the samples collected are dominated by calcium and bicarbonate ions except for naturally softened groundwaters, which are dominated by sodium and bicarbonate ions.

Table D provides a summary of groundwater quality in 2022 with the range of values noted for various constituents of interest, bacterial concentrations and isotopic compositions. Comparisons have also been made to established drinking water guidelines as well as selected criteria, and percentage exceedances thereof.

Table D. Summary of selected groundwater parameters, assessment criteria, and % exceedances of assessment criteria

Parameter	Drinking Water Guideline or Screening Criteria 1	Range	% Exceedances
Total dissolved solids, TDS (mg/L)	500	236 to 950	48
pH (standard units)	7.0 to 10.5	7.9 to 9.5	0
Hardness (as mg/L $CaCO_3$)	80-100 [1]	0.7 to 442	66
Chloride, Cl (mg/L)	10 [1]	<1 to 111	29
Nitrate, NO_3 (as mg/L N)	10	<0.1 to 7.9	0
Iron, Fe (mg/L)	0.3	<0.1 to 11.3	35
Manganese, Mn (mg/L	0.12	<0.003 to 0,595	38
SFB (cfu/mL)	0	<1 to 67,000	84
IRB (cfu/mL)	0	<1 to 9000	91
SRB (cfu/mL)	0	<1 to 115,000	68
CO_2 (ppmv)	--	1 to 18,500	--
CH_4 (ppmv)	--	<10 to 400	--
$\delta^{13}C_{DIC}$ (‰)	--	-15.0 to -11.1	--
$\delta^{13}C_{CO2}$ (‰)	--	-22.0 to 0.0	--
$\delta^{13}C_{CH4}$ (‰)	--	-87.1 to -32.7	--
$\delta^{34}S_{SO4}$ (‰)	--	-9.6 to 2.2	--

Note: SFB = slime forming bacteria; IRB = iron reducing bacteria; SRB = sulphate reducing bacteria

The presence of dissolved gases was confirmed in nine samples collected as part of the 2022 program, which yielded CO_2 concentrations from 1 to 22,700 ppmv and CH_4 concentrations from 26 to 44,100 ppmv. The wells yielding the highest values are as follows:

CO_2:

- Land Owner 30: 12,400 ppmv
- Land Owner 1: 6070 ppmv
- Land Owner 29: 22,700 ppmv
- Land Owner 22: 18,500 ppmv

CH_4:

- Land Owner 24: 44,100 ppmv
- Land Owner 30: 26 ppmv
- Land Owner 1: 56 ppmv
- Land Owner 29: 418 ppmv

No detections of ethane (C_2H_6) or H_2S were documented, suggesting a more natural origin versus a deeper hydrocarbon source. Measurements of associated $\delta^{13}C_{DIC}$ values ranged from -15.0‰ to -11.1‰ (median = -12.6‰), consistent with values expected for CO_2 hydration and conversion to bicarbonate (HCO_3^-) and/or carbonate (CO_3^{2-}) ions in mixed open and closed-system conditions (Clark and Fritz 1997).

Additional testing of eleven wells for $\delta^{34}S_{SO4}$ yielded values ranging from -9.6‰ to 2.2‰ (median = -0.3‰). The range is consistent with waters sourced from upper bedrock intervals and soils beneath central Alberta (Cheung et al. 2010; Fennell and Bentley 1998).

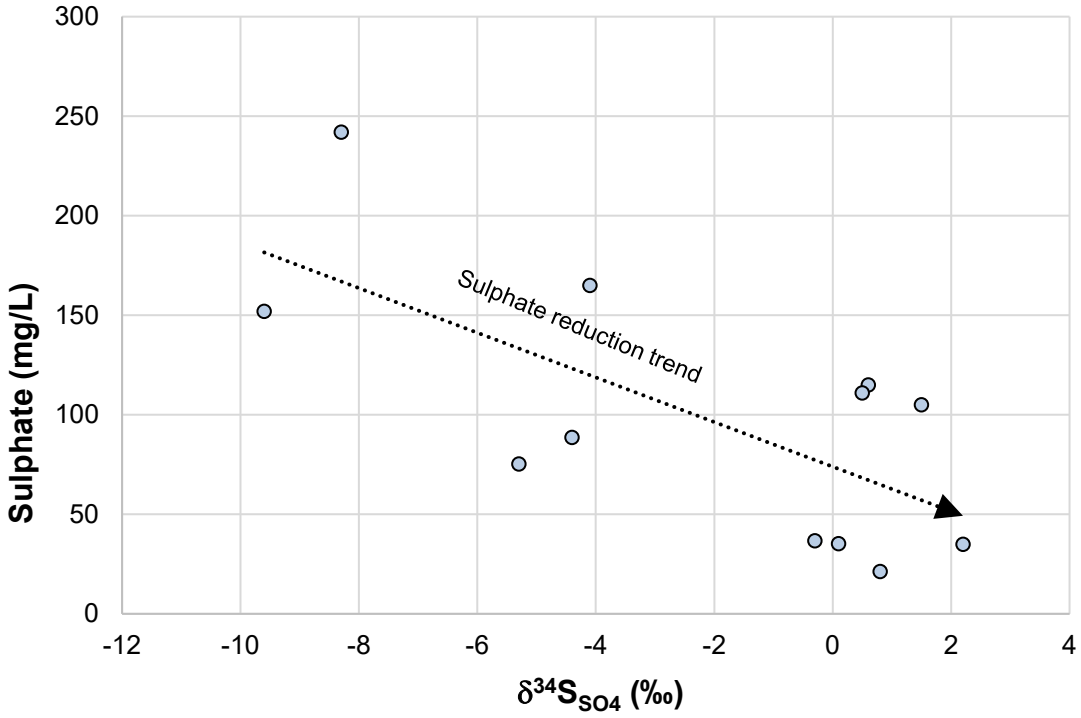


Figure C. Comparison of $\delta^{34}S_{SO4}$ and Sulphate Values

Figure C shows a comparison of $\delta^{34}S_{SO4}$ values and SO_4 concentrations. Although the data is somewhat limited (due to only a few measurements of $\delta^{34}S_{SO4}$) the plots does show a trend towards higher $\delta^{34}S_{SO4}$ values when SO_4 concentrations are lower. This relationship is consistent with sulphate reduction and is not surprising considering the presence of sulphate-reducing bacteria in many of the wells (70% or more), as well as notable CO_2 and CH_4 levels in some. This would also explain the elevated iron and manganese values as well, which occur in about 30 to 40% of the sampled collected. Iron- and manganese-reduction reactions occurs before sulphate-reduction, which is subsequently followed by methanogenesis.

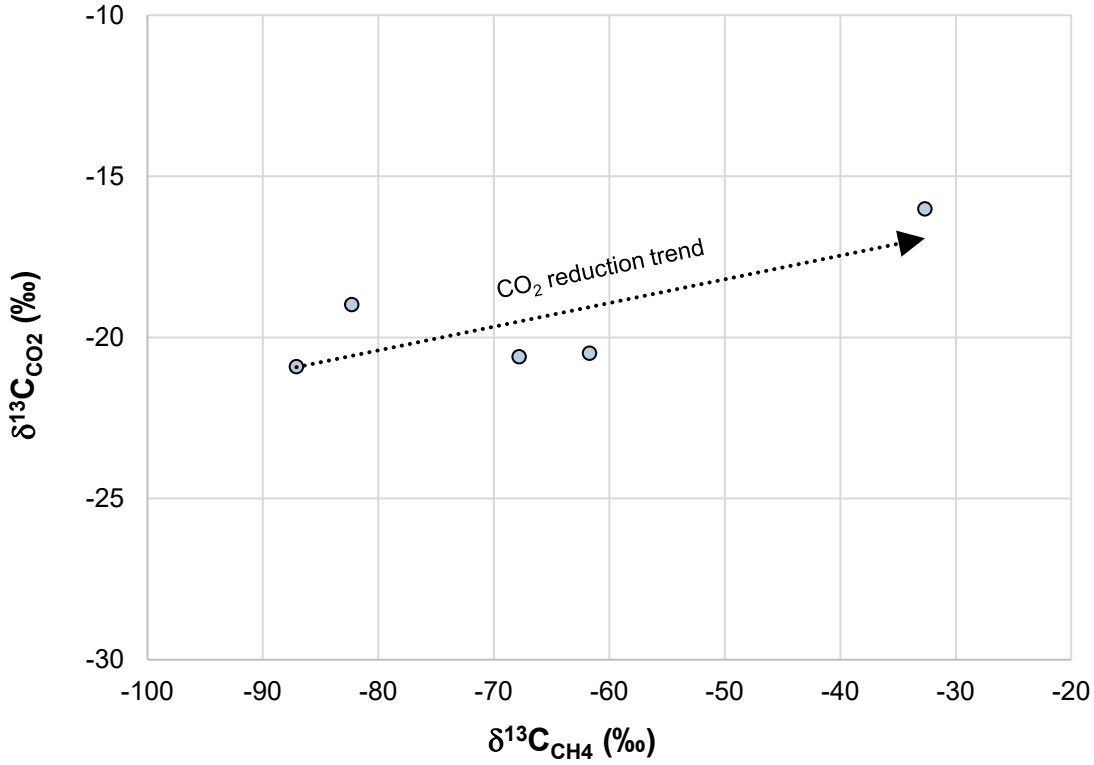


Figure D. Comparison of $\delta^{13}C_{CH4}$ and $\delta^{13}C_{CO2}$ Values.

When $\delta^{13}C_{CH4}$ and $\delta^{13}C_{CO2}$ values are compared (Figure D) a positive relationship is noted. The upward trend is consistent with CO_2 reduction, which is one explanation for the presence of CH_4 in some of the water wells. Another is the degassing of methane from coal in the underlying bedrock deposits. It is more than likely that a combination of these two source pathways is occurring.

3.5 Data Trends

The number of sampling events that have been completed to date now allows an assessment of trends to be conducted, at least for wells with a sufficient number of readings (n = 4 or more). Of the parameters assessed the only ones to exhibit statistically-significant trends (at least 95% confidence and more than 10% change per year) are:

- pH (↑)
- Chloride(↓)
- Fluoride (↑)
- Nitrate (as N)(↑)
- Aluminum (↓)
- Cadmium (↑)
- Copper (~)
- Lead (↓)
- Lithium (↓)
- Manganese (↓)
- Phosphorous (↑)
- Silicon (↑)
- Tin (↑)
- Uranium (↓)
- Zinc (↓)

The arrows indicate the direction of change for each identified parameter, while the "~" symbol indicates variable trends (i.e. some increasing and some decreasing). It is important to note that each parameter trend identified is only related to a small number of wells (4 or less) and no systemic influence is obvious, particularly as it may relate to CO_2 injection activities. These temporal changes are interpreted to be more a result of local well conditions than anything else.

Temporal trend charts for selected indicators (i.e. pH, TDS, Chloride, and $\delta^{13}CCO_2$) are provided shown in Figures 9 to 12. Review of the charts indicates a general lack of change for the wells being monitored as part of this MMV program.

4 BIOSPHERE AND ATMOSPHERE MONITORING

4.1 Purpose

The 2022 soil gas monitoring program was conducted by Integrated Sustainability (to fulfill the objectives outlined on page 55 of the Alberta Energy-approved MMV Plan (Enhance 2019) with revisions as discussed in Section 1.3. The program consisted of two soil gas sampling campaigns during the summer (Q2) and fall (Q3) periods.

The overall purpose of the program was to continue defining the baseline conditions for soil gases in the Project area, identify any anomalies or departures from expected baseline conditions, and investigate the source and cause of detected anomalies using the comprehensive database of gas composition and carbon isotope data generated by Enhance since commencement of monitoring in 2019.

4.2 Monitoring Infrastructure

The soil gas probe (SGP) network consists of one or more sampling probes installed at the surface location of hydrocarbon production wells located the MMV area. The network includes:

- Thirty-two (32) existing locations.
- Eighteen (18) new locations added at the start of the summer 2021 sampling program.
- One (1) location added to the fall 2022 sampling program.

The location of the SGP locations are shown in Figure 4. The SGP network now extends across the entire Project area and is providing understanding of the spatial variability in values that can be expected.

4.3 Monitoring Activities

4.3.1 Soil Gases

Two soil gas sampling events occurred during the following months:

- Summer sampling was conducted in late-June
- Fall sampling was conducted in late-September

During both events, samples were collected from existing soil gas probes where possible, and atmospheric and blind-duplicate samples were collected for quality assurance/quality control purposes. Table E summarized the number of soil gas sample collected in 2022.

Some additional soil gas samples were collected at locations with elevated CH_4 concentrations, as determined through historic data or in-situ field monitoring results, to further investigate the source and cause of those detections. Sample locations are included in the analytical schedule for soil gas samples included in Appendix 2.

Table E. Soil Gas Samples Collected

	Summer 2022 Sampling Event		Fall 2022 Sampling Event	
Types	Planned	Completed	Planned	Completed
Existing Soil Gas Probes	38	34	39	38
New Soil Gas Probes	0	0	1*	1*
Blind-duplicate Samples	4	4	5	5
Atmospheric Samples	4	4	4	4
Total Samples	**46**	**52**	**49**	**48**

Note: * indicates the installation of additional soil gas probe

The soil gas sampling program consisted of the following activities:

- Soil Gas Probe Sampling
- Atmospheric Gas Sampling
- Installation of an additional Soil Gas Probe and Sampling

Soil gas sampling results are included in the following table:

- Table 5 - Soil Gas Analytical Results: Menthane Isotope Abundance

Activities conducted followed Integrated Sustainability's Standard Operating Procedures (SOP) included in Appendix 2 and are summarized in the following sub-sections. Additional details relating to the lithology encountered during the soil gas probe installation by Integrated Sustainability is provided in Appendix 4.

4.3.2 Atmospheric gases

Four atmospheric gas samples were collected during each sampling program to provide information on ambient atmospheric conditions. The atmospheric samples were collected over eight hours near a SGP on the same lease area and were subject to a similar suite of analysis. Samples were collected from the following locations:

- 11-35-39-24 W4
- 12-25-39-24 W4
- 06-28-40-24 W4
- 06-08-41-24 W4

4.4 Data Evaluation

Under natural and normal conditions, soil CO_2 is sourced from the biological weathering and oxidation of organic carbon associated with residual plant matter or other sources of organic carbon in the soil (e.g. coal). When present, soil microbes oxidize organic matter converting it into CO_2 and water via the following reaction:

$$CH_2O + O_2 \rightarrow CO_2 + H_2O$$

As a result, soil gas CO2 concentrations can become significantly elevated compared to atmospheric values measured in the study area (median = 412 ppmv). As noted in Table F, the range of CO_2 measured during the 2022 monitoring program ranged from 2,070 to 85,400 ppmv (median = 17,100 ppmv).

Methane values, on the other hand, tend not to be very high in the soil environment unless the appropriate conditions occur. Atmospheric values measured in the study area since commissioning of the MMV monitoring program have been on the order of 1.8 ppmv. When conditions are significantly anaerobic CO_2 can be reduced to CH_4 by soil microbes. This typically occurs in highly reducing environments, like organic-rich wetland areas. The following reactions describe the transformations:

$$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$$

$$CH_4 + 2H_2O \rightarrow CO_2 + 4H_2$$

Methane that is present in the soil can also oxidize back to CO_2 resulting in changes in its chemical composition.

Isotopes of carbon are quite useful in determining the source of soil gas CO_2 and CH_4, much like the production gases and groundwater gases. Typical $\delta^{13}C_{CO2}$ values for the study area are expected to be on the order of -23‰ given the type of vegetation in Alberta (Clark and Fritz 1997). In comparison, measured $\delta^{13}C_{CO2}$ values in the local atmosphere yielded a median value of -8.4‰, consistent with the global atmospheric average of around -8.2‰ (NOAA, Global Monitoring Laboratory 2022).

When soil moisture is present some of the CO_2 will react with the water to produce carbonate (CO_3^{2-}) and bicarbonate (HCO_3^-) ions, depending on the prevailing pH conditions. When this occurs $\delta^{13}C_{DIC}$ values can be expected to be around -14‰, and about a 9‰ enrichment from the source carbon (Clark and Fritz 1997).

Carbon-14 is another helpful isotope to decipher the source of soil gas CO_2 values. Measurements are often expressed as a fraction from 1 to 0, with atmospheric F14C values on the order of 1.000. The median atmospheric value measured to date in the study has been 1.003. Deeper sources of CO_2, on the other had, will tend to have very low to immeasurable F14C values because of the radioactive decay process. Given the half-life of Carbon-14 (5,730 years) the method is useful for age-dating samples that are less than 40,000 years. As such older sources of CO_2, like deeper hydrocarbon gases emanating from petroleum reservoirs or coal layers, will tend to have F14C values that are below laboratory detection levels. Values measured in Leduc, Nisku, Mannville, and CBM samples submitted by Enhance thus far have generally been below laboratory detection levels (<0.002), or radioactively "dead".

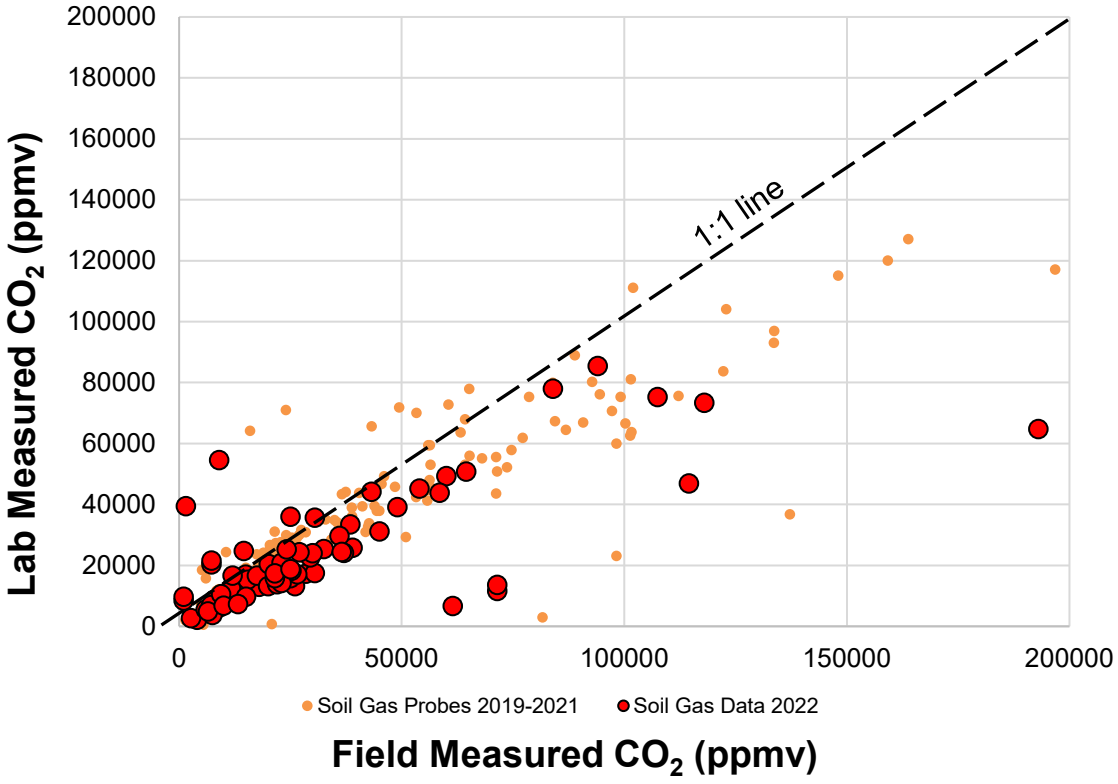


Figure E. Comparison of Field-Measured Versus Lab-Measured CO_2.

As part of the MMV monitoring protocol, samples of soil gases are measured both in the field and in the laboratory. These field measurements are used to guide the program and facilitate any refinements that may help with post-sampling assessment activities. Figure E shows a comparison between the field- and laboratory-measured CO_2 values, in relation to the 1:1 line. The comparison is reasonable, for the most part, with field-measured CO_2 tending to read higher than laboratory measurements, particularly at the more elevated concentrations.

Despite the departure between field- and lab-measured CO_2 values, laboratory measured values of all parameters assessment have been relied on through this report as they have been developed by experienced, certified and/or accredited laboratories. A summary of soil gas composition variability and isotopic character, as measured in 2022, is provided in Table F. The range of values, as well as the median and 95th percentile values, have been provided for context.

Table F. Summary of Soil Gas and Atmospheric Gas Composition and Isotopic Measurements for 2022 Collected Data

Parameter	Range	Median	95th Percentile
Soil gases			
Lab CO_2 (ppmv)	2,070 to 85,400	17,100	65,130
Lab CH_4 (ppmv)	<1 to 23,100	1.0	16.3
Lab C_2H_6 (ppmv)	<5 to 300	<50	<50
$\delta^{13}C_{CO2}$ (‰)	-25.6 to -10.8	-20.7	-17.6
$\delta^{13}C_{CH4}$ (‰)	-51.3 to -44.2	-51.3	-44.9
$\delta^{13}C_{C2H6}$ (‰)	-30.6 to -29.4	-30.1	-29.4
$F14C_{CO2}$	0.24 to 0.96	0.73	0.94
Atmospheric gases			
Lab CO_2 (ppmv)	361 to 407	377	407
Lab CH_4 (ppmv)	2 to 4	2	3.7
$\delta^{13}C_{CO2}$ (‰)	-12.3 to -6.9	-8.4	-7.1
$\delta^{13}C_{CH4}$ (‰)	Insufficient CH_4		
F14C	1.002 to 1.005	1.003	1.004

The spatial distribution of soil gas parameter values, both in the spring/summer (green symbols) and fall (red symbols) seasons is provided in Figures 5 to 8. Since commissioning of the MMV program it has been discovered that a seasonal trend in CO_2

values occurs in the study area, with higher values typically occurring in the summer months and lower values occurring in the fall. This is consistent with more vigorous microbial respiration processes occurring during the active growing season. As such, all soil gas CO_2 measurements were found to be within the expected range of natural variability.

As for soil gas CH_4, only two locations yielded concentrations well in excess of atmospheric values, those being 12-25 and 14-23. The 12-25 location has historically had elevated CH_4 values, and those recoded during 2022 are no different with the range being 9,780 to 23,100 ppmv. The suspected source is a nearby gas well. As for 14-23, this location has similarly yielded elevated CH_4 values in the past, but at much less concentrations compared to 12-25 (i.e. 11 to 21 ppmv for breathing air analysis). Unlike the 12-25 location, the detection of CH_4 at the 14-23 location has no obvious source associated with it.

Concentrations of CO_2 and CH_4 measured during the 2022 sampling programs are plotted in Figure F, along with other possible source gases responsible for the elevated values. The two identified locations have been noted.

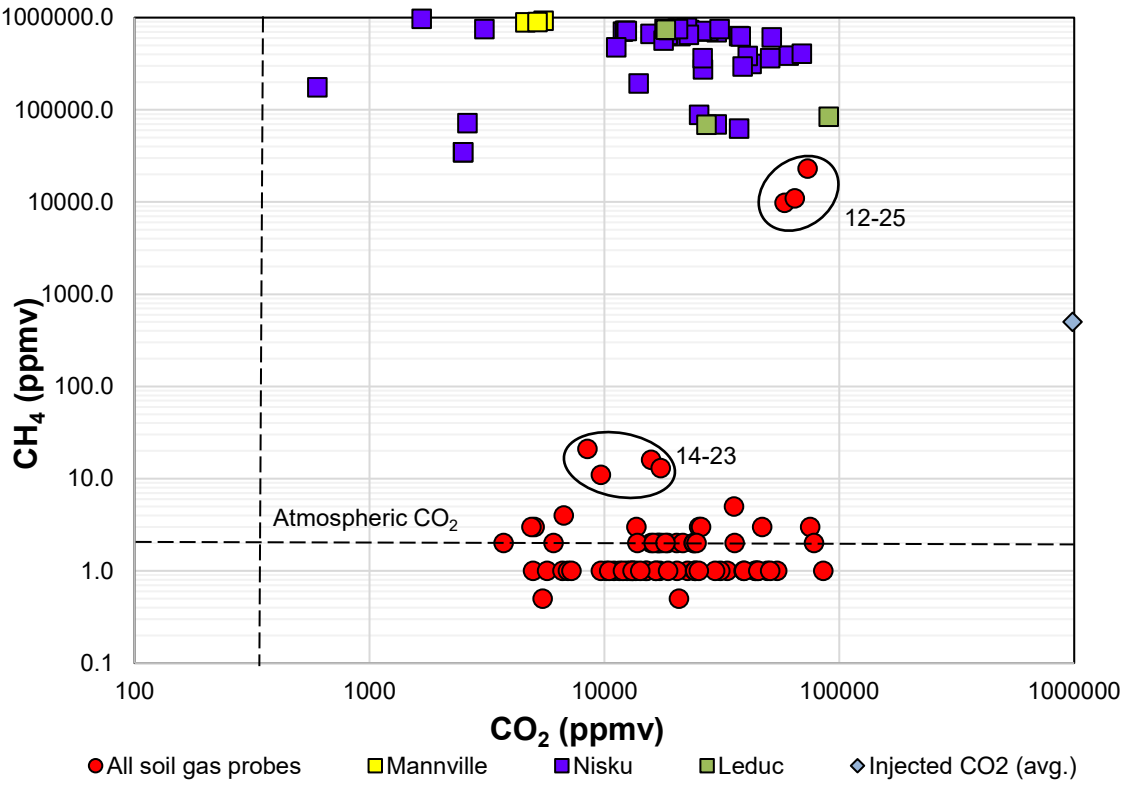


Figure F. Soil Gas Measurements for CO_2 and CH_4 Versus Other Gas Sources.

Figure G shows a graph of CO_2 versus $\delta^{13}C_{CO2}$ values for the soil gas samples collected in 2022 plus Geosphere gas samples collected as part of the program. Both the 12-25 and 14-23 locations have been highlighted in different coloured symbols for reference. What's most evident is that none of the soil gas samples exhibit $\delta^{13}C_{CO2}$ values consistent with either a deeper hydrocarbon source, and more importantly the injected CO_2. One exception is the 16-09 location, which is identified with a label in that figure.

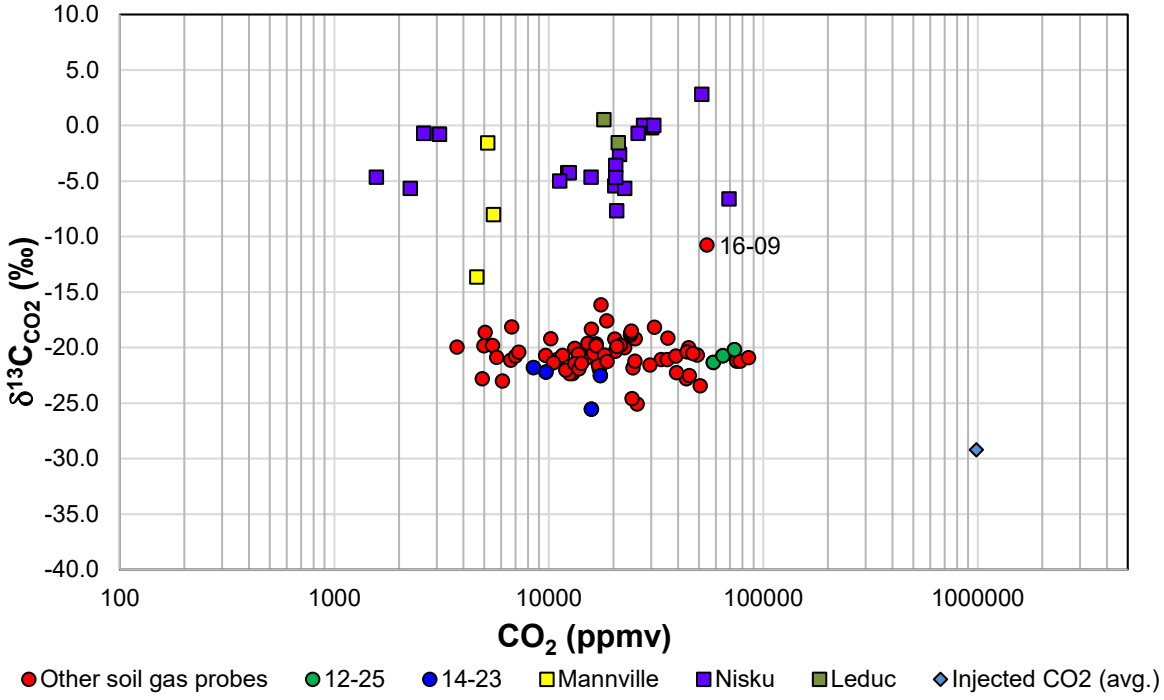


Figure G. Comparison of CO_2 Concentrations and $\delta^{13}C_{CO2}$ for Soil Gases and Various Other Gas Samples.

There are a number of mechanisms that can lead to anomalous $\delta^{13}C_{CO2}$ values. These include:

- Reduction of plant-derived CO_2 to methane by microbial processes
- CO_2 reaction with soil water to form bicarbonate and/or carbonate ions
- Mixing of natural soil gases with isotopically heavier CO_2 migrating up from deeper bedrock formations
- The upward migration of CO_2 from coal deposits or degassing of coal fragments incorporated in surficial deposits

It is important to note that the 16-09 location did not yield a CH_4 value greater than baseline values, and certainly not anywhere close to the injected CO_2 – a clear indication that some other source or mechanism is responsible. In fact, none of the soil gas

monitoring locations indicate $\delta^{13}C_{CO2}$ values close to the injected CO_2 further supporting containment of that gas in the Leduc Formation.

Figure H shows the relationship between $F14C_{CO2}$ and $\delta^{13}C_{CO2}$ values. Once again the soil gas measurements for the 12-25 and 14-23 locations have been highlighted. Also highlighted is the 16-09 location, previously identified, and one other location that stands out from the rest of the measurements (i.e. 05-36).

It is evident that the majority of soil measurement in 2022 yield $F14C_{CO2}$ and $\delta^{13}C_{CO2}$ value in the range consistent with expected baseline condition. The 12-25 and 14-23 location do, however, exhibit much lower $F14C_{CO2}$ values (i.e. <0.5) indicating an influence from an older source of CO_2. The some goes for the 05-36 location, but not the 16-09 location. Regardless of this discovery, the lower $F14C_{CO2}$ values at 12-25, 14-23 and 05-36 do not align with the deeper sources gases also plotted (including the injected CO_2), and neither do the $\delta^{13}C_{CO2}$ values. As such, a different source or mechanism is influencing the soil gases at those three locations.

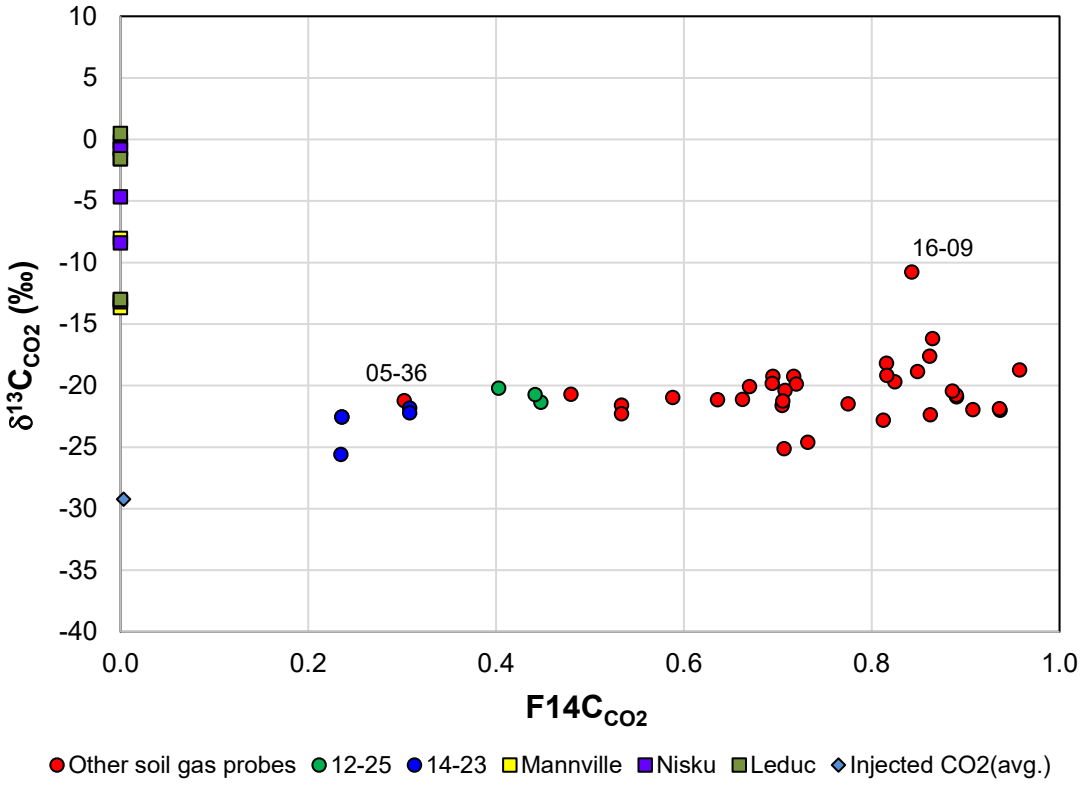


Figure H. Comparison of $F14C_{CO2}$ and $\delta^{13}C_{CO2}$ for Soil Gases and Other Potential Sources.

It is clear that most of the soil gas samples exhibit $F14C_{CO2}$ fraction greater than 0.6. Those with lower values are either being influenced from a deeper, older source of gas, like the

Mannville, or from coal. Given the results described in previous section it appears that both influences may be occurring.

Assessment of the isotopic composition of the ethane fraction in hydrocarbon gases (i.e. $\delta^{13}C_{C2H6}$) has proven helpful in attributing sources related to differing formations. For example, $\delta^{13}C_{C2H6}$ values for gases originating from deeper Mannville formations have been found to be less isotopically negative than gases originating from shallower Colorado group formations (e.g. -30‰ versus -40‰). When compared to $\delta^{13}C_{CH4}$ measurements this can also help identify likely sources.

Figure I provides a comparison of differing source gases and the 12-25 location with measurable C_2H_6 fraction with measured CH_4 values. Based on this assessment the likely source of CH_4 values at the 12-25 location is the deeper Mannville formations.

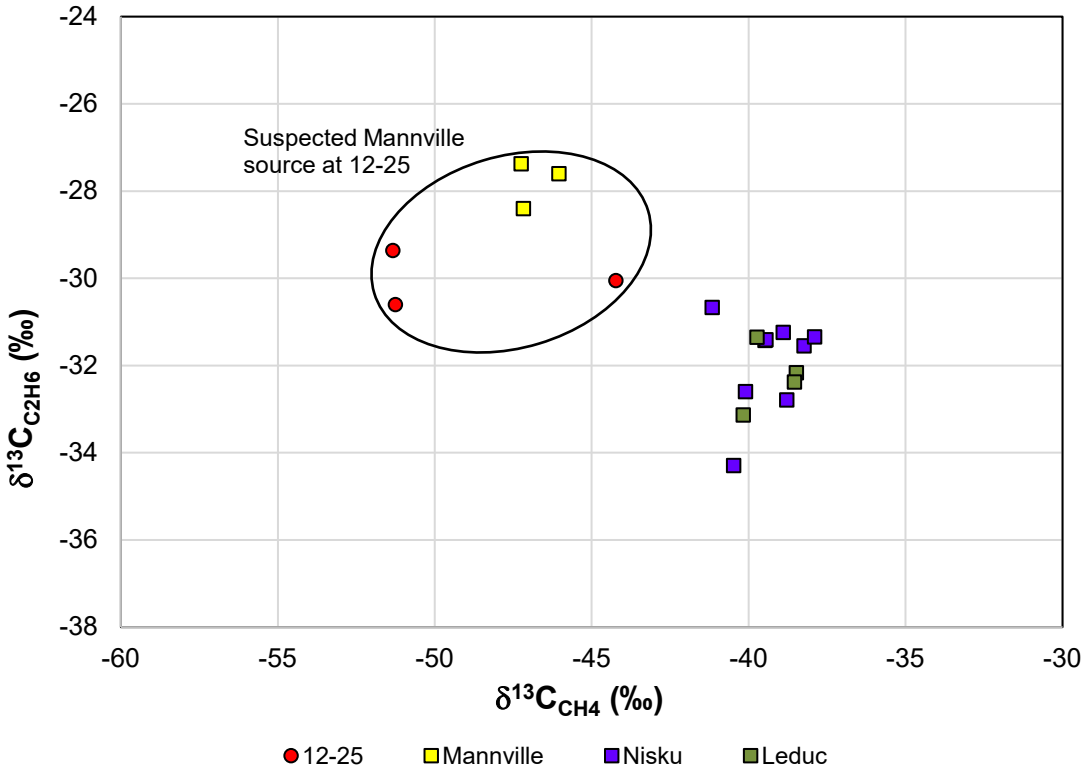


Figure I. Comparison of $\delta^{13}C_{CH4}$ and $\delta^{13}C_{C2H6}$ to determine the source of anomalous CH_4 readings at the 12-25 location.

4.5 Data trends

Now that a significant amount of baseline data has been collected for this MMV program a review of trends in soil gas results can be conducted. Figures 1 to 5 in Appendix 3 show four "data" assessment areas and locations of respective the SGPs. Temporal trends charts for the SGPs in each data area are also provided in Figures 13 to 16 of Appendix 3

relating to CO_2, CH_4, $\delta^{13}C_{CO2}$ and $F14C_{CO2}$. Also included are atmospheric values and lines framing the range of baseline conditions (based on a 95% confidence interval of the respective datasets). The region has been separated into four areas (i.e. North 1, South Data, North 2, and North 3) to make the graphs more legible and decipherable.

Trends statistics have also been calculated to enhance the data evaluation process. The Mann-Kendall (Mann 1945; Kendall 1975) and Theil-Sen's slope estimator (Sen 1968; Theil 1950) methods have been used to identify statistically-significant trends and their magnitude of change. Tables G to I summarizes the results.

Table G. Filtered CO_2 Trend Results, Probability > 95% and Normalized Slope > ± 10%/Year

Location	Count	Mann-Kendall S	Probability	Slope (ppmv/year)	Normalized Slope (%/year)
11-26	17	-68	0.99	-33946	-179
04-01	11	-31	0.99	-30015	-51
16-16	6	13	0.98	30002	102
06-08	10	-26	0.98	-66387	-113
12-21	6	12	0.98	20405	100
02-23	7	-15	0.98	-20337	-78
14-28	6	11	0.96	7972	49
07-02	11	-23	0.95	-14615	-42
11-35	10	-19	0.95	-11089	-48

Table H. Filtered CH_4 Trend Results, Probability > 95% and Normalized Slope > ± 10%/Year

Location	Count	Mann-Kendall S	Probability	Slope (ppmv/year)	Normalized Slope (%/year)
04-01	12	32	0.98	0.3	58
12-28	6	-12	0.98	-501.7	-144246
02-05	5	-9	0.97	-512.1	-136608

Location	Count	Mann-Kendall S	Probability	Slope (ppmv/year)	Normalized Slope (%/year)
05-36	6	11	0.96	0.4	41
16-03	6	11	0.96	0.2	80
16-16	4	-6	0.95	-1.1	-103
10-32	6	-10	0.95	-511.5	-1091869

Table I. Filtered $\delta^{13}C_{CO2}$ Trend Results, Probability > 95% And Normalized Slope > ± 10%/Year

Location	Count	Mann-Kendall S	Probability	Slope (‰/year)	Normalized Slope (%/year)
12-25	18	53	0.97	3.0	-31

No entries for Filtered $F14C_{CO2}$ Trend Results, Probability > 95% And Normalized Slope > ± 10%/Year

Most of the soil gas measurements taken since commissioning of the MMV program have remained within the defined baseline conditions, with the exception of a few locations showing concentrations of mostly CO_2 and CH_4 occasionally falling outside of established ranges. This applies mainly to 14-23, 11-26, and 12-25 in the North 1 data area and 04-01 in the South data area. Future monitoring will refine understanding of the range of natural variability and temporal changes in soil gas composition and isotopic character. So far, however, there has been no evidence of a sustained change in conditions indicating a possible influence from a CO_2 containment breach. This finding is consistent with monitoring results for the Geosphere and Hydrosphere indicating that the injected CO_2 is intact.

5 SUMMARY AND CONCLUSIONS

The 2022 MMV monitoring program included the monitoring of various bedrock formations, local water wells, and soil gas probe (SGP) locations.

The analysis performed included gas composition (either as mole % or ppmv) including O_2, N_2, CO_2, CH_4, and other gases, stable isotopes for carbon ($\delta^{13}C_{CO2}$, $\delta^{13}C_{CH4}$, and $\delta^{13}C_{C2H6}$, among others), stable sulphur ($\delta^{34}S$ of $H_2S_{(g)}$ and SO_4 in water), and radiogenic carbon, as a fraction of modern carbon-14 ($F14C_{CO2}$). The following conclusions are drawn based on the data collected:

Geosphere Monitoring:

- Lack of increasing CO_2 concentrations in the overlying Nisku Formation (and other shallower bedrock intervals) indicates that the Ireton Formation caprock is structurally intact and keeping the injected CO_2 in place.
- Evidence provided by other bedrock monitoring wells supports the conclusion that that CO_2 being injected into the Leduc Formation remains secured in that interval.
- Compositional and isotopic fingerprinting of the various bedrock formation gases has provided a useful database for forensic investigation of any anomalous groundwater and soil gas detections.

Hydrosphere Monitoring:

- Groundwater sampled from the domestic wells around the Clive EOR Project is typical of bedrock waters in Alberta, with low mineralization, alkaline conditions, and generally elevated hardness.
- No major anomalies were noted for parameters currently listed in the Guidelines for Canadian Drinking Water Quality (2022). Notable exceptions include some instances of elevated iron and manganese, likely due to local well conditions (i.e. reducing).
- Many of the water wells have detectable concentrations of iron-reducing, sulphate-reducing, and slime-forming bacteria. This is typical for older wells that have not been maintained by disinfection (e.g. shock chlorination).
- Dissolved gases were identified in nine samples collected in 2022, with CO_2 values as high as 22,700 ppmv and CH_4 values up to 44,100 ppmv. No detections for C_2H_6 or H_2S were made.
- The highest CH_4 values was measured in Land Owner 24's well, which also had levels of SO_4, Fe, and Mn below detection and a confirmed presence of sulphate-reducing bacteria. These observations, along with a $\delta^{13}C_{CO2}$ value of -19‰ and $\delta^{13}C_{CH4}$ of -84‰, suggest that methanogenic conditions in that well are responsible.
- $\delta^{13}C_{DIC}$ values measured in the samples collected are consistent with natural mineralization of soil organic carbon followed by conversion of the dissolved CO_2(g) to carbonate-based ions (HCO_3^- and CO_3^{2-}). There is no evidence to support a deeper hydrocarbon influence.
- Assessment of the data collected since 2019 indicates that a number of trends in measured parameters are occurring. This, however, is only happening in a small number of wells (4 or less), with none of the parameters linking back to the CO_2 injection activities. These trends are therefore believed to be an artifact of the wells themselves.

Biosphere Monitoring:

- All of SGP monitoring locations assessed in 2022, with the exception of two (12-25 and 14-23), exhibit soil gas CO_2 values within the established baseline for the area.

- Seasonal variation in soil gas CO_2 levels is evident, and expected, with higher values occurring during the spring/summer months. Increased soil respiration processes during the active growing season are the likely reason.
- The source of anomalous CO_2 and CH_4 values at the 12-25 locations is still believed to be linked to gas originating from the Lower Mannville formations. This is based on the gas composition and isotopic evidence gathered to date.
- The source of anomalous CH_4 at the 14-23 locations is less clear, but from a previous $\delta^{13}C_{CH4}$ measurement (-69.4‰) it is more aligned with a biogenic source or gas originating from local coal as opposed to a deeper hydrocarbon source.
- Assessment of data shows that most SGP locations are exhibiting naturally fluctuating conditions. Of the locations identified with statistically-significant trends, most are showing declining CO_2 levels, and a small number (three) are exhibiting slight increases in CH_4 levels (<0.5 ppmv/year). With respect to isotopes, an increasing $\delta^{13}C_{CO2}$ trend is evident at the 12-25 location (3‰/year), while no trends are noted for $F14C_{CO2}$.

6 RECOMMENDATIONS

The 2022 field program marks the fourth year of soil gas and groundwater sampling in support of Enhance's Clive MMV plan. Based on results obtained to date the following suggestions are provided to ensure timely detection of any anomalies that might be linked to CO_2 injection:

- Future expansions of the program should target an average of two to three baseline soil gas sampling locations per section of MMV area added. This will provide the necessary spatial assessment to capture the range of natural variability in gases and help identify any anomalies that may occur in the future.
- Continued sampling for dissolved gases and their related carbon isotopes in water wells around the project is recommended to provide the necessary information to decouple project-related effects from natural conditions.
- Detections of H_2S during the soil gas or groundwater sampling programs should be confirmed with stable sulphur isotopes to determine the possible source and cause. This will require a suitable concentration of free phase H_2S gas. If the H_2S concentrations are too low to facilitate a suitable sample collection, assessment of the shallow groundwater for $\delta^{34}S_{SO4}$ would help resolve these detections.
- Continued analysis of gas samples from hydrocarbon production wells in the MMV area for gas composition and isotopic character would be beneficial to frame the range of variability and assist with source attribution efforts (when, or if, needed).
- Soil gas sampling programs are recommended to switch to the GEM5000 or similar for the collection of field measured soil gas concentrations. This is due of the frequency of malfunction of the Los Gatos Ultraportable Greenhouse Gas Analyzer (UGGA) requiring repair service during the 2019, 2021 and 2022 field programs. During the

periods of equipment malfunction, a suitable backup has not been available. The GEM5000 was used successful during the 2021 and 2022 field programs providing an accurate identification of locations with increased methane concentrations. The range of methane analysis for the instruments is as follows:

- **GEM5000**: 0% to 100% by volume and measures methane concentrations as low as 0.1%. Accuracy is +/-0.3% within the 0%-5% range. That means it can measure from approximately 1000 ppm to 1,000,000 ppm and the accuracy is +/- 3000 ppm below 50,000 ppm.
- **UGGA:** 0 to 500 ppm by volume and measures methane concentrations as low as 0.001 ppm.

While range of measurement for methane is reduced when using the GEM5000 the laboratory measurements are unchanged with a detection limit of 1 ppm and represent the primary method of data analysis.

7 CLOSURE

Integrated Sustainability would like to thank Enhance Energy Inc. for the opportunity to support the Clive CO_2 injection MMV program. We trust that this report meets your needs and expectations. If you have any questions, please contact the undersigned at your convenience.

Sincerely,

Integrated Sustainability

Jon Fennell, M.Sc., Ph.D., P.Geol.

Principal Hydrogeologist & Geochemist



Ian Grant, M.Sc., P.Geo

Senior Hydrogeologist

PERMIT TO PRACTICE

INTEGRATED SUSTAINABILITY CONSULTANTS LTD.

RM SIGNATURE: _____

RM APEGA ID#: 82130

DATE: 23 March 2023

PERMIT NUMBER: P11259

The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

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INTEGRATED SUSTAINABILITY

Tables

INTEGRATED SUSTAINABILITY

Table 1A: Field Measured Parameters

Enhance Energy

CP22-EEI-01-00

Date: February 9, 2022

Rev: B

Landowner ID	Date (dd-mmm-yy)	pH pH Units	EC uS/cm	DO %	Temperature deg c
Landowner 2	7-Oct-21	7.55	513	29.7	9.47
Landowner 2	15-Jun-22	6.7	517	43.5	13.7
Landowner 2	20-Sep-22	7.79	540.35	117.58	11.4
Landowner 1	7-Oct-21	7.80	454	N/A	9.62
Landowner 1	17-Jun-22	7.56	476	25.7	11.65
Landowner 1	19-Sep-22	7.72	439	92.16	11.37
Landowner 25	6-Oct-21	7.55	448	69.4	7.6
Landowner 33	16-Jun-21	6.82	532	78.1	7.69
Landowner 33	7-Oct-21	N/A	492	N/A	7.78
Landowner 33	15-Jun-22	7.87	359	80.1	11.4
Landowner 33	21-Sep-22	7.8	592.15	117.53	13.9
Landowner 33	15-Jun-22	7.60	522	102.2	10.65
Landowner 4	8-Oct-21	7.58	601	53.5	8.95
Landowner 4	18-Jun-22	7.37	647	33.4	11.41
Landowner 4	19-Sep-22	7.19	662.89	115.24	13.94
Landowner 31	8-Oct-21	8.03	660	30.1	8.77
Landowner 31	17-Jun-22	7.53	703	125	13.4
Landowner 31	19-Sep-22	7.41	641.64	46.24	11.42
Landowner 31	19-Sep-22	7.41	641.64	46.24	11.42
Landowner 24	7-Oct-21	7.74	321	88.1	7.9
Landowner 24	17-Jun-22	9.06	938	53	7.5
Landowner 24	22-Sep-22	9.82	400.12	53	14.49
UL1 - Development	14-Jun-21	7.43	646	41.8	7.43
UL1 - Development	5-Oct-21	7.44	455	24.9	7.68
UL1 - Development	26-Jun-22	8.13	502	27.2	10.85
UL2 - Development	14-Jun-21	7.21	685	34.1	10.42
UL2 - Development	5-Oct-21	7.82	446	138.1	7.68
UL2 - Development	26-Jun-22	8.31	503	25	13.12
UL3 - Development	14-Jun-21	10.02	1230	26.9	12.42
UL3 - Development	5-Oct-21	8.83	732	110.5	6.8
UL3 - Development	26-Jun-22	8.81	835	160	10.43

INTEGRATED SUSTAINABILITY

Table 1A: Field Measured Parameters

Enhance Energy

CP22-EEI-01-00

Date: February 9, 2022

Rev: B

Landowner ID	Date (dd-mmm-yy)	pH pH Units	EC uS/cm	DO %	Temperature deg c
Landowner 19	16-Jun-21	7.11	539	52.4	7.86
Landowner 19	8-Oct-21	7.49	275	111.2	8.4
Landowner 29	23-Jun-22	7.71	453	70.4	8.99
Landowner 29	24-Jun-22	7.71	453	70.4	8.99
Landowner 29	24-Sep-22	7.90	603	40.60	12.48
273157 (Enhance Facility Well)	14-Jun-21	8.11	982	16.9	16.91
273157 (Enhance Facility Well)	5-Oct-21	8.30	378	250.3	12.64
273157 (Enhance Facility Well)	14-Jun-22	8.18	642	38.5	9
273157 (Enhance Facility Well)	19-Sep-22	8.17	761	71.39	14.75
Landowner 14	6-Oct-21	7.43	514	20	8.52
Landowner 14	18-Jun-22	7.5	490	87.8	7.81
Landowner 14	21-Sep-22	7.72	567	96.73	10.65
Landowner 26	8-Oct-21	7.41	767	29.7	7.07
Landowner 26	23-Jun-22	7.71	453	70.4	8.99
Landowner 26	21-Sep-22	7.47	864	32.64	9.37
Landowner 7	16-Oct-21	7.63	456	24.3	6.8
Landowner 7	16-Jun-22	7.65	258	47.6	9.5
Landowner 7	20-Sep-22	7.55	544	105.92	12.74
Landowner 11	6-Oct-21	7.50	577	33.6	9.59
Landowner 11	15-Jun-22	7.22	502	127	12.33
Landowner 11	20-Sep-22	7.82	607	98.69	11.3
Landowner 16	6-Oct-21	8.13	624	33.5	8.34
Landowner 16	16-Jun-22	8.57	651	172.6	10.82
Landowner 16	20-Sep-22	8.22	679.66	35.2	11.37
Landowner 9	16-Jun-21	7.11	264	45.6	8.91
Landowner 9	6-Oct-21	7.48	504	84.2	6.6
Landowner 9	15-Jun-22	7.76	564	96.6	11.5
Landowner 9	19-Sep-22	7.92	546.35	48.99	11.7
Landowner 3	6-Oct-21	8.09	674	174.2	7.24
Landowner 3	17-Jun-22	7.5	828	53	9.47
Landowner 3	21-Sep-22	7.61	878.29	62.22	12.29

INTEGRATED SUSTAINABILITY

Table 1A: Field Measured Parameters

Enhance Energy

CP22-EEI-01-00

Date: February 9, 2022

Rev: B

Landowner ID	Date (dd-mmm-yy)	pH pH Units	EC uS/cm	DO %	Temperature deg c
Landowner 3	6-Oct-21	7.99	756	44.3	11.4
Landowner 20	14-Oct-21	8.00	328	93.9	6.38
Landowner 20	23-Jun-22	7.94	699	101.3	10.16
Landowner 20	21-Sep-22	8.08	767	63.36	13.48
Landowner 28	8-Oct-21	7.67	429	99.2	8.43
Landowner 28	15-Jun-22	8.18	474	44.8	13.27
Landowner 28	19-Sep-22	7.62	459	119.3	12.08
Landowner 8	8-Oct-21	8.85	527	20	9.37
Landowner 8	15-Jun-22	8.53	1015	-	9
Landowner 8	21-Sep-22	8.71	1153	32.19	12.62
Landowner 30	7-Oct-21	7.56	404	4.11	5.32
Landowner 30	18-Jun-22	7.22	533	56	12.56
Landowner 30	19-Sep-22	7.50	458	85.23	10.01
Landowner 21	14-Oct-21	8.84	747	10.1	7.42
Landowner 21	16-Jun-22	8.88	800	130.1	14.76
Landowner 21	20-Sep-22	8.79	798	37.25	10.86
Landowner 13	17-Oct-21	7.77	682	33.3	7.15
Landowner 13	16-Jun-22	7.74	480	94.2	13.07
Landowner 13	21-Sep-22	7.88	787	44.48	11.53
Landowner 23	6-Oct-21	8.65	919	16	11.7
Landowner 23	16-Jun-22	8.63	913	20.67	12.02
Landowner 23	20-Sep-22	8.75	938.57	37.41	11.01
Landowner 20	6-Oct-21	8.78	750	25.3	10.11
Landowner 20	16-Jun-22	8.84	-	11.27	19.3
Landowner 20	23-Sep-22	8.94	828.22	119.58	12.94
Landowner 10	8-Oct-21	8.40	732	114.2	10.76
Landowner 10	18-Jun-22	7.78	681	52.4	10.57
Landowner 10	20-Sep-22	8.32	725	29.68	10.77
Landowner 5	14-Oct-21	7.70	1057	15.1	7.62
Landowner 5	17-Jun-22	7.6	7610	33.2	10.81

INTEGRATED SUSTAINABILITY

Table 1A: Field Measured Parameters

Enhance Energy

CP22-EEI-01-00

Date: February 9, 2022

Rev: B

Landowner ID	Date (dd-mmm-yy)	pH pH Units	EC uS/cm	DO %	Temperature deg c
Landowner 5	22-Sep-22	8.12	774	114.34	16.09
Landowner 17	8-Oct-21	7.56	430	35.5	6.63
Landowner 17	18-Jun-22	8.1	474	10.82	9.31
Landowner 17	21-Sep-22	7.72	494	99.06	10.62
Landower 32	7-Oct-21	7.57	648	88.5	6.95
Landower 32	18-Jun-22	7.65	607	93	9.92
Landowner 25	14-Oct-21	7.76	336	156.3	9.77
Landowner 25	17-Jun-22	7.46	522	59.9	16.52
Landowner 25	20-Sep-22	6.69	637	112.6	13.77
Landowner 18	16-Oct-21	7.80	342	21.2	7.58
Landowner 18	15-Jun-22	7.91	363	45	9.97
Landowner 18	19-Sep-22	7.78	387	116.49	11.84
Landowner 6	17-Jun-21	6.49	748	73.6	7.68
Landowner 6	4-Oct-21	7.33	529	56.2	7.72
Landowner 6	14-Jun-22	7.32	502	44.5	7.67
Landowner 6	19-Sep-22	7.6	600.83	117.12	10.44
Landowner 22	7-Oct-21	8.93	935	N/A	11.6
Landowner 22	15-Jun-22	7.63	773	93.9	12.85
Landowner 22	20-Sep-22	9.06	769	90.56	10.64

INTEGRATED SUSTAINABILITY

Table 1B: Water Analytical Results: General, Major Ions and Nutrients

Client Name: Enhance Energy Ltd. **Project Number:** CP22-EEI-01-00 **Date:** 09-Feb-23 **Rev:** A

		Routine Water Paramaters																																
Landowner ID	Date (dd-mmm-yy)	Bicarbonate mg/L	Bromide mg/L	Calculated TDS mg/L	Total Dissolved Solids (Analysed) mg/L	Carbonate mg/L	Chloride mg/L	Hydroxide mg/L	Dissolved Calcium mg/L	Dissolved Inorganic Carbon mg/L	Dissolved Iron mg/L	Dissolved Lithium mg/L	Dissolved Magnesium mg/L	Dissolved Manganese mg/L	Dissolved Phosphorus mg/L	Dissolved Potassium mg/L	Dissolved Silicon mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Tin mg/L	Fluoride mg/L	Hardness mg/L	Ion Balance %	Nitrate mg/L	Nitrate-N mg/L	Nitrite mg/L	Nitrite-N mg/L	Nitrate + Nitrite (as N) mg/L	P - Alkalinity (as CaCO3) mg/L	pH pH Units	Sodium Adsorption Ratio None	Sulfate mg/L	Sulfide mg/L	T - Alkalinity (as CaCO3) mg/L	Electrical Conductivity uS/cm
Landowner 2	8-Aug-19	426	< 0.1	449	-	< 5	6	< 5	-	78	< 0.1	0.051	34.2	< 0.005	< 0.08	-	4.63	31.4	0.719	0.0043	0.14	364	101	21.8	4.92	< 0.05	< 0.01	4.92	< 5	7.79	0.72	54	-	350	796
Landowner 2	9-Oct-19	438	< 0.1	449	470	< 5	7	< 5	-	69	< 0.1	0.045	32.5	< 0.005	< 0.08	-	5.08	31.7	0.679	0.0014	0.18	343	94	21.8	4.92	< 0.05	< 0.01	4.92	< 5	7.68	0.74	54	-	359	761
Landowner 2	7-Oct-21	424	< 0.1	465	-	< 5	5.8	< 5	-	-	< 0.1	0.043	36.3	< 0.005	< 0.08	-	5.86	36.5	0.688	< 0.0005	0.16	407	115	18.9	4.27	< 0.05	< 0.01	4.27	< 5	8.05	0.79	52.4	-	347	749
Landowner 2	7-Oct-21	418	< 0.1	449	-	< 5	5.7	< 5	-	-	< 0.1	0.045	33.3	< 0.005	< 0.08	-	5.81	33.9	0.745	< 0.0005	0.14	378	108	19.0	4.29	< 0.05	< 0.01	4.29	< 5	8.24	0.76	52.4	-	343	746
Landowner 2	15-Jun-22	420	< 0.1	430	-	< 5	5.5	< 5	84.2	-	< 0.1	0.044	31.8	< 0.005	0.19	2.5	5.23	31.0	0.790	< 0.0005	0.18	341	99	18.2	4.11	< 0.05	< 0.01	4.11	< 5	7.89	0.77	48.7	-	337	705
Landowner 2	20-Sep-22	432	< 0.1	444	-	< 5	5.6	< 5	84.8	-	< 0.1	0.051	34.4	< 0.005	0.13	2.9	5.99	33.0	0.785	< 0.0010	0.14	353	99	18.1	4.09	< 0.05	< 0.01	4.09	< 5	7.96	0.76	52.8	-	347	702
Landowner 12	8-Aug-19	380	< 0.1	361	-	< 5	10	< 5	-	82	1.1	0.036	28.7	0.426	< 0.08	-	4.55	47.6	0.53	0.0016	0.2	270	108	0.2	0.05	< 0.05	< 0.01	0.05	< 5	7.99	1.26	25	-	310	690
Landowner 12	8-Oct-19	409	< 0.1	370	370	< 5	9	< 5	-	67	1.1	0.038	26.3	0.443	< 0.08	-	4.66	46.5	0.563	0.0019	0.17	251	95	0.1	0.02	< 0.05	< 0.01	0.02	< 5	7.85	1.28	28	-	335	669
Landowner 1	7-Aug-19	360	< 0.1	368	-	< 5	7	< 5	-	84	< 0.1	0.045	29.1	0.014	< 0.08	-	4.55	38.6	0.721	< 0.0005	0.14	294	109	7.2	1.63	< 0.05	< 0.01	1.63	< 5	7.91	0.98	36	-	300	700
Landowner 1	7-Aug-19	370	< 0.1	372	-	< 5	7	< 5	-	76	< 0.1	0.045	29.1	0.014	< 0.08	-	4.56	38.3	0.719	< 0.0005	0.14	293	106	7.2	1.63	< 0.05	< 0.01	1.63	< 5	7.93	0.97	36	-	300	700
Landowner 1	9-Oct-19	413	< 0.1	393	435	< 5	8	< 5	-	66	< 0.1	0.042	26.6	0.015	< 0.08	-	4.55	37.6	0.744	0.0017	0.15	272	89	7.7	1.74	< 0.05	< 0.01	1.74	< 5	8	0.99	42	-	338	686
Landowner 1	7-Oct-21	379	< 0.1	374	-	< 5	7.8	< 5	-	-	< 0.1	0.041	29.3	0.011	-	-	5.60	37.5	0.775	< 0.0005	0.16	293	104	4.3	0.97	< 0.05	< 0.01	0.97	< 5	7.95	0.95	36.4	-	311	714
Landowner 1	17-Jun-22	302	< 0.1	333	-	8	8.9	< 5	65.3	-	< 0.1	0.045	25.6	0.008	0.16	2.9	4.68	34.7	0.696	< 0.005	0.17	268	111	4.3	0.97	< 0.05	< 0.01	0.97	6	8.40	0.92	34.4	-	260	601
Landowner 1	19-Sep-22	408	< 0.1	386	-	< 5	8.2	< 5	65.3	-	< 0.1	0.039	29.2	< 0.005	0.11	3.0	5.45	39.4	0.700	< 0.0005	0.17	283	96	4.0	0.90	< 0.05	< 0.01	0.90	< 5	8.03	1.02	36.7	-	328	623
Landowner 25	7-Aug-19	340	< 0.1	371	-	< 5	11	< 5	-	74	< 0.1	0.049	29	< 0.005	< 0.08	-	4.44	33.5	0.797	0.0011	0.06	301	109	19.7	4.45	< 0.05	< 0.01	4.45	< 5	7.93	0.84	35	-	280	680
Landowner 25	9-Oct-19	372	< 0.1	379	410	< 5	7	< 5	-	62	< 0.1	0.044	27.3	< 0.005	< 0.08	-	4.61	32.2	0.799	0.002	0.17	278	94	20	4.52	< 0.05	< 0.01	4.52	< 5	8	0.84	40	-	305	671
Landowner 25	6-Oct-21	405	< 0.1	398	-	< 5	< 1.0	< 5	-	-	0.7	0.054	28.5	0.128	< 0.08	-	6.09	58.3	1.17	< 0.0005	0.09	293	114	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.00	1.48	39.6	-	332	722
Landowner 33	7-Aug-19	380	0.3	443	-	< 5	48	< 5	-	84	< 0.1	0.041	44.1	< 0.005	< 0.08	-	4.6	40.1	0.483	0.0015	0.04	368	108	18.4	4.16	< 0.05	< 0.01	4.16	< 5	8.1	0.91	29	-	310	850
Landowner 33	8-Oct-19	419	0.3	445	460	< 5	41	< 5	-	70	< 0.1	0.044	39.8	< 0.005	< 0.08	-	4.44	38.3	0.497	0.0015	0.01	338	95	18.2	4.11	< 0.05	< 0.01	4.11	< 5	7.76	0.91	30	-	344	814
Landowner 33	8-Oct-19	436	0.2	458	455	< 5	41	< 5	-	68	< 0.1	0.044	41.7	< 0.005	< 0.08	-	4.44	39.7	0.491	0.0021	0.06	345	94	18.1	4.09	< 0.05	< 0.01	4.09	< 5	7.84	0.93	32	-	358	812
Landowner 33	16-Jun-21	352	0.2	417	-	14	31	< 5	-	93	< 0.1	-	40	< 0.005	< 0.08	-	-	40	-	-	0.05	344	109	17	3.84	< 0.05	< 0.01	3.84	11	8.51	0.94	28.3	-	305	740
Landowner 33	7-Oct-21	428	0.2	460	-	< 5	30.8	< 5	-	-	< 0.1	0.037	45.1	< 0.005	< 0.08	-	5.63	42.1	0.484	< 0.0005	0.16	390	110	18.1	4.09	< 0.05	< 0.01	4.09	< 5	8.19	0.93	28.9	-	344	790
Landowner 33	15-Jun-22	360	0.2	390	-	6	25.9	< 5	64.4	-	< 0.1	0.039	36.5	< 0.005	0.16	1.9	4.68	35.6	0.480	< 0.0005	0.14	311	102	16.8	3.80	< 0.05	< 0.01	3.80	5	8.34	0.88	25.7	-	306	744
Landowner 33	21-Sep-22	387	0.2	409	-	< 5	26.1	< 5	67.9	-	< 0.1	0.044	39.1	< 0.005	< 0.08	1.9	5.04	38.6	0.507	< 0.0005	0.09	331	105	17.7	4.00	< 0.05	< 0.01	4.00	< 5	8.18	0.92	27.5	-	312	723
Landowner 33	15-Jun-22	359	< 0.1	391	-	5	26.0	< 5	66.4	-	< 0.1	0.039	36.7	< 0.005	0.14	1.9	4.70	36.0	0.473	< 0.0005	0.11	317	105	16.8	3.80	< 0.05	< 0.01	3.80	< 5	8.33	0.88	25.7	-	303	735
Landowner 27	9-Aug-19	570	< 0.1	581	-	< 5	< 1	< 5	-	115	0.3	0.085	10.3	0.095	< 0.08	-	3.88	184	0.661	0.0023	0.08	119	96	< 0.1	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.25	7.34	74	< 0.02	467	1000
Landowner 27	9-Aug-19	< 5	< 0.1	< 0.6	-	< 5	< 1	< 5	-	< 1	< 0.1	< 0.001	< 0.2	< 0.005	< 0.08	-	< 0.032	< 0.6	< 0.001	< 0.0005	< 0.01	< 1	-	< 0.1	< 0.02	< 0.05	< 0.01	< 0.02	< 5	5.93	0	< 1	< 0.02	< 5	< 5
Landowner 27	9-Aug-19	< 5	< 0.2	< 0.6	-	< 5	< 1	< 5	-	< 1	< 0.1	< 0.001	< 0.2	< 0.005	< 0.08	-	< 0.032	< 0.6	< 0.001	< 0.0005	< 0.06	< 1	-	< 0.5	< 0.02	< 0.20	< 0.01	< 0.02	< 5	6.23	0	< 1	< 0.02	< 5	< 5
Landowner 27	8-Oct-19	616	< 0.1	624	645	< 5	< 1	< 5	-	116	2.4	0.087	5.9	0.182	< 0.08	-	3.93	213	0.472	0.0029	0.25	76	93	0.4	0.09	< 0.05	< 0.01	0.09	< 5	8.06	10.6	79	-	505	1060
Landowner 4	8-Aug-19	500	< 0.1	529	-	< 5	3	< 5	-	100	1.4	0.059	46.2	0.15	< 0.08	-	4.96	58.3	0.884	0.0024	0.05	407	107	1.9	0.43	< 0.05	< 0.01	0.43	< 5	7.86	1.26	85	-	410	950
Landowner 4	8-Oct-19	545	< 0.1	534	545	< 5	1	< 5	-	94	2.1	0.062	44.2	0.174	< 0.08	-	5.27	55.7	0.924	0.002	< 0.01	384	96	< 0.1	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.74	1.24	82	-	447	917
Landowner 4	8-Oct-21	541	< 0.1	555	-	< 5	1.6	< 5	-	-	< 0.1	0.051	49.9	0.214	-	-	6.27	60.6	0.912	< 0.0005	0.08	442	109	0.7	0.16	< 0.05	< 0.01	0.16	< 5	7.97	1.25	79.5	-	443	950
Landowner 4	18-Jun-22	553	< 0.1	525	-	< 5	2.3	< 5	79.5	-	< 0.1	0.052	41.7	0.172	0.13	2.1	5.58	51.6	0.945	< 0.0005	0.08	370	91	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.05	1.17	75.4	-	447	818
Landowner 4	19-Sep-22	553	< 0.1	537	-	< 5	1.8	< 5	80.8	-	1.1	0.049	47.4	0.182	0.10	2.1	6.56	57.7	0.922	< 0.0010	0.09	397	99	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.96	1.26	75.3	-	446	843
Landowner 31	8-Aug-19	397	< 0.1	523	-	46	2	< 5	-	96	0.1	0.051	35.1	0.036	< 0.08	-	2.1	148	0.108	0.003	0.07	166	99	0.4	0.09	< 0.05	< 0.01	0.09	38	8.95	5.01	85	-	402	886
Landowner 31	8-Oct-21	478	< 0.1	581	-	< 5	< 1.0	< 5	-	-	< 0.1	0.045	40.1	0.615	-	-	4.71	136.0	0.459	< 0.0005	0.12	284	113	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.91	3.51	119	-	392	969
Landowner 31	17-Jun-22	443	< 0.1	530	-	7	1.6	< 5	45.9	-	< 0.1	0.041	35.5	0.595	0.16	2.5	4.55	106	0.519	< 0.005	0.15	261	100	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	6	8.35	2.86	114	-	375	927
Landowner 31	19-Sep-22	542	< 0.1	594	-	< 5	< 1.0	< 5	40.0	-	5.4	0.038	38.2	0.498	0.11	2.6	5.25	136	0.500	< 0.0005	0.16	257	101	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.33	3.69	111	-	443	906
Landowner 31	19-Sep-22	548	< 0.1	605	-	< 5	< 1.0	< 5	40.3	-	4.2	0.040	38.7	0.502	0.11	2.6	5.23	139	0.500	< 0.0005	0.13	260	101	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.25	3.75	115	-	442	912
Landowner 24	8-Aug-19	550	< 0.1	575	-	< 5	1	< 5	-	108	1.6	0.05	18.7	0.241	< 0.08	-	4.41	143	0.621	0.0022	0.19	216	99	1.6	0.36	< 0.05	< 0.01	0.36	< 5	8.05	4.23	82	-	451	981
Landowner 24	7-Oct-21	549	< 0.1	601	-	< 5	< 1.0	< 5	-	-	3.3	0.051	20.7	0.324	< 0.08	-	5.93	154	0.684	< 0.0005	0.16	256	111	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.31	4.19	85.2	-	456	1000
Landowner 24	8-Oct-21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landowner 24	17-Jun-22	151	< 0.1	236	-	59	< 1.0	< 5	1.4	-	< 0.1	0.011	1.8	< 0.005	0.09	2.5	1.43	96.6	0.054	< 0.0005	< 0.01	10.9	101	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	49	9.47	12.7	< 1.0	-	222	466
Landowner 24	10-Oct-22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

INTEGRATED SUSTAINABILITY

Table 1B: Water Analytical Results: General, Major Ions and Nutrients

Client Name: Enhance Energy Ltd. **Project Number:** CP22-EEI-01-00 **Date:** 09-Feb-23 **Rev:** A

		Routine Water Paramaters																																
Landowner ID	Date (dd-mmm-yy)	Bicarbonate mg/L	Bromide mg/L	Calculated TDS mg/L	Total Dissolved Solids (Analysed) mg/L	Carbonate mg/L	Chloride mg/L	Hydroxide mg/L	Dissolved Calcium mg/L	Dissolved Inorganic Carbon mg/L	Dissolved Iron mg/L	Dissolved Lithium mg/L	Dissolved Magnesium mg/L	Dissolved Manganese mg/L	Dissolved Phosphorus mg/L	Dissolved Potassium mg/L	Dissolved Silicon mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Tin mg/L	Fluoride mg/L	Hardness mg/L	Ion Balance %	Nitrate mg/L	Nitrate-N mg/L	Nitrite mg/L	Nitrite-N mg/L	Nitrate + Nitrite (as N) mg/L	P - Alkalinity (as CaCO3) mg/L	pH pH Units	Sodium Adsorption Ratio None	Sulfate mg/L	Sulfide mg/L	T - Alkalinity (as CaCO3) mg/L	Electrical Conductivity uS/cm
UL1 - Development	11-Jul-19	541	< 0.1	653	-	23	5	< 5	-	113	< 0.1	0.022	2.3	0.011	< 0.08	-	3.14	233	0.058	< 0.0005	1.19	24	87	3.4	0.77	< 0.05	< 0.01	0.77	19	8.68	20.5	113	0.04	482	1160
UL1 - Development	15-Jul-19	424	< 0.1	402	-	< 5	3	< 5	-	79	< 0.1	0.038	31.4	0.485	< 0.08	-	4.43	47.3	0.651	< 0.0005	0.11	298	102	1.5	0.34	< 0.05	< 0.01	0.34	< 5	8.31	1.19	40	< 0.02	351	698
UL1 - Development	15-Jul-19	420	< 0.1	393	-	< 5	3	< 5	-	80	0.2	0.039	29	0.266	< 0.08	-	4.52	47.2	0.638	< 0.0005	0.16	280	99	0.2	0.05	< 0.05	< 0.01	0.05	< 5	8.27	1.23	40	< 0.02	344	678
UL1 - Development	6-Aug-19	531	< 0.1	661	-	18	4	< 5	-	125	< 0.1	0.045	1.7	0.005	< 0.08	-	3.83	255	0.082	< 0.0005	1.35	19	97	< 0.1	< 0.02	0.55	0.17	0.17	15	8.65	25.1	114	0.03	466	1170
UL1 - Development	6-Aug-19	514	< 0.1	653	-	19	4	< 5	-	121	< 0.1	0.044	1.7	< 0.005	< 0.08	-	3.44	256	0.086	< 0.0005	1.33	20	100	0.1	0.02	0.64	0.19	0.22	16	8.65	24.9	112	0.1	454	1170
UL1 - Development	7-Oct-19	584	< 0.1	696	730	22	4	< 5	-	123	< 0.1	0.035	1.6	0.006	< 0.08	-	3.51	255	0.08	< 0.0005	1.67	19	88	< 0.1	< 0.02	0.14	0.04	0.04	18	8.66	25.6	120	-	515	1150
UL1 - Development	7-Oct-19	589	< 0.1	686	715	21	4	< 5	-	119	< 0.1	0.036	1.6	0.006	0.1	-	3.54	248	0.081	< 0.0005	1.61	19	86	< 0.1	< 0.02	0.17	0.05	0.05	17	8.65	24.9	116	-	517	1150
UL1 - Development	21-Jul-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UL1 - Development	21-Jul-20	567	< 0.1	675	-	26	2.7	< 5	-	108	< 0.1	0.036	1.2	0.01	-	-	-	273	0.059	0.0005	1.32	14	100	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	21	8.69	31.5	88	< 0.02	508	1220
UL1 - Development	28-Oct-20	551	< 0.1	691	740	45	1.7	< 5	-	110	0.2	0.021	0.9	0.008	-	-	4.58	288	0.036	0.0006	1.43	13	104	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	38	8.75	34.2	79.3	0.11	527	1160
UL1 - Development	28-Oct-20	569	< 0.1	697	695	43	1.6	< 5	-	108	0.2	0.021	0.9	0.009	-	-	4.72	288	0.036	0.0006	1.44	13	102	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	36	8.74	35.2	79.5	0.11	539	1160
UL1 - Development	15-Jun-21	384	< 0.1	390	-	< 5	13.8	< 5	-	92	< 0.1	0.057	30.3	0.528	< 0.08	-	5.23	51.9	0.684	0.0005	0.1	287	108	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.85	1.33	37.8	-	307	678
UL1 - Development	5-Oct-21	421	< 0.1	394	-	< 5	5.2	< 5	-	-	< 0.1	0.039	31.3	0.631	< 0.08	-	5.38	44.8	0.672	< 0.0005	0.10	300	103	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.25	1.13	34.9	-	345	692
UL1 - Development	26-Jun-22	369	< 0.1	392	-	< 5	1.5	< 5	63.5	-	< 0.1	0.037	30.6	0.005	0.24	2.4	3.63	45.6	0.617	< 0.0005	0.09	285	103	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.92	1.18	67.1	-	302	637
UL2 - Development	7-Aug-19	380	< 0.1	373	-	< 5	3	< 5	-	85	0.2	0.049	30.2	0.318	< 0.08	-	5.01	47.8	0.609	< 0.0005	0.16	286	111	< 0.1	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.92	1.23	38	-	310	700
UL2 - Development	7-Oct-19	441	< 0.1	399	395	< 5	3	< 5	-	75	0.4	0.039	27.7	0.283	< 0.08	-	5.41	45.6	0.623	< 0.0005	0.12	263	89	< 0.1	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.23	1.22	44	-	362	675
UL2 - Development	22-Jul-20	384	< 0.1	360	-	< 5	2.7	< 5	-	67	0.5	0.045	28.7	0.295	-	-	-	43.6	0.602	< 0.0005	0.12	262	101	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.03	1.17	36.2	< 0.02	315	724
UL2 - Development	22-Jul-20	< 5	< 0.1	< 0.6	-	< 5	< 1.0	< 5	-	< 1	< 0.1	< 0.001	< 0.2	< 0.005	-	-	-	< 0.6	< 0.001	< 0.0005	< 0.01	< 1	13	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	6.05	0	< 1.0	< 0.02	< 5	< 5
UL2 - Development	27-Oct-20	414	< 0.1	389	400	< 5	2.7	< 5	-	71	0.4	0.032	30.8	0.289	-	-	5.84	48.4	0.439	< 0.0005	0.1	291	105	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.13	1.23	35.9	< 0.02	340	678
UL2 - Development	15-Jun-21	556	< 0.1	685	-	25	2.5	< 5	-	114	< 0.1	0.045	0.9	0.007	0.17	-	3.9	293	0.058	0.0013	1.25	12	110	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	21	8.78	36.5	85.5	-	488	1170
UL2 - Development	5-Oct-21	419	< 0.1	398	-	< 5	5.8	< 5	-	-	0.5	0.042	30.6	0.344	< 0.08	-	5.64	46.9	0.618	< 0.0005	0.11	294	102	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.13	1.19	38.8	-	344	687
UL2 - Development	26-Jun-22	373	< 0.1	362	-	< 5	3.2	< 5	61.4	-	< 0.1	0.040	29.8	0.248	0.11	2.1	5.14	47.3	0.579	< 0.0005	0.10	276	110	0.9	0.20	< 0.05	< 0.01	0.20	< 5	7.97	1.24	33.4	-	306	630
UL3 - Development	7-Aug-19	390	< 0.1	378	-	< 5	3	< 5	-	100	< 0.1	0.041	31.5	0.548	< 0.08	-	4.89	45.8	0.641	< 0.0005	0.14	294	109	< 0.1	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.97	1.16	38	-	320	710
UL3 - Development	7-Oct-19	424	< 0.1	387	405	< 5	3	< 5	-	75	0.1	0.044	29.7	0.599	< 0.08	-	4.58	43.4	0.661	< 0.0005	0.1	276	95	< 0.1	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.16	1.14	39	-	348	682
UL3 - Development	22-Jul-20	399	< 0.1	365	-	< 5	2.9	< 5	-	67	< 0.1	0.043	29.3	0.549	-	-	-	40.9	0.643	< 0.0005	0.12	266	97	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.02	1.09	35.6	< 0.02	327	768
UL3 - Development	22-Jul-20	391	< 0.1	364	-	< 5	2.9	< 5	-	67	< 0.1	0.043	29.7	0.554	-	-	-	41.7	0.663	< 0.0005	0.13	271	101	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.04	1.1	35.5	< 0.02	320	730
UL3 - Development	28-Oct-20	415	< 0.1	391	355	< 5	3	< 5	-	71	< 0.1	0.025	32.2	0.564	-	-	5.85	46	0.418	< 0.0005	0.11	301	106	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.11	1.15	35.5	0.02	340	683
UL3 - Development	28-Oct-20	< 5	< 0.1	< 0.6	< 5	< 5	< 1.0	< 5	-	< 1	< 0.1	< 0.001	< 0.2	< 0.005	-	-	< 0.032	< 0.6	< 0.001	< 0.0005	< 0.01	< 1	13	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	5.44	0	< 1.0	< 0.02	< 5	< 5
UL3 - Development	15-Jun-21	388	< 0.1	381	-	< 5	3	< 5	-	91	< 0.1	0.053	29.5	0.288	< 0.08	-	5.58	50.7	0.618	< 0.0005	0.12	286	110	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.88	1.3	39.1	-	312	674
UL3 - Development	5-Oct-21	624	< 0.1	701	-	32	2.3	< 5	-	-	< 0.1	0.032	0.3	< 0.005	0.10	-	3.60	290	0.058	< 0.0005	1.38	5	99	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	26	8.70	53.9	66.9	-	564	1180
UL3 - Development	26-Jun-22	537	< 0.1	627	-	41	1.0	< 5	2.7	-	< 0.1	0.030	0.49	0.515	< 0.08	1.1	5.03	282	0.056	< 0.0005	1.69	8.8	113	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	27	8.72	41.4	34.6	-	495	1080
Landowner 19	16-Jun-21	428	< 0.1	437	-	20	8.4	< 5	-	101	< 0.1	-	47.5	< 0.005	< 0.08	-	-	14.6	-	-	0.19	419	104	25.1	5.67	< 0.05	< 0.01	5.67	17	8.6	0.31	19.7	-	376	773
Landowner 19	8-Oct-21	457	< 0.1	448	-	< 5	8.4	< 5	-	-	< 0.1	0.046	52.8	< 0.005	-	-	6.32	15.7	0.608	< 0.0005	0.18	465	118	24.9	5.62	< 0.05	< 0.01	5.62	< 5	7.73	0.32	19.7	-	375	822
Landowner 29	17-Jun-21	410	< 0.1	400	-	< 5	12.1	< 5	-	96	0.7	0.06	26.8	0.121	< 0.08	-	6.69	52	1.12	< 0.0005	0.05	271	98	0.7	0.16	< 0.05	< 0.01	0.16	< 5	8.13	1.37	40.7	-	336	682
Landowner 29	23-Jun-22	385	< 0.1	370	-	< 5	< 1.0	< 5	67.8	-	< 0.1	0.051	25.9	0.123	0.08	2.3	5.42	49.6	1.11	< 0.0005	0.04	276	110	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.04	1.30	35.5	-	316	647
Landowner 29	23-Jun-22	383	< 0.1	370	-	< 5	< 1.0	< 5	67.4	-	< 0.1	0.050	27.3	0.124	0.09	2.2	5.41	49.0	1.06	< 0.0005	0.05	281	111	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.02	1.27	35.5	-	314	643
Landowner 29	24-Jun-22	474	< 0.1	654	-	< 5	95.5	< 5	96.3	-	< 0.1	0.057	46.9	0.332	0.10	2.3	5.06	105	0.854	< 0.0005	0.11	434	111	< 0.5	< 0.02	3.34	1.02	1.02	< 5	7.86	2.19	71.1	-	389	1150
Landowner 29	24-Sep-22	443	< 0.1	400	-	< 5	< 1.0	< 5	58.9	-	0.6	0.058	27.5	0.118	0.12	2.4	6.11	55.0	1.15	< 0.0025	0.06	260	95	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.20	1.48	38.1	-	357	684
273157 (Enhance Facility Well)	15-Jun-21	482	< 0.1	584	-	6	2.6	< 5	-	104	< 0.1	0.095	4.7	0.039	< 0.08	-	4.37	226	0.26	< 0.0005	0.14	51	108	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.36	13.7	93.3	-	398	985
273157 (Enhance Facility Well)	5-Oct-21	516	< 0.1	594	-	14	8.8	< 5	-	-	0.2	0.071	4.7	0.046	< 0.08	-	4.53	216	0.270	< 0.0005	0.14	52	96	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	12	8.52	13.1	83.0	-	446	1000
273157 (Enhance Facility Well)	14-Jun-22	477	-	580	-	32	2.3	< 5	11.3	-	< 0.1	0.069	4.7	0.035	0.13	1.3	4.34	212	0.269	< 0.0005	0.15	47.6	96	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	27	8.81	13.4	81.9	-	436	907
273157 (Enhance Facility Well)	19-Sep-22	530	< 0.1	601	-	12	2.0	< 5	11.7	-	0.2	0.063	4.8	0.038	0.11	1.2	4.90	224	0.270	< 0.0010	0.16	49.0	99	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	10	8.48	13.9	84.8	-	446	914
Landowner 14	6-Oct-21	447	0.1	444	-	< 5	13.5	< 5	-	-	1.0	0.064	33.9	0.200	< 0.08	-	6.71	75.2	0.596	< 0.0005	0.12	306	113	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.01	1.87	32.3	-	366	818
Landowner 14	18-Jun-22	481	< 0.1	433	-	< 5	12.6	< 5	57.5	-	< 0.1	0.064	28.5	0.190	0.14	2.1	5.98	64.0	0.620	< 0.0005	0.09	261	90	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.11	1.72	32.1	-	386	711
Landowner 14	21-Sep-22	429	0.1	429	-	< 5	15.1	< 5	57.1	-	1.0	0.070	28.3	0.191	< 0.08	2.2	6.13	81.2	0.568	< 0.0010	0.13	259	108	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.04	2.19	34.0	-	352	780
Landowner 26	8-Oct-21	492	< 0.1	690	-	< 5	101	< 5	-	-	0.6	0.060	48.0	0.397	-	-	6.10	115.0	0.952	< 0.0005	0.22	457	114	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.96	2.34	77.3	-	404	1250
Landowner 26	21-Sep-22	481	0.8	671	-	< 5	111	< 5	95.3	-	1.6	0.069	46.0	0.335	< 0.08	2.4	5.29	109	1.05	< 0.0010	0.20	427	107	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.91	2.29	70.4	-	394	1210
Landowner 7	16-Oct-21	394	< 0.1	412	-	< 5	6.2	< 5	-	-	< 0.1	0.030	30.4	0.093	< 0.08	-	5.97	41.0	0.637	< 0.0005	0.18	360	120	1.1	0.25	< 0.05	< 0.01	0.25	< 5	7.62	0.94	42.5	-	323	729
Landowner 7	16-Jun-22	458	< 0.1	419	-	< 5	7.2	< 5	82.0	-	< 0.1	0.026	27.6	0.124	0.10	2.8	4.65	32.2	0.557	< 0.0005	0.25	318	91	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.08	0.78	41.5	-	369	674
Landowner 7	20-Sep-22	457	< 0.1	424	-	< 5	5.9	< 5	84.2	-	2.8	0.028	30.4	0.116	0.13	3.1	5.79	35.6	0.612	< 0.0010	0.19	335	99	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.03	0.85	39.6	-	369	676
Landowner 11	6-Oct-21	436	0.1	477	-	< 5	15.3	< 5	-	-	< 0.1	0.038	26.6	0.163	< 0.08	-	5.06	102	0.685	< 0.0005	0.24	247	106	1.8	0.41	< 0.05	< 0.01	0.41	< 5	8.26	2.82	59.8	-	357	858
Landowner 11	15-Jun-22	426	< 0.1	458	-	7	15.0	< 5	47.0	-	< 0.1	0.037	24.9	0.119	0.15	1.7	4.72	95.5	0.684	< 0.0005	0.26	220	97	2.5	0.56	< 0.05	< 0.01	0.56	5	8.35	2.80	54.6	-	360	813
Landowner 11	20-Sep-22	475	< 0.1	498	-	< 5	17.2	< 5	49.7	-	0.1	0.042	27.2	0.144	0.12	2.0	5.57	108	0.679	< 0.0010	0.26	-	99	1.0	0.23	< 0.05	< 0.01	0.23	< 5	8.00	3.06	59.2	-	383	773
Landowner 16	6-Oct-21	517	< 0.1	561	-	< 5	< 1.0	< 5	-	-	< 0.1	0.085	5.9	0.017	< 0.08	-	4.39	221	0.341	< 0.0005	0.25	67	113	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.31	11.7	60.8	-	428	977
Landowner 16	16-Jun-22	493	< 0.1	499	-	< 5	1.1	< 5	14.3	-	< 0.1	0.081	4.6	0.011	0.09	1.4	4.19	183	0.326	< 0.0005	0.18	54.6	99	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.23	10.8	52.2	-	404	789
Landowner 16	20-Sep-22	556	< 0.1	574	-	6	< 1.0	< 5	14.8	-	< 0.1	0.088	5.4	0.015	0.11	1.4	4.66	211	0.360	< 0.0005	0.18	59.2	98	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	5	8.37	11.9	62.0	-	459	879

INTEGRATED SUSTAINABILITY

Table 1B: Water Analytical Results: General, Major Ions and Nutrients

Client Name: Enhance Energy Ltd. **Project Number:** CP22-EEI-01-00 **Date:** 09-Feb-23 **Rev:** A

		Routine Water Paramaters																																
Landowner ID	Date (dd-mmm-yy)	Bicarbonate mg/L	Bromide mg/L	Calculated TDS mg/L	Total Dissolved Solids (Analysed) mg/L	Carbonate mg/L	Chloride mg/L	Hydroxide mg/L	Dissolved Calcium mg/L	Dissolved Inorganic Carbon mg/L	Dissolved Iron mg/L	Dissolved Lithium mg/L	Dissolved Magnesium mg/L	Dissolved Manganese mg/L	Dissolved Phosphorus mg/L	Dissolved Potassium mg/L	Dissolved Silicon mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Tin mg/L	Fluoride mg/L	Hardness mg/L	Ion Balance %	Nitrate mg/L	Nitrate-N mg/L	Nitrite mg/L	Nitrite-N mg/L	Nitrate + Nitrite (as N) mg/L	P - Alkalinity (as CaCO3) mg/L	pH pH Units	Sodium Adsorption Ratio None	Sulfate mg/L	Sulfide mg/L	T - Alkalinity (as CaCO3) mg/L	Electrical Conductivity uS/cm
Landowner 9	16-Jun-21	421	< 0.1	443	-	< 5	10.4	< 5	-	96	< 0.1	-	25.2	0.007	< 0.08	-	-	95.3	-	-	0.14	220	103	1.6	0.36	< 0.05	< 0.01	0.36	< 5	8.18	2.79	54.5	-	345	773
Landowner 9	16-Jun-21	414	< 0.1	442	-	< 5	11.9	< 5	-	95	< 0.1	-	25.7	0.007	< 0.08	-	-	95	-	-	0.19	221	104	1.5	0.34	< 0.05	< 0.01	0.34	< 5	8.08	2.78	55.8	-	340	767
Landowner 9	6-Oct-21	423	< 0.1	481	-	< 5	6.0	< 5	-	-	< 0.1	0.060	20.8	0.014	< 0.08	-	4.15	140	0.596	< 0.0005	0.23	188	118	1.3	0.29	< 0.05	< 0.01	0.29	< 5	8.19	4.44	60.9	-	347	827
Landowner 9	15-Jun-22	400	< 0.1	428	-	< 5	5.7	< 5	34.9	-	< 0.1	0.059	18.8	0.010	0.16	1.8	3.60	111	0.630	< 0.0005	0.22	165	103	1.5	0.34	< 0.05	< 0.01	0.34	< 5	8.26	3.77	57.9	-	328	779
Landowner 9	19-Sep-22	438	< 0.1	455	-	< 5	6.0	< 5	39.8	-	< 0.1	0.054	22.7	0.007	0.12	2.2	4.15	109	0.644	< 0.0010	0.23	193	101	1.8	0.41	< 0.05	< 0.01	0.41	< 5	8.33	3.42	57.6	-	359	713
Landowner 3	6-Oct-21	486	< 0.1	627	-	5	8.1	< 5	-	-	< 0.1	0.067	3.0	0.092	< 0.08	-	4.20	246	0.401	< 0.0005	0.11	49	110	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.36	15.3	109	-	407	1110
Landowner 3	6-Oct-21	498	< 0.1	637	-	< 5	8.3	< 5	-	-	0.1	0.066	2.5	0.088	< 0.08	-	4.27	250	0.401	< 0.0005	0.10	45	109	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.28	16.2	116	-	409	1110
Landowner 3	17-Jun-22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Landowner 3	21-Sep-22	480	< 0.1	707	-	< 5	39.4	< 5	51.6	-	0.8	0.091	23.7	0.248	< 0.08	2.8	4.27	188	1.09	< 0.0010	0.12	226	103	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.17	5.44	165	-	393	1190
Landowner 3	6-Oct-21	490	< 0.1	641	-	< 5	9.0	< 5	-	-	< 0.1	0.069	2.8	0.112	< 0.08	-	4.33	249	0.434	< 0.0005	0.03	50	110	1.7	0.38	< 0.05	< 0.01	0.38	< 5	8.29	15.4	120	-	405	1110
Landowner 20	14-Oct-21	553	< 0.1	589	-	7	< 1.0	< 5	-	-	< 0.1	-	6.8	0.006	-	-	-	225	-	-	< 0.01	82	110	2.1	0.47	< 0.05	< 0.01	0.47	6	8.37	10.8	52.6	-	465	1020
Landowner 20	23-Jun-22	602	< 0.1	604	-	12	< 1.0	< 5	18.5	-	< 0.1	0.094	5.6	< 0.005	0.09	1.6	4.67	212	0.420	< 0.0005	0.09	69.3	93	1.8	0.41	< 0.05	< 0.01	0.41	10	8.43	11.1	56.8	-	505	938
Landowner 20	21-Sep-22	542	< 0.1	594	-	< 5	2.0	< 5	21.0	-	< 0.1	0.105	7.3	< 0.005	< 0.08	1.7	4.75	220	0.473	< 0.0010	0.19	82.5	107	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.30	10.5	75.2	-	449	1040
Landowner 28	8-Oct-21	403	< 0.1	373	-	< 5	9.0	< 5	-	-	< 0.1	0.041	34.9	< 0.005	-	-	4.97	13.2	1.12	< 0.0005	0.08	373	111	1.0	0.23	< 0.05	< 0.01	0.23	< 5	8.01	0.30	21.8	-	322	643
Landowner 28	15-Jun-22	337	< 0.1	313	-	< 5	6.8	< 5	75.7	-	< 0.1	0.040	29.6	< 0.005	0.16	3.0	4.38	11.2	1.13	< 0.0005	0.11	311	110	1.1	0.25	< 0.05	< 0.01	0.25	< 5	8.23	0.28	19.6	-	276	599
Landowner 28	19-Sep-22	421	< 0.1	363	-	< 5	6.8	< 5	77.7	-	< 0.1	0.038	33.4	< 0.005	0.12	3.4	5.18	12.2	0.953	< 0.0010	0.10	332	96	1.1	0.25	< 0.05	< 0.01	0.25	< 5	8.09	0.29	21.2	-	340	599
Landowner 8	8-Oct-21	635	< 0.1	946	-	< 5	1.5	< 5	-	-	< 0.1	0.099	0.6	0.011	-	-	3.21	384.0	0.086	< 0.0005	0.37	11	109	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.33	51.0	243	-	528	1560
Landowner 8	15-Jun-22	659	< 0.1	948	-	31	< 1.0	< 5	2.7	-	< 0.1	0.088	0.5	0.007	0.19	0.7	2.93	351	0.080	< 0.0005	0.35	8.8	92	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	26	8.76	51.4	238	-	582	1460
Landowner 8	15-Jun-22	671	< 0.1	950	-	28	< 1.0	< 5	2.6	-	< 0.1	0.089	0.5	0.007	0.18	0.8	2.94	353	0.081	< 0.0005	0.33	8.6	92	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	23	8.71	52.5	235	-	587	1460
Landowner 8	21-Sep-22	594	< 0.1	935	-	25	2.9	< 5	2.8	-	< 0.1	0.094	0.5	0.008	< 0.08	0.7	2.93	369	0.082	< 0.0005	0.35	9.1	103	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	21	8.60	53.3	242	-	529	1550
Landowner 30	7-Oct-21	362	< 0.1	370	-	8	8.1	< 5	-	-	1.6	0.033	31.0	0.499	< 0.08	-	5.66	51.9	0.483	< 0.0005	0.20	291	118	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	6	8.41	1.32	25.6	-	309	700
Landowner 30	18-Jun-22	432	0.1	418	-	< 5	12.5	< 5	0.3	-	< 0.1	0.022	< 0.2	< 0.005	0.16	2.4	5.38	164	0.002	< 0.0005	0.14	0.7	90	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.08	82.3	26.5	-	347	663
Landowner 30	19-Sep-22	425	< 0.1	382	-	< 5	8.5	< 5	59.0	-	1.8	0.030	29.9	0.483	0.13	2.1	5.89	49.4	0.522	< 0.0010	0.16	270	100	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.10	1.31	23.6	-	343	613
Landowner 21	14-Oct-21	532	< 0.1	672	-	12	10.7	< 5	-	-	0.1	0.042	1.6	0.020	< 0.08	-	3.89	273.0	0.152	< 0.0005	0.69	24	106	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	10	8.48	24.3	105	-	456	1140
Landowner 21	16-Jun-22	571	< 0.1	646	-	20	1.0	< 5	3.2	-	< 0.1	0.036	0.6	0.007	0.12	1.0	3.53	245	0.139	< 0.0005	0.53	10.5	90	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	16	8.59	32.9	94.8	-	492	1050
Landowner 21	20-Sep-22	584	< 0.1	720	-	21	< 1.0	< 5	4.4	-	< 0.1	0.043	0.8	0.012	0.17	1.0	3.73	286	0.131	< 0.0005	0.72	14.3	100	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	17	8.64	32.9	120	-	505	1100
Landowner 13	17-Oct-21	504	< 0.1	710	-	< 5	< 1.0	< 5	-	-	1.3	0.050	31.3	0.219	-	-	4.34	196.0	1.04	0.0010	< 0.01	262	116	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.03	5.26	179	-	406	1080
Landowner 13	16-Jun-22	512	< 0.1	662	-	< 5	< 1.0	< 5	48.0	-	< 0.1	0.041	23.0	0.165	0.09	2.3	4.27	158	0.989	< 0.0005	0.09	215	93	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.24	4.69	179	-	411	1010
Landowner 13	21-Sep-22	455	< 0.1	652	-	< 5	1.5	< 5	47.5	-	0.3	0.047	24.3	0.179	< 0.08	2.6	4.45	172	1.03	< 0.0010	0.07	219	106	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.14	5.06	180	-	373	1080
Landowner 23	6-Oct-21	387	0.2	524	-	< 5	57.4	< 5	-	-	< 0.1	0.041	33.1	< 0.005	< 0.08	-	6.84	31.4	0.618	< 0.0005	0.20	441	108	44.5	10.1	< 0.05	< 0.01	10.1	< 5	7.93	0.65	41.3	-	317	971
Landowner 23	6-Oct-21	571	< 0.1	755	-	15	9.4	< 5	-	-	< 0.1	0.053	1.0	0.009	< 0.08	-	3.39	323	0.075	< 0.0005	0.54	14	113	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	13	8.55	37.4	121	-	494	1330
Landowner 23	16-Jun-22	586	< 0.1	723	-	26	10.6	< 5	1.5	-	< 0.1	0.048	0.2	< 0.005	0.13	0.7	3.26	277	0.070	< 0.0005	0.49	4.6	92	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	22	8.74	56.3	119	-	516	1190
Landowner 23	20-Sep-22	609	< 0.1	796	-	21	10.3	< 5	2.8	-	< 0.1	0.056	0.4	0.007	0.18	0.7	3.51	317	0.078	< 0.0005	0.58	8.6	100	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	17	8.63	46.9	144	-	525	1220
Landowner 20	6-Oct-21	490	< 0.1	661	-	15	7.3	< 5	-	-	< 0.1	0.048	0.6	0.006	< 0.08	-	3.48	276	0.071	< 0.0005	0.53	9	109	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	12	8.60	39.5	118	-	426	1150
Landowner 20	8-Oct-21	537	< 0.1	626	-	12	3.0	< 5	-	-	< 0.1	0.067	2.6	0.014	-	-	4.31	244.0	0.175	< 0.0005	0.29	31	100	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	10	8.48	19.2	91.1	-	460	1080
Landowner 20	16-Jun-22	514	< 0.1	613	-	21	9.1	< 5	1.3	-	< 0.1	0.043	0.3	< 0.005	0.11	0.7	3.25	229	0.072	< 0.0005	0.49	4.5	88	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	18	8.65	47.0	99.3	-	449	1010
Landowner 20	23-Sep-22	519	< 0.1	671	-	22	7.7	< 5	2.3	-	< 0.1	0.052	0.4	0.005	0.12	0.7	3.46	278	0.065	< 0.0005	0.52	7.4	105	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	19	8.66	44.5	105	-	455	1100
Landowner 10	8-Oct-21	529	< 0.1	618	-	14	3.0	< 5	-	-	< 0.1	0.063	2.7	0.015	-	-	4.43	238.0	0.173	< 0.0005	0.29	32	99	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	12	8.53	18.4	90.8	-	457	1080
Landowner 10	18-Jun-22	555	< 0.1	616	-	14	3.3	< 5	7.9	-	< 0.1	0.064	2.3	0.026	0.15	1.1	3.98	224	0.162	< 0.0005	0.25	29.2	90	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	12	8.52	18.0	90.6	-	470	954
Landowner 10	20-Sep-22	570	< 0.1	633	-	< 5	3.2	< 5	8.0	-	< 0.1	0.069	2.6	0.026	0.12	1.2	4.46	249	0.170	< 0.0005	0.26	30.7	102	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.35	19.6	88.6	-	467	969
Landowner 10	20-Sep-22	565	< 0.1	629	-	< 5	3.2	< 5	8.0	-	< 0.1	-	2.5	0.026	-	1.1	-	247	-	-	0.24	30.3	101	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.35	19.5	89.1	-	460	972
Landowner 5	14-Oct-21	577	< 0.1	710	-	< 5	4.0	< 5	-	-	< 0.1	0.030	48.7	0.233	< 0.08	-	4.51	170	0.51	< 0.0005	0.12	347	115	0.5	0.11	< 0.05	< 0.01	0.11	< 5	8.23	3.97	142	-	465	1140
Landowner 5	16-Jun-22	505	< 0.1	639	-	< 5	< 1.0	< 5	51.8	-	< 0.1	0.029	38.3	0.190	0.19	2.1	4.59	149	0.491	< 0.0005	0.15	287	108	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.14	3.83	149	-	467	1030
Landowner 5	22-Sep-22	587	< 0.1	697	-	< 5	< 1.0	< 5	46.7	-	< 0.1	0.035	40.9	0.207	0.14	2.7	5.21	166	0.518	< 0.0005	0.15	285	102	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.15	4.28	152	-	473	1110
Landowner 17	8-Oct-21	311	0.4	394	-	< 5	56.6	< 5	-	-	< 0.1	0.039	28.4	0.411	-	-	6.09	35.1	0.916	< 0.0005	0.10	344	118	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.82	0.82	25.9	-	255	742
Landowner 17	18-Jun-22	339	0.3	382	-	< 5	56.6	< 5	77.7	-	< 0.1	0.040	23.4	0.334	0.15	2.7	5.47	27.2	0.970	< 0.0005	0.11	290	91	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.27	0.69	27.7	-	272	651
Landowner 17	21-Sep-22	313	0.3	363	-	< 5	49.6	< 5	76.3	-	0.3	0.042	24.0	0.316	< 0.08	2.6	5.60	30.9	1.03	< 0.0010	0.14	289	102	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	7.97	0.79	25.7	-	257	704
Landowner 32	7-Oct-21	480	< 0.1	596	-	< 5	43.4	< 5	-	-	< 0.1	0.088	54.2	< 0.005	< 0.08	-	7.10	40.2	1.00	< 0.0005	0.33	533	114	33.9	7.66	< 0.05	< 0.01	7.66	< 5	8.09	0.76	61.2	-	394	1020
Landowner 32	18-Jun-22	527	< 0.1	567	-	< 5	31.7	< 5	102	-	< 0.1	0.083	45.5	< 0.005	0.16	3.0	6.07	32.8	0.999	< 0.0005	0.25	442	91	34.9	7.88	< 0.05	< 0.01	7.88	< 5	8.01	0.68	58.2	-	424	898
Landowner 25	14-Oct-21	335	< 0.1	361	-	< 5	7.0	< 5	-	-	< 0.1	0.045	30.4	< 0.005	< 0.08	-	4.97	36.2	0.819	< 0.0005	0.15	300	115	14.1	3.19	< 0.05	< 0.01	3.19	< 5	7.94	0.91	34.9	-	275	660
Landowner 25	14-Oct-21	337	< 0.1	358	-	< 5	6.2	< 5	-	-	< 0.1	0.046	30.4	< 0.005	< 0.08	-	4.82	34.2	0.818	< 0.0005	0.15	298	113	13.3	3.00	< 0.05	< 0.01	3.00	< 5	7.94	0.86	35.3	-	276	656
Landowner 25	17-Jun-22	382	< 0.1	370	-	< 5	6.2	< 5	71.3	-	< 0.1	0.038	26.3	< 0.005	0.09	2.8	4.65	29.3	0.835	< 0.0005	0.17	286	96	12.4	2.80	< 0.05	< 0.01	2.80	< 5	8.13	0.75	34.0	-	307	593
Landowner 25	17-Jun-22	381	< 0.1	370	-	< 5	6.4	< 5	71.4	-	< 0.1	0.040	25.6	< 0.005	< 0.08	3.0	4.66	29.7	0.831	< 0.0005	0.17	284	96	12.5	2.82	< 0.05	< 0.01	2.82	< 5	8.00	0.77	34.2	-	305	639
Landowner 25	20-Sep-22	388	< 0.1	377	-	< 5	6.5	< 5	66.7	-	< 0.1	0.047	29.0	< 0.005	0.12	3.3	5.37	33.5	0.889	< 0.0010	0.13	286	97	12.3	2.78	< 0.20	< 0.01	2.78	< 5	8.05	0.86	35.2	-	312	604
Landowner 18	16-Oct-21	302	< 0.1	297	-	< 5	1.3	< 5	-	-	< 0.1	0.034	18.4	0.157	< 0.08	-	5.24	48.9	1.41	< 0.0005	< 0.01	213	118	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.34	1.46	22.9	-	252	590
Landowner 18	15-Jun-22	278	< 0.1	277	-	8	1.1	< 5	48.3	-	0.1	0.030	16.9	0.142	0.15	1.8	4.38	40.2	1.36	< 0.0005	0.06	190	105	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	6	8.42	1.27	23.9	-	240	521
Landowner 18	19-Sep-22	344	< 0.1	308	-	< 5	1.1	< 5	48.6	-	0.3	0.027	18.3	0.130	0.13	2.1	5.14	44.9	1.21	< 0.0025	0.08	197	96	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	< 5	8.13	1.39	24.2	-	278	490
Landowner 6	17-Jun-21	427	0.2	438	-	< 5	31.1	< 5	-	99	< 0.1	0.05	38.9	< 0.005	< 0.08	-	6.97	19.6	0.537	< 0.0005	0.13	402	103	10.7	2.42	< 0.05	< 0.01	2.42	< 5	8.02	0.43	28.4	-	350	772

INTEGRATED SUSTAINABILITY

Table 1B: Water Analytical Results: General, Major Ions and Nutrients

Client Name: Enhance Energy Ltd. **Project Number:** CP22-EEI-01-00 **Date:** 09-Feb-23 **Rev:** A

		Routine Water Paramaters																																		
Landowner ID	Date (dd-mmm-yy)	Bicarbonate mg/L	Bromide mg/L	Calculated TDS mg/L	Total Dissolved Solids (Analysed) mg/L	Carbonate mg/L	Chloride mg/L	Hydroxide mg/L	Dissolved Calcium mg/L	Dissolved Inorganic Carbon mg/L	Dissolved Iron mg/L	Dissolved Lithium mg/L	Dissolved Magnesium mg/L	Dissolved Manganese mg/L	Dissolved Phosphorus mg/L	Dissolved Potassium mg/L	Dissolved Silicon mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Tin mg/L	Fluoride mg/L	Hardness mg/L	Ion Balance %	Nitrate mg/L	Nitrate-N mg/L	Nitrite mg/L	Nitrite-N mg/L	Nitrate + Nitrite (as N) mg/L	P - Alkalinity (as CaCO3) mg/L	pH pH Units	Sodium Adsorption Ratio None	Sulfate mg/L	Sulfide mg/L	T - Alkalinity (as CaCO3) mg/L	Electrical Conductivity uS/cm
Landowner 6	4-Oct-21	466	0.2	467	-	< 5	27.4	< 5	-	-	< 0.1	0.043	43.0	< 0.005	< 0.08	-	6.00	19.3	0.553	< 0.0005	0.18	442	106	11.3	2.55	< 0.05	< 0.01	2.55	< 5	8.02	0.40	28.0	-	382	814
Landowner 6	14-Jun-22	391	0.163	406	-	< 5	25.6	< 5	91.0	-	< 0.1	0.046	37.4	< 0.005	< 0.08	2.1	5.78	18.5	0.598	< 0.0005	0.21	381	107	11.8	2.67	< 0.05	< 0.01	2.67	< 5	8.28	0.41	27.8	-	322	753
Landowner 6	19-Sep-22	470	0.1	494	-	< 5	36.7	< 5	98.0	-	< 0.1	0.042	44.2	< 0.005	0.15	2.7	7.12	20.3	0.573	< 0.0010	0.19	427	96	25.7	5.81	< 0.05	< 0.01	5.81	< 5	7.90	0.43	34.9	-	379	824
Landowner 22	7-Oct-21	520	< 0.1	695	-	46	< 1.0	< 5	-	-	< 0.1	0.053	0.3	< 0.005	< 0.08	-	3.46	279	0.044	< 0.0005	0.90	6	99	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	38	8.89	49.6	111	-	493	1160
Landowner 22	15-Jun-22	443	< 0.1	605	-	31	< 1.0	< 5	1.6	-	< 0.1	0.043	< 0.2	< 0.005	0.18	< 0.6	2.94	244	0.043	< 0.0005	1.20	4.0	100	0.6	0.14	< 0.05	< 0.01	0.14	26	8.80	53.0	110	-	415	1080
Landowner 22	20-Sep-22	525	< 0.1	661	-	30	< 1.0	< 5	1.7	-	< 0.1	0.050	0.3	< 0.005	0.17	< 0.6	3.23	271	0.046	< 0.0005	0.97	5.5	101	< 0.5	< 0.02	< 0.05	< 0.01	< 0.02	25	8.81	50.3	100	-	471	1030
12-25-039-24W4	17-Oct-21	882	< 0.1	1170	-	< 5	48.3	< 5	-	-	< 0.1	0.134	102	0.019	0.08	-	10.66	77.2	1.78	0.0008	0.18	1020	112	1.6	0.36	< 0.05	< 0.01	0.36	< 5	7.75	1.05	263	-	714	1710
12-25-039-24W4	18-Jun-22	678	< 0.1	935	-	< 5	48.3	< 5	167	-	< 0.1	0.112	75.8	< 0.005	0.16	1.8	8.51	57.8	1.38	< 0.0005	0.31	729	97	24.1	5.44	< 0.05	< 0.01	5.44	< 5	8.24	0.93	227	-	545	1360
12-25-039-24W4	18-Jun-22	641	< 0.1	922	-	< 5	51.5	< 5	163	-	< 0.1	0.114	73.3	< 0.005	0.17	1.8	8.52	57.3	1.40	< 0.0005	0.32	709	97	28.5	6.44	< 0.05	< 0.01	6.44	< 5	7.99	0.94	231	-	525	1440
12-25-039-24W4	20-Sep-22	763	< 0.1	997	-	< 5	50.0	< 5	167	-	< 0.1	0.126	78.5	< 0.005	0.15	1.9	10.6	67.3	1.30	< 0.0025	0.28	740	93	17.6	3.98	< 0.05	< 0.01	3.98	< 5	7.97	1.08	239	-	613	1530

Table 2: Water Analytical Results: GW Dissolved Metals

Client Name: Enhance Energy **Project Manager:** Emily Guzman **Project Number:** CP22-EEI-22-00 **Date:** February 9, 2023 **Rev #:** A

Landowner ID	Date (dd-mmm-yy)	Dissolved Aluminum mg/L	Dissolved Antimony mg/L	Dissolved Arsenic mg/L	Dissolved Barium mg/L	Dissolved Beryllium mg/L	Dissolved Boron mg/L	Dissolved Cadmium mg/L	Dissolved Chromium mg/L	Dissolved Cobalt mg/L	Dissolved Copper mg/L	Dissolved Iron mg/L	Dissolved Lead mg/L	Dissolved Lithium mg/L	Dissolved Manganese mg/L	Dissolved Molybdenum mg/L	Dissolved Nickel mg/L	Dissolved Phosphorus mg/L	Dissolved Selenium mg/L	Dissolved Silicon mg/L	Dissolved Silver mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Thallium mg/L	Dissolved Tin mg/L	Dissolved Titanium mg/L	Dissolved Uranium mg/L	Dissolved Vanadium mg/L	Dissolved Zinc mg/L
Landowner 2	8-Aug-19	0.008	< 0.001	< 0.001	0.06	< 0.001	0.07	< 0.000016	< 0.001	< 0.0009	0.0095	< 0.1	< 0.0005	0.051	< 0.005	0.001	< 0.003	< 0.08	0.0043	4.63	< 0.00005	31.4	0.719	< 0.0001	0.0043	0.001	0.009	< 0.001	0.015
Landowner 2	9-Oct-19	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.05	< 0.000016	< 0.001	< 0.0009	0.0094	< 0.1	< 0.0005	0.045	< 0.005	0.001	< 0.003	< 0.08	0.0038	5.08	0.0001	31.7	0.679	< 0.0001	0.0014	< 0.001	0.008	< 0.001	0.013
Landowner 2	7-Oct-21	0.034	< 0.001	< 0.001	0.06	< 0.001	0.05	< 0.000016	< 0.001	< 0.0009	0.0111	< 0.1	< 0.0005	0.043	< 0.005	0.001	< 0.003	< 0.08	< 0.0005	5.86	< 0.0001	36.5	0.688	< 0.0001	< 0.0005	0.002	0.009	< 0.001	0.035
Landowner 2	7-Oct-21	0.006	< 0.001	< 0.001	0.06	< 0.001	0.06	< 0.000016	< 0.001	< 0.0009	0.0114	< 0.1	< 0.0005	0.045	< 0.005	0.001	< 0.003	< 0.08	< 0.0005	5.81	0.0001	33.9	0.745	< 0.0001	< 0.0005	0.003	0.009	< 0.001	0.036
Landowner 2	15-Jun-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.06	0.000018	< 0.0005	< 0.0009	0.0265	< 0.1	0.0001	0.044	< 0.005	0.001	< 0.003	0.19	0.0038	5.23	< 0.00005	32.8 31.0	0.790	< 0.0001	< 0.0005	< 0.001	0.008	< 0.001	0.054
Landowner 2	20-Sep-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.07	< 0.000032	< 0.0005	< 0.0009	0.0022	< 0.1	< 0.0001	0.051	< 0.005	0.001	< 0.003	0.13	0.0042	5.99	< 0.00005	33.0	0.785	< 0.0001	< 0.0010	< 0.002	0.008	< 0.001	0.019
Landowner 12	8-Aug-19	0.005	< 0.001	0.02	0.07	< 0.001	0.08	< 0.000016	< 0.001	0.0012	0.0015	1.1	< 0.0005	0.036	0.426	0.003	< 0.003	< 0.08	0.0007	4.55	< 0.00005	47.6	0.53	< 0.0001	0.0016	< 0.001	0.003	< 0.001	0.008
Landowner 12	8-Oct-19	0.019	< 0.001	0.023	0.08	< 0.001	0.08	< 0.000016	< 0.001	< 0.0009	0.0027	1.1	< 0.0005	0.038	0.443	0.004	< 0.003	< 0.08	0.0009	4.66	< 0.00005	46.5	0.563	< 0.0001	0.0019	0.002	0.003	< 0.001	0.007
Landowner 1	9-Oct-19	0.009	< 0.001	< 0.001	0.05	< 0.001	0.05	< 0.000016	< 0.001	< 0.0009	0.012	< 0.1	< 0.0005	0.042	0.015	0.002	< 0.003	< 0.08	0.0012	4.55	0.00018	37.6	0.744	< 0.0001	0.0017	< 0.001	0.007	< 0.001	0.024
Landowner 1	7-Oct-21	0.005	< 0.001	< 0.001	0.06	< 0.001	0.06	< 0.000016	< 0.001	< 0.0009	0.0201	< 0.1	< 0.0005	0.041	0.011	0.002	< 0.003	-	< 0.0005	5.60	< 0.0001	37.5	0.775	< 0.0001	< 0.0005	0.002	0.008	< 0.001	0.025
Landowner 1	17-Jun-22	< 0.004	< 0.001	< 0.001	0.05	< 0.0005	0.07	< 0.00016	< 0.0010	< 0.0009	0.0067	< 0.1	< 0.0005	0.045	0.008	0.002	< 0.003	0.16	< 0.005	4.68	< 0.00010	34.7	0.696	< 0.0001	< 0.005	< 0.01	0.004	< 0.001	0.016
Landowner 1	7-Aug-19	0.01	< 0.001	< 0.001	0.06	< 0.001	0.06	0.000025	< 0.001	< 0.0009	0.022	< 0.1	< 0.0005	0.045	0.014	0.003	< 0.003	< 0.08	0.0018	4.55	< 0.00005	38.6	0.721	< 0.0001	< 0.0005	0.002	0.007	< 0.001	0.04
Landowner 1	7-Aug-19	0.011	< 0.001	< 0.001	0.06	< 0.001	0.06	0.00002	< 0.001	< 0.0009	0.0217	< 0.1	< 0.0005	0.045	0.014	0.002	< 0.003	< 0.08	0.0018	4.56	< 0.00005	38.3	0.719	< 0.0001	< 0.0005	0.001	0.007	< 0.001	0.041
Landowner 1	19-Sep-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.05	< 0.000016	< 0.0005	< 0.0009	0.0103	< 0.1	< 0.0001	0.039	< 0.005	0.002	< 0.003	0.11	< 0.0005	5.45	< 0.00005	39.4	0.700	< 0.0001	< 0.0005	< 0.001	0.007	< 0.001	0.013
Landowner 25	7-Aug-19	< 0.004	< 0.001	< 0.001	0.07	< 0.001	0.06	< 0.000016	< 0.001	< 0.0009	0.0028	< 0.1	< 0.0005	0.049	< 0.005	0.002	< 0.003	< 0.08	0.0024	4.44	< 0.00005	33.5	0.797	< 0.0001	0.0011	0.001	0.008	< 0.001	0.024
Landowner 25	9-Oct-19	0.028	< 0.001	< 0.001	0.06	< 0.001	0.05	< 0.000016	< 0.001	< 0.0009	0.006	< 0.1	< 0.0005	0.044	< 0.005	0.002	< 0.003	< 0.08	0.002	4.61	0.00009	32.2	0.799	< 0.0001	0.002	< 0.001	0.008	< 0.001	0.03
Landowner 25	6-Oct-21	0.007	< 0.001	< 0.001	0.07	< 0.001	0.07	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.7	< 0.0005	0.054	0.128	0.001	< 0.003	< 0.08	0.0005	6.09	< 0.0001	58.3	1.17	< 0.0001	< 0.0005	0.003	< 0.001	< 0.001	0.047
Landowner 33	7-Aug-19	< 0.004	< 0.001	< 0.001	0.21	< 0.001	0.07	< 0.000016	< 0.001	< 0.0009	0.0013	< 0.1	< 0.0005	0.041	< 0.005	0.002	< 0.003	< 0.08	0.0024	4.6	< 0.00005	40.1	0.483	< 0.0001	0.0015	0.002	0.005	< 0.001	< 0.005
Landowner 33	8-Oct-19	< 0.004	< 0.001	< 0.001	0.21	< 0.001	0.11	< 0.000016	< 0.001	< 0.0009	0.0015	< 0.1	< 0.0005	0.044	< 0.005	0.002	< 0.003	< 0.08	0.002	4.44	0.00008	38.3	0.497	< 0.0001	0.0015	0.005	0.006	< 0.001	< 0.005
Landowner 33	8-Oct-19	0.007	< 0.001	< 0.001	0.19	< 0.001	0.06	< 0.000016	< 0.001	< 0.0009	0.0013	< 0.1	< 0.0005	0.044	< 0.005	0.002	< 0.003	< 0.08	0.0015	4.44	0.00033	39.7	0.491	< 0.0001	0.0021	0.001	0.005	< 0.001	< 0.005
Landowner 33	16-Jun-21	0.025	< 0.001	< 0.001	0.18	< 0.001	0.06	< 0.000016	< 0.001	< 0.0009	0.0027	< 0.1	< 0.0005	-	< 0.005	0.002	< 0.003	< 0.08	< 0.0005	-	< 0.0001	40	-	< 0.0001	-	0.002	0.005	-	< 0.005
Landowner 33	7-Oct-21	0.006	< 0.001	< 0.001	0.20	< 0.001	0.07	0.000017	< 0.001	< 0.0009	0.0036	< 0.1	< 0.0005	0.037	< 0.005	0.001	< 0.003	< 0.08	< 0.0005	5.63	< 0.0001	42.1	0.484	< 0.0001	< 0.0005	0.003	0.005	< 0.001	0.013
Landowner 33	15-Jun-22	< 0.004	< 0.001	< 0.001	0.18	< 0.0005	0.06	< 0.000016	< 0.0005	< 0.0009	0.0062	< 0.1	0.0004	0.039	< 0.005	0.001	< 0.003	0.14	0.0009	4.70	< 0.00005	36.0	0.473	< 0.0001	< 0.0005	< 0.001	0.004	< 0.001	0.011
Landowner 33	15-Jun-22	< 0.004	< 0.001	< 0.001	0.18	< 0.0005	0.06	< 0.000016	< 0.0005	< 0.0009	0.0031	< 0.1	0.0003	0.039	< 0.005	0.001	< 0.003	0.16	0.0008	4.68	< 0.00005	35.6	0.480	< 0.0001	< 0.0005	< 0.001	0.004	< 0.001	0.005
Landowner 33	21-Sep-22	< 0.004	< 0.001	< 0.001	0.19	< 0.0005	0.07	< 0.000016	< 0.0005	< 0.0009	0.0078	< 0.1	0.0004	0.044	< 0.005	0.001	< 0.003	< 0.08	0.0010	5.04	< 0.00005	38.6	0.507	< 0.0001	< 0.0005	< 0.001	0.004	< 0.001	0.011
Landowner 27	9-Aug-19	0.016	< 0.001	< 0.001	< 0.05	< 0.001	0.21	< 0.000016	< 0.001	< 0.0009	0.0035	0.3	< 0.0005	0.085	0.095	0.002	< 0.003	< 0.08	< 0.0005	3.88	< 0.00005	184	0.661	< 0.0001	0.0023	< 0.001	< 0.001	< 0.001	0.011
Landowner 27	9-Aug-19	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	< 0.08	< 0.0005	< 0.032	< 0.00005	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.005
Landowner 27	9-Aug-19	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	< 0.08	< 0.0005	< 0.032	< 0.00005	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.005
Landowner 27	8-Oct-19	0.007	< 0.001	< 0.001	< 0.05	< 0.001	0.23	< 0.000016	< 0.001	< 0.0009	0.0009	2.4	< 0.0005	0.087	0.182	0.002	< 0.003	< 0.08	0.0006	3.93	< 0.00005	213	0.472	< 0.0001	0.0029	0.004	< 0.001	< 0.001	0.022
Landowner 4	8-Aug-19	0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.13	< 0.000016	< 0.001	< 0.0009	0.0215	1.4	0.0013	0.059	0.15	0.001	< 0.003	< 0.08	< 0.0005	4.96	< 0.00005	58.3	0.884	< 0.0001	0.0024	0.002	< 0.001	< 0.001	0.026
Landowner 4	8-Oct-19	0.017	< 0.001	< 0.001	< 0.05	< 0.001	0.13	< 0.000016	< 0.001	< 0.0009	0.0009	2.1	< 0.0005	0.062	0.174	0.001	< 0.003	< 0.08	0.0008	5.27	< 0.00005	55.7	0.924	< 0.0001	0.002	0.003	< 0.001	< 0.001	0.014
Landowner 4	8-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.11	0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.051	0.214	0.001	< 0.003	-	< 0.005	6.27	< 0.0001	60.6	0.912	< 0.0001	< 0.0005	0.005	< 0.001	< 0.001	0.019
Landowner 4	18-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.11	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.052	0.172	0.001	< 0.003	0.13	< 0.0005	5.58	< 0.00005	51.6	0.945	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	0.006
Landowner 31	8-Aug-19	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.18	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.1	< 0.0005	0.051	0.036	0.003	< 0.003	< 0.08	< 0.0005	2.1	< 0.00005	148	0.108	< 0.0001	0.003	< 0.001	< 0.001	< 0.001	< 0.005
Landowner 31	8-Oct-21	0.006	< 0.001	0.003	< 0.05	< 0.001	0.18	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	0.0039	0.045	0.615	0.001	< 0.003	-	0.0009	4.71	< 0.0001	136.0	0.459	< 0.0001	< 0.0005	0.003	0.002	< 0.001	0.019
Landowner 31	17-Jun-22	< 0.004	< 0.001	0.002	< 0.05	< 0.0005	0.17	< 0.00016	< 0.0010	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.041	0.595	0.001	< 0.003	0.16	< 0.005	4.55	< 0.00010	106	0.519	< 0.0001	< 0.005	< 0.01	0.003	< 0.001	< 0.010
Landowner 31	19-Sep-22	< 0.004	< 0.001	0.002	< 0.05	< 0.0005	0.14	< 0.000016	< 0.0005	< 0.0009	< 0.0008	5.4	< 0.0001	0.038	0.498	0.001	< 0.003	0.11	< 0.0005	5.25	< 0.00005	136	0.500	< 0.0001	< 0.0005	< 0.001	0.001	< 0.001	< 0.004
Landowner 31	19-Sep-22	< 0.004	< 0.001	0.002	< 0.05	< 0.0005	0.14	< 0.000016	< 0.0005	< 0.0009	< 0.0008	4.2	< 0.0001	0.040	0.502	0.002	< 0.003	0.11	< 0.0005	5.23	< 0.00005	139	0.500	< 0.0001	< 0.0005	< 0.001	0.001	< 0.001	< 0.004
Landowner 24	8-Aug-19	0.005	< 0.001	0.002	< 0.05	< 0.001	0.2	< 0.000016	< 0.001	< 0.0009	0.143	1.6	< 0.0005	0.05	0.241	0.002	< 0.003	< 0.08	0.0006	4.41	< 0.00005	143	0.621	< 0.0001	0.0022	0.001	< 0.001	< 0.001	0.006
Landowner 24	7-Oct-21	0.006	< 0.001	0.002	< 0.05	< 0.001	0.20	< 0.000016	< 0.001	< 0.0009	< 0.0008	3.3	< 0.0005	0.051	0.324	0.001	< 0.003	< 0.08	< 0.0005	5.93	< 0.0001	154	0.684	< 0.0001	< 0.0005	0.004	< 0.001	< 0.001	0.009
Landowner 24	17-Jun-22	0.006	< 0.001	0.002	< 0.05	< 0.0005	0.14	0.000029	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.011	< 0.005	0.006	< 0.003	0.09	< 0.0005	1.43	< 0.00005	96.6	0.054	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004

Table 2: Water Analytical Results: GW Dissolved Metals

Client Name: Enhance Energy **Project Manager:** Emily Guzman **Project Number:** CP22-EEI-22-00 **Date:** February 9, 2023 **Rev #:** A

Landowner ID	Date (dd-mmm-yy)	Dissolved Aluminum mg/L	Dissolved Antimony mg/L	Dissolved Arsenic mg/L	Dissolved Barium mg/L	Dissolved Beryllium mg/L	Dissolved Boron mg/L	Dissolved Cadmium mg/L	Dissolved Chromium mg/L	Dissolved Cobalt mg/L	Dissolved Copper mg/L	Dissolved Iron mg/L	Dissolved Lead mg/L	Dissolved Lithium mg/L	Dissolved Manganese mg/L	Dissolved Molybdenum mg/L	Dissolved Nickel mg/L	Dissolved Phosphorus mg/L	Dissolved Selenium mg/L	Dissolved Silicon mg/L	Dissolved Silver mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Thallium mg/L	Dissolved Tin mg/L	Dissolved Titanium mg/L	Dissolved Uranium mg/L	Dissolved Vanadium mg/L	Dissolved Zinc mg/L
UL1 - Development	**11-Jul-19**	< 0.004	< 0.001	0.009	< 0.05	< 0.001	0.18	< 0.000016	< 0.001	< 0.0009	0.0011	< 0.1	< 0.0005	0.022	0.011	0.008	< 0.003	< 0.08	< 0.0005	3.14	< 0.00005	233	0.058	< 0.0001	< 0.0005	< 0.001	0.003	< 0.001	0.026
UL1 - Development	**15-Jul-19**	0.007	< 0.001	< 0.001	< 0.05	< 0.001	0.09	0.000031	< 0.001	< 0.0009	0.0015	< 0.1	< 0.0005	0.038	0.485	0.002	< 0.003	< 0.08	< 0.0005	4.43	< 0.00005	47.3	0.651	< 0.0001	< 0.0005	0.002	0.007	< 0.001	0.091
UL1 - Development	**15-Jul-19**	0.007	< 0.001	0.003	< 0.05	< 0.001	0.08	0.000017	< 0.001	< 0.0009	0.0016	0.2	< 0.0005	0.039	0.266	0.004	< 0.003	< 0.08	< 0.0005	4.52	< 0.00005	47.2	0.638	< 0.0001	< 0.0005	0.003	0.006	< 0.001	0.053
UL1 - Development	**6-Aug-19**	0.139	0.001	0.018	< 0.05	< 0.001	0.3	0.000038	< 0.001	< 0.0009	0.0065	< 0.1	< 0.0005	0.045	0.005	0.016	< 0.003	< 0.08	0.0021	3.83	< 0.00005	255	0.082	< 0.0001	< 0.0005	0.003	0.011	0.004	< 0.005
UL1 - Development	**6-Aug-19**	0.038	0.001	0.018	< 0.05	< 0.001	0.3	0.000038	< 0.001	< 0.0009	0.0066	< 0.1	< 0.0005	0.044	< 0.005	0.016	< 0.003	< 0.08	0.002	3.44	< 0.00005	256	0.086	< 0.0001	< 0.0005	0.002	0.011	0.003	< 0.005
UL1 - Development	**7-Oct-19**	0.014	0.001	0.017	< 0.05	< 0.001	0.27	< 0.000016	< 0.001	< 0.0009	0.0111	< 0.1	< 0.0005	0.035	0.006	0.014	< 0.003	< 0.08	0.0013	3.51	< 0.00005	255	0.08	< 0.0001	< 0.0005	0.01	0.009	0.002	0.021
UL1 - Development	**7-Oct-19**	0.014	0.001	0.017	< 0.05	< 0.001	0.28	< 0.000016	< 0.001	< 0.0009	0.0098	< 0.1	< 0.0005	0.036	0.006	0.014	< 0.003	0.1	0.0012	3.54	< 0.00005	248	0.081	< 0.0001	< 0.0005	0.009	0.009	0.003	0.018
UL1 - Development	**21-Jul-20**	0.006	< 0.001	< 0.001	< 0.05	< 0.001	0.31	0.000027	< 0.001	< 0.0009	0.0027	< 0.1	0.0005	0.036	0.01	0.012	< 0.003	-	0.0006	-	< 0.0001	273	0.059	< 0.0001	0.0005	0.001	0.006	-	0.011
UL1 - Development	**28-Oct-20**	0.24	< 0.001	0.005	< 0.05	< 0.001	0.2	< 0.000016	< 0.001	< 0.0009	0.0009	0.2	< 0.0005	0.021	0.008	0.008	< 0.003	-	< 0.0005	4.58	< 0.0001	288	0.036	< 0.0001	0.0006	0.008	0.003	0.003	0.013
UL1 - Development	**28-Oct-20**	0.236	< 0.001	0.005	< 0.05	< 0.001	0.2	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.2	0.0005	0.021	0.009	0.008	< 0.003	-	< 0.0005	4.72	< 0.0001	288	0.036	< 0.0001	0.0006	0.008	0.003	0.003	0.011
UL1 - Development	**15-Jun-21**	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.09	< 0.000016	< 0.001	< 0.001	0.002	< 0.1	0.0003	0.057	0.528	0.001	< 0.004	< 0.08	< 0.0005	5.23	< 0.00005	51.9	0.684	< 0.0005	0.0005	< 0.001	0.003	0.002	0.01
UL1 - Development	**5-Oct-21**	0.008	< 0.001	< 0.001	< 0.05	< 0.001	0.09	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.039	0.631	0.002	< 0.003	< 0.08	0.0057	5.38	0.0001	44.8	0.672	< 0.0001	< 0.0005	< 0.001	0.003	< 0.001	< 0.005
UL1 - Development	**26-Jun-22**	0.009	< 0.001	< 0.001	< 0.05	< 0.0005	0.07	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0002	0.037	0.005	0.002	< 0.003	0.24	< 0.0005	3.63	< 0.00005	45.6	0.617	< 0.0001	< 0.0005	0.003	0.003	< 0.001	< 0.005
UL2 - Development	**7-Aug-19**	0.009	< 0.001	0.001	0.05	< 0.001	0.09	0.000017	< 0.001	< 0.0009	0.0179	0.2	< 0.0005	0.049	0.318	0.002	< 0.003	< 0.08	< 0.0005	5.01	< 0.00005	47.8	0.609	< 0.0001	< 0.0005	0.002	0.004	< 0.001	0.034
UL2 - Development	**7-Oct-19**	0.007	< 0.001	0.002	< 0.05	< 0.001	0.08	0.000026	< 0.001	< 0.0009	0.0115	0.4	< 0.0005	0.039	0.283	0.002	< 0.003	< 0.08	< 0.0005	5.41	< 0.00005	45.6	0.623	< 0.0001	< 0.0005	0.008	0.003	< 0.001	0.042
UL2 - Development	**22-Jul-20**	0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.09	0.000018	< 0.001	< 0.0009	0.0086	0.5	0.0006	0.045	0.295	0.002	< 0.003	-	< 0.0005	-	< 0.0001	43.6	0.602	< 0.0001	< 0.0005	0.002	0.003	-	0.021
UL2 - Development	**22-Jul-20**	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	-	< 0.0005	-	< 0.0001	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	-	< 0.005
UL2 - Development	**27-Oct-20**	0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.05	< 0.000016	< 0.001	< 0.0009	0.0061	0.4	< 0.0005	0.032	0.289	0.002	< 0.003	-	0.0012	5.84	< 0.0001	48.4	0.439	< 0.0001	< 0.0005	0.001	0.002	< 0.001	0.021
UL2 - Development	**15-Jun-21**	0.104	< 0.001	0.004	< 0.05	< 0.001	0.27	0.000017	< 0.001	< 0.001	0.003	< 0.1	0.0011	0.045	0.007	0.007	< 0.004	0.17	< 0.0005	3.9	< 0.00005	293	0.058	< 0.0005	0.0013	0.008	0.004	0.002	0.04
UL2 - Development	**5-Oct-21**	0.005	< 0.001	< 0.001	< 0.05	< 0.001	0.09	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.5	< 0.0005	0.042	0.344	0.002	< 0.003	< 0.08	0.0128	5.64	< 0.0001	46.9	0.618	< 0.0001	< 0.0005	0.001	0.003	< 0.001	0.011
UL2 - Development	**26-Jun-22**	0.010	< 0.001	< 0.001	0.05	< 0.0005	0.07	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0002	0.040	0.248	0.002	< 0.003	0.11	< 0.0005	5.14	< 0.00005	47.3	0.579	< 0.0001	< 0.0005	0.003	0.003	< 0.001	0.007
UL3 - Development	**7-Aug-19**	0.008	< 0.001	< 0.001	0.06	< 0.001	0.08	0.000046	< 0.001	< 0.0009	0.0211	< 0.1	< 0.0005	0.041	0.548	0.002	< 0.003	< 0.08	< 0.0005	4.89	< 0.00005	45.8	0.641	< 0.0001	< 0.0005	0.002	0.003	< 0.001	0.035
UL3 - Development	**7-Oct-19**	0.011	< 0.001	< 0.001	0.07	< 0.001	0.08	< 0.000016	< 0.001	< 0.0009	0.0073	0.1	< 0.0005	0.044	0.599	0.002	< 0.003	< 0.08	< 0.0005	4.58	< 0.00005	43.4	0.661	< 0.0001	< 0.0005	0.002	0.003	< 0.001	0.017
UL3 - Development	**22-Jul-20**	0.005	< 0.001	< 0.001	< 0.05	< 0.001	0.09	< 0.000016	< 0.001	< 0.0009	0.0097	< 0.1	0.0009	0.043	0.549	0.002	< 0.003	-	< 0.0005	-	< 0.0001	40.9	0.643	< 0.0001	< 0.0005	0.002	0.003	-	0.027
UL3 - Development	**22-Jul-20**	0.005	< 0.001	< 0.001	< 0.05	< 0.001	0.09	0.00004	< 0.001	< 0.0009	0.0098	< 0.1	0.0009	0.043	0.554	0.002	< 0.003	-	0.0005	-	< 0.0001	41.7	0.663	< 0.0001	< 0.0005	0.001	0.003	-	0.026
UL3 - Development	**28-Oct-20**	0.017	< 0.001	< 0.001	< 0.05	< 0.001	0.05	0.000023	< 0.001	< 0.0009	0.0056	< 0.1	< 0.0005	0.025	0.564	0.001	< 0.003	-	< 0.0005	5.85	< 0.0001	46	0.418	< 0.0001	< 0.0005	0.003	0.002	0.001	0.012
UL3 - Development	**28-Oct-20**	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	-	< 0.0005	< 0.032	< 0.0001	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	0.002	< 0.005
UL3 - Development	**15-Jun-21**	< 0.004	< 0.001	< 0.001	0.05	< 0.001	0.07	< 0.000016	< 0.001	< 0.001	0.003	< 0.1	0.0007	0.053	0.288	0.001	< 0.004	< 0.08	< 0.0005	5.58	< 0.00005	50.7	0.618	< 0.0005	< 0.0005	0.004	0.003	0.001	< 0.01
UL3 - Development	**5-Oct-21**	0.044	< 0.001	0.003	< 0.05	< 0.001	0.33	0.000025	< 0.001	< 0.0009	0.0012	< 0.1	< 0.0005	0.032	< 0.005	0.008	< 0.003	0.10	0.0079	3.60	< 0.0001	290	0.058	< 0.0001	< 0.0005	0.002	0.001	0.002	0.009
UL3 - Development	**26-Jun-22**	0.091	< 0.001	0.002	< 0.05	< 0.0005	0.27	0.000038	< 0.0005	< 0.0009	< 0.0008	< 0.1	0.0004	0.030	0.515	0.008	< 0.003	< 0.08	0.0013	5.03	< 0.00005	282	0.056	< 0.0001	< 0.0005	0.005	0.001	< 0.001	0.041
Landowner 19	16-Jun-21	< 0.004	< 0.001	< 0.001	0.09	< 0.001	0.04	0.00002	< 0.001	< 0.0009	0.0055	< 0.1	< 0.0005	-	< 0.005	0.001	< 0.003	< 0.08	0.0016	-	< 0.0001	14.6	-	< 0.0001	-	0.002	0.012	-	0.012
Landowner 19	8-Oct-21	0.049	< 0.001	< 0.001	0.10	< 0.001	0.05	0.000029	< 0.001	< 0.0009	0.0072	< 0.1	< 0.0005	0.046	< 0.005	0.001	< 0.003	-	0.0046	6.32	< 0.0001	15.7	0.608	< 0.0001	< 0.0005	0.004	0.012	< 0.001	0.026
Landowner 29	17-Jun-21	0.006	< 0.001	< 0.001	0.07	< 0.001	0.08	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.7	< 0.0005	0.06	0.121	0.001	< 0.003	< 0.08	< 0.0005	6.69	< 0.0001	52	1.12	< 0.0001	< 0.0005	0.003	< 0.001	< 0.001	0.015
Landowner 29	23-Jun-22	0.010	< 0.001	< 0.001	0.07	< 0.0005	0.06	0.000016	< 0.0005	< 0.0009	0.0040	< 0.1	< 0.0001	0.051	0.123	0.001	< 0.003	0.08	< 0.0005	5.42	< 0.00005	49.6	1.11	< 0.0001	< 0.0005	0.002	< 0.001	< 0.001	0.054
Landowner 29	23-Jun-22	0.005	< 0.001	< 0.001	0.07	< 0.0005	0.06	< 0.000016	< 0.0005	< 0.0009	0.0097	< 0.1	< 0.0001	0.050	0.124	0.001	< 0.003	0.09	< 0.0005	5.41	< 0.00005	49.0	1.06	< 0.0001	< 0.0005	0.002	< 0.001	< 0.001	0.318
Landowner 29	24-Jun-22	0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.10	0.000027	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.057	0.332	0.001	< 0.003	0.10	< 0.0005	5.06	< 0.00005	105	0.854	< 0.0001	< 0.0005	0.004	0.004	< 0.001	0.010
Landowner 29	24-Sep-22	< 0.004	< 0.001	< 0.001	0.07	< 0.0005	0.08	< 0.000080	< 0.0005	< 0.0009	< 0.0008	0.6	< 0.0002	0.058	0.118	0.001	< 0.003	0.12	< 0.0025	6.11	< 0.00005	55.0	1.15	< 0.0001	< 0.0025	< 0.005	< 0.001	< 0.001	0.061
273157 (Enhance Facility Well)	15-Jun-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.11	< 0.000016	< 0.001	< 0.001	0.008	< 0.1	< 0.0002	0.095	0.039	0.002	< 0.004	< 0.08	< 0.0005	4.37	< 0.00005	226	0.26	< 0.0005	< 0.0005	0.008	< 0.001	0.001	0.03
273157 (Enhance Facility Well)	5-Oct-21	0.019	< 0.001	< 0.001	< 0.05	< 0.001	0.12	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.2	< 0.0005	0.071	0.046	0.002	< 0.003	< 0.08	0.0094	4.53	0.0002	216	0.270	< 0.0001	< 0.0005	0.001	< 0.001	< 0.001	< 0.005
273157 (Enhance Facility Well)	14-Jun-22	0.014	< 0.001	< 0.001	< 0.05	< 0.0005	0.10	< 0.000016	< 0.0005	< 0.0009	0.0041	< 0.1	0.0002	0.069	0.035	0.002	< 0.003	0.13	< 0.0005	4.34	< 0.00005	212	0.269	< 0.0001	< 0.0005	0.003	< 0.001	< 0.001	0.203
273157 (Enhance Facility Well)	19-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.10	< 0.000032	< 0.0005	< 0.0009	< 0.0008	< 0.2	0.0023	0.063	0.038	0.002	< 0.003	0.11	< 0.0010	4.90	< 0.00005	202	0.270	< 0.0001	< 0.0010	< 0.002	< 0.001	< 0.001	0.373
Landowner 14	6-Oct-21	< 0.004	< 0.001	< 0.001	0.06	< 0.001	0.08	< 0.000016	< 0.001	< 0.0009	< 0.0008	1.0	< 0.0005	0.064	0.200	0.001	< 0.003	< 0.08	< 0.0005	6.71	< 0.0001	75.2	0.596	< 0.0001	< 0.0005	0.002	0.001	< 0.001	0.017
Landowner 14	18-Jun-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.08	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.064	0.190	0.001	< 0.003	0.14	< 0.0005	5.98	< 0.00005	64.0	0.620	< 0.0001	< 0.0005	< 0.001	0.001	< 0.001	0.030
Landowner 14	21-Sep-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.12	< 0.000032	< 0.0005	< 0.0009	< 0.0008	1.0	< 0.0001	0.070	0.191	0.001	< 0.003	< 0.08	< 0.0010	6.13	< 0.00005	81.2	0.568	< 0.0001	< 0.0010	< 0.002	0.001	< 0.001	0.044
Landowner 26	8-Oct-21	0.006	< 0.001	< 0.001	< 0.05	< 0.001	0.11	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.6	< 0.0005	0.060	0.397	0.001	< 0.003	-	< 0.0005	6.10	< 0.0001	115.0	0.952	< 0.0001	< 0.0005	0.003	0.005	< 0.001	0.021
Landowner 26	21-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.13	< 0.000032	< 0.0005	< 0.0009	0.0019	1.6	0.0001	0.069	0.335	0.001	< 0.003	< 0.08	< 0.0010	5.29	< 0.00005	109	1.05	< 0.0001	< 0.0010	< 0.002	0.004	< 0.001	0.010

Table 2: Water Analytical Results: GW Dissolved Metals

Client Name: Enhance Energy **Project Manager:** Emily Guzman **Project Number:** CP22-EEI-22-00 **Date:** February 9, 2023 **Rev #:** A

Landowner ID	Date (dd-mmm-yy)	Dissolved Aluminum mg/L	Dissolved Antimony mg/L	Dissolved Arsenic mg/L	Dissolved Barium mg/L	Dissolved Beryllium mg/L	Dissolved Boron mg/L	Dissolved Cadmium mg/L	Dissolved Chromium mg/L	Dissolved Cobalt mg/L	Dissolved Copper mg/L	Dissolved Iron mg/L	Dissolved Lead mg/L	Dissolved Lithium mg/L	Dissolved Manganese mg/L	Dissolved Molybdenum mg/L	Dissolved Nickel mg/L	Dissolved Phosphorus mg/L	Dissolved Selenium mg/L	Dissolved Silicon mg/L	Dissolved Silver mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Thallium mg/L	Dissolved Tin mg/L	Dissolved Titanium mg/L	Dissolved Uranium mg/L	Dissolved Vanadium mg/L	Dissolved Zinc mg/L
Landowner 7	16-Oct-21	0.005	< 0.001	< 0.001	0.10	< 0.0005	0.06	0.000025	< 0.0005	< 0.0009	0.0037	< 0.1	0.0005	0.030	0.093	0.002	0.003	< 0.08	< 0.0005	5.97	< 0.00005	41.0	0.637	< 0.0001	< 0.0005	< 0.001	0.008	< 0.001	0.016
Landowner 7	16-Jun-22	0.008	< 0.001	< 0.001	0.08	< 0.0005	0.05	< 0.000016	< 0.0005	< 0.0009	0.0013	< 0.1	< 0.0001	0.026	0.124	0.002	< 0.003	0.10	< 0.0005	4.65	< 0.00005	32.2	0.557	< 0.0001	< 0.0005	0.003	0.006	< 0.001	0.016
Landowner 7	20-Sep-22	< 0.004	< 0.001	< 0.001	0.09	< 0.0005	0.07	< 0.000032	< 0.0005	< 0.0009	< 0.0008	2.8	< 0.0001	0.028	0.116	0.002	< 0.003	0.13	< 0.0010	5.79	< 0.00005	35.6	0.612	< 0.0001	< 0.0010	< 0.002	0.006	< 0.001	0.013
Landowner 11	6-Oct-21	0.007	< 0.001	< 0.001	< 0.05	< 0.001	0.11	0.000029	< 0.001	< 0.0009	0.0013	< 0.1	0.0005	0.038	0.163	0.004	< 0.003	< 0.08	< 0.0005	5.06	< 0.0001	102	0.685	< 0.0001	< 0.0005	0.003	0.003	< 0.001	0.048
Landowner 11	15-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.11	0.000022	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.037	0.119	0.001	< 0.003	0.15	0.0007	4.72	< 0.00005	95.5	0.684	< 0.0001	< 0.0005	< 0.001	0.002	< 0.001	0.036
Landowner 11	20-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.13	< 0.000032	< 0.0005	< 0.0009	< 0.0008	0.1	< 0.0001	0.042	0.144	0.002	< 0.003	0.12	< 0.0010	5.57	< 0.00005	108	0.679	< 0.0001	< 0.0010	< 0.002	0.002	< 0.001	0.050
Landowner 16	6-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.23	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.085	0.017	0.002	< 0.003	< 0.08	0.0009	4.39	< 0.0001	221	0.341	< 0.0001	< 0.0005	0.004	< 0.001	< 0.001	< 0.005
Landowner 16	16-Jun-22	0.024	< 0.001	< 0.001	< 0.05	< 0.0005	0.21	0.000033	< 0.0005	< 0.0009	0.0046	< 0.1	0.0005	0.081	0.011	0.002	< 0.003	0.09	< 0.0005	4.19	< 0.00005	183	0.326	< 0.0001	< 0.0005	0.005	< 0.001	< 0.001	0.021
Landowner 16	20-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.22	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.088	0.015	0.002	< 0.003	0.11	< 0.0005	4.66	< 0.00005	211	0.360	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004
Landowner 9	16-Jun-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.11	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	0.0011	-	0.007	0.005	< 0.003	< 0.08	< 0.0005	-	< 0.0001	95.3	-	< 0.0001	-	0.002	0.005	-	< 0.005
Landowner 9	16-Jun-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.1	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	0.0009	-	0.007	0.005	< 0.003	< 0.08	< 0.0005	-	< 0.0001	95	-	< 0.0001	-	0.001	0.005	-	< 0.005
Landowner 9	6-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.14	< 0.000016	< 0.001	< 0.0009	0.0016	< 0.1	< 0.0005	0.060	0.014	0.004	< 0.003	< 0.08	0.0105	4.15	0.0001	140	0.596	< 0.0001	< 0.0005	0.004	0.004	< 0.001	0.007
Landowner 9	15-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.13	< 0.000016	< 0.0005	< 0.0009	0.0011	< 0.1	0.0001	0.059	0.010	0.004	< 0.003	0.16	0.0011	3.60	< 0.00005	111	0.630	< 0.0001	< 0.0005	< 0.001	0.003	< 0.001	< 0.004
Landowner 9	19-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.12	< 0.000032	< 0.0005	< 0.0009	0.0020	< 0.1	< 0.0001	0.054	0.007	0.005	< 0.003	0.12	0.0013	4.15	< 0.00005	109	0.644	< 0.0001	< 0.0010	< 0.002	0.003	< 0.001	0.007
Landowner 3	6-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.20	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.067	0.092	0.002	< 0.003	< 0.08	< 0.0005	4.20	0.0002	246	0.401	< 0.0001	< 0.0005	0.008	< 0.001	< 0.001	0.022
Landowner 3	6-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.19	< 0.000016	< 0.001	< 0.0009	< 0.0008	0.1	< 0.0005	0.066	0.088	0.002	< 0.003	< 0.08	< 0.0005	4.27	0.0001	250	0.401	< 0.0001	< 0.0005	0.006	< 0.001	< 0.001	0.018
Landowner 3	17-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.16	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.083	0.296	0.002	< 0.003	< 0.08	< 0.0005	4.17	< 0.00005	159	1.19	< 0.0001	< 0.0005	< 0.001	0.002	< 0.001	0.038
Landowner 3	21-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.20	< 0.000032	< 0.0005	< 0.0009	< 0.0008	0.8	< 0.0001	0.091	0.248	0.002	< 0.003	< 0.08	< 0.0010	4.27	< 0.00005	188	1.09	< 0.0001	< 0.0010	< 0.002	0.001	< 0.001	0.038
Landowner 3	6-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.19	< 0.000016	< 0.001	< 0.0009	0.0044	< 0.1	< 0.0005	0.069	0.112	0.002	< 0.003	< 0.08	< 0.0005	4.33	< 0.0001	249	0.434	< 0.0001	< 0.0005	0.006	< 0.001	< 0.001	0.021
Landowner 20	14-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.19	< 0.000016	< 0.0005	< 0.0009	0.0020	< 0.1	< 0.0002	-	0.006	< 0.001	< 0.003	-	< 0.0005	-	< 0.00005	225	-	< 0.0001	-	0.003	< 0.001	-	0.008
Landowner 20	23-Jun-22	0.005	< 0.001	< 0.001	< 0.05	< 0.0005	0.21	< 0.000016	< 0.0005	< 0.0009	0.0048	< 0.1	< 0.0001	0.094	< 0.005	< 0.001	< 0.003	0.09	< 0.0005	4.67	< 0.00005	212	0.420	< 0.0001	< 0.0005	0.003	< 0.001	< 0.001	0.007
Landowner 20	21-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.24	< 0.000032	< 0.0005	< 0.0009	0.0025	< 0.1	< 0.0001	0.105	< 0.005	< 0.001	< 0.003	< 0.08	< 0.0010	4.75	< 0.00005	220	0.473	< 0.0001	< 0.0010	< 0.002	< 0.001	< 0.001	0.007
Landowner 28	8-Oct-21	0.008	< 0.001	< 0.001	0.05	< 0.001	0.04	< 0.000016	< 0.001	< 0.0009	0.0083	< 0.1	0.0009	0.041	< 0.005	0.002	< 0.003	-	< 0.0005	4.97	< 0.00005	13.2	1.12	< 0.0001	< 0.0005	0.002	0.016	< 0.001	0.076
Landowner 28	15-Jun-22	< 0.004	< 0.001	< 0.001	0.05	< 0.0005	0.03	< 0.000016	< 0.0005	< 0.0009	0.0053	< 0.1	< 0.0001	0.040	< 0.005	0.002	< 0.003	0.16	< 0.0005	4.38	< 0.00005	11.2	1.13	< 0.0001	< 0.0005	< 0.001	0.015	< 0.001	0.065
Landowner 28	19-Sep-22	< 0.004	< 0.001	< 0.001	0.05	< 0.0005	0.03	< 0.000032	< 0.0005	< 0.0009	0.0042	< 0.1	< 0.0001	0.038	< 0.005	0.002	< 0.003	0.12	< 0.0010	5.18	< 0.00005	12.2	0.953	< 0.0001	< 0.0010	< 0.002	0.013	< 0.001	0.068
Landowner 8	8-Oct-21	0.019	< 0.001	< 0.001	< 0.05	< 0.001	0.36	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.099	0.011	0.001	< 0.003	-	0.0009	3.21	< 0.0001	384.0	0.086	< 0.0001	< 0.0005	0.002	< 0.001	< 0.001	0.008
Landowner 8	15-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.31	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.088	0.007	0.002	< 0.003	0.19	< 0.0005	2.93	< 0.00005	351	0.080	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004
Landowner 8	15-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.31	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.089	0.007	0.001	< 0.003	0.18	< 0.0005	2.94	< 0.00005	353	0.081	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004
Landowner 8	21-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.33	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.094	0.008	0.001	< 0.003	< 0.08	< 0.0005	2.93	< 0.00005	369	0.082	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004
Landowner 30	7-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.08	0.000055	< 0.001	0.0099	< 0.0008	1.6	< 0.0005	0.033	0.499	0.019	0.024	< 0.08	< 0.0005	5.66	0.0002	51.9	0.483	< 0.0001	< 0.0005	0.003	0.004	< 0.001	< 0.005
Landowner 30	18-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.06	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.022	< 0.005	0.002	< 0.003	0.16	< 0.0005	5.38	< 0.00005	164	0.002	< 0.0001	< 0.0005	< 0.001	0.004	< 0.001	0.004
Landowner 30	19-Sep-22	< 0.004	< 0.001	0.006	0.06	< 0.0005	0.07	< 0.000032	< 0.0005	0.0011	< 0.0008	1.8	< 0.0001	0.030	0.483	0.002	< 0.003	0.13	< 0.0010	5.89	< 0.00005	49.4	0.522	< 0.0001	< 0.0010	< 0.002	0.003	< 0.001	0.011
Landowner 21	14-Oct-21	0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.44	< 0.000016	< 0.0005	< 0.0009	< 0.0008	0.1	< 0.0002	0.042	0.020	0.003	< 0.003	< 0.08	0.0057	3.89	< 0.00005	273.0	0.152	< 0.0001	< 0.0005	0.001	< 0.001	< 0.001	< 0.005
Landowner 21	16-Jun-22	0.014	< 0.001	< 0.001	< 0.05	< 0.0005	0.38	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.036	0.007	0.003	< 0.003	0.12	< 0.0005	3.53	< 0.00005	245	0.139	< 0.0001	< 0.0005	0.004	< 0.001	< 0.001	0.005
Landowner 21	20-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.42	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.043	0.012	0.003	< 0.003	0.17	< 0.0005	3.73	< 0.00005	286	0.131	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004
Landowner 13	17-Oct-21	0.018	< 0.001	0.003	< 0.05	< 0.001	0.18	0.000029	0.002	< 0.001	< 0.001	1.3	< 0.0002	0.050	0.219	0.005	< 0.004	-	0.0012	4.34	0.00007	196.0	1.04	< 0.0005	0.0010	0.008	0.005	0.004	0.01
Landowner 13	16-Jun-22	0.005	< 0.001	< 0.001	< 0.05	< 0.0005	0.15	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.041	0.165	0.002	< 0.003	0.09	< 0.0005	4.27	< 0.00005	158	0.989	< 0.0001	< 0.0005	0.004	0.003	< 0.001	0.006
Landowner 13	21-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.16	< 0.000032	< 0.0005	< 0.0009	< 0.0008	0.3	< 0.0001	0.047	0.179	0.002	< 0.003	< 0.08	< 0.0010	4.45	< 0.00005	172	1.03	< 0.0001	< 0.0010	< 0.002	0.003	< 0.001	< 0.004
Landowner 23	6-Oct-21	< 0.004	< 0.001	< 0.001	0.24	< 0.001	0.07	0.000031	< 0.001	< 0.0009	0.0156	< 0.1	< 0.0005	0.041	< 0.005	< 0.001	< 0.003	< 0.08	0.0008	6.84	< 0.0001	31.4	0.618	< 0.0001	< 0.0005	0.003	0.007	< 0.001	0.062
Landowner 23	6-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.40	< 0.000016	< 0.001	< 0.0009	0.0075	< 0.1	< 0.0005	0.053	0.009	0.001	< 0.003	< 0.08	0.0014	3.39	< 0.0001	323	0.075	< 0.0001	< 0.0005	0.004	< 0.001	< 0.001	0.008
Landowner 23	16-Jun-22	0.007	< 0.001	< 0.001	< 0.05	< 0.0005	0.36	0.000019	< 0.0005	< 0.0009	0.0017	< 0.1	< 0.0001	0.048	< 0.005	0.001	< 0.003	0.13	< 0.0005	3.26	< 0.00005	277	0.070	< 0.0001	< 0.0005	0.005	< 0.001	< 0.001	0.006
Landowner 23	20-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.38	< 0.000016	< 0.0005	< 0.0009	0.0046	< 0.1	0.0001	0.056	0.007	0.001	< 0.003	0.18	< 0.0005	3.51	< 0.00005	317	0.078	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004
Landowner 20	6-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.38	0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.048	0.006	0.002	< 0.003	< 0.08	< 0.0005	3.48	< 0.0001	276	0.071	< 0.0001	< 0.0005	0.004	< 0.001	< 0.001	< 0.005
Landowner 20	16-Jun-22	0.006	< 0.001	< 0.001	< 0.05	< 0.0005	0.35	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.043	< 0.005	0.002	< 0.003	0.11	< 0.0005	3.25	< 0.00005	229	0.072	< 0.0001	< 0.0005	0.005	< 0.001	< 0.001	0.006
Landowner 20	23-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.37	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.052	0.005	0.002	< 0.003	0.12	< 0.0005	3.46	< 0.00005	278	0.065	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004

Table 2: Water Analytical Results: GW Dissolved Metals

Client Name: Enhance Energy **Project Manager:** Emily Guzman **Project Number:** CP22-EEI-22-00 **Date:** February 9, 2023 **Rev #:** A

Landowner ID	Date (dd-mmm-yy)	Dissolved Aluminum mg/L	Dissolved Antimony mg/L	Dissolved Arsenic mg/L	Dissolved Barium mg/L	Dissolved Beryllium mg/L	Dissolved Boron mg/L	Dissolved Cadmium mg/L	Dissolved Chromium mg/L	Dissolved Cobalt mg/L	Dissolved Copper mg/L	Dissolved Iron mg/L	Dissolved Lead mg/L	Dissolved Lithium mg/L	Dissolved Manganese mg/L	Dissolved Molybdenum mg/L	Dissolved Nickel mg/L	Dissolved Phosphorus mg/L	Dissolved Selenium mg/L	Dissolved Silicon mg/L	Dissolved Silver mg/L	Dissolved Sodium mg/L	Dissolved Strontium mg/L	Dissolved Thallium mg/L	Dissolved Tin mg/L	Dissolved Titanium mg/L	Dissolved Uranium mg/L	Dissolved Vanadium mg/L	Dissolved Zinc mg/L
Landowner 10	8-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.21	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.063	0.015	0.002	< 0.003	-	< 0.0005	4.43	< 0.0001	238.0	0.173	< 0.0001	< 0.0005	0.003	< 0.001	< 0.001	0.005
Landowner 10	8-Oct-21	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	0.21	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.067	0.014	0.002	< 0.003	-	0.0008	4.31	< 0.0001	244.0	0.175	< 0.0001	< 0.0005	0.003	< 0.001	< 0.001	0.007
Landowner 10	18-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.20	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.064	0.026	0.002	< 0.003	0.15	< 0.0005	3.98	< 0.00005	224	0.162	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	0.004
Landowner 10	20-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.21	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.069	0.026	0.002	< 0.003	0.12	< 0.0005	4.46	< 0.00005	249	0.170	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	0.005
Landowner 10	20-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.21	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	-	0.026	0.002	< 0.003	-	< 0.0005	-	< 0.00005	247	-	< 0.0001	-	< 0.001	< 0.001	-	0.006
Landowner 5	14-Oct-21	0.015	< 0.001	0.001	< 0.05	< 0.001	0.17	0.000023	0.002	< 0.001	0.002	< 0.1	< 0.0002	0.030	0.233	0.002	< 0.004	< 0.08	< 0.0005	4.51	< 0.00005	170	0.51	< 0.0005	< 0.0005	0.005	0.008	< 0.001	0.01
Landowner 5	16-Jun-22	0.018	< 0.001	< 0.001	< 0.05	< 0.0005	0.18	0.000031	< 0.0005	< 0.0009	0.0018	< 0.1	< 0.0001	0.029	0.190	0.002	< 0.003	0.19	< 0.0005	4.59	< 0.00005	149	0.491	< 0.0001	< 0.0005	0.004	0.008	< 0.001	0.008
Landowner 5	22-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.20	0.000043	< 0.0005	< 0.0009	0.0019	< 0.1 < 0.1	0.0001	0.035	0.207 0.207	0.002	< 0.003	0.14	< 0.0005	5.21	< 0.00005	166 166	0.518	< 0.0001	< 0.0005	< 0.001	0.008	< 0.001	0.011
Landowner 17	8-Oct-21	0.016	< 0.001	< 0.001	0.11	< 0.001	0.06	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	0.039	0.411	0.002	< 0.003	-	0.0155	6.09	< 0.0001	35.1	0.916	< 0.0001	< 0.0005	0.003	0.002	< 0.001	0.006
Landowner 17	18-Jun-22	< 0.004	< 0.001	< 0.001	0.11	< 0.0005	0.06	< 0.000016	< 0.0005	< 0.0009	< 0.0008	< 0.1	< 0.0001	0.040	0.334	0.002	< 0.003	0.15	< 0.0005	5.47	< 0.00005	27.2	0.970	< 0.0001	< 0.0005	< 0.001	0.003	< 0.001	0.008
Landowner 17	21-Sep-22	< 0.004	< 0.001	< 0.001	0.11	< 0.0005	0.07	< 0.000032	< 0.0005	< 0.0009	< 0.0008	0.3	< 0.0001	0.042	0.316	0.002	< 0.003	< 0.08	< 0.0010	5.60	< 0.00005	30.9	1.03	< 0.0001	< 0.0010	< 0.002	0.002	< 0.001	0.005
Landowner 32	7-Oct-21	0.006	< 0.001	< 0.001	0.08	< 0.001	0.05	< 0.000016	< 0.001	< 0.0009	0.0098	< 0.1	< 0.0005	0.088	< 0.005	0.003	< 0.003	< 0.08	0.0067	7.10	< 0.0001	40.2	1.00	< 0.0001	< 0.0005	0.002	0.028	< 0.001	0.014
Landowner 32	18-Jun-22	< 0.004	< 0.001	< 0.001	0.07	< 0.0005	0.05	< 0.000016	0.0007	< 0.0009	0.0177	< 0.1	0.0003	0.083	< 0.005	0.003	< 0.003	0.16	0.0072	6.07	< 0.00005	32.8	0.999	< 0.0001	< 0.0005	< 0.001	0.023	< 0.001	0.015
Landowner 25	14-Oct-21	< 0.004	< 0.001	< 0.001	0.07	< 0.0005	0.06	0.000016	< 0.0005	< 0.0009	0.0012	< 0.1	< 0.0002	0.045	< 0.005	0.002	< 0.003	< 0.08	< 0.0005	4.97	< 0.00005	36.2	0.819	< 0.0001	< 0.0005	< 0.001	0.008	< 0.001	0.027
Landowner 25	14-Oct-21	0.005	< 0.001	< 0.001	0.07	< 0.0005	0.06	< 0.000016	< 0.0005	< 0.0009	0.0013	< 0.1	< 0.0002	0.046	< 0.005	0.002	< 0.003	< 0.08	< 0.0005	4.82	< 0.00005	34.2	0.818	< 0.0001	< 0.0005	< 0.001	0.008	< 0.001	0.023
Landowner 25	17-Jun-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.05	0.000016	< 0.0005	< 0.0009	0.0029	< 0.1	< 0.0001	0.038	< 0.005	0.002	< 0.003	0.09	0.0016	4.65	< 0.00005	29.3	0.835	< 0.0001	< 0.0005	< 0.001	0.008	< 0.001	0.035
Landowner 25	17-Jun-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.05	0.000017	< 0.0005	< 0.0009	0.0029	< 0.1	0.0001	0.040	< 0.005	0.002	< 0.003	< 0.08	0.0016	4.66	< 0.00005	29.7	0.831	< 0.0001	< 0.0005	< 0.001	0.008	< 0.001	0.034
Landowner 25	20-Sep-22	< 0.004	< 0.001	< 0.001	0.06	< 0.0005	0.06	< 0.000032	< 0.0005	< 0.0009	0.0029	< 0.1	< 0.0001	0.047	< 0.005	0.002	< 0.003	0.12	0.0018	5.37	< 0.00005	33.5	0.889	< 0.0001	< 0.0010	< 0.002	0.008	< 0.001	0.056
Landowner 18	16-Oct-21	0.004	< 0.001	< 0.001	0.08	< 0.0005	0.07	0.000023	< 0.0005	< 0.0009	0.0031	< 0.1	< 0.0002	0.034	0.157	0.004	< 0.003	< 0.08	< 0.0005	5.24	< 0.00005	48.9	1.41	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	0.012
Landowner 18	15-Jun-22	< 0.004	< 0.001	< 0.001	0.08	< 0.0005	0.07	< 0.000016	< 0.0005	< 0.0009	0.0016	0.1	< 0.0001	0.030	0.142	0.004	< 0.003	0.15	< 0.0005	4.38	< 0.00005	40.2	1.36	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	0.009
Landowner 18	19-Sep-22	0.008	< 0.001	< 0.001	0.08	< 0.0005	0.07	< 0.000080	< 0.0005	< 0.0009	< 0.0008	0.3	< 0.0002	0.027	0.130	0.004	< 0.003	0.13	< 0.0025	5.14	< 0.00005	44.9	1.21	< 0.0001	< 0.0025	< 0.005	< 0.001	< 0.001	< 0.005
Landowner 6	17-Jun-21	< 0.004	< 0.001	< 0.001	0.12	< 0.001	0.04	0.000027	< 0.001	< 0.0009	0.0036	< 0.1	< 0.0005	0.05	< 0.005	0.001	< 0.003	< 0.08	< 0.005	6.97	< 0.0001	19.6	0.537	< 0.0001	< 0.0005	0.003	0.008	< 0.001	0.018
Landowner 6	4-Oct-21	0.006	< 0.001	< 0.001	0.11	< 0.001	0.03	0.000023	< 0.001	< 0.0009	0.0035	< 0.1	< 0.0005	0.043	< 0.005	0.001	< 0.003	< 0.08	0.0136	6.00	0.0001	19.3	0.553	< 0.0001	< 0.0005	0.001	0.008	< 0.001	0.015
Landowner 6	14-Jun-22	< 0.004	< 0.001	< 0.001	0.14	< 0.0005	0.04	0.000023	< 0.0005	< 0.0009	0.0052	< 0.1	< 0.0002	0.046	< 0.005	0.001	< 0.003	< 0.08	0.0010	5.78	0.00010	18.5	0.598	< 0.0001	< 0.0005	0.006	0.009	< 0.001	0.026
Landowner 6	19-Sep-22	< 0.004	< 0.001	< 0.001	0.13	< 0.0005	0.04	< 0.000032	< 0.0005	< 0.0009	0.0028	< 0.1 < 0.1	< 0.0001	0.042	< 0.005 < 0.005	0.001	< 0.003	0.15	0.0016	7.12	< 0.00005	20.3 20.3	0.573	< 0.0001	< 0.0010	< 0.002	0.010	< 0.001	0.007
Landowner 22	7-Oct-21	0.007	< 0.001	< 0.001	< 0.05	< 0.001	0.34	< 0.000016	< 0.001	< 0.0009	0.0040	< 0.1	0.0007	0.053	< 0.005	0.002	< 0.003	< 0.08	< 0.0005	3.46	< 0.0001	279	0.044	< 0.0001	< 0.0005	0.003	< 0.001	< 0.001	< 0.005
Landowner 22	15-Jun-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.34	< 0.000016	< 0.0005	< 0.0009	0.0114	< 0.1	0.0007	0.043	< 0.005	0.004	< 0.003	0.18	< 0.0005	2.94	< 0.00005	244	0.043	< 0.0001	< 0.0005	0.001	< 0.001	< 0.001	< 0.004
Landowner 22	20-Sep-22	< 0.004	< 0.001	< 0.001	< 0.05	< 0.0005	0.36	< 0.000016	< 0.0005	< 0.0009	0.0117	< 0.1	0.0007	0.050	< 0.005	0.004	< 0.003	0.17	< 0.0005	3.23	< 0.00005	271	0.046	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.004
12-25-039-24W4	17-Oct-21	0.012	< 0.001	0.002	0.07	< 0.001	0.13	0.000059	0.002	< 0.001	0.001	< 0.1	< 0.0002	0.134	0.019	< 0.001	0.004	0.08	0.0017	10.66	0.00005	77.2	1.78	< 0.0005	0.0008	0.011	0.029	0.003	0.06
12-25-039-24W4	18-Jun-22	< 0.004	< 0.001	< 0.001	0.07	< 0.0005	0.08	0.000033	< 0.0005	< 0.0009	0.0017	< 0.1	< 0.0001	0.112	< 0.005	0.001	< 0.003	0.16	< 0.0005	8.51	< 0.00005	57.8	1.38	< 0.0001	< 0.0005	< 0.001	0.024	< 0.001	0.007
12-25-039-24W4	18-Jun-22	0.004	< 0.001	< 0.001	0.07	< 0.0005	0.09	0.000051	< 0.0005	< 0.0009	0.0018	< 0.1	< 0.0001	0.114	< 0.005	0.001	< 0.003	0.17	< 0.0005	8.52	< 0.00005	57.3	1.40	< 0.0001	< 0.0005	< 0.001	0.023	< 0.001	0.008
12-25-039-24W4	20-Sep-22	< 0.004	< 0.001	< 0.001	0.09	< 0.0005	0.12	< 0.000080	< 0.0005	< 0.0009	0.0018	< 0.1	< 0.0002	0.126	< 0.005	0.002	< 0.003	0.15	< 0.0025	10.6	< 0.00005	67.3	1.30	< 0.0001	< 0.0025	< 0.005	0.020	< 0.001	< 0.005
Field Blank	9-Oct-19	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	< 0.08	< 0.0005	< 0.032	< 0.00005	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.005
	9-Oct-19	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	< 0.08	< 0.0005	< 0.032	< 0.00005	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.005
	22-Jul-20	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	0.000027	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	-	< 0.0005	-	< 0.0001	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	-	< 0.005
	28-Oct-20	< 0.004	< 0.001	< 0.001	< 0.05	< 0.001	< 0.01	< 0.000016	< 0.001	< 0.0009	< 0.0008	< 0.1	< 0.0005	< 0.001	< 0.005	< 0.001	< 0.003	-	< 0.0005	< 0.032	< 0.0001	< 0.6	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.005

Table 3: Water Analytical Results: Isotopic Abundance

Client Name: Enhance Energy Inc.
Project Number: CP22-EEI-01-00

Date: February 9, 2023
Rev: A

		Groundwater Isotopes	Free Gas Isotopes			
Landowner ID	Date	d13C DIC	d13C-CH4	d13C-CO2	d18O-BaSO4	d34S
Landowner 2	8-Aug-19	-	-	-	-	-
Landowner 2	9-Oct-19	-	-	-	-	-
Landowner 2	7-Oct-21	-12.5	-	-	-	-
Landowner 2	7-Oct-21	-12.2	-	-	-	-
Landowner 2	15-Jun-22	-11.9	-	-	-	-
Landowner 2	20-Sep-22	-12.7	-	-	-	-
Landowner 12	8-Aug-19	-	-	-	-	-
Landowner 12	8-Oct-19	-	-	-	-	-
Landowner 12	7-Aug-19	-	-	-	-	-
Landowner 12	7-Aug-19	-	-	-	-	-
Landowner 1	9-Oct-19	-	-	-	-	-
Landowner 1	7-Oct-21	-12.6	-	-	-	-
Landowner 1	17-Jun-22	-	-	-19.61	-	-
Landowner 1	17-Jun-22	-	-	-	-	-
Landowner 1	29-Jun-22	-	-	-21.7	-	-
Landowner 1	19-Sep-22	-	-	-	-	-0.3
Landowner 1	10-Oct-22	-	-67.8	-20.6	-	-
Landowner 25	7-Aug-19	-	-	-	-	-
Landowner 25	9-Oct-19	-	-	-	-	-
Landowner 25	6-Oct-21	-12.2	-	-	-	-
Landowner 33	7-Aug-19	-	-	-	-	-
Landowner 33	8-Oct-19	-	-	-	-	-
Landowner 33	8-Oct-19	-	-	-	-	-
Landowner 33	16-Jun-21	-	-	-	-	-
Landowner 33	7-Oct-21	-13.1	-	-	-	-
Landowner 33	15-Jun-22	-13.3	-	-	-	-
Landowner 33	21-Sep-22	-12.9	-	-	-	-
Landowner 33	10-Oct-22	-	-	-21.6	-	-
Landowner 33	15-Jun-22	-12.4	-	-	-	-
Landowner 27	9-Aug-19	-	-	-	-	-
Landowner 27	9-Aug-19	-	-	-	-	-
Landowner 27	9-Aug-19	-	-	-	-	-
Landowner 27	8-Oct-19	-	-	-	-	-
Landowner 4	8-Aug-19	-	-	-	-	-
Landowner 4	8-Oct-19	-	-	-	-	-
Landowner 4	8-Oct-21	-12.6	-	-	-9.2	-5.2
Landowner 4	18-Jun-22	-12.7	-	-	-	-
Landowner 4	29-Jun-22	-	-	-22.2	-	-
Landowner 4	19-Sep-22	-13.3	-	-	-	-5.3
Landowner 31	8-Aug-19	-	-	-	-	-
Landowner 31	8-Oct-21	-13	-	-	-1.6	0.7
Landowner 31	17-Jun-22	-12.5	-	-	-	-
Landowner 31	29-Jun-22	-	-	-22.2	-	-
Landowner 31	19-Sep-22	-13.1	-	-	-	0.5
Landowner 31	19-Sep-22	-13.0	-	-	-	0.6

INTEGRATED SUSTAINABILITY

Table 3: Water Analytical Results: Isotopic Abundance

Client Name: Enhance Energy Inc.
Project Number: CP22-EEI-01-00

Date: February 9, 2023
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		Groundwater Isotopes	Free Gas Isotopes			
Landowner ID	Date	d13C DIC	d13C-CH4	d13C-CO2	d18O-BaSO4	d34S
Landowner 24	8-Aug-19	-	-	-	-	-
Landowner 24	7-Oct-21	-12.8	-	-	-	-
Landowner 24	8-Oct-21	-	-	-	0.3	1
Landowner 24	17-Jun-22	-	-	0	-	-
Landowner 24	17-Jun-22	-14.1	-	-	-	-
Landowner 24	29-Jun-22	-	-88.8	-	-	-
Landowner 24	10-Oct-22	-	-40.7	-13.3	-	-
UL1 - Development	11-Jul-19	-	-	-	-	-
UL1 - Development	15-Jul-19	-	-	-	-	-
UL1 - Development	15-Jul-19	-	-	-	-	-
UL1 - Development	6-Aug-19	-	-	-	-	-
UL1 - Development	6-Aug-19	-	-	-	-	-
UL1 - Development	7-Oct-19	-	-	-	-	-
UL1 - Development	7-Oct-19	-	-	-	-	-
UL1 - Development	21-Jul-20	-	-	-	-	-
UL1 - Development	21-Jul-20	-	-	-	-	-
UL1 - Development	28-Oct-20	-	-	-	-	-
UL1 - Development	28-Oct-20	-	-	-	-	-
UL1 - Development	15-Jun-21	-	-	-	-	-
UL1 - Development	5-Oct-21	-12.8	-	-	-	-
UL1 - Development	26-Jun-22	-12.8	-	-	-	-
UL2 - Development	7-Aug-19	-	-	-	-	-
UL2 - Development	7-Oct-19	-	-	-	-	-
UL2 - Development	22-Jul-20	-	-	-	-	-
UL2 - Development	22-Jul-20	-	-	-	-	-
UL2 - Development	27-Oct-20	-	-	-	-	-
UL2 - Development	15-Jun-21	0.410	-	-	-	-
UL2 - Development	5-Oct-21	-12.4	-	-	-	-
UL2 - Development	26-Jun-22	-12.7	-	-	-	-
UL3 - Development	7-Aug-19	-	-	-	-	-
UL3 - Development	7-Oct-19	-	-	-	-	-
UL3 - Development	22-Jul-20	-	-	-	-	-
UL3 - Development	22-Jul-20	-	-	-	-	-
UL3 - Development	28-Oct-20	-	-	-	-	-
UL3 - Development	28-Oct-20	-	-	-	-	-
UL3 - Development	15-Jun-21	-	-	-	-	-
UL3 - Development	5-Oct-21	-15.8	-	-	-	-
UL3 - Development	26-Jun-22	-15.0	-	-	-	-
Landowner 19	16-Jun-21	-	-	-	-	-
Landowner 19	8-Oct-21	-13.4	-	-	-	-
Landowner 29	17-Jun-21	0.595	-	-	-	-
Landowner 29	23-Jun-22	-12.2	-	-	-	-
Landowner 29	23-Jun-22	-12.2	-	-	-	-
Landowner 29	24-Jun-22	-13.3	-	-20.49	-	-
Landowner 29	24-Sep-22	-11.9	-	-	-	-
273157 (Enhance Facility Well)	15-Jun-21	0.503	-	-	-	-
273157 (Enhance Facility Well)	5-Oct-21	-12.2	-	-	-	-
273157 (Enhance Facility Well)	14-Jun-22	-12.1	-	-	-	-
273157 (Enhance Facility Well)	19-Sep-22	-12.6	-	-	-	-

Table 3: Water Analytical Results: Isotopic Abundance

Client Name: Enhance Energy Inc.
Project Number: CP22-EEI-01-00

Date: February 9, 2023
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		Groundwater Isotopes	Free Gas Isotopes			
Landowner ID	Date	d13C DIC	d13C-CH4	d13C-CO2	d18O-BaSO4	d34S
Landowner 14	6-Oct-21	-12.7	-	-	-	-
Landowner 14	18-Jun-22	-12.9	-	-	-	-
Landowner 14	21-Sep-22	-13.0	-	-	-	-
Landowner 26	8-Oct-21	-12.6	-	-	-4	-1.6
Landowner 26	21-Sep-22	-13.1	-	-	-	-
Landowner 7	16-Oct-21	-11.9	-	-	-	-
Landowner 7	16-Jun-22	-12.3	-	-	-	-
Landowner 7	20-Sep-22	-13.0	-	-	-	-
Landowner 11	6-Oct-21	-12.4	-	-	-	-
Landowner 11	15-Jun-22	-	-	-12.1	-	-
Landowner 11	15-Jun-22	-12.1	-	-	-	-
Landowner 11	20-Sep-22	-12.4	-	-	-	-
Landowner 16	6-Oct-21	-13	-	-	-	-
Landowner 16	16-Jun-22	-12.8	-	-	-	-
Landowner 16	20-Sep-22	-	-	-	-	-
Landowner 9	16-Jun-21	0.580	-	-	-	-
Landowner 9	16-Jun-21	0.588	-	-	-	-
Landowner 9	6-Oct-21	-12.6	-	-	-	-
Landowner 9	15-Jun-22	-12.5	-	-	-	-
Landowner 9	19-Sep-22	-12.7	-	-	-	-
Landowner 3	6-Oct-21	-11.8	-	-	-	-
Landowner 3	6-Oct-21	-11.8	-	-	-	-
Landowner 3	17-Jun-22	-	-	-12.4	-	-
Landowner 3	17-Jun-22	-	-	-	-	-
Landowner 3	21-Sep-22	-12.5	-	-	-	-4.1
Landowner 3	6-Oct-21	-11.9	-	-	-	-
Landowner 20	14-Oct-21	-13.7	-	-	-	-
Landowner 20	23-Jun-22	-13.4	-	-	-	-
Landowner 20	21-Sep-22	-13.9	-	-	-	-
Landowner 28	8-Oct-21	-12.3	-	-	-	-
Landowner 28	15-Jun-22	-11.8	-	-	-	-
Landowner 28	19-Sep-22	-12.5	-	-	-	0.8
Landowner 8	8-Oct-21	-12.6	-	-	-	-
Landowner 8	15-Jun-22	-12.6	-	-	-	-
Landowner 8	15-Jun-22	-12.6	-	-	-	-
Landowner 8	21-Sep-22	-12.9	-	-	-	-8.3
Landowner 30	7-Oct-21	-11.9	-	-	-	-
Landowner 30	18-Jun-22	-	-	-19.22	-	-
Landowner 30	18-Jun-22	-12.3	-	-	-	-
Landowner 30	29-Jun-22	-	-	-21.7	-	-
Landowner 30	19-Sep-22	-12.5	-	-	-	-
Landowner 21	14-Oct-21	-13.7	-	-	-	-
Landowner 21	16-Jun-22	-13.2	-	-	-	-
Landowner 21	20-Sep-22	-13.6	-	-	-	-
Landowner 13	17-Oct-21	-12.6	-	-	-	-
Landowner 13	16-Jun-22	-12.3	-	-	-	-
Landowner 13	21-Sep-22	-12.6	-	-	-	-

Table 3: Water Analytical Results: Isotopic Abundance

Client Name: Enhance Energy Inc.
Project Number: CP22-EEI-01-00

Date: February 9, 2023
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		Groundwater Isotopes	Free Gas Isotopes			
Landowner ID	Date	d13C DIC	d13C-CH4	d13C-CO2	d18O-BaSO4	d34S
Landowner 23	6-Oct-21	-12.9	-	-	-	-
Landowner 23	6-Oct-21	-	-	-	-	-
Landowner 23	16-Jun-22	-12.1	-	-	-	-
Landowner 23	20-Sep-22	-12.5	-	-	-	-
Landowner 20	6-Oct-21	-12.6	-	-	-	-
Landowner 20	8-Oct-21	-12.3	-	-	-	-
Landowner 20	16-Jun-22	-12.2	-	-	-	-
Landowner 20	23-Sep-22	-12.6	-	-	-	1.5
Landowner 10	8-Oct-21	-12.2	-	-	-	-
Landowner 10	18-Jun-22	-11.9	-	-	-	-
Landowner 10	29-Jun-22	-	-	-20.9	-	-
Landowner 10	20-Sep-22	-12.4	-	-	-	-4.4
Landowner 5	14-Oct-21	-12.5	-	-	-	-
Landowner 5	16-Jun-22	-12.6	-	-	-	-
Landowner 5	22-Sep-22	-12.8	-	-	-	-9.6
Landowner 5	10-Oct-22	-	-87.1	-20.9	-	-
Landowner 17	8-Oct-21	-12.2	-	-	-	-
Landowner 17	18-Jun-22	-12.0	-	-	-	-
Landowner 17	21-Sep-22	-12.2	-	-	-	-
Landowner 32	7-Oct-21	-12.1	-	-	-	-
Landowner 32	18-Jun-22	-11.6	-	-	-	-
Landowner 25	14-Oct-21	-12	-	-	-	-
Landowner 25	14-Oct-21	-12	-	-	-	-
Landowner 25	17-Jun-22	-12.4	-	-	-	-
Landowner 25	17-Jun-22	-12.2	-	-	-	-
Landowner 25	20-Sep-22	-12.6	-	-	-	0.1
Landowner 18	16-Oct-21	-12.4	-	-	-	-
Landowner 18	15-Jun-22	-12.4	-	-	-	-
Landowner 18	19-Sep-22	-12.5	-	-	-	-
Landowner 6	17-Jun-21	0.571	-	-	-	-
Landowner 6	4-Oct-21	-12.3	-	-	-	-
Landowner 6	14-Jun-22	-12.5	-	-	-	-
Landowner 6	19-Sep-22	-13.6	-	-	-	2.2
Landowner 22	7-Oct-21	-12	-	-	-	-
Landowner 22	15-Jun-22	-11.1	-	-	-	-
Landowner 22	20-Sep-22	-	-	-	-	-

Table 4: Water Analytical Results: Microbiology Parameters

Client Name: Enhance Energy Inc.
Project: CP22-EEI-01-00

Date February 9, 2023
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		Bacteria					
Landowner ID	Date (dd-mmm-yy)	IRB Approximate Population Count cfu/ml	Iron Related Bacteria None	Sulfate Reducing Bacteria None	Sulfate Reducing Bacteria Count cfu/ml	Slime Forming Bacteria cfu/ml	Slime Forming Bacteria (Aggressivity) None
Landowner 2	8-Aug-19	2200	Present	Absent	< 1	-	-
Landowner 2	9-Oct-19	-	-	-	-	-	-
Landowner 2	7-Oct-21	9000	-	< 1	-	2500	Medium
Landowner 2	7-Oct-21	< 1	-	< 1	-	500	Medium
Landowner 2	15-Jun-22	-	-	-	-	-	-
Landowner 2	20-Sep-22	500	-	-	< 1	500	-
Landowner 12	8-Aug-19	< 1	Absent	Present	20	-	-
Landowner 12	8-Oct-19	-	-	-	-	-	-
Landowner 1	7-Aug-19	9000	Present	Absent	< 1	-	-
Landowner 1	7-Aug-19	9000	Present	Absent	< 1	-	-
Landowner 1	9-Oct-19	-	-	-	-	-	-
Landowner 1	7-Oct-21	2200	-	< 1	-	13000	Medium
Landowner 1	17-Jun-22	2200	-	75	75	-	-
Landowner 1	19-Sep-22	2200	2200	5	5	67000	-
Landowner 25	7-Aug-19	25	Present	Absent	< 1	-	-
Landowner 25	6-Oct-21	2200	-	< 1	-	< 20	Low
Landowner 33	7-Aug-19	150	Present	Absent	< 1	-	-
Landowner 33	8-Oct-19	-	-	-	-	-	-
Landowner 33	8-Oct-19	-	-	-	-	-	-
Landowner 33	16-Jun-21	-	-	-	-	2500	-
Landowner 33	7-Oct-21	2200	-	< 1	-	13000	Medium
Landowner 33	15-Jun-22	2200	2200	< 1	< 1	< 1	-
Landowner 33	21-Sep-22	2200	-	-	< 1	67000	-
Landowner 33	15-Jun-22	2200	2200	< 1	< 1	< 1	-
Landowner 27	9-Aug-19	2200	Present	Present	20	-	-
Landowner 27	9-Aug-19	< 1	Absent	Absent	< 1	-	-
Landowner 27	9-Aug-19	< 1	Absent	Absent	< 1	-	-
Landowner 27	8-Oct-19	-	-	-	-	-	-
Landowner 4	8-Aug-19	2200	Present	Present	5	-	-
Landowner 4	8-Oct-19	-	-	-	-	-	-
Landowner 4	8-Oct-21	2200	-	325	-	440000	High
Landowner 4	18-Jun-22	-	2200	< 1	-	-	-
Landowner 4	19-Sep-22	9000	-	-	< 1	67000	-
Landowner 31	8-Aug-19	500	Present	Present	20	-	-
Landowner 31	8-Oct-21	500	-	< 1	-	440000	High
Landowner 31	17-Jun-22	< 1	-	5	5	100	-
Landowner 31	19-Sep-22	500	-	-	< 1	2500	-
Landowner 31	19-Sep-22	< 1	-	-	< 1	2500	-

Table 4: Water Analytical Results: Microbiology Parameters

Client Name: Enhance Energy Inc.
Project: CP22-EEI-01-00

Date February 9, 2023
Rev: A

		Bacteria					
Landowner ID	Date (dd-mmm-yy)	IRB Approximate Population Count cfu/ml	Iron Related Bacteria None	Sulfate Reducing Bacteria None	Sulfate Reducing Bacteria Count cfu/ml	Slime Forming Bacteria cfu/ml	Slime Forming Bacteria (Aggressivity) None
Landowner 24	8-Aug-19	150	Present	Present	5	-	-
Landowner 24	7-Oct-21	< 1	-	5	-	2500	Medium
Landowner 24	8-Oct-21	-	-	-	-	-	-
Landowner 24	17-Jun-22	-	-	20	-	-	-
Landowner 24	29-Jun-22	-	-	-	-	-	-
Landowner 24	10-Oct-22	-	-	-	-	-	-
UL1 - Development	11-Jul-19	9000	Present	Absent	< 1	-	-
UL1 - Development	15-Jul-19	9000	Present	Present	5	-	-
UL1 - Development	15-Jul-19	9000	Present	Present	5	-	-
UL1 - Development	6-Aug-19	35000	Present	Present	115000	-	-
UL1 - Development	6-Aug-19	35000	Present	Present	115000	-	-
UL1 - Development	7-Oct-19	-	-	-	-	-	-
UL1 - Development	7-Oct-19	-	-	-	-	-	-
UL1 - Development	21-Jul-20	9000	-	-	115000	-	-
UL1 - Development	21-Jul-20	-	-	-	-	-	-
UL1 - Development	28-Oct-20	9000	Present	Present	27000	-	-
UL1 - Development	28-Oct-20	9000	Present	Present	27000	-	-
UL1 - Development	15-Jun-21	-	-	-	-	-	-
UL1 - Development	5-Oct-21	2200	-	325	-	440000	High
UL1 - Development	26-Jun-22	2200	2200	6000	6000	-	-
UL2 - Development	7-Aug-19	9000	Present	Present	1400	-	-
UL2 - Development	7-Oct-19	-	-	-	-	-	-
UL2 - Development	22-Jul-20	9000	-	-	27000	-	-
UL2 - Development	22-Jul-20	2200	-	-	< 1	-	-
UL2 - Development	27-Oct-20	2200	Present	Absent	< 1	-	-
UL2 - Development	15-Jun-21	-	-	-	-	-	-
UL2 - Development	5-Oct-21	2200	-	115000	-	440000	High
UL2 - Development	26-Jun-22	2200	2200	6000	6000	-	-
UL3 - Development	7-Aug-19	9000	Present	Present	1400	-	-
UL3 - Development	7-Oct-19	-	-	-	-	-	-
UL3 - Development	22-Jul-20	9000	-	-	115000	-	-
UL3 - Development	22-Jul-20	9000	-	-	115000	-	-
UL3 - Development	28-Oct-20	2200	Present	Present	5	-	-
UL3 - Development	28-Oct-20	150	Present	Absent	< 1	-	-
UL3 - Development	15-Jun-21	-	-	-	-	-	-
UL3 - Development	5-Oct-21	< 1	-	< 1	-	67000	High
UL3 - Development	26-Jun-22	9000	9000	11500	11500	-	-
Landowner 19	16-Jun-21	-	-	-	-	2500	-
Landowner 19	8-Oct-21	2200	-	< 1	-	440000	High

Table 4: Water Analytical Results: Microbiology Parameters

Client Name: Enhance Energy Inc.
Project: CP22-EEI-01-00

Date February 9, 2023
Rev: A

		Bacteria					
Landowner ID	Date (dd-mmm-yy)	IRB Approximate Population Count cfu/ml	Iron Related Bacteria None	Sulfate Reducing Bacteria None	Sulfate Reducing Bacteria Count cfu/ml	Slime Forming Bacteria cfu/ml	Slime Forming Bacteria (Aggressivity) None
Landowner 29	17-Jun-21	-	-	-	-	13000	-
Landowner 29	23-Jun-22	2200	2200	< 1	< 1	-	-
Landowner 29	23-Jun-22	2200	2200	325	325	-	-
Landowner 29	24-Jun-22	2200	-	-	325	-	-
Landowner 29	24-Sep-22	2200	-	-	< 1	100	-
273157 (Enhance Facility Well)	15-Jun-21	-	-	-	-	-	-
273157 (Enhance Facility Well)	5-Oct-21	< 1	-	< 1	-	100	Low
273157 (Enhance Facility Well)	14-Jun-22	-	-	-	-	-	-
273157 (Enhance Facility Well)	19-Sep-22	500	-	-	-	2500	-
Landowner 14	6-Oct-21	25	-	< 1	-	2500	Medium
Landowner 14	21-Sep-22	2200	-	-	< 1	500	-
Landowner 26	8-Oct-21	2200	-	< 1	-	440000	High
Landowner 26	21-Sep-22	2200	-	-	< 1	13000	-
Landowner 7	16-Oct-21	500	-	< 1	-	67000	High
Landowner 7	16-Jun-22	-	-	-	-	-	-
Landowner 7	20-Sep-22	2200	-	-	< 1	2500	-
Landowner 11	6-Oct-21	2200	-	< 1	-	2500	Medium
Landowner 11	20-Sep-22	2200	-	-	< 1	67000	-
Landowner 16	6-Oct-21	9000	-	< 1	-	2500	Medium
Landowner 16	16-Jun-22	9000	-	-	< 1	< 1	-
Landowner 16	20-Sep-22	2200	-	-	< 1	500	-
Landowner 9	16-Jun-21	-	-	-	-	0	-
Landowner 9	16-Jun-21	-	-	-	-	0	-
Landowner 9	6-Oct-21	500	-	< 1	-	2500	Medium
Landowner 9	19-Sep-22	2200	-	-	< 1	13000	-
Landowner 3	6-Oct-21	500	-	< 1	-	2500	Medium
Landowner 3	6-Oct-21	2200	-	< 1	-	13000	Medium
Landowner 3	17-Jun-22	-	-	5	-	-	-
Landowner 3	21-Sep-22	2200	-	-	< 1	2200	-
Landowner 3	6-Oct-21	500	-	< 1	-	67000	High
Landowner 20	14-Oct-21	2200	-	< 1	-	67000	High
Landowner 20	21-Sep-22	2200	-	-	< 1	500	-
Landowner 28	8-Oct-21	2200	-	< 1	-	440000	High
Landowner 28	15-Jun-22	-	-	-	-	-	-
Landowner 28	19-Sep-22	2200	-	-	< 1	2500	-
Landowner 8	8-Oct-21	2200	-	5	-	440000	High
Landowner 8	15-Jun-22	-	-	-	-	-	-
Landowner 8	15-Jun-22	-	-	-	-	-	-
Landowner 8	21-Sep-22	9000	-	-	< 1	67000	-
Landowner 30	7-Oct-21	< 1	-	< 1	-	2500	Medium
Landowner 30	18-Jun-22	25	-	< 1	< 1	-	-
Landowner 30	19-Sep-22	< 1	-	-	< 1	20	-

Table 4: Water Analytical Results: Microbiology Parameters

Client Name: Enhance Energy Inc.
Project: CP22-EEI-01-00

Date February 9, 2023
Rev: A

		Bacteria					
Landowner ID	Date (dd-mmm-yy)	IRB Approximate Population Count cfu/ml	Iron Related Bacteria None	Sulfate Reducing Bacteria None	Sulfate Reducing Bacteria Count cfu/ml	Slime Forming Bacteria cfu/ml	Slime Forming Bacteria (Aggressivity) None
Landowner 21	14-Oct-21	500	-	< 1	-	67000	High
Landowner 21	20-Sep-22	2200	-	-	< 1	67000	-
Landowner 13	17-Oct-21	500	-	115000	-	67000	High
Landowner 13	21-Sep-22	500	-	-	< 1	< 1	-
Landowner 23	6-Oct-21	9000	-	< 1	-	13000	Medium
Landowner 23	6-Oct-21	9000	-	< 1	-	< 20	Low
Landowner 23	20-Sep-22	2200	-	-	< 1	2500	-
Landowner 20	6-Oct-21	9000	-	< 1	-	2500	Medium
Landowner 20	8-Oct-21	500	-	< 1	-	440000	High
Landowner 20	16-Jun-22	500	500	< 1.0	< 1	-	-
Landowner 20	23-Sep-22	2200	-	-	< 1	100	-
Landowner 10	8-Oct-21	9000	-	< 1	-	440000	High
Landowner 10	20-Sep-22	2200	-	-	< 1	13000	-
Landowner 5	14-Oct-21	2200	-	75	-	440000	High
Landowner 5	16-Jun-22	500	500	75	75	< 1	-
Landowner 5	22-Sep-22	2200	2200	115000	115000	67000	-
Landowner 5	10-Oct-22	-	-	-	-	-	-
Landowner 17	8-Oct-21	2200	-	< 1	-	67000	High
Landowner 17	18-Jun-22	-	-	-	-	-	-
Landowner 17	21-Sep-22	9000	-	-	< 1	2500	-
Landowner 32	7-Oct-21	9000	-	< 1	-	13000	Medium
Landowner 32	18-Jun-22	-	-	-	-	-	-
Landowner 25	14-Oct-21	500	-	< 1	-	67000	High
Landowner 25	14-Oct-21	2200	-	< 1	-	67000	High
Landowner 25	17-Jun-22	500	-	-	-	< 1	-
Landowner 25	17-Jun-22	500	-	-	-	100	-
Landowner 25	20-Sep-22	< 1	-	-	< 1	500	-
Landowner 18	16-Oct-21	2200	-	< 1	-	67000	High
Landowner 18	19-Sep-22	500	-	-	< 1	2500	-
Landowner 6	17-Jun-21	-	-	-	-	13000	-
Landowner 6	4-Oct-21	2200	-	20	-	440000	High
Landowner 6	14-Jun-22	-	2200	1400	-	< 1	-
Landowner 6	19-Sep-22	-	2200	115000	-	67000	-
Landowner 22	7-Oct-21	2200	-	< 1	-	500	Medium
Landowner 22	20-Sep-22	2200	-	-	< 1	500	-
12-25-039-24W4	17-Oct-21	500	-	115000	-	4400000	High
12-25-039-24W4	20-Sep-22	9000	-	-	1400	4400000	-

Table 5: SOIL GAS ANALYTICAL RESULTS: MENTHANE ISOTOPE ABUNDANCE

Client Name: Enhance Energy Inc **Project Number:** CP22-EEI-01-00 **Date:** February 10, 2023 **Rev #:** A

		Field Parameters		AGAT Breathing Air							AGAT VOC Gas								Carbon 13 - U of A							Carbon 14 - University of Ottawa					
Sampling ID	Date (dd-mmm-yy)	CH4 ppm	CO2 ppm	Carbon Dioxide (CO2) - BA ppmv	Carbon Monoxide (CO) - BA ppmv	Methane - BA ppmv	Nitrogen (N2) - BA ppmv	Oxygen (O2) - BA ppmv	vHH - BA ppmv	vNMH - BA ppmv	2,2,4-Trimethylpentane ppm	Benzene ppm	Cyclohexane ppm	Cyclopentane ppm	Ethylbenzene ppm	Methylcyclohexane ppm	Toluene ppm	Xylenes ppm	d13C-C1 ‰	d13C-C2 ‰	d13C-C3 ‰	d13C-CH4 ‰	d13C-CO2 ‰	d13C-iC4 ‰	d13C-nC4 ‰	14C in CO2 yr BP	14C-CH4 yr BP	del14C in CO2 ‰	del14C-CH4 ‰	F14C in CO2 None	F14C-CH4 None	Normalised 14C in CH4 ‰	Normalised 14C in CO2 ‰
North Data																																	
01-02-040-24W4	7-Aug-19	0.767885	84486.5	67200		1			< 1	1													-9.2			303.7354719		-45.099686		0.962894943			
01-02-040-24W4	9-Oct-19	0.263422	65301.4	55900	< 2	< 1	770000	150000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15														
01-02-040-24W4	27-Jun-21	< 1000	5500	427	< 2	2	780000	220000	< 1	3	< 10	< 10	< 10	< 10	< 10	12.3	26.4	< 10					-18.7							0.937751558			
01-02-040-24W4	13-Oct-21	1.06445	17813.5	17200	< 2	2	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10														
01-02-040-24W4	18-Jun-22	0.52045	25209.025	18200	< 2	2.00	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.70									
01-02-040-24W4	23-Sep-22	1.98645	14500	24700	< 2	2.00	770000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-21.85			531.5963596		-72.15121119		0.935965019			-64.03441057
02-10-040-24W4	1-Oct-20	0.12328	23172	19300	< 2	< 1	780000	210000	< 1	< 1												N/A	-20.36			2004		-220.8		0.7792			
02-10-040-24W4	29-Jun-21	< 1000	26500	26500	< 2	< 1	770000	200000	< 1	1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.85							0.773775482			
02-10-040-24W4	15-Oct-21	0.0872	13127	13050	< 2	2	790000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.66			1994.58		-226.537		0.780127			-219.873
02-10-040-24W4	24-Jun-22	< 1000	20000	13200	< 2	1.00	780000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-21.47			2051.186491		-232.0699971		0.774647365			-225.3508124
03-15-040-24W4	28-Sep-20	0.0729677	34248.8	28400	< 2	< 1	780000	190000	< 1	< 1												N/A	-20.02			2603		-276.8		0.7232			
03-15-040-24W4	29-Jun-21	< 1000	51000	29200	< 2	< 1	780000	190000	< 1	2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10														
03-15-040-24W4	15-Oct-21	0.0927	17759	18000	< 2	1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.08			2535.32		-276.889		0.729341			-270.659
03-15-040-24W4	25-Jun-22	< 1000	12000	16600	< 2	1.00	780000	200000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-19.85			2644.733381		-286.7661584		0.719472757			-280.5250608
03-15-040-24W4	24-Sep-22	2.0608	27000	24300	< 2	1.00	790000	190000	< 1	1.00	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-18.52									
04-01-040-24W4	3-Jun-19	0.099644	71489.3	50700		< 1																	-22.04			2327		-251.52		0.7485			
04-01-040-24W4	3-Jun-19								< 1	< 1																						
04-01-040-24W4	1-Aug-19			60000		< 1																										
04-01-040-24W4	7-Aug-19	0.31947	77350.5						< 1	1																						
04-01-040-24W4	11-Aug-19	1.7898	101620	63700		1			< 1	1													-15.66			2489.125033		-272.5425919		0.733547837			
04-01-040-24W4	9-Oct-19	0.0575734	55339.5	45400	< 2	< 1	790000	16000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-19.39			2293		-254.56		0.7517			
04-01-040-24W4	9-Oct-19	0.268925	59324.9																													
04-01-040-24W4	9-Oct-19			43200	< 2	< 1	780000	180000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15														
04-01-040-24W4	12-Oct-19	0.995735	19464.2	14500	< 2	1	770000	210000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-8.08			4507		-434.16		0.5706			
04-01-040-24W4	23-Sep-20	0.0771208	71257	43500	< 2	< 1	780000	180000	< 1	< 1																						
04-01-040-24W4	23-Sep-20	0.325837	148094	115000	< 2	< 1	760000	130000	< 1	< 1												N/A	-21.25			574		-68.99		0.931			
04-01-040-24W4	1-Oct-20	0.962734	55768.5	44700	< 2	2	770000	190000	< 1	< 1												N/A	-20.9			11148		-750.36		0.2496			
04-01-040-24W4	27-Jun-21	/A - Vacuut	I/A - Vacuur	50100	< 2	1	780000	170000	< 1	< 1													-22.36							0.755444464			
04-01-040-24W4	28-Jun-21								< 1	< 1													-7.38							1.003242457			
04-01-040-24W4	11-Oct-21	0.7509	20855	676	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10														
04-01-040-24W4	15-Oct-21	1.7797	355	414	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-7.32			>Modern		-2.91444		1.00568			5.67638
04-01-040-24W4	17-Oct-21	1.2165	7556	8820	< 2	3	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10														
04-01-040-24W4	19-Jun-22	0.8797	8609.75																													
04-01-040-24W4	19-Jun-22																									3719.699949		-376.1005086		0.629356967			-370.6403484
04-01-040-24W4	19-Jun-22			12000	< 2	1.00	820000	170000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.05									
04-02-040-24W4	7-Aug-19	0.15247	99237.5	75200		1			< 1	1													-11.72			2010.816457		-227.9120929		0.778551992			
04-02-040-24W4	2-Oct-19	0.50962	53253.1	42300	< 2	< 1	760000	190000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15														
04-02-040-24W4	27-Jun-21	< 1000	56000	59400	< 2	1	780000	160000	< 1	2	< 10	< 10	< 10	< 10	< 10	< 10	15.4	< 10					-21.59							0.792163151			
04-02-040-24W4	13-Oct-21	0.6063	25381.5	29000	< 2	2	770000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10														
04-02-040-24W4	24-Jun-22	< 1000	49000	39100	< 2	1.00	800000	160000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-20.76									
04-02-040-24W4	23-Sep-22	1.296	58500	43800	< 2	1.00	770000	190000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-22.81			1671.730535		-194.9244182		0.81211787			-187.8805729
04-12-040-24W4	3-Jun-19	0.437848	14589	14100		< 1																	-19.3			1444		-164.54		0.8355			
04-12-040-24W4	3-Jun-19								< 1	< 1																						
04-12-040-24W4	1-Aug-19			28200		1																										
04-12-040-24W4	8-Aug-19	0.1136	36528						< 1	1																						
04-12-040-24W4	2-Oct-19	1.0851	10565.5	24300	< 2	13	780000	200000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15														
04-12-040-24W4	23-Sep-20	0.324699	23923.5	20200	< 2	1	770000	210000	< 1	< 1																						
04-12-040-24W4	27-Jun-21	< 1000	19000	24100	< 2	1	770000	200000	< 1	2	< 10	< 10	< 10	< 10	< 10	11	22.1	< 10					-23.15							0.872147652			
04-12-040-24W4	13-Oct-21	1.0451	8415	11600	< 2	2	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10														
04-12-040-24W4	18-Jun-22	0.91115	9429.595	10500	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.37									
04-12-040-24W4	17-Sep-22	1.3921	22000	13800	< 2	2.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.94			776.7609913		-100.0413571		0.907830908			-92.16828356
07-02-040-24W4	3-Jun-19	0.238932	45478.3	46600		< 1																	-21.08			2980		-309.92		0.6901			
07-02-040-24W4	3-Jun-19	0.147437	34931.1	34800		< 1																	-20.22			2271		-246.29		0.7537			
07-02-040-24W4	3-Jun-19								< 1	< 1																						
07-02-040-24W4	3-Jun-19								< 1	< 1																						
07-02-040-24W4	1-Aug-19			48200		1																										
07-02-040-24W4	1-Aug-19			36900		1																										
07-02-040-24W4	8-Aug-19	0.8732	33356						< 1	1																						

INTEGRATED SUSTAINABILITY

Table 5: SOIL GAS ANALYTICAL RESULTS: MENTHANE ISOTOPE ABUNDANCE

Client Name: Enhance Energy Inc **Project Number:** CP22-EEI-01-00 **Date:** February 10, 2023 **Rev #:** A

		Field Parameters		AGAT Breathing Air							AGAT VOC Gas								Carbon 13 - U of A							Carbon 14 - University of Ottawa							
Sampling ID	Date (dd-mmm-yy)	CH4	CO2	Carbon Dioxide (CO2) - BA	Carbon Monoxide (CO) - BA	Methane - BA	Nitrogen (N2) - BA	Oxygen (O2) - BA	vHH - BA	vNMH - BA	2,2,4-Trimethylpentane	Benzene	Cyclohexane	Cyclopentane	Ethylbenzene	Methylcyclohexane	Toluene	Xylenes	d13C-C1	d13C-C2	d13C-C3	d13C-CH4	d13C-CO2	d13C-iC4	d13C-nC4	14C in CO2	14C-CH4	del14C in CO2	del14C-CH4	F14C in CO2	F14C-CH4	Normalised 14C in CH4	Normalised 14C in CO2
		ppm	ppm	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	‰	‰	‰	‰	‰	‰	‰	yr BP	yr BP	‰	‰	None	None	‰	‰
07-02-040-24W4	8-Aug-19	0.0495415	46875.5						< 1	1																							
07-02-040-24W4	12-Oct-19	0.0959722	36151.6	28200	< 2	< 1	780000	180000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
07-02-040-24W4	12-Oct-19	0.0752263	29838.8	22800	< 2	< 1	770000	190000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
07-02-040-24W4	24-Sep-20	0.101765	43961.3	39400	< 2	< 1	770000	190000	< 1	< 1												N/A	-21.57			2753		-290.18		0.7098			
07-02-040-24W4	24-Sep-20	0.0987719	37470.4	44000	< 2	< 1	770000	190000	< 1	< 1																							
07-02-040-24W4	1-Oct-20	2.00878	420.635	1180	< 1	2	780000	220000	< 1	< 1												N/A	-8.62			>Modern		5.73		1.0057			
07-02-040-24W4	13-Oct-21	1.7627	1445	1890	< 2	4	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-26.31			2185.52		-244.705		0.761803			-238.197
07-10-040-24W4	28-Sep-20	0.330199	21130.3	15700	< 2	< 1	780000	210000	< 1	< 1												N/A	-20.68			3304		-337.2		0.6628			
07-10-040-24W4	28-Sep-20	0.361482	11253.8	8470	< 2	< 1	780000	210000	< 1	< 1												N/A	-22.81			2508		-268.18		0.7318			
07-10-040-24W4	29-Jun-21	/A - Vacuur	I/A - Vacuur	13700	< 2	1	770000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.04							0.722437537			
07-10-040-24W4	15-Oct-21	0.27105	6054.5	6540	< 2	1	790000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-23.17			2561.52		-279.244		0.726966			-273.034
07-10-040-24W4	16-Sep-22	1.8969	6500	4900	< 2	3.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.83										
08-09-040-24W4	24-Sep-22	0.5712	15000	9660	< 2	1.00	790000	200000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-20.71										
Field Duplicate	24-Sep-22	0.5712	15000																														
Field Duplicate	24-Sep-22			6070	< 2	2.00	790000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-23.01										
09-10-040-24W4	1-Oct-20	0.517242	122268	83600	< 2	< 1	780000	140000	< 1	< 1		Untraceable			Untraceable		Untraceable	Untraceable				N/A	-20.55			6993		-581.27		0.4187			
09-10-040-24W4	21-Jun-21	/A - Vacuur	I/A - Vacuur	7020	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.05							0.422452024			
09-10-040-24W4	29-Jun-21	/A - Vacuur	I/A - Vacuur	7020	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.05							0.422452024			
09-10-040-24W4	16-Oct-21	0.3624	64251	67900	< 2	2	790000	140000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.37			7273.47		-599.094		0.404361			-595.639
09-10-040-24W4	16-Oct-21	0.3624	64251	53000	< 2	2	800000	140000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
09-10-040-24W4	16-Sep-22	1.51315	114500	46900	< 2	3.00	780000	180000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.54										
10-02-040-24W4	3-Jun-19	0.038579	14248.9	13700		< 1																	-19.48			1405		-160.47		0.8395			
10-02-040-24W4	3-Jun-19								< 1	< 1																							
10-02-040-24W4	1-Aug-19			16700		1																											
10-02-040-24W4	8-Aug-19	0.50488	19381						< 1	1																							
10-02-040-24W4	2-Oct-19	1.20664	5146.32	18400	< 2	< 1	760000	200000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-8.71			1322		-158.74		0.8483			
10-02-040-24W4	23-Sep-20	0.0111133	22737.9	19600	< 2	< 1	770000	210000	< 1	< 1												N/A	-19.64			1257		-144.85		0.8551			
10-02-040-24W4	27-Jun-21	< 1000	17500	23500	< 2	< 1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	14.8	< 10															
10-02-040-24W4	27-Jun-21										< 10	< 10	< 10	< 10	< 10	< 10	13.9	< 10															
10-02-040-24W4	13-Oct-21	0.0763	11901.5	14400	< 2	2	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.28			1245.73		-150.965		0.85635			-143.65
10-02-040-24W4	17-Sep-22	1.25225	22500	16200	< 2	2.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.55										
12-01-040-24W4	3-Jun-19	0.16141	56510.1	53000		< 1																	-20.64			1283		-147.63		0.8524			
12-01-040-24W4	3-Jun-19								< 1	< 1																							
12-01-040-24W4	1-Aug-19			70200		1																											
12-01-040-24W4	8-Aug-19	0.32771	87096						< 1	1																							
12-01-040-24W4	9-Oct-19	0.321719	61533.4																														
12-01-040-24W4	9-Oct-19			50800	< 2	< 1	760000	170000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
12-01-040-24W4	13-Oct-21	1.37865	21392	24500	< 2	2	780000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.81			2799.87		-300.315		0.705713			-294.287
12-01-040-24W4	18-Jun-22	0.18285	43214.17	44100	< 2	1.00	790000	170000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.39			2777.34488		-298.4439177		0.707692848			-292.3048978
12-02-040-24W4	9-Aug-19	0.398995	55768.5	41200		1			< 1	1													-19.62			5121.221823		-475.7886556		0.528600154			
12-02-040-24W4	2-Oct-19	0.713648	28447.2	30800	< 2	< 1	780000	170000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
12-02-040-24W4	23-Sep-20	0.409584	45034.3	37800	< 2	< 1	780000	180000	< 1	< 1																							
12-02-040-24W4	27-Jun-21	1000	40500	43700	< 2	1	780000	170000	< 1	3	< 10	< 10	< 10	< 10	< 10	< 10	26.1	< 10					-7.53							0.524085809			
12-02-040-24W4	15-Oct-21	0.48415	21737.5	27200	< 2	2	790000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.53			5022.2		-469.415		0.535156			-464.844
12-02-040-24W4	24-Jun-22	< 1000	36000	29600	< 2	1.00	790000	180000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-21.57			5046.370266		-471.0810392		0.533545607			-466.451305
16-03-040-24W4	9-Aug-19	0.023823	38860	36000		1			< 1	1													-16.4			1402.302225		-167.1527762		0.839819999			
16-03-040-24W4	2-Oct-19	0.054491	23273	20500	3	< 1	770000	190000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
16-03-040-24W4	15-Oct-21	0.20865	9649.5	9140	< 2	2	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.74			1307.9		-157.511		0.849747			-150.253
16-03-040-24W4	24-Sep-22	0.61925	23000	20800	< 2	< 1	780000	200000	< 1	2.00	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-19.91										
16-09-040-24W4	28-Sep-20	0.429879	11009.7	9100	< 2	< 1	780000	210000	< 1	< 1												N/A	-19.95			1423		-162.34		0.8377			
16-09-040-24W4	26-Jun-21	< 1000	14000	16200	< 2	< 1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	11.2	23	< 10															
16-09-040-24W4	15-Oct-21	0.41215	5725.5	6190	< 2	2	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.24			1258.25		-152.288		0.855016			-144.984
16-09-040-24W4	25-Jun-22	< 1000	9000	54500	< 2	1.00	790000	160000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-10.76			1375.135604		-164.6435111		0.842663655			-157.3350158
16-09-040-24W4	22-Sep-22	1.29655	7500	3730	< 2	2.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.98										
North 2 Data																																	
09-16-040-24W4	23-Jun-21	< 1000	42500	32700	< 2	< 1	800000	170000															-13.42							0.803520194			
09-16-040-24W4	17-Oct-21	0.9794	17846	18500	< 2	2	780000	210000																									
09-16-040-24W4	22-Jun-22	< 1000	38500	33400	< 2	1.00	790000	180000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.10										

Table 5: SOIL GAS ANALYTICAL RESULTS: MENTHANE ISOTOPE ABUNDANCE

Client Name: Enhance Energy Inc **Project Number:** CP22-EEI-01-00 **Date:** February 10, 2023 **Rev #:** A

		Field Parameters		AGAT Breathing Air							AGAT VOC Gas								Carbon 13 - U of A							Carbon 14 - University of Ottawa								
Sampling ID	Date (dd-mmm-yy)	CH4 ppm	CO2 ppm	Carbon Dioxide (CO2) - BA ppmv	Carbon Monoxide (CO) - BA ppmv	Methane - BA ppmv	Nitrogen (N2) - BA ppmv	Oxygen (O2) - BA ppmv	vHH - BA ppmv	vNMH - BA ppmv	2,2,4-Trimethylpentane ppm	Benzene ppm	Cyclohexane ppm	Cyclopentane ppm	Ethylbenzene ppm	Methylcyclohexane ppm	Toluene ppm	Xylenes ppm	d13C-C1 ‰	d13C-C2 ‰	d13C-C3 ‰	d13C-CH4 ‰	d13C-CO2 ‰	d13C-iC4 ‰	d13C-nC4 ‰	14C in CO2 yr BP	14C-CH4 yr BP	del14C in CO2 ‰	del14C-CH4 ‰	F14C in CO2 None	F14C-CH4 None	Normalised 14C in CH4 ‰	Normalised 14C in CO2 ‰
09-16-040-24W4	18-Sep-22	0.87705	39000	25800	2.00	3.00	770000	210000	< 1	< 1	14.9	< 10	< 10	< 10	< 10	25.3	< 10	< 10					-25.10			2788.213534		-299.3924903		0.706735978			-293.2617621
07-21-040-24W4	24-Jun-21	< 1000	24000	70920	< 2	1	840000	9000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.05							0.491303071			
07-21-040-24W4	7-Oct-21			15600	< 2	203	930000	50000	< 1	< 1	< 10	33.8	31	11	< 10	26.9	21.9	< 10															
07-21-040-24W4	14-Oct-21	0.5949	56397	59400	< 2	2	840000	100000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1															
07-21-040-24W4	22-Jun-22	1000	60000	49300	< 2	1.00	810000	140000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.69			5903.699607	Failed	524.622930:	Failed	0.479535365	Failed		-520.4613874
07-21-040-24W4	24-Sep-22	1.9708	64000																														
12-15-040-24W4	29-Jun-21	0.0 - 0.1	27000	29900	< 2	< 1	780000	190000	< 1	1	< 10	< 10	< 10	< 10	< 10	15.8	13.7	< 10					-20.65							0.549594841			
12-15-040-24W4	17-Oct-21	0.05365	13916	14300	< 2	2	790000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
12-15-040-24W4	22-Jun-22	< 1000	18000	12900	< 2	1.00	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.35										
12-15-040-24W4	22-Sep-22	0.785	23500	15000	4.00	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.94			4266.753004		-417.1744345		0.587923752			-412.0733707
12-21-040-24W4	24-Jun-21	< 1000	5000	6930	< 2	2	780000	220000	< 1	< 1													-20.25							0.821489118			
12-21-040-24W4	16-Oct-21	0.1827	20456	26600	< 2	1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
12-21-040-24W4	21-Jun-22	0.1344	14966.33	16900	< 2	2.00	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.43										
12-21-040-24W4	14-Sep-22	0.6722	30500	17500	< 2	2.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-16.17			1165.745388		-142.5824179		0.864917725			-135.0811188
Field Duplicate	14-Sep-22	0.6722	30500																														
Field Duplicate	14-Sep-22			18600	< 2	2.00	770000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-17.60			1196.43503		-145.851916		0.861619627			-138.3791905
13-16-040-24W4	24-Jun-21	< 1000	10500	11340	< 2	< 1	780000	210000			< 10	< 10	25.2	20.6	< 10	54.7	12.2	< 10					-20.73							0.979663148			
13-16-040-24W4	14-Oct-21	0.0338	5201	5560	< 2	1	780000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1															
13-16-040-24W4	21-Jun-22	0.00635	7807.575	8630	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.28										
13-16-040-24W4	14-Sep-22	0.11005	9000	6140	< 2	2.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.35										
14-21-040-24W4	24-Jun-21	< 1000	4000	4100	< 2	< 1	780000	220000	< 1	< 1													-16.75							0.631778275			
14-21-040-24W4	14-Oct-21	0.07315	2076.5	2650	< 2	1	790000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1															
14-21-040-24W4	21-Jun-22	0.00345	2647.63	2650	< 2	1.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-16.84										
14-21-040-24W4	14-Sep-22	0.0865	4000	2070	< 2	2.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-17.04			1943.207891		-221.6777916		0.785130475			-214.867775
16-16-040-24W4	17-Oct-21	1.6371	5345.5	6040	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
16-16-040-24W4	22-Jun-22	< 1000	29500	22600	< 2	1.00	790000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.02										
16-16-040-24W4	16-Sep-22	0.59195	32500	25300	< 2	3.00	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.23			2672.396205		-289.218083		0.716999384			-282.998418
16-20-040-24W4	24-Jun-21	< 1000	24000	27100	< 2	1	790000	190000	< 1	1	< 10	< 10	< 10	< 10	< 10	15.9	12.6	< 10					-20.85										
16-20-040-24W4	14-Oct-21	0.08695	13377	14500	< 2	1	770000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1															
16-20-040-24W4	21-Jun-22	0.0088	10873.22	11000	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.05										
16-20-040-24W4	22-Sep-22	< 1000	28500	17200	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.98			526.2078987		-71.52860442		0.936593072			-63.40636304
North 3 Data																																	
01-32-040-24W4	28-Jun-21	< 1000	23000	26600	< 2	< 1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	14.4	10.7	< 10															
01-32-040-24W4	12-Oct-21	0.0391	15081	17500	< 2	1	780000	200000	< 1	129	14	< 10	< 10	< 10	< 10	26	< 10	< 10					-19.82			3017.01		-318.975		0.686893			-313.107
01-32-040-24W4	18-Jun-22	0.3294	7240.895	13200	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.07			3220.472528		-336.0964204		0.669710985			-330.2865412
01-32-040-24W4	14-Sep-22			20300	< 2	2.00	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.25			2926.989483		-311.392158		0.694631345			-305.3663234
Field Duplicate	14-Sep-22			21600	< 2	2.00	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.80			2933.426715		-311.9437568		0.694074921			-305.922744
01-32-040-24W4	15-Sep-22	0.5613	26000																														
Field Duplicate	15-Sep-22	0.5613	26000																														
02-05-041-24W4	28-Jun-21	< 1000	48500	45700	< 2	1	790000	170000	< 1	1	< 10	< 10	< 10	< 10	< 10	19.1	13.1	< 10															
02-05-041-24W4	12-Oct-21	0.37445	17671.5	19500	< 2	1	770000	210000	< 1	< 1	10.3	< 10	< 10	< 10	< 10	21.8	< 10	< 10					-19.37			365.441		-52.6357		0.955527			-44.4733
02-05-041-24W4	18-Jun-22	0.126	20128.38	20400	< 2	1.00	790000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.34										
02-05-041-24W4	14-Sep-22	< 1000	37000	24100	< 2	2.00	770000	210000	< 1	1.00	< 10	< 10	< 10	< 10	< 10	13.9	11.8	< 10					-18.71			350.4601825		-50.99127577		0.957310048			-42.68956739
05-33-040-24W4	28-Jun-21	< 1000	25000	27800	< 2	< 1	780000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	13.2	10.6	< 10															
05-33-040-24W4	12-Oct-21	0.03305	14918.5	16200	< 2	1	790000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.72			2852.07		-304.847		0.701142			-298.858
05-33-040-24W4	18-Jun-22	0.0042	71490.94	11600	< 2	1.00	790000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.72										
Field Duplicate	18-Jun-22	0.0042	71490.94	13600	< 2	1.00	790000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.59										
05-33-040-24W4	16-Sep-22	0.7625	26500	17000	< 2	2.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.61			2812.308429		-301.4908256		0.704619288			-295.3784397
06-05-041-24W4	28-Jun-21	< 1000	18500	15800	< 2	2	770000	210000	< 1	2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
06-05-041-24W4	12-Oct-21	0.20505	22875.5	27500	< 2	1	770000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.05			1646.67		-192.302		0.814657			-185.343
06-05-041-24W4	18-Jun-22	0.0294	25017.0705	15800	< 2	2.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-18.35										
06-05-041-24W4	14-Sep-22			392	< 2	4.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-9.41										
06-05-041-24W4	16-Sep-22	0.4439	45000	31100	< 2	1.00	780000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-18.18			1637.258042		-191.4620937		0.815610481			-184.3879877
Field Duplicate	16-Sep-22	0.4439	45000																														
Field Duplicate	16-Sep-22			35900	< 2	2.00	770000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.17			1631.611114		-190.8935137		0.816184034			-183.8144384
06-08-041-24W4	28-Jun-21	< 1000	94500	76100	< 2	< 1	800000	130000	< 1	1																							
06-08-041-24W4	10-Oct-21	0.5657	43276.5	65600	< 2	1	800000	140000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	10.2	< 10	< 10					-22.57			3590.66		-365.912		0.639551			-360.449

Table 5: SOIL GAS ANALYTICAL RESULTS: MENTHANE ISOTOPE ABUNDANCE

Client Name: Enhance Energy Inc **Project Number:** CP22-EEI-01-00 **Date:** February 10, 2023 **Rev #:** A

		Field Parameters		AGAT Breathing Air							AGAT VOC Gas								Carbon 13 - U of A							Carbon 14 - University of Ottawa					
Sampling ID	Date (dd-mmm-yy)	CH4 ppm	CO2 ppm	Carbon Dioxide (CO2) - BA ppmv	Carbon Monoxide (CO) - BA ppmv	Methane - BA ppmv	Nitrogen (N2) - BA ppmv	Oxygen (O2) - BA ppmv	vHH - BA ppmv	vNMH - BA ppmv	2,2,4-Trimethylpentane ppm	Benzene ppm	Cyclohexane ppm	Cyclopentane ppm	Ethylbenzene ppm	Methylcyclohexane ppm	Toluene ppm	Xylenes ppm	d13C-C1 ‰	d13C-C2 ‰	d13C-C3 ‰	d13C-CH4 ‰	d13C-CO2 ‰	d13C-iC4 ‰	d13C-nC4 ‰	14C in CO2 yr BP	14C-CH4 yr BP	del14C in CO2 ‰	del14C-CH4 ‰	F14C in CO2 None	F14C-CH4 None	Normalised 14C in CH4 ‰	Normalised 14C in CO2 ‰
06-08-041-24W4	18-Jun-22	1.784	337.51	366	< 2	2.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-8.04										
06-08-041-24W4	25-Jun-22	0.1369	61436.335	6640	< 2	1.00	790000	200000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-21.14			3639.188128		-369.8158927		0.635696556			-364.3007903
06-08-041-24W4	14-Sep-22	< 1000	30500	35600	2.00	5.00	780000	190000	< 1	5.00	< 10	< 10	< 10	< 10	< 10	10.1	< 10	< 10					-21.10			3308.903188		-343.3649378		0.662378887			-337.6185988
06-08-041-24W4	14-Sep-22	< 1000	2000																														
06-08-041-24W4	14-Sep-22																									>Modern		-4.148163967		1.004562913			4.562871165
06-28-040-24W4	28-Jun-21	< 1000	8000	10020	< 2	1	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.06							0.810390754			
06-28-040-24W4	29-Jun-21			390	< 2	2	780000	220000	< 1	< 1													-7.53							0.999526705			
06-28-040-24W4	13-Oct-21	0.02655	10416.5	12100	< 2	1	780000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	17.7	13.2															
06-28-040-24W4	18-Jun-22	0.0057	9401.22	10200	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.21										
06-28-040-24W4	18-Jun-22	1.76375	337.18	366	< 2	2.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-8.02										
06-28-040-24W4	14-Sep-22			16600	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.67			1550.716684		-182.7043582		0.824444823			-175.5537103
06-28-040-24W4	15-Sep-22	0.05285	17500																														
06-28-040-24W4	17-Sep-22	< 1000	2000	388	< 2	3.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	16.5	< 10	< 10					-7.52			>Modern		-4.895639813		1.003808899			3.808863852
10-32-040-24W4	28-Jun-21	< 1000	27500	31500	< 2	< 1	780000	190000	< 1	1	< 10	< 10	< 10	< 10	< 10	17.5	14.6	< 10															
10-32-040-24W4	12-Oct-21	0.04685	19064	20200	< 2	2	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.07			1344.16		-161.305		0.845921			-154.079
10-32-040-24W4	18-Jun-22	0.01445	15395.76	15200	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.62										
10-32-040-24W4	14-Sep-22	< 1000	30000	24000	< 2	2.00	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-18.86			1317.295965		-158.6069706		0.848752999			-151.2457182
12-28-040-24W4	21-Jun-21	< 1000	13500	12050	< 2	< 1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10															
12-28-040-24W4	23-Jun-21	< 1000	13500	14200	< 2	1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10															
12-28-040-24W4	13-Oct-21	0.3478	4503.5	4010	< 2	3	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.36			968.164		-121.116		0.886456			-113.544
12-28-040-24W4	18-Jun-22	0.02875	7173.1	6990	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.77			936.1812053		-117.7257368		0.889991836			-110.0072081
Field Duplicate	18-Jun-22	0.02875	7173.1	5710	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.90			934.4221539		-117.5325151		0.890186748			-109.8122978
12-28-040-24W4	14-Sep-22			5050	< 2	3.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-18.64										
12-28-040-24W4	15-Sep-22	< 1000	6500																														
13-05-041-24W4	28-Jun-21	< 1000	8000	8170	< 2	< 1	780000	210000	< 1	1																							
13-05-041-24W4	16-Oct-21	0.11825	3019	2850	< 2	3	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.26			935.693		-117.556		0.890047			-109.953
13-05-041-24W4	18-Jun-22			44900	< 2	1.00	790000	170000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.02										
13-05-041-24W4	24-Sep-22	< 1000	6000	5460	< 2	< 1	780000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-19.83										
Field Duplicate	24-Sep-22	< 1000	6000																														
Field Duplicate	24-Sep-22			4970	< 2	1.00	780000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-19.85										
14-28-040-24W4	28-Jun-21	< 1000	8500	5880	< 2	2	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
14-28-040-24W4	13-Oct-21	0.89835	16243.5	16800	< 2	2	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.31			1110.85		-136.589		0.87085			-129.15
14-28-040-24W4	18-Jun-22	0.7133	11663.625	12500	< 2	1.00	790000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.35			1187.969781		-144.9513242		0.862528097			-137.470728
14-28-040-24W4	18-Sep-22	1.60035	20500	13700	2.00	3.00	770000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.59										
South Data																																	
01-35-039-24W4	10-Oct-19			8610	< 2	< 1	770000	210000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15				-44.67	-19.33			1722		-199.68		0.807			
01-35-039-24W4	12-Oct-19	1.99396	423.831	506	< 2	2	780000	220000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-11.55			31		-12.16		0.9961			
01-35-039-24W4	27-Sep-20	0.268849	11666.5	9200	< 2	1	780000	210000	< 1	< 1												N/A	-20.73			1547		-175.13		0.8249			
01-35-039-24W4	26-Jun-21	< 1000	13000	13600	< 2	< 1	780000	210000	< 1	< 1													-19.26										
01-35-039-24W4	11-Oct-21	0.2938	6572	7700	< 2	1	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
01-35-039-24W4	21-Jun-22	0.0519	13235.525	7250	< 2	1.00	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.44			973.0458309		-121.7653848		0.885916852			-114.0821593
02-23-039-24W4	27-Sep-20	0.951996	36129.1	33200	< 2	2	770000	190000	< 1	< 1												N/A	-9.6			2944		-306.85		0.6932			
02-23-039-24W4	26-Jun-21	< 1000	26500	29100	< 2	< 1	780000	190000	< 1	< 1		15.3	10.1	< 10																			
02-23-039-24W4	11-Oct-21	0.54275	25928	25700	< 2	< 1	780000	200000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-23.38			3137.09		-329.079		0.676702			-323.298
02-23-039-24W4	24-Jun-22	< 1000	< 1000																														
02-23-039-24W4	18-Sep-22	< 1000	2000																														
04-26-039-24W4	1-Jun-19			37800		< 1																	-19.38			2719		-287.17		0.7128			
04-26-039-24W4	3-Jun-19								< 1	< 1																							
04-26-039-24W4	3-Jun-19	1.97482	417.153	470		< 1																	-7.65			0		32.13		1.0321			
04-26-039-24W4	3-Jun-19								< 1	< 1																							
04-26-039-24W4	1-Aug-19			36800		1																											
04-26-039-24W4	1-Aug-19			461		2																	-11.26			Insufficient Carbon							
04-26-039-24W4	9-Aug-19	0.092998	48714						< 1	1																							
04-26-039-24W4	9-Aug-19	1.9473	397.69						< 1	1													-11.26			Insufficient Carbon							
04-26-039-24W4	12-Oct-19	0.125568	28663	23600	< 2	< 1	780000	200000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
04-26-039-24W4	12-Oct-19	1.9858	420.196	520	< 2	2	780000	222000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-8.39			>Modern		-5.47		1.0029			
04-26-039-24W4	24-Sep-20	0.0821111	41908.7	30900	< 2	1	770000	200000	< 1	< 1																							
04-26-039-24W4	28-Oct-20	0.139806	31917.8																				-19.38			2719		-287.17		0.7128			
04-26-039-24W4	27-Jun-21	< 1000	35500	34100	< 2	< 1	790000	170000	< 1	2	< 10	10	< 10	< 10	< 10	< 10	17.4	< 10					-20.55							0.74143998			

INTEGRATED SUSTAINABILITY

Table 5: SOIL GAS ANALYTICAL RESULTS: MENTHANE ISOTOPE ABUNDANCE

Client Name: Enhance Energy Inc **Project Number:** CP22-EEI-01-00 **Date:** February 10, 2023 **Rev #:** A

		Field Parameters		AGAT Breathing Air							AGAT VOC Gas								Carbon 13 - U of A							Carbon 14 - University of Ottawa					
Sampling ID	Date (dd-mmm-yy)	CH4	CO2	Carbon Dioxide (CO2) - BA	Carbon Monoxide (CO) - BA	Methane - BA	Nitrogen (N2) - BA	Oxygen (O2) - BA	vHH - BA	vNMH - BA	2,2,4-Trimethylpentane	Benzene	Cyclohexane	Cyclopentane	Ethylbenzene	Methylcyclohexane	Toluene	Xylenes	d13C-C1	d13C-C2	d13C-C3	d13C-CH4	d13C-CO2	d13C-iC4	d13C-nC4	14C in CO2	14C-CH4	del14C in CO2	del14C-CH4	F14C in CO2	F14C-CH4	Normalised 14C in CH4	Normalised 14C in CO2
		ppm	ppm	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	‰	‰	‰	‰	‰	‰	‰	yr BP	yr BP	‰	‰	None	None	‰	‰
04-26-039-24W4	10-Oct-21	0.155	19929																													
04-26-039-24W4	24-Jun-22	< 1000	25000	18700	< 2	1.00	800000	190000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-21.26										
04-35-039-24W4	11-Aug-19	0.525345	77192.5	61800		1			< 1	1													-19.74			2479.35227		-271.6570453		0.734440798			
04-35-039-24W4	10-Oct-19	0.19423	65921																													
04-35-039-24W4	10-Oct-19			56400	< 2	< 1	780000	170000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
04-35-039-24W4	27-Sep-20	0.186115	86900.4	64400	< 2	< 1	770000	170000	< 1	< 1																							
04-35-039-24W4	12-Oct-21	1.39885	6045	15700	< 2	2	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.43			2930.61		-311.611		0.694321			-305.679
04-35-039-24W4	21-Jun-22	0.086	24190.77	25200	< 2	1.00	790000	180000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.23			2803.865872		-300.7563108		0.705360227			-294.6375042
05-36-039-24W4	11-Oct-19	0.730816	133695	96900	< 2	1	800000	90000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-10.4			10755		-740.02		0.2622			
05-36-039-24W4	2-Oct-20	1.07178	133640	93000	< 2	2	780000	130000	< 1	< 1												N/A	-21.77			9855		-706.76		0.2932			
05-36-039-24W4	26-Jun-21	/A - Vacuur	I/A - Vacuur	120000	< 2	1	780000	100000	< 1	1	< 10	10.1	< 10	< 10	< 10	15.4	30.5	< 10					-21.06							0.29367064			
05-36-039-24W4	11-Oct-21	0.9654	46082	49200	< 2	1	780000	170000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
05-36-039-24W4	18-Sep-22	1.9462	107500	75200	< 2	3.00	770000	160000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.22			9612.099926		-700.3969848		0.302223751			-697.7729166
08-34-039-24W4	3-Jun-19	0.0961044	36448.8	31000		< 1																	-21.74			917		-107.92		0.8921			
08-34-039-24W4	3-Jun-19								< 1	< 1																							
08-34-039-24W4	3-Jun-19	1.924	412.355	800		2																	-10.04			0		5.27		1.0053			
08-34-039-24W4	3-Jun-19								< 1	< 1																							
08-34-039-24W4	1-Aug-19			32600		1																											
08-34-039-24W4	1-Aug-19			444		2																	-9.18			Insufficient Carbon							
08-34-039-24W4	10-Aug-19	0.2086	55109						< 1	1																							
08-34-039-24W4	10-Aug-19	1.9185	383.82						< 1	1													-9.18			Insufficient Carbon							
08-34-039-24W4	12-Oct-19	0.034054	27839.6	22700	< 2	< 1	780000	200000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
08-34-039-24W4	12-Oct-19	2.09322	432.192	605	< 2	2	780000	220000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-12.33			53		-14.87		0.9934			
08-34-039-24W4	24-Sep-20	0.090277	32940.6	35000	< 2	< 1	770000	190000	< 1	< 1																							
08-34-039-24W4	21-Jun-21	< 1000	32000	35100	< 2	< 1	770000	190000	< 1	1																							
08-34-039-24W4	29-Jun-21	< 1000	32000								< 10	< 10	< 10	< 10	< 10	13	12.1	< 10															
08-34-039-24W4	12-Oct-21	0.17455	14429	14700	< 2	1	780000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-21.82			735.293		-95.2649		0.91253			-87.4697
08-34-039-24W4	18-Sep-22	1.59655	10000	6720	2.00	4.00	770000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-18.15										
08-26-039-24W4	3-Jun-19	0.0587193	88956.9	88900		< 1																	-21.63			4432		-424.05		0.576			
08-26-039-24W4	3-Jun-19								< 1	< 1																							
08-26-039-24W4	1-Aug-19			92600		1																											
08-26-039-24W4	9-Aug-19	0.180551	118827						< 1	1																							
08-26-039-24W4	11-Oct-19	0.255841	92799.3	80200	< 2	< 1	790000	130000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-8.33			4395		-426.18		0.5786			
08-26-039-24W4	24-Sep-20	0.177008	112232	75500	< 2	2	780000	140000	< 1	< 1																							
08-26-039-24W4	26-Jun-21	< 1000	84000	79800	< 2	< 1	800000	120000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
08-26-039-24W4	11-Oct-21	0.25	60567	72700	< 2	1	790000	140000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.53			4620.3		-442.194		0.562612			-437.388
08-26-039-24W4	24-Sep-22	0.99185	94000	85400	< 2	1.00	790000	130000	< 1	1.00	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-20.91										
08-35-039-24W4	3-Jun-19	0.214609	63264.5	63600		< 1																	-22.04			9033		-675.17		0.3248			
08-35-039-24W4	3-Jun-19								< 1	< 1																							
08-35-039-24W4	26-Jun-21	/A - Vacuur	I/A - Vacuur	58400	< 2	1	830000	110000	< 1	1	< 10	17.3	12.9	12.6	< 10	26.8	28	< 10															
08-35-039-24W4	11-Oct-21	0.55265	38819	38900	< 2	1	790000	170000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-22.85			6725.39		-570.786		0.432912			-567.088
10-22-039-24W4	27-Sep-20	0.560427	71224.5	55500	< 2	< 1	800000	140000	< 1	< 1												N/A	-23.33			5741		-510.68		0.4893			
10-22-039-24W4	29-Jun-21	/A - Vacuur	I/A - Vacuur	44000	< 2	3	770000	180000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
10-22-039-24W4	10-Oct-21	0.43875	36615	43300	< 2	2	780000	180000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-23.41			4871.78		-459.386		0.545272			-454.728
10-22-039-24W4	24-Jun-22	< 1000	23000																														
10-22-039-24W4	23-Sep-22	2.0739	64500	50800	< 2	1.00	770000	180000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-23.45										
11-26-039-24W4	3-Jun-19	14.0135	94861.8	85200		13																	-15.97			5476		-494.24		0.5058			
11-26-039-24W4	3-Jun-19								< 1	< 1																							
11-26-039-24W4	5-Oct-19	25.8001	97264.9	70600	< 2	7	790000	140000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-8.93			14470		-836.3		0.1651			
11-26-039-24W4	5-Oct-19	1.57969	6116.06	20400	< 2	< 1	770000	190000	< 1	2		< 0.05			< 0.05		< 0.05	< 0.15					-9.25			5246		-483.9		0.5204			
11-26-039-24W4	5-Oct-19	0.255403	81632.4	2850	< 2	< 1	930000	70000	< 1	< 1		0.05			< 0.05		< 0.05	< 0.15															
11-26-039-24W4	5-Oct-19	0.943454	15943.5	64100	< 2	< 1	780000	140000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
11-26-039-24W4	5-Oct-19	0.0164544	74684.1	57800	< 2	< 1	790000	140000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
11-26-039-24W4	10-Oct-19	0.10926	7128.9	6460	< 2	< 1	770000	210000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15	-48.49				-10.85			2680		-289.6		0.7164			
11-26-039-24W4	5-Aug-20			70000	< 2	65	770000	170000	< 1	< 1		< 10			< 10		< 10	< 10					-11.13			12452		-789.57		0.2122			
11-26-039-24W4	5-Aug-20																						-8.38										
11-26-039-24W4	5-Aug-20			50000	< 2	3	790000	160000	< 1	< 1																							
11-26-039-24W4	5-Aug-20			20000	< 2	2	780000	200000	< 1	< 1																							
11-26-039-24W4	5-Aug-20			110000	< 2	1	810000	80000	< 1	< 1																							

INTEGRATED SUSTAINABILITY

Table 5: SOIL GAS ANALYTICAL RESULTS: MENTHANE ISOTOPE ABUNDANCE

Client Name: Enhance Energy Inc **Project Number:** CP22-EEI-01-00 **Date:** February 10, 2023 **Rev #:** A

		Field Parameters		AGAT Breathing Air							AGAT VOC Gas								Carbon 13 - U of A							Carbon 14 - University of Ottawa							
Sampling ID	Date (dd-mmm-yy)	CH4 ppm	CO2 ppm	Carbon Dioxide (CO2) - BA ppmv	Carbon Monoxide (CO) - BA ppmv	Methane - BA ppmv	Nitrogen (N2) - BA ppmv	Oxygen (O2) - BA ppmv	vHH - BA ppmv	vNMH - BA ppmv	2,2,4-Trimethylpentane ppm	Benzene ppm	Cyclohexane ppm	Cyclopentane ppm	Ethylbenzene ppm	Methylcyclohexane ppm	Toluene ppm	Xylenes ppm	d13C-C1 ‰	d13C-C2 ‰	d13C-C3 ‰	d13C-CH4 ‰	d13C-CO2 ‰	d13C-iC4 ‰	d13C-nC4 ‰	14C in CO2 yr BP	14C-CH4 yr BP	del14C in CO2 ‰	del14C-CH4 ‰	F14C in CO2 None	F14C-CH4 None	Normalised 14C in CH4 ‰	Normalised 14C in CO2 ‰
11-26-039-24W4	5-Aug-20			110000	< 2	< 1	830000	60000	< 1	6																							
11-26-039-24W4	26-Sep-20	103.658	98266.8	59900	< 2	10	780000	160000	< 1	< 1		Untraceable			Untraceable		Untraceable	Untraceable				-39.02	-21.43			13620	N/A	-816.49	N/A	0.1835	N/A		
11-26-039-24W4	26-Sep-20	0.677159	27394.7	22500	< 2	1	770000	210000	< 1	< 1																							
11-26-039-24W4	26-Sep-20	0.07639	22180.8	19200	< 2	2	770000	210000	< 1	< 1																							
11-26-039-24W4	26-Sep-20	1.06858	17091.1	12900	< 2	2	780000	210000	< 1	< 1																							
11-26-039-24W4	25-Jun-21	1000	20500	25900	< 2	3	770000	200000	< 1	8													-20.77							0.147954832			
11-26-039-24W4	26-Jun-21			388	< 2	2	780000	220000	< 1	< 1													-7.61							1.003627932			
11-26-039-24W4	11-Oct-21	1.2117	9004.5	12100	< 2	2	790000	200000	< 1	< 1													-22.62			16157.4		-867.339		0.133804			-866.196
11-26-039-24W4	17-Oct-21	1.817	350	466	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-9.08			>Modern		-6.93945		1.00162			1.61669
11-35-039-24W4	3-Jun-19	0.063251	41225.7	39300		< 1																	-22.12			1845		-205.18		0.7948			
11-35-039-24W4	3-Jun-19								< 1	< 1																							
11-35-039-24W4	1-Aug-19			42500		1																											
11-35-039-24W4	10-Aug-19	0.13073	57335.5						< 1	1																							
11-35-039-24W4	29-Jun-21	< 1000	23000	21500	< 2	1	790000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
11-35-039-24W4	15-Oct-21	0.48355	14995	19100	< 2	2	770000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-19.47			1672.75		-194.92		0.812017			-187.983
11-35-039-24W4	18-Jun-22	1.802	338.27	361	< 2	2.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-7.51			>Modern	Failed	5.54237315	Failed	1.00315650E	Failed		3.156479334
11-35-039-24W4	22-Sep-22	< 1000	1500	407	< 2	2.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-9.44										
11-35-039-24W4	23-Sep-22	1.8198	23000	14200	< 2	1.00	780000	210000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-21.44										
12-23-039-24W4	26-Jun-21	< 1000	102000	111000	< 2	< 1	790000	100000	< 1	< 1	< 10	12.2	< 10	< 10	< 10	16.7	24.8	< 10															
12-23-039-24W4	10-Oct-21	0.26695	53343	70000	< 2	1	800000	130000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-23.5			5089.72		-473.856		0.530677			-469.323
12-23-039-24W4	24-Jun-22	< 1000	1500	39400	< 2	1.00	790000	170000	< 1	2.00	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-22.27			5046.889899		-471.1152528		0.533511094			-466.4858177
12-23-039-24W4	24-Sep-22	2.12375	84000	78000	< 2	2.00	780000	140000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-21.22										
12-25-039-24W4	12-Aug-19	438.265	196835	117000		364			< 1	1												-75.36	-24.27			4705.944955		-447.9761255		0.556645536			
12-25-039-24W4	4-Oct-19	0.0863987	137269	36700	< 2	< 1	910000	50000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-9.76			4633		-442.94		0.5617			
12-25-039-24W4	4-Oct-19	1438.38	49475.7	71800	< 2	49500	820000	50000	1	4550		6.41			4.31		0.06	9.84				-60.05	-11.36			8161		-640.96		0.362			
12-25-039-24W4	4-Oct-19	4467.31	78640.1	75200	< 2	17300	850000	60000	< 1	1080		0.67			0.56		< 0.05	0.77				-49.7	-10.66			4689		-446.84		0.5578			
12-25-039-24W4	4-Oct-19	2285.84	122938	104000	< 2	25900	820000	40000	< 1	15		< 0.05			0.05		< 0.05	< 0.15				-46.2	-9.81			1536		-180.94		0.8259			
12-25-039-24W4	4-Oct-19	0.275639	98277.2	23000	< 2	< 1	950000	30000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
12-25-039-24W4	11-Oct-19	2165.12	100305	66500	< 2	1920	820000	110000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15				-17.6	-8.51			6387		-552.24		0.4515			
12-25-039-24W4	5-Aug-20			422	< 2	6	780000	220000	< 1	< 1		< 10			< 10		< 10	< 10					-8.81			257		-39.66		0.9685			
12-25-039-24W4	6-Aug-20			190000	< 2	3200	790000	20000	< 1	7		< 10			< 10		< 10	< 10															
12-25-039-24W4	6-Aug-20			100000	< 2	108000	750000	40000	1	6880		< 10			19		< 10	28															
12-25-039-24W4	6-Aug-20			120000	< 2	44600	810000	30000	< 1	1280		< 10			< 10		18	< 10															
12-25-039-24W4	6-Aug-20			210000	< 2	50300	730000	10000	< 1	81		< 10			< 10		< 10	< 10				-59.07	-18.52			1352		-162.07		0.8451			
12-25-039-24W4	26-Sep-20	17056.1	163845	127000	< 2	34800	770000	70000	< 1	29		Untraceable			Untraceable		Untraceable	Untraceable				-48.54	-19.09			1453	2040	-165.42	-224.26	0.8346	0.7757		
12-25-039-24W4	29-Sep-20	0.00177878	159234	120000	< 2	< 1	800000	90000	< 1	< 1																							
12-25-039-24W4	2-Oct-20	2.00041	431.136	734	< 2	2	780000	220000	< 1	< 1		Untraceable			Untraceable		Untraceable	Untraceable					-9			>Modern		6.9		1.0069			
12-25-039-24W4	25-Jun-21	474500	101500	81000	< 2	38440	810000	60000	2	3188	< 10	24.9	28.1	27.5	< 10	< 10	17.2	< 10				-59.87	-17.86										
12-25-039-24W4	11-Oct-21	9842.5	65217.5	77800	< 2	17900	850000	60000	3	3990	79	< 10	53	11	< 10	125	< 10	< 10	-36.77	-27.23			-21.29			7536.25	10088.3	-611.996	-717.6	0.391347	0.284833	-715.167	-608.653
12-25-039-24W4	13-Oct-21			440	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-6.86										
12-25-039-24W4	16-Oct-21	1.81885	362.5	452	< 2	3	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-8.83			>Modern		-5.89651		1.00267			2.66861
12-25-039-24W4	18-Jun-22	1.7995	353.02	363	< 2	2.00	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-7.93			>Modern	Failed	6.91088362(	Failed	1.001776027	Failed		1.776010753
12-25-039-24W4	22-Jun-22	277350	193000	64700	< 2	11000.00	840000	80000	18.00	3810.00	79.7	< 10	52.0	11.0	< 10	121.00	< 10	< 10	-51.34	-29.36			-20.73			6567.772491951	0.944205	562.3412681	693.943052	0.441487091	0.306053609		-558.5095834
Field Duplicate	22-Jun-22	277350	193000																													
Field Duplicate	22-Jun-22			58500	< 2	9780.00	840000	90000	18.00	3650.00	91.9	< 10	59.2	11.6	< 10	147.00	< 10	< 10	-51.25	-30.60	-25.70		-21.35	-31.09	-28.22	6458.540995	9492.021211	556.3493514	693.2212374	0.447531422	0.306775423		-552.465263
12-25-039-24W4	18-Sep-22	14534.57525	118000	73300	< 2	23100.00	810000	90000	10.00	3320.00	39.9	< 10	< 10	10.3	< 10	94.5	35.5	< 10	-44.23	-30.05	-27.52		-20.20	-26.33	-26.06	7308.731665	9653.55756	600.905115	699.3286670	0.402585913	0.300668004		-597.4107126
12-25-039-24W4	23-Sep-22	2.0678	2000	407	< 2	3.00	780000	220000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-7.99										
12-36-039-24W4	3-Jun-19	0.0618263	44438	37800		< 1																	-20.43			2948		-307.19		0.6928			
12-36-039-24W4	3-Jun-19	0.0618263	44438						< 1	< 1																							
12-36-039-24W4	1-Aug-19			43700		1																											
12-36-039-24W4	9-Aug-19	0.5848	46800						< 1	1																							
12-36-039-24W4	9-Oct-19	0.171169	42716.7																			-53.64	-15.09			2528		-276.05		0.73			
12-36-039-24W4	9-Oct-19	0.171169	42716.7	33700	< 2	< 1	760000	180000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15															
12-36-039-24W4	24-Sep-20	0.133067	56888.2	45200	< 2	< 1	770000	180000	< 1	< 1																							
12-36-039-24W4	26-Jun-21	/A - Vacuur	I/A - Vacuur	21000	< 2	1	790000	190000	< 1	2	< 10	15.2	10.5	11.4	< 10	22	29	< 10															
12-36-039-24W4	16-Oct-21	0.2967	24094	29800	< 2	1	780000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-20.45			2410.9		-265.601		0.740726			-259.274
12-36-039-24W4	22-Jun-22	< 1000	36500	24400	< 2	1.00	780000	190000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-24.60			2506.587362		-274.3942617		0.731952875			-268.0450207
14-23-039-24W4	27-Sep-20	3447.65	101339	62500	< 2	2400	820000	120000	< 1	< 1		Untraceable			Untraceable		Untraceable	Untraceable				-42.7	-22.92			10814	N/A	-739.78	N/A	0.2602	N/A		
14-23-039-24W4	25-Jun-21	/A - Vacuur	I/A - Vacuur	74500	< 2	473	780000	140000			< 10	< 10	< 10	30	< 10	< 10	< 10	< 10															

INTEGRATED SUSTAINABILITY

Table 5: SOIL GAS ANALYTICAL RESULTS: MENTHANE ISOTOPE ABUNDANCE

Client Name: Enhance Energy Inc **Project Number:** CP22-EEI-01-00 **Date:** February 10, 2023 **Rev #:** A

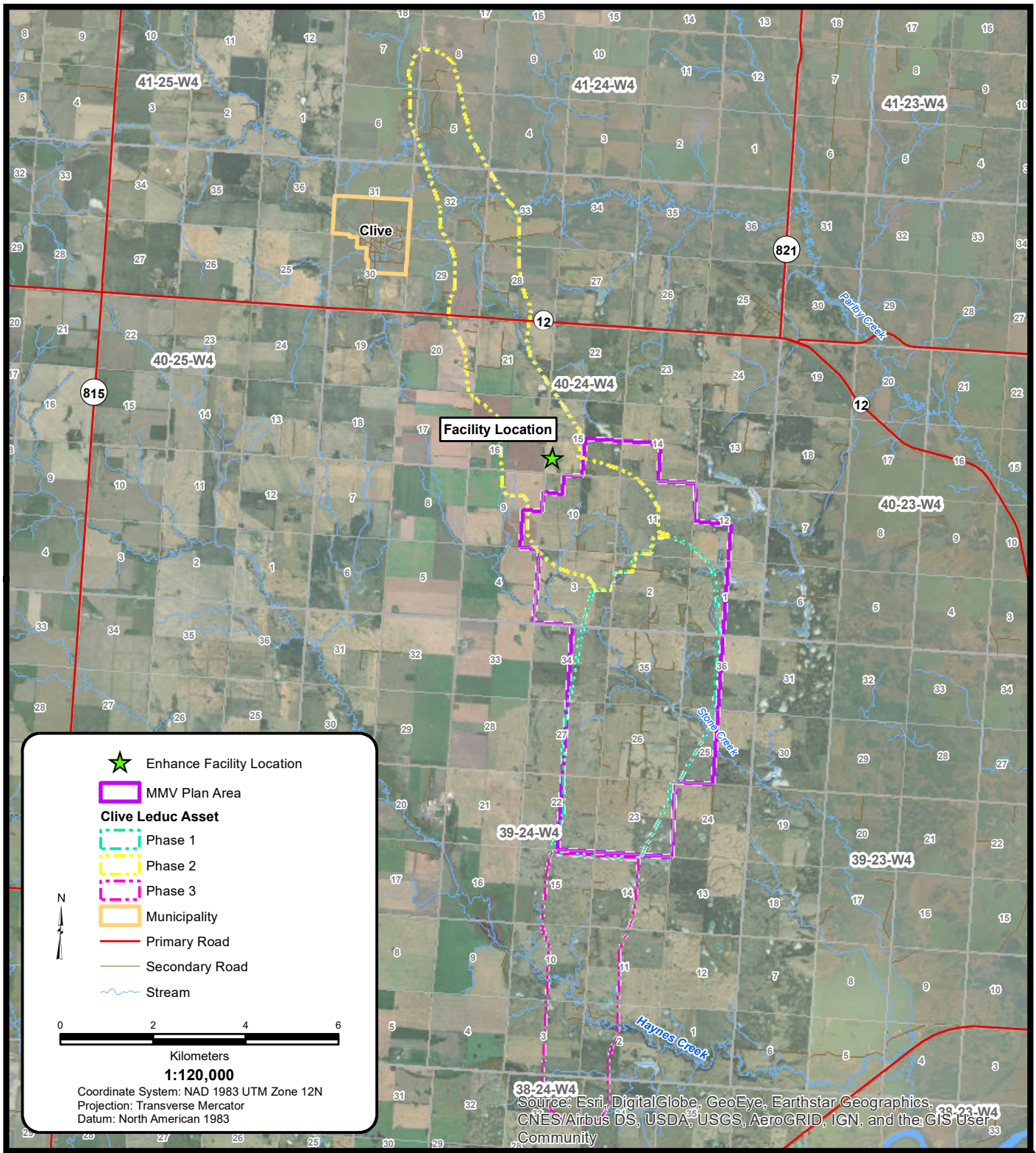
		Field Parameters		AGAT Breathing Air							AGAT VOC Gas								Carbon 13 - U of A							Carbon 14 - University of Ottawa							
Sampling ID	Date (dd-mmm-yy)	CH4	CO2	Carbon Dioxide (CO2) - BA	Carbon Monoxide (CO) - BA	Methane - BA	Nitrogen (N2) - BA	Oxygen (O2) - BA	vHH - BA	vNMH - BA	2,2,4-Trimethylpentane	Benzene	Cyclohexane	Cyclopentane	Ethylbenzene	Methylcyclohexane	Toluene	Xylenes	d13C-C1	d13C-C2	d13C-C3	d13C-CH4	d13C-CO2	d13C-iC4	d13C-nC4	14C in CO2	14C-CH4	del14C in CO2	del14C-CH4	F14C in CO2	F14C-CH4	Normalised 14C in CH4	Normalised 14C in CO2
		ppm	ppm	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	‰	‰	‰	‰	‰	‰	‰	yr BP	yr BP	‰	‰	None	None	‰	‰
14-23-039-24W4	26-Jun-21	/A - Vacuur	/A - Vacuur	74500	< 2	473	780000	140000	< 1	13																							
14-23-039-24W4	27-Jun-21			397	< 2	2	780000	220000	< 1	< 1													-6.87							1.000834257			
14-23-039-24W4	10-Oct-21	140.5	21514	31000	< 2	167	790000	180000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-69.37				-24.04			12437.4		-789.204		0.212612			-787.388
14-23-039-24W4	16-Oct-21	1.7469	354.5	426	< 2	2	780000	220000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10					-7.52			>Modern		-6.6152		1.00194			1.94373
14-23-039-24W4	22-Jun-22	2500	11000	9680	< 2	11.00	780000	210000	< 1	< 1	12.0	< 10	< 10	< 10	< 10	22.3	< 10	< 10					-22.20			9461.735815	Failed	694.736057	Failed	0.307934197	Failed		-692.0624608
Field Duplicate	22-Jun-22	2500	11000																														
Field Duplicate	22-Jun-22			8470	< 2	21.00	780000	210000	< 1	< 1	10.0	< 10	< 10	< 10	< 10	17.4	< 10	< 10					-21.82			9461.30312	Failed	694.719613	Failed	0.307950785	Failed		-692.0458734
14-23-039-24W4	18-Sep-22	17.09325	21500	17400	2.00	13.00	780000	200000	< 1	1.00	14.9	< 10	< 10	< 10	< 10	25.3	< 10	< 10					-22.54			11614.35157		-766.4951766		0.235547375			-764.4494874
Field Duplicate	18-Sep-22	17.09325	21500																														
Field Duplicate	18-Sep-22			15800	2.00	16.00	780000	210000	< 1	< 1	14.9	< 10	< 10	< 10	< 10	25.3	< 10	< 10					-25.57			11645.77121		-767.4067135		0.234627864			-765.3690016
14-26-039-24W4	10-Oct-19	0.561715	56301.5	47900	6	< 1	790000	160000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15				-53.99	-10.25			9993		-714.17		0.2882			
14-26-039-24W4	26-Sep-20	0.39961	90800.6	66800	< 2	2	760000	180000	< 1	< 1												N/A	-25			6795		-570.81		0.4292			
14-26-039-24W4	11-Oct-21	1.4016	11418.5	17900	< 2	1	770000	210000	< 1	< 1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10															
14-26-039-24W4	23-Sep-22	1.0837	54000	45200	< 2	1.00	770000	190000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1					-22.52			3715.553718		-375.778397		0.629681896			-370.3154207
08-27-039-24W4	1-Aug-19			85700		7																	-15.75			0							
08-27-039-24W4	12-Aug-19	8.0666	127710						< 1	1													-15.75			0							
08-27-039-24W4	6-Oct-19	1.89603	73680.9	52100	3	2	880000	40000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-8.34			1198		-145.7		0.8615			
08-27-039-24W4	6-Oct-19	31.7778	68075.1	55100	< 2	26	880000	50000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-10.86			1648		-192.25		0.8145			
08-27-039-24W4	12-Oct-19	0.264965	35408.8	28500	< 2	< 1	800000	170000	< 1	< 1		< 0.05			< 0.05		< 0.05	< 0.15					-12.3			4058		-401.59		0.6034			

Notes

1. - in detail data row(s) denotes parameter not analyzed.

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Figures





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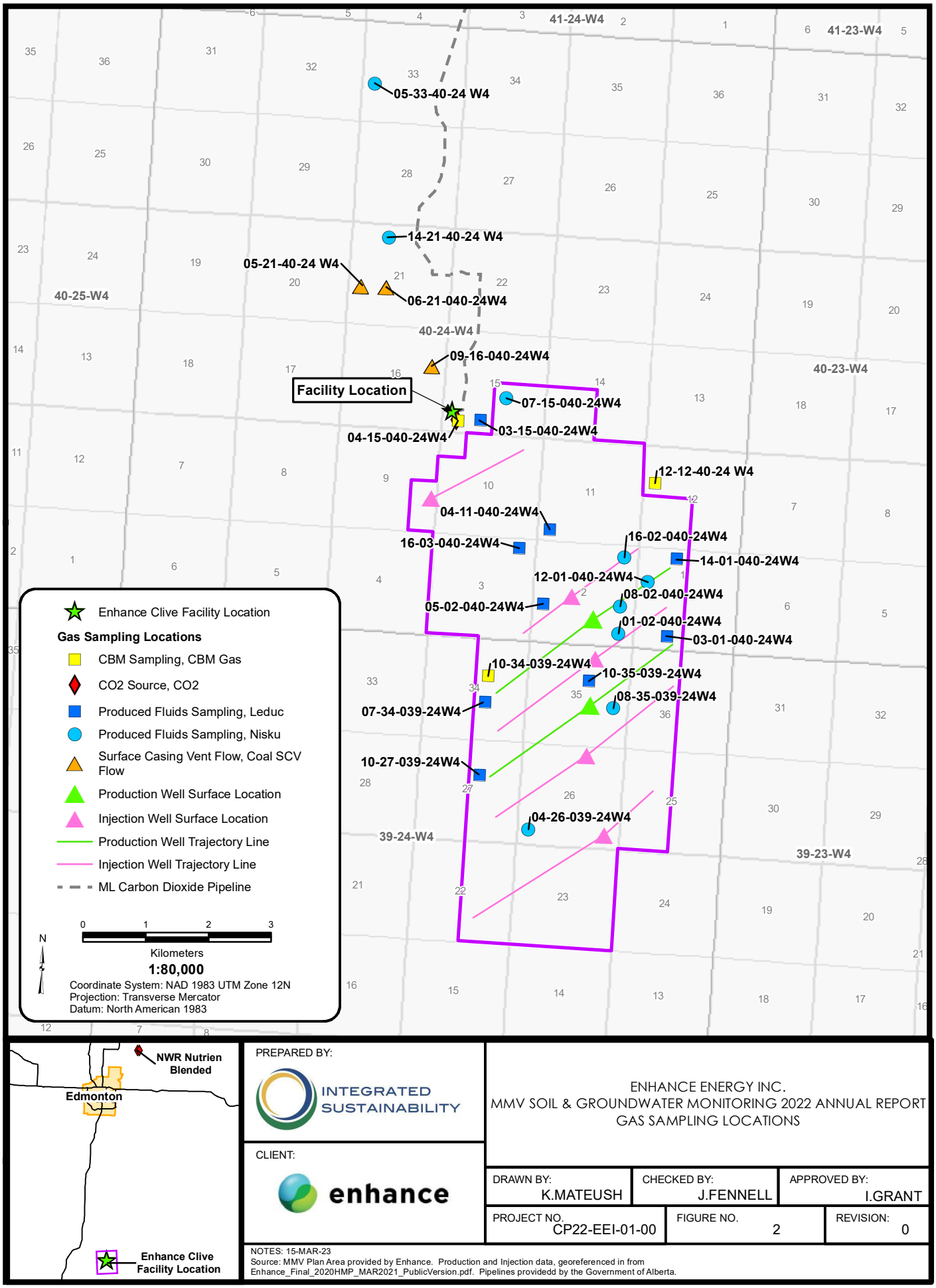
ENHANCE ENERGY INC.
MMV SOIL & GROUNDWATER MONITORING 2022 ANNUAL REPORT
MMV PLAN AREA

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	I.GRANT	J.FENNELL

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	1	0

NOTES: 6-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.
Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

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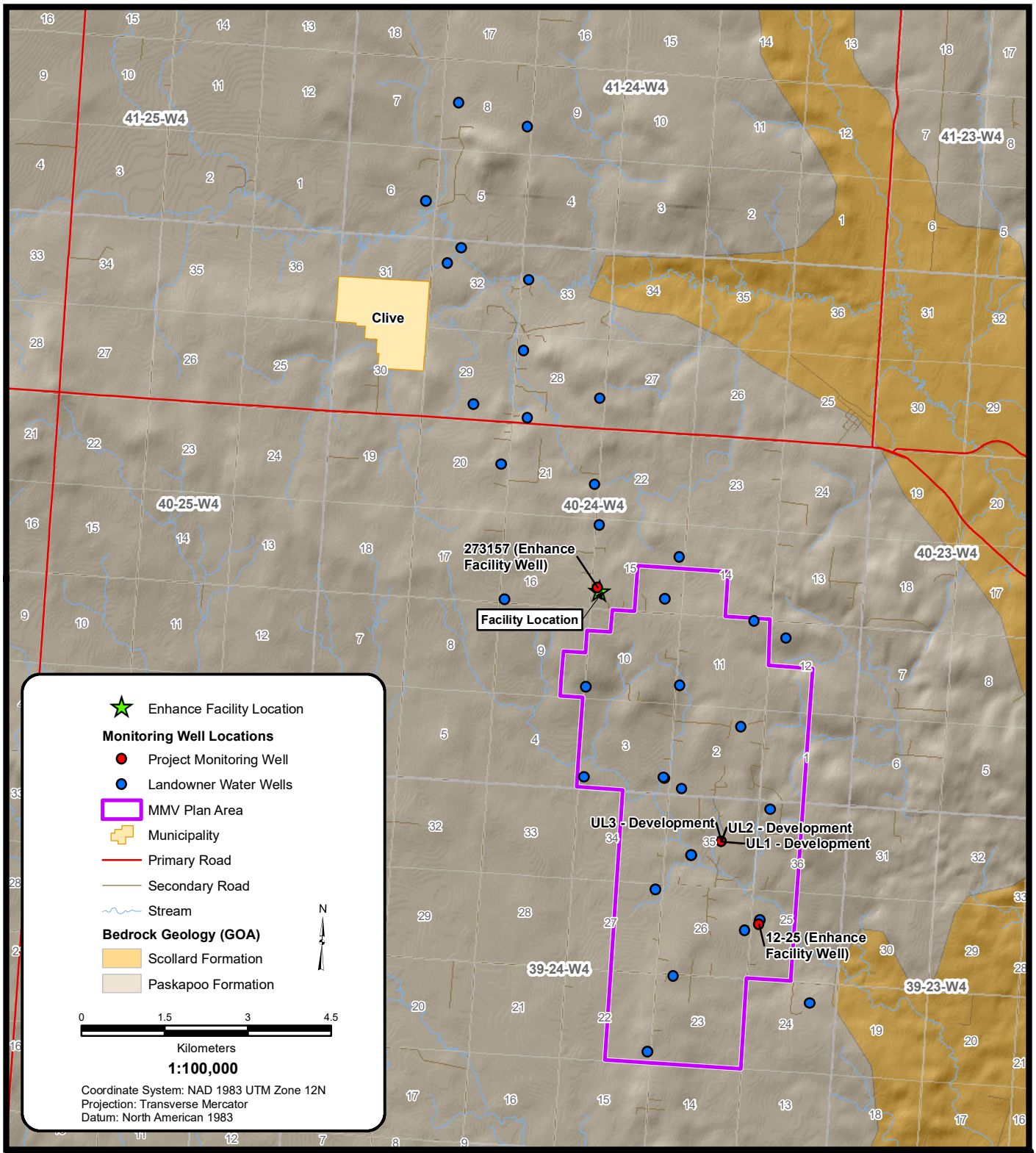
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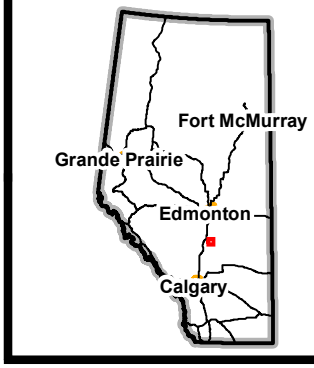
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MMV SOIL & GROUNDWATER MONITORING 2022 ANNUAL REPORT
GAS SAMPLING LOCATIONS

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	2	0

NOTES: 15-MAR-23
Source: MMV Plan Area provided by Enhance. Production and Injection data, georeferenced in from Enhance_Final_2020HMP_MAR2021_PublicVersion.pdf. Pipelines providedd by the Government of Alberta.





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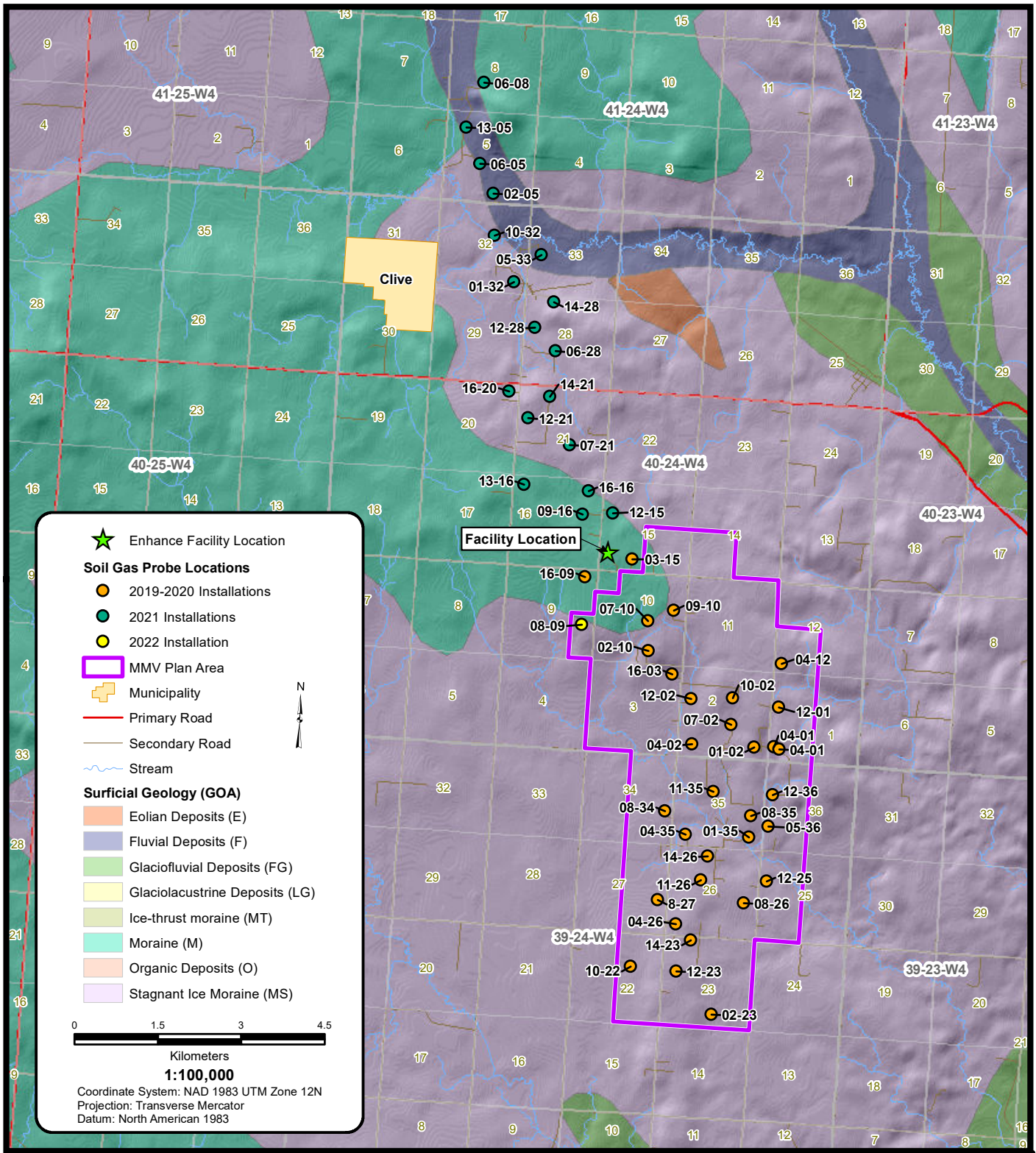
ENHANCE ENERGY INC.
MMV SOIL & GROUNDWATER MONITORING 2022 ANNUAL REPORT
MONITORING WELL NETWORK

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	3	1

NOTES: 21-MAR-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams and Bedrock Geology from Government of Alberta.

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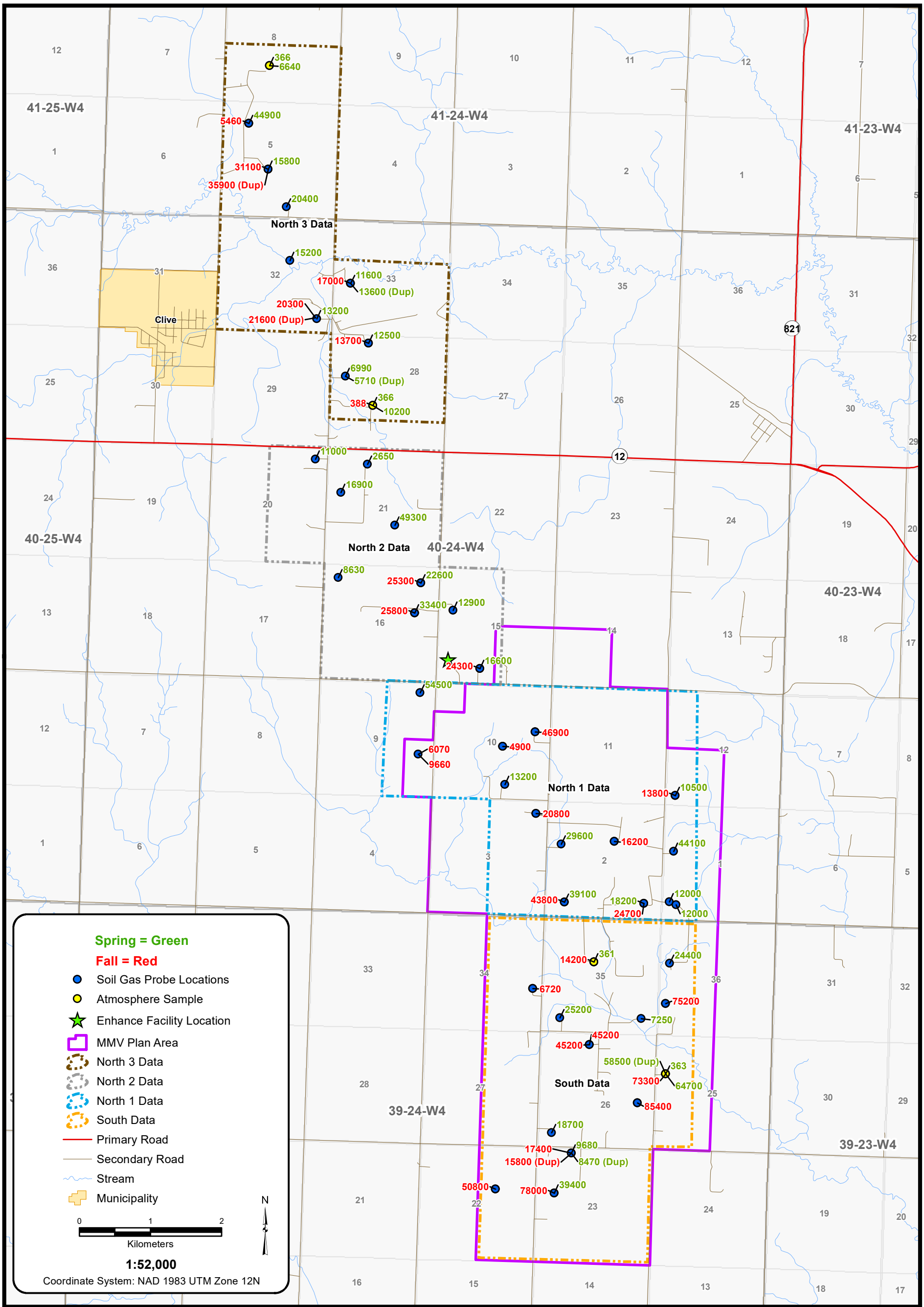
ENHANCE ENERGY INC.
MMV SOIL & GROUNDWATER MONITORING 2022 ANNUAL REPORT
SOIL GAS PROBE NETWORK

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	4	0

NOTES: 27-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams and Surficial Geology from Government of Alberta.

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SOIL GAS PROBE NETWORK
CO2 SPRING AND FALL 2022 RESULTS

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K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	5	0

NOTES: 28-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

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41-25-W4
41-24-W4
41-23-W4
40-25-W4
40-24-W4
40-23-W4
39-24-W4
39-23-W4
North 3 Data
North 2 Data
North 1 Data
South Data
Clive
821
12
2 (Dup)
1 (Dup)
< 1
9780 (Dup)
11000
23100
21 (Dup)
16 (Dup)

Spring = Green
Fall = Red
Soil Gas Probe Locations
Atmosphere Sample
Enhance Facility Location
MMV Plan Area
North 3 Data
North 2 Data
North 1 Data
South Data
Primary Road
Secondary Road
Stream
Municipality

0 1 2
Kilometers

N

1:52,000
Coordinate System: NAD 1983 UTM Zone 12N

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Fort McMurray
Grande Prairie
Edmonton
Calgary

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ENHANCE ENERGY INC.
SOIL GAS PROBE NETWORK
CH4 SPRING AND FALL 2022 RESULTS

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	6	0

NOTES: 28-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

-8.04
-21.14
-21.1
-20.02
-19.85 (Dup)
-19.83
-9.41
-18.35
-18.71
-20.34
North 3 Data
-18.86
-19.62
-21.61
-20.72
-21.59 (Dup)
-19.8 (Dup)
-20.07
-19.25
-20.59
-22.35
-18.64
-20.77
-20.79 (Dup)
-8.02
-7.52
-21.98
-21.05
-16.84
-17.04
-16.17
-20.43
-17.6 (Dup)
-20.69
North 2 Data
-20.28
-19.35
-20.02
-19.23
-25.1
-21.1
-22.35
-19.85
-18.52
-19.98
-10.76
-20.54
-22.83
-20.71
-23.01 (Dup)
-21.47
North 1 Data
-21.94
-21.37
-19.91
-21.57
-20.55
-20.39
-22.81
-20.76
-20.7
-21.85
-22.05
-7.51
-24.6
-18.15
-21.22
-21.23
-20.44
-22.52
-7.99
-20.2
-7.93
-20.73
-21.35 (Dup)
South Data
-20.91
-21.26
-22.54
-22.2
-25.57 (Dup)
-21.82 (Dup)
-23.45
-22.27
-21.22
41-24-W4
41-23-W4
40-24-W4
40-23-W4
39-24-W4
39-23-W4
Clive
821
12

Spring = Green
Fall = Red

- Soil Gas Probe Locations
- Atmosphere Sample
- Enhance Facility Location
- MMV Plan Area
- North 3 Data
- North 2 Data
- North 1 Data
- South Data
- Primary Road
- Secondary Road
- Stream
- Municipality

NOTE: Wells with no values, indicate a 0 reading.

0 1 2
Kilometers

N

1:52,000

Coordinate System: NAD 1983 UTM Zone 12N

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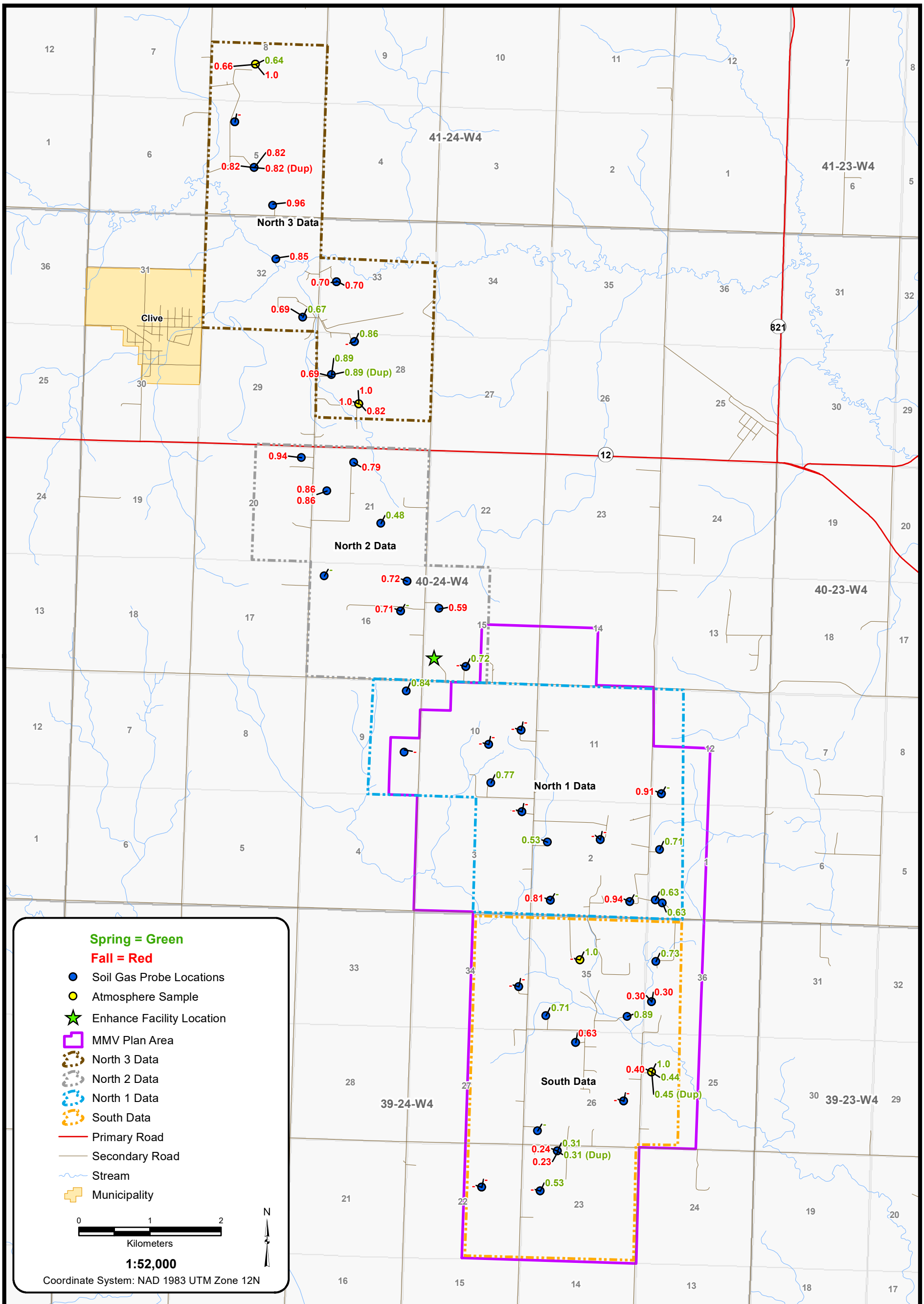
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SOIL GAS PROBE NETWORK
D13C-CO2 SPRING AND FALL 2022 RESULTS

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K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	7	0

NOTES: 28-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.





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ENHANCE ENERGY INC.
SOIL GAS PROBE NETWORK
F14C CO2 SPRING AND FALL 2021 RESULTS

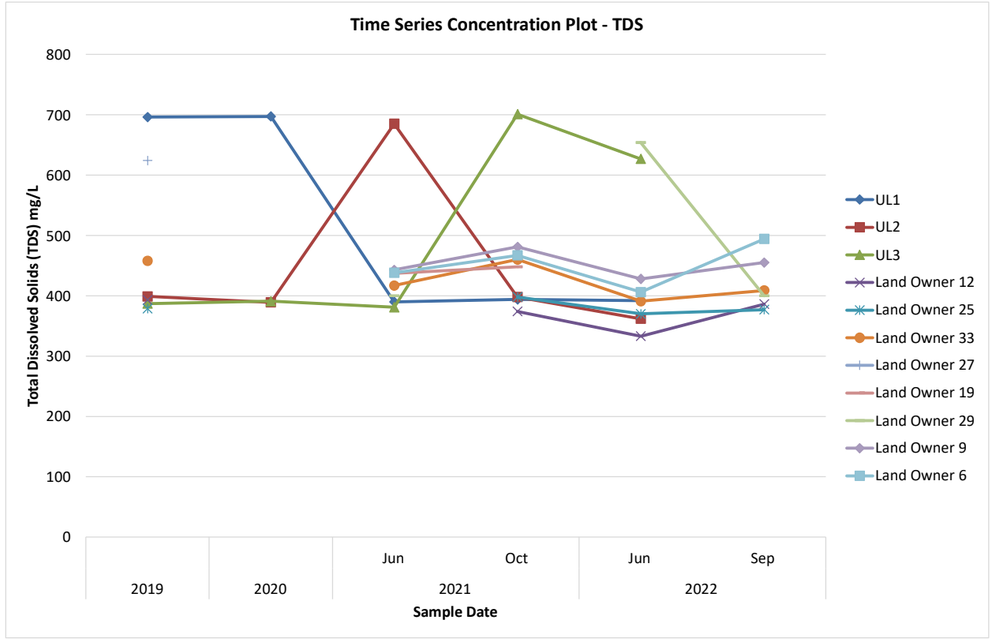
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K.MATEUSH	J.FENNELL	I.GRANT

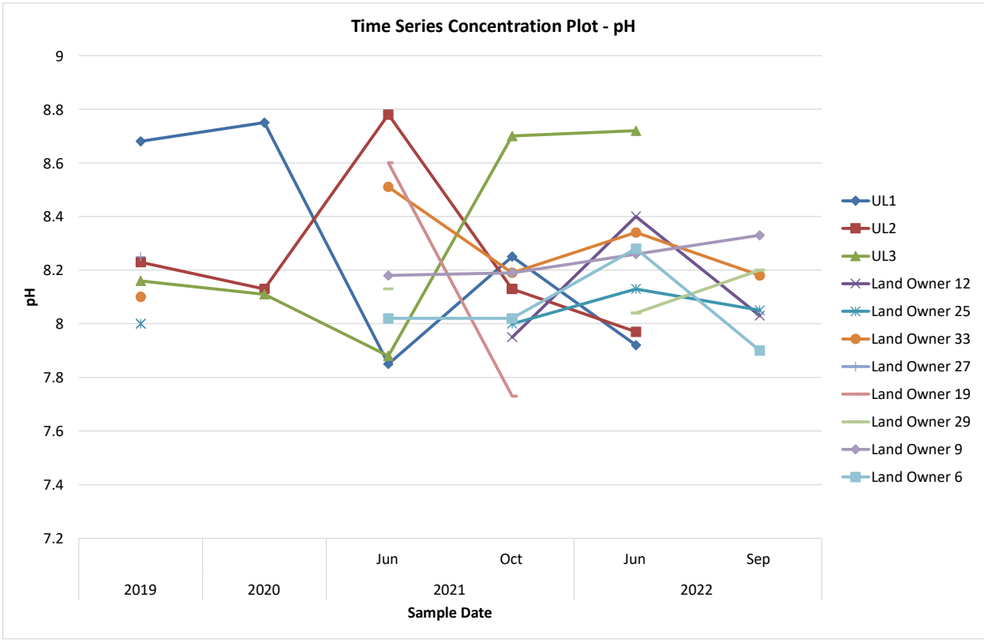
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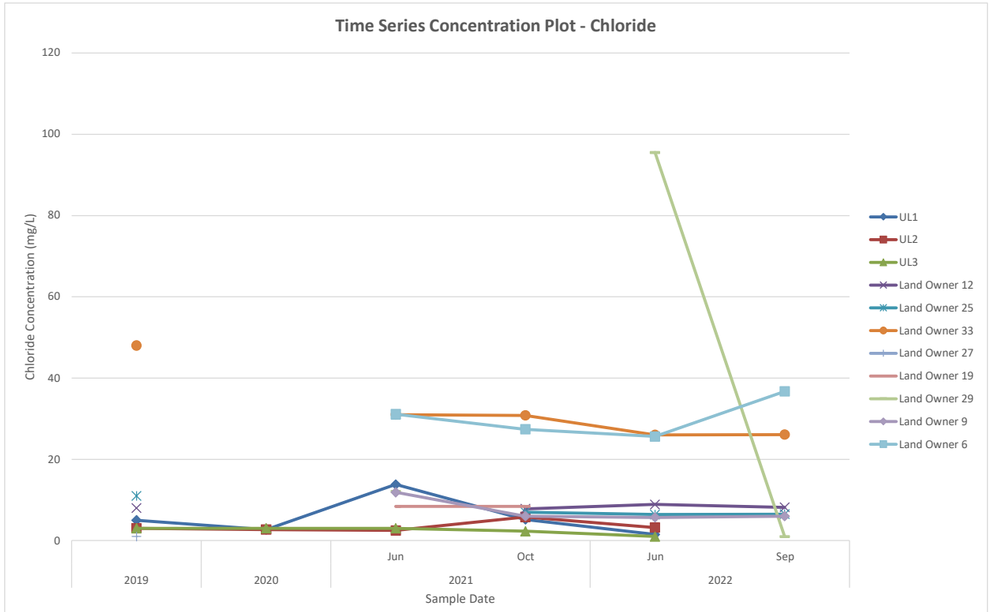
NOTES: 28-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

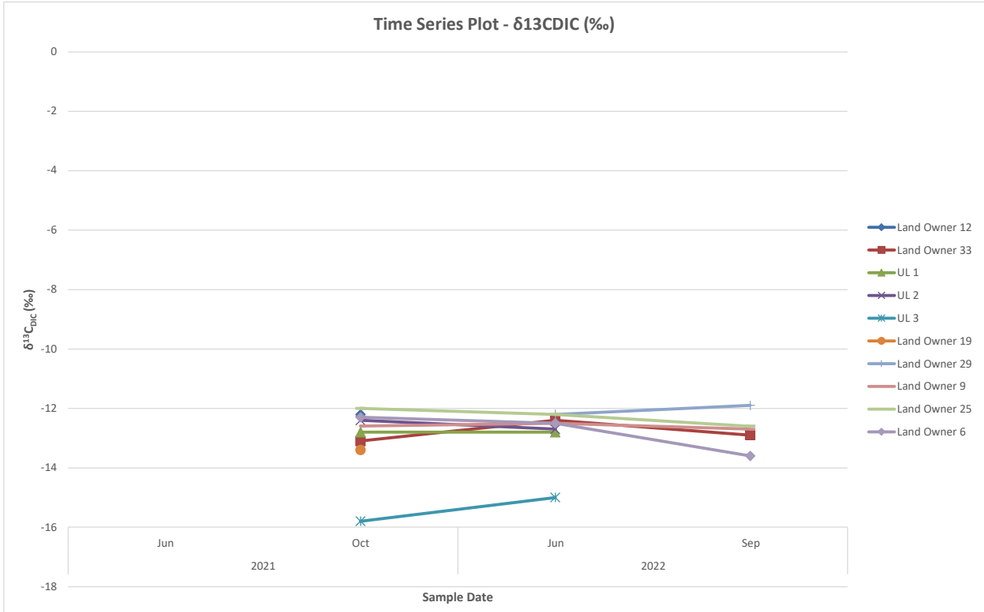
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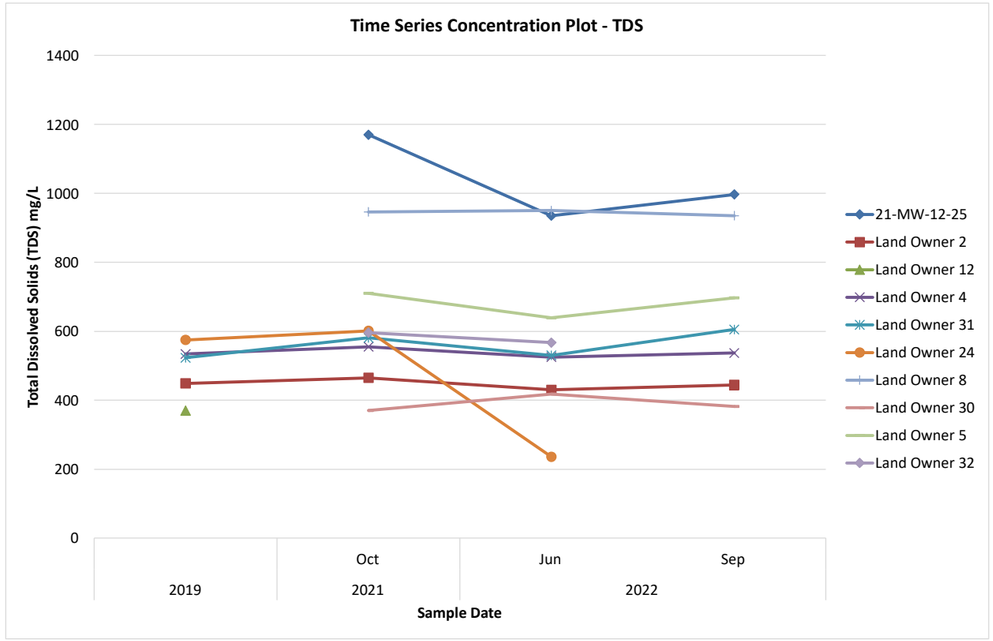
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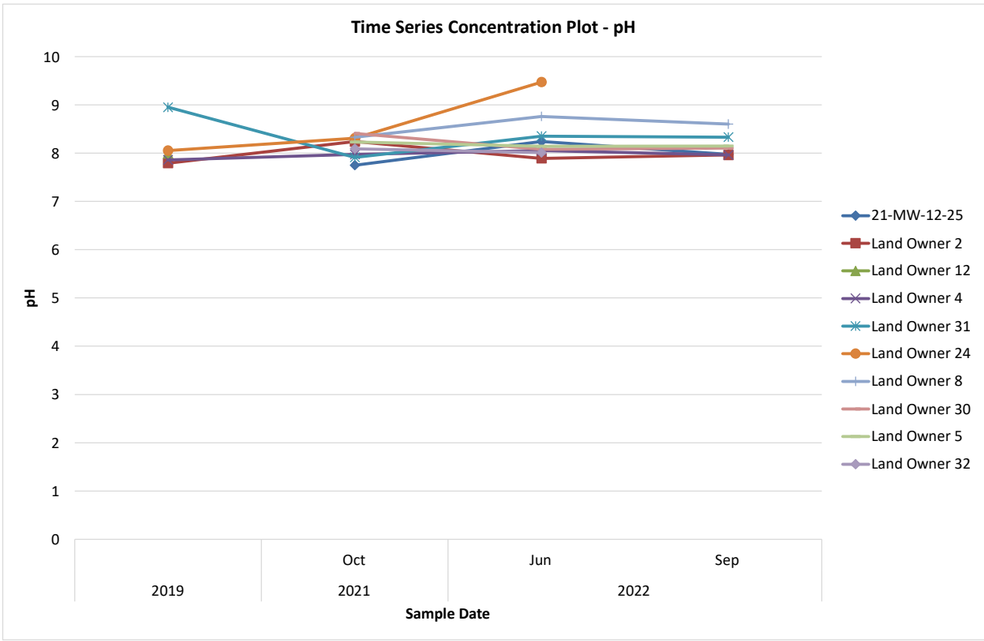
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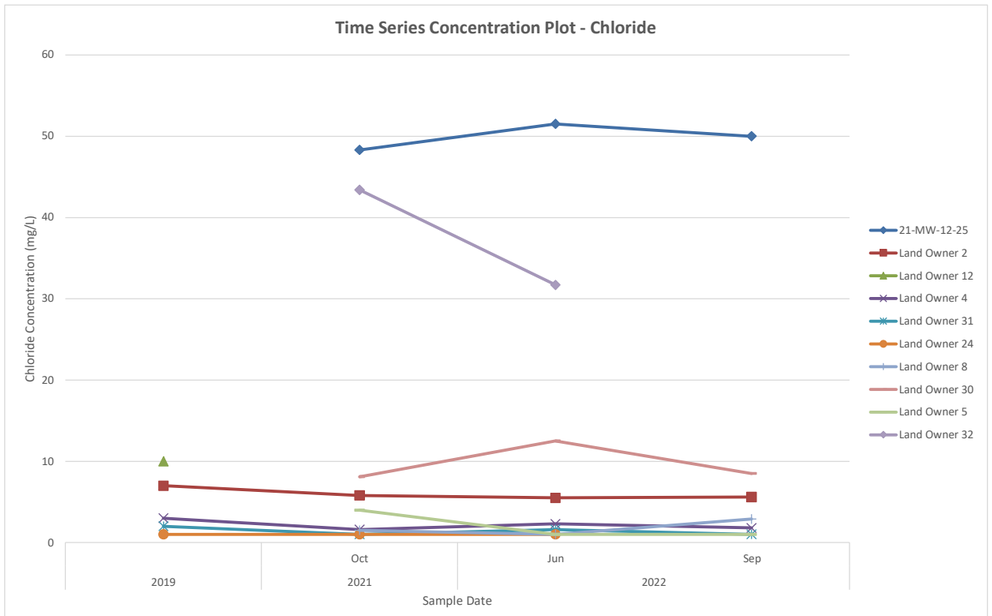
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MMV Soil & Groundwater Monitoring 2022 Annual Report
Groundwater Time Series Concentration Plot - North 1 Data

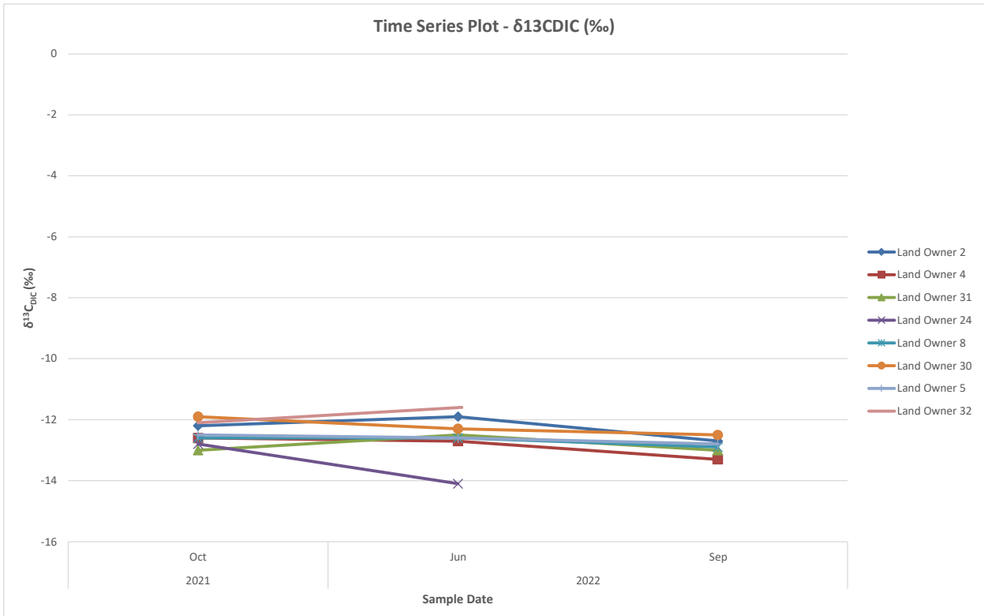
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J. Cruz	J. Fennell	E. Guzman	February 13, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 9	B









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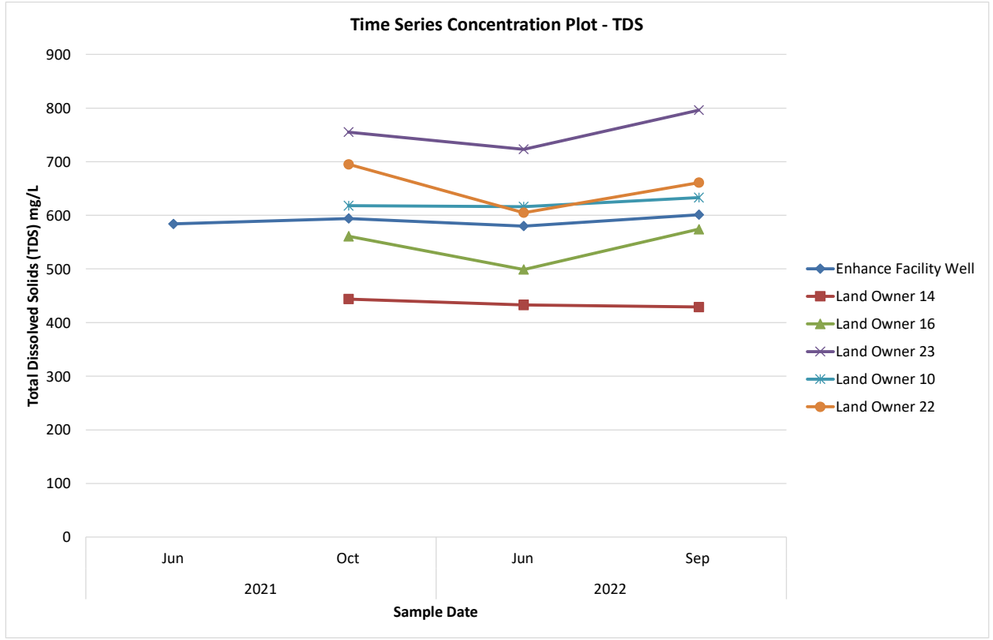
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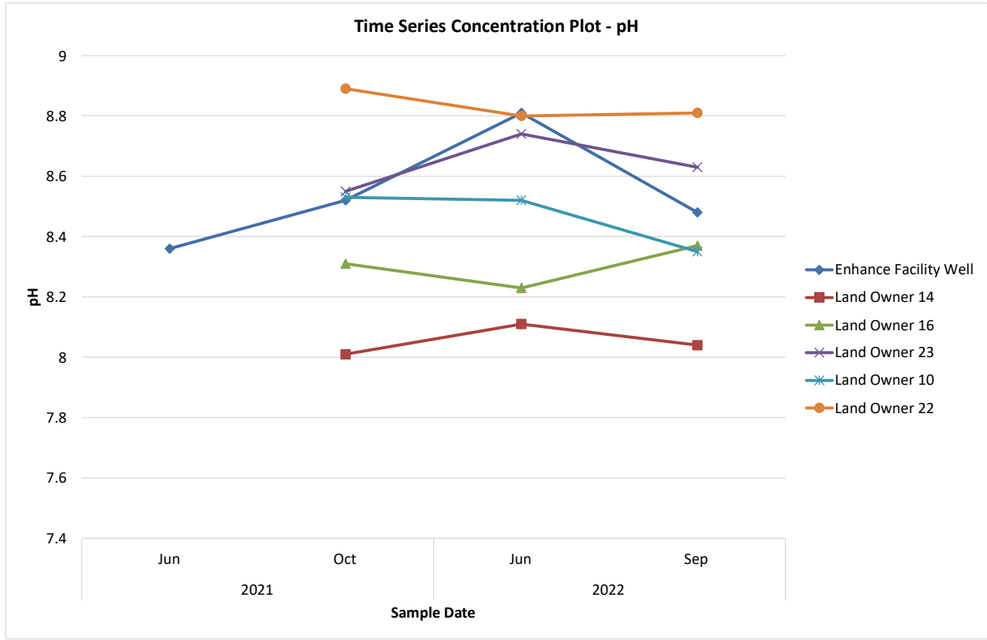
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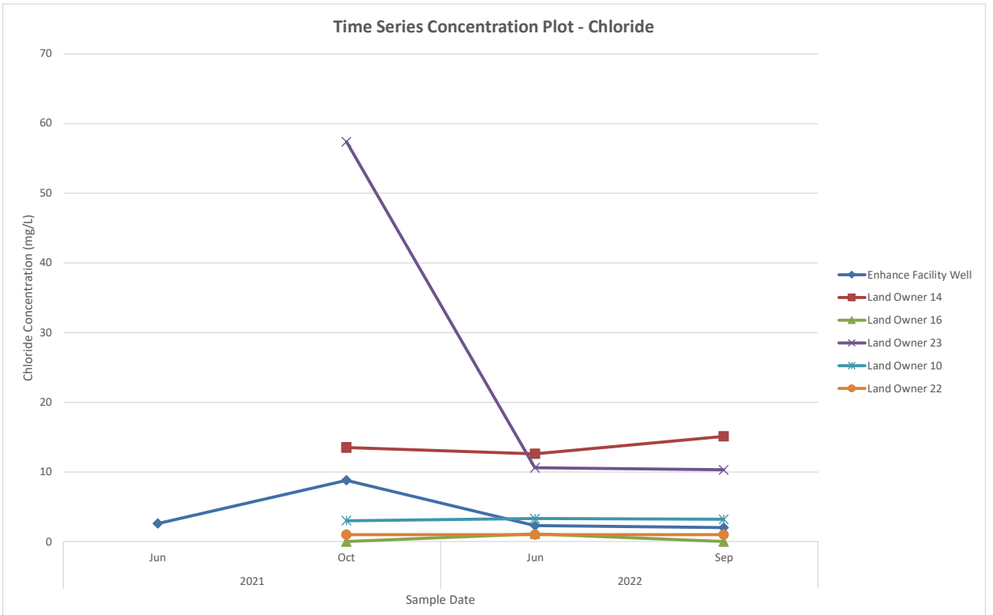
Clive CO_2 Injection & Enhanced Oil Recovery Project
MMV Soil & Groundwater Monitoring 2022 Annual Report
Groundwater Time Series Concentration Plot - South Data

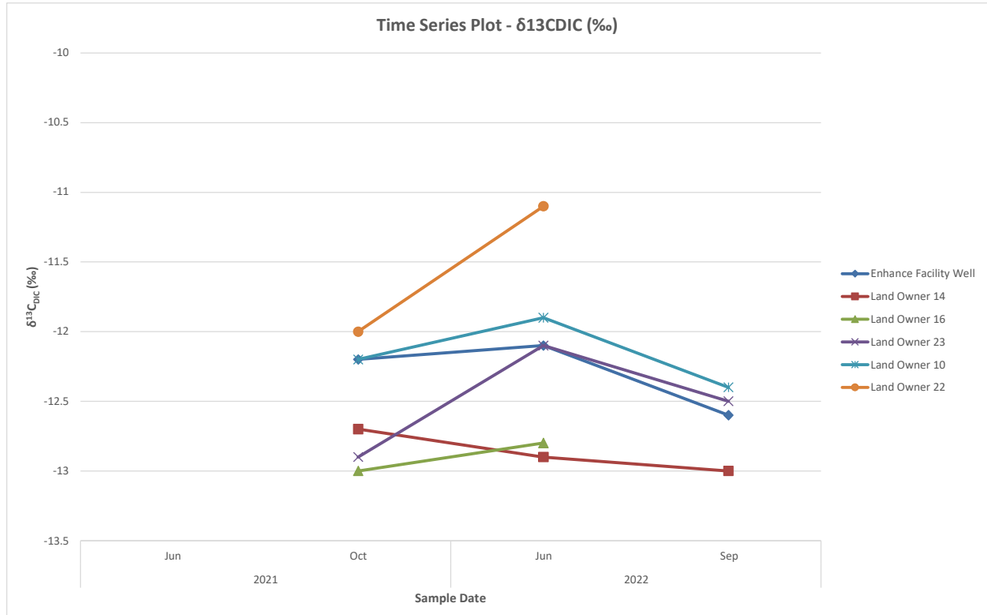
DRAWN BY	CHECKED BY	APPROVED BY	DATE
J. Cruz	J. Fennell	E. Guzman	February 13, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 10	B









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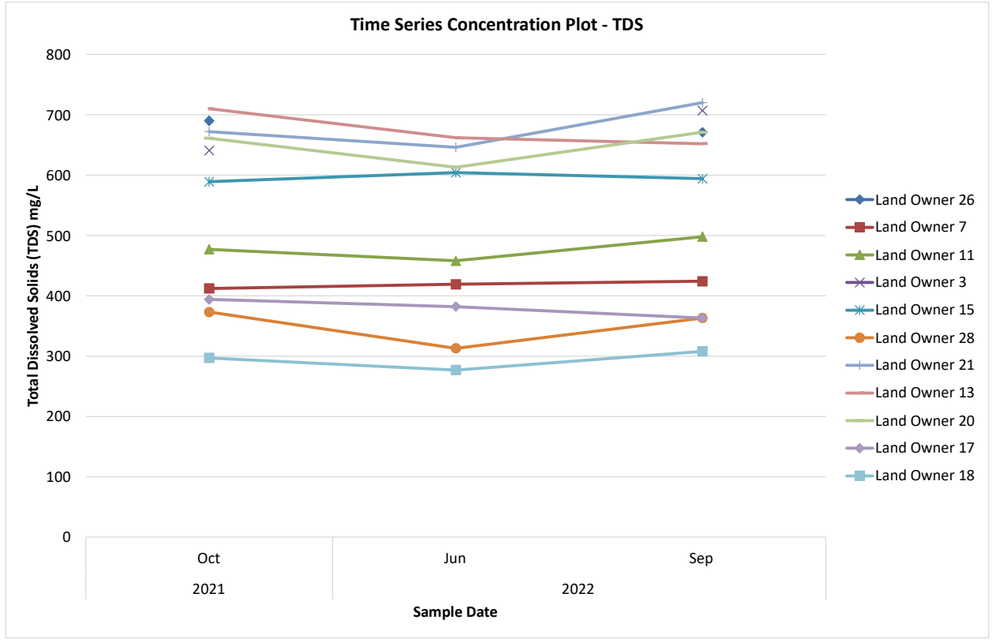
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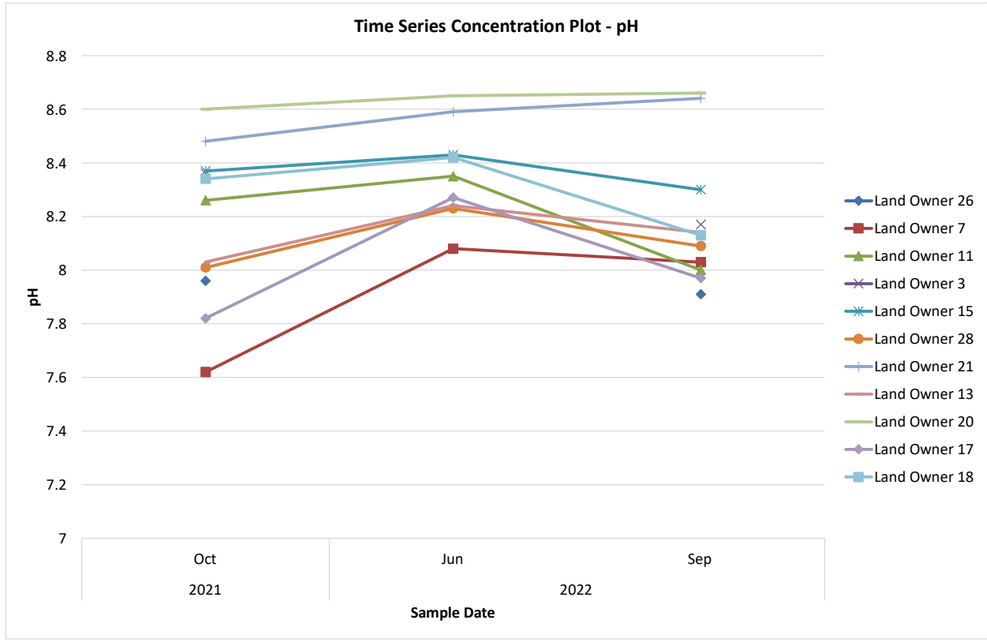
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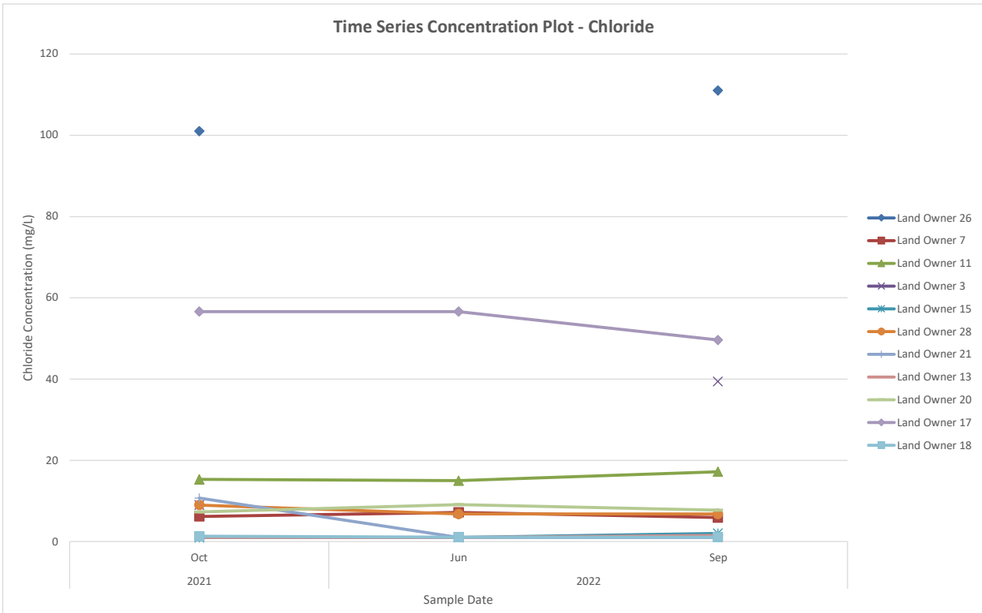
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MMV Soil & Groundwater Monitoring 2022 Annual Report
Groundwater Time Series Concentration Plot - North 2 Data

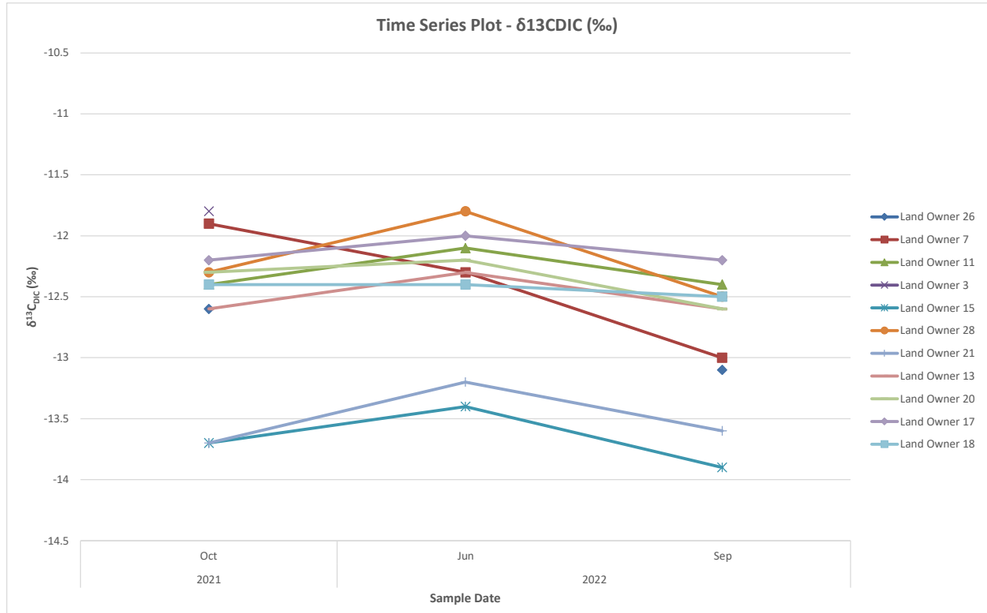
DRAWN BY	CHECKED BY	APPROVED BY.	DATE
J. Cruz	J. Fennell	E. Guzman	February 13, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 11	B









Notes:

PREPARED BY: INTEGRATED SUSTAINABILITY

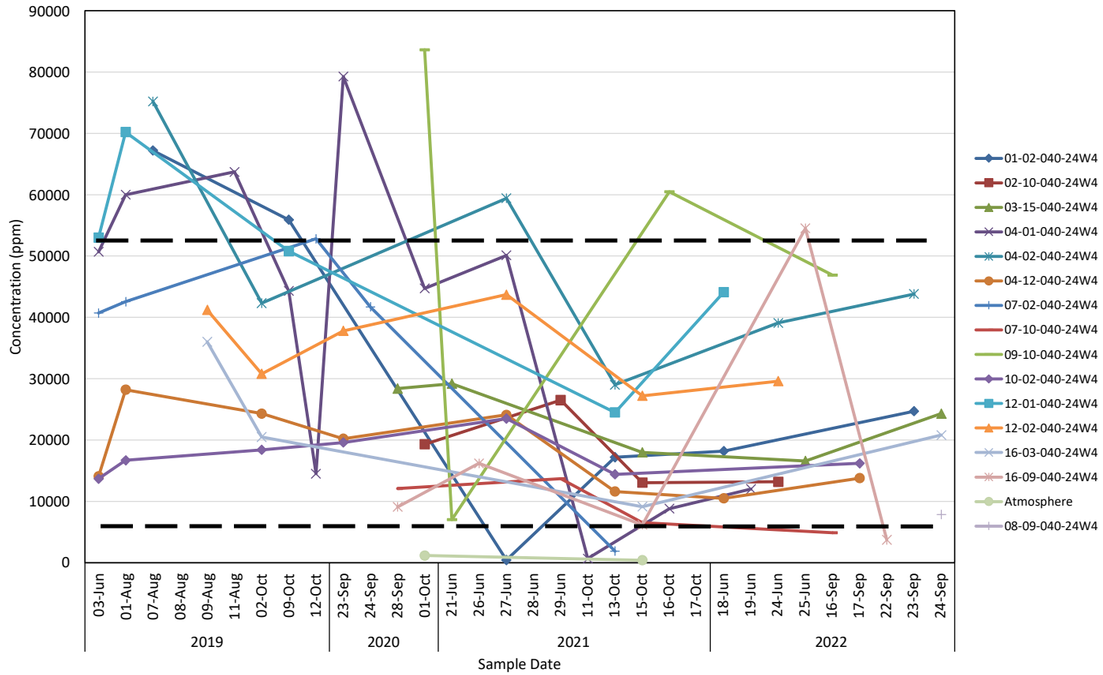
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Clive CO_2 Injection & Enhanced Oil Recovery Project
MMV Soil & Groundwater Monitoring 2022 Annual Report
Groundwater Time Series Concentration Plot - North 3 Data

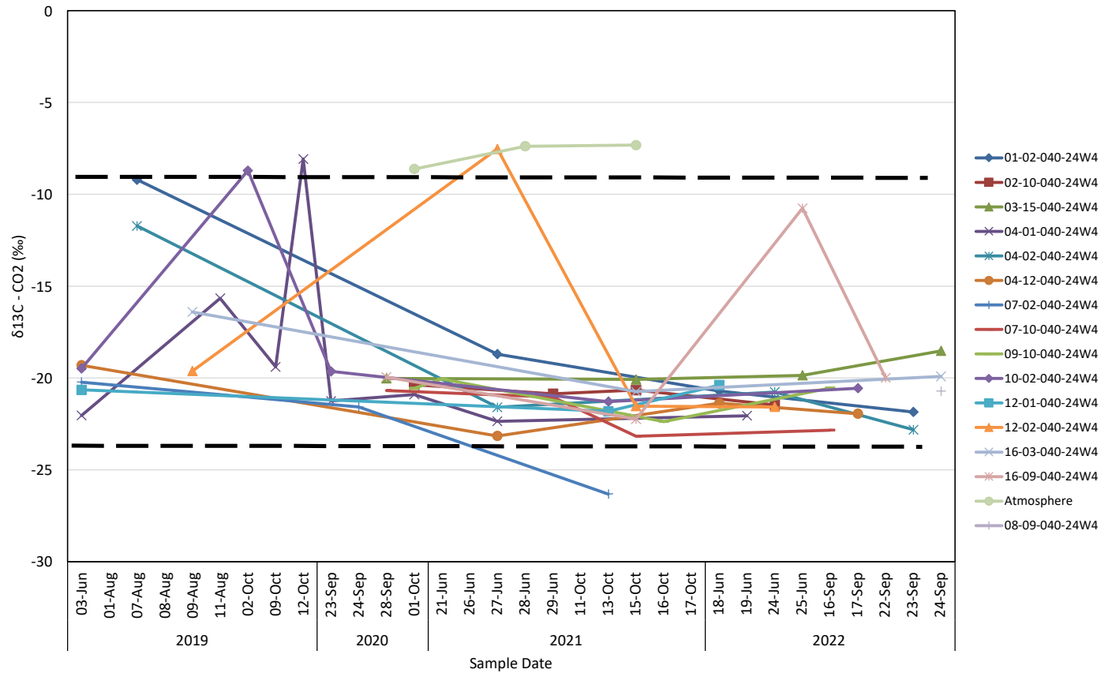
DRAWN BY	CHECKED BY	APPROVED BY	DATE
J. Cruz	J. Fennell	E. Guzman	February 13, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 12	B

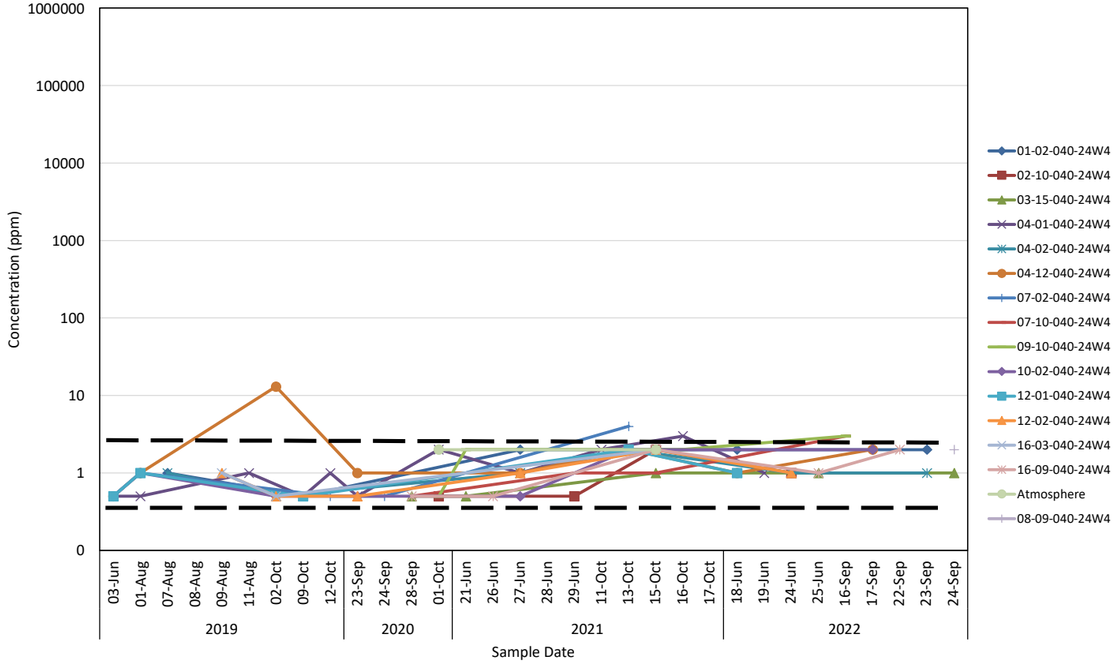
Time Series Concentration Plot - CO2



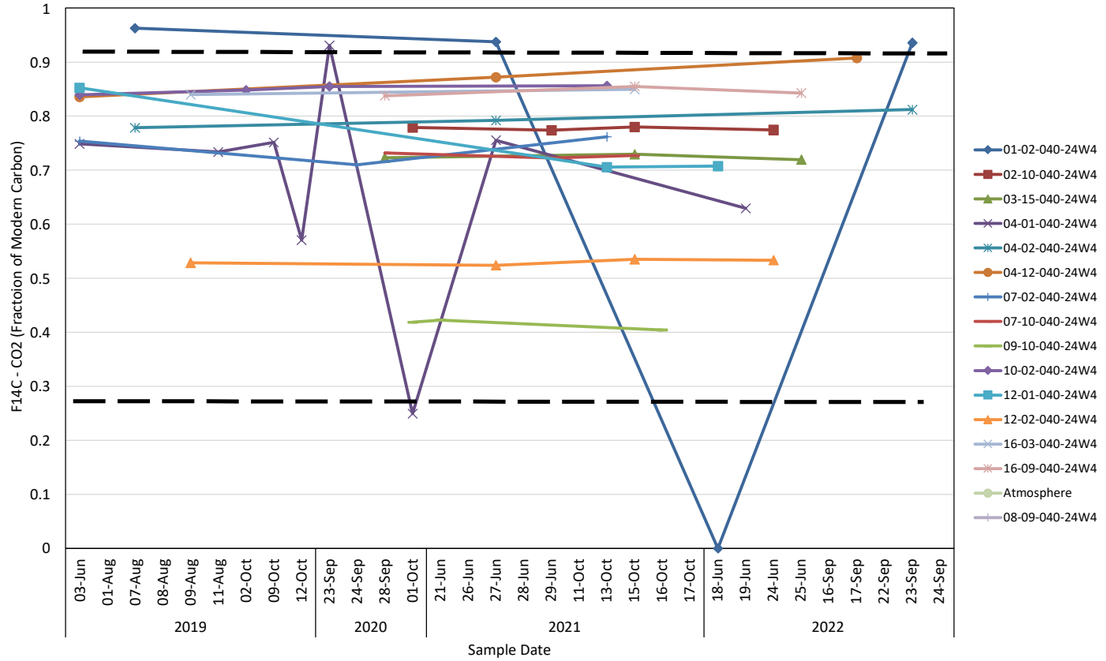
Time Series Concentration Plot - $\delta^{13}C$ in CO2



Time Series Concentration Plot - CH4



Time Series Concentration Plot - F14C in CO2



Notes: CH4 concentratuion measured below the laboratory detection limit of 1 ppm are reported as 0.5 ppm.

Range of baseline conditions

PREPARED BY: INTEGRATED SUSTAINABILITY

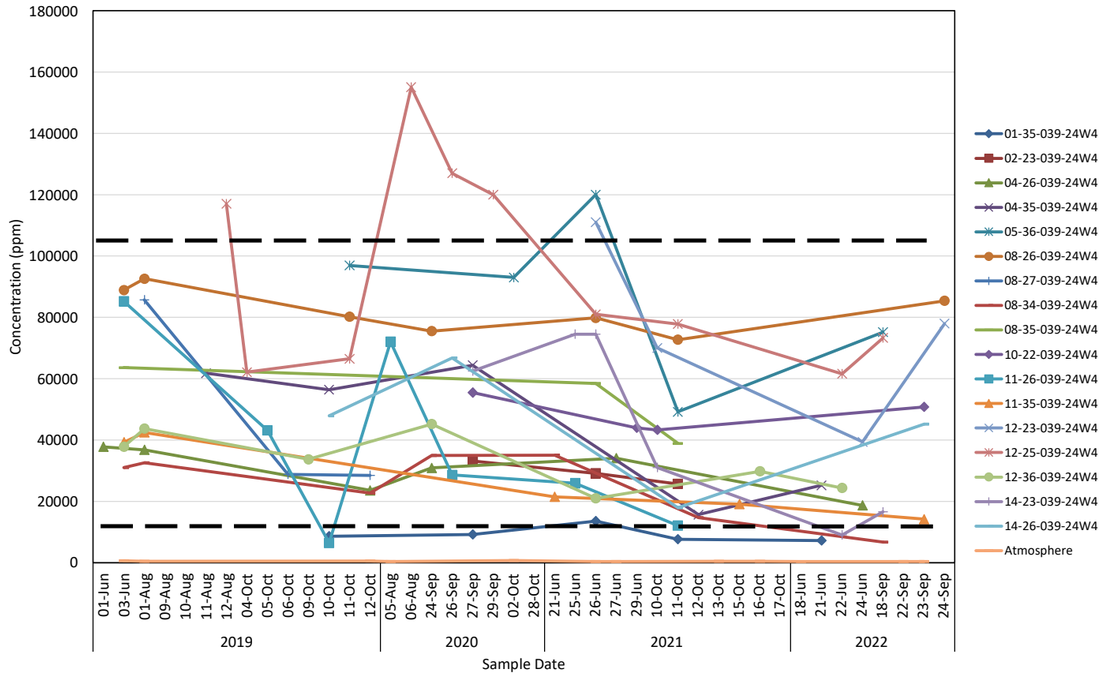
CLIENT: enhance

Clive CO_2 Injection & Enhanced Oil Recovery Project
MMV Soil & Groundwater Monitoring 2022 Annual Report
Time Series Concentration Plot - North 1 Data

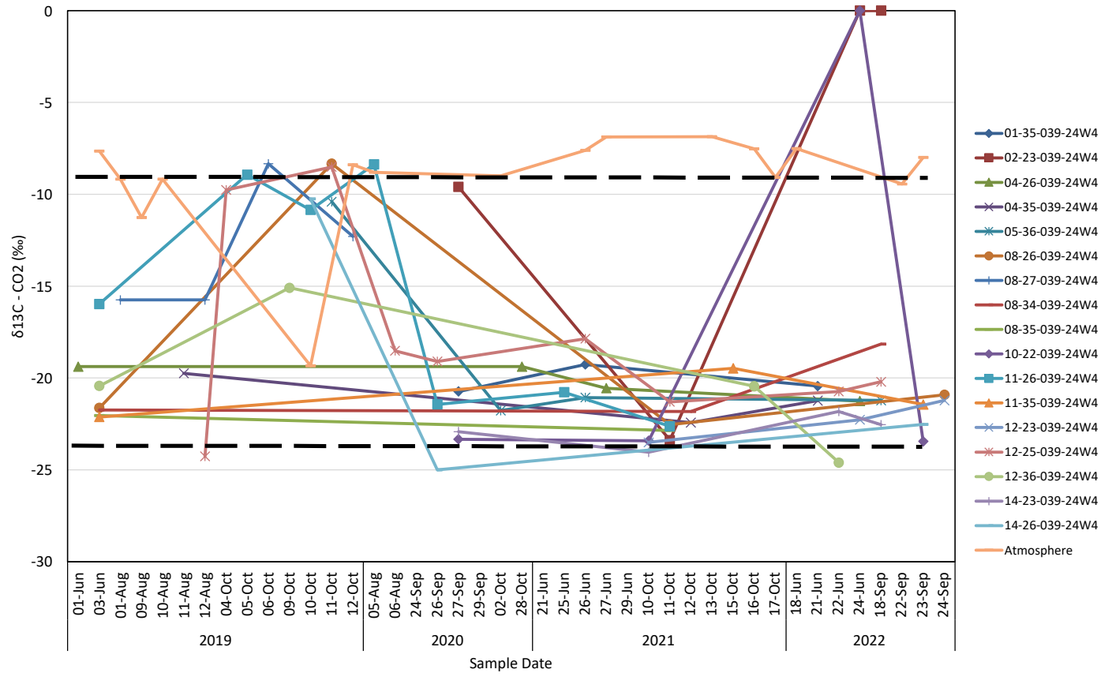
DRAWN BY	CHECKED BY	APPROVED BY:	DATE
I. Grant	J. Fennell	E. Guzman	February 13, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 13	A

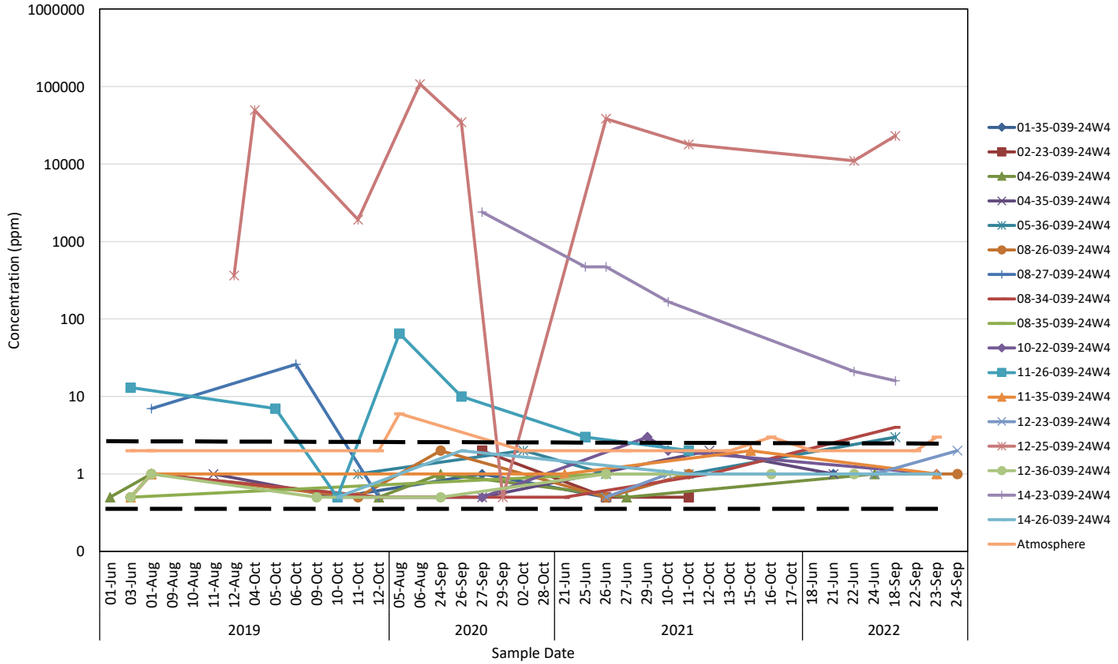
Time Series Concentration Plot - CO2



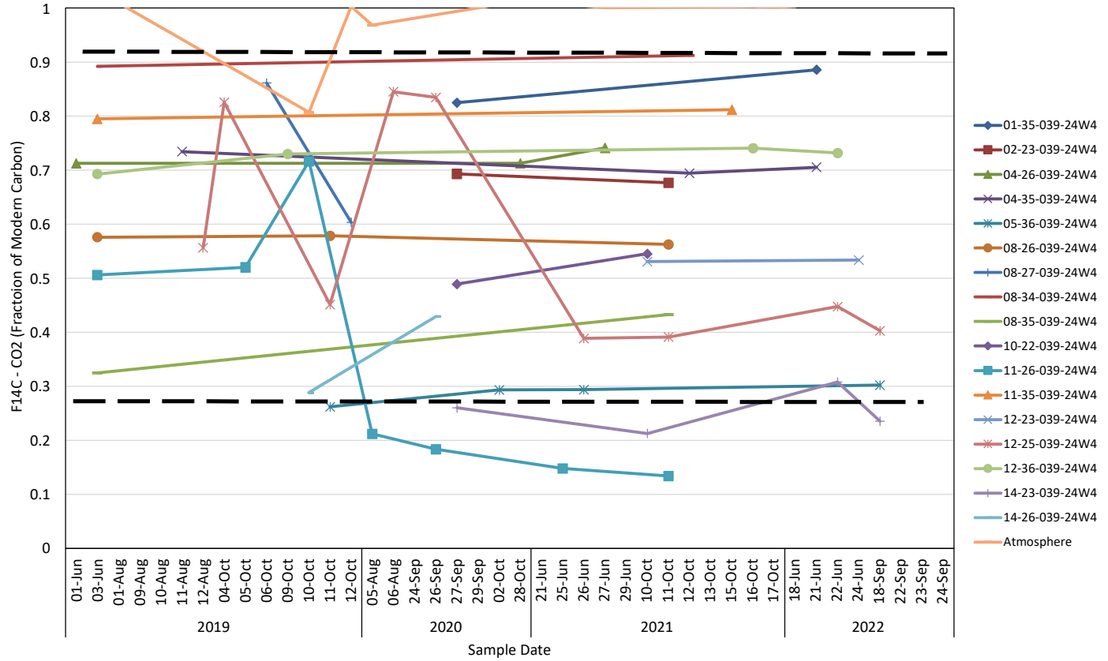
Time Series Concentration Plot - $\delta^{13}C$ in CO2



Time Series Concentration Plot - CH4



Time Series Concentration Plot - F14C in CO2



Notes: CH4 concentratuion measured below the laboratory detection limit of 1 ppm are reported as 0.5 ppm.

Range of baseline conditions

PREPARED BY: INTEGRATED SUSTAINABILITY

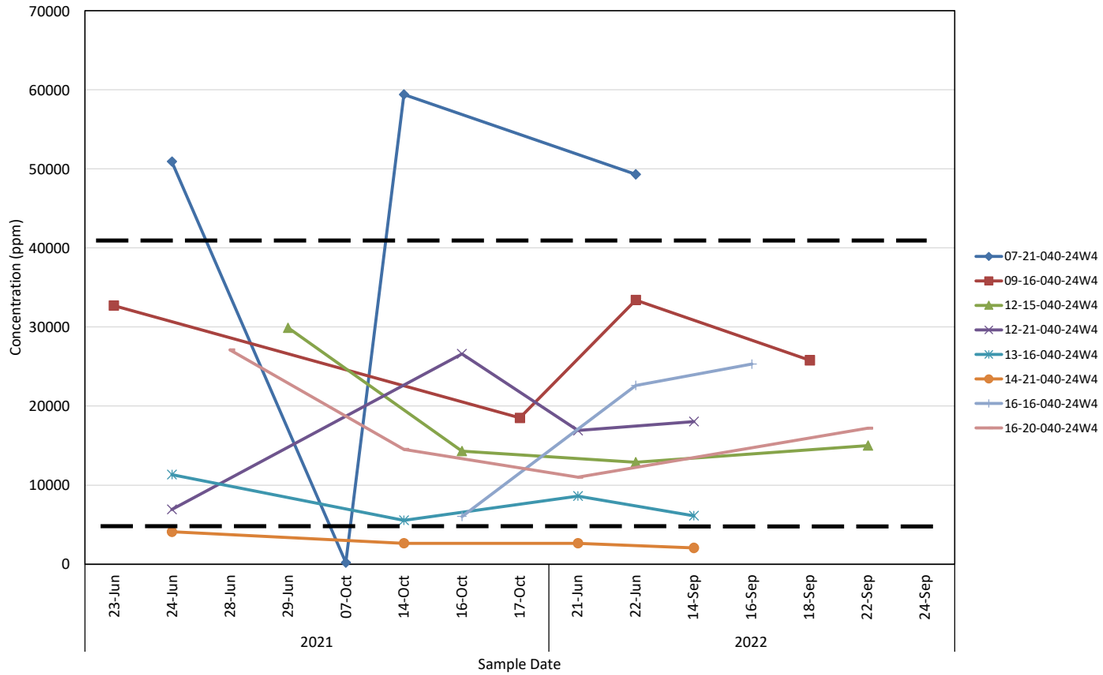
CLIENT: enhance

Clive CO_2 Injection & Enhanced Oil Recovery Project
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Time Series Concentration Plot - South Data

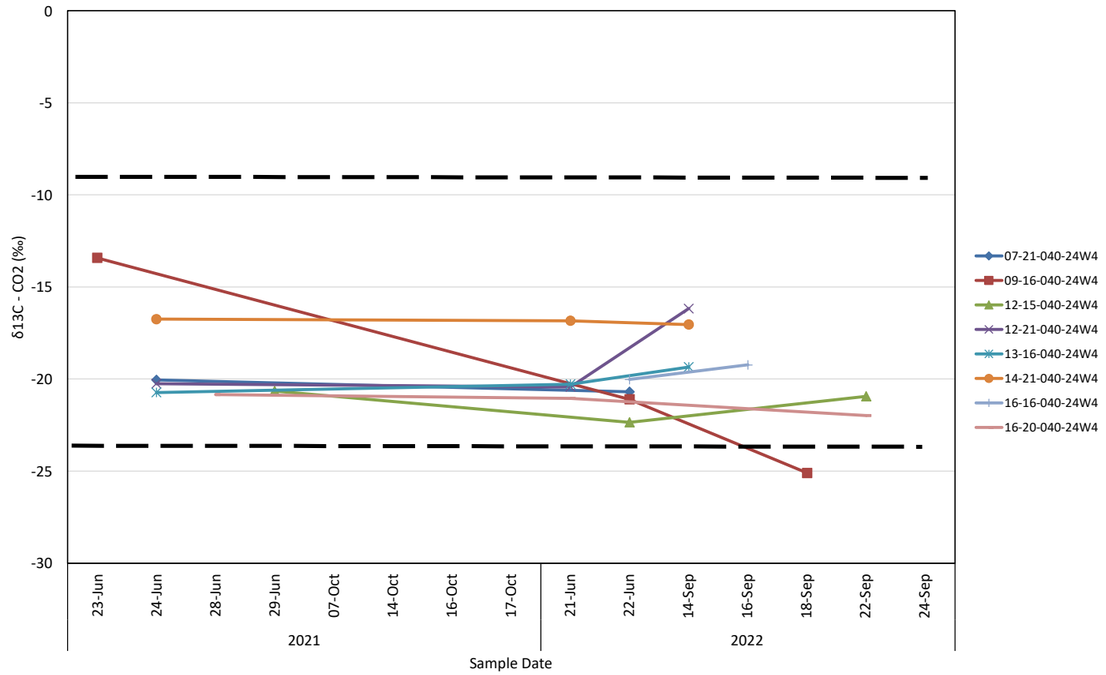
DRAWN BY	CHECKED BY	APPROVED BY:	DATE
I. Grant	J. Fennell	E. Guzman	February 14, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 14	D

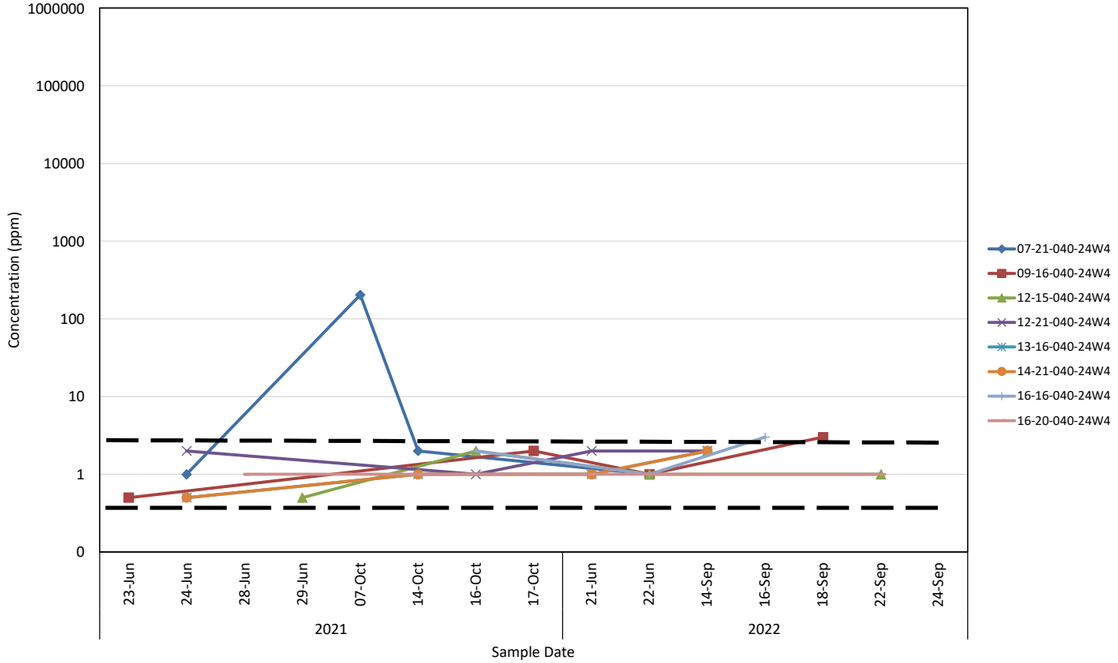
Time Series Concentration Plot - CO2



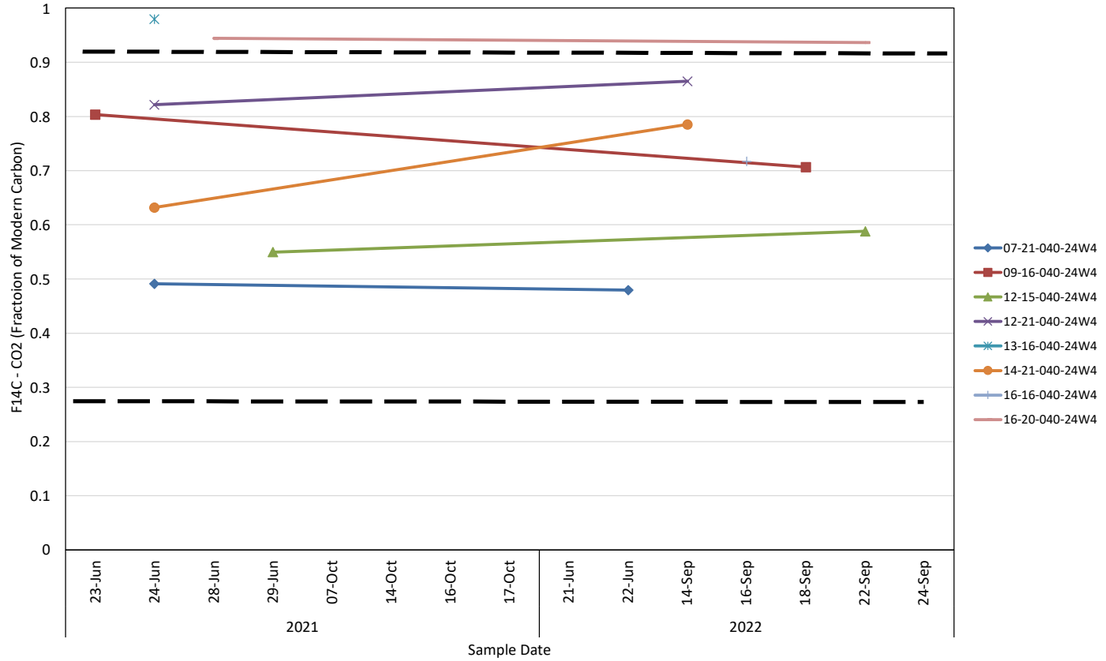
Time Series Concentration Plot - $\delta^{13}C$ in CO2



Time Series Concentration Plot - CH4



Time Series Concentration Plot - F14C in CO2



Notes: CH4 concentratuion measured below the laboratory detection limit of 1 ppm are reported as 0.5 ppm.

Range of baseline conditions

PREPARED BY: INTEGRATED SUSTAINABILITY

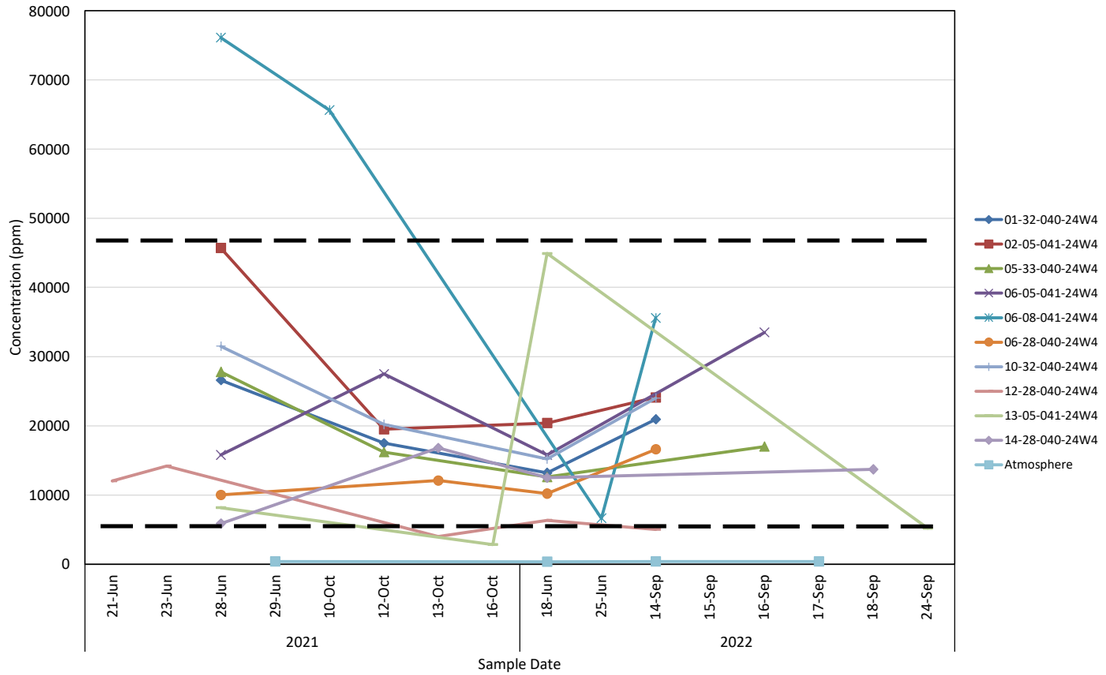
CLIENT: enhance

Clive CO_2 Injection & Enhanced Oil Recovery Project
MMV Soil & Groundwater Monitoring 2022 Annual Report
Time Series Concentration Plot - North 2 Data

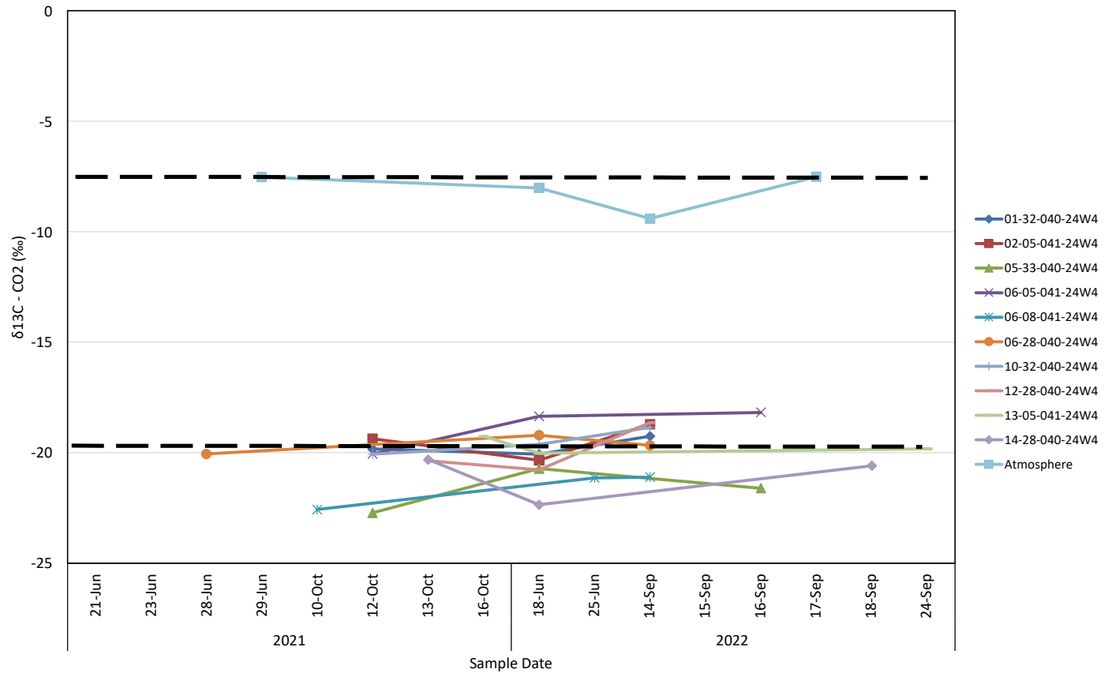
DRAWN BY	CHECKED BY	APPROVED BY:	DATE
I. Grant	J. Fennell	E. Guzman	February 13, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 15	A

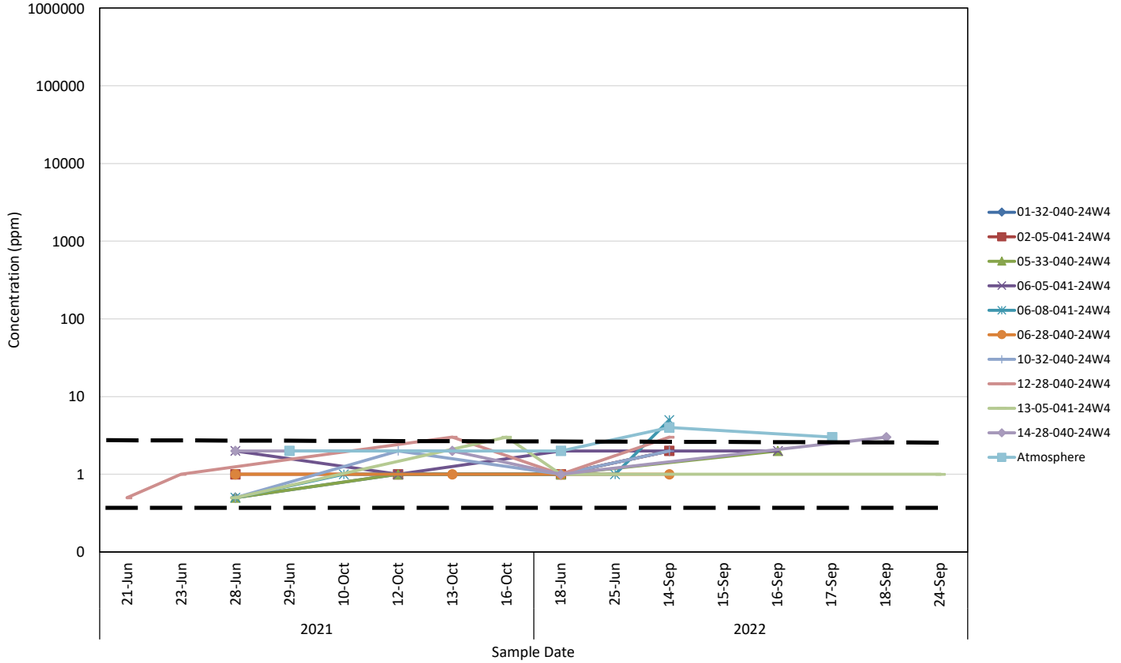
Time Series Concentration Plot - CO2



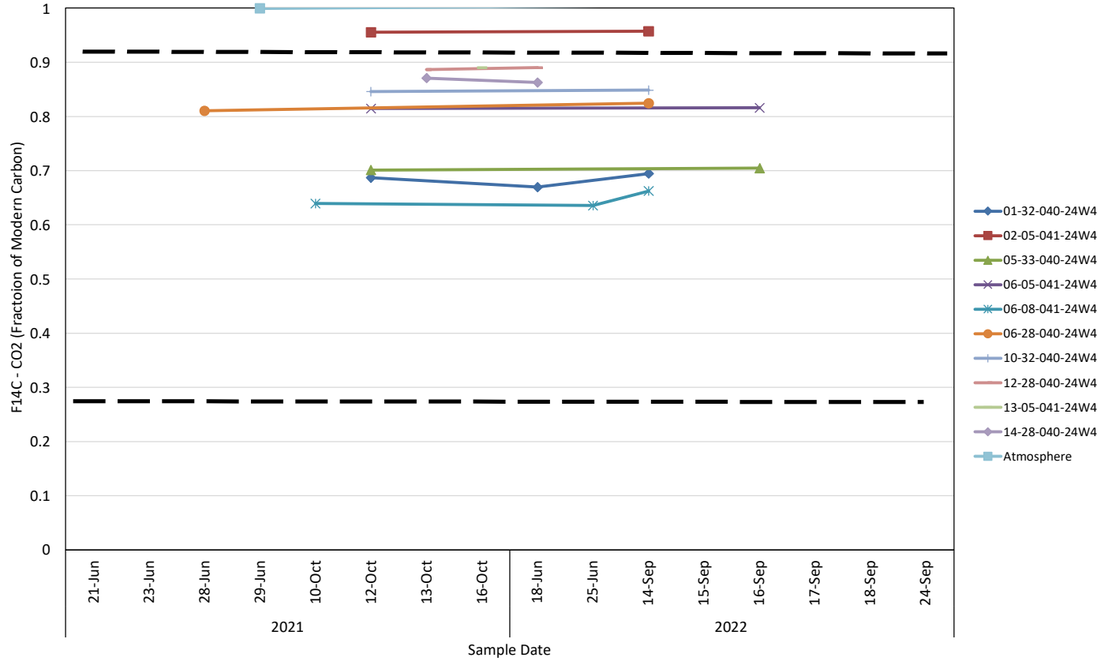
Time Series Concentration Plot - $\delta^{13}C$ in CO2



Time Series Concentration Plot - CH4



Time Series Concentration Plot - F14C in CO2



Notes: CH4 concentratuion measured below the laboratory detection limit of 1 ppm are reported as 0.5 ppm.

Range of baseline conditions

PREPARED BY: INTEGRATED SUSTAINABILITY

CLIENT: enhance

Clive CO_2 Injection & Enhanced Oil Recovery Project
MMV Soil & Groundwater Monitoring 2022 Annual Report
Time Series Concentration Plot - North 3 Data

DRAWN BY	CHECKED BY	APPROVED BY:	DATE
I. Grant	J. Fennell	E. Guzman	February 13, 2023

SCALE	PROJECT NO.	FIGURE NO.	REVISION
-	CP22-EEI-01-00	FIGURE 16	A

INTEGRATED SUSTAINABILITY

Appendices

INTEGRATED SUSTAINABILITY

Appendix 1: Additional Gas Analysis

André E. Lalonde AMS Laboratory
Radiocarbon Laboratory
www.ams.uottawa.ca
Analysis Report

uOttawa

Isotope Analysis Summary

Date	Lab ID	Submitter ID	Submitter comments	Description	Material	Material Code	14C yr BP	±	F14C	±	D14C ‰	±	Δ14C ‰	±
2022														
1-Sep-22	UOC-19760ϕ	SUMMA1A (10-34 CBM GAS)	10-34-039-24W4	CBM Prod Gas	Gas	CH4	>55900	--	<0.001	--	<-999	--	<-999.1	--
1-Sep-22	UOC-19761ϕ	CANISTER1B (04-15 CBM HEADER)	12-12-040-24W4	CBM Prod Gas	Gas	CH4	>55900	--	<0.001	--	<-999	--	<-999.1	--
24-May-22	UOC-19338ϕ	SUMMA1A	14-07-056-21W4	NWR CO2 Source	Gas	CX	>49700	--	<0.002	--	<-998.0	--	<-998.0	--
24-May-22	UOC-19339	SUMMA3B	04-17-056-21W4	Nutrien CO2 Source	Gas	CX	47688	320	0.0026	0.0001	-997.36	0.11	-997.38	0.11
13-May-22	UOC-19107ϕ	CAN1C	04-15-040-24W4	Combined CO2 Source	Gas	CX	>49700	--	<0.002	--	<-998.0	--	<-998.0	--
11-Mar-22	UOC-18173	SUMMA1A	14-07-056-21W4	NWR CO2 Source	Gas	CX	>55400	--	<0.0012	--	<-998.8	--	<-998.81	--
11-Mar-22	UOC-18174	SUMMA4B	04-17-056-21W4	Nutrien CO2 Source	Gas	CX	>55400	--	<0.0012	--	<-998.8	--	<-998.81	--
7-Mar-22	UOC-18172	SUMMA1A	04-15-040-24W4	Combined CO2 Source	Gas	CX	42091	136	0.0053	0.0001	-994.7	0.1	-994.75	0.1
2021														
25-Oct-21	UOC-16776ϕ	CAN00142	04-17-056-21W4	Nutrien CO2 Source	Gas - Summa Can	CX	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
25-Oct-21	UOC-16777ϕ	CAN11950	04-17-056-21W4 DUPE	Nutrien CO2 Source	Gas - Summa Can	CX	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
25-Oct-21	UOC-16778ϕ	CAN03091	14-07-056-21W4	NWR CO2 Source	Gas - Summa Can	CX	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
25-Oct-21	UOC-16779ϕ	CAN11815	14-07-056-21W4 DUPE	NWR CO2 Source	Gas - Summa Can	CX	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
04-Oct-21	UOC-16774ϕ	CAN00144A	04-15-040-24W4	Combined CO2 Source	Gas - Summa Can	CX	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
04-Oct-21	UOC-16775	CAN06451A	04-15-040-24W4 DUPE	Combined CO2 Source	Gas - Summa Can	CX	42234	1209	0.0052	0.0008	-994.79	0.78	-994.84	0.78
13-May-21	UOC-16104	GV1A_08-35	100/08-35-039-24W4	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
13-May-21	UOC-16105	GVA2_08-35	100/08-35-039-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
13-May-21	UOC-16106	GVA3_08-35	100/08-35-039-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
13-May-21	UOC-16107	GVA4_08-35	100/08-35-039-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
13-May-21	UOC-16108	GVA5_08-35	100/08-35-039-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
13-May-21	UOC-16109	GVA6_08-35	100/08-35-039-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
06-May-21	UOC-16110	GV1A_09-16	102/09-16-040-24W4	Coal SCV Flow	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
06-May-21	UOC-16111	GV2A_09-16	102/09-16-040-24W4 DUPE	Coal SCV Flow	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
06-May-21	UOC-16112	GV3A_09-16	102/09-16-040-24W4 DUPE	Coal SCV Flow	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
04-May-21	UOC-16098	GV1A_08-02	100/08-02-040-24W4	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
04-May-21	UOC-16099	GVA2_08-02	100/08-02-040-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
04-May-21	UOC-16100	GVA3_08-02	100/08-02-040-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
04-May-21	UOC-16101	GVA4_08-02	100/08-02-040-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
04-May-21	UOC-16102	GVA5_08-02	100/08-02-040-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
04-May-21	UOC-16103	GVA6_08-02	100/08-02-040-24W4 DUPE	Nisku Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
12-Apr-21	UOC-15352	VIAL 1A_04-15	04-15-040-24W4;	CBM Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
12-Apr-21	UOC-15353	VIAL 2A_04-15	04-15-040-24W4; DUPLICATE	CBM Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
12-Apr-21	UOC-15354	VIAL 3A_04-15	04-15-040-24W4; DUPLICATE	CBM Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
12-Apr-21	UOC-15355	VIAL 1A_10-34	10-34-039-24W4	CBM Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
12-Apr-21	UOC-15356	VIAL 2A_10-34	10-34-039-24W4; DUPLICATE	CBM Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
12-Apr-21	UOC-15357	VIAL 3A_10-34	10-34-039-24W4; DUPLICATE	CBM Prod Gas	Gas/Liquid	CH4	>50000ϕ	---	<0.0020	---	<-998.00	---	<-998.02	---
17-Feb-21	UOC-14862	CAN1A	04-17-056-21W4	Nutrien CO2 Source	Gas	CX	48222	670	0.0025	0.0002	-997.53	0.21	-997.55	0.20
17-Feb-21	UOC-14863ϕ	CAN3C	14-07-056-21W4	NWR CO2 Source	Gas	CX	>50000	---	<0.0019	---	<-998.00	---	<-998.00	---
01-Feb-21	UOC-14861ϕ	CAN04201C	04-15-040-24W4	Combined CO2 Source	Gas	CX	>50000	---	<0.0019	---	<-998.00	---	<-998.00	---
2020														
02-Oct-20	UOC-14028ϕ	SN8750/29-10621	102/09-16-040-24W4	Coal SCV Flow	GAS	CH4	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
15-Sep-20	UOC-14028ϕ	SN8750/29-10621	4-17-056-21W4 Nutrien	Nutrien CO2 Source	GAS	CX	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
15-Sep-20	UOC-14027ϕ	SN5565/29-10622G	14-07-056-21W4 NWR	NWR CO2 Source	Gas	CX	>50000	---	<0.0020	---	<-998.00	---	<-998.02	---
02-Jul-20	UOC-13121ϕ	VIAL 1A,2A,3A,4A	10-34-039-24w4 CBM Header	CBM Prod Gas	Nautral Gas	CH4	>60000	---	<0.0006	---	<-999.40	---	<-999.41	---
12-May-20	UOC-12831ϕ	1-2-40-24w4	100/01-02-040-24W4/02	Nisku Prod Gas	Nautral Gas	CH4	>55000	---	<0.001	---	<-999.00	---	<-999.00	---
12-Mar-20	UOC-12830ϕ	10-35-39-24w4	100/10-35-039-24W4/00	Leduc Prod Gas	Nautral Gas	CH4	>55000	---	<0.001	---	<-999.00	---	<-999.00	---
2019														
01-Oct-19	UOC-10891	10-34-039-24w4		CBM Prod Gas	CH4 gas	CH4	>67637	8696	0.0002	0.0002	-999.83	0.18	-999.83	0.18
27-Sep-19	UOC-10892	Nutrien inlet gas		**Nutrien CH4 Inlet**	CH4 gas	CH4	>67637	16665	0.0001	0.0001	-999.94	0.13	-999.94	0.13
27-Sep-19	UOC-10896	Nutrien CO2 source gas		Nutrien CO2 Source	CO2 gas	CX	23980	153	0.0505	0.001	-949.47	0.96	-949.89	0.95

AGAT® Laboratories

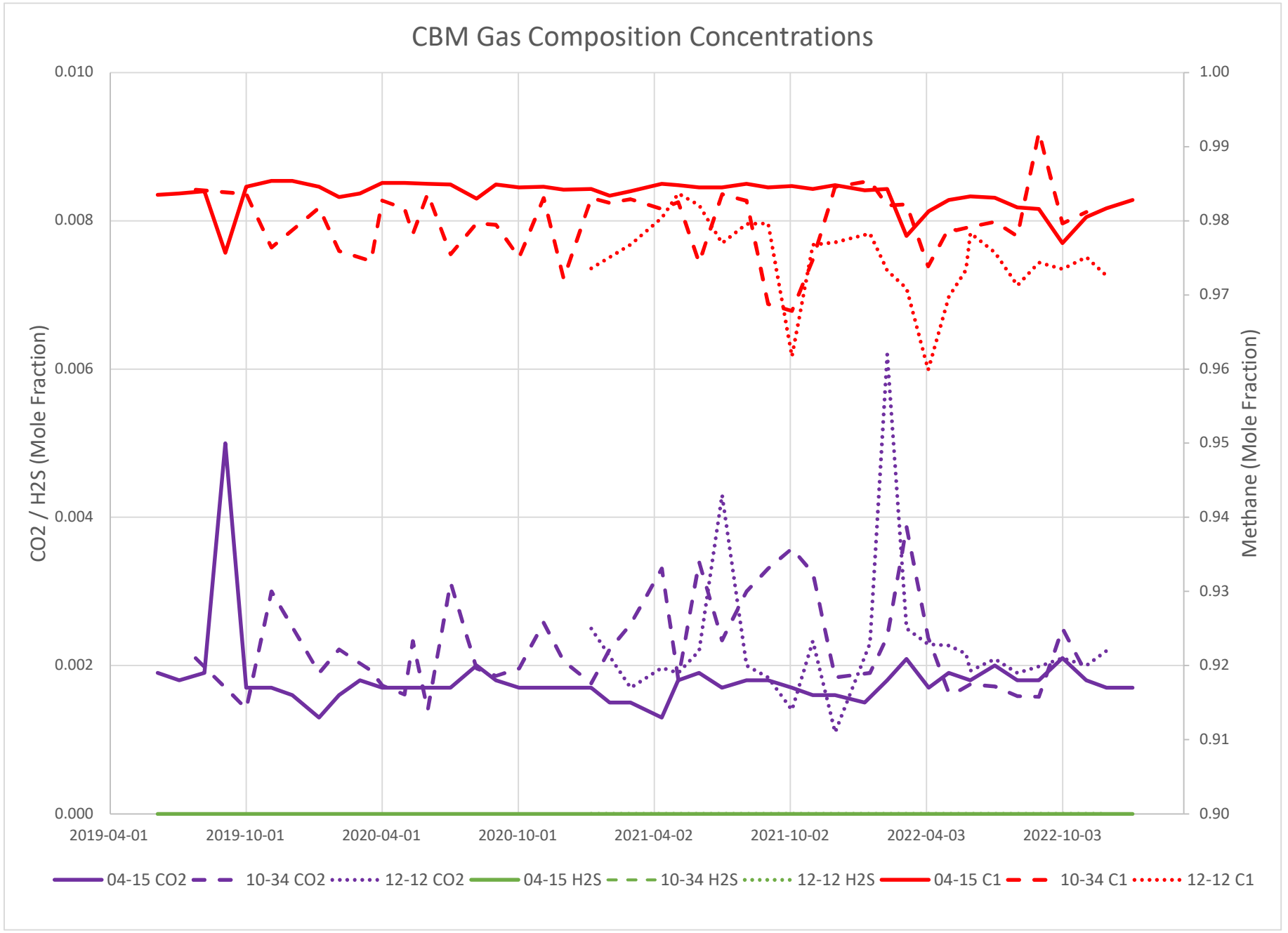
Isotope Analysis Summary

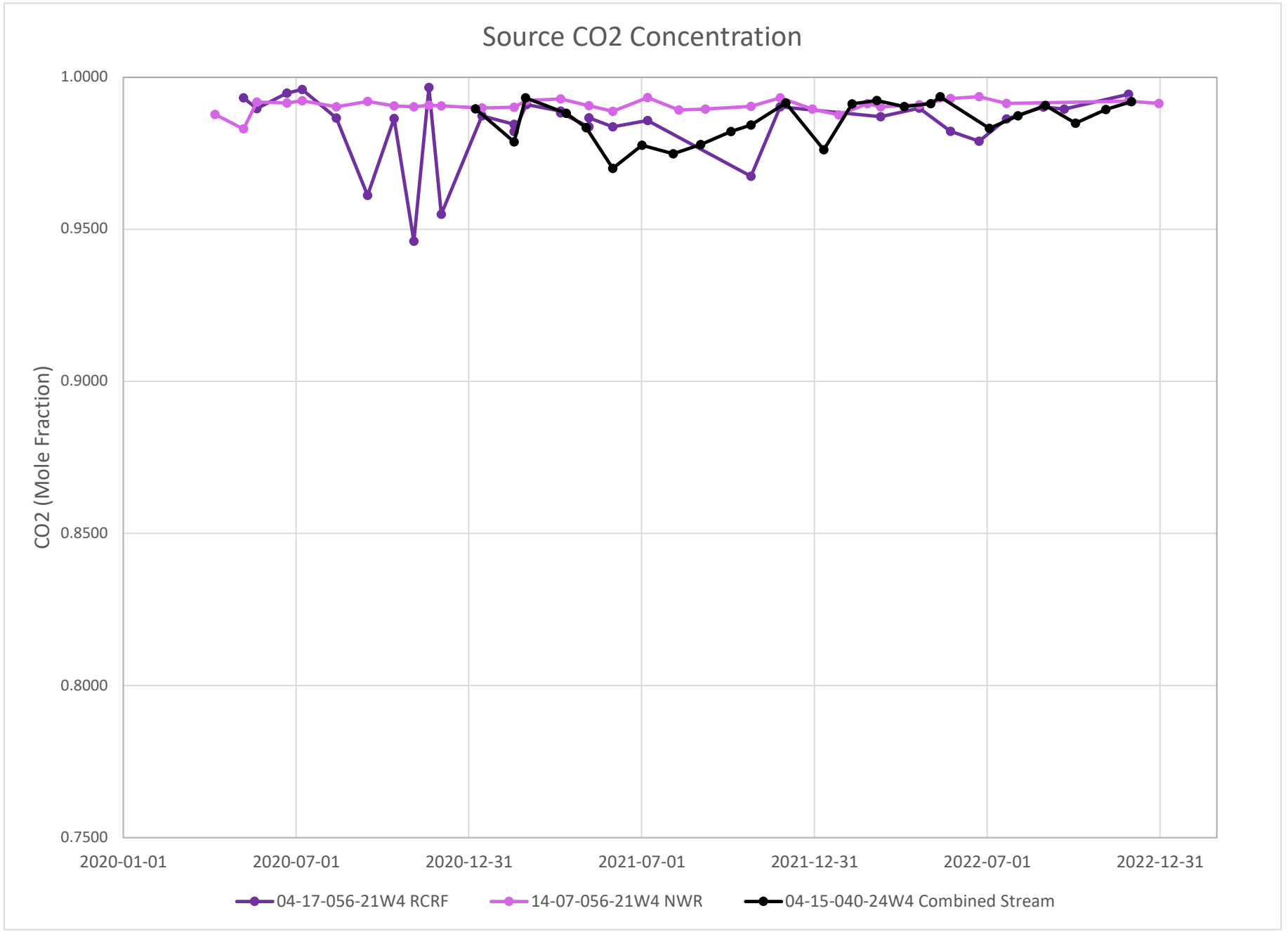
Operator: Enhance Energy

Analyst: Karlis Muehlenbachs, U of A
780-492-2827

Work Order	Well Location	Sample Point	Description	Date Sampled	$\delta^{13}C_1$	$\delta^{13}C_2$	$\delta^{13}C_3$	$\delta^{13}iC_4$	$\delta^{13}nC_4$	$\delta^{13i}C_5$	$\delta^{13}nC_5$	$\delta^{13}CO_2$	Comments
2022													
22R977108	100/12-01-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	5-Dec-22	-37.73	-32.06	-27.18	-29.94	-26.12			-4.70	This is a mature thermogenic gas.
22R977108	100/16-02-040-24W4/00	WELLHEAD TUBING	Nisku Prod Gas	5-Dec-22	-36.62	-32.21	-27.70	-28.49	-25.92			2.80	This is a mature thermogenic gas.
22R977108	100/08-02-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	5-Dec-22	-37.47	-32.05	-28.70	-29.91	-27.42			-7.70	This is a mature thermogenic gas.
22R958723	100/14-21-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	19-Oct-22	-42.87	-33.28	-29.16	-29.70	-27.47	-27.21	-27.93	-5.01	This is a typical thermogenic gas from the Devonian.
22R958723	100/04-26-039-24W4/00	WELLHEAD TUBING	Nisku Prod Gas	19-Oct-22	-40.89	-33.92	-28.47	-27.26	-27.11	-25.94	-27.34	-7.78	This is a typical thermogenic gas from the Devonian.
22R929085	100/14-21-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	7-Aug-22	-44.98	-33.12	-29.54	-20.45	-27.76			-5.63	This gas has an isotope fingerprint typical of a mature Devonian gas.
22R929085	100/08-02-040-24W4/02	WELLHEAD	Nisku Prod Gas	7-Aug-22	-40.24	-31.95	-27.69	-29.00	-26.01			-4.69	This gas has an isotope fingerprint typical of a mature Devonian gas.
22R929085	100/04-26-039-24W4/00	WELLHEAD	Nisku Prod Gas	7-Aug-22	-37.07	-30.75	-26.78	-28.65	-27.25			2.43	This gas has an isotope fingerprint typical of a mature Devonian gas.
22R922504	100/16-03-039-24W4/00	TEST METER RUN	Leduc Prod Gas	20-Jul-22	-39.68	-33.59	-29.45	-28.44	-27.31			-4.64	This is a mature thermogenic gas that may come from the Leduc.
22R915636	104/14-02-042-24W4/00	WELLHEAD TUBING	Mannville Gas	7-Jul-22	-47.18	-28.40	-25.61	-26.86	-25.55	-25.37	-25.08	-13.66	This is a mature thermogenic gas that may come from the Manville
22R915636	100/16-34-039-24W4/03	TUBING	Mannville Gas	7-Jul-22	-47.25	-27.37	-27.16	-28.70	-27.10			-8.04	This is a mature thermogenic gas that may come from the Manville
22R915637	04-15-040-20W4	EMBER CBM HEADER 12-12	CBM Prod Gas	4-Jul-22	-55.12	-37.77	-55.01	-25.88				24.46	This gas has an isotope fingerprint typical for a CBM gas in this region.
22R915634	10-34-034-24W4	CBM GAS	CBM Prod Gas	4-Jul-22	-54.25	-38.69	-28.59	-29.74	-29.54			3.04	This is a typical CBM Gas.
22R899719	04-15-040-24W4	EMBER CBM HEADER	CBM Prod Gas	26-May-22	-52.75	-37.05	-27.70	-27.80	-28.10				This is a typical isotope fingerprint of a CBM gas in that region.
22R893697	04-17-056-21W4	METER FIT-4116	Nutrien CO2 Source	24-May-22	-44.51							-39.65	This is an almost pure CO2 gas with a trace of thermogenic methane.
22R893697	14-07-056-21W4	METER 091-FIT-0210	NWR CO2 Source	24-May-22	-31.40	-29.61						-26.71	This is an almost pure CO2 gas with a traces of thermogenic methane and ethane.
22R889542	04-15-040-24W4	METER 090-FIT-100(ENH 0202)	Combined CO2 Source	13-May-22	-29.92	-31.51						-27.89	This is an almost pure CO2 gas with traces of thermogenic methane and ethane.
22R889542	04-15-040-24W4	EMBER CBM HEADER	CBM Prod Gas	13-May-22	-55.35	-38.02	-28.04	-27.91	-29.69			-1.78	This is a typical isotope fingerprint of a CBM gas in that region.
22R889542	100/13-34-038-24W4/03	WELLHEAD CASING	Mannville Gas	13-May-22	-46.04	-27.60	-25.29	-27.85	-25.09			-1.57	This is a typical isotope fingerprint of a deep thermogenic gas.
22R889542	10-34-039-24W4	CBM GAS	CBM Prod Gas	13-May-22	-54.36	-39.01	-28.31	-29.14	-29.10			-13.83	This is a typical isotope fingerprint of a CBM gas in that region.
22R883697	102/05-33-040-24W4-02	CASING GAS	Nisku Prod Gas	12-Apr-22	-42.54	-33.23	-28.91	-30.01	-27.37			-7.05	This gas has the isotope fingerprint of a mature gas such as from the Nisku A.
22R879425	100/07-15-040-24W4/02	CASING GAS	Nisku Prod Gas	5-Apr-22	-41.71	-32.56	-32.96	-28.63	-27.23			-4.26	The casing and SCV gases have the same source and may be from or near the Nisku A. Their isotope fingerprint is very similar but not exactly like that of the test meter run from this well analyzed in Nov, 2021 which would indicate that the source of the casing and SCV gases is slightly shallower than the meter run gas.
22R879425	100/07-15-040-24W4/02	SCV	Nisku Prod Gas	5-Apr-22	-40.42	-31.68	-27.93	-28.72	-28.23			-5.56	The casing and SCV gases have the same source and may be from or near the Nisku A. Their isotope fingerprint is very similar but not exactly like that of the test.
22R879425	102/09-16-040-24W4/00	SCV	Coal SCV Flow	5-Apr-22	-54.74	-47.53	-34.31						This is a shallow thermogenic gas that may come from around 200 to 300 m depth. It has not changed since previous tests.
22R879425	100/05-21-040-24W4/02	SCV	Coal SCV Flow	5-Apr-22	-56.29	-46.30	-35.91	-25.98	-22.01				This is a shallow thermogenic gas that may come from 200 to 300 m depth. It has not changed since previous tests.
22R879425	100/06-21-040-24W4/03	SCV	Coal SCV Flow	5-Apr-22	-56.46	-47.17	-34.41						This is a shallow thermogenic gas that may come from 200 to 300 m depth. It has not changed since previous tests.
22R869991	04-17-056-21W4	METER FIT 4116	Nutrien CO2 Source	11-Mar-22								-43.14	
22R869991	14-07-056-21W4	METER FIT 090 FIT 0210	NWR CO2 Source	11-Mar-22								-28.44	
22R869985	04-15-040-20W4	METER 090-FIT-100 (ENH 0202)	Combined CO2 Source	7-Mar-22	-39.92	-29.63						-28.72	Gas is CO2 with traces of deep thermogenic gas.
22R858925	100/16-02-040-24W4/00	WELLHEAD TUBING	Nisku Prod Gas	9-Feb-22	-40.18	-33.55	-28.40	-28.66	-26.08				This is a thermogenic has typical of the Nisku A.
2021													
21R831470	100/08-02-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	18-Nov-21	-37.89	-31.48	-28.06	-28.67	-27.16			-3.59	This is an atypical thermogenic gas from the Nisku.
21R830214	100/04-26-039-24W4/00	WELLHEAD	Nisku Prod Gas	16-Nov-21	-30.86	-30.90	-28.00					-5.38	Very poor sample, which is a remnant of a thermogenic gas.
21R823222	100/07-15-040-24W4/02	TEST METER RUN	Nisku Prod Gas	1-Nov-21	-37.92	-31.34	-27.77	-28.74	-26.99			-4.66	This is a thermogenic gas with an isotopic fingerprint indicative of the Nisku A.
21R823234	100/05-21-040-24W4/02	SCV	Coal SCV Flow	1-Nov-21	-55.29	-46.36	-36.32	-27.25					This is a shallow thermogenic gas that may come from 200 to 300 m depth.
21R823234	100/06-21-040-24W4/03	SCV	Coal SCV Flow	1-Nov-21	-55.31	-46.63	-35.87	-28.83	-31.14				This is a shallow thermogenic gas that may come from 200 to 300 m depth.
21R823234	102/09-16-040-24W4/00	SCV	Coal SCV Flow	1-Nov-21	-55.28	-47.23	-33.82						This is a shallow thermogenic gas that may come from 200 to 300 m depth. Its isotope fingerprint has not changed since it was measured in Oct. 2020 and May 2021.
21R819717	04-17-056-21W4	METER FIT 4116	Nutrien CO2 Source	25-Oct-21								-42.20	
21R819717	14-07-056-21W4	METER FIT 090 FIR 0210	NWR CO2 Source	25-Oct-21								-26.47	
21R819730	04-15-040-24W4	METER 090-FIT-100	Combined CO2 Source	25-Oct-21								-29.23	
21E792846	100/04-26-039-24W4/00	WELLHEAD	Nisku Prod Gas	27-Aug-21	-31.03	-33.08	-28.47	-28.90	-27.32			3.67	Difficult to pick source. This sample was full of air. Methane value indicates it was altered. C2+ concentrations are unusal, but the isotope ratios indicate a typical mature source.
21E792836	100/08-02-040-24W4/02	WELLHEAD	Nisku Prod Gas	26-Aug-21	-38.24	-31.55	-28.56	-30.83	-28.16			-5.66	This gas has an isotope fingerprint typical of a mature Devonian gas.
21R782729	100/08-02-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	4-Aug-21	-40.32	-32.84	-28.05	-28.38	-26.28			-2.61	This gas is thermogenic and has a typical isotope fingerprint of a gas from the Nisku.
21R743507	100/08-35-039-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	13-May-21	-39.36	-32.65	-28.11	-29.37	-27.04			-6.62	This is a mature thermogenic gas that may come from or near the Nisku.
21R740736	102/09-16-040-24W4/00	SCV	Coal SCV Flow	6-May-21	-56.77	-46.80	-34.40	-27.62	-20.22				This is a shallow thermogenic gas that may come from around 200 to 300 m depth. It has not changed since measured in 2020.
21R741900	100/08-02-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	4-May-21	-39.56	-32.11	-28.41	-29.38	-28.23			-5.44	This is a thermogenic gas that may come from around 1900 m depth.
21R728065	10-34-039-24W4	CMB HEADER	CBM Prod Gas	12-Apr-21	-54.92	-38.50	-28.52	-29.37	-27.98			8.26	This gas has an isotope fingerprint typical of CBM gases from that region.
21R728071	04-15-040-24W4	CBM HEADER	CBM Prod Gas	12-Apr-21	-55.80	-36.62	-28.54	-27.42	-28.52			8.63	This gas has an isotope fingerprint typical of CBM gases from that region.

21R711147	04-17-056-21W4	METER FIT 4116	Nutrien CO2 Source	17-Feb-21								-41.12	
21R711147	14-07-056-21W4	METER FIT 090 FIT 0210	NWR CO2 Source	17-Feb-21								-26.91	
21R707335	04-15-040-24W4	METER 090-FIT-100	Combined CO2 Source	17-Feb-21								-42.79	
2020													
20R650088	04-17-056-21W4	METER FIT 4116	Nutrien CO2 Source	15-Sep-20								-44.82	
20R650088	14-07-056-21W4	METER FIT 090 FIT 0210	NWR CO2 Source	15-Sep-20								-25.42	
20R667535	100/12-01-040-24W4/02	WELLHEAD TUBING	Nisku Prod Gas	23-Oct-20	-40.76	-33.72	-29.15	-29.09	-26.97	-26.81	-26.54		This gas has an isotope fingerprint typical of the Nisku in this region.
20R667535	100/04-11-040-24W4/02	WELLHEAD TUBING	Leduc Prod Gas	23-Oct-20	-40.48	-34.29	-29.04	-29.37	-27.04			-13.01	This gas has an isotope fingerprint typical of the Leduc in this region.
20R667535	100/10-35-039-24W4/02	WELLHEAD TUBING	Leduc Prod Gas	23-Oct-20	-40.17	-33.13	-28.22	-29.33	-27.59			-28.33	This gas has an isotope fingerprint typical of the Leduc in this region.
20R658420	102/09-16-040-24W4/00	SCV	Coal SCV Flow	2-Oct-20	-54.35	-47.15						-10.04	
20R619783	10-34-039-24W4	HEADER	CBM Prod Gas	2-Jul-20	-53.30	-38.00	-28.05	-30.72	-27.16			4.16	Typical CBM Gas
20R598691	10-34-039-24W4	HEADER	CBM Prod Gas	12-May-20	-55.50	-38.78	-28.11	-28.08	-29.63			-1.02	Typical CBM gas. Similar isotope fingerprint as before.
20R598691	100/01-02-040-24W5/02	WELLHEAD CASING	Nisku Prod Gas	12-May-20	-41.16	-30.67	-28.00	-27.19	-26.23			-8.40	Typical Nisku gas. Similar isotope fingerprint as before.
20R598691	100/04-26-039-24W4/00	CASING GAS	Nisku Prod Gas	12-May-20	2.18	-26.32	-26.46					-13.18	Atypical gas. Extremely low in methane concentration but contains multiple stray peaks on the gas chromatography run. Isotope data for methane is unusual but perhaps indicates some artificial alteration of the sample.
20R561525	04-26-039-24W4	HEADER	Nisku Prod Gas	13-Jan-20	-57.08	-32.44	-27.40	-26.27	-26.18			-4.46	This is a low maturity thermogenic gas, albiet a bit unusual. The C2+ values are relativey more enriched in 13C than would be indicated by the methane value. This header gas may be mixture.
2019													
19R833267	100/16-03-040-24W4/02	WELLHEAD	Leduc Prod Gas	22-Oct-19	-38.54	-32.38	-27.69	-29.80	-26.18			-1.55	This gas has a typical Leduc isotope fingerprint.
19R833267	100/04-11-040-24W4/00	WELLHEAD	Leduc Prod Gas	22-Oct-19	-32.57	-30.82	-27.36	-27.47	-26.21			-0.87	This has is a bit unusual having a 13-C enriched methane but the C2+ appears to be a typical Leduc gas.
19C523749	04-17-056-21W4	PV301	Nutrien CO2 Source	27-Sep-19								-41.89	
19C523749	04-17-056-21W4	Feed Gas	Nutrien CH4 Inlet	27-Sep-19	-44.79	-28.50	-27.07	-26.57	-25.37			-41.89	Typical Thermogenic Gas
19R520433	100/10-35-039-24W4/00	CASING GAS	Leduc Prod Gas	20-Sep-19	-39.48	-32.16	-28.69	-26.57	-27.06			0.50	This gas has the typical isotope fingerprint of a Leduc or Nisku gas.
19R520433	100/01-02-040-24W5/02	CASING GAS	Nisku Prod Gas	20-Sep-19	-40.10	-32.60	-27.79	-28.86	-26.28			-0.19	This gas has the typical isotope fingerprint of a Leduc or Nisku gas.
19R520433	100/12-01-040-24W4/02	CASING GAS	Nisku Prod Gas	20-Sep-19	-38.79	-32.47	-28.19	-29.97	-27.24			-0.72	This gas has the typical isotope fingerprint of a Leduc or Nisku gas.
19R496905	10-34-039-24W4	HEADER	CBM Prod Gas	25-Jul-19	-58.33	-38.26	-26.79	-27.27	-27.73			5.59	This is a typical CBM gas from this region.
19R492723	100/10-35-039-24W4/00	TEST METER RUN	Leduc Prod Gas	16-Jul-19	-39.73	-31.35	-27.09	-31.31	-25.74				This gas has the typical isotope fingerprint of a Leduc or Nisku gas.
19R492724	100/12-01-040-24W4/02	WELLHEAD	Nisku Prod Gas	16-Jul-19	-39.45	-31.41	-28.33	-26.17	-24.66				This gas has the typical isotope fingerprint of a Leduc or Nisku gas.
19R492725	100/16-02-040-24W4/00	WELLHEAD	Nisku Prod Gas	16-Jul-19	-38.90	-31.24	-27.63	-17.05	-27.25				This gas has the typical isotope fingerprint of a Leduc or Nisku gas.
19R492726	100/01-02-040-24W5/02	TEST METER RUN	Nisku Prod Gas	16-Jul-19	-39.48	-31.42	-27.09	-29.12	-26.76				This gas has the typical isotope fingerprint of a Leduc or Nisku gas.


CBM Gas Composition Concentrations
0.010
0.008
0.006
0.004
0.002
0.000
CO2 / H2S (Mole Fraction)
1.00
0.99
0.98
0.97
0.96
0.95
0.94
0.93
0.92
0.91
0.90
Methane (Mole Fraction)
2019-04-01
2019-10-01
2020-04-01
2020-10-01
2021-04-02
2021-10-02
2022-04-03
2022-10-03
04-15 CO2
10-34 CO2
12-12 CO2
04-15 H2S
10-34 H2S
12-12 H2S
04-15 C1
10-34 C1
12-12 C1


Source CO2 Concentration
1.0000
0.9500
0.9000
0.8500
0.8000
0.7500
CO2 (Mole Fraction)
2020-01-01
2020-07-01
2020-12-31
2021-07-01
2021-12-31
2022-07-01
2022-12-31
04-17-056-21W4 RCRF
14-07-056-21W4 NWR
04-15-040-24W4 Combined Stream

CBM Gas Analysis

					Gas Analysis (Mole Fraction)													
SOURCE LOCATION	OPERATOR NAME	FIELD	SAMPLER NAME	DATE SAMPLED	H2	He	N2	CO2	H2S	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7+
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-06-04	0.0003	0.0002	0.0079	0.0019	0.0000	0.9835	0.0053	0.0005	0.0001	0.0001	0.0001	0.0001	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-03	TRACE	0.0001	0.0075	0.0018	0.0000	0.9837	0.0050	0.0006	0.0001	0.0001	TRACE	TRACE	TRACE	0.0011
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-08-06	TRACE	0.0001	0.0078	0.0019	0.0000	0.9840	0.0053	0.0007	0.0001	0.0001	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-09-03	0.0004	0.0001	0.0060	0.0050	0.0000	0.9757	0.0118	0.0006	0.0003	0.0001	TRACE	TRACE	0.0000	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-10-01	TRACE	0.0001	0.0075	0.0017	0.0000	0.9846	0.0052	0.0005	0.0002	TRACE	0.0001	TRACE	TRACE	0.0001
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-11-04	TRACE	0.0001	0.0068	0.0017	0.0000	0.9854	0.0053	0.0006	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-12-02	TRACE	0.0001	0.0069	0.0016	0.0000	0.9854	0.0054	0.0005	0.0001	TRACE	TRACE	TRACE	0.0000	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-01-07	TRACE	0.0001	0.0077	0.0013	0.0000	0.9846	0.0055	0.0004	0.0002	0.0001	TRACE	0.0001	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-02-03	0.0001	0.0001	0.0089	0.0016	0.0000	0.9832	0.0052	0.0007	0.0001	0.0001	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-03-02	0.0007	TRACE	0.0077	0.0018	0.0000	0.9837	0.0054	TRACE	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-01	0.0001	0.0001	0.0071	0.0017	0.0000	0.9851	0.0053	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-05-01	0.0001	0.0001	0.0071	0.0017	0.0000	0.9851	0.0052	0.0006	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-06-01	TRACE	0.0001	0.0075	0.0017	0.0000	0.9850	0.0051	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-07-02	TRACE	0.0001	0.0074	0.0017	0.0000	0.9849	0.0053	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-08-06	0.0008	0.0001	0.0074	0.0020	0.0000	0.9830	0.0056	0.0007	0.0002	0.0002	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-09-01	0.0001	0.0001	0.0071	0.0018	0.0000	0.9849	0.0054	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-10-02	0.0001	0.0001	0.0078	0.0017	0.0000	0.9845	0.0052	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-11-04	0.0002	0.0001	0.0076	0.0017	0.0000	0.9846	0.0052	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-12-01	0.0000	0.0001	0.0080	0.0017	0.0000	0.9842	0.0053	0.0005	0.0001	0.0001	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-07	TRACE	0.0001	0.0077	0.0017	0.0000	0.9843	0.0054	0.0005	0.0002	0.0001	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-02-01	TRACE	0.0002	0.0089	0.0015	0.0000	0.9834	0.0054	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-01	0.0001	0.0002	0.0081	0.0015	0.0000	0.9840	0.0052	0.0005	0.0001	0.0001	TRACE	TRACE	0.0001	0.0001
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-04-12	0.0001	0.0001	0.0072	0.0013	0.0000	0.9850	0.0057	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0002	0.0001	0.0070	0.0018	0.0000	0.9848	0.0054	0.0006	0.0001	TRACE	TRACE	TRACE	0.0000	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-06-01	0.0000	0.0001	0.0074	0.0019	0.0000	0.9845	0.0053	0.0007	0.0001	TRACE	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-07-02	0.0002	0.0001	0.0072	0.0017	0.0000	0.9845	0.0055	0.0006	0.0001	0.0001	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-04	TRACE	0.0001	0.0072	0.0018	0.0000	0.9850	0.0053	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-02	0.0000	0.0001	0.0073	0.0018	0.0000	0.9845	0.0054	0.0006	0.0001	TRACE	TRACE	TRACE	TRACE	0.0002
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-10-04	0.0002	0.0001	0.0071	0.0017	0.0000	0.9847	0.0054	0.0006	0.0001	0.0001	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	TRACE	0.0002	0.0078	0.0016	0.0000	0.9843	0.0052	0.0005	0.0001	0.0001	0.0001	TRACE	0.0001	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-12-01	TRACE	0.0001	0.0074	0.0016	0.0000	0.9848	0.0054	0.0005	0.0001	0.0001	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-01-10	0.0000	0.0001	0.0084	0.0015	0.0000	0.9841	0.0053	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-02-09	TRACE	0.0002	0.0079	0.0018	0.0000	0.9843	0.0052	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-03-07	0.0007	0.0001	0.0097	0.0021	0.0000	0.9780	0.0073	0.0016	0.0002	0.0003	0.0001	0.0000	0.0000	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-06	TRACE	0.0001	0.0111	0.0017	0.0000	0.9813	0.0052	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-03	TRACE	0.0001	0.0090	0.0019	0.0000	0.9828	0.0054	0.0006	0.0001	0.0001	TRACE	TRACE	TRACE	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-01	TRACE	0.0001	0.0084	0.0018	0.0000	0.9833	0.0055	0.0007	0.0001	0.0001	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-07-04	0.0001	0.0001	0.0084	0.0020	0.0000	0.9831	0.0056	0.0005	0.0001	0.0001	TRACE	TRACE	TRACE	0.0000
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-03	0.0000	0.0001	0.0094	0.0018	0.0000	0.9818	0.0055	0.0007	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	TRACE	0.0001	0.0095	0.0018	0.0000	0.9816	0.0056	0.0007	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-03	TRACE	0.0002	0.0097	0.0021	0.0000	0.9770	0.0073	0.0019	0.0004	0.0005	0.0002	0.0002	0.0002	0.0003
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0001	0.0002	0.0101	0.0018	0.0000	0.9805	0.0059	0.0007	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-12-01	TRACE	0.0002	0.0092	0.0017	0.0000	0.9817	0.0058	0.0008	0.0002	0.0001	0.0001	0.0001	0.0001	TRACE
04-15-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2023-01-05	TRACE	0.0001	0.0084	0.0017	0.0000	0.9828	0.0055	0.0007	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-25	TRACE	0.0002	0.0082	0.0021	0.0000	0.9842	0.0048	0.0004	0.0001	TRACE	TRACE	TRACE	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-10-01	0.0000	0.0001	0.0086	0.0014	0.0000	0.9836	0.0049	0.0009	0.0002	0.0000	0.0000	0.0000	0.0000	0.0001
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-11-04	0.0026	0.0002	0.0119	0.0030	0.0000	0.9764	0.0051	0.0006	0.0001	0.0001	TRACE	TRACE	TRACE	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-01-07	0.0001	0.0002	0.0101	0.0019	0.0000	0.9818	0.0050	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-02-03	0.0000	0.0003	0.0147	0.0022	0.0000	0.9759	0.0046	0.0006	0.0002	0.0001	0.0001	0.0001	0.0002	0.0010
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-03-17	0.0002	0.0001	0.0178	0.0019	0.0000	0.9746	0.0048	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-01	0.0008	0.0001	0.0086	0.0017	0.0000	0.9828	0.0051	0.0005	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-05-01	0.0003	0.0001	0.0097	0.0016	0.0000	0.9817	0.0050	0.0006	0.0001	0.0001	0.0000	0.0001	0.0001	0.0008
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-05-12	0.0000	0.0001	0.0135	0.0023	0.0000	0.9782	0.0047	0.0005	0.0003	0.0003	0.0001	0.0000	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-06-01	0.0005	0.0001	0.0087	0.0014	0.0000	0.9837	0.0050	0.0005	0.0001	TRACE	TRACE	TRACE	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-07-02	0.0004	0.0001	0.0117	0.0031	0.0000	0.9755	0.0053	0.0008	0.0002	0.0003	0.0002	0.0002	0.0004	0.0019
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-08-06	0.0002	0.0001	0.0122	0.0020	0.0000	0.9797	0.0049	0.0005	0.0002	0.0000	0.0000	0.0000	0.0000	0.0002
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-09-01	0.0000	0.0001	0.0111	0.0019	0.0000	0.9795	0.0051	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0015
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-10-02	0.0009	0.0002	0.0150	0.0020	0.0000	0.9751	0.0048	0.0006	0.0002	0.0002	0.0002	0.0002	0.0003	0.0005
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-11-04	0.0001	0.0001	0.0083	0.0026	0.0000	0.9831	0.0049	0.0005	0.0001	0.0000	0.0000	0.0000	0.0001	0.0002
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-12-01	0.0002	0.0002	0.0192	0.0021	0.0000	0.9722	0.0049	0.0005	0.0001	0.0001	0.0000	0.0001	0.0001	0.0003
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-07	0.0001	0.0001	0.0092	0.0018	0.0000	0.9831	0.0051	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-02-01	0.0000	0.0002	0.0095	0.0022	0.0000	0.9824	0.0050	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-01	0.0001	0.0001	0.0079	0.0026	0.0000	0.9829	0.0051	0.0004	0.0001	0.0001	0.0001	0.0000	0.0001	0.0005
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-04-12	0.0003	0.0001	0.0077	0.0033	0.0000	0.9816	0.0050	0.0005	0.0001	0.0001	0.0000	0.0000	0.0001	0.0012
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0001	0.0001	0.0093	0.0018	0.0000	0.9825	0.0052	0.0005	0.0001	0.0001	0.0000	0.0000	0.0001	0.0002
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-06-01	0.0000	0.0001	0.0134	0.0034	0.0000	0.9744	0.0051	0.0007	0.0002	0.0002	0.0002	0.0002	0.0003	0.0020
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-07-02	0.0004	0.0001	0.0079	0.0023	0.0000	0.9836	0.0051	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-04	0.0000	0.0001	0.0080	0.0030	0.0000	0.9827	0.0051	0.0005	0.0001	0.0001	0.0000	0.0000	0.0001	0.0002
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-02	0.0005	0.0001	0.0209	0.0033	0.0000	0.9688	0.0050	0.0006	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-10-04	0.0002	0.0001	0.0208	0.0036	0.0000	0.9679	0.0051	0.0008	0.0002	0.0004	0.0002	0.0002	0.0003	0.0004
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	0.0011	0.0001	0.0121	0.0033	0.0000	0.9748	0.0048	0.0004	0.0001	0.0001	0.0001	0.0001	0.0002	0.0029
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-12-01	0.0000	0.0001	0.0077	0.0018	0.0000	0.9846	0.0052	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-01-17	0.0001	0.0001	0.0066	0.0019	0.0000	0.9854	0.0052	0.0006	0.0001	TRACE	TRACE	TRACE	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-02-09	0.0008	0.0001	0.0076	0.0024	0.0000	0.9821	0.0052	0.0006	0.0002	0.0002	0.0001	0.0001	0.0002	0.0006
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-03-07	0.0018	0.0001	0.0062	0.0039	0.0000	0.9822	0.0052	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0001	0.0001	0.0168	0.0024	0.0000	0.9739	0.0051	0.0006	0.0001	0.0001	0.0001	0.0001	0.0001	0.0007
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-03	0.0000	0.0001	0.0130	0.0016	0.0000	0.9790	0.0051	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0004
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-13	0.0000	0.0001	0.0138	0.0016	0.0000	0.9788	0.0050	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-01	0.0000	0.0001	0.0123	0.0018	0.0000	0.9792	0.0053	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0003
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-07-04	0.0000	0.0001	0.0122	0.0017	0.0000	0.9799	0.0052	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0003
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-03	0.0001	0.0001	0.0142	0.0016	0.0000	0.9779	0.0052	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0003
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	0.0001	0.0001	0.0006	0.0016	0.0000	0.9920	0.0051	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-03	0.0002	0.0001	0.0114	0.0025	0.0000	0.9797	0.0051	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0004
10-34-039-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0000	0.0001	0.0106	0.0019	0.0000	0.9812	0.0051	0.0005	0.0001	0.0001	0.0000	0.0001	0.0001	0.0003
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-07	0.0003	0.0002	0.0136	0.0025	0.0000	0.9736	0.0048	0.0005	0.0001	0.0001	TRACE	0.0001	0.0003	0.0039
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-01	0.0001	0.0002	0.0105	0.0017	0.0000	0.9768	0.0047	0.0006	0.0002	0.0002	0.0001	0.0001	0.0003	0.0045
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-04-12	0.0002	0.0002	0.0106	0.0020	0.0000	0.9804	0.0050	0.0009	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0001	0.0002	0.0082	0.0019	0.0000	0.9837	0.0050	0.0005	0.0001	TRACE	TRACE	TRACE	0.0001	0.0002
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-06-01	0.0001	0.0002	0.0099	0.0022	0.0000	0.9821	0.0048	0.0005	0.0001	TRACE	TRACE	TRACE	TRACE	0.0001
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-07-02	TRACE	0.0002	0.0126	0.0043	0.0000	0.9770	0.0048	0.0002	0.0001	0.0001	TRACE	TRACE	0.0001	0.0006
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-04	0.0000	0.0002	0.0122	0.0020	0.0000	0.9796	0.0048	0.0005	0.0002	0.0004	0.0001	TRACE	TRACE	TRACE
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-02	0.0000	0.0002	0.0102	0.0018	0.0000	0.9797	0.0048	0.0004	0.0001	0.0000	0.0000	0.0001	0.0001	0.0025
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-10-04	0.0007	0.0002	0.0284	0.0014	0.0000	0.9617	0.0049	0.0005	0.0001	0.0001	0.0001	0.0001	0.0003	0.0015
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	0.0001	0.0002	0.0148	0.0023	0.0000	0.9768	0.0050	0.0006	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-12-01	TRACE	0.0002	0.0162	0.0011	0.0000	0.9771	0.0048	0.0004	0.0001	0.0001	TRACE	TRACE	TRACE	TRACE
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-01-17	0.0001	0.0002	0.0118	0.0023	0.0000	0.9783	0.0052	0.0006	0.0002	0.0001	0.0001	0.0001	0.0002	0.0008
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-02-09	0.0000	0.0002	0.0128	0.0062	0.0000	0.9733	0.0047	0.0004	0.0001	TRACE	TRACE	TRACE	0.0001	0.0022
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-03-07	0.0004	0.0002	0.0200	0.0025	0.0000	0.9709	0.0050	0.0005	0.0002	0.0001	0.0001	TRACE	TRACE	0.0001
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0003	0.0002	0.0314	0.0023	0.0000	0.9599	0.0047	0.0005	0.0001	0.0001	0.0000	0.0000	0.0001	0.0005
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-03	0.0000	0.0002	0.0210	0.0023	0.0000	0.9698	0.0047	0.0005	0.0002	0.0002	0.0001	0.0001	0.0002	0.0007
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-26	0.0003	0.0002	0.0187	0.0022	0.0000	0.9734	0.0045	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-01	0.0000	0.0002	0.0140	0.0019	0.0000	0.9784	0.0047	0.0004	0.0002	0.0000	0.0000	0.0000	0.0000	0.0003
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-07-04	0.0000	0.0002	0.0165	0.0021	0.0000	0.9758	0.0047	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000	0.0002
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-03	TRACE	0.0002	0.0207	0.0019	0.0000	0.9713	0.0048	0.0005	0.0001	TRACE	TRACE	TRACE	0.0001	0.0004
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	0.0001	0.0002	0.0172	0.0020	0.0000	0.9744	0.0051	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-03	0.0001	0.0002	0.0180	0.0021	0.0000	0.9735	0.0051	0.0004	0.0001	TRACE	0.0001	0.0001	0.0001	0.0002
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0004	0.0002	0.0155	0.0020	0.0000	0.9751	0.0057	0.0007	0.0002	0.0001	TRACE	TRACE	TRACE	0.0001
12-12-040-24W4	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER

CO_2 Gas Analysis

					Gas Analysis (Mole Fraction)													
SOURCE LOCATION	OPERATOR NAME	FIELD	SAMPLER NAME	DATE SAMPLED	H2	He	N2	CO2	H2S	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7+
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-07	0.0091	0.0000	0.0009	0.9896	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-02-17	0.0174	0.0000	0.0037	0.9788	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-01	0.0058	0.0000	0.0004	0.9932	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-04-13	0.0103	0.0000	0.0006	0.9881	0.0000	0.0009	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0150	0.0000	0.0006	0.9834	0.0000	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-06-01	0.0271	0.0000	0.0015	0.9701	0.0000	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-07-02	0.0204	0.0000	0.0007	0.9776	0.0000	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-04	0.0226	0.0000	0.0013	0.9748	0.0000	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-02	0.0204	0.0000	0.0004	0.9779	0.0000	0.0012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-10-04	0.0074	0.0000	0.0099	0.9822	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-10-25	0.0062	0.0000	0.0068	0.9843	0.0000	0.0005	0.0005	0.0002	0.0001	0.0002	0.0002	0.0001	0.0002	0.0008
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-12-01	0.0075	0.0000	0.0006	0.9915	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-01-10	0.0123	0.0000	0.0071	0.9762	0.0000	0.0022	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0020
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-02-09	0.0062	0.0000	0.0013	0.9912	0.0000	0.0007	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000	0.0002	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-03-07	0.0064	0.0000	0.0003	0.9924	0.0000	0.0008	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0080	0.0000	0.0010	0.9904	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-03	0.0052	0.0000	0.0023	0.9913	0.0000	0.0006	0.0000	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-13	0.0041	0.0000	0.0010	0.9936	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-07-04	0.0084	0.0000	0.0074	0.9832	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-03	0.0059	0.0000	0.0047	0.9873	0.0000	0.0010	0.0001	0.0002	TRACE	0.0001	0.0001	0.0001	0.0001	0.0004
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	0.0061	0.0000	0.0022	0.9907	0.0000	0.0009	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE	0.0001
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-03	0.0071	0.0000	0.0058	0.9849	0.0000	0.0004	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0003	0.0006
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0069	0.0000	0.0017	0.9894	0.0000	0.0002	0.0001	0.0001	0.0004	0.0008	0.0001	0.0001	0.0001	0.0001
04-15-040-24W4 Combined Stream	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-12-01	0.0064	0.0000	0.0002	0.9920	0.0000	0.0010	0.0002	0.0001	TRACE	0.0001	TRACE	TRACE	TRACE	TRACE
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-05-07	0.0020	0.0000	0.0010	0.9932	0.0000	0.0001	TRACE	0.0010	0.0005	0.0013	0.0004	0.0003	0.0001	0.0001
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-05-21	0.0078	0.0000	0.0024	0.9897	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-06-22	0.0040	0.0000	0.0011	0.9948	0.0000	0.0001	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-07-08	0.0022	0.0000	0.0017	0.9960	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-08-13	0.0104	0.0000	0.0029	0.9866	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-09-15	0.0350	0.0000	0.0033	0.9612	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0002
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-10-13	0.0112	0.0000	0.0022	0.9864	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-11-03	0.0478	0.0000	0.0058	0.9461	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-11-19	0.0015	0.0000	0.0011	0.9966	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0007
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-12-02	0.0392	0.0000	0.0044	0.9550	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0012
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-01-14	0.0092	0.0000	0.0034	0.9873	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-02-17	0.0106	0.0000	0.0042	0.9845	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-02-17	0.0139	0.0000	0.0037	0.9821	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-03-02	0.0071	0.0000	0.0018	0.9910	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-04-07	0.0075	0.0000	0.0015	0.9889	0.0000	0.0003	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE	0.0018
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-04-07	0.0099	0.0000	0.0017	0.9883	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-05-07	0.0130	0.0000	0.0026	0.9837	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-05-07	0.0104	0.0000	0.0027	0.9866	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-06-01	0.0134	0.0000	0.0028	0.9837	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-07-08	0.0116	0.0000	0.0026	0.9858	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-10-25	0.0266	0.0000	0.0056	0.9674	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-11-25	0.0075	0.0000	0.0019	0.9903	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-03-11	0.0087	0.0000	0.0019	0.9871	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0023
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-04-21	0.0083	0.0000	0.0018	0.9898	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-05-24	0.0148	0.0000	0.0028	0.9822	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-06-23	0.0169	0.0000	0.0029	0.9790	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-07-22	0.0092	0.0000	0.0021	0.9863	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0024
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-08-30	0.0080	0.0000	0.0017	0.9902	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-09-21	0.0087	0.0000	0.0017	0.9895	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04-17-056-21W4 RCRF	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-11-28	0.0042	0.0000	0.0012	0.9944	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-04-07	0.0102	0.0000	0.0003	0.9878	0.0000	0.0014	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-05-07	0.0070	0.0000	0.0006	0.9830	0.0000	0.0012	TRACE	0.0009	0.0008	0.0023	0.0010	0.0013	0.0008	0.0011
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-05-21	0.0073	0.0000	0.0004	0.9918	0.0000	0.0005	TRACE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-06-22	0.0068	0.0000	0.0006	0.9915	0.0000	0.0011	TRACE	TRACE	TRACE	TRACE	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-07-08	0.0064	0.0000	0.0003	0.9923	0.0000	0.0009	0.0001	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE	TRACE
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-08-13	0.0087	0.0000	0.0001	0.9903	0.0000	0.0009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-09-15	0.0064	0.0000	0.0004	0.9921	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-10-13	0.0078	0.0000	0.0005	0.9906	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004	0.0002
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-11-03	0.0083	0.0000	0.0008	0.9902	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-11-19	0.0084	0.0000	0.0003	0.9908	0.0000	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2020-12-02	0.0062	0.0000	0.0010	0.9906	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0014
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-01-14	0.0084	0.0000	0.0010	0.9899	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-02-17	0.0088	0.0000	0.0003	0.9901	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-03-02	0.0065	0.0000	0.0003	0.9924	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-04-07	0.0061	0.0000	0.0002	0.9929	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-05-07	0.0072	0.0000	0.0003	0.9906	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0009
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-06-01	0.0076	0.0000	0.0010	0.9888	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0019
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-07-08	0.0059	0.0000	0.0002	0.9933	0.0000	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-08-10	0.0094	0.0000	0.0006	0.9892	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-09-07	0.0082	0.0000	0.0012	0.9895	0.0000	0.0006	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-10-25	0.0076	0.0000	0.0003	0.9905	0.0000	0.0005	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0010
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-11-25	0.0061	0.0000	0.0002	0.9933	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2021-12-29	0.0071	0.0000	0.0024	0.9896	0.0000	0.0007	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-01-26	0.0065	0.0000	0.0008	0.9876	0.0000	0.0006	0.0001	0.0000	0.0001	0.0003	0.0007	0.0010	0.0008	0.0016
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-02-25	0.0077	0.0000	0.0002	0.9913	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-03-11	0.0075	0.0000	0.0001	0.9903	0.0000	0.0009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0009
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-04-21	0.0070	0.0000	0.0013	0.9910	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-05-24	0.0061	0.0000	0.0004	0.9930	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-06-23	0.0051	0.0000	0.0004	0.9936	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-07-22	0.0074	0.0000	0.0005	0.9914	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-11-28	0.0067	0.0000	0.0005	0.9921	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
14-07-056-21W4 NWR	ENHANCE ENERGY INC	REDWATER	AGAT RED DEER	2022-12-30	0.0073	0.0000	0.0005	0.9914	0.0000	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Leduc Gas Analysis

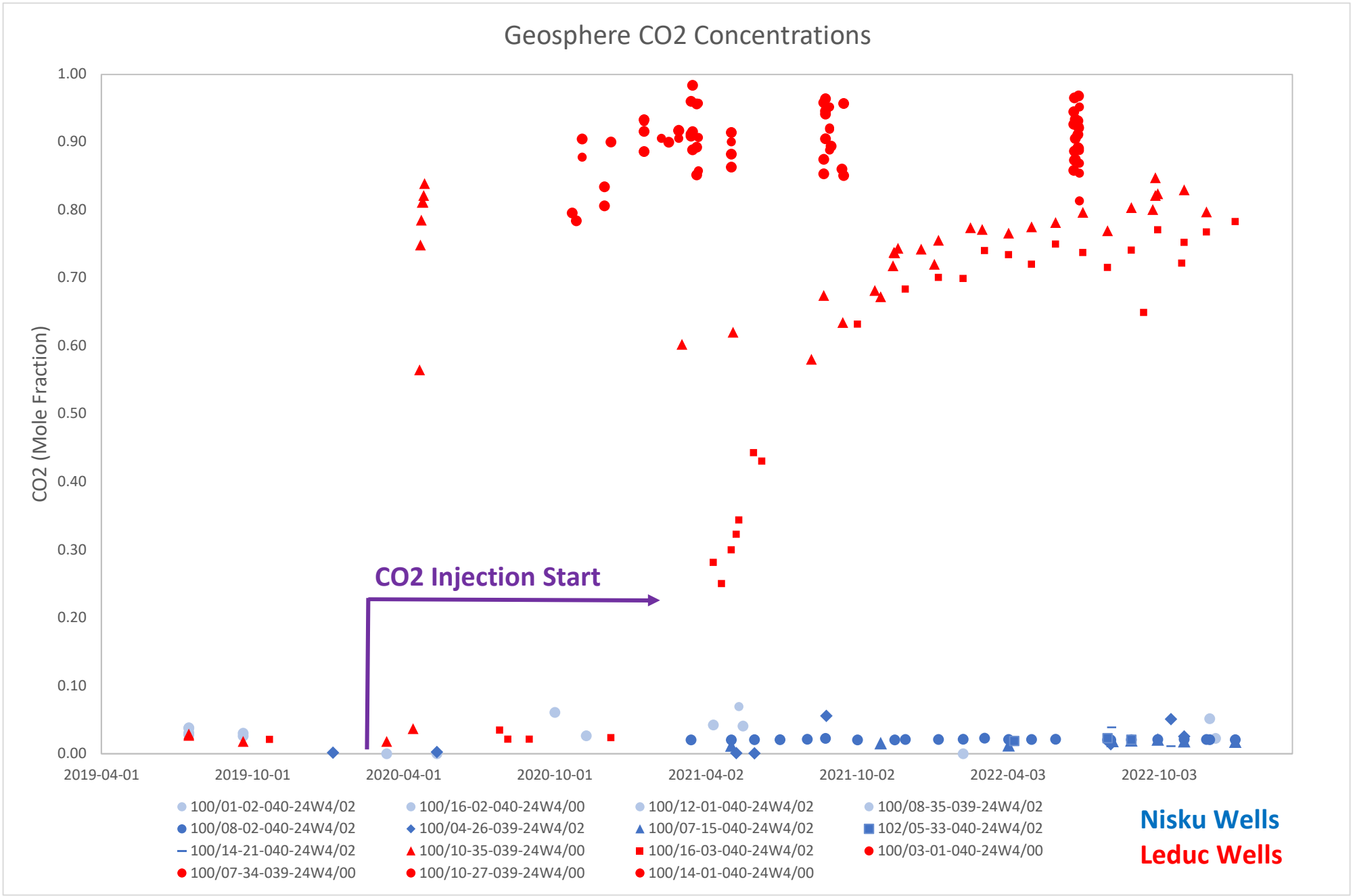
					Gas Analysis (Mole Fraction)													
SOURCE LOCATION	OPERATOR NAME	FIELD	SAMPLER NAME	DATE SAMPLED	H2	He	N2	CO2	H2S	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7+
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-11-04	0.0028	TRACE	0.0013	0.8780	0.0693	0.0294	0.0048	0.0050	0.0010	0.0032	0.0011	0.0015	0.0012	0.0014
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-18	0.0060	TRACE	0.0004	0.9304	0.0164	0.0340	0.0043	0.0034	0.0006	0.0016	0.0005	0.0007	0.0006	0.0011
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-02-08	0.0064	TRACE	0.0086	0.9057	0.0147	0.0458	0.0063	0.0053	0.0009	0.0026	0.0008	0.0010	0.0007	0.0012
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-01	0.0066	TRACE	0.0058	0.9058	0.0152	0.0459	0.0062	0.0051	0.0009	0.0027	0.0008	0.0011	0.0009	0.0030
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-25	0.0081	0.0000	0.0063	0.9071	0.0153	0.0471	0.0061	0.0049	0.0007	0.0021	0.0006	0.0007	0.0004	0.0007
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-25	0.0005	0.0000	0.0024	0.9575	0.0234	0.0010	0.0001	0.0003	0.0021	0.0067	0.0005	0.0007	0.0016	0.0031
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-25	0.0004	0.0000	0.0012	0.8582	0.0062	0.0134	0.0072	0.0154	0.0230	0.0552	0.0060	0.0058	0.0037	0.0043
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0089	TRACE	0.0178	0.9006	0.0186	0.0375	0.0054	0.0046	0.0008	0.0023	0.0007	0.0009	0.0007	0.0012
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-31	0.0069	TRACE	0.0037	0.9210	0.0159	0.0376	0.0050	0.0040	0.0007	0.0021	0.0006	0.0008	0.0006	0.0011
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-31	0.0004	0.0000	0.0015	0.8885	0.0197	0.0135	0.0071	0.0153	0.0049	0.0175	0.0078	0.0103	0.0052	0.0083
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-31	0.0001	0.0000	0.0032	0.9519	0.0134	0.0008	0.0000	0.0005	0.0040	0.0120	0.0011	0.0016	0.0032	0.0084
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-31	0.0076	0.0000	0.0041	0.9193	0.0159	0.0374	0.0050	0.0043	0.0008	0.0022	0.0007	0.0009	0.0007	0.0012
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-30	0.0078	0.0001	0.0102	0.8547	0.0225	0.0847	0.0086	0.0059	0.0008	0.0023	0.0006	0.0007	0.0005	0.0006
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-30	0.0088	0.0001	0.0134	0.8139	0.0293	0.1088	0.0120	0.0071	0.0010	0.0028	0.0007	0.0009	0.0004	0.0006
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-30	0.0007	0.0000	0.0063	0.9521	0.0145	0.0005	0.0003	0.0033	0.0035	0.0085	0.0037	0.0029	0.0015	0.0021
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-30	0.0002	0.0000	0.0064	0.8881	0.0131	0.0269	0.0086	0.0145	0.0049	0.0130	0.0079	0.0077	0.0037	0.0050
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-30	0.0008	0.0000	0.0029	0.8691	0.0228	0.0374	0.0123	0.0182	0.0056	0.0140	0.0064	0.0058	0.0021	0.0026
100/03-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-30	0.0002	0.0000	0.0031	0.9207	0.0497	0.0009	0.0001	0.0004	0.0063	0.0173	0.0004	0.0003	0.0002	0.0005
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-12-09	0.0061	TRACE	0.0004	0.9003	0.0141	0.0510	0.0080	0.0074	0.0013	0.0039	0.0013	0.0016	0.0015	0.0031
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-18	0.0035	0.0000	0.0014	0.9331	0.0137	0.0272	0.0050	0.0054	0.0011	0.0034	0.0012	0.0016	0.0014	0.0020
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-01	0.0062	0.0000	0.0002	0.9175	0.0125	0.0435	0.0064	0.0060	0.0008	0.0028	0.0009	0.0011	0.0009	0.0012
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-18	0.0068	0.0000	0.0047	0.9158	0.0156	0.0373	0.0059	0.0051	0.0009	0.0028	0.0009	0.0013	0.0006	0.0023
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-18	0.0022	0.0000	0.0029	0.8890	0.0114	0.0254	0.0099	0.0177	0.0053	0.0158	0.0059	0.0060	0.0042	0.0044
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-18	0.0006	0.0000	0.0033	0.9838	0.0070	0.0006	0.0001	0.0001	0.0002	0.0004	0.0001	0.0002	0.0011	0.0027
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0123	TRACE	0.0181	0.8827	0.0173	0.0432	0.0064	0.0053	0.0011	0.0036	0.0013	0.0019	0.0020	0.0048
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-24	0.0079	0.0000	0.0067	0.8751	0.0174	0.0623	0.0086	0.0074	0.0013	0.0039	0.0013	0.0018	0.0013	0.0051
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-24	0.0002	0.0000	0.0035	0.9585	0.0320	0.0011	0.0001	0.0002	0.0003	0.0005	0.0002	0.0003	0.0009	0.0021
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-24	0.0008	0.0000	0.0030	0.8535	0.0218	0.0296	0.0140	0.0261	0.0070	0.0211	0.0077	0.0078	0.0043	0.0034
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-24	0.0080	0.0001	0.0194	0.8736	0.0145	0.0628	0.0083	0.0065	0.0010	0.0029	0.0008	0.0010	0.0004	0.0008
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-25	0.0082	0.0001	0.0201	0.8750	0.0146	0.0598	0.0079	0.0060	0.0009	0.0026	0.0007	0.0009	0.0008	0.0023
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-24	0.0004	0.0000	0.0005	0.8872	0.0213	0.0159	0.0086	0.0170	0.0051	0.0165	0.0069	0.0084	0.0060	0.0055
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-24	0.0002	0.0000	0.0018	0.9655	0.0269	0.0007	0.0001	0.0003	0.0002	0.0006	0.0004	0.0006	0.0008	0.0020
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-25	0.0006	0.0000	0.0025	0.9056	0.0173	0.0191	0.0082	0.0141	0.0042	0.0121	0.0048	0.0050	0.0033	0.0027
100/07-34-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-25	0.0002	0.0000	0.0025	0.9337	0.0180	0.0009	0.0002	0.0007	0.0120	0.0306	0.0004	0.0002	0.0002	0.0005
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-10-23	0.0068	0.0001	0.0156	0.7960	0.0377	0.1109	0.0139	0.0099	0.0017	0.0050	0.0015	0.0020	0.0016	0.0023
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-10-28	0.0080	0.0001	0.0170	0.7846	0.0366	0.1159	0.0138	0.0104	0.0017	0.0050	0.0016	0.0020	0.0015	0.0018
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-11-04	0.0008	0.0000	0.0011	0.9050	0.0693	0.0184	0.0020	0.0012	0.0001	0.0005	0.0002	0.0002	0.0002	0.0010
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-12-01	0.0072	0.0001	0.0104	0.8065	0.0291	0.1034	0.0136	0.0110	0.0019	0.0055	0.0016	0.0022	0.0023	0.0052
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-18	0.0033	TRACE	0.0012	0.9161	0.0192	0.0374	0.0061	0.0076	0.0011	0.0028	0.0008	0.0014	0.0012	0.0018
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-23	0.0081	0.0000	0.0055	0.8928	0.0151	0.0506	0.0079	0.0069	0.0013	0.0039	0.0012	0.0017	0.0014	0.0037
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-23	0.0003	0.0000	0.0026	0.9564	0.0288	0.0010	0.0002	0.0003	0.0003	0.0008	0.0007	0.0010	0.0015	0.0063
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-23	0.0009	0.0000	0.0028	0.8519	0.0242	0.0234	0.0137	0.0261	0.0078	0.0229	0.0080	0.0081	0.0049	0.0053
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0111	TRACE	0.0219	0.8636	0.0186	0.0559	0.0078	0.0070	0.0013	0.0037	0.0012	0.0016	0.0014	0.0049
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-02	0.0073	0.0000	0.0080	0.8944	0.0184	0.0489	0.0070	0.0062	0.0012	0.0034	0.0010	0.0013	0.0011	0.0018
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-15	0.0018	0.0000	0.0056	0.8605	0.0097	0.0339	0.0121	0.0217	0.0079	0.0223	0.0078	0.0078	0.0047	0.0043
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-17	0.0008	0.0000	0.0018	0.9570	0.0327	0.0011	0.0000	0.0002	0.0008	0.0031	0.0001	0.0002	0.0006	0.0017
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-17	0.0007	0.0000	0.0035	0.8509	0.0242	0.0200	0.0113	0.0232	0.0074	0.0253	0.0093	0.0110	0.0068	0.0064
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-29	0.0086	0.0000	0.0059	0.8912	0.0169	0.0609	0.0068	0.0052	0.0007	0.0021	0.0004	0.0006	0.0002	0.0005
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT/CALGARY	2022-06-28	0.0098	0.0000	0.0074	0.8923	0.0141	0.0595	0.0068	0.0052	0.0007	0.0022	0.0005	0.0006	0.0002	0.0007
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT/CALGARY	2022-06-28	0.0025	0.0000	0.0019	0.9117	0.0121	0.0272	0.0071	0.0108	0.0053	0.0134	0.0030	0.0030	0.0010	0.0009
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT/CALGARY	2022-06-28	0.0001	0.0000	0.0031	0.9316	0.0148	0.0010	0.0024	0.0089	0.0057	0.0155	0.0067	0.0070	0.0018	0.0013
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-29	0.0009	0.0000	0.0017	0.9221	0.0131	0.0179	0.0061	0.0097	0.0037	0.0111	0.0037	0.0042	0.0021	0.0034
100/10-27-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-29	0.0002	0.0000	0.0019	0.9683	0.0244	0.0011	0.0003	0.0004	0.0002	0.0008	0.0004	0.0006	0.0004	0.0010
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-16	0.0005	0.0005	0.0483	0.0291	0.1003	0.6958	0.0771	0.0332	0.0035	0.0073	0.0013	0.0014	0.0008	0.0009
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-16	0.0013	0.0005	0.0539	0.0272	0.1003	0.6914	0.0762	0.0333	0.0036	0.0074	0.0013	0.0014	0.0008	0.0014
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-09-20	0.0009	0.0009	0.1067	0.0181	0.0439	0.7477	0.0473	0.0207	0.0025	0.0060	0.0014	0.0016	0.0012	0.0012
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-03-12	0.0009	0.0013	0.1129	0.0183	0.0420	0.7395	0.0503	0.0232	0.0028	0.0063	0.0010	0.0009	0.0003	0.0005
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-13	0.0028	0.0010	0.1009	0.0370	0.0000	0.7375	0.0678	0.0338	0.0041	0.0100	0.0019	0.0021	0.0005	0.0006
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-21	0.0094	0.0002	0.0327	0.5652	0.0350	0.2947	0.0322	0.0185	0.0022	0.0049	0.0009	0.0011	0.0008	0.0024
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-22	0.0074	0.0001	0.0137	0.7487	0.0274	0.1477	0.0238	0.0146	0.0018	0.0044	0.0010	0.0013	0.0009	0.0072
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-23	0.0068	0.0001	0.0109	0.7854	0.0282	0.1217	0.0220	0.0158	0.0019	0.0047	0.0009	0.0009	0.0002	0.0006
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-24	0.0068	0.0001	0.0105	0.8114	0.0255	0.1030	0.0187	0.0140	0.0018	0.0046	0.0010	0.0011	0.0005	0.0013
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-25	0.0077	0.0001	0.0112	0.8117	0.0252	0.1051	0.0181	0.0124	0.0016	0.0042	0.0008	0.0008	0.0004	0.0008
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-26	0.0080	0.0001	0.0157	0.8217	0.0212	0.0973	0.0134	0.0109	0.0016	0.0043	0.0017	0.0016	0.0009	0.0016
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-04-27	0.0074	0.0001	0.0100	0.8394	0.0215	0.0902	0.0137	0.0100	0.0013	0.0033	0.0009	0.0010	0.0006	0.0007
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-05	0.0144	0.0005	0.0483	0.6027	0.0000	0.3093	0.0182	0.0056	0.0003	0.0006	0.0000	0.0000	0.0000	0.0001
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-06	0.0120	0.0005	0.0431	0.6203	0.0000	0.2981	0.0174	0.0063	0.0005	0.0012	0.0001	0.0001	0.0001	0.0003
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-09	0.0047	0.0003	0.0330	0.5806	0.0296	0.2965	0.0253	0.0149	0.0020	0.0058	0.0015	0.0018	0.0013	0.0027
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-24	0.0074	0.0002	0.0262	0.6746	0.0254	0.2080	0.0196	0.0124	0.0018	0.0049	0.0018	0.0027	0.0035	0.0115
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-09-16	0.0082	0.0003	0.0422	0.6349	0.0188	0.2557	0.0208	0.0111	0.0013	0.0036	0.0008	0.0010	0.0004	0.0008
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-10-25	0.0065	0.0002	0.0277	0.6820	0.0251	0.1983	0.0188	0.0119	0.0017	0.0051	0.0022	0.0035	0.0058	0.0112
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	0.0076	0.0003	0.0261	0.6725	0.0204	0.2238	0.0194	0.0119	0.0015	0.0039	0.0011	0.0016	0.0018	0.0082
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-16	0.0067	0.0002	0.0233	0.7182	0.0161	0.1907	0.0181	0.0111	0.0016	0.0044	0.0012	0.0017	0.0017	0.0050
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-17	0.0074	0.0002	0.0200	0.7380	0.0223	0.1776	0.0166	0.0097	0.0012	0.0032	0.0009	0.0010	0.0007	0.0012
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-18	0.0072	0.0002	0.0175	0.7375	0.0280	0.1696	0.0163	0.0104	0.0015	0.0041	0.0011	0.0015	0.0012	0.0039
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-22	0.0069	0.0002	0.0179	0.7442	0.0275	0.1638	0.0161	0.0104	0.0015	0.0041	0.0011	0.0015	0.0013	0.0035
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-12-20	0.0060	0.0002	0.0259	0.7429	0.0187	0.1589	0.0169	0.0117	0.0016	0.0045	0.0014	0.0020	0.0026	0.0067
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-01-05	0.0098	0.0002	0.0224	0.7205	0.0290	0.1804	0.0159	0.0096	0.0012	0.0033	0.0009	0.0013	0.0014	0.0041
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-01-10	0.0075	0.0002	0.0217	0.7559	0.0165	0.1582	0.0157	0.0102	0.0015	0.0041	0.0012	0.0015	0.0013	0.0046
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-02-18	0.0078	0.0001	0.0237	0.7743	0.0287	0.1353	0.0150	0.0091	0.0012	0.0031	0.0006	0.0006	0.0002	0.0003
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-03-04	0.0081	0.0001	0.0183	0.7719	0.0163	0.1514	0.0150	0.0088	0.0013	0.0034	0.0009	0.0012	0.0010	0.0023
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0081	0.0002	0.0173	0.7662	0.0214	0.1475	0.0147	0.0096	0.0014	0.0039	0.0011	0.0014	0.0013	0.0059
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-03	0.0074	0.0001	0.0160	0.7755	0.0334	0.1342	0.0138	0.0090	0.0013	0.0036	0.0010	0.0013	0.0007	0.0028
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-01	0.0077	0.0001	0.0161	0.7819	0.0163	0.1387	0.0144	0.0099	0.0016	0.0047	0.0014	0.0018	0.0015	0.0036
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-07-04	0.0075	0.0001	0.0147	0.7968	0.0185	0.1279	0.0136	0.0087	0.0013	0.0035	0.0010	0.0013	0.0009	0.0043
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-03	0.0091	0.0002	0.0172	0.7700	0.0215	0.1486	0.0146	0.0083	0.0013	0.0037	0.0009	0.0013	0.0007	0.0025
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	0.0072	0.0001	0.0123	0.8039	0.0203	0.1165	0.0134	0.0099	0.0016	0.0043	0.0012	0.0016	0.0016	0.0059
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-27	0.0089	0.0001	0.0150	0.8010	0.0182	0.1292	0.0130	0.0082	0.0010	0.0027	0.0006	0.0007	0.0004	0.0009
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-30	0.0075	0.0001	0.0134	0.8218	0.0184	0.1139	0.0120	0.0073	0.0011	0.0025	0.0005	0.0007	0.0003	0.0006
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-30	0.0007	0.0000	0.0009	0.8479	0.0257	0.0426	0.0134	0.0191	0.0046	0.0146	0.0059	0.0077	0.0053	0.0110
100/10-35-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-03	0.0059	0.0001	0.0105	0.8244	0.0189	0.1051	0.0128	0.0095	0.0016	0.0045	0.0013	0.0016	0.0012	0.0026
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0075	0.0000	0.0102	0.8302	0.0187	0.0901	0.0101	0.0071	0.0011	0.0031	0.0020	0.0037	0.0059	0.0097
100/10-35-039-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-12-01	0.0129	0.0001	0.0191	0.7977	0.0353	0.1124	0.0100	0.0061	0.0008	0.0022	0.0006	0.0007	0.0006	0.0016
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-12-01	0.0011	TRACE	0.0142	0.8345	0.0556	0.0464	0.0134	0.0147	0.0030	0.0074	0.0021	0.0027	0.0019	0.0030
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-01-18	0.0043	TRACE	0.0004	0.8864	0.0274	0.0566	0.0085	0.0070	0.0011	0.0032	0.0009	0.0012	0.0010	0.0020
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-02-17	0.0074	TRACE	0.0050	0.9001	0.0308	0.0402	0.0053	0.0044	0.0007	0.0022	0.0006	0.0008	0.0006	0.0019
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-01	0.0066	TRACE	0.0042	0.9169	0.0166	0.0388	0.0052	0.0044	0.0007	0.0023	0.0007	0.0009	0.0007	0.0020
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-16	0.0095	0.0000	0.0055	0.9092	0.0180	0.0432	0.0051	0.0041	0.0006	0.0017	0.0004	0.0006	0.0004	0.0018
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-16	0.0013	0.0000	0.0037	0.9121	0.0154	0.0123	0.0065	0.0156	0.0038	0.0119	0.0051	0.0055	0.0035	0.0035
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-16	0.0003	0.0000	0.0009	0.9604	0.0278	0.0006	0.0001	0.0002	0.0002	0.0009	0.0006	0.0009	0.0023	0.0049
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0084	TRACE	0.0052	0.9143	0.0173	0.0399	0.0049	0.0039	0.0006	0.0019	0.0005	0.0007	0.0007	0.0017
100/14-01-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-26	0.0100	0.0000	0.0080	0.9052	0.0147	0.0491	0.0051	0.0036	0.0005	0.0015	0.0003	0.0005	0.0003	0.0013
100/14-01-040-24W4/00	EN

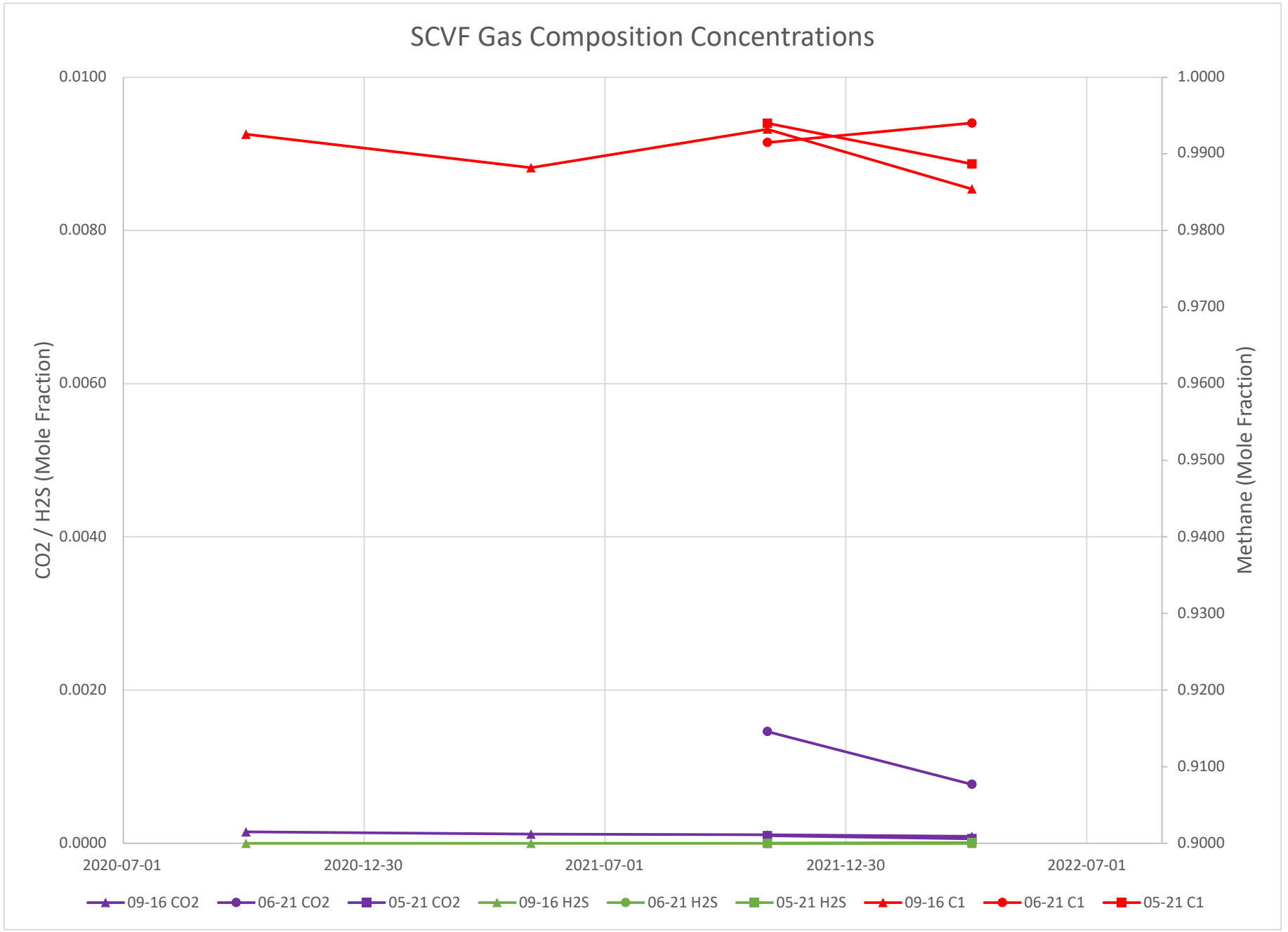
Nisku Gas Analysis

					Gas Analysis (Mole Fraction)														
SOURCE LOCATION	OPERATOR NAME	FIELD	SAMPLER NAME	DATE SAMPLED	H2	He	N2	CO2	H2S	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7+
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-16	0.0001	0.0005	0.0434	0.0375	0.1373	0.6300	0.0803	0.0407	0.0047	0.0114	0.0028	0.0035	0.0030	0.0048
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-16	0.0014	0.0005	0.0491	0.0381	0.1373	0.6273	0.0783	0.0391	0.0041	0.0097	0.0021	0.0026	0.0038	0.0067
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-09-20	0.0005	0.0004	0.0560	0.0301	0.1023	0.6930	0.0714	0.0321	0.0032	0.0071	0.0013	0.0013	0.0007	0.0007
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-03-12	0.0004	0.0000	0.0648	0.0001	0.0000	0.7284	0.1288	0.0603	0.0056	0.0099	0.0004	0.0003	0.0003	0.0007
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-05-12	0.0023	0.0005	0.0761	0.0001	0.0000	0.7677	0.0775	0.0423	0.0053	0.0121	0.0026	0.0029	0.0042	0.0065
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-10-02	0.0331	0.0000	0.0077	0.0609	TRACE	0.3859	0.2104	0.1789	0.0250	0.0592	0.0119	0.0125	0.0064	0.0081
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-11-09	0.0297	0.0000	0.4459	0.0263	0.0004	0.2752	0.1177	0.0721	0.0084	0.0179	0.0027	0.0023	0.0007	0.0008
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-04-12	0.0605	0.0000	0.0072	0.0423	0.0787	0.3153	0.2028	0.1825	0.0255	0.0586	0.0104	0.0100	0.0039	0.0023
100/01-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-18	0.0311	TRACE	0.0123	0.0408	0.1064	0.3829	0.1842	0.1591	0.0207	0.0449	0.0069	0.0068	0.0026	0.0013
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-01-07	0.0007	0.0005	0.0191	0.0017	0.0000	0.9703	0.0058	0.0013	0.0003	0.0002	0.0001	0.0001	0.0001	0.0001
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-05-12	0.0003	0.0000	0.9268	0.0025	0.0000	0.0346	0.0010	0.0039	0.0022	0.0069	0.0032	0.0041	0.0044	0.0102
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT/CALGARY	2021-05-10	0.0020	0.0000	0.9901	0.0010	0.0000	0.0005	0.0002	0.0005	0.0002	0.0008	0.0006	0.0008	0.0010	0.0023
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-06-01	0.0409	0.0001	0.7202	0.0006	0.0000	0.1753	0.0206	0.0200	0.0035	0.0089	0.0018	0.0020	0.0025	0.0036
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-27	0.0001	0.0000	0.0082	0.0558	0.0001	0.0080	0.0190	0.0334	0.0170	0.0618	0.0436	0.0625	0.0931	0.5975
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-07	0.0025	0.0000	0.0695	0.0140	0.0001	0.1925	0.0264	0.0361	0.0105	0.0363	0.0290	0.0448	0.0769	0.4531
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-19	0.0006	0.0002	0.0471	0.0508	0.3851	0.3642	0.0415	0.0447	0.0098	0.0269	0.0082	0.0088	0.0040	0.0075
100/04-26-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0042	0.0000	0.5327	0.0253	0.0000	0.0885	0.0153	0.0374	0.0129	0.0485	0.0304	0.0421	0.0485	0.1142
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0005	0.0011	0.1113	0.0120	0.0412	0.7068	0.0734	0.0322	0.0036	0.0082	0.0020	0.0026	0.0022	0.0029
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	0.0004	0.0008	0.0691	0.0157	0.0631	0.6685	0.1036	0.0545	0.0056	0.0126	0.0020	0.0021	0.0009	0.0011
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0001	0.0011	0.0986	0.0123	0.0300	0.7192	0.0775	0.0375	0.0045	0.0107	0.0025	0.0029	0.0016	0.0015
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0017	0.0011	0.1002	0.0125	0.0334	0.7167	0.0768	0.0365	0.0042	0.0099	0.0021	0.0024	0.0011	0.0012
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-09	0.0001	0.0007	0.0632	0.0187	0.0820	0.6338	0.1039	0.0625	0.0074	0.0173	0.0033	0.0035	0.0016	0.0017
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	0.0002	0.0008	0.0608	0.0197	0.0836	0.6469	0.0874	0.0621	0.0088	0.0190	0.0034	0.0037	0.0018	0.0018
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-03	TRACE	0.0007	0.0579	0.0211	0.1042	0.6307	0.0938	0.0552	0.0072	0.0177	0.0037	0.0041	0.0021	0.0016
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0043	0.0007	0.0596	0.0186	0.0843	0.6529	0.0907	0.0536	0.0070	0.0169	0.0034	0.0038	0.0019	0.0023
100/07-15-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2023-01-05	TRACE	0.0006	0.1509	0.0179	0.0820	0.5645	0.0950	0.0577	0.0070	0.0158	0.0028	0.0031	0.0014	0.0013
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-03-16	0.0120	0.0014	0.1085	0.0205	0.0252	0.7651	0.0469	0.0115	0.0012	0.0040	0.0011	0.0013	0.0008	0.0005
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-04	0.0002	0.0012	0.1180	0.0203	0.0651	0.6939	0.0514	0.0276	0.0038	0.0092	0.0024	0.0026	0.0022	0.0021
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-06-01	0.0004	0.0013	0.1005	0.0207	0.0520	0.7445	0.0488	0.0192	0.0019	0.0050	0.0015	0.0018	0.0015	0.0009
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-07-02	0.0008	0.0013	0.1037	0.0208	0.0504	0.7446	0.0492	0.0171	0.0018	0.0051	0.0015	0.0018	0.0012	0.0007
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-04	0.0002	0.0014	0.1092	0.0214	0.0437	0.7413	0.0494	0.0169	0.0017	0.0054	0.0016	0.0022	0.0024	0.0033
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-08-26	0.0008	0.0013	0.1076	0.0226	0.0413	0.7146	0.0525	0.0278	0.0041	0.0104	0.0028	0.0035	0.0035	0.0073
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-10-04	0.0001	0.0012	0.0998	0.0204	0.0586	0.7373	0.0500	0.0199	0.0024	0.0059	0.0012	0.0013	0.0007	0.0012
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-18	0.0002	0.0013	0.1034	0.0205	0.0663	0.7160	0.0524	0.0249	0.0028	0.0068	0.0020	0.0021	0.0008	0.0006
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-12-01	0.0002	0.0011	0.0919	0.0211	0.0734	0.7132	0.0548	0.0281	0.0034	0.0074	0.0018	0.0020	0.0009	0.0007
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-01-10	0.0001	0.0012	0.1070	0.0210	0.0660	0.7193	0.0525	0.0230	0.0023	0.0048	0.0009	0.0010	0.0005	0.0004
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-02-09	0.0001	0.0012	0.0968	0.0214	0.0736	0.7172	0.0528	0.0249	0.0026	0.0055	0.0011	0.0013	0.0007	0.0008
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-03-07	0.0006	0.0012	0.0937	0.0230	0.0612	0.7316	0.0524	0.0241	0.0029	0.0060	0.0012	0.0014	0.0005	0.0002
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0001	0.0012	0.0944	0.0209	0.0701	0.7227	0.0518	0.0249	0.0030	0.0064	0.0015	0.0017	0.0007	0.0006
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-05-03	0.0002	0.0012	0.0972	0.0210	0.0693	0.7214	0.0516	0.0239	0.0029	0.0062	0.0016	0.0017	0.0008	0.0010
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-06-01	0.0001	0.0014	0.1071	0.0212	0.0352	0.7418	0.0537	0.0249	0.0029	0.0065	0.0017	0.0020	0.0008	0.0007
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-03	0.0001	0.0012	0.1081	0.0203	0.0632	0.7185	0.0510	0.0235	0.0027	0.0061	0.0016	0.0020	0.0010	0.0007
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-07	0.0001	0.0013	0.1117	0.0205	0.0679	0.6945	0.0504	0.0256	0.0036	0.0094	0.0030	0.0038	0.0026	0.0053
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	0.0001	0.0012	0.0945	0.0208	0.0655	0.7262	0.0515	0.0243	0.0031	0.0076	0.0016	0.0017	0.0010	0.0009
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-10-03	TRACE	0.0012	0.0981	0.0209	0.0679	0.7163	0.0527	0.0246	0.0032	0.0083	0.0019	0.0021	0.0013	0.0015
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-11-04	0.0001	0.0012	0.0965	0.0212	0.0520	0.7407	0.0513	0.0226	0.0029	0.0074	0.0014	0.0015	0.0006	0.0006
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-12-01	0.0001	0.0012	0.0991	0.0210	0.0706	0.7277	0.0496	0.0206	0.0021	0.0053	0.0008	0.0008	0.0004	0.0007
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-12-05	0.0003	0.0013	0.1032	0.0207	0.0619	0.7164	0.0522	0.0256	0.0035	0.0085	0.0021	0.0023	0.0012	0.0008
100/08-02-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2023-01-05	0.0012	0.0012	0.0983	0.0207	0.0519	0.7387	0.0518	0.0221	0.0065	0.0050	0.0009	0.0011	0.0003	0.0003
100/08-35-039-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-13	0.0311	0.0004	0.0363	0.0693	0.2843	0.4069	0.0710	0.0727	0.0073	0.0151	0.0023	0.0021	0.0005	0.0007
100/12-01-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-16	0.0005	0.0004	0.0545	0.0276	0.0858	0.7117	0.0746	0.0272	0.0030	0.0069	0.0018	0.0024	0.0016	0.0021
100/12-01-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-09-20	0.0007	0.0002	0.0485	0.0261	0.0891	0.7165	0.0762	0.0276	0.0031	0.0073	0.0017	0.0018	0.0009	0.0004
100/12-01-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-12-12	0.0078	0.0003	0.0644	0.0225	0.0032	0.7745	0.0787	0.0334	0.0036	0.0081	0.0014	0.0013	0.0004	0.0004
100/16-02-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2019-07-16	0.0052	0.0002	0.0369	0.0309	0.0462	0.7487	0.0998	0.0046	0.0004	0.0068	0.0059	0.0078	0.0016	0.0050
100/16-02-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-02-09	0.0149	0.0009	0.1314	0.0001	0.0000	0.7240	0.0745	0.0371	0.0046	0.0106	0.0012	0.0006	0.0001	0.0002
100/16-02-040-24W4/00	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-12-05	0.0039	0.0002	0.0189	0.0517	0.0000	0.6090	0.1756	0.0996	0.0098	0.0163	0.0033	0.0042	0.0039	0.0033
102/05-33-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-12	0.0007	0.0003	0.0514	0.0188	0.0405	0.7358	0.0972	0.0415	0.0040	0.0080	0.0011	0.0007	0.0000	0.0001
102/05-33-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-08-03	0.0003	0.0003	0.0351	0.0229	0.0551	0.6521	0.1385	0.0672	0.0064	0.0140	0.0029	0.0033	0.0015	0.0004
102/05-33-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-09-01	0.0006	0.0002	0.0397	0.0206	0.0392	0.7486	0.1050	0.0376	0.0028	0.0048	0.0004	0.0004	0.0001	TRACE

SCVF Gas Analysis

					Gas Analysis (Mole Fraction)													
SOURCE LOCATION	OPERATOR NAME	FIELD	SAMPLER NAME	DATE SAMPLED	H2	He	N2	CO2	H2S	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7+
102/09-16-040-24W4/03	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2020-10-02	0.0000	0.0003	0.0068	0.0002	0.0000	0.9926	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
102/09-16-040-24W4/03	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-05-06	0.0003	0.0003	0.0104	0.0001	0.0000	0.9882	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0003
102/09-16-040-24W4/03	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	0.0000	0.0003	0.0061	0.0001	0.0000	0.9932	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
102/09-16-040-24W4/03	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0000	0.0004	0.0138	0.0001	0.0000	0.9854	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
100/06-21-040-24W4/03	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	0.0001	0.0001	0.0046	0.0015	0.0000	0.9915	0.0021	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
100/06-21-040-24W4/03	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0000	0.0001	0.0026	0.0008	0.0000	0.9940	0.0023	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
100/05-21-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2021-11-01	0.0001	0.0002	0.0029	0.0001	0.0000	0.9940	0.0025	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
100/05-21-040-24W4/02	ENHANCE ENERGY INC	CLIVE	AGAT RED DEER	2022-04-05	0.0000	0.0003	0.0082	0.0001	0.0000	0.9887	0.0026	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000


Geosphere CO2 Concentrations
CO2 (Mole Fraction)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
2019-04-01
2019-10-01
2020-04-01
2020-10-01
2021-04-02
2021-10-02
2022-04-03
2022-10-03
CO2 Injection Start
100/01-02-040-24W4/02
100/16-02-040-24W4/00
100/12-01-040-24W4/02
100/08-35-039-24W4/02
100/08-02-040-24W4/02
100/04-26-039-24W4/02
100/07-15-040-24W4/02
102/05-33-040-24W4/02
100/14-21-040-24W4/02
100/10-35-039-24W4/00
100/16-03-040-24W4/02
100/03-01-040-24W4/00
100/07-34-039-24W4/00
100/10-27-039-24W4/00
100/14-01-040-24W4/00
Nisku Wells
Leduc Wells


SCVF Gas Composition Concentrations
CO2 / H2S (Mole Fraction)
Methane (Mole Fraction)
0.0100
0.0080
0.0060
0.0040
0.0020
0.0000
1.0000
0.9900
0.9800
0.9700
0.9600
0.9500
0.9400
0.9300
0.9200
0.9100
0.9000
2020-07-01
2020-12-30
2021-07-01
2021-12-30
2022-07-01
09-16 CO2
06-21 CO2
05-21 CO2
09-16 H2S
06-21 H2S
05-21 H2S
09-16 C1
06-21 C1
05-21 C1

AGAT® Laboratories

Sulphur Isotope Summary

Operator: Enhance Energy

Analyst: S. Taylor

Work Order	Well Location	Description	Sample Point	Date Sampled	$\delta^{34}S_{H2S}$	wt%S
2022						
22R930109	100/07-15-040-24W4/02	Nisku Prod Gas	TEST METER RUN	9-Aug-22	14.6	14.0
22R926845	04-15-040-20W4	Leduc Prod Gas	DRY CO2 DEXPRO OUTLET	3-Aug-22	15.6	13.0
22R926854	100/08-02-040-24W4/02	Nisku Prod Gas	WELLHEAD	3-Aug-22	16.0	13.0
22R926854	100/16-03-040-24W4/02	Leduc Prod Gas	TEST SEP. OIL	3-Aug-22	15.4	14.0
2021						
21R759924	04-15-040-24W4	Leduc Prod Gas	DRY CO2 DEXPRO OUTLET	13-Jul-21	17.2	9.4
21R795907	100/07-15-040-24W4/02	Nisku Prod Gas	WELLHEAD	2-Sep-21	15.6	13.5
21R795907	100/08-02-040-24W4/02	Nisku Prod Gas	WELLHEAD	2-Sep-21	15.5	14.3
21R795907	04-15-040-20W4	Leduc Prod Gas	DEXPRO DRY GAS OUTLET	2-Sep-21	15.1	13.3

INTEGRATED SUSTAINABILITY

Appendix 2: Program Methodology & Sampling Schedules

HYDROSPHERE SAMPLING

The following procedures were conducted while sampling the Project monitoring wells:

1) Measurement of water level within each monitoring well
2) Water intake for bladder pump placed at mid-point of well screen and purged at low flow. Water quality parameters and water level readings recorded
3) Upon stabilization of water quality parameters, representative water sample collected using clean sampling methods and field filtration, where necessary
4) Chemical preservatives were added, where necessary, and water samples were placed in ice-filled contained for transport to laboratory

The following procedures were conducted while sampling landowner water wells. Further details are provided in Appendix 1.

1) Suitable connection point, upstream of any water treatment systems, was located and used for sample collection.
2) Water was purged through a FT gas separator unit for approximately 20 minutes and discharged to the ground, or as directed by landowners. Water quality parameters were monitored and recorded during purging.
3) Upon stabilization of water quality parameters, a representative water sample was collected using clean sampling methods and field filtration, where necessary.
4) Using the FT unit, any observed gas released from solution was collected with a Tedlar® sampling bag and sent for analysis following the Alberta Research Council guideline (Jones et. al. 2009).
5) Chemical preservatives were added, where necessary, and water samples placed in ice-filled contained for transport to laboratory.

Groundwater samples from Enhance's three Project monitoring wells were collected using a low flow sampling method, reducing the need for large purge volumes.

Sample Processing & Laboratory Analysis

Once collected, groundwater samples were placed in coolers with ice and shipped to AGAT Laboratories in Red Deer, Alberta on the same day they were sampled. Where necessary, AGAT distributed samples to additional third-party laboratories following similar Chain of Custody procedures.

Tables A and B summarizes where various samples were shipped. Where gas was observed in sufficient volumes in the FT gas separator, free gas samples collected in Tedlar® sampling bags were submitted for analysis of gas composition from AGAT, and dissolved gas samples collected in septum vials were submitted for analysis of gas composition from the University of Calgary.

Table A Groundwater Sample Laboratory Analysis

	Laboratory Analysis					
Laboratory	Routine	Dissolved Metals	Total Iron, Sulphur, Bromide	Biological	$\delta^{13}C_{DIC}$	$\delta^{34}S_{SO4}$
Groundwater						
AGAT Laboratories	X	X	X			
AGAT Laboratories (Nautilus Environmental Company Inc.)				X		
AGAT Laboratories (University of Alberta)					X	
AGAT Laboratories (University of Calgary)						X

Table B Gas in Groundwater Sample Laboratory Analysis

Laboratory Location	Gas Composition	C_1 to C_6 Hydrocarbons	$\delta^{13}C_{CO2}$	$\delta^{13}C_{CH4}$ (incl. C_2 to C_4)	Dissolved $\delta^{13}C_{CO2}$	Dissolved $\delta^{13}C_{CH4}$
Gas in Groundwater						
AGAT Laboratories	X	X				
AGAT Laboratories (University of Alberta)			X	X		
AGAT Laboratories (University of Calgary)					X	X

Quality Assurance/Quality Control (QA/QC)

Following sample collection, standard Chain of Custody procedures were followed for sample preservation and transportation to an accredited third-party laboratory.

To verify the integrity of results, QA/QC measures taken include:

- Collection of blind-duplicate samples, representing 10% of overall samples
- Analysis of laboratory ion balance, with a general acceptable limit of ±10%
- Calculation of the Relative Percent Difference (RPD) between sample and blind-duplicate results, with an acceptable limit of ±20%

BIOSPHERE SAMPLING

Soil Gas Probe Installation and Sampling

Prior to installation of the temporary soil gas probe, a ground disturbance sweep was conducted through Alberta One-Call to identify and avoid underground facilities or infrastructure.

The temporary soil gas probe was installed using a drive point piezometer, fitted with a screen. The piezometers were installed at a depth of approximately 1.5 mbgs. Using Integrated Sustainability's SOP for Soil Gas Probe Installation, the following procedure was conducted.

1) Dutch auger used to excavate soil to intended depth
2) Probe with suitable sample tubing was placed at depth
3) Probe tip and screen were backfilled using filter sand
4) Alternating layers of bentonite chips and filter sand used for remaining backfill

Following installation of the piezometer and screen:

1) Installation of a compression fitting and ball valve onto sample tubing
2) Leak check of soil gas probe using helium to verify subsurface installation and surface connections are sealed

In the summer and fall sample programs, methane (CH_4) and carbon dioxide (CO_2) in soil gases were monitored in-situ pre- and post-sample using a Los Gatos Ultraportable Greenhouse Gas Analyzer (UGGA).

During the summer and fall sampling program, the UGGA experienced a major failure, necessitating the use of a Landtec GEM5000 gas analyzer as backup and in conjunction with the UGGA for the remainder of the program. The GEM5000 range for methane is 0% to 100% by volume and measures methane concentrations as low as 0.1%. Accuracy is +/-0.3% within the 0%-5% range. That means it can measure from approximately 1000 ppm to 1,000,000 ppm and the accuracy is +/- 3000 ppm below 50,000 ppm.

Using Integrated Sustainability's SOP for Soil Gas Sampling, the following procedure was conducted.

1) Well purged using gas analyzer. Continuous in-situ gas readings observed and recorded
2) Upon stable readings, gas sample was collected using pre-evacuated SUMMA cannisters, pre-evacuated Bottle-Vac® amber glass bottles, or Tedlar® sampling bag
3) Post-sample in-situ gas reading recorded

The temporary soil gas probe installed at 08-09-040-24 W4M was removed after sampling.

Table C summarizes the laboratories that completed soil gas analysis collected for the Project.

Table C Soil Gas Laboratory Analysis

	Laboratory Analysis					
Laboratory Location	Trace Gas Composition	C_1 to C_6 Hydrocarbons	$\delta^{13}C_{CO2}$	$\delta^{13}C_{CH4}$ (incl. C_2 to C_4)	$^{14}C_{CO2}$	$^{14}C_{CH4}$
AGAT Laboratories	X	X				
University of Alberta			X	X		
University of Ottawa					X	X

Sample Analysis

Soil gases were sampled and analyzed for trace gas composition, hydrocarbon content, stable isotope composition, and radioactive isotope composition. Samples for trace gas composition and hydrocarbon content analysis were conducted by AGAT Laboratories, where the following parameters were included:

- Oxygen
- Nitrogen
- Methane
- Carbon Monoxide
- Carbon Dioxide
- Volatile Non-Methane Hydrocarbons
- Volatile Halogenated Hydrocarbons
- C_1 to C_6 Hydrocarbons

Samples for stable carbon isotope analysis were conducted by Dr. Karlis Muehlenbachs (1999) at the University of Alberta, where analysis included the carbon-13 content of CO_2 ($\delta^{13}C_{CO2}$) and CH_4 ($\delta^{13}C_{CH4}$).

Samples for radioactive carbon isotope analysis were conducted by the Andre E. Lalonde AMS Laboratory at the University of Ottawa, where analysis included the carbon-14 content of CO_2 (and where possible CH_4) through a fraction of modern radiocarbon.

Quality Assurance/Quality Control (QA/QC)

Following sample collection, standard Chain of Custody procedures were followed for sample preservation and transportation to AGAT Laboratories in Red Deer, Alberta. Where necessary, AGAT distributed soil gas samples to additional third-party laboratories following similar Chain of Custody procedures. Samples collected in the fall or radiocarbon analysis were transported directly to the third-party lab.

To verify the integrity of results, the following QA/QC measures taken include:

- Collection of five blind-duplicate samples, representing 8% to 9% of overall samples.
- Comparing in-situ soil gas concentrations to laboratory results to confirm accuracy and precision of field measurements and laboratory results.
- Conducting helium leak checks to verify well integrity prior to collection of soil gas.
- Collection of atmospheric gas samples to verify ambient gas concentrations and compare to soil gas results.

SOIL AND GROUNDWATER ANALYTICAL SCHEDULES

The following tables provide a listing of groundwater and soil gas probe locations investigated during the spring/summer and fall 2022 sampling campaigns, including the types of analysis to be performed.

INTEGRATED SUSTAINABILITY

2022 Summer Groundwater Sampling Analytical Schedule

Client Name: Enhance Energy Ltd. **Project Number:** CP22-EI-01-00 **Date:** March 21, 2023 **Rev:** 1

Type	Summer 2022 Routine	Summer 2022 Dissolved Metals	Summer 2022 Total Iron, Sulphur, Bromide	Summer 2022 Microbiology (IRB, SRB, SFB)	Summer 2022 13C in DIC	Summer 2022 Dissolved Gas	Summer 2022 d34S	Summer 2022 QA/QC (Dup)
Land Owner 2	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 1	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 25	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 33	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Land Owner 31	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Land Owner 24	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 6	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Land Owner 9	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 19	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Land Owner 29	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Facility Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Land Owner 17	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 18	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Land Owner 13	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 21	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 11	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 26	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 3	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 20	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 15	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 23	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 10	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Land Owner 22	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 14	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Land Owner 16	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 30	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 5	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Land Owner 32	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 8	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Land Owner 7	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 28	Yes	Yes	Yes	Yes	Yes	Yes	No	No
	36	**36**	**36**	**36**	**36**	**11**	**5**	**4**

INTEGRATED SUSTAINABILITY

2022 Fall Groundwater Sampling Analytical Schedule

Client Name: Enhance Energy Ltd. **Project Number:** CP22-EI-01-00 **Date:** March 21, 2023 **Rev:** 1

Type	Fall 2022 Routine	Fall 2022 Dissolved Metals	Fall 2022 Total Iron, Sulphur, Bromide	Fall 2022 Microbiology (IRB, SRB, SFB)	Fall 2022 13C in DIC	Fall 2022 Dissolved Gas	Fall 2022 d34S	Fall 2022 QA/QC (Dup)
Land Owner 2	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 1	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 25	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 33	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 4	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Land Owner 31	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Land Owner 24	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 6	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Land Owner 9	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 19	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Land Owner 29	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Facility Well	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhance Monitoring Well	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Land Owner 17	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 18	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Land Owner 13	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 21	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 11	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 26	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 3	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 20	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 15	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 23	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 10	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Land Owner 22	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 14	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Land Owner 16	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 30	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 5	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Land Owner 32	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Land Owner 7	Yes	Yes	Yes	Yes	Yes	No	No	No
Land Owner 28	Yes	Yes	Yes	Yes	Yes	No	Yes	No
	34	**34**	**34**	**34**	**34**	**4**	**11**	**5**

INTEGRATED SUSTAINABILITY

2022 Soil Gas Sampling Analytical Schedule

Date: March 21, 2023

Client Name: Enhance Energy Ltd. **Project Number:** CP22-EI-01-00 **Rev:** 1

Soil Probe Surface Location	Sample ID	2022 Summer Breathing Air and Composition	2022 Summer d13C (UofA)	2022 Summer d14C (UofO)	2022 Summer Duplicate	2022 Summer Atmosphere
11-26-039-24W4	11-26-PP-SU-22	No	No	No	No	No
12-25-039-24W4	12-25-PP-SU-22	Yes	Yes	Yes	No	Yes
01-35-039-24W4	01-35-PP-SU-22	Yes	Yes	No	No	No
04-01-040-24W4	04-01-PP-SU-22	No	No	No	No	No
05-36-039-24W4	05-36-PP-SU-22	No	No	No	No	No
14-26-039-24W4	14-26-PP-SU-22	No	No	No	No	No
01-02-040-24W4	01-02-PP-SU-22	Yes	Yes	No	No	No
04-01-040-24W4 (05-01)	05-01-PP-SU-22	Yes	Yes	Yes	No	No
04-02-040-24W4	04-02-PP-SU-22	Yes	Yes	No	No	No
04-12-040-24W4	04-12-PP-SU-22	Yes	Yes	No	No	No
04-26-039-24W4	04-26-PP-SU-22	Yes	Yes	No	No	No
04-35-039-24W4	04-35-PP-SU-22	Yes	Yes	Yes	No	No
07-02-040-24W4	07-02-PP-SU-22	No	No	No	No	No
08-26-039-24W4	08-26-PP-SU-22	No	No	No	No	No
08-34-039-24W4 (08-24)	08-24-PP-SU-22	No	No	No	No	No
08-35-039-24W4	08-35-PP-SU-22	No	No	No	No	No
10-02-040-24W4	10-02-PP-SU-22	No	No	No	No	No
11-35-039-24W4	11-35-PP-SU-22	Yes	Yes	Yes	No	Yes
12-01-040-24W4	12-01-PP-SU-22	Yes	Yes	Yes	No	No
12-02-040-24W4	12-02-PP-SU-22	Yes	Yes	Yes	No	No
12-36-039-24W4	12-36-PP-SU-22	Yes	Yes	Yes	No	No
16-03-040-24W4	16-03-PP-SU-22	No	No	No	No	No
07-10-040-24W4	07-10-PP-SU-22	No	No	No	No	No
09-10-040-24W4	09-10-PP-SU-22	No	No	No	No	No
03-15-040-24W4	03-15-PP-SU-22	Yes	Yes	Yes	No	No
02-10-040-24W4	02-10-PP-SU-22	Yes	Yes	Yes	No	No
16-09-040-24W4	16-09-PP-SU-22	Yes	Yes	Yes	No	No
02-23-039-24W4	02-23-PP-SU-22	Yes	Yes	Yes	No	No
12-23-039-24W4	12-23-PP-SU-22	Yes	Yes	Yes	No	No
14-23-039-24W4	14-23-PP-SU-22	Yes	Yes	Yes	No	No
10-22-039-24W4	10-22-PP-SU-22	Yes	Yes	Yes	No	No
12-15-040-24W4	12-15-PP-SU-22	Yes	Yes	No	No	No
09-16-040-24W4 (01-16)	09-16-PP-SU-22	Yes	Yes	No	Yes	No
13-16-040-24W4	13-16-PP-SU-22	Yes	Yes	No	No	No
16-16-040-24W4	16-16-PP-SU-22	Yes	Yes	No	Yes	No
16-20-040-24W4	16-20-PP-SU-22	Yes	Yes	No	No	No
07-21-040-24W4	07-21-PP-SU-22	Yes	Yes	No	No	No
12-21-040-24W4	12-21-PP-SU-22	Yes	Yes	No	No	No
14-21-040-24W4	14-21-PP-SU-22	Yes	Yes	No	No	No
06-28-040-24W4	06-28-PP-SU-22	Yes	Yes	No	No	Yes
12-28-040-24W4	12-28-PP-SU-22	Yes	Yes	Yes	Yes	No
14-28-040-24W4	14-28-PP-SU-22	Yes	Yes	Yes	No	No
01-32-040-24W4	01-32-PP-SU-22	Yes	Yes	Yes	No	No
10-32-040-24W4	10-32-PP-SU-22	Yes	Yes	No	No	No
05-33-040-24W4	05-33-PP-SU-22	Yes	Yes	No	Yes	No
02-05-041-24W4	02-05-PP-SU-22	Yes	Yes	No	No	No
06-05-041-24W4	06-05-PP-SU-22	Yes	Yes	No	No	No
06-08-041-24W4	06-08-PP-SU-22	Yes	Yes	No	No	Yes
13-05-041-24W4	13-05-PP-SU-22	Yes	Yes	Yes	No	No
Total		38	38	18	4	4

GE-SOP-0018: SOIL GAS PROBE INSTALLATION

Department/Area:	Geosciences		
Prepared By:	Joseph Cruz	**Date:**	08 June 2021
Approved By:	Ian Grant	**Date:**	16 June 2021
Date Created:	October 18, 2021	**Revision:**	B

PURPOSE OF TASK

This Standard Operating Procedure (SOP) provides guidelines for the manual installation of a soil gas probe with two methods:

- Method A - installation with an auger
- Method B - installation with a drive point hammer

Employers must ensure that workers are trained and experienced in completing this task. Soil gas probes may be installed in unconsolidated or consolidated material if the well annuls can be sealed.

Soil gas samples should not be collected if groundwater has entered the sampling equipment, as this may damage the analysis equipment and invalidate the soil gas sample collected. Therefor soil gas probes should be installed above the observed or expected static groundwater elevation. If groundwater is encountered while drilling, the probe location should be properly abandoned and an alternate location should be selected.

REQUIRED MATERIALS AND EQUIPMENT

1) Manual slide hammer for drive point piezometer
2) Drive point piezometer tip and screen
3) Riser extensions and couplings to reach the required depth of the piezometer.
   - Piezometer screens and extensions referred to as "casing"
4) ¼" Piezometer tubing (length suitable to reach the required depth and extend above ground surface). Teflon tubing suitable for soil sampling should be used. Silicon tubing should be avoided where possible.
   - Referred to as "tubing"
5) Wrench to tighten drive point piezometer, swage lock nut and bolts
6) Drive head by-pass assembly for drive point piezometer
   – Includes: drive head, drive extension and tubing by-pass
7) Piezometer drive hammer
8) ¼" Ball valve (Brass or stainless steel are suitable)
9) ¼" Swage locks (Brass or stainless steel are suitable)

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10) 10-20 filter sand
11) Bentonite chips or pellets
12) Large water container (to hydrate bentonite)
13) Helium gas with discharge fitting
14) Helium detector
15) Helium shroud
16) Dutch auger, handle, and extension
17) Shovel
18) Well Casing (Road Box)

OPTION A STANDARD WORK PROCEDURE: DUTCH AUGER

Steps to complete this task are as follows:

1) Verify all ground disturbance sweeps have been completed and verify that the ground disturbance permitting is valid for the selected drilling location. Drill only in the location identified within the ground disturbance permit.
2) The location of the soil probe will be installed where all ground disturbance specifications are met and meet all requirements (e.g. minimum distance from any pipelines in the area)
3) Place the corkscrew tip of the auger on the ground surface and press firmly on the handles.
4) While pressing down, rotate the handles in a clockwise motion.
5) Continue this until the top of the auger head is at ground surface (should have descended approximately 6")
6) Pull the auger straight up to remove soil. Replace in the borehole and continue to auger to the proposed installation depth.
7) Record the depth range and describe the soil sample as completely as possible (grain size distribution, colour, odour, oxidation/mineralization, plasticity, stiffness, etc.)
8) Drop the tape measure into the hole to verify the true depth of the hole and evaluate for sloughed material.
9) If auger refusal is reached, move over approximately 50 cm and reattempt the hole. Do not log the soil until the original depth of refusal is reached. If refusal occurs again, make a note in the field notebook (refusal may be the result of bedrock). If not, continue logging the hole (as refusal was likely the result of a large piece of gravel). At least 3 attempts should be made at each location. Confirm with project requirements if a shallower borehole is acceptable. If possible, install using the drive point hammer at the point of refusal (Option B).

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10) Measure and cut the piezometer tubing to the proposed installation depth, plus an additional 0.5 m (2 ft)
11) Loosen the compression fitting, insert the piezometer tubing with the ferrules into the drive point screen, and tighten 1/4 turn past finger tight to properly secure the tubing in the fitting.
12) Hold the tubing to prevent it from turning, slide the extensions over the tubing and tighten it firmly onto the piezometer drive point screen.
13) Slide a coupling over the tubing and tighten firmly onto the previous extension pipe and tighten, slide the next extension pipe over the tubing and tighten securely to the other end of the coupling and tighten. Repeat until the desired length has been achieved. The piezometer extension should end below ground surface so the road box may be placed over the well.
14) Place piezometer set up in the hole and hold straight, the top of the extension pipe shall be flush with the ground surface.
15) Backfill the screened portion of the drive point piezometer tip with the 10-20 filter sand at least 10 cm above the screened portion of the piezometer to facilitate unimpeded flow of soil gasses into the piezometer. The remainder of the pilot hole is to be backfilled with alternating layers of bentonite chips and 10-20 filter sand. This is to prevent short-circuiting of atmospheric air to the piezometer.
16) Continue to installation of ball valve and fittings section.

OPTION B STANDARD WORK PROCEDURE: DRIVE POINT PIEZOMETER

Steps to complete this task are as follows:

1) Verify all ground disturbance sweeps have been completed and verify that the ground disturbance permitting is valid for the selected drilling location. Drill only in the location identified within the ground disturbance permit.
2) The location of the soil probe will be installed where all ground disturbance specifications are met and meet all requirements (e.g. minimum distance from any pipelines in the area)
3) Measure and cut the piezometer tubing to the proposed installation depth, plus an additional 0.5 m (2 ft)
4) Loosen the compression fitting, insert the piezometer tubing with the ferrules into the drive point screen, and tighten 1/4 turn past finger tight to properly secure the tubing in the fitting.
5) Hold the tubing to prevent it from turning, slide the extensions over the tubing and tighten it firmly onto the piezometer drive point screen.
6) Thread the tubing through the drive head by-pass assembly and place on top screw on to the piezometer casing and tighten to finger tight.

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7) Slide the manual slide hammer over the drive head and hammer the device until approximately 15 cm (6") of the extension pipe below the tubing bypass remains above the ground.
8) Remove the hammer and remove the drive head assembly, hold the tubing to prevent it from turning.
9) Slide a coupling over the tubing and tighten firmly onto the previous extension pipe, slide the next extension pipe over the tubing and tighten securely.
10) Repeat steps 5 to 8 till the sampling depth has been reached.
11) Continue to installation of ball valve and fittings section.

INSTALLATION OF BALL VALVE AND FITTINGS

1) Wrap all threads of the fittings with Teflon tape and connect and tighten all parts of the fitting assembly, swage lock-ball valve-swage lock.
2) Loosen and remove the nut and ferrule of one end of the fitting, and slide the nut and ferrule assembly on to the sampling tube.
3) Place the sampling tube to connect to the ball valve fitting, and tighten the nut and ferrule to the fitting assembly, tighten 1-1/4 turn past finger tight.
4) The setup will be leak checked with helium gas to verify there is no short-circuiting of atmospheric air into the gas line through the fittings at surface or through the well annulus.
5) Install the service box (flush mount) over the casing and fill void spaces with native material or bentonite.
6) The brass valve assembly will remain in the well casing for protection, when placing the fitting and sampling tube within the casing, make sure the sampling tube does not get bent or kinked.
7) The casing will be labeled with the location ID and GPS coordinates recorded for future sampling.

LEAK CHECK WITH HELIUM GAS

1) The helium shroud should have at least 3 valve connections:
2) 1 connection with ¼" tubing to connect to the fitting assembly of the soil gas well
3) 1 connection open to the bucket
4) 1 connection to inject helium gas
5) All fittings should be equipped with masterflex tubing to use with the helium detector wand.
6) Loosen the nut and ferrule assembly from the fitting assembly on the outflow end of the ball valve.
7) Slide the nut and ferrule assembly to the ¼" tubing of the helium shroud, and connect to the fitting assembly, tighten 1-1/4 turn past finger tight.

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8) Open the valve and place the helium shroud over the sampling port, all fittings should be within the helium shroud. Verify all valves on the helium shroud are closed.
9) Using the helium detector measure the following parameters:
10) Measure and record the atmospheric helium values
11) Place the helium detector wand into the masterflex tubing for the connection to the soil gas well, open the valve measure and record the helium values, and close the valve.
12) Place the helium detector wand into the masterflex tubing for the connection to the bucket, open the valve measure and record the helium values, and close the valve.
13) Place the helium gas cannister discharge to the helium gas injection fitting of the helium shroud. Verify the sampling port and bucket fittings are closed, open the helium injection fitting valve and discharge helium into the fitting. A 1-2 second burst of helium is sufficient to detect a leak in the fitting. Close the valve.
14) Using the helium detector measure the following parameters:
15) Measure and record the atmospheric helium values
16) Place the helium detector wand into the masterflex tubing for the connection to the soil gas well, open the valve measure and record the helium values, and close the valve.
17) Place the helium detector wand into the masterflex tubing for the connection to the bucket, open the valve measure and record the helium values, and close the valve.
18) The helium detector should pick up values of helium in the bucket, and the readings to the soil gas well should not detect any helium.
19) If helium is detected in the soil gas well, check and re-tighten all fittings and repeat steps 1 through 7
20) If helium is detected in the soil gas well, after checking and re-tightening all fittings, the fitting assembly may be compromised, and a new fitting assembly may be required to be installed. Assemble a new fitting and re-test
21) If the helium detector does not pick up helium values from the soil gas well, but helium is detected in the bucket, the fitting assembly is deemed leak proof.
22) Remove the ¼" tubing from the fitting assembly, re-connect the nut and install a new ferrule for future sampling, and place the assembly in the well casing.
23) Place the cover on the well casing, and tighten bolts to verify the casing is sealed.

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Purpose: To provide information on standard work practices.

GE-SOP-0006: MONITORING WELL INSTALLATION

Department/Area:	Geosciences		
Prepared By:	M. Myden	**Date:**	01 Sept 2016
Approved By:	M. Myden	**Date:**	01 Sept 2016
Date Created:	01 Sept 2016	**Revision:**	0

PURPOSE OF TASK

The purpose of this procedure is to describe the methods for a groundwater monitoring well installation. It describes designs, procedures, and materials that are used to construct a monitoring well that will produce accurate groundwater level measurements and representative groundwater samples.

REQUIRED MATERIALS AND EQUIPMENT

- Monitoring well construction materials: casing, screen, sand (filter) pack and seal materials
- Measuring tape
- Water level tape
- Soil sampling equipment (see GE-SOP-0004 for further requirements)
- Sample trays or vials
- Field log book (including borehole logging forms)

STANDARD WORK PROCEDURE

Requirements for monitoring well installations are site-specific, and will depend on the soil, bedrock and groundwater conditions encountered in the field, the goals of the investigation program, and the availability and limitations of drilling equipment and installation materials.

Clients may also have monitoring well specifications that differ from the design specifications presented in this procedure. It is up to the field hydrogeologist to ensure design specifications meet both client and regulatory requirements.

Monitoring Well Design

The following are general guidelines for installation of monitoring wells that have been drilled in overburden (soils) or shallow bedrock. Before drilling begins, the conceptual well design and drilling method should be identified and reviewed by a qualified hydrogeologist to determine whether deviations from these general guidelines are appropriate.

Monitoring well design (including well depth and screen length) should be determined based on geological and hydrogeological site observation, objectives of the groundwater sampling

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program and presence of DNAPL/LNAPL. Nested monitoring wells may be installed to monitor several depth intervals within an aquifer.

Typical monitoring well designs include (but are not limited to):

- Water table wells (screened across the water table) including anticipated seasonal fluctuations.
- Well screens (up to 1.5 m in length) installed below the water table, but across, within or at the base of a water-bearing zone.

The steps involved in a monitoring well installation include:

Plan and prepare for drilling and monitoring well installation (see also GE-SOP-0006)

- Review the drilling and sampling plan, as well as any relevant information pertaining to subsurface conditions at the planned drilling locations, such as soil and groundwater conditions, type, degree and extent of contamination.
- Determine the appropriate type of drilling rig, soil sample collection and well installations.
- Plan the design of each monitoring well installation, based on the conceptual site model and objectives of the sampling/monitoring program.
- Perform ground disturbance procedures (i.e. utility locates).
- Prepare HSE Management Plan (as required) and Waste Management Plan (as required).
- Schedule and book drilling contractor. Confirm expected subsurface conditions, depths of monitoring well installations and estimated quantities/types of materials that should be brought to site, including:
  - Type and length of casing & type and length of screen
  - End-caps or j-plugs
  - Sand and sealing material
  - Cement (if required)
  - Flush-mount or stick-up protective surface completions
  - Supply of potable water (whether provided by client or by drilling contractor)

Perform ground disturbance (utility locates)

- Mark all borehole locations so that ground disturbance can be undertaken.
- Clear sub-surface and above-ground utilities (e.g. power lines) prior to starting drilling program.
- Ensure sufficient clearance between drilling mast and overhead power lines. Minimum safe work distances for each province shall be used.
- Manual (hand) or vac truck excavation may be required prior to commencing drilling.

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- If the planned borehole location(s) interferes with utilities, an alternative location should be selected and cleared.

Drill the borehole and collect/log the soil samples

- Commence drilling of the borehole. As drilling advances, samples brought to the surface should be examined, logged and representative samples collected for screening and/or laboratory analysis (as required).
- A borehole log should be filled in as completely as possible. All depths should be measured to metres below ground surface (mbgs). Information should include, but not be limited to:
  - Site identification and borehole numbers
  - Type of rig used, casing or auger diameter, bit type (if applicable) and rate of advance
  - Depth (intervals) from which samples were collected and a description of each sample (see borehole log form)
  - Moisture content of the sample immediately upon recovery
  - Any significant groundwater observation
- See also GE-SOP-0017 for additional work procedures with respect to soil drilling and sample collection.

Design the monitoring well

- Consult with a qualified hydrogeologist to determine the final design for the monitoring well, including:
  - Length of the screen interval
  - Interval of the screened section (based on borehole lithology)
  - Sand pack interval (minimum depth of sand pack)

Install the monitoring well (screen and unscreened intervals)

- The monitoring well (casing, screen and bottom cap) should be lowered into the borehole until it reaches the bottom of the borehole (at its design depth).
- Measure the height of the well casing above the ground to the nearest cm and record it in the field log book.

Note: Determine the zone with the most moisture for screen placement. Rule of thumb is to place the middle of the screen within the wettest zone. Never have a screen or sand pack cross multiple lithology units.

Note: If the borehole has sloughed in substantially, have the drill operator go back into the borehole and attempt a clean-out. If the borehole is open to the bottom, determine if the borehole needs to be backfilled to capture the screened interval. If backfilling is required, backfill with bentonite or sand. Backfill with sand if the bottom of the borehole is in the same unit as the screened interval. If the borehole needs to be backfilled

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through multiple lithologies, use bentonite. When backfilling with bentonite, stop about 0.3 m from the bottom of the desired screen depth. Use sand to backfill the final 0.3m to the bottom of the screen. This prevents damage to the screen.

Install the sand (filter) pack and annular seal materials

- Calculate the volume of sand material needed to fill the annulus to the required height.
- Ensure the monitoring well is centered in the borehole.
- Measure the depth to the bottom of the hole and record the measurement. Keep the measuring tape in the hole while adding the filter sand.
- Pour filter sand in slowly to avoid bridging the annulus until the required amount of sand has been added (approximately 0.3 to 0.5 m above the top of the screen).
- Measure and record final depth to the top of the sand pack when finished.
- The seal material should be placed in the same manner as the filter sand.
- Calculate the volume of seal material required to provide a seal length of approximately 0.6 to 1 m above the sand pack.
- Measure and record final depth to the top of the seal material when finished.

Place fill above seal (if appropriate)

- If the top of the seal does not correspond to the ground surface, the remainder of the annular space should be sealed to within 0.5 m of ground surface using either cement, a bentonite grout slurry or uncontaminated material from the site (as appropriate).

Install the surface seal and protective casing

- The upper 0.5 m of the borehole should be sealed to prevent surface water from entering the borehole.
- An appropriate surface casing (e.g. a lockable stick-up completion or flush mounted surface casing) should be installed based on site conditions.

Survey the monitoring well location.

- All monitoring wells at the site should be surveyed in to measure elevation of the ground surface and top of well casing at each well location. Well surveys should be accurate to within 0.1 cm (i.e. GPS coordinates are not accurate enough).

Troubleshooting

- Contact project manager or senior hydrogeologist if there are issues with the borehole sloughing in or the annulus bridges during well construction.

REFERENCES

USEPA, 1996. Standard Operating Procedures 2048 – Monitor Well Installation.

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INTEGRATED SUSTAINABILITY

Standard Operating Procedure

Purpose: To provide information on standard operating procedure.

GE-SOP-000X: SOIL GAS SAMPLING

Department/Area:	Geosciences		
Prepared By:	Joseph Cruz	**Date:**	June 08, 2021
Approved By:	Ian Grant	**Date:**	
Date Created:	October 01, 2021	**Revision:**	B

PURPOSE OF TASK

This Standard Operating Procedure (SOP) provides guidelines for the sampling of soil gas (methane, and carbon dioxide) in-situ using a Los Gatos Ultraportable Greenhouse Gas Analyzer (GGA) and collecting samples with pre-evacuated (SUMMA) cannisters and/or Wheaton bottle samples.

REQUIRED MATERIALS AND EQUIPMENT

1) Tedlar Bags
2) Summa Cannister and/or Glass bottle samples
3) Vacuum Gauge
4) Flow Regulator
5) Los Gatos Ultraportable Greenhouse Gas Analyzer (GGA)
   - VNC application on phone or tablet to view readings
   - Connect wifi signal to GGA on tablet or phone
   - VNC application configure to connect to the GGA
6) ¼" diameter Teflon tubing
7) 9/16" and ½" wrenches
8) Chameleon fitting for Glass sample bottles
9) Chain of Custody paper work (COC)
10) Field notebook

STANDARD WORK PROCEDURE FOR SOIL GAS SAMPLING

Employers must ensure that workers are trained and experienced in completing this task. Steps to complete this task are as follows:

Soil Gas Sample Collection with Summa Cannister

1) Inspect Summa Cannister to check for mechanical integrity. Verify the vacuum in the cannister is greater than 25 in Hg with the vacuum gauges, if the cannister vacuum is less than 25 in Hg, ambient air may have leaked into the cannister, and the sample may be compromised.

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2) Confirm the Summa cannister valve is closed
3) Remove the brass cap and attach the gauge
4) Attach brass cap to the side of gauge tee fitting to ensure a closed train.
5) Open and close valve quickly (seconds) and read vacuum on the gauge. Record the initial vacuum reading and Summa cannister serial number in field notebook/notes
6) Verify the cannister valve is closed
7) Attach the ¼" Teflon tubing to the existing soil gas sampling fitting on the outlet side of the valve, the Teflon tubing should be attached to the fitting with a compression fitting and nut. The compression fitting should be tightened to the manufacturers specification (ex. 1-1/4 turn for Swagelock branded compression fittings)
8) The Teflon tubing will be connected to the GGA, and open the valve of the soil sampling fitting
9) Purge the sampler of stagnant air through the GGA. The methane and carbon dioxide concentrations will be monitored till the stable concentrations are read, typically within 1 to 3 minutes
10) Record all concentrations in the field notebook and/or field sheets
11) Once stable concentrations have been read and recorded, close the valve of the soil sampling fitting and disconnect the ¼" Teflon tubing from the GGA, and connect the tubing to the flow regulator and vacuum gauge of the Summa cannister with a compression fitting and nut. The compression fitting should be tightened to the manufacturers specification (ex. 1-1/4 turn for Swagelock branded compression fittings) The SUMMA Cannister shall remain closed.
12) If using a flow controller, set the flow controller to the specifications of the Summa cannister.
13) Open the valve from the soil gas sampling fitting
14) Open the valve to the Summa cannister to begin collecting the soil gas sample
15) Monitor the vacuum gauge on the Summa cannister, and close the valve when the gauge is reading between -5 in Hg and -3 in Hg (unless otherwise instructed by the laboratory)
16) Close the valve from the soil gas sampling fitting
17) Disconnect the ¼" tubing from the Summa cannister, and record all readings
18) Record the final vacuum of the cannister in the field notebook/notes
19) Fill out cannister sample tag and verify the sample tag matches what is recorded on the COC.
20) Return the cannister to the box and fill out the COC.
21) Repeat steps 1 through 21 if collecting additional Summa cannister samples

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22) If collecting additional samples using the glass sample bottles, continue to step 23

Soil Gas Sample Collection with Glass Sample Bottle

23) Inspect glass sample bottle and microvalve fitting to check for mechanical integrity. Verify the vacuum in the cannister is greater than 25 in Hg with the microvalve vacuum gauge, if the cannister vacuum is less than 25 in Hg, ambient air may have leaked into the cannister, and the sample may be compromised
24) Connect the female end of the microvalve vacuum gauge to the microvalve fitting on the glass sample bottle and record the initial vacuum reading and glass sample bottle serial number in the field notebook/notes.
25) Attach the ¼" Teflon tubing from the outlet end of the soil gas sampling fitting to the inlet end of the Chameleon fitting
26) Connect the female microvalve connection end of the Chameleon to the male end of the microvalve on the glass sampling bottle
27) Open the valve from the soil gas sampling fitting to begin sampling
28) Monitor the vacuum gauge on the Chameleon fitting, and disconnect the fitting when the vacuum gauge reads 0 in Hg (unless otherwise stated by the laboratory)
29) Close the valve from the soil gas sampling fitting
30) Record the final vacuum of the glass sample bottle in the field notebook/notes
31) Fill out glass sample bottle tag and verify the sample tag matches what is recorded on the COC
32) Return the glass sample bottle to the box and fill out the COC

Recording Final Gas Readings

33) Connect the ¼ tubing to the GGA to collect additional post-purge of the in-situ sampling for methane and carbon dioxide
34) Open the soil gas sampling fitting valve and record final values for methane and carbon dioxide concentrations
35) Close the soil gas sampling fitting and disconnect the ¼" tubing from the GGA
36) Disconnect the ¼" tubing and compression fitting from the soil gas sampling fitting, verify the valve has been closed and return the fitting to the manhole
37) Close up manhole, and clean up all materials from Site

TECHNICAL REFERENCES

https://www.eurofinsus.com/media/161448/guide-to-air-sampling-analysis-2014-06-27_revised-logos.pdf

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INTEGRATED SUSTAINABILITY

Appendix 3: Soil Gas Probe Networks & Temporal Trend Charts

06-08
13-05
06-05
02-05
North 3 Data
10-32
05-33
01-32
14-28
12-28
06-28
16-20
14-21
12-21
06-21
07-21
05-21
North 2 Data
13-16
16-16
09-16
12-15
03-15
16-09
09-10
07-10
08-09
02-10
North 1 Data
04-12
16-03
12-02
10-02
12-01
07-02
04-02
01-02
04-01
04-01
11-35
12-36
08-34
08-35
05-36
04-35
01-35
14-26
11-26
12-25
South Data
08-27
08-26
04-26
14-23
10-22
12-23
02-23
Clive
41-24-W4
41-23-W4
40-24-W4
40-23-W4
39-24-W4
39-23-W4
821
12

Soil Gas Probe Locations
Enhance Facility Location
MMV Plan Area
North 3 Data
North 2 Data
North 1 Data
South Data
Primary Road
Secondary Road
Stream
Municipality

0 1 2
Kilometers

N

1:52,000

Coordinate System: NAD 1983 UTM Zone 12N

Fort McMurray
Grande Prairie
Edmonton
Calgary

PREPARED BY:
INTEGRATED SUSTAINABILITY

CLIENT:
enhance

ENHANCE ENERGY INC.
SOIL GAS PROBE NETWORK
LOCATIONS AND AREAS

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	1	0

NOTES: 27-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

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16-09
09-10
07-10
08-09
02-10
North 1 Data
04-12
16-03
12-02
10-02
12-01
07-02
04-02
01-02
04-01
04-01
40-23-W4
39-24-W4
39-23-W4

Soil Gas Probe Locations
Enhance Facility Location
MMV Plan Area
North 1 Data
Primary Road
Secondary Road
Stream

0 1 2
Kilometers

N

1:45,000

Coordinate System: NAD 1983 UTM Zone 12N



PREPARED BY:
INTEGRATED SUSTAINABILITY

CLIENT:
enhance

ENHANCE ENERGY INC.
SOIL GAS PROBE NETWORK
NORTH 1 AREA

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	2	0

NOTES: 27-FEB-23
Source: Roads from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

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40-23-W4

39-24-W4

39-23-W4

South Data

11-35
12-36
08-34
08-35
05-36
04-35
01-35
14-26
11-26
12-25
08-27
08-26
04-26
14-23
10-22
12-23
02-23

Soil Gas Probe Locations
Enhance Facility Location
MMV Plan Area
South Data
Primary Road
Secondary Road
Stream

0 1 2
Kilometers

N

1:45,000

Coordinate System: NAD 1983 UTM Zone 12N

Fort McMurray
Grande Prairie
Edmonton
Calgary

PREPARED BY:
INTEGRATED SUSTAINABILITY

CLIENT:
enhance

ENHANCE ENERGY INC.
SOIL GAS PROBE NETWORK
SOUTH AREA

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	3	0

NOTES: 6-FEB-23
Source: Roads from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

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16-20
14-21
12-21
06-21
07-21
05-21
North 2 Data
13-16
16-16
40-24-W4
09-16
12-15
03-15

12

Soil Gas Probe Locations
Enhance Facility Location
MMV Plan Area
North 2 Data
Primary Road
Secondary Road
Stream
Municipality

0 1 2
Kilometers

N

1:45,000

Coordinate System: NAD 1983 UTM Zone 12N



PREPARED BY:

INTEGRATED SUSTAINABILITY

CLIENT:

enhance

ENHANCE ENERGY INC.
SOIL GAS PROBE NETWORK
NORTH 2 AREA

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	4	0

NOTES: 6-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

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06-08
13-05
06-05
02-05
North 3 Data
10-32
05-33
01-32
14-28
12-28
06-28
Clive
41-24-W4
40-24-W4
39-24-W4

Soil Gas Probe Locations
Enhance Facility Location
MMV Plan Area
North 3 Data
Primary Road
Secondary Road
Stream
Municipality

0 1 2
Kilometers

1:50,000

Coordinate System: NAD 1983 UTM Zone 12N

N

Fort McMurray
Grande Prairie
Edmonton
Calgary

PREPARED BY:
INTEGRATED SUSTAINABILITY

CLIENT:
enhance

ENHANCE ENERGY INC.
SOIL GAS PROBE NETWORK
NORTH 3 AREA

DRAWN BY:	CHECKED BY:	APPROVED BY:
K.MATEUSH	J.FENNELL	I.GRANT

PROJECT NO.	FIGURE NO.	REVISION:
CP22-EEI-01-00	5	0

NOTES: 6-FEB-23
Source: Roads and Urban Areas from Altalis. MMV Plan Area provided by Enhance. FWMIS Streams from Government of Alberta.

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INTEGRATED SUSTAINABILITY

Appendix 4: Soil Gas Probe Lithology

Soil Probe ID	Depth (m)	Soil Description
05-33-040-24 W4M	2.25	Clay
10-32-040-24 W4M	1.03	Clay and Sand: Fine-grained sand, trace oxidation, medium plasticity, moist, some gravel
02-05-041-24 W4M	1.05	Cobbles, Gravel and Sand
06-08-041-24 W4M	1.03	Clay and Sand: Trace to some gravel (up to 4cm), trace coal, trace oxidation, mottling, medium plasticity
12-21-040-24 W4M	1.05	Clay: Some sand, some gravel (up to 2 cm), med-low plasticity, low dry strength
14-21-040-24 W4M	0.98	Sand: Fine-grained sand, trace coal, moist, loose
13-16-040-24 W4M	1.00	Sand: Fine-grained sand, dark brown to light brown, loose, moist, poorly grated, homogenous
16-20-040-24 W4M	1.05	Sand: Fine-grained sand, trace oxidation, homogenous, poorly graded
06-28-040-24 W4M	1.05	Clay and sand: fine grained sand, moist, medium plasticity, medium dry strength, dark brown
12-28-040-24 W4M	1.03	Sand: Fine-grained sand, trace to some gravel (up to 3 cm), trace to some coal, poorly graded, pink color in sand
14-28-040-24 W4M	1.00	Sand: Fine-grained sand, loose, poorly sorted, moist
01-32-040-24 W4M	1.03	Sand: Fine-grained sand, trace to some silt, trace coal, trace oxidation, moist, homogenous
14-05-041-24 W4M	0.93	Sand: Fine-grained sand, trace clay, moist to wet,
06-05-041-24 W4M	1.03	Clay and sand: Very fine-grained sand, trace silt, trace gravel (up to 3 cm) med-high plasticity, trace oxidation
16-03-040-24 W4M	0.88	Clay: Hard
07-02-040-24 W4M	0.95	Clay and sand: Fine- to medium-grained sand, trace gravel (up to 1 cm), trace coal, trace oxidation

Soil Probe ID	Depth (m)	Soil Description
04-35-039-24 W4M	0.95	Clay: some fine-grained sand, trace silt, trace gravel, trace oxidation, moist, brown and black
14-26-039-24 W4M	0.93	Clay and gravel: some fine-coarse grained sand, oxidized, dry to moist
12-01-040-24 W4M	0.90	Clay and Sand: fine-med grained sand, trace coal, trace gravel, moist
16-16-040-24 W4M	0.60	Clay: sandy, fine-grained sand, light brown, moist

ATTACHMENT 2

2019-2022 SCVF Baseline Monitoring Program

Well UWI	Well Surface	Area	Well Status	Operator	TVD (m)	2019 SCVF #1			2020 SCVF #2			2020 SCVF #3			2021 SCVF #4			2021 SCVF #5			2022 SCVF #6			2022 SCVF #7		
						Date Tested	Flow Y/N	Casing Pressure KPA	Date Tested	Flow Y/N	Casing Pressure KPA	Date Tested	Flow Y/N	Casing Pressure KPA	Date Tested	Flow Y/N	Casing Pressure KPA	Date Tested	Flow Y/N	Casing Pressure KPA	Date Tested	Flow Y/N	Casing Pressure KPA	Date Tested	Flow Y/N	Casing Pressure KPA
100/01-02-040-24W4	01-02-040-24w4	Central	Pump OIL	Enhance Enrg Inc	1,949	2019/05/12	N	2482	2020/05/12	N	1750	2020/09/29	N	63	2021/04/10	N	70	2021/09/14	N	213	2022/06/01	N	10	2022/11/01	N	50
100/01-03-040-24W4	06-02-040-24w4	Central	Act CO2 Inj	Enhance Enrg Inc	1,894	2019/09/21	N	1447	2020/05/09	N	0	2020/10/04	N	654	2021/04/20	N	527	2021/09/28	N	115	2022/06/24	N	141	2022/11/01	N	122
100/01-27-039-24W4	15-26-039-24w4	Central	Act CO2 Inj	Enhance Enrg Inc	1,877				2020/08/21	N	553	2020/10/04	N	579	2021/04/13	N	797	2021/09/14	N	1295	2022/06/24	N	212	2022/11/14	N	159
100/01-34-039-24w4	15-35-039-24w4	Central	Act CO2 Inj	Enhance Enrg Inc	1,882				2020/08/21	N	565	2020/09/29	N	571	2021/04/13	N	618	2021/09/28	N	22	2022/06/24	N	75	2022/11/14	N	894
100/01-35-039-24W4	01-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,900	2019/09/06	N	0	2020/05/09	N	0	2020/10/03	N	0	2021/04/13	N	-10	2021/09/14	N	30	2022/05/16	N	28	2022/11/08	N	0
100/02-10-040-24W4	02-10-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,942	2019/08/24	N	0	2020/05/06	N	0	2020/09/29	N	0	2021/04/10	N	10	2021/09/29	N	0	2022/06/08	N	-1	2022/11/08	N	0
100/02-11-040-24W4	02-11-040-24w4	Central	Susp WTR Disp	Tourmaline Oil Corp	1,932	2019/08/26	N	0	2020/05/06	N	0	2020/09/29	N	123	2021/04/09	N	17	2021/09/29	N	0	2022/06/08	N	13	2022/11/24	N	-10
100/02-15-040-24w4	02-15-040-24w4	North 1	ABD Zn WTR Inj	Tourmaline Oil Corp	1,944							2020/10/03	N	10	2021/04/15	N	0	2021/09/29	N	0	2022/06/08	N	28	2022/11/24	N	16
100/02-23-039-24w4	02-23-039-24w4	South	Cased	Tourmaline Oil Corp	1,921							2020/10/04	N	6	2021/04/14	N	-3	2021/09/15	N	6	2022/05/18	N	3	2022/10/31	N	5
100/02-26-039-24W4	02-26-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,910	2019/09/08	N	0	2020/05/07	N	0	2020/10/01	N	7	2021/04/27	N	43	2021/09/15	N	30	2022/05/30	N	17	2022/11/24	N	22
100/03-01-040-24W4	07-35-039-24W4	Central	Flow OIL	Enhance Enrg Inc	1,872										2021/04/13	N	412	2021/09/29	N	430	2022/06/24	N	27	2022/10/27	N	126
100/03-02-040-24W4	03-02-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,910	2019/08/27	N	N/A	2020/05/06	N	46	2020/10/01	N	61	2021/04/20	N	32	2021/09/29	N	30	2022/05/31	N	35	2022/11/09	N	45
100/03-15-040-24w4	03-15-040-24w4	North 1	ABD Zn	Tourmaline Oil Corp	1,950							2020/10/02	N	30	2021/04/25	N	10	2021/09/28	N	320	2022/06/09	N	280	2022/11/09	N	0
100/03-26-039-24W4	03-26-040-24w4	Central	Flow GAS	Ember Rsrcs Inc	1,925	2019/09/21	N	N/A	2020/05/07	N	45	2020/10/03	N	7	2021/04/14	N	41	2021/09/28	N	40	2022/05/30	N	36	2022/11/09	N	12
100/03-35-039-24W4	03-35-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,914	2019/09/06	N	0	2020/05/09	N	0	2020/09/29	N	0	2021/04/13	N	-17	2021/09/19	N	22	2022/05/16	N	0	2022/11/09	N	-6
100/04-01-040-24W4	04-01-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,950	2019/08/27	N	0	2020/05/10	N	0	2020/10/04	N	6	2021/04/20	N	5	2021/09/15	N	0	2022/06/01	N	-21	2022/11/09	N	-8
100/04-02-040-24W4	04-02-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,881	2019/08/27	N	N/A	2020/05/06	N	64	2020/09/29	N	62	2021/04/20	N	50	2021/09/29	N	0	2022/05/31	N	87	2022/10/31	N	66
100/04-11-040-24W4	04-11-040-24w4	Central	Observation	Enhance Enrg Inc	1,900	2019/08/26	N	450	2020/05/06	N	1930	2020/10/04	N	275	2021/04/20	N	220	2021/09/14	N	242	2022/06/08	N	7	2022/10/31	N	Plug in tubing
100/04-12-040-24W4	04-12-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,950	2019/08/27	N	0	2020/05/06	N	0	2020/09/29	N	0	2021/04/08	N	0	2021/09/28	N	0	2022/06/08	N	40	2022/10/31	N	0
100/04-23-039-24w4	04-23-039-24w4	South	ABD Zn OIL	Tourmaline Oil Corp	1,938							2020/10/02	N	0	2021/04/14	N	140	2021/09/24	N	142	2022/05/30	N	99	2022/10/31	N	136
100/04-25-039-24W4	04-25-039-24w4	Central	Susp WTR Inj	Tourmaline Oil Corp	1,902	2019/09/08	N	N/A	2020/05/09	N	160	2020/10/01	N	280	2021/04/13	N	113	2021/09/19	N	135	2022/05/24	N	101	2022/10/31	N	140
100/04-26-039-24W4	04-26-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,922	2019/09/08	N	0	2020/05/09	N	0	2020/09/29	N	0	2021/04/13	N	46	2021/09/15	N	50	2022/05/17	N	89	2022/10/31	N	70
100/05-01-040-24W4	04-01-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,868	2019/08/27	N	N/A	2020/05/10	N	22	2020/09/29	N	38	2021/04/20	N	23	2021/09/14	N	6	2022/06/01	N	20	2022/11/02	N	31
100/05-02-040-24W4	05-02-040-24w4	Central	ABD Zn	Tourmaline Oil Corp	1,900	2019/08/27	N	0	2020/05/09	N	0	2020/10/01	N	-56	2021/04/20	N	-20	2021/09/14	N	-60	2022/05/31	N	-57	2022/10/31	N	-44
100/05-15-040-24w4	05-15-040-24w4	North 1	ABD Zn Oil	Tourmaline Oil Corp	1,947							2020/10/03	N	7	2021/04/25	N	16	2021/09/28	N	-20	2022/06/10	N	19	2022/10/31	N	-46
100/05-23-039-24w4	05-23-039-24w4	South	Susp OIL	Tourmaline Oil Corp	1,940							2020/10/02	N	126	2021/04/14	N	92	2021/09/14	N	52	2022/05/30	N	71	2022/11/01	N	96
100/05-26-039-24W4	05-26-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,931	2019/09/08	N	N/A	2020/05/06	N	80	2020/09/29	N	101	2021/04/13	N	57	2021/09/29	N	44	2022/05/17	N	62	2022/11/01	N	58
100/05-36-039-24W4	05-36-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,915	2019/09/03	N	N/A	2020/05/09	N	298	2020/10/01	N	316	2021/04/13	N	292	2021/09/19	N	407	2022/05/25	N	420	2022/11/01	N	412
100/06-02-040-24W4	06-02-040-24w4	Central	Susp GAS	Tourmaline Oil Corp	1,924	2019/08/27	N	N/A	2020/05/07	N	0	2020/10/02	N	-16	2021/04/20	N	80	2021/09/14	N	60	2022/05/31	N	56	2022/11/01	N	57
100/06-23-039-24w4	06-23-039-24w4	South	ABD Zn OIL	Tourmaline Oil Corp	1,945							2020/10/01	N	-11	2021/04/17	N	-4	2021/09/30	N	0	2022/05/18	N	1	2022/11/02	N	-7
100/06-26-039-24W4	06-26-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,933	2019/09/06	N	0	2020/05/08	N	0	2020/09/29	N	36	2021/04/13	N	46	2021/09/19	N	44	2022/05/17	N	51	2022/11/02	N	46
100/06-35-039-24W4	06-35-039-24w4	Central	Susp GAS	Tourmaline Oil Corp	1,902	2019/09/06	N	N/A	2020/05/09	N	0	2020/09/29	N	0	2021/04/13	N	-17	2021/09/29	N	0	2022/05/16	N	0	2022/11/02	N	-8
100/07-02-040-24W4	07-02-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,935	2019/08/27	N	N/A	2020/05/06	N	10	2020/10/01	N	5	2021/04/20	N	0	2021/09/14	N	0	2022/05/31	N	11	2022/11/02	N	16
100/07-10-040-24W4	07-10-040-24W4	North 1	ABD Zn	Tourmaline Oil Corp	1,926							2020/10/04	N	0	2021/04/27	N	-15	2021/09/29	N	0	2022/06/23	N	-14	2022/11/02	N	-12
100/07-15-040-24w4	07-15-040-24w4	North 1	Pump Oil	Enhance Enrg Inc	1,970							2020/10/02	N	712	2021/04/25	N	800	2021/09/28	N	460	2022/06/23	N	1104	2022/10/27	N	1210
100/07-26-039-24W4	07-26-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,921	2019/09/06	N	0	2020/05/06	N	0	2020/09/29	N	0	2021/04/13	N	204	2021/09/19	N	184	2022/05/17	N	205	2022/10/27	N	186
100/07-34-039-24W4	02-02-040-24W4	Central	Flow OIL	Enhance Enrg Inc	1,897										2021/04/21	N	800	2021/09/28	N	140	2022/06/28	N	154	2022/11/02	N	146
100/07-35-039-24W4	07-35-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,900	2019/09/06	N	0	2020/05/09	N	0	2020/09/29	N	0	2021/04/13	N	170	2021/09/28	N	148	2022/05/16	N	179	2022/11/01	N	200
100/08-02-040-24W4	08-02-040-24w4	Central	Pump OIL	Enhance Enrg Inc	1,965	2019/08/27	N	N/A	2020/05/12	N	5850	2020/09/29	N	6002	2021/04/10	N	6528	2021/09/14	N	6391	2022/06/01	N	6761	2022/11/01	N	6648
100/08-03-040-24W4	08-03-040-24w4	Central	Susp GAS	Tourmaline Oil Corp	1,902	2019/08/26	N	N/A	2020/05/06	N	0	2020/09/29	N	0	2021/04/21	N	0	2021/09/14	N	0	2022/05/31	N	-6	2022/10/27	N	0
100/08-10-040-24W4	16-03-040-24w4	Central	Pump OIL	Enhance Enrg Inc	1,851	2019/08/26	N	0	2020/05/06	N	0	2020/09/29	N	0	2021/04/09	N	0	2021/09/14	N	0	2022/05/31	N	185	2022/11/14	N	41
100/08-26-039-24W4	08-26-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,920	2019/09/08	N	N/A	2020/05/09	N	60	2020/10/01	N	22	2021/04/13	N	104	2021/09/19	N	140	2022/05/24	N	184	2022/10/27	N	177
100/08-27-039-24W4	08-27-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,905	2019/09/08	N	N/A	2020/05/06	N	0	2020/09/29	N	5	2021/04/13	N	46	2021/09/15	N	56	2022/05/17	N	51	2022/10/27	N	55
100/08-34-039-24W4	08-34-039-24w4	Central	ABD Zn OIL	Enhance Enrg Inc	1,935	2019/09/08	N	N/A	2020/05/10	N	10	2020/09/29	N	5	2021/04/15	N	30	2021/09/15	N	21	2022/05/30	N	61	2022/11/02	N	16
100/08-35-039-24W4	08-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,914	2019/09/03	N	0	2020/05/09	N	0	2020/10/04	N	0	2021/04/13	N	-12	2021/09/19	N	0	2022/05/25	N	-7	2022/11/01	N	0
100/09-02-040-24W4	09-02-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,949	2019/08/27	N	N/A	2020/05/06	N	0	2020/09/29	N	0	2021/04/21	N	-22	2021/09/28	N	0	2022/06/01	N	-17	2022/11/08	N	0
100/09-10-040-24W4	09-10-040-24W4	North 1	ABD Zn OIL	Tourmaline Oil Corp	1,924							2020/09/29	N	0	2021/04/20	N	3	2021/09/14	N	5	2022/06/08	N	0	2022/10/28	N	131
100/09-26-039-24W4	09-26-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,915	2019/09/08	N	N/A	2020/05/09	N	120	2020/10/01	N	0	2021/04/13	N	30	2021/09/19	N	85	2022/05/24	N	43	2022/11/26	N	27
100/09-35-039-24W4	09-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,922	2019/10/24	N	0	2020/05/10	N	0	2020/10/04	N	6	2021/04/13	N	0	2021/09/19	N	0	2022/05/26	N	45	2022/11/26	N	0
100/10-02-040-24W4	10-02-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,922	2019/08/27	N	N/A	2020/05/06	N	0	2020/09/29	N	6	2021/04/19	N	4	2021/09/14	N	0	2022/06/01	N	14	2022/11/02	N	0
100/10-10-040-24W4	02-10-040-24W4	Central	Susp OIL	Tourmaline Oil Corp	1,915							2020/10/03	N	0	2021/04/10	N	-20	2021/09/14	N	0	2022/06/23	N	-35	2022/11/08	N	-10

100/10-10-040-24W4	07-10-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,915	2019/08/24	N	0	2020/05/12	N	0	2020/10/03	N	0	2021/04/10	N	10	2021/09/14	N	-16	2022/06/24	N	-1	2022/11/02	N	-8
100/10-22-039-24w4	10-22-039-24w4	South	Susp WTR Inj	Tourmaline Oil Corp	1,914							2020/09/29	N	3	2021/04/14	N	770	2021/09/22	N	854	2022/05/30	N	222	2022/10/28	N	151
100/10-23-039-24w4	10-23-039-24w4	South	Susp OIL	Tourmaline Oil Corp	1,926							2020/10/01	N	20	2021/04/14	N	12	2021/09/22	N	22	2202/05/18	N	39	2022/11/26	N	0
100/10-26-039-24W4	10-26-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,908	2019/09/06	N	N/A	2020/05/06	N	35	2020/09/29	N	8	2021/04/13	N	70	2021/09/28	N	96	2022/05/16	N	55	2022/11/27	N	0
100/10-27-039-24W4	07-35-039-24W4	Central	Flow OIL	Enhance Enrg Inc	1,872										2021/04/13	N	490	2021/09/18	N	344	2022/06/24	N	61	2022/11/01	N	66
100/10-35-039-24W4	10-35-039-24w4	Central	Cased	Enhance Enrg Inc	1,897	2019/09/03	N	N/A				2020/10/01	N	126	2021/04/13	N	13	2021/09/19	N	62	2022/05/26	N	-78	2022/10/28	N	241
100/11-02-040-24W4	11-02-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,950	2019/08/27	N	N/A	2020/05/09	N	0	2020/09/29	N	6	2021/04/09	N	7	2021/09/18	N	0	2022/05/31	N	29	2022/11/12	N	0
100/11-10-040-24W4	11-10-040-24w4	North 1	ABD Gas	Tourmaline Oil Corp	1,988							2020/10/02	N	6	2021/04/21	N	7	2021/09/14	N	0	2022/06/08	N	-9	2022/11/14	N	0
100/11-25-039-24W4	02-26-039-24w4	South	Spud	Enhance Enrg Inc	1,891										2021/04/13	N	0	2021/09/20	N	348	2022/06/24	N	499	2022/11/24	N	446
100/11-26-039-24W4	11-26-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,935	2019/09/06	N	0	2020/05/10	N	0	2020/10/04	N	7	2021/04/13	N	5	2021/09/28	N	0	2022/05/16	N	62	2022/11/26	N	34
100/11-35-039-24W4	11-35-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,902	2019/09/03	N	N/A	2020/05/10	N	40	2020/10/02	N	35	2021/04/13	N	30	2021/09/20	N	34	2022/05/26	N	43	2022/10/28	N	27
100/11-36-039-24W4	04-01-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,869	2019/08/27	N	N/A	2020/05/10	N	280	2020/09/29	N	220	2021/04/09	N	525	2021/09/18	N	282	2022/06/24	N	302	2022/11/02	N	285
100/12-01-040-24W4	12-01-040-24w4	Central	Pump OIL	Enhance Enrg Inc	1,951	2019/08/27	N	N/A	2020/05/10	N	900	2020/09/29	N	560	2021/04/08	N	745	2021/09/18	N	579	2022/06/01	N	647	2022/11/08	N	3183
100/12-02-040-24W4	12-02-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,890	2019/08/27	N	N/A	2020/05/12	N	0	2020/09/29	N	8	2021/04/20	N	180	2021/09/18	N	151	2022/05/31	N	162	2022/11/12	N	0
100/12-23-039-24w4	12-23-039-24w4	South	ABD Zn OIL	Tourmaline Oil Corp	1,938							2020/10/02	N	23	2021/04/14	N	12	2021/09/19	N	0	2022/05/30	N	16	2022/11/12	N	0
100/12-25-039-24W4	12-25-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,882	2019/09/03	N	0	2020/05/09	N	0	2020/10/01	N	3	2021/04/13	N	150	2021/11/29	N	0	2022/05/24	N	71	2022/11/27	N	27
100/12-35-039-24W4	12-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,890	2019/09/03	N	0	2020/05/10	N	0	2020/10/01	N	5	2021/04/13	N	-13	2021/09/20	N	0	2022/05/26	N	28	2022/11/28	N	34
100/12-36-039-24W4	12-36-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,910	2019/09/03	N	0	2020/05/10	N	0	2020/10/04	N	3	2021/04/13	N	0	2021/09/28	N	-27	2022/05/31	N	-5	2022/11/27	N	0
100/13-02-040-24W4	13-02-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,930	2019/08/28	N	0	2020/05/06	N	0	2020/09/29	N	3	2021/04/20	N	102	2021/09/20	N	96	2022/06/24	N	99	2022/11/08	N	68
100/13-10-040-24w4	13-10-040-24w4	North 1	ABD Zn OIL	Tourmaline Oil Corp	1,937							2020/10/02	N	-5	2021/04/28	N	6	2021/09/28	N	0	2022/06/09	N	1	2022/11/25	N	0
100/13-23-039-24W4	13-23-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,945	2019/09/08	N	N/A	2020/05/06	N	0	2020/10/04	N	22	2021/04/14	N	10	2021/09/19	N	55	2022/05/30	N	56	2022/11/12	N	34
100/13-25-039-24W4	13-25-039-24w4	Central	Cased	Tourmaline Oil Corp	1,893	2019/09/03	N	N/A	2020/05/09	N	20	2020/10/04	N	22	2021/04/13	N	1617	2021/09/19	N	1599	2022/05/24	N	1063	2022/11/26	N	1613
100/14-01-040-24W4	02-02-040-24W4	Central	Flow OIL	Enhance Enrg Inc	1,896										2021/04/21	N	0	2021/09/18	N	96	2022/06/28	N	387	2022/11/08	N	106
100/14-02-040-24W4	14-02-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,960	2019/08/28	N	0	2020/05/06	N	0	2020/09/29	N	0	2021/04/10	N	-70	2021/09/20	N	-82	2022/06/08	N	-50	2022/11/08	N	-82
100/14-10-040-24w4	14-10-040-24w4	North 1	Cased	Tourmaline Oil Corp	1,944							2020/10/02	N	-5	2021/04/25	N	77	2021/09/28	N	-75	2022/06/09	N	-78	2022/10/30	N	-82
100/14-35-039-24W4	14-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,859	2019/09/03	N	0	2020/05/10	N	0	2020/09/29	N	0	2021/04/13	N	-22	2021/09/20	N	0	2022/05/26	N	-20	2022/11/28	N	0
100/15-02-040-24W4	15-02-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,942	2019/08/27	N	N/A	2020/05/06	N	0	2020/09/29	N	23	2021/04/09	N	85	2021/09/20	N	75	2022/06/01	N	72	2022/11/08	N	27
100/15-26-039-24W4	15-26-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,902	2019/09/06	N	0	2020/05/06	N	0	2020/09/29	N	0	2021/04/13	N	-9	2021/09/28	N	0	2022/05/16	N	0	2022/11/25	N	-5
100/15-35-039-24W4	15-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,910	2019/09/03	N	0	2020/05/10	N	0	2020/10/02	N	7	2021/04/13	N	0	2021/09/18	N	-27	2022/05/26	N	-10	2022/10/28	N	0
100/16-02-040-24W4	16-02-040-24w4	Central	Observation	Enhance Enrg Inc	1,970	2019/08/27	N	N/A	2020/05/09	N	70	2020/10/01	N	520	2021/04/13	N	372	2021/09/18	N	351	2022/06/01	N	351	2022/11/08	N	405
100/16-03-040-24W4	16-03-040-24w4	Central	Pump OIL	Enhance Enrg Inc	1,906	2019/08/26	N	220	2020/05/10	N	1550	2020/09/29	N	0	2021/04/20	N	2500	2021/09/18	N	1530	2022/05/31	N	2200	2022/11/14	N	6800
100/16-09-040-24W4	16-09-040-24W4	North 1	Act WTR Inj	Enhance Enrg Inc	1,943							2020/10/03	N	0	2021/04/13	N	1953	2021/09/14	N	2295	2022/06/09	N	-27	2022/11/28	N	565
100/16-23-039-24W4	16-23-039-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,920	2019/09/21	N	0	2020/05/06	N	0	2020/10/01	N	0	2021/04/14	N	-7	2021/09/19	N	0	2022/05/24	N	-6	2022/11/27	N	0
100/16-26-039-24W4	16-26-039-24w4	Central	Susp GAS	Ember Rsrcs Inc	1,879	2019/09/21	N	N/A	2020/05/09	N	1585	2020/10/04	N	0	2021/04/14	N	1626	2021/09/19	N	1599	2022/05/24	N	1646	2022/11/27	N	1620
100/16-27-039-24W4	16-27-039-24w4	Central	Susp WTR Disp	Tourmaline Oil Corp	1,908	2019/09/08	N	0	2020/05/09	N	0	2020/09/29	N	0	2021/04/14	N	0	2021/09/28	N	0	2022/05/30	N	-5	2022/11/27	N	0
100/16-34-039-24W4	16-34-039-24w4	Central	Flow GAS	Ember Rsrcs Inc	1,896	2019/09/21	N	0	2020/05/10	N	1600	2020/10/04	N	0	2021/04/15	N	1400	2021/09/19	N	1338	2022/05/26	N	129	2022/11/28	N	278
100/16-35-039-24W4	16-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,940	2019/09/03	N	0	2020/05/10	N	0	2020/10/01	N	0	2021/04/13	N	ng valve no g	2021/09/20	N	0	2022/05/26	N	11	2022/11/14	N	0
102/01-16-040-24w4	09-16-040-24w4	North 1	Susp Oil	Tourmaline Oil Corp	1,920							2020/10/03	N	3	2021/04/20	N	-83	2021/09/14	N	0	2022/06/09	N	-72	2022/11/25	N	-75
102/02-02-040-24W4	02-02-040-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,907	2019/08/27	N	N/A	2020/05/06	N	0	2020/10/03	N	5	2021/04/28	N	30	2021/09/18	N	0	2022/06/28	N	29	2022/11/08	N	0
102/02-22-039-24W4	02-26-039-24w4	South	Spud	Enhance Enrg Inc	1,891										2021/04/27	N	0	2021/09/20	N	723	2022/06/24	N	498	2022/11/24	N	308
102/02-35-039-24W4	02-35-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,884	2019/09/06	N	0	2020/05/09	N	0	2020/10/04	N	0	2021/04/13	N	-8	2021/09/19	N	0	2022/06/24	N	0	2022/11/01	N	-6
102/03-15-040-24w4	04-15-040-24w4	North 1	ABD Zn OIL	Tourmaline Oil Corp	1,919							2020/10/04	N	61	2021/04/15	N	127	2021/09/14	N	117	2022/06/10	N	143	2022/10/31	N	126
102/06-01-040-24w4	15-35-039-24w4	Central	Act CO2 Inj	Enhance Enrg Inc	1,882				2020/08/21	N	680	2020/10/04	N	709	2021/04/13	N	607	2021/09/19	N	-27	2022/06/24	N	791	2022/10/28	N	960
102/06-23-039-24w4	11-23-039-24w4	South	ABD	Tourmaline Oil Corp	1,890							2020/10/04	N	6	2021/04/13	N	-4	2021/09/19	N	0	2022/05/18	N	-24	2022/11/02	N	-34
102/08-10-040-24W4	12-11-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,910	2019/08/26	N	0	2020/05/06	N	0	2020/10/02	N	-2	2021/04/20	N	89	2021/09/19	N	96	2022/06/08	N	64	2022/10/30	N	55
102/09-10-040-24W4	16-03-040-24w4	Central	ABD Zn OIL	Tourmaline Oil Corp	1,885	2019/08/24	N	0	2020/05/06	N	0	2020/10/02	N	0	2021/04/20	N	-8	2021/09/18	N	0	2022/05/31	N	-8	2022/11/26	N	0
102/10-10-040-24W4	07-10-040-24w4	North 1	ABD Zn OIL	Tourmaline Oil Corp	1,944							2020/10/02	N	7	2021/04/20	N	-9	2021/09/28	N	0	2022/06/23	N	-6	2022/11/02	N	-10
102/11-26-039-24W4	14-26-039-24w4	Central	Susp OIL	Tourmaline Oil Corp	1,867	2019/09/06	N	0	2020/05/10	N	0	2020/09/29	N	12	2021/04/14	N	12	2021/09/28	N	117	2022/06/24	N	117	2022/10/27	N	89
102/11-36-39-24W4	15-26-039-24w4	Central	Act CO2 Inj	Enhance Enrg Inc	1,879				2020/08/21	N	585	2020/09/29	N	590	2021/04/13	N	446	2021/09/28	N	649	2022/06/24	N	520	2022/11/14	N	552
103/06-02-040-24W4	06-02-040-24w4	Central	Act WTR Inj	Enhance Enrg Inc	2,097	2019/09/21	N	0	2020/05/07	N	0	2020/10/02	N	0	2021/04/20	N	-78	2021/09/18	N	1086	2022/06/24	N	761	2022/10/29	N	0
103/16-02-040-24W4	16-02-040-24w4	Central	Act CO2 Inj	Enhance Enrg Inc	1,896	2019/09/21	N	0	2020/05/10	N	1713	2020/09/29	N	0	2021/04/20	N	522	2021/09/18	N	635	2022/06/24	N	304	2022/11/14	N	27
1SO/03-26-039-24W4	14-23-039-24w4	South	Susp OIL	Tourmaline Oil Corp	1,882	2019/09/03	N	0	2020/05/10	N	0	2020/10/04	N	8	2021/04/14	N	45	2021/09/28	N	34	2022/05/18	N	41	2022/11/02	N	0

ATTACHMENT 3

Innisfail-Clive-Nevis Reef Chain Revisit Tsang Springer May (13-10-1983)

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INNISFAIL-CLIVE-NEVIS REEF CHAIN REVISIT

by
G. Tsang, S.J. Springer
Gulf Canada Resources Inc.

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THIS PAPER IS TO BE PRESENTED AT THE 34th ANNUAL TECHNICAL MEETING OF THE PETROLEUM SOCIETY OF CIM HELD JOINTLY WITH THE CANADIAN ASSOCIATION OF DRILLING ENGINEERS IN BANFF, MAY 10 - 13, 1983. DISCUSSION OF THIS PAPER IS INVITED. SUCH DISCUSSION MAY BE PRESENTED AT THE TECHNICAL MEETING AND WILL BE CONSIDERED FOR PUBLICATION IN CIM JOURNALS IF FILED IN WRITING WITH THE TECHNICAL PROGRAM CHAIRMAN PRIOR TO THE CONCLUSION OF THE MEETING.

ABSTRACT

Several pools in the Bashaw-Duhamel Reef Complex had experienced water efflux caused by high withdrawals from the Nevis Devonian gas pool. This water efflux phenomenon created an additional unknown for the detailed study of an individual pool. A 3-dimensional, 3-phase, unsteady-state, black oil numerical simulator was used to simulate the aquifer water movements caused by the production of hydrocarbons from various parts of the reef complex. A lumped model was utilized to investigate the pressure interference among the pools and to estimate quantitatively the historical water influx/efflux rates in the various pools. The model was also used to predict the future water influx/efflux rates for the various pools under different Nevis production scenarios. These estimates of water influx/efflux rates were then used as input to the detailed study of the individual pool.

INTRODUCTION

The Innisfail-Clive-Nevis Reef Chain, more commonly known as the Bashaw-Duhamel Reef Complex, is situated in south central Alberta. This Upper Devonian Leduc reef complex extends from Township 45, Range 20W4M southwesterly to Township 27, Range 3W5M for a distance of about 200 km. The major pools in the reef complex include the Duhamel D-3B, New Norway D-3, Malmo D-3A, Malmo D-3B, Bashaw D-3A, Clive D-3, Nevis Devonian, Buffalo Lake D-3, Erskine D-3, Wimborne D-3, Lone Pine Creek D-3, and Innisfail D-3. The locations of these pools are shown in Figure 1.

Pressure interference among pools in the reef complex had been documented as early as 1966.[1] In 1971, a depletion study on the Bashaw D-3A oil pool[2] led to the observation that pressure interference had been experienced in the Bashaw D-3A pool due to large withdrawals from the Nevis Devonian gas pool. In 1974, an interference study[3] was conducted on the reef complex after water injection projects failed to maintain the pressure of the Clive D-2 and D-3 units. Recent detailed studies of the Clive D-2 and D-3 units necessitated an update of the 1974 study. This 1974 interference study and the 1982 update constitute the subject of this paper.

In this study, a commercially available 3-dimensional, 3-phase, unsteady-state, black oil numerical simulator was used to

investigate the pressure interferences and the movements of aquifer water among the major pools in the reef complex. A lumped model was constructed to simulate the various major pools and the aquifer. The production and pressure performances of the various pools were history-matched. After history match was achieved, estimates of water influx/efflux rates in the various pools were obtained. The model was also used to predict future water influx/efflux rates for the pools in the reef complex.

GEOLOGY

The Bashaw-Duhamel Reef Complex is founded on a platform of fragmental limestone of the Cooking Lake formation as shown in Figure 2. Slight topographic highs on the platform, possibly caused by localized shoaling, provided focal points for the Leduc D-3 reef growth. The underlying Cooking Lake platform likely provides the common connection for the D-3 pools in the reef complex. The Leduc formation is a biohermal dolomite, medium to coarse crystalline with large vugs. Porosity is apparently well developed within the reef buildup facies, particularly throughout the reef rim.

The Leduc D-3 reef is overlain by the impermeable limy green shale of the Ireton formation. The Ireton formation between the Leduc D-3 and Nisku D-2 zones varies from a thickness of 150 m off the reef edge to only a metre. In the Nevis field the Ireton formation disappears completely in various high locations on the D-3 reef, leaving the Nisku D-2 gas in direct communication with the underlying Leduc D-3 pay zone. A similar circumstance is suspected in the Alix area, which may result in communication between the Clive and Alix D-2 pools and the Leduc reef complex.

The Nisku D-2 formation is a dolomitized biostrome reef draped over the underlying Ireton formation and Leduc reef mass. The hydrocarbon pay zones are comprised of fine to medium crystalline facies, with minor anhydrite and shaly bands. The better porosity development is coincident with the underlying Leduc D-3 reef rim areas, and hydrocarbon accumulations occur in those instances where a trap is formed.

DEVELOPMENT HISTORY

Development of the northern part of the Bashaw-Duhamel Reef Complex began in 1950 with the discovery of the Duhamel D-3 pool. A period of intensive exploratory drilling followed, resulting in the discovery of the Clive, New Norway and Bashaw fields in 1951; the Nevis Devonian gas pool in 1952; and the Erskine D-3 pool in 1953. Exploration during the following two years did not yield significant discoveries.

Development of the southern portion of the reef complex began in 1956 with the discovery of the Wimborne D-3 pool and continued into 1957, when the Innisfail D-3 pool was discovered. Significant discoveries within the reef complex since 1957 include the Malmo D-3B gas pool in 1959, the Buffalo Lake D-3 oil pool in 1961; and the Lone Pine Creek D-3 pool in 1963.

The years 1963-1968 were a period of intensive pool development, yielding significant additions to the productive area of the Bashaw field in 1963-1965; the Nevis field in 1966-1967, the Clive field in 1966-1968; and the Wimborne field in 1965.

Large-scale hydrocarbon withdrawals from the reef complex began with the deliveries from the Nevis Devonian gas pool to TransCanada Pipelines in late 1959, at which time most of the oil pools were either at the early stages of development or were restricted by gas-oil ratio penalties. Such penalties were largely relieved in late 1960 by the completion of Innisfail gas conservation facility and in 1965, by the advent of concurrent production from the Wimborne D-3 pool. Aside from the Nevis Devonian gas pool, no significant increase in hydrocarbon withdrawal rate was initiated in the northern part of the reef complex until the expansion of the Clive D-2 and D-3 pools in 1966-1968. Additional increase in reservoir voidage rate occurred in the Nevis Devonian gas pool in 1969, as a result of the revision of the contract demand factor from 1:100 000 to 1:80 000.

In 1970, water injection pressure maintenance projects were implemented in the Clive D-2 and D-3 units, however, the water injection failed to maintain the pressure in either unit despite of reservoir voidage replacement ratios in excess of 1.5. In order to characterize the aquifer properties which had resulted in the pressure behaviours of the Clive D-2 and D-3 units, the Innisfail-Clive-Nevis Interference study was conducted in 1974.

PRESSURE HISTORIES

The poor performances of the Clive D-2 and D-3 water injection projects led to several conclusions. Firstly, the injected water was being fed into a regional aquifer; secondly, water efflux was taking place in the Clive D-2 and D-3 aquifers; and thirdly, whatever caused the water efflux in the Clive D-2 aquifer also caused the water efflux in the Clive D-3 aquifer. The last conclusion also implies that the Clive D-2 aquifer is in communication with the Clive D-3 aquifer despite of the fact that the Nisku D-2 formation is separated from the Leduc D-3 formation by the impermeable Ireton shale.

An examination of the producing pools in the vicinity of the Clive field would indicate that the Nevis Devonian gas pool is

the most likely cause of the water efflux problem from Clive because of the large reservoir withdrawal rate of Nevis. Table 1 lists the cumulative productions to 1981-12-31 of the various pools in the reef complex, and it shows Nevis is clearly the leader in term of reservoir voidage.

The Nevis Devonian gas pool also provides a logical explanation to the pressure communication between the Clive D-2 unit and the Leduc reef complex since the Ireton shale is missing in part of the Nevis field.

Figure 3 is a plot of the initial pressures versus datum depths for the major pools in the reef complex. The plot suggests a common pressure system and, hence, a common aquifer for the pools. The slope of the straight line fitted through the data has a value of 10.95 kPa/m which matches the density of formation water samples taken from the pools.

Average pressures for the major pools in the reef complex, as recorded over the past twenty years, were corrected to a common datum of 881 m subsea and plotted in Figure 4. The plot illustrates that the pressure trends of the various pools are very similar. With the exceptions of Erskine D-3 and Wimborne D-3, the pressure versus time plots are within a narrow band. This suggests that there may be a correlation among the pressure histories of the various pools.

MODEL DESCRIPTION

The original 1974 study was conducted with a simulator which had been specifically modified for the study. However, the 1982 update was conducted with a different simulator because the simulator used for the original study was no longer supported by the software company. During the process of converting the model from the original simulator to the new simulator, the model was modified and streamlined but the reservoir characterization and description were still based on the original study.

Due to dimension limitation of the simulator, some of the smaller pools like Chigwell D-3 and Wood River D-3 were excluded from the model, and some of the pools were grouped together. In the model, the Duhamel D-3, New Norway D-3 and Malmo D-3 were combined to form a composite pool; Bashaw D-3B was combined with Bashaw D-3A; and Buffalo Lake D-3 was combined with Erskine D-3.

A 19x14x3 grid network was used for the model. The grid along with the locations of the various pools are shown in Figure 5. The top two layers are made up of empty cells except at places where pools are located. The active cells in the top and middle layers represent the gas cap and oil zone of the corresponding pool respectively. The bottom layer represents the aquifer and its outline is shown in Figure 5.

The actual thicknesses of the gas caps and oil zones of various pools were assigned to the corresponding grid cells in the top two layers. A constant thickness of 213 m was assumed for the entire bottom aquifer layer. The elevation of each grid cell in the bottom layer was determined from the structure map (Figure 6).

For the sake of simplicity, the Clive D-2 and Alix D-2 reservoir cells were connected to the main aquifer directly instead of having a separate aquifer layer for them and providing a connection between the two aquifers.

HISTORY MATCHING

Production data from ERCB records were input into the model to obtain the proper production histories. The pressure performances of the various pools were matched by adjusting the input parameters of the model.

With the exception of Erskine and Wimborne, the pressure histories of the other pools were quite readily matched indicating the initial reservoir characterization are reasonably well.

In order to obtain a pressure history match for Erskine, a transmissibility barrier was required between Erskine and the main body of the reef complex, which suggested that there is very little or no communication between the Erskine D-3 pool and the reef complex.

The pressure history of the Wimborne D-3 pool was matched by reducing the initial gas cap gas-in-place of the pool. This suggested that the initial gas cap gas-in-place carried by the ERCB might be too high.

The pressure matches obtained for Clive D-2 and Alix D-2 lent some support to the hypothesis that the Nisku D-2 aquifers of those two pools are in hydraulic communication with the Leduc-Cooking Lake aquifer.

The volume of water-in-place for the reef complex was estimated to be $43 \times 10^9 m^3$.

PREDICTION CASES

After history match was obtained, the model was used to forecast the water influx/efflux rates for the major pools in the reef complex. All the pools, except the Nevis Devonian gas pool, were assumed to continue the current production trends. Three prediction cases were obtained based on three different future

depletion scenarios for the Nevis Devonian gas pool.

In the base case, the depletion of the Nevis Devonian gas pool was assumed to be completed in ten years. In the alternate case 1, the depletion was assumed to be completed in five years. In alternate case 2, Nevis was assumed to be shut-in from July 1982.

Results of the three prediction cases are presented graphically in Figures 7a and 7b. A discussion of the results will be presented in the next section.

DISCUSSION OF RESULTS

Figures 7a and 7b show the water influx profiles obtained from the model for the major pools in the reef complex. It should be noted that the plotted water influx rates were normalized rates. The normalized rate was determined by dividing the absolute influx rate by the water volume within the control region for which the rate was calculated.

Some qualitative conclusions can be drawn from the water influx profiles. In the northern part of the reef complex, Nevis Devonian gas pool is the only pool which has experienced water influx in the past, while all the other pools have experienced water efflux. This substantiates the argument that Nevis Devonian gas pool has caused water efflux from other pools in the northern part of the reef complex.

In the southern part of the reef complex, no water efflux have been experienced by the Innisfail D-3 and Wimborne D-3 pools in the past, and the different Nevis production scenarios do not have any significant effect on their future influx profiles.

The profile for the Clive D-2 pool shows that the water efflux problem in the pool is reversed in 1982. However, for the Clive D-3 pool, the reversal takes place at a later date. The profile for the Clive D-3 pool indicates that the influx will start in 1991 for the base case, in 1987 for the alternate case 1, and in 1983 for the alternate case 2.

The calculated water influx/efflux profiles for the Clive D-2 and D-3 pools were used in the detailed simulation studies of those two pools. The data facilitated the history matching processes of the two studies and provided some guidelines pertaining to the future behaviours of the aquifers.

CONCLUSIONS

The following conclusions can be drawn from the study:

1. The water efflux problems experienced by pools in the northern part of the Bashaw-Duhamel Reef Complex are caused by large withdrawals from the Nevis Devonian gas pool.

2. The Alix D-2 and Clive D-2 pools are in hydraulic communication with the Leduc-Cooking Lake aquifer.

3. There is very little or no pressure communication between the Erskine D-3 pool and the main Bashaw-Duhamel Reef Complex.

4. The initial gas cap gas-in-place for the Wimborne D-3 pool as carried by the ERCB may be too high.

5. The water influx/efflux data obtained in this study are useful for detailed study of individual pool in the reef complex.

ACKNOWLEDGMENTS

The authors thank the management of Gulf Canada Resources Inc. for permission to present this paper.

REFERENCES

1. Paxman, D.S. and Havlena, D. : "Effects of Hydrodynamic Pressure Interference on Reservoir Performance, Buffalo Lake D-3 Pool," J. Pet. Tech. (Jan. 1966) 23-30.

2. Gulf Oil Canada Ltd. : "Bashaw D-3A Pool Depletion Study," (May, 1971) submitted to the Alberta Energy Resources Conservation Board.

3. Lee, P. and Randall, T.E. : "Innisfail-Clive-Nevis Reef Chain Interference Study," (July 1974) submitted to the Alberta Energy Resources Conservation Board.

TABLE 1

CUMULATIVE PRODUCTION AND RESERVOIR VOIDAGE TO 1981-12-31

Pool	Cum. Oil Prod. (E+03 M3)	Cum. Gas Prod. (E+06 M3)	Cumulative Reservoir Voidage (E+03 Res. M3)
Nevis Devonian	--	19 187	109 366
Wimborne D-3	1 877	6 011	27 320
Innisfail D-3	9 873	2 705	18 628
Clive D-3	3 956	771	5 734
Lone Pine Creek D-3	29	1 202	5 649
Erskine D-3	3 297	413	4 020
Clive D-2	1 826	490	2 647
Buffalo Lake D-3	605	52	729
Bashaw D-3A	347	163	518
Alix D-2	332	77	468

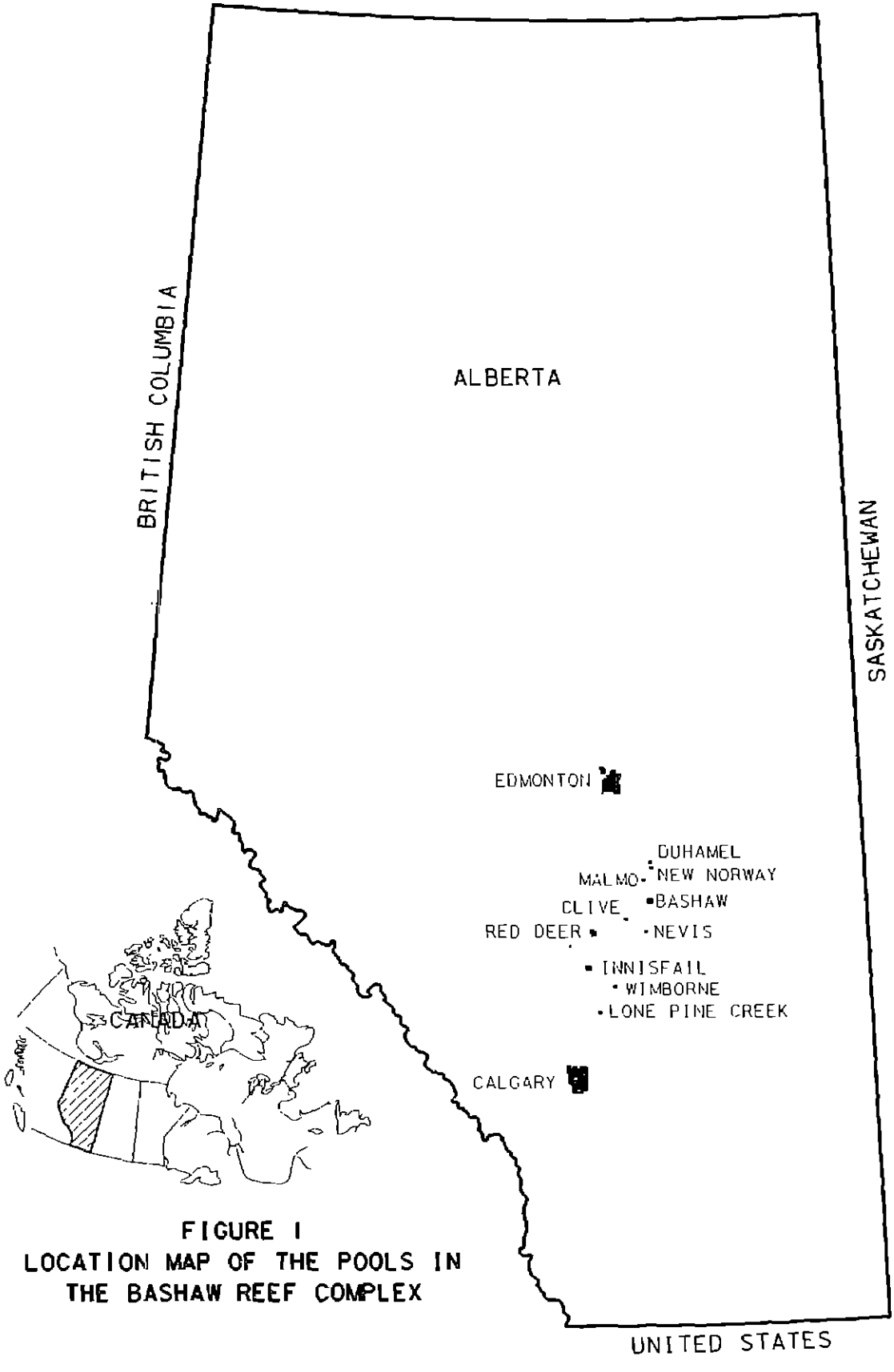
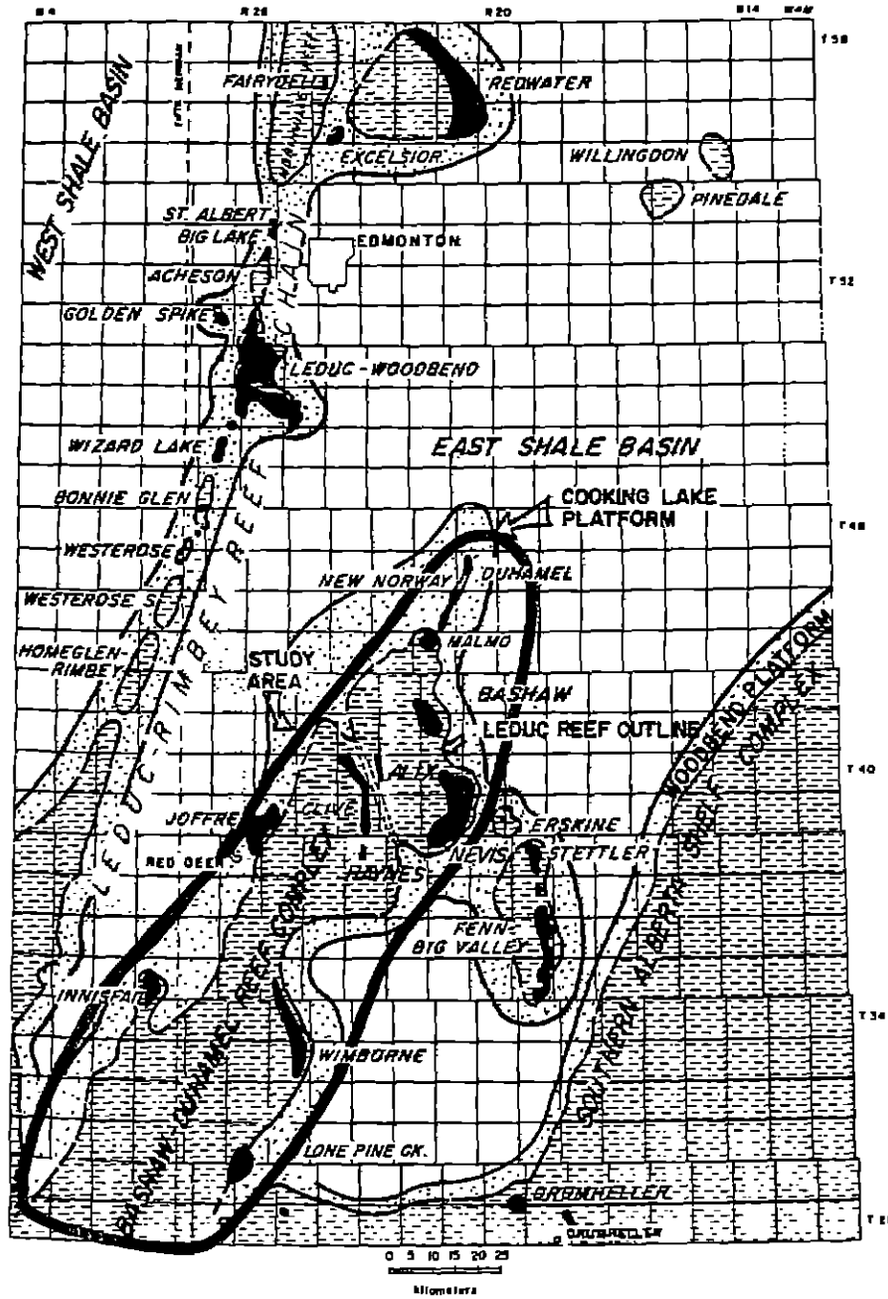


FIGURE 1
LOCATION MAP OF THE POOLS IN THE BASHAW REEF COMPLEX



LEGEND

FIGURE 2

LOCATION MAP AND GEOLOGIC SETTING FOR
THE INNISFAIL – CLIVE – NEVIS REEF CHAIN STUDY

PRODUCING UPPER DEVONIAN FIELD

STUDY AREA

REEF CARBONATES

PLATFORM CARBONATES

SHALE BASIN

BY: C.F.K.

DATE: MAY, 1982

FILE NO. P-82272

FIGURE 3
INITIAL RESERVOIR PRESSURE VERSUS DATUM DEPTH PLOT FOR POOLS IN THE BASHAW - DUHAMEL REEF COMPLEX

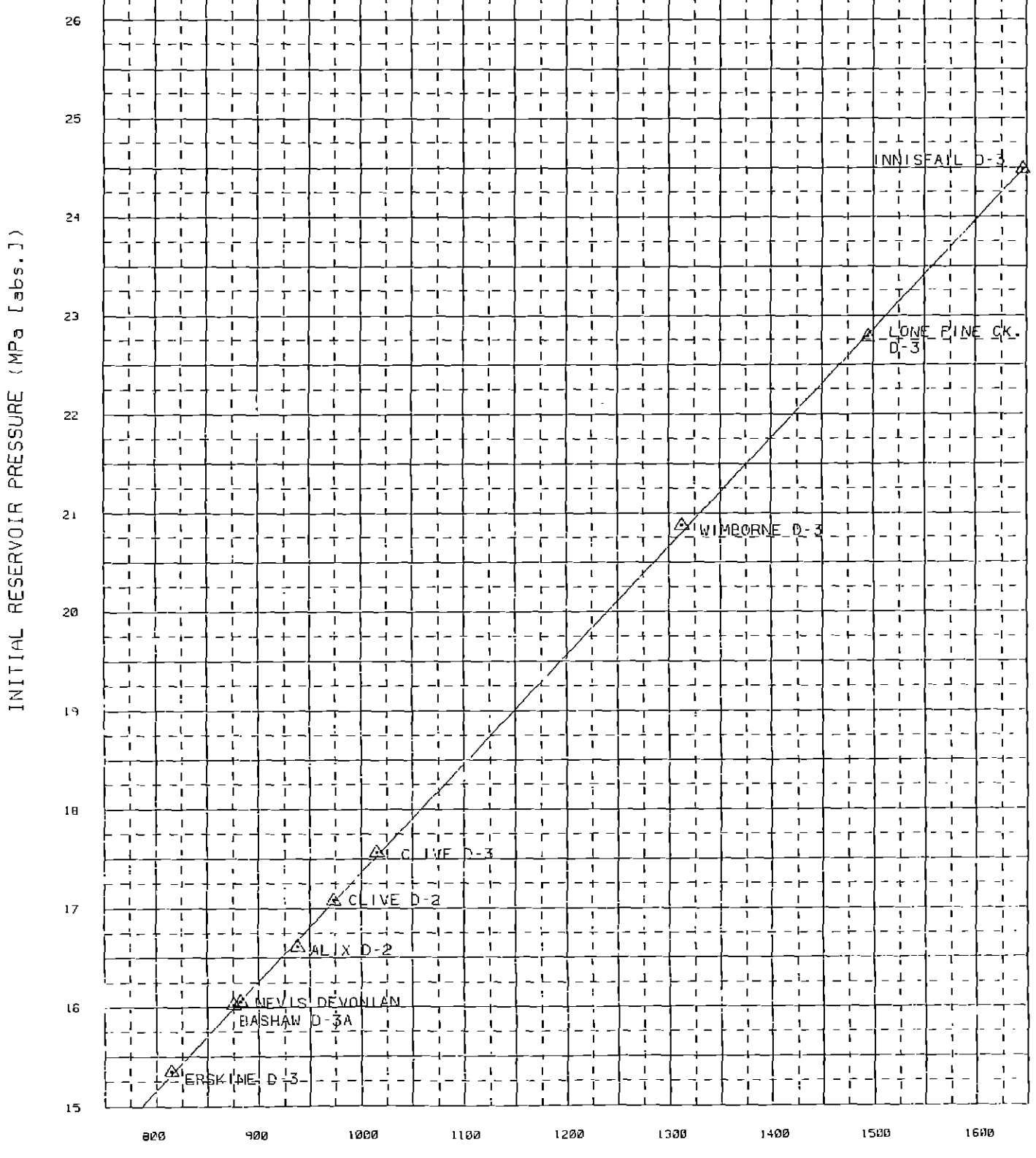
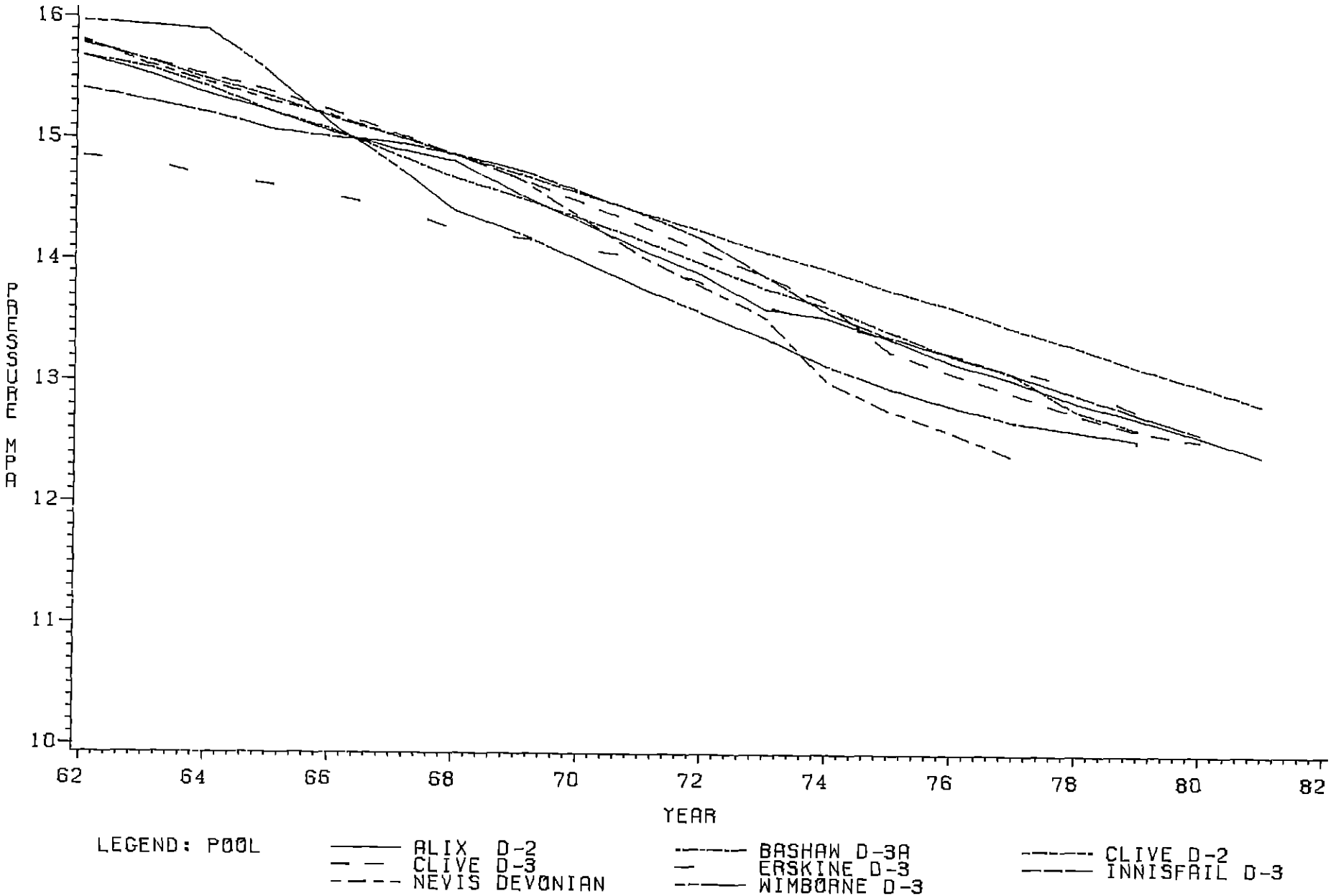
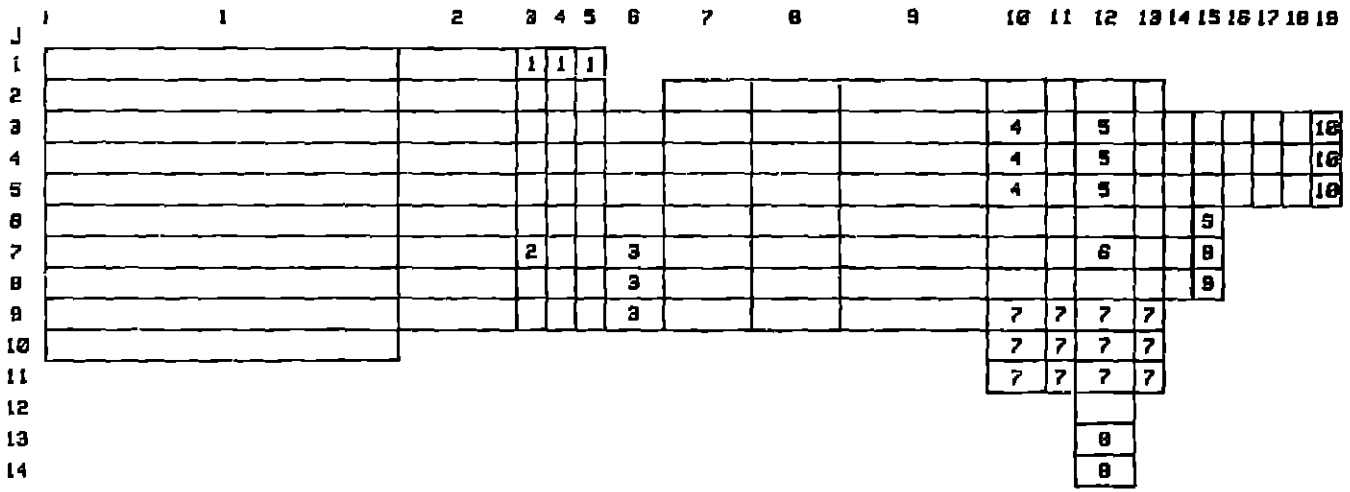


FIGURE 4 : PRESSURE HISTORY OF THE POOLS IN BASHAW–DUHAMEL REEF COMPLEX



PRESSURE CORRECTED TO 881 METRE SUBSEA

FIGURE 5 Innisfail-Clive-Nevis Reef Chain Study
Locations of Pools in the Model Grid



LEGEND	
1 Innisfail D-3	6 Alix D-2
2 Lone Pine Creek D-3	7 Nevis Devonian
3 Wimborne D-3	8 Erskine D-3
4 Clive D-3	9 Bashaw D-3
5 Clive D-2	10 Duhamel, New Norway, Malmo D-3 Combined

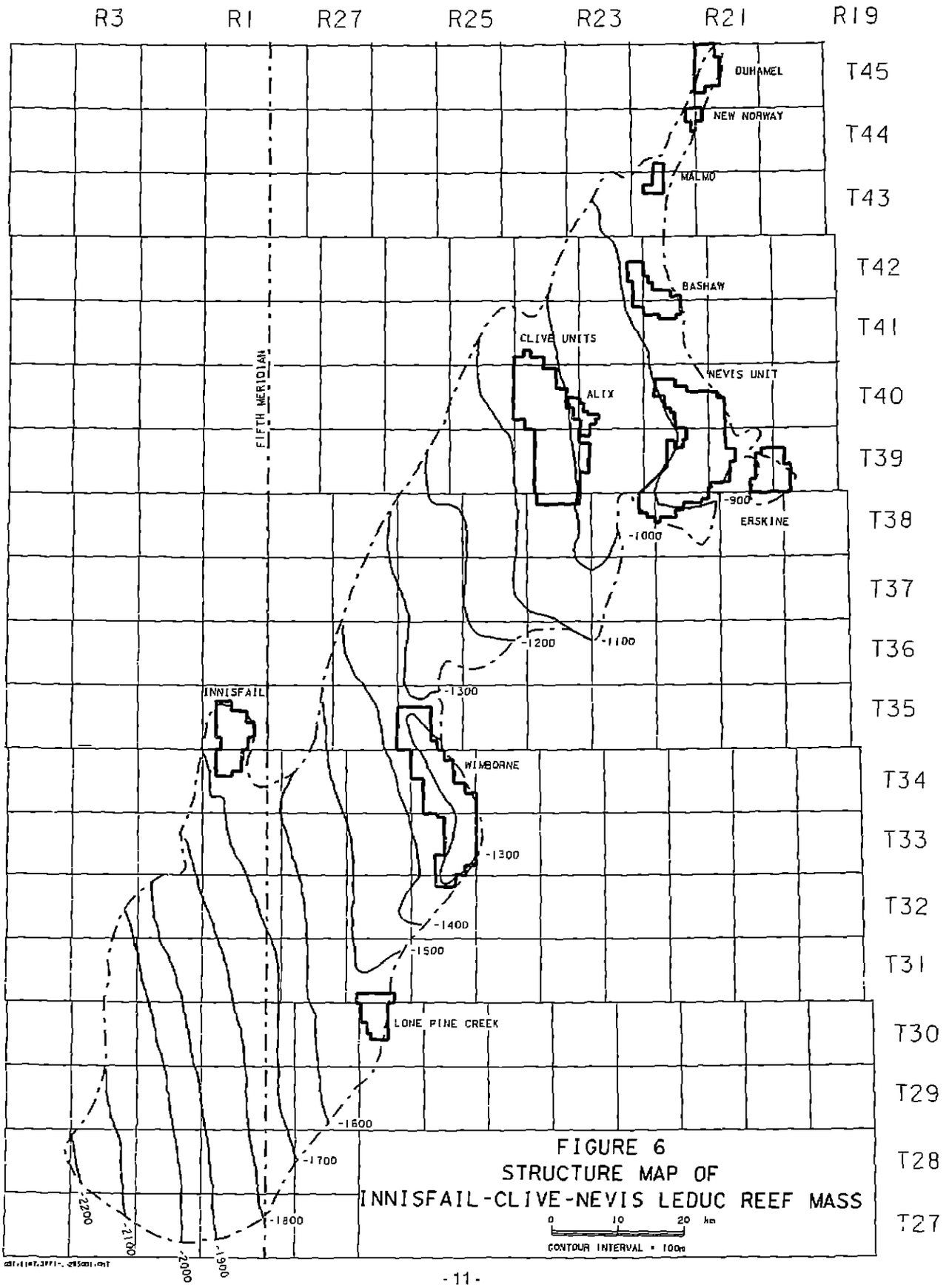
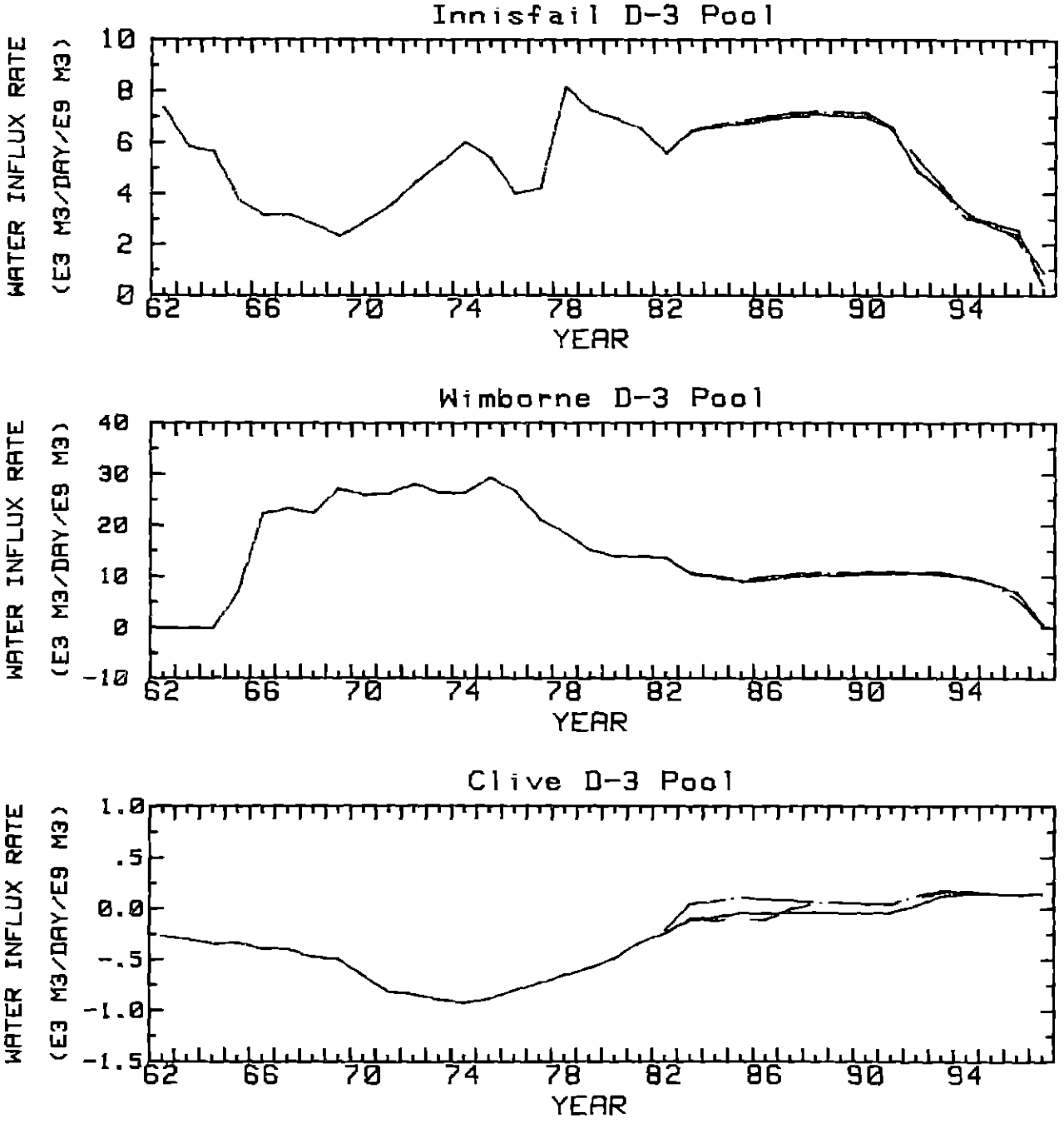


FIGURE 6
STRUCTURE MAP OF
INNISFAIL-CLIVE-NEVIS LEDUC REEF MASS

FIGURE 7a Innisfail-Clive-Nevis Reef Chain Study
Water Influx Profiles



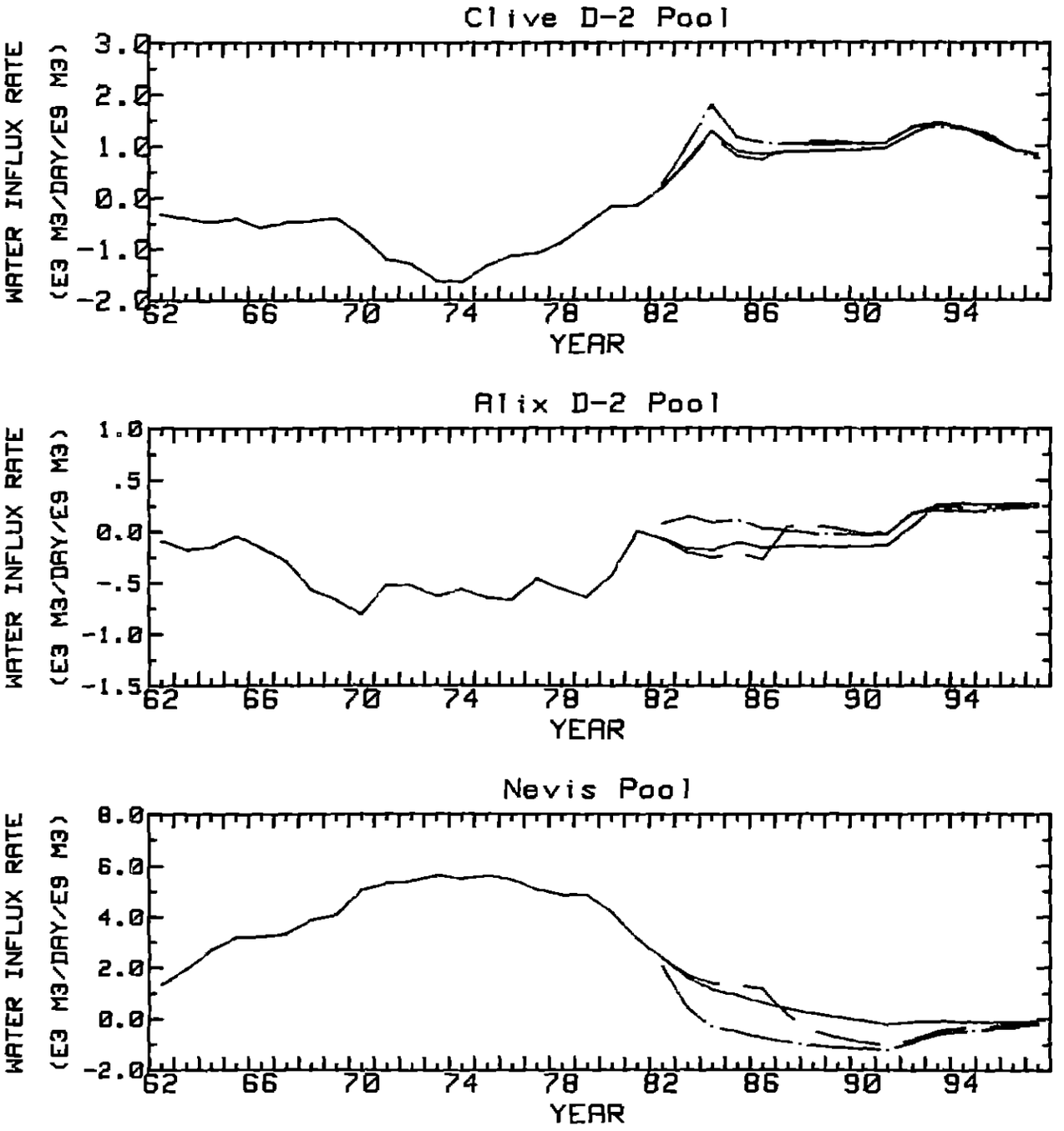
LEGEND

———————— Base Case: Deplete Nevis in ten years

———— ———— . Case 1: Deplete Nevis in five years

————.———— Case 2: Shut in Nevis from 1982-87

FIGURE 7b Innisfail-Clive-Nevis Reef Chain Study
Water Influx Profiles



LEGEND

———— Base Case: Deplete Nevis in ten years

— — — Case 1: Deplete Nevis in five years

—·—·— Case 2: Shut in Nevis from 1982-07

ATTACHMENT 4

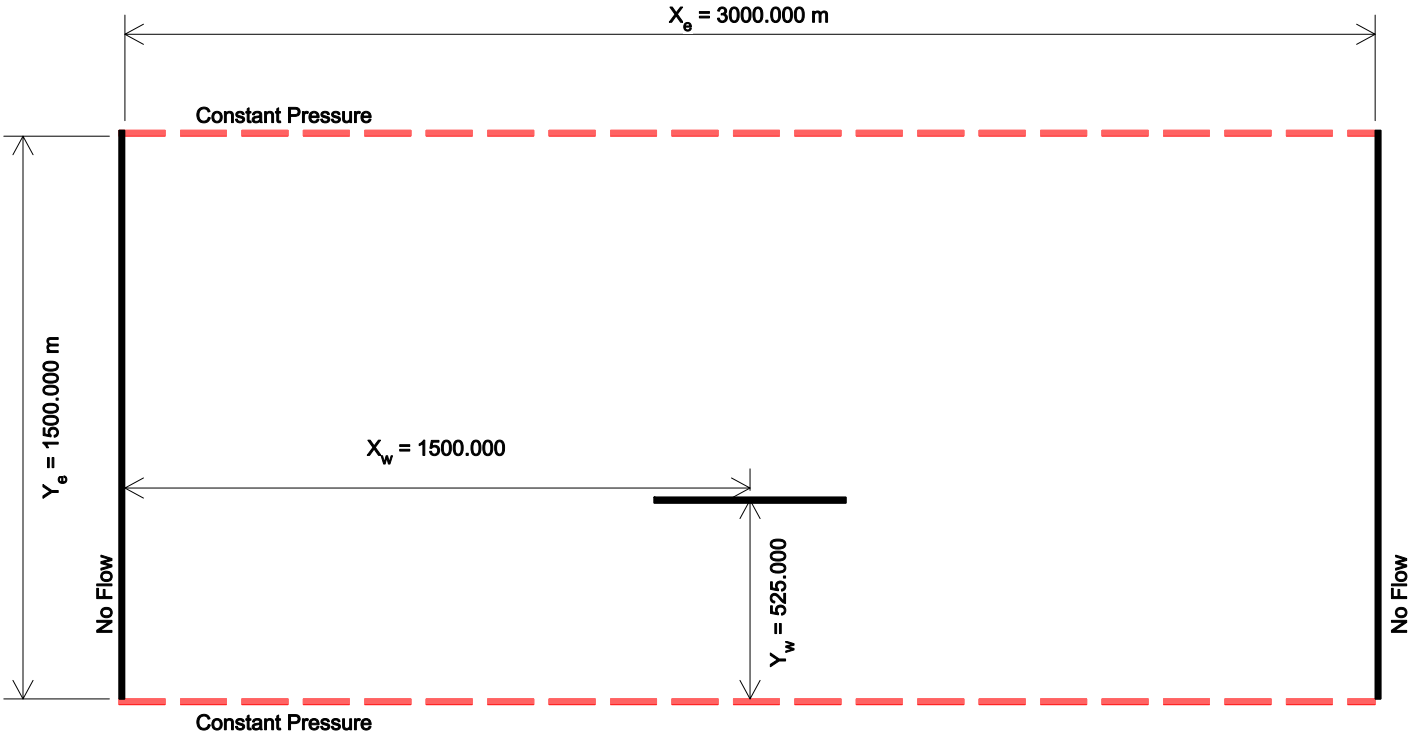
Pressure Surveys

Case 4 - Rematched

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k_y = 285.0000 mD
k_z = 29.0000 mD
s_d = -0.200

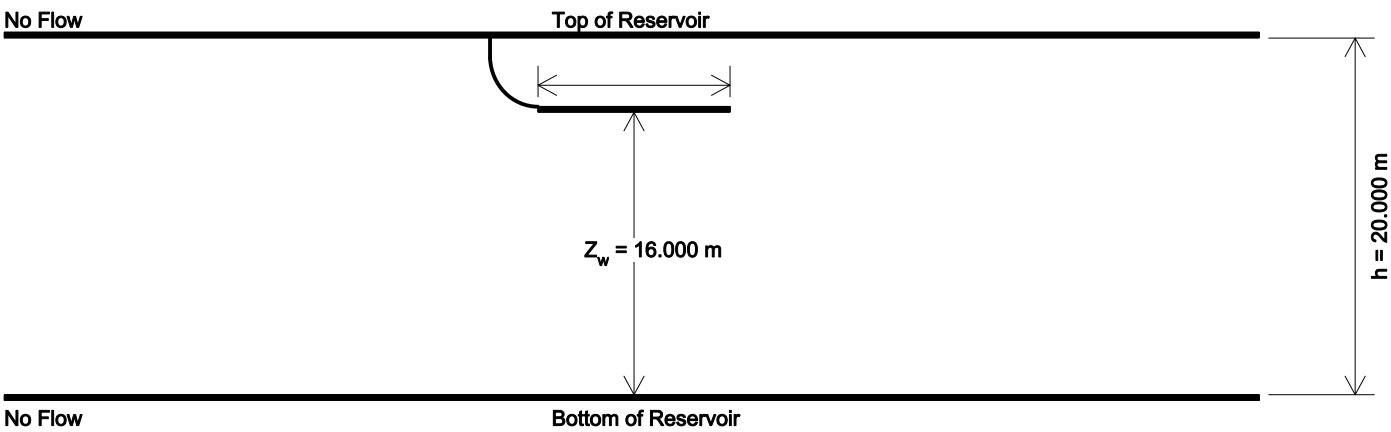
Plan View

(Not to scale)



Side View

(Not to scale)



Water Model - Case 4 - Rematched

Analysis Results

Effective Permeability in X Direction	285.0000 mD
Effective Permeability in Y Direction	285.0000 mD
Effective Permeability in Z Direction	29.0000 mD
Total Mobility ($(k/\mu)_t$)	229.65 mD/mPa.s
Total Transmissivity ($(kh/\mu)_t$)	4593.09 mDm/mPa.s
Total Skin (s')	-0.200
Skin Due to Damage (s_d)	-0.200
Wellbore Volume (V_w)	1699.825 m^3
Dim. Wellbore Storage Constant (C_D)	7000.000

Effective Wellbore Length (L_e)	148.000 m
Reservoir Length (X_e)	3000.000 m
Reservoir Width (Y_e)	1500.000 m
Well Location X-Direction (X_w)	1500.000 m
Well Location Y-Direction (Y_w)	525.000 m
Well Location Z-Direction (Z_w)	16.000 m

Reservoir Parameters

Net Pay (h)	20.000 m
Total Porosity (ϕ_t)	8.00 %
Gas Saturation (S_g)	0.00 %
Oil Saturation (S_o)	15.00 %
Water Saturation (S_w)	85.00 %
Formation Compressibility (c_f)	7.7364e-07 1/kPa
Total Compressibility (c_t)	2.0800e-06 1/kPa
Wellbore Radius (r_w)	0.107 m

Production and Pressures

Total Fluid Rate (in situ) ($(q\beta)_t$)	-825.1 rm^3/d
Final Gas Rate ($q_{g\ final}$)	0.000 $10^3m^3/d$
Final Water Rate ($q_{w\ final}$)	-810.0 m^3/d
Total Cumulative Production Water (Cum_{water})	-18.592 10^3m^3
Final Flowing Pressure (p_{wfo})	14181 kPa(a)
Final Measured Pressure (p_{last})	13460 kPa(a)

Fluid Properties

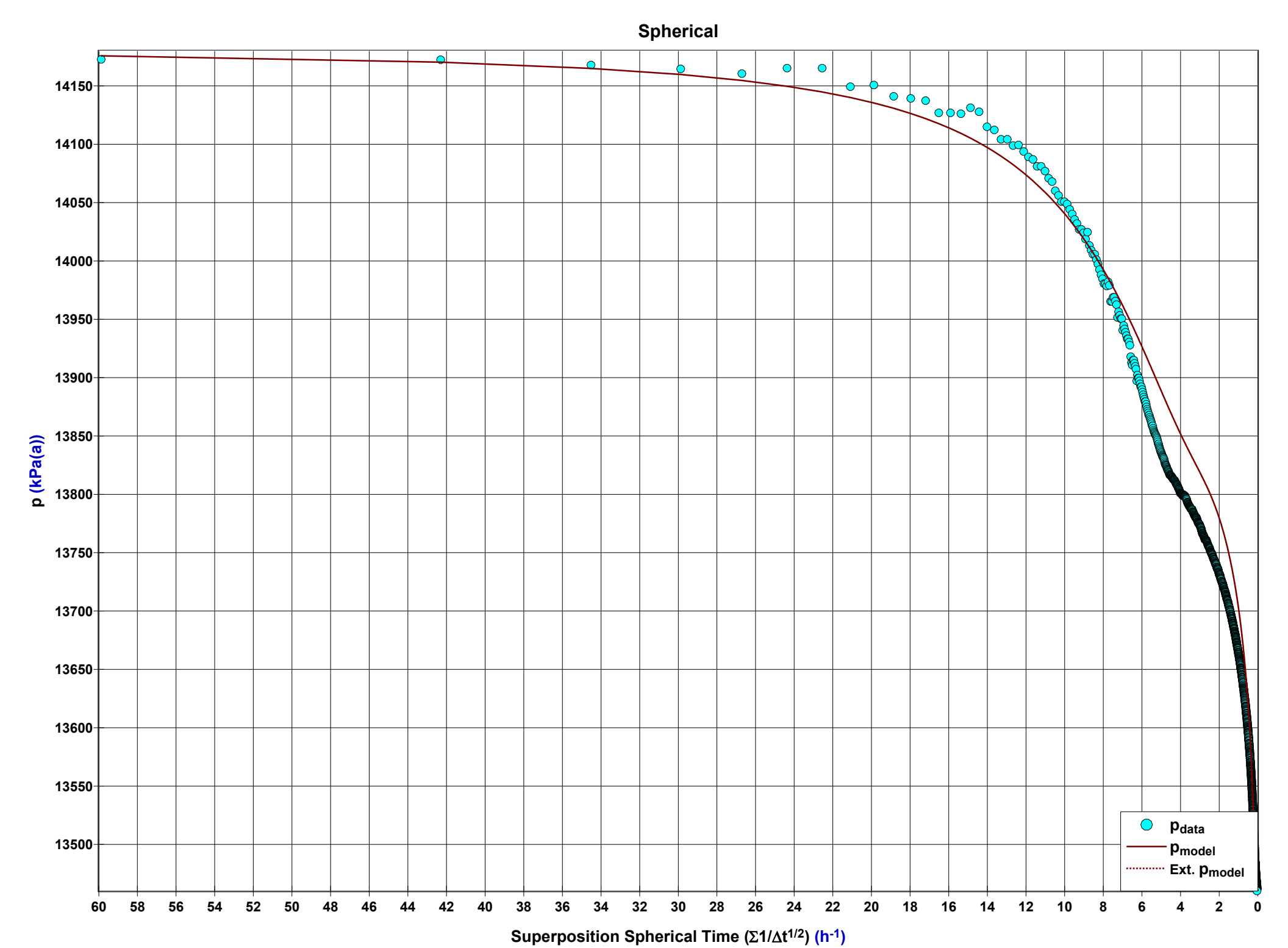
Reservoir Temperature (T_{resv})	62.0 °C
Reservoir Pressure (p_{resv})	13300 kPa(a)
Water Specific Gravity (γ_w)	1.099
Water Viscosity (μ_w)	0.5794 mPa.s
Water Compressibility (c_w)	9.83e-07 1/kPa
Water Formation Volume Factor (B_w)	1.019 m^3/m^3
Solution Gas Ratio (R_{sw})	1.68 m^3/m^3

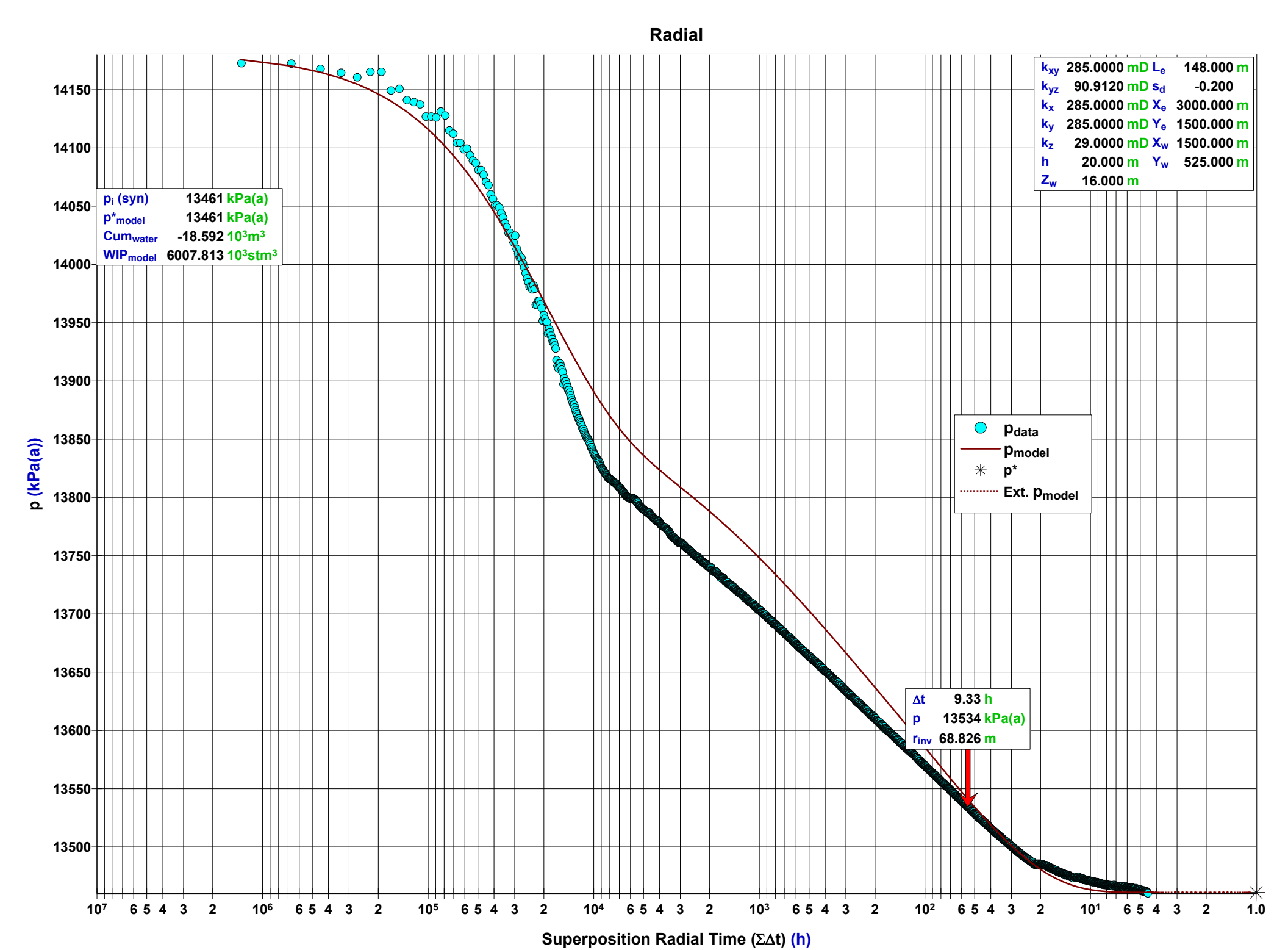
Synthesis Results

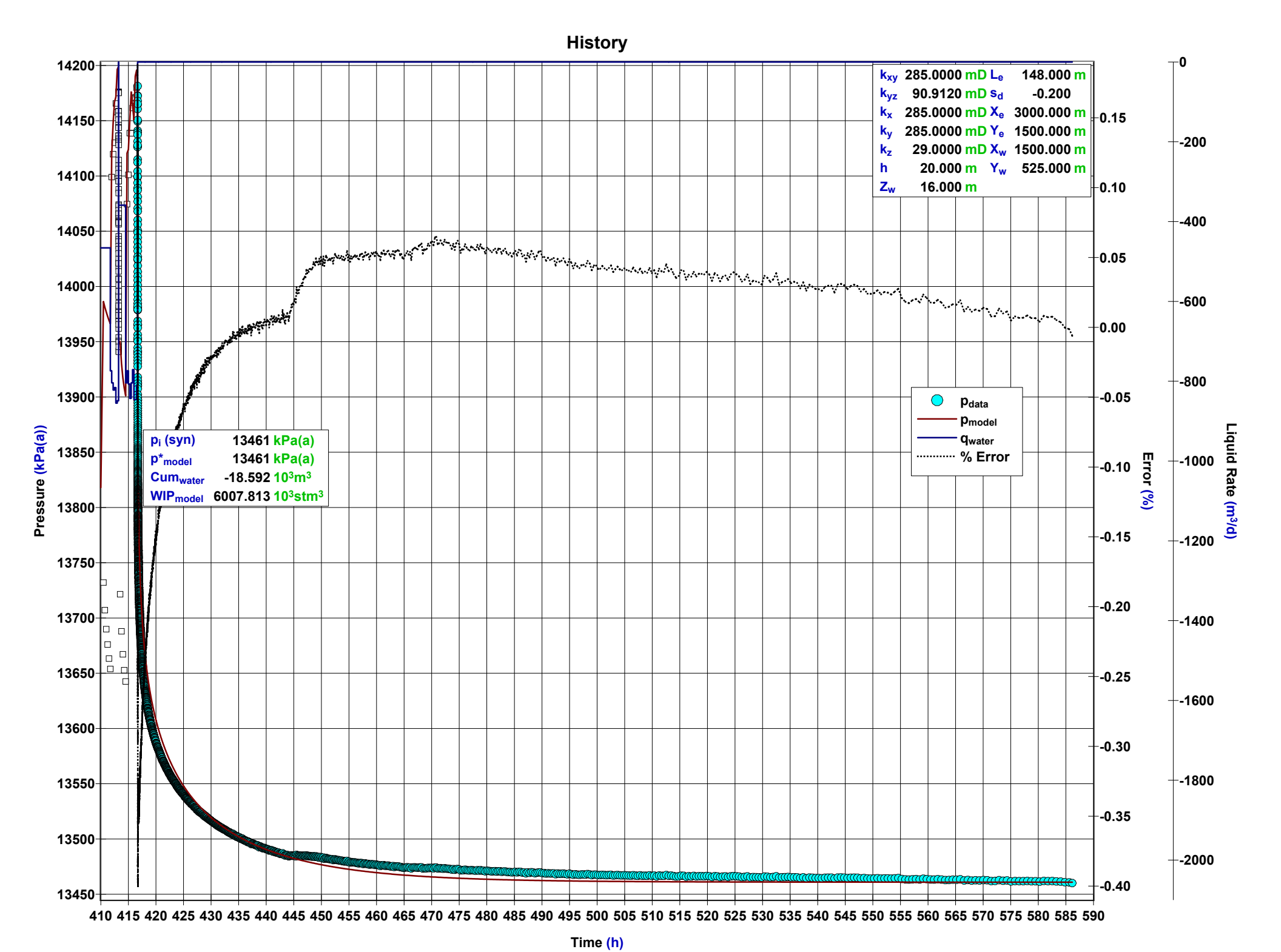
Average Error (E_{avg})	0.18 %
Synthetic Initial Pressure (p_i (syn))	13461 kPa(a)
Extrapolated Model Pressure (p^*_{model})	13461 kPa(a)
Pressure Drop Due to Total Skin (Δp_{skin})	kPa(a)
Flow Efficiency (FE)	1.018
Damage Ratio (DR)	0.982

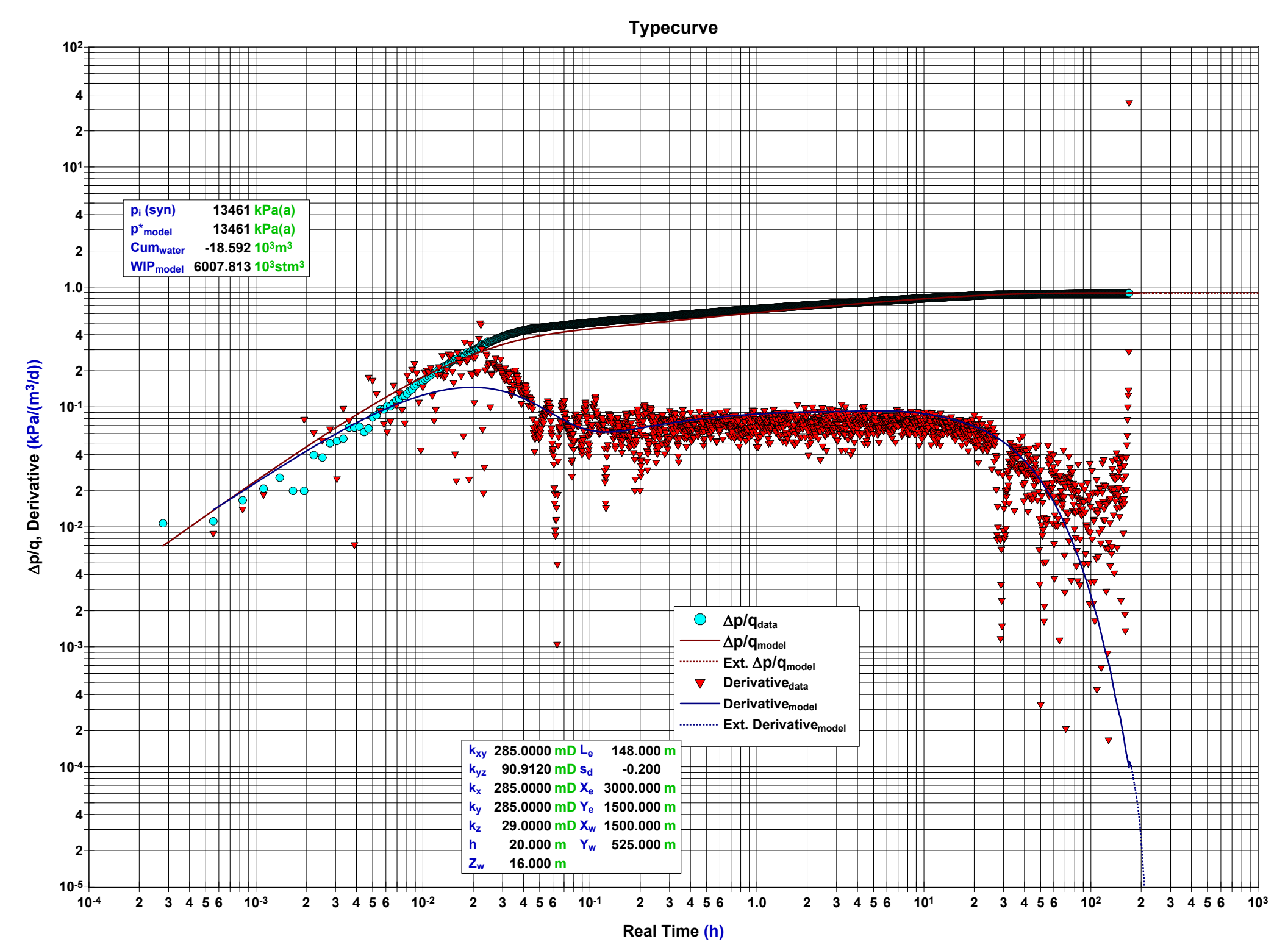
Forecasts

Forecast Flowing Pressure (Report) (p_{flow})	14181 kPa(a)
Forecast Rate at 3 Months and Current Skin ($q_{@\ 3\ Months}$)	-769.1 m^3/d
Forecast Rate at 6 Months and Current Skin ($q_{@\ 6\ Months}$)	-769.1 m^3/d
Constant Rate Forecast Flow Time (Report) (t_{flow})	12.00 month
Forecast Rate at Specified Time and Current Skin ($q_{@\ Current\ Skin}$)	-769.1 m^3/d
Stabilized Injectivity Index @ Current Skin (II_{Actual})	1.067 $(m^3/d)/kPa$
Forecast Rate at Specified Time and Skin = 0 ($q_{@\ 0\ Skin}$)	-756.1 m^3/d
Stabilized Injectivity Index @ Skin = 0 (II_{Ideal})	1.049 $(m^3/d)/kPa$
Forecast Rate at Specified Time and Skin = -4 ($q_{@\ -4\ Skin}$)	-1135.5 m^3/d


Spherical
p (kPa(a))
14150
14100
14050
14000
13950
13900
13850
13800
13750
13700
13650
13600
13550
13500
60 58 56 54 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0
Superposition Spherical Time (Σ1/Δt^1/2) (h^-1)
p_data
p_model
Ext. p_model


Radial
k_{xy} 285.0000 mD L_e 148.000 m
k_{yz} 90.9120 mD s_d -0.200
k_x 285.0000 mD X_e 3000.000 m
k_y 285.0000 mD Y_e 1500.000 m
k_z 29.0000 mD X_w 1500.000 m
h 20.000 m Y_w 525.000 m
Z_w 16.000 m
p_i (syn) 13461 kPa(a)
p^*_{model} 13461 kPa(a)
Cum_{water} -18.592 10^3m^3
WIP_{model} 6007.813 10^3stm^3
p_{data}
p_{model}
p*
Ext. p_{model}
Δt 9.33 h
p 13534 kPa(a)
r_{inv} 68.826 m
p (kPa(a))
14150
14100
14050
14000
13950
13900
13850
13800
13750
13700
13650
13600
13550
13500
10^7 6 5 4 3 2 10^6 6 5 4 3 2 10^5 6 5 4 3 2 10^4 6 5 4 3 2 10^3 6 5 4 3 2 10^2 6 5 4 3 2 10^1 6 5 4 3 2 1.0
Superposition Radial Time (ΣΔt) (h)


History
k_{xy} 285.0000 mD L_e 148.000 m
k_{yz} 90.9120 mD s_d -0.200
k_x 285.0000 mD X_e 3000.000 m
k_y 285.0000 mD Y_e 1500.000 m
k_z 29.0000 mD X_w 1500.000 m
h 20.000 m Y_w 525.000 m
Z_w 16.000 m
p_i (syn) 13461 kPa(a)
p^*_{model} 13461 kPa(a)
Cum_{water} -18.592 10^3m^3
WIP_{model} 6007.813 10^3stm^3
p_{data}
p_{model}
q_{water}
% Error
Pressure (kPa(a))
Error (%)
Liquid Rate (m^3/d)
Time (h)
14200
14150
14100
14050
14000
13950
13900
13850
13800
13750
13700
13650
13600
13550
13500
13450
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
0
-200
-400
-600
-800
-1000
-1200
-1400
-1600
-1800
-2000
410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590


Typecurve
p_i (syn) 13461 kPa(a)
p^*_{model} 13461 kPa(a)
Cum_{water} -18.592 10^3m^3
WIP_{model} 6007.813 10^3stm^3
$\Delta p/q_{data}$
$\Delta p/q_{model}$
Ext. $\Delta p/q_{model}$
$Derivative_{data}$
$Derivative_{model}$
Ext. $Derivative_{model}$
k_{xy} 285.0000 mD L_e 148.000 m
k_{yz} 90.9120 mD s_d -0.200
k_x 285.0000 mD X_e 3000.000 m
k_y 285.0000 mD Y_e 1500.000 m
k_z 29.0000 mD X_w 1500.000 m
h 20.000 m Y_w 525.000 m
Z_w 16.000 m
Δp/q, Derivative (kPa/(m³/d))
Real Time (h)

Transient Forecast

p_i (syn)	13461	kPa(a)
p^*_{model}	13461	kPa(a)
Cum_{water}	-18.592	$10^3 m^3$
WIP_{model}	6007.813	$10^3 stm^3$

k_{xy}	285.0000	mD	L_e	148.000	m
k_{yz}	90.9120	mD	s_d	-0.200	
k_x	285.0000	mD	X_e	3000.000	m
k_y	285.0000	mD	Y_e	1500.000	m
k_z	29.0000	mD	X_w	1500.000	m
h	20.000	m	Y_w	525.000	m
Z_w	16.000	m			

Time (month)

Gas Model - Composite 1

Analysis Results

	Zone 1	Zone 2
Effective Permeability (k_1)	270.0000 mD	270.0000 mD
Net Pay (h_1)	20.000 m	20.000 m
Viscosity (μ_1)	0.0393 mPa.s	0.1000 mPa.s
Total Porosity (ϕ_{t1})	8.00 %	8.00 %
Gas Saturation (S_{g1})	75.00 %	75.00 %
Oil Saturation (S_{o1})	15.00 %	15.00 %
Water Saturation (S_{w1})	10.00 %	10.00 %
Formation Compressibility (c_{f1})	7.7364e-07 1/kPa	7.7364e-07 1/kPa
Total Compressibility (c_{t1})	7.0317e-05 1/kPa	7.0317e-05 1/kPa
Radius (r_{e1})	50.000 m	500.000 m

Total Skin (s')	4.921
Wellbore Volume (V_w)	43.655 m^3
Dim. Wellbore Storage Constant (C_D)	500.000
Turbulence Factor (D)	0.009 $1/10^3 m^3/d$

Reservoir Parameters

Wellbore Radius (r_w)	0.107 m

Production and Pressures

Final Gas Rate ($q_{g\ final}$)	-654.886 $10^3 m^3/d$
Total Cumulative Production Gas (Cum_{gas})	-5.634 $10^6 m^3$
Final Flowing Pressure (p_{wfo})	13880 kPa(a)
Final Measured Pressure (p_{last})	kPa(a)

Fluid Properties

Reservoir Temperature (T_{resv})	62.0 °C
Reservoir Pressure (p_{resv})	13400 kPa(a)
Gas Gravity (G)	1.520
N_2	0.00 %
CO_2	100.00 %
H_2S	0.00 %
Critical Temperature (T_c)	304.2 K
Critical Pressure (p_c)	7384 kPa(a)
Gas Viscosity (μ_g)	39.3 µPa.s
Gas Compressibility (c_g)	9.21e-05 1/kPa
Gas Compressibility Factor (Z)	0.418
Gas Formation Volume Factor (B_g)	3.6765e-03 m^3/m^3
Gas Correlation	Carbon Dioxide (Table)
Gas Viscosity Correlation	Carbon Dioxide Mu

Synthesis Results

Average Error (E_{avg})	0.10 %
Synthetic Initial Pressure (p_i (syn))	13228 kPa(a)
Final Average Reservoir Pressure (p_{avg})	13411 kPa(a)
Pressure Drop Due to Total Skin (Δp_{skin})	kPa(a)
Flow Efficiency (FE)	1.089
Damage Ratio (DR)	0.918

Forecasts

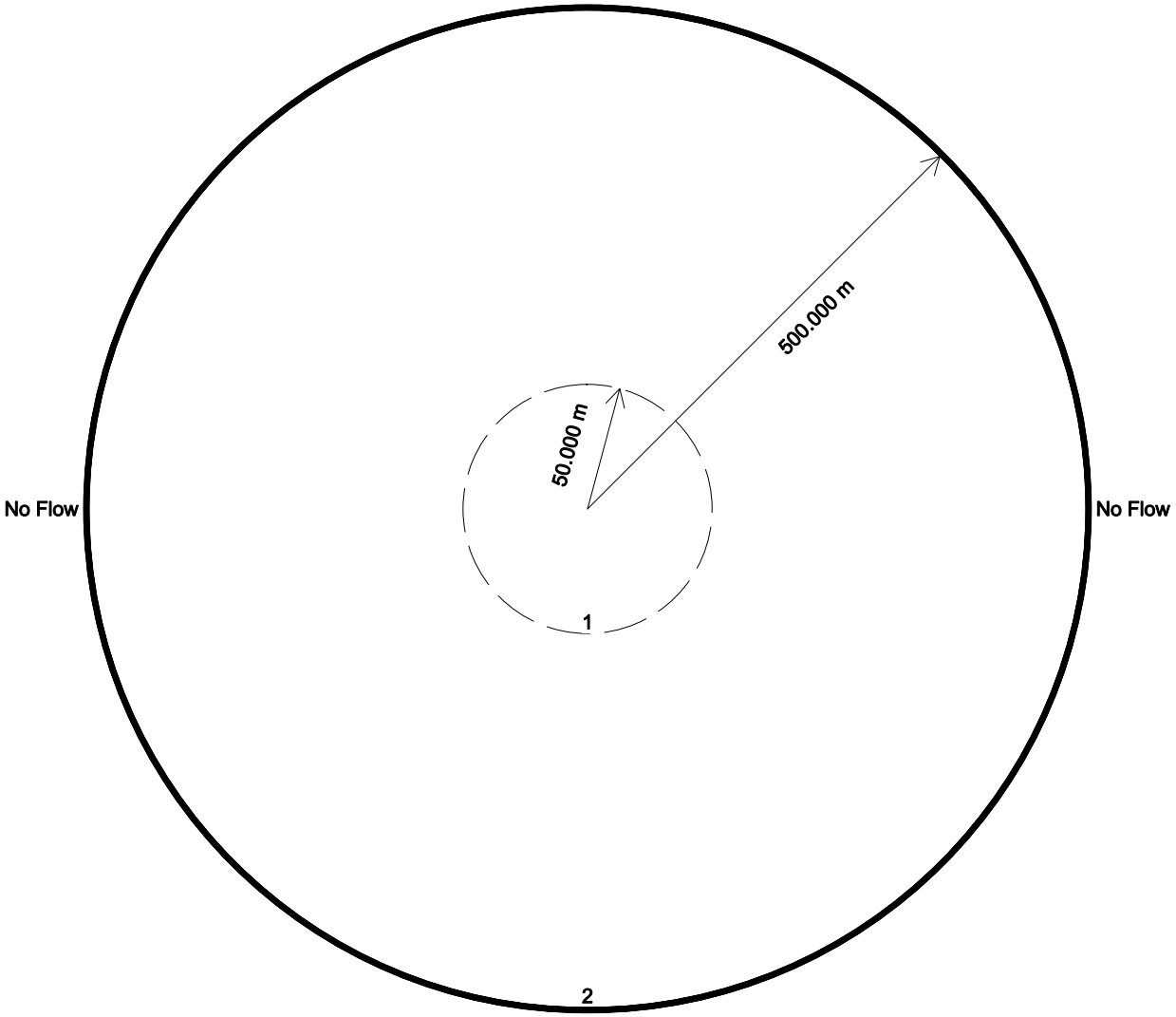
Forecast Flowing Pressure (Report) (p_{flow})	13880 kPa(a)
Forecast Rate at 3 Months and Current Skin ($q_{@\ 3\ Months}$)	-110.598 $10^3 m^3/d$
Forecast Rate at 6 Months and Current Skin ($q_{@\ 6\ Months}$)	-58.292 $10^3 m^3/d$
Constant Rate Forecast Flow Time (Report) (t_{flow})	12.00 month
Forecast Rate at Specified Time and Current Skin ($q_{@\ Current\ Skin}$)	-29.956 $10^3 m^3/d$
Forecast Rate at Specified Time and Skin = 0 ($q_{@\ 0\ Skin}$)	-29.834 $10^3 m^3/d$
Forecast Rate at Specified Time and Skin = -4 ($q_{@\ -4\ Skin}$)	-30.214 $10^3 m^3/d$

Composite 1

s_d = -1.300
k_1 = 270.0000 mD
k_2 = 270.0000 mD

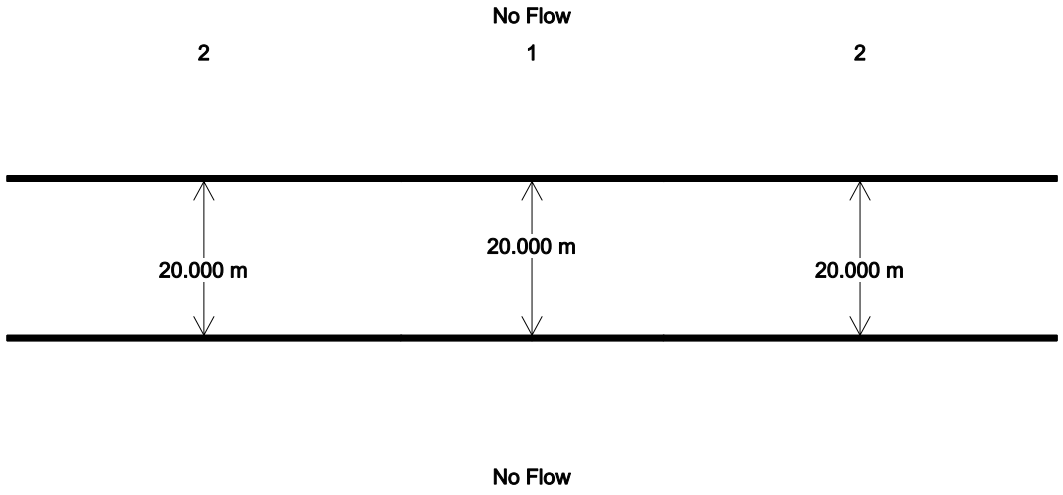
Plan View

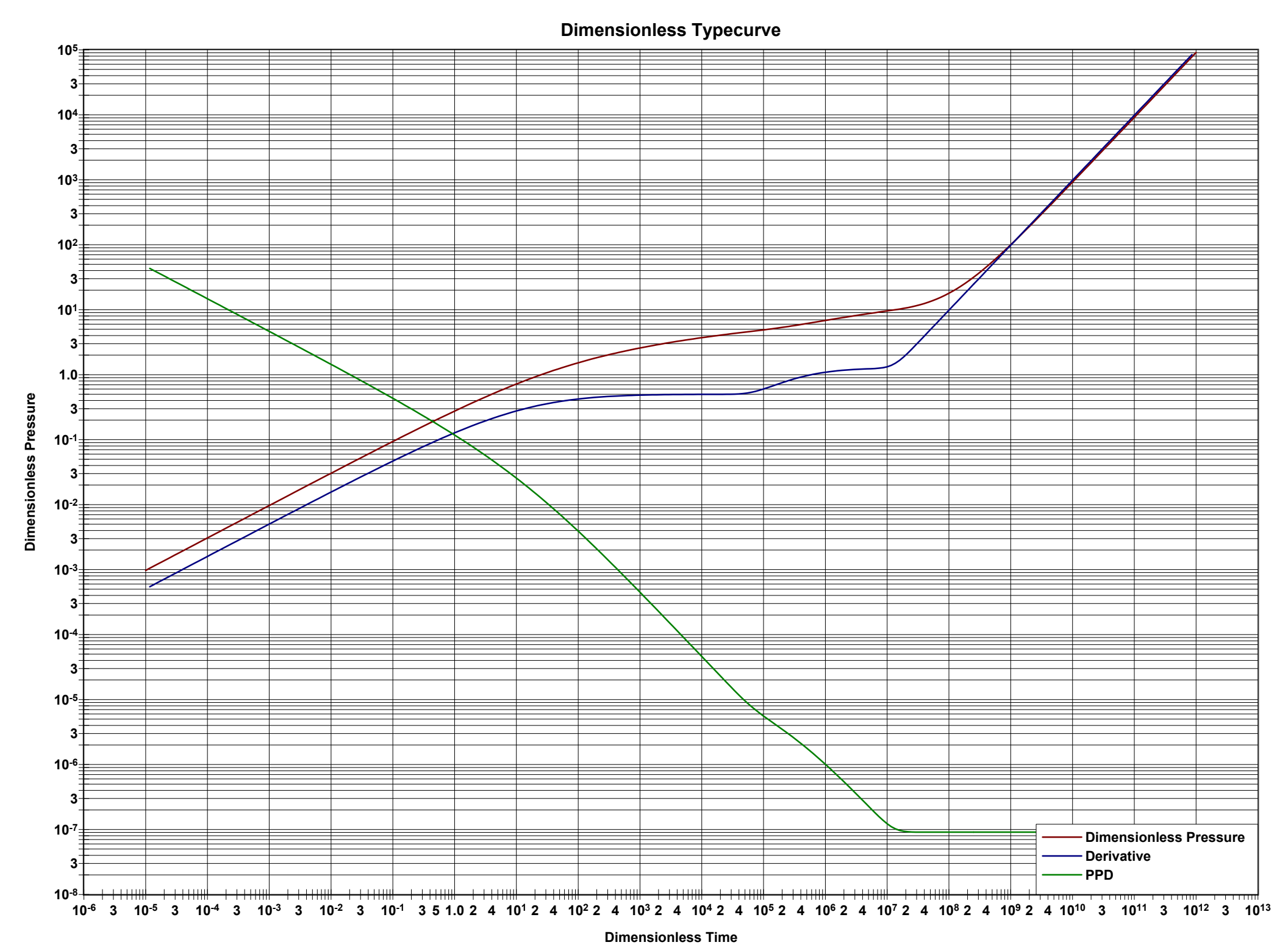
(Not to scale)



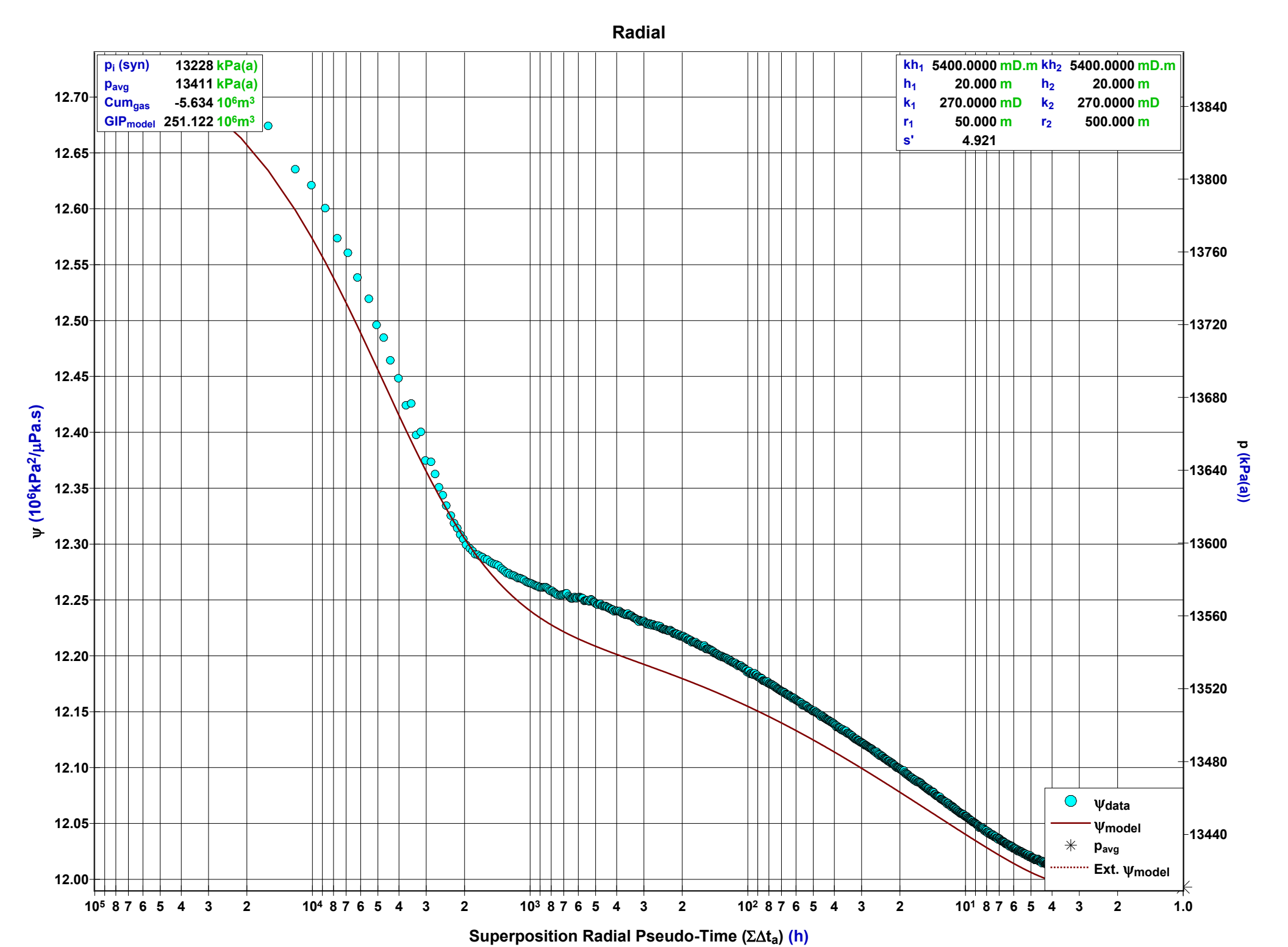
Side View

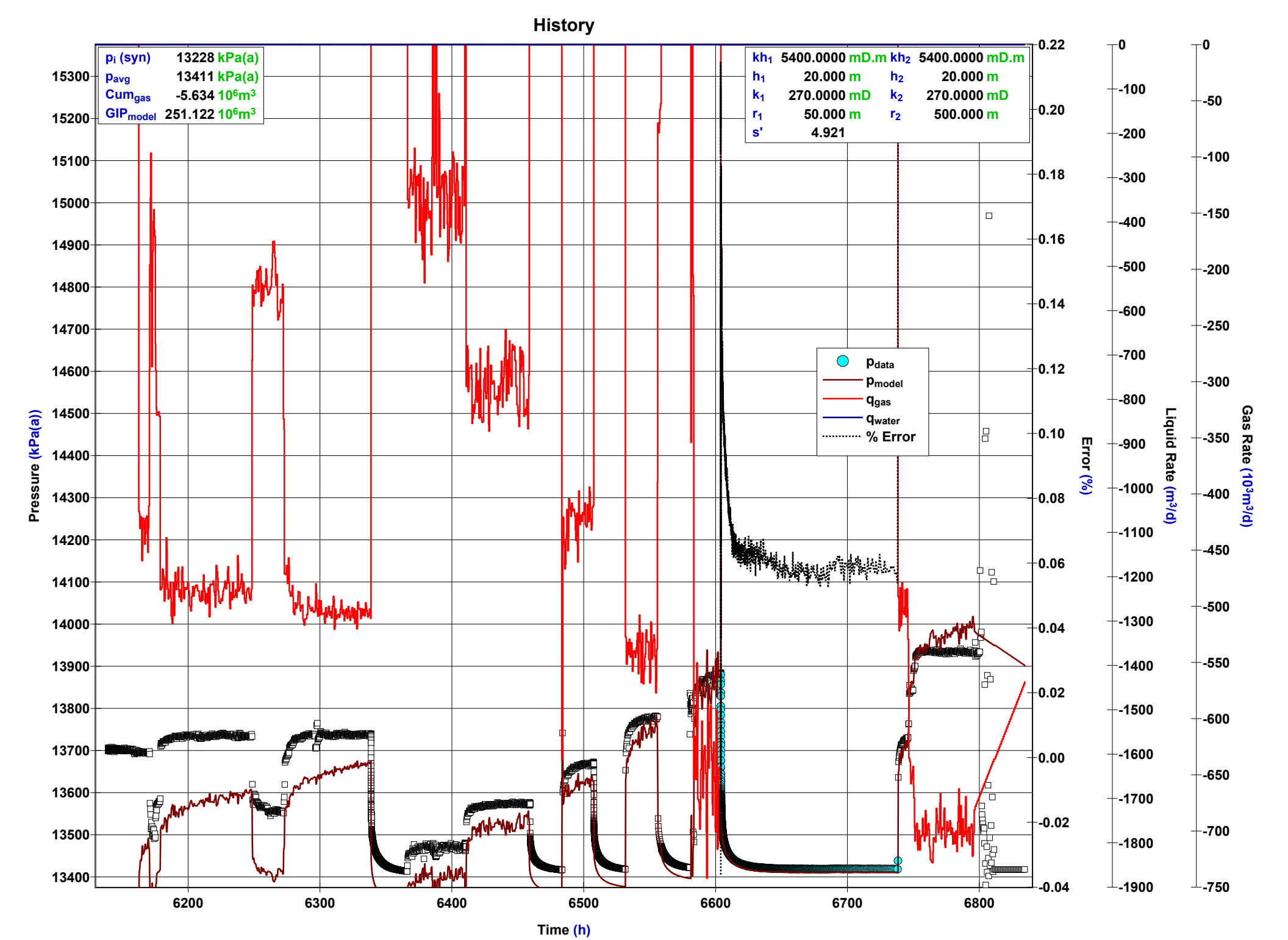
(Not to scale)

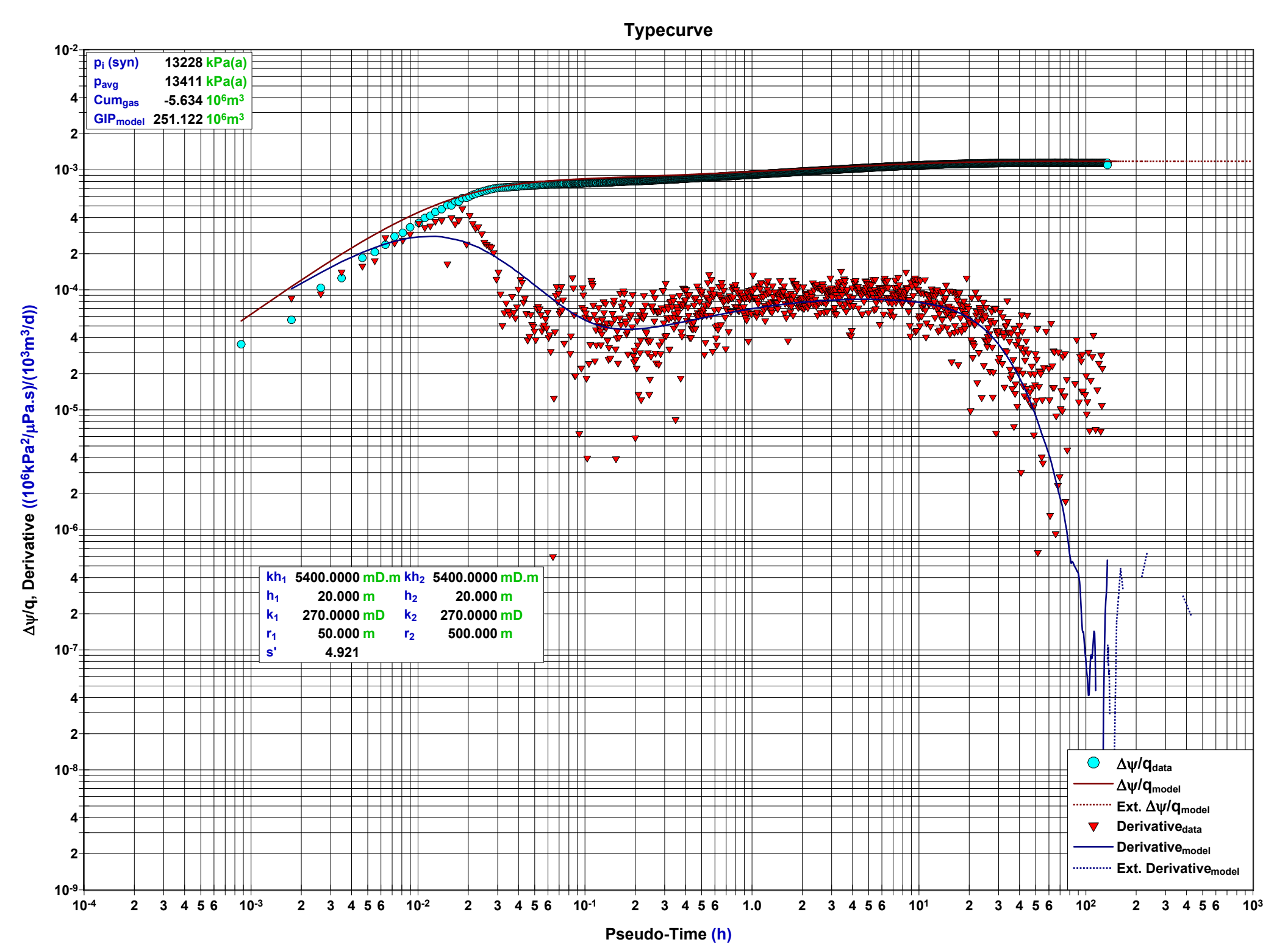



Dimensionless Typecurve
Dimensionless Pressure
Dimensionless Time
Dimensionless Pressure
Derivative
PPD

Radial


p_i (syn) 13228 kPa(a)
p_{avg} 13411 kPa(a)
Cum_{gas} -5.634 10^6m^3
GIP_{model} 251.122 10^6m^3
kh_1 5400.0000 mD.m kh_2 5400.0000 mD.m
h_1 20.000 m h_2 20.000 m
k_1 270.0000 mD k_2 270.0000 mD
r_1 50.000 m r_2 500.000 m
s' 4.921
ψ (10^6kPa^2/μPa.s)
p (kPa(a))
Superposition Radial Pseudo-Time ($\Sigma\Delta t_a$) (h)
ψdata
ψmodel
p_{avg}
Ext. ψmodel


History
p_i (syn) 13228 kPa(a)
p_{avg} 13411 kPa(a)
Cum_{gas} -5.634 10^6m^3
GIP_{model} 251.122 10^6m^3
kh_1 5400.0000 mD.m kh_2 5400.0000 mD.m
h_1 20.000 m h_2 20.000 m
k_1 270.0000 mD k_2 270.0000 mD
r_1 50.000 m r_2 500.000 m
s' 4.921
p_{data}
p_{model}
q_{gas}
q_{water}
% Error
Pressure (kPa(a))
Error (%)
Liquid Rate (m^3/d)
Gas Rate ($10^3m^3/d$)
Time (h)


Typecurve
p_i (syn) 13228 kPa(a)
p_{avg} 13411 kPa(a)
Cum_{gas} -5.634 $10^6 m^3$
GIP_{model} 251.122 $10^6 m^3$
kh_1 5400.0000 mD.m kh_2 5400.0000 mD.m
h_1 20.000 m h_2 20.000 m
k_1 270.0000 mD k_2 270.0000 mD
r_1 50.000 m r_2 500.000 m
s' 4.921
$\Delta\psi/q_{data}$
$\Delta\psi/q_{model}$
Ext. $\Delta\psi/q_{model}$
$Derivative_{data}$
$Derivative_{model}$
Ext. $Derivative_{model}$
$\Delta\psi/q$, Derivative ($(10^6 kPa^2/\mu Pa.s)/(10^3 m^3/d)$)
Pseudo-Time (h)

Transient Forecast

p_i (syn)	13228 kPa(a)		
p_{avg}	13411 kPa(a)		
Cum_{gas}	-5.634 $10^6 m^3$		
GIP_{model}	251.122 $10^6 m^3$		

kh_1	5400.0000 mD.m	kh_2	5400.0000 mD.m
h_1	20.000 m	h_2	20.000 m
k_1	270.0000 mD	k_2	270.0000 mD
r_1	50.000 m	r_2	500.000 m
s'	4.921		

Time (month)

Test Type Final Static Gradient

Company Name	**Enhance Energy Inc.**
Well Name	**Fairborne Clive 4-11-40-24W4**
Unique Well ID	**100/04-11-040-24W4/0**
Well License Number	**0027600**
Formation	**Leduc**
Start Test Date	**2022/10/21**
Final Test Date	**2022/11/18**

Prepared By	**Kennason Tech Services Inc.**
Qualified By	**Cory Strang**
Report Date	**2022/11/21**

Reliance OFS Canada Limited
2500 333 - 7th Ave SW
Calgary AB T2P 2Z1
403-475-1229
relianceofs.com

RELIANCE OILFIELD SERVICES

Pressure Survey Report

Final Static Gradient

Company Name Enhance Energy Inc.
Contact Kevin Meyer
Representative Russ Guenther

General Information

Well Name	Fairborne Clive 4-11-40-24W4	KB Elevation (SL)	879.30 m
Unique Well ID	100/04-11-040-24W4/0	CF Elevation (SL)	875.10 m
Surface Location	04-11-040-24W4	GL Elevation (SL)	875.10 m
Well License Number	0027600	KB-CF Offset	4.20 m
Well Type	Vertical	KB-GL Offset	4.20 m

Wellbore Information

Tubing OD	60.3 mm	Casing OD	139.7 mm
Tubing ID	50.7 mm	Casing ID	125.7 mm
Tubing Depth(Log KB)	1886.90000 m	Casing Depth(Log KB)	1899.00000 m
Tubing Depth(TVD KB)	1886.90000 m	Casing Depth(TVD KB)	1899.00000 m
Packer Depth(Log KB)	1881.48000 m	PBTD(Log KB)	1899.00 m
Packer Depth(TVD KB)	1881.48000 m	PBTD(TVD KB)	1899.00 m

Gross Completion Interval (GCI) as tested:

Top(Log KB)	1890.30 m	Top(TVD KB)	1890.30 m	Formation Name	Leduc
Bottom(Log KB)	1892.70 m	Bottom(TVD KB)	1892.70 m	Pool	
MPP(Log KB)	1891.50 m	MPP(TVD KB)	1891.50 m		

Test Information

Test Type	Final Static Gradient	Date/Time Gauge on Bottom	2022/11/18 07:16:55
Well Fluid Type	01 Oil	Date/Time Gauge Off Bottom	2022/11/18 09:16:55
Test Purpose	Annual Pressure	Time/Date Well Shut-In	2022/10/20 08:00:00
		Shut-In Duration	697.2819 h

Surface Pressures:

Tubing Pressure Initial	6874.00 kPa(a)	Casing Pressure Initial	173.00 kPa(a)
Tubing Pressure: Final	6874.00 kPa(a)	Casing Pressure: Final	173.00 kPa(a)

Test Results

Gauge Serial Number Used in Summary	80594		Run Depth (Log KB)	1886.90	m
Calculated Pressure Corrected to MPP	13194.66	kPa(a)	Run Depth (TVD KB)	1886.90	m
Reservoir Temperature	63.85	°C	Pressure at Stop Depth	13148.66	kPa(a)
Liquid Level(TVD KB)	1366.46	m	Temperature at Run Depth	63.9	°C

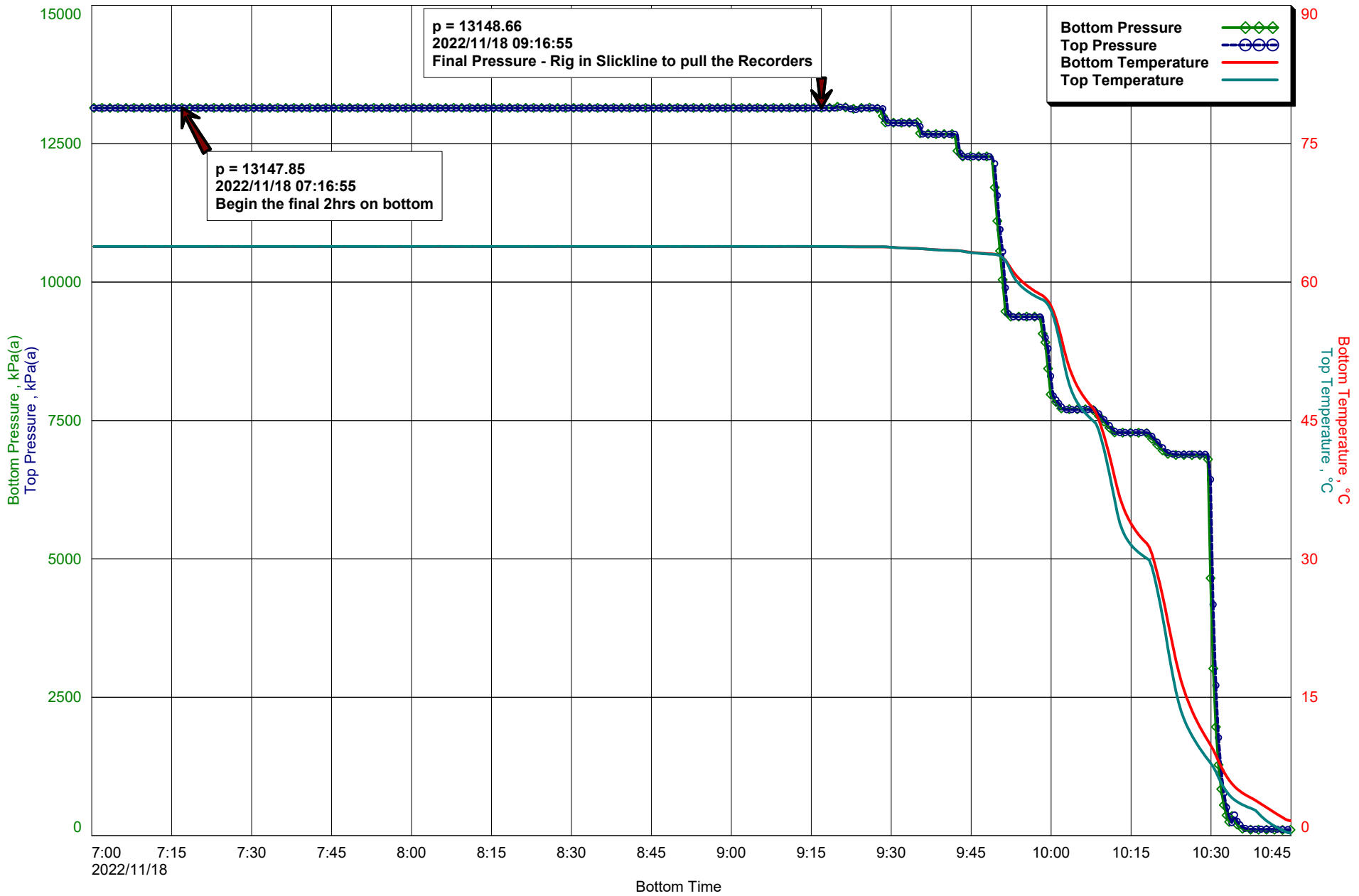
Test Remarks:

Static Gradient stops were made on the way out of the well.
The Shut In date/time was not provided - defaulted to the morning before the test.
Daylight Savings ended while the recorders were in the well.

Enhance Energy Inc.
100/04-11-040-24W4/0
Start Test Date: 2022/10/21
Final Test Date: 2022/11/18

Fairborne Clive 4-11-40-24W4
Formation: Leduc

Final Static Gradient Plot



Final Static Gradient 2022/10/21

Company Name Enhance Energy Inc.

Well Name Fairborne Clive 4-11-40-24W4

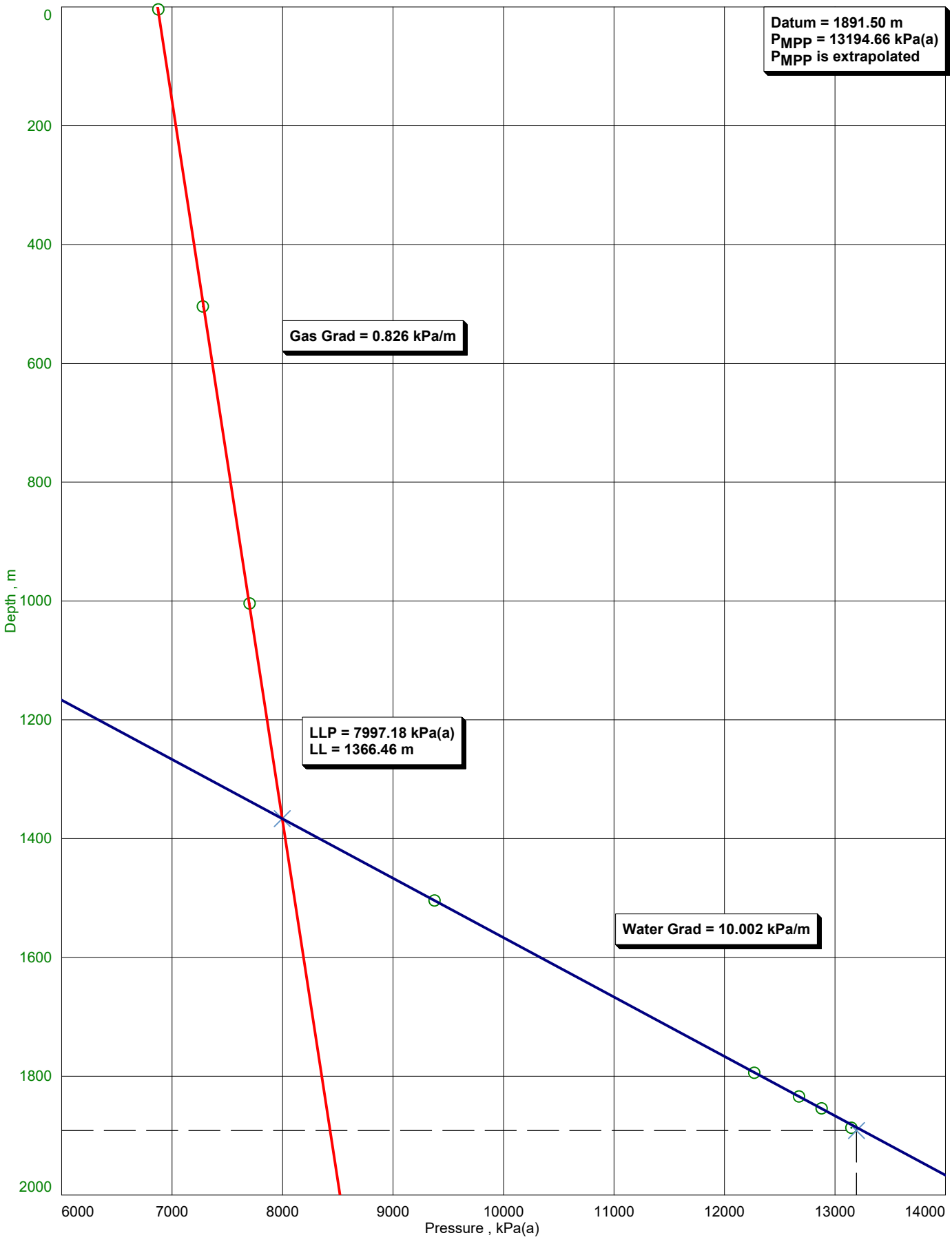
Unique Well ID	100/04-11-040-24W4/0	KB Elevation (SL)	879.30
		GL Elevation (SL)	875.10
Formation	Leduc	CF Elevation (SL)	875.10
Well Fluid Type	01 Oil		
Well License Number	0027600		
Well Type	Vertical		
Start Test Date	2022/10/21	Start Test Time	12:02:00
Final Test Date	2022/11/18	Final Test Time	09:16:55
Date Well Shut-In	2022/10/20	Time Well Shut-In	08:00:00

Top(TVD KB)	1890.30	m	Tubing Pressure: Initial	6874.00	kPa(a)
Bottom(TVD KB)	1892.70	m	Casing Pressure: Initial	173.00	kPa(a)
MPP(TVD KB)	1891.50	m	Shut-In Duration	697.2819	h

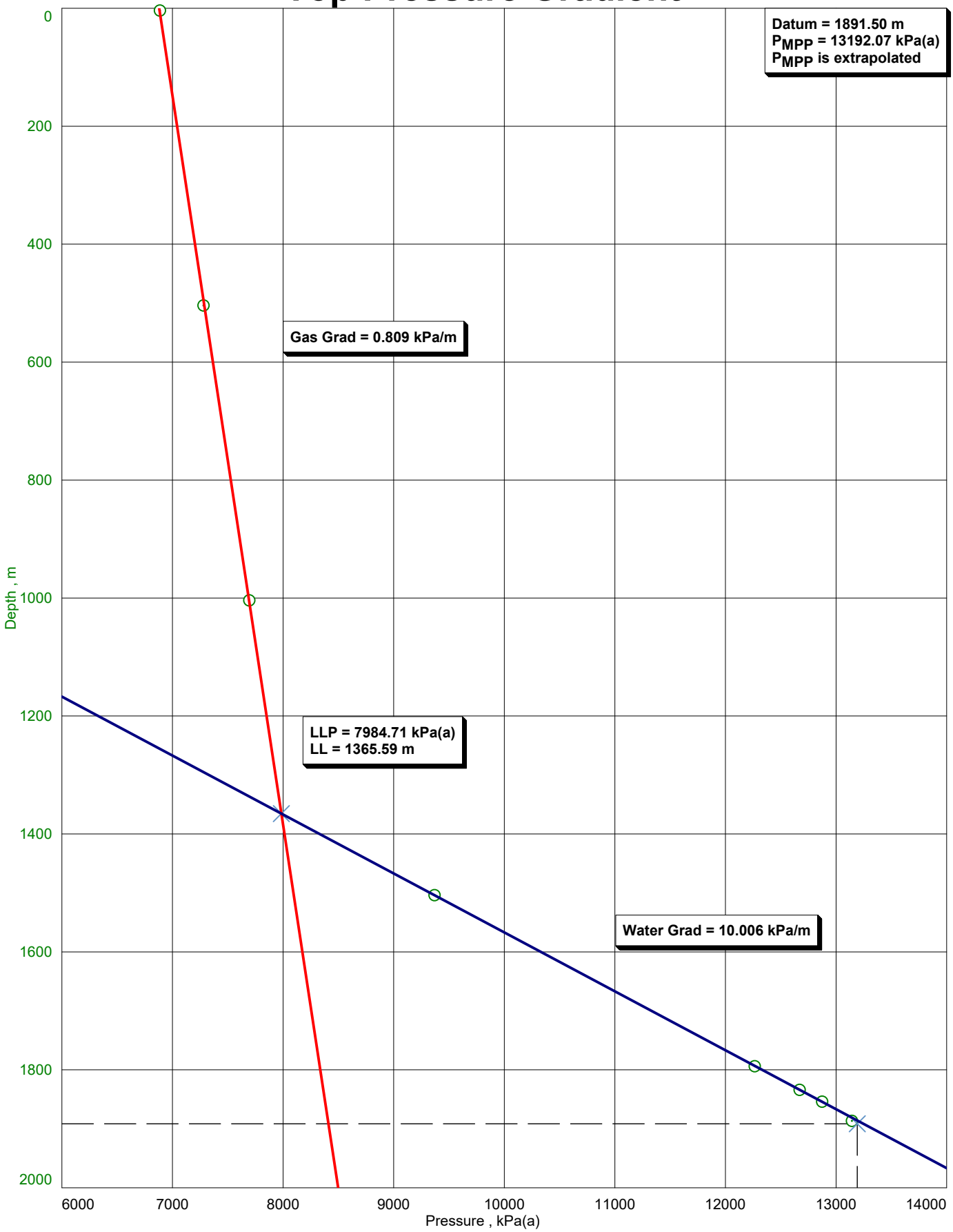
	Bottom		Top	
Gauge Name	Bottom		Top	
Gauge Serial Number	80594		80590	
Gauge Type	Strain		Strain	
Gauge Manufacturer	Spartek		Spartek	
Gauge Model	SS2500		SS2500	
Maximum Recorder Range	41370.00	kPa(a)	41370.00	kPa(a)
Resolution (% of Full Scale)	0.00030		0.00030	
Accuracy (% of Full Scale)	0.03000		0.03000	
Date of Last Calibration	2021/05/05		2021/05/05	
Gauge Start Date	2022/10/21	12:02:00	2022/10/21	12:02:00
Gauge Stop Date	2022/11/18	10:50:55	2022/11/18	10:50:55
Date Gauge On Bottom	2022/11/18	07:16:55	2022/11/18	07:16:55
Date Gauge Off Bottom	2022/11/18	09:16:55	2022/11/18	09:16:55
Run Depth (TVD KB)	1886.90	m	1886.65	m
Pressure at Run Depth	13148.66	kPa(a)	13143.55	kPa(a)
Pressure at MPP	13194.66	kPa(a)	13192.07	kPa(a)
Representative Gradient	10.002	kPa/m	10.006	kPa/m
Temperature at Run Depth	63.9	°C	63.9	°C
Liquid Level(TVD KB)	1366.46	m	1365.59	m

Bottom						Top				
Depth	Temp.	Pressure	Gradient	Gradient	Time	Depth	Temp.	Pressure	Gradient	Gradient
m	°C	kPa(a)	kPa/m	°C/m	HH:mm:ss	m	°C	kPa(a)	kPa/m	°C/m
1886.90	63.85	13148.66			09:16:55	1886.65	63.87	13143.55		
1854.20	63.66	12879.75	8.223	0.006	09:34:25	1853.95	63.65	12875.01	8.212	0.007
1834.20	63.43	12675.55	10.210	0.011	09:41:55	1833.95	63.42	12671.60	10.171	0.011
1794.20	63.08	12270.30	10.131	0.009	09:48:25	1793.95	63.03	12265.27	10.158	0.010
1504.20	58.70	9375.76	9.981	0.015	09:57:55	1503.95	58.09	9370.00	9.984	0.017
1004.20	46.62	7701.47	3.349	0.024	10:07:25	1003.95	44.95	7695.41	3.349	0.026
504.20	31.98	7278.51	0.846	0.029	10:17:25	503.95	30.07	7280.93	0.829	0.030
4.20	11.27	6876.11	0.805	0.041	10:28:25	3.95	8.63	6886.57	0.789	0.043

Bottom Pressure Gradient



Top Pressure Gradient



Company Name Enhance Energy Inc.
Unique Well ID 100/04-11-040-24W4/0
Start Test Date 2022/10/21
Final Test Date 2022/11/18

Well Name Fairborne Clive 4-11-40-24W4
Formation Leduc

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Top Time	Top Pres.	Top Temp.
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	h	kPa(a)	°C
1	2022/11/18 07:00:25	666.9736	13148.14	63.85	666.9736	13143.51	63.87
2	2022/11/18 07:02:25	667.0069	13148.29	63.85	667.0069	13143.04	63.86
3	2022/11/18 07:04:25	667.0403	13147.97	63.85	667.0403	13143.11	63.87
4	2022/11/18 07:06:25	667.0736	13148.03	63.85	667.0736	13143.35	63.87
5	2022/11/18 07:08:25	667.1069	13147.86	63.85	667.1069	13143.30	63.86
6	2022/11/18 07:10:25	667.1403	13147.92	63.85	667.1403	13143.21	63.86
7	2022/11/18 07:12:25	667.1736	13148.12	63.85	667.1736	13143.19	63.87
8	2022/11/18 07:14:25	667.2069	13148.14	63.85	667.2069	13142.98	63.86
9	2022/11/18 07:16:25	667.2403	13147.86	63.85	667.2403	13143.29	63.86
10	2022/11/18 07:16:55	667.2486	13147.85	63.85	667.2486	13143.29	63.87
11	Begin the final 2hrs on bottom						
12	2022/11/18 07:17:25	667.2569	13147.94	63.85	667.2569	13143.55	63.87
13	2022/11/18 07:18:25	667.2736	13148.18	63.85	667.2736	13143.59	63.87
14	2022/11/18 07:20:25	667.3069	13148.35	63.85	667.3069	13143.15	63.87
15	2022/11/18 07:22:25	667.3403	13147.90	63.85	667.3403	13143.35	63.87
16	2022/11/18 07:24:25	667.3736	13148.05	63.85	667.3736	13143.77	63.87
17	2022/11/18 07:26:25	667.4069	13148.51	63.85	667.4069	13143.25	63.87
18	2022/11/18 07:28:25	667.4403	13148.08	63.85	667.4403	13143.43	63.87
19	2022/11/18 07:30:25	667.4736	13148.04	63.85	667.4736	13143.60	63.86
20	2022/11/18 07:32:25	667.5069	13148.17	63.85	667.5069	13143.34	63.86
21	2022/11/18 07:34:25	667.5403	13148.12	63.85	667.5403	13142.98	63.86
22	2022/11/18 07:36:25	667.5736	13148.17	63.85	667.5736	13142.84	63.86
23	2022/11/18 07:38:25	667.6069	13148.51	63.85	667.6069	13143.38	63.86
24	2022/11/18 07:40:25	667.6403	13147.99	63.85	667.6403	13143.47	63.87
25	2022/11/18 07:42:25	667.6736	13148.39	63.85	667.6736	13143.50	63.86
26	2022/11/18 07:44:25	667.7069	13147.86	63.85	667.7069	13143.29	63.87
27	2022/11/18 07:46:25	667.7403	13148.39	63.85	667.7403	13143.40	63.86
28	2022/11/18 07:48:25	667.7736	13148.37	63.85	667.7736	13143.27	63.87
29	2022/11/18 07:50:25	667.8069	13148.27	63.85	667.8069	13143.41	63.87
30	2022/11/18 07:52:25	667.8403	13147.81	63.85	667.8403	13143.31	63.87
31	2022/11/18 07:54:25	667.8736	13148.21	63.85	667.8736	13143.72	63.87
32	2022/11/18 07:56:25	667.9069	13148.14	63.85	667.9069	13143.16	63.86
33	2022/11/18 07:58:25	667.9403	13147.86	63.85	667.9403	13143.54	63.86
34	2022/11/18 08:00:25	667.9736	13147.90	63.85	667.9736	13143.44	63.86
35	2022/11/18 08:02:25	668.0069	13148.05	63.85	668.0069	13143.22	63.86
36	2022/11/18 08:04:25	668.0403	13148.02	63.85	668.0403	13143.33	63.86
37	2022/11/18 08:06:25	668.0736	13147.86	63.85	668.0736	13143.69	63.87
38	2022/11/18 08:08:25	668.1069	13148.25	63.85	668.1069	13143.41	63.87
39	2022/11/18 08:10:25	668.1403	13148.04	63.85	668.1403	13143.56	63.86
40	2022/11/18 08:12:25	668.1736	13148.58	63.85	668.1736	13143.51	63.87
41	2022/11/18 08:14:25	668.2069	13148.13	63.85	668.2069	13143.29	63.86
42	2022/11/18 08:16:25	668.2403	13148.18	63.85	668.2403	13143.34	63.86
43	2022/11/18 08:18:25	668.2736	13147.91	63.85	668.2736	13143.32	63.86
44	2022/11/18 08:20:25	668.3069	13148.33	63.85	668.3069	13143.60	63.86
45	2022/11/18 08:22:25	668.3403	13148.55	63.85	668.3403	13143.41	63.87

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80594	2022/10/21 YYYY/MM/DD	12:02:00 HH:mm:ss	1886.90 m
Top	80590	2022/10/21 YYYY/MM/DD	12:02:00 HH:mm:ss	1886.65 m

Company Name Enhance Energy Inc.
Unique Well ID 100/04-11-040-24W4/0
Start Test Date 2022/10/21
Final Test Date 2022/11/18

Well Name Fairborne Clive 4-11-40-24W4
Formation Leduc

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Top Time	Top Pres.	Top Temp.
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	h	kPa(a)	°C
46	2022/11/18 08:24:25	668.3736	13148.28	63.85	668.3736	13143.38	63.86
47	2022/11/18 08:26:25	668.4069	13147.95	63.85	668.4069	13143.17	63.87
48	2022/11/18 08:28:25	668.4403	13148.19	63.85	668.4403	13143.86	63.86
49	2022/11/18 08:30:25	668.4736	13147.79	63.85	668.4736	13143.52	63.87
50	2022/11/18 08:32:25	668.5069	13148.25	63.85	668.5069	13143.52	63.86
51	2022/11/18 08:34:25	668.5403	13148.48	63.85	668.5403	13143.48	63.86
52	2022/11/18 08:36:25	668.5736	13148.20	63.85	668.5736	13142.91	63.87
53	2022/11/18 08:38:25	668.6069	13147.90	63.85	668.6069	13143.54	63.86
54	2022/11/18 08:40:25	668.6403	13148.60	63.85	668.6403	13143.24	63.86
55	2022/11/18 08:42:25	668.6736	13148.42	63.85	668.6736	13143.49	63.87
56	2022/11/18 08:44:25	668.7069	13148.41	63.85	668.7069	13143.43	63.87
57	2022/11/18 08:46:25	668.7403	13148.21	63.85	668.7403	13143.31	63.87
58	2022/11/18 08:48:25	668.7736	13148.35	63.85	668.7736	13143.55	63.87
59	2022/11/18 08:50:25	668.8069	13148.22	63.85	668.8069	13143.47	63.87
60	2022/11/18 08:52:25	668.8403	13148.14	63.85	668.8403	13143.55	63.87
61	2022/11/18 08:54:25	668.8736	13148.12	63.85	668.8736	13143.19	63.87
62	2022/11/18 08:56:25	668.9069	13148.20	63.85	668.9069	13143.25	63.87
63	2022/11/18 08:58:25	668.9403	13148.29	63.85	668.9403	13143.27	63.87
64	2022/11/18 09:00:25	668.9736	13148.13	63.84	668.9736	13143.55	63.87
65	2022/11/18 09:02:25	669.0069	13147.98	63.85	669.0069	13143.35	63.87
66	2022/11/18 09:04:25	669.0403	13148.10	63.85	669.0403	13143.40	63.86
67	2022/11/18 09:06:25	669.0736	13148.06	63.85	669.0736	13143.59	63.87
68	2022/11/18 09:08:25	669.1069	13147.74	63.85	669.1069	13142.61	63.87
69	2022/11/18 09:10:25	669.1403	13148.29	63.86	669.1403	13143.02	63.87
70	2022/11/18 09:12:25	669.1736	13148.57	63.85	669.1736	13144.17	63.88
71	2022/11/18 09:14:25	669.2069	13148.29	63.85	669.2069	13144.49	63.87
72	2022/11/18 09:16:25	669.2403	13148.11	63.85	669.2403	13144.36	63.86
73	2022/11/18 09:16:55	669.2486	13148.66	63.85	669.2486	13143.55	63.87
74	Final Pressure - Rig in Slickline to pull the Recorders						
75	2022/11/18 09:17:25	669.2569	13150.88	63.85	669.2569	13144.38	63.86
76	2022/11/18 09:18:25	669.2736	13149.24	63.85	669.2736	13145.20	63.87
77	2022/11/18 09:20:25	669.3069	13156.41	63.85	669.3069	13160.15	63.86
78	2022/11/18 09:22:25	669.3403	13143.94	63.83	669.3403	13128.35	63.84
79	2022/11/18 09:24:25	669.3736	13147.61	63.83	669.3736	13141.39	63.83
80	2022/11/18 09:26:25	669.4069	13144.19	63.83	669.4069	13147.87	63.84
81	2022/11/18 09:28:25	669.4403	13001.93	63.83	669.4403	13130.32	63.84
82	2022/11/18 09:30:25	669.4736	12880.17	63.76	669.4736	12875.59	63.76
83	2022/11/18 09:32:25	669.5069	12879.69	63.70	669.5069	12874.84	63.69
84	2022/11/18 09:34:25	669.5403	12879.75	63.66	669.5403	12875.01	63.65
85	2022/11/18 09:36:25	669.5736	12676.54	63.59	669.5736	12671.64	63.59
86	2022/11/18 09:38:25	669.6069	12675.95	63.52	669.6069	12671.21	63.50
87	2022/11/18 09:40:25	669.6403	12675.72	63.46	669.6403	12671.20	63.44
88	2022/11/18 09:42:25	669.6736	12370.78	63.42	669.6736	12658.76	63.41
89	2022/11/18 09:44:25	669.7069	12270.56	63.28	669.7069	12266.09	63.25
90	2022/11/18 09:46:25	669.7403	12270.39	63.16	669.7403	12265.15	63.12

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80594	2022/10/21 YYYY/MM/DD	12:02:00 HH:mm:ss	1886.90 m
Top	80590	2022/10/21 YYYY/MM/DD	12:02:00 HH:mm:ss	1886.65 m

Company Name Enhance Energy Inc.
Unique Well ID 100/04-11-040-24W4/0
Start Test Date 2022/10/21
Final Test Date 2022/11/18

Well Name Fairborne Clive 4-11-40-24W4
Formation Leduc

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Top Time	Top Pres.	Top Temp.
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	h	kPa(a)	°C
91	2022/11/18 09:48:25	669.7736	12270.30	63.08	669.7736	12265.48	63.04
92	2022/11/18 09:50:25	669.8069	10562.95	62.85	669.8069	10950.13	62.86
93	2022/11/18 09:52:25	669.8403	9378.57	61.52	669.8403	9378.52	61.20
94	2022/11/18 09:54:25	669.8736	9376.31	60.14	669.8736	9371.12	59.54
95	2022/11/18 09:56:25	669.9069	9375.96	59.22	669.9069	9370.24	58.68
96	2022/11/18 09:58:25	669.9403	9068.95	58.54	669.9403	9370.00	58.09
97	2022/11/18 10:00:25	669.9736	7894.65	56.83	669.9736	7941.76	56.29
98	2022/11/18 10:02:25	670.0069	7706.14	52.75	670.0069	7701.13	51.27
99	2022/11/18 10:04:25	670.0403	7703.79	49.29	670.0403	7695.45	47.46
100	2022/11/18 10:06:25	670.0736	7702.15	47.34	670.0736	7695.47	45.80
101	2022/11/18 10:08:25	670.1069	7638.77	45.84	670.1069	7668.97	44.67
102	2022/11/18 10:10:25	670.1403	7425.79	42.35	670.1403	7461.10	40.63
103	2022/11/18 10:12:25	670.1736	7284.34	37.66	670.1736	7281.70	34.97
104	2022/11/18 10:14:25	670.2069	7280.54	34.44	670.2069	7280.99	31.96
105	2022/11/18 10:16:25	670.2403	7278.90	32.64	670.2403	7281.18	30.70
106	2022/11/18 10:18:25	670.2736	7220.98	31.29	670.2736	7264.19	29.87
107	2022/11/18 10:20:25	670.3069	7017.30	27.26	670.3069	7054.03	25.26
108	2022/11/18 10:22:25	670.3403	6885.11	21.73	670.3403	6898.45	18.62
109	2022/11/18 10:24:25	670.3736	6876.59	16.74	670.3736	6885.90	13.46
110	2022/11/18 10:26:25	670.4069	6875.53	13.56	670.4069	6886.08	10.85
111	2022/11/18 10:28:25	670.4403	6876.11	11.27	670.4403	6886.54	9.03
112	2022/11/18 10:30:25	670.4736	3018.58	9.30	670.4736	4172.73	7.47
113	2022/11/18 10:32:25	670.5069	552.99	6.91	670.5069	764.00	5.20
114	2022/11/18 10:34:25	670.5403	269.05	5.32	670.5403	371.74	3.87
115	2022/11/18 10:36:25	670.5736	111.67	4.44	670.5736	129.68	3.21
116	2022/11/18 10:38:25	670.6069	106.19	3.80	670.6069	115.21	2.71
117	2022/11/18 10:40:25	670.6403	106.93	3.06	670.6403	115.05	1.61
118	2022/11/18 10:42:25	670.6736	107.12	2.32	670.6736	114.91	0.87
119	2022/11/18 10:44:25	670.7069	103.98	1.67	670.7069	107.91	0.32
120	2022/11/18 10:46:25	670.7403	103.45	1.75	670.7403	107.81	0.47
121	2022/11/18 10:48:25	670.7736	104.58	0.99	670.7736	107.29	0.24
122	2022/11/18 10:50:25	670.8069	104.21	1.18	670.8069	107.66	0.06
123	2022/11/18 10:50:55	670.8153	101.42	2.34	670.8153	107.62	0.29

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80594	2022/10/21 YYYY/MM/DD	12:02:00 HH:mm:ss	1886.90 m
Top	80590	2022/10/21 YYYY/MM/DD	12:02:00 HH:mm:ss	1886.65 m

Test Type Final Static Gradient

Company Name	**Enhance Energy Inc.**
Well Name	**Fairborne Clive 4-26-39-24W4**
Unique Well ID	**100/04-26-039-24W4/2**
Well License Number	**0032636**
Formation	**Nisku**
Start Test Date	**2022/10/19**
Final Test Date	**2022/11/17**

Prepared By	**Kennason Tech Services Inc.**
Qualified By	**Cory Strang**
Report Date	**2022/11/18**

Reliance OFS Canada Limited
2500 333 - 7th Ave SW
Calgary AB T2P 2Z1
403-475-1229
relianceofs.com

RELIANCE OILFIELD SERVICES

Pressure Survey Report

Final Static Gradient

Company Name Enhance Energy Inc.
Contact Kevin Meyer
Representative Russ Guenther

General Information

Well Name	Fairborne Clive 4-26-39-24W4	KB Elevation (SL)	886.70 m
Unique Well ID	100/04-26-039-24W4/2	CF Elevation (SL)	882.70 m
Surface Location	04-26-039-24W4	GL Elevation (SL)	882.70 m
Well License Number	0032636	KB-CF Offset	4.00 m
Well Type	Vertical	KB-GL Offset	4.00 m

Wellbore Information

Tubing OD	73.0 mm	Casing OD	177.8 mm
Tubing ID	62.0 mm	Casing ID	161.7 mm
Tubing Depth(Log KB)	1844.00000 m	Casing Depth(Log KB)	1922.10000 m
Tubing Depth(TVD KB)	1844.00000 m	Casing Depth(TVD KB)	1922.10000 m
Packer Depth(Log KB)	1841.00000 m	PBTD(Log KB)	1882.00 m
Packer Depth(TVD KB)	1841.00000 m	PBTD(TVD KB)	1882.00 m

Gross Completion Interval (GCI) as tested:

Top(Log KB)	1845.50 m	Top(TVD KB)	1845.50 m	Formation Name	Nisku
Bottom(Log KB)	1847.50 m	Bottom(TVD KB)	1847.50 m	Pool	
MPP(Log KB)	1846.50 m	MPP(TVD KB)	1846.50 m		

Test Information

Test Type	Final Static Gradient	Date/Time Gauge on Bottom	2022/11/17 07:00:25
Well Fluid Type	01 Oil	Date/Time Gauge Off Bottom	2022/11/17 09:10:55
Test Purpose	Annual Pressure	Time/Date Well Shut-In	2020/03/10 12:00:00
		Shut-In Duration	23565.1820 h

Surface Pressures:

Tubing Pressure Initial	173.00 kPa(a)	Casing Pressure Initial	93.00 kPa(a)
Tubing Pressure: Final	173.00 kPa(a)	Casing Pressure: Final	93.00 kPa(a)

Test Results

Gauge Serial Number Used in Summary	80664		Run Depth (Log KB)	1845.40	m
Calculated Pressure Corrected to MPP	12627.88	kPa(a)	Run Depth (TVD KB)	1845.40	m
Reservoir Temperature	63.11	°C	Pressure at Stop Depth	12616.44	kPa(a)
Liquid Level(TVD KB)	643.97	m	Temperature at Run Depth	63.1	°C

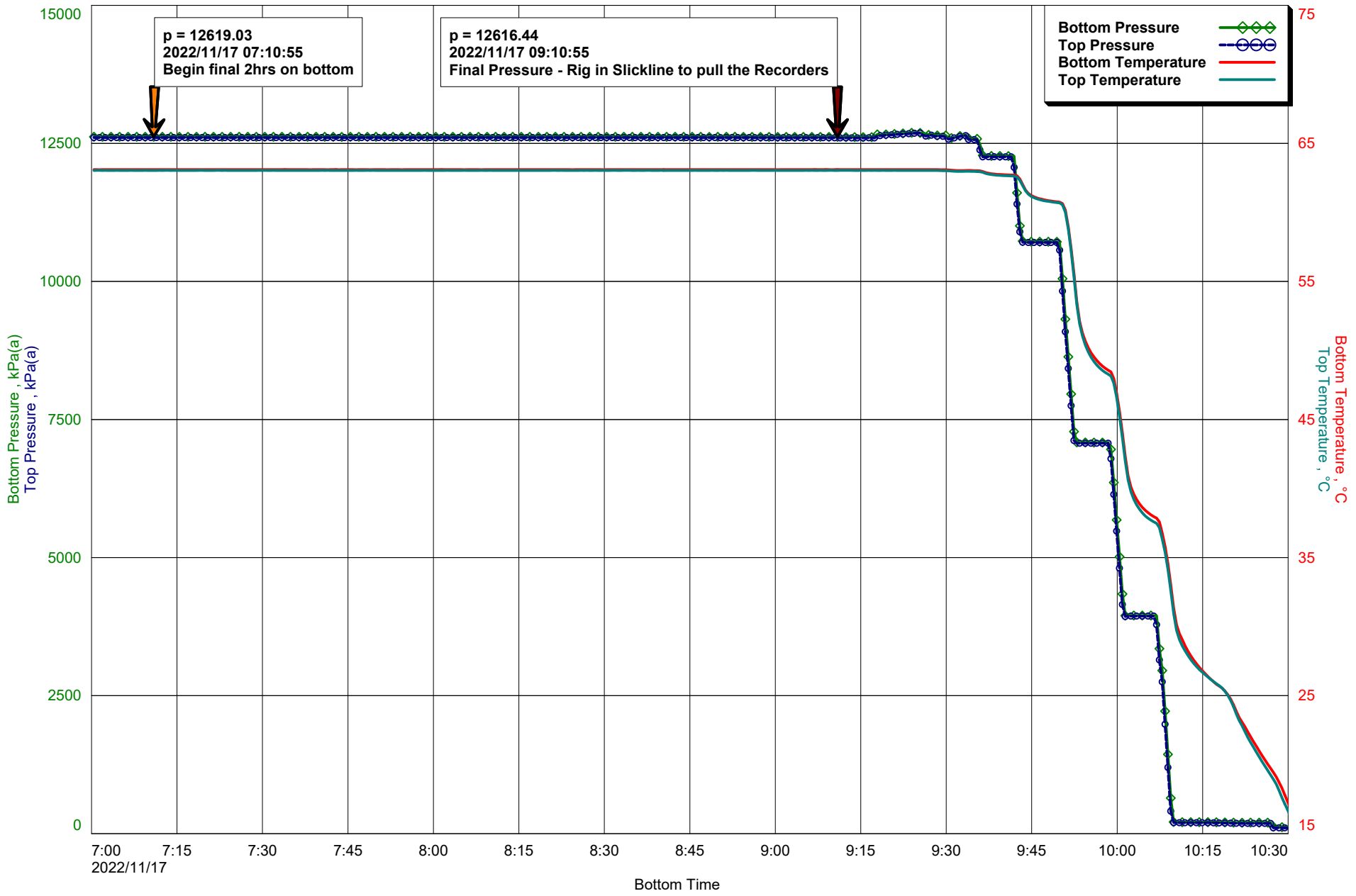
Test Remarks:

Static Gradient stops were made on the way out of the well.
The Shut In date/time was not provided - Used the AER Suspension date.
Daylight Savings ended while the Recorders were in the well.

Enhance Energy Inc.
100/04-26-039-24W4/2
Start Test Date: 2022/10/19
Final Test Date: 2022/11/17

Fairborne Clive 4-26-39-24W4
Formation: Nisku

Final Static Gradient Plot



Final Static Gradient 2022/10/19

Company Name Enhance Energy Inc.

Well Name Fairborne Clive 4-26-39-24W4

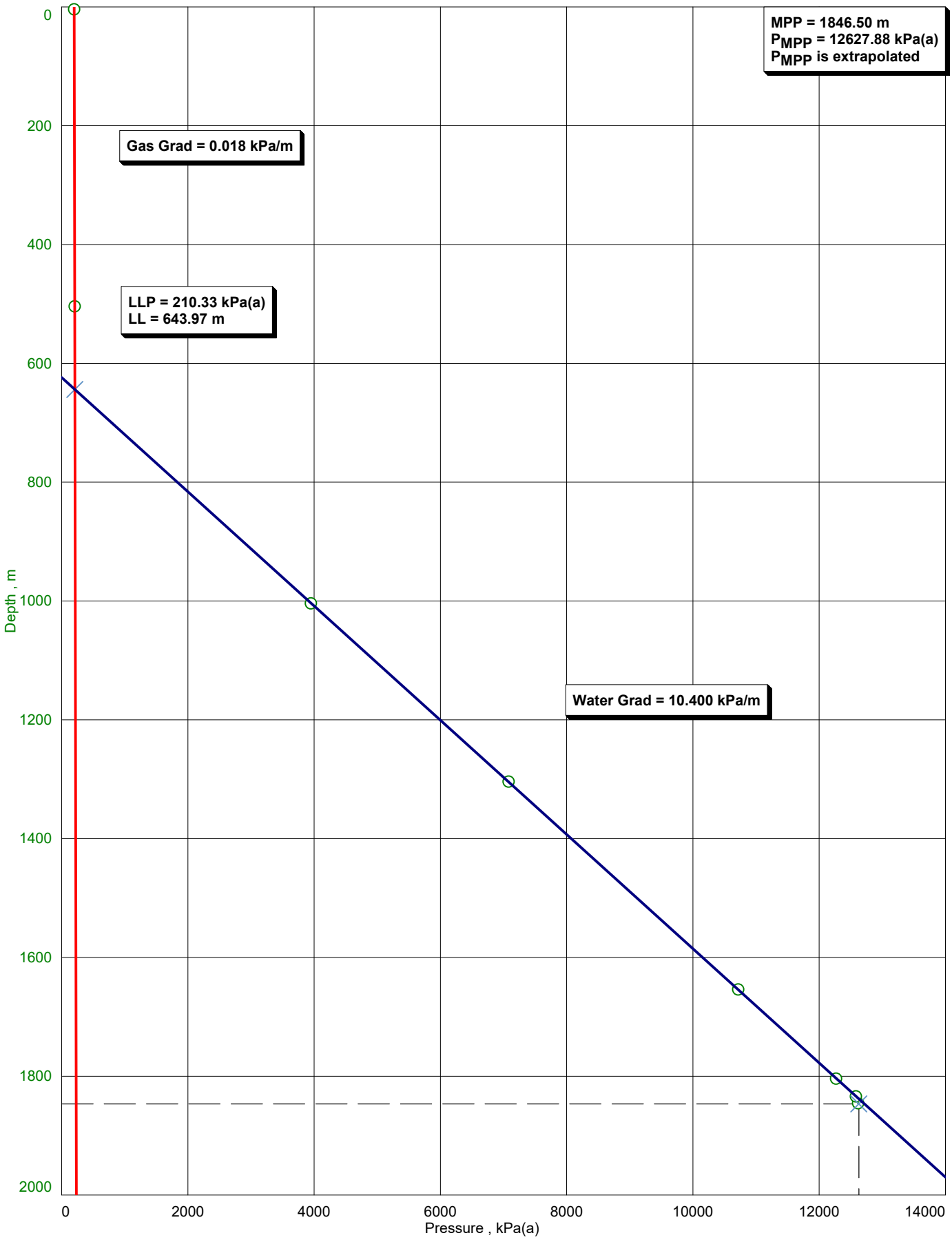
Unique Well ID	100/04-26-039-24W4/2	KB Elevation (SL)	886.70
		GL Elevation (SL)	882.70
Formation	Nisku	CF Elevation (SL)	882.70
Well Fluid Type	01 Oil		
Well License Number	0032636		
Well Type	Vertical		
Start Test Date	2022/10/19	Start Test Time	13:07:00
Final Test Date	2022/11/17	Final Test Time	10:35:55
Date Well Shut-In	2020/03/10	Time Well Shut-In	12:00:00

Top(TVD KB)	1845.50	m	Tubing Pressure: Initial	173.00	kPa(a)
Bottom(TVD KB)	1847.50	m	Casing Pressure: Initial	93.00	kPa(a)
MPP(TVD KB)	1846.50	m	Shut-In Duration	23565.1820	h

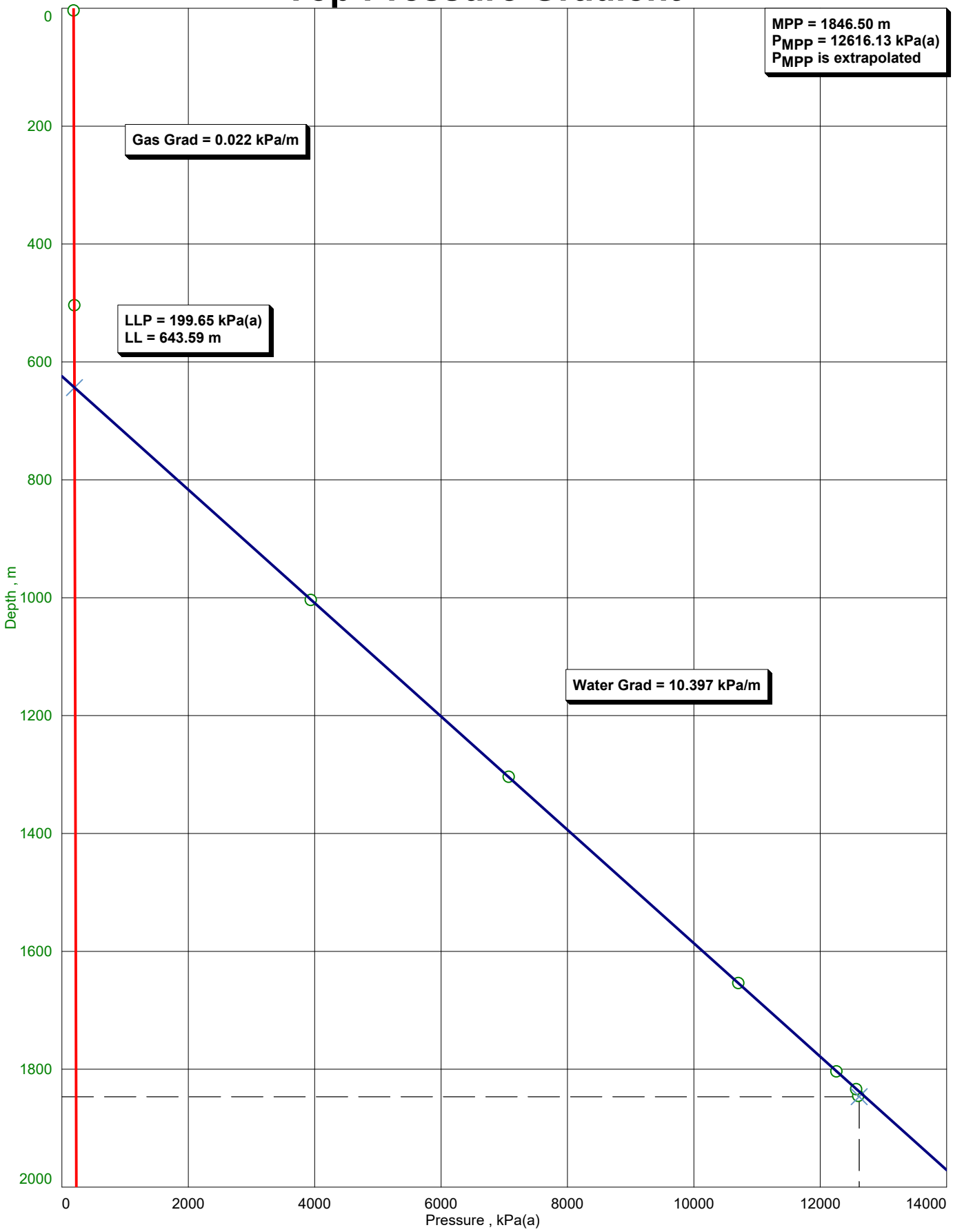
	Bottom		Top	
Gauge Name	Bottom		Top	
Gauge Serial Number	80664		80666	
Gauge Type	Strain		Strain	
Gauge Manufacturer	Spartek		Spartek	
Gauge Model	SS2500		SS2500	
Maximum Recorder Range	41370.00	kPa(a)	41370.00	kPa(a)
Resolution (% of Full Scale)	0.00030		0.00030	
Accuracy (% of Full Scale)	0.03000		0.03000	
Date of Last Calibration	2021/12/22		2021/12/22	
Gauge Start Date	2022/10/19	13:07:00	2022/10/19	13:07:00
Gauge Stop Date	2022/11/17	10:35:55	2022/11/17	10:35:55
Date Gauge On Bottom	2022/11/17	07:00:25	2022/11/17	07:00:25
Date Gauge Off Bottom	2022/11/17	09:10:55	2022/11/17	09:10:55
Run Depth (TVD KB)	1845.40	m	1845.15	m
Pressure at Run Depth	12616.44	kPa(a)	12602.10	kPa(a)
Pressure at MPP	12627.88	kPa(a)	12616.13	kPa(a)
Representative Gradient	10.400	kPa/m	10.397	kPa/m
Temperature at Run Depth	63.1	°C	63.0	°C
Liquid Level(TVD KB)	643.97	m	643.59	m

Bottom						Top				
Depth	Temp.	Pressure	Gradient	Gradient	Time	Depth	Temp.	Pressure	Gradient	Gradient
m	°C	kPa(a)	kPa/m	°C/m	HH:mm:ss	m	°C	kPa(a)	kPa/m	°C/m
1845.40	63.11	12616.44			09:10:55	1845.15	63.04	12602.10		
1834.00	63.02	12583.22	2.914	0.008	09:35:25	1833.75	62.95	12568.99	2.904	0.007
1804.00	62.71	12268.19	10.501	0.010	09:41:55	1803.75	62.64	12256.64	10.412	0.010
1654.00	60.77	10718.30	10.333	0.013	09:49:25	1653.75	60.71	10704.30	10.349	0.013
1304.00	48.57	7081.20	10.392	0.035	09:58:25	1303.75	48.28	7069.89	10.384	0.036
1004.00	37.97	3949.40	10.439	0.035	10:06:25	1003.75	37.58	3939.27	10.435	0.036
504.00	26.00	207.88	7.483	0.024	10:16:55	503.75	26.17	196.62	7.485	0.023
4.00	19.74	199.11	0.018	0.013	10:26:55	3.75	19.26	185.77	0.022	0.014

Bottom Pressure Gradient



Top Pressure Gradient



Company Name Enhance Energy Inc.
Unique Well ID 100/04-26-039-24W4/2
Start Test Date 2022/10/19
Final Test Date 2022/11/17

Well Name Fairborne Clive 4-26-39-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
1	2022/11/17 07:00:25	689.8903	12618.91	63.10	13.89	689.8903	12605.02	63.04
2	2022/11/17 07:02:25	689.9236	12619.29	63.10	14.67	689.9236	12604.62	63.04
3	2022/11/17 07:04:25	689.9569	12618.99	63.10	13.64	689.9569	12605.35	63.04
4	2022/11/17 07:06:25	689.9903	12619.09	63.10	14.56	689.9903	12604.53	63.04
5	2022/11/17 07:08:25	690.0236	12618.80	63.10	14.08	690.0236	12604.73	63.04
6	2022/11/17 07:10:25	690.0569	12619.13	63.10	14.30	690.0569	12604.83	63.04
7	2022/11/17 07:10:55	690.0653	12619.03	63.11	13.88	690.0653	12605.15	63.04
8	Begin final 2hrs on bottom							
9								
10	2022/11/17 07:11:25	690.0736	12619.26	63.10	14.31	690.0736	12604.95	63.04
11	2022/11/17 07:12:25	690.0903	12619.25	63.10	14.61	690.0903	12604.64	63.04
12	2022/11/17 07:14:25	690.1236	12619.42	63.10	14.76	690.1236	12604.66	63.04
13	2022/11/17 07:16:25	690.1569	12619.22	63.11	14.07	690.1569	12605.15	63.04
14	2022/11/17 07:18:25	690.1903	12619.01	63.10	14.12	690.1903	12604.90	63.04
15	2022/11/17 07:20:25	690.2236	12619.13	63.10	14.08	690.2236	12605.06	63.04
16	2022/11/17 07:22:25	690.2569	12618.99	63.11	14.20	690.2569	12604.80	63.04
17	2022/11/17 07:24:25	690.2903	12619.23	63.10	14.60	690.2903	12604.63	63.04
18	2022/11/17 07:26:25	690.3236	12618.83	63.10	14.10	690.3236	12604.73	63.04
19	2022/11/17 07:28:25	690.3569	12619.23	63.10	14.75	690.3569	12604.48	63.04
20	2022/11/17 07:30:25	690.3903	12619.20	63.11	14.27	690.3903	12604.93	63.04
21	2022/11/17 07:32:25	690.4236	12619.09	63.10	14.25	690.4236	12604.84	63.04
22	2022/11/17 07:34:25	690.4569	12618.99	63.10	13.83	690.4569	12605.15	63.04
23	2022/11/17 07:36:25	690.4903	12619.50	63.10	14.55	690.4903	12604.95	63.04
24	2022/11/17 07:38:25	690.5236	12618.72	63.10	13.88	690.5236	12604.84	63.04
25	2022/11/17 07:40:25	690.5569	12619.11	63.10	14.27	690.5569	12604.84	63.04
26	2022/11/17 07:42:25	690.5903	12619.09	63.10	14.22	690.5903	12604.87	63.04
27	2022/11/17 07:44:25	690.6236	12619.29	63.10	14.48	690.6236	12604.82	63.04
28	2022/11/17 07:46:25	690.6569	12618.88	63.10	13.79	690.6569	12605.09	63.04
29	2022/11/17 07:48:25	690.6903	12619.15	63.10	14.08	690.6903	12605.07	63.04
30	2022/11/17 07:50:25	690.7236	12618.74	63.10	13.84	690.7236	12604.90	63.04
31	2022/11/17 07:52:25	690.7569	12618.71	63.10	13.93	690.7569	12604.78	63.04
32	2022/11/17 07:54:25	690.7903	12619.09	63.10	14.01	690.7903	12605.08	63.04
33	2022/11/17 07:56:25	690.8236	12619.03	63.10	14.36	690.8236	12604.67	63.04
34	2022/11/17 07:58:25	690.8569	12619.15	63.10	14.15	690.8569	12605.01	63.04
35	2022/11/17 08:00:25	690.8903	12619.09	63.10	14.11	690.8903	12604.99	63.04
36	2022/11/17 08:02:25	690.9236	12619.09	63.10	14.09	690.9236	12605.00	63.05
37	2022/11/17 08:04:25	690.9569	12618.93	63.10	14.10	690.9569	12604.83	63.04
38	2022/11/17 08:06:25	690.9903	12618.91	63.10	13.92	690.9903	12604.99	63.04
39	2022/11/17 08:08:25	691.0236	12619.45	63.10	14.48	691.0236	12604.97	63.04
40	2022/11/17 08:10:25	691.0569	12619.30	63.10	14.40	691.0569	12604.90	63.04
41	2022/11/17 08:12:25	691.0903	12619.38	63.10	14.56	691.0903	12604.82	63.04
42	2022/11/17 08:14:25	691.1236	12619.15	63.10	14.24	691.1236	12604.90	63.04
43	2022/11/17 08:16:25	691.1569	12619.13	63.10	14.27	691.1569	12604.87	63.04
44	2022/11/17 08:18:25	691.1903	12619.11	63.10	14.33	691.1903	12604.78	63.04
45	2022/11/17 08:20:25	691.2236	12618.87	63.10	13.84	691.2236	12605.03	63.04

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80664	2022/10/19 YYYY/MM/DD	13:07:00 HH:mm:ss	1845.40 m
Top	80666	2022/10/19 YYYY/MM/DD	13:07:00 HH:mm:ss	1845.15 m

Company Name Enhance Energy Inc.
Unique Well ID 100/04-26-039-24W4/2
Start Test Date 2022/10/19
Final Test Date 2022/11/17

Well Name Fairborne Clive 4-26-39-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
46	2022/11/17 08:22:25	691.2569	12619.09	63.10	14.04	691.2569	12605.04	63.04
47	2022/11/17 08:24:25	691.2903	12618.94	63.10	14.22	691.2903	12604.73	63.04
48	2022/11/17 08:26:25	691.3236	12619.21	63.10	14.65	691.3236	12604.56	63.04
49	2022/11/17 08:28:25	691.3569	12618.54	63.10	13.63	691.3569	12604.91	63.04
50	2022/11/17 08:30:25	691.3903	12619.01	63.10	13.90	691.3903	12605.11	63.04
51	2022/11/17 08:32:25	691.4236	12619.29	63.10	14.24	691.4236	12605.06	63.04
52	2022/11/17 08:34:25	691.4569	12618.93	63.10	13.82	691.4569	12605.11	63.05
53	2022/11/17 08:36:25	691.4903	12618.68	63.10	13.48	691.4903	12605.20	63.04
54	2022/11/17 08:38:25	691.5236	12619.01	63.10	13.81	691.5236	12605.20	63.04
55	2022/11/17 08:40:25	691.5569	12618.80	63.10	14.03	691.5569	12604.77	63.04
56	2022/11/17 08:42:25	691.5903	12619.09	63.10	14.37	691.5903	12604.73	63.04
57	2022/11/17 08:44:25	691.6236	12618.77	63.10	13.89	691.6236	12604.87	63.04
58	2022/11/17 08:46:25	691.6569	12619.07	63.10	14.20	691.6569	12604.87	63.04
59	2022/11/17 08:48:25	691.6903	12618.28	63.10	13.88	691.6903	12604.39	63.04
60	2022/11/17 08:50:25	691.7236	12618.64	63.10	14.58	691.7236	12604.06	63.04
61	2022/11/17 08:52:25	691.7569	12618.16	63.10	13.82	691.7569	12604.34	63.04
62	2022/11/17 08:54:25	691.7903	12618.24	63.10	14.24	691.7903	12603.99	63.04
63	2022/11/17 08:56:25	691.8236	12617.57	63.10	13.89	691.8236	12603.68	63.04
64	2022/11/17 08:58:25	691.8569	12617.81	63.10	14.14	691.8569	12603.67	63.04
65	2022/11/17 09:00:25	691.8903	12617.13	63.10	13.78	691.8903	12603.35	63.04
66	2022/11/17 09:02:25	691.9236	12616.98	63.10	14.08	691.9236	12602.90	63.04
67	2022/11/17 09:04:25	691.9569	12617.06	63.10	14.47	691.9569	12602.60	63.04
68	2022/11/17 09:06:25	691.9903	12616.74	63.10	14.06	691.9903	12602.68	63.04
69	2022/11/17 09:08:25	692.0236	12616.78	63.11	14.62	692.0236	12602.16	63.04
70	2022/11/17 09:10:25	692.0569	12616.29	63.10	14.58	692.0569	12601.71	63.04
71	2022/11/17 09:10:55	692.0653	12616.44	63.11	14.34	692.0653	12602.10	63.04
72	Final Pressure - Rig in Slickline to pull the Recorders							
73								
74	2022/11/17 09:11:25	692.0736	12609.85	63.11	10.13	692.0736	12599.72	63.04
75	2022/11/17 09:12:25	692.0903	12614.12	63.10	13.83	692.0903	12600.29	63.04
76	2022/11/17 09:14:25	692.1236	12614.54	63.10	14.91	692.1236	12599.63	63.04
77	2022/11/17 09:16:25	692.1569	12614.22	63.10	14.24	692.1569	12599.98	63.04
78	2022/11/17 09:18:25	692.1903	12651.16	63.10	11.92	692.1903	12639.24	63.04
79	2022/11/17 09:20:25	692.2236	12666.21	63.10	12.45	692.2236	12653.76	63.04
80	2022/11/17 09:22:25	692.2569	12681.63	63.11	12.82	692.2569	12668.81	63.04
81	2022/11/17 09:24:25	692.2903	12695.82	63.10	12.20	692.2903	12683.62	63.04
82	2022/11/17 09:26:25	692.3236	12669.22	63.10	38.21	692.3236	12631.01	63.04
83	2022/11/17 09:28:25	692.3569	12644.39	63.10	15.82	692.3569	12628.57	63.04
84	2022/11/17 09:30:25	692.3903	12584.64	63.08	10.57	692.3903	12574.06	63.02
85	2022/11/17 09:32:25	692.4236	12634.61	63.03	9.22	692.4236	12625.40	62.97
86	2022/11/17 09:34:25	692.4569	12583.29	63.03	14.28	692.4569	12569.01	62.97
87	2022/11/17 09:36:25	692.4903	12282.16	62.97	26.99	692.4903	12255.17	62.90
88	2022/11/17 09:38:25	692.5236	12271.76	62.78	14.77	692.5236	12256.99	62.71
89	2022/11/17 09:40:25	692.5569	12271.27	62.73	14.43	692.5569	12256.84	62.66
90	2022/11/17 09:42:25	692.5903	11605.52	62.66	203.67	692.5903	11401.85	62.57

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80664	2022/10/19 YYYY/MM/DD	13:07:00 HH:mm:ss	1845.40 m
Top	80666	2022/10/19 YYYY/MM/DD	13:07:00 HH:mm:ss	1845.15 m

Company Name Enhance Energy Inc.
Unique Well ID 100/04-26-039-24W4/2
Start Test Date 2022/10/19
Final Test Date 2022/11/17

Well Name Fairborne Clive 4-26-39-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
91	2022/11/17 09:44:25	692.6236	10719.52	61.38	14.58	692.6236	10704.94	61.32
92	2022/11/17 09:46:25	692.6569	10719.14	60.99	14.17	692.6569	10704.96	60.92
93	2022/11/17 09:48:25	692.6903	10718.42	60.83	14.02	692.6903	10704.40	60.77
94	2022/11/17 09:50:25	692.7236	10050.99	60.64	227.79	692.7236	9823.20	60.54
95	2022/11/17 09:52:25	692.7569	7281.29	55.58	161.54	692.7569	7119.75	55.32
96	2022/11/17 09:54:25	692.7903	7083.19	50.67	12.79	692.7903	7070.40	50.40
97	2022/11/17 09:56:25	692.8236	7081.93	49.27	11.64	692.8236	7070.30	48.95
98	2022/11/17 09:58:25	692.8569	7081.20	48.57	11.32	692.8569	7069.89	48.28
99	2022/11/17 10:00:25	692.8903	5014.25	45.56	208.99	692.8903	4805.26	45.23
100	2022/11/17 10:02:25	692.9236	3951.73	40.11	11.94	692.9236	3939.79	39.77
101	2022/11/17 10:04:25	692.9569	3949.78	38.64	9.93	692.9569	3939.84	38.24
102	2022/11/17 10:06:25	692.9903	3949.40	37.97	10.13	692.9903	3939.27	37.58
103	2022/11/17 10:08:25	693.0236	2218.32	35.80	239.10	693.0236	1979.22	35.38
104	2022/11/17 10:10:25	693.0569	210.36	30.13	12.83	693.0569	197.53	29.72
105	2022/11/17 10:12:25	693.0903	207.94	28.22	11.40	693.0903	196.54	27.92
106	2022/11/17 10:14:25	693.1236	207.69	27.05	11.12	693.1236	196.57	26.90
107	2022/11/17 10:16:25	693.1569	207.61	26.19	11.00	693.1569	196.62	26.17
108	2022/11/17 10:18:25	693.1903	204.14	25.54	11.64	693.1903	192.51	25.55
109	2022/11/17 10:20:25	693.2236	199.63	24.32	12.45	693.2236	187.18	24.20
110	2022/11/17 10:22:25	693.2569	198.13	22.74	12.78	693.2569	185.35	22.40
111	2022/11/17 10:24:25	693.2903	198.62	21.33	12.96	693.2903	185.65	20.91
112	2022/11/17 10:26:25	693.3236	198.85	20.04	13.21	693.3236	185.65	19.58
113	2022/11/17 10:28:25	693.3569	117.30	18.72	13.50	693.3569	103.80	18.13
114	2022/11/17 10:30:25	693.3903	117.95	16.85	13.98	693.3903	103.97	16.26
115	2022/11/17 10:32:25	693.4236	111.32	14.72	11.15	693.4236	100.17	13.77
116	2022/11/17 10:34:25	693.4569	111.04	11.78	9.96	693.4569	101.07	10.06
117	2022/11/17 10:35:55	693.4819	111.13	9.47	9.86	693.4819	101.26	8.04

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80664	2022/10/19 YYYY/MM/DD	13:07:00 HH:mm:ss	1845.40 m
Top	80666	2022/10/19 YYYY/MM/DD	13:07:00 HH:mm:ss	1845.15 m

Test Type Final Static Gradient

Company Name	**Enhance Energy Inc.**
Well Name	**Fairborne Clive 8-35-39-24W4**
Unique Well ID	**100/08-35-039-24W4/2**
Well License Number	**0107445**
Formation	**Nisku**
Start Test Date	**2022/10/20**
Final Test Date	**2022/11/17**

Prepared By	**Kennason Tech Services Inc.**
Qualified By	**Cory Strang**
Report Date	**2022/11/18**

Reliance OFS Canada Limited
2500 333 - 7th Ave SW
Calgary AB T2P 2Z1
403-475-1229
relianceofs.com

RELIANCE OILFIELD SERVICES

Pressure Survey Report

Final Static Gradient

Company Name Enhance Energy Inc.
Contact Kevin Meyer

Representative Russ Guenther

General Information

Well Name	Fairborne Clive 8-35-39-24W4
Unique Well ID	100/08-35-039-24W4/2
Surface Location	08-35-039-24W4
Well License Number	0107445
Well Type	Vertical

KB Elevation (SL)	860.20 m
CF Elevation (SL)	854.90 m
GL Elevation (SL)	854.90 m
KB-CF Offset	5.30 m
KB-GL Offset	5.30 m

Wellbore Information

Tubing OD	73.0 mm	Casing OD	177.8 mm
Tubing ID	62.0 mm	Casing ID	161.7 mm
Tubing Depth(Log KB)	1824.84000 m	Casing Depth(Log KB)	1922.00000 m
Tubing Depth(TVD KB)	1824.84000 m	Casing Depth(TVD KB)	1922.00000 m
Packer Depth(Log KB)	1819.30000 m	PBTD(Log KB)	1843.00 m
Packer Depth(TVD KB)	1819.30000 m	PBTD(TVD KB)	1843.00 m

Gross Completion Interval (GCI) as tested:

Top(Log KB)	1832.00 m	Top(TVD KB)	1832.00 m	Formation Name	Nisku
Bottom(Log KB)	1835.00 m	Bottom(TVD KB)	1835.00 m	Pool	
MPP(Log KB)	1833.50 m	MPP(TVD KB)	1833.50 m		

Test Information

Test Type	Final Static Gradient
Well Fluid Type	01 Oil
Test Purpose	Annual Pressure

Date/Time Gauge on Bottom	2022/11/17 09:45:25
Date/Time Gauge Off Bottom	2022/11/17 11:59:55
Time/Date Well Shut-In	2020/09/01 12:00:00
Shut-In Duration	19367.9986 h

Surface Pressures:

Tubing Pressure Initial	93.00 kPa(a)	Casing Pressure Initial	93.00 kPa(a)
Tubing Pressure: Final	93.00 kPa(a)	Casing Pressure: Final	93.00 kPa(a)

Test Results

Gauge Serial Number Used in Summary	80683	Run Depth (Log KB)	1825.00 m
Calculated Pressure Corrected to MPP	12797.11 kPa(a)	Run Depth (TVD KB)	1825.00 m
Reservoir Temperature	62.34 °C	Pressure at Stop Depth	12703.92 kPa(a)
Liquid Level(TVD KB)	669.46 m	Temperature at Run Depth	62.3 °C

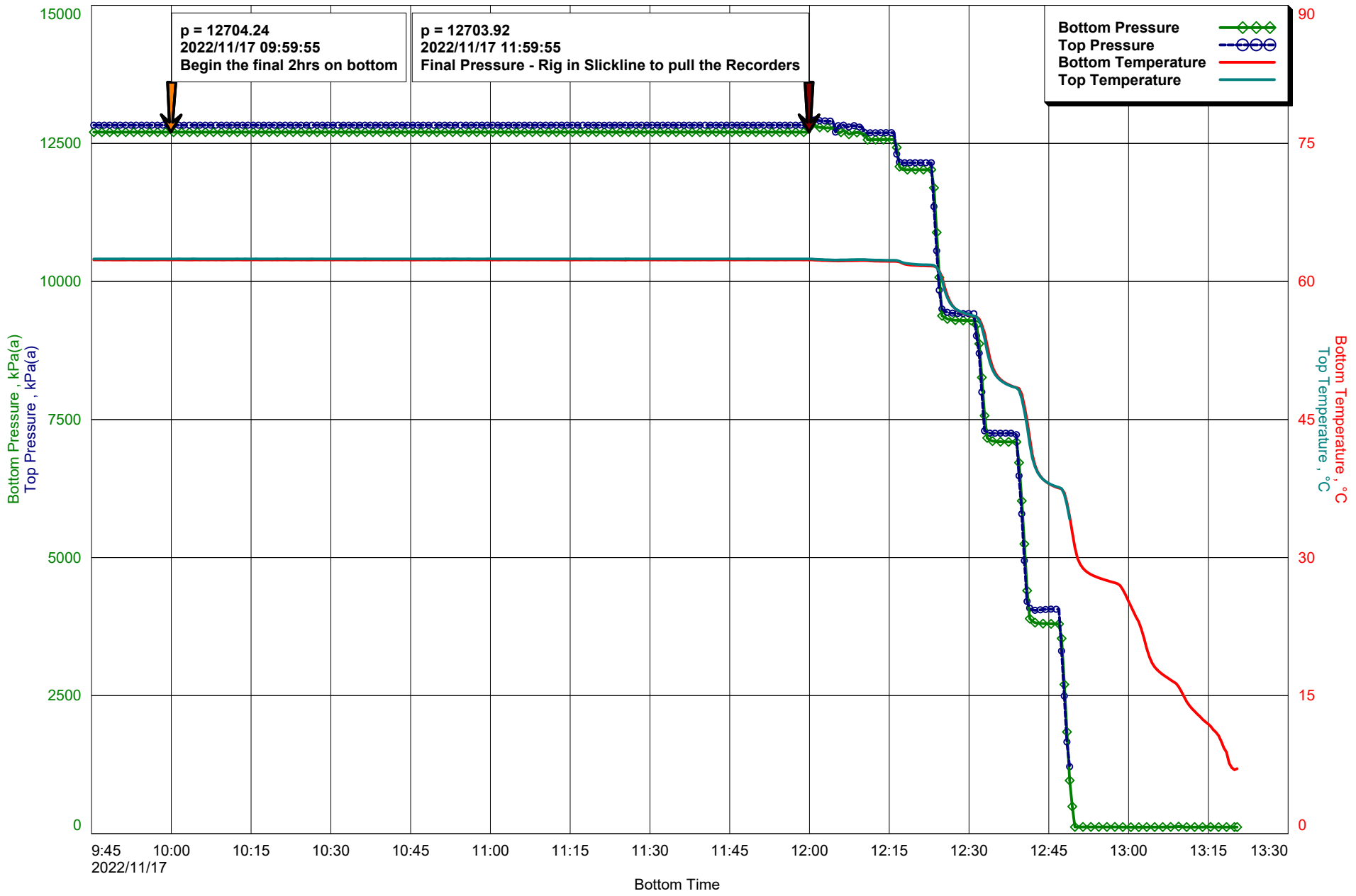
Test Remarks:

Static Gradient Stops were made on the way out of the well.
The Shut In date/time was not provided - used the AER Suspension date.
Daylight savings ended while the recorders were in the well.
The Top Recorder malfunctioned during the Static Gradient on the way out of the well.

Enhance Energy Inc.
100/08-35-039-24W4/2
Start Test Date: 2022/10/20
Final Test Date: 2022/11/17

Fairborne Clive 8-35-39-24W4
Formation: Nisku

Final Static Gradient Plot



Final Static Gradient 2022/10/20

Company Name Enhance Energy Inc.

Well Name Fairborne Clive 8-35-39-24W4

Unique Well ID	100/08-35-039-24W4/2	KB Elevation (SL)	860.20
		GL Elevation (SL)	854.90
Formation	Nisku	CF Elevation (SL)	854.90
Well Fluid Type	01 Oil		
Well License Number	0107445		
Well Type	Vertical		
Start Test Date	2022/10/20	Start Test Time	10:09:00
Final Test Date	2022/11/17	Final Test Time	13:20:25
Date Well Shut-In	2020/09/01	Time Well Shut-In	12:00:00

Top(TVD KB)	1832.00	m	Tubing Pressure: Initial	93.00	kPa(a)
Bottom(TVD KB)	1835.00	m	Casing Pressure: Initial	93.00	kPa(a)
MPP(TVD KB)	1833.50	m	Shut-In Duration	19367.9986	h

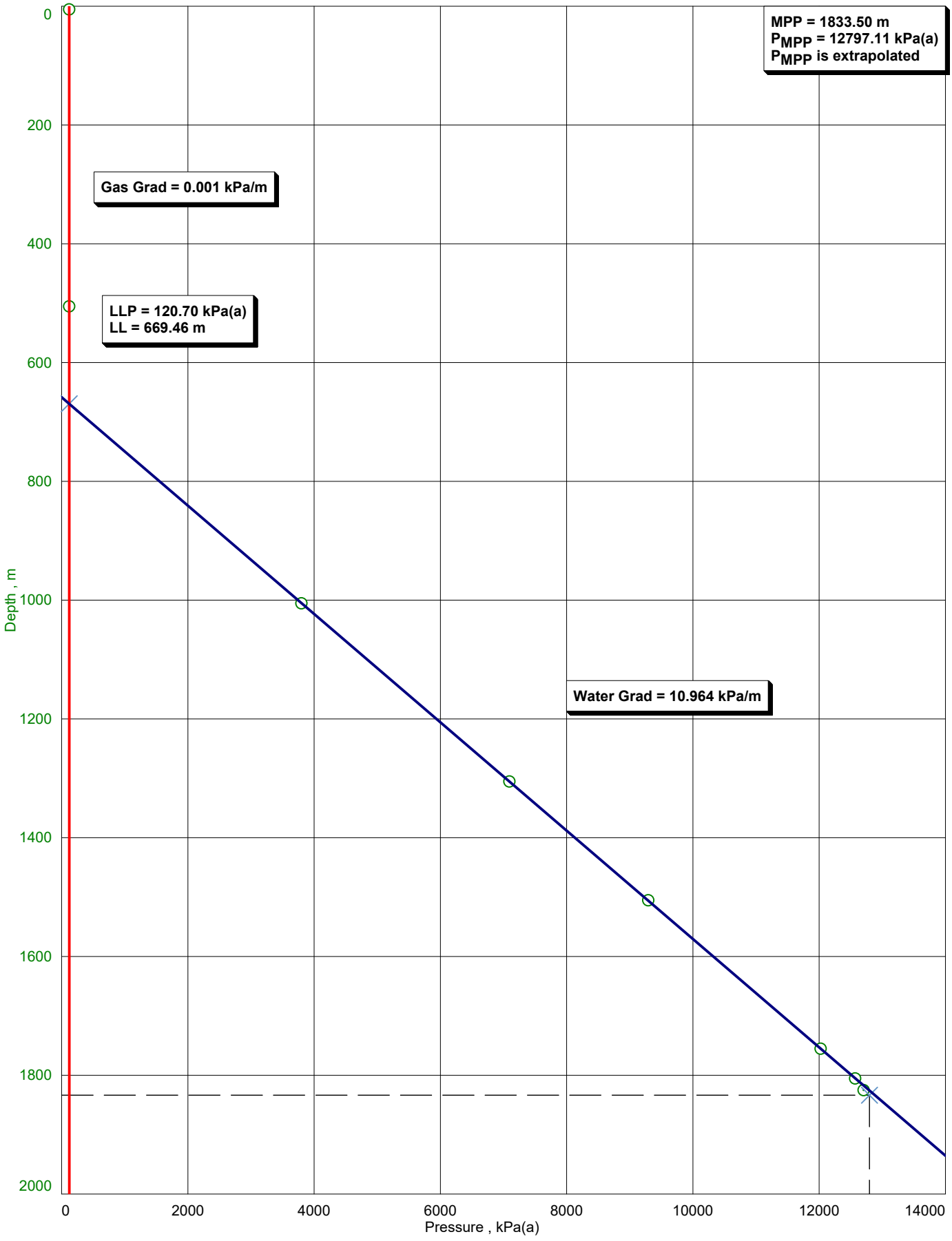
	Bottom		Top	
Gauge Name	Bottom		Top	
Gauge Serial Number	80683		80689	
Gauge Type	Strain		Strain	
Gauge Manufacturer	Spartek		Spartek	
Gauge Model	SS2500		SS2500	
Maximum Recorder Range	41370.00	kPa(a)	41370.00	kPa(a)
Resolution (% of Full Scale)	0.00030		0.00030	
Accuracy (% of Full Scale)	0.03000		0.03000	
Date of Last Calibration	2015/09/22		2015/09/22	
Gauge Start Date	2022/10/20	10:09:00	2022/10/20	10:09:00
Gauge Stop Date	2022/11/17	13:20:25	2022/11/17	13:20:25
Date Gauge On Bottom	2022/11/17	09:45:25	2022/11/17	09:45:25
Date Gauge Off Bottom	2022/11/17	11:59:55	2022/11/17	11:59:55
Run Depth (TVD KB)	1825.00	m	1824.75	m
Pressure at Run Depth	12703.92	kPa(a)	12979.87	kPa(a)
Pressure at MPP	12797.11	kPa(a)	12923.20	kPa(a)
Representative Gradient	10.964	kPa/m	10.801	kPa/m
Temperature at Run Depth	62.3	°C	62.5	°C
Liquid Level(TVD KB)	669.46	m		m

Bottom						Top				
Depth	Temp.	Pressure	Gradient	Gradient	Time	Depth	Temp.	Pressure	Gradient	Gradient
m	°C	kPa(a)	kPa/m	°C/m	HH:mm:ss	m	°C	kPa(a)	kPa/m	°C/m
1825.00	62.34	12703.92			11:59:55	1824.75	62.44	12828.69		
1805.30	62.19	12569.85	6.805	0.008	12:15:55	1805.05	62.30	12694.42	6.816	0.007
1755.30	61.67	12023.98	10.918	0.010	12:22:55	1755.05	61.80	12148.80	10.912	0.010
1505.30	56.23	9292.64	10.925	0.022	12:30:55	1505.05	56.26	9415.89	10.932	0.022
1305.30	48.47	7094.11	10.993	0.039	12:38:55	1305.05	48.53	7251.32	10.823	0.039
1005.30	37.64	3798.67	10.985	0.036	12:46:25	1005.05	37.71	4063.63	10.626	0.036
505.30	27.17	120.61	7.356	0.021	12:57:55					
5.30	16.52	120.32	0.001	0.021	13:08:25					

Enhance Energy Inc.
100/08-35-039-24W4/2
Start Test Date: 2022/10/20
Final Test Date: 2022/11/17

Fairborne Clive 8-35-39-24W4
Formation: Nisku

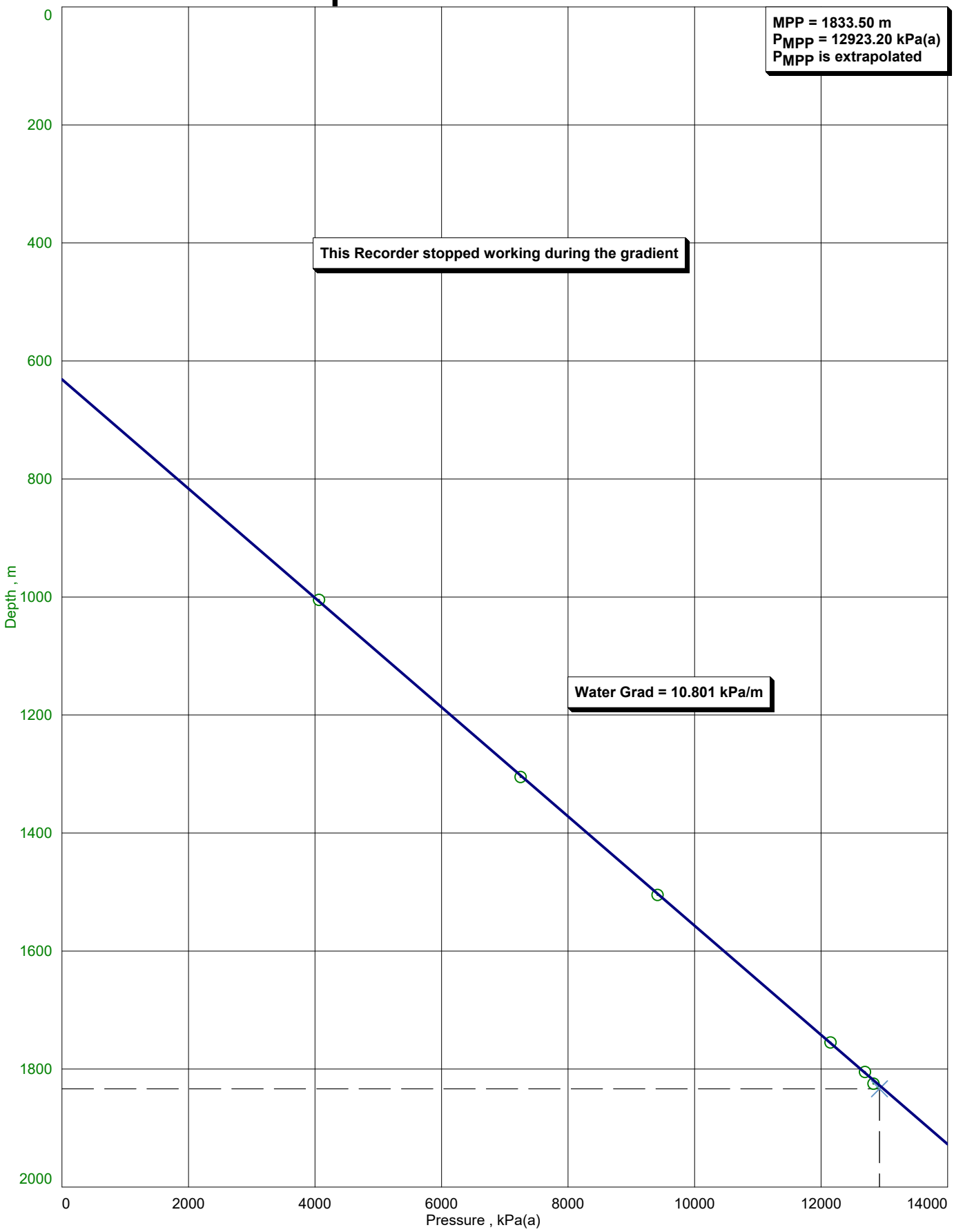
Bottom Pressure Gradient



Enhance Energy Inc.
100/08-35-039-24W4/2
Start Test Date: 2022/10/20
Final Test Date: 2022/11/17

Fairborne Clive 8-35-39-24W4
Formation: Nisku

Top Pressure Gradient



Company Name Enhance Energy Inc.
Unique Well ID 100/08-35-039-24W4/2
Start Test Date 2022/10/20
Final Test Date 2022/11/17

Well Name Fairborne Clive 8-35-39-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
1	2022/11/17 09:45:25	671.6069	12704.02	62.34	-124.70	671.6069	12828.72	62.44
2	2022/11/17 09:47:25	671.6403	12704.02	62.34	-124.54	671.6403	12828.56	62.45
3	2022/11/17 09:49:25	671.6736	12703.74	62.34	-124.88	671.6736	12828.61	62.45
4	2022/11/17 09:51:25	671.7069	12703.74	62.34	-124.82	671.7069	12828.56	62.45
5	2022/11/17 09:53:25	671.7403	12703.91	62.34	-124.70	671.7403	12828.61	62.45
6	2022/11/17 09:55:25	671.7736	12704.01	62.34	-124.75	671.7736	12828.76	62.45
7	2022/11/17 09:57:25	671.8069	12704.11	62.34	-124.38	671.8069	12828.49	62.45
8	2022/11/17 09:59:25	671.8403	12703.92	62.34	-124.55	671.8403	12828.46	62.45
9	2022/11/17 09:59:55	671.8486	12704.24	62.34	-124.62	671.8486	12828.86	62.45
10	Begin the final 2hrs on bottom							
11	2022/11/17 10:00:25	671.8569	12704.10	62.34	-124.99	671.8569	12829.09	62.45
12	2022/11/17 10:01:25	671.8736	12703.90	62.34	-124.95	671.8736	12828.85	62.46
13	2022/11/17 10:03:25	671.9069	12704.47	62.34	-124.04	671.9069	12828.51	62.45
14	2022/11/17 10:05:25	671.9403	12704.19	62.34	-124.77	671.9403	12828.96	62.45
15	2022/11/17 10:07:25	671.9736	12704.06	62.34	-124.15	671.9736	12828.21	62.45
16	2022/11/17 10:09:25	672.0069	12703.87	62.34	-124.40	672.0069	12828.27	62.44
17	2022/11/17 10:11:25	672.0403	12704.18	62.34	-124.34	672.0403	12828.52	62.44
18	2022/11/17 10:13:25	672.0736	12703.84	62.34	-124.39	672.0736	12828.24	62.45
19	2022/11/17 10:15:25	672.1069	12704.33	62.34	-123.97	672.1069	12828.29	62.44
20	2022/11/17 10:17:25	672.1403	12703.96	62.34	-124.08	672.1403	12828.03	62.45
21	2022/11/17 10:19:25	672.1736	12704.17	62.34	-124.12	672.1736	12828.29	62.45
22	2022/11/17 10:21:25	672.2069	12704.09	62.34	-124.54	672.2069	12828.63	62.45
23	2022/11/17 10:23:25	672.2403	12704.25	62.34	-124.11	672.2403	12828.36	62.45
24	2022/11/17 10:25:25	672.2736	12703.88	62.34	-125.41	672.2736	12829.29	62.45
25	2022/11/17 10:27:25	672.3069	12703.95	62.34	-124.41	672.3069	12828.36	62.45
26	2022/11/17 10:29:25	672.3403	12703.79	62.34	-124.45	672.3403	12828.23	62.45
27	2022/11/17 10:31:25	672.3736	12704.14	62.34	-124.19	672.3736	12828.34	62.45
28	2022/11/17 10:33:25	672.4069	12704.15	62.34	-124.26	672.4069	12828.41	62.45
29	2022/11/17 10:35:25	672.4403	12703.80	62.34	-124.76	672.4403	12828.56	62.45
30	2022/11/17 10:37:25	672.4736	12704.19	62.34	-124.24	672.4736	12828.44	62.45
31	2022/11/17 10:39:25	672.5069	12704.04	62.34	-124.51	672.5069	12828.55	62.44
32	2022/11/17 10:41:25	672.5403	12704.09	62.34	-124.27	672.5403	12828.36	62.45
33	2022/11/17 10:43:25	672.5736	12703.99	62.34	-124.79	672.5736	12828.79	62.45
34	2022/11/17 10:45:25	672.6069	12703.99	62.34	-125.12	672.6069	12829.12	62.45
35	2022/11/17 10:47:25	672.6403	12704.00	62.34	-124.76	672.6403	12828.76	62.45
36	2022/11/17 10:49:25	672.6736	12703.98	62.34	-124.43	672.6736	12828.41	62.45
37	2022/11/17 10:51:25	672.7069	12703.87	62.34	-124.85	672.7069	12828.71	62.45
38	2022/11/17 10:53:25	672.7403	12703.73	62.34	-125.00	672.7403	12828.73	62.45
39	2022/11/17 10:55:25	672.7736	12704.17	62.34	-124.27	672.7736	12828.44	62.44
40	2022/11/17 10:57:25	672.8069	12704.02	62.34	-124.27	672.8069	12828.29	62.45
41	2022/11/17 10:59:25	672.8403	12703.84	62.34	-125.31	672.8403	12829.15	62.45
42	2022/11/17 11:01:25	672.8736	12703.95	62.34	-124.70	672.8736	12828.64	62.45
43	2022/11/17 11:03:25	672.9069	12703.74	62.34	-124.82	672.9069	12828.56	62.45
44	2022/11/17 11:05:25	672.9403	12703.73	62.34	-124.94	672.9403	12828.67	62.44
45	2022/11/17 11:07:25	672.9736	12703.82	62.34	-124.72	672.9736	12828.54	62.45

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80683	2022/10/20 YYYY/MM/DD	10:09:00 HH:mm:ss	1825.00 m
Top	80689	2022/10/20 YYYY/MM/DD	10:09:00 HH:mm:ss	1824.75 m

Company Name Enhance Energy Inc.
Unique Well ID 100/08-35-039-24W4/2
Start Test Date 2022/10/20
Final Test Date 2022/11/17

Well Name Fairborne Clive 8-35-39-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
46	2022/11/17 11:09:25	673.0069	12703.87	62.34	-124.56	673.0069	12828.43	62.45
47	2022/11/17 11:11:25	673.0403	12704.11	62.34	-124.85	673.0403	12828.96	62.45
48	2022/11/17 11:13:25	673.0736	12704.21	62.34	-124.13	673.0736	12828.34	62.45
49	2022/11/17 11:15:25	673.1069	12704.15	62.34	-124.66	673.1069	12828.81	62.45
50	2022/11/17 11:17:25	673.1403	12703.74	62.34	-124.87	673.1403	12828.61	62.45
51	2022/11/17 11:19:25	673.1736	12703.95	62.34	-124.92	673.1736	12828.86	62.45
52	2022/11/17 11:21:25	673.2069	12704.20	62.34	-123.60	673.2069	12827.80	62.44
53	2022/11/17 11:23:25	673.2403	12703.72	62.34	-124.54	673.2403	12828.26	62.45
54	2022/11/17 11:25:25	673.2736	12704.06	62.34	-124.36	673.2736	12828.42	62.44
55	2022/11/17 11:27:25	673.3069	12704.15	62.34	-123.99	673.3069	12828.13	62.45
56	2022/11/17 11:29:25	673.3403	12704.29	62.34	-124.10	673.3403	12828.39	62.45
57	2022/11/17 11:31:25	673.3736	12703.78	62.34	-124.43	673.3736	12828.21	62.45
58	2022/11/17 11:33:25	673.4069	12703.79	62.34	-124.58	673.4069	12828.36	62.45
59	2022/11/17 11:35:25	673.4403	12703.91	62.34	-124.82	673.4403	12828.74	62.45
60	2022/11/17 11:37:25	673.4736	12703.84	62.34	-124.50	673.4736	12828.34	62.45
61	2022/11/17 11:39:25	673.5069	12703.95	62.34	-124.77	673.5069	12828.71	62.45
62	2022/11/17 11:41:25	673.5403	12703.76	62.34	-124.50	673.5403	12828.26	62.45
63	2022/11/17 11:43:25	673.5736	12704.12	62.34	-124.50	673.5736	12828.61	62.45
64	2022/11/17 11:45:25	673.6069	12704.22	62.34	-124.52	673.6069	12828.74	62.45
65	2022/11/17 11:47:25	673.6403	12704.22	62.34	-124.64	673.6403	12828.86	62.45
66	2022/11/17 11:49:25	673.6736	12704.21	62.34	-124.74	673.6736	12828.94	62.45
67	2022/11/17 11:51:25	673.7069	12703.91	62.34	-124.16	673.7069	12828.07	62.44
68	2022/11/17 11:53:25	673.7403	12703.68	62.34	-124.88	673.7403	12828.56	62.45
69	2022/11/17 11:55:25	673.7736	12704.07	62.34	-123.97	673.7736	12828.04	62.45
70	2022/11/17 11:57:25	673.8069	12703.95	62.34	-124.37	673.8069	12828.32	62.44
71	2022/11/17 11:59:25	673.8403	12704.06	62.34	-124.64	673.8403	12828.69	62.44
72	2022/11/17 11:59:55	673.8486	12703.92	62.34	-275.96	673.8486	12979.87	62.45
73	Final Pressure - Rig in Slickline to pull the Recorders							
74	2022/11/17 12:00:25	673.8569	12835.27	62.34	-106.28	673.8569	12941.55	62.44
75	2022/11/17 12:01:25	673.8736	12796.33	62.31	-125.20	673.8736	12921.53	62.41
76	2022/11/17 12:03:25	673.9069	12784.56	62.25	-115.49	673.9069	12900.04	62.36
77	2022/11/17 12:05:25	673.9403	12686.26	62.22	-133.64	673.9403	12819.91	62.33
78	2022/11/17 12:07:25	673.9736	12664.16	62.24	-131.83	673.9736	12795.99	62.36
79	2022/11/17 12:09:25	674.0069	12695.74	62.27	-97.30	674.0069	12793.04	62.38
80	2022/11/17 12:11:25	674.0403	12566.34	62.24	-124.62	674.0403	12690.96	62.34
81	2022/11/17 12:13:25	674.0736	12568.41	62.20	-124.93	674.0736	12693.34	62.32
82	2022/11/17 12:15:25	674.1069	12569.62	62.19	-124.80	674.1069	12694.42	62.30
83	2022/11/17 12:17:25	674.1403	12030.07	61.99	-121.09	674.1403	12151.16	62.07
84	2022/11/17 12:19:25	674.1736	12024.21	61.75	-124.91	674.1736	12149.12	61.88
85	2022/11/17 12:21:25	674.2069	12023.59	61.70	-125.38	674.2069	12148.97	61.82
86	2022/11/17 12:23:25	674.2403	11694.72	61.66	341.06	674.2403	11353.67	61.75
87	2022/11/17 12:25:25	674.2736	9350.86	59.40	-110.09	674.2736	9460.95	59.04
88	2022/11/17 12:27:25	674.3069	9297.95	57.05	-123.35	674.3069	9421.30	57.05
89	2022/11/17 12:29:25	674.3403	9293.47	56.45	-123.56	674.3403	9417.03	56.48
90	2022/11/17 12:31:25	674.3736	9214.45	56.16	199.11	674.3736	9015.34	56.16

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80683	2022/10/20 YYYY/MM/DD	10:09:00 HH:mm:ss	1825.00 m
Top	80689	2022/10/20 YYYY/MM/DD	10:09:00 HH:mm:ss	1824.75 m

Company Name Enhance Energy Inc.
Unique Well ID 100/08-35-039-24W4/2
Start Test Date 2022/10/20
Final Test Date 2022/11/17

Well Name Fairborne Clive 8-35-39-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
91	2022/11/17 12:33:25	674.4069	7166.55	53.04	-104.90	674.4069	7271.45	52.36
92	2022/11/17 12:35:25	674.4403	7099.43	49.65	-151.52	674.4403	7250.96	49.52
93	2022/11/17 12:37:25	674.4736	7095.28	48.80	-155.92	674.4736	7251.20	48.74
94	2022/11/17 12:39:25	674.5069	6717.51	48.37	236.67	674.5069	6480.84	48.17
95	2022/11/17 12:41:25	674.5403	3893.65	42.98	-189.80	674.5403	4083.45	42.33
96	2022/11/17 12:43:25	674.5736	3805.78	38.85	-247.00	674.5736	4052.79	38.80
97	2022/11/17 12:45:25	674.6069	3800.16	37.90	-264.31	674.6069	4064.47	37.94
98	2022/11/17 12:47:25	674.6403	3533.90	37.46	227.06	674.6403	3306.84	37.49
99	2022/11/17 12:49:25	674.6736	491.68	32.73		674.6653	1211.18	34.18
100	2022/11/17 12:51:25	674.7069	120.64	28.83				
101	2022/11/17 12:53:25	674.7403	121.05	28.02				
102	2022/11/17 12:55:25	674.7736	121.03	27.59				
103	2022/11/17 12:57:25	674.8069	120.76	27.26				
104	2022/11/17 12:59:25	674.8403	118.84	25.97				
105	2022/11/17 13:01:25	674.8736	117.97	23.54				
106	2022/11/17 13:03:25	674.9069	118.25	20.11				
107	2022/11/17 13:05:25	674.9403	119.89	17.78				
108	2022/11/17 13:07:25	674.9736	120.02	16.89				
109	2022/11/17 13:09:25	675.0069	128.31	15.97				
110	2022/11/17 13:11:25	675.0403	119.28	13.94				
111	2022/11/17 13:13:25	675.0736	120.16	12.73				
112	2022/11/17 13:15:25	675.1069	121.92	11.67				
113	2022/11/17 13:17:25	675.1403	119.00	10.06				
114	2022/11/17 13:19:25	675.1736	119.64	7.16				
115	2022/11/17 13:20:25	675.1903	119.88	7.06				

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80683	2022/10/20 YYYY/MM/DD	10:09:00 HH:mm:ss	1825.00 m
Top	80689	2022/10/20 YYYY/MM/DD	10:09:00 HH:mm:ss	1824.75 m

Test Type Final Static Gradient

Company Name	**Enhance Energy Inc.**
Well Name	**Fairborne Clive 14-10-40-24**
Unique Well ID	**100/14-10-040-24W4/02**
Well License Number	**0024817**
Formation	**Nisku**
Start Test Date	**2022/06/21**
Final Test Date	**2022/08/09**

Prepared By	**Kennason Tech Services Inc.**
Qualified By	**Cory Strang**
Report Date	**2022/08/10**

Reliance OFS Canada Limited
2500 333 - 7th Ave SW
Calgary AB T2P 2Z1
403-475-1229
relianceofs.com

RELIANCE OILFIELD SERVICES

Pressure Survey Report

Final Static Gradient

Company Name Enhance Energy Inc.
Contact Kevin Meyer
Representative Russ Guenther

General Information

Well Name	Fairborne Clive 14-10-40-24
Unique Well ID	100/14-10-040-24W4/02
Surface Location	14-10-040-24W4
Well License Number	0024817
Well Type	Vertical

KB Elevation (SL)	908.30 m
CF Elevation (SL)	904.60 m
GL Elevation (SL)	904.60 m
KB-CF Offset	3.70 m
KB-GL Offset	3.70 m

Wellbore Information

Tubing OD	73.0 mm	Casing OD	139.7 mm
Tubing ID	62.0 mm	Casing ID	125.7 mm
Tubing Depth(Log KB)	1882.00000 m	Casing Depth(Log KB)	1944.00000 m
Tubing Depth(TVD KB)	1882.00000 m	Casing Depth(TVD KB)	1944.00000 m
Packer Depth(Log KB)	1876.70000 m	PBTD(Log KB)	1920.20 m
Packer Depth(TVD KB)	1876.70000 m	PBTD(TVD KB)	1920.20 m

Gross Completion Interval (GCI) as tested:

Top(Log KB)	1887.00 m	Top(TVD KB)	1887.00 m	Formation Name	Nisku
Bottom(Log KB)	1889.50 m	Bottom(TVD KB)	1889.50 m	Pool	
MPP(Log KB)	1888.25 m	MPP(TVD KB)	1888.25 m		

Test Information

Test Type	Final Static Gradient
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Date/Time Gauge on Bottom	2022/06/21 11:14:55
Date/Time Gauge Off Bottom	2022/08/09 08:21:25
Time/Date Well Shut-In	2022/06/20 12:00:00
Shut-In Duration	1196.3569 h

Surface Pressures:

Tubing Pressure Initial	266.00 kPa(a)	Casing Pressure Initial	93.00 kPa(a)
Tubing Pressure: Final	266.00 kPa(a)	Casing Pressure: Final	93.00 kPa(a)

Test Results

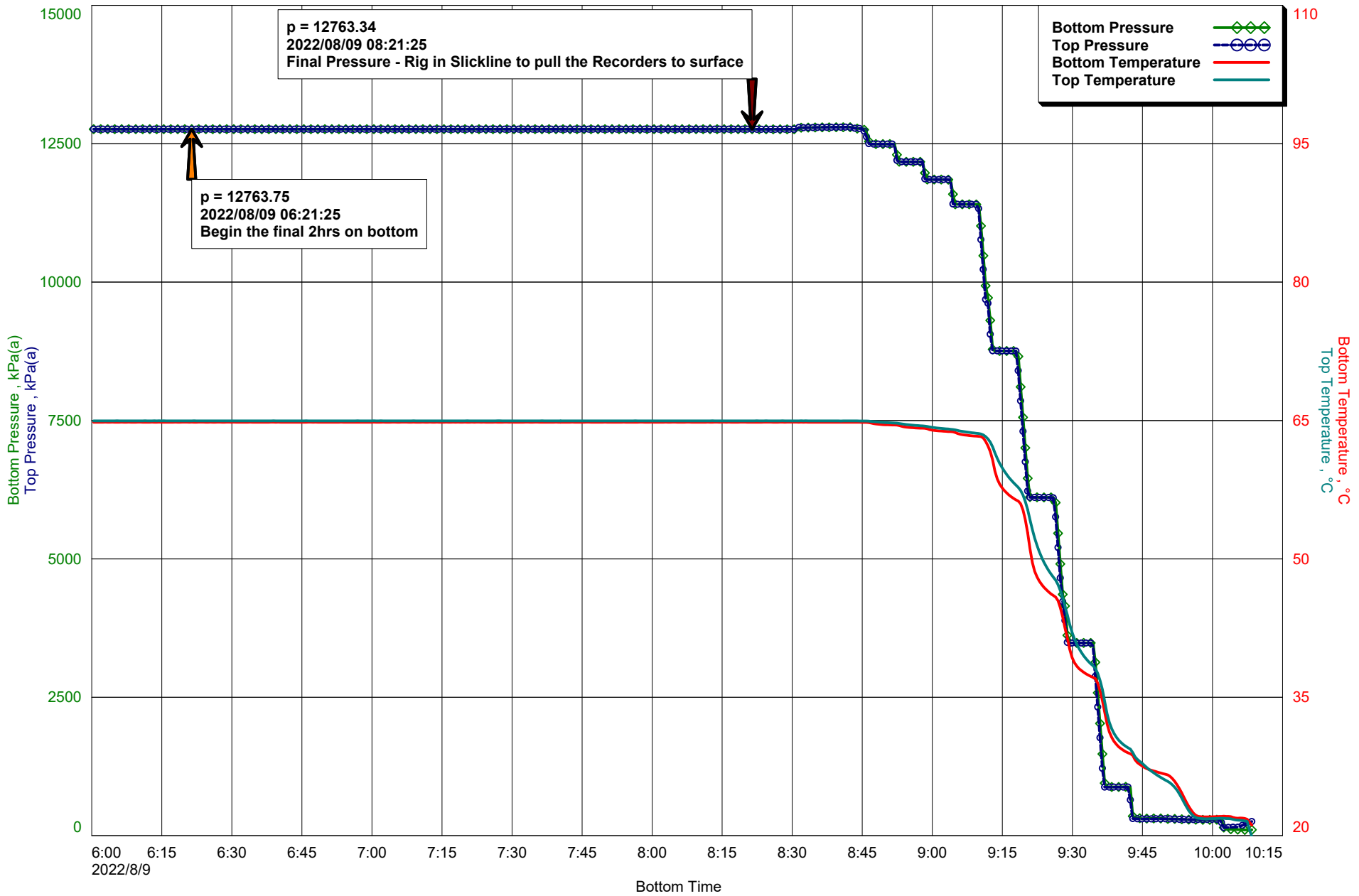
Gauge Serial Number Used in Summary	80635	Run Depth (Log KB)	1882.00 m
Calculated Pressure Corrected to MPP	12829.22 kPa(a)	Run Depth (TVD KB)	1882.00 m
Reservoir Temperature	64.81 °C	Pressure at Stop Depth	12763.34 kPa(a)
Liquid Level(TVD KB)	698.50 m	Temperature at Run Depth	64.8 °C

Test Remarks:

Enhance Energy Inc.
100/14-10-040-24W4/02
Start Test Date: 2022/06/21
Final Test Date: 2022/08/09

Fairborne Clive 14-10-40-24
Formation: Nisku

Final Static Gradient Plot



Final Static Gradient 2022/06/21

Company Name Enhance Energy Inc.

Well Name Fairborne Clive 14-10-40-24

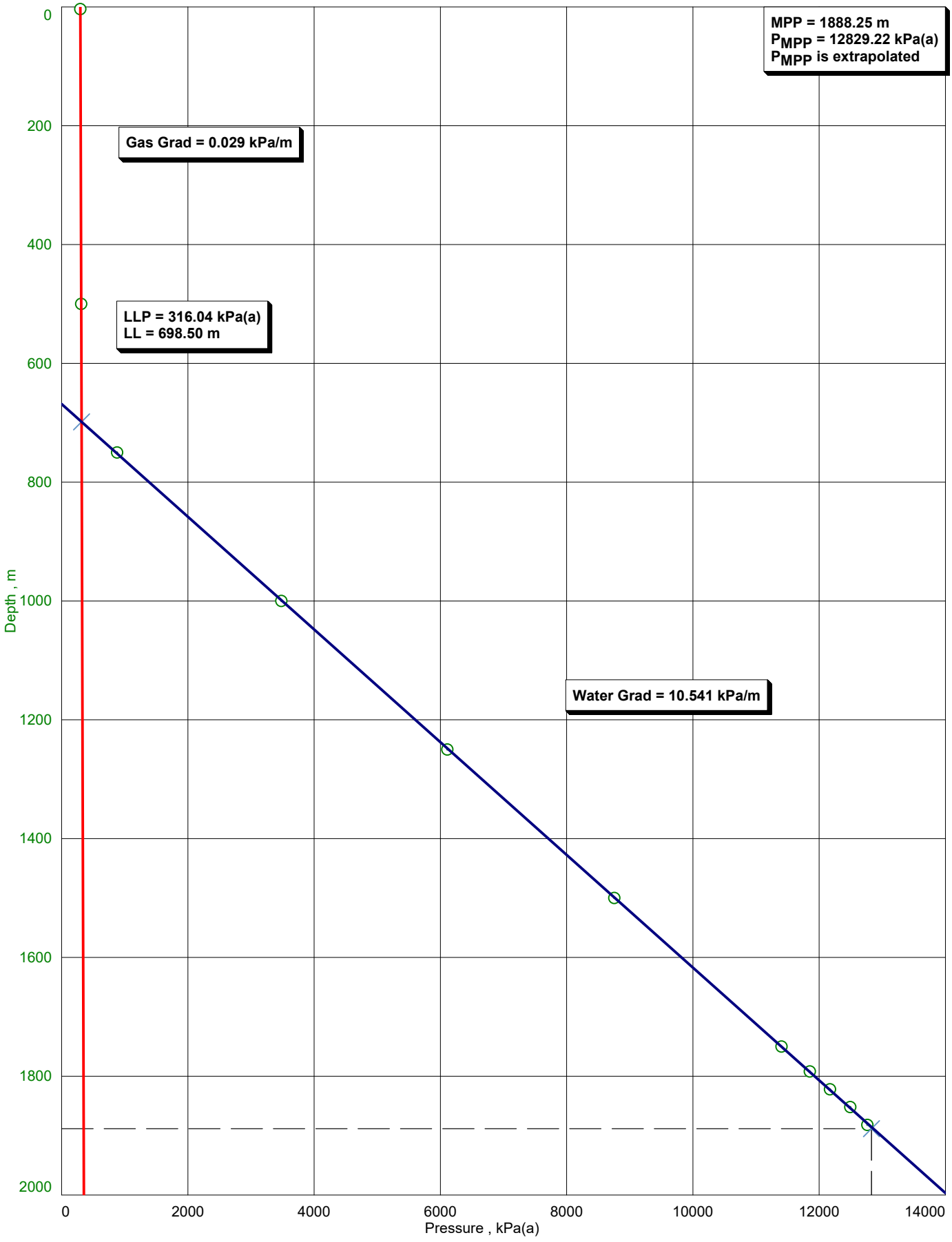
Unique Well ID	100/14-10-040-24W4/02	KB Elevation (SL)	908.30
		GL Elevation (SL)	904.60
Formation	Nisku	CF Elevation (SL)	904.60
Well Fluid Type	01 Oil		
Well License Number	0024817		
Well Type	Vertical		
Start Test Date	2022/06/21	Start Test Time	10:51:00
Final Test Date	2022/08/09	Final Test Time	10:08:25
Date Well Shut-In	2022/06/20	Time Well Shut-In	12:00:00

Top(TVD KB)	1887.00	m	Tubing Pressure: Initial	266.00	kPa(a)
Bottom(TVD KB)	1889.50	m	Casing Pressure: Initial	93.00	kPa(a)
MPP(TVD KB)	1888.25	m	Shut-In Duration	1196.3569	h

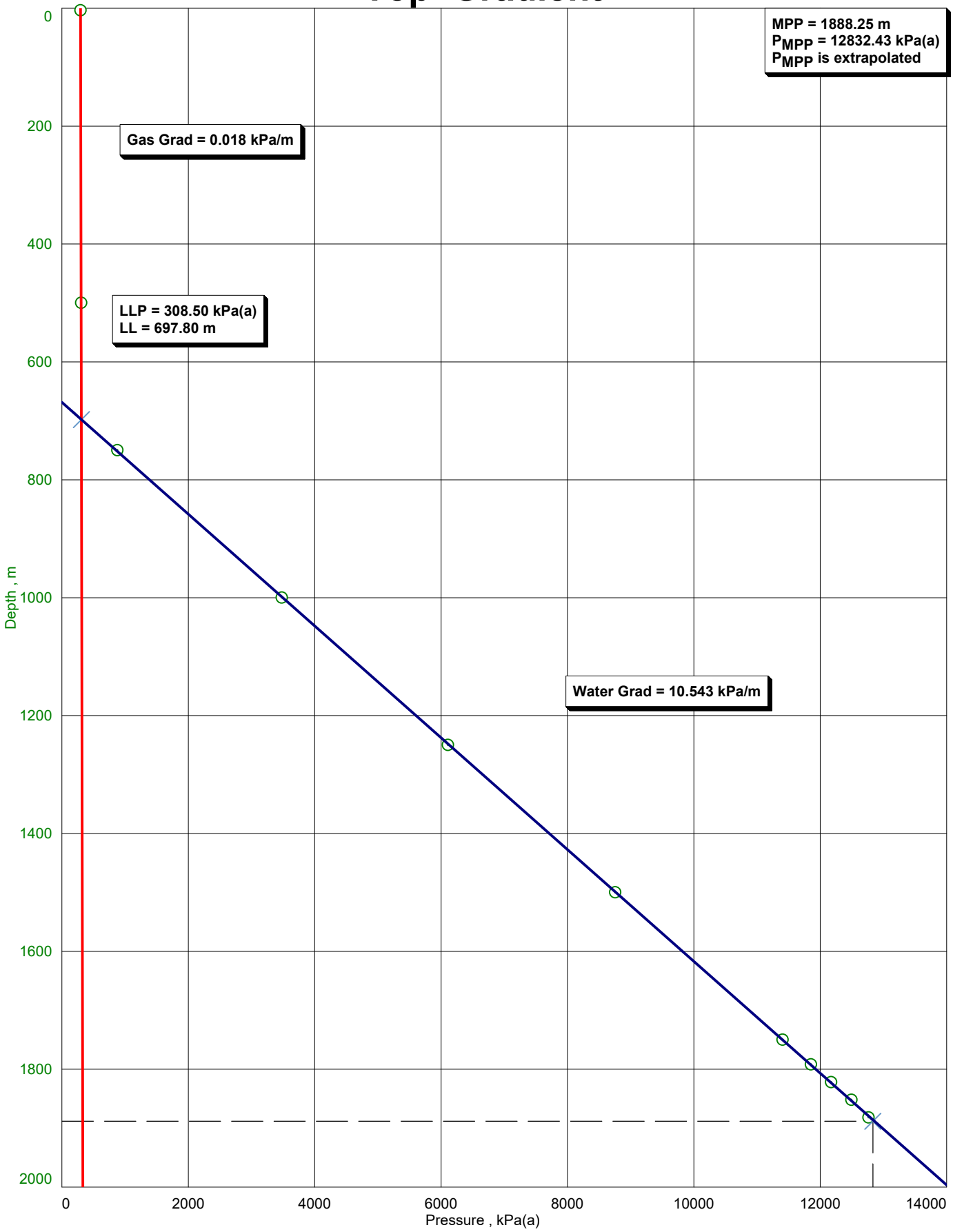
	Bottom		Top	
Gauge Name	Bottom		Top	
Gauge Serial Number	80635		80682	
Gauge Type	Strain		Strain	
Gauge Manufacturer	Spartek		Spartek	
Gauge Model	SS2500		SS2500	
Maximum Recorder Range	41370.00	kPa(a)	41370.00	kPa(a)
Resolution (% of Full Scale)	0.00030		0.00030	
Accuracy (% of Full Scale)	0.03000		0.03000	
Date of Last Calibration	2021/05/26		2021/05/26	
Gauge Start Date	2022/06/21	10:51:00	2022/06/21	10:51:00
Gauge Stop Date	2022/08/09	10:08:25	2022/08/09	10:08:25
Date Gauge On Bottom	2022/06/21	11:14:55	2022/06/21	11:14:55
Date Gauge Off Bottom	2022/08/09	08:21:25	2022/08/09	08:21:25
Run Depth (TVD KB)	1882.00	m	1881.75	m
Pressure at Run Depth	12763.34	kPa(a)	12763.90	kPa(a)
Pressure at MPP	12829.22	kPa(a)	12832.43	kPa(a)
Representative Gradient	10.541	kPa/m	10.543	kPa/m
Temperature at Run Depth	64.8	°C	65.0	°C
Liquid Level(TVD KB)	698.50	m	697.80	m

Bottom					Top					
Depth	Temp.	Pressure	Gradient	Gradient	Time	Depth	Temp.	Pressure	Gradient	Gradient
m	°C	kPa(a)	kPa/m	°C/m	HH:mm:ss	m	°C	kPa(a)	kPa/m	°C/m
1882.00	64.81	12763.34			08:21:25	1881.75	64.96	12763.90		
1852.00	64.52	12493.18	9.005	0.010	08:51:55	1851.75	64.74	12493.16	9.024	0.008
1822.00	64.17	12172.88	10.677	0.012	08:57:55	1821.75	64.41	12172.30	10.695	0.011
1792.00	63.79	11851.99	10.696	0.013	09:03:55	1791.75	64.08	11852.52	10.659	0.011
1750.00	63.29	11404.55	10.653	0.012	09:09:55	1749.75	63.61	11404.37	10.670	0.011
1500.00	56.40	8755.32	10.597	0.028	09:17:55	1499.75	58.25	8755.13	10.597	0.021
1250.00	46.02	6110.47	10.579	0.041	09:25:55	1249.75	48.36	6108.68	10.586	0.040
1000.00	37.15	3480.67	10.519	0.035	09:34:25	999.75	38.64	3479.06	10.518	0.039
750.00	28.98	880.58	10.400	0.033	09:41:55	749.75	29.53	877.70	10.405	0.036
500.00	26.93	310.35	2.281	0.008	09:47:55	499.75	26.01	304.90	2.291	0.014
3.70	24.63	296.13	0.029	0.005	09:53:25	3.45	21.87	295.86	0.018	0.008

Bottom Gradient



Top Gradient



Company Name Enhance Energy Inc.
Unique Well ID 100/14-10-040-24W4/02
Start Test Date 2022/06/21
Final Test Date 2022/08/09

Well Name Fairborne Clive 14-10-40-24
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
1	2022/08/09 06:00:25	1171.1569	12763.59	64.81	0.07	1171.1569	12763.52	64.96
2	2022/08/09 06:02:25	1171.1903	12763.68	64.81	0.13	1171.1903	12763.55	64.96
3	2022/08/09 06:04:25	1171.2236	12764.31	64.82	0.40	1171.2236	12763.91	64.96
4	2022/08/09 06:06:25	1171.2569	12763.71	64.82	0.13	1171.2569	12763.58	64.96
5	2022/08/09 06:08:25	1171.2903	12763.78	64.81	0.31	1171.2903	12763.47	64.96
6	2022/08/09 06:10:25	1171.3236	12763.99	64.82	0.24	1171.3236	12763.75	64.96
7	2022/08/09 06:12:25	1171.3569	12763.69	64.81	-0.09	1171.3569	12763.78	64.96
8	2022/08/09 06:14:25	1171.3903	12763.74	64.82	-0.22	1171.3903	12763.96	64.96
9	2022/08/09 06:16:25	1171.4236	12763.64	64.81	0.22	1171.4236	12763.42	64.96
10	2022/08/09 06:18:25	1171.4569	12763.57	64.81	-0.61	1171.4569	12764.18	64.96
11	2022/08/09 06:20:25	1171.4903	12763.44	64.82	-0.44	1171.4903	12763.87	64.96
12	2022/08/09 06:21:25	1171.5069	12763.75	64.82	0.33	1171.5069	12763.42	64.96
13	Begin the final 2hrs on bottom							
14								
15	2022/08/09 06:21:55	1171.5153	12763.47	64.81	-0.76	1171.5153	12764.23	64.96
16	2022/08/09 06:22:25	1171.5236	12763.31	64.81	-0.33	1171.5236	12763.64	64.96
17	2022/08/09 06:24:25	1171.5569	12763.26	64.81	-0.67	1171.5569	12763.93	64.96
18	2022/08/09 06:26:25	1171.5903	12763.41	64.81	-0.04	1171.5903	12763.46	64.96
19	2022/08/09 06:28:25	1171.6236	12763.60	64.81	0.13	1171.6236	12763.48	64.96
20	2022/08/09 06:30:25	1171.6569	12763.95	64.82	0.12	1171.6569	12763.83	64.96
21	2022/08/09 06:32:25	1171.6903	12763.61	64.81	-0.16	1171.6903	12763.77	64.96
22	2022/08/09 06:34:25	1171.7236	12763.70	64.81	0.43	1171.7236	12763.27	64.96
23	2022/08/09 06:36:25	1171.7569	12763.40	64.81	-0.21	1171.7569	12763.61	64.96
24	2022/08/09 06:38:25	1171.7903	12763.63	64.82	0.42	1171.7903	12763.21	64.96
25	2022/08/09 06:40:25	1171.8236	12763.35	64.81	-0.24	1171.8236	12763.59	64.96
26	2022/08/09 06:42:25	1171.8569	12763.60	64.81	-0.19	1171.8569	12763.79	64.96
27	2022/08/09 06:44:25	1171.8903	12763.34	64.81	-0.26	1171.8903	12763.60	64.96
28	2022/08/09 06:46:25	1171.9236	12764.04	64.82	0.20	1171.9236	12763.85	64.96
29	2022/08/09 06:48:25	1171.9569	12763.53	64.81	-0.10	1171.9569	12763.63	64.96
30	2022/08/09 06:50:25	1171.9903	12763.58	64.81	-0.05	1171.9903	12763.63	64.96
31	2022/08/09 06:52:25	1172.0236	12763.62	64.81	-0.06	1172.0236	12763.68	64.96
32	2022/08/09 06:54:25	1172.0569	12763.65	64.81	-0.56	1172.0569	12764.21	64.96
33	2022/08/09 06:56:25	1172.0903	12763.80	64.81	0.32	1172.0903	12763.48	64.96
34	2022/08/09 06:58:25	1172.1236	12763.69	64.81	-0.22	1172.1236	12763.91	64.96
35	2022/08/09 07:00:25	1172.1569	12763.54	64.82	-0.34	1172.1569	12763.88	64.96
36	2022/08/09 07:02:25	1172.1903	12763.75	64.82	-0.24	1172.1903	12763.99	64.96
37	2022/08/09 07:04:25	1172.2236	12763.99	64.82	0.20	1172.2236	12763.78	64.96
38	2022/08/09 07:06:25	1172.2569	12763.83	64.82	0.01	1172.2569	12763.82	64.96
39	2022/08/09 07:08:25	1172.2903	12763.42	64.81	-0.25	1172.2903	12763.67	64.96
40	2022/08/09 07:10:25	1172.3236	12763.70	64.81	-0.33	1172.3236	12764.04	64.96
41	2022/08/09 07:12:25	1172.3569	12763.49	64.82	-0.20	1172.3569	12763.69	64.96
42	2022/08/09 07:14:25	1172.3903	12763.38	64.81	-0.45	1172.3903	12763.83	64.96
43	2022/08/09 07:16:25	1172.4236	12763.72	64.81	-0.07	1172.4236	12763.79	64.96
44	2022/08/09 07:18:25	1172.4569	12763.79	64.82	0.39	1172.4569	12763.40	64.96
45	2022/08/09 07:20:25	1172.4903	12764.04	64.81	0.24	1172.4903	12763.80	64.96

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80635	2022/06/21 YYYY/MM/DD	10:51:00 HH:mm:ss	1882.00 m
Top	80682	2022/06/21 YYYY/MM/DD	10:51:00 HH:mm:ss	1881.75 m

Company Name Enhance Energy Inc.
Unique Well ID 100/14-10-040-24W4/02
Start Test Date 2022/06/21
Final Test Date 2022/08/09

Well Name Fairborne Clive 14-10-40-24
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
46	2022/08/09 07:22:25	1172.5236	12763.82	64.82	0.05	1172.5236	12763.77	64.96
47	2022/08/09 07:24:25	1172.5569	12763.84	64.81	0.16	1172.5569	12763.69	64.96
48	2022/08/09 07:26:25	1172.5903	12763.81	64.82	-0.35	1172.5903	12764.16	64.96
49	2022/08/09 07:28:25	1172.6236	12763.58	64.82	0.14	1172.6236	12763.44	64.96
50	2022/08/09 07:30:25	1172.6569	12763.43	64.81	-0.42	1172.6569	12763.85	64.96
51	2022/08/09 07:32:25	1172.6903	12764.02	64.81	0.31	1172.6903	12763.70	64.96
52	2022/08/09 07:34:25	1172.7236	12763.44	64.81	-0.28	1172.7236	12763.72	64.96
53	2022/08/09 07:36:25	1172.7569	12764.17	64.81	0.42	1172.7569	12763.76	64.96
54	2022/08/09 07:38:25	1172.7903	12763.80	64.81	0.11	1172.7903	12763.69	64.96
55	2022/08/09 07:40:25	1172.8236	12763.91	64.81	0.54	1172.8236	12763.37	64.96
56	2022/08/09 07:42:25	1172.8569	12763.22	64.81	-0.42	1172.8569	12763.65	64.96
57	2022/08/09 07:44:25	1172.8903	12763.63	64.81	-0.26	1172.8903	12763.89	64.96
58	2022/08/09 07:46:25	1172.9236	12763.56	64.82	0.03	1172.9236	12763.52	64.96
59	2022/08/09 07:48:25	1172.9569	12763.84	64.81	0.02	1172.9569	12763.82	64.96
60	2022/08/09 07:50:25	1172.9903	12763.31	64.81	-0.44	1172.9903	12763.75	64.96
61	2022/08/09 07:52:25	1173.0236	12763.34	64.81	-0.51	1173.0236	12763.85	64.96
62	2022/08/09 07:54:25	1173.0569	12763.78	64.81	0.12	1173.0569	12763.67	64.96
63	2022/08/09 07:56:25	1173.0903	12763.50	64.81	-0.42	1173.0903	12763.92	64.96
64	2022/08/09 07:58:25	1173.1236	12763.82	64.81	-0.21	1173.1236	12764.03	64.96
65	2022/08/09 08:00:25	1173.1569	12763.55	64.81	-0.24	1173.1569	12763.79	64.96
66	2022/08/09 08:02:25	1173.1903	12763.41	64.81	-0.12	1173.1903	12763.54	64.96
67	2022/08/09 08:04:25	1173.2236	12763.40	64.82	-0.29	1173.2236	12763.69	64.96
68	2022/08/09 08:06:25	1173.2569	12763.35	64.81	-0.23	1173.2569	12763.58	64.96
69	2022/08/09 08:08:25	1173.2903	12763.72	64.81	0.07	1173.2903	12763.65	64.95
70	2022/08/09 08:10:25	1173.3236	12763.58	64.81	-0.08	1173.3236	12763.66	64.96
71	2022/08/09 08:12:25	1173.3569	12763.85	64.81	0.27	1173.3569	12763.58	64.96
72	2022/08/09 08:14:25	1173.3903	12763.41	64.81	-0.27	1173.3903	12763.69	64.96
73	2022/08/09 08:16:25	1173.4236	12763.56	64.82	-0.10	1173.4236	12763.66	64.96
74	2022/08/09 08:18:25	1173.4569	12763.86	64.81	-0.05	1173.4569	12763.91	64.96
75	2022/08/09 08:20:25	1173.4903	12763.59	64.81	-0.19	1173.4903	12763.77	64.96
76	2022/08/09 08:21:25	1173.5069	12763.34	64.81	-0.56	1173.5069	12763.90	64.96
77	Final Pressure - Rig in Slickline to pull the Recorders to surface							
78								
79	2022/08/09 08:21:55	1173.5153	12761.47	64.81	1.07	1173.5153	12760.40	64.96
80	2022/08/09 08:22:25	1173.5236	12760.37	64.81	-0.53	1173.5236	12760.90	64.96
81	2022/08/09 08:24:25	1173.5569	12761.39	64.82	0.00	1173.5569	12761.39	64.96
82	2022/08/09 08:26:25	1173.5903	12761.60	64.81	-0.17	1173.5903	12761.76	64.96
83	2022/08/09 08:28:25	1173.6236	12762.20	64.81	-0.16	1173.6236	12762.36	64.96
84	2022/08/09 08:30:25	1173.6569	12762.19	64.82	0.01	1173.6569	12762.17	64.96
85	2022/08/09 08:32:25	1173.6903	12789.76	64.81	-0.71	1173.6903	12790.47	64.96
86	2022/08/09 08:34:25	1173.7236	12791.70	64.81	-0.67	1173.7236	12792.37	64.96
87	2022/08/09 08:36:25	1173.7569	12795.72	64.81	-0.09	1173.7569	12795.80	64.96
88	2022/08/09 08:38:25	1173.7903	12797.56	64.81	0.86	1173.7903	12796.69	64.96
89	2022/08/09 08:40:25	1173.8236	12798.97	64.81	1.13	1173.8236	12797.84	64.95
90	2022/08/09 08:42:25	1173.8569	12799.14	64.81	0.07	1173.8569	12799.07	64.95

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80635	2022/06/21 YYYY/MM/DD	10:51:00 HH:mm:ss	1882.00 m
Top	80682	2022/06/21 YYYY/MM/DD	10:51:00 HH:mm:ss	1881.75 m

Company Name Enhance Energy Inc.
Unique Well ID 100/14-10-040-24W4/02
Start Test Date 2022/06/21
Final Test Date 2022/08/09

Well Name Fairborne Clive 14-10-40-24
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
91	2022/08/09 08:44:25	1173.8903	12775.26	64.81	-0.34	1173.8903	12775.61	64.95
92	2022/08/09 08:46:25	1173.9236	12541.87	64.77	39.03	1173.9236	12502.84	64.93
93	2022/08/09 08:48:25	1173.9569	12494.45	64.60	0.15	1173.9569	12494.30	64.83
94	2022/08/09 08:50:25	1173.9903	12493.56	64.53	-0.09	1173.9903	12493.65	64.76
95	2022/08/09 08:52:25	1174.0236	12301.65	64.50	101.36	1174.0236	12200.29	64.71
96	2022/08/09 08:54:25	1174.0569	12173.72	64.28	0.04	1174.0569	12173.68	64.56
97	2022/08/09 08:56:25	1174.0903	12173.02	64.20	-0.31	1174.0903	12173.33	64.46
98	2022/08/09 08:58:25	1174.1236	11973.34	64.15	107.66	1174.1236	11865.68	64.39
99	2022/08/09 09:00:25	1174.1569	11853.28	63.93	-0.14	1174.1569	11853.42	64.23
100	2022/08/09 09:02:25	1174.1903	11852.75	63.84	-0.61	1174.1903	11853.36	64.12
101	2022/08/09 09:04:25	1174.2236	11588.90	63.77	177.03	1174.2236	11411.87	64.02
102	2022/08/09 09:06:25	1174.2569	11405.29	63.47	-0.44	1174.2569	11405.73	63.82
103	2022/08/09 09:08:25	1174.2903	11404.90	63.35	0.32	1174.2903	11404.58	63.67
104	2022/08/09 09:10:25	1174.3236	11015.92	63.25	248.16	1174.3236	10767.76	63.54
105	2022/08/09 09:12:25	1174.3569	9307.79	61.63	249.30	1174.3569	9058.49	62.65
106	2022/08/09 09:14:25	1174.3903	8756.46	58.12	-0.78	1174.3903	8757.25	60.36
107	2022/08/09 09:16:25	1174.4236	8755.55	56.92	-0.09	1174.4236	8755.63	58.82
108	2022/08/09 09:18:25	1174.4569	8656.82	56.26	256.25	1174.4569	8400.57	57.75
109	2022/08/09 09:20:25	1174.4903	6456.54	52.80	230.54	1174.4903	6226.01	55.33
110	2022/08/09 09:22:25	1174.5236	6111.77	48.05	1.44	1174.5236	6110.34	51.46
111	2022/08/09 09:24:25	1174.5569	6110.69	46.65	1.56	1174.5569	6109.13	49.16
112	2022/08/09 09:26:25	1174.5903	6016.40	45.85	259.33	1174.5903	5757.06	47.69
113	2022/08/09 09:28:25	1174.6236	4148.60	42.50	261.77	1174.6236	3886.83	44.84
114	2022/08/09 09:30:25	1174.6569	3481.59	38.77	1.96	1174.6569	3479.63	41.36
115	2022/08/09 09:32:25	1174.6903	3481.07	37.71	1.78	1174.6903	3479.29	39.50
116	2022/08/09 09:34:25	1174.7236	3480.67	37.15	58.24	1174.7236	3422.43	38.41
117	2022/08/09 09:36:25	1174.7569	1474.52	34.63	257.77	1174.7569	1216.75	35.84
118	2022/08/09 09:38:25	1174.7903	880.04	30.65	3.16	1174.7903	876.88	31.58
119	2022/08/09 09:40:25	1174.8236	880.27	29.43	2.86	1174.8236	877.41	30.09
120	2022/08/09 09:42:25	1174.8569	863.18	28.88	218.36	1174.8569	644.82	29.38
121	2022/08/09 09:44:25	1174.8903	314.34	27.73	12.98	1174.8903	301.35	28.04
122	2022/08/09 09:46:25	1174.9236	310.50	27.16	7.76	1174.9236	302.74	27.17
123	2022/08/09 09:48:25	1174.9569	309.40	26.86	4.89	1174.9569	304.50	26.47
124	2022/08/09 09:50:25	1174.9903	301.89	26.58	-1.24	1174.9903	303.13	25.88
125	2022/08/09 09:52:25	1175.0236	299.18	25.50	3.20	1175.0236	295.98	24.91
126	2022/08/09 09:54:25	1175.0569	292.16	23.62	2.19	1175.0569	289.97	23.13
127	2022/08/09 09:56:25	1175.0903	287.46	22.20	-3.05	1175.0903	290.51	21.96
128	2022/08/09 09:58:25	1175.1236	285.39	22.03	-6.79	1175.1236	292.18	21.83
129	2022/08/09 10:00:25	1175.1569	286.93	22.05	-7.12	1175.1569	294.04	21.85
130	2022/08/09 10:02:25	1175.1903	146.46	22.11	0.41	1175.1903	146.05	21.87
131	2022/08/09 10:04:25	1175.2236	112.89	21.97	-39.06	1175.2236	151.95	21.76
132	2022/08/09 10:06:25	1175.2569	104.62	21.90	-81.09	1175.2569	185.71	21.63
133	2022/08/09 10:08:25	1175.2903	104.16	21.14	-149.74	1175.2903	253.90	19.92

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80635	2022/06/21 YYYY/MM/DD	10:51:00 HH:mm:ss	1882.00 m
Top	80682	2022/06/21 YYYY/MM/DD	10:51:00 HH:mm:ss	1881.75 m

Test Type Final Static Gradient

Company Name	**Enhance Energy Inc.**
Well Name	**Fairborne Clive 16-2-40-24W4**
Unique Well ID	**100/16-02-040-24W4/0**
Well License Number	**0119108**
Formation	**Nisku**
Start Test Date	**2022/10/20**
Final Test Date	**2022/11/17**

Prepared By	**Kennason Tech Services Inc.**
Qualified By	**Cory Strang**
Report Date	**2022/11/18**

Reliance OFS Canada Limited
2500 333 - 7th Ave SW
Calgary AB T2P 2Z1
403-475-1229
relianceofs.com

RELIANCE OILFIELD SERVICES

Pressure Survey Report

Final Static Gradient

Company Name Enhance Energy Inc.
Contact Kevin Meyer

Representative Russ Guenther

General Information

Well Name	Fairborne Clive 16-2-40-24W4	KB Elevation (SL)	915.00 m
Unique Well ID	100/16-02-040-24W4/0	CF Elevation (SL)	910.80 m
Surface Location	16-02-040-24W4	GL Elevation (SL)	910.80 m
Well License Number	0119108	KB-CF Offset	4.20 m
Well Type	Vertical	KB-GL Offset	4.20 m

Wellbore Information

Tubing OD	73.0 mm	Casing OD	177.8 mm
Tubing ID	62.0 mm	Casing ID	161.7 mm
Tubing Depth(Log KB)	1879.20000 m	Casing Depth(Log KB)	1970.00000 m
Tubing Depth(TVD KB)	1879.20000 m	Casing Depth(TVD KB)	1970.00000 m
Packer Depth(Log KB)	1873.40000 m	PBTD(Log KB)	1970.00 m
Packer Depth(TVD KB)	1873.40000 m	PBTD(TVD KB)	1970.00 m

Gross Completion Interval (GCI) as tested:

Top(Log KB)	1881.50 m	Top(TVD KB)	1881.50 m	Formation Name	Nisku
Bottom(Log KB)	1888.50 m	Bottom(TVD KB)	1888.50 m	Pool	
MPP(Log KB)	1885.00 m	MPP(TVD KB)	1885.00 m		

Test Information

Test Type	Final Static Gradient	Date/Time Gauge on Bottom	2022/11/17 13:00:25
Well Fluid Type	01 Oil	Date/Time Gauge Off Bottom	2022/11/17 15:14:25
Test Purpose	Annual Pressure	Time/Date Well Shut-In	2020/09/01 12:00:00
		Shut-In Duration	19371.2403 h

Surface Pressures:

Tubing Pressure Initial	5003.00 kPa(a)	Casing Pressure Initial	393.00 kPa(a)
Tubing Pressure: Final	5003.00 kPa(a)	Casing Pressure: Final	393.00 kPa(a)

Test Results

Gauge Serial Number Used in Summary	80685		Run Depth (Log KB)	1879.00	m
Calculated Pressure Corrected to MPP	9656.54	kPa(a)	Run Depth (TVD KB)	1879.00	m
Reservoir Temperature	62.45	°C	Pressure at Stop Depth	9597.90	kPa(a)
Liquid Level(TVD KB)	1476.72	m	Temperature at Run Depth	62.5	°C

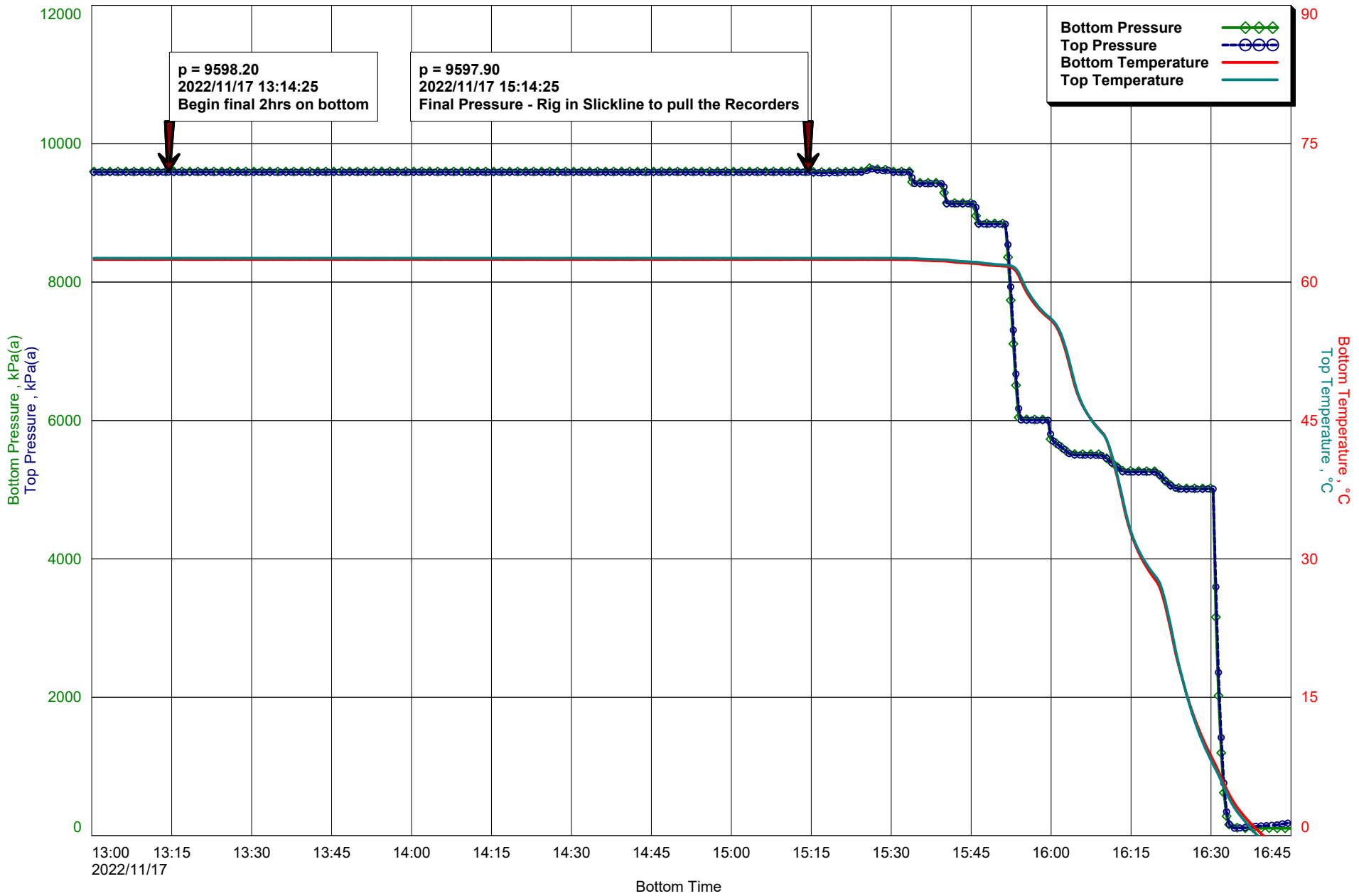
Test Remarks:

Static Gradient stops on the way out of the well.
The Shut In date/time was not provided - used the Susp date from the AER.
Daylight Savings ended while the Recorders were in the well.

Enhance Energy Inc.
100/16-02-040-24W4/0
Start Test Date: 2022/10/20
Final Test Date: 2022/11/17

Fairborne Clive 16-2-40-24W4
Formation: Nisku

Final Static Gradient Plot



Final Static Gradient 2022/10/20

Company Name Enhance Energy Inc.

Well Name Fairborne Clive 16-2-40-24W4

Unique Well ID	100/16-02-040-24W4/0	KB Elevation (SL)	915.00
		GL Elevation (SL)	910.80
Formation	Nisku	CF Elevation (SL)	910.80
Well Fluid Type	01 Oil		
Well License Number	0119108		
Well Type	Vertical		
Start Test Date	2022/10/20	Start Test Time	13:32:00
Final Test Date	2022/11/17	Final Test Time	16:45:25
Date Well Shut-In	2020/09/01	Time Well Shut-In	12:00:00

Top(TVD KB)	1881.50	m	Tubing Pressure: Initial	5003.00	kPa(a)
Bottom(TVD KB)	1888.50	m	Casing Pressure: Initial	393.00	kPa(a)
MPP(TVD KB)	1885.00	m	Shut-In Duration	19371.2403	h

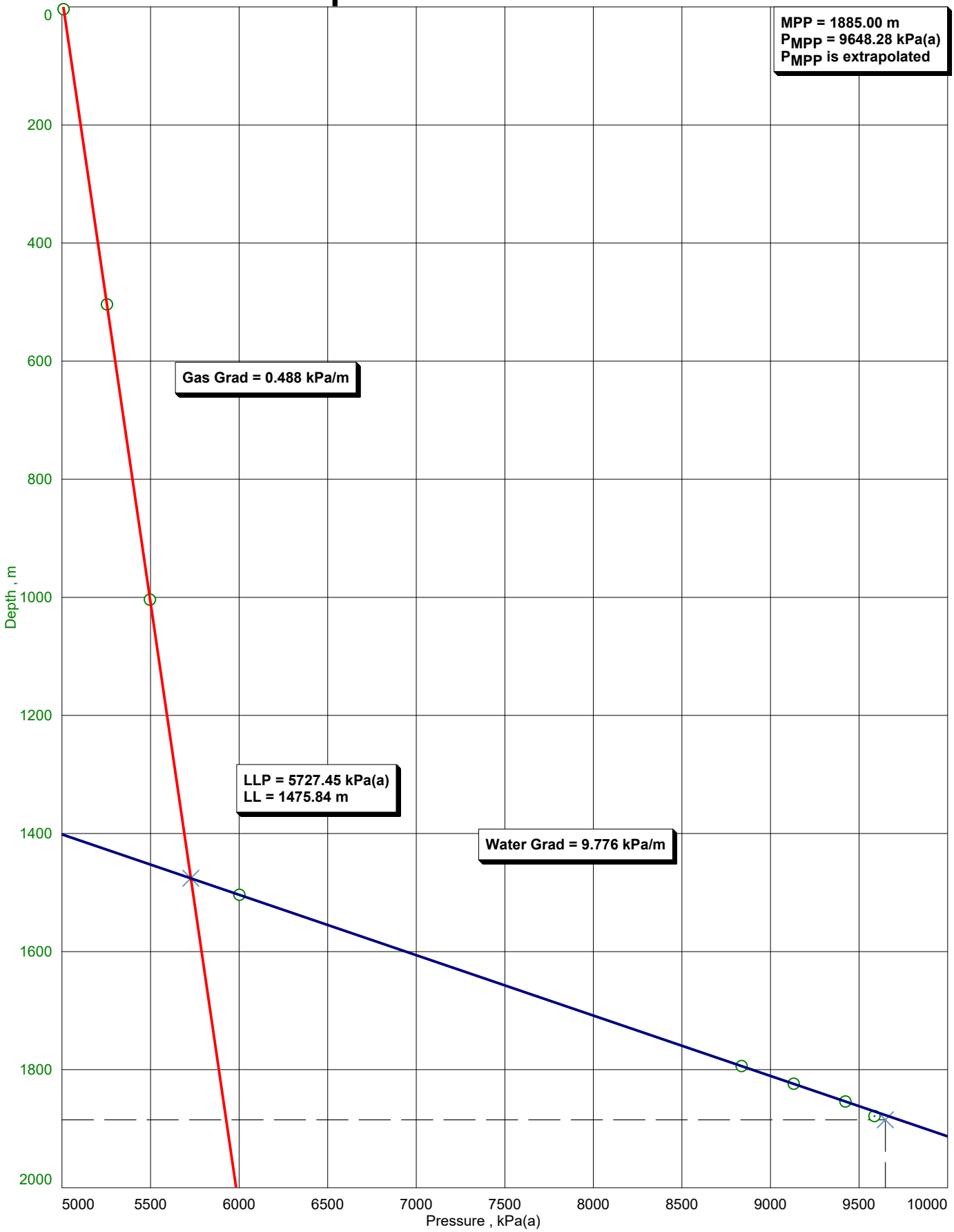
	Bottom		Top	
Gauge Name	Bottom		Top	
Gauge Serial Number	80685		80682	
Gauge Type	Strain		Strain	
Gauge Manufacturer	Spartek		Spartek	
Gauge Model	SS2500		SS2500	
Maximum Recorder Range	41370.00	kPa(a)	41370.00	kPa(a)
Resolution (% of Full Scale)	0.00030		0.00030	
Accuracy (% of Full Scale)	0.03000		0.03000	
Date of Last Calibration	2021/05/26		2021/05/26	
Gauge Start Date	2022/10/20	13:32:00	2022/10/20	13:32:00
Gauge Stop Date	2022/11/17	16:45:25	2022/11/17	16:45:25
Date Gauge On Bottom	2022/11/17	13:00:25	2022/11/17	13:00:25
Date Gauge Off Bottom	2022/11/17	15:14:25	2022/11/17	15:14:25
Run Depth (TVD KB)	1879.00	m	1878.75	m
Pressure at Run Depth	9597.90	kPa(a)	9587.18	kPa(a)
Pressure at MPP	9656.54	kPa(a)	9648.28	kPa(a)
Representative Gradient	9.774	kPa/m	9.776	kPa/m
Temperature at Run Depth	62.5	°C	62.6	°C
Liquid Level(TVD KB)	1476.72	m	1475.84	m

Bottom					Top					
Depth	Temp.	Pressure	Gradient	Gradient	Time	Depth	Temp.	Pressure	Gradient	Gradient
m	°C	kPa(a)	kPa/m	°C/m	HH:mm:ss	m	°C	kPa(a)	kPa/m	°C/m
1879.00	62.45	9597.90			15:14:25	1878.75	62.59	9587.18		
1854.20	62.29	9434.12	6.604	0.006	15:39:25	1853.95	62.43	9423.43	6.603	0.007
1824.20	62.03	9141.61	9.750	0.009	15:45:25	1823.95	62.17	9131.18	9.742	0.009
1794.20	61.71	8847.46	9.805	0.010	15:51:25	1793.95	61.86	8836.89	9.809	0.010
1504.20	56.15	6013.25	9.773	0.019	15:59:25	1503.95	56.56	6002.28	9.775	0.018
1004.20	43.81	5511.35	1.004	0.025	16:09:25	1003.95	44.04	5496.94	1.011	0.025
504.20	27.83	5267.14	0.488	0.032	16:19:25	503.95	28.22	5254.49	0.485	0.032
4.20	8.71	5019.00	0.496	0.038	16:29:55	3.95	8.27	5009.41	0.490	0.040

Bottom Pressure Gradient



Top Pressure Gradient



Company Name Enhance Energy Inc.
Unique Well ID 100/16-02-040-24W4/0
Start Test Date 2022/10/20
Final Test Date 2022/11/17

Well Name Fairborne Clive 16-2-40-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
1	2022/11/17 13:00:25	671.4736	9598.07	62.45	10.82	671.4736	9587.25	62.59
2	2022/11/17 13:02:25	671.5069	9598.21	62.45	10.75	671.5069	9587.46	62.59
3	2022/11/17 13:04:25	671.5403	9597.88	62.45	10.46	671.5403	9587.41	62.59
4	2022/11/17 13:06:25	671.5736	9598.07	62.45	10.71	671.5736	9587.36	62.59
5	2022/11/17 13:08:25	671.6069	9598.31	62.45	11.13	671.6069	9587.18	62.59
6	2022/11/17 13:10:25	671.6403	9597.92	62.45	10.54	671.6403	9587.38	62.59
7	2022/11/17 13:12:25	671.6736	9597.94	62.45	10.70	671.6736	9587.24	62.59
8	2022/11/17 13:14:25	671.7069	9598.20	62.45	10.46	671.7069	9587.74	62.59
9	Begin final 2hrs on bottom							
10	2022/11/17 13:14:55	671.7153	9598.20	62.45	10.56	671.7153	9587.65	62.59
11	2022/11/17 13:16:25	671.7403	9598.27	62.45	10.95	671.7403	9587.32	62.59
12	2022/11/17 13:18:25	671.7736	9598.29	62.45	10.81	671.7736	9587.48	62.59
13	2022/11/17 13:20:25	671.8069	9598.15	62.45	10.87	671.8069	9587.28	62.60
14	2022/11/17 13:22:25	671.8403	9598.19	62.45	10.85	671.8403	9587.34	62.59
15	2022/11/17 13:24:25	671.8736	9598.25	62.45	11.24	671.8736	9587.01	62.59
16	2022/11/17 13:26:25	671.9069	9598.19	62.45	11.18	671.9069	9587.01	62.59
17	2022/11/17 13:28:25	671.9403	9598.01	62.45	10.75	671.9403	9587.26	62.59
18	2022/11/17 13:30:25	671.9736	9598.43	62.45	10.81	671.9736	9587.61	62.59
19	2022/11/17 13:32:25	672.0069	9598.37	62.45	11.05	672.0069	9587.31	62.59
20	2022/11/17 13:34:25	672.0403	9598.37	62.45	11.03	672.0403	9587.34	62.59
21	2022/11/17 13:36:25	672.0736	9598.07	62.45	10.76	672.0736	9587.31	62.59
22	2022/11/17 13:38:25	672.1069	9598.11	62.45	10.69	672.1069	9587.42	62.59
23	2022/11/17 13:40:25	672.1403	9598.05	62.45	10.87	672.1403	9587.18	62.60
24	2022/11/17 13:42:25	672.1736	9598.15	62.45	11.21	672.1736	9586.94	62.59
25	2022/11/17 13:44:25	672.2069	9598.33	62.45	10.77	672.2069	9587.56	62.59
26	2022/11/17 13:46:25	672.2403	9598.35	62.45	10.78	672.2403	9587.57	62.59
27	2022/11/17 13:48:25	672.2736	9598.44	62.45	11.28	672.2736	9587.16	62.59
28	2022/11/17 13:50:25	672.3069	9598.32	62.45	10.90	672.3069	9587.42	62.59
29	2022/11/17 13:52:25	672.3403	9598.46	62.45	10.82	672.3403	9587.64	62.59
30	2022/11/17 13:54:25	672.3736	9598.68	62.45	11.31	672.3736	9587.36	62.59
31	2022/11/17 13:56:25	672.4069	9598.67	62.45	11.42	672.4069	9587.26	62.59
32	2022/11/17 13:58:25	672.4403	9598.40	62.45	10.85	672.4403	9587.56	62.59
33	2022/11/17 14:00:25	672.4736	9598.85	62.45	11.16	672.4736	9587.69	62.59
34	2022/11/17 14:02:25	672.5069	9598.79	62.45	11.35	672.5069	9587.44	62.59
35	2022/11/17 14:04:25	672.5403	9598.23	62.45	10.82	672.5403	9587.40	62.59
36	2022/11/17 14:06:25	672.5736	9598.34	62.45	11.11	672.5736	9587.23	62.59
37	2022/11/17 14:08:25	672.6069	9598.19	62.45	10.96	672.6069	9587.23	62.59
38	2022/11/17 14:10:25	672.6403	9597.76	62.45	10.47	672.6403	9587.29	62.59
39	2022/11/17 14:12:25	672.6736	9597.82	62.45	10.68	672.6736	9587.14	62.59
40	2022/11/17 14:14:25	672.7069	9598.50	62.45	11.28	672.7069	9587.22	62.59
41	2022/11/17 14:16:25	672.7403	9598.26	62.45	10.56	672.7403	9587.71	62.60
42	2022/11/17 14:18:25	672.7736	9598.06	62.45	10.95	672.7736	9587.10	62.59
43	2022/11/17 14:20:25	672.8069	9598.31	62.45	10.93	672.8069	9587.38	62.59
44	2022/11/17 14:22:25	672.8403	9598.22	62.45	10.71	672.8403	9587.51	62.59
45	2022/11/17 14:24:25	672.8736	9598.40	62.45	11.12	672.8736	9587.28	62.60

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80685	2022/10/20 YYYY/MM/DD	13:32:00 HH:mm:ss	1879.00 m
Top	80682	2022/10/20 YYYY/MM/DD	13:32:00 HH:mm:ss	1878.75 m

Company Name Enhance Energy Inc.
Unique Well ID 100/16-02-040-24W4/0
Start Test Date 2022/10/20
Final Test Date 2022/11/17

Well Name Fairborne Clive 16-2-40-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
46	2022/11/17 14:26:25	672.9069	9598.17	62.45	10.26	672.9069	9587.92	62.59
47	2022/11/17 14:28:25	672.9403	9598.23	62.45	10.97	672.9403	9587.26	62.60
48	2022/11/17 14:30:25	672.9736	9598.40	62.45	10.93	672.9736	9587.48	62.59
49	2022/11/17 14:32:25	673.0069	9597.49	62.45	10.55	673.0069	9586.93	62.60
50	2022/11/17 14:34:25	673.0403	9597.82	62.45	10.84	673.0403	9586.97	62.59
51	2022/11/17 14:36:25	673.0736	9598.09	62.45	10.94	673.0736	9587.15	62.59
52	2022/11/17 14:38:25	673.1069	9598.10	62.45	10.76	673.1069	9587.34	62.60
53	2022/11/17 14:40:25	673.1403	9598.01	62.45	10.65	673.1403	9587.35	62.59
54	2022/11/17 14:42:25	673.1736	9597.91	62.45	10.66	673.1736	9587.25	62.59
55	2022/11/17 14:44:25	673.2069	9598.21	62.45	10.90	673.2069	9587.31	62.59
56	2022/11/17 14:46:25	673.2403	9598.23	62.45	11.42	673.2403	9586.81	62.59
57	2022/11/17 14:48:25	673.2736	9598.28	62.45	11.22	673.2736	9587.06	62.59
58	2022/11/17 14:50:25	673.3069	9598.17	62.45	10.66	673.3069	9587.51	62.59
59	2022/11/17 14:52:25	673.3403	9598.13	62.45	11.11	673.3403	9587.02	62.59
60	2022/11/17 14:54:25	673.3736	9598.37	62.45	11.52	673.3736	9586.85	62.59
61	2022/11/17 14:56:25	673.4069	9597.78	62.45	10.87	673.4069	9586.91	62.59
62	2022/11/17 14:58:25	673.4403	9597.56	62.45	10.47	673.4403	9587.09	62.59
63	2022/11/17 15:00:25	673.4736	9597.53	62.45	10.40	673.4736	9587.13	62.59
64	2022/11/17 15:02:25	673.5069	9597.99	62.45	11.13	673.5069	9586.86	62.59
65	2022/11/17 15:04:25	673.5403	9597.97	62.45	10.76	673.5403	9587.21	62.59
66	2022/11/17 15:06:25	673.5736	9597.87	62.45	10.70	673.5736	9587.17	62.59
67	2022/11/17 15:08:25	673.6069	9598.13	62.45	10.84	673.6069	9587.29	62.59
68	2022/11/17 15:10:25	673.6403	9598.13	62.45	10.73	673.6403	9587.40	62.59
69	2022/11/17 15:12:25	673.6736	9597.99	62.45	10.79	673.6736	9587.20	62.59
70	2022/11/17 15:14:25	673.7069	9597.90	62.45	10.71	673.7069	9587.18	62.59
71	Final Pressure - Rig in Slickline to pull the Recorders							
72								
73	2022/11/17 15:14:55	673.7153	9585.23	62.45	15.84	673.7153	9569.40	62.59
74	2022/11/17 15:16:25	673.7403	9588.91	62.45	9.69	673.7403	9579.21	62.59
75	2022/11/17 15:18:25	673.7736	9591.63	62.45	10.30	673.7736	9581.34	62.59
76	2022/11/17 15:20:25	673.8069	9595.25	62.45	10.93	673.8069	9584.32	62.59
77	2022/11/17 15:22:25	673.8403	9598.07	62.45	10.92	673.8403	9587.15	62.59
78	2022/11/17 15:24:25	673.8736	9600.37	62.45	11.14	673.8736	9589.23	62.59
79	2022/11/17 15:26:25	673.9069	9654.06	62.45	16.17	673.9069	9637.89	62.60
80	2022/11/17 15:28:25	673.9403	9618.89	62.45	7.82	673.9403	9611.07	62.59
81	2022/11/17 15:30:25	673.9736	9597.73	62.45	9.73	673.9736	9588.00	62.59
82	2022/11/17 15:32:25	674.0069	9598.37	62.44	10.62	674.0069	9587.75	62.58
83	2022/11/17 15:34:25	674.0403	9436.06	62.41	10.37	674.0403	9425.69	62.56
84	2022/11/17 15:36:25	674.0736	9434.62	62.35	10.57	674.0736	9424.06	62.49
85	2022/11/17 15:38:25	674.1069	9434.51	62.31	11.00	674.1069	9423.52	62.45
86	2022/11/17 15:40:25	674.1403	9144.66	62.26	11.65	674.1403	9133.01	62.41
87	2022/11/17 15:42:25	674.1736	9142.37	62.14	10.81	674.1736	9131.56	62.28
88	2022/11/17 15:44:25	674.2069	9141.91	62.06	10.63	674.2069	9131.28	62.20
89	2022/11/17 15:46:25	674.2403	8847.95	61.99	7.18	674.2403	8840.76	62.13
90	2022/11/17 15:48:25	674.2736	8847.98	61.84	10.65	674.2736	8837.33	61.98

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80685	2022/10/20 YYYY/MM/DD	13:32:00 HH:mm:ss	1879.00 m
Top	80682	2022/10/20 YYYY/MM/DD	13:32:00 HH:mm:ss	1878.75 m

Company Name Enhance Energy Inc.
Unique Well ID 100/16-02-040-24W4/0
Start Test Date 2022/10/20
Final Test Date 2022/11/17

Well Name Fairborne Clive 16-2-40-24W4
Formation Nisku

	Bottom Date	Bottom Time	Bottom Pres.	Bottom Temp.	Bottom G1 - G2	Top Time	Top Pres.	Top Temp.
	rYYYY/MM/DD HH:mm:ss	h	kPa(a)	°C	kPa	h	kPa(a)	°C
91	2022/11/17 15:50:25	674.3069	8847.69	61.75	10.74	674.3069	8836.95	61.89
92	2022/11/17 15:52:25	674.3403	7737.18	61.62	-194.62	674.3403	7931.80	61.78
93	2022/11/17 15:54:25	674.3736	6015.72	60.06	10.11	674.3736	6005.62	60.42
94	2022/11/17 15:56:25	674.4069	6014.05	58.00	10.28	674.4069	6003.77	58.26
95	2022/11/17 15:58:25	674.4403	6013.52	56.66	11.23	674.4403	6002.29	56.84
96	2022/11/17 16:00:25	674.4736	5702.60	55.60	1.80	674.4736	5700.80	55.80
97	2022/11/17 16:02:25	674.5069	5584.68	53.13	2.70	674.5069	5581.98	53.46
98	2022/11/17 16:04:25	674.5403	5514.27	48.80	13.73	674.5403	5500.54	49.11
99	2022/11/17 16:06:25	674.5736	5512.74	46.08	14.74	674.5736	5498.00	46.11
100	2022/11/17 16:08:25	674.6069	5511.56	44.46	14.38	674.6069	5497.18	44.39
101	2022/11/17 16:10:25	674.6403	5455.62	42.89	4.40	674.6403	5451.22	42.92
102	2022/11/17 16:12:25	674.6736	5327.09	38.85	4.87	674.6736	5322.22	39.02
103	2022/11/17 16:14:25	674.7069	5269.81	33.82	14.67	674.7069	5255.14	34.04
104	2022/11/17 16:16:25	674.7403	5267.97	30.70	13.62	674.7403	5254.35	30.93
105	2022/11/17 16:18:25	674.7736	5266.90	28.65	12.46	674.7736	5254.44	28.99
106	2022/11/17 16:20:25	674.8069	5208.25	26.86	-0.94	674.8069	5209.18	27.34
107	2022/11/17 16:22:25	674.8403	5063.64	22.36	3.91	674.8403	5059.73	22.77
108	2022/11/17 16:24:25	674.8736	5018.59	17.42	10.24	674.8736	5008.35	17.52
109	2022/11/17 16:26:25	674.9069	5018.57	13.53	10.12	674.9069	5008.46	13.32
110	2022/11/17 16:28:25	674.9403	5018.65	10.56	9.82	674.9403	5008.83	10.17
111	2022/11/17 16:30:25	674.9736	4967.34	8.15	-40.50	674.9736	5007.84	7.70
112	2022/11/17 16:32:25	675.0069	621.42	5.65	-136.97	675.0069	758.39	5.26
113	2022/11/17 16:34:25	675.0403	117.89	3.48	11.01	675.0403	106.88	3.01
114	2022/11/17 16:36:25	675.0736	109.08	1.99	-5.65	675.0736	114.73	1.52
115	2022/11/17 16:38:25	675.1069	108.82	0.75	-25.49	675.1069	134.31	0.19
116	2022/11/17 16:40:25	675.1403	108.44	-0.30	-34.03	675.1403	142.47	-0.87
117	2022/11/17 16:42:25	675.1736	107.35	-1.33	-46.30	675.1736	153.66	-1.90
118	2022/11/17 16:44:25	675.2069	107.27	-2.25	-71.28	675.2069	178.55	-2.63
119	2022/11/17 16:45:25	675.2236	107.42	-2.13	-78.46	675.2236	185.88	-2.26

Print Filter: Approximately every 4 lines

Gauge Name	Serial Number	Start Date	Start Time	Run Depth (TVD)
Bottom	80685	2022/10/20 YYYY/MM/DD	13:32:00 HH:mm:ss	1879.00 m
Top	80682	2022/10/20 YYYY/MM/DD	13:32:00 HH:mm:ss	1878.75 m

ATTACHMENT 5

Fluid Analyses

AGAT Laboratories

EXTENDED GAS ANALYSIS

Version: 1

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
11001151A	EE041504024W4MFIT100G		000188887	21ER836857A	22ER850589A

Operator Name	Sampling Point	Unique Well Identifier
ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4

Well Name	Well License	Well Status	Well Fluid Status	LSD
ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
CLIVE	NOT APPLICABLE	AGAT RED DEER	BA

Test Interval (mKB) From :	Test Interval (mKB) To:	Test Type	Test No.	Elevation (m) KB	Elevation (m) GRD	Pressure (kPa) Source	Pressure (kPa) Received	Temperature (°C) Source	Temperature (°C) Received
						130	150	5	21

Date/Time Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Jan 10, 2022 8:55	Jan 11, 2022	Jan 13, 2022	Jan 13, 2022	Calgary - Gerry Ecker - Reporter

Other Information : METER 090-FIT-100(ENH0202)

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.01231	0.51662		0.00745
He	0.00000	0.00000		0.00000
N_2	0.00707	0.29660		0.00055
CO_2	0.97616	0.00000		0.99153
H_2S	0.00000	0.00000		0.00000
C_1	0.00222	0.09320		0.00047
C_2	0.00005	0.00201	0.2	0.00000
C_3	0.00000	0.00000	0.0	0.00000
iC_4	0.00000	0.00000	0.0	0.00000
nC_4	0.00000	0.00000	0.0	0.00000
iC_5	0.00000	0.00000	0.0	0.00000
nC_5	0.00000	0.00000	0.0	0.00000
C_6	0.00027	0.01105	1.4	0.00000
C_7+	0.00192	0.08052	11.2	0.00000
TOTAL	1.00000	1.00000	12.8	1.00000

WDMS Data Verification Check

Exceeded compare limits: N2, C1, C7

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross: Air Free as Received	Gross: Moisture & Acid Gas Free	Net: Air Free as Received	Net: Moisture & Acid Gas Free
0.68	28.54	**0.61**	25.72

Calculated Density

Relative: Moisture Free As Received	Relative: Moisture & Acid Gas Free	Absolute: C_7+ Density (kg/m³)	Absolute: Total Sample Density (kg/m³)
1.500	0.702	761.6	1.838

Calculated Pseudo Critical Properties

As Sampled: pPc (kPa)	As Sampled: pTc (K)	Acid Gas Free: pPc (kPa)	Acid Gas Free: pTc (K)
7258.12	299.86	2388.95	125.07

Hydrogen Sulfide (H_2S) (ppm)

Field Value: Stain Tube (GPA 2377)	Field Value: Tutweiler (GPA C1)	Laboratory Value: Other	Laboratory Value: GC-SCD (ASTM D5504)	g/m³
0				0.00

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

Total Sample	C_7+ Fraction
43.45	105.50

Calculated Vapour Pressure

12.76 — C_5+(kPa)

Gas Compressibility

0.9941 — @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Version: 1

11001151A	EE041504024W4MFIT		000188887	21ER836857A	22ER850589A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00219	0.09157	12.6268
68.9+	C_7+	Heptanes+	0.00192	0.08052	11.2364
98.6+	C_8+	Octanes+	0.00145	0.06073	8.5777
125.8+	C_9+	Nonanes+	0.00054	0.02283	3.3744
150.9+	C_{10}+	Decanes+	0.00007	0.00274	0.4487
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00047	0.01979	2.6587
98.6 - 125.8	C_8	Octanes	0.00091	0.03790	5.2033
125.8 - 150.9	C_9	Nonanes	0.00047	0.02009	2.9257
150.9 - 174.3	C_{10}	Decanes	0.00007	0.00274	0.4487
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00009	0.00364	0.4222
68.73	C_6	n-Hexane	0.00014	0.00566	0.7412
71.83	C_6	Methylcyclopentane	0.00000	0.00000	0.0000
80.06	C_6	Benzene	0.00007	0.00310	0.2757
80.78	C_6	Cyclohexane	0.00007	0.00274	0.3429
99.24	C_8	2,2,4-Trimethylpentane	0.00002	0.00090	0.1492
100.94	C_7	Methylcyclohexane	0.00020	0.00828	1.0599
110.61	C_7	Toluene	0.00029	0.01212	1.2918
136.16	C_8	Ethylbenzene	0.00003	0.00132	0.1624
138.33 ; 139.09	C_8	m&p-Xylene	0.00016	0.00690	0.8524
144.42	C_8	o-Xylene	0.00004	0.00168	0.2038
169.34	C_9	1,2,4-Trimethylbenzene	0.00002	0.00076	0.1205

AGAT Laboratories

EXTENDED GAS ANALYSIS

Version: 1

07000322A	EE041504024W4MFIT100G		000188887	22ER850589A	22ER860667A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER
Well Name

Well License *Well Status* *Well Fluid Status* *LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	120 Source	150 Received	10 Source	21 Received

Feb 09, 2022 8:45	Feb 11, 2022	Feb 17, 2022	Feb 17, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : METER 090-FIT-100(ENH0202)

COMPOSITION

Component	Mole Fraction		Liquid Volume mL / m³	Mole Fraction of Previous Analysis
	Air Free As Received	Air & Acid Gas Free As Received		
H_2	0.00620	0.70620		0.01231
He	0.00000	0.00000		0.00000
N_2	0.00133	0.15140		0.00707
CO_2	0.99123	0.00000		0.97616
H_2S	0.00000	0.00000		0.00000
C_1	0.00073	0.08257		0.00222
C_2	0.00005	0.00607	0.2	0.00005
C_3	0.00003	0.00338	0.1	0.00000
iC_4	0.00005	0.00512	0.2	0.00000
nC_4	0.00001	0.00162	0.1	0.00000
iC_5	0.00001	0.00116	TRACE	0.00000
nC_5	0.00001	0.00135	0.1	0.00000
C_6	0.00018	0.02053	1.0	0.00027
C_7+	0.00017	0.02059	1.1	0.00192
TOTAL	1.00000	1.00000	2.7	1.00000

WDMS Data Verification Check

Exceeded compare limits: C1, C7

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
0.19	21.34	**0.17**	19.09
Air Free as Received	*Moisture & Acid Gas Free*	*Air Free as Received*	*Moisture & Acid Gas Free*

Calculated Density

Relative		Absolute	
1.510	0.405	725.2	1.850
Moisture Free As Received	*Moisture & Acid Gas Free*	*C_7+ Density (kg/m³)*	*Total Sample Density (kg/m³)*

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7329.96	302.22	2022.87	87.08
pPc (kPa)	*pTc (K)*	*pPc (kPa)*	*pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0				0.00
Stain Tube (GPA 2377)	*Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

43.73	100.32
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

33.91
C_5+(kPa)

Gas Compressibility

0.9943
@15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Version: 1

07000322A	EE041504024W4MFIT		000188887	22ER850589A	22ER860667A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00035	0.04112	2.0381
68.9+	C_7+	Heptanes+	0.00017	0.02059	1.0546
98.6+	C_8+	Octanes+	0.00004	0.00570	0.3103
125.8+	C_9+	Nonanes+	0.00001	0.00231	0.1399
150.9+	C_{10}+	Decanes+	0.00000	0.00084	0.0550
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00013	0.01489	0.7443
98.6 - 125.8	C_8	Octanes	0.00003	0.00339	0.1704
125.8 - 150.9	C_9	Nonanes	0.00001	0.00148	0.0849
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00084	0.0550
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00001	0.00103	0.0442
68.73	C_6	n-Hexane	0.00010	0.01143	0.5513
71.83	C_6	Methylcyclopentane	0.00004	0.00486	0.2298
80.06	C_6	Benzene	0.00001	0.00073	0.0238
80.78	C_6	Cyclohexane	0.00001	0.00139	0.0641
99.24	C_8	2,2,4-Trimethylpentane	0.00000	0.00054	0.0329
100.94	C_7	Methylcyclohexane	0.00001	0.00096	0.0450
110.61	C_7	Toluene	0.00001	0.00103	0.0406
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00000	0.00050	0.0227
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00040	0.0234

EXTENDED GAS ANALYSIS

Version: 1

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
08001541A	EE041504024W4MFIT100G		000188887	22ER860667A	22ER869985A

Operator Name	Sampling Point	Unique Well Identifier
ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4

Well Name	Well License	Well Status	Well Fluid Status	LSD
ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA

Test Interval (mKB) From :	Test Interval (mKB) To:	Test Type	Test No.	Elevation (m) KB	Elevation (m) GRD	Pressure (kPa) Source	Pressure (kPa) Received	Temperature (°C) Source	Temperature (°C) Received
						70	100	10	23

Date/Time Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Mar 07, 2022 8:50	Mar 08, 2022	Mar 11, 2022	Mar 11, 2022	Calgary - Svetlana Nikolic - Reporter

Other Information :

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00639	0.83507		0.00620
He	0.00000	0.00000		0.00000
N_2	0.00034	0.04505		0.00133
CO_2	0.99235	0.00000		0.99123
H_2S	0.00000	0.00000		0.00000
C_1	0.00079	0.10375		0.00073
C_2	0.00005	0.00631	0.2	0.00005
C_3	0.00003	0.00343	0.1	0.00003
iC_4	0.00001	0.00172	0.1	0.00005
nC_4	0.00002	0.00230	0.1	0.00001
iC_5	0.00001	0.00138	0.1	0.00001
nC_5	0.00001	0.00100	TRACE	0.00001
C_6	0.00000	0.00000	0.0	0.00018
C_{7+}	0.00000	0.00000	0.0	0.00017
TOTAL	1.00000	1.00000	0.5	1.00000

WDMS Data Verification Check ✓

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross: Air Free as Received	Gross: Moisture & Acid Gas Free	Net: Air Free as Received	Net: Moisture & Acid Gas Free
0.12	15.57	**0.10**	13.52

Calculated Density

Relative: Moisture Free As Received	Relative: Moisture & Acid Gas Free	Absolute: C_{7+} Density (kg/m³)	Absolute: Total Sample Density (kg/m³)
1.510	0.185	0.0	1.849

Calculated Pseudo Critical Properties

As Sampled: pPc (kPa)	As Sampled: pTc (K)	Acid Gas Free: pPc (kPa)	Acid Gas Free: pTc (K)
7334.31	302.26	1796.54	59.16

Hydrogen Sulfide (H_2S) (ppm)

Field Value: Stain Tube (GPA 2377)	Field Value: Tutweiler (GPA C1)	Laboratory Value: Other	Laboratory Value: GC-SCD (ASTM D5504)	g/m³
				0.00

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

Total Sample	C_{7+} Fraction
43.71	0.00

Calculated Vapour Pressure

C_{5+}(kPa)
136.40

Gas Compressibility

@15 °C & 101.325 kPa
0.9943

Disclaimer: The result in this report has been confirmed by a duplicate run.

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Version: 1

08001541A	EE041504024W4MFIT		000188887	22ER860667A	22ER869985A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00000	0.00000	0.0000
68.9+	C_7+	Heptanes+	0.00000	0.00000	0.0000
98.6+	C_8+	Octanes+	0.00000	0.00000	0.0000
125.8+	C_9+	Nonanes+	0.00000	0.00000	0.0000
150.9+	C_{10}+	Decanes+	0.00000	0.00000	0.0000
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00000	0.00000	0.0000
98.6 - 125.8	C_8	Octanes	0.00000	0.00000	0.0000
125.8 - 150.9	C_9	Nonanes	0.00000	0.00000	0.0000
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00000	0.0000
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00000	0.00000	0.0000
68.73	C_6	n-Hexane	0.00000	0.00000	0.0000
71.83	C_6	Methylcyclopentane	0.00000	0.00000	0.0000
80.06	C_6	Benzene	0.00000	0.00000	0.0000
80.78	C_6	Cyclohexane	0.00000	0.00000	0.0000
99.24	C_8	2,2,4-Trimethylpentane	0.00000	0.00000	0.0000
100.94	C_7	Methylcyclohexane	0.00000	0.00000	0.0000
110.61	C_7	Toluene	0.00000	0.00000	0.0000
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00000	0.00000	0.0000
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

EXTENDED GAS ANALYSIS

Version: 1

11000319A	EE041504024W4MFIT100G		000188887	22ER869985A	22ER879418A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER
Well Name

Well License | *Well Status* | *Well Fluid Status* | *LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	160 Source	190 Received	10 Source	21 Received

Apr 05, 2022 10:40	Apr 07, 2022	Apr 12, 2022	Apr 12, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information :

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00795	0.82536		0.00639
He	0.00000	0.00000		0.00000
N_2	0.00097	0.10114		0.00034
CO_2	0.99038	0.00000		0.99235
H_2S	0.00000	0.00000		0.00000
C_1	0.00065	0.06725		0.00079
C_2	0.00003	0.00335	0.1	0.00005
C_3	0.00000	0.00000	0.0	0.00003
iC_4	0.00001	0.00088	TRACE	0.00001
nC_4	0.00000	0.00038	TRACE	0.00002
iC_5	0.00000	0.00035	TRACE	0.00001
nC_5	0.00000	0.00041	TRACE	0.00001
C_6	0.00001	0.00090	TRACE	0.00000
C_7+	0.00000	0.00000	0.0	0.00000
TOTAL	1.00000	1.00000	0.2	1.00000

WDMS Data Verification Check ✓

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
0.13 Air Free as Received	13.14 Moisture & Acid Gas Free	**0.11** Air Free as Received	11.32 Moisture & Acid Gas Free

Calculated Density

Relative		Absolute	
1.507 Moisture Free As Received	0.203 Moisture & Acid Gas Free	0.0 C_7+ Density (kg/m³)	1.846 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7322.91 pPc (kPa)	301.73 pTc (K)	1764.26 pPc (kPa)	55.33 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0 Stain Tube (GPA 2377)	Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	0.00

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

43.64	0.00
Total Sample	C_7+ Fraction

Calculated Vapour Pressure

80.52
C_5+(kPa)

Gas Compressibility

0.9944
@15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

11000319A	EE041504024W4MFIT		000188887	22ER869985A	22ER879418A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00001	0.00090	0.0475
68.9+	C_7+	Heptanes+	0.00000	0.00000	0.0000
98.6+	C_8+	Octanes+	0.00000	0.00000	0.0000
125.8+	C_9+	Nonanes+	0.00000	0.00000	0.0000
150.9+	C_{10}+	Decanes+	0.00000	0.00000	0.0000
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00000	0.00000	0.0000
98.6 - 125.8	C_8	Octanes	0.00000	0.00000	0.0000
125.8 - 150.9	C_9	Nonanes	0.00000	0.00000	0.0000
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00000	0.0000
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00000	0.00000	0.0000
68.73	C_6	n-Hexane	0.00001	0.00090	0.0475
71.83	C_6	Methylcyclopentane	0.00000	0.00000	0.0000
80.06	C_6	Benzene	0.00000	0.00000	0.0000
80.78	C_6	Cyclohexane	0.00000	0.00000	0.0000
99.24	C_8	2,2,4-Trimethylpentane	0.00000	0.00000	0.0000
100.94	C_7	Methylcyclohexane	0.00000	0.00000	0.0000
110.61	C_7	Toluene	0.00000	0.00000	0.0000
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00000	0.00000	0.0000
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

AGAT Laboratories

EXTENDED GAS ANALYSIS

Version: 1

07001396C	EE041504024W4MFIT100G		000188887	22ER889541A	22ER889542C
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER
Well Name

Well License | *Well Status* | *Well Fluid Status* | *LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BA/BB
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	200 Source	130 Received	2 Source	21 Received

May 13, 2022 8:50	May 16, 2022	May 24, 2022	May 24, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information :

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00412	0.64171		0.00517
He	0.00000	0.00000		0.00000
N_2	0.00101	0.15773		0.00230
CO_2	0.99357	0.00000		0.99134
H_2S	0.00000	0.00000		0.00000
C_1	0.00075	0.11613		0.00062
C_2	0.00003	0.00494	0.1	0.00004
C_3	0.00001	0.00095	TRACE	0.00002
iC_4	0.00002	0.00316	0.1	0.00020
nC_4	0.00001	0.00100	TRACE	0.00000
iC_5	0.00000	0.00071	TRACE	0.00000
nC_5	0.00001	0.00155	TRACE	0.00000
C_6	0.00005	0.00731	0.3	0.00000
C_7+	0.00042	0.06481	2.5	0.00031
TOTAL	1.00000	1.00000	3.1	1.00000

WDMS Data Verification Check ✓

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
0.18 Air Free as Received	28.19 Moisture & Acid Gas Free	**0.16** Air Free as Received	25.21 Moisture & Acid Gas Free

Calculated Density

Relative		Absolute	
1.513 Moisture Free As Received	0.537 Moisture & Acid Gas Free	736.2 C_7+ Density (kg/m³)	1.854 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7343.56 pPc (kPa)	302.87 pTc (K)	2164.77 pPc (kPa)	108.29 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0 Stain Tube (GPA 2377)	Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	0.00

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

43.83	104.31
Total Sample	C_7+ Fraction

Calculated Vapour Pressure

16.64 C_5+(kPa)

Gas Compressibility

0.9943 @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Version: 1

07001396C	EE041504024W4MFIT		000188887	22ER889541A	22ER889542C
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00047	0.07212	2.7463
68.9+	C_7+	Heptanes+	0.00042	0.06481	2.4889
98.6+	C_8+	Octanes+	0.00027	0.04009	1.5758
125.8+	C_9+	Nonanes+	0.00006	0.00973	0.4340
150.9+	C_{10}+	Decanes+	0.00000	0.00000	0.0000
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00015	0.02472	0.9131
98.6 - 125.8	C_8	Octanes	0.00021	0.03036	1.1418
125.8 - 150.9	C_9	Nonanes	0.00006	0.00973	0.4340
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00000	0.0000
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00000	0.00000	0.0000
68.73	C_6	n-Hexane	0.00003	0.00457	0.1611
71.83	C_6	Methylcyclopentane	0.00002	0.00266	0.0920
80.06	C_6	Benzene	0.00001	0.00185	0.0444
80.78	C_6	Cyclohexane	0.00002	0.00324	0.1090
99.24	C_8	2,2,4-Trimethylpentane	0.00001	0.00124	0.0552
100.94	C_7	Methylcyclohexane	0.00004	0.00606	0.2087
110.61	C_7	Toluene	0.00006	0.00858	0.2462
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00001	0.00187	0.0621
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

EXTENDED GAS ANALYSIS

Version: 1

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
11005429A	EE041504024W4MFIT100G		000188887	22ER889542C	22ER901621A

Operator Name	Sampling Point	Unique Well Identifier
ENHANCE ENERGY INC	METER	04-15-040-24W4

Well Name	Well License	Well Status	Well Fluid Status	LSD
ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA

Test Interval (mKB) From :	Test Interval (mKB) To:	Test Type	Test No.	Elevation (m) KB	Elevation (m) GRD	Pressure (kPa) Source	Pressure (kPa) Received	Temperature (°C) Source	Temperature (°C) Received
						180	160	7	23

Date/Time Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Jun 01, 2022 10:30	Jun 03, 2022	Jun 08, 2022	Jun 08, 2022	Calgary - Bernie Diep - Supervisor

Other Information : Sample Point: METER 090-FIT-100(ENH0202); FIELD H2S BY TUBE = 0ppm

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00731	0.75358		0.00412
He	0.00000	0.00000		0.00000
N_2	0.00091	0.09391		0.00101
CO_2	0.99034	0.00000		0.99357
H_2S	0.00000	0.00000		0.00000
C_1	0.00099	0.10163		0.00075
C_2	0.00011	0.01105	0.4	0.00003
C_3	0.00016	0.01692	0.6	0.00001
iC_4	0.00005	0.00494	0.2	0.00002
nC_4	0.00010	0.01004	0.4	0.00001
iC_5	0.00001	0.00128	0.1	0.00000
nC_5	0.00001	0.00126	0.1	0.00001
C_6	0.00000	0.00054	TRACE	0.00005
C_7+	0.00001	0.00485	0.3	0.00042
TOTAL	1.00000	1.00000	2.1	1.00000

WDMS Data Verification Check ✓

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
0.18 Air Free as Received	18.68 Moisture & Acid Gas Free	**0.15** Air Free as Received	16.33 Moisture & Acid Gas Free

Calculated Density

Relative		Absolute	
1.508 Moisture Free As Received	0.295 Moisture & Acid Gas Free	771.0 C_7+ Density (kg/m³)	1.847 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7324.69 pPc (kPa)	301.92 pTc (K)	1982.43 pPc (kPa)	76.53 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0 Stain Tube (GPA 2377)	Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	0.00

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

Total Sample	C_7+ Fraction
43.67	119.59

Calculated Vapour Pressure

47.94 C_5+(kPa)

Gas Compressibility

0.9943 @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

PROPERTIES OF C6+ FRACTION

Version: 1

11005429A	EE041504024W4MFIT		000188887	22ER889542C	22ER901621A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00001	0.00539	0.3366
68.9+	C_7+	Heptanes+	0.00001	0.00485	0.3083
98.6+	C_8+	Octanes+	0.00001	0.00441	0.2842
125.8+	C_9+	Nonanes+	0.00001	0.00346	0.2299
150.9+	C_{10}+	Decanes+	0.00000	0.00149	0.1043
174.3+	C_{11}+	Undecanes+	0.00000	0.00028	0.0246
196.0+	C_{12}+	Dodecanes+	0.00000	0.00012	0.0110
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00000	0.00044	0.0241
98.6 - 125.8	C_8	Octanes	0.00000	0.00095	0.0543
125.8 - 150.9	C_9	Nonanes	0.00001	0.00197	0.1256
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00121	0.0798
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00016	0.0136
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00012	0.0110
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00000	0.00006	0.0029
68.73	C_6	n-Hexane	0.00000	0.00023	0.0124
71.83	C_6	Methylcyclopentane	0.00000	0.00000	0.0000
80.06	C_6	Benzene	0.00000	0.00007	0.0024
80.78	C_6	Cyclohexane	0.00000	0.00009	0.0047
99.24	C_8	2,2,4-Trimethylpentane	0.00000	0.00000	0.0000
100.94	C_7	Methylcyclohexane	0.00000	0.00021	0.0107
110.61	C_7	Toluene	0.00000	0.00024	0.0106
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00000	0.00049	0.0248
144.42	C_8	o-Xylene	0.00000	0.00016	0.0078
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00027	0.0175

AGAT Laboratories

EXTENDED GAS ANALYSIS

Version: 1

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
08000150A	EE041504024W4MFIT100G		000188887	22ER901621A	22ER915638A

Operator Name	Sampling Point	Unique Well Identifier
ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4

Well Name	Well License	Well Status	Well Fluid Status	LSD
ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA

Test Interval (mKB) From :	Test Interval (mKB) To:	Test Type	Test No.	Elevation (m) KB	Elevation (m) GRD	Pressure (kPa) Source	Pressure (kPa) Received	Temperature (°C) Source	Temperature (°C) Received
						180	190	10	21

Date/Time Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Jul 04, 2022 9:15	Jul 06, 2022	Jul 12, 2022	Jul 12, 2022	Calgary - Gerry Ecker - Reporter

Other Information : METER 090-FIT-100(ENH0202)

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00842	0.50005		0.00731
He	0.00000	0.00000		0.00000
N_2	0.00743	0.44125		0.00091
CO_2	0.98318	0.00000		0.99034
H_2S	0.00000	0.00000		0.00000
C_1	0.00081	0.04784		0.00099
C_2	0.00000	0.00000	0.0	0.00011
C_3	0.00001	0.00060	TRACE	0.00016
iC_4	0.00002	0.00095	0.1	0.00005
nC_4	0.00001	0.00080	0.1	0.00010
iC_5	0.00001	0.00057	TRACE	0.00001
nC_5	0.00001	0.00084	0.1	0.00001
C_6	0.00001	0.00125	0.1	0.00000
C_{7+}	0.00009	0.00584	0.6	0.00001
TOTAL	1.00000	1.00000	1.0	1.00000

WDMS Data Verification Check

Exceeded compare limits: N2

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross: Air Free as Received	Gross: Moisture & Acid Gas Free	Net: Air Free as Received	Net: Moisture & Acid Gas Free
0.16	9.71	**0.14**	8.50

Calculated Density

Relative: Moisture Free As Received	Relative: Moisture & Acid Gas Free	Absolute: C_{7+} Density (kg/m³)	Absolute: Total Sample Density (kg/m³)
1.503	0.520	750.0	1.841

Calculated Pseudo Critical Properties

As Sampled: pPc (kPa)	As Sampled: pTc (K)	Acid Gas Free: pPc (kPa)	Acid Gas Free: pTc (K)
7293.41	300.47	2410.34	86.94

Hydrogen Sulfide (H_2S) (ppm)

Field Value: Stain Tube (GPA 2377)	Field Value: Tutweiler (GPA C1)	Laboratory Value: Other	Laboratory Value: GC-SCD (ASTM D5504)	g/m³
0				0.00

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

Total Sample	C_{7+} Fraction
43.52	101.24

Calculated Vapour Pressure

35.67 C_{5+}(kPa)

Gas Compressibility

0.9944 @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

PROPERTIES OF C6+ FRACTION

Version: 1

08000150A	EE041504024W4MFIT		000188887	22ER901621A	22ER915638A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00010	0.00709	0.6745
68.9+	C_7+	Heptanes+	0.00009	0.00584	0.5607
98.6+	C_8+	Octanes+	0.00004	0.00338	0.3285
125.8+	C_9+	Nonanes+	0.00001	0.00082	0.0842
150.9+	C_{10}+	Decanes+	0.00000	0.00000	0.0000
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00005	0.00246	0.2322
98.6 - 125.8	C_8	Octanes	0.00003	0.00256	0.2443
125.8 - 150.9	C_9	Nonanes	0.00001	0.00082	0.0842
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00000	0.0000
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00000	0.00011	0.0090
68.73	C_6	n-Hexane	0.00001	0.00086	0.0791
71.83	C_6	Methylcyclopentane	0.00001	0.00031	0.0279
80.06	C_6	Benzene	0.00001	0.00031	0.0196
80.78	C_6	Cyclohexane	0.00001	0.00035	0.0310
99.24	C_8	2,2,4-Trimethylpentane	0.00000	0.00011	0.0130
100.94	C_7	Methylcyclohexane	0.00001	0.00072	0.0647
110.61	C_7	Toluene	0.00001	0.00084	0.0629
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00001	0.00039	0.0337
144.42	C_8	o-Xylene	0.00000	0.00010	0.0084
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

AGAT Laboratories

GAS ANALYSIS

Version: 1

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
05002549A	EE041504024W4MFIT100G		000188887		22GR926850A

Operator Name	Sampling Point	Unique Well Identifier
ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4

Well Name	Well License	Well Status	Well Fluid Status	LSD
ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA

Test Interval (mKB) From :	Test Interval (mKB) To:	Test Type	Test No.	Elevation (m) KB	Elevation (m) GRD	Pressure (kPa) Source	Pressure (kPa) Received	Temperature (°C) Source	Temperature (°C) Received
						140	120	7	23

Date/Time Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Aug 03, 2022 10:50	Aug 05, 2022	Aug 10, 2022	Aug 10, 2022	Calgary - Bernie Diep - Supervisor

Other Information :

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0059	0.4645		
He	0.0000	0.0000		
N_2	0.0047	0.3701		
CO_2	0.9873	0.0000		
H_2S	0.0000	0.0000		
C_1	0.0010	0.0787		
C_2	0.0001	0.0079	0.4	
C_3	0.0002	0.0157	0.7	
iC_4	TRACE	TRACE	0.0	
nC_4	0.0001	0.0079	0.4	
iC_5	0.0001	0.0079	0.5	
nC_5	0.0001	0.0079	0.5	
C_6	0.0001	0.0079	0.5	
C_7+	0.0004	0.0315	2.8	
TOTAL	1.0000	1.0000	5.8	

WDMS Data Verification Check

Exceeds normal limits: CO2, H2

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross: Air Free as Received	Gross: Moisture & Acid Gas Free	Gross: C_7+ Moisture Free	Net: Air Free as Received	Net: Moisture & Acid Gas Free
0.29	22.57	0.09	**0.26**	20.45

Calculated Density

Relative: Moisture Free As Received	Relative: Moisture & Acid Gas Free	Relative: C_7+ Moisture Free	Absolute: C_7+ Density (kg/m³)	Absolute: Total Sample Density (kg/m³)
1.509	0.669	3.944	706.6	1.848

Calculated Pseudo Critical Properties

As Sampled: pPc (kPa)	As Sampled: pTc (K)	Acid Gas Free: pPc (kPa)	Acid Gas Free: pTc (K)
7315.2	301.7	2512.3	118.0

Hydrogen Sulfide (H_2S) (ppm)

Field Value: Stain Tube (GPA 2377)	Field Value: Tutweiler (GPA C1)	Laboratory Value: Other	Laboratory Value: GC-SCD (ASTM D5504)	g/m³
				0.00

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

Total Sample	C_7+ Fraction
43.7	114.2

Calculated Vapour Pressure

43.20 — C_5+ (kPa)

Gas Compressibility

0.9853 — @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

GAS ANALYSIS

Version: 1

13000842A	EE041504024W4MFIT100G		000188887	22GR926850A	22GR937849A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER

Well Name | *Well License* | *Well Status* | *Well Fluid Status* | *LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	170 Source	160 Received	11 Source	21 Received

Sep 01, 2022 11:05	Sep 06, 2022	Sep 12, 2022	Sep 12, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information :

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0061	0.6558		0.0059
He	0.0000	0.0000		0.0000
N_2	0.0022	0.2366		0.0047
CO_2	0.9907	0.0000		0.9873
H_2S	0.0000	0.0000		0.0000
C_1	0.0009	0.0968		0.0010
C_2	TRACE	TRACE	0.0	0.0001
C_3	TRACE	TRACE	0.0	0.0002
iC_4	TRACE	TRACE	0.0	TRACE
nC_4	TRACE	TRACE	0.0	0.0001
iC_5	TRACE	TRACE	0.0	0.0001
nC_5	TRACE	TRACE	0.0	0.0001
C_6	TRACE	TRACE	0.0	0.0001
C_7+	0.0001	0.0108	0.7	0.0004
TOTAL	1.0000	1.0000	0.7	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net		
0.13 Air Free as Received	14.01 Moisture & Acid Gas Free	0.02 C_7+ Moisture Free	**0.11** Air Free as Received	12.33 Moisture & Acid Gas Free	

Calculated Density

Relative			Absolute	
1.509 Moisture Free As Received	0.371 Moisture & Acid Gas Free	3.944 C_7+ Moisture Free	706.7 C_7+ Density (kg/m³)	1.848 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7328.2 pPc (kPa)	302.0 pTc (K)	2126.1 pPc (kPa)	76.2 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0 Stain Tube (GPA 2377)	Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	0.00

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

43.7	114.2
Total Sample	C_7+ Fraction

Calculated Vapour Pressure

3.73 — C_5+ (kPa)

Gas Compressibility

0.9978 — @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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GAS ANALYSIS

Version: 1

11000673A	EE041504024W4MFIT100G		000188887	22GR937849A	22GR949120A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER

Well Name | *Well License* | *Well Status* | *Well Fluid Status* | *LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	80 Source	100 Received	10 Source	21 Received

Oct 03, 2022 9:20	Oct 04, 2022	Oct 06, 2022	Oct 06, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : PLANT

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0071	0.4704		0.0061
He	0.0000	0.0000		0.0000
N_2	0.0058	0.3841		0.0022
CO_2	0.9849	0.0000		0.9907
H_2S	0.0000	0.0000		0.0000
C_1	0.0004	0.0265		0.0009
C_2	0.0001	0.0066	0.4	TRACE
C_3	0.0001	0.0066	0.4	TRACE
iC_4	0.0001	0.0066	0.4	TRACE
nC_4	0.0002	0.0132	0.8	TRACE
iC_5	0.0002	0.0132	1.0	TRACE
nC_5	0.0002	0.0132	1.0	TRACE
C_6	0.0003	0.0199	1.6	TRACE
C_7+	0.0006	0.0397	4.0	0.0001
TOTAL	1.0000	1.0000	9.6	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net		
0.40	26.45	0.13	**0.36**	24.07	
Air Free as Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*Air Free as Received*	*Moisture & Acid Gas Free*	

Calculated Density

Relative			Absolute		
1.508	0.751	3.782	700.8	1.847	
Moisture Free As Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*C_7+ Density (kg/m³)*	*Total Sample Density (kg/m³)*	

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7302.2	301.4	2422.0	126.5
pPc (kPa)	*pTc (K)*	*pPc (kPa)*	*pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0				0.00
Stain Tube (GPA 2377)	*Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

43.7	109.6
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

49.34 *C_5+ (kPa)*

Gas Compressibility

0.9836 *@15 °C & 101.325 kPa*

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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GAS ANALYSIS

Version: 1

11002395A	EE041504024W4MFIT100G			22GR949120A	22GR965979A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER
Well Name

Well License | *Well Status* | *Well Fluid Status* | *LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BA/BB
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	62 Source	78 Received	2 Source	21 Received

Nov 04, 2022 11:25	Nov 07, 2022	Nov 11, 2022	Nov 11, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information :

COMPOSITION

Component	Mole Fraction		Liquid Volume mL / m³	Mole Fraction of Previous Analysis
	Air Free As Received	Air & Acid Gas Free As Received		
H_2	0.0069	0.6511		0.0071
He	0.0000	0.0000		0.0000
N_2	0.0017	0.1604		0.0058
CO_2	0.9894	0.0000		0.9849
H_2S	0.0000	0.0000		0.0000
C_1	0.0002	0.0189		0.0004
C_2	0.0001	0.0094	0.4	0.0001
C_3	0.0001	0.0094	0.4	0.0001
iC_4	0.0004	0.0377	1.7	0.0001
nC_4	0.0008	0.0755	3.4	0.0002
iC_5	0.0001	0.0094	0.5	0.0002
nC_5	0.0001	0.0094	0.5	0.0002
C_6	0.0001	0.0094	0.5	0.0003
C_7+	0.0001	0.0094	0.7	0.0006
TOTAL	1.0000	1.0000	8.1	1.0000

WDMS Data Verification Check 

Exceeds normal limits: CO2, H2
Exceeded compare limits: NC4

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net		
0.33 Air Free as Received	30.40 Moisture & Acid Gas Free	0.02 C_7+ Moisture Free	**0.29** Air Free as Received	27.57 Moisture & Acid Gas Free	

Calculated Density

Relative			Absolute	
1.509 Moisture Free As Received	0.574 Moisture & Acid Gas Free	3.944 C_7+ Moisture Free	706.7 C_7+ Density (kg/m³)	1.849 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7321.1 pPc (kPa)	302.1 pTc (K)	2100.4 pPc (kPa)	118.1 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0 Stain Tube (GPA 2377)	Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	0.00

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

43.7	114.2
Total Sample	C_7+ Fraction

Calculated Vapour Pressure

71.56 C_5+ (kPa)

Gas Compressibility

0.9922 @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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AGAT Laboratories

GAS ANALYSIS

Version: 1

13001557A	EE041504024W4MFIT100G			22GR965979A	22GR974584A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	METER 090-FIT-100(ENH 0202)	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 CO2 ACTL 20 CO2 ANALYZER
Well Name

Well License | *Well Status* | *Well Fluid Status* | *LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	20 Source	38 Received	5 Source	21 Received

Dec 01, 2022 10:25	Dec 02, 2022	Dec 08, 2022	Dec 08, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information :

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0064	0.8000		0.0069
He	0.0000	0.0000		0.0000
N_2	0.0002	0.0250		0.0017
CO_2	0.9920	0.0000		0.9894
H_2S	0.0000	0.0000		0.0000
C_1	0.0010	0.1250		0.0002
C_2	0.0002	0.0250	0.7	0.0001
C_3	0.0001	0.0125	0.4	0.0001
iC_4	TRACE	TRACE	0.0	0.0004
nC_4	0.0001	0.0125	0.4	0.0008
iC_5	TRACE	TRACE	0.0	0.0001
nC_5	TRACE	TRACE	0.0	0.0001
C_6	TRACE	TRACE	0.0	0.0001
C_7+	TRACE	TRACE	0.0	0.0001
TOTAL	1.0000	1.0000	1.5	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: N2, C1, NC4

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net		
0.15 Air Free as Received	18.59 Moisture & Acid Gas Free	0.00 C_7+ Moisture Free	**0.13** Air Free as Received	16.42 Moisture & Acid Gas Free	

Calculated Density

Relative			Absolute	
1.509 Moisture Free As Received	0.219 Moisture & Acid Gas Free	3.702 C_7+ Moisture Free	697.8 C_7+ Density (kg/m³)	1.848 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7333.3 pPc (kPa)	302.2 pTc (K)	1919.8 pPc (kPa)	71.1 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
0 Stain Tube (GPA 2377)	Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	0.00

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

43.7	107.2
Total Sample	C_7+ Fraction

Calculated Vapour Pressure

0.00 C_5+ (kPa)

Gas Compressibility

0.9993 @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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EXTENDED GAS ANALYSIS

Version: 1

11000448C	EE041504024W4DRYOUTLET		000188788	21ER836788C	22ER850584C
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BA/BB
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3540 Source	3700 Received	13 Source	21 Received

Jan 10, 2022 10:15	Jan 12, 2022	Jan 18, 2022	Jan 18, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 1.78%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00700	0.07173		0.00717
He	0.00004	0.00045		0.00004
N_2	0.01545	0.15836		0.00580
CO_2	0.88469	0.00000		0.89249
H_2S	0.01780	0.00000		0.02150
C_1	0.05397	0.55323		0.05327
C_2	0.00711	0.07293	25.3	0.00700
C_3	0.00605	0.06200	22.2	0.00586
iC_4	0.00107	0.01102	4.7	0.00094
nC_4	0.00318	0.03261	13.4	0.00280
iC_5	0.00089	0.00914	4.4	0.00078
nC_5	0.00111	0.01142	5.4	0.00096
C_6	0.00072	0.00737	3.9	0.00069
C_7+	0.00092	0.00975	5.6	0.00070
TOTAL	1.00000	1.00000	84.8	1.00000

WDMS Data Verification Check

Exceeded compare limits: H2S, C1

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
4.74 *Air Free as Received*	44.18 *Moisture & Acid Gas Free*	**4.29** *Air Free as Received*	40.09 *Moisture & Acid Gas Free*

Calculated Density

Relative		Absolute	
1.446 *Moisture Free As Received*	0.829 *Moisture & Acid Gas Free*	729.0 *C_7+ Density (kg/m³)*	1.772 *Total Sample Density (kg/m³)*

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7084.17 *pPc (kPa)*	296.19 *pTc (K)*	4079.18 *pPc (kPa)*	210.05 *pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	17800 *Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	25.61

Calculated Molecular Weight

(Moisture Free asReceived) (g/mol)

41.88	101.09
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

83.69 *C_5+(kPa)*

Gas Compressibility

0.9940 *@15 °C & 101.325 kPa*

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Version: 1

11000448C	EE041504024W4DRY		000188788	21ER836788C	22ER850584C
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00164	0.01711	9.4496
68.9+	C_7+	Heptanes+	0.00092	0.00975	5.5637
98.6+	C_8+	Octanes+	0.00038	0.00418	2.5631
125.8+	C_9+	Nonanes+	0.00006	0.00079	0.5186
150.9+	C_{10}+	Decanes+	0.00000	0.00010	0.0704
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0018
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00054	0.00557	3.0006
98.6 - 125.8	C_8	Octanes	0.00032	0.00339	2.0445
125.8 - 150.9	C_9	Nonanes	0.00006	0.00069	0.4482
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00010	0.0686
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0018
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00009	0.00090	0.4288
68.73	C_6	n-Hexane	0.00029	0.00301	1.6121
71.83	C_6	Methylcyclopentane	0.00014	0.00145	0.7601
80.06	C_6	Benzene	0.00007	0.00071	0.2603
80.78	C_6	Cyclohexane	0.00007	0.00068	0.3482
99.24	C_8	2,2,4-Trimethylpentane	0.00005	0.00056	0.3762
100.94	C_7	Methylcyclohexane	0.00008	0.00081	0.4220
110.61	C_7	Toluene	0.00004	0.00044	0.1934
136.16	C_8	Ethylbenzene	0.00000	0.00005	0.0247
138.33 ; 139.09	C_8	m&p-Xylene	0.00001	0.00010	0.0484
144.42	C_8	o-Xylene	0.00000	0.00003	0.0159
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00001	0.0063

EXTENDED GAS ANALYSIS

Version: 1

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
04001177E	EE041504024W4DRYOUTLET		000188788	22ER850584C	22ER858920E

Operator Name	Sampling Point	Unique Well Identifier
ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4

Well Name	Well License	Well Status	Well Fluid Status	LSD
ENHANCE CLIVE 4-15 BATTERY				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
CLIVE	NOT APPLICABLE	AGAT RED DEER	BA/MJ

Test Interval (mKB) From :	Test Interval (mKB) To:	Test Type	Test No.	Elevation (m) KB	Elevation (m) GRD	Pressure (kPa) Source	Pressure (kPa) Received	Temperature (°C) Source	Temperature (°C) Received
						3400	3600	11	21

Date/Time Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Feb 09, 2022 10:55	Feb 11, 2022	Feb 18, 2022	Feb 18, 2022	Calgary - Gerry Ecker - Reporter

Other Information : FIELD H2S BY TUT = 1.52%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00731	0.07794		0.00700
He	0.00005	0.00054		0.00004
N_2	0.00654	0.06979		0.01545
CO_2	0.89108	0.00000		0.88469
H_2S	0.01520	0.00000		0.01780
C_1	0.05937	0.63336		0.05397
C_2	0.00747	0.07965	26.5	0.00711
C_3	0.00615	0.06562	22.6	0.00605
iC_4	0.00100	0.01069	4.4	0.00107
nC_4	0.00290	0.03089	12.2	0.00318
iC_5	0.00077	0.00822	3.8	0.00089
nC_5	0.00094	0.01001	4.5	0.00111
C_6	0.00060	0.00645	3.3	0.00072
C_7+	0.00062	0.00684	3.7	0.00092
TOTAL	1.00000	1.00000	80.9	1.00000

WDMS Data Verification Check

Exceeded compare limits: H2S, C1

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross: Air Free as Received	Gross: Moisture & Acid Gas Free	Net: Air Free as Received	Net: Moisture & Acid Gas Free
4.75	46.72	**4.30**	42.34

Calculated Density

Relative: Moisture Free As Received	Relative: Moisture & Acid Gas Free	Absolute: C_7+ Density (kg/m³)	Absolute: Total Sample Density (kg/m³)
1.445	0.778	742.7	1.770

Calculated Pseudo Critical Properties

As Sampled: pPc (kPa)	As Sampled: pTc (K)	Acid Gas Free: pPc (kPa)	Acid Gas Free: pTc (K)
7101.73	296.71	4177.44	213.74

Hydrogen Sulfide (H_2S) (ppm)

Field Value: Stain Tube (GPA 2377)	Field Value: Tutweiler (GPA C1)	Laboratory Value: Other	Laboratory Value: GC-SCD (ASTM D5504)	g/m³
	15200			21.87

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

Total Sample	C_7+ Fraction
41.85	100.93

Calculated Vapour Pressure

88.02 C_5+(kPa)

Gas Compressibility

0.9941 @15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

PROPERTIES OF C6+ FRACTION

Version: 1

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
04001177E	EE041504024W4DRY		000188788	22ER850584C	22ER858920E

Operator Name	Sampling Point	Unique Well Identifier
ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4

Well Name	Well License	Well Status	Well Fluid Status	LSD
ENHANCE CLIVE 4-15 BATTERY				

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00122	0.01329	6.9439
68.9+	C_7+	Heptanes+	0.00062	0.00684	3.6737
98.6+	C_8+	Octanes+	0.00024	0.00271	1.5784
125.8+	C_9+	Nonanes+	0.00006	0.00095	0.5856
150.9+	C_{10}+	Decanes+	0.00004	0.00050	0.3375
174.3+	C_{11}+	Undecanes+	0.00001	0.00013	0.1018
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00038	0.00413	2.0953
98.6 - 125.8	C_8	Octanes	0.00018	0.00177	0.9928
125.8 - 150.9	C_9	Nonanes	0.00002	0.00044	0.2480
150.9 - 174.3	C_{10}	Decanes	0.00003	0.00037	0.2358
174.3 - 196.0	C_{11}	Undecanes	0.00001	0.00013	0.1018
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00007	0.00075	0.3432
68.73	C_6	n-Hexane	0.00024	0.00260	1.3395
71.83	C_6	Methylcyclopentane	0.00011	0.00122	0.6147
80.06	C_6	Benzene	0.00006	0.00065	0.2278
80.78	C_6	Cyclohexane	0.00005	0.00054	0.2644
99.24	C_8	2,2,4-Trimethylpentane	0.00004	0.00038	0.2451
100.94	C_7	Methylcyclohexane	0.00005	0.00049	0.2473
110.61	C_7	Toluene	0.00003	0.00033	0.1388
136.16	C_8	Ethylbenzene	0.00000	0.00004	0.0207
138.33 ; 139.09	C_8	m&p-Xylene	0.00001	0.00013	0.0608
144.42	C_8	o-Xylene	0.00000	0.00005	0.0242
169.34	C_9	1,2,4-Trimethylbenzene	0.00001	0.00010	0.0617

AGAT Laboratories

EXTENDED GAS ANALYSIS

Version: 1

05002726B	EE041504024W4DRYOUTLET		000188788	22ER858920E	22ER869990B
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3375 Source	3200 Received	8 Source	23 Received

Mar 07, 2022 10:15	Mar 08, 2022	Mar 11, 2022	Mar 11, 2022	Calgary - Bernie Diep - Supervisor
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 1.91%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00665	0.07826		0.00731
He	0.00004	0.00053		0.00005
N_2	0.00573	0.06735		0.00654
CO_2	0.89591	0.00000		0.89108
H_2S	0.01910	0.00000		0.01520
C_1	0.05298	0.62323		0.05937
C_2	0.00696	0.08184	24.7	0.00747
C_3	0.00594	0.06983	21.8	0.00615
iC_4	0.00098	0.01158	4.3	0.00100
nC_4	0.00284	0.03344	12.0	0.00290
iC_5	0.00075	0.00886	3.7	0.00077
nC_5	0.00092	0.01085	4.5	0.00094
C_6	0.00060	0.00716	3.3	0.00060
C_{7+}	0.00060	0.00708	3.4	0.00062
TOTAL	1.00000	1.00000	77.6	1.00000

WDMS Data Verification Check

Exceeded compare limits: H2S, C1

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
4.51 *Air Free as Received*	47.66 *Moisture & Acid Gas Free*	**4.09** *Air Free as Received*	43.24 *Moisture & Acid Gas Free*

Calculated Density

Relative		Absolute	
1.451 *Moisture Free As Received*	0.792 *Moisture & Acid Gas Free*	730.7 *C_{7+} Density (kg/m³)*	1.778 *Total Sample Density (kg/m³)*

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7135.55 *pPc (kPa)*	297.99 *pTc (K)*	4172.10 *pPc (kPa)*	216.29 *pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	19100 *Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	27.48

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

42.03	97.58
Total Sample	*C_{7+} Fraction*

Calculated Vapour Pressure

88.84 *C_5+(kPa)*

Gas Compressibility

0.9941 *@15 °C & 101.325 kPa*

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Version: 1

05002726B	EE041504024W4DRY		000188788	22ER858920E	22ER869990B
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00120	0.01424	6.6791
68.9+	C_7+	Heptanes+	0.00060	0.00708	3.3858
98.6+	C_8+	Octanes+	0.00018	0.00218	1.1196
125.8+	C_9+	Nonanes+	0.00000	0.00013	0.0709
150.9+	C_{10}+	Decanes+	0.00000	0.00004	0.0252
174.3+	C_{11}+	Undecanes+	0.00000	0.00002	0.0129
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00042	0.00490	2.2662
98.6 - 125.8	C_8	Octanes	0.00018	0.00206	1.0487
125.8 - 150.9	C_9	Nonanes	0.00000	0.00009	0.0457
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00002	0.0123
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00002	0.0129
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00007	0.00087	0.3595
68.73	C_6	n-Hexane	0.00025	0.00292	1.3615
71.83	C_6	Methylcyclopentane	0.00012	0.00140	0.6392
80.06	C_6	Benzene	0.00006	0.00072	0.2299
80.78	C_6	Cyclohexane	0.00005	0.00064	0.2871
99.24	C_8	2,2,4-Trimethylpentane	0.00004	0.00047	0.2768
100.94	C_7	Methylcyclohexane	0.00006	0.00066	0.2989
110.61	C_7	Toluene	0.00003	0.00033	0.1255
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00000	0.00004	0.0194
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

View or download your data online at webfluids.agatlabs.com

EXTENDED GAS ANALYSIS

Version: 1

05002582A	EE041504024W4DRYOUTLET		000188788	22ER869990B	22ER879427A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3670 Source	3500 Received	10 Source	21 Received

Apr 05, 2022 12:05	Apr 07, 2022	Apr 12, 2022	Apr 12, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 2.40%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00716	0.06173		0.00665
He	0.00008	0.00066		0.00004
N_2	0.00861	0.07417		0.00573
CO_2	0.85994	0.00000		0.89591
H_2S	0.02400	0.00000		0.01910
C_1	0.07671	0.66106		0.05298
C_2	0.00883	0.07608	31.4	0.00696
C_3	0.00693	0.05970	25.4	0.00594
iC_4	0.00108	0.00928	4.7	0.00098
nC_4	0.00305	0.02627	12.8	0.00284
iC_5	0.00077	0.00663	3.8	0.00075
nC_5	0.00094	0.00810	4.5	0.00092
C_6	0.00065	0.00555	3.5	0.00060
C_7+	0.00125	0.01078	7.4	0.00060
TOTAL	1.00000	1.00000	93.6	1.00000

WDMS Data Verification Check

Exceeded compare limits: H2S, C1, C2, C3, C7

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
5.94 *Air Free as Received*	46.22 *Moisture & Acid Gas Free*	**5.38** *Air Free as Received*	41.82 *Moisture & Acid Gas Free*

Calculated Density

Relative		Absolute	
1.425 *Moisture Free As Received*	0.775 *Moisture & Acid Gas Free*	739.3 *C_7+ Density (kg/m³)*	1.746 *Total Sample Density (kg/m³)*

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7050.61 *pPc (kPa)*	295.27 *pTc (K)*	4228.44 *pPc (kPa)*	213.39 *pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	24000 *Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	34.53

Calculated Molecular Weight

(Moisture Free asReceived) (g/mol)

41.27	104.17
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

74.10 *C_5+(kPa)*

Gas Compressibility

0.9940 *@15 °C & 101.325 kPa*

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Version: 1

05002582A	EE041504024W4DRY		000188788	22ER869990B	22ER879427A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.00190	0.01633	10.9229
68.9+	C_7+	Heptanes+	0.00125	0.01078	7.4387
98.6+	C_8+	Octanes+	0.00069	0.00590	4.3124
125.8+	C_9+	Nonanes+	0.00026	0.00218	1.6516
150.9+	C_{10}+	Decanes+	0.00007	0.00055	0.4262
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.00056	0.00488	3.1263
98.6 - 125.8	C_8	Octanes	0.00043	0.00373	2.6607
125.8 - 150.9	C_9	Nonanes	0.00019	0.00163	1.2254
150.9 - 174.3	C_{10}	Decanes	0.00007	0.00055	0.4262
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00007	0.00062	0.3521
68.73	C_6	n-Hexane	0.00027	0.00233	1.4844
71.83	C_6	Methylcyclopentane	0.00013	0.00116	0.7239
80.06	C_6	Benzene	0.00008	0.00065	0.2805
80.78	C_6	Cyclohexane	0.00007	0.00061	0.3717
99.24	C_8	2,2,4-Trimethylpentane	0.00006	0.00050	0.4004
100.94	C_7	Methylcyclohexane	0.00011	0.00091	0.5669
110.61	C_7	Toluene	0.00006	0.00051	0.2631
136.16	C_8	Ethylbenzene	0.00001	0.00009	0.0551
138.33 ; 139.09	C_8	m&p-Xylene	0.00004	0.00031	0.1860
144.42	C_8	o-Xylene	0.00001	0.00009	0.0527
169.34	C_9	1,2,4-Trimethylbenzene	0.00001	0.00007	0.0540

AGAT Laboratories

GAS ANALYSIS

Version: 1

04001421B	EE041504024W4DRYOUTLET		000188788	21G780895A	22GR889530B
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3780 Source	3300 Received	11 Source	21 Received

May 03, 2022 9:45	May 05, 2022	May 12, 2022	May 12, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 2.27%

COMPOSITION

Component	Mole Fraction		Liquid Volume mL / m³	Mole Fraction of Previous Analysis
	Air Free As Received	Air & Acid Gas Free As Received		
H_2	0.0063	0.0543		0.0063
He	0.0001	0.0009		TRACE
N_2	0.0070	0.0603		0.0053
CO_2	0.8613	0.0000		0.9133
H_2S	0.0227	0.0000		0.0175
C_1	0.0790	0.6811		0.0388
C_2	0.0086	0.0741	30.6	0.0057
C_3	0.0072	0.0621	26.5	0.0051
iC_4	0.0012	0.0103	5.2	0.0010
nC_4	0.0033	0.0284	13.9	0.0030
iC_5	0.0008	0.0069	3.9	0.0009
nC_5	0.0010	0.0086	4.8	0.0012
C_6	0.0006	0.0052	3.3	0.0008
C_7+	0.0009	0.0078	6.0	0.0011
TOTAL	1.0000	1.0000	94.2	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: H2S, C1, C2, C3

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net		
6.00	46.66	0.20	**5.42**	42.47	
Air Free as Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*Air Free as Received*	*Moisture & Acid Gas Free*	

Calculated Density

Relative			Absolute		
1.425	0.772	3.729	698.8	1.745	
Moisture Free As Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*C_7+ Density (kg/m³)*	*Total Sample Density (kg/m³)*	

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7053.0	295.4	4266.2	215.3
pPc (kPa)	*pTc (K)*	*pPc (kPa)*	*pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
	22700			32.66
Stain Tube (GPA 2377)	*Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

41.3	108.0
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

75.00
C_5+ (kPa)

Gas Compressibility

0.9921
@15 °C & 101.325 kPa

AGAT Laboratories

GAS ANALYSIS

Version: 1

11002163D	EE041504024W4DRYOUTLET		000188788	22GR889530B	22GR901610D
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3785 Source	3350 Received	11 Source	21 Received

Jun 01, 2022 12:00	Jun 02, 2022	Jun 08, 2022	Jun 08, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 1.08%/LAB = 1.60%

COMPOSITION

Component	Mole Fraction		Liquid Volume mL / m³	Mole Fraction of Previous Analysis
	Air Free As Received	Air & Acid Gas Free As Received		
H_2	0.0061	0.0548		0.0063
He	0.0001	0.0009		0.0001
N_2	0.0068	0.0610		0.0070
CO_2	0.8726	0.0000		0.8613
H_2S	0.0160	0.0000		0.0227
C_1	0.0738	0.6624		0.0790
C_2	0.0085	0.0763	30.2	0.0086
C_3	0.0074	0.0664	27.2	0.0072
iC_4	0.0012	0.0108	5.2	0.0012
nC_4	0.0038	0.0341	16.0	0.0033
iC_5	0.0010	0.0090	4.9	0.0008
nC_5	0.0012	0.0108	5.8	0.0010
C_6	0.0007	0.0063	3.8	0.0006
C_7+	0.0008	0.0072	5.2	0.0009
TOTAL	1.0000	1.0000	98.3	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: H2S, C1

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net	
5.76 Air Free as Received	47.94 Moisture & Acid Gas Free	0.17 C_7+ Moisture Free	**5.21** Air Free as Received	43.65 Moisture & Acid Gas Free

Calculated Density

Relative			Absolute	
1.433 Moisture Free As Received	0.795 Moisture & Acid Gas Free	3.641 C_7+ Moisture Free	695.5 C_7+ Density (kg/m³)	1.755 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7054.9 pPc (kPa)	295.7 pTc (K)	4252.3 pPc (kPa)	218.9 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	Tutweiler (GPA C1)	Other	16000 GC-SCD (ASTM D5504)	23.02

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

41.5	105.5
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

81.20 *C_5+ (kPa)*

Gas Compressibility

0.9923 *@15 °C & 101.325 kPa*

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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GAS ANALYSIS

Version: 1

05002576B	EE041504024W4DRYOUTLET		000188788	22GR901610D	22GR915637B
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3700 Source	3400 Received	11 Source	23 Received

Jul 04, 2022 10:40	Jul 06, 2022	Jul 08, 2022	Jul 08, 2022	Calgary - Bernie Diep - Supervisor
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT: 1.72%

COMPOSITION

Component	Mole Fraction		Liquid Volume mL / m³	Mole Fraction of Previous Analysis
	Air Free As Received	Air & Acid Gas Free As Received		
H_2	0.0063	0.0603		0.0061
He	0.0001	0.0010		0.0001
N_2	0.0066	0.0632		0.0068
CO_2	0.8783	0.0000		0.8726
H_2S	0.0172	0.0000		0.0160
C_1	0.0705	0.6744		0.0738
C_2	0.0086	0.0823	30.6	0.0085
C_3	0.0060	0.0574	22.0	0.0074
iC_4	0.0011	0.0105	4.8	0.0012
nC_4	0.0026	0.0249	10.9	0.0038
iC_5	0.0008	0.0077	3.9	0.0010
nC_5	0.0010	0.0096	4.8	0.0012
C_6	0.0005	0.0048	2.7	0.0007
C_7+	0.0004	0.0039	2.5	0.0008
TOTAL	1.0000	1.0000	82.2	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: C1, C3, NC4

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net	
5.20 Air Free as Received	45.47 Moisture & Acid Gas Free	0.08 C_7+ Moisture Free	**4.70** Air Free as Received	41.37 Moisture & Acid Gas Free

Calculated Density

Relative			Absolute	
1.434 Moisture Free As Received	0.754 Moisture & Acid Gas Free	3.581 C_7+ Moisture Free	693.0 C_7+ Density (kg/m³)	1.756 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7078.8 pPc (kPa)	295.7 pTc (K)	4255.5 pPc (kPa)	212.3 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	17200 Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	24.74

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

41.5	103.7
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

89.25 *C_5+ (kPa)*

Gas Compressibility

0.9937 *@15 °C & 101.325 kPa*

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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AGAT Laboratories

GAS ANALYSIS

Version: 1

11001108B	EE041504024W4DRYOUTLET		000188788	22GR915637B	22GR926845B
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3750 Source	3700 Received	8 Source	23 Received

Aug 03, 2022 12:05	Aug 05, 2022	Aug 12, 2022	Aug 12, 2022	Calgary - Svetlana Nikolic - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 1.882%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0061	0.0528		0.0063
He	0.0001	0.0009		0.0001
N_2	0.0070	0.0606		0.0066
CO_2	0.8657	0.0000		0.8783
H_2S	0.0188	0.0000		0.0172
C_1	0.0761	0.6588		0.0705
C_2	0.0085	0.0736	30.2	0.0086
C_3	0.0076	0.0658	27.9	0.0060
iC_4	0.0014	0.0121	6.1	0.0011
nC_4	0.0040	0.0346	16.8	0.0026
iC_5	0.0010	0.0087	4.9	0.0008
nC_5	0.0013	0.0113	6.3	0.0010
C_6	0.0009	0.0078	4.9	0.0005
C_7+	0.0015	0.0130	9.7	0.0004
TOTAL	1.0000	1.0000	106.8	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: C1, C3, NC4, C7

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net	
6.19 Air Free as Received	49.36 Moisture & Acid Gas Free	0.33 C_7+ Moisture Free	**5.60** Air Free as Received	44.97 Moisture & Acid Gas Free

Calculated Density

Relative			Absolute	
1.432 Moisture Free As Received	0.819 Moisture & Acid Gas Free	3.686 C_7+ Moisture Free	697.2 C_7+ Density (kg/m³)	1.754 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7045.6 pPc (kPa)	295.9 pTc (K)	4242.9 pPc (kPa)	221.9 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	18820 Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	27.05

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

41.5	106.7
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

68.80 *C_5+ (kPa)*

Gas Compressibility

0.9904 *@15 °C & 101.325 kPa*

Disclaimer: The result in this report has been confirmed by a duplicate run.

AGAT Laboratories

GAS ANALYSIS

Version: 1

00019151A	EE041504024W4DRYOUTLET		000188788	22GR926845B	22GR937859A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BB/BA
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3800 Source	3300 Received	11 Source	21 Received

Sep 01, 2022 11:35	Sep 06, 2022	Sep 09, 2022	Sep 09, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 1.89%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0059	0.0561		0.0061
He	0.0001	0.0010		0.0001
N_2	0.0063	0.0599		0.0070
CO_2	0.8759	0.0000		0.8657
H_2S	0.0189	0.0000		0.0188
C_1	0.0586	0.5568		0.0761
C_2	0.0081	0.0770	28.8	0.0085
C_3	0.0077	0.0732	28.3	0.0076
iC_4	0.0015	0.0143	6.5	0.0014
nC_4	0.0049	0.0466	20.6	0.0040
iC_5	0.0021	0.0200	10.3	0.0010
nC_5	0.0030	0.0285	14.5	0.0013
C_6	0.0028	0.0266	15.4	0.0009
C_7+	0.0042	0.0400	26.9	0.0015
TOTAL	1.0000	1.0000	151.3	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: C1, NC4, C6, C7

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net	
6.97 Air Free as Received	61.68 Moisture & Acid Gas Free	0.90 C_7+ Moisture Free	**6.34** Air Free as Received	56.36 Moisture & Acid Gas Free

Calculated Density

Relative			Absolute	
1.461 Moisture Free As Received	1.029 Moisture & Acid Gas Free	3.632 C_7+ Moisture Free	695.1 C_7+ Density (kg/m³)	1.790 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7063.2 pPc (kPa)	299.7 pTc (K)	4101.9 pPc (kPa)	249.9 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	18900 Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	27.19

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

42.3	105.2
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

61.96 *C_5+ (kPa)*

Gas Compressibility

0.9828 *@15 °C & 101.325 kPa*

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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GAS ANALYSIS

Version: 1

07000983B	EE041504024W4DRYOUTLET		000188788	22GR937859A	22GR949110B
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BA/BB
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3800 Source	3500 Received	10 Source	23 Received

Oct 03, 2022 9:50	Oct 04, 2022	Oct 07, 2022	Oct 07, 2022	Calgary - Bernie Diep - Supervisor
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 1.82%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0061	0.0719		0.0059
He	0.0001	0.0012		0.0001
N_2	0.0065	0.0767		0.0063
CO_2	0.8970	0.0000		0.8759
H_2S	0.0182	0.0000		0.0189
C_1	0.0540	0.6366		0.0586
C_2	0.0071	0.0837	25.2	0.0081
C_3	0.0055	0.0649	20.2	0.0077
iC_4	0.0010	0.0118	4.4	0.0015
nC_4	0.0026	0.0307	10.9	0.0049
iC_5	0.0006	0.0071	2.9	0.0021
nC_5	0.0007	0.0083	3.4	0.0030
C_6	0.0003	0.0035	1.6	0.0028
C_7+	0.0003	0.0036	1.9	0.0042
TOTAL	1.0000	1.0000	70.5	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: C1, C2, C3, NC4, C6, C7

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net		
4.30	45.27	0.06	**3.89**	41.21	
Air Free as Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*Air Free as Received*	*Moisture & Acid Gas Free*	

Calculated Density

Relative			Absolute		
1.449	0.765	3.621	694.7	1.775	
Moisture Free As Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*C_7+ Density (kg/m³)*	*Total Sample Density (kg/m³)*	

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7136.9	297.5	4196.8	211.7
pPc (kPa)	*pTc (K)*	*pPc (kPa)*	*pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
	18200			26.18
Stain Tube (GPA 2377)	*Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

42.0	104.9
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

90.85
C_5+ (kPa)

Gas Compressibility

0.9936
@15 °C & 101.325 kPa

AGAT Laboratories

GAS ANALYSIS

Version: 1

05003747A	EE041504024W4DRYOUTLET		000188788	22GR949110B	22GR965975A
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BA/BB
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3790 Source	4200 Received	12 Source	23 Received

Nov 04, 2022 11:45	Nov 07, 2022	Nov 11, 2022	Nov 11, 2022	Calgary - Bernie Diep - Supervisor
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 1.874%

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.0063	0.0586		0.0061
He	0.0001	0.0009		0.0001
N_2	0.0060	0.0558		0.0065
CO_2	0.8737	0.0000		0.8970
H_2S	0.0187	0.0000		0.0182
C_1	0.0714	0.6635		0.0540
C_2	0.0086	0.0800	30.6	0.0071
C_3	0.0068	0.0632	25.0	0.0055
iC_4	0.0015	0.0139	6.5	0.0010
nC_4	0.0033	0.0307	13.9	0.0026
iC_5	0.0009	0.0084	4.4	0.0006
nC_5	0.0011	0.0102	5.3	0.0007
C_6	0.0007	0.0065	3.8	0.0003
C_7+	0.0009	0.0083	5.8	0.0003
TOTAL	1.0000	1.0000	95.3	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: C1, C2, C3, NC4, C7

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net		
5.66	48.04	0.20	**5.12**	43.75	
Air Free as Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*Air Free as Received*	*Moisture & Acid Gas Free*	

Calculated Density

Relative			Absolute		
1.435	0.791	3.675	696.8	1.757	
Moisture Free As Received	*Moisture & Acid Gas Free*	*C_7+ Moisture Free*	*C_7+ Density (kg/m³)*	*Total Sample Density (kg/m³)*	

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7070.5	296.2	4246.7	218.5
pPc (kPa)	*pTc (K)*	*pPc (kPa)*	*pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
	18740			26.90
Stain Tube (GPA 2377)	*Tutweiler (GPA C1)*	*Other*	*GC-SCD (ASTM D5504)*	

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

41.6	106.4
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

76.67
C_5+ (kPa)

Gas Compressibility

0.9922
@15 °C & 101.325 kPa

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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AGAT Laboratories

GAS ANALYSIS

Version: 1

08000199C	EE041504024W4DRYOUTLET		000188788	22GR965975A	22GR974580C
Container Identification	*Sample Point Code*	*Meter Code*	*AGAT WDMS Number*	*Previous Number*	*Laboratory Number*

ENHANCE ENERGY INC	DEXPRO DRY OUTLET GAS	04-15-040-24W4
Operator Name	*Sampling Point*	*Unique Well Identifier*

ENHANCE CLIVE 4-15 BATTERY				
Well Name	*Well License*	*Well Status*	*Well Fluid Status*	*LSD*

CLIVE	NOT APPLICABLE	AGAT RED DEER	BA/BB
Field or Area	*Pool or Zone*	*Sampler's Company*	*Name of Sampler*

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From :	To:	Test Type	Test No.	KB	GRD	3780 Source	4900 Received	24 Source	21 Received

Dec 01, 2022 11:30	Dec 02, 2022	Dec 08, 2022	Dec 08, 2022	Calgary - Gerry Ecker - Reporter
Date/Time Sampled	*Date Received*	*Date Analyzed*	*Date Reported*	*Location - Approved By - Title*

Other Information : FIELD H2S BY TUT = 2.42%

COMPOSITION

Component	Mole Fraction		Liquid Volume mL / m³	Mole Fraction of Previous Analysis
	Air Free As Received	Air & Acid Gas Free As Received		
H_2	0.0061	0.0738		0.0063
He	TRACE	TRACE		0.0001
N_2	0.0059	0.0714		0.0060
CO_2	0.8932	0.0000		0.8737
H_2S	0.0242	0.0000		0.0187
C_1	0.0520	0.6296		0.0714
C_2	0.0068	0.0823	24.2	0.0086
C_3	0.0056	0.0678	20.6	0.0068
iC_4	0.0009	0.0109	3.9	0.0015
nC_4	0.0027	0.0327	11.4	0.0033
iC_5	0.0007	0.0085	3.4	0.0009
nC_5	0.0008	0.0097	3.9	0.0011
C_6	0.0005	0.0061	2.7	0.0007
C_7+	0.0006	0.0072	3.9	0.0009
TOTAL	1.0000	1.0000	74.0	1.0000

WDMS Data Verification Check

Exceeds normal limits: CO2, H2
Exceeded compare limits: H2S, C1, C2, C3, IC4, NC4

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross			Net	
4.49 Air Free as Received	47.01 Moisture & Acid Gas Free	0.13 C_7+ Moisture Free	**4.07** Air Free as Received	42.81 Moisture & Acid Gas Free

Calculated Density

Relative			Absolute	
1.451 Moisture Free As Received	0.789 Moisture & Acid Gas Free	3.621 C_7+ Moisture Free	694.7 C_7+ Density (kg/m³)	1.777 Total Sample Density (kg/m³)

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
7152.6 pPc (kPa)	298.5 pTc (K)	4185.5 pPc (kPa)	215.5 pTc (K)

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
Stain Tube (GPA 2377)	24200 Tutweiler (GPA C1)	Other	GC-SCD (ASTM D5504)	34.81

Calculated Molecular Weight (Moisture Free as Received) (g/mol)

42.0	104.9
Total Sample	*C_7+ Fraction*

Calculated Vapour Pressure

79.57 *C_5+ (kPa)*

Gas Compressibility

0.9925 *@15 °C & 101.325 kPa*

Results relate to only items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.
Sampling performed by AGAT Laboratories is done according to Field Sampling Procedure Manual

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