December 30, 2025

Mr. JohnDavid Nance
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

Ms. Leigh Barr
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
LeighP.Barr@emnrd.nm.gov

Re: Status Report IV – Groundwater and Phase-Separated Hydrocarbon Recovery System Enhancements, Reinjection Pilot Test
HF Sinclair Navajo Refining LLC Artesia Refinery
RCRA Permit No. NMD048918817
Discharge Permit GW-028

Dear Mr. Nance and Ms. Barr:

Please find attached the fourth status report for the groundwater reinjection pilot test at the HF Sinclair Navajo Refining LLC (HFSNR) refinery located in Artesia, New Mexico. The status report summarizes the baseline groundwater quality evaluation, the installation, startup, adjustment, and operation of the two groundwater reinjection pilot test systems, and the first post-baseline performance monitoring results in accordance with the *Revised Groundwater and Phase-Separated Hydrocarbon Recovery System Enhancements: Reinjection Pilot Test Work Plan* (Work Plan) with replacement pages dated May 2020.

HFSNR plans to continue operating and maintaining the reinjection pilot test systems and conducting groundwater and system monitoring in accordance with the Work Plan. However, the balanced operational groundwater recovery and injection rates of the pilot study systems are lower than anticipated compared to the aquifer testing results presented in the last status report (Status Report III). The lower recovery and injection rates are attributed to the reduction of the saturated zone thickness resulting from steadily decreasing groundwater elevation since the Work Plan was first submitted in 2019. The lower groundwater levels and operational rates have increased the duration for changes to the groundwater chemistry to be evident in

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monitoring wells located downgradient of the injection wells. Additional monitoring tasks have been added to the groundwater monitoring schedule, as described in Section 6.0 of the attached status report, to evaluate secondary lines of evidence that support the groundwater reinjection pilot test is achieving the intended results despite the longer timeframe and to refine our understanding of the degradation mechanisms occurring to further optimize degradation rates.

The next progress report will summarize the data collected during supplemental groundwater monitoring activities and routine operation and maintenance activities conducted since August 2025. If you should have any questions or comments regarding this Progress Report IV, please contact me at (575) 746-5399 or Mike Holder at (575) 308-1115.

Sincerely,

Case Hinkins
Environmental Manager
HF Sinclair Navajo Refining LLC

cc: HF Sinclair: M. Holder, T. Alba
TRC: J. Speer, M. Link, H. August

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Status Report IV
Groundwater and Phase-Separated Hydrocarbon Recovery System Enhancements: Reinjection Pilot Test

HF Sinclair Navajo Refining LLC
Artesia Refinery
December 30, 2025

EXECUTIVE SUMMARY

This *Status Report IV* summarizes the baseline groundwater quality evaluation, the installation, startup, adjustment, and operation of the two groundwater reinjection pilot test systems, and the first post-baseline monitoring results at the HF Sinclair Navajo Refining LLC (HFSNR) Artesia Refinery (refinery) through July 31, 2025, in accordance with the *Revised Groundwater and Phase-Separated Hydrocarbon Recovery System Enhancements: Reinjection Pilot Test Work Plan* (Work Plan), with replacement pages dated May 2020 (TRC, 2020).

Once the pilot study treatment systems were installed, modifications were required over several months to adjust the size of the equipment to balance the groundwater recovery and injection rates, which were lower than anticipated compared to the aquifer testing results presented in Status Report III (TRC, 2022). The lower recovery and injection rates are attributed to the reduction of the saturated zone thickness resulting from steadily decreasing groundwater elevation since the Work Plan was first submitted in 2019. The Northern Treatment System has generally operated as expected with routine maintenance and repairs. The Southern Treatment System has experienced issues injecting at a sustained rate resulting in delays while additional evaluation and operational changes were made. System modifications were made at the Southern Treatment System in early July 2025, which improved runtime significantly.

The lower groundwater levels and operational rates have increased the duration for changes to the groundwater chemistry to be evident in monitoring wells located downgradient of the injection wells. In June 2025, at the first downgradient well in the Northern Treatment System conductivity started rising after 13 months of operation (the Work Plan expected the 100% conductivity rise and 500 mg/L sulfate targets to be achieved in 3 to 5 months). Additional monitoring tasks have been added to the groundwater monitoring schedule to evaluate secondary lines of evidence that support the groundwater reinjection pilot test is achieving the intended results despite the longer timeframe and to refine our understanding of the degradation mechanisms occurring to further optimize degradation rates.

1.0 INTRODUCTION

HFSNR developed a proposed phase-separated hydrocarbon (PSH)/groundwater recovery and reinjection system upgrade ("upgrade") at the refinery to enhance PSH and dissolved phase-hydrocarbon capture recovery. The goal is to control migration of dissolved-phase impacts and PSH prior to leaving HFSNR's property and eventually stop PSH migration while allowing natural processes (i.e., monitored natural attenuation [MNA]) and biodegradation to remediate the remaining dissolved phase hydrocarbons. HFSNR is conducting a pilot test to optimize the treatment approach and evaluate effectiveness of treatment and injection in accordance with the Work Plan. The groundwater reinjection pilot test consists of affected groundwater extraction, PSH removal, extracted water amendment (with terminal electron acceptors and nutrients) to enhance in situ anaerobic degradation of hydrocarbons, and upgradient reinjection. The upgradient reinjection will increase the gradient towards the capture wells. As depicted in **Figure 1**, the groundwater reinjection pilot test is comprised of one treatment system located near recovery well RW-19 (Southern Treatment System) and one treatment system located near monitoring well MW-131 (Northern Treatment System). From here on, references to "system" or "the system" describe both the Northern and Southern Treatment systems.

The Work Plan is being implemented in an iterative process in which the results of each phase of work are submitted to the New Mexico Environment Department (NMED) and the New Mexico Oil Conservation Division (OCD). To date, HFSNR has submitted three status reports. The May 2021 *Status Report* (TRC, 2021a) provided a summary of a gamma log survey results and initial baseline groundwater monitoring results, October 2021 *Status Report II* (TRC, 2021b) summarized the installation of the pilot study injection, recovery, and monitoring wells, and the March 2022 *Status Report III* (TRC, 2022) summarized the results of aquifer testing conducted to support the design of the pilot test system. This Status Report IV (will be referred to as the "report") summarizes the installation and startup of the groundwater reinjection pilot test system at the refinery. This report also summarizes baseline groundwater monitoring events conducted as part of the groundwater reinjection pilot test and the system's operations until July 31, 2025. Unless noted in this report, the installation and monitoring of the groundwater reinjection pilot test were conducted in accordance with the Work Plan.

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2.0 SYSTEM INSTALLATION, STARTUP, AND OPERATION

Each treatment system comprises of a recovery well, an oil-water separator (OWS), a shed housing the electrical panel and pumps, a 5,000-gallon amendment holding tank, an injection well, and several monitoring wells. The installation of the pilot study injection, recovery, and monitoring wells were summarized in the October 2021 *Status Report II* (TRC, 2021b). The installation of the remaining system components and infrastructure, and the subsequent startup, adjustment, and operation of the pilot test system are described below. The pilot test system was installed in accordance with the design drawings approved by HFSNR on July 25, 2022, through its Management of Change (MOC) process with minor adjustments discussed in this status report. TRC Environmental Corporation (TRC) oversaw the installation, startup, and operation of the pilot test system.

2.1 Pre-field Activities

The following pre-field activities were conducted:

- A site-specific Health and Safety Plan (HASP) was developed before commencing field activities within the site.
- System components were procured concurrently with iterative field events from July 2021 through February 2024 when system installation was initiated.
- The New Mexico One Call (NM811) provided utility verification and marking.
- Hydro-excavation was utilized to clear the trenches and pads.

2.2 Treatment System Site Preparation

Site preparation activities included supplying power to the pilot study treatment system from a nearby power pole, the installation of below-ground piping, and the construction of a caliche pad in each treatment system area upon which the main system components were placed. A description of each activity is provided in the following sections.

Power Supply

Loudon Electric, LLC (Loudon) was on site from January 16 to February 2, 2024, to provide power to the remediation system pads. Electrical trenches were installed from the distribution pole with hydro-excavation methods, and underground wiring was installed approximately four (4) feet (ft) below ground surface (bgs). **Figure 1** presents the approximate location of the electrical trenches. The electrical trench to the Southern Treatment System runs west for approximately 400 ft. The electrical trench to the Northern Treatment System runs to the north/northeast approximately 450 ft and crosses a gravel access road to the crude off-loading truck rack. The access road was temporarily closed on January 31, 2024, to allow for trenching

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across the road, and a detour road from E. 7th Street was temporarily used to avoid disruption of loading rack operations.

Pad Construction, Reinjection Piping Installation, and Shed Installation

Several site preparation activities were completed from February 5 to 16, 2024, including the: construction of the caliche pads where the major treatment system components would be placed; the installation of the groundwater reinjection piping from the pad to the injection well in each treatment system; and the placement of the enclosure for each treatment system. A detailed description of these activities is provided in the following sections.

Pad Construction

A caliche pad with dimensions of 30 ft by 30 ft was constructed northeast of recovery well RW-23 in the Southern Treatment System and south of recovery well RW-24 in the Northern Treatment System. To identify and protect any potential underground utilities beneath the pads, the soil was hydro-excavated from a trench approximately one foot wide to a depth of three (3) ft bgs around the perimeter of each pad. No utilities were encountered at the Northern Treatment System; however, at the Southern Treatment System, a two-foot diameter pipeline was daylighted at approximately one (1) ft bgs at the edge of the pad. The pipe was identified as a water irrigation line running from west to east across the northern portion of the pad. To ensure the pipe was not encountered during the excavation of material to key in the caliche pad, only five (5) inches of soil were removed in the northern portion of the southern pad instead of ten inches removed in other parts of the pad. Soil removed during the installation of the pads and trenching of the reinjection lines was transported to the refinery for reuse. After the excavation, TRC backfilled both pads with caliche/road base and leveled the pad areas.

Groundwater Reinjection Pipe Installation

Reinjection piping trenches were hydro-excavated to a depth of 24 inches from the caliche pads to the injection well at both treatment systems. The approximate length of the reinjection trench was 195 ft within the Southern Treatment System and 190 ft within the Northern Treatment System (**Figure 1**). Within each reinjection trench, a six-inch bed of sand fill was placed at the bottom before a 1.5-inch high-density polyethylene (HDPE) groundwater reinjection pipe was installed. The HDPE groundwater reinjection pipe was covered with six inches of sand and approximately three inches of backfill. Electrical conduit and magnetic warning tape were installed, and the reinjection trenches were backfilled to grade. A schematic of a typical trench section is included in the design drawing Figure A-7, Section B in **Attachment A**.

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Shed Installation

A prefabricated 10-foot by 12-foot shed was installed on each pad to house the electrical control panel, process pump, safety disconnect, flow meter, and sample port. A combination air conditioner and heater unit was installed in the window of each shed to control ambient temperatures.

2.3 Treatment System Installation

The installation of the Northern and Southern Treatment Systems began in February 2024 and continued through May 2024. The following sections describe the system components that were installed, provide an overview of the electrical systems installation - including safety alarms and interlocks - and present the placement of the injection pipe and the extraction pumps within the injection and recovery wells, respectively. The design drawings referenced throughout this discussion are provided in **Attachment A**.

Oil-Water Separation System and PSH Storage

Groundwater and PSH are recovered from recovery wells RW-23 and RW-24 using an air-driven PSH recovery pump and a submersible groundwater recovery pump which are installed in separate nested casings in each recovery well. PSH recovered by the skimmer pump is placed in the PSH storage tote. Groundwater recovered by the total fluids pump is routed through an OWS to remove any PSH present in the groundwater before it is amended for reinjection. The **Oil-Water Separation System Equipment Summary** table below summarizes the major components of the oil-water separation system, which include the slow-flow OWS (T-100), the OWS effluent water process pump (P-100), the OWS effluent PSH transfer pump (P-101), and the PSH storage tote (T-200). A mixture of groundwater and PSH, if present, is pumped from the nearby recovery well into the OWS (T-100), where water and PSH are separated when the system is operating. The P-100 moves the OWS effluent water into the shed where it is directed, by the opening or closing of manual valves, to either the amendment system during times of filling the amendment holding tank or to the injection well when the system is operating. The P-101 is used to pump the PSH exiting the OWS to the PSH storage tote for storage until the PSH is removed by a refinery vacuum truck for recycling in the refinery.

Oil-Water Separation System Equipment Summary

Design Reference	Component	Manufacturer	Model	Specifications
P-100	OWS Effluent Water Process Pump	Goulds	e-SV multi-stage pump 5SV3GC4C7ON	20 gallons per minute (gpm) at 100 ft total dynamic head (TDH)
P-100 Replacement			1SV2GA7J20 vertical inline	2 gpm at 14 ft TDH, 0.5 horsepower (HP),

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Oil-Water Separation System Equipment Summary

Design Reference	Component	Manufacturer	Model	Specifications
			multistage centrifugal pump	230-volt (V)
T-100	Slow-Flow OWS	Econosep	ES-02	43 x 27 x 19 inches, 20-gallon capacity, two cubic ft coalescing media with 0.75-inch spacing
P-101	OWS PSH Transfer Pump	Moyno	33259	500 Series 300 motor pump, ½ HP
T-200	PSH Storage Tote	Protank	Model IBC	330-gallon

The oil-water separation system is presented in the design drawing Figure A-5 in **Attachment A**.

Amendment Delivery System

Following oil-water separation, the water extracted from the aquifer is amended with a concentrated sulfate solution before being reinjected into the aquifer. The **Amendment Delivery System Equipment Summary** table below summarizes the major components of the amendment delivery system. The sulfate solution is mixed periodically and stored in a 5,000-gallon amendment holding tank (T-300). The sulfate solution is discharged from the amendment holding tank through a chemical metering pump (P-301) into the injection water just prior to reinjection. The process used to mix the sulfate solution includes:

1. Fill the amendment holding tank. OWS effluent water is temporarily diverted from the injection well to fill the amendment holding tank by the opening or closing of manual valves until the preferred volume is reached.
2. Fill the slurry mixing tank (T-400)**.** A manual valve is opened to allow water from the amendment holding tank to flow by gravity to fill the slurry mixing tank.
3. Add the amendments**.** Fifty-pound bags of magnesium sulfate (as Epsom salt) are added to the water in the slurry mixing tank and blended until dissolved in solution.
4. Circulate the amendments into the amendment holding tank**.** The amendment/water mixture in the slurry mixing tank is circulated into the amendment holding tank using the amendment transfer pump (P-401) until it is blended.
5. Return to normal operation**.** The manual valves are opened and/or closed to return to normal operation so that the sulfate solution in the amendment holding tank is

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delivered to the OWS effluent water by the chemical metering pump before flowing to the injection well.

In addition to sulfate, other amendments (i.e., nitrate in the form of ammonia), may be added to the amendment holding tank with the sulfate solution, as necessary. For a more detailed description of the amendment delivery system components and specifications, see the design drawings Figure A-5 (Treatment System Equipment Layout) and Figure A-7 (Sections and Details) included in **Attachment A**.

Amendment Delivery System Equipment Summary

Design Reference	Component	Manufacturer	Model	Specifications
P-301	Chemical Metering Pump	Neptune	Series 7000 MP7180-2N3	Mechanical "dia-pump"
P-301 Replacement		Stenner	85MJL5A1STG1	4.3 gallons per day (gpd) flow rate/max flow rate 85 gpd, ¼-inch tubing, 1/30 HP
P-401	Amendment Transfer Pump	Rigid	1000RSDS	1-HP sump pump
T-300	Amendment Holding Tank	Dura-Cast	905001W	5,000-gallon capacity polyethylene, white, translucent
T-400	Slurry Mixing Tank	Ultratech	Grainger #9HN10	95-gallon overpack drum

Electrical System

Loudon constructed and installed electrical panels in each shed from February 12 to 23, 2024. Once the electrical panels were installed and tested, Loudon made connections from the electrical panel to each component in the system from February 26 to March 8, 2024. Explosion-proof heat tracing was installed with all piping. Loudon performed self-checks the week of March 11, 2024, and resolved any issues before TRC inspected and commissioned the system from March 24 to 29, 2024. HFSNR performed a final inspection in early May 2024 before the system was started.

Recovery Well Completion

Two recovery wells were permitted and constructed as permanent recovery wells, one for the Southern Treatment System (RW-23) and one for the Northern Treatment System (RW-24). The recovery wells were installed in July 2021 with the same configuration and methods as the

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existing facility-wide Phase II recovery system wells, as shown in the design drawing Figure A-3 (Recovery and Injection Well Installation Details) included in **Attachment A**. Each recovery well consists of three nested casings, two of which are four-inch diameter casings and a single one-inch diameter casing. Of the two four-inch diameter casings, one is used for the recovery of groundwater (designated as "E", or eastern casing), and one is used for the recovery of PSH (designated as "W", or western casing). The one-inch diameter casing is used for a liquid-level pressure transducer that can shut off the pump if the water level gets too low. The recovery wells were screened across the water table and the target lithologic zone (gravel and silty sand) in the shallow saturated zone, with a screen length of 15 ft followed by a five-foot sump. The construction details and gauging data for the recovery wells, injection wells, and monitoring wells installed for the pilot test were documented in the October 2021 *Status Report II* (TRC, 2021b) and are summarized in the attached **Table 1**.

Each recovery well is equipped with a pressure transducer, a submersible groundwater recovery pump, an air-driven PSH skimmer recovery pump, and an air compressor as summarized in the **Recovery Well Equipment Summary** table below and presented in the wellhead completion detail in the design drawing Figure A-3 of **Attachment A**. The recovery wellhead and equipment are enclosed in an insulated fiberglass vault.

Recovery Well Equipment Summary

Design Reference	Component	Manufacturer	Model	Specifications
AC-23/AC-24	Air Compressor	Rolair	D2002HPV5	Type MK246, 120V/14 amperes (amp)/60 Hertz (Hz)/3400 revolutions per minute (rpm)
P-0001/P-0002	Air-Driven PSH Recovery Pump	QED	AP4/SGP4 Part #301243	Auto-skimmer (short combo pump)
P-23/P-24	Submersible Groundwater Recovery Pump	Grundfos	10SQE05-100NE	½ HP, one phase, 230-V
P-23/P-24 Replacement			5SQE05-9090 Model #96160165	½ HP, 100-115V
PT-23/PT-24	Submersible Liquid Level Pressure Transducer	Geotech	21-11-30-PTG-15-229598	Range zero to 15 pounds per square inch (psi)

The submersible groundwater recovery pumps provide source groundwater for amendment and reinjection. Section 5.2.2 of the Work Plan states the groundwater recovery pump intakes

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would be installed so a maximum drawdown of two feet below the smear zone is achieved and would remain below the water surface. At the time the Work Plan was written, the lowest historical groundwater elevations observed near each proposed recovery well were 3333.37 ft above mean sea level (amsl) at RW-19 in March 2013 in the vicinity of the Southern Treatment System and 3338.88 ft amsl at MW-131 in April 2019 in the vicinity of the Northern Treatment System. Since the submittal of the Work Plan, the groundwater elevation at MW-131 dropped 3.68 feet to a new historical minimum of 3335.20 ft amsl in July 2025. In February 2024, the intakes of the groundwater recovery pumps were set below the water table surface at 3331.37 amsl at RW-23E in the Southern Treatment System and 3330.02 amsl at RW-24E in the Northern Treatment System.

The PSH recovery pumps automatically skim any PSH that accumulates in a recovery well. When the pump is filled with PSH, the PSH recovery pump cycles on and pumps the PSH directly to the PSH storage tote. In February 2024, the PSH recovery pump, which floats at the top of the water table surface at each recovery well, was initially set at 3340.59 ft amsl in RW-23W and 3336.61 ft amsl in RW-24W. The lowest historical groundwater elevations observed in the vicinity of the treatment systems and the recovery well pump placement details are provided in the **Recovery Well Pump Placement Details** table below.

Recovery Well Pump Placement Details

Well Casing Label	Pump	Historical Minimum Groundwater Level (ft amsl)	Depth of Pump Intake		February 14, 2024		
			(ft amsl)	(ft btoc)	Well Total Depth (ft btoc)	Depth to PSH (ft btoc)	Depth to Water (ft btoc)
Northern Treatment System							
RW-24E	Groundwater Recovery	3335.20 at MW-131 July 2025*	3330.02	32.35	37.07	24.74	25.60
RW-24W	PSH Recovery		3336.61	25.78	37.09	24.76	25.62
Southern Treatment System							
RW-23E	Groundwater Recovery	3333.37 at RW-19 March 2013	3331.37	36.01	37.21	26.25	26.61
RW-23W	PSH Recovery		3340.59	26.80	37.22	26.26	26.61

btoc – below top of casing
ft amsl – feet above mean sea level
RW-23E's top of casing elevation is 3367.38 ft amsl
RW-23W's top of casing elevation is 3367.39 ft amsl
RW-24E's top of casing elevation is 3362.37 ft amsl
RW-24W's top of casing elevation is 3362.39 ft amsl
*The historical minimum groundwater level at time of Work Plan approval was 3338.88 ft amsl at MW-131 in April 2019

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Injection Well Completion

Two injection wells were constructed, one for the Southern Treatment System (IW-1) and one for the Northern Treatment System (IW-2). Extracted groundwater, which is regularly amended with magnesium sulfate and infrequently amended with nitrogen (as ammonia), is reinjected through an injection pipe into the screened interval which releases into the groundwater table. Gamma logging was performed within the hollow-stem augers at the injection well soil boring locations to evaluate the soil lithology, including verification of the presence, depth, and thickness of the target zones (TRC, 2021b). Each injection well was constructed of a 6-inch diameter stainless-steel threaded casing and 10 linear ft of 6-inch v-wire wrap stainless-steel screen with a slot size of 0.060 inches open across the top of the target zone. The injection well installation details were documented in the October 2021 *Status Report II* (TRC, 2021b) and are summarized in the **Injection Well Pipe Installation Details** table below.

Injection Well Pipe Installation Details

Well	Target Zone (ft btoc)	Screened Interval (ft btoc)	Depth of Injection Pipe Outlet		March 28, 2024		
			(ft amsl)	(ft btoc)	Total Well Depth (ft btoc)	Depth to PSH (ft btoc)	Depth to Water (ft btoc)
Northern Treatment System							
IW-2	20.6 to 26.1	17.1 to 27.1	3336.19	23.75	29.46	22.15	22.27
Southern Treatment System							
IW-1	15.6 to 25.6	16.1 to 26.1	3342.31	23.01	28.46	22.25	24.29

Target zone depths were delineated using a gamma log survey conducted in July 2021.
IW-1 top of casing elevation is 3365.32 ft amsl
IW-2 top of casing elevation is 3359.94 ft amsl

The Work Plan proposed installing the screened interval of the injection well below the water table and across the target lithologic zone. This was not possible because the target lithologic zones were not fully saturated. Instead, each injection well was screened across the top of the target zone.

As described in HFSNR's July 29, 2022, response to NMED's June 6, 2022, approval with modifications letter of the March 2022 *Status Report III* (TRC, 2022), HFSNR decided against the installation of packers in the riser portion of the injection wells for the system operation based on low injection rates measured during the aquifer testing performed in December 2021 (2 gpm or less) which indicated the injection fluids would not be applied under pressure and the use of filter packs would not be amenable to packer application (i.e., injection water could by-pass the

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packer through the filter pack). The **Injection Well Pipe Installation Details** table above summarizes the depths to the target lithologic zone, the screened intervals, and the groundwater table during injection well installation.

Monitoring Well Preparation

Eleven new pilot monitoring wells (PMWs) were installed for the pilot test (PMW-1 through PMW-11). **Figure 1** presents the locations of the PMWs installed as part of the Northern and Southern Treatment Systems. Each PMW was constructed of a 4-inch diameter schedule 40 polyvinyl chloride (PVC) threaded casing and schedule 40 PVC 0.020-inch machine slotted screen. Each PMW was screened across the water table and within the same target zone as the respective injection and recovery wells. Well-construction details were provided in the October 2021 *Status Report II* (TRC, 2021b) and are summarized in the attached **Table 1**.

Transducer Summary

When the system components were installed, a transducer was hardwired into each recovery well (RW-23 and RW-24) to turn off the well pumps in low-water conditions. On March 28, 2024, transducers were installed in each injection well (IW-1 and IW-2) and two PMWs downgradient of each injection well (PMW-1, PMW-2, PMW-7, and PMW-8). The **Transducer Installation Details** table below details the installation. Each transducer was checked to ensure it was operating and sending data before installation in the wells.

Transducer Installation Details

Well	Distance from Injection Well (ft)	Serial Number	Transducer
Northern Treatment System			
IW-2	0	855803	Aqua Troll 700
PMW-7	43	851634	Level Troll 700
PMW-8	115	853673	Level Troll 700
RW-24	200	Hardwired	Geotech Transducer
Southern Treatment System			
IW-1	0	851661	Aqua Troll 200
PMW-1	44	853642	Level Troll 700
PMW-2	85	853653	Level Troll 700
RW-23	205	Hardwired	Geotech Transducer

2.4 System Start-up, Shakedown, and Final Inspection Summary

This section chronologically summarizes the activities performed during the system start-up, shakedown, and final inspection.

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March 2024

The newly installed system underwent the first shake-down and start-up the week of March 25, 2024. TRC verified that all equipment was installed per manufacturer recommendations and operated as designed, tested the electrical system and controls with Loudon, ensured the safety mechanisms were functioning, and performed troubleshooting as needed. Leak testing was conducted from the recovery wells to the amendment holding tanks. The following troubleshooting actions resulted from the initial shake-down activities:

- A faulty float and a product high-level alarm were repaired in the Northern Treatment System.
- The groundwater recovery pumps (Grundfos 10SQE) required throttling back to operate at the groundwater recovery rates and eventually would require replacement with pumps designed for lower flows (Grundfos 5SQE).
- Transfer pumps (P-100/Goulds) would eventually require replacement with pumps designed for lower flow rates.

A separate commissioning table was prepared for the Northern and Southern Treatment systems (**Attachment B)**.

April 2024

While troubleshooting continued at the pilot test system in April 2024, TRC submitted markups of the design drawings to reflect any changes made during the installation and the Operation, Maintenance, and Monitoring (OM&M) Manual to the refinery to close out the MOC process. The refinery's process safety management procedures required a pre-safety startup review (PSSR) before commencing operation of the new system.

May 2024

The PSSR conducted by HFSNR on May 1, 2024, resulted in the addition of a desiccant filter on the vents of the OWS units and a review of the electrical system by an HFSNR-approved electrical subcontractor. Once these action items were completed, further leak testing and system startup were conducted from May 6 to 9, 2024, as follows:

- The amendment holding tank (T-300) was filled in the Southern Treatment System, and no leaks were detected. Magnesium sulfate and nitrogen (as ammonia) were mixed and blended into the amendment holding tanks in the Southern Treatment System from May 6 to 7, 2024. The amendment dosing calculations are included in **Attachment C**.
- Minor repairs were made, including replacing chemical metering pump inlet valves in both the Northern and Southern Treatment Systems.

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- Injection began at the Southern Treatment System on May 8, 2024; however, the Southern Treatment System was shut down on May 9, 2024, when injection well IW-1 would not receive amended water at a sustained rate lower than the injection rates measured during the aquifer testing performed in December 2021.
- Power was restored to the Northern Treatment System after a fuse was replaced on May 9, 2024; however, mechanical issues involved a float that needed repair prior to filling the northern amendment holding tank (T-300).

June 2024

Downsized process pumps (P-100) were installed from June 10 to 11, 2024. The Northern Treatment System amendment holding tank (T-300) was filled and no leaks were detected. Magnesium sulfate was mixed and blended into the northern amendment holding tanks on June 12, 2024. The amendment dosing calculations are included in **Attachment C**. The Northern and Southern Treatment Systems were restarted on June 12, 2024, to continue troubleshooting and balancing the extraction and injection flow rates. The Northern Treatment System operated for several days. Siphoning issues were resolved in the Northern Treatment System and spring ball valves were installed to balance the groundwater flow rates. The Southern Treatment System operated to the extent practical, but groundwater levels in the injection well (IW-1) continued to rise before a balance in flow rates could be achieved. Both the Northern and Southern Treatment Systems were turned off during the weekend.

Both the Northern and Southern Treatment Systems were restarted on June 19, 2024, to conduct 8-hour run tests. At the Southern Treatment System, amended water was still not received by injection well IW-1 despite the ability to lower the pumping rate with the replacement pumps and the balancing of flow with check valves. A review of the IW-1 well development notes from July 2021 (TRC, 2021b) indicated that IW-1 went dry several times during its development. A camera survey and redevelopment of IW-1 using a vacuum truck was recommended for the July 2024 field event to observe the condition of the IW-1 well screen and improve the hydraulic connection between the well and the surrounding water-bearing zone.

The Northern Treatment System ran all week and daily readings were conducted. The Northern Treatment System was turned off during the weekend. The Northern Treatment System operated from June 24 to 28, 2024, and the first weekly monitoring event was conducted. Since the extraction rates were lower than anticipated, an attempt was made to lower the injection rate of amended water to find the balance necessary to run the Northern Treatment System. Field measurements indicated that the chemical metering pump set on its lowest setting could not sufficiently reduce the injection rate; therefore, the Northern Treatment System was shut down and new chemical metering pumps were ordered for both the Northern and Southern Treatment Systems.

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July 2024

At the Southern Treatment System on July 17, 2024, the injection pipe was temporarily removed from the injection well (IW-1) to conduct a camera survey before redeveloping IW-1. Some fouling and scale were visible in the screened interval of IW-1. While it was difficult to determine the specific processes taking place at this well before operating the groundwater reinjection pilot test, the presence of fouling and scale may have been the result of bacteria growth during an extended stagnant period between the aquifer testing (December 2021) and system startup (May 2024) blocking the filter pack. The injection well was redeveloped using a vacuum truck to re-establish the connection between the well and the formation by removing fines and biofilm.

The initial water level and total depth readings indicated approximately 4.5 ft of water in IW-1. A three-inch diameter vacuum hose was lowered into the screened interval one foot from the bottom of the well and was secured with a rope. The annular space between the vacuum pipe and the well was plugged. Four vacuum and stabilizing intervals were conducted over six hours to raise and lower the water level within the screen to flush the screen until photos obtained by a down-hole camera indicated the screen was free of fouling. Approximately 250 gallons of water were removed during the redevelopment activities.

At the Northern Treatment System, refinery electricians downsized the electrical circuit from 230 to 120 volts and installed the downsized chemical metering pump (P-301) from July 17 to 19, 2024. An additional outlet was also added.

The refinery installed a chain-link fence around both the Northern and Southern Treatment Systems to increase the security of the pilot test systems.

2.5 System Operations Summary

This section chronologically summarizes the operation of the system and any non-routine maintenance after the initial start-up period.

August 2024

HFSNR electricians installed a downsized chemical metering pump (P-301) at the Southern Treatment System on August 7, 2024. Following the replacement of the chemical metering pumps, both the Northern and Southern Treatment Systems were rebalanced and ran continually beginning August 19, 2024. MNA readings were obtained weekly at the Northern Treatment System and daily at the Southern Treatment System.

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September 2024

The Northern and Southern Treatment Systems ran continually. The chemical metering pump tubing at both treatment systems were replaced. The chemical metering pump at the Northern Treatment System was turned to the "HAND" setting to increase the amount of amendment delivered based on the injection rate.

October 2024

The Northern and Southern Treatment Systems ran continually. HFSNR electricians repaired the PSH transfer pump (P-101) of the Southern Treatment System; wiring was found to be loose in the control box. The Northern and Southern Treatment Systems were winterized by installing insulation on all aboveground piping and testing the heat trace equipment. The chemical metering pump delivery rates were verified. Groundwater and magnesium sulfate were also added to the Northern Treatment System when the amendment holding tank volume was low.

November 2024

The Northern Treatment System ran continuously. The Southern Treatment System ran continuously until mid-November. On November 14, magnesium sulfate was added to the Southern Treatment System amendment holding tank to increase the concentration of sulfate being injected. On November 15, the water level in IW-1 began rising and the Southern Treatment System was shut down to avoid overflow.

December 2024

A camera inspection of injection well IW-1 of the Southern Treatment System revealed the presence of fouling on the screen, therefore arrangements were made to redevelop IW-1. The Northern Treatment System ran continuously, and the following issues were addressed: the OWS siphoning into IW-2, clearing sediment out of the OWS, repairing a mechanical oil leak in the PSH transfer pump (P-101), and taping connections from the recovery well (RW-24) to OWS to prevent air from entering the system.

January 2025

The Northern Treatment System ran continuously except for a shutdown between January 17 and January 23 when the inlet pipe to the PSH transfer pump (P-101) was repaired. The compressor to the air-driven PSH recovery pump (P-0002) of the Northern Treatment System was found not working and was replaced with the compressor from the Southern Treatment System since the Southern Treatment System was not operating pending redevelopment of its injection well. Groundwater and magnesium sulfate were mixed and added to the Northern Treatment System amendment holding tank. IW-1 and IW-2 were redeveloped on January 30 and 31, respectively.

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February 2025

The heat traces at the Southern Treatment System blew fuses and the PSH transfer pump (P-101) housing cracked when water leaked from OWS to the PSH transfer pump. The original vertical OWS Effluent Water Process Pump (P-100) was repurposed to replace the damaged PSH transfer pump (P-101) at the Southern Treatment System. HFSNR electricians connected the pump and replaced fuses. The compressor at the Southern Treatment System was replaced, and the air-driven PSH recovery pump (P-0001) was returned to service. The submersible groundwater recovery pump (P23) was replaced with a smaller pump at RW-23, and the injection rate was lowered to avoid overfilling IW-1. The Southern Treatment System was turned off February 20 in anticipation of freezing temperatures and resumed operations on February 24. A secondary containment was installed beneath the PSH tote.

The Northern Treatment System ran continuously. The compressor was replaced, and the air-driven PSH recovery pump (P-0002) was returned to service. The submersible groundwater recovery pump (P24) was replaced with a smaller pump at RW-24. The Northern Treatment System was turned off on February 20 in anticipation of freezing temperatures and resumed operations on February 25.

March 2025

The Northern and Southern Treatment Systems ran continually. The Southern Treatment System's totalizer batteries were replaced on March 26. A secondary containment was installed beneath the PSH tote.

April 2025

The Southern Treatment System stopped running on April 9 due to IW-1 filling with injection water. The Northern Treatment System was offline from April 10 to April 11 due to a power outage. At the Northern Treatment System, a new gate valve was installed to stop the flow of injection water into the amendment holding tank (approximately 1000 gallons of injection water flowed in). Magnesium sulfate and groundwater were mixed and added to the Northern Treatment System's amendment holding tank to offset the additional groundwater added prior to the gate valve replacement.

May 2025

The Southern Treatment System remained shut down. The Northern Treatment System ran continuously. HFSNR electricians replaced the floats on Northern Treatment System tote and repaired the PSH transfer pump (P-101).

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June 2025

The Southern Treatment System remained shut down. The Northern Treatment System ran continuously. Specific conductivity readings in PMW-7 (closest monitoring well to IW-2) demonstrated a trend of sustained rising.

July 2025

The Southern Treatment System remained shut down. A PVC riser and a vacuum breaker were installed on the injection side to prevent siphoning. A new totalizer was installed on the discharge side. In IW-1 a new pressure gauge and cap were installed to allow IW-1 to inject with slightly more pressure (4 to 6 psi). Successful operation of the Southern Treatment System resumed by the end of July. The Northern Treatment System ran continuously.

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3.0 BASELINE GROUNDWATER MONITORING

Confirmation baseline water quality evaluations occurred on February 13 to 14, 2024, and April 18, 2024, and are discussed in the subsections below. Previous baseline water quality evaluations occurred on November 18 to 20, 2020, and December 14 to 15, 2020, prior to installation of the pilot test injection, recovery, and monitoring wells; the methods and results of this initial baseline monitoring event were summarized in the *Status Report – Groundwater and PSH Recovery System Enhancements, Reinjection Pilot Test* (TRC, 2021a) and are not presented in this progress report.

3.1 Baseline Groundwater Monitoring Activities

According to Section 5.2.1 (Baseline Groundwater Quality Evaluation) of the Work Plan, baseline trend data would be collected from monitoring wells in the pilot test area at least 14 days but no more than 30 days before initiation of the pilot test. The analytical and field parameters measured would be used to (1) calculate the range of dosing of the amendment(s) and (2) determine baseline conditions to be used to evaluate the effectiveness of the amendment(s) in reducing dissolved-phase concentrations in the vicinity of the reinjection zone during the pilot test. The Work Plan also stated that the water level data would be used to evaluate mounding and/or drawdown changes in groundwater levels observed during the pilot test.

TRC collected baseline data from February 13 to 14, 2024, in anticipation of the Northern and Southern Treatment Systems starting up before the end of March 2024. The system startup was rescheduled for May 9, 2024; therefore, a second round of baseline data was collected on April 18, 2024.

During the February and April 2024 baseline events, groundwater and PSH levels and MNA parameters were measured at the following 21 wells:

- Southern Treatment System
  - Upgradient wells: KWB-4, RW-19, MW-99, and MW-48
  - Test area wells: PMW-1, PMW-2, PMW-3, and PMW-4
  - Proximal downgradient well: PMW-5
  - Downgradient wells: KWB-5 and MW-111
- Northern Treatment System
  - Upgradient wells: MW-66, MW-99, MW-129, and PMW-6 (MW-99 data utilized for both the Northern and Southern Treatment Systems)
  - Test area wells: PMW-7, MW-131, PMW-8, PMW-9
  - Proximal downgradient wells: PMW-10 and PMW-11

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- Downgradient well: MW-112

Groundwater and PSH levels were also gauged at injection and recovery wells in the Southern (IW-1 and RW-23) and Northern Treatment Systems (IW-2 and RW-24) in April 2024. Groundwater samples were collected for laboratory analysis in accordance with Section 5.3.4 of the Work Plan.

3.2 Baseline Groundwater Monitoring Results

Groundwater Elevation and PSH Measurements

Baseline gauging results from the February and April 2024 baseline events are summarized in **Table 1**. PSH was present in wells gauged in both baseline events as described here:

> February 2024 Baseline Event: PSH was present in 17 of 21 wells, at apparent thicknesses ranging from 0.01 ft at PMW-8 and PMW-10 to 3.51 ft at RW-19.
>
> April 2024 Baseline Event: PSH was present in 17 of 21 wells, at apparent thicknesses ranging from 0.01 ft at PMW-8 to 2.82 ft at KWB-4.

Groundwater elevations were at historical minimums. The increased occurrence and thickness of PSH in the pilot test area are attributed to reductions in groundwater elevations which have decreased across the refinery since 2018.

Field-measured MNA Parameter Results

Field-measured MNA parameters of specific conductivity, oxidation-reduction potential (ORP), dissolved oxygen (DO), temperature, and turbidity were measured at the above-listed wells. Groundwater samples for MNA field measurements were collected using low-flow sampling procedures described in Section 5.3 of the Work Plan. The MNA parameter data collected during the February and April 2024 baseline monitoring events are presented in the attached **Table 2**. The range of field-measured MNA parameters is summarized in the **Range of Field-measured MNA Parameters** table below.

Range of Field-measured MNA Parameters

Analyte	February 13-14, 2024				April 18, 2024			
	Minimum		Maximum		Minimum		Maximum	
Specific Conductivity	1727	MW-99	3070	MW-48	1819	MW-99	3200	PMW-2
DO	0.2	KWB-4	1.8	MW-48	0.6	MW-111	2.4	MW-66
ORP	-295.1	MW-48	-14	PMW-7	-326.9	MW-99	-43.7	PMW-7
pH	6.53	MW-111	6.71	PMW-5	6.56	PMW-3	6.71	PMW-8
Temperature	19.1	KWB-4	22.6	PMW-3 PMW-10	21.4	MW-66	24.6	PMW-9

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Range of Field-measured MNA Parameters

Analyte	February 13-14, 2024				April 18, 2024			
	Minimum		Maximum		Minimum		Maximum	
Turbidity	3	PMW-6	127	MW-99	2.6	PMW-2	42.0	PMW-9
pH is reported in standard units (SU) DO is reported in milligrams per liter (mg/L) ORP is reported in millivolts (mV) Specific conductivity is reported in micro-Siemens per centimeter (µS/cm) Temperature is reported in degrees Fahrenheit (°F) Turbidity is reported in Nephelometric turbidity units (NTUs)								

The range of specific conductivity was similar in each baseline event, ranging from approximately 1700 to 3200 µS / cm. The baseline pH values were between 6.5 and 6.75 SU, a range considered supportive of bioremediation. The maximum DO concentrations were less than 2.5 mg/L. The range of ORP values was similar in both baseline events, approximately -325 mV to -15 mV, indicating favorable reducing conditions for sulfate. The temperature ranged 5°F or less during each baseline event.

Laboratory Analytical Results

According to Sections 5.2.1 and 5.3.4 of the Work Plan, samples were to be collected and analyzed from wells with less than 0.03 ft of PSH present. During the February and April baseline events, only three (3) of the 21 wells contained less than 0.03 ft of PSH during each event. However, groundwater samples were collected at all 21 wells and submitted for laboratory analysis with two field duplicate samples (PMW-5 and PMW-6 in February and PMW-1 and PMW-7 in April), one equipment blank, and two trip blanks during each event.

The samples were analyzed by Pace Analytical National (Pace) in Mount Juliet, Tennessee, for site-specific constituents of concern (COC), including:

- Volatile organic constituents (VOCs) – benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene, by Method 8260B,
- Total petroleum hydrocarbons gasoline range organics (TPH-GRO) by Method 8015D and total petroleum hydrocarbons diesel range organics (TPH-DRO) by Method 3511/8015D,
- Bromide and sulfate by Method 9056A,
- Total Kjeldahl nitrate (TKN) by Method 351.2,
- Total organic carbon (TOC) by Method 9060A,
- Alkalinity by Method 2320 B-2011,
- Ferrous iron by Method 3500Fe B-2011,

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- Sulfide by Method 4500S2 D-2011, and
- Magnesium by Method 6010B.

Laboratory analytical results are included in **Attachment D** and are summarized in the attached **Table 3** and are organized by the well's proximity to the Northern and Southern Treatment Systems. Data for MW-99 are presented in both pilot test areas as its location is nearly equidistant from both the Northern and Southern Treatment Systems. Analytical results were reviewed to ensure that the reported analytical results met the project data quality requirements. A discussion of any data quality exceptions is provided in **Attachment D**.

Laboratory analytical results from February 13 to 14, 2024, indicated that benzene, MTBE, TPH-DRO, and TPH-GRO were present at concentrations greater than the respective critical groundwater screening level (CGWSL) in groundwater samples collected from all 21 wells. Iron was detected above the CGWSL of 1.00 mg/L in 91 percent (%) of all the samples collected during the two baseline events.

As presented in the *2024 Annual Groundwater Monitoring Report* (TRC, 2025), sulfate concentrations ranged from 928 to 3,290 mg/L, in groundwater samples collected from upgradient wells UG-1, UG-2, UG-3R, and UG-4 located west of the refinery. Concentrations of sulfate measured within the pilot test area during the two baseline events ranged from 65.0 mg/L (downgradient well KWB-5) to 326 mg/L (upgradient well MW-48) in the Southern Treatment System. The sulfate concentrations measured in the Northern Treatment System during the two baseline events ranged from less than the method detection limit (<0.594 mg/L) in four samples to 87.3 mg/L (upgradient well MW-129).

Baseline sulfate concentrations measured in the Southern Treatment System are approximately one order of magnitude higher than in the Northern Treatment System. The difference in baseline sulfate concentrations may be due to differing compositions and degrees of weathering of the PSH present in the two treatment system locations, and/or the relative location of each treatment system within the dissolved hydrocarbon plume. PSH in the Southern Treatment System is composed of a smaller gasoline fraction (i.e., smaller fraction of soluble and volatile compounds) and is more weathered (i.e., more of the soluble and volatile compounds have been depleted) than in the Northern Treatment System (Arcadis, 2015). The more weathered PSH is primarily weathered jet fuel and diesel which are far less soluble and degradable than the PSH present in the Northern Treatment System, resulting in a much lower sulfate demand. The Southern Treatment System is also located further from the dissolved hydrocarbon plume centerline than the Northern Treatment System (i.e., the Southern Treatment System is located closer to the dissolved hydrocarbon plume margins, and the Northern Treatment System is located closer to the dissolved hydrocarbon plume center/core). Sulfate demand is greater within the dissolved hydrocarbon plume's core compared to the margins.

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BART™ Hach Test Results

Baseline qualitative field screening through BART™ Hach Tests was conducted in February 2024 at all 21 pilot test wells for Sulfate-Reducing Bacteria (SRB) and Acid-Producing Bacteria (APB). The results are presented in the attached **Table 4.**

Qualitative field screening results indicated dense anaerobic SRBs were present in groundwater with populations ranging from less than 20 to 115,000 colony-forming units per milliliter (cfu/ml). The screening kit defines reaction types into the following categories based on the approximate SRB colony forming units per milliliter:

- Aggressive – ranging from 115,000 to 6,000 cfu/ml,
- Moderate – ranging from 1,400 to 75 cfu/ml, or
- Not Aggressive – below 20 cfu/ml.

Of the 21 pilot test wells, 11 wells exhibited an aggressive reaction of SRBs, seven (7) exhibited a moderate reaction, and wells PMW-3 and MW-111 exhibited a not aggressive reaction. In the initial screening, the Northern Treatment System showed denser populations of SRBs, with eight (8) of the 11 wells screened having SRB concentrations in the aggressive range and three (3) in the moderate range. Of the wells in the Southern Treatment System, three (3) had SRB concentrations in the aggressive range, five (5) had concentrations in the moderate range, and two (2) had concentrations in the not aggressive range. It should be noted that the kits do not account for SRBs that have adhered to the soil matrix (where a majority of SRBs are present), underrepresenting the results of the screening. The field screening shows sufficient SRB populations for effective anaerobic degradation of hydrocarbons with the addition of sulfate as a non-oxygen electron acceptor.

According to the Work Plan, the qualitative field measurement of APB in groundwater is used to assess the potential risk of affecting pH during the operation of the pilot test system. APB, which produce organic acidic products, can grow under reductive conditions and potentially lower the groundwater pH. The qualitative field screening results for APB in February 2024 indicated that APB was not present above two (2) cfu/ml, which was defined as a not aggressive reaction in all screened wells. The lack of APB presence in the groundwater and neutral groundwater pH indicated that groundwater acidification was not occurring in the presence of hydrocarbon degradation before the installation and operation of the groundwater reinjection pilot test system.

Barometric Pressure and Precipitation

According to Section 5.2.8 of the Work Plan, the baseline data will be evaluated to determine if water levels were influenced by factors other than groundwater recovery. The water level data

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will be corrected for any outside influences, such as regional water level trends, barometric pressure changes, and/or recharge effects due to precipitation.

Barometric pressure data is collected every 20 minutes by the National Oceanic and Atmospheric Administration (NOAA) at a weather station located at the Artesia Municipal Airport located at 702 Airport Road, Artesia, New Mexico (USW00003035), 4.7 miles from the pilot test site. The vented transducers compensate for barometric pressure changes as they are in groundwater exhibiting unconfined behavior.

Daily total precipitation data is also collected from the NOAA station. The first baseline monitoring event was conducted February 13 to 14, 2024. Precipitation of 0.04 inches of rain was measured on February 11, 2024, and not again until 0.13 inches of rain was recorded on February 29, 2024. The second baseline monitoring event was conducted on April 18, 2024. Precipitation measured in April 2024 was limited to 0.01 inches of rain on April 20, 2024. Groundwater levels were not influenced by rainfall during the baseline events.

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4.0 POST-IMPLEMENTATION GROUNDWATER MONITORING

To effectively monitor and adjust the groundwater conditions and associated sulfate feed rates, upgradient and downgradient PMWs were installed to monitor conditions downgradient of the injection wells to determine the maximum extent of treated groundwater impact. According to Section 5.4 of the Work Plan, wells were monitored at a frequency appropriate for determining the injection system effectiveness. The monitoring schedule proposed in the Work Plan was designed to monitor and gauge wells more frequently at the initiation of the pilot test and decrease over the course of the 12- to 18-month duration of the pilot test.

MNA field parameters were monitored ex-situ by low-flow techniques at the pilot test wells on a daily and weekly basis during the startup period of the system, however system operational issues interrupted the planned schedule. At both the Northern and Southern Treatment Systems, three daily (May 7-9, 2024) and three weekly (June 18-19, June 20-21, and June 24-25, 2024) monitoring events were conducted. The field-measured MNA parameters are presented in the attached **Table 2**.

Section 5.2.7 of the Work Plan specified that groundwater samples for laboratory analysis will be collected after a 100 % increase of conductivity was observed in the closest downgradient well in each treatment system. On June 3, 2025, despite the lack of a substantive increase in field-measured specific conductivity, groundwater samples were collected for laboratory analysis to further evaluate aquifer geochemistry since system operation commenced. Samples were collected from pilot test monitoring wells at the top and bottom of the water column and analyzed for alkalinity, iron, TKN, sulfide, sulfate, magnesium, and TOC to determine injection progress and to evaluate if any species could be creating mineral blockages. The results were consistent with the baseline sampling events as shown in **Table 3.**

In-situ transducers were installed in the two downgradient PMWs closest to each injection well (PMW-1 and PMW-2 at the Southern Treatment System and PMW-7 and PMW-8 at the Northern Treatment System). These transducers were used to measure MNA field parameters beginning May 8, 2024, and would provide the data necessary to observe changes in aquifer chemistry. The in-situ transducers in these four wells measure pressure, temperature, actual and specific conductivities, salinity, total dissolved solids, resistivity, and density every four hours. The in-situ transducer data are presented in **Attachment E**. No substantial change of MNA field data occurred between commencing operation of the system through the end of May 2025, indicating a longer time period will be necessary to observe the expected change in aquifer geochemistry. The increased timeframe is believed to be attributed to the lower injection rates.

However, in June 2025, the in-situ specific conductivity at only PMW-7 (downgradient well closest to the Northern Treatment System's injection well) started to demonstrate a rising trend. This is evidence that enough amended water has been injected by the Northern Treatment System to change the groundwater chemistry. The **PMW-7 Conductivity Readings**

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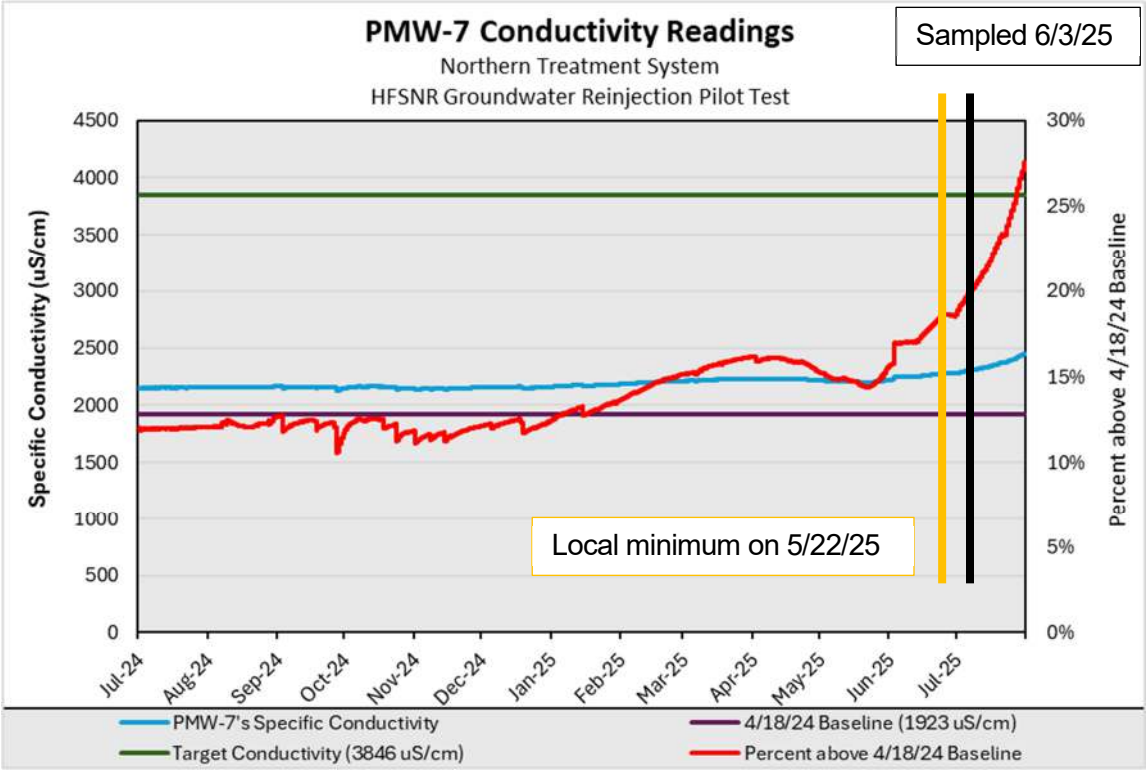
chart presented below illustrates the conductivity rise. Conductivity reached a local minimum of 14% above the April 2024 baseline on May 22, 2025, and then increased to 28% above the April 2024 baseline by July 31, 2025. The June 3, 2025, sampling event occurred less than 2 weeks after the local minimum, which is an explanation of the PMW-7 data not showing any significant difference from the baseline events. The Work Plan specifies collecting samples for laboratory analysis of hydrocarbons and MNA parameters when the 100% specific conductivity increase is achieved.



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5.0 REVIEW OF SYSTEM TRENDS

TRC has recorded injection systems data to quantify the injection quantities (volume injected, pounds of amendment injected), recorded extraction systems data to quantify extraction quantities (PSH and groundwater extracted), and collected in-situ transducer data in wells PMW-1, PMW-2, PMW-7, and PMW-8. As of July 31, 2025, neither the Northern or Southern Treatment System has reached the 100% specific conductivity increase which would trigger additional sampling per the Work Plan. On June 3, 2025, TRC performed groundwater sampling, and the results were similar to baseline, as discussed above. Shortly after the sampling was performed, an increasing trend of conductivity at PMW-7 became apparent in the in-situ transducer. **Attachment E** contains the in-situ transducer data, and **Attachment F** shows volume of amendment injected (based on amendment tank measurements), volume injected (based on totalizer readings), and PSH recovered (based on PSH tote measurements).

Northern Treatment System Injection and Extraction Progress

The three charts provided below present the conductivity readings, injection data, and PSH removal for the Northern Treatment System through July 31, 2025. The specific conductivity at the first downgradient well, PMW-7, is 28% higher than the April 2024 baseline event and the largest monthly increases have occurred in June and July 2025. The specific conductivity trend in PMW-7 shows enough amendment has been injected to overcome the groundwater's buffering capacity and the injection is in the process of making the groundwater suitable for biodegradation. Specific conductivity measured in the next downgradient pilot test well, PMW-8, has not yet demonstrated a rising trend. PMW-8 is located almost triple the distance from IW-2 as PMW-7 is (115 ft vs 43 ft), therefore, more amendment must be injected to see similar effects at monitoring wells further downgradient. The volume injected at the Northern Treatment System is lower than what was anticipated by this point due to lower than anticipated injection flow rates, therefore, amended groundwater needs to be injected longer to achieve the desired results.

As of July 31, 2025, the Northern Treatment System has injected approximately 478,000 gallons of solution containing 22,000 pounds (lbs) of magnesium sulfate amendment. This is an average injection rate of 0.73 gpm and an operation time of approximately 90%. The injection volume is approximately 175% of the porewater volume determined in the Work Plan. Although the lower than expected flow rates and decreasing groundwater elevations have changed the zone influenced by the Northern Treatment System and the porewater volume from what was determined in the Work Plan, the porewater volume estimate will still remain at approximately 270,000 gallons because its changes are anticipated to be less than an order of magnitude. All other variables being equal, the lower pumping rates linearly decrease the radius of influence of the system, but the lower groundwater table increases the radius of influence of the system. In addition, there is limited value in performing additional aquifer testing to determine a new

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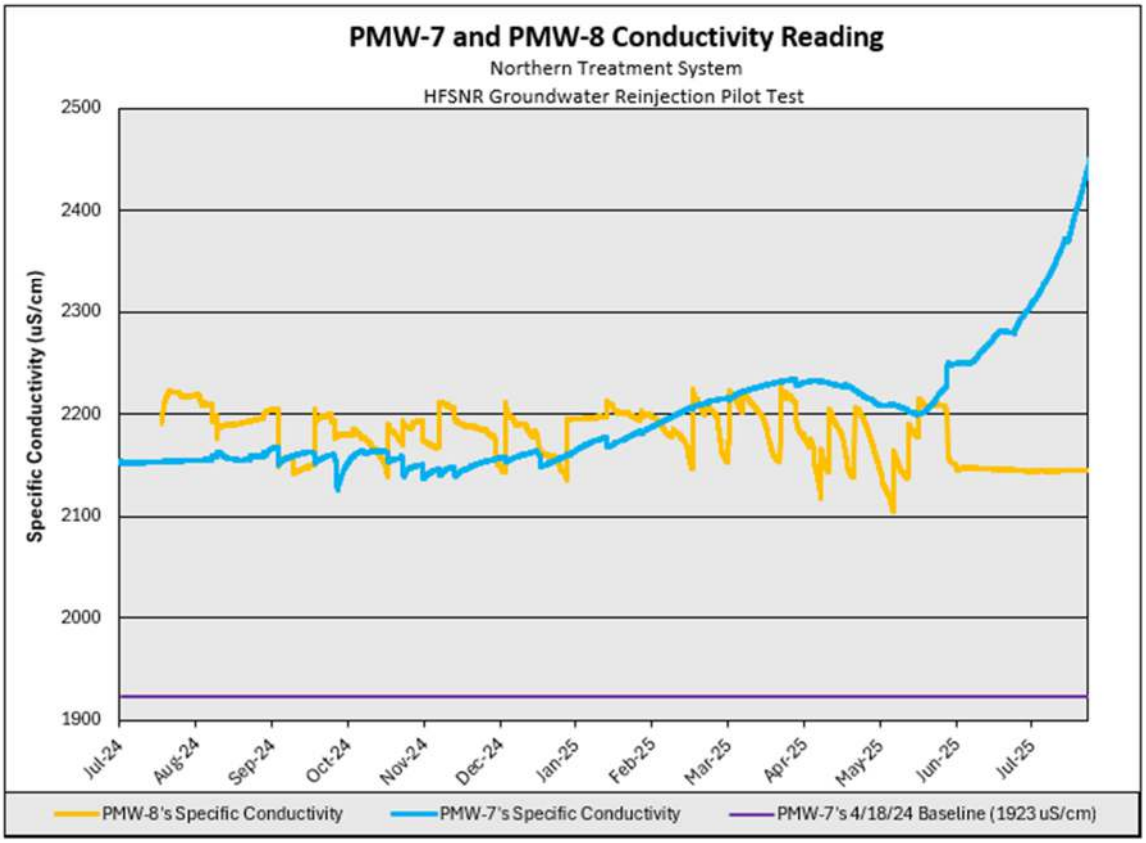
porewater volume, and the focus should remain on ensuring successful operation of the system.

Approximately 6,400 gallons of PSH have been removed from the Northern Treatment System. The extraction pumps were adjusted to maximize PSH extraction and minimize groundwater extraction.



*PMW-8's 4/18/24 Baseline was 1921 uS/cm

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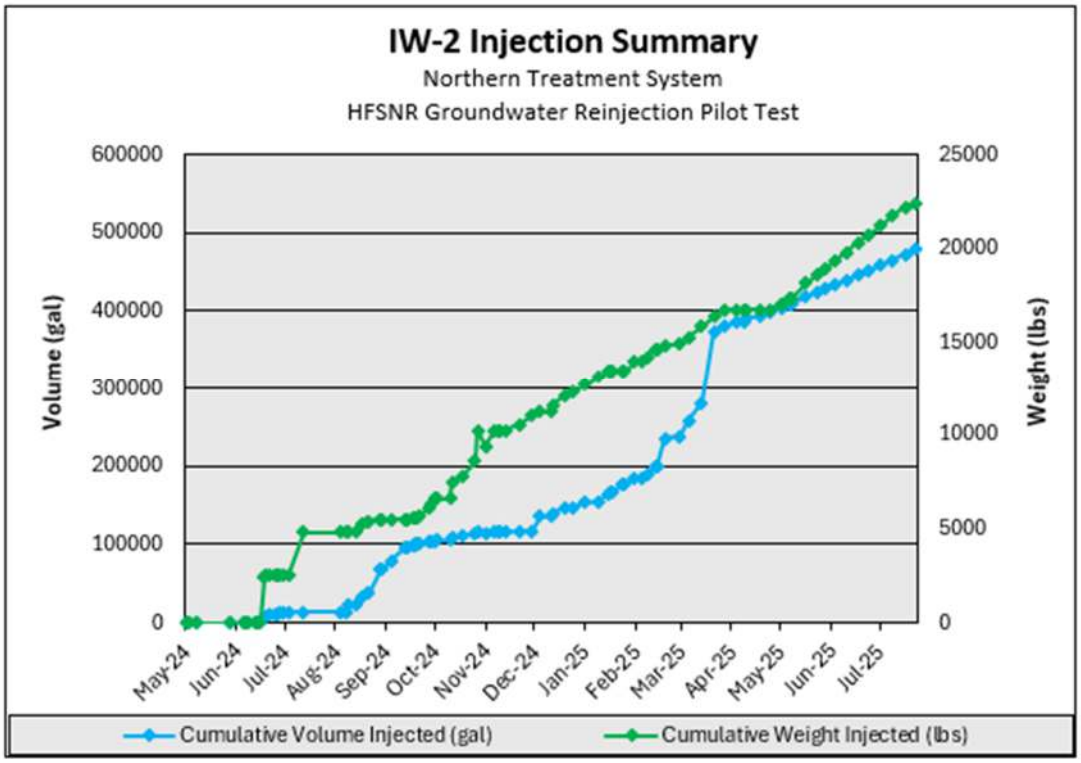
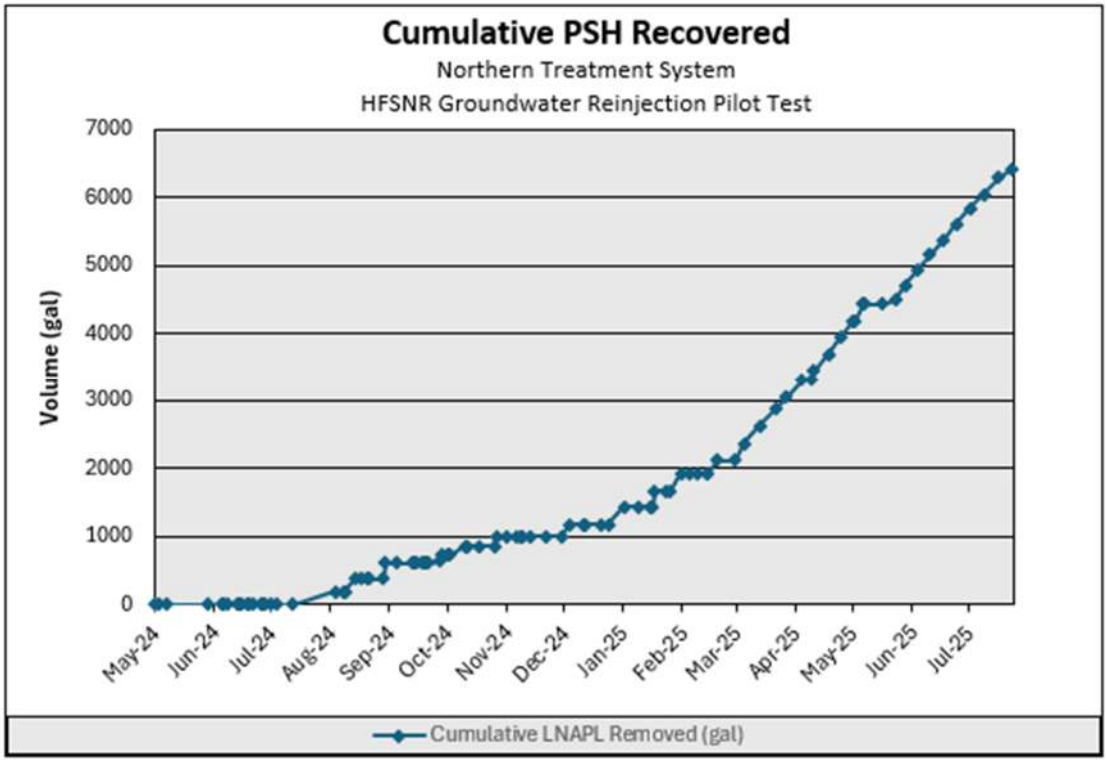


*Volume injected was estimated between 4/24/25 to 7/31/25 due to failure of the northern totalizer's readings



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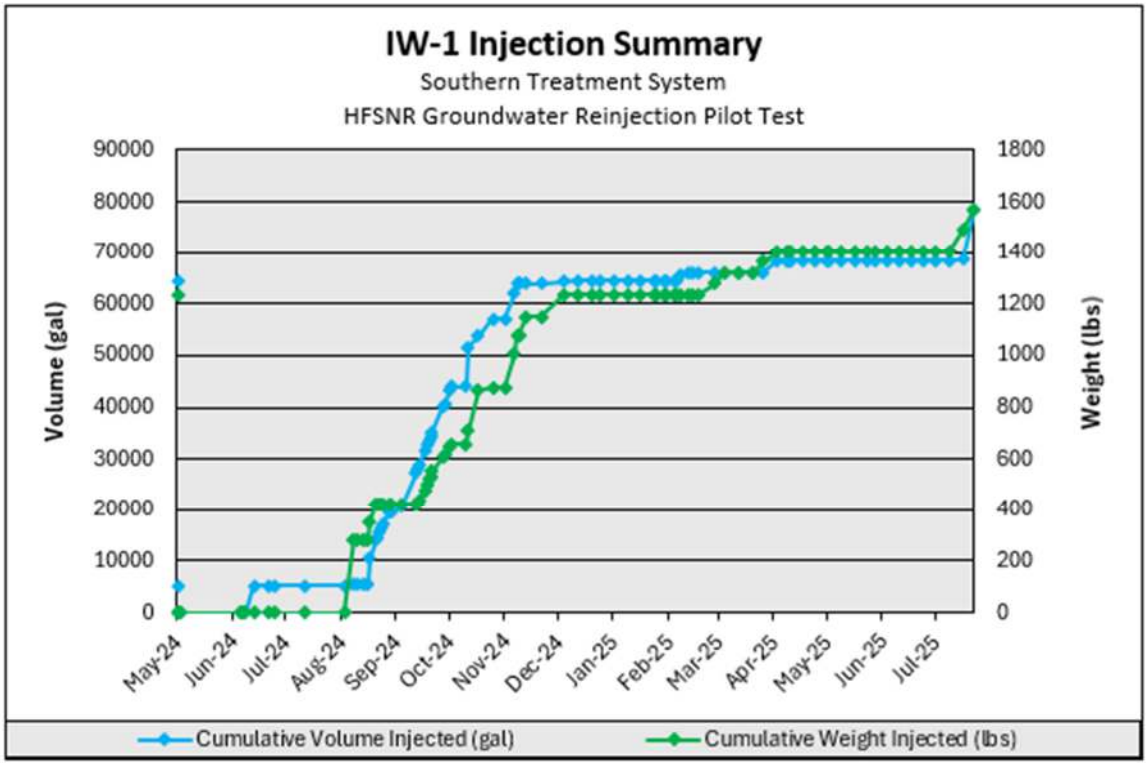
Southern Treatment System Injection and Extraction Progress

Two charts are provided below to summarize the injection data and PSH removal of the Southern Treatment System. The injection rates and volumes have been slower in the Southern Treatment System (average of 0.4 gpm when the Southern Treatment System is operating but only operating 30% of the time since May 7, 2025). A trend of rising specific conductivity has not yet been observed. The Southern Treatment System has injected approximately 78,000 gallons of solution containing 1,600 lbs of amendment. The volume injected is approximately 30% of the porewater volume determined in the Work Plan. Approximately 1,200 gallons of PSH were extracted from the Southern Treatment System. Operation time of the Southern Treatment System has increased significantly after recent modifications made in July 2025.



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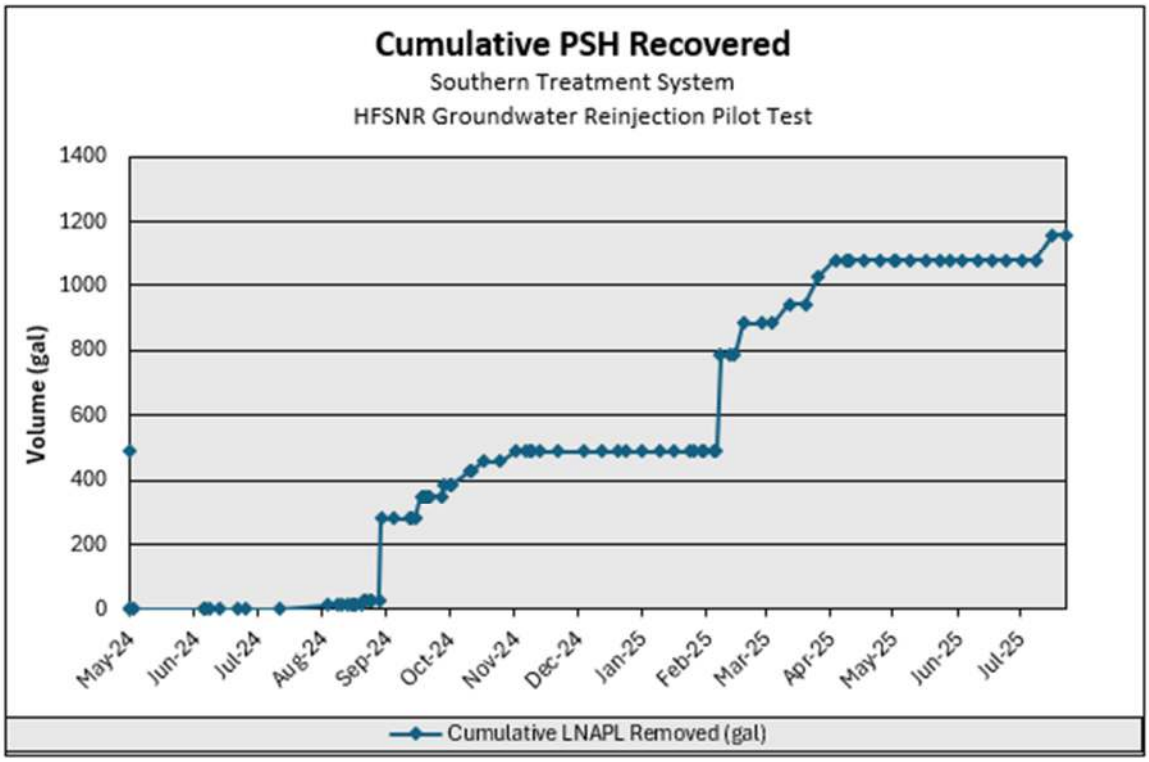
Cumulative PSH Recovered
Southern Treatment System
HFSNR Groundwater Reinjection Pilot Test
Volume (gal)
1400
1200
1000
800
600
400
200
0
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Cumulative LNAPL Removed (gal)

6.0 PATH FORWARD

As previously mentioned, it has taken longer to reach milestones than anticipated by the Work Plan due to it taking several months to balance groundwater extraction and injection flow rates, flow rates having to be lowered to minimize drawdown and mounding, and the Southern Treatment System experiencing fouling issues. The Northern and Southern Treatment Systems are operating well and data collected to date demonstrate enhanced biological activity. TRC continues optimizing the pilot test but demonstrating the efficacy of the pilot test will take longer than expected. It is anticipated that the expected results should be apparent in the first two downgradient monitoring wells (PMW-1, PMW-2, PMW-7, and PMW-8) within the original timeframe of 18 months, or within the first six months of 2026. The following sections provide a summary of supplemental, routine O&M, and Work Plan activities that will be implemented as part of the groundwater reinjection pilot test. The supplemental scope described below is designed to refine our understanding of the degradation mechanisms occurring to further optimize degradation rates.

Supplemental Groundwater Monitoring Activities

While waiting for the increase in conductivity to trigger collection of the monitoring data specified in the Work Plan, supplemental monitoring will be conducted over the next six months in addition to tasks outlined in the Work Plan. The following supplemental monitoring activities will be conducted to evaluate other lines of evidence that demonstrate the groundwater reinjection pilot test is achieving the intended results despite the longer timeframe and to identify specific processes occurring for further optimization of the pilot test:

- Temporal data will be measured within the pilot test wells several times per day using in situ transducers to monitor for increased biological activity which is indicated by increased groundwater temperature.

- Wellhead gases (methane, oxygen, carbon monoxide, carbon dioxide, hydrogen sulfide, and total VOCs) will be measured in the pilot test wells periodically during regularly scheduled O&M events using a 6-gas meter to evaluate for the presence of and/or changes in biogenic gases to demonstrate evidence of biological activity.

- PSH samples will be collected from one background and one pilot test monitoring well in the Northern and Southern Treatment Systems and submitted for fingerprinting and PIANO (n-paraffins, iso-paraffins, aromatics, naphthenes and olefins) analysis to evaluate the PSH composition and extent of weathering evident in each PSH sample.

- Water samples will be collected during three bimonthly events from the first two monitoring wells (downgradient of their respective injection well), influent, and effluent of the Northern and Southern Treatment Systems. In addition to field-measuring MNA parameters, the samples will be submitted for laboratory analysis of VOCs, laboratory

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MNA parameters, and geochemistry parameters. The results will be used to evaluate changes evident in the first two downgradient monitoring wells of each injection well during the reinjection pilot test on a more frequent basis and to identify any factors that may be affecting sulfate utilization.

- Passive Bio-Trap® samples will be collected from an upgradient well, a pilot test monitoring well, and a downgradient monitoring well in the Northern and Southern Treatment Systems and submitted to Microbial Insights for analysis of QuantArray®. The results will be used to identify and quantify contaminant-degrading microorganisms.

Routine O&M Activities

Weekly O&M events comprised of the following activities will be continued:

- Gauge groundwater and PSH levels
- Gauge amendment holding tanks
- Monitor total flow at injection wells, total flow and operation of OWS, and PSH removal
- System maintenance
- Adjust flow rates and amendments as necessary
- Monitor specific conductivity readings from transducers downgradient of each injection well
- Redevelop injection wells, as necessary

Work Plan Activities

The following activities will be conducted in accordance with the original Work Plan schedule:

- Evaluate MNA field and laboratory data to monitor groundwater conditions and adjust the addition of amendments
- Conduct a tracer test
- Initiate quarterly sampling (hydrocarbons, MNA laboratory- and field-measured parameters) when sulfate concentrations are greater than 500 mg/L in samples collected from the monitoring wells between the injection and recovery wells
- Conduct another round of qualitative field screening of SRB and APB using BART™ Hach Tests

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The pilot test monitoring schedule has been revised to reflect the increased time to observe a change in groundwater chemistry because of the lower than anticipated groundwater extraction and injection rates. The revised Monitoring Schedule is presented in **Table 5**.

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7.0 REFERENCES

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Tables

Table 1 - Well Information and Gauging Data
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Northern Treatment System	IW-2	671117.34	525149.57	3360.86	3359.94	3342.46	18.4 to 28.4	2/14/2024	21.56	21.61	3338.37	0.05
								4/18/2024	22.40	22.51	3337.52	0.11
								5/7/2024	22.55	22.65	3337.37	0.10
								5/8/2024	22.56	22.68	3337.36	0.12
								5/9/2024	22.70	22.82	3337.22	0.12
								6/18/2024	22.74	22.87	3337.17	0.13
								6/19/2024	22.78	22.91	3337.13	0.13
								6/20/2024	--	19.30	3340.64	--
								6/21/2024	17.23	17.30	3342.70	0.07
								6/25/2024	19.27	19.40	3340.64	0.13
								7/8/2024	19.30	20.00	3340.50	0.70
								7/18/2024	22.78	23.78	3336.96	1.00
								9/2/2024	13.54	17.45	3345.62	3.91
								9/3/2024	13.54	17.45	3345.62	3.91
								9/10/2024	14.50	19.26	3344.49	4.76
								10/4/2024	6.79	8.55	3352.80	1.76
								10/18/2024	5.58	5.61	3354.35	0.03
								11/8/2024	14.58	14.75	3345.33	0.17
								11/15/2024	22.79	23.58	3336.99	0.79
								11/19/2024	19.05	19.52	3340.80	0.47
								11/27/2024	19.90	20.10	3340.00	0.20
								12/5/2024	12.60	13.09	3347.24	0.49
								12/10/2024	16.46	16.80	3343.41	0.34
								12/18/2024	--	5.96	3353.98	--
								12/26/2024	7.40	12.28	3351.56	4.88
								12/30/2024	8.90	9.59	3350.90	0.69
								1/7/2025	10.15	11.38	3349.54	1.23
								1/15/2025	--	6.19	3353.75	--
								1/22/2025	23.10	24.65	3336.53	1.55
								1/29/2025	6.34	9.20	3353.03	2.86
								2/6/2025	--	8.21	3351.73	--
								2/14/2025	--	10.25	3349.69	--
								2/19/2025	9.12	10.05	3350.63	0.93
								2/25/2025	9.35	10.01	3350.46	0.66
								3/6/2025	13.02	14.85	3346.55	1.83
								3/11/2025	10.12	11.01	3349.64	0.89
								3/19/2025	9.30	10.05	3350.49	0.75
								3/27/2025	--	11.13	3348.81	--
								4/2/2025	7.95	12.89	3351.00	4.94
								4/10/2025	23.70	23.81	3336.22	0.11
								4/16/2025	9.30	10.00	3350.50	0.70
								4/24/2025	23.40	23.71	3336.48	0.31
								4/30/2025	--	23.12	3336.82	--
								5/7/2025	--	24.08	3335.86	--
								5/12/2025	8.00	11.40	3351.26	3.40
								5/22/2025	--	12.45	3347.49	--
								5/29/2025	7.89	8.13	3352.00	0.24
								6/3/2025	--	6.04	3353.90	--
								6/10/2025	--	11.65	3348.29	--
								6/16/2025	--	9.89	3350.05	--
								6/23/2025	13.20	16.70	3346.04	3.50
								6/30/2025	--	11.60	3348.34	--
								7/7/2025	--	13.76	3346.18	--
								7/14/2025	--	9.65	3350.29	--
								7/22/2025	--	12.89	3347.05	--
								7/29/2025	--	11.68	3348.26	--
	MW-66	671247.57	524560.06	3363.66	3363.46	3349.06	14.6 to 29.6	11/18/2020	--	20.30	3343.16	--
								12/14/2020	--	20.43	3343.03	--
								1/26/2024	22.98	23.00	3340.48	0.02
								2/14/2024	18.65	18.84	3344.77	0.19
								4/18/2024	19.40	19.57	3344.03	0.17
								5/7/2024	19.51	19.69	3343.91	0.18
								5/8/2024	19.56	19.73	3343.87	0.17
								5/9/2024	19.58	19.76	3343.84	0.18
								6/18/2024	19.85	20.01	3343.58	0.16
								6/19/2024	19.90	20.07	3343.53	0.17
								6/20/2024	19.95	20.14	3343.47	0.19
								6/21/2024	19.93	20.10	3343.50	0.17
								6/25/2024	19.89	20.08	3343.53	0.19
								6/3/2025	20.89	21.05	3342.54	0.16
	MW-99	671652.52	524579.74	3365.11	3364.51	3353.11	12 to 27	11/18/2020	20.95	22.57	3343.24	1.62
								12/15/2020	20.77	22.66	3343.36	1.89
								1/26/2024	19.23	19.86	3345.15	0.63
								2/14/2024	19.37	20.01	3345.01	0.64
								4/18/2024	20.06	20.73	3344.32	0.67
								5/7/2024	20.15	20.82	3344.23	0.67
								5/8/2024	20.20	20.86	3344.18	0.66
								5/9/2024	19.25	19.92	3345.13	0.67
								6/18/2024	20.50	21.22	3343.87	0.72
								6/19/2024	20.56	21.25	3343.81	0.69
								6/20/2024	20.60	21.38	3343.75	0.78
								6/21/2024	20.51	21.29	3343.84	0.78
								6/25/2024	20.50	21.32	3343.85	0.82
								6/3/2025	21.44	22.80	3342.80	1.36
	MW-112	670890.64	526198.73	3355.38	3358.38	3330.38	25 to 35	11/18/2020	23.60	25.90	3334.32	2.30
								12/15/2020	23.82	26.83	3333.96	3.01
								1/26/2024	23.05	24.38	3335.06	1.33
								2/14/2024	23.24	24.62	3334.86	1.38
								4/18/2024	24.17	25.88	3333.87	1.71
								5/7/2024	24.05	25.58	3334.02	1.53
								5/8/2024	24.06	25.59	3334.01	1.53
								5/9/2024	24.16	25.71	3333.91	1.55
								6/18/2024	24.10	25.59	3333.98	1.49
								6/19/2024	24.14	25.62	3333.94	1.48
								6/20/2024	24.18	25.60	3333.92	1.42
								6/21/2024	24.16	25.58	3333.94	1.42
								6/25/2024	24.12	25.55	3333.97	1.43
								6/3/2025	25.65	27.80	3332.30	2.15
	MW-129	671184.95	524876.21	3363.10	3364.38	3343.10	20 to 50	11/18/2020	23.89	25.05	3340.26	1.16
								12/14/2020	24.03	25.25	3340.11	1.22
								2/14/2024	23.10	23.13	3341.27	0.03
								4/18/2024	23.87	24.32	3340.42	0.45
								5/7/2024	24.01	24.48	3340.28	0.47
								5/8/2024	24.05	24.56	3340.23	0.51

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Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Northern Treatment System	MW-129	671184.95	524876.21	3363.10	3364.38	3343.10	20 to 50	5/9/2024	24.07	24.55	3340.21	0.48
								6/18/2024	24.26	24.78	3340.02	0.52
								6/19/2024	24.29	24.82	3339.98	0.53
								6/20/2024	24.32	24.88	3339.95	0.56
								6/21/2024	24.29	24.80	3339.99	0.51
								6/25/2024	24.30	24.79	3339.98	0.49
								6/3/2025	25.55	25.91	3338.76	0.36
	MW-131	671104.83	525228.77	3360.40	3363.49	3340.40	20 to 50	4/1/2020	--	25.85	3337.64	--
								10/1/2020	25.95	27.58	3337.21	1.63
								11/18/2020	26.16	27.92	3336.98	1.76
								4/1/2021	27.31	29.35	3335.77	2.04
								10/1/2021	26.05	27.25	3337.20	1.20
								4/1/2022	26.54	28.09	3336.64	1.55
								10/1/2022	25.83	26.65	3337.50	0.82
								4/1/2023	25.64	26.55	3337.67	0.91
								10/1/2023	24.40	24.91	3338.99	0.51
								1/26/2024	25.29	26.10	3338.04	0.81
								2/14/2024	25.45	26.29	3337.87	0.84
								4/18/2024	26.33	27.32	3336.96	0.99
								5/7/2024	26.45	27.61	3336.81	1.16
								5/8/2024	26.48	27.65	3336.78	1.17
								5/9/2024	26.48	27.64	3336.78	1.16
								6/18/2024	26.57	27.93	3336.65	1.36
								6/19/2024	26.59	27.93	3336.63	1.34
								6/20/2024	26.59	27.89	3336.64	1.30
								6/21/2024	26.53	27.84	3336.70	1.31
								6/25/2024	26.55	27.86	3336.68	1.31
								9/26/2024	26.77	28.10	3336.45	1.33
								10/4/2024	26.78	28.04	3336.46	1.26
								10/18/2024	26.70	27.81	3336.57	1.11
								11/8/2024	26.74	27.71	3336.56	0.97
								11/15/2024	26.80	27.93	3336.46	1.13
								11/19/2024	26.79	28.01	3336.46	1.22
								11/27/2024	26.65	27.80	3336.61	1.15
								12/5/2024	26.83	28.21	3336.38	1.38
								12/10/2024	26.73	27.80	3336.55	1.07
								12/18/2024	26.90	28.27	3336.32	1.37
								12/26/2024	26.87	28.25	3336.34	1.38
								12/30/2024	26.98	28.30	3336.25	1.32
								1/7/2025	26.93	28.28	3336.29	1.35
								1/15/2025	27.18	28.37	3336.07	1.19
								1/22/2025	27.15	28.30	3336.11	1.15
								1/29/2025	27.28	28.56	3335.95	1.28
								2/6/2025	27.35	29.10	3335.79	1.75
								2/14/2025	27.31	29.05	3335.83	1.74
								2/19/2025	27.45	28.96	3335.74	1.51
								2/25/2025	27.48	29.01	3335.70	1.53
								3/6/2025	27.72	28.35	3335.64	0.63
								3/11/2025	27.41	28.92	3335.78	1.51
								3/19/2025	27.70	28.36	3335.66	0.66
								3/27/2025	27.72	28.30	3335.65	0.58
								4/2/2025	27.65	29.53	3335.46	1.88
								4/10/2025	27.76	29.55	3335.37	1.79
								4/16/2025	27.51	29.01	3335.68	1.50
								4/24/2025	27.65	29.53	3335.46	1.88
								4/30/2025	27.85	29.63	3335.28	1.78
								5/7/2025	27.81	29.78	3335.29	1.97
								5/12/2025	27.70	29.68	3335.39	1.98
								5/22/2025	27.82	29.76	3335.28	1.94
								5/29/2025	27.80	29.70	3335.31	1.90
								6/3/2025	27.78	29.86	3335.29	2.08
								6/10/2025	27.81	29.78	3335.29	1.97
								6/16/2025	27.80	29.79	3335.29	1.99
								6/23/2025	27.70	29.75	3335.38	2.05
								6/30/2025	27.75	29.77	3335.34	2.02
								7/7/2025	27.73	29.80	3335.35	2.07
								7/14/2025	27.71	29.70	3335.38	1.99
								7/22/2025	27.70	29.70	3335.39	2.00
								7/29/2025	27.90	29.86	3335.20	1.96
	PMW-6	671128.99	525069.43	3361.22	3364.14	3341.22	20 to 30	1/26/2024	--	25.22	3338.92	--
								2/14/2024	--	25.39	3338.75	--
								4/18/2024	--	26.29	3337.85	--
								5/7/2024	--	26.39	3337.75	--
								5/8/2024	--	26.44	3337.70	--
								5/9/2024	26.48	26.44	3337.73	0.04
								6/18/2024	--	26.62	3337.52	--
								6/19/2024	--	26.66	3337.48	--
								6/20/2024	--	26.65	3337.49	--
								6/21/2024	--	26.51	3337.63	--
								6/25/2024	--	26.53	3337.61	--
								6/3/2025	27.42	29.73	3336.26	2.31
	PMW-7	671111.12	525190.55	3360.76	3363.64	3340.76	20 to 30	1/26/2024	--	25.18	3338.46	--
								2/14/2024	--	25.34	3338.30	--
								4/18/2024	--	26.24	3337.40	--
								5/7/2024	--	26.38	3337.26	--
								5/8/2024	--	26.40	3337.24	--
								5/9/2024	--	26.41	3337.23	--
								6/18/2024	--	26.55	3337.09	--
								6/19/2024	--	26.58	3337.06	--
								6/20/2024	--	26.50	3337.14	--
								6/21/2024	--	26.35	3337.29	--
								6/25/2024	--	26.41	3337.23	--
								9/2/2024	--	26.60	3337.04	--
								9/3/2024	--	26.60	3337.04	--
								9/26/2024	--	26.78	3336.86	--
								10/4/2024	--	26.62	3337.02	--
								10/18/2024	--	26.53	3337.11	--
								11/8/2024	--	26.75	3336.89	--
								11/15/2024	--	26.91	3336.73	--
								11/19/2024	--	26.72	3336.92	--
								11/27/2024	--	26.51	3337.13	--
								12/5/2024	--	26.88	3336.76	--
								12/10/2024	--	26.71	3336.93	--
								12/18/2024	--	26.96	3336.68	--

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Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Northern Treatment System	PMW-7	671111.12	525190.55	3360.76	3363.64	3340.76	20 to 30	12/26/2024	--	26.87	3336.77	--
								12/30/2024	--	26.96	3336.68	--
								1/7/2025	--	27.05	3336.59	--
								1/15/2025	--	27.19	3336.45	--
								1/22/2025	--	27.15	3336.49	--
								1/29/2025	--	27.34	3336.30	--
								2/6/2025	--	27.35	3336.29	--
								2/14/2025	--	28.15	3335.49	--
								2/19/2025	--	27.55	3336.09	--
								2/25/2025	--	27.48	3336.16	--
								3/6/2025	--	27.68	3335.96	--
								3/11/2025	--	27.51	3336.13	--
								3/19/2025	--	27.65	3335.99	--
								3/27/2025	--	28.69	3334.95	--
								4/2/2025	--	27.85	3335.79	--
								4/10/2025	--	27.90	3335.74	--
								4/16/2025	--	28.50	3335.14	--
								4/24/2025	--	27.80	3335.84	--
								4/30/2025	--	27.61	3336.03	--
								5/7/2025	--	28.04	3335.60	--
								5/12/2025	--	27.95	3335.69	--
								5/22/2025	--	27.90	3335.74	--
								5/29/2025	--	27.75	3335.89	--
								6/3/2025	--	27.87	3335.77	--
								6/10/2025	--	27.72	3335.92	--
								6/16/2025	--	27.85	3335.79	--
								6/23/2025	--	27.70	3335.94	--
								6/30/2025	--	27.80	3335.84	--
								7/7/2025	--	27.85	3335.79	--
								7/14/2025	--	27.70	3335.94	--
								7/22/2025	--	27.71	3335.93	--
								7/29/2025	--	27.90	3335.74	--
	PMW-8	671101.97	525266.76	3360.37	3363.35	3340.37	20 to 30	1/26/2024	25.25	25.26	3338.10	0.01
								2/14/2024	25.42	25.43	3337.93	0.01
								4/18/2024	26.34	26.35	3337.01	0.01
								5/7/2024	26.53	26.62	3336.80	0.09
								5/8/2024	26.51	26.55	3336.83	0.04
								5/9/2024	26.52	26.58	3336.82	0.06
								6/18/2024	26.65	26.72	3336.69	0.07
								6/19/2024	26.66	26.75	3336.67	0.09
								6/20/2024	26.69	26.79	3336.64	0.10
								6/21/2024	26.68	26.78	3336.65	0.10
								6/25/2024	26.68	26.79	3336.65	0.11
								7/18/2024	27.05	27.20	3336.27	0.15
								8/28/2024	27.21	27.37	3336.11	0.16
								9/2/2024	26.94	27.08	3336.38	0.14
								9/3/2024	26.94	27.08	3336.38	0.14
								9/26/2024	26.81	28.15	3336.27	1.34
								10/4/2024	26.73	27.85	3336.40	1.12
								10/18/2024	26.70	28.15	3336.36	1.45
								11/8/2024	26.63	28.01	3336.44	1.38
								11/15/2024	26.70	28.08	3336.37	1.38
								11/19/2024	26.69	27.86	3336.43	1.17
								11/27/2024	26.65	27.80	3336.47	1.15
								12/5/2024	26.84	28.25	3336.23	1.41
								12/10/2024	26.60	28.05	3336.46	1.45
								12/18/2024	26.95	28.41	3336.11	1.46
								12/26/2024	27.01	28.59	3336.02	1.58
								12/30/2024	26.94	28.76	3336.05	1.82
								1/7/2025	26.97	28.72	3336.03	1.75
								1/15/2025	27.15	28.95	3335.84	1.80
								1/22/2025	27.05	28.81	3335.95	1.76
								1/29/2025	27.25	29.09	3335.73	1.84
								2/6/2025	27.30	29.31	3335.65	2.01
								2/14/2025	27.20	28.69	3335.85	1.49
								2/19/2025	27.45	28.96	3335.60	1.51
								2/25/2025	27.40	29.41	3335.55	2.01
								3/6/2025	27.30	28.84	3335.74	1.54
								3/11/2025	27.45	29.40	3335.51	1.95
								3/19/2025	27.30	28.80	3335.75	1.50
								3/27/2025	27.64	29.79	3335.28	2.15
								4/2/2025	27.65	29.91	3335.25	2.26
								4/10/2025	27.71	29.56	3335.27	1.85
								4/16/2025	27.40	29.41	3335.55	2.01
								4/24/2025	27.60	29.81	3335.31	2.21
								4/30/2025	27.65	29.80	3335.27	2.15
								5/7/2025	27.63	29.75	3335.30	2.12
								5/12/2025	27.60	29.65	3335.34	2.05
								5/22/2025	27.62	29.81	3335.29	2.19
								5/29/2025	27.65	29.93	3335.24	2.28
								6/3/2025	27.60	29.85	3335.30	2.25
								6/10/2025	27.63	29.95	3335.26	2.32
								6/16/2025	27.62	29.89	3335.28	2.27
								6/23/2025	27.58	29.91	3335.30	2.33
								6/30/2025	27.58	29.77	3335.33	2.19
								7/7/2025	27.70	29.82	3335.23	2.12
								7/14/2025	27.60	29.75	3335.32	2.15
								7/22/2025	27.61	29.70	3335.32	2.09
								7/29/2025	27.89	29.81	3335.08	1.92
	PMW-9	671096.51	525307.78	3360.25	3363.14	3340.25	20 to 30	1/26/2024	25.18	25.56	3337.88	0.38
								2/14/2024	25.34	25.73	3337.72	0.39
								4/18/2024	26.29	26.70	3336.77	0.41
								5/7/2024	26.55	26.98	3336.50	0.43
								5/8/2024	26.47	26.80	3336.60	0.33
								5/9/2024	26.47	26.80	3336.60	0.33
								6/18/2024	26.48	26.92	3336.57	0.44
								6/19/2024	26.62	26.95	3336.45	0.33
								6/20/2024	26.72	27.07	3336.35	0.35
								6/21/2024	26.76	27.12	3336.31	0.36
								6/25/2024	26.72	27.09	3336.35	0.37
								8/28/2024	26.91	28.35	3335.94	1.44
								9/2/2024	26.79	28.41	3336.03	1.62
								9/3/2024	26.79	28.41	3336.03	1.62
								9/26/2024	26.85	28.64	3335.93	1.79

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Table 1 - Well Information and Gauging Data
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Northern Treatment System	PMW-9	671096.51	525307.78	3360.25	3363.14	3340.25	20 to 30	10/4/2024	26.77	28.44	3336.04	1.67
								10/18/2024	26.69	28.35	3336.12	1.66
								11/8/2024	26.64	28.50	3336.13	1.86
								11/15/2024	26.67	28.51	3336.10	1.84
								11/19/2024	26.60	28.29	3336.20	1.69
								11/27/2024	26.69	28.00	3336.19	1.31
								12/5/2024	26.88	28.69	3335.90	1.81
								12/10/2024	26.62	28.41	3336.16	1.79
								12/18/2024	27.03	28.79	3335.76	1.76
								12/26/2024	26.98	28.69	3335.82	1.71
								12/30/2024	27.12	28.90	3335.66	1.78
								1/7/2025	27.15	28.98	3335.62	1.83
								1/15/2025	27.34	29.05	3335.46	1.71
								1/22/2025	27.25	28.94	3335.55	1.69
								1/29/2025	27.44	29.21	3335.35	1.77
								2/6/2025	27.30	29.31	3335.44	2.01
								2/14/2025	27.35	29.30	3335.40	1.95
								2/19/2025	28.68	29.39	3334.32	0.71
								2/25/2025	28.68	29.28	3334.34	0.60
								3/6/2025	27.40	29.31	3335.36	1.91
								3/11/2025	28.61	29.30	3334.39	0.69
								3/19/2025	27.41	29.35	3335.34	1.94
								3/27/2025	27.89	29.75	3334.88	1.86
								4/2/2025	27.88	29.82	3334.87	1.94
								4/10/2025	27.91	29.81	3334.85	1.90
								4/16/2025	27.81	29.75	3334.94	1.94
								4/24/2025	27.98	29.80	3334.80	1.82
								4/30/2025	28.01	29.81	3334.77	1.80
								5/7/2025	27.74	29.63	3335.02	1.89
								5/12/2025	27.75	29.55	3335.03	1.80
								5/22/2025	27.74	29.81	3334.99	2.07
								5/29/2025	27.86	29.84	3334.88	1.98
								6/3/2025	27.77	29.70	3334.98	1.93
								6/10/2025	27.85	29.84	3334.89	1.99
								6/16/2025	27.80	29.81	3334.94	2.01
								6/23/2025	27.80	28.90	3335.12	1.10
								6/30/2025	27.68	29.69	3335.06	2.01
								7/7/2025	27.72	29.78	3335.01	2.06
								7/14/2025	27.80	29.81	3334.94	2.01
								7/22/2025	27.83	29.84	3334.91	2.01
								7/29/2025	27.48	29.45	3335.27	1.97
	PMW-10	671085.04	525396.29	3360.08	3362.90	3340.08	20 to 30	1/26/2024	25.46	25.47	3337.44	0.01
								2/14/2024	25.68	25.69	3337.22	0.01
								4/18/2024	26.60	26.62	3336.30	0.02
								5/7/2024	26.85	26.86	3336.05	0.01
								5/8/2024	26.74	26.75	3336.16	0.01
								5/9/2024	26.74	26.75	3336.16	0.01
								6/18/2024	26.85	26.86	3336.05	0.01
								6/19/2024	26.89	26.90	3336.01	0.01
								6/20/2024	--	26.92	3335.98	--
								6/21/2024	27.05	27.06	3335.85	0.01
								6/25/2024	27.00	27.01	3335.90	0.01
								9/26/2024	--	27.54	3335.36	--
								10/4/2024	--	27.33	3335.57	--
								10/18/2024	--	27.20	3335.70	--
								11/8/2024	--	27.23	3335.67	--
								11/15/2024	--	27.26	3335.64	--
								11/19/2024	--	27.14	3335.76	--
								11/27/2024	--	27.55	3335.35	--
								12/5/2024	--	27.53	3335.37	--
								12/10/2024	--	27.25	3335.65	--
								12/18/2024	--	27.70	3335.20	--
								12/26/2024	--	27.71	3335.19	--
								12/30/2024	--	27.83	3335.07	--
								1/7/2025	--	27.55	3335.35	--
								1/15/2025	--	28.02	3334.88	--
								1/22/2025	--	27.62	3335.28	--
								1/29/2025	--	28.15	3334.75	--
								2/6/2025	--	28.13	3334.77	--
								2/14/2025	--	28.20	3334.70	--
								2/19/2025	--	28.34	3334.56	--
								2/25/2025	--	28.21	3334.69	--
								3/6/2025	--	28.40	3334.50	--
								3/11/2025	--	28.35	3334.55	--
								3/19/2025	--	28.53	3334.37	--
								3/27/2025	--	28.54	3334.36	--
								4/2/2025	--	28.60	3334.30	--
								4/10/2025	--	28.55	3334.35	--
								4/16/2025	--	28.72	3334.18	--
								4/24/2025	--	28.30	3334.60	--
								4/30/2025	--	28.80	3334.10	--
								5/7/2025	--	28.39	3334.51	--
								5/12/2025	--	28.29	3334.61	--
								5/22/2025	--	28.41	3334.49	--
								5/29/2025	--	28.53	3334.37	--
								6/3/2025	--	28.40	3334.50	--
								6/10/2025	--	28.52	3334.38	--
								6/16/2025	--	28.46	3334.44	--
								6/23/2025	28.47	28.51	3334.42	0.04
								6/30/2025	--	28.30	3334.60	--
								7/7/2025	--	28.39	3334.51	--
								7/14/2025	--	28.38	3334.52	--
								7/22/2025	--	28.40	3334.50	--
								7/29/2025	--	28.16	3334.74	--
	PMW-11	671060.75	525581.10	3359.05	3361.94	3339.05	20 to 30	1/26/2024	25.00	25.79	3336.78	0.79
								2/14/2024	25.16	26.15	3336.58	0.99
								4/18/2024	26.07	27.10	3335.66	1.03
								5/7/2024	26.12	27.64	3335.52	1.52
								5/8/2024	26.09	27.02	3335.66	0.93
								5/9/2024	26.10	27.68	3335.52	1.58
								6/18/2024	26.19	27.76	3335.44	1.57
								6/19/2024	26.22	27.83	3335.40	1.61
								6/20/2024	26.23	27.88	3335.38	1.65
								6/21/2024	26.25	27.83	3335.37	1.58

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Groundwater Reinjection Pilot Test - Status Report IV
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Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Northern Treatment System	PMW-11	671060.7474	525581.1001	3359.05	3361.94	3339.05	20 to 30	6/25/2024	26.21	27.80	3335.41	1.59
								6/3/2025	27.62	29.58	3333.93	1.96
	RW-24	671089.61	525352.70	3360.30	3362.38	3345.30	15 to 30	2/14/2024	24.74	25.60	3337.47	0.86
								2/26/2024	24.95	25.79	3337.26	0.84
								4/18/2024	25.83	26.16	3336.48	0.33
								5/7/2024	30.01	31.42	3332.09	1.41
								5/8/2024	26.06	26.12	3336.31	0.06
								5/9/2024	26.08	26.22	3336.27	0.14
								6/18/2024	26.12	26.30	3336.22	0.18
								6/19/2024	--	26.19	3336.19	--
								6/24/2024	24.95	25.78	3337.26	0.83
								7/8/2024	26.95	32.45	3334.33	5.50
								7/18/2024	26.05	27.40	3336.06	1.35
								9/2/2024	29.18	31.62	3332.71	2.44
								9/3/2024	29.18	31.62	3332.71	2.44
								9/10/2024	28.76	30.14	3333.34	1.38
								9/26/2024	29.00	32.04	3332.77	3.04
								10/4/2024	28.81	33.45	3332.64	4.64
								10/18/2024	28.59	33.58	3332.79	4.99
								11/8/2024	28.61	31.11	3333.27	2.50
								11/15/2024	26.51	31.81	3334.81	5.30
								11/19/2024	26.29	34.35	3334.48	8.06
								11/27/2024	28.45	33.40	3332.94	4.95
								12/5/2024	29.10	34.38	3332.22	5.28
								12/10/2024	28.85	33.18	3332.66	4.33
								12/18/2024	29.91	30.02	3332.45	0.11
								12/26/2024	29.40	34.00	3332.06	4.60
								12/30/2024	29.42	34.20	3332.00	4.78
								1/7/2025	29.80	33.69	3331.80	3.89
								1/15/2025	29.23	34.03	3332.19	4.80
								1/16/2025	29.23	34.03	3332.19	4.80
								1/22/2025	29.40	33.59	3332.14	4.19
								1/29/2025	29.38	34.30	3332.02	4.92
								2/6/2025	29.31	34.25	3332.08	4.94
								2/14/2025	28.40	28.85	3333.89	0.45
								2/19/2025	29.81	30.01	3332.53	0.20
								2/25/2025	29.55	33.05	3332.13	3.50
								3/6/2025	29.75	32.15	3332.15	2.40
								3/11/2025	29.80	30.10	3332.52	0.30
								3/19/2025	30.30	33.80	3331.38	3.50
								3/27/2025	30.40	33.10	3331.44	2.70
								4/2/2025	30.60	34.01	3331.10	3.41
								4/10/2025	27.45	27.80	3334.86	0.35
								4/16/2025	30.70	33.95	3331.03	3.25
								4/24/2025	27.31	28.80	3334.77	1.49
								4/30/2025	29.30	30.90	3332.76	1.60
								5/7/2025	--	28.39	3333.99	--
								5/12/2025	33.60	33.90	3328.72	0.30
								5/22/2025	31.35	33.70	3330.56	2.35
								5/29/2025	32.64	34.05	3329.46	1.41
								6/3/2025	32.35	34.10	3329.68	1.75
								6/10/2025	--	30.04	3332.34	--
								6/16/2025	32.60	34.02	3329.50	1.42
								6/23/2025	33.64	34.00	3328.67	0.36
								6/30/2025	34.01	34.15	3328.34	0.14
								7/7/2025	33.80	34.00	3328.54	0.20
								7/14/2025	34.00	34.15	3328.35	0.15
								7/22/2025	33.90	34.01	3328.46	0.11
								7/29/2025	34.06	34.10	3328.31	0.04
Southern Treatment System	IW-1	670641.58	524640.28	3366.24	3365.32	3348.74	17.5 to 27.5	2/14/2024	21.75	23.52	3343.22	1.77
								4/18/2024	22.34	24.49	3342.55	2.15
								5/7/2024	22.45	24.68	3342.42	2.23
								5/8/2024	22.56	24.79	3342.31	2.23
								5/9/2024	22.76	22.80	3342.55	0.04
								6/18/2024	23.12	23.65	3342.09	0.53
								6/19/2024	23.19	4.75	3375.32	18.44
								6/20/2024	23.18	23.50	3342.08	0.32
								6/21/2024	23.14	23.53	3342.10	0.39
								6/24/2024	23.11	23.58	3342.12	0.47
								7/18/2024	23.73	23.80	3341.58	0.07
								8/14/2024	19.07	19.10	3346.24	0.03
								9/2/2024	16.13	16.43	3349.13	0.30
								9/3/2024	16.13	16.43	3349.13	0.30
								9/10/2024	7.19	7.25	3358.12	0.06
								10/1/2024	9.10	10.05	3356.03	0.95
								10/4/2024	9.10	10.05	3356.03	0.95
								10/18/2024	6.25	7.10	3358.90	0.85
								11/8/2024	6.35	7.06	3358.83	0.71
								11/15/2024	0.00	0.00	3365.32	0.00
								11/19/2024	--	23.55	3341.77	--
								12/10/2024	--	20.15	3345.17	--
								12/18/2024	--	10.05	3355.27	--
								2/5/2025	--	17.21	3348.11	--
								2/13/2025	6.65	6.80	3358.64	0.15
								2/18/2025	3.61	4.19	3361.59	0.58
								2/24/2025	--	13.58	3351.74	--
								3/5/2025	--	7.40	3357.92	--
								3/10/2025	--	6.42	3358.90	--
								3/18/2025	--	6.45	3358.87	--
								3/26/2025	--	5.95	3359.37	--
								4/1/2025	--	6.98	3358.34	--
								4/9/2025	--	0.00	3365.32	--
								7/22/2025	--	7.41	3357.91	--
								7/28/2025	--	7.90	3357.42	--
	KWB-4	670616.38	524572.44	3368.36	3370.25	3348.36	20 to 39	11/18/2020	27.19	29.49	3342.60	2.30
								1/26/2024	25.75	28.16	3344.02	2.41
								2/13/2024	25.82	28.36	3343.92	2.54
								4/18/2024	26.37	29.19	3343.32	2.82
								5/7/2024	26.53	29.36	3343.15	2.83
								5/8/2024	26.53	29.37	3343.15	2.84
								5/9/2024	26.45	29.21	3343.25	2.76
								6/18/2024	26.74	29.60	3342.94	2.86
								6/19/2024	26.80	29.68	3342.87	2.88
								6/20/2024	26.82	29.69	3342.86	2.87

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Table 1 - Well Information and Gauging Data
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Southern Treatment System	KWB-4	670616.38	524572.44	3368.36	3370.25	3348.36	20 to 39	6/21/2024	26.77	29.65	3342.90	2.88
								6/24/2024	26.77	29.62	3342.91	2.85
								6/3/2025	27.85	30.97	3341.78	3.12
	KWB-5	670729.55	525244.51	3362.60	3364.72	3337.90	24.7 to 38.7	11/18/2020	26.22	28.27	3338.09	2.05
								1/26/2024	25.38	26.64	3339.09	1.26
								2/13/2024	25.48	26.73	3338.99	1.25
								4/18/2024	26.16	28.02	3338.19	1.86
								5/7/2024	26.31	28.26	3338.02	1.95
								5/8/2024	26.32	28.26	3338.01	1.94
								5/9/2024	26.38	28.33	3337.95	1.95
								6/18/2024	26.45	28.33	3337.89	1.88
								6/19/2024	26.49	28.37	3337.85	1.88
								6/20/2024	26.50	28.37	3337.85	1.87
								6/21/2024	26.49	28.33	3337.86	1.84
								6/24/2024	26.47	28.37	3337.87	1.90
								6/3/2025	27.81	29.81	3336.51	2.00
	MW-48	670689.39	524080.35	3363.04	3362.97	Unknown	Unknown	11/18/2020	21.60	21.75	3341.34	0.15
								1/26/2024	19.97	20.38	3342.92	0.41
								2/14/2024	19.91	20.29	3342.98	0.38
								4/18/2024	20.48	21.03	3342.38	0.55
								5/7/2024	20.70	21.24	3342.16	0.54
								5/8/2024	20.67	21.24	3342.19	0.57
								5/9/2024	20.74	21.33	3342.11	0.59
								6/18/2024	21.04	21.67	3341.80	0.63
								6/19/2024	21.09	21.72	3341.75	0.63
								6/20/2024	21.13	21.77	3341.71	0.64
								6/21/2024	21.11	21.65	3341.75	0.54
								6/24/2024	21.07	21.60	3341.79	0.53
								6/3/2025	22.04	22.73	3340.79	0.69
	MW-99	671652.52	524579.74	3365.11	3364.51	3353.11	12 to 27	11/18/2020	20.95	22.57	3343.24	1.62
								12/15/2020	20.77	22.66	3343.36	1.89
								1/26/2024	19.23	19.86	3345.15	0.63
								2/14/2024	19.37	20.01	3345.01	0.64
								4/18/2024	20.06	20.73	3344.32	0.67
								5/7/2024	20.15	20.82	3344.23	0.67
								5/8/2024	20.20	20.86	3344.18	0.66
								5/9/2024	19.25	19.92	3345.13	0.67
								6/18/2024	20.50	21.22	3343.87	0.72
								6/19/2024	20.56	21.25	3343.81	0.69
								6/20/2024	20.60	21.38	3343.75	0.78
								6/21/2024	20.51	21.29	3343.84	0.78
								6/25/2024	20.50	21.32	3343.85	0.82
								6/3/2025	21.44	22.80	3342.80	1.36
	MW-111	670494.22	525254.30	3362.52	3365.51	3337.52	25 to 40	11/18/2020	27.42	28.73	3337.83	1.31
								1/26/2024	26.59	27.17	3338.80	0.58
								2/14/2024	26.71	27.26	3338.69	0.55
								4/18/2024	27.43	27.98	3337.97	0.55
								5/7/2024	27.55	28.03	3337.86	0.48
								5/8/2024	27.59	28.06	3337.83	0.47
								5/9/2024	27.64	28.13	3337.77	0.49
								6/18/2024	27.58	28.78	3337.69	1.20
								6/19/2024	27.62	28.75	3337.66	1.13
								6/20/2024	27.67	28.77	3337.62	1.10
								6/21/2024	27.63	28.75	3337.66	1.12
								6/24/2024	27.60	28.78	3337.67	1.18
								6/3/2025	28.85	30.25	3336.38	1.40
	PMW-1	670640.75	524684.33	3366.19	3368.99	3346.19	20 to 30	1/26/2024	25.98	27.41	3342.72	1.43
								2/13/2024	26.05	27.55	3342.64	1.50
								4/18/2024	26.62	28.51	3341.99	1.89
								5/7/2024	26.85	28.77	3341.76	1.92
								5/8/2024	26.87	28.71	3341.75	1.84
								5/9/2024	26.67	28.41	3341.97	1.74
								6/18/2024	27.02	28.89	3341.60	1.87
								6/19/2024	27.00	28.82	3341.63	1.82
								6/20/2024	27.10	28.90	3341.53	1.80
								6/21/2024	27.05	28.89	3341.57	1.84
								6/24/2024	27.05	28.89	3341.57	1.84
								8/30/2024	27.41	29.11	3341.24	1.70
								9/2/2024	27.29	29.03	3341.35	1.74
								9/3/2024	27.29	29.03	3341.35	1.74
								9/26/2024	27.40	28.56	3341.36	1.16
								10/4/2024	27.50	28.65	3341.26	1.15
								10/18/2024	27.53	28.74	3341.22	1.21
								11/8/2024	27.60	28.70	3341.17	1.10
								11/15/2024	27.65	28.73	3341.12	1.08
								11/19/2024	27.64	28.86	3341.11	1.22
								12/10/2024	27.85	29.05	3340.90	1.20
								12/18/2024	27.80	28.97	3340.96	1.17
								1/30/2025	28.04	29.29	3340.70	1.25
								2/5/2025	28.09	29.32	3340.65	1.23
								2/13/2025	28.10	29.30	3340.65	1.20
								2/18/2025	28.01	29.14	3340.75	1.13
								2/24/2025	28.14	29.39	3340.60	1.25
								3/5/2025	28.15	29.38	3340.59	1.23
								3/10/2025	28.12	29.36	3340.62	1.24
								3/18/2025	28.20	29.35	3340.56	1.15
								3/26/2025	28.25	29.40	3340.51	1.15
								4/1/2025	28.23	29.49	3340.51	1.26
								4/9/2025	28.18	29.47	3340.55	1.29
								6/3/2025	28.32	29.64	3340.41	1.32
								7/22/2025	27.70	28.90	3341.05	1.20
								7/28/2025	27.73	28.91	3341.02	1.18
	PMW-2	670641.4964	524726.1025	3365.98	3368.92	3345.98	20 to 30	1/26/2024	26.41	27.40	3342.31	0.99
								2/13/2024	26.51	27.51	3342.21	1.00
								4/18/2024	27.01	28.79	3341.55	1.78
								5/7/2024	27.25	28.03	3341.51	0.78
								5/8/2024	27.26	29.03	3341.31	1.77
								5/9/2024	27.20	28.91	3341.38	1.71
								6/18/2024	27.38	29.16	3341.18	1.78
								6/19/2024	27.42	29.21	3341.14	1.79
								6/20/2024	27.47	29.23	3341.10	1.76
								6/21/2024	27.43	29.20	3341.14	1.77
								6/24/2024	27.42	29.20	3341.14	1.78
								8/30/2024	27.75	29.41	3340.84	1.66

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Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Southern Treatment System	PMW-2	670641.4964	524726.1025	3365.98	3368.92	3345.98	20 to 30	9/2/2024	27.71	29.37	3340.88	1.66
								9/3/2024	27.71	29.37	3340.88	1.66
								9/26/2024	27.71	29.48	3340.86	1.77
								10/4/2024	27.85	29.30	3340.78	1.45
								10/18/2024	27.83	29.35	3340.79	1.52
								11/8/2024	27.86	29.45	3340.74	1.59
								11/15/2024	27.80	29.11	3340.86	1.31
								11/19/2024	27.94	29.50	3340.67	1.56
								12/10/2024	28.02	29.66	3340.57	1.64
								12/18/2024	28.02	29.66	3340.57	1.64
								1/30/2025	28.27	29.93	3340.32	1.66
								2/5/2025	28.32	30.02	3340.26	1.70
								2/13/2025	28.40	30.04	3340.19	1.64
								2/18/2025	28.31	29.91	3340.29	1.60
								2/24/2025	28.40	30.09	3340.18	1.69
								3/5/2025	28.45	30.10	3340.14	1.65
								3/10/2025	28.48	30.09	3340.12	1.61
								3/18/2025	28.40	30.03	3340.19	1.63
								3/26/2025	28.43	30.08	3340.16	1.65
								4/1/2025	28.54	30.21	3340.05	1.67
								4/9/2025	28.52	30.23	3340.06	1.71
								6/3/2025	28.60	29.32	3340.18	0.72
								7/22/2025	28.05	29.76	3340.53	1.71
								7/28/2025	28.09	29.71	3340.51	1.62
	PMW-3	670642.58	524765.00	3365.79	3368.46	3345.79	20 to 30	1/26/2024	--	26.59	3338.73	--
								2/13/2024	--	26.66	3338.66	--
								4/18/2024	--	27.36	3337.96	--
								5/7/2024	--	27.68	3337.64	--
								5/8/2024	--	27.62	3337.70	--
								5/9/2024	--	27.69	3337.63	--
								6/18/2024	--	27.73	3337.59	--
								6/19/2024	--	27.82	3337.50	--
								6/20/2024	--	27.81	3337.51	--
								6/21/2024	--	27.77	3337.55	--
								6/24/2024	--	27.76	3337.56	--
								8/30/2024	--	28.26	3337.06	--
								9/2/2024	--	28.10	3337.22	--
								9/3/2024	--	28.10	3337.22	--
								9/26/2024	--	28.14	3337.18	--
								10/4/2024	--	28.21	3337.11	--
								10/18/2024	--	28.25	3337.07	--
								11/8/2024	--	28.23	3337.09	--
								11/15/2024	--	28.81	3336.51	--
								11/19/2024	--	28.21	3337.11	--
								12/10/2024	--	28.32	3337.00	--
								12/18/2024	--	28.35	3336.97	--
								1/30/2025	--	28.60	3336.72	--
								2/5/2025	--	28.69	3336.63	--
								2/13/2025	--	28.80	3336.52	--
								2/18/2025	--	28.75	3336.57	--
								2/24/2025	--	28.69	3336.63	--
								3/5/2025	--	28.84	3336.48	--
								3/10/2025	--	28.88	3336.44	--
								3/18/2025	--	28.90	3336.42	--
								3/26/2025	--	29.01	3336.31	--
								4/1/2025	--	28.95	3336.37	--
								4/9/2025	--	28.99	3336.33	--
								6/3/2025	--	28.96	3336.36	--
								7/22/2025	--	28.50	3336.82	--
								7/28/2025	--	28.51	3336.81	--
	PMW-4	670644.20	524806.53	3365.23	3368.06	3345.23	20 to 30	1/26/2024	--	27.71	3337.61	--
								2/13/2024	26.40	27.88	3341.36	1.48
								4/18/2024	27.08	28.63	3340.67	1.55
								5/7/2024	27.53	29.09	3340.22	1.56
								5/8/2024	27.35	28.85	3340.41	1.50
								5/9/2024	27.44	28.94	3340.32	1.50
								6/18/2024	27.45	28.98	3340.30	1.53
								6/19/2024	27.65	29.22	3340.10	1.57
								6/20/2024	27.53	29.05	3340.23	1.52
								6/21/2024	27.49	29.00	3340.27	1.51
								6/24/2024	27.48	29.00	3340.28	1.52
								8/30/2024	28.16	29.50	3339.63	1.34
								9/2/2024	27.92	29.34	3339.86	1.42
								9/3/2024	27.92	29.34	3339.86	1.42
								9/26/2024	28.06	29.55	3339.70	1.49
								10/4/2024	28.09	29.35	3339.72	1.26
								10/18/2024	28.10	29.35	3339.71	1.25
								11/8/2024	29.19	29.37	3338.83	0.18
								11/15/2024	28.16	29.30	3339.67	1.14
								11/19/2024	27.98	29.25	3339.83	1.27
								12/10/2024	28.14	29.44	3339.66	1.30
								12/18/2024	28.19	29.49	3339.61	1.30
								1/30/2025	28.38	29.20	3339.52	0.82
								2/5/2025	28.50	29.80	3339.30	1.30
								2/13/2025	28.66	30.05	3339.12	1.39
								2/18/2025	28.55	29.80	3339.26	1.25
								2/24/2025	28.60	29.99	3339.18	1.39
								3/5/2025	28.70	30.02	3339.10	1.32
								3/10/2025	28.41	30.01	3339.33	1.60
								3/18/2025	28.76	30.01	3339.05	1.25
								3/26/2025	28.75	30.00	3339.06	1.25
								4/1/2025	28.78	30.20	3339.00	1.42
								4/9/2025	28.75	30.23	3339.01	1.48
								6/3/2025	28.71	30.12	3339.07	1.41
								7/22/2025	28.39	29.60	3339.43	1.21
								7/28/2025	28.35	29.58	3339.46	1.23
	PMW-5	670645.4208	524885.4917	3365.2	3368.27	3345.2	20 to 30	1/26/2024	--	32.19	3333.13	--
								2/13/2024	--	27.52	3337.80	--
								4/18/2024	--	28.22	3337.10	--
								5/7/2024	--	28.66	3336.66	--
								5/8/2024	--	28.47	3336.85	--
								5/9/2024	--	28.59	3336.73	--
								6/18/2024	--	28.58	3336.74	--
								6/19/2024	--	28.80	3336.52	--

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Area	Well ID	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation (ft amsl)[2]	PSH Thickness (ft)
Southern Treatment System	PMW-5	670645.4208	524885.4917	3365.2	3368.27	3345.2	20 to 30	6/20/2024	--	28.65	3336.67	--
								6/21/2024	--	28.61	3336.71	--
								6/24/2024	--	28.60	3336.72	--
								8/24/2024	--	29.11	3336.21	--
								9/26/2024	--	29.25	3336.07	--
								10/4/2024	29.15	29.19	3339.11	0.04
								10/18/2024	29.23	29.30	3339.03	0.07
								11/8/2024	29.15	29.51	3339.05	0.36
								11/15/2024	28.98	29.61	3339.16	0.63
								11/19/2024	28.91	29.56	3339.23	0.65
								12/10/2024	29.13	29.84	3339.00	0.71
								12/18/2024	29.13	29.99	3338.97	0.86
								1/30/2025	29.15	30.80	3338.79	1.65
								2/5/2025	29.33	31.01	3338.60	1.68
								2/13/2025	29.46	31.10	3338.48	1.64
								2/18/2025	29.46	30.10	3338.68	0.64
								2/24/2025	29.43	31.00	3338.53	1.57
								3/5/2025	29.58	30.10	3338.59	0.52
								3/10/2025	29.58	31.10	3338.39	1.52
								3/18/2025	29.57	30.12	3338.59	0.55
								3/26/2025	29.65	31.14	3338.32	1.49
								4/1/2025	29.69	31.10	3338.30	1.41
								4/9/2025	29.60	31.08	3338.37	1.48
								6/3/2025	29.53	31.03	3338.44	1.50
								7/22/2025	29.24	30.61	3338.76	1.37
								7/28/2025	29.25	30.55	3338.76	1.30
	RW-19	670611.43	524592.99	3367.09	3369.11	3356.09	11 to 46	11/18/2020	28.10	28.18	3340.99	0.08
								12/14/2020	26.90	27.00	3342.19	0.10
								1/26/2024	25.00	28.47	3343.42	3.47
								2/13/2024	25.78	29.29	3342.63	3.51
								4/18/2024	27.03	27.06	3342.07	0.03
								5/7/2024	26.39	26.47	3342.70	0.08
								5/8/2024	26.40	26.50	3342.69	0.10
								5/9/2024	26.28	26.40	3342.81	0.12
								6/18/2024	25.98	29.57	3342.41	3.59
								6/19/2024	26.05	29.62	3342.35	3.57
								6/20/2024	26.10	29.58	3342.31	3.48
								6/21/2024	26.06	29.57	3342.35	3.51
								6/24/2024	26.03	29.58	3342.37	3.55
								6/3/2025	27.75	27.81	3341.35	0.06
	RW-23	670644.91	524845.11	3365.17	3367.38	3350.17	15 to 30	2/14/2024	26.25	26.61	3341.06	0.36
								2/26/2024	26.43	26.80	3340.88	0.37
								4/18/2024	--	27.08	3338.24	--
								5/7/2024	32.58	32.65	3334.79	0.07
								5/8/2024	27.27	27.70	3340.02	0.43
								5/9/2024	27.30	27.63	3340.01	0.33
								6/18/2024	27.42	27.56	3339.93	0.14
								6/19/2024	27.46	27.80	3339.85	0.34
								9/2/2024	28.04	31.76	3338.60	3.72
								9/3/2024	28.04	31.76	3338.60	3.72
								9/10/2024	28.05	32.20	3338.50	4.15
								9/26/2024	28.50	31.95	3338.19	3.45
								10/4/2024	28.45	33.88	3337.84	5.43
								10/18/2024	28.95	29.45	3338.33	0.50
								11/8/2024	28.90	29.57	3338.35	0.67
								11/15/2024	28.55	29.21	3338.70	0.66
								11/19/2024	27.51	29.45	3339.48	1.94
								12/10/2024	27.90	31.26	3338.81	3.36
								12/18/2024	27.65	29.53	3339.35	1.88
								1/16/2025	28.09	28.40	3339.23	0.31
								1/30/2025	28.10	28.65	3339.17	0.55
								2/5/2025	28.15	28.80	3339.10	0.65
								2/13/2025	29.58	30.34	3337.65	0.76
								2/18/2025	29.72	31.20	3337.36	1.48
								2/25/2025	29.75	29.93	3337.59	0.18
								3/5/2025	29.31	29.70	3337.99	0.39
								3/10/2025	29.32	29.69	3337.99	0.37
								3/18/2025	29.32	29.75	3337.97	0.43
								3/26/2025	29.38	29.72	3337.93	0.34
								4/1/2025	29.44	29.76	3337.88	0.32
								4/9/2025	29.49	29.80	3337.83	0.31
								7/22/2025	29.39	29.50	3337.97	0.11
								7/28/2025	29.40	29.45	3337.97	0.05

Notes:

[1] Wells screened in the shallow water-bearing zone are typically screened at depths ranging between 5 and 35 ft bgs. The shallow water-bearing zone varies between confined and unconfined conditions. Wells screened in the valley fill zone are typically screened at depths ranging between 35 and 70 ft bgs. The clay lens separating the shallow and valley fill zones is discontinuous in some locations resulting in connectivity between the two zones.

[2] Water elevations corrected for PSH, if present, using a specific gravity of 0.8.

Definitions:

ft = feet
-- = not applicable
amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
PSH = phase separated hydrocarbons
NM = not measured
TOC = Top of Casing
unknown = screen interval not readily available

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Table 2 - Well Purging and Water Quality Field Measurement Data

Groundwater Reinjection Pilot Test - Status Report IV

HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Date	Time	Temperature (°C)	Specific Conductance (umhos/cm)	Specific Conductance (S/M)[1]	DO (mg/L)	pH (std unit)	ORP (mV)	Field Observations of Purge Water[2]
Northern Treatment System	IW-2	9/3/2024	0329	24.0						--
	MW-66	2/14/2024	1155	21.1	2,047	0.205	1.1	6.65	-61.9	--
		4/18/2024	0915	21.4	1,901	0.190	2.4	6.69	-113.0	Clear
		5/7/2024	0310	24.8	1,816	0.182	2.5	6.64	-218.9	Clear
		5/8/2024	0735	20.4	1,821	0.182	2.6	6.61	-93.9	Clear
		5/9/2024	0915	20.7	1,826	0.183	2.1	6.75	-261.8	Clear
		6/18/2024	0820	25.5	845	0.085	1.7	7.04	-236.5	Clear
		6/19/2024	0810	22.3	933	0.093	1.6	6.92	-228.9	Clear
		6/20/2024	0815	20.7	1,092	0.109	1.0	6.87	-163.9	Clear
		6/21/2024	0815	21.0	1,185	0.119	1.0	6.86	-239.0	Clear
		6/25/2024	0730	22.0	1,336	0.134	1.3	6.84	-150.4	Clear
		6/3/2025	0840	22.6	1,210	0.121	1.1	6.56	-280.1	Clear
	MW-99	2/14/2024	1030	21.6	1,727	0.173	0.9	6.55	-290.6	--
		4/18/2024	0830	21.7	1,819	0.182	1.5	6.64	-326.9	Clear
		5/7/2024	0235	23.0	1,688	0.169	0.9	6.50	-278.1	Clear
		5/8/2024	0810	21.2	1,705	0.171	1.7	6.48	-310.1	Clear
		5/9/2024	0955	21.3	1,714	0.171	1.1	6.68	-357.2	Clear
		6/18/2024	0910	21.5	1,050	0.105	1.6	6.44	-373.8	Clear
		6/19/2024	0850	21.8	1,570	0.157	1.8	6.54	-365.4	Clear
		6/20/2024	0900	21.0	1,466	0.147	1.2	6.63	-362.4	Clear
		6/21/2024	0855	22.0	1,473	0.147	1.4	6.70	-236.1	Clear
		6/25/2024	0805	23.2	1,492	0.149	1.3	6.72	-228.2	Clear
		6/3/2025	0920	23.0	1,006	0.101	1.5	6.42	-333.8	Clear
	MW-112	2/14/2024	0225	21.4	2,485	0.249	0.8	6.56	-100.4	--
		4/18/2024	0450	22.3	2,160	0.216	1.1	6.65	-134.8	Clear
		5/7/2024	0855	20.9	2,160	0.216	0.6	6.55	-115.0	Clear
		5/8/2024	0200	24.0	2,110	0.211	1.1	6.43	-54.9	Clear
		5/9/2024	1215	22.3	2,170	0.217	0.9	6.44	-97.2	Clear
		6/18/2024	0200	26.0	2,390	0.239	1.0	6.41	-193.7	Clear
		6/19/2024	0220	22.8	2,310	0.231	1.1	6.54	-171.5	Clear
		6/20/2024	1010	20.6	2,450	0.245	1.2	6.55	-64.1	Clear
		6/21/2024	1215	21.6	2,420	0.242	1.2	6.49	-59.7	Clear
		6/25/2024	0155	23.0	2,370	0.237	1.1	6.50	-145.2	Clear
		6/3/2025	0140	23.9	2,170	0.217	1.0	6.44	-143.6	Slightly Cloudy
	MW-129	2/14/2024	0110	22.2	2,383	0.238	1.3	6.69	-54.9	--
		4/18/2024	0430	23.3	2,369	0.237	2.3	6.68	-120.0	Clear
		5/7/2024	0200	22.9	2,030	0.203	1.2	6.55	-41.8	Clear
		5/8/2024	0845	23.7	1,989	0.199	1.4	6.62	-182.0	Clear
		5/9/2024	1245	22.9	2,000	0.200	1.2	6.75	-259.9	Clear
		6/18/2024	1020	24.9	1,940	0.194	1.0	6.67	-207.7	Clear
		6/19/2024	0930	23.6	1,932	0.193	0.9	6.67	-152.8	Clear
		6/20/2024	0945	21.8	1,909	0.191	0.8	6.69	-245.9	Clear
		6/21/2024	0940	22.1	1,884	0.188	1.1	6.70	-161.1	Clear
		6/25/2024	0850	23.6	2,280	0.228	1.3	6.72	-180.2	Clear
		6/3/2025	1140	24.1	2,060	0.206	1.0	6.43	-127.8	Clear
	MW-131	2/14/2024	0950	20.2	1,962	0.196	0.8	6.59	-79.6	--
		4/18/2024	1200	23.0	1,906	0.191	1.3	6.64	-142.4	Clear
		5/7/2024	1155	22.8	1,853	0.185	1.3	6.43	-83.7	Clear
		5/8/2024	1045	22.8	1,847	0.185	1.1	6.43	-135.6	Clear
		5/9/2024	1035	21.9	1,839	0.184	1.2	6.52	-236.1	Clear
		6/18/2024	1220	24.0	1,810	0.181	0.7	6.60	-264.0	Clear
		6/19/2024	1125	23.5	1,813	0.181	0.7	6.52	-154.1	Clear
		6/20/2024	1110	21.8	1,815	0.182	0.9	6.49	-151.7	Clear
		6/21/2024	1155	21.7	1,807	0.181	0.9	6.57	-174.2	Clear
		6/25/2024	1040	25.3	2,050	0.205	1.3	6.56	-170.2	Clear
		8/28/2024	1200	23.2	1,721	0.172		6.24	5.1	--
		6/3/2025	1135	23.2	2,360	0.236	0.5	6.53	-116.2	Clear
		6/3/2025	1205	23.7	2,390	0.239	0.6	6.47	-114.3	Clear
	PMW-6	2/14/2024	0900	19.9	1,960	0.196	0.4	6.64	-62.1	--
		4/18/2024	1010	22.5	1,917	0.192	1.2	6.66	-81.5	Clear
		5/7/2024	0120	23.6	1,829	0.183	1.8	6.51	-35.9	Clear
		5/8/2024	0920	21.7	1,826	0.183	0.9	6.54	-94.3	Clear
		5/9/2024	0855	21.1	1,869	0.187	1.3	6.53	-110.9	Clear
		6/18/2024	1100	23.0	1,768	0.177	1.0	6.63	-179.0	Clear
		6/19/2024	1010	21.9	1,798	0.180	0.8	6.63	-138.2	Clear
		6/20/2024	1025	21.1	1,815	0.182	1.2	6.67	-184.9	Clear
		6/21/2024	1020	21.3	1,843	0.184	1.3	6.64	-164.4	Clear
		6/25/2024	0925	24.0	2,140	0.214	1.5	6.67	-184.5	Clear
		6/3/2025	0900	22.5	2,350	0.235	1.2	6.63	-142.7	Clear
	PMW-7	2/14/2024	1030	21.9	1,969	0.197	1.4	6.58	-14.0	--
		4/18/2024	1105	23.0	1,923	0.192	1.7	6.67	-43.7	Clear
		5/7/2024	1240	23.6	1,861	0.186	1.4	6.54	-19.9	Clear
		5/8/2024	1015	22.5	1,854	0.185	1.1	6.49	-55.7	Clear
		5/9/2024	1000	22.1	1,869	0.187	1.4	6.52	-61.2	Clear
		6/18/2024	1140	23.2	1,815	0.182	1.1	6.65	-164.5	Clear
		6/19/2024	1045	22.6	1,819	0.182	1.0	6.63	-122.9	Clear
		6/20/2024	1105	21.6	1,827	0.183	1.0	6.65	-154.1	Clear
		6/21/2024	1115	21.7	1,791	0.179	0.9	6.65	-140.1	Clear
		6/25/2024	1005	25.1	2,120	0.212	1.1	6.63	-131.4	Clear
		8/28/2024	1200	23.0	1,988	0.199		6.62	91.9	--
		9/3/2024	0323	22.8				5.52	180.7	--
		6/3/2025	1025	23.1	2,610	0.261	0.8	6.42	-126.7	Clear
	PMW-8	2/14/2024	1140	21.6	1,975	0.198	0.8	6.58	-53.4	--
		4/18/2024	1250	22.1	1,921	0.192	1.5	6.71	-87.7	Clear
		5/7/2024	1120	22.4	1,858	0.186	1.3	6.47	-39.4	Clear
		5/8/2024	1120	22.7	1,858	0.186	1.2	6.59	-85.0	Clear
		5/9/2024	1115	22.2	1,851	0.185	1.6	6.61	-96.8	Clear
		6/18/2024	0100	22.9	1,810	0.181	1.5	6.68	-193.8	Clear
		6/19/2024	1210	22.4	1,815	0.182	1.3	6.68	-151.9	Clear
		6/20/2024	1040	21.1	2,180	0.218	1.0	6.66	-66.0	Clear
		6/21/2024	1155	21.7	2,120	0.212	1.4	6.64	-109.7	Clear
		6/25/2024	1115	25.0	2,070	0.207	1.5	6.63	-134.5	Clear
		8/28/2024	1200	22.8	1,954	0.195		6.53	59.7	--
		9/3/2024	0306	22.8				6.61	169.9	--
		6/3/2025	1240	22.9	2,340	0.234	0.5	6.57	-63.4	Clear

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Table 2 - Well Purging and Water Quality Field Measurement Data

Groundwater Reinjection Pilot Test - Status Report IV

HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Date	Time	Temperature (°C)	Specific Conductance (umhos/cm)	Specific Conductance (S/M)[1]	DO (mg/L)	pH (std unit)	ORP (mV)	Field Observations of Purge Water[2]
Northern Treatment System	PMW-9	2/14/2024	1235	21.7	1,994	0.199	0.6	6.54	-60.7	--
		4/18/2024	0145	24.6	1,920	0.192	1.1	6.66	-50.0	Clear
		5/7/2024	1045	23.4	1,863	0.186	1.3	6.41	-38.2	Clear
		5/8/2024	1155	23.6	1,873	0.187	1.3	6.48	-41.3	Clear
		5/9/2024	1150	22.2	1,854	0.185	1.1	6.53	-80.5	Clear
		6/18/2024	0135	24.6	1,819	0.182	1.0	6.59	-146.9	Clear
		6/19/2024	1245	22.8	1,806	0.181	1.2	6.59	-118.8	Clear
		6/20/2024	1115	21.4	2,230	0.223	1.1	6.55	-29.9	Clear
		6/21/2024	1120	21.8	2,240	0.224	1.4	6.54	-103.7	Clear
		6/25/2024	1150	24.8	2,050	0.205	1.5	6.53	-120.2	Clear
		8/28/2024	1200	22.2	1,776	0.178		6.38	52.6	--
		9/3/2024	0258	23.5				6.56	175.4	--
		6/3/2025	1010	25.4	1,857	0.186	0.3	6.08	117.8	Clear
	PMW-10	2/14/2024	0150	22.6	2,050	0.205	0.3	6.58	-73.0	--
		4/18/2024	0230	23.6	1,984	0.198	1.0	6.64	-72.8	Clear
		5/7/2024	1010	23.9	1,936	0.194	2.0	6.66	-60.9	Clear
		5/8/2024	1235	24.5	1,920	0.192	1.4	6.42	-68.1	Clear
		5/9/2024	1235	23.6	1,912	0.191	1.5	6.38	-67.2	Clear
		6/18/2024	0205	24.5	1,867	0.187	0.8	6.59	-168.1	Clear
		6/19/2024	0120	23.1	1,869	0.187	1.1	6.62	-139.0	Clear
		6/20/2024	0905	22.2	2,220	0.222	0.9	6.52	-76.4	Clear
		6/21/2024	0945	22.5	2,220	0.222	1.2	6.50	-72.1	Clear
		6/25/2024	1245	24.3	2,160	0.216	1.2	6.52	-135.4	Clear
		8/28/2024	1200	23.2	2,027	0.203		6.17	71.0	--
		6/3/2025	0145	24.8	1,956	0.196	1.8	6.53	-102.0	Clear
	PMW-11	2/14/2024	0315	21.5	2,350	0.235	0.4	6.65	-52.7	--
		4/18/2024	0355	22.9	2,280	0.228	1.4	6.67	-56.8	Clear
		5/7/2024	0930	22.2	2,250	0.225	1.2	6.70	-49.9	Clear
		5/8/2024	0115	23.6	2,210	0.221	1.2	6.55	-59.9	Clear
		5/9/2024	0110	22.8	2,180	0.218	1.0	6.57	-60.9	Clear
		6/18/2024	0235	24.8	2,460	0.246	1.1	6.42	-140.2	Clear
		6/19/2024	0210	22.1	2,160	0.216	0.9	6.65	-136.1	Clear
		6/20/2024	0935	21.3	2,530	0.253	0.8	6.61	-51.6	Clear
		6/21/2024	1140	22.0	2,480	0.248	0.8	6.62	-46.2	Clear
		6/25/2024	0120	23.9	2,420	0.242	0.9	6.62	-101.4	Clear
		6/3/2025	1215	22.5	2,230	0.223	2.1	6.76	-77.1	Clear
Southern Treatment System	KWB-4	2/13/2024	1050	19.1	2,780	0.278	0.2	6.57	-109.7	--
		4/18/2024	0900	22.0	2,890	0.289	0.9	6.58	-106.1	Clear
		5/7/2024	0940	22.4	2,860	0.286	2.4	6.50	-95.3	Clear
		5/8/2024	0840	22.4	2,850	0.285	1.7	6.60	-270.2	Clear
		5/9/2024	1055	23.2	2,620	0.262	1.2	6.67	-237.8	Clear
		6/18/2024	0830	23.5	3,030	0.303	1.6	6.28	-187.3	Clear
		6/19/2024	0815	22.8	2,960	0.296	1.7	6.38	-221.4	Clear
		6/20/2024	0735	21.8	2,930	0.293	1.8	6.40	-219.3	Clear
		6/21/2024	0735	21.9	2,960	0.296	1.5	6.42	-232.6	Clear
		6/24/2024	0810	22.9	2,940	0.294	1.5	6.41	-262.3	Clear
		6/3/2025	1000	23.1	2,590	0.259	1.7	6.47	-294.5	Clear
	KWB-5	2/13/2024	0440	20.9	2,610	0.261	0.9	6.66	-53.4	--
		4/18/2024	0205	23.9	2,690	0.269	1.5	6.59	-66.2	Clear
		5/7/2024	0125	23.8	2,640	0.264	1.2	6.78	-74.5	Clear
		5/8/2024	1245	24.5	2,650	0.265	1.3	6.34	-240.2	Clear
		5/9/2024	1105	23.1	2,580	0.258	0.9	6.40	-121.7	Clear
		6/18/2024	1250	26.3	2,840	0.284	1.1	6.36	-164.7	Clear
		6/19/2024	0110	24.2	2,760	0.276	1.2	6.53	-130.2	Clear
		6/20/2024	0800	21.9	2,850	0.285	1.1	6.53	-71.3	Clear
		6/21/2024	0810	22.4	2,880	0.288	1.2	6.52	-61.0	Clear
		6/24/2024	1225	24.0	2,800	0.280	1.6	6.52	-134.2	Clear
		6/3/2025	1120	23.2	2,490	0.249	1.4	6.44	-190.2	Clear
	MW-48	2/14/2024	0920	20.1	3,070	0.307	1.8	6.65	-295.1	--
		4/18/2024	0335	26.4	3,030	0.303	1.8	6.70	-323.3	Clear
		5/7/2024	0225	23.7	2,850	0.285	1.3	6.94	-320.4	Clear
		5/8/2024	0755	23.0	2,870	0.287	1.4	6.84	-315.4	Clear
		5/9/2024	0825	22.8	2,580	0.258	1.4	6.60	-346.9	Clear
		6/18/2024	0740	25.2	2,570	0.257	1.0	6.66	-368.9	Clear
		6/19/2024	0725	24.8	2,580	0.258	1.8	6.72	-351.2	Clear
		6/20/2024	0725	23.2	2,310	0.231	1.6	6.70	-334.2	Clear
		6/21/2024	0725	22.9	2,710	0.271	1.5	6.73	-329.1	Clear
		6/24/2024	0735	23.8	2,880	0.288	1.7	6.74	-292.6	Clear
		6/3/2025	0855	25.8	3,100	0.310	1.9	6.62	-297.3	Clear
	MW-99	2/14/2024	1030	21.6	1,727	0.173	0.9	6.55	-290.6	--
		4/18/2024	0830	21.7	1,819	0.182	1.5	6.64	-326.9	Clear
		5/7/2024	0235	23.0	1,688	0.169	0.9	6.50	-278.1	Clear
		5/8/2024	0810	21.2	1,705	0.171	1.7	6.48	-310.1	Clear
		5/9/2024	0955	21.3	1,714	0.171	1.1	6.68	-357.2	Clear
		6/18/2024	0910	21.5	1,050	0.105	1.6	6.44	-373.8	Clear
		6/19/2024	0850	21.8	1,570	0.157	1.8	6.54	-365.4	Clear
		6/20/2024	0900	21.0	1,466	0.147	1.2	6.63	-362.4	Clear
		6/21/2024	0855	22.0	1,473	0.147	1.4	6.70	-236.1	Clear
		6/25/2024	0805	23.2	1,492	0.149	1.3	6.72	-228.2	Clear
		6/3/2025	0920	23.0	1,006	0.101	1.5	6.42	-333.8	Clear
	MW-111	2/14/2024	0810	19.8	2,670	0.267	0.7	6.53	-62.4	--
		4/18/2024	0250	23.5	2,760	0.276	0.6	6.57	-82.2	Clear
		5/7/2024	0155	24.1	2,760	0.276	0.8	6.80	-110.7	Clear
		5/8/2024	0120	24.1	2,690	0.269	1.5	6.30	-240.4	Clear
		5/9/2024	1140	23.4	2,610	0.261	1.0	6.40	-154.7	Clear
		6/18/2024	0125	26.2	2,830	0.283	1.3	6.38	-200.6	Clear
		6/19/2024	0145	24.2	2,760	0.276	1.2	6.51	-184.5	Clear
		6/20/2024	0835	21.6	2,890	0.289	1.1	6.48	-107.9	Clear
		6/21/2024	0900	22.1	2,900	0.290	1.2	6.49	-111.0	Clear
		6/24/2024	0105	24.0	2,830	0.283	1.6	6.48	-180.7	Clear
		6/3/2025	1230	25.4	2,570	0.257	1.0	6.37	-147.3	Clear
	PMW-1	2/13/2024	1235	21.6	2,850	0.285	1.0	6.62	-69.0	--
		4/18/2024	1030	23.0	2,850	0.285	0.9	6.57	-74.8	Clear
		5/7/2024	1055	23.1	2,990	0.299	1.3	6.70	-247.8	Clear
		5/8/2024	0950	22.8	2,910	0.291	1.5	6.62	-274.3	Clear
		5/9/2024	0810	21.4	2,920	0.292	2.1	6.60	-192.3	Clear

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Table 2 - Well Purging and Water Quality Field Measurement Data

Groundwater Reinjection Pilot Test - Status Report IV

HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Date	Time	Temperature (°C)	Specific Conductance (umhos/cm)	Specific Conductance (S/M)[1]	DO (mg/L)	pH (std unit)	ORP (mV)	Field Observations of Purge Water[2]
Southern Treatment System	PMW-1	6/18/2024	0940	24.3	3,120	0.312	1.8	6.63	-264.3	Clear
		6/19/2024	0930	23.6	3,090	0.309	1.5	6.82	-261.7	Clear
		6/20/2024	0850	22.4			1.2	6.82	-253.7	Clear
		6/21/2024	0850	22.2	3,090	0.309	1.4	6.80	-220.3	Clear
		6/24/2024	0925	23.4	3,110	0.311	1.6	6.78	-230.7	Clear
		8/22/2024	1200	24.8	7	0.001		6.80	-13.7	--
		8/28/2024	1200	22.7	8	0.001		6.61	-32.7	--
		8/29/2024	1200	23.3	867	0.087		6.32	38.4	--
		8/30/2024	1200	21.9	2,025	0.203		6.09	117.1	--
		9/3/2024	0408	22.9				6.44	165.8	--
		6/3/2025	0855	23.9	2,680	0.268	2.2	6.58	-175.1	Clear
	PMW-2	2/13/2024	0120	22.1	2,930	0.293	1.2	6.59	-51.9	--
		4/18/2024	1115	24.0	3,200	0.320	1.2	6.63	-101.9	Clear
		5/7/2024	1125	24.0	3,030	0.303	1.5	6.84	-176.2	Clear
		5/8/2024	1025	23.5	3,040	0.304	1.5	6.56	-262.1	Clear
		5/9/2024	0845	21.5	2,960	0.296	1.8	6.46	-109.2	Clear
		6/18/2024	1015	25.8	3,230	0.323	1.4	6.51	-238.6	Clear
		6/19/2024	1005	24.4	3,110	0.311	1.3	6.73	-231.4	Clear
		6/20/2024	0925	22.4	3,130	0.313	1.5	6.72	-215.1	Clear
		6/21/2024	0925	22.5	3,160	0.316	1.8	6.74	-123.7	Clear
		6/24/2024	1000	25.2	3,160	0.316	1.9	6.76	-154.2	Clear
		8/22/2024	1200	24.5	23	0.002		7.36	-32.7	--
		8/28/2024	1200	22.5	2,184	0.218		6.73	-26.9	--
		8/29/2024	1200	22.9	2,286	0.229		6.74	88.9	--
		8/30/2024	1200	22.3	449	0.045		6.56	90.7	--
		9/3/2024	0401	22.7				6.28	182.1	--
		6/3/2025	1055	23.7	2,880	0.288	1.8	6.52	-137.8	Clear
	PMW-3	2/13/2024	0210	22.6	2,940	0.294	1.3	6.66	-49.4	--
		4/18/2024	1155	23.8	3,110	0.311	1.4	6.56	-69.3	Clear
		5/7/2024	1155	23.8	3,080	0.308	1.1	6.71	-92.7	Clear
		5/8/2024	1100	23.6	3,010	0.301	1.1	6.54	-261.4	Clear
		5/9/2024	0920	22.1	2,950	0.295	1.5	6.34	-93.7	Clear
		6/18/2024	1050	25.3	3,240	0.324	1.6	6.50	-234.3	Clear
		6/19/2024	1040	24.4	3,110	0.311	1.6	6.68	-221.7	Clear
		6/20/2024	1000	22.2	3,100	0.310	1.4	6.69	-221.4	Clear
		6/21/2024	1000	22.5	3,120	0.312	1.6	6.68	-142.6	Clear
		6/24/2024	1035	22.2	3,050	0.305	1.5	6.65	-138.2	Clear
		8/22/2024	1200	23.1	2,720	0.272		6.87	-38.5	--
		8/28/2024	1200	22.5	2,765	0.277		6.77	-21.5	--
		8/29/2024	1200	23.2	2,679	0.268		6.38	51.1	--
		8/30/2024	1200	22.2	2,925	0.292		6.25	52.8	--
		9/3/2024	0356	23.2				5.55	180.7	--
		6/3/2025	0940	25.4	3,590	0.359	1.6	6.53	-130.7	Clear
	PMW-4	2/13/2024	0300	22.5	2,910	0.291	1.4	6.57	-62.1	--
		4/18/2024	1235	24.2	3,170	0.317	1.6	6.61	-79.3	Clear
		5/7/2024	1225	24.5	3,100	0.310	1.4	6.78	-92.1	Clear
		5/8/2024	1135	24.6	2,970	0.297	1.2	6.52	-231.4	Clear
		5/9/2024	0955	22.6	2,920	0.292	1.6	6.42	-106.2	Clear
		6/18/2024	1135	26.9	3,230	0.323	1.4	6.39	-131.3	Clear
		6/19/2024	1115	25.1	3,080	0.308	1.3	6.67	-160.4	Clear
		6/20/2024	1035	22.1	3,060	0.306	1.5	6.66	-122.3	Clear
		6/21/2024	1035	22.7	3,050	0.305	1.7	6.65	-124.7	Clear
		6/24/2024	1110	25.2	3,060	0.306	1.9	6.67	-137.8	Clear
		8/22/2024	1200	23.8	24	0.002		6.55	28.2	--
		8/28/2024	1200	22.4	2,308	0.231		6.86	-10.4	--
		8/29/2024	1200	23.1	2,670	0.267		6.16	33.5	--
		8/30/2024	1200	22.3	3,308	0.331		6.31	93.3	--
		9/3/2024	0349	23.5				5.54	182.3	--
		6/3/2025	1105	26.3	3,600	0.360	1.5	6.52	-92.1	Clear
	PMW-5	2/13/2024	0350	22.4	2,810	0.281	1.4	6.71	-61.1	--
		4/18/2024	0120	23.6	2,910	0.291	1.4	6.63	-80.0	Clear
		5/7/2024	1255	24.3	2,870	0.287	1.2	6.84	-82.7	Clear
		5/8/2024	1210	24.3	2,840	0.284	1.2	6.40	-242.3	Clear
		5/9/2024	1030	22.4	2,840	0.284	1.3	6.42	-98.4	Clear
		6/18/2024	1210	26.1	3,050	0.305	1.3	6.40	-121.7	Clear
		6/19/2024	1235	24.0	2,960	0.296	1.0	6.62	-112.4	Clear
		6/20/2024	0730	21.6	3,050	0.305	0.9	6.60	-89.1	Clear
		6/21/2024	0740	21.9	3,080	0.308	1.1	6.54	-67.1	Clear
		6/24/2024	1145	25.0	2,980	0.298	1.2	6.56	-131.5	Clear
		8/22/2024	1200	23.7	1			7.39	-26.5	--
		8/28/2024	1200	22.1	3,014	0.301		6.78	-5.4	--
		8/29/2024	1200	22.9	2,893	0.289		6.30	44.9	--
		8/30/2024	1200	21.9	2,274	0.227		6.20	50.6	--
		6/3/2025	1240	26.0	3,120	0.312	1.1	6.56	-75.7	Clear
	RW-19	2/13/2024	1135	21.4	2,810	0.281	0.9	6.59	-138.6	--
		4/18/2024	0945	23.0	2,894	0.289	0.8	6.63	-187.2	Clear
		5/7/2024	1020	23.5	2,850	0.285	1.2	7.14	-287.6	Clear
		5/8/2024	0915	22.4	2,850	0.285	1.4	6.96	-347.2	Clear
		5/9/2024	1155	24.5	2,640	0.264	1.5	6.92	-347.2	Clear
		6/18/2024	0905	24.2	2,710	0.271	1.4	7.20	-346.2	Clear
		6/19/2024	0850	23.6	2,620	0.262	1.4	7.22	-358.7	Clear
		6/20/2024	0810	21.9	2,640	0.264	1.5	7.24	-352.8	Clear
		6/21/2024	0810	22.1	2,620	0.262	1.9	7.26	-339.2	Clear
		6/24/2024	0845	24.2	2,620	0.262	1.8	7.23	-344.7	Clear
		6/3/2025	1040	25.2	2,400	0.240	1.7	7.21	-332.5	Clear

Definitions:

°C = Degrees Celsius
DO = Dissolved Oxygen
mg/L = milligrams per liter
mV = millivolts
ORP = oxidation/reduction potential
S/m = Siemens per meter
std units = standard pH units

[1] **Specific Conductance unit conversion:** umhos/cm x 0.0001 = S/m

[2] **Potential Explanations of Water Quality Observations:**
"Slightly Cloudy" water likely due to presence of suspended inorganic particles (silt, clay)

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Table 3 Summary of Groundwater Analytical Data
Groundwater Reinjection Pilot Test
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

					General Chemistry						Metals			TPH				VOCs									
				Analyte Group																							
				Analyte	Alkalinity, total	Bromide	Sulfate	Sulfide	Total Kjeldahl Nitrogen	Total Organic Carbon	Ferrous Iron	Iron	Magnesium	Diesel	Gasoline	TPH - Diesel Range Organics	TPH - Gasoline Range Organics	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	m,p-Xylene	Methyl tert-butyl ether (MTBE)	Naphthalene	o-Xylene	Toluene	Xylenes, total
				CAS	ALKT	24959-67-9	14808-79-8	18496-25-8	TKN	TOC	15438-31-0	7439-89-6	7439-95-4	68334-30-5	8006-61-9	TPH-DRO	TPH-GRO	95-63-6	108-67-8	71-43-2	100-41-4	179601-23-1	1634-04-4	91-20-3	95-47-6	108-88-3	1330-20-7
				Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL	--	--	600	--	--	--	--	1.00	--	--	--	0.0858	0.0101	0.0560	0.0600	0.00500	0.700	0.193	0.100	0.0300	0.193	1.00	0.620
				CGWSL Source	--	--	WQCC Dom	--	--	--	--	WQCC Dom	--	--	--	NMED TPH	NMED TPH	USEPA TW	USEPA TW	WQCC HH	WQCC HH	NMED TW	WQCC Dom	WQCC HH	NMED TW	WQCC Dom	WQCC HH
Area	**Well ID**	**Date**	**Dup**																								
Northern Treatment System	MW-66	Nov-20			713	1.47	0.687 J	<0.0250	0.665	11.4		0.556 T8	86.0	3.93	3.11	**3.93**	**3.11**	<0.000322	<0.000104	**1.35**	0.00900	0.00894	**2.93**	**0.165 J**	0.00245	0.00741	0.0114
	MW-66	Feb-24			818	4.14	6.55	<0.0250 U	2.04	32.4		**2.59 T8**	88.2			**7.38**	**6.58**	<0.0161 U	<0.00520 U	**0.0691**	<0.00685 U J4		**1.32**	**<0.0500** U		<0.0139 U	0.0134 J
	MW-66	Apr-24			854	6.19	2.55 J	<0.0250 U	0.975	18.8		**2.11 T8**	83.6			**6.69**	**3.09**	**0.0950**	0.0235 J	**1.11**	0.0188 J		**2.41**	**0.155 J**		<0.0139 U	0.153
	MW-66	Jun-25			577		4.99 J	0.0300 J	1.11	12.1	0.410 T8		50.4 O1 V														
	MW-99	Dec-20			772	1.11	52.4	1.83 J6	0.957 J6	10.3		0.250 T8	92.9	5.19	38.5 J3	**5.19**	**38.5 J3**	**0.548 V**	**0.110**	**3.43**	**1.42**	**2.15**	**2.97 V**	**0.197 J6**	**0.913**	**2.87**	**3.06**
	MW-99	Feb-24			705	3.35	52.3	0.311	5.16	33.3		**2.34 T8**	59.2			**67.4**	**41.3**	**1.66**	**0.275 J**	**12.3**	**2.21**		**2.66**	**0.506 J**		0.309 J	**7.87**
	MW-99	Apr-24			815	5.73	10.9	0.0820	2.78	17.9		0.370 T8	65.2			**7.14**	**51.6**	**1.20**	**0.257 J**	**9.62**	**2.22**		**2.14**	**<0.500** U		0.202 J	**5.89**
	MW-99	Jun-25			530		25.0	0.169	1.96	26.3	0.0580 T8		34.8														
	MW-112	Dec-20			720	6.12	<0.594	<0.0250	<0.140	5.99		**4.44 T8**	174	2.96	22.1	**2.96**	**22.1**	**0.407**	**0.104**	**2.04**	**1.05**	**1.72**	**1.07**	**0.166**	**0.553**	0.228	**2.27**
	MW-112	Feb-24			871	2.23	1.13 J	<0.0250 U	0.346	8.33		**6.56 T8**	171			**6.38**	**54.8 B**	**0.564**	**0.143**	**8.41**	**1.99**		**1.21**	**0.357 V**		0.128	**2.64**
	MW-112	Apr-24			870	8.04	5.94	<0.0250 U	0.167 J	9.43		**8.60 T8**	158			**5.03**	**46.0**	**0.923**	**0.244**	**7.40**	**2.03**		**1.30**	**0.347 J**		0.0971 J	**3.01**
	MW-112	Jun-25			779		39.0	<0.0255 U	<0.131 U	13.3	3.24 T8		158														
	MW-129	Dec-20			740	1.23	90.7	<0.0250	<0.140	10.2		**5.89 T8**	117	3.92	22.6	**3.92**	**22.6**	**0.243**	0.0556	**1.18**	**0.793**	**1.14**	**4.17**	**0.0971**	**0.353**	**1.88**	**1.49**
	MW-129	Feb-24			814	4.12	87.3	<0.0250 U	0.183 J	13.8		**6.35 T8**	104			**1.57**	**2.28**	**0.771**	**0.363**	**10.8**	<0.0274 U		**12.4**	**2.03**		0.284	**1.65**
	MW-129	Apr-24			913	5.79	78.5	<0.0250 U	<0.140 U	10.2		**7.12 T8**	101			**2.75**	**9.75**	**0.311**	**0.101 J**	**1.20**	0.473		**4.64**	**<0.200** U		0.199 J	**1.38**
	MW-129	Jun-25			788		72.4	<0.0255 U	0.178 J J5	13.5	4.57 T8		96.7														
	MW-131	Nov-20			745	1.91	12.0	<0.0250	0.319	6.78		**1.14 T8**	116	2.64	34.0	**2.64**	**34**	**0.400**	**0.0876**	**5.09**	**0.860**	**1.72**	**3.61**	**0.0700 J**	**0.736**	**5.38**	**2.46**
	MW-131	Nov-20	FD		757	1.89	14.3	<0.0250	0.352	6.65		**1.23 T8**	115	2.41	31.9	**2.41**	**31.9**	**0.479**	**0.114**	**5.60**	**0.945**	**2.04**	**4.86**	**0.0808**	**0.834**	**5.84**	**2.87**
	MW-131	Feb-24			809	4.62	10.2	<0.0250 U	0.432	18.5		**1.77 T8**	120			**8.18**	**41.9**	**1.15**	**0.150**	**6.88**	**2.17**		**4.72**	**0.366 J**		**6.76**	**6.94**
	MW-131	Apr-24			828	6.81	13.7	<0.0250 U	<0.140 U	13.5		**1.74 T8**	111			**2.71**	**31.5**	**0.451**	**0.115**	**3.42**	0.539		**3.94**	**<0.100** U		**2.99**	**3.46**
	MW-131	Jun-25			754		11.7 J	<0.0255 U	<0.131 U	23.5	1.16 T8		110														
	PMW-6	Feb-24			817	1.35	<0.594 U	<0.0250 U	0.263	11.5		**3.72 T8**	100			**1.72**	**5.62**	0.0486	0.00879 J	**1.52**	0.162		**3.33**	0.0263 J		0.0144 J	0.189
	PMW-6	Feb-24	FD		827	1.36	<0.594 U	<0.0250 U	0.291	7.04		**2.95 T8**	96.5			**1.65**	**5.25**	**0.0608**	0.0115 J	**1.09**	0.126		**3.18**	0.0297 J		0.00942 J	0.148
	PMW-6	Apr-24			852	6.60	3.05 J	<0.0250 U	<0.140 U	7.24		**4.15 T8**	92.2			**1.86**	**5.23**	**0.0874**	0.0142 J	**2.09**	0.169		**3.81**	**0.0426 J**		0.0662	0.257
	PMW-6	Jun-25			795		3.41 J	<0.0255 U	<0.131 U J5	10.5	1.77 T8		93.3														
	PMW-7	Feb-24			827	1.58	<0.594 U	<0.0250 U	0.212 J	11.8		**4.48 T8**	125			**1.90**	**5.80**	0.0390	0.00264 J	**1.64**	0.0540		**3.99**	**0.0695**		0.0102	0.101
	PMW-7	Apr-24			837	7.37	2.38 J	<0.0250 U	<0.140 U	7.58		**3.89 T8**	115			**2.00**	**5.01**	**0.0885**	0.0323	**1.92**	0.0871		**4.64**	**0.0607 J**		0.0877	0.358
	PMW-7	Apr-24	FD		848	7.73	2.05 J	<0.0250 U	<0.140 U	7.18		**4.18 T8**	116			**1.71**	**5.15**	**0.0663**	0.0161	**1.82**	0.0704		**4.17**	**0.0834**		0.0619	0.238
	PMW-7	Jun-25			856		<3.18 U	<0.0255 U	0.158 J	12.8	3.42 T8		126														
	PMW-8	Feb-24			821	1.63	1.01 J	<0.0250 U	1.25	32.3		**8.09 T8**	128			**7.56**	**67.5**	**0.999**	**0.219**	**14.1**	**2.70**		**3.71**	**0.236 J**		**8.31**	**9.13**
	PMW-8	Apr-24			854	7.05	3.06 J	<0.0250 U	0.697	24.3		**7.62 T8**	120			**7.30**	**59.4**	**1.36**	**0.310**	**15.7**	**2.51**		**4.35**	**0.245 J**		**8.66**	**9.41**
	PMW-8	Jun-25			785		<3.18 U	<0.0255 U	0.300	29.6 J6	3.72 T8		141														
	PMW-9	Feb-24			821	1.75	0.664 J	<0.0250 U	0.347	17.4		**4.32 T8**	121			**4.01**	**29.1**	**0.463**	**0.103**	**4.30**	**1.32**		**3.81**	**0.101 J**		**1.91**	**3.63**
	PMW-9	Apr-24			852	7.34	2.40 J	<0.0250 U	0.229 J	24.3 J6		**2.51 T8**	112			**17.6**	**79.9**	**1.60**	**0.375**	**6.31**	**2.17**		**4.38**	**0.270**		**4.08**	**8.12**
	PMW-9	Jun-25			716		<3.18 U	<0.0255 U	0.360	8.83	0.0420 J T8		113														
	PMW-10	Feb-24			840	1.84	0.669 J	<0.0250 U	2.25	24.4		**12.7 T8**	114			**6.95**	**51.2**	**0.880**	**0.191**	**9.52**	**2.20**		**3.74**	**0.189 J**		**3.18**	**6.87**
	PMW-10	Apr-24			846	7.73	3.17 J	<0.0250 U	1.38	18.6		**9.92 T8**	101			**5.11**	**38.9**	**0.886**	**0.197**	**7.40**	**1.93**		**4.38**	**0.162 J**		**1.76**	**5.08**
	PMW-10	Jun-25			774		<3.18 U	<0.0255 U	0.933	19.0	13.5 T8		109														
	PMW-11	Feb-24			894	2.91	<0.594 U	<0.0250 U	0.657	24.5		**5.66 T8**	173			**9.31**	**116**	**1.29**	**0.277**	**28.9**	**5.27**		**5.05**	**0.292 J**		**25.9**	**13.5**
	PMW-11	Apr-24			894	9.53	2.97 J	<0.0250 U	0.260	27.3		**5.65 T8**	161			**8.02**	**54.2**	**1.82**	**0.401**	**32.5**	**5.54**		**6.18**	**0.313 J**		**27.4**	**14.6**
	PMW-11	Jun-25			817		2.51 J P1	<0.0255 U	0.196 J	21.4	2.47 T8		154														
Southern Treatment System	KWB-4	Nov-20			797	3.93	230	<0.0250	0.521	13.4		**4.68 T8**	117	9.20	15.7 B	**9.2**	**15.7 B**	**0.254**	0.0455 J	**2.06**	0.632	**0.440**	**5.27**	**0.120 J**	0.0469 J	0.0527 J	0.487
	KWB-4	Feb-24			882	3.05 B	239	<0.0250 U	0.223 J	22.8		**3.23 T8**	117			**8.53**	**15.5**	**0.547**	**0.121**	**1.59**	**1.03**		**7.02**	**0.262 J**		0.0851 J	**2.26**
	KWB-4	Apr-24			859	8.12	212	<0.0250 U	0.249 J	12.4		**1.70 T8**	119			**2.68**	**13.9**	**0.276**	**0.0815 J**	**1.92**	0.513		**4.94**	**<0.100** U		0.0506 J	**1.19**
	KWB-4	Jun-25			831		213	<0.0255 U	0.265	11.5	0.0640 T8		114														
	KWB-5	Nov-20			745	5.19	60.0	<0.0250	0.344	11.9		**3.85 T8**	134	4.16	24.8 B	**4.16**	**24.8 B**	**0.764**	**0.148 J**	**2.27**	**1.26**	**2.28**	**8.21**	**0.270 J**	**0.315**	0.232	**2.60**
	KWB-5	Feb-24			825	4.40 B	65.0	<0.0250 U	0.296	20.8		**5.43 T8**	125			**4.11**	**20.4**	**0.390**	**0.0782 J**	**2.74**	**0.981**		**9.11**	**0.209 J**		0.0728 J	**1.06**
	KWB-5	Apr-24			803	9.62	69.9	<0.0250 U	<0.140 U	10.5		**5.30 T8**	121			**2.11**	**14.7**	**0.165 J**	0.0461 J	**1.33**	0.518		**7.57**	**<0.200** U		<0.0556 U	0.536 J
	KWB-5	Jun-25			786		76.8	<0.0255 U	<0.131 U	9.97	4.05 T8		127														
	MW-48	Nov-20			878	1.62	250	0.102 J5	1.20	20.5		0.130 T8	121 V	4.97	5.08	**4.97**	**5.08**	**0.115 J6**	0.0101	**0.946 V**	0.131 J6	0.115	**0.441 V**	**0.0332 J**	0.00748 J	0.0544	0.122
	MW-48	Feb-24			1010	8.12	326	<0.0250 U	0.612	21.5		0.0820 T8	123			**4.38**	**2.95**	0.0210	0.00287 J	**0.507**	0.0575		**0.798**	0.0130 J		0.0273	0.0381
	MW-48	Apr-24			1000	5.94	254	0.150	0.365	15.8		0.0630 T8	115			**3.35**	**3.53**	0.0244 J	0.00721 J	**0.456**	0.114		**0.714**	**<0.0500** U		0.0396 J	0.0576 J
	MW-48	Jun-25			962		361	0.312	0.355	19.5	<0.0150 U T8		128														
	MW-99	Dec-20			772	1.11	52.4	1.83 J6	0.957 J6	10.3		0.250 T8	92.9	5.19	38.5 J3	**5.19**	**38.5 J3**	**0.548 V**	**0.110**	**3.43**	**1.42**	**2.15**	**2.97 V**	**0.197 J6**	**0.913**	**2.87**	**3.06**
	MW-99	Feb-24			705	3.35	52.3	0.311	5.16	33.3		**2.34 T8**	59.2			**67.4**	**41.3**	**1.66**	**0.275 J**	**12.3**	**2.21**		**2.66**	**0.506 J**		0.309 J	**7.87**
	MW-99	Apr-24			815	5.73	10.9	0.0820	2.78	17.9		0.370 T8	65.2			**7.14**	**51.6**	**1.20**	**0.257 J**	**9.62**	**2.22**		**2.14**	**<0.500** U		0.202 J	**5.89**
	MW-99	Jun-25			530		25.0	0.169	1.96	26.3	0.0580 T8		34.8														
	MW-111	Nov-20			790	1.75	337	<0.0250	0.305	11.0		**5.92 T8**	147	2.48	7.64	**2.48**	**7.65**	**0.187**	0.0407	**1.05**	0.515	**0.541**	**1.33**	**0.0803**	0.0285	0.00976	0.570
	MW-111	Feb-24			833	8.13	283	<0.0250 U J6	0.211 J	17.9		**10.5 T8**	148			**4.49**	**9.03**	**0.490**	**0.101**	**2.10**	**1.00**		**2.38**	**0.245**		0.0205 J	**1.54**
	MW-111	Apr-24			831	5.71	234	<0.0250 U	<0.140 U	12.3		**4.91 T8**	136			**3.16**	**9.12**	**0.259**	**0.0660 J**	**1.35**	0.488		**1.45**	**<0.100** U		<0.0278 U	**0.677**
	MW-111	Jun-25			849		214	<0.0255 U	<0.131 U	12.2	3.09 T8		145														
	PMW-1	Feb-24			814	4.54 B	120	<0.0250 U	0.276 J5	23.9		**10.5 T8**	115			**6.05**	**25.3**	**0.481**	0.0274 J	**7.99**	**1.44**		**7.78**	**0.318 J**		<0.0278 U	0.258 J
	PMW-1	Apr-24			775	8.54	118	<0.0250 U	0.174 J	16.7		**12.6 T8**	116			**5.27**	**31.1**	**0.273**	0.0266 J	**8.13**	**1.47**		**5.88**	**0.152 J**		0.0312 J	0.255 J
	PMW-1	Apr-24	FD		818	8.10	121	<0.0250 U	<0.140 U	15.5		**11.9 T8**	109			**4.96**	**24.1 J3**	**0.225**	0.0259	**7.15**	**1.36**		**6.33**	**<0.200** U		0.0311	0.250
	PMW-1	Jun-25			854		141	<0.0255 U J6	0.248 J P1	14.8	4.50 T8		131														
	PMW-2	Feb-24			792	4.68 B	180	<0.0250 U	0.234 J	19.3		**9.10 T8**	118			**5.59**	**16.2**	**0.897**	**0.0825 J**	**3.64**	**2.16**		**10.1**	**0.518 J**		<0.139 U	0.400 J
	PMW-2	Apr-24			772	9.49	185	<0.0250 U	<0.140 U	11.8		**8.42 T8**	121 V			**2.24**	**13.9**	**<0.161** U	<0.0520 U	**0.737**	0.464 J		**5.39**	**<0.500** U		<0.139 U	0.141 J
	PMW-2	Jun-25			789		305	<0.0255 U	<0.131 U	13.1	5.64 T8		132														
	PMW-3	Feb-24			779	4.68 B	215	<0.0250 U	0.182 J	17.2		**11.8 T8**	120			**2.09**	**7.20**	0.00375	0.000771 J	**0.153**	<0.0137 U		**6.26**	0.00722		0.000439 J	0.00266 J
	PMW-3	Apr-24			768	9.36	194	<0.0250 U	<0.140 U	11.4		**10.9 T8**	122			**1.55**	**7.10**	<0.0322 U	<0.0104 U	**0.0149 J**	<0.0137 U		**6.18**	**<0.100** U		<0.0278 U	<0.0174 U
	PMW-3	Jun-25			787		363	<0.0255 U	<0.131 U	11.8	3.50 T8		136														
	PMW-4	Feb-24			805	4.61 B	175	<0.0250 U	0.206 J	20.2		**10.4 T8**	118			**4.55**	**12.2**	**1.19**	**0.134 J**	**5.80**	**1.02**		**9.25**	**0.778 J**		<0.139 U	**0.833 J**
	PMW-4	Apr-24			787	9.32	184	<0.0250 U	<0.140 U	11.4		**8.48 T8**	121			**2.18**	**13.6**	**<0.161** U	<0.0520 U	**0.696**	0.329 J		**5.84**	**<0.500** U		<0.139 U	<0.0870 U
	PMW-4	Jun-25			806		323	<0.0255 U	0.151 J	14.8	3.99 T8		132														
	PMW-5	Feb-24			878	4.04 B	134 J6	<0.0250 U	0.152 J	18.6		**7.16 T8**	114			**1.99**	**2.47**	0.0543	0.00901	**0.366**	0.0449 J		**6.49**	0.0209		0.00538	0.0427
	PMW-5	Feb-24	FD		873	4.03 B	134	<0.0250 U	0.300	11.9		**7.11 T8**	119			**1.96**	**4.14**	0.0387	0.00719 J	**0.336**	0.0758		**5.22**	<0.0250 U		<0.00695 U	0.0385 J
	PMW-5	Apr-24			859	9.24	131	<0.0250 U	<0.140 U	11.4		**6.32 T8**	116			**1.70**	**7.36**	<0.0322 U	<0.0104 U	**0.102**	0.0436 J		**6.29**	**<0.100** U		<0.0278 U	0.0180 J
	PMW-5	Jun-25			900		82.1	0.0450 J	<0.131 U	13.0	3.00 T8		115														
	RW-19	Dec-20			930	2.84	118	0.0450 J	0.315	14.1		0.914 T8	144	9.02	20.5	**9.02**	**20.5**	**0.568**	0.0296 J	**2.06**	**0.801**	**0.594**	**4.58**	**0.193 J**	0.0362 J	0.0457 J	**0.630**
	RW-19	Dec-20	FD		917	3.42	118	0.0330 J	0.365	14.8		0.936 T8	145	10.8	20.9	**10.8**	**20.9**	**0.622**	0.0354 J	**2.22**	**0.862**	**0.647**	**5.02**	**0.215 J**	0.0329 J	0.0505 J	**0.680**
	RW-19	Feb-24			846	3.05 B	261	<0.0250 U	0.233 J	19.1		**6.25 T8**	114			**8.21**	**7.08**	**0.123**	0.0282 J	**0.105**	0.133 J		**4.07**	**<0.0500** U		0.0161 J	0.282
	RW-19	Apr-24			889	7.42	234	<0.0250 U	<0.140 U	10.8		0.944 T8	115			**6.91**	**7.10 J3**	**0.704**	**0.178 J**	**0.0318 J**	0.444		**3.60**	**<0.200** U		<0.0556 U	**0.985**
	RW-19	Jun-25			998		4.88 B J	<0.0255 U	0.314	15.3	<0.0150 U T8		144														

Definitions

X	Reported concentration, X, exceeds the CGWSL.
X	Analyte detected above the detection limit at a concentration equal to X.
<x	Analyte not detected at detection limit equal to x.
--	No applicable CGWSL.

Lab Qualifier

B	Analyte was also detected in the associated method blank.
J	Indicates an estimated value.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make accurate determination; spike value is low.
P1	Relative percent difference value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample received past/too close to holding time expiration.
U	Analyte not detected at detection limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Abbreviations

CAS	Chemical Abstract Service
CGWSL	Critical Groundwater Screening Level
CGWSL Source	Source for Critical Groundwater Screening Level
FD	Field Duplicate
mg/L	milligrams per liter
NMED TPH	NMED total petroleum hydrocarbon
NMED TW	NMED Risk Assessment Guidance for Site Investigations and Remediation, November 2022, Table A-1, Tap Water Screening Level
NMED	New Mexico Environmental Department
TKN	Total Kjeldahl Nitrogen
TOC	Total Organic Carbon
TPH-DRO	Total Petroleum Hydrocarbon - Diesel Range Organics
TPH-GRO	Total Petroleum Hydrocarbon - Gasoline Range Organics
USEPA	United States Environmental Protection Agency
USEPA TW	USEPA Tap Water Screening Level, "Regional Screening Levels (RSL) Summary Table", November 2022
WQCC Dom	NMED Groundwater standard for domestic water supply, 20.6.2.3103.B NMAC
WQCC HH	NMED Groundwater standard for human health exposure, 20.6.2.3103.A NMAC

Table 4: Qualitative Field Screening with BART™ Hach Tests
Acid-Producing Bacteria and Sulfate-Reducing Bacteria
Groundwater Reinjection Pilot Test - Status Report IV

Area	Well	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Days to Reaction	APB Population (cfu/mL)
Acid-Producing Bacteria											
Southern System	MW-48	P	P	P	P	P	P	P	P	>8	<2
	KWB-4	P	P	P	P	P	P	P	P	>8	<2
	RW-19	P	P	P	P	P	P	P	P	>8	<2
	PMW-1	P	P	P	P	P	P	P	P	>8	<2
	PMW-2	P	P	P	P	P	P	P	P	>8	<2
	PMW-3	P	P	P	P	P	P	P	P	>8	<2
	PMW-4	P	P	P	P	P	P	P	P	>8	<2
	PMW-5	P	P	P	P	P	P	P	P	>8	<2
	KWB-5	P	P	P	P	P	P	P	P	>8	<2
	MW-111	P	P	P	P	P	P	P	P	>8	<2
Northern System	MW-66	P	P	P	P	P	P	P	P	>8	<2
	MW-99	P	P	P	P	P	P	P	P	>8	<2
	MW-129	P	P	P	P	P	P	P	P	>8	<2
	PMW-6	P	P	P	P	P	P	P	P	>8	<2
	PMW-7	P	P	P	P	P	P	P	P	>8	<2
	MW-131	P	P	P	P	P	P	P	P	>8	<2
	PMW-8	P	P	P	P	P	P	P	P	>8	<2
	PMW-9	P	P	P	P	P	P	P	P	>8	<2
	PMW-10	P	P	P	P	P	P	P	P	>8	<2
	PMW-11	P	P	P	P	P	P	P	P	>8	<2
	MW-112	P	P	P	P	P	P	P	P	>8	<2
Sulfate-Reducing Bacteria											
Area	**Well**	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Day 8**	**Days to Reaction**	**SRB Population (cfu/mL)**
Southern System	MW-48	NR	NR	BB	BB	BB	BB	BT & BB	BT & BB	3	**115,000**
	KWB-4	NR	NR	NR	NR	cloudy	cloudy	cloudy	BB	8	*75*
	RW-19	NR	NR	NR	NR	BB	BT & BB	BT & BB	BT & BB	5	**6,000**
	PMW-1	NR	NR	NR	NR	NR	BB	BB	BB	6	*1,400*
	PMW-2	NR	NR	NR	NR	NR	BB	BB	BB	6	*1,400*
	PMW-3	NR	NR	NR	NR	NR	NR	NR	NR	>8	<20
	PMW-4	NR	NR	NR	NR	BB	BB	BB	BB	5	**6,000**
	PMW-5	NR	NR	NR	NR	NR	NR	NR	BB	8	*75*
	KWB-5	NR	NR	NR	NR	NR	NR	BB	BB	7	*325*
	MW-111	NR	NR	NR	NR	NR	NR	NR	NR	>8	<20
Northern System	MW-66	NR	NR	Cloudy	BB	BB	BB	BT & BB	BT & BB	4	**27,000**
	MW-99	NR	NR	BB	BT & BB	BT & BB	BT & BB	BT & BB	BT & BB	3	**115,000**
	MW-129	NR	NR	NR	NR	NR	BB	BB	BB	6	*1,400*
	PMW-6	NR	NR	BB	BT & BB	BT & BB	BT & BB	BT & BB	BT & BB	3	**115,000**
	PMW-7	NR	NR	NR	NR	NR	BB	BB	BT & BB	6	*1,400*
	MW-131	NR	NR	NR	BB	BB	BB	BB	BT & BB	4	**27,000**
	PMW-8	NR	NR	NR	BB	BT & BB	BT & BB	BT & BB	BT & BB	4	**27,000**
	PMW-9	NR	NR	NR	NR	BB	BT & BB	BT & BB	BT & BB	5	**6,000**
	PMW-10	NR	NR	NR	BB	BB	BT & BB	BT & BB	BT & BB	4	**27,000**
	PMW-11	NR	NR	NR	NR	NR	BB	BB	BB	6	*1,400*
	MW-112	NR	NR	NR	NR	BB	BT & BB	BT & BB	BT & BB	5	**6,000**

Notes

(1) Sulfate-Reducing Bacteria (SRB) and Acid-Producing Bacteria (APB) potential population results qualitatively measured using Hach BART™ Test Kits. The kit samples were observed daily for at least 8 days and the number of days for a reaction correlates with the approximate bacteria population provided. There was no APB reaction observed in any of the wells for 8 days, indicating the approximate APB population is not aggressive at less than 2 cfu/mL. The SRB results were based on the following reaction key:

Approximate SRB Population, days to reaction

1 days - 2,200,000 cfu/mL (Aggressive)
2 days - 500,000 cfu/mL (Aggressive)
3 days - 115,000 cfu/mL (Aggressive)
4 days - 27,000 cfu/mL (Aggressive)
5 days - 6,000 cfu/mL (Aggressive)
6 days - 1,400 cfu/mL (Moderate)
7 days - 325 cfu/mL (Moderate)
8 days - 75 cfu/mL (Moderate)
9 days - 20 cfu/mL (Not Aggressive)
10 days - 5 cfu/mL (Not Aggressive)

Definitions:

SRP = sulfate-reducing bacteria
APB = acid-producing bacteria
cfu/mL = colony-forming units per milliliter
P = purple
NR = no reaction
BB = black only in base
BT = black only around top

27,000	Red and bold text indicate an aggressive reaction with an approximate SRB population ranging from 115,000 to 6,000 cfu/mL
1,400	Yellow and italicized text indicate an aggressive reaction with an approximate SRB population ranging from 1,400 to 75 cfu/mL
<2	Green text indicate a not aggressive reaction with an approximate SRB population below 20 cfu/mL

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Table 5
Groundwater Reinjection Pilot Test
Revised Monitoring Schedule

	Work Plan and Supplemental Tasks	Work Plan Schedule	Completion Date or Revised Schedule	Reported to NMED/OCD[1]
1	Conduct initial baseline monitoring event.	Week 1	November 18-20, 2020 and December 14-15, 2020	Status Report I
	Conduct gamma-log study of existing wells.		December 22, 2020	
2	Install and develop injection well, recovery wells, and monitoring wells.	Week 2	July 20-August 2, 2021 and August 16-18, 2021	Status Report II
3	Install equipment for injection tests.	Week 3	December 1, 2021	Status Report III
4	Conduct step-drawdown tests.	Week 4	December 8, 2021 (RW-23) December 15, 2021 (RW-24)	
	Conduct constant rate pump tests.		December 10, 2021 (RW-23) December 14-15, 2021 (RW-24)	
	Conduct injection tests.	Week 5	December 13, 2021 (IW-1) December 17, 2021 (IW-2)	
5	Analyze injection test data and determine appropriate injection rate and dosing requirements.	Weeks 6-11	March 7, 2022	
6	Install equipment for efficiency test.	Weeks 11-13	February - March 2024	Status Report IV
	Collect baseline hydrocarbon and MNA samples.		April 14, 2024	
	Begin initial treatment with amendment(s).		May 8, 2024	
7	Gauge wells and collect groundwater MNA field parameters daily to adjust amendment(s) and flow rates.	Week 14	May and June 2024	
8	Gauge wells and collect groundwater MNA field parameters weekly to adjust amendment(s) and flow rates.	Month 4	June 2024 through Present[2]	
9	Collect temporal data several times per day using in situ transducers.	Months 12-18	Initiate January 2026	2026 Status Reports V through VIII
	Measure wellhead gases (CH4, O2, CO, CO2, H2S, and total VOCs) periodically during regularly scheduled O&M events.		January - June 2026	
	Collect PSH samples from one background and one downgradient pilot test well for fingerprinting and PIANO analyses.		March 2026	
	Conduct three bimonthly supplemental groundwater monitoring events to measure field MNA parameters and collect groundwater samples from the first two monitoring wells, influent, and effluent of each system for analysis of VOCs, laboratory MNA parameters, and geochemistry parameters.		January, March, and May 2026	
	Collect passive Bio-Trap® sample from one background and one downgradient pilot test well for analysis of QuantArray®.		March 2026	
10	If sulfate concentrations are greater than 500 mg/L in samples collected from wells between the injection and recovery wells, collect hydrocarbon and MNA laboratory groundwater samples and MNA field parameters quarterly.	TBD	TBD	TBD
	If sulfate concentrations are below 500 mg/L in the monitoring wells between the injection and recovery wells after 3 months, sulfate dosing will be adjusted upward and monthly sampling will continue until sulfate concentrations reach 500 mg/L.		TBD (after conductivity increases by 100%)	
	Gauge wells on same schedule as sampling.			
	Adjust amendment(s) and flow rate as necessary.			
11	Submit Final Investigation Report to NMED/OCD summarizing pilot test results.	TBD	2027	TBD

[1]References

TRC, 2021a. Status Report - Groundwater and Phase-Separated Hydrocarbon Recovery System Enhancements, Reinjection Pilot Test, May 18, 2021.
TRC, 2021b. Status Report II - Groundwater and Phase-Separated Hydrocarbon Recovery System Enhancements, Reinjection Pilot Test, October 28, 2021.
TRC, 2022. Status Report III - Groundwater and PSH Recovery System Enhancements, Reinjection Pilot Test, March 7, 2022.

[2]Down-hole transducers were used in first two downgradient wells to measure conductivity.

Definitions

Shading represents a supplemental task that will be conducted in addition to Work Plan tasks
MNA - monitored natural attenuation
NMED - New Mexico Environment Department
OCD - New Mexico Oil Conservation Division
TBD - to be determined

Unit

mg/L - milligrams per liter

Figure

LEGEND

- PILOT TEST INJECTION WELL
- PILOT TEST MONITORING WELL
- PILOT TEST RECOVERY WELL
- FACILITY MONITORING WELL
- FACILITY RECOVERY WELL
- TANKS
- UNDERGROUND ELECTRICAL LINE
- BELOW-GRADE REINJECTION PIPING
- OVERALL TREATMENT SYSTEM

BASEMAP: GOOGLE MAP AERIAL IMAGERY SERVICE LAYER, 4/2023
DATA SOURCE: TRC

1:2,400
1" = 200'
0 200 400 FEET

PROJECT:
ARTESIA REFINERY - ARTESIA, NEW MEXICO
HF SINCLAIR NAVAJO REFINING LLC

TITLE:
PILOT TEST WELL LOCATIONS
GROUNDWATER AND PSH RECOVERY SYSTEM ENHANCEMENTS, REINJECTION PILOT TEST

DRAWN BY:	A. CLINE	PROJ. NO.:	387820.2025.0000
CHECKED BY:	N. DONEGAN		
APPROVED BY:	M. LINK		**FIGURE 1**
DATE:	SEPTEMBER 2025		

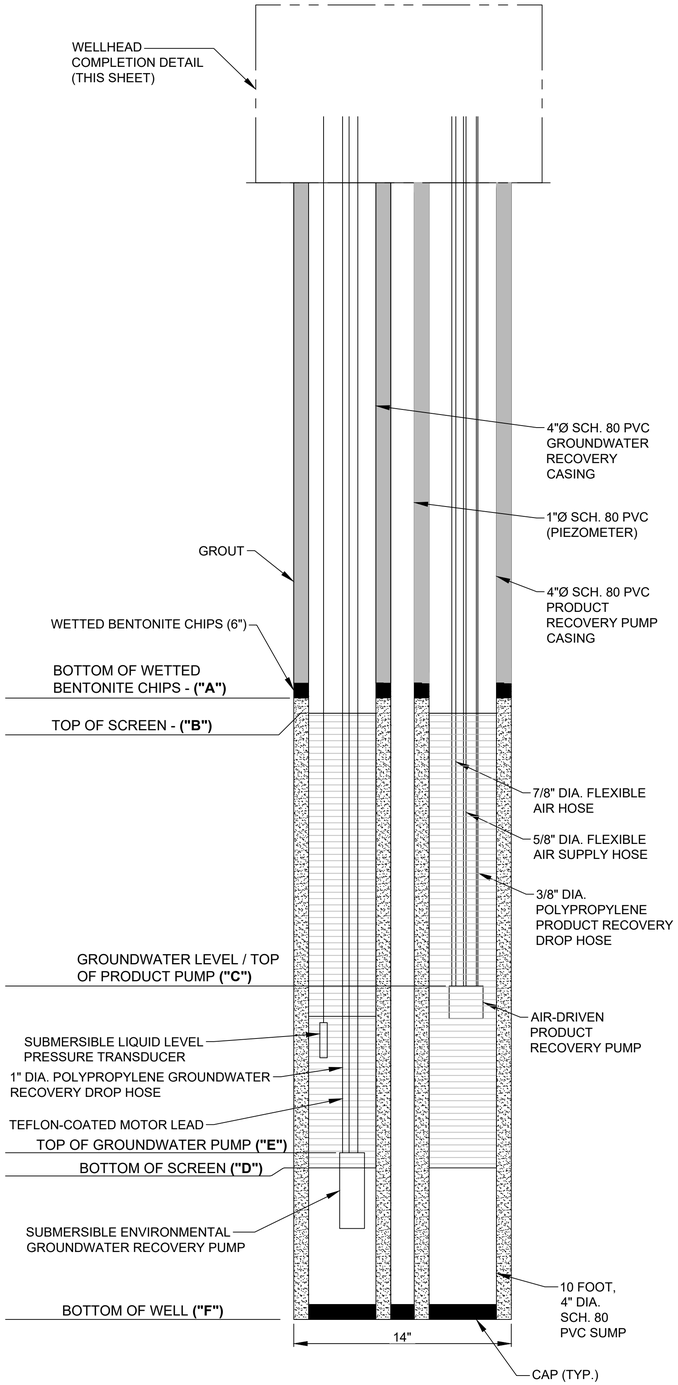
TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080

FILE: 387820_Artesia_Pilot_Test_Wells.aprx

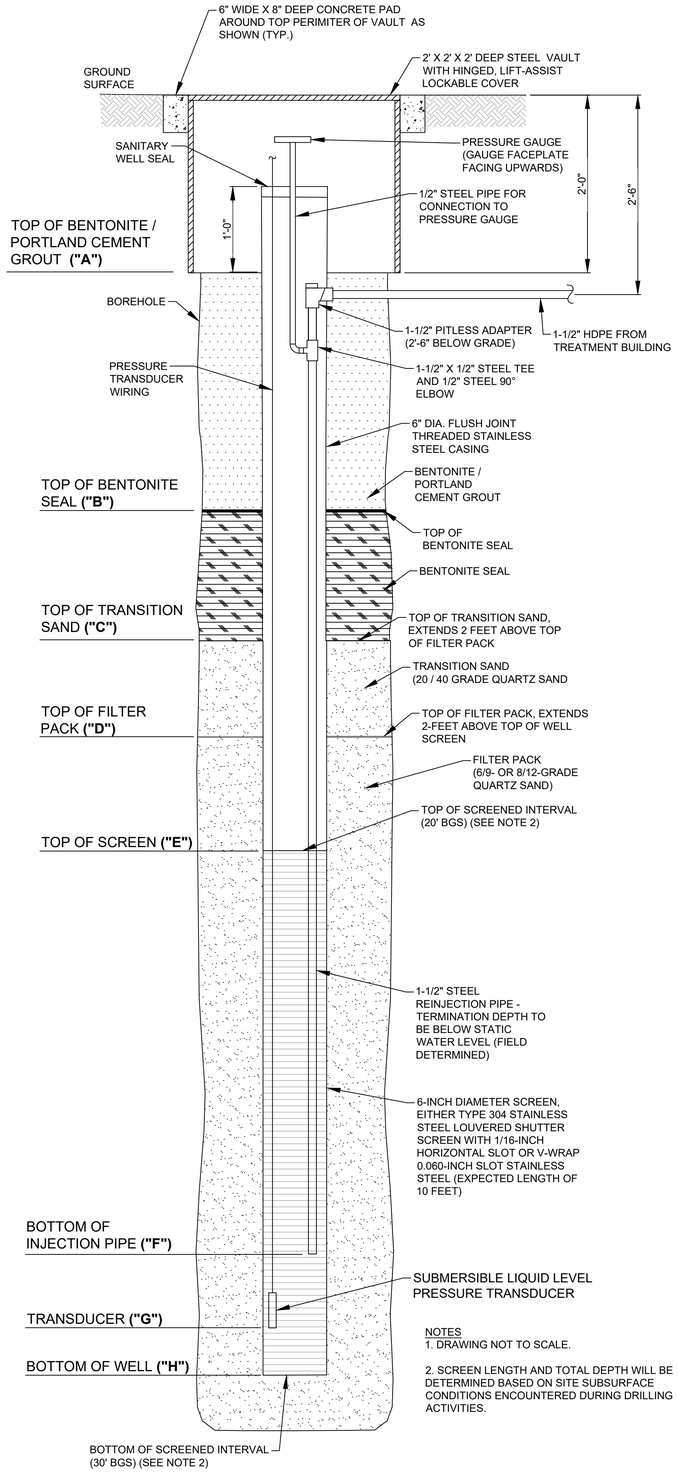
Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 FUS; Map Rotation 0
Saved By: ACLINE on 9/11/2025 09:27:32 AM; File Path: T:\PROJECTS\HOLLYFRONTIER\Artesia\387820_2024_Cross_Section\2-APRX\387820_Artesia_Pilot_Test_Wells\387820_Artesia_Pilot_Test_Wells.aprx; Layout Name: FIGURE 1

Attachment A: Referenced Design Drawings

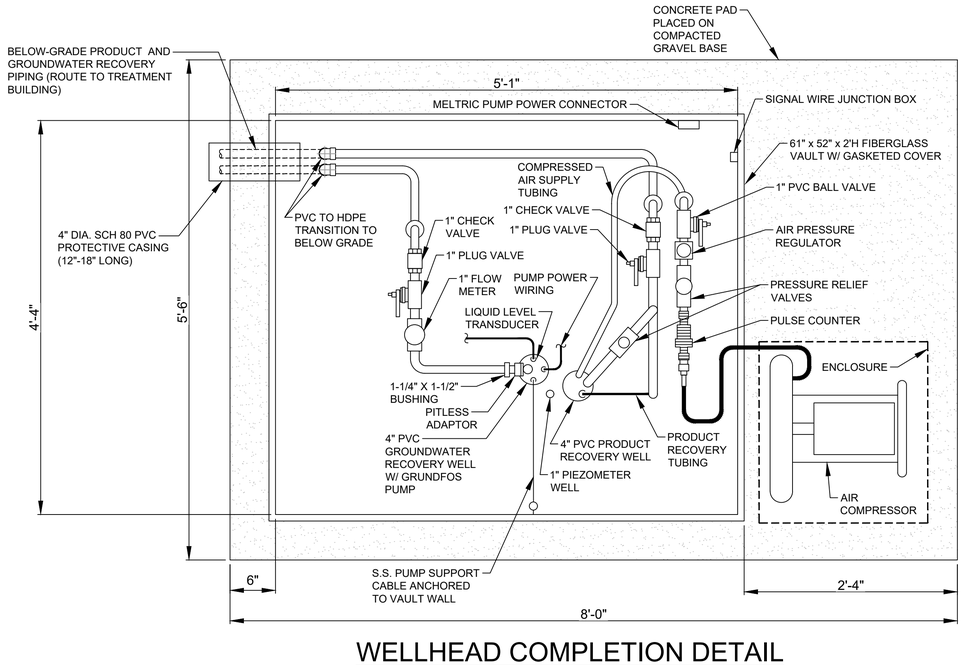
Received by OCD: 12/30/2025 2:28:51 PM



GW / PRODUCT EXTRACTION WELLS
(RW-23 / RW-24)



TREATED WATER INJECTION WELLS
(IW-1 / IW-2)



WELLHEAD COMPLETION DETAIL
(RW-23 / RW-24)

EXTRACTION WELL CONSTRUCTION CHART		
SECTION	WELL ID	DEPTH (FT. BGS)
A	RW-23	17.00
	RW-24	13.50
B	RW-23	17.50
	RW-24	14.00
C	RW-23	26.50
	RW-24	23.00
D	RW-23	32.50
	RW-24	29.00
E	RW-23	32.00
	RW-24	28.50
F	RW-23	37.50
	RW-24	34.00

NOTES
1. DRAWING NOT TO SCALE.

2. SCREEN LENGTH AND TOTAL DEPTH WILL BE DETERMINED BASED ON SITE SUBSURFACE CONDITIONS ENCOUNTERED DURING DRILLING ACTIVITIES.

PROJECT:
HOLLYFRONTIER NAVAJO REFINING LLC
GROUNDWATER REINJECTION PILOT TEST SYSTEM
ARTESIA, NEW MEXICO

TITLE:
RECOVERY AND INJECTION WELL INSTALLATION DETAILS

DRAWN BY:	D. SIEWERT	PROJ. NO.:	387820.0000.0000
CHECKED BY:			
APPROVED BY:			FIGURE A-3
DATE:	SEPTEMBER 2021		

TRC
1526 Cole Boulevard
Building 3, Suite 150
Lakewood, CO 80401
Phone: 303.792.5555

FILE NO.: NEW387820.0000.01.dwg

22x34 -- USER: DSiewert -- ATTACHED XREFS: -- ATTACHED IMAGES: Artesia_Figure 2b - Proposed Well Locations near RW-1S_Figure 2b - Proposed Well Locations near RW-1S - FIGURE 5 PROCESS AND INSTRUMENTATION DIAGRAM - NAVAJO.dwg
DRAWING NAME: C:\TRANSFERRED FILES AND FOLDERS\HOLLY FRONTIER\387820\NEW387820.0000.01.dwg -- PLOT DATE: September 09, 2021 - 3:48PM -- LAYOUT: FIGURE 3
Version: 2017-10-21

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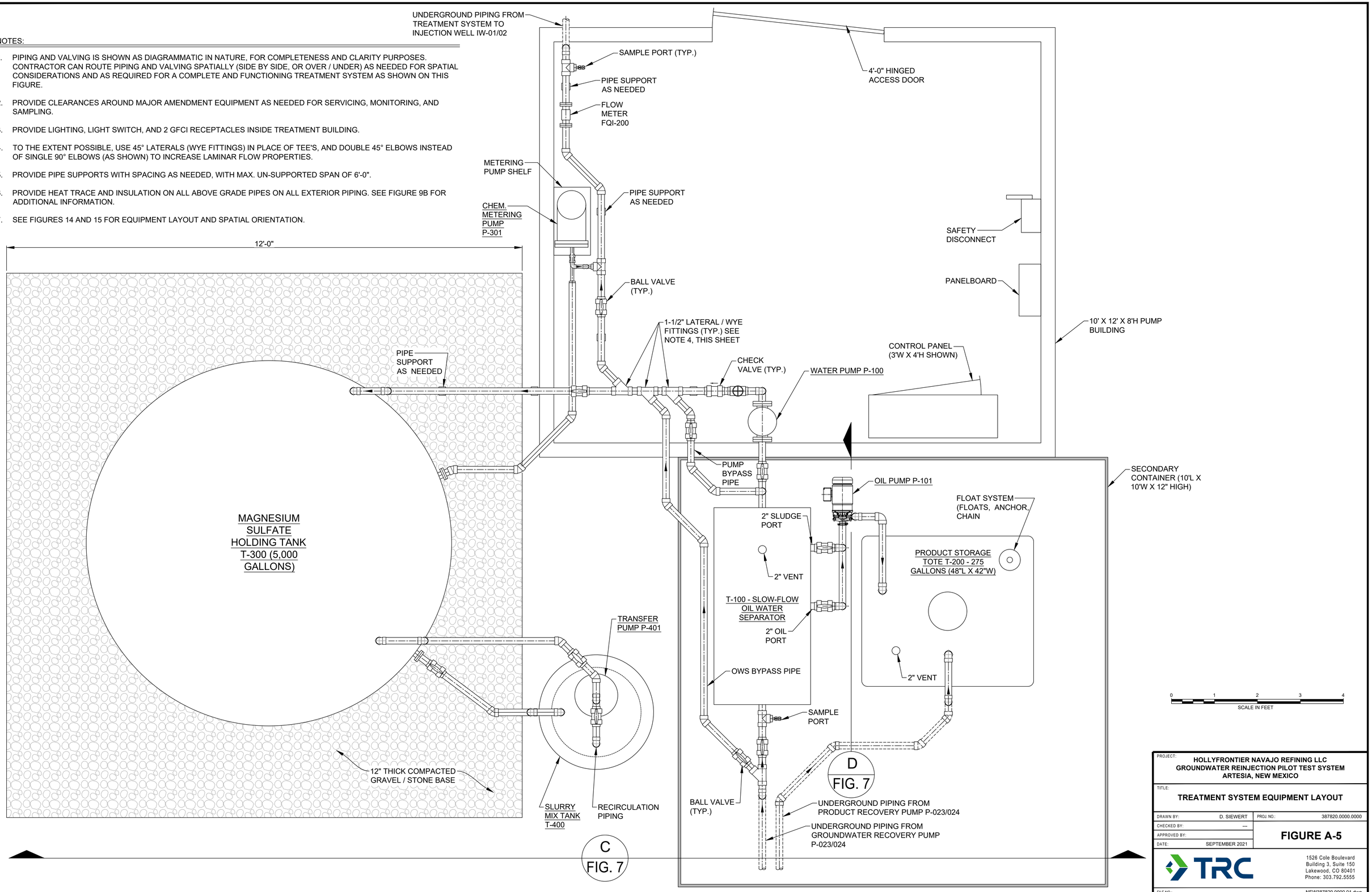
NOTES:

1. PIPING AND VALVING IS SHOWN AS DIAGRAMMATIC IN NATURE, FOR COMPLETENESS AND CLARITY PURPOSES. CONTRACTOR CAN ROUTE PIPING AND VALVING SPATIALLY (SIDE BY SIDE, OR OVER / UNDER) AS NEEDED FOR SPATIAL CONSIDERATIONS AND AS REQUIRED FOR A COMPLETE AND FUNCTIONING TREATMENT SYSTEM AS SHOWN ON THIS FIGURE.
2. PROVIDE CLEARANCES AROUND MAJOR AMENDMENT EQUIPMENT AS NEEDED FOR SERVICING, MONITORING, AND SAMPLING.
3. PROVIDE LIGHTING, LIGHT SWITCH, AND 2 GFCI RECEPTACLES INSIDE TREATMENT BUILDING.
4. TO THE EXTENT POSSIBLE, USE 45° LATERALS (WYE FITTINGS) IN PLACE OF TEE'S, AND DOUBLE 45° ELBOWS INSTEAD OF SINGLE 90° ELBOWS (AS SHOWN) TO INCREASE LAMINAR FLOW PROPERTIES.
5. PROVIDE PIPE SUPPORTS WITH SPACING AS NEEDED, WITH MAX. UN-SUPPORTED SPAN OF 6'-0".
6. PROVIDE HEAT TRACE AND INSULATION ON ALL ABOVE GRADE PIPES ON ALL EXTERIOR PIPING. SEE FIGURE 9B FOR ADDITIONAL INFORMATION.
7. SEE FIGURES 14 AND 15 FOR EQUIPMENT LAYOUT AND SPATIAL ORIENTATION.



PROJECT: HOLLYFRONTIER NAVAJO REFINING LLC
GROUNDWATER REINJECTION PILOT TEST SYSTEM
ARTESIA, NEW MEXICO

TITLE: TREATMENT SYSTEM EQUIPMENT LAYOUT

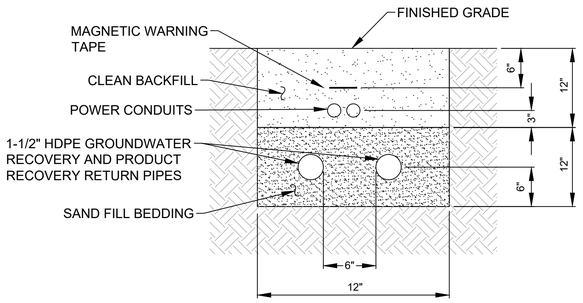
DRAWN BY:	D. SIEWERT	PROJ NO.:	387820.0000.0000
CHECKED BY:	---		
APPROVED BY:			FIGURE A-5
DATE:	SEPTEMBER 2021		

TRC
1526 Cole Boulevard
Building 3, Suite 150
Lakewood, CO 80401
Phone: 303.792.5555

FILE NO.: NEW387820.0000.01.dwg

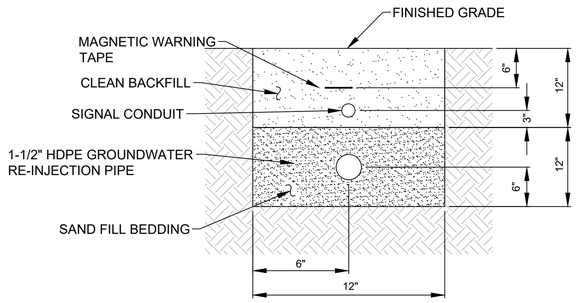
Version: 2017-10-21

2X24 -- USER: DSiewert -- ATTACHED XREFS: -- ATTACHED IMAGES: -- Attrib: Figure 2b - Proposed Well Locations near RIV-15 - Figure 2b - Proposed Well Locations near RIV-15; FIGURE 9 PROCESS AND INSTRUMENTATION DIAGRAM - rowen
DRAWING NAME: C:\TRANSFERRED FILES AND FOLDERS\HOLLYFRONTIER\387820\NEW387820.0000.01.dwg -- PLOT DATE: September 09, 2021 - 3:48PM -- LAYOUT: FIGURE 5



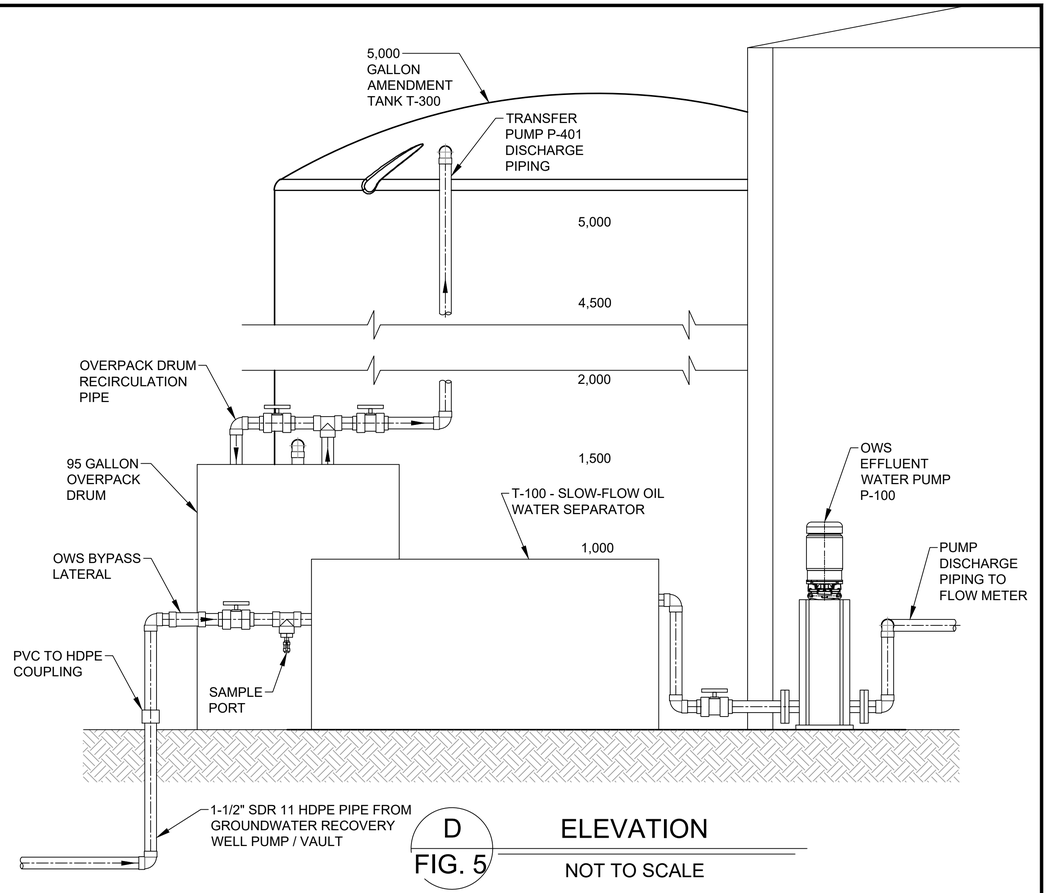
A FIG. 14/15 TRENCH SECTION

NOT TO SCALE



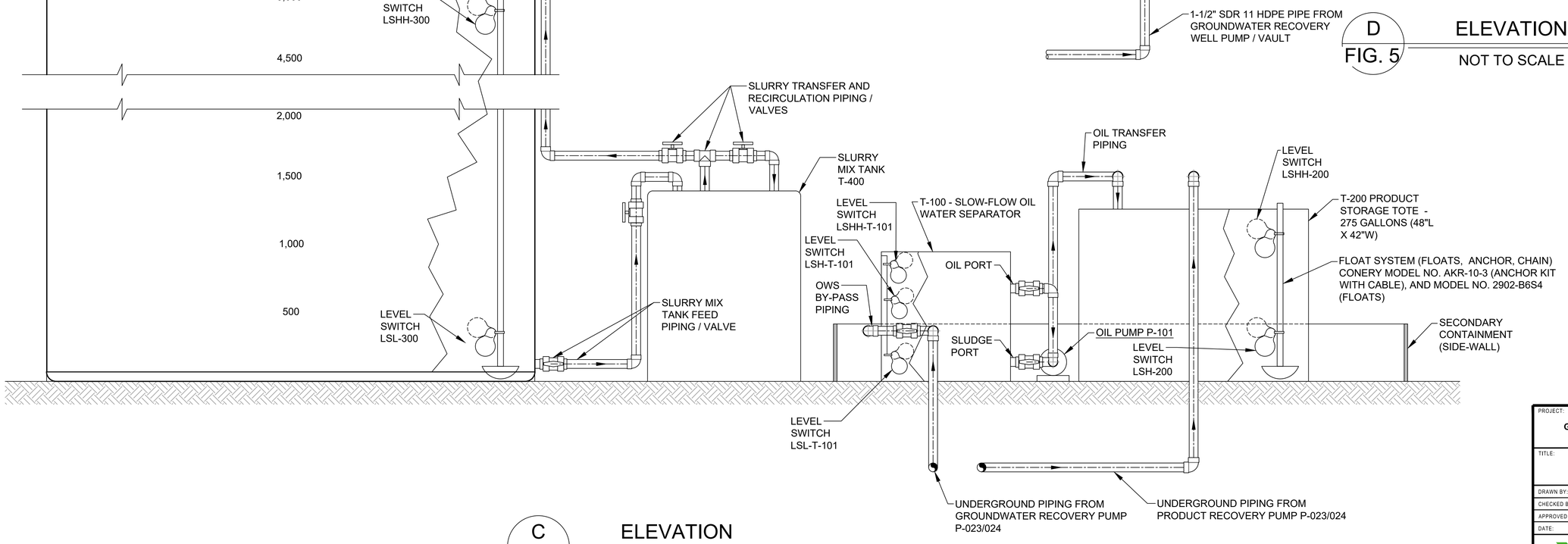
B FIG. 14/15 TRENCH SECTION

NOT TO SCALE



D FIG. 5 ELEVATION

NOT TO SCALE



C FIG. 5 ELEVATION

NOT TO SCALE

PROJECT:
HOLLYFRONTIER NAVAJO REFINING LLC
GROUNDWATER REINJECTION PILOT TEST SYSTEM
ARTESIA, NEW MEXICO

TITLE:
SECTIONS AND DETAILS

DRAWN BY:	D. SIEWERT	PROJ. NO.:	387820.0000.0000
CHECKED BY:			
APPROVED BY:			
DATE:	SEPTEMBER 2021		**FIGURE A-7**

TRC
1526 Cole Boulevard
Building 3, Suite 150
Lakewood, CO 80401
Phone: 303.792.5555

FILE NO.: NEW387820.0000.01.dwg

22x34 -- USER: DSiewert -- ATTACHED XREFS: -- ATTACHED IMAGES: Aridae_Figure 2b - Proposed Well Locations near RW-16_Figure 2c - Proposed Well Locations near MW-131 / FIGURE 9 PROCESS AND INSTRUMENTATION DIAGRAM, nonwastewater.jpg
DRAWING NAME: C:\TRANSFERRED FILES AND FOLDERS\HOLLYFRONTIER\387820\NEW387820.0000.01.dwg -- PLOT DATE: September 09, 2021 - 3:48PM -- LAYOUT: FIGURE 7

Version: 2017-10-21

Attachment B: Commissioning Tables

Released to Imaging: 1/8/2026 10:51:53 AM
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Table B-1 Northern Treatment System Commissioning Table
HFSNR Groundwater Reinjection Pilot Test

Component	Design Element	Power	Control Devices	Control Description	Interlock Mechanism	Functional Description	Confirm Action Yes/No	Notes and Observations
Groundwater pump	Pump 001	230V	Grundfos controller (model CU-300), HOA	Pump on/off and power	Control relays CR-1, 3, 6A and 7	Pumps groundwater through OWS, low shut off using pressure transducer which monitors and maintains water levels, shuts down pump on low water level	1. Yes 2. No	1. Pump pumps groundwater to OWS 2. Transducer does not shutdown, pump on low water level
Compressor	AC-23	120V	Solenoid Valve / HOA	Air on/off and power	Control relays CR-6 and 6A (solenoid)	Supplies air to product recovery (AP4) combo pump for removal of LNAPL	1. Yes	1. HOA for air compressor solenoid (auto). Compressor switch will remain on HAND for continuous operation, supplies 120V outlet inside enclosure
OWS oil reservoir						Oil water separator, collects and removes free product from groundwater	1. Yes	1. Verify by looking inside chamber and P-101 product pump operation
OWS effluent chamber	Tank T-100	120V	LSL 101 and LHL 101 - level switches	P-100 on and off	Control relays CR-2 and CR-3	Start and stops P-100 which pumps water from OWS effluent chamber	1. Yes	1. Start and stops P-100
OWS effluent chamber	Tank T-100	120V	LSHH Level Switch	Shut down groundwater recovery pump	Control relay CR-3	High high alarm, shuts down groundwater recovery pump	1. Yes	1. Activate and clear alarm
OWS effluent pump	P-100	230V	Hand off automatic, level switches, relay	Level switches for on and off	Control relays CR-7 and CR-2	Pumps water from OWS effluent tank and reinjects into wells	1. Yes	1. Pumps water from OWS effluent tank, to holding tank, then to injection well after treatment
Product pump	P-101	230V	Hand off automatic, level switches, relay, timer relay	Level switches for on and off	Control relays CR-4, CR-6 and TR-1	Pumps product from OWS reservoir to Tank T-200. P-101 has a 30-second delay start timer relay	1. Yes	1. Set timer to 30-second delay start and verify operation
Product tote	T-200					Holds product that is pumped directly from OWS product reservoir and from product (AP4) combo pump	1. Yes	1. Verify pump operation to the tote from product recovery pump and from the product reservoir chamber of the OWS
Product tote	T-200	120V	LSHH 200 Level Switch	High high level alarm	Control relay and solenoid CR-6A	Shuts down product recover pump, groundwater pump and P-101	1. Yes	1. Shuts down product recovery pump at the solenoid and turns off the power to the submersible groundwater pump
Product tote	T-200	120V	LSH 200 Level Switch	High level alarm	Control relay CR-6	Indicates Pending Alarm	1. Yes	1. Triggers alarm/system shutoff
Slurry mix rank (overpack drum)		120V	HOA			Pre-mixes magnesium sulfate solution in overpack drum while also recirculating T-300, 5000-gallon magnesium sulfate solution tank	1. Yes	1. ON/OFF switch supplies 120V outlet for submersible pump
Metering pump	P-301	230V	HOA and level switches	Power and on/off	Control relay CR-5	Pumps magnesium sulfate solution to the reinjection conveyance pipe discharging from P-100	1. Yes	1. Verified
Tank T-300						Hold 5000 gallons of magnesium sulfate solutions	1. Yes	1. Verified
Tank T-301		120V	LSL and LSHH alarms	Level switches	Control relay CR-7	Both these level alarm lock out P-301	1. Yes	1. Verified
					Control relays CR-8 and CR-9	Alarm beacon and reset	1. Yes	1. Verified

OWS - oil-water separator
HOA - Hand Off Auto switch controlled by process or human.
HAND - a switch that must be controlled by a human.
LNAPL - light non-aqueous phase liquid
V - volt

LSL - level switch low
LHL - level high level
LSH - level switch high
LSHH - level switch high high

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Received by OCD: 12/30/2025 2:28:51 PM

Table B-2 Southern Treatment System Commissioning Table
HFSNR Groundwater Reinjection Pilot Test

Component	Design Element	Power	Control Devices	Control Description	Interlock Mechanism	Functional Description	Confirm Action Yes/No	Notes and Observations
Groundwater pump	Pump 001	230V	Grundfos controller (model CU-300), HOA	Pump on/off and power	Control relays CR-1, 3, 6A and 7	Pumps groundwater through OWS, low shut off using pressure transducer which monitors and maintains water levels, shuts down pump on low water level	1. Yes 2. No	1. Groundwater Pump, pumps to OWS. 2. Pressure Transducer does not shutdown pump on low water level.
Compressor	AC-23	120V	Solenoid Valve / HOA	Air on/off and power	Control relays CR-6 and 6A (solenoid)	Supplies air to product recovery (AP4) combo pump for removal of LNAPL	1. Yes	1. HOA for compressor solenoid (Auto) 2. Compressor switch will remain ON HAND for operation
OWS oil reservoir						OWS collects and removes free product from groundwater	1. Yes	1. Verification by looking inside chamber and P-101 operation
OWS effluent chamber	Tank T-100	120V	LSL 101 and LHL 101 - level switches	P-100 on and off	Control relays CR-2 and CR-3	Start and stops P-100 which pumps water from OWS effluent chamber	1. Yes	1. Starts and stops P-100 and P-301
OWS effluent chamber	Tank T-100	120V	LSHH Level Switch	Shut down groundwater recovery pump	Control relays CR-3	High High alarm, shuts down groundwater recovery pump	1. Yes	1. Shuts down groundwater pump and triggers High High Alarm at building
OWS effluent pump	P-100	230V	HOA, level switches, relay	Level switches for on and off	Control relays CR-7 and CR-2	Pumps water from OWS effluent tank and reinjects into wells	1. Yes	1. Pumps water from OWS effluent tank, to 5000-gallon sulfate holding tank, then to injection well after treatment
Product pump	P-101	230V	HOA, level switches, relay, timer relay	Level switches for on and off	Control relays CR-4, CR-6 and TR-1	Pumps product from OWS reservoir to Tank T-200. P-101 has a 30-second delay start timer relay	1. Yes	1. Timer set and tested to 30-second start. Level switches in tank are good
Product tote	T-200					Holds product that is pumped directly from OWS product reservoir and from product (AP4) combo pump	1. Yes	Turn pump on to verify operation
Product tote	T-200	120V	LSHH 200 Level Switch	High high level alarm	Control relay and solenoid CR-6A	Shuts down product recovery pump, groundwater pump, and P-101	1. Yes	Shuts down product recovery pump, groundwater pump, and P-101 shuts down on High High Level alarm
Product tote	T-200	120V	LSH 200 Level Switch	High level alarm	Control relay CR-6	Indicates Pending Alarm	1. Yes	Triggers alarm
Slurry mix tank (overpack drum)		120V	HOA			Pre-mixes magnesium sulfate solution in overpack drum while also recirculating T-300, 5000-gallon magnesium sulfate solution tank	2. No	On/Off switch that supplies 120V outlet. No HOA on control panel
Metering pump	P-301	230V	HOA and level switches	Power and on/off	Control relay CR-5	Pumps magnesium sulfate solution to the reinjection conveyance pipe discharging from P-100	1. Yes	Verified
Tank T-300						Hold 5000 gallons of magnesium sulfate solution	1.Yes	Verified
Tank T-301		120V	LSL and LSHH alarms	Level switches	Control relay CR-7	Both these level alarm lock out P-301	1. Yes	Level Switch High 300 and Level Switch High High will also turn off the groundwater pump
					Control relays CR-8 and CR-9	Alarm Beacon and reset	1. Yes	Verified

OWS - oil-water separator
HOA - Hand Off Auto switch controlled by process or human.
HAND - a switch that must be controlled by a human.
LNAPL - light non-aqueous phase liquid
V - volt

LSL - level switch low
LHL - level high level
LSH - level switch high
LSHH - level switch high high

Attachment C: Amendment Dosing Calculations

Released to Imaging: 1/8/2026 10:51:53 AM
Received by OCD: 12/30/2025 2:28:51 PM

Attachment C: Amendment Dosing Calculations
Groundwater Reinjection Pilot Test
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Navajo Refinery Groundwater Reinjection Treatment System (background sulfate 2,000 mg/l)
Background Sulfate concentration 2,000 mg/l
Target Concentration in injected water 2,000 mg/l
Molecular Weight of MgSO4.H2O(7) = 246.47
Molecular Weight of SO4 = 96.06
Molecular Weight of Sulfur = 32.065 g/mol Molecular Weight of Oxygen = 15.999 g/mol 96.061
Molecular Weight of Magnesium = 24.305 g/mol
Grams per Pound 453.9
Liters per gallon 3.78

Assumptions:
1) In situ dilution factor of 2 to 4 for a recirculation system in a semi confined gravel unit
(dilution factor is an estimated value that will be adjusted based on field observations and sampling data)
2) 5,000 gallon bulk Sulfate amendment tank

Target formation groundwater concentration is between 500 to 1000 mg/l
Concentration in amendment holding tank - 6,100 pounds Epson Salt in 4,000 gallons water

Gallons H2O	Liters	Pounds Epsom	Fraction Sulfate	Pounds SO4	Grams Sulfate	Conc SO4 (mg/L)	Note
4,000	15120	6,100	0.39	2377	1079117	71370	2 gpm rate
4,000	15120	6,100	0.39	2377	1079117	71370	1.4 gpm rate
4,000	15120	6,100	0.39	2377	1079117	71370	0.4 gpm rate

fraction sulfur	% sulfur	fraction magnesium	% magnesium
0.130096969	13.01%	0.098612407	9.86%
0.130096969	13.01%	0.098612407	9.86%
0.130096969	13.01%	0.098612407	9.86%

GW Pumping Rate (gpm)	Convert to L/min	Dilution in L Required for 2,000 mg/l	Metered Volume in L/min	Metered Volume in gpm	Gallons from tank per day	Days per 4,000 gal	Injection volume in L/min	Injection volume in gpm	
2	7.56	35.7	0.21	0.06	81	49.6	7.77	2.06	Aquifer Tests
1.21	4.5738	35.7	0.13	0.03	49	81.9	4.70	1.24	Northern System pumping rate (8/14-9/10/24)
0.57	2.1546	35.7	0.06	0.02	23	173.9	2.21	0.59	Southern System pumping rate (8/14-9/10/24)

mg/L - milligram per liter
gpm - gallons per minute
g/mol - grams per mole
L/min - liter per minute

Page 62 of 678

Attachment D: Laboratory Analytical Reports and Data Useability Summary

Laboratory Analytical Reports - February and April 2024

ANALYTICAL REPORT

March 05, 2024

TRC Solutions - Austin, TX

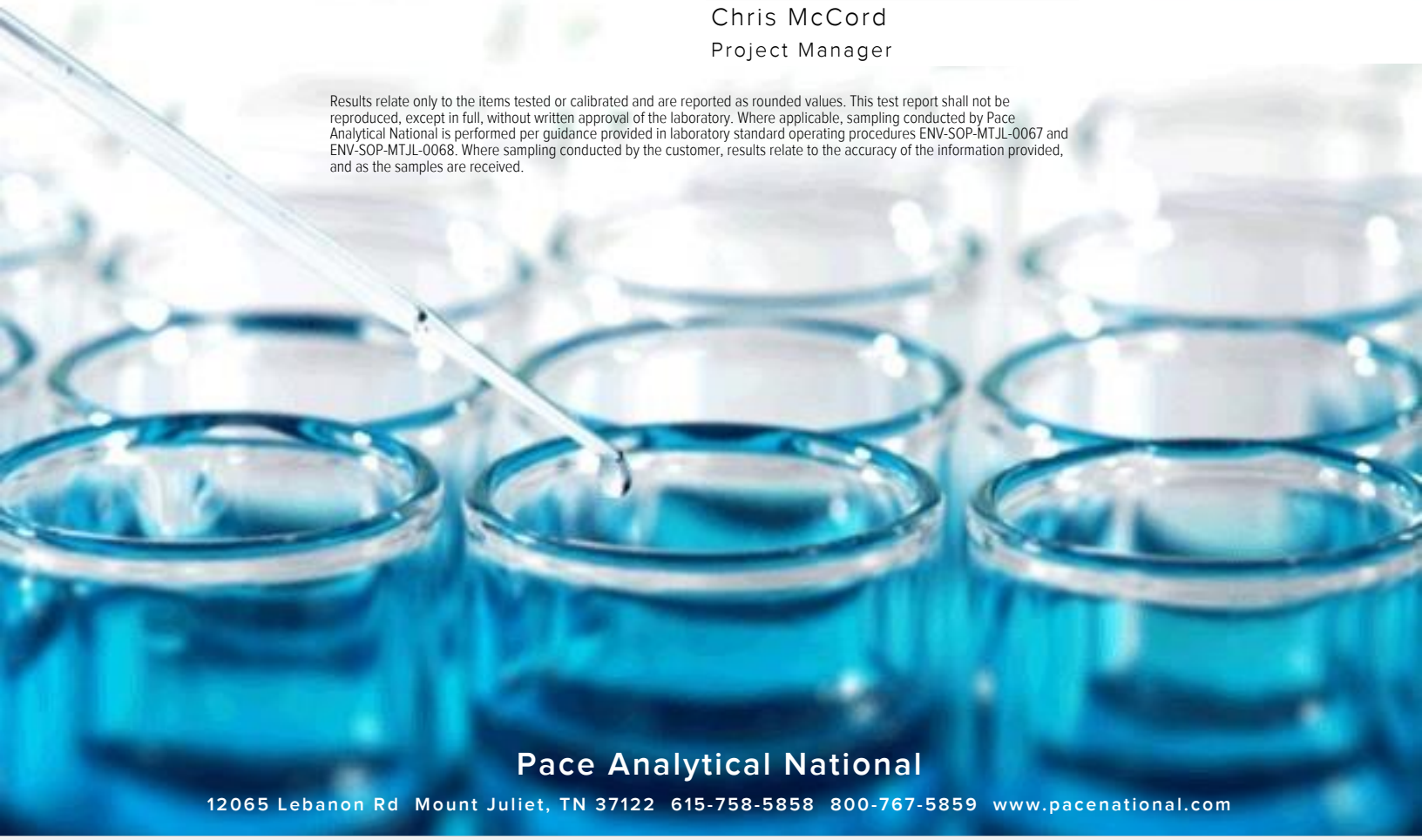
Sample Delivery Group:	L1707017
Samples Received:	02/16/2024
Project Number:	387820.0000.0000 000
Description:	Reinjection Pilot Study

Report To: Julie Speer
505 E. Huntland Dr, Ste 250
Austin, TX 78752

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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PMW-4 L1707017-06 24

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KWB-5 L1707017-08 28

MW-48 L1707017-09 30

MW-111 L1707017-10 32

MW-99 L1707017-11 34

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MW-112 L1707017-21 54

DUP-01 L1707017-22 56

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KWB-4 L1707017-01 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 10:50 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 08:58	02/21/24 08:58	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 17:58	02/20/24 17:58	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:25	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:28	02/18/24 23:28	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/21/24 22:59	02/21/24 22:59	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2232551	5	02/25/24 02:55	02/25/24 02:55	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/18/24 20:06	02/18/24 20:06	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 21:56	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	100	02/20/24 17:05	02/20/24 17:05	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	100	02/20/24 17:13	02/20/24 17:13	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	100	02/23/24 00:56	02/23/24 00:56	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228998	1	02/21/24 16:39	02/24/24 15:36	MAA	Mt. Juliet, TN

RW-19 L1707017-02 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 11:35 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:07	02/21/24 09:07	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 17:59	02/20/24 17:59	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:26	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:28	02/18/24 23:28	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/21/24 23:12	02/21/24 23:12	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2232551	5	02/25/24 03:51	02/25/24 03:51	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/18/24 20:27	02/18/24 20:27	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:00	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2232045	10	02/23/24 04:59	02/23/24 04:59	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	50	02/20/24 17:32	02/20/24 17:32	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	200	02/23/24 01:18	02/23/24 01:18	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228998	1	02/21/24 16:39	02/24/24 15:56	MAA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2236672	1	02/28/24 16:39	02/29/24 01:00	MAA	Mt. Juliet, TN

PMW-1 L1707017-03 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 12:35 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:13	02/21/24 09:13	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	10	02/20/24 17:59	02/20/24 17:59	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:28	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:29	02/18/24 23:29	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/21/24 23:24	02/21/24 23:24	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/18/24 21:23	02/18/24 21:23	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:03	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2232045	10	02/23/24 05:21	02/23/24 05:21	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	100	02/20/24 17:52	02/20/24 17:52	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	100	02/23/24 01:39	02/23/24 01:39	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228998	1	02/21/24 16:39	02/24/24 16:16	MAA	Mt. Juliet, TN

PMW-2 L1707017-04 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 13:20 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:18	02/21/24 09:18	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	10	02/20/24 18:00	02/20/24 18:00	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:31	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:29	02/18/24 23:29	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/21/24 23:37	02/21/24 23:37	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/18/24 21:44	02/18/24 21:44	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:06	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2232045	10	02/23/24 05:43	02/23/24 05:43	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	500	02/20/24 18:11	02/20/24 18:11	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	500	02/23/24 02:01	02/23/24 02:01	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228998	1	02/21/24 16:39	02/24/24 16:37	MAA	Mt. Juliet, TN

PMW-3 L1707017-05 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 14:10 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:22	02/21/24 09:22	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	10	02/20/24 18:00	02/20/24 18:00	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:35	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:29	02/18/24 23:29	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/21/24 23:50	02/21/24 23:50	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2232551	5	02/25/24 04:09	02/25/24 04:09	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/18/24 22:05	02/18/24 22:05	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:15	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2232045	1	02/23/24 04:37	02/23/24 04:37	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	1	02/20/24 16:34	02/20/24 16:34	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	100	02/23/24 02:22	02/23/24 02:22	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228998	1	02/21/24 16:39	02/24/24 16:57	MAA	Mt. Juliet, TN

PMW-4 L1707017-06 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 15:00 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:27	02/21/24 09:27	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	10	02/20/24 18:01	02/20/24 18:01	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:36	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:29	02/18/24 23:29	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/22/24 00:03	02/22/24 00:03	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/18/24 22:46	02/18/24 22:46	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:18	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	10	02/20/24 18:03	02/20/24 18:03	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	500	02/20/24 18:30	02/20/24 18:30	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	500	02/23/24 02:44	02/23/24 02:44	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/22/24 21:53	DMG	Mt. Juliet, TN

PMW-5 L1707017-07 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 15:50 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:41	02/21/24 09:41	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 18:01	02/20/24 18:01	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:38	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:29	02/18/24 23:29	CRB	Mt. Juliet, TN

PMW-5 L1707017-07 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 15:50 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2229715	1	02/22/24 00:16	02/22/24 00:16	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/18/24 23:07	02/18/24 23:07	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:22	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	1	02/20/24 15:09	02/20/24 15:09	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	1	02/20/24 16:53	02/20/24 16:53	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	100	02/23/24 03:06	02/23/24 03:06	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/22/24 22:18	DMG	Mt. Juliet, TN

KWB-5 L1707017-08 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 16:40 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:46	02/21/24 09:46	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 18:01	02/20/24 18:01	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:39	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:30	02/18/24 23:30	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/22/24 01:20	02/22/24 01:20	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 00:16	02/19/24 00:16	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:25	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2232045	10	02/23/24 07:09	02/23/24 07:09	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	200	02/20/24 18:50	02/20/24 18:50	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	200	02/23/24 03:27	02/23/24 03:27	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/22/24 22:42	DMG	Mt. Juliet, TN

MW-48 L1707017-09 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 09:20 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:51	02/21/24 09:51	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	1	02/20/24 18:03	02/20/24 18:03	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:40	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:30	02/18/24 23:30	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2233036	5	02/26/24 16:32	02/26/24 16:32	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 01:12	02/19/24 01:12	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228769	1	02/21/24 10:48	02/21/24 22:28	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	10	02/20/24 18:42	02/20/24 18:42	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	10	02/20/24 19:09	02/20/24 19:09	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	50	02/23/24 03:48	02/23/24 03:48	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/22/24 23:07	DMG	Mt. Juliet, TN

MW-111 L1707017-10 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 08:10 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 09:55	02/21/24 09:55	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	10	02/20/24 18:03	02/20/24 18:03	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:42	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:30	02/18/24 23:30	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2233036	5	02/26/24 17:03	02/26/24 17:03	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 01:34	02/19/24 01:34	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:24	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	1	02/20/24 15:28	02/20/24 15:28	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	25	02/20/24 19:29	02/20/24 19:29	ACG	Mt. Juliet, TN

MW-111 L1707017-10 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 08:10 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	100	02/23/24 04:10	02/23/24 04:10	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/22/24 23:31	DMG	Mt. Juliet, TN

MW-99 L1707017-11 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 10:30 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:00	02/21/24 10:00	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	1	02/20/24 18:04	02/20/24 18:04	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:43	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:35	02/18/24 23:35	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229718	1	02/22/24 22:21	02/22/24 22:21	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2233036	1	02/26/24 17:19	02/26/24 17:19	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 02:02	02/19/24 02:02	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:27	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	25	02/20/24 19:01	02/20/24 19:01	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	500	02/20/24 19:48	02/20/24 19:48	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	500	02/23/24 04:31	02/23/24 04:31	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	20	02/21/24 16:31	02/23/24 18:00	AUU	Mt. Juliet, TN

MW-66 L1707017-12 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 11:55 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:04	02/21/24 10:04	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	1	02/20/24 18:04	02/20/24 18:04	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2231560	1	02/22/24 12:22	02/23/24 12:42	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:35	02/18/24 23:35	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229718	1	02/22/24 22:34	02/22/24 22:34	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2233036	1	02/26/24 18:39	02/26/24 18:39	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 02:26	02/19/24 02:26	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:30	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	1	02/20/24 15:47	02/20/24 15:47	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	50	02/20/24 20:27	02/20/24 20:27	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	5	02/21/24 16:31	02/23/24 17:35	AUU	Mt. Juliet, TN

MW-129 L1707017-13 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 13:10 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:10	02/21/24 10:10	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 18:05	02/20/24 18:05	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:50	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:36	02/18/24 23:36	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229718	1	02/22/24 22:48	02/22/24 22:48	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2233036	1	02/26/24 18:55	02/26/24 18:55	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 02:43	02/19/24 02:43	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:13	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	10	02/20/24 19:20	02/20/24 19:20	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230001	200	02/20/24 20:08	02/20/24 20:08	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232150	200	02/23/24 04:53	02/23/24 04:53	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 00:45	DMG	Mt. Juliet, TN

MW-131 L1707017-14 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 09:50 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:15	02/21/24 10:15	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	1	02/20/24 18:05	02/20/24 18:05	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:52	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:36	02/18/24 23:36	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229718	1	02/22/24 23:02	02/22/24 23:02	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2233036	1	02/26/24 19:11	02/26/24 19:11	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 03:03	02/19/24 03:03	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:33	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2229752	20	02/20/24 19:40	02/20/24 19:40	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230070	100	02/20/24 20:40	02/20/24 20:40	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	100	02/23/24 01:19	02/23/24 01:19	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 01:09	DMG	Mt. Juliet, TN

PMW-6 L1707017-15 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 09:00 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:19	02/21/24 10:19	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 18:06	02/20/24 18:06	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:53	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:36	02/18/24 23:36	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 04:11	02/21/24 04:11	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 03:22	02/19/24 03:22	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:42	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	1	02/21/24 13:56	02/21/24 13:56	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	25	02/23/24 01:39	02/23/24 01:39	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 01:34	DMG	Mt. Juliet, TN

PMW-7 L1707017-16 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 10:30 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:34	02/21/24 10:34	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 18:06	02/20/24 18:06	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:54	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:36	02/18/24 23:36	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 04:23	02/21/24 04:23	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2228831	1	02/19/24 03:38	02/19/24 03:38	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:45	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	1	02/21/24 14:20	02/21/24 14:20	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230070	1	02/20/24 18:41	02/20/24 18:41	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	25	02/23/24 02:00	02/23/24 02:00	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 01:58	DMG	Mt. Juliet, TN

PMW-8 L1707017-17 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 11:40 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:49	02/21/24 10:49	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	10	02/20/24 18:06	02/20/24 18:06	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:56	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:37	02/18/24 23:37	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 04:36	02/21/24 04:36	GEB	Mt. Juliet, TN

PMW-8 L1707017-17 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 11:40 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG2229247	1	02/19/24 12:30	02/19/24 12:30	DMA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:48	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	25	02/21/24 17:36	02/21/24 17:36	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	100	02/23/24 02:20	02/23/24 02:20	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 02:23	DMG	Mt. Juliet, TN

PMW-9 L1707017-18 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 12:35 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:54	02/21/24 10:54	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 18:07	02/20/24 18:07	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2230642	1	02/21/24 10:26	02/21/24 20:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:37	02/18/24 23:37	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 04:48	02/21/24 04:48	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2229247	1	02/19/24 13:10	02/19/24 13:10	DMA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:50	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	25	02/21/24 18:00	02/21/24 18:00	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	50	02/23/24 02:41	02/23/24 02:41	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 02:47	DMG	Mt. Juliet, TN

PMW-10 L1707017-19 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 13:50 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230177	1	02/21/24 10:59	02/21/24 10:59	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	20	02/20/24 18:08	02/20/24 18:08	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2231115	1	02/22/24 00:37	02/22/24 17:15	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:37	02/18/24 23:37	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 05:01	02/21/24 05:01	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2229247	1	02/19/24 14:16	02/19/24 14:16	DMA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:53	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	20	02/21/24 18:24	02/21/24 18:24	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	100	02/23/24 03:02	02/23/24 03:02	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 03:12	DMG	Mt. Juliet, TN

PMW-11 L1707017-20 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 15:15 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230717	1	02/21/24 13:21	02/21/24 13:21	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229725	5	02/20/24 18:08	02/20/24 18:08	CAH	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2231115	1	02/22/24 00:37	02/22/24 17:17	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228819	1	02/18/24 23:37	02/18/24 23:37	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 05:14	02/21/24 05:14	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2229507	1	02/20/24 05:52	02/20/24 05:52	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:56	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	50	02/21/24 18:49	02/21/24 18:49	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	200	02/23/24 03:22	02/23/24 03:22	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	5	02/21/24 16:31	02/23/24 17:10	AUU	Mt. Juliet, TN

MW-112 L1707017-21 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 14:25 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230717	1	02/21/24 13:25	02/21/24 13:25	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229729	10	02/21/24 11:06	02/21/24 11:06	SJA	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2231115	1	02/22/24 00:37	02/22/24 17:18	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228823	1	02/19/24 00:12	02/19/24 00:12	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 05:26	02/21/24 05:26	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2229507	1	02/20/24 06:14	02/20/24 06:14	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 09:59	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	250	02/21/24 19:13	02/21/24 19:13	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230070	10	02/20/24 21:20	02/20/24 21:20	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	100	02/23/24 03:43	02/23/24 03:43	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 04:01	DMG	Mt. Juliet, TN

DUP-01 L1707017-22 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 12:00 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230717	1	02/21/24 13:30	02/21/24 13:30	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229729	10	02/21/24 11:07	02/21/24 11:07	SJA	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2231115	1	02/22/24 00:37	02/22/24 17:19	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228823	1	02/19/24 00:12	02/19/24 00:12	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2229715	1	02/22/24 01:33	02/22/24 01:33	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2229507	1	02/20/24 06:38	02/20/24 06:38	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228771	1	02/21/24 08:55	02/22/24 10:02	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	1	02/21/24 14:45	02/21/24 14:45	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	25	02/23/24 04:03	02/23/24 04:03	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232654	200	02/24/24 01:58	02/24/24 01:58	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 04:25	DMG	Mt. Juliet, TN

DUP-02 L1707017-23 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 08:00 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230717	1	02/21/24 14:14	02/21/24 14:14	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229729	10	02/21/24 11:11	02/21/24 11:11	SJA	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2231115	1	02/22/24 00:37	02/22/24 17:21	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228823	1	02/19/24 00:12	02/19/24 00:12	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 05:39	02/21/24 05:39	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2229507	1	02/20/24 06:59	02/20/24 06:59	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2228772	1	02/21/24 07:53	02/21/24 12:07	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	1	02/21/24 15:10	02/21/24 15:10	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	20	02/23/24 04:23	02/23/24 04:23	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 04:50	DMG	Mt. Juliet, TN

EB-01 L1707017-24 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 14:20 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2230717	1	02/21/24 14:19	02/21/24 14:19	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2229729	5	02/21/24 11:15	02/21/24 11:15	SJA	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2231115	1	02/22/24 00:37	02/22/24 17:24	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2228823	1	02/19/24 00:13	02/19/24 00:13	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2230087	1	02/21/24 06:17	02/21/24 06:17	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2229507	1	02/20/24 07:18	02/20/24 07:18	ASH	Mt. Juliet, TN

EB-01 L1707017-24 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 14:20 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG2228772	1	02/21/24 07:53	02/21/24 12:00	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2230534	1	02/21/24 11:29	02/21/24 11:29	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230070	1	02/20/24 15:22	02/20/24 15:22	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	1	02/23/24 00:58	02/23/24 00:58	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2228999	1	02/21/24 16:31	02/23/24 05:14	DMG	Mt. Juliet, TN

TRIP BLANK-01 L1707017-25 GW

Collected by: Scott Ude | Collected date/time: 02/13/24 00:00 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230070	1	02/20/24 15:41	02/20/24 15:41	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	1	02/23/24 00:17	02/23/24 00:17	JCP	Mt. Juliet, TN

TRIP BLANK-02 L1707017-26 GW

Collected by: Scott Ude | Collected date/time: 02/14/24 00:00 | Received date/time: 02/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2230070	1	02/20/24 16:01	02/20/24 16:01	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2232173	1	02/23/24 00:37	02/23/24 00:37	JCP	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Sample Delivery Group (SDG) Narrative

The Laboratory is not accredited for specific analytes on the associated Sample/Method. These analytes are flagged in the Sample Results section of the report with an asterisk (*).

Lab Sample ID	Project Sample ID	Method
L1707017-01	KWB-4	9056A
L1707017-02	RW-19	9056A
L1707017-03	PMW-1	9056A
L1707017-04	PMW-2	9056A
L1707017-05	PMW-3	9056A
L1707017-06	PMW-4	9056A
L1707017-07	PMW-5	9056A
L1707017-08	KWB-5	9056A
L1707017-09	MW-48	9056A
L1707017-10	MW-111	9056A
L1707017-11	MW-99	9056A
L1707017-12	MW-66	9056A
L1707017-13	MW-129	9056A
L1707017-14	MW-131	9056A
L1707017-15	PMW-6	9056A
L1707017-17	PMW-8	9056A
L1707017-18	PMW-9	9056A
L1707017-19	PMW-10	9056A
L1707017-20	PMW-11	9056A
L1707017-21	MW-112	9056A
L1707017-22	DUP-01	9056A
L1707017-23	DUP-02	9056A
L1707017-24	EB-01	9056A

pH outside of method requirement.

Lab Sample ID	Project Sample ID	Method
L1707017-03	PMW-1	8015D/GRO
L1707017-06	PMW-4	3511/8015
L1707017-07	PMW-5	3511/8015
L1707017-08	KWB-5	3511/8015
L1707017-22	DUP-01	3511/8015

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	882		8.45	20.0	1	02/21/2024 08:58	WG2230177

Sample Narrative:
L1707017-01 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.23	T8	0.0750	0.250	5	02/20/2024 17:58	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.223	J	0.140	0.250	1	02/21/2024 20:25	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:28	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	3.05	B	0.353	1.00	1	02/21/2024 22:59	WG2229715
Sulfate	239		2.97	25.0	5	02/25/2024 02:55	WG2232551

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	22.8		0.102	1.00	1	02/18/2024 20:06	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	117		0.0853	1.00	1	02/21/2024 21:56	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	15.5		3.14	10.0	100	02/20/2024 17:05	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*78.0-120*		*02/20/2024 17:05*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.59		0.00941	0.100	100	02/20/2024 17:13	WG2230001
Toluene	0.0851	J	0.0278	0.100	100	02/20/2024 17:13	WG2230001
Ethylbenzene	1.03		0.0137	0.100	100	02/23/2024 00:56	WG2232150
Total Xylenes	2.26		0.0174	0.300	100	02/20/2024 17:13	WG2230001
Methyl tert-butyl ether	7.02		0.0101	0.100	100	02/20/2024 17:13	WG2230001
Naphthalene	0.262	J	0.100	0.500	100	02/20/2024 17:13	WG2230001

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.547		0.0322	0.100	100	02/20/2024 17:13	WG2230001
1,3,5-Trimethylbenzene	0.121		0.0104	0.100	100	02/20/2024 17:13	WG2230001
(S) Toluene-d8	*97.4*			*80.0-120*		*02/20/2024 17:13*	WG2230001
(S) Toluene-d8	*101*			*80.0-120*		*02/23/2024 00:56*	WG2232150
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*02/20/2024 17:13*	WG2230001
(S) 4-Bromofluorobenzene	*96.6*			*77.0-126*		*02/23/2024 00:56*	WG2232150
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*02/20/2024 17:13*	WG2230001
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*02/23/2024 00:56*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	8.53		0.0247	0.100	1	02/24/2024 15:36	WG2228998
(S) o-Terphenyl	*108*			*31.0-160*		*02/24/2024 15:36*	WG2228998

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	846		8.45	20.0	1	02/21/2024 09:07	WG2230177

Sample Narrative:
L1707017-02 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	6.25	T8	0.0750	0.250	5	02/20/2024 17:59	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.233	J	0.140	0.250	1	02/21/2024 20:26	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:28	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	3.05	B	0.353	1.00	1	02/21/2024 23:12	WG2229715
Sulfate	261		2.97	25.0	5	02/25/2024 03:51	WG2232551

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.1		0.102	1.00	1	02/18/2024 20:27	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	114		0.0853	1.00	1	02/21/2024 22:00	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	7.08		0.314	1.00	10	02/23/2024 04:59	WG2232045
(S) a,a,a-Trifluorotoluene(FID)	*100*			*78.0-120*		*02/23/2024 04:59*	WG2232045

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.105		0.00471	0.0500	50	02/20/2024 17:32	WG2230001
Toluene	0.0161	J	0.0139	0.0500	50	02/20/2024 17:32	WG2230001
Ethylbenzene	0.133	J	0.0274	0.200	200	02/23/2024 01:18	WG2232150
Total Xylenes	0.282		0.00870	0.150	50	02/20/2024 17:32	WG2230001
Methyl tert-butyl ether	4.07		0.0202	0.200	200	02/23/2024 01:18	WG2232150
Naphthalene	U		0.0500	0.250	50	02/20/2024 17:32	WG2230001

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.123		0.0161	0.0500	50	02/20/2024 17:32	WG2230001
1,3,5-Trimethylbenzene	0.0282	J	0.00520	0.0500	50	02/20/2024 17:32	WG2230001
(S) Toluene-d8	*93.4*			*80.0-120*		*02/20/2024 17:32*	WG2230001
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 01:18*	WG2232150
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/20/2024 17:32*	WG2230001
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*		*02/23/2024 01:18*	WG2232150
(S) 1,2-Dichloroethane-d4	*97.9*			*70.0-130*		*02/20/2024 17:32*	WG2230001
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*02/23/2024 01:18*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	8.21		0.0247	0.100	1	02/24/2024 15:56	WG2228998
TPH (GC/FID) High Fraction	2.86	Q	0.0247	0.100	1	02/29/2024 01:00	WG2236672
(S) o-Terphenyl	*100*			*52.0-156*		*02/24/2024 15:56*	WG2228998
(S) o-Terphenyl	*69.0*			*52.0-156*		*02/29/2024 01:00*	WG2236672

Sample Narrative:

L1707017-02 WG2228998, WG2236672: Duplicate analysis performed due to septa bleed. Results don't confirm; both analyses reported.

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	814		8.45	20.0	1	02/21/2024 09:13	WG2230177

Sample Narrative:
L1707017-03 WG2230177: Endpoint pH 4.5

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	10.5	T8	0.150	0.500	10	02/20/2024 17:59	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.276	J5	0.140	0.250	1	02/21/2024 20:28	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:29	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.54	B	0.353	1.00	1	02/21/2024 23:24	WG2229715
Sulfate	120		0.594	5.00	1	02/21/2024 23:24	WG2229715

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	23.9		0.102	1.00	1	02/18/2024 21:23	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	115		0.0853	1.00	1	02/21/2024 22:03	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	25.3		0.314	1.00	10	02/23/2024 05:21	WG2232045
(S) a,a,a-Trifluorotoluene(FID)	*95.7*			*78.0-120*		*02/23/2024 05:21*	WG2232045

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	7.99		0.00941	0.100	100	02/20/2024 17:52	WG2230001
Toluene	U		0.0278	0.100	100	02/20/2024 17:52	WG2230001
Ethylbenzene	1.44		0.0137	0.100	100	02/23/2024 01:39	WG2232150
Total Xylenes	0.258	J	0.0174	0.300	100	02/20/2024 17:52	WG2230001
Methyl tert-butyl ether	7.78		0.0101	0.100	100	02/20/2024 17:52	WG2230001
Naphthalene	0.318	J	0.100	0.500	100	02/20/2024 17:52	WG2230001

[MW-1]
Collected date/time: 02/13/24 12:35
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.481		0.0322	0.100	100	02/20/2024 17:52	WG2230001
1,3,5-Trimethylbenzene	0.0274	J	0.0104	0.100	100	02/20/2024 17:52	WG2230001
(S) Toluene-d8	*94.6*			*80.0-120*		*02/20/2024 17:52*	WG2230001
(S) Toluene-d8	*104*			*80.0-120*		*02/23/2024 01:39*	WG2232150
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/20/2024 17:52*	WG2230001
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*		*02/23/2024 01:39*	WG2232150
(S) 1,2-Dichloroethane-d4	*96.0*			*70.0-130*		*02/20/2024 17:52*	WG2230001
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*02/23/2024 01:39*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.05		0.0247	0.100	1	02/24/2024 16:16	WG2228998
(S) o-Terphenyl	*100*			*31.0-160*		*02/24/2024 16:16*	WG2228998

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	792		8.45	20.0	1	02/21/2024 09:18	WG2230177

Sample Narrative:
L1707017-04 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	9.10	T8	0.150	0.500	10	02/20/2024 18:00	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.234	J	0.140	0.250	1	02/21/2024 20:31	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:29	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.68	B	0.353	1.00	1	02/21/2024 23:37	WG2229715
Sulfate	180		0.594	5.00	1	02/21/2024 23:37	WG2229715

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.3		0.102	1.00	1	02/18/2024 21:44	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	118		0.0853	1.00	1	02/21/2024 22:06	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	16.2		0.314	1.00	10	02/23/2024 05:43	WG2232045
(S) a,a,a-Trifluorotoluene(FID)	*97.9*			*78.0-120*		*02/23/2024 05:43*	WG2232045

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	3.64		0.0471	0.500	500	02/20/2024 18:11	WG2230001
Toluene	U		0.139	0.500	500	02/20/2024 18:11	WG2230001
Ethylbenzene	2.16		0.0685	0.500	500	02/23/2024 02:01	WG2232150
Total Xylenes	0.400	J	0.0870	1.50	500	02/20/2024 18:11	WG2230001
Methyl tert-butyl ether	10.1		0.0505	0.500	500	02/20/2024 18:11	WG2230001
Naphthalene	0.518	J	0.500	2.50	500	02/20/2024 18:11	WG2230001

PMW-2
Collected date/time: 02/13/24 13:20
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.897		0.161	0.500	500	02/20/2024 18:11	WG2230001
1,3,5-Trimethylbenzene	0.0825	J	0.0520	0.500	500	02/20/2024 18:11	WG2230001
(S) Toluene-d8	*95.0*			*80.0-120*		*02/20/2024 18:11*	WG2230001
(S) Toluene-d8	*105*			*80.0-120*		*02/23/2024 02:01*	WG2232150
(S) 4-Bromofluorobenzene	*111*			*77.0-126*		*02/20/2024 18:11*	WG2230001
(S) 4-Bromofluorobenzene	*100*			*77.0-126*		*02/23/2024 02:01*	WG2232150
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*02/20/2024 18:11*	WG2230001
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*02/23/2024 02:01*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	5.59		0.0247	0.100	1	02/24/2024 16:37	WG2228998
(S) o-Terphenyl	*106*			*31.0-160*		*02/24/2024 16:37*	WG2228998

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	779		8.45	20.0	1	02/21/2024 09:22	WG2230177

Sample Narrative:
L1707017-05 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	11.8	T8	0.150	0.500	10	02/20/2024 18:00	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.182	J	0.140	0.250	1	02/21/2024 20:35	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:29	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.68	B	0.353	1.00	1	02/21/2024 23:50	WG2229715
Sulfate	215		2.97	25.0	5	02/25/2024 04:09	WG2232551

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	17.2		0.102	1.00	1	02/18/2024 22:05	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	120		0.0853	1.00	1	02/21/2024 22:15	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	7.20		0.0314	0.100	1	02/23/2024 04:37	WG2232045
(S) a,a,a-Trifluorotoluene(FID)	*99.6*			*78.0-120*		*02/23/2024 04:37*	WG2232045

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.153		0.00941	0.100	100	02/23/2024 02:22	WG2232150
Toluene	0.000439	J	0.000278	0.00100	1	02/20/2024 16:34	WG2230001
Ethylbenzene	U		0.0137	0.100	100	02/23/2024 02:22	WG2232150
Total Xylenes	0.00266	J	0.000174	0.00300	1	02/20/2024 16:34	WG2230001
Methyl tert-butyl ether	6.26		0.0101	0.100	100	02/23/2024 02:22	WG2232150
Naphthalene	0.00722		0.00100	0.00500	1	02/20/2024 16:34	WG2230001

PMW-3
Collected date/time: 02/13/24 14:10
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.00375		0.000322	0.00100	1	02/20/2024 16:34	WG2230001
1,3,5-Trimethylbenzene	0.000771	J	0.000104	0.00100	1	02/20/2024 16:34	WG2230001
(S) Toluene-d8	*92.3*			*80.0-120*		*02/20/2024 16:34*	WG2230001
(S) Toluene-d8	*108*			*80.0-120*		*02/23/2024 02:22*	WG2232150
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*02/20/2024 16:34*	WG2230001
(S) 4-Bromofluorobenzene	*98.6*			*77.0-126*		*02/23/2024 02:22*	WG2232150
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*02/20/2024 16:34*	WG2230001
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*02/23/2024 02:22*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.09		0.0247	0.100	1	02/24/2024 16:57	WG2228998
(S) o-Terphenyl	*103*			*31.0-160*		*02/24/2024 16:57*	WG2228998

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	805		8.45	20.0	1	02/21/2024 09:27	WG2230177

Sample Narrative:
L1707017-06 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	10.4	T8	0.150	0.500	10	02/20/2024 18:01	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.206	J	0.140	0.250	1	02/21/2024 20:36	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:29	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.61	B	0.353	1.00	1	02/22/2024 00:03	WG2229715
Sulfate	175		0.594	5.00	1	02/22/2024 00:03	WG2229715

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	20.2		0.102	1.00	1	02/18/2024 22:46	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	118		0.0853	1.00	1	02/21/2024 22:18	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	12.2		0.314	1.00	10	02/20/2024 18:03	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*95.0*			*78.0-120*		*02/20/2024 18:03*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	5.80		0.0471	0.500	500	02/20/2024 18:30	WG2230001
Toluene	U		0.139	0.500	500	02/20/2024 18:30	WG2230001
Ethylbenzene	1.02		0.0685	0.500	500	02/23/2024 02:44	WG2232150
Total Xylenes	0.833	J	0.0870	1.50	500	02/20/2024 18:30	WG2230001
Methyl tert-butyl ether	9.25		0.0505	0.500	500	02/20/2024 18:30	WG2230001
Naphthalene	0.778	J	0.500	2.50	500	02/20/2024 18:30	WG2230001

PMW-4
Collected date/time: 02/13/24 15:00
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	1.19		0.161	0.500	500	02/20/2024 18:30	WG2230001
1,3,5-Trimethylbenzene	0.134	J	0.0520	0.500	500	02/20/2024 18:30	WG2230001
(S) Toluene-d8	*98.2*			*80.0-120*		*02/20/2024 18:30*	WG2230001
(S) Toluene-d8	*104*			*80.0-120*		*02/23/2024 02:44*	WG2232150
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/20/2024 18:30*	WG2230001
(S) 4-Bromofluorobenzene	*98.4*			*77.0-126*		*02/23/2024 02:44*	WG2232150
(S) 1,2-Dichloroethane-d4	*98.9*			*70.0-130*		*02/20/2024 18:30*	WG2230001
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*02/23/2024 02:44*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.55		0.0247	0.100	1	02/22/2024 21:53	WG2228999
(S) o-Terphenyl	*106*			*31.0-160*		*02/22/2024 21:53*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

PMW-3
Collected date/time: 02/13/24 15:50
L1707017

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	878		8.45	20.0	1	02/21/2024 09:41	WG2230177

Sample Narrative:
L1707017-07 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	7.16	T8	0.0750	0.250	5	02/20/2024 18:01	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.152	J	0.140	0.250	1	02/21/2024 20:38	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:29	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.04	B	0.353	1.00	1	02/22/2024 00:16	WG2229715
Sulfate	134	J6	0.594	5.00	1	02/22/2024 00:16	WG2229715

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	18.6		0.102	1.00	1	02/18/2024 23:07	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	114		0.0853	1.00	1	02/21/2024 22:22	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	2.47		0.0314	0.100	1	02/20/2024 15:09	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*78.0-120*		*02/20/2024 15:09*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.366		0.00941	0.100	100	02/23/2024 03:06	WG2232150
Toluene	0.00538		0.000278	0.00100	1	02/20/2024 16:53	WG2230001
Ethylbenzene	0.0449	J	0.0137	0.100	100	02/23/2024 03:06	WG2232150
Total Xylenes	0.0427		0.000174	0.00300	1	02/20/2024 16:53	WG2230001
Methyl tert-butyl ether	6.49		0.0101	0.100	100	02/23/2024 03:06	WG2232150
Naphthalene	0.0209		0.00100	0.00500	1	02/20/2024 16:53	WG2230001

PMW-3
Collected date/time: 02/13/24 15:50
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0543		0.000322	0.00100	1	02/20/2024 16:53	WG2230001
1,3,5-Trimethylbenzene	0.00901		0.000104	0.00100	1	02/20/2024 16:53	WG2230001
(S) Toluene-d8	*92.1*			*80.0-120*		*02/20/2024 16:53*	WG2230001
(S) Toluene-d8	*107*			*80.0-120*		*02/23/2024 03:06*	WG2232150
(S) 4-Bromofluorobenzene	*107*			*77.0-126*		*02/20/2024 16:53*	WG2230001
(S) 4-Bromofluorobenzene	*99.0*			*77.0-126*		*02/23/2024 03:06*	WG2232150
(S) 1,2-Dichloroethane-d4	*97.8*			*70.0-130*		*02/20/2024 16:53*	WG2230001
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*02/23/2024 03:06*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.99		0.0247	0.100	1	02/22/2024 22:18	WG2228999
(S) o-Terphenyl	*98.5*			*31.0-160*		*02/22/2024 22:18*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	825		8.45	20.0	1	02/21/2024 09:46	WG2230177

Sample Narrative:
L1707017-08 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	5.43	T8	0.0750	0.250	5	02/20/2024 18:01	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.296		0.140	0.250	1	02/21/2024 20:39	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:30	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.40	B	0.353	1.00	1	02/22/2024 01:20	WG2229715
Sulfate	65.0		0.594	5.00	1	02/22/2024 01:20	WG2229715

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	20.8		0.102	1.00	1	02/19/2024 00:16	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	125		0.0853	1.00	1	02/21/2024 22:25	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	20.4		0.314	1.00	10	02/23/2024 07:09	WG2232045
(S) a,a,a-Trifluorotoluene(FID)	*97.8*			*78.0-120*		*02/23/2024 07:09*	WG2232045

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	2.74		0.0188	0.200	200	02/20/2024 18:50	WG2230001
Toluene	0.0728	J	0.0556	0.200	200	02/20/2024 18:50	WG2230001
Ethylbenzene	0.981		0.0274	0.200	200	02/23/2024 03:27	WG2232150
Total Xylenes	1.06		0.0348	0.600	200	02/20/2024 18:50	WG2230001
Methyl tert-butyl ether	9.11		0.0202	0.200	200	02/20/2024 18:50	WG2230001
Naphthalene	0.209	J	0.200	1.00	200	02/20/2024 18:50	WG2230001

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.390		0.0644	0.200	200	02/20/2024 18:50	WG2230001
1,3,5-Trimethylbenzene	0.0782	J	0.0208	0.200	200	02/20/2024 18:50	WG2230001
(S) Toluene-d8	*94.1*			*80.0-120*		*02/20/2024 18:50*	WG2230001
(S) Toluene-d8	*103*			*80.0-120*		*02/23/2024 03:27*	WG2232150
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*02/20/2024 18:50*	WG2230001
(S) 4-Bromofluorobenzene	*99.5*			*77.0-126*		*02/23/2024 03:27*	WG2232150
(S) 1,2-Dichloroethane-d4	*99.9*			*70.0-130*		*02/20/2024 18:50*	WG2230001
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*02/23/2024 03:27*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.11		0.0247	0.100	1	02/22/2024 22:42	WG2228999
(S) o-Terphenyl	*103*			*31.0-160*		*02/22/2024 22:42*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	1010		8.45	20.0	1	02/21/2024 09:51	WG2230177

Sample Narrative:
L1707017-09 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.0820	T8	0.0150	0.0500	1	02/20/2024 18:03	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.612		0.140	0.250	1	02/21/2024 20:40	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:30	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	8.12		1.76	5.00	5	02/26/2024 16:32	WG2233036
Sulfate	326		2.97	25.0	5	02/26/2024 16:32	WG2233036

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	21.5		0.102	1.00	1	02/19/2024 01:12	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	123		0.0853	1.00	1	02/21/2024 22:28	WG2228769

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	2.95		0.314	1.00	10	02/20/2024 18:42	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*78.0-120*		*02/20/2024 18:42*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.507		0.000941	0.0100	10	02/20/2024 19:09	WG2230001
Toluene	0.0273		0.00278	0.0100	10	02/20/2024 19:09	WG2230001
Ethylbenzene	0.0575		0.00685	0.0500	50	02/23/2024 03:48	WG2232150
Total Xylenes	0.0381		0.00174	0.0300	10	02/20/2024 19:09	WG2230001
Methyl tert-butyl ether	0.798		0.00505	0.0500	50	02/23/2024 03:48	WG2232150
Naphthalene	0.0130	J	0.0100	0.0500	10	02/20/2024 19:09	WG2230001

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0210		0.00322	0.0100	10	02/20/2024 19:09	WG2230001
1,3,5-Trimethylbenzene	0.00287	J	0.00104	0.0100	10	02/20/2024 19:09	WG2230001
(S) Toluene-d8	*94.9*			*80.0-120*		*02/20/2024 19:09*	WG2230001
(S) Toluene-d8	*105*			*80.0-120*		*02/23/2024 03:48*	WG2232150
(S) 4-Bromofluorobenzene	*115*			*77.0-126*		*02/20/2024 19:09*	WG2230001
(S) 4-Bromofluorobenzene	*97.4*			*77.0-126*		*02/23/2024 03:48*	WG2232150
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*02/20/2024 19:09*	WG2230001
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*02/23/2024 03:48*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.38		0.0247	0.100	1	02/22/2024 23:07	WG2228999
(S) o-Terphenyl	*131*			*31.0-160*		*02/22/2024 23:07*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	833		8.45	20.0	1	02/21/2024 09:55	WG2230177

Sample Narrative:
L1707017-10 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	10.5	T8	0.150	0.500	10	02/20/2024 18:03	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.211	J	0.140	0.250	1	02/21/2024 20:42	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U	J6	0.0250	0.0500	1	02/18/2024 23:30	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	8.13		1.76	5.00	5	02/26/2024 17:03	WG2233036
Sulfate	283		2.97	25.0	5	02/26/2024 17:03	WG2233036

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	17.9		0.102	1.00	1	02/19/2024 01:34	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	148		0.0853	1.00	1	02/22/2024 09:24	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	9.03		0.0314	0.100	1	02/20/2024 15:28	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*100*			*78.0-120*		*02/20/2024 15:28*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	2.10		0.00941	0.100	100	02/23/2024 04:10	WG2232150
Toluene	0.0205	J	0.00695	0.0250	25	02/20/2024 19:29	WG2230001
Ethylbenzene	1.00		0.0137	0.100	100	02/23/2024 04:10	WG2232150
Total Xylenes	1.54		0.00435	0.0750	25	02/20/2024 19:29	WG2230001
Methyl tert-butyl ether	2.38		0.00253	0.0250	25	02/20/2024 19:29	WG2230001
Naphthalene	0.245		0.0250	0.125	25	02/20/2024 19:29	WG2230001

MW-111
Collected date/time: 02/14/24 08:10
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,2,4-Trimethylbenzene	0.490		0.00805	0.0250	25	02/20/2024 19:29	WG2230001
1,3,5-Trimethylbenzene	0.101		0.00260	0.0250	25	02/20/2024 19:29	WG2230001
(S) Toluene-d8	*96.3*			*80.0-120*		*02/20/2024 19:29*	WG2230001
(S) Toluene-d8	*101*			*80.0-120*		*02/23/2024 04:10*	WG2232150
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*02/20/2024 19:29*	WG2230001
(S) 4-Bromofluorobenzene	*99.1*			*77.0-126*		*02/23/2024 04:10*	WG2232150
(S) 1,2-Dichloroethane-d4	*96.0*			*70.0-130*		*02/20/2024 19:29*	WG2230001
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*02/23/2024 04:10*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) High Fraction	4.49		0.0247	0.100	1	02/22/2024 23:31	WG2228999
(S) o-Terphenyl	*99.5*			*31.0-160*		*02/22/2024 23:31*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	705		8.45	20.0	1	02/21/2024 10:00	WG2230177

Sample Narrative:
L1707017-11 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	2.34	T8	0.0150	0.0500	1	02/20/2024 18:04	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	5.16		0.140	0.250	1	02/21/2024 20:43	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.311		0.0250	0.0500	1	02/18/2024 23:35	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	3.35		0.353	1.00	1	02/26/2024 17:19	WG2233036
Sulfate	52.3		0.594	5.00	1	02/22/2024 22:21	WG2229718

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	33.3		0.102	1.00	1	02/19/2024 02:02	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	59.2		0.0853	1.00	1	02/22/2024 09:27	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	41.3		0.785	2.50	25	02/20/2024 19:01	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*78.0-120*		*02/20/2024 19:01*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	12.3		0.0471	0.500	500	02/20/2024 19:48	WG2230001
Toluene	0.309	J	0.139	0.500	500	02/20/2024 19:48	WG2230001
Ethylbenzene	2.21		0.0685	0.500	500	02/23/2024 04:31	WG2232150
Total Xylenes	7.87		0.0870	1.50	500	02/20/2024 19:48	WG2230001
Methyl tert-butyl ether	2.66		0.0505	0.500	500	02/20/2024 19:48	WG2230001
Naphthalene	0.506	J	0.500	2.50	500	02/20/2024 19:48	WG2230001

MW-99
Collected date/time: 02/14/24 10:30
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	1.66		0.161	0.500	500	02/20/2024 19:48	WG2230001
1,3,5-Trimethylbenzene	0.275	J	0.0520	0.500	500	02/20/2024 19:48	WG2230001
(S) Toluene-d8	*94.7*			*80.0-120*		*02/20/2024 19:48*	WG2230001
(S) Toluene-d8	*102*			*80.0-120*		*02/23/2024 04:31*	WG2232150
(S) 4-Bromofluorobenzene	*107*			*77.0-126*		*02/20/2024 19:48*	WG2230001
(S) 4-Bromofluorobenzene	*99.1*			*77.0-126*		*02/23/2024 04:31*	WG2232150
(S) 1,2-Dichloroethane-d4	*93.1*			*70.0-130*		*02/20/2024 19:48*	WG2230001
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*02/23/2024 04:31*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	67.4		0.494	2.00	20	02/23/2024 18:00	WG2228999
(S) o-Terphenyl	*0.000*	J7		*31.0-160*		*02/23/2024 18:00*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	818		8.45	20.0	1	02/21/2024 10:04	WG2230177

Sample Narrative:
L1707017-12 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	2.59	T8	0.0150	0.0500	1	02/20/2024 18:04	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	2.04		0.140	0.250	1	02/23/2024 12:42	WG2231560

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:35	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.14		0.353	1.00	1	02/26/2024 18:39	WG2233036
Sulfate	6.55		0.594	5.00	1	02/22/2024 22:34	WG2229718

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	32.4		0.102	1.00	1	02/19/2024 02:26	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	88.2		0.0853	1.00	1	02/22/2024 09:30	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	6.58		0.0314	0.100	1	02/20/2024 15:47	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*92.8*			*78.0-120*		*02/20/2024 15:47*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0691		0.00471	0.0500	50	02/20/2024 20:27	WG2230001
Toluene	U		0.0139	0.0500	50	02/20/2024 20:27	WG2230001
Ethylbenzene	U	J4	0.00685	0.0500	50	02/20/2024 20:27	WG2230001
Total Xylenes	0.0134	J	0.00870	0.150	50	02/20/2024 20:27	WG2230001
Methyl tert-butyl ether	1.32		0.00505	0.0500	50	02/20/2024 20:27	WG2230001
Naphthalene	U		0.0500	0.250	50	02/20/2024 20:27	WG2230001

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.0161	0.0500	50	02/20/2024 20:27	WG2230001
1,3,5-Trimethylbenzene	U		0.00520	0.0500	50	02/20/2024 20:27	WG2230001
(S) Toluene-d8	*101*			*80.0-120*		*02/20/2024 20:27*	WG2230001
(S) 4-Bromofluorobenzene	*112*			*77.0-126*		*02/20/2024 20:27*	WG2230001
(S) 1,2-Dichloroethane-d4	*99.2*			*70.0-130*		*02/20/2024 20:27*	WG2230001

Sample Narrative:

L1707017-12 WG2230001: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	7.38		0.123	0.500	5	02/23/2024 17:35	WG2228999
(S) o-Terphenyl	*108*			*31.0-160*		*02/23/2024 17:35*	WG2228999

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	814		8.45	20.0	1	02/21/2024 10:10	WG2230177

Sample Narrative:
L1707017-13 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	6.35	T8	0.0750	0.250	5	02/20/2024 18:05	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.183	J	0.140	0.250	1	02/21/2024 20:50	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:36	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.12		0.353	1.00	1	02/26/2024 18:55	WG2233036
Sulfate	87.3		0.594	5.00	1	02/22/2024 22:48	WG2229718

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	13.8		0.102	1.00	1	02/19/2024 02:43	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	104		0.0853	1.00	1	02/22/2024 09:13	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	2.28		0.314	1.00	10	02/20/2024 19:20	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*94.4*			*78.0-120*		*02/20/2024 19:20*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	10.8		0.0188	0.200	200	02/20/2024 20:08	WG2230001
Toluene	0.284		0.0556	0.200	200	02/20/2024 20:08	WG2230001
Ethylbenzene	U		0.0274	0.200	200	02/23/2024 04:53	WG2232150
Total Xylenes	1.65		0.0348	0.600	200	02/20/2024 20:08	WG2230001
Methyl tert-butyl ether	12.4		0.0202	0.200	200	02/20/2024 20:08	WG2230001
Naphthalene	2.03		0.200	1.00	200	02/20/2024 20:08	WG2230001

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.771		0.0644	0.200	200	02/20/2024 20:08	WG2230001
1,3,5-Trimethylbenzene	0.363		0.0208	0.200	200	02/20/2024 20:08	WG2230001
(S) Toluene-d8	*96.3*			*80.0-120*		*02/20/2024 20:08*	WG2230001
(S) Toluene-d8	*108*			*80.0-120*		*02/23/2024 04:53*	WG2232150
(S) 4-Bromofluorobenzene	*107*			*77.0-126*		*02/20/2024 20:08*	WG2230001
(S) 4-Bromofluorobenzene	*100*			*77.0-126*		*02/23/2024 04:53*	WG2232150
(S) 1,2-Dichloroethane-d4	*94.1*			*70.0-130*		*02/20/2024 20:08*	WG2230001
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*02/23/2024 04:53*	WG2232150

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.57		0.0247	0.100	1	02/23/2024 00:45	WG2228999
(S) o-Terphenyl	*108*			*31.0-160*		*02/23/2024 00:45*	WG2228999

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	809		8.45	20.0	1	02/21/2024 10:15	WG2230177

Sample Narrative:
L1707017-14 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	1.77	T8	0.0150	0.0500	1	02/20/2024 18:05	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.432		0.140	0.250	1	02/21/2024 20:52	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:36	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.62		0.353	1.00	1	02/26/2024 19:11	WG2233036
Sulfate	10.2		0.594	5.00	1	02/22/2024 23:02	WG2229718

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	18.5		0.102	1.00	1	02/19/2024 03:03	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	120		0.0853	1.00	1	02/22/2024 09:33	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	41.9		0.628	2.00	20	02/20/2024 19:40	WG2229752
(S) a,a,a-Trifluorotoluene(FID)	*96.0*			*78.0-120*		*02/20/2024 19:40*	WG2229752

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	6.88		0.00941	0.100	100	02/20/2024 20:40	WG2230070
Toluene	6.76		0.0278	0.100	100	02/20/2024 20:40	WG2230070
Ethylbenzene	2.17		0.0137	0.100	100	02/20/2024 20:40	WG2230070
Total Xylenes	6.94		0.0174	0.300	100	02/20/2024 20:40	WG2230070
Methyl tert-butyl ether	4.72		0.0101	0.100	100	02/20/2024 20:40	WG2230070
Naphthalene	0.366	J	0.100	0.500	100	02/20/2024 20:40	WG2230070

MW-13T
Collected date/time: 02/14/24 09:50
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,2,4-Trimethylbenzene	1.15		0.0322	0.100	100	02/20/2024 20:40	WG2230070
1,3,5-Trimethylbenzene	0.150		0.0104	0.100	100	02/23/2024 01:19	WG2232173
(S) Toluene-d8	*100*			*80.0-120*		*02/20/2024 20:40*	WG2230070
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 01:19*	WG2232173
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*02/20/2024 20:40*	WG2230070
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/23/2024 01:19*	WG2232173
(S) 1,2-Dichloroethane-d4	*87.3*			*70.0-130*		*02/20/2024 20:40*	WG2230070
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*02/23/2024 01:19*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) High Fraction	8.18		0.0247	0.100	1	02/23/2024 01:09	WG2228999
(S) o-Terphenyl	*95.0*			*31.0-160*		*02/23/2024 01:09*	WG2228999

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	817		8.45	20.0	1	02/21/2024 10:19	WG2230177

Sample Narrative:
L1707017-15 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.72	T8	0.0750	0.250	5	02/20/2024 18:06	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.263		0.140	0.250	1	02/21/2024 20:53	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:36	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	1.35		0.353	1.00	1	02/21/2024 04:11	WG2230087
Sulfate	U		0.594	5.00	1	02/21/2024 04:11	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.5		0.102	1.00	1	02/19/2024 03:22	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	100		0.0853	1.00	1	02/22/2024 09:42	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	5.62		0.0314	0.100	1	02/21/2024 13:56	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*78.0-120*		*02/21/2024 13:56*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.52		0.00235	0.0250	25	02/23/2024 01:39	WG2232173
Toluene	0.0144	J	0.00695	0.0250	25	02/23/2024 01:39	WG2232173
Ethylbenzene	0.162		0.00343	0.0250	25	02/23/2024 01:39	WG2232173
Total Xylenes	0.189		0.00435	0.0750	25	02/23/2024 01:39	WG2232173
Methyl tert-butyl ether	3.33		0.00253	0.0250	25	02/23/2024 01:39	WG2232173
Naphthalene	0.0263	J	0.0250	0.125	25	02/23/2024 01:39	WG2232173

PMW-6
Collected date/time: 02/14/24 09:00
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0486		0.00805	0.0250	25	02/23/2024 01:39	WG2232173
1,3,5-Trimethylbenzene	0.00879	J	0.00260	0.0250	25	02/23/2024 01:39	WG2232173
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 01:39*	WG2232173
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/23/2024 01:39*	WG2232173
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*02/23/2024 01:39*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.72		0.0247	0.100	1	02/23/2024 01:34	WG2228999
(S) o-Terphenyl	*105*			*31.0-160*		*02/23/2024 01:34*	WG2228999

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	827		8.45	20.0	1	02/21/2024 10:34	WG2230177

Sample Narrative:
L1707017-16 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.48	T8	0.0750	0.250	5	02/20/2024 18:06	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.212	J	0.140	0.250	1	02/21/2024 20:54	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:36	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	1.58		0.353	1.00	1	02/21/2024 04:23	WG2230087
Sulfate	U		0.594	5.00	1	02/21/2024 04:23	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.8		0.102	1.00	1	02/19/2024 03:38	WG2228831

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	125		0.0853	1.00	1	02/22/2024 09:45	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	5.80		0.0314	0.100	1	02/21/2024 14:20	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*96.2*			*78.0-120*		*02/21/2024 14:20*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.64		0.00235	0.0250	25	02/23/2024 02:00	WG2232173
Toluene	0.0102		0.000278	0.00100	1	02/20/2024 18:41	WG2230070
Ethylbenzene	0.0540		0.000137	0.00100	1	02/20/2024 18:41	WG2230070
Total Xylenes	0.101		0.000174	0.00300	1	02/20/2024 18:41	WG2230070
Methyl tert-butyl ether	3.99		0.00253	0.0250	25	02/23/2024 02:00	WG2232173
Naphthalene	0.0695		0.00100	0.00500	1	02/20/2024 18:41	WG2230070

PMW-7
Collected date/time: 02/14/24 10:30
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0390		0.000322	0.00100	1	02/20/2024 18:41	WG2230070
1,3,5-Trimethylbenzene	0.00264	J	0.00260	0.0250	25	02/23/2024 02:00	WG2232173
(S) Toluene-d8	*99.8*			*80.0-120*		*02/20/2024 18:41*	WG2230070
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 02:00*	WG2232173
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/20/2024 18:41*	WG2230070
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/23/2024 02:00*	WG2232173
(S) 1,2-Dichloroethane-d4	*84.1*			*70.0-130*		*02/20/2024 18:41*	WG2230070
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*02/23/2024 02:00*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.90		0.0247	0.100	1	02/23/2024 01:58	WG2228999
(S) o-Terphenyl	*103*			*31.0-160*		*02/23/2024 01:58*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	821		8.45	20.0	1	02/21/2024 10:49	WG2230177

Sample Narrative:
L1707017-17 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	8.09	T8	0.150	0.500	10	02/20/2024 18:06	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	1.25		0.140	0.250	1	02/21/2024 20:56	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:37	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	1.63		0.353	1.00	1	02/21/2024 04:36	WG2230087
Sulfate	1.01	J	0.594	5.00	1	02/21/2024 04:36	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	32.3		0.102	1.00	1	02/19/2024 12:30	WG2229247

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	128		0.0853	1.00	1	02/22/2024 09:48	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	67.5		0.785	2.50	25	02/21/2024 17:36	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*78.0-120*		*02/21/2024 17:36*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	14.1		0.00941	0.100	100	02/23/2024 02:20	WG2232173
Toluene	8.31		0.0278	0.100	100	02/23/2024 02:20	WG2232173
Ethylbenzene	2.70		0.0137	0.100	100	02/23/2024 02:20	WG2232173
Total Xylenes	9.13		0.0174	0.300	100	02/23/2024 02:20	WG2232173
Methyl tert-butyl ether	3.71		0.0101	0.100	100	02/23/2024 02:20	WG2232173
Naphthalene	0.236	J	0.100	0.500	100	02/23/2024 02:20	WG2232173

PMW-8
Collected date/time: 02/14/24 11:40
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.999		0.0322	0.100	100	02/23/2024 02:20	WG2232173
1,3,5-Trimethylbenzene	0.219		0.0104	0.100	100	02/23/2024 02:20	WG2232173
(S) Toluene-d8	*105*			*80.0-120*		*02/23/2024 02:20*	WG2232173
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*02/23/2024 02:20*	WG2232173
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*02/23/2024 02:20*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	7.56		0.0247	0.100	1	02/23/2024 02:23	WG2228999
(S) o-Terphenyl	*100*			*31.0-160*		*02/23/2024 02:23*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	821		8.45	20.0	1	02/21/2024 10:54	WG2230177

Sample Narrative:
L1707017-18 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.32	T8	0.0750	0.250	5	02/20/2024 18:07	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.347		0.140	0.250	1	02/21/2024 20:57	WG2230642

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:37	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	1.75		0.353	1.00	1	02/21/2024 04:48	WG2230087
Sulfate	0.664	J	0.594	5.00	1	02/21/2024 04:48	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	17.4		0.102	1.00	1	02/19/2024 13:10	WG2229247

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	121		0.0853	1.00	1	02/22/2024 09:50	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	29.1		0.785	2.50	25	02/21/2024 18:00	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*92.9*			*78.0-120*		*02/21/2024 18:00*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	4.30		0.00471	0.0500	50	02/23/2024 02:41	WG2232173
Toluene	1.91		0.0139	0.0500	50	02/23/2024 02:41	WG2232173
Ethylbenzene	1.32		0.00685	0.0500	50	02/23/2024 02:41	WG2232173
Total Xylenes	3.63		0.00870	0.150	50	02/23/2024 02:41	WG2232173
Methyl tert-butyl ether	3.81		0.00505	0.0500	50	02/23/2024 02:41	WG2232173
Naphthalene	0.101	J	0.0500	0.250	50	02/23/2024 02:41	WG2232173

PMW-3
Collected date/time: 02/14/24 12:35
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.463		0.0161	0.0500	50	02/23/2024 02:41	WG2232173
1,3,5-Trimethylbenzene	0.103		0.00520	0.0500	50	02/23/2024 02:41	WG2232173
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 02:41*	WG2232173
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*02/23/2024 02:41*	WG2232173
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*02/23/2024 02:41*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.01		0.0247	0.100	1	02/23/2024 02:47	WG2228999
(S) o-Terphenyl	*109*			*31.0-160*		*02/23/2024 02:47*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	840		8.45	20.0	1	02/21/2024 10:59	WG2230177

Sample Narrative:
L1707017-19 WG2230177: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	12.7	T8	0.300	1.00	20	02/20/2024 18:08	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	2.25		0.140	0.250	1	02/22/2024 17:15	WG2231115

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:37	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	1.84		0.353	1.00	1	02/21/2024 05:01	WG2230087
Sulfate	0.669	J	0.594	5.00	1	02/21/2024 05:01	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	24.4		0.102	1.00	1	02/19/2024 14:16	WG2229247

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	114		0.0853	1.00	1	02/22/2024 09:53	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	51.2		0.628	2.00	20	02/21/2024 18:24	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*93.9*			*78.0-120*		*02/21/2024 18:24*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	9.52		0.00941	0.100	100	02/23/2024 03:02	WG2232173
Toluene	3.18		0.0278	0.100	100	02/23/2024 03:02	WG2232173
Ethylbenzene	2.20		0.0137	0.100	100	02/23/2024 03:02	WG2232173
Total Xylenes	6.87		0.0174	0.300	100	02/23/2024 03:02	WG2232173
Methyl tert-butyl ether	3.74		0.0101	0.100	100	02/23/2024 03:02	WG2232173
Naphthalene	0.189	J	0.100	0.500	100	02/23/2024 03:02	WG2232173

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.880		0.0322	0.100	100	02/23/2024 03:02	WG2232173
1,3,5-Trimethylbenzene	0.191		0.0104	0.100	100	02/23/2024 03:02	WG2232173
(S) Toluene-d8	*105*			*80.0-120*		*02/23/2024 03:02*	WG2232173
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/23/2024 03:02*	WG2232173
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*02/23/2024 03:02*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.95		0.0247	0.100	1	02/23/2024 03:12	WG2228999
(S) o-Terphenyl	*103*			*31.0-160*		*02/23/2024 03:12*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	894		8.45	20.0	1	02/21/2024 13:21	WG2230717

Sample Narrative:
L1707017-20 WG2230717: Endpoint pH 4.5

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	5.66	T8	0.0750	0.250	5	02/20/2024 18:08	WG2229725

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.657		0.140	0.250	1	02/22/2024 17:17	WG2231115

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/18/2024 23:37	WG2228819

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	2.91		0.353	1.00	1	02/21/2024 05:14	WG2230087
Sulfate	U		0.594	5.00	1	02/21/2024 05:14	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	24.5		0.102	1.00	1	02/20/2024 05:52	WG2229507

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	173		0.0853	1.00	1	02/22/2024 09:56	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	116		1.57	5.00	50	02/21/2024 18:49	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*94.3*			*78.0-120*		*02/21/2024 18:49*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	28.9		0.0188	0.200	200	02/23/2024 03:22	WG2232173
Toluene	25.9		0.0556	0.200	200	02/23/2024 03:22	WG2232173
Ethylbenzene	5.27		0.0274	0.200	200	02/23/2024 03:22	WG2232173
Total Xylenes	13.5		0.0348	0.600	200	02/23/2024 03:22	WG2232173
Methyl tert-butyl ether	5.05		0.0202	0.200	200	02/23/2024 03:22	WG2232173
Naphthalene	0.292	J	0.200	1.00	200	02/23/2024 03:22	WG2232173

PMW-11
Collected date/time: 02/14/24 15:15
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	1.29		0.0644	0.200	200	02/23/2024 03:22	WG2232173
1,3,5-Trimethylbenzene	0.277		0.0208	0.200	200	02/23/2024 03:22	WG2232173
(S) Toluene-d8	*107*			*80.0-120*		*02/23/2024 03:22*	WG2232173
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*02/23/2024 03:22*	WG2232173
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*02/23/2024 03:22*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	9.31		0.123	0.500	5	02/23/2024 17:10	WG2228999
(S) o-Terphenyl	*96.0*			*31.0-160*		*02/23/2024 17:10*	WG2228999

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	871		8.45	20.0	1	02/21/2024 13:25	WG2230717

Sample Narrative:
L1707017-21 WG2230717: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	6.56	T8	0.150	0.500	10	02/21/2024 11:06	WG2229729

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.346		0.140	0.250	1	02/22/2024 17:18	WG2231115

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/19/2024 00:12	WG2228823

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	2.23		0.353	1.00	1	02/21/2024 05:26	WG2230087
Sulfate	1.13	J	0.594	5.00	1	02/21/2024 05:26	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	8.33		0.102	1.00	1	02/20/2024 06:14	WG2229507

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	171		0.0853	1.00	1	02/22/2024 09:59	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	54.8	B	7.85	25.0	250	02/21/2024 19:13	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*94.0*			*78.0-120*		*02/21/2024 19:13*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	8.41		0.00941	0.100	100	02/23/2024 03:43	WG2232173
Toluene	0.128		0.00278	0.0100	10	02/20/2024 21:20	WG2230070
Ethylbenzene	1.99		0.0137	0.100	100	02/23/2024 03:43	WG2232173
Total Xylenes	2.64		0.0174	0.300	100	02/23/2024 03:43	WG2232173
Methyl tert-butyl ether	1.21		0.0101	0.100	100	02/23/2024 03:43	WG2232173
Naphthalene	0.357	V	0.0100	0.0500	10	02/20/2024 21:20	WG2230070

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.564		0.00322	0.0100	10	02/20/2024 21:20	WG2230070
1,3,5-Trimethylbenzene	0.143		0.0104	0.100	100	02/23/2024 03:43	WG2232173
(S) Toluene-d8	*98.1*			*80.0-120*		*02/20/2024 21:20*	WG2230070
(S) Toluene-d8	*104*			*80.0-120*		*02/23/2024 03:43*	WG2232173
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*02/20/2024 21:20*	WG2230070
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/23/2024 03:43*	WG2232173
(S) 1,2-Dichloroethane-d4	*83.9*			*70.0-130*		*02/20/2024 21:20*	WG2230070
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*02/23/2024 03:43*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.38		0.0247	0.100	1	02/23/2024 04:01	WG2228999
(S) o-Terphenyl	*97.5*			*31.0-160*		*02/23/2024 04:01*	WG2228999

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	873		8.45	20.0	1	02/21/2024 13:30	WG2230717

Sample Narrative:
L1707017-22 WG2230717: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	7.11	T8	0.150	0.500	10	02/21/2024 11:07	WG2229729

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.300		0.140	0.250	1	02/22/2024 17:19	WG2231115

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/19/2024 00:12	WG2228823

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	4.03	B	0.353	1.00	1	02/22/2024 01:33	WG2229715
Sulfate	134		0.594	5.00	1	02/22/2024 01:33	WG2229715

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.9		0.102	1.00	1	02/20/2024 06:38	WG2229507

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	119		0.0853	1.00	1	02/22/2024 10:02	WG2228771

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	4.14		0.0314	0.100	1	02/21/2024 14:45	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*96.2*			*78.0-120*		*02/21/2024 14:45*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.336		0.00235	0.0250	25	02/23/2024 04:03	WG2232173
Toluene	U		0.00695	0.0250	25	02/23/2024 04:03	WG2232173
Ethylbenzene	0.0758		0.00343	0.0250	25	02/23/2024 04:03	WG2232173
Total Xylenes	0.0385	J	0.00435	0.0750	25	02/23/2024 04:03	WG2232173
Methyl tert-butyl ether	5.22		0.0202	0.200	200	02/24/2024 01:58	WG2232654
Naphthalene	U		0.0250	0.125	25	02/23/2024 04:03	WG2232173

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0387		0.00805	0.0250	25	02/23/2024 04:03	WG2232173
1,3,5-Trimethylbenzene	0.00719	J	0.00260	0.0250	25	02/23/2024 04:03	WG2232173
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 04:03*	WG2232173
(S) Toluene-d8	*114*			*80.0-120*		*02/24/2024 01:58*	WG2232654
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/23/2024 04:03*	WG2232173
(S) 4-Bromofluorobenzene	*113*			*77.0-126*		*02/24/2024 01:58*	WG2232654
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*02/23/2024 04:03*	WG2232173
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*02/24/2024 01:58*	WG2232654

Sample Narrative:

L1707017-22 WG2232173: Target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.96		0.0247	0.100	1	02/23/2024 04:25	WG2228999
(S) o-Terphenyl	*105*			*31.0-160*		*02/23/2024 04:25*	WG2228999

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	827		8.45	20.0	1	02/21/2024 14:14	WG2230717

Sample Narrative:
L1707017-23 WG2230717: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	2.95	T8	0.150	0.500	10	02/21/2024 11:11	WG2229729

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.291		0.140	0.250	1	02/22/2024 17:21	WG2231115

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/19/2024 00:12	WG2228823

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	1.36		0.353	1.00	1	02/21/2024 05:39	WG2230087
Sulfate	U		0.594	5.00	1	02/21/2024 05:39	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	7.04		0.102	1.00	1	02/20/2024 06:59	WG2229507

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	96.5		0.0853	1.00	1	02/21/2024 12:07	WG2228772

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	5.25		0.0314	0.100	1	02/21/2024 15:10	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*96.7*			*78.0-120*		*02/21/2024 15:10*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.09		0.00188	0.0200	20	02/23/2024 04:23	WG2232173
Toluene	0.00942	J	0.00556	0.0200	20	02/23/2024 04:23	WG2232173
Ethylbenzene	0.126		0.00274	0.0200	20	02/23/2024 04:23	WG2232173
Total Xylenes	0.148		0.00348	0.0600	20	02/23/2024 04:23	WG2232173
Methyl tert-butyl ether	3.18		0.00202	0.0200	20	02/23/2024 04:23	WG2232173
Naphthalene	0.0297	J	0.0200	0.100	20	02/23/2024 04:23	WG2232173

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0608		0.00644	0.0200	20	02/23/2024 04:23	WG2232173
1,3,5-Trimethylbenzene	0.0115	J	0.00208	0.0200	20	02/23/2024 04:23	WG2232173
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 04:23*	WG2232173
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*02/23/2024 04:23*	WG2232173
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*02/23/2024 04:23*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.65		0.0247	0.100	1	02/23/2024 04:50	WG2228999
(S) o-Terphenyl	*106*			*31.0-160*		*02/23/2024 04:50*	WG2228999

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	U		8.45	20.0	1	02/21/2024 14:19	WG2230717

Sample Narrative:
L1707017-24 WG2230717: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.224	J T8	0.0750	0.250	5	02/21/2024 11:15	WG2229729

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	02/22/2024 17:24	WG2231115

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	02/19/2024 00:13	WG2228823

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	U		0.353	1.00	1	02/21/2024 06:17	WG2230087
Sulfate	U		0.594	5.00	1	02/21/2024 06:17	WG2230087

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	0.244	J	0.102	1.00	1	02/20/2024 07:18	WG2229507

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	U		0.0853	1.00	1	02/21/2024 12:00	WG2228772

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0630	B J	0.0314	0.100	1	02/21/2024 11:29	WG2230534
(S) a,a,a-Trifluorotoluene(FID)	*92.0*			*78.0-120*		*02/21/2024 11:29*	WG2230534

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	02/20/2024 15:22	WG2230070
Toluene	U		0.000278	0.00100	1	02/20/2024 15:22	WG2230070
Ethylbenzene	U		0.000137	0.00100	1	02/20/2024 15:22	WG2230070
Total Xylenes	U		0.000174	0.00300	1	02/20/2024 15:22	WG2230070
Methyl tert-butyl ether	U		0.000101	0.00100	1	02/20/2024 15:22	WG2230070
Naphthalene	U		0.00100	0.00500	1	02/20/2024 15:22	WG2230070

LB-01
Collected date/time: 02/14/24 14:20
L1707017

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	02/20/2024 15:22	WG2230070
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	02/23/2024 00:58	WG2232173
(S) Toluene-d8	*90.0*			*80.0-120*		*02/20/2024 15:22*	WG2230070
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2024 00:58*	WG2232173
(S) 4-Bromofluorobenzene	*111*			*77.0-126*		*02/20/2024 15:22*	WG2230070
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/23/2024 00:58*	WG2232173
(S) 1,2-Dichloroethane-d4	*99.1*			*70.0-130*		*02/20/2024 15:22*	WG2230070
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*02/23/2024 00:58*	WG2232173

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0533	B J	0.0247	0.100	1	02/23/2024 05:14	WG2228999
(S) o-Terphenyl	*77.0*			*31.0-160*		*02/23/2024 05:14*	WG2228999

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	02/20/2024 15:41	WG2230070
Toluene	U		0.000278	0.00100	1	02/20/2024 15:41	WG2230070
Ethylbenzene	U		0.000137	0.00100	1	02/20/2024 15:41	WG2230070
Total Xylenes	U		0.000174	0.00300	1	02/20/2024 15:41	WG2230070
Methyl tert-butyl ether	U		0.000101	0.00100	1	02/20/2024 15:41	WG2230070
Naphthalene	U		0.00100	0.00500	1	02/20/2024 15:41	WG2230070
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	02/20/2024 15:41	WG2230070
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	02/23/2024 00:17	WG2232173
(S) Toluene-d8	*98.4*			*80.0-120*		*02/20/2024 15:41*	WG2230070
(S) Toluene-d8	*105*			*80.0-120*		*02/23/2024 00:17*	WG2232173
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*02/20/2024 15:41*	WG2230070
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/23/2024 00:17*	WG2232173
(S) 1,2-Dichloroethane-d4	*92.1*			*70.0-130*		*02/20/2024 15:41*	WG2230070
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*02/23/2024 00:17*	WG2232173

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	1	02/20/2024 16:01	WG2230070
Toluene	U		0.000278	0.00100	1	02/20/2024 16:01	WG2230070
Ethylbenzene	U		0.000137	0.00100	1	02/20/2024 16:01	WG2230070
Total Xylenes	U		0.000174	0.00300	1	02/20/2024 16:01	WG2230070
Methyl tert-butyl ether	U		0.000101	0.00100	1	02/20/2024 16:01	WG2230070
Naphthalene	U		0.00100	0.00500	1	02/20/2024 16:01	WG2230070
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	02/20/2024 16:01	WG2230070
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	02/23/2024 00:37	WG2232173
(S) Toluene-d8	*97.0*			*80.0-120*		*02/20/2024 16:01*	WG2230070
(S) Toluene-d8	*107*			*80.0-120*		*02/23/2024 00:37*	WG2232173
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*02/20/2024 16:01*	WG2230070
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/23/2024 00:37*	WG2232173
(S) 1,2-Dichloroethane-d4	*89.3*			*70.0-130*		*02/20/2024 16:01*	WG2230070
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*02/23/2024 00:37*	WG2232173

Method Blank (MB)

(MB) R4036429-2 02/21/24 08:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

Method Blank (MB)

(MB) R4036429-3 02/21/24 08:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1707017-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-16 02/21/24 10:34 • (DUP) R4036429-4 02/21/24 10:38

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	827	829	1	0.246		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1707017-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-04 02/21/24 09:18 • (DUP) R4036429-5 02/21/24 10:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	792	792	1	0.0684		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4036429-1 02/21/24 08:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	108	108	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4036562-2 02/21/24 11:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1705934-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1705934-05 02/21/24 11:47 • (DUP) R4036562-3 02/21/24 11:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	82.3	83.6	1	1.54		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1705934-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1705934-07 02/21/24 14:06 • (DUP) R4036562-4 02/21/24 14:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	72.5	73.5	1	1.35		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4036562-1 02/21/24 11:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	98.0	98.0	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4036134-1 02/20/24 17:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ferrous Iron	U		0.0150	0.0500

L1707017-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-01 02/20/24 17:58 • (DUP) R4036134-3 02/20/24 17:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	3.23	3.27	5	1.14		20

L1707017-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-20 02/20/24 18:08 • (DUP) R4036134-6 02/20/24 18:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	5.66	5.50	5	2.90		20

Laboratory Control Sample (LCS)

(LCS) R4036134-2 02/20/24 17:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ferrous Iron	1.00	0.978	97.8	85.0-115	

L1707017-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-19 02/20/24 18:08 • (MS) R4036134-4 02/20/24 18:08 • (MSD) R4036134-5 02/20/24 18:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ferrous Iron	20.0	12.7	33.2	32.3	103	98.0	20	80.0-120			2.76	20

Method Blank (MB)

(MB) R4036369-1 02/21/24 11:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ferrous Iron	U		0.0150	0.0500

L1707017-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-22 02/21/24 11:07 • (DUP) R4036369-3 02/21/24 11:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	7.11	6.87	10	3.46		20

Laboratory Control Sample (LCS)

(LCS) R4036369-2 02/21/24 11:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ferrous Iron	1.00	1.00	100	85.0-115	

L1707444-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707444-01 02/21/24 11:15 • (MS) R4036369-4 02/21/24 11:16 • (MSD) R4036369-5 02/21/24 11:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ferrous Iron	1.00	0.932	1.83	1.82	89.6	88.5	1	80.0-120			0.604	20

Method Blank (MB)

(MB) R4036716-1 02/21/24 20:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1707017-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-11 02/21/24 20:43 • (DUP) R4036716-5 02/21/24 20:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	5.16	4.98	1	3.55		20

Laboratory Control Sample (LCS)

(LCS) R4036716-2 02/21/24 20:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	12.9	105	80.0-120	

L1707017-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-03 02/21/24 20:28 • (MS) R4036716-3 02/21/24 20:29 • (MSD) R4036716-4 02/21/24 20:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	0.276	6.52	6.32	125	121	1	90.0-110	J5	J5	3.12	20

Sample Narrative:

MS: Spike failure due to matrix interference

MSD: Spike failure due to matrix interference

Method Blank (MB)

(MB) R4037292-1 02/22/24 17:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1707309-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1707309-02 02/22/24 17:29 • (DUP) R4037292-3 02/22/24 17:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	U	U	4	0.000		20

Sample Narrative:

OS: Dilution due to matrix interference

L1706985-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1706985-02 02/22/24 17:47 • (DUP) R4037292-6 02/22/24 17:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	25.6	26.4	2	3.08		20

Sample Narrative:

OS: Dilution due to matrix interference

Laboratory Control Sample (LCS)

(LCS) R4037292-2 02/22/24 17:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	12.7	104	80.0-120	

L1707309-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707309-02 02/22/24 17:29 • (MS) R4037292-4 02/22/24 17:32 • (MSD) R4037292-5 02/22/24 17:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	U	17.8	18.8	356	377	4	90.0-110	J5	J5	5.68	20

Sample Narrative:

L1707309-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707309-02 02/22/24 17:29 • (MS) R4037292-4 02/22/24 17:32 • (MSD) R4037292-5 02/22/24 17:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %

OS: Dilution due to matrix interference

MS: Spike failure due to matrix interference

MSD: Spike failure due to matrix interference

Method Blank (MB)

(MB) R4037557-1 02/23/24 12:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	0.158	J	0.140	0.250

L1707746-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1707746-01 02/23/24 13:00 • (DUP) R4037557-5 02/23/24 13:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	0.196	0.373	1	62.2	P1	20

L1707746-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1707746-02 02/23/24 13:04 • (DUP) R4037557-7 02/23/24 13:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4037557-2 02/23/24 12:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	13.5	110	80.0-120	

L1707648-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707648-02 02/23/24 12:51 • (MS) R4037557-3 02/23/24 12:55 • (MSD) R4037557-4 02/23/24 12:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	U	5.20	5.36	104	107	1	90.0-110			3.03	20

L1707746-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1707746-01 02/23/24 13:00 • (MS) R4037557-6 02/23/24 13:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	0.196	7.04	137	1	90.0-110	J5

L1707746-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1707746-01 02/23/24 13:00 • (MS) R4037557-6 02/23/24 13:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier

Sample Narrative:

MS: Spike failure due to matrix interference

Method Blank (MB)

(MB) R4035149-1 02/18/24 23:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

L1707017-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-01 02/18/24 23:28 • (DUP) R4035149-3 02/18/24 23:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

L1707017-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-11 02/18/24 23:35 • (DUP) R4035149-4 02/18/24 23:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	0.311	0.310	1	0.322		20

Laboratory Control Sample (LCS)

(LCS) R4035149-2 02/18/24 23:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.508	102	85.0-115	

L1707017-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-10 02/18/24 23:30 • (MS) R4035149-5 02/18/24 23:38 • (MSD) R4035149-6 02/18/24 23:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	U	0.329	0.322	65.8	64.4	1	80.0-120	J6	J6	2.15	20

Sample Narrative:

MS: spike failed due to sample matrix

MSD: spike failed due to sample matrix

Method Blank (MB)

(MB) R4035150-1 02/19/24 00:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

Laboratory Control Sample (LCS)

(LCS) R4035150-2 02/19/24 00:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.511	102	85.0-115	

L1707017-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-24 02/19/24 00:13 • (MS) R4035150-3 02/19/24 00:13 • (MSD) R4035150-4 02/19/24 00:14

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	U	0.516	0.452	103	90.4	1	80.0-120			13.2	20

Method Blank (MB)

(MB) R4037130-1 02/21/24 20:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	0.825	J	0.353	1.00
Sulfate	U		0.594	5.00

L1706075-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1706075-22 02/21/24 21:29 • (DUP) R4037130-3 02/21/24 21:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	2.00	1.84	1	8.13		15
Sulfate	26.7	26.7	1	0.0614		15

L1707017-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-07 02/22/24 00:16 • (DUP) R4037130-6 02/22/24 00:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	4.04	4.09	1	1.33		15
Sulfate	134	139	1	3.79		15

Laboratory Control Sample (LCS)

(LCS) R4037130-2 02/21/24 20:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	38.1	95.3	80.0-120	
Sulfate	40.0	39.8	99.6	80.0-120	

L1706075-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706075-22 02/21/24 21:29 • (MS) R4037130-4 02/21/24 21:55 • (MSD) R4037130-5 02/21/24 22:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	2.00	36.7	36.5	86.7	86.2	1	80.0-120			0.549	15
Sulfate	40.0	26.7	60.3	60.4	83.9	84.4	1	80.0-120			0.281	15

L1707017-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1707017-07 02/22/24 00:16 • (MS) R4037130-7 02/22/24 00:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	4.04	38.3	85.6	1	80.0-120	
Sulfate	40.0	134	146	30.7	1	80.0-120	J6

Sample Narrative:

MS: SO4 spike failed due to sample matrix

Method Blank (MB)

(MB) R4037454-3 02/22/24 15:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.594	5.00

L1706936-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1706936-02 02/23/24 01:19 • (DUP) R4037454-5 02/22/24 17:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	49.3	49.6	1	0.709		15

L1707089-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1707089-05 02/23/24 00:38 • (DUP) R4037454-8 02/23/24 00:51

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	206	205	1	0.392	E	15

Laboratory Control Sample (LCS)

(LCS) R4037454-4 02/22/24 15:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	38.1	95.1	80.0-120	

L1706936-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706936-02 02/23/24 01:19 • (MS) R4037454-6 02/22/24 17:19 • (MSD) R4037454-7 02/22/24 17:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	49.3	80.6	80.7	78.3	78.4	1	80.0-120	J6	J6	0.0857	15

L1707089-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1707089-05 02/23/24 00:38 • (MS) R4037454-9 02/23/24 01:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	206	207	1.74	1	80.0-120	E V

Method Blank (MB)

(MB) R4037002-1 02/21/24 00:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Sulfate	U		0.594	5.00

L1706317-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1706317-03 02/21/24 02:55 • (DUP) R4037002-3 02/21/24 03:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		15
Sulfate	U	U	1	0.000		15

L1707017-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-24 02/21/24 06:17 • (DUP) R4037002-6 02/21/24 06:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		15
Sulfate	U	U	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R4037002-2 02/21/24 00:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	39.7	99.4	80.0-120	
Sulfate	40.0	39.3	98.2	80.0-120	

L1706317-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706317-03 02/21/24 02:55 • (MS) R4037002-4 02/21/24 03:45 • (MSD) R4037002-5 02/21/24 03:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	U	40.2	40.1	101	100	1	80.0-120			0.265	15
Sulfate	40.0	U	39.9	39.7	99.7	99.2	1	80.0-120			0.452	15

L1707017-24 Original Sample (OS) • Matrix Spike (MS)

(OS) L1707017-24 02/21/24 06:17 • (MS) R4037002-7 02/21/24 06:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	U	40.3	101	1	80.0-120	
Sulfate	40.0	U	40.2	100	1	80.0-120	

Method Blank (MB)

(MB) R4038136-1 02/25/24 00:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.594	5.00

L1706075-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1706075-04 02/25/24 01:05 • (DUP) R4038136-3 02/25/24 01:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	U	U	1	0.000		15

L1708122-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1708122-01 02/25/24 06:36 • (DUP) R4038136-5 02/25/24 07:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	158	161	1	1.60		15

Laboratory Control Sample (LCS)

(LCS) R4038136-2 02/25/24 00:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	43.5	109	80.0-120	

L1706075-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1706075-04 02/25/24 01:05 • (MS) R4038136-4 02/25/24 01:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	U	39.5	98.7	1	80.0-120	

L1708122-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1708122-01 02/25/24 06:36 • (MS) R4038136-7 02/25/24 08:27 • (MSD) R4038136-8 02/25/24 08:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	158	171	173	31.3	36.8	1	80.0-120	J6	J6	1.28	15

Method Blank (MB)

(MB) R4038742-1 02/26/24 15:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Sulfate	U		0.594	5.00

L1707017-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-11 02/26/24 17:19 • (DUP) R4038742-3 02/26/24 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	3.35	3.35	1	0.0149		15
Sulfate	68.8	68.8	1	0.0134		15

L1708666-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1708666-03 02/26/24 22:22 • (DUP) R4038742-5 02/26/24 22:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	1.93	1.78	1	8.36		15
Sulfate	5.49	5.40	1	1.64		15

Laboratory Control Sample (LCS)

(LCS) R4038742-2 02/26/24 16:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	40.1	100	80.0-120	
Sulfate	40.0	42.0	105	80.0-120	

L1707017-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1707017-11 02/26/24 17:19 • (MS) R4038742-4 02/26/24 17:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	3.35	41.1	94.3	1	80.0-120	
Sulfate	40.0	68.8	98.1	73.2	1	80.0-120	J6

Sample Narrative:

MS: spike failed due to sample matrix

L1708666-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1708666-03 02/26/24 22:22 • (MS) R4038742-6 02/26/24 22:53 • (MSD) R4038742-7 02/26/24 23:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	1.93	40.2	39.4	95.6	93.7	1	80.0-120			1.92	15
Sulfate	40.0	5.49	45.1	44.4	99.1	97.2	1	80.0-120			1.70	15

Method Blank (MB)

(MB) R4035184-2 02/18/24 17:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.237	J	0.102	1.00

L1706667-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1706667-01 02/18/24 18:09 • (DUP) R4035184-3 02/18/24 18:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	31.4	31.5	1	0.413		20

L1707017-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-05 02/18/24 22:05 • (DUP) R4035184-6 02/18/24 22:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	17.2	19.1	1	10.5		20

Laboratory Control Sample (LCS)

(LCS) R4035184-1 02/18/24 17:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	23.8	95.1	85.0-115	

L1706726-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706726-02 02/18/24 18:52 • (MS) R4035184-4 02/18/24 19:10 • (MSD) R4035184-5 02/18/24 19:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	1.77	24.7	25.1	91.8	93.4	1	85.0-115			1.69	20

L1707017-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-07 02/18/24 23:07 • (MS) R4035184-7 02/18/24 23:31 • (MSD) R4035184-8 02/18/24 23:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	18.6	41.0	41.3	89.4	90.8	1	85.0-115			0.875	20

Method Blank (MB)

(MB) R4035556-2 02/19/24 11:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.351	J	0.102	1.00

L1707017-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1707017-17 02/19/24 12:30 • (DUP) R4035556-3 02/19/24 12:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	32.3	30.6	1	5.38		20

Laboratory Control Sample (LCS)

(LCS) R4035556-1 02/19/24 11:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	22.8	91.3	85.0-115	

L1707017-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-18 02/19/24 13:10 • (MS) R4035556-4 02/19/24 13:33 • (MSD) R4035556-5 02/19/24 13:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	17.4	39.3	39.6	87.6	88.8	1	85.0-115			0.761	20

Method Blank (MB)

(MB) R4035693-2 02/19/24 20:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	U		0.102	1.00

L1707015-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1707015-03 02/19/24 23:38 • (DUP) R4035693-3 02/19/24 23:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	0.345	0.395	1	13.7	J	20

L1707015-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1707015-06 02/20/24 02:17 • (DUP) R4035693-6 02/20/24 02:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	0.322	0.314	1	2.26	J	20

Laboratory Control Sample (LCS)

(LCS) R4035693-1 02/19/24 20:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	25.6	102	85.0-115	

L1707015-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707015-05 02/20/24 01:13 • (MS) R4035693-4 02/20/24 01:37 • (MSD) R4035693-5 02/20/24 02:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	5.22	32.0	32.1	107	107	1	85.0-115			0.344	20

L1707015-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707015-11 02/20/24 04:43 • (MS) R4035693-7 02/20/24 05:08 • (MSD) R4035693-8 02/20/24 05:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	0.351	26.6	26.5	105	105	1	85.0-115			0.0753	20

Received by OCD: 1/30/2025 2:28:51 PM

Method Blank (MB)

(MB) R4036770-1 02/21/24 21:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium	U		0.0853	1.00

Laboratory Control Sample (LCS)

(LCS) R4036770-2 02/21/24 21:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10.0	9.26	92.6	80.0-120	

L1706528-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706528-01 02/21/24 21:10 • (MS) R4036770-4 02/21/24 21:15 • (MSD) R4036770-5 02/21/24 21:18

Analyte	Spike Amount mg/l	Original Result	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10.0		93.2	92.6	85.0	78.9	1	75.0-125			0.651	20

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Method Blank (MB)

(MB) R4037030-1 02/22/24 09:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium	U		0.0853	1.00

Laboratory Control Sample (LCS)

(LCS) R4037030-2 02/22/24 09:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10.0	10.0	100	80.0-120	

L1707017-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-13 02/22/24 09:13 • (MS) R4037030-4 02/22/24 09:19 • (MSD) R4037030-5 02/22/24 09:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10.0	104	112	113	80.0	82.4	1	75.0-125			0.208	20

Method Blank (MB)

(MB) R4036533-1 02/21/24 11:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium	U		0.0853	1.00

Laboratory Control Sample (LCS)

(LCS) R4036533-2 02/21/24 11:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10.0	10.1	101	80.0-120	

L1707017-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-24 02/21/24 12:00 • (MS) R4036533-4 02/21/24 12:04 • (MSD) R4036533-5 02/21/24 12:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10.0	U	10.3	10.1	103	101	1	75.0-125			1.59	20

Method Blank (MB)

(MB) R4037188-2 02/20/24 11:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*78.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4037188-1 02/20/24 10:21 • (LCSD) R4037188-3 02/20/24 12:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	5.35	4.79	107	95.8	72.0-127			11.0	20
(S) a,a,a-Trifluorotoluene(FID)				*98.2*	*101*	*78.0-120*				

L1706402-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706402-03 02/20/24 13:32 • (MS) R4037188-4 02/20/24 19:59 • (MSD) R4037188-5 02/20/24 20:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	U	5.56	8.28	111	166	1	10.0-160		J3 J5	39.3	22
(S) a,a,a-Trifluorotoluene(FID)					*97.3*	*102*		*78.0-120*				

Method Blank (MB)

(MB) R4037415-2 02/21/24 10:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	0.0869	J	0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*93.1*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R4037415-1 02/21/24 09:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.55	91.0	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*99.8*	*78.0-120*	

Received by OCD: 12/30/2025 2:28:51 PM

Method Blank (MB)

(MB) R4037497-3 02/23/24 01:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*78.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4037497-1 02/22/24 23:42 • (LCSD) R4037497-2 02/23/24 00:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	5.41	5.55	108	111	72.0-127			2.55	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*78.0-120*				

Released to Imaging: 1/8/2026 10:51:53 AM

Method Blank (MB)

(MB) R4037264-3 02/20/24 11:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*97.8*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4037264-1 02/20/24 09:57 • (LCSD) R4037264-2 02/20/24 10:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00505	0.00529	101	106	70.0-123			4.64	20
Toluene	0.00500	0.00510	0.00540	102	108	79.0-120			5.71	20
Ethylbenzene	0.00500	0.00558	0.00618	112	124	79.0-123		J4	10.2	20
Total Xylenes	0.0150	0.0163	0.0171	109	114	79.0-123			4.79	20
Methyl tert-butyl ether	0.00500	0.00586	0.00594	117	119	68.0-125			1.36	20
Naphthalene	0.00500	0.00544	0.00612	109	122	54.0-135			11.8	20
1,2,4-Trimethylbenzene	0.00500	0.00514	0.00534	103	107	76.0-121			3.82	20
1,3,5-Trimethylbenzene	0.00500	0.00524	0.00547	105	109	76.0-122			4.30	20
(S) Toluene-d8				*105*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*105*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*101*	*105*	*70.0-130*				

Method Blank (MB)

(MB) R4037286-2 02/20/24 11:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
(S) Toluene-d8	*98.6*			*80.0-120*
(S) 4-Bromofluorobenzene	*106*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*91.9*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4037286-1 02/20/24 10:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00519	104	70.0-123	
Toluene	0.00500	0.00531	106	79.0-120	
Ethylbenzene	0.00500	0.00554	111	79.0-123	
Total Xylenes	0.0150	0.0170	113	79.0-123	
Methyl tert-butyl ether	0.00500	0.00569	114	68.0-125	
Naphthalene	0.00500	0.00518	104	54.0-135	
1,2,4-Trimethylbenzene	0.00500	0.00428	85.6	76.0-121	
(S) Toluene-d8			*98.9*	*80.0-120*	
(S) 4-Bromofluorobenzene			*108*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*88.3*	*70.0-130*	

L1707017-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-21 02/20/24 21:20 • (MS) R4037286-3 02/20/24 21:39 • (MSD) R4037286-4 02/20/24 21:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	2.12	2.25	2.49	260	740	10	17.0-158	E V	E V	10.1	27
Toluene	0.0500	0.128	0.170	0.143	84.0	30.0	10	26.0-154			17.3	28
Ethylbenzene	0.0500	1.77	1.83	1.81	120	80.0	10	30.0-155	E	E	1.10	27
Total Xylenes	0.150	2.29	2.48	2.44	127	100	10	29.0-154			1.63	28
Methyl tert-butyl ether	0.0500	1.14	1.28	1.25	280	220	10	28.0-150	E V	E V	2.37	29
Naphthalene	0.0500	0.357	0.476	0.435	238	156	10	12.0-156	V		9.00	35
1,2,4-Trimethylbenzene	0.0500	0.564	0.629	0.601	130	74.0	10	26.0-154			4.55	27

L1707017-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707017-21 02/20/24 21:20 • (MS) R4037286-3 02/20/24 21:39 • (MSD) R4037286-4 02/20/24 21:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) Toluene-d8					*93.4*	*99.6*		*80.0-120*				
(S) 4-Bromofluorobenzene					*106*	*110*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*86.8*	*90.1*		*70.0-130*				

Method Blank (MB)

(MB) R4037536-3 02/22/24 20:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Methyl tert-butyl ether	U		0.000101	0.00100
(S) Toluene-d8	*108*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4037536-1 02/22/24 19:24 • (LCSD) R4037536-2 02/22/24 19:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00483	0.00462	96.6	92.4	70.0-123			4.44	20
Ethylbenzene	0.00500	0.00440	0.00409	88.0	81.8	79.0-123			7.30	20
Methyl tert-butyl ether	0.00500	0.00520	0.00511	104	102	68.0-125			1.75	20
(S) Toluene-d8				*99.8*	*101*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.8*	*97.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*112*	*111*	*70.0-130*				

Method Blank (MB)

(MB) R4037481-2 02/22/24 22:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*102*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4037481-1 02/22/24 21:33 • (LCSD) R4037481-3 02/22/24 23:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00459	0.00465	91.8	93.0	70.0-123			1.30	20
Toluene	0.00500	0.00487	0.00505	97.4	101	79.0-120			3.63	20
Ethylbenzene	0.00500	0.00519	0.00536	104	107	79.0-123			3.22	20
Total Xylenes	0.0150	0.0153	0.0157	102	105	79.0-123			2.58	20
Methyl tert-butyl ether	0.00500	0.00480	0.00489	96.0	97.8	68.0-125			1.86	20
Naphthalene	0.00500	0.00316	0.00326	63.2	65.2	54.0-135			3.12	20
1,2,4-Trimethylbenzene	0.00500	0.00411	0.00421	82.2	84.2	76.0-121			2.40	20
1,3,5-Trimethylbenzene	0.00500	0.00423	0.00439	84.6	87.8	76.0-122			3.71	20
(S) Toluene-d8				*104*	*107*	*80.0-120*				
(S) 4-Bromofluorobenzene				*102*	*103*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*113*	*112*	*70.0-130*				

Method Blank (MB)

(MB) R4038279-3 02/23/24 17:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methyl tert-butyl ether	U		0.000101	0.00100
(S) Toluene-d8	*115*			*80.0-120*
(S) 4-Bromofluorobenzene	*113*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4038279-1 02/23/24 16:09 • (LCSD) R4038279-2 02/23/24 16:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methyl tert-butyl ether	0.00500	0.00507	0.00519	101	104	68.0-125			2.34	20
(S) Toluene-d8				*114*	*111*	*80.0-120*				
(S) 4-Bromofluorobenzene				*114*	*118*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*107*	*110*	*70.0-130*				

Method Blank (MB)

(MB) R4037888-1 02/23/24 15:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	*79.5*			*31.0-160*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4037888-2 02/23/24 15:49 • (LCSD) R4037888-3 02/23/24 16:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.57	1.67	105	111	50.0-150			6.17	20
(S) o-Terphenyl				*85.0*	*81.0*	*31.0-160*				

Method Blank (MB)

(MB) R4037446-1 02/22/24 20:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.0315	J	0.0247	0.100
(S) o-Terphenyl	*98.0*			*31.0-160*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4037446-2 02/22/24 21:05 • (LCSD) R4037446-3 02/22/24 21:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.35	1.59	90.0	106	50.0-150			16.3	20
(S) o-Terphenyl				*99.0*	*111*	*31.0-160*				

Method Blank (MB)

(MB) R4039697-1 02/28/24 23:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.0389	J	0.0247	0.100
(S) o-Terphenyl	*73.0*			*52.0-156*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4039697-2 02/29/24 00:19 • (LCSD) R4039697-3 02/29/24 00:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.16	1.28	77.3	85.3	50.0-150			9.84	20
(S) o-Terphenyl				*68.0*	*77.5*	*52.0-156*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
T8	Sample(s) received past/too close to holding time expiration.

GLOSSARY OF TERMS

Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
TRC Solutions - Austin, TX
505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to: **Julie Speer**

Email To: jspeer@trccompanies.com

Project Description: **Reinjection Pilot Study**

City/State Collected: Artesia, NM

Please Circle: PT (MT) CT ET

Phone: **512-431-8184**

Client Project # **387820.0000.0000 000**

Lab Project # **TRCATX-ARTESIAPILOT**

Collected by (print): Scott Ude

Site/Facility ID #

P.O. #

Collected by (signature): Scott Ude

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres *	BROMIDE,SULFATE 125mlHDPE-NoPres *	DROLVI 40mlAmb-HCl-BT *	FERUSFE,TOC 250mlAmb-HCl *	GRO 40mlAmb HCl *	MGICP 250mlHDPE-HNO3 *	SULFIDE 250mlAmb-S-NaOH+ZnAc *	TKN 250mlHDPE-H2SO4 *	V8260BTEXMN12 40mlAmb-HCl *	V8260BTEXMN12 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
KWB-4		GW		2/13/24	1050	13	X	X	X	X	X	X	X	X	X			-01
RW-19		GW			1135	13	X	X	X	X	X	X	X	X	X			-02
PMW-1		GW			1235	13	X	X	X	X	X	X	X	X	X			-03
PMW-2		GW			1320	13	X	X	X	X	X	X	X	X	X			-04
PMW-3		GW			1410	13	X	X	X	X	X	X	X	X	X			-05
PMW-4		GW			1500	13	X	X	X	X	X	X	X	X	X			-06
PMW-5		GW			1550	13	X	X	X	X	X	X	X	X	X			-07
KWB-5		GW			1640	13	X	X	X	X	X	X	X	X	X			-08
MW-48		GW		2/14/24	920	13	X	X	X	X	X	X	X	X	X			-09
MW-111		GW			810	13	X	X	X	X	X	X	X	X	X			-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
Scott Ude	2/15/24	0630		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 3 12	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Alexa Mitchell	Date: 2/16/24 Time: 0900	Hold: Condition: NCF / OK

Chain of Custody Page 1 of 3

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 170707

G127

Acctnum: **TRCATX**
Template: **T246272**
Prelogin: **P1053049**
PM: **526 - Chris McCord**
PB:
Shipped Via:

Company Name/Address:
TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to: **Julie Speer**

Email To: jspeer@trccompanies.com

Project Description: **Reinjection Pilot Study**

City/State Collected: Artesia, NM

Please Circle: PT (MT) CT ET

Phone: **512-431-8184**

Client Project # **387820.0000.0000 000**

Lab Project # **TRCATX-ARTESIAPILOT**

Collected by (print): Scott Ude

Site/Facility ID #

P.O. #

Collected by (signature): Scott Ude

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Chain of Custody Page 2 of 3

Pace
PEOPLE ADVANCING SCIENCE

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SDG # 170707

Table #

Acctnum: **TRCATX**
Template: **T246272**
Prelogin: **P1053049**
PM: **526 - Chris McCord**
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	BROMIDE,SULFATE 125mlHDPE-NoPres	DROLVI 40mlAmb-HCl-BT	FERUSFE,TOC 250mlAmb-HCl	GRO 40mlAmb HCl	MGICP 250mlHDPE-HNO3	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	V8260BTEXMN12 40mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-99		GW		2/14/24	1030	13	X	X	X	X	X	X	X	X	X			-11
MW-66		GW			1155	13	X	X	X	X	X	X	X	X	X			-12
MW-129		GW			1310	13	X	X	X	X	X	X	X	X	X			-13
MW-131		GW			950	13	X	X	X	X	X	X	X	X	X			-14
PMW-6		GW			900	13	X	X	X	X	X	X	X	X	X			-15
PMW-7		GW			1030	13	X	X	X	X	X	X	X	X	X			-16
PMW-8		GW			1140	13	X	X	X	X	X	X	X	X	X			-17
PMW-9		GW			1235	13	X	X	X	X	X	X	X	X	X			-18
PMW-10		GW			1350	13	X	X	X	X	X	X	X	X	X			-19
PMW-11		GW			1515	13	X	X	X	X	X	X	X	X	X			-20

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Scott Ude	2/15/24	0630		Z/A	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 3/2	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Alexia Mitchell	Date: 2/16/24 Time: 0900	Hold: Condition: NCF / OK

Company Name/Address:
TRC Solutions - Austin, TX
505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to: Julie Speer

Email To: jspeer@trccompanies.com

Project Description: Reinjection Pilot Study

City/State Collected: Artesia, NM

Please Circle: PT (MT) CT ET

Phone: 512-431-8184

Client Project # 387820.0000.0000 000

Lab Project # TRCATX-ARTESIAPILOT

Collected by (print): Scott Ude

Site/Facility ID #

P.O. #

Collected by (signature): Scott Ude

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 170707

Table #

Acctnum: TRCATX
Template: T246272
Prelogin: P1053049
PM: 526 - Chris McCord
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	BROMIDE,SULFATE 125mlHDPE-NoPres	DROLVI 40mlAmb-HCl-BT	FERUSFE,TOC 250mlAmb-HCl	GRO 40mlAmb HCl	MGICP 250mlHDPE-HNO3	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	V8260BTEXMN12 40mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-112	G	GW		2/14/24	1425	13	X	X	X	X	X	X	X	X	X			-21
~~INFLUENT~~		~~GW~~				~~13~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	Systems not installed yet		
~~EFFLUENT~~		~~GW~~				~~13~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	"	"	"
DUP-01	G	GW		2/13/24	1200	13	X	X	X	X	X	X	X	X	X			-22
DUP-02	↓	GW		2/14/24	800	13	X	X	X	X	X	X	X	X	X			-23
EB-01	↓	GW		2/14/24	1420	13	X	X	X	X	X	X	X	X	X			-24
		GW				13	X	X	X	X	X	X	X	X	X			
		GW				13	X	X	X	X	X	X	X	X	X			
TRIP BLANK-01	G	GW		2/13/24	—	1										X		-25
TRIP BLANK-02	G	GW		2/14/24	—	1										X		-26

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Scott Ude	2/15/24	0630		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 312	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Alexa Mitchell	Date: 2/16/24 Time: 0900	Hold: Condition: NCF / OK

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L170707

Tracking Numbers	Temperature
6643 4304 9179	2.3 +0=2.3
2710 2188 52.58	.2 +0=.2
2710 2188 5247	4.5 +0=4.5
6643 4304 9180	3.2 +0=3.2
6643 4304 9190	2.7 +0=2.7

Alysa Mitchell

Name

2/16/24

Date

Received by OCD: 12/30/2025 2:28:51 PM

Released to Imaging: 1/8/2026 10:51:53 AM

Pace Analytical®

ANALYTICAL REPORT

June 02, 2024

TRC Solutions - Austin, TX

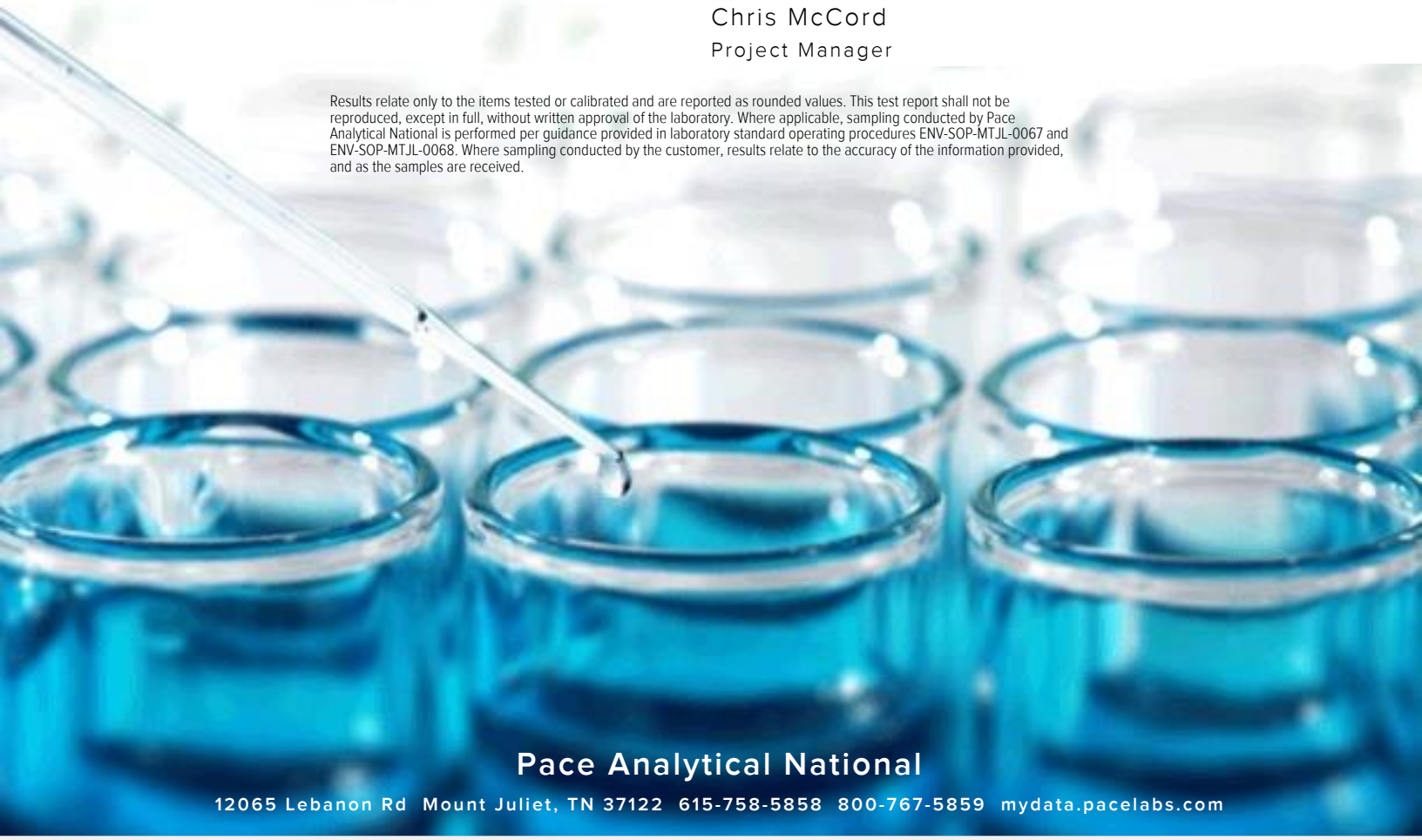
Sample Delivery Group:	L1727956
Samples Received:	04/20/2024
Project Number:	387820.2024.0000
Description:	Reinjection Pilot Study Phase 5 Task A-2

Report To: Julie Speer
505 E. Huntland Dr, Ste 250
Austin, TX 78752

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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Released to Imaging: 1/8/2026 10:51:53 AM

KWB-4 L1727956-01 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 09:00 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 16:40	04/24/24 16:40	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272233	1	04/23/24 11:35	04/23/24 11:35	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:16	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:56	04/23/24 01:56	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	1	04/29/24 23:45	04/29/24 23:45	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	5	04/29/24 23:58	04/29/24 23:58	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/23/24 23:15	04/23/24 23:15	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271883	1	04/26/24 09:38	04/26/24 14:07	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	10	04/24/24 17:28	04/24/24 17:28	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 12:13	04/25/24 12:13	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 09:10	DMG	Mt. Juliet, TN

RW-19 L1727956-02 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 09:45 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 16:43	04/24/24 16:43	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272233	1	04/23/24 11:35	04/23/24 11:35	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:20	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:56	04/23/24 01:56	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	1	04/30/24 00:12	04/30/24 00:12	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	5	04/30/24 00:26	04/30/24 00:26	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/23/24 23:37	04/23/24 23:37	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271883	1	04/26/24 09:38	04/26/24 14:16	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2274889	10	04/26/24 21:51	04/26/24 21:51	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	200	04/25/24 12:34	04/25/24 12:34	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 09:30	DMG	Mt. Juliet, TN

PMW-1 L1727956-03 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 10:30 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 16:47	04/24/24 16:47	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272233	10	04/23/24 11:36	04/23/24 11:36	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:21	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:56	04/23/24 01:56	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	1	04/30/24 00:39	04/30/24 00:39	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/23/24 23:59	04/23/24 23:59	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271883	1	04/26/24 09:38	04/26/24 14:19	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	10	04/24/24 18:14	04/24/24 18:14	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 12:54	04/25/24 12:54	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 15:37	AUU	Mt. Juliet, TN

PMW-2 L1727956-04 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 11:15 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 16:51	04/24/24 16:51	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272233	10	04/23/24 11:37	04/23/24 11:37	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:22	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:56	04/23/24 01:56	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	1	04/30/24 01:07	04/30/24 01:07	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 00:21	04/24/24 00:21	ASH	Mt. Juliet, TN

PMW-2 L1727956-04 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 11:15 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG2271883	1	04/26/24 09:38	04/26/24 13:09	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	10	04/24/24 18:36	04/24/24 18:36	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	500	04/25/24 13:14	04/25/24 13:14	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 15:57	AUU	Mt. Juliet, TN

PMW-3 L1727956-05 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 11:55 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 16:54	04/24/24 16:54	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:46	04/23/24 11:46	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:24	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:57	04/23/24 01:57	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	1	04/30/24 02:02	04/30/24 02:02	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	5	04/30/24 02:15	04/30/24 02:15	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 00:43	04/24/24 00:43	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271883	1	04/26/24 09:38	04/26/24 14:23	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	1	04/24/24 16:21	04/24/24 16:21	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 13:35	04/25/24 13:35	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 16:18	AUU	Mt. Juliet, TN

PMW-4 L1727956-06 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 12:35 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 17:09	04/24/24 17:09	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:47	04/23/24 11:47	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:25	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:57	04/23/24 01:57	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	1	04/30/24 02:29	04/30/24 02:29	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 01:45	04/24/24 01:45	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271883	1	04/26/24 09:38	04/26/24 14:26	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	10	04/24/24 18:59	04/24/24 18:59	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	500	04/25/24 13:55	04/25/24 13:55	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 16:38	AUU	Mt. Juliet, TN

PMW-5 L1727956-07 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 13:20 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 17:12	04/24/24 17:12	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:47	04/23/24 11:47	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:26	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:57	04/23/24 01:57	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2275245	1	04/30/24 02:56	04/30/24 02:56	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 02:07	04/24/24 02:07	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271883	1	04/26/24 09:38	04/26/24 14:29	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	1	04/24/24 16:43	04/24/24 16:43	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 14:16	04/25/24 14:16	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 16:58	AUU	Mt. Juliet, TN

KWB-5 L1727956-08 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 14:05 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 17:16	04/24/24 17:16	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:48	04/23/24 11:48	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:27	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:58	04/23/24 01:58	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 02:19	04/30/24 02:19	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 02:29	04/24/24 02:29	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 20:49	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	10	04/24/24 19:22	04/24/24 19:22	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	200	04/25/24 14:36	04/25/24 14:36	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 17:18	AUU	Mt. Juliet, TN

MW-111 L1727956-09 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 14:50 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 17:19	04/24/24 17:19	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:48	04/23/24 11:48	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:29	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:58	04/23/24 01:58	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 02:32	04/30/24 02:32	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	5	04/30/24 02:44	04/30/24 02:44	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 02:51	04/24/24 02:51	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 20:50	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273205	1	04/24/24 17:06	04/24/24 17:06	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 14:57	04/25/24 14:57	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 17:38	AUU	Mt. Juliet, TN

MW-48 L1727956-10 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 15:35 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 17:23	04/24/24 17:23	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	1	04/23/24 11:49	04/23/24 11:49	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:30	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:58	04/23/24 01:58	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 02:57	04/30/24 02:57	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	5	04/30/24 03:10	04/30/24 03:10	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 03:14	04/24/24 03:14	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 20:52	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	10	04/24/24 18:23	04/24/24 18:23	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	50	04/25/24 15:17	04/25/24 15:17	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 17:59	AUU	Mt. Juliet, TN

MW-99 L1727956-11 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 08:30 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273779	1	04/25/24 14:06	04/25/24 14:06	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	1	04/23/24 11:49	04/23/24 11:49	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2275869	1	04/27/24 20:49	04/30/24 00:31	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:58	04/23/24 01:58	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 03:22	04/30/24 03:22	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 03:35	04/24/24 03:35	ASH	Mt. Juliet, TN

MW-99 L1727956-11 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 08:30 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 20:54	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	25	04/24/24 18:46	04/24/24 18:46	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	500	04/25/24 15:38	04/25/24 15:38	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 18:19	AUU	Mt. Juliet, TN

MW-66 L1727956-12 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 09:15 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2274602	1	04/28/24 10:57	04/28/24 10:57	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	1	04/23/24 11:49	04/23/24 11:49	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:34	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:59	04/23/24 01:59	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 03:35	04/30/24 03:35	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 03:58	04/24/24 03:58	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 20:59	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	1	04/24/24 15:14	04/24/24 15:14	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	50	04/25/24 15:58	04/25/24 15:58	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274031	1	04/25/24 08:22	04/26/24 18:39	AUU	Mt. Juliet, TN

MW-129 L1727956-13 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 16:30 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2274602	1	04/28/24 11:01	04/28/24 11:01	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:50	04/23/24 11:50	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:37	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 01:59	04/23/24 01:59	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 04:13	04/30/24 04:13	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 04:19	04/24/24 04:19	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:01	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	10	04/24/24 19:10	04/24/24 19:10	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	200	04/25/24 16:19	04/25/24 16:19	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	1	04/25/24 14:55	04/26/24 12:24	TJD	Mt. Juliet, TN

PMW-6 L1727956-14 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 10:10 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273779	1	04/25/24 14:10	04/25/24 14:10	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:50	04/23/24 11:50	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:38	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 02:00	04/23/24 02:00	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 04:26	04/30/24 04:26	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 04:40	04/24/24 04:40	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:02	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	1	04/24/24 15:37	04/24/24 15:37	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	25	04/25/24 16:39	04/25/24 16:39	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	1	04/25/24 14:55	04/26/24 12:46	TJD	Mt. Juliet, TN

PMW-7 L1727956-15 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 11:05 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273779	1	04/25/24 14:15	04/25/24 14:15	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:50	04/23/24 11:50	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:42	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 02:00	04/23/24 02:00	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 04:39	04/30/24 04:39	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272313	1	04/24/24 05:23	04/24/24 05:23	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:04	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	1	04/24/24 16:00	04/24/24 16:00	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	25	04/25/24 17:00	04/25/24 17:00	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274932	1	04/26/24 08:13	04/26/24 23:10	TJD	Mt. Juliet, TN

MW-131 L1727956-16 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 12:00 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273779	1	04/25/24 14:20	04/25/24 14:20	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	1	04/23/24 11:52	04/23/24 11:52	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:43	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 02:00	04/23/24 02:00	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276843	1	04/30/24 04:52	04/30/24 04:52	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272325	1	04/23/24 19:25	04/23/24 19:25	SJF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:06	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	20	04/24/24 19:33	04/24/24 19:33	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 17:20	04/25/24 17:20	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274932	1	04/26/24 08:13	04/26/24 23:31	TJD	Mt. Juliet, TN

PMW-8 L1727956-17 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 12:50 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273779	1	04/25/24 14:24	04/25/24 14:24	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:53	04/23/24 11:53	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:45	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 02:00	04/23/24 02:00	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 10:41	04/30/24 10:41	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272325	1	04/23/24 20:07	04/23/24 20:07	SJF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:08	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	20	04/24/24 19:56	04/24/24 19:56	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 17:41	04/25/24 17:41	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	1	04/25/24 14:55	04/26/24 13:07	TJD	Mt. Juliet, TN

PMW-9 L1727956-18 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 13:45 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273779	1	04/25/24 14:29	04/25/24 14:29	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	1	04/23/24 11:53	04/23/24 11:53	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:46	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272157	1	04/23/24 02:00	04/23/24 02:00	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 11:32	04/30/24 11:32	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272325	1	04/23/24 20:25	04/23/24 20:25	SJF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:09	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	25	04/24/24 20:20	04/24/24 20:20	DWR	Mt. Juliet, TN

PMW-9 L1727956-18 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 13:45 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	50	04/25/24 18:01	04/25/24 18:01	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	5	04/25/24 14:55	04/28/24 01:07	DMG	Mt. Juliet, TN

PMW-10 L1727956-19 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 14:30 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273779	1	04/25/24 14:46	04/25/24 14:46	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:54	04/23/24 11:54	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:47	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272177	1	04/23/24 02:41	04/23/24 02:41	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 11:44	04/30/24 11:44	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272325	1	04/23/24 21:35	04/23/24 21:35	SJF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:11	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	20	04/24/24 20:44	04/24/24 20:44	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	100	04/25/24 18:22	04/25/24 18:22	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	1	04/25/24 14:55	04/26/24 13:49	TJD	Mt. Juliet, TN

PMW-11 L1727956-20 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 15:55 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 17:27	04/24/24 17:27	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:54	04/23/24 11:54	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:48	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272177	1	04/23/24 02:41	04/23/24 02:41	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 12:23	04/30/24 12:23	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272325	1	04/23/24 21:43	04/23/24 21:43	SJF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:13	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	20	04/24/24 21:07	04/24/24 21:07	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274379	200	04/25/24 18:42	04/25/24 18:42	TJJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	1	04/25/24 14:55	04/26/24 14:10	TJD	Mt. Juliet, TN

MW-112 L1727956-21 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 16:50 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2274602	1	04/28/24 11:06	04/28/24 11:06	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:57	04/23/24 11:57	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:50	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272177	1	04/23/24 02:41	04/23/24 02:41	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 12:35	04/30/24 12:35	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2272325	1	04/24/24 09:34	04/24/24 09:34	SJF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:14	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	250	04/24/24 21:31	04/24/24 21:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274876	100	04/26/24 10:36	04/26/24 10:36	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274932	1	04/26/24 08:13	04/26/24 23:52	TJD	Mt. Juliet, TN

DUP-01 L1727956-22 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 09:00 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2274602	1	04/28/24 11:11	04/28/24 11:11	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:57	04/23/24 11:57	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:51	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272177	1	04/23/24 02:41	04/23/24 02:41	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 13:01	04/30/24 13:01	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2273133	1	04/24/24 14:04	04/24/24 14:04	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:20	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2275424	5	04/26/24 21:28	04/26/24 21:28	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274876	1	04/26/24 05:51	04/26/24 05:51	DYW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2275482	200	04/27/24 01:28	04/27/24 01:28	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274932	1	04/26/24 08:13	04/27/24 00:13	TJD	Mt. Juliet, TN

DUP-02 L1727956-23 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 12:00 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2274602	1	04/28/24 11:16	04/28/24 11:16	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	10	04/23/24 11:57	04/23/24 11:57	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:52	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272177	1	04/23/24 02:41	04/23/24 02:41	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 13:14	04/30/24 13:14	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2273133	1	04/24/24 15:14	04/24/24 15:14	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:21	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	1	04/24/24 16:47	04/24/24 16:47	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274876	1	04/26/24 06:10	04/26/24 06:10	DYW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2276483	200	04/29/24 16:47	04/29/24 16:47	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	1	04/25/24 14:55	04/26/24 14:32	TJD	Mt. Juliet, TN

EB-01 L1727956-24 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 14:45 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2273438	1	04/24/24 17:31	04/24/24 17:31	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2272231	1	04/23/24 11:58	04/23/24 11:58	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2276955	1	04/30/24 08:00	04/30/24 20:53	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2272177	1	04/23/24 02:42	04/23/24 02:42	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2276862	1	04/30/24 13:26	04/30/24 13:26	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2273133	1	04/24/24 15:33	04/24/24 15:33	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2271884	1	04/25/24 17:05	04/25/24 21:23	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2273542	1	04/24/24 14:50	04/24/24 14:50	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274876	1	04/26/24 05:13	04/26/24 05:13	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2274495	1	04/25/24 14:55	04/26/24 14:53	TJD	Mt. Juliet, TN

TRIP BLANK-01 L1727956-25 GW

Collected by: Scott UDe | Collected date/time: 04/18/24 00:00 | Received date/time: 04/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274876	1	04/26/24 04:35	04/26/24 04:35	DYW	Mt. Juliet, TN

SAMPLE SUMMARY

TRIP BLANK-02 L1727956-26 GW

			Collected by	Collected date/time	Received date/time	
			Scott UDe	04/18/24 00:00	04/20/24 09:00	

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2274876	1	04/26/24 04:54	04/26/24 04:54	DYW	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Sample Delivery Group (SDG) Narrative

The Laboratory is not accredited for specific analytes on the associated Sample/Method. These analytes are flagged in the Sample Results section of the report with an asterisk (*).

Lab Sample ID	Project Sample ID	Method
L1727956-01	KWB-4	9056A
L1727956-02	RW-19	9056A
L1727956-03	PMW-1	9056A
L1727956-04	PMW-2	9056A
L1727956-05	PMW-3	9056A
L1727956-06	PMW-4	9056A
L1727956-07	PMW-5	9056A
L1727956-08	KWB-5	9056A
L1727956-09	MW-111	9056A
L1727956-10	MW-48	9056A
L1727956-11	MW-99	9056A
L1727956-12	MW-66	9056A
L1727956-13	MW-129	9056A
L1727956-14	PMW-6	9056A
L1727956-15	PMW-7	9056A
L1727956-16	MW-131	9056A
L1727956-17	PMW-8	9056A
L1727956-18	PMW-9	9056A
L1727956-19	PMW-10	9056A
L1727956-20	PMW-11	9056A
L1727956-21	MW-112	9056A
L1727956-22	DUP-01	9056A
L1727956-23	DUP-02	9056A
L1727956-24	EB-01	9056A

pH outside of method requirement.

Lab Sample ID	Project Sample ID	Method
L1727956-15	PMW-7	3511/8015
L1727956-16	MW-131	3511/8015
L1727956-21	MW-112	3511/8015

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	859		8.45	20.0	1	04/24/2024 16:40	WG2273438

Sample Narrative:
L1727956-01 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	1.70	T8	0.0150	0.0500	1	04/23/2024 11:35	WG2272233

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.249	J	0.140	0.250	1	04/30/2024 00:16	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:56	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	8.12		0.353	1.00	1	04/29/2024 23:45	WG2275245
Sulfate	212		2.97	25.0	5	04/29/2024 23:58	WG2275245

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.4		0.102	1.00	1	04/23/2024 23:15	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	119		0.0853	1.00	1	04/26/2024 14:07	WG2271883

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	13.9		0.314	1.00	10	04/24/2024 17:28	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*91.0*			*78.0-120*		*04/24/2024 17:28*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.92		0.00941	0.100	100	04/25/2024 12:13	WG2274379
Toluene	0.0506	J	0.0278	0.100	100	04/25/2024 12:13	WG2274379
Ethylbenzene	0.513		0.0137	0.100	100	04/25/2024 12:13	WG2274379
Total Xylenes	1.19		0.0174	0.300	100	04/25/2024 12:13	WG2274379
Methyl tert-butyl ether	4.94		0.0101	0.100	100	04/25/2024 12:13	WG2274379
Naphthalene	U		0.100	0.500	100	04/25/2024 12:13	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.276		0.0322	0.100	100	04/25/2024 12:13	WG2274379
1,3,5-Trimethylbenzene	0.0815	J	0.0104	0.100	100	04/25/2024 12:13	WG2274379
(S) Toluene-d8	*102*			*80.0-120*		*04/25/2024 12:13*	WG2274379
(S) 4-Bromofluorobenzene	*93.1*			*77.0-126*		*04/25/2024 12:13*	WG2274379
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*04/25/2024 12:13*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.68		0.0247	0.100	1	04/26/2024 09:10	WG2274031
(S) o-Terphenyl	*84.2*			*52.0-156*		*04/26/2024 09:10*	WG2274031

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	889		8.45	20.0	1	04/24/2024 16:43	WG2273438

Sample Narrative:
L1727956-02 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.944	T8	0.0150	0.0500	1	04/23/2024 11:35	WG2272233

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 00:20	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:56	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	7.42		0.353	1.00	1	04/30/2024 00:12	WG2275245
Sulfate	234		2.97	25.0	5	04/30/2024 00:26	WG2275245

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	10.8		0.102	1.00	1	04/23/2024 23:37	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	115		0.0853	1.00	1	04/26/2024 14:16	WG2271883

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	7.10	J3	0.314	1.00	10	04/26/2024 21:51	WG2274889
(S) a,a,a-Trifluorotoluene(FID)	*94.4*			*78.0-120*		*04/26/2024 21:51*	WG2274889

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0318	J	0.0188	0.200	200	04/25/2024 12:34	WG2274379
Toluene	U		0.0556	0.200	200	04/25/2024 12:34	WG2274379
Ethylbenzene	0.444		0.0274	0.200	200	04/25/2024 12:34	WG2274379
Total Xylenes	0.985		0.0348	0.600	200	04/25/2024 12:34	WG2274379
Methyl tert-butyl ether	3.60		0.0202	0.200	200	04/25/2024 12:34	WG2274379
Naphthalene	U		0.200	1.00	200	04/25/2024 12:34	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.704		0.0644	0.200	200	04/25/2024 12:34	WG2274379
1,3,5-Trimethylbenzene	0.178	J	0.0208	0.200	200	04/25/2024 12:34	WG2274379
(S) Toluene-d8	*101*			*80.0-120*		*04/25/2024 12:34*	WG2274379
(S) 4-Bromofluorobenzene	*89.4*			*77.0-126*		*04/25/2024 12:34*	WG2274379
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*		*04/25/2024 12:34*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.91		0.0247	0.100	1	04/26/2024 09:30	WG2274031
(S) o-Terphenyl	*98.9*			*52.0-156*		*04/26/2024 09:30*	WG2274031

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	775		8.45	20.0	1	04/24/2024 16:47	WG2273438

Sample Narrative:
L1727956-03 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	12.6	T8	0.150	0.500	10	04/23/2024 11:36	WG2272233

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.174	J	0.140	0.250	1	04/30/2024 00:21	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:56	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	8.54		0.353	1.00	1	04/30/2024 00:39	WG2275245
Sulfate	118		0.594	5.00	1	04/30/2024 00:39	WG2275245

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	16.7		0.102	1.00	1	04/23/2024 23:59	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	116		0.0853	1.00	1	04/26/2024 14:19	WG2271883

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	31.1		0.314	1.00	10	04/24/2024 18:14	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*90.0*			*78.0-120*		*04/24/2024 18:14*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	8.13		0.00941	0.100	100	04/25/2024 12:54	WG2274379
Toluene	0.0312	J	0.0278	0.100	100	04/25/2024 12:54	WG2274379
Ethylbenzene	1.47		0.0137	0.100	100	04/25/2024 12:54	WG2274379
Total Xylenes	0.255	J	0.0174	0.300	100	04/25/2024 12:54	WG2274379
Methyl tert-butyl ether	5.88		0.0101	0.100	100	04/25/2024 12:54	WG2274379
Naphthalene	0.152	J	0.100	0.500	100	04/25/2024 12:54	WG2274379

PMW-1
Collected date/time: 04/18/24 10:30
L1727956

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.273		0.0322	0.100	100	04/25/2024 12:54	WG2274379
1,3,5-Trimethylbenzene	0.0266	J	0.0104	0.100	100	04/25/2024 12:54	WG2274379
(S) Toluene-d8	*103*			*80.0-120*		*04/25/2024 12:54*	WG2274379
(S) 4-Bromofluorobenzene	*93.0*			*77.0-126*		*04/25/2024 12:54*	WG2274379
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*04/25/2024 12:54*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	5.27		0.0247	0.100	1	04/26/2024 15:37	WG2274031
(S) o-Terphenyl	*83.7*			*52.0-156*		*04/26/2024 15:37*	WG2274031

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	772		8.45	20.0	1	04/24/2024 16:51	WG2273438

Sample Narrative:
L1727956-04 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	8.42	T8	0.150	0.500	10	04/23/2024 11:37	WG2272233

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 00:22	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:56	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	9.49		0.353	1.00	1	04/30/2024 01:07	WG2275245
Sulfate	185		0.594	5.00	1	04/30/2024 01:07	WG2275245

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.8		0.102	1.00	1	04/24/2024 00:21	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	121	V	0.0853	1.00	1	04/26/2024 13:09	WG2271883

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	13.9		0.314	1.00	10	04/24/2024 18:36	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*92.1*			*78.0-120*		*04/24/2024 18:36*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.737		0.0471	0.500	500	04/25/2024 13:14	WG2274379
Toluene	U		0.139	0.500	500	04/25/2024 13:14	WG2274379
Ethylbenzene	0.464	J	0.0685	0.500	500	04/25/2024 13:14	WG2274379
Total Xylenes	0.141	J	0.0870	1.50	500	04/25/2024 13:14	WG2274379
Methyl tert-butyl ether	5.39		0.0505	0.500	500	04/25/2024 13:14	WG2274379
Naphthalene	U		0.500	2.50	500	04/25/2024 13:14	WG2274379

PMW-2
Collected date/time: 04/18/24 11:15
L1727956

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.161	0.500	500	04/25/2024 13:14	WG2274379
1,3,5-Trimethylbenzene	U		0.0520	0.500	500	04/25/2024 13:14	WG2274379
(S) Toluene-d8	*99.2*			*80.0-120*		*04/25/2024 13:14*	WG2274379
(S) 4-Bromofluorobenzene	*88.9*			*77.0-126*		*04/25/2024 13:14*	WG2274379
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*04/25/2024 13:14*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.24		0.0247	0.100	1	04/26/2024 15:57	WG2274031
(S) o-Terphenyl	*81.6*			*52.0-156*		*04/26/2024 15:57*	WG2274031

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	768		8.45	20.0	1	04/24/2024 16:54	WG2273438

Sample Narrative:
L1727956-05 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	10.9	T8	0.150	0.500	10	04/23/2024 11:46	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 00:24	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:57	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	9.36		0.353	1.00	1	04/30/2024 02:02	WG2275245
Sulfate	194		2.97	25.0	5	04/30/2024 02:15	WG2275245

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.4		0.102	1.00	1	04/24/2024 00:43	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	122		0.0853	1.00	1	04/26/2024 14:23	WG2271883

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	7.10		0.0314	0.100	1	04/24/2024 16:21	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*78.0-120*		*04/24/2024 16:21*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0149	J	0.00941	0.100	100	04/25/2024 13:35	WG2274379
Toluene	U		0.0278	0.100	100	04/25/2024 13:35	WG2274379
Ethylbenzene	U		0.0137	0.100	100	04/25/2024 13:35	WG2274379
Total Xylenes	U		0.0174	0.300	100	04/25/2024 13:35	WG2274379
Methyl tert-butyl ether	6.18		0.0101	0.100	100	04/25/2024 13:35	WG2274379
Naphthalene	U		0.100	0.500	100	04/25/2024 13:35	WG2274379

PMW-3
Collected date/time: 04/18/24 11:55
L1727956

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.0322	0.100	100	04/25/2024 13:35	WG2274379
1,3,5-Trimethylbenzene	U		0.0104	0.100	100	04/25/2024 13:35	WG2274379
(S) Toluene-d8	*106*			*80.0-120*		*04/25/2024 13:35*	WG2274379
(S) 4-Bromofluorobenzene	*95.3*			*77.0-126*		*04/25/2024 13:35*	WG2274379
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*04/25/2024 13:35*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.55		0.0247	0.100	1	04/26/2024 16:18	WG2274031
(S) o-Terphenyl	*79.5*			*52.0-156*		*04/26/2024 16:18*	WG2274031

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	787		8.45	20.0	1	04/24/2024 17:09	WG2273438

Sample Narrative:
L1727956-06 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	8.48	T8	0.150	0.500	10	04/23/2024 11:47	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 00:25	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:57	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	9.32		0.353	1.00	1	04/30/2024 02:29	WG2275245
Sulfate	184		0.594	5.00	1	04/30/2024 02:29	WG2275245

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.4		0.102	1.00	1	04/24/2024 01:45	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	121		0.0853	1.00	1	04/26/2024 14:26	WG2271883

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	13.6		0.314	1.00	10	04/24/2024 18:59	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*92.2*			*78.0-120*		*04/24/2024 18:59*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.696		0.0471	0.500	500	04/25/2024 13:55	WG2274379
Toluene	U		0.139	0.500	500	04/25/2024 13:55	WG2274379
Ethylbenzene	0.329	J	0.0685	0.500	500	04/25/2024 13:55	WG2274379
Total Xylenes	U		0.0870	1.50	500	04/25/2024 13:55	WG2274379
Methyl tert-butyl ether	5.84		0.0505	0.500	500	04/25/2024 13:55	WG2274379
Naphthalene	U		0.500	2.50	500	04/25/2024 13:55	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	U		0.161	0.500	500	04/25/2024 13:55	WG2274379
1,3,5-Trimethylbenzene	U		0.0520	0.500	500	04/25/2024 13:55	WG2274379
(S) Toluene-d8	*102*			*80.0-120*		*04/25/2024 13:55*	WG2274379
(S) 4-Bromofluorobenzene	*90.0*			*77.0-126*		*04/25/2024 13:55*	WG2274379
(S) 1,2-Dichloroethane-d4	*124*			*70.0-130*		*04/25/2024 13:55*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.18		0.0247	0.100	1	04/26/2024 16:38	WG2274031
(S) o-Terphenyl	*81.1*			*52.0-156*		*04/26/2024 16:38*	WG2274031

PMW-3
Collected date/time: 04/18/24 13:20
L1727956

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	859		8.45	20.0	1	04/24/2024 17:12	WG2273438

Sample Narrative:
L1727956-07 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	6.32	T8	0.150	0.500	10	04/23/2024 11:47	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 00:26	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:57	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	9.24		0.353	1.00	1	04/30/2024 02:56	WG2275245
Sulfate	131		0.594	5.00	1	04/30/2024 02:56	WG2275245

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.4		0.102	1.00	1	04/24/2024 02:07	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	116		0.0853	1.00	1	04/26/2024 14:29	WG2271883

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	7.36		0.0314	0.100	1	04/24/2024 16:43	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*89.6*			*78.0-120*		*04/24/2024 16:43*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.102		0.00941	0.100	100	04/25/2024 14:16	WG2274379
Toluene	U		0.0278	0.100	100	04/25/2024 14:16	WG2274379
Ethylbenzene	0.0436	J	0.0137	0.100	100	04/25/2024 14:16	WG2274379
Total Xylenes	0.0180	J	0.0174	0.300	100	04/25/2024 14:16	WG2274379
Methyl tert-butyl ether	6.29		0.0101	0.100	100	04/25/2024 14:16	WG2274379
Naphthalene	U		0.100	0.500	100	04/25/2024 14:16	WG2274379

PMW-3
Collected date/time: 04/18/24 13:20
L1727956

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,2,4-Trimethylbenzene	U		0.0322	0.100	100	04/25/2024 14:16	WG2274379
1,3,5-Trimethylbenzene	U		0.0104	0.100	100	04/25/2024 14:16	WG2274379
(S) Toluene-d8	*103*			*80.0-120*		*04/25/2024 14:16*	WG2274379
(S) 4-Bromofluorobenzene	*92.9*			*77.0-126*		*04/25/2024 14:16*	WG2274379
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*04/25/2024 14:16*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) High Fraction	1.70		0.0247	0.100	1	04/26/2024 16:58	WG2274031
(S) o-Terphenyl	*81.6*			*52.0-156*		*04/26/2024 16:58*	WG2274031

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	803		8.45	20.0	1	04/24/2024 17:16	WG2273438

Sample Narrative:
L1727956-08 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	5.30	T8	0.150	0.500	10	04/23/2024 11:48	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 00:27	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:58	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	9.62		0.353	1.00	1	04/30/2024 02:19	WG2276843
Sulfate	69.9		0.594	5.00	1	04/30/2024 02:19	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	10.5		0.102	1.00	1	04/24/2024 02:29	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	121		0.0853	1.00	1	04/25/2024 20:49	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	14.7		0.314	1.00	10	04/24/2024 19:22	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*92.3*			*78.0-120*		*04/24/2024 19:22*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.33		0.0188	0.200	200	04/25/2024 14:36	WG2274379
Toluene	U		0.0556	0.200	200	04/25/2024 14:36	WG2274379
Ethylbenzene	0.518		0.0274	0.200	200	04/25/2024 14:36	WG2274379
Total Xylenes	0.536	J	0.0348	0.600	200	04/25/2024 14:36	WG2274379
Methyl tert-butyl ether	7.57		0.0202	0.200	200	04/25/2024 14:36	WG2274379
Naphthalene	U		0.200	1.00	200	04/25/2024 14:36	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.165	J	0.0644	0.200	200	04/25/2024 14:36	WG2274379
1,3,5-Trimethylbenzene	0.0461	J	0.0208	0.200	200	04/25/2024 14:36	WG2274379
(S) Toluene-d8	*107*			*80.0-120*		*04/25/2024 14:36*	WG2274379
(S) 4-Bromofluorobenzene	*94.9*			*77.0-126*		*04/25/2024 14:36*	WG2274379
(S) 1,2-Dichloroethane-d4	*123*			*70.0-130*		*04/25/2024 14:36*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.11		0.0247	0.100	1	04/26/2024 17:18	WG2274031
(S) o-Terphenyl	*85.3*			*52.0-156*		*04/26/2024 17:18*	WG2274031

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	831		8.45	20.0	1	04/24/2024 17:19	WG2273438

Sample Narrative:
L1727956-09 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.91	T8	0.150	0.500	10	04/23/2024 11:48	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 00:29	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:58	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	5.71		0.353	1.00	1	04/30/2024 02:32	WG2276843
Sulfate	234		2.97	25.0	5	04/30/2024 02:44	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.3		0.102	1.00	1	04/24/2024 02:51	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	136		0.0853	1.00	1	04/25/2024 20:50	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	9.12		0.0314	0.100	1	04/24/2024 17:06	WG2273205
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*78.0-120*		*04/24/2024 17:06*	WG2273205

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.35		0.00941	0.100	100	04/25/2024 14:57	WG2274379
Toluene	U		0.0278	0.100	100	04/25/2024 14:57	WG2274379
Ethylbenzene	0.488		0.0137	0.100	100	04/25/2024 14:57	WG2274379
Total Xylenes	0.677		0.0174	0.300	100	04/25/2024 14:57	WG2274379
Methyl tert-butyl ether	1.45		0.0101	0.100	100	04/25/2024 14:57	WG2274379
Naphthalene	U		0.100	0.500	100	04/25/2024 14:57	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.259		0.0322	0.100	100	04/25/2024 14:57	WG2274379
1,3,5-Trimethylbenzene	0.0660	J	0.0104	0.100	100	04/25/2024 14:57	WG2274379
(S) Toluene-d8	*102*			*80.0-120*		*04/25/2024 14:57*	WG2274379
(S) 4-Bromofluorobenzene	*89.7*			*77.0-126*		*04/25/2024 14:57*	WG2274379
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*04/25/2024 14:57*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	3.16		0.0247	0.100	1	04/26/2024 17:38	WG2274031
(S) o-Terphenyl	*88.9*			*52.0-156*		*04/26/2024 17:38*	WG2274031

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	1000		8.45	20.0	1	04/24/2024 17:23	WG2273438

Sample Narrative:
L1727956-10 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.0630	T8	0.0150	0.0500	1	04/23/2024 11:49	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.365		0.140	0.250	1	04/30/2024 00:30	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.150		0.0250	0.0500	1	04/23/2024 01:58	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	5.94		0.353	1.00	1	04/30/2024 02:57	WG2276843
Sulfate	254		2.97	25.0	5	04/30/2024 03:10	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	15.8		0.102	1.00	1	04/24/2024 03:14	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	115		0.0853	1.00	1	04/25/2024 20:52	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	3.53		0.314	1.00	10	04/24/2024 18:23	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*88.8*			*78.0-120*		*04/24/2024 18:23*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.456		0.00471	0.0500	50	04/25/2024 15:17	WG2274379
Toluene	0.0396	J	0.0139	0.0500	50	04/25/2024 15:17	WG2274379
Ethylbenzene	0.114		0.00685	0.0500	50	04/25/2024 15:17	WG2274379
Total Xylenes	0.0576	J	0.00870	0.150	50	04/25/2024 15:17	WG2274379
Methyl tert-butyl ether	0.714		0.00505	0.0500	50	04/25/2024 15:17	WG2274379
Naphthalene	U		0.0500	0.250	50	04/25/2024 15:17	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0244	J	0.0161	0.0500	50	04/25/2024 15:17	WG2274379
1,3,5-Trimethylbenzene	0.00721	J	0.00520	0.0500	50	04/25/2024 15:17	WG2274379
(S) Toluene-d8	*103*			*80.0-120*		*04/25/2024 15:17*	WG2274379
(S) 4-Bromofluorobenzene	*95.9*			*77.0-126*		*04/25/2024 15:17*	WG2274379
(S) 1,2-Dichloroethane-d4	*120*			*70.0-130*		*04/25/2024 15:17*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	3.35		0.0247	0.100	1	04/26/2024 17:59	WG2274031
(S) o-Terphenyl	*76.3*			*52.0-156*		*04/26/2024 17:59*	WG2274031

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	815		8.45	20.0	1	04/25/2024 14:06	WG2273779

Sample Narrative:
L1727956-11 WG2273779: Endpoint pH 4.5

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.370	T8	0.0150	0.0500	1	04/23/2024 11:49	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	2.78		0.140	0.250	1	04/30/2024 00:31	WG2275869

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.0820		0.0250	0.0500	1	04/23/2024 01:58	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	5.73		0.353	1.00	1	04/30/2024 03:22	WG2276843
Sulfate	10.9		0.594	5.00	1	04/30/2024 03:22	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	17.9		0.102	1.00	1	04/24/2024 03:35	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	65.2		0.0853	1.00	1	04/25/2024 20:54	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	51.6		0.785	2.50	25	04/24/2024 18:46	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*86.2*			*78.0-120*		*04/24/2024 18:46*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	9.62		0.0471	0.500	500	04/25/2024 15:38	WG2274379
Toluene	0.202	J	0.139	0.500	500	04/25/2024 15:38	WG2274379
Ethylbenzene	2.22		0.0685	0.500	500	04/25/2024 15:38	WG2274379
Total Xylenes	5.89		0.0870	1.50	500	04/25/2024 15:38	WG2274379
Methyl tert-butyl ether	2.14		0.0505	0.500	500	04/25/2024 15:38	WG2274379
Naphthalene	U		0.500	2.50	500	04/25/2024 15:38	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	1.20		0.161	0.500	500	04/25/2024 15:38	WG2274379
1,3,5-Trimethylbenzene	0.257	J	0.0520	0.500	500	04/25/2024 15:38	WG2274379
(S) Toluene-d8	*102*			*80.0-120*		*04/25/2024 15:38*	WG2274379
(S) 4-Bromofluorobenzene	*93.9*			*77.0-126*		*04/25/2024 15:38*	WG2274379
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*04/25/2024 15:38*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	7.14		0.0247	0.100	1	04/26/2024 18:19	WG2274031
(S) o-Terphenyl	*87.9*			*52.0-156*		*04/26/2024 18:19*	WG2274031

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	854		8.45	20.0	1	04/28/2024 10:57	WG2274602

Sample Narrative:
L1727956-12 WG2274602: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	2.11	T8	0.0150	0.0500	1	04/23/2024 11:49	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.975		0.140	0.250	1	04/30/2024 20:34	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:59	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	6.19		0.353	1.00	1	04/30/2024 03:35	WG2276843
Sulfate	2.55	J	0.594	5.00	1	04/30/2024 03:35	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	18.8		0.102	1.00	1	04/24/2024 03:58	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	83.6		0.0853	1.00	1	04/25/2024 20:59	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	3.09		0.0314	0.100	1	04/24/2024 15:14	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*83.7*			*78.0-120*		*04/24/2024 15:14*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.11		0.00471	0.0500	50	04/25/2024 15:58	WG2274379
Toluene	U		0.0139	0.0500	50	04/25/2024 15:58	WG2274379
Ethylbenzene	0.0188	J	0.00685	0.0500	50	04/25/2024 15:58	WG2274379
Total Xylenes	0.153		0.00870	0.150	50	04/25/2024 15:58	WG2274379
Methyl tert-butyl ether	2.41		0.00505	0.0500	50	04/25/2024 15:58	WG2274379
Naphthalene	0.155	J	0.0500	0.250	50	04/25/2024 15:58	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0950		0.0161	0.0500	50	04/25/2024 15:58	WG2274379
1,3,5-Trimethylbenzene	0.0235	J	0.00520	0.0500	50	04/25/2024 15:58	WG2274379
(S) Toluene-d8	*110*			*80.0-120*		*04/25/2024 15:58*	WG2274379
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*		*04/25/2024 15:58*	WG2274379
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*04/25/2024 15:58*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.69		0.0247	0.100	1	04/26/2024 18:39	WG2274031
(S) o-Terphenyl	*77.9*			*52.0-156*		*04/26/2024 18:39*	WG2274031

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	913		8.45	20.0	1	04/28/2024 11:01	WG2274602

Sample Narrative:
L1727956-13 WG2274602: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	7.12	T8	0.150	0.500	10	04/23/2024 11:50	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 20:37	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 01:59	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	5.79		0.353	1.00	1	04/30/2024 04:13	WG2276843
Sulfate	78.5		0.594	5.00	1	04/30/2024 04:13	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	10.2		0.102	1.00	1	04/24/2024 04:19	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	101		0.0853	1.00	1	04/25/2024 21:01	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	9.75		0.314	1.00	10	04/24/2024 19:10	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*89.0*			*78.0-120*		*04/24/2024 19:10*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.20		0.0188	0.200	200	04/25/2024 16:19	WG2274379
Toluene	0.199	J	0.0556	0.200	200	04/25/2024 16:19	WG2274379
Ethylbenzene	0.473		0.0274	0.200	200	04/25/2024 16:19	WG2274379
Total Xylenes	1.38		0.0348	0.600	200	04/25/2024 16:19	WG2274379
Methyl tert-butyl ether	4.64		0.0202	0.200	200	04/25/2024 16:19	WG2274379
Naphthalene	U		0.200	1.00	200	04/25/2024 16:19	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.311		0.0644	0.200	200	04/25/2024 16:19	WG2274379
1,3,5-Trimethylbenzene	0.101	J	0.0208	0.200	200	04/25/2024 16:19	WG2274379
(S) Toluene-d8	*99.3*			*80.0-120*		*04/25/2024 16:19*	WG2274379
(S) 4-Bromofluorobenzene	*89.9*			*77.0-126*		*04/25/2024 16:19*	WG2274379
(S) 1,2-Dichloroethane-d4	*120*			*70.0-130*		*04/25/2024 16:19*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.75		0.0247	0.100	1	04/26/2024 12:24	WG2274495
(S) o-Terphenyl	*81.5*			*52.0-156*		*04/26/2024 12:24*	WG2274495

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	852		8.45	20.0	1	04/25/2024 14:10	WG2273779

Sample Narrative:
L1727956-14 WG2273779: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.15	T8	0.150	0.500	10	04/23/2024 11:50	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 20:38	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:00	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	6.60		0.353	1.00	1	04/30/2024 04:26	WG2276843
Sulfate	3.05	J	0.594	5.00	1	04/30/2024 04:26	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	7.24		0.102	1.00	1	04/24/2024 04:40	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	92.2		0.0853	1.00	1	04/25/2024 21:02	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	5.23		0.0314	0.100	1	04/24/2024 15:37	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*80.3*			*78.0-120*		*04/24/2024 15:37*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	2.09		0.00235	0.0250	25	04/25/2024 16:39	WG2274379
Toluene	0.0662		0.00695	0.0250	25	04/25/2024 16:39	WG2274379
Ethylbenzene	0.169		0.00343	0.0250	25	04/25/2024 16:39	WG2274379
Total Xylenes	0.257		0.00435	0.0750	25	04/25/2024 16:39	WG2274379
Methyl tert-butyl ether	3.81		0.00253	0.0250	25	04/25/2024 16:39	WG2274379
Naphthalene	0.0426	J	0.0250	0.125	25	04/25/2024 16:39	WG2274379

PMW-6
Collected date/time: 04/18/24 10:10
L1727956

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0874		0.00805	0.0250	25	04/25/2024 16:39	WG2274379
1,3,5-Trimethylbenzene	0.0142	J	0.00260	0.0250	25	04/25/2024 16:39	WG2274379
(S) Toluene-d8	*100*			*80.0-120*		*04/25/2024 16:39*	WG2274379
(S) 4-Bromofluorobenzene	*91.4*			*77.0-126*		*04/25/2024 16:39*	WG2274379
(S) 1,2-Dichloroethane-d4	*123*			*70.0-130*		*04/25/2024 16:39*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.86		0.0247	0.100	1	04/26/2024 12:46	WG2274495
(S) o-Terphenyl	*83.0*			*52.0-156*		*04/26/2024 12:46*	WG2274495

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	837		8.45	20.0	1	04/25/2024 14:15	WG2273779

Sample Narrative:
L1727956-15 WG2273779: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.89	T8	0.150	0.500	10	04/23/2024 11:50	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 20:42	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:00	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	7.37		0.353	1.00	1	04/30/2024 04:39	WG2276843
Sulfate	2.38	J	0.594	5.00	1	04/30/2024 04:39	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	7.58		0.102	1.00	1	04/24/2024 05:23	WG2272313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	115		0.0853	1.00	1	04/25/2024 21:04	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	5.01		0.0314	0.100	1	04/24/2024 16:00	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*79.8*			*78.0-120*		*04/24/2024 16:00*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.92		0.00235	0.0250	25	04/25/2024 17:00	WG2274379
Toluene	0.0877		0.00695	0.0250	25	04/25/2024 17:00	WG2274379
Ethylbenzene	0.0871		0.00343	0.0250	25	04/25/2024 17:00	WG2274379
Total Xylenes	0.358		0.00435	0.0750	25	04/25/2024 17:00	WG2274379
Methyl tert-butyl ether	4.64		0.00253	0.0250	25	04/25/2024 17:00	WG2274379
Naphthalene	0.0607	J	0.0250	0.125	25	04/25/2024 17:00	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0885		0.00805	0.0250	25	04/25/2024 17:00	WG2274379
1,3,5-Trimethylbenzene	0.0323		0.00260	0.0250	25	04/25/2024 17:00	WG2274379
(S) Toluene-d8	*103*			*80.0-120*		*04/25/2024 17:00*	WG2274379
(S) 4-Bromofluorobenzene	*93.6*			*77.0-126*		*04/25/2024 17:00*	WG2274379
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*04/25/2024 17:00*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.00		0.0247	0.100	1	04/26/2024 23:10	WG2274932
(S) o-Terphenyl	*83.2*			*52.0-156*		*04/26/2024 23:10*	WG2274932

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	828		8.45	20.0	1	04/25/2024 14:20	WG2273779

Sample Narrative:
L1727956-16 WG2273779: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	1.74	T8	0.0150	0.0500	1	04/23/2024 11:52	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 20:43	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:00	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	6.81		0.353	1.00	1	04/30/2024 04:52	WG2276843
Sulfate	13.7		0.594	5.00	1	04/30/2024 04:52	WG2276843

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	13.5		0.102	1.00	1	04/23/2024 19:25	WG2272325

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	111		0.0853	1.00	1	04/25/2024 21:06	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	31.5		0.628	2.00	20	04/24/2024 19:33	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*89.0*			*78.0-120*		*04/24/2024 19:33*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	3.42		0.00941	0.100	100	04/25/2024 17:20	WG2274379
Toluene	2.99		0.0278	0.100	100	04/25/2024 17:20	WG2274379
Ethylbenzene	0.539		0.0137	0.100	100	04/25/2024 17:20	WG2274379
Total Xylenes	3.46		0.0174	0.300	100	04/25/2024 17:20	WG2274379
Methyl tert-butyl ether	3.94		0.0101	0.100	100	04/25/2024 17:20	WG2274379
Naphthalene	U		0.100	0.500	100	04/25/2024 17:20	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.451		0.0322	0.100	100	04/25/2024 17:20	WG2274379
1,3,5-Trimethylbenzene	0.115		0.0104	0.100	100	04/25/2024 17:20	WG2274379
(S) Toluene-d8	*101*			*80.0-120*		*04/25/2024 17:20*	WG2274379
(S) 4-Bromofluorobenzene	*90.3*			*77.0-126*		*04/25/2024 17:20*	WG2274379
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*		*04/25/2024 17:20*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.71		0.0247	0.100	1	04/26/2024 23:31	WG2274932
(S) o-Terphenyl	*83.2*			*52.0-156*		*04/26/2024 23:31*	WG2274932

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	854		8.45	20.0	1	04/25/2024 14:24	WG2273779

Sample Narrative:
L1727956-17 WG2273779: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	7.62	T8	0.150	0.500	10	04/23/2024 11:53	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.697		0.140	0.250	1	04/30/2024 20:45	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:00	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	7.05		0.353	1.00	1	04/30/2024 10:41	WG2276862
Sulfate	3.06	J	0.594	5.00	1	04/30/2024 10:41	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	24.3		0.102	1.00	1	04/23/2024 20:07	WG2272325

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	120		0.0853	1.00	1	04/25/2024 21:08	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	59.4		0.628	2.00	20	04/24/2024 19:56	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*85.8*			*78.0-120*		*04/24/2024 19:56*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	15.7		0.00941	0.100	100	04/25/2024 17:41	WG2274379
Toluene	8.66		0.0278	0.100	100	04/25/2024 17:41	WG2274379
Ethylbenzene	2.51		0.0137	0.100	100	04/25/2024 17:41	WG2274379
Total Xylenes	9.41		0.0174	0.300	100	04/25/2024 17:41	WG2274379
Methyl tert-butyl ether	4.35		0.0101	0.100	100	04/25/2024 17:41	WG2274379
Naphthalene	0.245	J	0.100	0.500	100	04/25/2024 17:41	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	1.36		0.0322	0.100	100	04/25/2024 17:41	WG2274379
1,3,5-Trimethylbenzene	0.310		0.0104	0.100	100	04/25/2024 17:41	WG2274379
(S) Toluene-d8	*99.9*			*80.0-120*		*04/25/2024 17:41*	WG2274379
(S) 4-Bromofluorobenzene	*90.9*			*77.0-126*		*04/25/2024 17:41*	WG2274379
(S) 1,2-Dichloroethane-d4	*127*			*70.0-130*		*04/25/2024 17:41*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	7.30		0.0247	0.100	1	04/26/2024 13:07	WG2274495
(S) o-Terphenyl	*84.0*			*52.0-156*		*04/26/2024 13:07*	WG2274495

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	852		8.45	20.0	1	04/25/2024 14:29	WG2273779

Sample Narrative:
L1727956-18 WG2273779: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	2.51	T8	0.0150	0.0500	1	04/23/2024 11:53	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.229	J	0.140	0.250	1	04/30/2024 20:46	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:00	WG2272157

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	7.34		0.353	1.00	1	04/30/2024 11:32	WG2276862
Sulfate	2.40	J	0.594	5.00	1	04/30/2024 11:32	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	24.3	J6	0.102	1.00	1	04/23/2024 20:25	WG2272325

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	112		0.0853	1.00	1	04/25/2024 21:09	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	79.9		0.785	2.50	25	04/24/2024 20:20	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*84.9*			*78.0-120*		*04/24/2024 20:20*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	6.31		0.00471	0.0500	50	04/25/2024 18:01	WG2274379
Toluene	4.08		0.0139	0.0500	50	04/25/2024 18:01	WG2274379
Ethylbenzene	2.17		0.00685	0.0500	50	04/25/2024 18:01	WG2274379
Total Xylenes	8.12		0.00870	0.150	50	04/25/2024 18:01	WG2274379
Methyl tert-butyl ether	4.38		0.00505	0.0500	50	04/25/2024 18:01	WG2274379
Naphthalene	0.270		0.0500	0.250	50	04/25/2024 18:01	WG2274379

PMW-3
Collected date/time: 04/18/24 13:45
L1727956

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	1.60		0.0161	0.0500	50	04/25/2024 18:01	WG2274379
1,3,5-Trimethylbenzene	0.375		0.00520	0.0500	50	04/25/2024 18:01	WG2274379
(S) Toluene-d8	*99.2*			*80.0-120*		*04/25/2024 18:01*	WG2274379
(S) 4-Bromofluorobenzene	*92.4*			*77.0-126*		*04/25/2024 18:01*	WG2274379
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*04/25/2024 18:01*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	17.6		0.123	0.500	5	04/28/2024 01:07	WG2274495
(S) o-Terphenyl	*75.5*			*52.0-156*		*04/28/2024 01:07*	WG2274495

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	846		8.45	20.0	1	04/25/2024 14:46	WG2273779

Sample Narrative:
L1727956-19 WG2273779: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	9.92	T8	0.150	0.500	10	04/23/2024 11:54	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	1.38		0.140	0.250	1	04/30/2024 20:47	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:41	WG2272177

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	7.73		0.353	1.00	1	04/30/2024 11:44	WG2276862
Sulfate	3.17	J	0.594	5.00	1	04/30/2024 11:44	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	18.6		0.102	1.00	1	04/23/2024 21:35	WG2272325

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	101		0.0853	1.00	1	04/25/2024 21:11	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	38.9		0.628	2.00	20	04/24/2024 20:44	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*87.1*			*78.0-120*		*04/24/2024 20:44*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	7.40		0.00941	0.100	100	04/25/2024 18:22	WG2274379
Toluene	1.76		0.0278	0.100	100	04/25/2024 18:22	WG2274379
Ethylbenzene	1.93		0.0137	0.100	100	04/25/2024 18:22	WG2274379
Total Xylenes	5.08		0.0174	0.300	100	04/25/2024 18:22	WG2274379
Methyl tert-butyl ether	4.38		0.0101	0.100	100	04/25/2024 18:22	WG2274379
Naphthalene	0.162	J	0.100	0.500	100	04/25/2024 18:22	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.886		0.0322	0.100	100	04/25/2024 18:22	WG2274379
1,3,5-Trimethylbenzene	0.197		0.0104	0.100	100	04/25/2024 18:22	WG2274379
(S) Toluene-d8	*98.9*			*80.0-120*		*04/25/2024 18:22*	WG2274379
(S) 4-Bromofluorobenzene	*88.9*			*77.0-126*		*04/25/2024 18:22*	WG2274379
(S) 1,2-Dichloroethane-d4	*125*			*70.0-130*		*04/25/2024 18:22*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	5.11		0.0247	0.100	1	04/26/2024 13:49	WG2274495
(S) o-Terphenyl	*78.0*			*52.0-156*		*04/26/2024 13:49*	WG2274495

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	894		8.45	20.0	1	04/24/2024 17:27	WG2273438

Sample Narrative:
L1727956-20 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	5.65	T8	0.150	0.500	10	04/23/2024 11:54	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.260		0.140	0.250	1	04/30/2024 20:48	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:41	WG2272177

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	9.53		0.353	1.00	1	04/30/2024 12:23	WG2276862
Sulfate	2.97	J	0.594	5.00	1	04/30/2024 12:23	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	27.3		0.102	1.00	1	04/23/2024 21:43	WG2272325

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	161		0.0853	1.00	1	04/25/2024 21:13	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	54.2		0.628	2.00	20	04/24/2024 21:07	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*85.9*			*78.0-120*		*04/24/2024 21:07*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	32.5		0.0188	0.200	200	04/25/2024 18:42	WG2274379
Toluene	27.4		0.0556	0.200	200	04/25/2024 18:42	WG2274379
Ethylbenzene	5.54		0.0274	0.200	200	04/25/2024 18:42	WG2274379
Total Xylenes	14.6		0.0348	0.600	200	04/25/2024 18:42	WG2274379
Methyl tert-butyl ether	6.18		0.0202	0.200	200	04/25/2024 18:42	WG2274379
Naphthalene	0.313	J	0.200	1.00	200	04/25/2024 18:42	WG2274379

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	1.82		0.0644	0.200	200	04/25/2024 18:42	WG2274379
1,3,5-Trimethylbenzene	0.401		0.0208	0.200	200	04/25/2024 18:42	WG2274379
(S) Toluene-d8	*103*			*80.0-120*		*04/25/2024 18:42*	WG2274379
(S) 4-Bromofluorobenzene	*91.8*			*77.0-126*		*04/25/2024 18:42*	WG2274379
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*		*04/25/2024 18:42*	WG2274379

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	8.02		0.0247	0.100	1	04/26/2024 14:10	WG2274495
(S) o-Terphenyl	*79.0*			*52.0-156*		*04/26/2024 14:10*	WG2274495

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	870		8.45	20.0	1	04/28/2024 11:06	WG2274602

Sample Narrative:
L1727956-21 WG2274602: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	8.60	T8	0.150	0.500	10	04/23/2024 11:57	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.167	J	0.140	0.250	1	04/30/2024 20:50	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:41	WG2272177

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	8.04		0.353	1.00	1	04/30/2024 12:35	WG2276862
Sulfate	5.94		0.594	5.00	1	04/30/2024 12:35	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	9.43		0.102	1.00	1	04/24/2024 09:34	WG2272325

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	158		0.0853	1.00	1	04/25/2024 21:14	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	46.0		7.85	25.0	250	04/24/2024 21:31	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*89.7*			*78.0-120*		*04/24/2024 21:31*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	7.40		0.00941	0.100	100	04/26/2024 10:36	WG2274876
Toluene	0.0971	J	0.0278	0.100	100	04/26/2024 10:36	WG2274876
Ethylbenzene	2.03		0.0137	0.100	100	04/26/2024 10:36	WG2274876
Total Xylenes	3.01		0.0174	0.300	100	04/26/2024 10:36	WG2274876
Methyl tert-butyl ether	1.30		0.0101	0.100	100	04/26/2024 10:36	WG2274876
Naphthalene	0.347	J	0.100	0.500	100	04/26/2024 10:36	WG2274876

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.923		0.0322	0.100	100	04/26/2024 10:36	WG2274876
1,3,5-Trimethylbenzene	0.244		0.0104	0.100	100	04/26/2024 10:36	WG2274876
(S) Toluene-d8	*101*			*80.0-120*		*04/26/2024 10:36*	WG2274876
(S) 4-Bromofluorobenzene	*99.9*			*77.0-126*		*04/26/2024 10:36*	WG2274876
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*04/26/2024 10:36*	WG2274876

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	5.03		0.0247	0.100	1	04/26/2024 23:52	WG2274932
(S) o-Terphenyl	*75.8*			*52.0-156*		*04/26/2024 23:52*	WG2274932

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	818		8.45	20.0	1	04/28/2024 11:11	WG2274602

Sample Narrative:
L1727956-22 WG2274602: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	11.9	T8	0.150	0.500	10	04/23/2024 11:57	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 20:51	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:41	WG2272177

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	8.10		0.353	1.00	1	04/30/2024 13:01	WG2276862
Sulfate	121		0.594	5.00	1	04/30/2024 13:01	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	15.5		0.102	1.00	1	04/24/2024 14:04	WG2273133

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	109		0.0853	1.00	1	04/25/2024 21:20	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	24.1	J3	0.157	0.500	5	04/26/2024 21:28	WG2275424
(S) a,a,a-Trifluorotoluene(FID)	*89.2*			*78.0-120*		*04/26/2024 21:28*	WG2275424

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	7.15		0.0188	0.200	200	04/27/2024 01:28	WG2275482
Toluene	0.0311		0.000278	0.00100	1	04/26/2024 05:51	WG2274876
Ethylbenzene	1.36		0.0274	0.200	200	04/27/2024 01:28	WG2275482
Total Xylenes	0.250		0.000174	0.00300	1	04/26/2024 05:51	WG2274876
Methyl tert-butyl ether	6.33		0.0202	0.200	200	04/27/2024 01:28	WG2275482
Naphthalene	U		0.200	1.00	200	04/27/2024 01:28	WG2275482

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.225		0.0644	0.200	200	04/27/2024 01:28	WG2275482
1,3,5-Trimethylbenzene	0.0259		0.000104	0.00100	1	04/26/2024 05:51	WG2274876
(S) Toluene-d8	*95.2*			*80.0-120*		*04/26/2024 05:51*	WG2274876
(S) Toluene-d8	*102*			*80.0-120*		*04/27/2024 01:28*	WG2275482
(S) 4-Bromofluorobenzene	*96.3*			*77.0-126*		*04/26/2024 05:51*	WG2274876
(S) 4-Bromofluorobenzene	*87.7*			*77.0-126*		*04/27/2024 01:28*	WG2275482
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*04/26/2024 05:51*	WG2274876
(S) 1,2-Dichloroethane-d4	*125*			*70.0-130*		*04/27/2024 01:28*	WG2275482

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.96		0.0247	0.100	1	04/27/2024 00:13	WG2274932
(S) o-Terphenyl	*85.3*			*52.0-156*		*04/27/2024 00:13*	WG2274932

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	848		8.45	20.0	1	04/28/2024 11:16	WG2274602

Sample Narrative:
L1727956-23 WG2274602: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.18	T8	0.150	0.500	10	04/23/2024 11:57	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 20:52	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:41	WG2272177

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	7.73		0.353	1.00	1	04/30/2024 13:14	WG2276862
Sulfate	2.05	J	0.594	5.00	1	04/30/2024 13:14	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	7.18		0.102	1.00	1	04/24/2024 15:14	WG2273133

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	116		0.0853	1.00	1	04/25/2024 21:21	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	5.15		0.0314	0.100	1	04/24/2024 16:47	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*81.5*			*78.0-120*		*04/24/2024 16:47*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.82		0.0188	0.200	200	04/29/2024 16:47	WG2276483
Toluene	0.0619		0.000278	0.00100	1	04/26/2024 06:10	WG2274876
Ethylbenzene	0.0704		0.000137	0.00100	1	04/26/2024 06:10	WG2274876
Total Xylenes	0.238		0.000174	0.00300	1	04/26/2024 06:10	WG2274876
Methyl tert-butyl ether	4.17		0.0202	0.200	200	04/29/2024 16:47	WG2276483
Naphthalene	0.0834		0.00100	0.00500	1	04/26/2024 06:10	WG2274876

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trimethylbenzene	0.0663		0.000322	0.00100	1	04/26/2024 06:10	WG2274876
1,3,5-Trimethylbenzene	0.0161		0.000104	0.00100	1	04/26/2024 06:10	WG2274876
(S) Toluene-d8	*94.5*			*80.0-120*		*04/26/2024 06:10*	WG2274876
(S) Toluene-d8	*104*			*80.0-120*		*04/29/2024 16:47*	WG2276483
(S) 4-Bromofluorobenzene	*92.6*			*77.0-126*		*04/26/2024 06:10*	WG2274876
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*04/29/2024 16:47*	WG2276483
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*04/26/2024 06:10*	WG2274876
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*04/29/2024 16:47*	WG2276483

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.71		0.0247	0.100	1	04/26/2024 14:32	WG2274495
(S) o-Terphenyl	*82.0*			*52.0-156*		*04/26/2024 14:32*	WG2274495

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	U		8.45	20.0	1	04/24/2024 17:31	WG2273438

Sample Narrative:
L1727956-24 WG2273438: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	U	T8	0.0150	0.0500	1	04/23/2024 11:58	WG2272231

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.140	0.250	1	04/30/2024 20:53	WG2276955

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0250	0.0500	1	04/23/2024 02:42	WG2272177

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	U		0.353	1.00	1	04/30/2024 13:26	WG2276862
Sulfate	U		0.594	5.00	1	04/30/2024 13:26	WG2276862

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	0.289	B J	0.102	1.00	1	04/24/2024 15:33	WG2273133

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	U		0.0853	1.00	1	04/25/2024 21:23	WG2271884

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	04/24/2024 14:50	WG2273542
(S) a,a,a-Trifluorotoluene(FID)	*91.4*			*78.0-120*		*04/24/2024 14:50*	WG2273542

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	04/26/2024 05:13	WG2274876
Toluene	U		0.000278	0.00100	1	04/26/2024 05:13	WG2274876
Ethylbenzene	U		0.000137	0.00100	1	04/26/2024 05:13	WG2274876
Total Xylenes	U		0.000174	0.00300	1	04/26/2024 05:13	WG2274876
Methyl tert-butyl ether	U		0.000101	0.00100	1	04/26/2024 05:13	WG2274876
Naphthalene	U		0.00100	0.00500	1	04/26/2024 05:13	WG2274876

LB-01
Collected date/time: 04/18/24 14:45
L1727956

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	04/26/2024 05:13	WG2274876
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	04/26/2024 05:13	WG2274876
(S) Toluene-d8	*103*			*80.0-120*		*04/26/2024 05:13*	WG2274876
(S) 4-Bromofluorobenzene	*95.7*			*77.0-126*		*04/26/2024 05:13*	WG2274876
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*04/26/2024 05:13*	WG2274876

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) High Fraction	U		0.0247	0.100	1	04/26/2024 14:53	WG2274495
(S) o-Terphenyl	*78.0*			*52.0-156*		*04/26/2024 14:53*	WG2274495

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	04/26/2024 04:35	WG2274876
Toluene	U		0.000278	0.00100	1	04/26/2024 04:35	WG2274876
Ethylbenzene	U		0.000137	0.00100	1	04/26/2024 04:35	WG2274876
Total Xylenes	U		0.000174	0.00300	1	04/26/2024 04:35	WG2274876
Methyl tert-butyl ether	U		0.000101	0.00100	1	04/26/2024 04:35	WG2274876
Naphthalene	U		0.00100	0.00500	1	04/26/2024 04:35	WG2274876
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	04/26/2024 04:35	WG2274876
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	04/26/2024 04:35	WG2274876
(S) Toluene-d8	*103*			*80.0-120*		*04/26/2024 04:35*	WG2274876
(S) 4-Bromofluorobenzene	*98.1*			*77.0-126*		*04/26/2024 04:35*	WG2274876
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*04/26/2024 04:35*	WG2274876

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	04/26/2024 04:54	WG2274876
Toluene	U		0.000278	0.00100	1	04/26/2024 04:54	WG2274876
Ethylbenzene	U		0.000137	0.00100	1	04/26/2024 04:54	WG2274876
Total Xylenes	U		0.000174	0.00300	1	04/26/2024 04:54	WG2274876
Methyl tert-butyl ether	U		0.000101	0.00100	1	04/26/2024 04:54	WG2274876
Naphthalene	U		0.00100	0.00500	1	04/26/2024 04:54	WG2274876
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	04/26/2024 04:54	WG2274876
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	04/26/2024 04:54	WG2274876
(S) Toluene-d8	*102*			*80.0-120*		*04/26/2024 04:54*	WG2274876
(S) 4-Bromofluorobenzene	*94.9*			*77.0-126*		*04/26/2024 04:54*	WG2274876
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*04/26/2024 04:54*	WG2274876

Method Blank (MB)

(MB) R4061800-2 04/24/24 16:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4061800-1 04/24/24 16:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	106	106	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4062242-2 04/25/24 13:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1727817-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1727817-01 04/25/24 14:00 • (DUP) R4062242-3 04/25/24 14:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	6850	6860	1	0.172		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1728471-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1728471-05 04/25/24 15:36 • (DUP) R4062242-4 04/25/24 15:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	1730	1710	1	1.20		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4062242-1 04/25/24 13:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	100	100	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4063093-2 04/28/24 10:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1729108-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1729108-01 04/28/24 10:46 • (DUP) R4063093-3 04/28/24 10:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	75.9	76.3	1	0.555		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1729173-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1729173-06 04/28/24 13:03 • (DUP) R4063093-4 04/28/24 13:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	264	264	1	0.166		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4063093-1 04/28/24 10:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	103	103	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4060891-1 04/23/24 11:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ferrous Iron	U		0.0150	0.0500

L1727956-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-05 04/23/24 11:46 • (DUP) R4060891-3 04/23/24 11:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	10.9	10.9	10	0.394		20

L1727956-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-15 04/23/24 11:50 • (DUP) R4060891-4 04/23/24 11:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	3.89	3.92	10	0.870		20

Laboratory Control Sample (LCS)

(LCS) R4060891-2 04/23/24 11:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ferrous Iron	1.00	0.907	90.7	85.0-115	

L1727956-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-24 04/23/24 11:58 • (MS) R4060891-5 04/23/24 11:58 • (MSD) R4060891-6 04/23/24 12:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ferrous Iron	1.00	U	0.954	0.905	95.4	90.5	1	80.0-120			5.27	20

Method Blank (MB)

(MB) R4060895-1 04/23/24 11:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ferrous Iron	U		0.0150	0.0500

L1727956-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-01 04/23/24 11:35 • (DUP) R4060895-3 04/23/24 11:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	1.70	1.65	1	3.04		20

Laboratory Control Sample (LCS)

(LCS) R4060895-2 04/23/24 11:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ferrous Iron	1.00	0.920	92.0	85.0-115	

L1727956-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-02 04/23/24 11:35 • (MS) R4060895-4 04/23/24 11:35 • (MSD) R4060895-5 04/23/24 11:35

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ferrous Iron	1.00	0.944	1.99	1.90	104	95.6	1	80.0-120			4.53	20

Method Blank (MB)

(MB) R4063644-1 04/30/24 00:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1727843-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1727843-02 04/30/24 00:07 • (DUP) R4063644-3 04/30/24 00:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	1.63	1.64	1	0.612		20

L1727849-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1727849-01 04/30/24 00:12 • (DUP) R4063644-6 04/30/24 00:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	0.467	0.688	1	38.3	P1	20

Laboratory Control Sample (LCS)

(LCS) R4063644-2 04/30/24 00:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	12.2	99.6	80.0-120	

L1727843-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727843-02 04/30/24 00:07 • (MS) R4063644-4 04/30/24 00:10 • (MSD) R4063644-5 04/30/24 00:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	1.63	8.13	8.12	130	130	1	90.0-110	J5	J5	0.123	20

Sample Narrative:

MS: Spike failure due to matrix interference

MSD: Spike failure due to matrix interference

L1727849-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1727849-01 04/30/24 00:12 • (MS) R4063644-7 04/30/24 00:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	0.467	7.27	136	1	90.0-110	J5

Sample Narrative:

MS: Spike failure due to matrix interference

Method Blank (MB)

(MB) R4064175-1 04/30/24 20:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1728198-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1728198-01 04/30/24 21:13 • (DUP) R4064175-6 04/30/24 21:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	40.9	41.4	5	1.22		20

L1728220-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1728220-01 04/30/24 21:16 • (DUP) R4064175-7 04/30/24 21:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	97.5	100	5	2.53		20

Laboratory Control Sample (LCS)

(LCS) R4064175-2 04/30/24 20:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	12.0	98.0	80.0-120	

L1727309-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727309-01 04/30/24 20:29 • (MS) R4064175-3 04/30/24 20:30 • (MSD) R4064175-4 04/30/24 20:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	5.60	11.8	11.5	124	118	1	90.0-110	J5	J5	2.58	20

L1727956-12 Original Sample (OS) • Matrix Spike (MS)

(OS) L1727956-12 04/30/24 20:34 • (MS) R4064175-5 04/30/24 20:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	0.975	6.10	103	1	90.0-110	

Method Blank (MB)

(MB) R4060733-1 04/23/24 01:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

L1727956-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-03 04/23/24 01:56 • (DUP) R4060733-3 04/23/24 01:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

L1727956-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-17 04/23/24 02:00 • (DUP) R4060733-5 04/23/24 02:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4060733-2 04/23/24 01:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.449	89.8	85.0-115	

L1727956-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-11 04/23/24 01:58 • (MS) R4060733-6 04/23/24 02:03 • (MSD) R4060733-4 04/23/24 01:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	0.0820	0.497	0.493	83.0	82.2	1	80.0-120			0.808	20

Method Blank (MB)

(MB) R4060735-1 04/23/24 02:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

Laboratory Control Sample (LCS)

(LCS) R4060735-2 04/23/24 02:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.502	100	85.0-115	

L1727956-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-24 04/23/24 02:42 • (MS) R4060735-3 04/23/24 02:42 • (MSD) R4060735-4 04/23/24 02:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	U	0.486	0.486	97.2	97.2	1	80.0-120			0.000	20

Method Blank (MB)

(MB) R4066592-1 04/29/24 18:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Sulfate	U		0.594	5.00

L1727904-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1727904-15 04/29/24 18:43 • (DUP) R4066592-3 04/29/24 18:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		15
Sulfate	2.34	2.36	1	0.918	J	15

L1727909-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1727909-06 04/29/24 21:41 • (DUP) R4066592-6 04/29/24 21:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		15
Sulfate	U	U	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R4066592-2 04/29/24 18:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	36.3	90.7	80.0-120	
Sulfate	40.0	39.6	98.9	80.0-120	

L1727904-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727904-15 04/29/24 18:43 • (MS) R4066592-4 04/29/24 19:10 • (MSD) R4066592-5 04/29/24 19:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	U	37.1	39.1	92.8	97.8	1	80.0-120			5.24	15
Sulfate	40.0	2.34	41.5	41.9	98.0	98.8	1	80.0-120			0.785	15

L1727909-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1727909-06 04/29/24 21:41 • (MS) R4066592-7 04/29/24 22:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	U	36.2	90.4	1	80.0-120	
Sulfate	40.0	U	39.2	98.0	1	80.0-120	

Method Blank (MB)

(MB) R4064090-1 04/29/24 23:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	0.540	J	0.353	1.00
Sulfate	U		0.594	5.00

L1727848-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1727848-02 04/30/24 01:02 • (DUP) R4064090-3 04/30/24 01:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	4.79	4.84	1	0.922		15
Sulfate	141	141	1	0.174		15

L1728036-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1728036-03 04/30/24 05:30 • (DUP) R4064090-6 04/30/24 05:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		15
Sulfate	0.769	0.772	1	0.480	J	15

Laboratory Control Sample (LCS)

(LCS) R4064090-2 04/29/24 23:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	38.7	96.8	80.0-120	
Sulfate	40.0	38.0	95.1	80.0-120	

L1727848-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727848-02 04/30/24 01:02 • (MS) R4064090-4 04/30/24 01:53 • (MSD) R4064090-5 04/30/24 02:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	4.79	41.6	41.7	91.9	92.2	1	80.0-120			0.212	15
Sulfate	40.0	141	152	152	27.0	26.5	1	80.0-120	J6	J6	0.138	15

L1728036-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1728036-03 04/30/24 05:30 • (MS) R4064090-7 04/30/24 05:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	U	38.5	96.3	1	80.0-120	
Sulfate	40.0	0.769	37.8	92.6	1	80.0-120	

Method Blank (MB)

(MB) R4066643-1 04/30/24 08:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Sulfate	U		0.594	5.00

L1727956-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-17 04/30/24 10:41 • (DUP) R4066643-3 04/30/24 10:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	7.05	7.14	1	1.18		15
Sulfate	3.06	3.09	1	1.01	J	15

L1728085-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1728085-02 04/30/24 14:05 • (DUP) R4066643-6 04/30/24 14:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	7.70	10.1	1	26.8	P1	15

Laboratory Control Sample (LCS)

(LCS) R4066643-2 04/30/24 08:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	38.8	96.9	80.0-120	
Sulfate	40.0	37.7	94.4	80.0-120	

L1727956-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-17 04/30/24 10:41 • (MS) R4066643-4 04/30/24 11:06 • (MSD) R4066643-5 04/30/24 11:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	7.05	43.4	44.2	90.9	92.8	1	80.0-120			1.72	15
Sulfate	40.0	3.06	41.0	40.8	94.9	94.4	1	80.0-120			0.476	15

L1728085-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1728085-02 04/30/24 14:05 • (MS) R4066643-7 04/30/24 14:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	7.70	46.6	97.3	1	80.0-120	

Method Blank (MB)

(MB) R4061268-2 04/23/24 18:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	U		0.102	1.00

L1727911-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1727911-03 04/23/24 21:33 • (DUP) R4061268-3 04/23/24 21:51

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	0.483	0.518	1	6.99	J	20

L1727956-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-14 04/24/24 04:40 • (DUP) R4061268-6 04/24/24 05:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	7.24	7.16	1	1.01		20

Laboratory Control Sample (LCS)

(LCS) R4061268-1 04/23/24 18:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	24.3	97.1	85.0-115	

L1727911-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727911-04 04/23/24 22:09 • (MS) R4061268-4 04/23/24 22:31 • (MSD) R4061268-5 04/23/24 22:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	0.331	25.0	25.1	98.6	98.9	1	85.0-115			0.320	20

L1727956-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-15 04/24/24 05:23 • (MS) R4061268-7 04/24/24 05:46 • (MSD) R4061268-8 04/24/24 06:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	7.58	32.3	32.9	98.9	101	1	85.0-115			1.90	20

Method Blank (MB)

(MB) R4061512-2 04/23/24 11:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.158	J	0.102	1.00

L1727956-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1727956-16 04/23/24 19:25 • (DUP) R4061512-3 04/23/24 19:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	13.5	13.8	1	1.83		20

Laboratory Control Sample (LCS)

(LCS) R4061512-1 04/23/24 11:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	26.1	105	85.0-115	

L1727956-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-18 04/23/24 20:25 • (MS) R4061512-4 04/23/24 20:49 • (MSD) R4061512-5 04/23/24 21:14

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	24.3	44.6	45.8	81.2	86.4	1	85.0-115	J6		2.85	20

Sample Narrative:

MS: spike failed due to sample matrix

MSD: spike failed due to sample matrix

Method Blank (MB)

(MB) R4061829-2 04/24/24 01:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.109	J	0.102	1.00

L1728147-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1728147-02 04/24/24 16:14 • (DUP) R4061829-5 04/24/24 16:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	392	404	50	2.99		20

Laboratory Control Sample (LCS)

(LCS) R4061829-1 04/24/24 01:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	26.9	107	85.0-115	

L1727956-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-22 04/24/24 14:04 • (MS) R4061829-3 04/24/24 14:28 • (MSD) R4061829-4 04/24/24 14:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	15.5	40.4	40.7	99.8	101	1	85.0-115			0.715	20

L1728162-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1728162-01 04/24/24 20:34 • (MS) R4061829-6 04/24/24 20:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
TOC (Total Organic Carbon)	25.0	0.400	26.6	105	1	85.0-115	

L1728162-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1728162-01 04/24/24 20:34 • (MS) R4061829-7 04/24/24 21:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
TOC (Total Organic Carbon)	25.0	0.400	26.2	103	1	85.0-115	

Method Blank (MB)

(MB) R4062597-1 04/26/24 13:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium	U		0.0853	1.00

Laboratory Control Sample (LCS)

(LCS) R4062597-2 04/26/24 13:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10.0	9.69	96.9	80.0-120	

L1727956-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727956-04 04/26/24 13:09 • (MS) R4062597-4 04/26/24 13:15 • (MSD) R4062597-5 04/26/24 13:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10.0	121	127	126	61.7	50.0	1	75.0-125	V	V	0.926	20

Method Blank (MB)

(MB) R4062299-1 04/25/24 20:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium	U		0.0853	1.00

Laboratory Control Sample (LCS)

(LCS) R4062299-2 04/25/24 20:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10.0	9.45	94.5	80.0-120	

L1727974-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1727974-01 04/25/24 20:42 • (MS) R4062299-4 04/25/24 20:45 • (MSD) R4062299-5 04/25/24 20:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10.0	52.2	60.4	60.1	82.3	79.2	1	75.0-125			0.520	20

Method Blank (MB)

(MB) R4062335-3 04/24/24 10:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.3*			*78.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4062335-1 04/24/24 09:10 • (LCSD) R4062335-2 04/24/24 09:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	4.72	4.61	94.4	92.2	72.0-127			2.36	20
(S) a,a,a-Trifluorotoluene(FID)				*98.3*	*100*	*78.0-120*				

Method Blank (MB)

(MB) R4062658-1 04/24/24 13:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*90.8*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R4062658-2 04/24/24 14:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	3.78	75.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*97.0*	*78.0-120*	

Method Blank (MB)

(MB) R4063014-3 04/26/24 20:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*78.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4063014-1 04/26/24 18:56 • (LCSD) R4063014-2 04/26/24 19:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	4.96	3.95	99.2	79.0	72.0-127		J3	22.7	20
(S) a,a,a-Trifluorotoluene(FID)				*97.8*	*95.6*	*78.0-120*				

Method Blank (MB)

(MB) R4063015-3 04/26/24 20:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*78.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4063015-1 04/26/24 18:56 • (LCSD) R4063015-2 04/26/24 19:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	4.96	3.95	99.2	79.0	72.0-127		J3	22.7	20
(S) a,a,a-Trifluorotoluene(FID)				*97.8*	*95.6*	*78.0-120*				

Method Blank (MB)

(MB) R4062341-3 04/25/24 09:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*108*			*80.0-120*
(S) 4-Bromofluorobenzene	*90.6*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4062341-1 04/25/24 08:15 • (LCSD) R4062341-4 04/25/24 11:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00481	0.00497	96.2	99.4	70.0-123			3.27	20
Toluene	0.00500	0.00464	0.00520	92.8	104	79.0-120			11.4	20
Ethylbenzene	0.00500	0.00471	0.00561	94.2	112	79.0-123			17.4	20
Total Xylenes	0.0150	0.0141	0.0162	94.0	108	79.0-123			13.9	20
Methyl tert-butyl ether	0.00500	0.00580	0.00608	116	122	68.0-125			4.71	20
Naphthalene	0.00500	0.00423	0.00479	84.6	95.8	54.0-135			12.4	20
1,2,4-Trimethylbenzene	0.00500	0.00519	0.00572	104	114	76.0-121			9.72	20
1,3,5-Trimethylbenzene	0.00500	0.00530	0.00594	106	119	76.0-122			11.4	20
(S) Toluene-d8				*100*	*99.9*	*80.0-120*				
(S) 4-Bromofluorobenzene				*88.9*	*93.3*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*126*	*117*	*70.0-130*				

Method Blank (MB)

(MB) R4062723-3 04/26/24 04:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*95.8*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4062723-1 04/26/24 03:19 • (LCSD) R4062723-2 04/26/24 03:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00520	0.00509	104	102	70.0-123			2.14	20
Toluene	0.00500	0.00490	0.00500	98.0	100	79.0-120			2.02	20
Ethylbenzene	0.00500	0.00497	0.00502	99.4	100	79.0-123			1.00	20
Total Xylenes	0.0150	0.0146	0.0150	97.3	100	79.0-123			2.70	20
Methyl tert-butyl ether	0.00500	0.00548	0.00553	110	111	68.0-125			0.908	20
Naphthalene	0.00500	0.00489	0.00496	97.8	99.2	54.0-135			1.42	20
1,2,4-Trimethylbenzene	0.00500	0.00495	0.00519	99.0	104	76.0-121			4.73	20
1,3,5-Trimethylbenzene	0.00500	0.00502	0.00518	100	104	76.0-122			3.14	20
(S) Toluene-d8				*98.0*	*100*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.8*	*97.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*111*	*110*	*70.0-130*				

Method Blank (MB)

(MB) R4063215-3 04/26/24 20:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
(S) Toluene-d8	*106*			*80.0-120*
(S) 4-Bromofluorobenzene	*90.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*123*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4063215-1 04/26/24 19:38 • (LCSD) R4063215-2 04/26/24 19:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00427	0.00459	85.4	91.8	70.0-123			7.22	20
Ethylbenzene	0.00500	0.00476	0.00478	95.2	95.6	79.0-123			0.419	20
Methyl tert-butyl ether	0.00500	0.00523	0.00581	105	116	68.0-125			10.5	20
Naphthalene	0.00500	0.00413	0.00423	82.6	84.6	54.0-135			2.39	20
1,2,4-Trimethylbenzene	0.00500	0.00496	0.00495	99.2	99.0	76.0-121			0.202	20
(S) Toluene-d8				*104*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*94.7*	*88.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*122*	*126*	*70.0-130*				

Method Blank (MB)

(MB) R4063949-3 04/29/24 09:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Methyl tert-butyl ether	U		0.000101	0.00100
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4063949-1 04/29/24 08:04 • (LCSD) R4063949-2 04/29/24 08:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00455	0.00462	91.0	92.4	70.0-123			1.53	20
Methyl tert-butyl ether	0.00500	0.00500	0.00510	100	102	68.0-125			1.98	20
(S) Toluene-d8				*99.6*	*100*	*80.0-120*				
(S) 4-Bromofluorobenzene				*103*	*101*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*117*	*117*	*70.0-130*				

Method Blank (MB)

(MB) R4062520-1 04/26/24 06:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	*68.0*			*52.0-156*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4062520-2 04/26/24 06:49 • (LCSD) R4062520-3 04/26/24 07:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.56	1.57	104	105	50.0-150			0.639	20
(S) o-Terphenyl				*79.0*	*81.5*	*52.0-156*				

Method Blank (MB)

(MB) R4062974-1 04/26/24 11:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	*77.5*			*52.0-156*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4062974-2 04/26/24 11:42 • (LCSD) R4062974-3 04/26/24 12:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	0.994	1.21	66.3	80.7	50.0-150			19.6	20
(S) o-Terphenyl				*80.5*	*84.0*	*52.0-156*				

Method Blank (MB)

(MB) R4062975-1 04/26/24 20:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	*76.0*			*52.0-156*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4062975-2 04/26/24 20:43 • (LCSD) R4062975-3 04/26/24 21:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.41	1.45	94.0	96.7	50.0-150			2.80	20
(S) o-Terphenyl				*84.5*	*83.0*	*52.0-156*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Received by OCD: 12/30/2025 2:28:51 PM

Company Name/Address:
TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to: **Julie Speer**

Email To: jspeer@trccompanies.com;mlink@trccompanies

Project Description: **Reinjection Pilot Study Phase 5 Task A-2**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **512-431-8184**

Client Project # **387820.2024.0000**

Lab Project # **TRCATX-ARTESIAPILOT**

Collected by (print): Scott Ude + HMI Team

Site/Facility ID #

P.O. #

Collected by (signature): Scott Ude

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1727960
Table # L251
Acctnum: TRCATX
Template: T250844
Prelogin: P1068453
PM: 526 - Chris McCord
PB: 4/11/24 cam
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	BROMIDE,SULFATE 125mlHDPE-NoPres	DROLVI 40mlAmb-HCl-BT	FERUSFE,TOC 250mlAmb-HCl	GRO 40mlAmb HCl	MGICP 250mlHDPE-HNO3	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	V8260BTEXMN12 40mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
KWB-4		GW		4/18/24	900	13	X	X	X	X	X	X	X	X	X			-01
RW-19		GW			945	13	X	X	X	X	X	X	X	X	X			-02
PMW-1		GW			1030	13	X	X	X	X	X	X	X	X	X			-03
PMW-2		GW			1115	13	X	X	X	X	X	X	X	X	X			-04
PMW-3		GW			1155	13	X	X	X	X	X	X	X	X	X			-05
PMW-4		GW			1235	13	X	X	X	X	X	X	X	X	X			-06
PMW-5		GW			1320	13	X	X	X	X	X	X	X	X	X			-07
KWB-5		GW			1405	13	X	X	X	X	X	X	X	X	X			-08
MW-111		GW			1450	13	X	X	X	X	X	X	X	X	X			-09
MW-48		GW			1535	13	X	X	X	X	X	X	X	X	X			-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking # 7359 4596 0173 7359 4596 0162
7359 4596 0131 7359 4596 0140
7359 4596 0130 7359 4596 0129

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No (HCl) / MeoH TBR	If preservation required by Login: Date/Time
Scott Ude	4/19/24	900		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 312	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Jamcem	Date: 4-20-24 Time: 0900	Hold: Condition: NCF / OK

Released to Imaging: 1/8/2026 10:51:53 AM

Received by OCD: 12/30/2025 2:28:51 PM

Company Name/Address:
TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to: **Julie Speer**

Email To: **jspeer@trccompanies.com;mlink@trccompanies**

Project Description: **Reinjection Pilot Study Phase 5 Task A-2**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **512-431-8184**

Client Project # **387820.2024.0000**

Lab Project # **TRCATX-ARTESIAPILOT**

Collected by (print): **Scott Ude + HMI Team**

Site/Facility ID #

P.O. #

Collected by (signature): **Scott Ude**

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
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SDG # L1579560

Table #

Acctnum: **TRCATX**
Template: **T250844**
Prelogin: **P1068453**
PM: **526 - Chris McCord**
PB: **4/11/24 CWM**
Shipped Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	BROMIDE,SULFATE 125mlHDPE-NoPres	DROLVI 40mlAmb-HCl-BT	FERUSFE,TOC 250mlAmb-HCl	GRO 40mlAmb HCl	MGICP 250mlHDPE-HNO3	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	V8260BTEXMN12 40mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-99		GW		4/18/24	830	13	X	X	X	X	X	X	X	X	X			-11
MW-66		GW			915	13	X	X	X	X	X	X	X	X	X			-12
MW-129		GW			1630	13	X	X	X	X	X	X	X	X	X			-13
PMW-6		GW			1010	13	X	X	X	X	X	X	X	X	X			-14
PMW-7		GW			1105	13	X	X	X	X	X	X	X	X	X			-15
MW-131		GW			1200	13	X	X	X	X	X	X	X	X	X			-16
PMW-8		GW			1250	13	X	X	X	X	X	X	X	X	X			-17
PMW-9		GW			1345	13	X	X	X	X	X	X	X	X	X			-18
PMW-10		GW			1430	13	X	X	X	X	X	X	X	X	X			-19
PMW-11		GW			1555	13	X	X	X	X	X	X	X	X	X			-20

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Scott Ude	4/19/24	900		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4-20-24 Time: 0900
			Jamesm	Hold: Condition: NCF / OK

Released to Imaging: 1/8/2026 10:51:53 AM

Received by OCD: 12/30/2025 2:28:51 PM

Company Name/Address:
TRC Solutions - Austin, TX
505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
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Windsor, CT 06095

Report to: **Julie Speer**

Email To: **jspeer@trccompanies.com;mlink@trccompanies**

Project Description: **Reinjection Pilot Study Phase 5 Task A-2**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **512-431-8184**

Client Project # **387820.2024.0000**

Lab Project # **TRCATX-ARTESIAPILOT**

Collected by (print): Scott Ude + HMI Team

Site/Facility ID #

P.O. #

Collected by (signature): Scott Ude

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

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SDG # U722956

Table #

Acctnum: **TRCATX**
Template: **T250844**
Prelogin: **P1068453**
PM: **526 - Chris McCord**
PB: 4/11/24 CWM

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	BROMIDE,SULFATE 125mlHDPE-NoPres	DROLVI 40mlAmb-HCl-BT	FERUSFE,TOC 250mlAmb-HCl	GRO 40mlAmb HCl	MGICP 250mlHDPE-HNO3	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	V8260BTEXMN12 40mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-112		GW		4/18/24	1650	13	X	X	X	X	X	X	X	X	X			-21
DUP-01		GW			900	13	X	X	X	X	X	X	X	X	X			-22
DUP-02		GW			1200	13	X	X	X	X	X	X	X	X	X			-23
EB-01		GW			1445	13	X	X	X	X	X	X	X	X	X			-24
		GW				13	X	X	X	X	X	X	X	X	X			
		GW				13	X	X	X	X	X	X	X	X	X			
TRIP BLANK-01		GW		4/18/24	—	1										X		-25
TRIP BLANK-02		GW		4/18/24	—	1										X		-26

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓ Y __ N
COC Signed/Accurate: ✓ Y __ N
Bottles arrive intact: ✓ Y __ N
Correct bottles used: ✓ Y __ N
Sufficient volume sent: ✓ Y __ N
If Applicable
VOA Zero Headspace: ✓ Y __ N
Preservation Correct/Checked: ✓ Y __ N
RAD Screen <0.5 mR/hr: ✓ Y __ N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Scott Ude	4/19/24	900			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4-20-24 Time: 0900	Hold: Condition: NCF / OK

Released to Imaging: 1/8/2026 10:51:53 AM

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LT727956

Tracking Numbers	TLAG Temperature
7359 4596 0140	2.0 + 0.1 = 2.1
7359 4596 0151	3.7 + 0.1 = 3.8
7359 4596 0162	2.7 + 0.1 = 2.8
7359 4596 0173	2.0 + 0.1 = 2.1
7359 4596 0129	1.6 + 0.1 = 1.7
7359 4596 0130	0.9 + 0.1 = 1.0

Name

Date

Received by OCD: 12/30/2025 2:28:51 PM

Released to Imaging: 1/8/2026 10:51:53 AM

Laboratory Analytical Report – June 2025

ANALYTICAL REPORT

June 20, 2025

TRC Solutions - Austin, TX

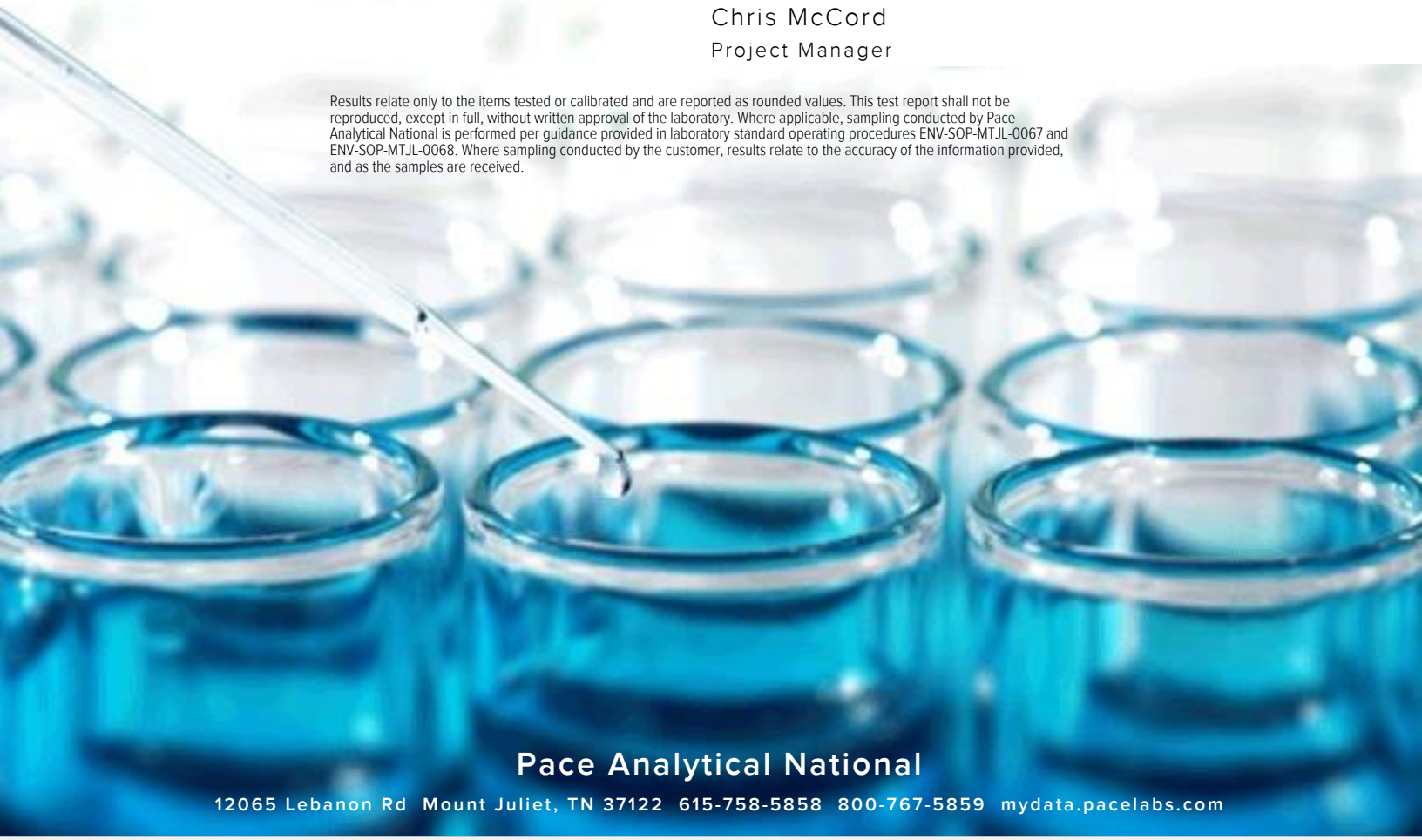
Sample Delivery Group:	L1865870
Samples Received:	06/04/2025
Project Number:	387820.2024.0000
Description:	Reinjection Pilot Study Phase 5 Task A-2

Report To: Julie Speer
505 E. Huntland Dr, Ste 250
Austin, TX 78752

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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KWB-4 L1865870-01

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:10	06/05/25 14:10	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	1	06/04/25 17:52	06/04/25 17:52	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:35	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2530718	1	06/05/25 10:45	06/05/25 10:45	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	5	06/11/25 13:04	06/11/25 13:04	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/14/25 19:40	06/14/25 19:40	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 13:27	RLS	Mt. Juliet, TN

RW-19 L1865870-02

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:40 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:15	06/05/25 14:15	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	1	06/04/25 17:52	06/04/25 17:52	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:39	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2530718	1	06/05/25 10:45	06/05/25 10:45	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	5	06/11/25 13:18	06/11/25 13:18	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/14/25 20:03	06/14/25 20:03	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 13:29	RLS	Mt. Juliet, TN

PMW-1 L1865870-03

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 08:55 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:20	06/05/25 14:20	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 17:54	06/04/25 17:54	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:41	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:45	06/04/25 20:45	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	5	06/11/25 13:31	06/11/25 13:31	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/14/25 20:26	06/14/25 20:26	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 13:30	RLS	Mt. Juliet, TN

PMW-1-TOP L1865870-04

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 09:55 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:24	06/05/25 14:24	BJM	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:45	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	5	06/11/25 13:44	06/11/25 13:44	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/14/25 20:48	06/14/25 20:48	AF	Mt. Juliet, TN

PMW-2 L1865870-05

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:55 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 09:49	06/05/25 09:49	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	10	06/04/25 17:55	06/04/25 17:55	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:46	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:46	06/04/25 20:46	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	10	06/11/25 13:58	06/11/25 13:58	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/14/25 21:50	06/14/25 21:50	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 13:32	RLS	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

PMW-2-TOP L1865870-06

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 11:35 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 09:55	06/05/25 09:55	BJM	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:48	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	10	06/11/25 14:11	06/11/25 14:11	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/14/25 22:59	06/14/25 22:59	AF	Mt. Juliet, TN

PMW-3 L1865870-07

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 09:40 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 09:59	06/05/25 09:59	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	50	06/04/25 17:55	06/04/25 17:55	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:54	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2530718	1	06/05/25 10:46	06/05/25 10:46	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	10	06/11/25 14:25	06/11/25 14:25	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/14/25 23:44	06/14/25 23:44	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 13:34	RLS	Mt. Juliet, TN

PMW-3-TOP L1865870-08

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:20 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:02	06/05/25 10:02	BJM	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:56	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	10	06/11/25 14:38	06/11/25 14:38	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/15/25 00:07	06/15/25 00:07	AF	Mt. Juliet, TN

PMW-4 L1865870-09

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 11:05 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:05	06/05/25 10:05	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 17:56	06/04/25 17:56	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 11:58	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2530718	1	06/05/25 10:46	06/05/25 10:46	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530882	10	06/11/25 14:51	06/11/25 14:51	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/15/25 00:28	06/15/25 00:28	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 13:35	RLS	Mt. Juliet, TN

PMW-4-TOP L1865870-10

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 11:50 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:09	06/05/25 10:09	BJM	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 12:00	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	10	06/13/25 03:11	06/13/25 03:11	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/15/25 00:50	06/15/25 00:50	AF	Mt. Juliet, TN

PMW-5 L1865870-11

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 12:40 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:12	06/05/25 10:12	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 17:56	06/04/25 17:56	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 12:02	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:46	06/04/25 20:46	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 04:05	06/13/25 04:05	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/15/25 01:12	06/15/25 01:12	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 12:43	RLS	Mt. Juliet, TN

PMW-5-TOP L1865870-12

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 13:25 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:28	06/05/25 10:28	BJM	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 12:03	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 04:45	06/13/25 04:45	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/15/25 01:34	06/15/25 01:34	AF	Mt. Juliet, TN

KWB-5 L1865870-13

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 11:20 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:31	06/05/25 10:31	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 17:57	06/04/25 17:57	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 12:05	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2530718	1	06/05/25 10:46	06/05/25 10:46	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 04:59	06/13/25 04:59	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/15/25 01:56	06/15/25 01:56	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 12:44	RLS	Mt. Juliet, TN

MW-111 L1865870-14

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 12:30 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:35	06/05/25 10:35	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 17:57	06/04/25 17:57	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 12:07	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:46	06/04/25 20:46	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	10	06/13/25 05:12	06/13/25 05:12	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537862	1	06/15/25 02:18	06/15/25 02:18	AF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 12:46	RLS	Mt. Juliet, TN

MW-48 L1865870-15

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 08:55 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:38	06/05/25 10:38	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	1	06/04/25 17:58	06/04/25 17:58	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 12:09	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:47	06/04/25 20:47	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	10	06/13/25 05:26	06/13/25 05:26	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 20:23	06/15/25 20:23	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 12:48	RLS	Mt. Juliet, TN

DUP-01-NORTH L1865870-16

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 08:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2533806	1000	06/09/25 00:52	06/09/25 00:52	JAH	Mt. Juliet, TN

EB-01-NORTH L1865870-17

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 09:05 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2531035	1	06/04/25 21:10	06/04/25 21:10	DYW	Mt. Juliet, TN

TRIP BLANK-01-NORTH L1865870-18

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 00:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2531035	1	06/04/25 20:47	06/04/25 20:47	DYW	Mt. Juliet, TN

MW-99 L1865870-19

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 09:20 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:42	06/05/25 10:42	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	1	06/04/25 17:58	06/04/25 17:58	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535071	1	06/10/25 16:30	06/11/25 12:11	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:47	06/04/25 20:47	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 05:39	06/13/25 05:39	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 21:29	06/15/25 21:29	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532670	1	06/10/25 23:10	06/12/25 12:49	RLS	Mt. Juliet, TN

MW-66 L1865870-20

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 08:40 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:45	06/05/25 10:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	1	06/04/25 17:59	06/04/25 17:59	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:32	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:47	06/04/25 20:47	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 05:53	06/13/25 05:53	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 22:08	06/15/25 22:08	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:15	BAG	Mt. Juliet, TN

MW-129 L1865870-21

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 11:40 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:48	06/05/25 10:48	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	10	06/04/25 17:59	06/04/25 17:59	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:34	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:48	06/04/25 20:48	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	10	06/13/25 06:06	06/13/25 06:06	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 22:27	06/15/25 22:27	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:26	BAG	Mt. Juliet, TN

PMW-6 L1865870-22

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 09:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:51	06/05/25 10:51	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 17:59	06/04/25 17:59	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:40	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:48	06/04/25 20:48	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 06:20	06/13/25 06:20	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 22:45	06/15/25 22:45	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:28	BAG	Mt. Juliet, TN

PMW-6-TOP L1865870-23

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 09:45 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 10:55	06/05/25 10:55	BJM	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:43	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 07:00	06/13/25 07:00	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 23:03	06/15/25 23:03	ASH	Mt. Juliet, TN

PMW-7 L1865870-24

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:25 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531013	1	06/05/25 11:13	06/05/25 11:13	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	10	06/04/25 18:00	06/04/25 18:00	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:47	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:48	06/04/25 20:48	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 07:14	06/13/25 07:14	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 23:22	06/15/25 23:22	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:31	BAG	Mt. Juliet, TN

PMW-7-TOP L1865870-25

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 11:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:00	06/06/25 12:00	RJP	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:51	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 07:27	06/13/25 07:27	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 23:40	06/15/25 23:40	ASH	Mt. Juliet, TN

MW-131 L1865870-26

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 11:35 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:04	06/06/25 12:04	RJP	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	1	06/04/25 18:00	06/04/25 18:00	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:53	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:49	06/04/25 20:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 07:41	06/13/25 07:41	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/15/25 23:59	06/15/25 23:59	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:34	BAG	Mt. Juliet, TN

MW-131-TOP L1865870-27

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 12:05 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:10	06/06/25 12:10	RJP	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:55	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 07:54	06/13/25 07:54	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 00:17	06/16/25 00:17	ASH	Mt. Juliet, TN

PMW-8 L1865870-28

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 12:40 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 13:01	06/06/25 13:01	RJP	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 18:01	06/04/25 18:01	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:57	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:49	06/04/25 20:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 08:08	06/13/25 08:08	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 01:14	06/16/25 01:14	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	5	06/11/25 01:33	06/13/25 00:42	BAG	Mt. Juliet, TN

PMW-9 L1865870-29

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:10 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:15	06/06/25 12:15	RJP	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	1	06/04/25 18:16	06/04/25 18:16	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 12:58	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:49	06/04/25 20:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 08:21	06/13/25 08:21	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2540720	1	06/18/25 00:38	06/18/25 00:38	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:45	BAG	Mt. Juliet, TN

PMW-9-TOP L1865870-30

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:50 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:19	06/06/25 12:19	RJP	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:04	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 08:35	06/13/25 08:35	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 02:56	06/16/25 02:56	ASH	Mt. Juliet, TN

PMW-10 L1865870-31

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 13:45 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:24	06/06/25 12:24	RJP	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	10	06/04/25 18:17	06/04/25 18:17	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:06	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:49	06/04/25 20:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 08:48	06/13/25 08:48	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 03:15	06/16/25 03:15	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:48	BAG	Mt. Juliet, TN

PMW-10-TOP L1865870-32

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 14:25 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:29	06/06/25 12:29	RJP	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:08	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530891	5	06/13/25 09:02	06/13/25 09:02	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 03:34	06/16/25 03:34	ASH	Mt. Juliet, TN

PMW-11 L1865870-33

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 12:15 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 12:34	06/06/25 12:34	RJP	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2530965	5	06/04/25 18:18	06/04/25 18:18	PAN	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:10	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:49	06/04/25 20:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	1	06/11/25 20:56	06/11/25 20:56	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2540720	20	06/18/25 00:56	06/18/25 00:56	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:51	BAG	Mt. Juliet, TN

PMW-11-TOP L1865870-34

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 13:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531016	1	06/06/25 13:06	06/06/25 13:06	RJP	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:12	KMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	1	06/11/25 21:50	06/11/25 21:50	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 04:14	06/16/25 04:14	ASH	Mt. Juliet, TN

MW-112 L1865870-35

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 13:40 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:29	06/05/25 14:29	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2532253	10	06/06/25 20:13	06/06/25 20:13	JEG	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:14	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:49	06/04/25 20:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	1	06/11/25 22:31	06/11/25 22:31	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 04:32	06/16/25 04:32	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:54	BAG	Mt. Juliet, TN

INF-N L1865870-36

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 08:55 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:33	06/05/25 14:33	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2532253	1	06/06/25 20:14	06/06/25 20:14	JEG	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:15	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:50	06/04/25 20:50	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	1	06/11/25 22:44	06/11/25 22:44	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 04:51	06/16/25 04:51	ASH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2533806	1000	06/09/25 01:12	06/09/25 01:12	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2534036	10000	06/09/25 17:36	06/09/25 17:36	ADM	Mt. Juliet, TN

Cp Tc Ss Cn Sr Qc Gl Al Sc

EFF-N L1865870-37

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 09:25 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:49	06/05/25 14:49	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2532253	1	06/06/25 20:14	06/06/25 20:14	JEG	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:17	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:50	06/04/25 20:50	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	10	06/11/25 22:58	06/11/25 22:58	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2537867	1	06/16/25 05:09	06/16/25 05:09	ASH	Mt. Juliet, TN

DUP-02 L1865870-38

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 12:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 14:58	06/05/25 14:58	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2532253	10	06/06/25 20:19	06/06/25 20:19	JEG	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:19	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2530718	1	06/05/25 10:46	06/05/25 10:46	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	10	06/11/25 23:11	06/11/25 23:11	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2539238	1	06/15/25 21:05	06/15/25 21:05	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 00:57	BAG	Mt. Juliet, TN

DUP-03 L1865870-39

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 10:20 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 15:02	06/05/25 15:02	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2532253	1	06/06/25 20:20	06/06/25 20:20	JEG	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535074	1	06/10/25 16:29	06/11/25 13:21	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:51	06/04/25 20:51	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	1	06/11/25 23:25	06/11/25 23:25	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2539238	1	06/15/25 21:33	06/15/25 21:33	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 01:00	BAG	Mt. Juliet, TN

EB-02 L1865870-40

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 13:55 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2531012	1	06/05/25 15:06	06/05/25 15:06	BJM	Mt. Juliet, TN
Wet Chemistry by Method 3500Fe B-2011	WG2532253	1	06/06/25 20:20	06/06/25 20:20	JEG	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2535064	1	06/10/25 16:28	06/11/25 14:30	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2531007	1	06/04/25 20:51	06/04/25 20:51	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2530970	1	06/11/25 23:38	06/11/25 23:38	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG2539238	1	06/15/25 21:54	06/15/25 21:54	ASH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2532673	1	06/11/25 01:33	06/13/25 01:03	BAG	Mt. Juliet, TN

TRIP BLANK-01-SOUTH L1865870-41

Collected by: Brian Hillin/HMI | Collected date/time: 06/03/25 00:00 | Received date/time: 06/04/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2531162	1	06/05/25 01:42	06/05/25 01:42	NCD	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Sample Delivery Group (SDG) Narrative

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

Batch	Method	Lab Sample ID
WG2530965	3500Fe B-2011	L1865870-01, 02, 03, 05, 07, 09, 11, 13, 14, 15, 19, 20, 21, 22, 24, 26, 28, 29, 31, 33
WG2532253	3500Fe B-2011	L1865870-35, 36, 37, 38, 39, 40

The laboratory analysis was performed from an unpreserved, insufficiently or inadequately preserved sample.

Batch	Method	Lab Sample ID
WG2530718	4500S2 D-2011	L1865870-38
WG2537862	9060A	L1865870-13

Wet Chemistry by Method 351.2

The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

Batch	Lab Sample ID	Analytes
WG2535064	(MS) R4228826-3	Kjeldahl Nitrogen, TKN
WG2535064	(MSD) R4228826-4	Kjeldahl Nitrogen, TKN

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2535071	(DUP) R4228715-7, L1865870-03	Kjeldahl Nitrogen, TKN
WG2535074	(DUP) R4228789-6, L1865870-23	Kjeldahl Nitrogen, TKN

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG2535074	(MS) R4228789-3, (MS) R4228789-5, L1865870-21, 22	Kjeldahl Nitrogen, TKN

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2535064	(MS) R4228826-3, (MSD) R4228826-4	Kjeldahl Nitrogen, TKN

Wet Chemistry by Method 4500S2 D-2011

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2530718	(MS) R4225927-3, (MSD) R4225927-4	Sulfide
WG2531007	(MS) R4225651-3, (MSD) R4225651-4, L1865870-03	Sulfide

Wet Chemistry by Method 9056A

The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

Batch	Lab Sample ID	Analytes
WG2530882	(MS) R4229193-4	Sulfate
WG2530882	(MSD) R4229193-5	Sulfate
WG2530882	(MS) R4229193-7	Sulfate

The same analyte is found in the associated blank.

Batch	Analyte	Lab Sample ID
WG2530882	Sulfate	L1865870-02

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2530970	(DUP) R4229317-3, L1865870-33	Sulfate

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2530882	(MS) R4229193-4, (MS) R4229193-7, (MSD) R4229193-5	Sulfate
WG2530891	(MS) R4229847-7	Sulfate

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2530891	(MS) R4229847-4, (MSD) R4229847-5	Sulfate

Wet Chemistry by Method 9060A

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2537867	(MS) R4231476-3, (MSD) R4231476-2, L1865870-28	TOC (Total Organic Carbon)
WG2540720	(MS) R4232620-3, (MSD) R4232620-4	TOC (Total Organic Carbon)

Metals (ICP) by Method 6010D

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2532673	(MS) R4229729-4, (MSD) R4229729-5, L1865870-20	Magnesium

The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

Batch	Lab Sample ID	Analytes
WG2532673	L1865870-20	Magnesium

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	831		4.75	20.0	1	06/05/2025 14:10	WG2531012

Sample Narrative:
L1865870-01 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.0640	T8	0.0150	0.0500	1	06/04/2025 17:52	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.265		0.131	0.250	1	06/11/2025 11:35	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/05/2025 10:45	WG2530718

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	213		3.18	25.0	5	06/11/2025 13:04	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.5		0.495	1.00	1	06/14/2025 19:40	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	114		0.101	1.00	1	06/12/2025 13:27	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	998		4.75	20.0	1	06/05/2025 14:15	WG2531012

Sample Narrative:
L1865870-02 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	U	T8	0.0150	0.0500	1	06/04/2025 17:52	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.314		0.131	0.250	1	06/11/2025 11:39	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/05/2025 10:45	WG2530718

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	4.88	B J	3.18	25.0	5	06/11/2025 13:18	WG2530882

Sample Narrative:
L1865870-02 WG2530882: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	15.3		0.495	1.00	1	06/14/2025 20:03	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	144		0.101	1.00	1	06/12/2025 13:29	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	854		4.75	20.0	1	06/05/2025 14:20	WG2531012

Sample Narrative:
L1865870-03 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.50	T8	0.0750	0.250	5	06/04/2025 17:54	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.248	J P1	0.131	0.250	1	06/11/2025 11:41	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U	J6	0.0255	0.0500	1	06/04/2025 20:45	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	141		3.18	25.0	5	06/11/2025 13:31	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	14.8		0.495	1.00	1	06/14/2025 20:26	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	131		0.101	1.00	1	06/12/2025 13:30	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	822		4.75	20.0	1	06/05/2025 14:24	WG2531012

Sample Narrative:
L1865870-04 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 11:45	WG2535071

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	204		3.18	25.0	5	06/11/2025 13:44	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	13.1		0.495	1.00	1	06/14/2025 20:48	WG2537862

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	789		4.75	20.0	1	06/05/2025 09:49	WG2531013

Sample Narrative:
L1865870-05 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	5.64	T8	0.150	0.500	10	06/04/2025 17:55	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 11:46	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:46	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	305		6.37	50.0	10	06/11/2025 13:58	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	13.1		0.495	1.00	1	06/14/2025 21:50	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	132		0.101	1.00	1	06/12/2025 13:32	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	794		4.75	20.0	1	06/05/2025 09:55	WG2531013

Sample Narrative:
L1865870-06 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 11:48	WG2535071

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	275		6.37	50.0	10	06/11/2025 14:11	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.3		0.495	1.00	1	06/14/2025 22:59	WG2537862

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	787		4.75	20.0	1	06/05/2025 09:59	WG2531013

Sample Narrative:
L1865870-07 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.50	T8	0.750	2.50	50	06/04/2025 17:55	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 11:54	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/05/2025 10:46	WG2530718

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	363		6.37	50.0	10	06/11/2025 14:25	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	11.8		0.495	1.00	1	06/14/2025 23:44	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	136		0.101	1.00	1	06/12/2025 13:34	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	796		4.75	20.0	1	06/05/2025 10:02	WG2531013

Sample Narrative:
L1865870-08 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 11:56	WG2535071

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	330		6.37	50.0	10	06/11/2025 14:38	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.4		0.495	1.00	1	06/15/2025 00:07	WG2537862

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	806		4.75	20.0	1	06/05/2025 10:05	WG2531013

Sample Narrative:
L1865870-09 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.99	T8	0.0750	0.250	5	06/04/2025 17:56	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.151	J	0.131	0.250	1	06/11/2025 11:58	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/05/2025 10:46	WG2530718

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	323		6.37	50.0	10	06/11/2025 14:51	WG2530882

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	14.8		0.495	1.00	1	06/15/2025 00:28	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	132		0.101	1.00	1	06/12/2025 13:35	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	803		4.75	20.0	1	06/05/2025 10:09	WG2531013

Sample Narrative:
L1865870-10 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.132	J	0.131	0.250	1	06/11/2025 12:00	WG2535071

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	340		6.37	50.0	10	06/13/2025 03:11	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	14.0		0.495	1.00	1	06/15/2025 00:50	WG2537862

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	900		4.75	20.0	1	06/05/2025 10:12	WG2531013

Sample Narrative:
L1865870-11 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.00	T8	0.0750	0.250	5	06/04/2025 17:56	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 12:02	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.0450	J	0.0255	0.0500	1	06/04/2025 20:46	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	82.1		3.18	25.0	5	06/13/2025 04:05	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	13.0		0.495	1.00	1	06/15/2025 01:12	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	115		0.101	1.00	1	06/12/2025 12:43	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	889		4.75	20.0	1	06/05/2025 10:28	WG2531013

Sample Narrative:
L1865870-12 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 12:03	WG2535071

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	82.0		3.18	25.0	5	06/13/2025 04:45	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.8		0.495	1.00	1	06/15/2025 01:34	WG2537862

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	786		4.75	20.0	1	06/05/2025 10:31	WG2531013

Sample Narrative:
L1865870-13 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.05	T8	0.0750	0.250	5	06/04/2025 17:57	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 12:05	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/05/2025 10:46	WG2530718

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	76.8		3.18	25.0	5	06/13/2025 04:59	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	9.97		0.495	1.00	1	06/15/2025 01:56	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	127		0.101	1.00	1	06/12/2025 12:44	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	849		4.75	20.0	1	06/05/2025 10:35	WG2531013

Sample Narrative:
L1865870-14 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.09	T8	0.0750	0.250	5	06/04/2025 17:57	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 12:07	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:46	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	214		6.37	50.0	10	06/13/2025 05:12	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.2		0.495	1.00	1	06/15/2025 02:18	WG2537862

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	145		0.101	1.00	1	06/12/2025 12:46	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	962		4.75	20.0	1	06/05/2025 10:38	WG2531013

Sample Narrative:
L1865870-15 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	U	T8	0.0150	0.0500	1	06/04/2025 17:58	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.355		0.131	0.250	1	06/11/2025 12:09	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.312		0.0255	0.0500	1	06/04/2025 20:47	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	361		6.37	50.0	10	06/13/2025 05:26	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.5		0.495	1.00	1	06/15/2025 20:23	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	128		0.101	1.00	1	06/12/2025 12:48	WG2532670

Received by OCD: 12/30/2025 2:28:51 PM

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	29.4		0.0941	1.00	1000	06/09/2025 00:52	WG2533806
Toluene	32.2		0.278	1.00	1000	06/09/2025 00:52	WG2533806
Ethylbenzene	16.9		0.137	1.00	1000	06/09/2025 00:52	WG2533806
Total Xylenes	41.8		0.174	3.00	1000	06/09/2025 00:52	WG2533806
Methyl tert-butyl ether	3.03		0.101	1.00	1000	06/09/2025 00:52	WG2533806
Naphthalene	1.65	J	1.00	5.00	1000	06/09/2025 00:52	WG2533806
1,2,4-Trimethylbenzene	10.8		0.322	1.00	1000	06/09/2025 00:52	WG2533806
1,3,5-Trimethylbenzene	2.56		0.104	1.00	1000	06/09/2025 00:52	WG2533806
(S) Toluene-d8	*101*			*80.0-120*		*06/09/2025 00:52*	WG2533806
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*06/09/2025 00:52*	WG2533806
(S) 1,2-Dichloroethane-d4	*89.7*			*70.0-130*		*06/09/2025 00:52*	WG2533806

Released to Imaging: 1/8/2026 10:51:53 AM

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	06/04/2025 21:10	WG2531035
Toluene	U		0.000278	0.00100	1	06/04/2025 21:10	WG2531035
Ethylbenzene	U		0.000137	0.00100	1	06/04/2025 21:10	WG2531035
Total Xylenes	0.000253	J	0.000174	0.00300	1	06/04/2025 21:10	WG2531035
Methyl tert-butyl ether	U		0.000101	0.00100	1	06/04/2025 21:10	WG2531035
Naphthalene	U		0.00100	0.00500	1	06/04/2025 21:10	WG2531035
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	06/04/2025 21:10	WG2531035
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	06/04/2025 21:10	WG2531035
(S) Toluene-d8	*98.8*			*80.0-120*		*06/04/2025 21:10*	WG2531035
(S) 4-Bromofluorobenzene	*99.7*			*77.0-126*		*06/04/2025 21:10*	WG2531035
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*06/04/2025 21:10*	WG2531035

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	1	06/04/2025 20:47	WG2531035
Toluene	U		0.000278	0.00100	1	06/04/2025 20:47	WG2531035
Ethylbenzene	U		0.000137	0.00100	1	06/04/2025 20:47	WG2531035
Total Xylenes	U		0.000174	0.00300	1	06/04/2025 20:47	WG2531035
Methyl tert-butyl ether	U		0.000101	0.00100	1	06/04/2025 20:47	WG2531035
Naphthalene	U		0.00100	0.00500	1	06/04/2025 20:47	WG2531035
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	06/04/2025 20:47	WG2531035
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	06/04/2025 20:47	WG2531035
(S) Toluene-d8	*102*			*80.0-120*		*06/04/2025 20:47*	WG2531035
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*06/04/2025 20:47*	WG2531035
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*06/04/2025 20:47*	WG2531035

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	530		4.75	20.0	1	06/05/2025 10:42	WG2531013

Sample Narrative:
L1865870-19 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.0580	T8	0.0150	0.0500	1	06/04/2025 17:58	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	1.96		0.131	0.250	1	06/11/2025 12:11	WG2535071

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.169		0.0255	0.0500	1	06/04/2025 20:47	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	25.0		3.18	25.0	5	06/13/2025 05:39	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	26.3		0.495	1.00	1	06/15/2025 21:29	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	34.8		0.101	1.00	1	06/12/2025 12:49	WG2532670

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	577		4.75	20.0	1	06/05/2025 10:45	WG2531013

Sample Narrative:
L1865870-20 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.410	T8	0.0150	0.0500	1	06/04/2025 17:59	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	1.11		0.131	0.250	1	06/11/2025 12:32	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.0300	J	0.0255	0.0500	1	06/04/2025 20:47	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	4.99	J	3.18	25.0	5	06/13/2025 05:53	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.1		0.495	1.00	1	06/15/2025 22:08	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	50.4	O1 V	0.101	1.00	1	06/13/2025 00:15	WG2532673

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	788		4.75	20.0	1	06/05/2025 10:48	WG2531013

Sample Narrative:
L1865870-21 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	4.57	T8	0.150	0.500	10	06/04/2025 17:59	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.178	J J5	0.131	0.250	1	06/11/2025 12:34	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:48	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	72.4		6.37	50.0	10	06/13/2025 06:06	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	13.5		0.495	1.00	1	06/15/2025 22:27	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	96.7		0.101	1.00	1	06/13/2025 00:26	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	795		4.75	20.0	1	06/05/2025 10:51	WG2531013

Sample Narrative:
L1865870-22 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	1.77	T8	0.0750	0.250	5	06/04/2025 17:59	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U	J5	0.131	0.250	1	06/11/2025 12:40	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:48	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	3.41	J	3.18	25.0	5	06/13/2025 06:20	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	10.5		0.495	1.00	1	06/15/2025 22:45	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	93.3		0.101	1.00	1	06/13/2025 00:28	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	791		4.75	20.0	1	06/05/2025 10:55	WG2531013

Sample Narrative:
L1865870-23 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.174	J P1	0.131	0.250	1	06/11/2025 12:43	WG2535074

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	4.47	J	3.18	25.0	5	06/13/2025 07:00	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	10.3		0.495	1.00	1	06/15/2025 23:03	WG2537867

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	856		4.75	20.0	1	06/05/2025 11:13	WG2531013

Sample Narrative:
L1865870-24 WG2531013: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.42	T8	0.150	0.500	10	06/04/2025 18:00	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.158	J	0.131	0.250	1	06/11/2025 12:47	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:48	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	U		3.18	25.0	5	06/13/2025 07:14	WG2530891

Sample Narrative:
L1865870-24 WG2530891: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12.8		0.495	1.00	1	06/15/2025 23:22	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	126		0.101	1.00	1	06/13/2025 00:31	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	819		4.75	20.0	1	06/06/2025 12:00	WG2531016

Sample Narrative:
L1865870-25 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.323		0.131	0.250	1	06/11/2025 12:51	WG2535074

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	U		3.18	25.0	5	06/13/2025 07:27	WG2530891

Sample Narrative:
L1865870-25 WG2530891: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	15.5		0.495	1.00	1	06/15/2025 23:40	WG2537867

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	754		4.75	20.0	1	06/06/2025 12:04	WG2531016

Sample Narrative:
L1865870-26 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	1.16	T8	0.0150	0.0500	1	06/04/2025 18:00	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 12:53	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:49	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	11.7	J	3.18	25.0	5	06/13/2025 07:41	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	23.5		0.495	1.00	1	06/15/2025 23:59	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	110		0.101	1.00	1	06/13/2025 00:34	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	787		4.75	20.0	1	06/06/2025 12:10	WG2531016

Sample Narrative:
L1865870-27 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 12:55	WG2535074

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	10.8	J	3.18	25.0	5	06/13/2025 07:54	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	18.0		0.495	1.00	1	06/16/2025 00:17	WG2537867

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	785		4.75	20.0	1	06/06/2025 13:01	WG2531016

Sample Narrative:
L1865870-28 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	3.72	T8	0.0750	0.250	5	06/04/2025 18:01	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.300		0.131	0.250	1	06/11/2025 12:57	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:49	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	U		3.18	25.0	5	06/13/2025 08:08	WG2530891

Sample Narrative:
L1865870-28 WG2530891: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	29.6	J6	0.495	1.00	1	06/16/2025 01:14	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	141		0.505	5.00	5	06/13/2025 00:42	WG2532673

PMW-3
Collected date/time: 06/03/25 10:10
L1865870

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	716		4.75	20.0	1	06/06/2025 12:15	WG2531016

Sample Narrative:
L1865870-29 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.0420	J T8	0.0150	0.0500	1	06/04/2025 18:16	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.360		0.131	0.250	1	06/11/2025 12:58	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:49	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	U		3.18	25.0	5	06/13/2025 08:21	WG2530891

Sample Narrative:
L1865870-29 WG2530891: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	8.83		0.495	1.00	1	06/18/2025 00:38	WG2540720

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	113		0.101	1.00	1	06/13/2025 00:45	WG2532673

PMW-3-TOT
Collected date/time: 06/03/25 10:50
L1865870

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	768		4.75	20.0	1	06/06/2025 12:19	WG2531016

Sample Narrative:
L1865870-30 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.148	J	0.131	0.250	1	06/11/2025 13:04	WG2535074

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	4.86	J	3.18	25.0	5	06/13/2025 08:35	WG2530891

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.6		0.495	1.00	1	06/16/2025 02:56	WG2537867

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	774		4.75	20.0	1	06/06/2025 12:24	WG2531016

Sample Narrative:
L1865870-31 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	13.5	T8	0.150	0.500	10	06/04/2025 18:17	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.933		0.131	0.250	1	06/11/2025 13:06	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:49	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	U		3.18	25.0	5	06/13/2025 08:48	WG2530891

Sample Narrative:
L1865870-31 WG2530891: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.0		0.495	1.00	1	06/16/2025 03:15	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	109		0.101	1.00	1	06/13/2025 00:48	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	777		4.75	20.0	1	06/06/2025 12:29	WG2531016

Sample Narrative:
L1865870-32 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	1.33		0.131	0.250	1	06/11/2025 13:08	WG2535074

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	U		3.18	25.0	5	06/13/2025 09:02	WG2530891

Sample Narrative:
L1865870-32 WG2530891: Dilution due to matrix impact on instrumentation at lower dilution

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.2		0.495	1.00	1	06/16/2025 03:34	WG2537867

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	817		4.75	20.0	1	06/06/2025 12:34	WG2531016

Sample Narrative:
L1865870-33 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	2.47	T8	0.0750	0.250	5	06/04/2025 18:18	WG2530965

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.196	J	0.131	0.250	1	06/11/2025 13:10	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:49	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	2.51	J P1	0.637	5.00	1	06/11/2025 20:56	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	21.4		9.90	20.0	20	06/18/2025 00:56	WG2540720

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	154		0.101	1.00	1	06/13/2025 00:51	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	811		4.75	20.0	1	06/06/2025 13:06	WG2531016

Sample Narrative:
L1865870-34 WG2531016: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.274		0.131	0.250	1	06/11/2025 13:12	WG2535074

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	0.911	J	0.637	5.00	1	06/11/2025 21:50	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	24.2		0.495	1.00	1	06/16/2025 04:14	WG2537867

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	779		4.75	20.0	1	06/05/2025 14:29	WG2531012

Sample Narrative:
L1865870-35 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ferrous Iron	3.24	T8	0.150	0.500	10	06/06/2025 20:13	WG2532253

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 13:14	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:49	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfate	39.0		0.637	5.00	1	06/11/2025 22:31	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TOC (Total Organic Carbon)	13.3		0.495	1.00	1	06/16/2025 04:32	WG2537867

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Magnesium	158		0.101	1.00	1	06/13/2025 00:54	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	668		4.75	20.0	1	06/05/2025 14:33	WG2531012

Sample Narrative:
L1865870-36 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	0.177	T8	0.0150	0.0500	1	06/06/2025 20:14	WG2532253

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	4.87		0.131	0.250	1	06/11/2025 13:15	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	0.133		0.0255	0.0500	1	06/04/2025 20:50	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	71.7		0.637	5.00	1	06/11/2025 22:44	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	34.8		0.495	1.00	1	06/16/2025 04:51	WG2537867

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	88.0		0.0941	1.00	1000	06/09/2025 01:12	WG2533806
Toluene	24.3		2.78	10.0	10000	06/09/2025 17:36	WG2534036
Ethylbenzene	10.2		1.37	10.0	10000	06/09/2025 17:36	WG2534036
Total Xylenes	534		0.174	3.00	1000	06/09/2025 01:12	WG2533806
Methyl tert-butyl ether	U		0.101	1.00	1000	06/09/2025 01:12	WG2533806
Naphthalene	27.7		1.00	5.00	1000	06/09/2025 01:12	WG2533806
1,2,4-Trimethylbenzene	5.91	J	3.22	10.0	10000	06/09/2025 17:36	WG2534036
1,3,5-Trimethylbenzene	53.9		0.104	1.00	1000	06/09/2025 01:12	WG2533806
(S) Toluene-d8	*104*			*80.0-120*		*06/09/2025 01:12*	WG2533806
(S) Toluene-d8	*100*			*80.0-120*		*06/09/2025 17:36*	WG2534036
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*06/09/2025 01:12*	WG2533806
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*06/09/2025 17:36*	WG2534036
(S) 1,2-Dichloroethane-d4	*94.0*			*70.0-130*		*06/09/2025 01:12*	WG2533806
(S) 1,2-Dichloroethane-d4	*90.1*			*70.0-130*		*06/09/2025 17:36*	WG2534036

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	679		4.75	20.0	1	06/05/2025 14:49	WG2531012

Sample Narrative:
L1865870-37 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ferrous Iron	0.816	T8	0.0150	0.0500	1	06/06/2025 20:14	WG2532253

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Kjeldahl Nitrogen, TKN	0.440		0.131	0.250	1	06/11/2025 13:17	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:50	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfate	534		6.37	50.0	10	06/11/2025 22:58	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TOC (Total Organic Carbon)	29.5		0.495	1.00	1	06/16/2025 05:09	WG2537867

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	814		4.75	20.0	1	06/05/2025 14:58	WG2531012

Sample Narrative:
L1865870-38 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ferrous Iron	2.04	T8	0.150	0.500	10	06/06/2025 20:19	WG2532253

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 13:19	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfide	0.0270	J	0.0255	0.0500	1	06/05/2025 10:46	WG2530718

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfate	235		6.37	50.0	10	06/11/2025 23:11	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TOC (Total Organic Carbon)	10.3		0.495	1.00	1	06/15/2025 21:05	WG2539238

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Magnesium	137		0.101	1.00	1	06/13/2025 00:57	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	581		4.75	20.0	1	06/05/2025 15:02	WG2531012

Sample Narrative:
L1865870-39 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ferrous Iron	0.0330	J T8	0.0150	0.0500	1	06/06/2025 20:20	WG2532253

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Kjeldahl Nitrogen, TKN	2.08		0.131	0.250	1	06/11/2025 13:21	WG2535074

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfide	0.192		0.0255	0.0500	1	06/04/2025 20:51	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfate	32.6		0.637	5.00	1	06/11/2025 23:25	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TOC (Total Organic Carbon)	15.9		0.495	1.00	1	06/15/2025 21:33	WG2539238

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Magnesium	39.6		0.101	1.00	1	06/13/2025 01:00	WG2532673

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	U		4.75	20.0	1	06/05/2025 15:06	WG2531012

Sample Narrative:
L1865870-40 WG2531012: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ferrous Iron	U	T8	0.0150	0.0500	1	06/06/2025 20:20	WG2532253

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	U		0.131	0.250	1	06/11/2025 14:30	WG2535064

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	06/04/2025 20:51	WG2531007

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfate	2.18	J	0.637	5.00	1	06/11/2025 23:38	WG2530970

Wet Chemistry by Method 9060A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	U		0.495	1.00	1	06/15/2025 21:54	WG2539238

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Magnesium	U		0.101	1.00	1	06/13/2025 01:03	WG2532673

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0000955	J	0.0000941	0.00100	1	06/05/2025 01:42	WG2531162
Toluene	U		0.000278	0.00100	1	06/05/2025 01:42	WG2531162
Ethylbenzene	U		0.000137	0.00100	1	06/05/2025 01:42	WG2531162
Total Xylenes	U		0.000174	0.00300	1	06/05/2025 01:42	WG2531162
Methyl tert-butyl ether	U		0.000101	0.00100	1	06/05/2025 01:42	WG2531162
Naphthalene	U		0.00100	0.00500	1	06/05/2025 01:42	WG2531162
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	06/05/2025 01:42	WG2531162
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	06/05/2025 01:42	WG2531162
(S) Toluene-d8	*100*			*80.0-120*		*06/05/2025 01:42*	WG2531162
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*		*06/05/2025 01:42*	WG2531162
(S) 1,2-Dichloroethane-d4	*92.7*			*70.0-130*		*06/05/2025 01:42*	WG2531162

Method Blank (MB)

(MB) R4226152-2 06/05/25 12:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		4.75	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1864475-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1864475-02 06/05/25 13:13 • (DUP) R4226152-3 06/05/25 13:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	601	609	1	1.25		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1865870-37 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-37 06/05/25 14:49 • (DUP) R4226152-4 06/05/25 14:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	679	684	1	0.716		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4226152-1 06/05/25 12:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	98.7	98.7	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4226070-2 06/05/25 09:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		4.75	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1865870-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-05 06/05/25 09:49 • (DUP) R4226070-3 06/05/25 09:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	789	789	1	0.0218		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1865870-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-24 06/05/25 11:13 • (DUP) R4226070-4 06/05/25 11:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	856	855	1	0.149		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4226070-1 06/05/25 09:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	100	100	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4226869-2 06/06/25 10:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		4.75	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1864649-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1864649-05 06/06/25 10:48 • (DUP) R4226869-3 06/06/25 10:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	53.1	52.7	1	0.805		20

Sample Narrative:
OS: Endpoint pH 4.5 HEADSPACE
DUP: Endpoint pH 4.5

L1865701-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1865701-01 06/06/25 13:14 • (DUP) R4226869-4 06/06/25 13:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	236	232	1	1.61		20

Sample Narrative:
OS: Endpoint pH 4.5 HEADSPACE
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4226869-1 06/06/25 10:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	101	101	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4225588-1 06/04/25 17:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ferrous Iron	U		0.0150	0.0500

L1865870-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-02 06/04/25 17:52 • (DUP) R4225588-5 06/04/25 17:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	U	U	1	0.000		20

L1865870-29 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-29 06/04/25 18:16 • (DUP) R4225588-6 06/04/25 18:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	0.0420	0.0440	1	4.65	J	20

Laboratory Control Sample (LCS)

(LCS) R4225588-2 06/04/25 17:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ferrous Iron	1.00	0.954	95.4	85.0-115	

L1865870-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-01 06/04/25 17:52 • (MS) R4225588-3 06/04/25 17:52 • (MSD) R4225588-4 06/04/25 17:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ferrous Iron	1.00	0.0640	0.983	0.981	91.9	91.7	1	80.0-120			0.204	20

Method Blank (MB)

(MB) R4226885-1 06/06/25 20:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ferrous Iron	U		0.0150	0.0500

L1865870-35 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-35 06/06/25 20:13 • (DUP) R4226885-3 06/06/25 20:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	3.24	3.26	10	0.738		20

L1866410-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1866410-03 06/06/25 20:41 • (DUP) R4226885-6 06/06/25 20:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	0.400	0.387	1	3.30		20

Laboratory Control Sample (LCS)

(LCS) R4226885-2 06/06/25 20:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ferrous Iron	1.00	0.914	91.4	85.0-115	

L1866406-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1866406-02 06/06/25 20:21 • (MS) R4226885-4 06/06/25 20:21 • (MSD) R4226885-5 06/06/25 20:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ferrous Iron	1.00	1.29	2.10	2.09	81.5	80.0	1	80.0-120			0.717	20

Method Blank (MB)

(MB) R4228826-1 06/11/25 14:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.131	0.250

L1865892-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1865892-01 06/11/25 14:45 • (DUP) R4228826-5 06/11/25 14:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	30.8	33.3	2	7.89		20

Laboratory Control Sample (LCS)

(LCS) R4228826-2 06/11/25 14:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	15.6	16.9	108	90.0-110	

L1865798-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865798-01 06/11/25 14:19 • (MS) R4228826-3 06/11/25 14:21 • (MSD) R4228826-4 06/11/25 14:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	28.0	32.1	31.9	83.0	77.6	1	90.0-110	E V	E V	0.843	20

Method Blank (MB)

(MB) R4228715-1 06/11/25 11:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.131	0.250

L1865870-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-01 06/11/25 11:35 • (DUP) R4228715-6 06/11/25 11:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	0.265	0.315	1	17.2		20

L1865870-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-03 06/11/25 11:41 • (DUP) R4228715-7 06/11/25 11:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	0.248	0.155	1	46.0	J P1	20

Laboratory Control Sample (LCS)

(LCS) R4228715-2 06/11/25 11:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	15.6	16.3	105	90.0-110	

L1865769-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865769-03 06/11/25 11:22 • (MS) R4228715-3 06/11/25 11:24 • (MSD) R4228715-4 06/11/25 11:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	1.91	7.26	7.41	107	110	1	90.0-110			2.03	20

L1865769-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1865769-04 06/11/25 11:28 • (MS) R4228715-5 06/11/25 11:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	1.77	7.29	110	1	90.0-110	

Method Blank (MB)

(MB) R4228789-1 06/11/25 12:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.131	0.250

L1865870-23 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-23 06/11/25 12:43 • (DUP) R4228789-6 06/11/25 12:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	0.174	U	1	200	P1	20

L1865870-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-24 06/11/25 12:47 • (DUP) R4228789-7 06/11/25 12:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	0.158	0.181	1	13.7	J	20

Laboratory Control Sample (LCS)

(LCS) R4228789-2 06/11/25 12:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	15.6	16.6	106	90.0-110	

L1865870-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-21 06/11/25 12:34 • (MS) R4228789-3 06/11/25 12:36 • (MSD) R4228789-4 06/11/25 12:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	0.178	5.71	5.58	111	108	1	90.0-110	J5		2.36	20

L1865870-22 Original Sample (OS) • Matrix Spike (MS)

(OS) L1865870-22 06/11/25 12:40 • (MS) R4228789-5 06/11/25 12:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	U	5.77	115	1	90.0-110	J5

Method Blank (MB)

(MB) R4225927-1 06/05/25 10:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0255	0.0500

L1865870-38 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-38 06/05/25 10:46 • (DUP) R4225927-5 06/05/25 10:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	0.0270	0.0300	1	10.5	J	20

Laboratory Control Sample (LCS)

(LCS) R4225927-2 06/05/25 10:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.501	100	85.0-115	

L1865560-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865560-02 06/05/25 10:40 • (MS) R4225927-3 06/05/25 10:40 • (MSD) R4225927-4 06/05/25 10:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	U	0.129	0.128	25.8	25.6	1	80.0-120	J6	J6	0.778	20

Received by OCD: 12/30/2025 2:28:51 PM

Method Blank (MB)

(MB) R4225651-1 06/04/25 20:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0255	0.0500

L1865870-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-24 06/04/25 20:48 • (DUP) R4225651-5 06/04/25 20:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

L1865870-40 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-40 06/04/25 20:51 • (DUP) R4225651-6 06/04/25 20:51

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4225651-2 06/04/25 20:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.473	94.6	85.0-115	

L1865870-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-03 06/04/25 20:45 • (MS) R4225651-3 06/04/25 20:45 • (MSD) R4225651-4 06/04/25 20:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	U	0.140	0.139	28.0	27.8	1	80.0-120	J6	J6	0.717	20

Released to Imaging: 1/8/2026 10:51:53 AM

Method Blank (MB)

(MB) R4229193-1 06/11/25 12:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	0.746	J	0.637	5.00

L1865933-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1865933-07 06/14/25 13:14 • (DUP) R4230634-1 06/14/25 13:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	98.7	98.7	5	0.0380		15

L1865933-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1865933-09 06/14/25 13:41 • (DUP) R4230634-2 06/14/25 13:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	137	137	5	0.462		15

Laboratory Control Sample (LCS)

(LCS) R4229193-2 06/11/25 12:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	39.3	98.2	80.0-120	

L1865933-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865933-07 06/11/25 18:29 • (MS) R4229193-4 06/11/25 18:56 • (MSD) R4229193-5 06/11/25 19:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	104	116	118	29.9	36.5	1	80.0-120	E J6	E J6	2.26	15

L1865933-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1865933-09 06/11/25 19:50 • (MS) R4229193-7 06/11/25 20:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	138	142	11.1	1	80.0-120	E J6

Method Blank (MB)

(MB) R4229847-1 06/13/25 02:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.637	5.00

L1865870-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-10 06/13/25 03:11 • (DUP) R4229847-3 06/13/25 03:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	340	302	10	11.8		15

L1865870-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-11 06/13/25 04:05 • (DUP) R4229847-6 06/13/25 04:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	82.1	80.9	5	1.52		15

Laboratory Control Sample (LCS)

(LCS) R4229847-2 06/13/25 02:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	37.1	92.7	80.0-120	

L1865870-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-10 06/13/25 03:11 • (MS) R4229847-4 06/13/25 03:38 • (MSD) R4229847-5 06/13/25 03:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	340	313	291	0.000	0.000	10	80.0-120	V	V	7.05	15

L1865870-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1865870-11 06/13/25 04:05 • (MS) R4229847-7 06/13/25 04:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	82.1	101	48.2	5	80.0-120	J6

Method Blank (MB)

(MB) R4229317-1 06/11/25 20:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.637	5.00

L1865870-33 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-33 06/11/25 20:56 • (DUP) R4229317-3 06/11/25 21:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	2.51	0.759	1	107	J P1	15

L1865870-34 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-34 06/11/25 21:50 • (DUP) R4229317-6 06/11/25 22:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	0.911	0.949	1	4.14	J	15

Laboratory Control Sample (LCS)

(LCS) R4229317-2 06/11/25 20:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	38.9	97.1	80.0-120	

L1865870-33 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-33 06/11/25 20:56 • (MS) R4229317-4 06/11/25 21:23 • (MSD) R4229317-5 06/11/25 21:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	2.51	38.5	39.1	90.1	91.5	1	80.0-120			1.50	15

L1865870-34 Original Sample (OS) • Matrix Spike (MS)

(OS) L1865870-34 06/11/25 21:50 • (MS) R4229317-7 06/11/25 22:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	0.911	40.3	98.4	1	80.0-120	

Method Blank (MB)

(MB) R4230615-2 06/14/25 16:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	U		0.495	1.00

L1865818-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1865818-09 06/14/25 18:14 • (DUP) R4230615-5 06/14/25 18:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	10.0	10.1	1	0.398		20

L1865870-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-06 06/14/25 22:59 • (DUP) R4230615-8 06/14/25 23:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	12.3	12.2	1	0.408		20

Laboratory Control Sample (LCS)

(LCS) R4230615-1 06/14/25 15:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	26.5	106	80.0-120	

L1865818-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865818-07 06/14/25 17:06 • (MS) R4230615-3 06/14/25 17:29 • (MSD) R4230615-4 06/14/25 17:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	4.66	27.3	25.2	90.4	82.1	1	75.0-125			7.97	20

L1865870-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-05 06/14/25 21:50 • (MS) R4230615-6 06/14/25 22:14 • (MSD) R4230615-7 06/14/25 22:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	13.1	39.9	39.2	107	104	1	75.0-125			1.85	20

Method Blank (MB)

(MB) R4231476-7 06/15/25 20:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	U		0.495	1.00

L1865870-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1865870-19 06/15/25 21:29 • (DUP) R4231476-4 06/15/25 21:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	26.3	27.8	1	5.24		20

Laboratory Control Sample (LCS)

(LCS) R4231476-8 06/15/25 19:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	24.5	97.8	80.0-120	

L1865870-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-15 06/15/25 20:23 • (MS) R4231476-6 06/15/25 20:46 • (MSD) R4231476-5 06/15/25 21:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	19.5	46.8	46.7	109	109	1	75.0-125			0.140	20

L1865870-28 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-28 06/16/25 01:14 • (MS) R4231476-3 06/16/25 01:37 • (MSD) R4231476-2 06/16/25 02:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	29.6	48.0	46.8	73.6	68.9	1	75.0-125	J6	J6	2.45	20

Method Blank (MB)

(MB) R4230791-2 06/15/25 19:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	U		0.495	1.00

L1865878-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1865878-04 06/16/25 00:09 • (DUP) R4230791-5 06/16/25 00:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	2.22	2.27	1	2.09		20

L1865878-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1865878-07 06/16/25 03:09 • (DUP) R4230791-8 06/16/25 03:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	2.14	2.17	1	1.53		20

Laboratory Control Sample (LCS)

(LCS) R4230791-1 06/15/25 19:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	23.9	95.8	80.0-120	

L1865878-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865878-03 06/15/25 22:58 • (MS) R4230791-3 06/15/25 23:23 • (MSD) R4230791-4 06/15/25 23:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	2.24	25.6	25.7	93.5	93.8	1	75.0-125			0.273	20

L1865878-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865878-06 06/16/25 01:58 • (MS) R4230791-6 06/16/25 02:23 • (MSD) R4230791-7 06/16/25 02:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	2.19	25.6	25.6	93.5	93.5	1	75.0-125			0.0391	20

Method Blank (MB)

(MB) R4232620-2 06/17/25 23:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	U		0.495	1.00

L1866511-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1866511-06 06/18/25 04:23 • (DUP) R4232620-5 06/18/25 04:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	17.8	18.0	1	1.23		20

L1866530-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1866530-02 06/18/25 07:02 • (DUP) R4232620-8 06/18/25 07:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4232620-1 06/17/25 22:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	26.5	106	80.0-120	

L1866511-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1866511-05 06/18/25 03:09 • (MS) R4232620-3 06/18/25 03:30 • (MSD) R4232620-4 06/18/25 03:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	21.1	14.4	14.4	0.000	0.000	1	75.0-125	J6	J6	0.0696	20

L1866530-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1866530-01 06/18/25 06:06 • (MS) R4232620-6 06/18/25 06:27 • (MSD) R4232620-7 06/18/25 06:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	U	25.3	25.9	101	104	1	75.0-125			2.66	20

Method Blank (MB)

(MB) R4229390-1 06/12/25 13:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium	U		0.101	1.00

Laboratory Control Sample (LCS)

(LCS) R4229390-2 06/12/25 13:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10.0	10.0	100	80.0-120	

L1865847-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865847-01 06/12/25 13:03 • (MS) R4229390-4 06/12/25 13:07 • (MSD) R4229390-5 06/12/25 13:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10.0	14.3	23.6	24.3	93.8	100	1	75.0-125			2.61	20

Received by OCD: 12/30/2025 2:28:51 PM

Method Blank (MB)

(MB) R4229729-1 06/13/25 00:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium	U		0.101	1.00

Laboratory Control Sample (LCS)

(LCS) R4229729-2 06/13/25 00:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10.0	9.55	95.5	80.0-120	

L1865870-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1865870-20 06/13/25 00:15 • (MS) R4229729-4 06/13/25 00:20 • (MSD) R4229729-5 06/13/25 00:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10.0	50.4	57.6	57.1	72.1	66.8	1	75.0-125	V	V	0.925	20

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Method Blank (MB)

(MB) R4227386-3 06/04/25 16:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*99.1*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4227386-1 06/04/25 14:30 • (LCSD) R4227386-2 06/04/25 16:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00551	0.00463	110	92.6	70.0-123			17.4	20
Toluene	0.00500	0.00518	0.00447	104	89.4	79.0-120			14.7	20
Ethylbenzene	0.00500	0.00490	0.00422	98.0	84.4	79.0-123			14.9	20
Total Xylenes	0.0150	0.0149	0.0129	99.3	86.0	79.0-123			14.4	20
Methyl tert-butyl ether	0.00500	0.00485	0.00429	97.0	85.8	68.0-125			12.3	20
Naphthalene	0.00500	0.00487	0.00439	97.4	87.8	54.0-135	J	J	10.4	20
1,2,4-Trimethylbenzene	0.00500	0.00534	0.00485	107	97.0	76.0-121			9.62	20
1,3,5-Trimethylbenzene	0.00500	0.00539	0.00499	108	99.8	76.0-122			7.71	20
(S) Toluene-d8				*101*	*98.7*	*80.0-120*				
(S) 4-Bromofluorobenzene				*103*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*108*	*102*	*70.0-130*				

Method Blank (MB)

(MB) R4227894-3 06/05/25 00:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*98.7*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*94.5*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4227894-1 06/04/25 22:18 • (LCSD) R4227894-2 06/04/25 22:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00507	0.00497	101	99.4	70.0-123			1.99	20
Toluene	0.00500	0.00478	0.00461	95.6	92.2	79.0-120			3.62	20
Ethylbenzene	0.00500	0.00488	0.00478	97.6	95.6	79.0-123			2.07	20
Total Xylenes	0.0150	0.0149	0.0145	99.3	96.7	79.0-123			2.72	20
Methyl tert-butyl ether	0.00500	0.00563	0.00557	113	111	68.0-125			1.07	20
Naphthalene	0.00500	0.00492	0.00493	98.4	98.6	54.0-135	J	J	0.203	20
1,2,4-Trimethylbenzene	0.00500	0.00494	0.00480	98.8	96.0	76.0-121			2.87	20
1,3,5-Trimethylbenzene	0.00500	0.00456	0.00443	91.2	88.6	76.0-122			2.89	20
(S) Toluene-d8				*97.9*	*97.2*	*80.0-120*				
(S) 4-Bromofluorobenzene				*96.0*	*97.2*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*98.3*	*96.1*	*70.0-130*				

Method Blank (MB)

(MB) R4227487-3 06/08/25 21:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*107*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*90.1*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4227487-1 06/08/25 20:55 • (LCSD) R4227487-2 06/08/25 21:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00438	0.00403	87.6	80.6	70.0-123			8.32	20
Toluene	0.00500	0.00470	0.00429	94.0	85.8	79.0-120			9.12	20
Ethylbenzene	0.00500	0.00470	0.00445	94.0	89.0	79.0-123			5.46	20
Total Xylenes	0.0150	0.0145	0.0133	96.7	88.7	79.0-123			8.63	20
Methyl tert-butyl ether	0.00500	0.00434	0.00423	86.8	84.6	68.0-125			2.57	20
Naphthalene	0.00500	0.00500	0.00498	100	99.6	54.0-135	J	J	0.401	20
1,2,4-Trimethylbenzene	0.00500	0.00467	0.00437	93.4	87.4	76.0-121			6.64	20
1,3,5-Trimethylbenzene	0.00500	0.00457	0.00425	91.4	85.0	76.0-122			7.26	20
(S) Toluene-d8				*103*	*102*	*80.0-120*				
(S) 4-Bromofluorobenzene				*106*	*106*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*88.5*	*89.1*	*70.0-130*				

Method Blank (MB)

(MB) R4228051-3 06/09/25 10:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
1,2,4-Trimethylbenzene	U		0.000322	0.00100
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*105*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*91.1*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4228051-1 06/09/25 09:44 • (LCSD) R4228051-2 06/09/25 10:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Toluene	0.00500	0.00428	0.00415	85.6	83.0	79.0-120			3.08	20
Ethylbenzene	0.00500	0.00417	0.00433	83.4	86.6	79.0-123			3.76	20
1,2,4-Trimethylbenzene	0.00500	0.00428	0.00437	85.6	87.4	76.0-121			2.08	20
(S) Toluene-d8				*101*	*103*	*80.0-120*				
(S) 4-Bromofluorobenzene				*103*	*104*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*90.1*	*90.7*	*70.0-130*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
U (Radiochemistry)	Result + Error < MDA.
J (Radiochemistry)	Result < MDA; Result + Error > MDA.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to:
Julie Speer 512-431-8184

Email To:
jspeer@trccompanies.com;mlink@trccompanies

Project Description:
Reinjection Pilot Study Phase 5 Task A-2

City/State Collected: NM

Please Circle: PT (MT) CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project #
387820.2024.0000

Lab Project #
TRCATX-ARTESIAPILOT

Collected by (print):
Brian Hillin / HMT

Site/Facility ID #

P.O. #
214553

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	FERUSFE 250mlAmb-HCl	MGICP 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	TOC 250mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl	Remarks	Sample # (lab only)
KWB-4	Grab	GW		6/3/25	1000	7	X	X	X	X	X	X	X			01
RW-19		GW			1040	7	X	X	X	X	X	X	X			02
PMW-1		GW			855	7	X	X	X	X	X	X	X			03
PMW-1 -Top		GW			955	4	X					X	X			04
PMW-2		GW			1055	7	X	X	X	X	X	X	X			05
PMW-2 -Top		GW			1135	4	X			X		X	X			06
PMW-3		GW			940	7	X	X	X	X	X	X	X			07
PMW-3 -Top		GW			1020	4	X			X		X	X			08
PMW-4		GW			1105	7	X	X	X	X	X	X	X			09
PMW-4 -Top		GW			1150	4	X			X		X	X			10

Chain of Custody Page 1 of 5

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1606891

F133

Acctnum: **TRCATX**
Template: **T274822**
Prelogin: **P1156087**
PM: **526 - Chris McCord**
PB:

Shipped Via: **FedEx Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date: 6/3/25	Time: 1515	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 23
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) CRoberts	Date: 06.04.25 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Company Name/Address:
TRC Solutions - Austin, TX
505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to: **Julie Speer 512-431-8184**

Email To: jspeer@trccompanies.com;mlink@trccompanies

Project Description: **Reinjection Pilot Study Phase 5 Task A-2**

City/State Collected: NM

Please Circle: PT (MT) CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project # **387820.2024.0000**

Lab Project # **TRCATX-ARTESIAPILOT**

Collected by (print): Brian Hilton / HmI

Site/Facility ID #

P.O. # **214553**

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 2 of 5

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SDG # L1565870

Table #

Acctnum: **TRCATX**

Template: **T274822**

Prelogin: **P1156087**

PM: **526 - Chris McCord**

PB:

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	FERUSFE 250mlAmb-HCl	MGICP 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	TOC 250mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl			Remarks	Sample # (lab only)
PMW-5	Grab	GW		6/3/25	1240	7	X	X	X	X	X	X	X					11
PMW-5 -Top		GW			1325	4	X			X		X	X					12
KWB-5		GW			1120	7	X	X	X	X	X	X	X					13
MW-111		GW			1230	7	X	X	X	X	X	X	X					14
MW-48		GW			855	7	X	X	X	X	X	X	X					15
~~INF-S~~		GW				~~9~~	~~X~~	~~X~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			NOT SAMPLED	
~~EFF-S~~		GW				~~6~~	~~X~~	~~X~~		~~X~~	~~X~~	~~X~~	~~X~~				NOT SAMPLED	
DUP-01-NORTH		GW			800	3								X				16
EB-01-NORTH		GW			905	3								X				17
TRIP BLANK-01-NORTH		GW			—	~~3~~ 1								X				18

0604-25cn

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	6/3/25	1515		1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 233	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) CROBERTS	Date: 060425 Time: 0900	Hold: Condition: NCF / OK

Company Name/Address:
TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to:
Julie Speer 512-431-8184

Email To:
jspeer@trccompanies.com;mlink@trccompanies

Project Description:
Reinjection Pilot Study Phase 5 Task A-2

City/State Collected: NM

Please Circle: PT (MT) CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project #
387820.2024.0000

Lab Project #
TRCATX-ARTESIAPILOT

Collected by (print):
Brian Hillin/HMI

Site/Facility ID #

P.O. #
214553

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	FERUSFE 250mlAmb-HCl	MGICP 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	TOC 250mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl	Remarks	Sample # (lab only)
MW-99	Grab	GW		6/3/25	920	7	X	X	X	X	X	X	X			19
MW-66		GW			840	7	X	X	X	X	X	X	X			20
MW-129		GW			1140	7	X	X	X	X	X	X	X			21
PMW-6		GW			900	7	X	X	X	X	X	X	X			22
PMW-6 – Top		GW			945	4	X			X		X	X			23
PMW-7		GW			1025	7	X	X	X	X	X	X	X			24
PMW-7 – Top		GW			1100	4	X			X		X	X			25
MW-131		GW			1135	7	X	X	X	X	X	X	X			26
MW-131 – Top		GW			1205	4	X			X		X	X			27
PMW-8		GW			1240	7	X	X	X	X	X	X	X			28

Chain of Custody Page 3 of 5

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
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SDG # L1805870

Table #

Acctnum: TRCATX

Template:T274822

Prelogin: P1156087

PM: 526 - Chris McCord

PB:

Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No, HCl / MeoH, TBR	If preservation required by Login: Date/Time
Brian Hillin	6/3/25	1515			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 233	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) CRoper	Date: 06.04.25 Time: 0900	Hold: Condition: NCF / OK

Company Name/Address:
TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to: Julie Speer 512-431-8184

Email To: jspeer@trccompanies.com;mlink@trccompanies

Project Description: Reinjection Pilot Study Phase 5 Task A-2

City/State Collected: NM

Please Circle: PT (MT) CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project # 387820.2024.0000

Lab Project # TRCATX-ARTESIAPILOT

Collected by (print): Brian Hillin / HNI

Site/Facility ID #

P.O. # 214553

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 4 of 5

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1867670

Table #

Acctnum: TRCATX

Template: T274822

Prelogin: P1156087

PM: 526 - Chris McCord

PB:

Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	FERUSFE 250mlAmb-HCl	MGICP 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	TOC 250mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl			Remarks	Sample # (lab only)
~~PMW-8 - Top~~	Grab	~~GW~~				4	X			X		X	X		DUP	SAMPLED		
PMW-9		GW		6/3/25	1010	7	X	X	X	X	X	X	X					29
PMW-9 - Top		GW			1050	4	X			X		X	X					30
PMW-10		GW			1345	7	X	X	X	X	X	X	X					31
PMW-10 - Top		GW			1425	4	X			X		X	X					32
PMW-11		GW			1215	7	X	X	X	X	X	X	X					33
PMW-11 - Top		GW			1300	4	X			X		X	X					34
MW-112		GW			1340	7	X	X	X	X	X	X	X				35	~~36~~
INF-N		GW			855	9	X	X		X	X	X	X	X			36	~~37~~
EFF-N		GW			925	6	X	X		X	X	X	X				37	36

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist
COC Seal Present/Intact: NP ✓ Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/3/25	1515	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No (HCl / MeoH TBR)

Temp: 1 °C Bottles Received: 233

Date: 06/04/25 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: (NCF) / OK

Company Name/Address:
TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:
Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Pres Chk

Report to:
Julie Speer 512-431-8184

Email To:
jspeer@trccompanies.com;mlink@trccompanies

Project Description:
Reinjection Pilot Study Phase 5 Task A-2

City/State Collected: NM

Please Circle: PT (MT) CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project #
387820.2024.0000

Lab Project #
TRCATX-ARTESIAPILOT

Collected by (print):
Brian Hillin / HMI

Site/Facility ID #

P.O. #
214553

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 5 of 5

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1560510

Table #

Acctnum: **TRCATX**
Template: **T274822**
Prelogin: **P1156087**
PM: **526 - Chris McCord**
PB:

Shipped Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK 125mlHDPE-NoPres	FERUSFE 250mlAmb-HCl	MGICP 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TKN 250mlHDPE-H2SO4	TOC 250mlAmb-HCl	V8260BTEXMN12 40mlAmb-HCl			Remarks	Sample # (lab only)
		GW				~~6~~	X	X		X	X	X	X	BRIT				
WW DUP-01-SOUTH	Grab	~~GW~~				~~3~~								X			NOT Sampled	
WW EB-01-SOUTH	↓	~~GW~~				~~3~~								X			NOT Sampled	
TRIP BLANK-01-SOUTH	↓	GW		6/3/25	—	3								X				
		GW				~~7~~	X	X	X	X	X	X	X	BRIT				
DUP-02	Grab	GW		6/3/25	1200	7	X	X	X	X	X	X	X				38	39
DUP-03	↓	GW		↓	1020	7	X	X	X	X	X	X	X				39	40
EB-02	↓	GW		↓	1355	7	X	X	X	X	X	X	X				40	41
		GW				7	X	X	X	X	X	X	X				NF	6/4/25
		GW				7	X	X	X	X	X	X	X					

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:V8260BTEXMN12 = BTEX, MTBE, NAPH, 124-TMB, 135-TMB

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP ✓	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	6/3/25	1515		[✓]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 233
				If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time: Hold: Condition: NCF / OK
			CROberto	6/4/25 0900

DC#_Title: Excel Form Template

Effective Date:

L# L1805870

Multiple Parcel Form

Parcel Tracking Number	Infrared Thermometer ID	Temperature Reading (°C)	Correction Factor (°C)	Corrected Temperature (°C)	Custody Seal Intact
4544 7727 2096	TUA9	2.4	0.4	2.8	(Yes) / No / Not Present
4359 9289 4350		2.9	0.4	3.3	(Yes) / No / Not Present
4544 7727 2144		0.9	0.4	1.3	(Yes) / No / Not Present
4544 7727 2085		0.7	0.4	1.1	(Yes) / No / Not Present
4544 7727 2122		2.6	0.4	3.0	(Yes) / No / Not Present
4544 7727 2111		1.2	0.4	1.6	(Yes) / No / Not Present
4544 7727 2100		3.7	0.4	4.1	(Yes) / No / Not Present
4544 7727 2133		2.1	0.4	2.5	(Yes) / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present

CRoberts
Name

06.04.25
Date

Page 359 of 678

6/4 NCF-L1865870 TRCATX

R5

Time estimate: oh **Time spent:** oh

Members

Nicolle Faulk (responsible) Christopher McCord

Due on *11 June 2025 5:00 PM* for target *Done*

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Custody seal not intact
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [x] Client informed by Email
- [ ] Client informed by Voicemail
- [x] Date/Time: 6/4/25 15:19
- [x] PM initials: CM
- [x] Client Contact: Julie Speer/Marianne Link

Comments

Nicolle Faulk *4 June 2025 3:02 PM*

Did not receive TB South

Christopher McCord *4 June 2025 3:20 PM*

Client notified. Looks like Template was set up incorrectly.

Nicolle Faulk *4 June 2025 3:20 PM*

done

Received by OCD: 12/30/2025 2:28:51 PM

Released to Imaging: 1/8/2026 10:51:53 AM

Data Usability Summary - February and April 2024

ATTACHMENT D - DATA USABILITY SUMMARY

Data reported by Pace Analytical National in Mount Juliet, Tennessee, for the groundwater samples collected in February and April 2024 were reviewed to ensure that reported analytical results met the data quality requirements contained in the United States Environmental Protection Agency (USEPA) *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA, November 2020), *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, November 2020), and the individual methods, as applicable. Quality control (QC) data indicate that measurement data are sufficient to meet method quality objectives, reported data are defensible, and QC mechanisms were generally effective in ensuring measurement data reliability within the expected limits of sampling and analytical error.

The following sections discuss the QC issues identified during the data review for the associated data reports, L1707017 and L1727956.

Analytes that were detected in both the associated blank and sample were evaluated as follows: Corresponding samples at concentrations within 5 times the blank concentration for inorganic analytes and within 10 times the blank concentrations for organic analytes may include measurement contributions from the laboratory (for method blanks) and/or field (for equipment and trip blanks).

The following criteria were used in evaluation of the field duplicates: When both results are ≥ 5 times the reporting limit (RL), relative percent differences (RPDs) must be <30%. When one or both results are < five times the RL, the absolute difference must be ≤ the RL.

The following criteria were used in evaluation of laboratory duplicates: When both results are ≥ 5 times the RL, RPDs must be <20%.

LAB REPORT L1707017

Sample identifiers cross-referenced to laboratory identifications are presented below.

Sample ID	Lab ID
KWB-4	L1707017-01
RW-19	L1707017-02
PMW-1	L1707017-03
PMW-2	L1707017-04
PMW-3	L1707017-05
PMW-4	L1707017-06
PMW-5	L1707017-07
KWB-5	L1707017-08
MW-48	L1707017-09
MW-111	L1707017-10
MW-99	L1707017-11
MW-66	L1707017-12
MW-129	L1707017-13
MW-131	L1707017-14
PMW-6	L1707017-15
PMW-7	L1707017-16
PMW-8	L1707017-17
PMW-9	L1707017-18
PMW-10	L1707017-19
PMW-11	L1707017-20
MW-112	L1707017-21
DUP-01[1]	L1707017-22
DUP-02[2]	L1707017-23
EB-01	L1707017-24
TRIP BLANK-01	L1707017-25
TRIP BLANK-02	L1707017-26

[1]Field duplicate of PMW-5

[2]Field duplicate of PMW-6

Data Review Checklist	Yes	No	Not applicable
Did all samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X	
All samples within holding times?		X	
Any detection in method blanks?	X		
Any detection in equipment blanks?	X		
Any detection in trip blanks?		X	
Any laboratory control sample (LCS) LCS or LCS duplicates (LCSD) percent recoveries (%R) out of laboratory defined limits?	X		
Any LCS/LCSD RPD above laboratory defined limits?		X	

Data Review Checklist	Yes	No	Not applicable
Any matrix spike (MS) or MS duplicate (MSD) %R outside of laboratory defined limits?	X		
Any MS/MSD RPD above laboratory defined limits?		X	
Any surrogate %R outside of laboratory defined limits?	X		
Any laboratory duplicate RPD above laboratory defined limits?		X	
Any field duplicate data additionally flagged as estimated?	X		
Any analyte analyzed by a nonequivalent method than planned?		X	

Other

The laboratory is not accredited for bromide analysis using SW-846 Method 9056A. Bromide was flagged by the laboratory in the Sample Results section of the report with an asterisk (*).

Select samples were analyzed at dilutions for ferrous iron, VOCs, TPH (GC/FID) low fraction (i.e., gasoline-range organics [GRO]), TPH (GC/FID) high fraction (i.e., diesel-range organics [DRO]), bromide, and/or sulfate. The laboratory noted that select samples were diluted due the presence of target and/or non-target analytes which would have exceeded the calibration range if undiluted. Except as noted below for select VOCs, there is no impact on data usability for these analytes since these analytes were detected above the method detection limits (MDLs) and/or RLs in the diluted samples. The nondetect RLs for select VOCs in samples RW-19, PMW-1, PMW-2, PMW-3, PMW-4, MW-66, MW-129, and DUP-01 were elevated accordingly.

Standard Conditions

The laboratory noted that the TPH (GC/FID) low fraction (i.e., GRO) analysis of sample PMW-1 was performed using a container with a pH outside of the method requirement (≤2). This pH issue shortens the analysis holding time to 7 days and this sample was analyzed for TPH (GC/FID) low fraction (GRO) after 7 but less than 14 days after collection. Therefore, the positive result for TPH (GC/FID) low fraction (GRO) in sample PMW-1 may be biased low.

The laboratory noted that the TPH (GC/FID) high fraction (i.e., DRO) analyses of samples PMW-4, PMW-5, KWB-5, and DUP-01 were performed using a container with a pH outside of the method requirement (≤2). This pH issue shortens the extraction holding time to 7 days, and these samples were extracted for TPH (GC/FID) high fraction after 7 but less than 14 days after collection. Therefore, the positive results for TPH (GC/FID) high fraction in samples PMW-4, PMW-5, KWB-5, and DUP-01 may be biased low.

The laboratory noted that containers used for alkalinity in all samples except samples PMW-1 and PMW-11 had headspace. Therefore, the positive and nondetect results for alkalinity in all samples except sample PMW-1 and PMW-11 may be biased low.

Holding Times

All groundwater samples in this data set were analyzed for ferrous iron after the 24-hour holding time after collection. Therefore, potential low bias exists for the positive results for ferrous iron in these samples.

The laboratory reported two sets of results for TPH (GC/FID) high fraction (DRO) in sample RW-19 due to an instrumentation issue (i.e., septa bleed) associated with the initial extraction and analysis of this sample. However, the re-extraction of this sample was performed 1 day outside of the 14-day holding time and is therefore potentially biased low. In order to remain conservative, the higher, original result for TPH (GC/FID) high fraction (DRO) in sample RW-19 should be used for project objectives.

Laboratory Method Blanks

The following analytes were detected in the method blanks: total Kjeldahl nitrogen (TKN), bromide, total organic carbon (TOC), TPH (GC/FID) low fraction (GRO), and TPH (GC/FID) high fraction (DRO). The analytes listed below were detected in the corresponding samples at concentrations within 5 times the blank concentration for inorganic analytes and within 10 times the blank concentrations for organic analytes. Therefore, these analyte results in the noted samples may include measurement contributions from the laboratory.

- Bromide: DUP-01, KWB-4, PMW-5, and RW-19
- TPH (GC/FID) low fraction (GRO): EB-01 and MW-112
- TPH (GC/FID) high fraction (DRO): EB-01

Equipment Blanks

The following analytes were detected in the equipment blank submitted with this data set, EB-01: ferrous iron, TPH (GC/FID) high fraction (DRO)[+], TPH (GC/FID) low fraction (GRO)[+], and TOC. The analytes listed below were detected in the corresponding samples at concentrations within five times the maximum equipment blank concentration for inorganic analytes and within 10 times the equipment blank concentrations for organic analytes. Therefore, these samples may include measurement contributions from the field.

- Ferrous iron: KWB-4, KWB-5, MW-48, MW-111, MW-112, PMW-1, PMW-2, PMW-4, PMW-6, PMW-7, PMW-8, PMW-9, PW-10, DUP-01, and DUP-02

[+]The results for TPH (GC/FID) high fraction (DRO) and TPH (GC/FID) low fraction (GRO) in equipment blank sample EB-01 were less than 10 times the associated method blank concentrations and were likely the result of laboratory contamination; therefore, these equipment blank results did not likely impact any field sample results.

LCS/LCSDs

The LCSD %R (124%) for ethylbenzene was above the laboratory-defined limits (79-123%) in QC batch WG2230001. There is no impact on the data usability due to this issue since ethylbenzene

was either reported from a different QC batch or not detected in the samples from this QC batch.

MS/MSDs

MS and/or MS/MSD analyses were performed on the following samples for the indicated analyses:

- PMW-10: ferrous iron
- PMW-1: TKN
- MW-111, EB-01: sulfide
- PMW-5, MW-99, EB-01: bromide and sulfate
- PMW-5, PMW-9: TOC
- MW-129, EB-01: magnesium
- MW-112: select VOCs

All criteria were met except as noted below.

The %Rs of TKN in the MS/MSD (125%/121%) performed on sample PMW-1 were above the laboratory-defined recovery limits (90-110%). Therefore, potential high bias exists for the positive results for TKN in all groundwater samples in this data set.

The %Rs of sulfide in the MS/MSD (65.8%/64.4%) performed on sample MW-111 were below the laboratory-defined recovery limits (80-120%). Therefore, potential low bias exists for the positive and nondetect results for sulfide in all groundwater samples in this data set.

The %Rs of sulfate in the MSs performed on samples PMW-5 (30.7%) and MW-99 (73.2%) were below the laboratory-defined recovery limits (80-120%). Therefore, potential low bias exists for the positive and nondetect results for sulfate in all groundwater samples in this data set.

The %Rs of benzene (260%/740%), methyl tert-butyl ether (280%/220%), and naphthalene (238%/okay) in the MS and/or MSD performed on sample MW-112 were outside of the laboratory-defined recovery limits (17-158%, 28-150%, and 12-156%, respectively). However, the concentrations of benzene, methyl tert-butyl ether, and naphthalene in the unspiked sample were greater than four times the spiked concentrations; thus, the %Rs of benzene, methyl tert-butyl ether, and naphthalene were not used to evaluate potential matrix effects.

Surrogate Recoveries

The surrogate (o-terphenyl) recovered below the laboratory-defined control limits (31.0-160%) in the TPH (GC/FID) high fraction (DRO) analysis of sample MW-99 (0%). There was no impact on the data usability due to this issue since the sample was diluted >5-fold; therefore, the surrogate recovery was not applicable.

Laboratory Duplicates

Laboratory duplicate analyses were performed on the following samples for the indicated analyses; all criteria were met.

- PMW-2, PMW-7: alkalinity
- KWB-4, PMW-11, DUP-01: ferrous iron
- MW-99: TKN
- KWB-4, MW-99: sulfide
- PMW-5, MW-99, EB-01: bromide and sulfate
- PMW-3, PMW-8: TOC

Field Duplicates

Samples DUP-01/PMW-5 and DUP-02/PMW-6 were submitted as the field duplicate pairs. All criteria were met except as noted below:

- The RPDs for 1,2,4-trimethylbenzene (33.5%), TPH (GC/FID) low fraction (GRO) (50.5%), and TOC (43.9%) were above the acceptance criteria (30%) in field duplicate pair DUP-01/PMW-5. Therefore, the positive results for 1,2,4-trimethylbenzene, TPH (GC/FID) low fraction (GRO), and TOC in samples DUP-01 and PMW-5 may be considered estimated.
- The results for naphthalene and toluene were either nondetect in the duplicate sample or detected at <5x the parent sample RL in the field duplicate pair DUP-01/PMW-5; the absolute differences were greater than the parent sample RLs but were less than the field duplicate sample RLs due to varying dilutions performed by the laboratory on these samples. Since the samples were analyzed at varying dilutions for these two samples, and since the absolute differences were < the field duplicate RLs, professional judgement was used and there is no adverse impact on the data usability due to this issue.
- The RPDs for benzene (33.0%) and TOC (48.1%) were above the acceptance criteria (30%) in field duplicate pair DUP-02/PMW-6. Therefore, the positive results for benzene and TOC in samples DUP-02 and PMW-6 may be considered estimated.

LAB REPORT L1727956

Sample identifiers cross-referenced to laboratory identifications are presented below.

Sample ID	Lab ID
KWB-4	L1727956-01
RW-19	L1727956-02
PMW-1	L1727956-03
PMW-2	L1727956-04
PMW-3	L1727956-05
PMW-4	L1727956-06
PMW-5	L1727956-07
KWB-5	L1727956-08
MW-111	L1727956-09
MW-48	L1727956-10
MW-99	L1727956-11
MW-66	L1727956-12
MW-129	L1727956-13
PMW-6	L1727956-14
PMW-7	L1727956-15
MW-131	L1727956-16
PMW-8	L1727956-17
PMW-9	L1727956-18
PMW-10	L1727956-19
PMW-11	L1727956-20
MW-112	L1727956-21
DUP-01[1]	L1727956-22
DUP-02[2]	L1727956-23
EB-01	L1727956-24
TRIP BLANK-01	L1727956-25
TRIP BLANK-02	L1727956-26

[1]Field duplicate of PMW-1

[2]Field duplicate of PMW-7

Data Review Checklist	Yes	No	Not applicable
Did all samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X	
All samples within holding times?		X	
Any detection in method blanks?	X		
Any detection in equipment blanks?	X		
Any detection in trip blanks?		X	
Any laboratory control sample (LCS) LCS or LCS duplicates (LCSD) percent recoveries (%R) out of laboratory defined limits?		X	
Any LCS/LCSD RPD above laboratory defined limits?	X		

Data Review Checklist	Yes	No	Not applicable
Any matrix spike (MS) or MS duplicate (MSD) %R outside of laboratory defined limits?	X		
Any MS/MSD RPD above laboratory defined limits?		X	
Any surrogate %R outside of laboratory defined limits?		X	
Any laboratory duplicate RPD above laboratory defined limits?		X	
Any field duplicate data additionally flagged as estimated?	X		
Any analyte analyzed by a nonequivalent method than planned?		X	

Other

The laboratory is not accredited for bromide analysis using SW-846 Method 9056A. Bromide was flagged by the laboratory in the Sample Results section of the report with an asterisk (*).

Select samples were analyzed at dilutions for ferrous iron, VOCs, TPH (GC/FID) low fraction (i.e., gasoline-range organics [GRO]), TPH (GC/FID) high fraction (i.e., diesel-range organics [DRO]), and/or sulfate. It was assumed that select samples were diluted due to the presence of target and/or non-target analytes which would have exceeded the calibration range if undiluted. Except as noted below for select VOCs, there is no impact on data usability for these analytes since these analytes were detected above the method detection limits (MDLs) and/or RLs in the diluted samples. The nondetect RLs for select VOCs in samples KWB-4, RW-19, PMW-2, PMW-3, PMW-4, PMW-5, KWB-5, MW-111, MW-48, MW-99, MW-66, MW-129, MW-131, and DUP-01 were elevated accordingly.

Standard Conditions

The laboratory noted that the TPH (GC/FID) high fraction (i.e., DRO) analyses of samples PMW-7, MW-131, and MW-112 were performed using a container with a pH outside of the method requirement (≤2). This pH issue shortens the extraction holding time to 7 days, and these samples were extracted for TPH (GC/FID) high fraction after 7 but less than 14 days after collection. Therefore, the positive results for TPH (GC/FID) high fraction in samples PMW-7, MW-131, and MW-112 may be biased low.

The laboratory noted that containers used for alkalinity in all samples except sample MW-99 had headspace. Therefore, the positive results for alkalinity in all samples except sample MW-99 may be biased low.

Holding Times

All samples in this data set were analyzed for ferrous iron after the 24-hour holding time after collection. Therefore, potential low bias exists for the positive results for ferrous iron in all groundwater samples and for the nondetect result in sample EB-01.

Laboratory Method Blanks

The following analytes were detected in the method blanks: bromide and total organic carbon (TOC). The analyte listed below was detected in the corresponding sample at a concentration within 5 times the blank concentration. Therefore, this result in the noted sample may include measurement contributions from the laboratory.

- TOC: EB-01

Equipment Blanks

The following analyte was detected in the equipment blank submitted with this data set, EB-01: TOC[+].

[+]The result for TOC in equipment blank sample EB-01 was less than 5 times the associated method blank concentration and was likely the result of laboratory contamination; therefore, this equipment blank result did not likely impact any field sample results.

LCS/LCSDs

The LCS/LCSD RPD (22.7%) for TPH (GC/FID) low fraction (GRO) was above the laboratory-defined limits (20%) in QC batches WG2274889 and WG2275424. Therefore, potential uncertainty exists for the positive TPH (GC/FID) low fraction (GRO) results in samples RW-19 and DUP-01.

MS/MSDs

MS and/or MS/MSD analyses were performed on the following samples for the indicated analyses:

- EB-01, RW-19: ferrous iron
- MW-66: TKN
- MW-99, EB-01: sulfide
- PMW-8: bromide and sulfate
- PMW-7, PMW-9, DUP-01: TOC
- PMW-2: magnesium

All criteria were met except as noted below.

The %R of TOC in the MS (81.2%) performed on sample PMW-9 was below the laboratory defined recovery limits (85-115%). Therefore, potential low bias exists for the positive results for TOC in all groundwater samples in this data set except samples PMW-7 and DUP-01.

The %Rs of magnesium in the MS/MSD (61.7%/50%) performed on sample PMW-2 were below the laboratory-defined recovery limits (75-125%). However, the concentration of magnesium in the unspiked sample was greater than four times the spiked concentrations; thus, the %Rs of magnesium were not used to evaluate potential matrix effects.

Surrogate Recoveries
All criteria were met.

Laboratory Duplicates
Laboratory duplicate analyses were performed on the following samples for the indicated analyses; all criteria were met.

- PMW-3, PMW-7, KWB-4: ferrous iron
- PMW-1, PMW-8: sulfide
- PMW-8: bromide and sulfate
- PMW-6, MW-131: TOC

Field Duplicates
Samples DUP-01/PMW-1 and DUP-02/PMW-7 were submitted as the field duplicate pairs. All criteria were met except as noted below:

- The results for toluene and total xylenes were detected at <5x the parent sample RL in the field duplicate pair DUP-02/PMW-7; the absolute differences were greater than the RLs. Therefore, the positive results for toluene and total xylenes in samples PMW-7 and DUP-02 should be considered estimated.

Data Usability Summary – June 2025

Appendix D: Data Validation

Data reported by Pace Analytical National in Mount Juliet, Tennessee, for the groundwater samples collected in June 2025 were reviewed to ensure that reported analytical results met the data quality requirements contained in the United States Environmental Protection Agency (USEPA) *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA, November 2020), *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, November 2020), and the individual methods, as applicable. With the exceptions noted below, quality control (QC) data indicate that measurement data are sufficient to meet method quality objectives, reported data are defensible, and QC mechanisms were generally effective in ensuring measurement data reliability within the expected limits of sampling and analytical error.

The following significant issues were identified.

- Due to a significant holding time exceedance, the nondetect result for ferrous iron in sample EB-01 is not usable for project objectives.
- Due to significantly low MS/MSD recoveries, the nondetect results for sulfide in samples EFF-N, KWB-4, KWB-5, MW-111, MW-112, MW-129, MW-131, PMW-1, PMW-2, PMW-3, PMW-4, PMW-6, PMW-7, PMW-8, PMW-9, PMW-10, PMW-11, and RW-19 are not usable for project objectives.

The following sections discuss the QC issues identified during the data review for the associated data report, L1865870.

Analytes that were detected in both the associated blank and sample were evaluated as follows: Corresponding samples at concentrations within 5 times the blank concentration for inorganic analytes and within 10 times the blank concentrations for organic analytes may include measurement contributions from the laboratory (for method blanks) and/or field (for equipment and trip blanks).

The following criteria were used in evaluation of the field duplicates: When both results are ≥ 5 times the reporting limit (RL), relative percent differences (RPDs) must be ≤30%. When one or both results are < five times the RL, the absolute difference must be ≤ the RL.

The following criteria were used in evaluation of laboratory duplicates: When both results are ≥ 5 times the RL, RPDs must be ≤20%.

LAB REPORT L1865870

Sample identifiers cross-referenced to laboratory identifications are presented below.

Sample ID	Lab ID
KWB-4	L1865870-01
RW-19	L1865870-02
PMW-1	L1865870-03
PMW-1-TOP	L1865870-04
PMW-2	L1865870-05
PMW-2-TOP	L1865870-06
PMW-3	L1865870-07
PMW-3-TOP	L1865870-08
PMW-4	L1865870-09
PMW-4-TOP	L1865870-10
PMW-5	L1865870-11
PMW-5-TOP	L1865870-12
KWB-5	L1865870-13
MW-111	L1865870-14
MW-48	L1865870-15
DUP-01-NORTH[1]	L1865870-16
EB-01-NORTH	L1865870-17
TRIP BLANK-01-NORTH	L1865870-18
MW-99	L1865870-19
MW-66	L1865870-20
MW-129	L1865870-21
PMW-6	L1865870-22
PMW-6-TOP	L1865870-23
PMW-7	L1865870-24
PMW-7-TOP	L1865870-25
MW-131	L1865870-26
MW-131-TOP	L1865870-27
PMW-8	L1865870-28
PMW-9	L1865870-29
PMW-9-TOP	L1865870-30
PMW-10	L1865870-31
PMW-10-TOP	L1865870-32
PMW-11	L1865870-33
PMW-11-TOP	L1865870-34
MW-112	L1865870-35
INF-N	L1865870-36
EFF-N	L1865870-37
DUP-02[2]	L1865870-38
DUP-03[3]	L1865870-39
EB-02	L1865870-40
TRIP BLANK-01-SOUTH	L1865870-41

[1]Field duplicate of INF-N [2]Field duplicate of MW-111 [3]Field duplicate of MW-99

Data Review Checklist	Yes	No	Not applicable
Did all samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X	
All samples within holding times?		X	
Any detection in method blanks?	X		
Any detection in equipment blanks?	X		
Any detection in trip blanks?	X		
Any laboratory control sample (LCS) LCS or LCS duplicates (LCSD) percent recoveries (%R) out of laboratory defined limits?		X	
Any LCS/LCSD RPD above laboratory defined limits?		X	
Any matrix spike (MS) or MS duplicate (MSD) %R outside of laboratory defined limits?	X		
Any MS/MSD RPD above laboratory defined limits?		X	
Any surrogate %R outside of laboratory defined limits?		X	
Any laboratory duplicate RPD above laboratory defined limits?	X		
Any field duplicate data additionally flagged as estimated?	X		
Any analyte analyzed by a nonequivalent method than planned?		X	

Other

Sample PMW-1-TOP was analyzed for sulfate although not requested on the chain-of-custody (COC).

Select samples were analyzed at dilutions for ferrous iron, magnesium, volatile organic compounds (VOCs), total organic carbon (TOC), and/or sulfate. The laboratory noted that samples PMW-7, PMW-7-TOP, PMW-8, PMW-9, PMW-10, and PMW-10-TOP were diluted for sulfate due to matrix impact on instrumentation at lower dilution. Except as noted below for sulfate and methyl tert-butyl ether (MTBE), there is no impact on data usability for these analytes since these analytes were detected above the method detection limits (MDLs) and/or RLs in the diluted samples. The nondetect RLs for sulfate in samples PMW-7, PMW-7-TOP, PMW-8, PMW-9, PMW-10, and PMW-10-TOP, and MTBE in sample INF-N were elevated accordingly.

The laboratory flagged the result for magnesium in sample MW-66 with an "O1" qualifier indicating that either a serial dilution (SD) or post-digestion spike (PDS) result was outside of the acceptance criteria. The laboratory was contacted during this review and specified that the SD performed on this sample was outside of the acceptance criteria (10 percent difference [%D]) for magnesium (12.7 %D). Thus, potential uncertainty exists for the magnesium result in sample MW-66; this uncertainty may extend to other positive results for magnesium in the samples in this data set.

Standard Conditions

Sample pHs, as applicable, were not recorded on the COC. Therefore, the comments in the case narrative were used to evaluate the sample conditions; the laboratory was not contacted about this issue.

The laboratory noted that the sulfide analysis of sample DUP-02 and the TOC analysis of sample KWB-5 were performed using an unpreserved, insufficiently or inadequately preserved sample container; further specifics were not provided. Therefore, the positive results for sulfide in sample DUP-02 and TOC in sample KWB-5 may be biased low.

Holding Times

Samples KWB-4, KWB-5, MW-111, MW-129, MW-131, MW-48, MW-66, MW-99, PMW-1, PMW-10, PMW-11, PMW-2, PMW-3, PMW-4, PMW-5, PMW-6, PMW-7, PMW-8, PMW-9, and RW-19 were analyzed for ferrous iron > 24-hours but <48 hours after collection. Therefore, potential low bias exists for the positive results for ferrous iron in these samples.

Samples DUP-02, DUP-03, EB-02, EFF-N, INF-N and MW-112 were analyzed for ferrous iron >48 hours after collection (i.e., >2x the allowable holding time). Therefore, potential low bias exists for the positive results for ferrous iron in samples DUP-02, DUP-03, EFF-N, INF-N and MW-112. **The nondetect result for ferrous iron in sample EB-02 is not usable for project objectives.**

Laboratory Method Blanks

Sulfate was detected in one of the method blanks. Sulfate was detected in one of the corresponding samples, RW-19, at a concentration within 5 times the blank concentration for inorganic analytes. Therefore, the sulfate result in sample RW-19 may include measurement contributions from the laboratory.

Equipment Blanks

Total xylenes was detected in one of the equipment blank samples, EB-01-NORTH. There was no impact on data usability due to this issue since total xylenes was detected in the field associated samples at concentrations more than 10 times the equipment blank concentration for organic analytes.

Sulfate was detected in one of the equipment blank samples, EB-02. Sulfate was detected in the corresponding samples listed below at concentrations within five times the equipment blank concentration for inorganic analytes (when adjusted for sample-specific dilution factors). Therefore, these samples may include measurement contributions from the field.

- MW-66, MW-99, MW-129, MW-131, MW-131-TOP, PMW-6, PMW-6-TOP, PMW-9-TOP, PMW-11, PMW-11-TOP, RW-19*

[+]The result for sulfate in sample RW-19 was also less than five times the associated method blank concentration and was likely the result of laboratory contamination.

Trip Blanks

Benzene was detected in one of the trip blank samples, TRIP BLANK-01-SOUTH. There was no impact on data usability due to this issue since benzene was detected in the associated field samples at concentrations more than 10 times the equipment blank concentration for organic analytes.

LCS/LCSDs

No issues were noted.

MS/MSDs

MS and/or MS/MSD analyses were performed on the following samples for the indicated analyses:

- KWB-4: ferrous iron
- MW-129, PMW-6: TKN
- PMW-1: sulfide
- PMW-4-TOP, PMW-5, PMW-11, PMW-11-TOP: sulfate
- MW-48, PMW-2, PMW-8: TOC
- MM-66: magnesium

All criteria were met except as noted below.

The %Rs of TKN in the MS performed on sample MW-129 (111%) and MS performed on sample PMW-6 (115%) were above the laboratory-defined recovery limits (90-110%). Therefore, potential high bias exists for the positive results for TKN in all groundwater samples in this data set.

The %Rs of sulfide in the MS/MSD (28.0%/27.8%) performed on sample PMW-1 were below the laboratory-defined recovery limits (80-120%). Therefore, potential low bias exists for the positive results for sulfide in all groundwater samples in this data set. **Due to the significantly low (i.e., <30%) MS/MSD recoveries, the nondetect results for sulfide in samples EFF-N, KWB-4, KWB-5, MW-111, MW-112, MW-129, MW-131, PMW-1, PMW-2, PMW-3, PMW-4, PMW-6, PMW-7, PMW-8, PMW-9, PMW-10, PMW-11, and RW-19 are not usable for project objectives.**

The %R of sulfate in the MS performed on sample PMW-5 (48.2%) was below the laboratory-defined recovery limits (80-120%). Therefore, potential low bias exists for the positive and nondetect results for sulfate in all groundwater samples in this data set except PMW-4-TOP, PMW-11, and PMW-11-TOP.

The %Rs of sulfate (0%/0%) in the MS and MSD performed on sample PMW-4-TOP were outside of the laboratory-defined recovery limits (80-120%). However, the concentration of sulfate in the unspiked sample was greater than four times the spiked concentration; thus, the %Rs of sulfate were not used to evaluate potential matrix effects.

The %Rs of TOC in the MS/MSD (73.6%/68.9%) performed on sample PMW-8 were below the laboratory-defined recovery limits (75-125%). Therefore, potential low bias exists for the positive and nondetect results for TOC in all groundwater samples in this data set except MW-48 and PMW-2.

The %Rs of magnesium (72.1%/66.8%) in the MS and MSD performed on sample MM-66 were outside of the laboratory-defined recovery limits (75-125%). However, the concentration of magnesium in the unspiked sample was greater than four times the spiked concentration; thus, the %Rs of magnesium were not used to evaluate potential matrix effects.

Laboratory Duplicates

Laboratory duplicate analyses were performed on the following samples for the indicated analyses.

- EFF-N, PMW-2, PMW-7: alkalinity
- MW-112, RW-19, PMW-9: ferrous iron
- KWB-4, PMW-1, PMW-6-TOP, PMW-7: TKN
- PMW-7, EB-02, DUP-02: sulfide
- PMW-4-TOP, PMW-5, PMW-11, PMW-11-TOP: sulfate
- MW-99, PMW-2-TOP: TOC

All criteria were met except as noted below.

The RPDs for TKN in the duplicate analyses performed on samples PMW-1 and PMW-6-TOP, and the RPD for sulfate in the duplicate analysis performed on sample PMW-11 exceeded the laboratory-defined control limit (20% and 15%, respectively). However, the results in the parent and duplicate samples were less than 5x the RL so the laboratory duplicate RPDs were not applicable.

Field Duplicates

Samples DUP-01-NORTH/INF-N, UP-02/MW-111, and DUP-03/MW-99 were submitted as the field duplicate pairs. All criteria were met except as noted below:

- The RPDs for benzene (99.8%) and total xylenes (171%) were above the acceptance criteria in field duplicate pair DUP-01-NORTH/IFN-N. Further, the results for 1,3,5-trimethylbenzene, MTBE, and naphthalene were <5x the RL in the parent and/or field duplicate sample; the absolute differences were greater than the RLs. Therefore, the positive results for benzene, total xylenes, 1,3,5-trimethylbenzene, MTBE, and naphthalene in samples DUP-01-NORTH and INF-N may be considered estimated.
- In field duplicate pair DUP-02/MW-111, the result for ferrous iron was >5x the RL in the parent sample and was <5x the RL in the field duplicate sample; the absolute difference was greater than the RL. Therefore, the positive results for ferrous iron in samples DUP-02 and MW-111 may be considered estimated.

- The RPD for TOC (49.2%) was above the acceptance criteria in field duplicate pair DUP-03/MW-99. Therefore, the positive results for TOC in samples DUP-03 and MW-99 may be considered estimated.

Attachment E: Water Quality and Environmental Monitoring Data for Monitoring Wells PMW-1, PMW-2, PMW-7, and PMW-8

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/8/24 7:44	1.44	22.26	3.33	3297.06	3478.84	1.85	2.26	303.30	1.00
5/8/24 11:44	1.43	22.25	3.31	3213.35	3391.22	1.80	2.20	311.20	1.00
5/8/24 15:44	1.46	22.25	3.37	3264.79	3445.62	1.83	2.24	306.30	1.00
5/8/24 19:44	1.52	22.25	3.50	3295.51	3477.93	1.85	2.26	303.44	1.00
5/8/24 23:44	1.55	22.26	3.57	3313.97	3497.27	1.86	2.27	301.75	1.00
5/9/24 3:44	1.57	22.26	3.62	3322.37	3506.13	1.86	2.28	300.99	1.00
5/9/24 7:44	1.60	22.26	3.70	3327.84	3511.87	1.87	2.28	300.50	1.00
5/9/24 11:44	1.53	22.25	3.53	3265.23	3446.08	1.83	2.24	306.26	1.00
5/9/24 15:44	1.49	22.25	3.44	3279.89	3461.52	1.84	2.25	304.89	1.00
5/9/24 19:44	1.49	22.25	3.45	3288.96	3471.01	1.85	2.26	304.05	1.00
5/9/24 23:44	1.52	22.25	3.51	3295.97	3478.37	1.85	2.26	303.40	1.00
5/10/24 3:44	1.52	22.25	3.52	3301.23	3483.91	1.85	2.26	302.92	1.00
5/10/24 7:44	1.54	22.25	3.57	3294.74	3477.17	1.85	2.26	303.51	1.00
5/10/24 11:44	1.55	22.25	3.57	3302.21	3485.20	1.85	2.27	302.83	1.00
5/10/24 15:44	1.52	22.25	3.51	3322.91	3507.13	1.87	2.28	300.94	1.00
5/10/24 19:44	1.52	22.25	3.51	3313.28	3496.94	1.86	2.27	301.82	1.00
5/10/24 23:44	1.53	22.25	3.53	3317.73	3501.69	1.86	2.28	301.41	1.00
5/11/24 3:44	1.52	22.25	3.52	3319.71	3503.83	1.86	2.28	301.23	1.00
5/11/24 7:44	1.52	22.25	3.52	3322.47	3506.80	1.87	2.28	300.98	1.00
5/11/24 11:44	1.51	22.25	3.49	3326.10	3510.66	1.87	2.28	300.65	1.00
5/11/24 15:44	1.47	22.25	3.39	3340.21	3525.68	1.88	2.29	299.38	1.00
5/11/24 19:44	1.46	22.25	3.36	3341.05	3526.57	1.88	2.29	299.31	1.00
5/11/24 23:44	1.48	22.25	3.41	3343.12	3528.78	1.88	2.29	299.12	1.00
5/12/24 3:44	1.47	22.24	3.40	3342.67	3528.36	1.88	2.29	299.16	1.00
5/12/24 7:44	1.48	22.24	3.42	3343.63	3529.40	1.88	2.29	299.08	1.00
5/12/24 11:44	1.46	22.24	3.38	3343.90	3529.81	1.88	2.29	299.05	1.00
5/12/24 15:44	1.44	22.24	3.33	3345.33	3531.41	1.88	2.30	298.92	1.00
5/12/24 19:44	1.45	22.24	3.34	3345.34	3531.43	1.88	2.30	298.92	1.00
5/12/24 23:44	1.47	22.24	3.40	3334.26	3519.73	1.87	2.29	299.92	1.00
5/13/24 3:44	1.49	22.24	3.44	3335.45	3521.05	1.87	2.29	299.81	1.00
5/13/24 7:44	1.51	22.24	3.48	3336.39	3522.11	1.87	2.29	299.73	1.00
5/13/24 11:44	1.51	22.24	3.49	3336.72	3522.51	1.87	2.29	299.70	1.00
5/13/24 15:44	1.48	22.24	3.42	3337.57	3523.55	1.87	2.29	299.62	1.00
5/13/24 19:44	1.47	22.24	3.40	3338.22	3524.24	1.88	2.29	299.56	1.00
5/13/24 23:44	1.49	22.24	3.43	3338.28	3524.34	1.88	2.29	299.56	1.00
5/14/24 3:44	1.49	22.24	3.44	3338.58	3524.69	1.88	2.29	299.53	1.00
5/14/24 7:44	1.50	22.23	3.46	3339.58	3525.82	1.88	2.29	299.44	1.00
5/14/24 11:44	1.49	22.23	3.43	3340.07	3526.43	1.88	2.29	299.40	1.00
5/14/24 15:44	1.44	22.23	3.33	3339.43	3525.79	1.88	2.29	299.45	1.00
5/14/24 19:44	1.44	22.23	3.33	3339.23	3525.63	1.88	2.29	299.47	1.00
5/14/24 23:44	1.45	22.23	3.35	3340.56	3527.09	1.88	2.29	299.35	1.00
5/15/24 3:44	1.45	22.23	3.35	3340.67	3527.27	1.88	2.29	299.34	1.00
5/15/24 7:44	1.47	22.23	3.38	3340.81	3527.40	1.88	2.29	299.33	1.00
5/15/24 11:44	1.45	22.23	3.35	3341.36	3528.09	1.88	2.29	299.28	1.00
5/15/24 15:44	1.41	22.23	3.27	3340.48	3527.21	1.88	2.29	299.36	1.00
5/15/24 19:44	1.40	22.23	3.24	3341.17	3527.98	1.88	2.29	299.30	1.00
5/15/24 23:44	1.43	22.23	3.30	3341.63	3528.48	1.88	2.29	299.26	1.00
5/16/24 3:44	1.46	22.23	3.36	3342.81	3529.76	1.88	2.29	299.15	1.00
5/16/24 7:44	1.48	22.23	3.42	3342.60	3529.60	1.88	2.29	299.17	1.00
5/16/24 11:44	1.48	22.22	3.43	3343.45	3530.62	1.88	2.29	299.09	1.00
5/16/24 15:44	1.49	22.22	3.44	3343.05	3530.19	1.88	2.29	299.13	1.00
5/16/24 19:44	1.48	22.22	3.42	3343.37	3530.60	1.88	2.29	299.10	1.00
5/16/24 23:44	1.50	22.22	3.46	3342.66	3529.92	1.88	2.29	299.16	1.00
5/17/24 3:44	1.50	22.22	3.45	3342.77	3530.07	1.88	2.29	299.15	1.00
5/17/24 7:44	1.50	22.22	3.47	3342.35	3529.67	1.88	2.29	299.19	1.00
5/17/24 11:44	1.49	22.22	3.45	3342.31	3529.70	1.88	2.29	299.19	1.00
5/17/24 15:44	1.46	22.22	3.37	3342.79	3530.30	1.88	2.29	299.15	1.00
5/17/24 19:44	1.45	22.22	3.36	3342.38	3529.92	1.88	2.29	299.19	1.00
5/17/24 23:44	1.47	22.22	3.39	3343.33	3530.93	1.88	2.30	299.10	1.00
5/18/24 3:44	1.48	22.22	3.41	3344.78	3532.52	1.88	2.30	298.97	1.00
5/18/24 7:44	1.50	22.22	3.46	3346.24	3534.08	1.88	2.30	298.84	1.00
5/18/24 11:44	1.50	22.22	3.47	3346.55	3534.48	1.88	2.30	298.82	1.00
5/18/24 15:44	1.48	22.21	3.41	3345.85	3533.86	1.88	2.30	298.88	1.00
5/18/24 19:44	1.47	22.21	3.40	3345.48	3533.44	1.88	2.30	298.91	1.00
5/18/24 23:44	1.49	22.21	3.43	3345.10	3533.08	1.88	2.30	298.94	1.00
5/19/24 3:44	1.49	22.21	3.44	3344.58	3532.62	1.88	2.30	298.99	1.00
5/19/24 7:44	1.50	22.21	3.45	3344.71	3532.76	1.88	2.30	298.98	1.00
5/19/24 11:44	1.49	22.21	3.44	3345.50	3533.67	1.88	2.30	298.91	1.00
5/19/24 15:44	1.46	22.21	3.37	3344.70	3532.91	1.88	2.30	298.98	1.00
5/19/24 19:44	1.45	22.21	3.34	3345.76	3534.06	1.88	2.30	298.89	1.00
5/19/24 23:44	1.46	22.21	3.37	3347.46	3535.85	1.88	2.30	298.73	1.00
5/20/24 3:44	1.46	22.21	3.37	3348.46	3537.00	1.88	2.30	298.64	1.00
5/20/24 7:44	1.48	22.21	3.42	3348.29	3536.84	1.88	2.30	298.66	1.00
5/20/24 11:44	1.48	22.21	3.41	3349.21	3537.92	1.88	2.30	298.58	1.00
5/20/24 15:44	1.44	22.21	3.32	3349.83	3538.70	1.88	2.30	298.52	1.00
5/20/24 19:44	1.43	22.21	3.30	3349.08	3537.86	1.88	2.30	298.59	1.00
5/20/24 23:44	1.45	22.21	3.34	3349.41	3538.25	1.88	2.30	298.56	1.00
5/21/24 3:44	1.46	22.21	3.37	3349.97	3538.88	1.88	2.30	298.51	1.00
5/21/24 7:44	1.48	22.20	3.43	3350.77	3539.74	1.88	2.30	298.44	1.00
5/21/24 11:44	1.47	22.20	3.40	3350.66	3539.78	1.88	2.30	298.45	1.00
5/21/24 15:44	1.44	22.20	3.33	3350.61	3539.80	1.88	2.30	298.45	1.00
5/21/24 19:44	1.45	22.20	3.34	3349.98	3539.09	1.88	2.30	298.51	1.00
5/21/24 23:44	1.47	22.20	3.39	3350.45	3539.64	1.88	2.30	298.47	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/22/24 3:44	1.48	22.20	3.41	3350.74	3539.96	1.88	2.30	298.44	1.00
5/22/24 7:44	1.49	22.20	3.44	3350.38	3539.66	1.88	2.30	298.47	1.00
5/22/24 11:44	1.50	22.20	3.47	3350.86	3540.25	1.88	2.30	298.43	1.00
5/22/24 15:44	1.46	22.20	3.36	3351.18	3540.73	1.88	2.30	298.40	1.00
5/22/24 19:44	1.43	22.20	3.31	3350.85	3540.33	1.88	2.30	298.43	1.00
5/22/24 23:44	1.45	22.20	3.34	3350.78	3540.31	1.88	2.30	298.44	1.00
5/23/24 3:44	1.45	22.20	3.35	3351.23	3540.85	1.88	2.30	298.40	1.00
5/23/24 7:44	1.46	22.20	3.37	3351.61	3541.29	1.88	2.30	298.36	1.00
5/23/24 11:44	1.44	22.19	3.33	3352.70	3542.50	1.89	2.30	298.27	1.00
5/23/24 15:44	1.41	22.19	3.25	3351.39	3541.19	1.88	2.30	298.38	1.00
5/23/24 19:44	1.43	22.19	3.30	3352.86	3542.79	1.89	2.30	298.25	1.00
5/23/24 23:44	1.44	22.19	3.33	3352.37	3542.32	1.89	2.30	298.30	1.00
5/24/24 3:44	1.45	22.19	3.35	3354.36	3544.45	1.89	2.30	298.12	1.00
5/24/24 7:44	1.48	22.19	3.41	3353.79	3543.88	1.89	2.30	298.17	1.00
5/24/24 11:44	1.48	22.19	3.41	3353.66	3543.84	1.89	2.30	298.18	1.00
5/24/24 15:44	1.45	22.19	3.35	3353.89	3544.18	1.89	2.30	298.16	1.00
5/24/24 19:44	1.44	22.19	3.32	3353.26	3543.50	1.89	2.30	298.22	1.00
5/24/24 23:44	1.45	22.19	3.36	3353.33	3543.63	1.89	2.30	298.21	1.00
5/25/24 3:44	1.46	22.19	3.36	3353.60	3543.97	1.89	2.30	298.19	1.00
5/25/24 7:44	1.46	22.19	3.37	3354.98	3545.48	1.89	2.30	298.06	1.00
5/25/24 11:44	1.45	22.19	3.34	3354.30	3544.82	1.89	2.30	298.13	1.00
5/25/24 15:44	1.42	22.19	3.29	3353.47	3544.00	1.89	2.30	298.20	1.00
5/25/24 19:44	1.42	22.18	3.27	3353.90	3544.48	1.89	2.30	298.16	1.00
5/25/24 23:44	1.44	22.18	3.33	3352.84	3543.40	1.89	2.30	298.25	1.00
5/26/24 3:44	1.45	22.18	3.36	3353.23	3543.83	1.89	2.30	298.22	1.00
5/26/24 7:44	1.47	22.18	3.40	3352.98	3543.59	1.89	2.30	298.24	1.00
5/26/24 11:44	1.47	22.18	3.41	3352.61	3543.30	1.89	2.30	298.28	1.00
5/26/24 15:44	1.46	22.18	3.36	3352.20	3542.99	1.89	2.30	298.31	1.00
5/26/24 19:44	1.46	22.18	3.36	3353.49	3544.36	1.89	2.30	298.20	1.00
5/26/24 23:44	1.48	22.18	3.41	3353.08	3543.96	1.89	2.30	298.23	1.00
5/27/24 3:44	1.48	22.18	3.41	3353.96	3544.94	1.89	2.30	298.15	1.00
5/27/24 7:44	1.51	22.18	3.48	3354.09	3545.09	1.89	2.30	298.14	1.00
5/27/24 11:44	1.52	22.18	3.50	3354.53	3545.67	1.89	2.30	298.10	1.00
5/27/24 15:44	1.49	22.18	3.43	3353.84	3545.01	1.89	2.30	298.17	1.00
5/27/24 19:44	1.48	22.18	3.41	3353.94	3545.15	1.89	2.30	298.16	1.00
5/27/24 23:44	1.50	22.18	3.45	3353.82	3545.06	1.89	2.30	298.17	1.00
5/28/24 3:44	1.50	22.17	3.46	3354.33	3545.65	1.89	2.30	298.12	1.00
5/28/24 7:44	1.51	22.17	3.49	3355.30	3546.72	1.89	2.31	298.04	1.00
5/28/24 11:44	1.51	22.17	3.48	3354.36	3545.79	1.89	2.30	298.12	1.00
5/28/24 15:44	1.47	22.17	3.39	3355.16	3546.73	1.89	2.31	298.05	1.00
5/28/24 19:44	1.46	22.17	3.36	3353.71	3545.19	1.89	2.30	298.18	1.00
5/28/24 23:44	1.50	22.17	3.45	3354.55	3546.08	1.89	2.30	298.10	1.00
5/29/24 3:44	1.52	22.17	3.51	3353.78	3545.32	1.89	2.30	298.17	1.00
5/29/24 7:44	1.49	22.17	3.44	3353.09	3544.66	1.89	2.30	298.23	1.00
5/29/24 11:44	1.49	22.17	3.43	3353.01	3544.66	1.89	2.30	298.24	1.00
5/29/24 15:44	1.45	22.17	3.34	3353.97	3545.81	1.89	2.30	298.15	1.00
5/29/24 19:44	1.42	22.17	3.27	3353.16	3544.95	1.89	2.30	298.23	1.00
5/29/24 23:44	1.42	22.17	3.29	3354.97	3546.89	1.89	2.31	298.07	1.00
5/30/24 3:44	1.42	22.17	3.27	3355.83	3547.88	1.89	2.31	297.99	1.00
5/30/24 7:44	1.42	22.17	3.29	3355.65	3547.68	1.89	2.31	298.01	1.00
5/30/24 11:44	1.41	22.17	3.26	3355.86	3547.97	1.89	2.31	297.99	1.00
5/30/24 15:44	1.39	22.16	3.20	3355.54	3547.70	1.89	2.31	298.01	1.00
5/30/24 19:44	1.37	22.16	3.17	3355.35	3547.48	1.89	2.31	298.03	1.00
5/30/24 23:44	1.40	22.16	3.23	3355.16	3547.34	1.89	2.31	298.05	1.00
5/31/24 3:44	1.42	22.16	3.28	3354.80	3547.06	1.89	2.31	298.08	1.00
5/31/24 7:44	1.45	22.16	3.35	3354.46	3546.67	1.89	2.31	298.11	1.00
5/31/24 11:44	1.45	22.16	3.36	3355.60	3548.00	1.89	2.31	298.01	1.00
5/31/24 15:44	1.42	22.16	3.29	3355.52	3547.97	1.89	2.31	298.02	1.00
5/31/24 19:44	1.41	22.16	3.25	3354.66	3547.09	1.89	2.31	298.09	1.00
5/31/24 23:44	1.43	22.16	3.30	3355.20	3547.66	1.89	2.31	298.04	1.00
6/1/24 3:44	1.45	22.16	3.35	3354.60	3547.04	1.89	2.31	298.10	1.00
6/1/24 7:44	1.46	22.16	3.38	3354.41	3546.93	1.89	2.31	298.11	1.00
6/1/24 11:44	1.46	22.16	3.37	3354.74	3547.33	1.89	2.31	298.09	1.00
6/1/24 15:44	1.42	22.16	3.28	3354.66	3547.34	1.89	2.31	298.09	1.00
6/1/24 19:44	1.40	22.16	3.24	3355.20	3547.94	1.89	2.31	298.04	1.00
6/1/24 23:44	1.42	22.16	3.27	3355.77	3548.59	1.89	2.31	297.99	1.00
6/2/24 3:44	1.41	22.15	3.26	3355.75	3548.66	1.89	2.31	298.00	1.00
6/2/24 7:44	1.42	22.15	3.27	3356.34	3549.32	1.89	2.31	297.94	1.00
6/2/24 11:44	1.40	22.15	3.23	3356.41	3549.43	1.89	2.31	297.94	1.00
6/2/24 15:44	1.37	22.15	3.16	3356.05	3549.11	1.89	2.31	297.97	1.00
6/2/24 19:44	1.37	22.15	3.16	3356.91	3550.07	1.89	2.31	297.89	1.00
6/2/24 23:44	1.38	22.15	3.19	3356.91	3550.07	1.89	2.31	297.89	1.00
6/3/24 3:44	1.38	22.15	3.18	3358.66	3551.96	1.89	2.31	297.74	1.00
6/3/24 7:44	1.40	22.15	3.23	3357.58	3550.86	1.89	2.31	297.83	1.00
6/3/24 11:44	1.39	22.15	3.21	3358.33	3551.72	1.89	2.31	297.77	1.00
6/3/24 15:44	1.35	22.15	3.12	3357.22	3550.64	1.89	2.31	297.87	1.00
6/3/24 19:44	1.34	22.15	3.10	3357.70	3551.14	1.89	2.31	297.82	1.00
6/3/24 23:44	1.36	22.15	3.13	3356.79	3550.25	1.89	2.31	297.90	1.00
6/4/24 3:44	1.35	22.15	3.12	3357.29	3550.83	1.89	2.31	297.86	1.00
6/4/24 7:44	1.37	22.15	3.17	3358.26	3551.86	1.89	2.31	297.77	1.00
6/4/24 11:44	1.38	22.15	3.18	3358.26	3551.94	1.89	2.31	297.77	1.00
6/4/24 15:44	1.36	22.14	3.13	3358.17	3551.91	1.89	2.31	297.78	1.00
6/4/24 19:44	1.36	22.14	3.13	3358.01	3551.75	1.89	2.31	297.80	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/4/24 23:44	1.38	22.14	3.18	3358.18	3552.00	1.89	2.31	297.78	1.00
6/5/24 3:44	1.39	22.14	3.22	3358.30	3552.15	1.89	2.31	297.77	1.00
6/5/24 7:44	1.43	22.14	3.30	3357.86	3551.69	1.89	2.31	297.81	1.00
6/5/24 11:44	1.43	22.14	3.31	3357.22	3551.10	1.89	2.31	297.87	1.00
6/5/24 15:44	1.41	22.14	3.26	3358.49	3552.54	1.89	2.31	297.75	1.00
6/5/24 19:44	1.40	22.14	3.22	3357.85	3551.89	1.89	2.31	297.81	1.00
6/5/24 23:44	1.41	22.14	3.26	3357.06	3551.09	1.89	2.31	297.88	1.00
6/6/24 3:44	1.42	22.14	3.27	3357.39	3551.50	1.89	2.31	297.85	1.00
6/6/24 7:44	1.44	22.14	3.31	3357.00	3551.09	1.89	2.31	297.89	1.00
6/6/24 11:44	1.43	22.14	3.31	3356.53	3550.68	1.89	2.31	297.93	1.00
6/6/24 15:44	1.41	22.14	3.25	3357.55	3551.80	1.89	2.31	297.84	1.00
6/6/24 19:44	1.40	22.14	3.22	3357.70	3552.00	1.89	2.31	297.82	1.00
6/6/24 23:44	1.43	22.14	3.29	3358.15	3552.47	1.89	2.31	297.78	1.00
6/7/24 3:44	1.44	22.14	3.32	3357.67	3552.02	1.89	2.31	297.83	1.00
6/7/24 7:44	1.45	22.13	3.34	3356.53	3550.86	1.89	2.31	297.93	1.00
6/7/24 11:44	1.44	22.13	3.33	3357.32	3551.78	1.89	2.31	297.86	1.00
6/7/24 15:44	1.40	22.13	3.24	3356.99	3551.54	1.89	2.31	297.89	1.00
6/7/24 19:44	1.39	22.13	3.21	3357.13	3551.68	1.89	2.31	297.87	1.00
6/7/24 23:44	1.42	22.13	3.29	3356.64	3551.16	1.89	2.31	297.92	1.00
6/8/24 3:44	1.42	22.13	3.28	3355.95	3550.51	1.89	2.31	297.98	1.00
6/8/24 7:44	1.42	22.13	3.28	3356.95	3551.61	1.89	2.31	297.89	1.00
6/8/24 11:44	1.41	22.13	3.26	3356.44	3551.12	1.89	2.31	297.93	1.00
6/8/24 15:44	1.39	22.13	3.20	3356.05	3550.77	1.89	2.31	297.97	1.00
6/8/24 19:44	1.38	22.13	3.19	3356.23	3550.98	1.89	2.31	297.95	1.00
6/8/24 23:44	1.40	22.13	3.23	3356.63	3551.44	1.89	2.31	297.92	1.00
6/9/24 3:44	1.39	22.13	3.22	3355.97	3550.76	1.89	2.31	297.98	1.00
6/9/24 7:44	1.41	22.13	3.26	3356.75	3551.65	1.89	2.31	297.91	1.00
6/9/24 11:44	1.43	22.13	3.30	3355.59	3550.45	1.89	2.31	298.01	1.00
6/9/24 15:44	1.42	22.13	3.27	3355.82	3550.79	1.89	2.31	297.99	1.00
6/9/24 19:44	1.40	22.12	3.24	3354.88	3549.84	1.89	2.31	298.07	1.00
6/9/24 23:44	1.44	22.12	3.32	3354.83	3549.79	1.89	2.31	298.08	1.00
6/10/24 3:44	1.44	22.12	3.32	3354.88	3549.88	1.89	2.31	298.07	1.00
6/10/24 7:44	1.46	22.12	3.36	3354.78	3549.83	1.89	2.31	298.08	1.00
6/10/24 11:44	1.45	22.12	3.34	3354.78	3549.91	1.89	2.31	298.08	1.00
6/10/24 15:44	1.41	22.12	3.27	3354.39	3549.54	1.89	2.31	298.12	1.00
6/10/24 19:44	1.41	22.12	3.25	3354.99	3550.20	1.89	2.31	298.06	1.00
6/10/24 23:44	1.43	22.12	3.29	3354.55	3549.78	1.89	2.31	298.10	1.00
6/11/24 3:44	1.42	22.12	3.27	3354.43	3549.73	1.89	2.31	298.11	1.00
6/11/24 7:44	1.43	22.12	3.29	3354.02	3549.31	1.89	2.31	298.15	1.00
6/11/24 11:44	1.46	22.12	3.38	3353.86	3549.32	1.89	2.31	298.16	1.00
6/11/24 15:44	1.43	22.12	3.30	3354.01	3549.44	1.89	2.31	298.15	1.00
6/11/24 19:44	1.41	22.12	3.25	3354.21	3549.63	1.89	2.31	298.13	1.00
6/11/24 23:44	1.43	22.12	3.31	3354.01	3549.41	1.89	2.31	298.15	1.00
6/12/24 3:44	1.44	22.12	3.33	3353.64	3549.07	1.89	2.31	298.18	1.00
6/12/24 7:44	1.45	22.12	3.35	3353.34	3548.84	1.89	2.31	298.21	1.00
6/12/24 11:44	1.43	22.11	3.31	3353.40	3548.96	1.89	2.31	298.21	1.00
6/12/24 15:44	1.40	22.11	3.24	3353.61	3549.23	1.89	2.31	298.19	1.00
6/12/24 19:44	1.39	22.11	3.20	3352.96	3548.58	1.89	2.31	298.24	1.00
6/12/24 23:44	1.40	22.11	3.23	3352.82	3548.44	1.89	2.31	298.26	1.00
6/13/24 3:44	1.39	22.11	3.22	3352.77	3548.43	1.89	2.31	298.26	1.00
6/13/24 7:44	1.41	22.11	3.25	3352.92	3548.63	1.89	2.31	298.25	1.00
6/13/24 11:44	1.41	22.11	3.26	3352.42	3548.17	1.89	2.31	298.29	1.00
6/13/24 15:44	1.38	22.11	3.20	3352.56	3548.36	1.89	2.31	298.28	1.00
6/13/24 19:44	1.38	22.11	3.19	3352.26	3548.07	1.89	2.31	298.31	1.00
6/13/24 23:44	1.40	22.11	3.22	3351.94	3547.77	1.89	2.31	298.33	1.00
6/14/24 3:44	1.40	22.11	3.23	3351.67	3547.55	1.89	2.31	298.36	1.00
6/14/24 7:44	1.42	22.11	3.28	3352.21	3548.10	1.89	2.31	298.31	1.00
6/14/24 11:44	1.41	22.11	3.27	3352.13	3548.14	1.89	2.31	298.32	1.00
6/14/24 15:44	1.38	22.11	3.19	3351.96	3548.00	1.89	2.31	298.33	1.00
6/14/24 19:44	1.37	22.11	3.16	3351.85	3547.90	1.89	2.31	298.34	1.00
6/14/24 23:44	1.39	22.11	3.21	3351.44	3547.44	1.89	2.31	298.38	1.00
6/15/24 3:44	1.40	22.11	3.23	3351.37	3547.44	1.89	2.31	298.39	1.00
6/15/24 7:44	1.41	22.11	3.25	3351.01	3547.09	1.89	2.31	298.42	1.00
6/15/24 11:44	1.39	22.10	3.21	3350.66	3546.80	1.89	2.31	298.45	1.00
6/15/24 15:44	1.35	22.10	3.13	3350.63	3546.80	1.89	2.31	298.45	1.00
6/15/24 19:44	1.33	22.10	3.08	3351.28	3547.53	1.89	2.31	298.39	1.00
6/15/24 23:44	1.35	22.10	3.12	3350.18	3546.40	1.89	2.31	298.49	1.00
6/16/24 3:44	1.36	22.10	3.14	3349.68	3545.90	1.89	2.30	298.54	1.00
6/16/24 7:44	1.37	22.10	3.16	3349.45	3545.70	1.89	2.30	298.56	1.00
6/16/24 11:44	1.36	22.10	3.15	3349.58	3545.89	1.89	2.30	298.55	1.00
6/16/24 15:44	1.33	22.10	3.06	3349.31	3545.67	1.89	2.30	298.57	1.00
6/16/24 19:44	1.32	22.10	3.05	3349.67	3546.08	1.89	2.30	298.54	1.00
6/16/24 23:44	1.35	22.10	3.11	3349.30	3545.73	1.89	2.30	298.57	1.00
6/17/24 3:44	1.35	22.10	3.11	3349.30	3545.74	1.89	2.30	298.57	1.00
6/17/24 7:44	1.35	22.10	3.13	3349.03	3545.45	1.89	2.30	298.59	1.00
6/17/24 11:44	1.34	22.10	3.10	3348.62	3545.11	1.89	2.30	298.63	1.00
6/17/24 15:44	1.33	22.10	3.07	3348.97	3545.55	1.89	2.30	298.60	1.00
6/17/24 19:44	1.33	22.10	3.06	3348.88	3545.47	1.89	2.30	298.61	1.00
6/17/24 23:44	1.35	22.10	3.11	3350.50	3547.20	1.89	2.31	298.46	1.00
6/18/24 3:44	1.35	22.10	3.11	3348.65	3545.28	1.89	2.30	298.63	1.00
6/18/24 7:44	1.37	22.10	3.17	3349.08	3545.74	1.89	2.30	298.59	1.00
6/18/24 11:44	1.37	22.09	3.17	3231.46	3421.89	1.82	2.22	309.46	1.00
6/18/24 15:44	1.36	22.09	3.14	3257.75	3449.53	1.83	2.24	306.96	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/18/24 19:44	1.36	22.09	3.14	3269.34	3461.67	1.84	2.25	305.87	1.00
6/18/24 23:44	1.40	22.09	3.23	3276.51	3469.23	1.84	2.25	305.20	1.00
6/19/24 3:44	1.41	22.09	3.27	3286.28	3479.64	1.85	2.26	304.30	1.00
6/19/24 7:44	1.43	22.09	3.31	3291.52	3485.18	1.85	2.27	303.81	1.00
6/19/24 11:44	1.50	22.08	3.46	3278.94	3472.33	1.85	2.26	304.98	1.00
6/19/24 15:44	1.44	22.09	3.33	3285.73	3479.26	1.85	2.26	304.35	1.00
6/19/24 19:44	1.45	22.09	3.34	3291.88	3485.69	1.85	2.27	303.78	1.00
6/19/24 23:44	1.45	22.09	3.34	3296.84	3490.95	1.86	2.27	303.32	1.00
6/20/24 3:44	1.45	22.09	3.35	3302.30	3496.80	1.86	2.27	302.82	1.00
6/20/24 7:44	1.46	22.09	3.37	3306.53	3501.28	1.86	2.28	302.43	1.00
6/20/24 11:44	1.48	22.08	3.41	3239.27	3430.57	1.82	2.23	308.71	1.00
6/20/24 15:44	1.47	22.08	3.38	3264.23	3456.84	1.84	2.25	306.35	1.00
6/20/24 19:44	1.45	22.08	3.35	3276.99	3470.32	1.84	2.26	305.16	1.00
6/20/24 23:44	1.47	22.08	3.38	3286.09	3479.92	1.85	2.26	304.31	1.00
6/21/24 3:44	1.46	22.08	3.37	3295.79	3490.18	1.86	2.27	303.42	1.00
6/21/24 7:44	1.47	22.08	3.39	3303.75	3498.66	1.86	2.27	302.69	1.00
6/21/24 11:44	1.47	22.08	3.40	3260.69	3453.41	1.84	2.24	306.68	1.00
6/21/24 15:44	1.45	22.08	3.36	3278.04	3471.66	1.85	2.26	305.06	1.00
6/21/24 19:44	1.43	22.08	3.31	3288.38	3482.56	1.85	2.26	304.10	1.00
6/21/24 23:44	1.45	22.08	3.34	3295.16	3489.73	1.86	2.27	303.48	1.00
6/22/24 3:44	1.44	22.08	3.33	3304.46	3499.59	1.86	2.27	302.62	1.00
6/22/24 7:44	1.45	22.08	3.35	3314.47	3510.19	1.87	2.28	301.71	1.00
6/22/24 11:44	1.44	22.08	3.33	3321.26	3517.44	1.87	2.29	301.09	1.00
6/22/24 15:44	1.41	22.08	3.27	3325.77	3522.24	1.87	2.29	300.68	1.00
6/22/24 19:44	1.40	22.08	3.23	3326.96	3523.53	1.87	2.29	300.57	1.00
6/22/24 23:44	1.42	22.08	3.28	3327.42	3524.02	1.87	2.29	300.53	1.00
6/23/24 3:44	1.43	22.08	3.29	3327.61	3524.29	1.88	2.29	300.52	1.00
6/23/24 7:44	1.43	22.08	3.31	3328.28	3525.05	1.88	2.29	300.46	1.00
6/23/24 11:44	1.43	22.08	3.31	3328.69	3525.51	1.88	2.29	300.42	1.00
6/23/24 15:44	1.40	22.08	3.22	3329.90	3526.87	1.88	2.29	300.31	1.00
6/23/24 19:44	1.38	22.08	3.19	3330.49	3527.49	1.88	2.29	300.26	1.00
6/23/24 23:44	1.41	22.08	3.24	3331.26	3528.31	1.88	2.29	300.19	1.00
6/24/24 3:44	1.40	22.08	3.23	3332.55	3529.73	1.88	2.29	300.07	1.00
6/24/24 7:44	1.41	22.07	3.26	3333.29	3530.58	1.88	2.29	300.00	1.00
6/24/24 11:44	1.41	22.07	3.24	3276.45	3470.74	1.84	2.26	305.21	1.00
6/24/24 15:44	1.37	22.07	3.16	3292.72	3487.83	1.85	2.27	303.70	1.00
6/24/24 19:44	1.35	22.07	3.11	3300.29	3495.77	1.86	2.27	303.00	1.00
6/24/24 23:44	1.37	22.07	3.16	3306.32	3502.14	1.86	2.28	302.45	1.00
6/25/24 3:44	1.37	22.07	3.17	3313.43	3509.68	1.87	2.28	301.80	1.00
6/25/24 7:44	1.38	22.07	3.19	3321.22	3517.94	1.87	2.29	301.09	1.00
6/25/24 11:44	1.38	22.07	3.18	3329.91	3527.20	1.88	2.29	300.31	1.00
6/25/24 15:44	1.36	22.07	3.14	3335.67	3533.34	1.88	2.30	299.79	1.00
6/25/24 19:44	1.35	22.07	3.11	3337.56	3535.34	1.88	2.30	299.62	1.00
6/25/24 23:44	1.37	22.07	3.15	3337.35	3535.20	1.88	2.30	299.64	1.00
6/26/24 3:44	1.37	22.07	3.16	3337.97	3535.88	1.88	2.30	299.58	1.00
6/26/24 7:44	1.38	22.07	3.19	3338.03	3535.98	1.88	2.30	299.58	1.00
6/26/24 11:44	1.38	22.07	3.18	3338.65	3536.69	1.88	2.30	299.52	1.00
6/26/24 15:44	1.35	22.07	3.12	3337.52	3535.49	1.88	2.30	299.62	1.00
6/26/24 19:44	1.35	22.07	3.12	3338.27	3536.30	1.88	2.30	299.56	1.00
6/26/24 23:44	1.38	22.07	3.19	3338.45	3536.52	1.88	2.30	299.54	1.00
6/27/24 3:44	1.39	22.07	3.21	3340.17	3538.41	1.88	2.30	299.39	1.00
6/27/24 7:44	1.40	22.07	3.23	3341.19	3539.55	1.88	2.30	299.29	1.00
6/27/24 11:44	1.39	22.07	3.20	3342.71	3541.21	1.88	2.30	299.16	1.00
6/27/24 15:44	1.34	22.06	3.10	3344.47	3543.09	1.89	2.30	299.00	1.00
6/27/24 19:44	1.32	22.06	3.04	3345.80	3544.51	1.89	2.30	298.88	1.00
6/27/24 23:44	1.34	22.07	3.10	3346.81	3545.56	1.89	2.30	298.79	1.00
6/28/24 3:44	1.34	22.06	3.08	3347.51	3546.35	1.89	2.31	298.73	1.00
6/28/24 7:44	1.35	22.06	3.11	3348.40	3547.33	1.89	2.31	298.65	1.00
6/28/24 11:44	1.34	22.06	3.09	3348.71	3547.69	1.89	2.31	298.62	1.00
6/28/24 15:44	1.31	22.06	3.02	3350.03	3549.12	1.89	2.31	298.50	1.00
6/28/24 19:44	1.30	22.06	3.00	3351.08	3550.25	1.89	2.31	298.41	1.00
6/28/24 23:44	1.32	22.06	3.04	3352.61	3551.83	1.89	2.31	298.28	1.00
6/29/24 3:44	1.34	22.06	3.10	3353.76	3553.11	1.89	2.31	298.17	1.00
6/29/24 7:44	1.37	22.06	3.16	3353.59	3552.98	1.89	2.31	298.19	1.00
6/29/24 11:44	1.38	22.06	3.20	3354.68	3554.17	1.89	2.31	298.09	1.00
6/29/24 15:44	1.37	22.06	3.17	3354.89	3554.48	1.89	2.31	298.07	1.00
6/29/24 19:44	1.38	22.06	3.19	3356.68	3556.34	1.89	2.31	297.91	1.00
6/29/24 23:44	1.41	22.06	3.26	3356.74	3556.40	1.89	2.31	297.91	1.00
6/30/24 3:44	1.43	22.06	3.31	3357.77	3557.54	1.89	2.31	297.82	1.00
6/30/24 7:44	1.45	22.06	3.35	3358.89	3558.75	1.89	2.31	297.72	1.00
6/30/24 11:44	1.46	22.06	3.37	3359.91	3559.87	1.90	2.31	297.63	1.00
6/30/24 15:44	1.43	22.06	3.31	3360.13	3560.21	1.90	2.31	297.61	1.00
6/30/24 19:44	1.42	22.06	3.28	3361.63	3561.74	1.90	2.32	297.47	1.00
6/30/24 23:44	1.45	22.06	3.34	3362.09	3562.31	1.90	2.32	297.43	1.00
7/1/24 3:44	1.44	22.06	3.32	3363.94	3564.33	1.90	2.32	297.27	1.00
7/1/24 7:44	1.45	22.06	3.34	3364.23	3564.66	1.90	2.32	297.24	1.00
7/1/24 11:44	1.43	22.06	3.30	3364.51	3565.00	1.90	2.32	297.22	1.00
7/1/24 15:44	1.39	22.06	3.20	3366.82	3567.48	1.90	2.32	297.02	1.00
7/1/24 19:44	1.37	22.06	3.15	3368.37	3569.09	1.90	2.32	296.88	1.00
7/1/24 23:44	1.38	22.06	3.19	3370.10	3570.93	1.90	2.32	296.73	1.00
7/2/24 3:44	1.40	22.05	3.23	3371.75	3572.75	1.90	2.32	296.58	1.00
7/2/24 7:44	1.40	22.05	3.23	3372.14	3573.16	1.90	2.32	296.55	1.00
7/2/24 11:44	1.40	22.05	3.23	3373.38	3574.49	1.90	2.32	296.44	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/2/24 15:44	1.36	22.05	3.14	3374.85	3576.16	1.90	2.32	296.31	1.00
7/2/24 19:44	1.36	22.05	3.13	3376.43	3577.81	1.91	2.33	296.17	1.00
7/2/24 23:44	1.38	22.05	3.19	3376.66	3578.04	1.91	2.33	296.15	1.00
7/3/24 3:44	1.39	22.05	3.21	3378.36	3579.93	1.91	2.33	296.00	1.00
7/3/24 7:44	1.40	22.05	3.23	3379.20	3580.83	1.91	2.33	295.93	1.00
7/3/24 11:44	1.41	22.05	3.24	3379.43	3581.11	1.91	2.33	295.91	1.00
7/3/24 15:44	1.38	22.05	3.18	3380.83	3582.69	1.91	2.33	295.79	1.00
7/3/24 19:44	1.37	22.05	3.17	3382.87	3584.83	1.91	2.33	295.61	1.00
7/3/24 23:44	1.39	22.05	3.20	3384.78	3586.83	1.91	2.33	295.44	1.00
7/4/24 3:44	1.38	22.05	3.20	3386.01	3588.19	1.91	2.33	295.33	1.00
7/4/24 7:44	1.40	22.05	3.23	3386.10	3588.28	1.91	2.33	295.33	1.00
7/4/24 11:44	1.40	22.05	3.23	3387.84	3590.19	1.91	2.33	295.17	1.00
7/4/24 15:44	1.36	22.05	3.15	3389.45	3591.93	1.91	2.33	295.03	1.00
7/4/24 19:44	1.37	22.05	3.16	3390.86	3593.41	1.91	2.34	294.91	1.00
7/4/24 23:44	1.40	22.05	3.24	3390.49	3593.03	1.91	2.34	294.94	1.00
7/5/24 3:44	1.42	22.05	3.27	3392.46	3595.17	1.92	2.34	294.77	1.00
7/5/24 7:44	1.43	22.05	3.31	3393.84	3596.63	1.92	2.34	294.65	1.00
7/5/24 11:44	1.43	22.05	3.31	3394.53	3597.39	1.92	2.34	294.59	1.00
7/5/24 15:44	1.40	22.05	3.24	3396.65	3599.72	1.92	2.34	294.41	1.00
7/5/24 19:44	1.40	22.05	3.24	3399.76	3603.03	1.92	2.34	294.14	1.00
7/5/24 23:44	1.42	22.05	3.28	3401.86	3605.15	1.92	2.34	293.96	1.00
7/6/24 3:44	1.41	22.05	3.26	3403.99	3607.56	1.92	2.34	293.77	1.00
7/6/24 7:44	1.43	22.05	3.30	3403.57	3607.08	1.92	2.34	293.81	1.00
7/6/24 11:44	1.43	22.05	3.31	3405.76	3609.46	1.92	2.35	293.62	1.00
7/6/24 15:44	1.39	22.04	3.21	3408.24	3612.19	1.92	2.35	293.41	1.00
7/6/24 19:44	1.35	22.04	3.13	3410.95	3615.05	1.93	2.35	293.17	1.00
7/6/24 23:44	1.37	22.04	3.15	3413.12	3617.34	1.93	2.35	292.99	1.00
7/7/24 3:44	1.36	22.04	3.13	3413.80	3618.10	1.93	2.35	292.93	1.00
7/7/24 7:44	1.36	22.04	3.14	3416.13	3620.57	1.93	2.35	292.73	1.00
7/7/24 11:44	1.35	22.04	3.11	3418.94	3623.60	1.93	2.36	292.49	1.00
7/7/24 15:44	1.32	22.04	3.05	3420.48	3625.24	1.93	2.36	292.36	1.00
7/7/24 19:44	1.30	22.04	3.00	3423.23	3628.18	1.93	2.36	292.12	1.00
7/7/24 23:44	1.33	22.04	3.07	3423.79	3628.77	1.93	2.36	292.07	1.00
7/8/24 3:44	1.37	22.04	3.16	3425.40	3630.44	1.93	2.36	291.94	1.00
7/8/24 7:44	1.40	22.04	3.24	3425.59	3630.66	1.94	2.36	291.92	1.00
7/8/24 11:44	1.39	22.04	3.22	3427.03	3632.26	1.94	2.36	291.80	1.00
7/8/24 15:44	1.37	22.04	3.17	3429.55	3635.06	1.94	2.36	291.58	1.00
7/8/24 19:44	1.36	22.04	3.15	3431.43	3637.07	1.94	2.36	291.42	1.00
7/8/24 23:44	1.39	22.04	3.20	3432.95	3638.61	1.94	2.37	291.29	1.00
7/9/24 3:44	1.39	22.04	3.21	3435.54	3641.40	1.94	2.37	291.08	1.00
7/9/24 7:44	1.41	22.04	3.25	3437.42	3643.39	1.94	2.37	290.92	1.00
7/9/24 11:44	1.39	22.04	3.21	3438.35	3644.44	1.94	2.37	290.84	1.00
7/9/24 15:44	1.36	22.04	3.14	3440.98	3647.27	1.94	2.37	290.61	1.00
7/9/24 19:44	1.35	22.04	3.11	3444.25	3650.71	1.95	2.37	290.34	1.00
7/9/24 23:44	1.38	22.04	3.19	3446.03	3652.55	1.95	2.37	290.19	1.00
7/10/24 3:44	1.38	22.04	3.18	3445.79	3652.38	1.95	2.37	290.21	1.00
7/10/24 7:44	1.38	22.04	3.19	3449.40	3656.22	1.95	2.38	289.91	1.00
7/10/24 11:44	1.38	22.04	3.19	3452.12	3659.14	1.95	2.38	289.68	1.00
7/10/24 15:44	1.36	22.04	3.14	3456.12	3663.44	1.95	2.38	289.34	1.00
7/10/24 19:44	1.36	22.04	3.15	3458.79	3666.28	1.96	2.38	289.12	1.00
7/10/24 23:44	1.37	22.04	3.17	3461.15	3668.78	1.96	2.38	288.92	1.00
7/11/24 3:44	1.38	22.04	3.18	3463.12	3670.89	1.96	2.39	288.76	1.00
7/11/24 7:44	1.39	22.04	3.21	3465.36	3673.26	1.96	2.39	288.57	1.00
7/11/24 11:44	1.39	22.04	3.20	3465.92	3673.87	1.96	2.39	288.52	1.00
7/11/24 15:44	1.36	22.04	3.14	3469.35	3677.57	1.96	2.39	288.24	1.00
7/11/24 19:44	1.35	22.04	3.11	3472.02	3680.42	1.96	2.39	288.02	1.00
7/11/24 23:44	1.37	22.04	3.16	3472.62	3681.06	1.96	2.39	287.97	1.00
7/12/24 3:44	1.37	22.04	3.17	3475.24	3683.83	1.97	2.39	287.75	1.00
7/12/24 7:44	1.39	22.03	3.20	3477.12	3685.88	1.97	2.40	287.59	1.00
7/12/24 11:44	1.39	22.03	3.21	3479.10	3688.00	1.97	2.40	287.43	1.00
7/12/24 15:44	1.37	22.03	3.15	3483.26	3692.45	1.97	2.40	287.09	1.00
7/12/24 19:44	1.36	22.03	3.14	3487.10	3696.49	1.97	2.40	286.77	1.00
7/12/24 23:44	1.38	22.03	3.19	3488.43	3697.89	1.97	2.40	286.66	1.00
7/13/24 3:44	1.38	22.03	3.19	3490.33	3699.99	1.97	2.40	286.51	1.00
7/13/24 7:44	1.38	22.03	3.19	3492.34	3702.08	1.98	2.41	286.34	1.00
7/13/24 11:44	1.38	22.03	3.19	3494.34	3704.27	1.98	2.41	286.18	1.00
7/13/24 15:44	1.36	22.03	3.14	3498.38	3708.60	1.98	2.41	285.85	1.00
7/13/24 19:44	1.35	22.03	3.12	3500.54	3710.89	1.98	2.41	285.67	1.00
7/13/24 23:44	1.37	22.03	3.16	3501.95	3712.37	1.98	2.41	285.55	1.00
7/14/24 3:44	1.37	22.03	3.17	3504.35	3714.92	1.98	2.41	285.36	1.00
7/14/24 7:44	1.38	22.03	3.19	3507.56	3718.31	1.98	2.42	285.10	1.00
7/14/24 11:44	1.38	22.03	3.18	3511.14	3722.15	1.99	2.42	284.81	1.00
7/14/24 15:44	1.35	22.03	3.11	3512.79	3723.99	1.99	2.42	284.67	1.00
7/14/24 19:44	1.33	22.03	3.07	3516.34	3727.75	1.99	2.42	284.39	1.00
7/14/24 23:44	1.34	22.03	3.10	3519.06	3730.59	1.99	2.42	284.17	1.00
7/15/24 3:44	1.34	22.03	3.10	3521.19	3732.91	1.99	2.43	283.99	1.00
7/15/24 7:44	1.35	22.03	3.12	3523.55	3735.38	1.99	2.43	283.80	1.00
7/15/24 11:44	1.34	22.03	3.09	3525.44	3737.40	2.00	2.43	283.65	1.00
7/15/24 15:44	1.31	22.03	3.01	3529.08	3741.36	2.00	2.43	283.36	1.00
7/15/24 19:44	1.29	22.03	2.97	3533.03	3745.54	2.00	2.43	283.04	1.00
7/15/24 23:44	1.31	22.03	3.01	3533.94	3746.45	2.00	2.44	282.97	1.00
7/16/24 3:44	1.30	22.03	3.00	3537.27	3750.04	2.00	2.44	282.70	1.00
7/16/24 7:44	1.32	22.03	3.05	3539.43	3752.29	2.00	2.44	282.53	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/16/24 11:44	1.32	22.03	3.05	3541.85	3754.90	2.01	2.44	282.34	1.00
7/16/24 15:44	1.26	22.03	2.92	3541.47	3754.43	2.01	2.44	282.37	1.00
7/16/24 19:44	1.24	22.03	2.86	3475.72	3684.73	1.97	2.40	287.71	1.00
7/16/24 23:44	1.25	22.03	2.89	3414.88	3620.25	1.93	2.35	292.84	1.00
7/17/24 3:44	1.26	22.03	2.92	3392.29	3596.31	1.92	2.34	294.79	1.00
7/17/24 7:44	1.28	22.03	2.96	3340.41	3541.29	1.88	2.30	299.36	1.00
7/17/24 11:44	1.27	22.03	2.94	3301.48	3500.07	1.86	2.28	302.89	1.00
7/17/24 15:44	1.21	22.03	2.79	3393.07	3597.26	1.92	2.34	294.72	1.00
7/17/24 19:44	1.24	22.03	2.87	3446.31	3653.74	1.95	2.37	290.17	1.00
7/17/24 23:44	1.28	22.03	2.95	3407.24	3612.25	1.92	2.35	293.49	1.00
7/18/24 3:44	1.29	22.03	2.97	3436.35	3643.19	1.94	2.37	291.01	1.00
7/18/24 7:44	1.29	22.03	2.98	3450.90	3658.59	1.95	2.38	289.78	1.00
7/18/24 11:44	1.29	22.03	2.97	3459.21	3667.43	1.96	2.38	289.08	1.00
7/18/24 15:44	1.26	22.03	2.91	3482.22	3691.88	1.97	2.40	287.17	1.00
7/18/24 19:44	1.26	22.03	2.90	3488.32	3698.31	1.97	2.40	286.67	1.00
7/18/24 23:44	1.27	22.03	2.93	3476.87	3686.13	1.97	2.40	287.61	1.00
7/19/24 3:44	1.26	22.03	2.91	3487.78	3697.73	1.97	2.40	286.72	1.00
7/19/24 7:44	1.27	22.03	2.93	3482.05	3691.70	1.97	2.40	287.19	1.00
7/19/24 11:44	1.26	22.03	2.91	3492.62	3702.91	1.98	2.41	286.32	1.00
7/19/24 15:44	1.22	22.03	2.82	3521.63	3733.74	1.99	2.43	283.96	1.00
7/19/24 19:44	1.21	22.03	2.78	3530.04	3742.62	2.00	2.43	283.28	1.00
7/19/24 23:44	1.22	22.03	2.82	3505.64	3716.76	1.98	2.42	285.26	1.00
7/20/24 3:44	1.22	22.03	2.81	3510.91	3722.37	1.99	2.42	284.83	1.00
7/20/24 7:44	1.23	22.03	2.85	3478.57	3688.02	1.97	2.40	287.47	1.00
7/20/24 11:44	1.23	22.03	2.85	3486.35	3696.34	1.97	2.40	286.83	1.00
7/20/24 15:44	1.20	22.02	2.77	3524.73	3737.09	2.00	2.43	283.71	1.00
7/20/24 19:44	1.20	22.03	2.76	3518.14	3730.06	1.99	2.42	284.24	1.00
7/20/24 23:44	1.24	22.03	2.86	3459.57	3667.95	1.96	2.38	289.05	1.00
7/21/24 3:44	1.24	22.03	2.86	3454.58	3662.69	1.95	2.38	289.47	1.00
7/21/24 7:44	1.24	22.02	2.87	3476.51	3685.97	1.97	2.40	287.64	1.00
7/21/24 11:44	1.25	22.03	2.88	3480.50	3690.17	1.97	2.40	287.32	1.00
7/21/24 15:44	1.22	22.02	2.81	3524.87	3737.30	2.00	2.43	283.70	1.00
7/21/24 19:44	1.22	22.02	2.81	3528.17	3740.73	2.00	2.43	283.43	1.00
7/21/24 23:44	1.24	22.03	2.86	3488.30	3698.45	1.97	2.40	286.67	1.00
7/22/24 3:44	1.24	22.02	2.86	3530.44	3743.23	2.00	2.43	283.25	1.00
7/22/24 7:44	1.24	22.02	2.87	3525.56	3738.04	2.00	2.43	283.64	1.00
7/22/24 11:44	1.24	22.02	2.86	3528.65	3741.29	2.00	2.43	283.39	1.00
7/22/24 15:44	1.21	22.02	2.80	3541.56	3755.01	2.01	2.44	282.36	1.00
7/22/24 19:44	1.22	22.02	2.82	3545.55	3759.33	2.01	2.44	282.04	1.00
7/22/24 23:44	1.28	22.02	2.96	3554.46	3768.94	2.01	2.45	281.34	1.00
7/23/24 3:44	1.30	22.02	3.00	3567.07	3782.29	2.02	2.46	280.34	1.00
7/23/24 7:44	1.32	22.02	3.04	3574.89	3790.54	2.03	2.46	279.73	1.00
7/23/24 11:44	1.32	22.02	3.06	3579.65	3795.57	2.03	2.47	279.36	1.00
7/23/24 15:44	1.31	22.02	3.02	3588.01	3804.47	2.03	2.47	278.71	1.00
7/23/24 19:44	1.31	22.02	3.02	3595.36	3812.24	2.04	2.48	278.14	1.00
7/23/24 23:44	1.33	22.02	3.07	3599.83	3816.91	2.04	2.48	277.79	1.00
7/24/24 3:44	1.34	22.02	3.09	3607.19	3824.75	2.04	2.49	277.22	1.00
7/24/24 7:44	1.35	22.02	3.11	3612.70	3830.55	2.05	2.49	276.80	1.00
7/24/24 11:44	1.35	22.02	3.11	3619.05	3837.34	2.05	2.49	276.32	1.00
7/24/24 15:44	1.33	22.02	3.07	3624.89	3843.60	2.06	2.50	275.87	1.00
7/24/24 19:44	1.32	22.02	3.04	3629.40	3848.30	2.06	2.50	275.53	1.00
7/24/24 23:44	1.34	22.02	3.10	3631.80	3850.82	2.06	2.50	275.35	1.00
7/25/24 3:44	1.35	22.02	3.10	3636.87	3856.20	2.06	2.51	274.96	1.00
7/25/24 7:44	1.36	22.02	3.14	3641.23	3860.85	2.07	2.51	274.63	1.00
7/25/24 11:44	1.36	22.02	3.14	3645.16	3865.04	2.07	2.51	274.34	1.00
7/25/24 15:44	1.33	22.02	3.06	3649.41	3869.58	2.07	2.52	274.02	1.00
7/25/24 19:44	1.31	22.02	3.02	3654.53	3875.01	2.07	2.52	273.63	1.00
7/25/24 23:44	1.32	22.02	3.06	3657.16	3877.75	2.08	2.52	273.44	1.00
7/26/24 3:44	1.31	22.02	3.03	3661.40	3882.28	2.08	2.52	273.12	1.00
7/26/24 7:44	1.32	22.02	3.04	3666.61	3887.78	2.08	2.53	272.73	1.00
7/26/24 11:44	1.30	22.02	3.00	3671.38	3892.85	2.08	2.53	272.38	1.00
7/26/24 15:44	1.26	22.02	2.91	3676.24	3898.06	2.09	2.53	272.02	1.00
7/26/24 19:44	1.25	22.02	2.87	3682.15	3904.31	2.09	2.54	271.58	1.00
7/26/24 23:44	1.27	22.02	2.94	3685.58	3907.88	2.09	2.54	271.33	1.00
7/27/24 3:44	1.27	22.02	2.93	3687.34	3909.79	2.09	2.54	271.20	1.00
7/27/24 7:44	1.28	22.02	2.94	3692.63	3915.37	2.10	2.54	270.81	1.00
7/27/24 11:44	1.28	22.02	2.95	3693.67	3916.55	2.10	2.55	270.73	1.00
7/27/24 15:44	1.24	22.02	2.87	3697.91	3921.03	2.10	2.55	270.42	1.00
7/27/24 19:44	1.23	22.02	2.84	3701.10	3924.39	2.10	2.55	270.19	1.00
7/27/24 23:44	1.26	22.02	2.91	3701.59	3924.90	2.10	2.55	270.15	1.00
7/28/24 3:44	1.26	22.02	2.91	3705.58	3929.12	2.10	2.55	269.86	1.00
7/28/24 7:44	1.28	22.02	2.95	3708.98	3932.72	2.11	2.56	269.62	1.00
7/28/24 11:44	1.28	22.02	2.95	3711.10	3935.00	2.11	2.56	269.46	1.00
7/28/24 15:44	1.25	22.02	2.90	3714.56	3938.72	2.11	2.56	269.21	1.00
7/28/24 19:44	1.25	22.02	2.87	3718.25	3942.60	2.11	2.56	268.94	1.00
7/28/24 23:44	1.27	22.02	2.93	3720.36	3944.79	2.11	2.56	268.79	1.00
7/29/24 3:44	1.28	22.02	2.95	3722.41	3947.00	2.11	2.57	268.64	1.00
7/29/24 7:44	1.29	22.02	2.98	3723.73	3948.40	2.12	2.57	268.55	1.00
7/29/24 11:44	1.29	22.02	2.99	3725.44	3950.22	2.12	2.57	268.42	1.00
7/29/24 15:44	1.27	22.02	2.93	3728.15	3953.15	2.12	2.57	268.23	1.00
7/29/24 19:44	1.26	22.02	2.90	3732.31	3957.49	2.12	2.57	267.93	1.00
7/29/24 23:44	1.28	22.02	2.95	3733.97	3959.25	2.12	2.57	267.81	1.00
7/30/24 3:44	1.28	22.02	2.95	3735.51	3960.88	2.12	2.57	267.70	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/30/24 7:44	1.29	22.02	2.98	3738.76	3964.31	2.12	2.58	267.47	1.00
7/30/24 11:44	1.28	22.02	2.96	3740.85	3966.60	2.13	2.58	267.32	1.00
7/30/24 15:44	1.26	22.02	2.90	3743.59	3969.49	2.13	2.58	267.12	1.00
7/30/24 19:44	1.25	22.02	2.87	3746.37	3972.44	2.13	2.58	266.93	1.00
7/30/24 23:44	1.26	22.02	2.91	3749.00	3975.19	2.13	2.58	266.74	1.00
7/31/24 3:44	1.26	22.02	2.91	3751.29	3977.61	2.13	2.59	266.58	1.00
7/31/24 7:44	1.28	22.02	2.96	3753.00	3979.40	2.13	2.59	266.45	1.00
7/31/24 11:44	1.28	22.02	2.96	3754.09	3980.61	2.13	2.59	266.38	1.00
7/31/24 15:44	1.25	22.02	2.89	3756.81	3983.47	2.14	2.59	266.18	1.00
7/31/24 19:44	1.26	22.02	2.92	3758.02	3984.64	2.14	2.59	266.10	1.00
7/31/24 23:44	1.29	22.02	2.97	3721.13	3945.52	2.11	2.56	268.74	1.00
8/1/24 3:44	1.30	22.02	2.99	3737.16	3962.59	2.12	2.58	267.58	1.00
8/1/24 7:44	1.32	22.02	3.06	3704.83	3928.24	2.10	2.55	269.92	1.00
8/1/24 11:44	1.34	22.02	3.10	3740.97	3966.63	2.13	2.58	267.31	1.00
8/1/24 15:44	1.33	22.02	3.07	3761.74	3988.76	2.14	2.59	265.83	1.00
8/1/24 19:44	1.33	22.02	3.07	3765.56	3992.77	2.14	2.60	265.56	1.00
8/1/24 23:44	1.36	22.02	3.14	3767.18	3994.36	2.14	2.60	265.45	1.00
8/2/24 3:44	1.36	22.02	3.14	3767.54	3994.79	2.14	2.60	265.43	1.00
8/2/24 7:44	1.37	22.02	3.17	3771.34	3998.82	2.14	2.60	265.16	1.00
8/2/24 11:44	1.33	22.02	3.06	3773.12	4000.76	2.14	2.60	265.03	1.00
8/2/24 15:44	1.30	22.02	2.99	3777.24	4005.22	2.15	2.60	264.74	1.00
8/2/24 19:44	1.28	22.02	2.96	3779.56	4007.63	2.15	2.60	264.58	1.00
8/2/24 23:44	1.31	22.02	3.02	3782.95	4011.17	2.15	2.61	264.34	1.00
8/3/24 3:44	1.31	22.02	3.02	3785.55	4013.93	2.15	2.61	264.16	1.00
8/3/24 7:44	1.32	22.02	3.05	3789.24	4017.79	2.15	2.61	263.91	1.00
8/3/24 11:44	1.32	22.02	3.05	3790.35	4018.96	2.16	2.61	263.83	1.00
8/3/24 15:44	1.28	22.02	2.95	3794.23	4023.18	2.16	2.62	263.56	1.00
8/3/24 19:44	1.26	22.02	2.92	3796.82	4025.89	2.16	2.62	263.38	1.00
8/3/24 23:44	1.29	22.02	2.97	3799.12	4028.25	2.16	2.62	263.22	1.00
8/4/24 3:44	1.28	22.02	2.96	3802.99	4032.36	2.16	2.62	262.95	1.00
8/4/24 7:44	1.30	22.02	2.99	3805.13	4034.60	2.16	2.62	262.80	1.00
8/4/24 11:44	1.30	22.02	3.01	3806.36	4035.93	2.16	2.62	262.72	1.00
8/4/24 15:44	1.28	22.02	2.94	3809.69	4039.51	2.17	2.63	262.49	1.00
8/4/24 19:44	1.27	22.02	2.93	3812.44	4042.37	2.17	2.63	262.30	1.00
8/4/24 23:44	1.29	22.02	2.97	3815.06	4045.09	2.17	2.63	262.12	1.00
8/5/24 3:44	1.29	22.02	2.98	3818.40	4048.67	2.17	2.63	261.89	1.00
8/5/24 7:44	1.31	22.02	3.03	3820.92	4051.28	2.17	2.63	261.72	1.00
8/5/24 11:44	1.31	22.02	3.03	3820.74	4051.12	2.17	2.63	261.73	1.00
8/5/24 15:44	1.29	22.02	2.98	3823.22	4053.84	2.18	2.63	261.56	1.00
8/5/24 19:44	1.29	22.02	2.97	3828.52	4059.38	2.18	2.64	261.20	1.00
8/5/24 23:44	1.31	22.02	3.02	3829.48	4060.34	2.18	2.64	261.13	1.00
8/6/24 3:44	1.32	22.02	3.04	3830.94	4061.89	2.18	2.64	261.03	1.00
8/6/24 7:44	1.34	22.02	3.08	3831.74	4062.72	2.18	2.64	260.98	1.00
8/6/24 11:44	1.34	22.02	3.09	3832.30	4063.33	2.18	2.64	260.94	1.00
8/6/24 15:44	1.31	22.02	3.02	3835.54	4066.84	2.18	2.64	260.72	1.00
8/6/24 19:44	1.29	22.02	2.99	3838.71	4070.16	2.18	2.65	260.50	1.00
8/6/24 23:44	1.31	22.02	3.03	3841.21	4072.75	2.19	2.65	260.33	1.00
8/7/24 3:44	1.31	22.02	3.01	3843.15	4074.86	2.19	2.65	260.20	1.00
8/7/24 7:44	1.31	22.02	3.02	3845.09	4076.87	2.19	2.65	260.07	1.00
8/7/24 11:44	1.29	22.02	2.99	3847.16	4079.09	2.19	2.65	259.93	1.00
8/7/24 15:44	1.25	22.02	2.89	3850.80	4082.97	2.19	2.65	259.69	1.00
8/7/24 19:44	1.24	22.02	2.87	3854.04	4086.37	2.19	2.66	259.47	1.00
8/7/24 23:44	1.26	22.02	2.91	3854.63	4086.94	2.19	2.66	259.43	1.00
8/8/24 3:44	1.26	22.02	2.91	3858.59	4091.14	2.20	2.66	259.16	1.00
8/8/24 7:44	1.27	22.02	2.94	3858.98	4091.55	2.20	2.66	259.14	1.00
8/8/24 11:44	1.28	22.02	2.96	3861.40	4094.07	2.20	2.66	258.97	1.00
8/8/24 15:44	1.25	22.02	2.89	3864.16	4097.02	2.20	2.66	258.79	1.00
8/8/24 19:44	1.24	22.03	2.87	3866.04	4098.94	2.20	2.66	258.66	1.00
8/8/24 23:44	1.29	22.03	2.97	3854.04	4086.15	2.19	2.66	259.47	1.00
8/9/24 3:44	1.30	22.03	3.01	3807.82	4037.16	2.17	2.62	262.62	1.00
8/9/24 7:44	1.33	22.03	3.07	3795.33	4023.89	2.16	2.62	263.48	1.00
8/9/24 11:44	1.34	22.03	3.08	3828.88	4059.44	2.18	2.64	261.17	1.00
8/9/24 15:44	1.31	22.02	3.02	3870.38	4103.62	2.20	2.67	258.37	1.00
8/9/24 19:44	1.30	22.03	3.00	3872.15	4105.43	2.20	2.67	258.25	1.00
8/9/24 23:44	1.32	22.03	3.06	3873.77	4107.06	2.21	2.67	258.15	1.00
8/10/24 3:44	1.34	22.03	3.08	3871.30	4104.39	2.20	2.67	258.31	1.00
8/10/24 7:44	1.35	22.03	3.12	3855.48	4087.59	2.19	2.66	259.37	1.00
8/10/24 11:44	1.34	22.03	3.10	3840.84	4072.07	2.19	2.65	260.36	1.00
8/10/24 15:44	1.31	22.03	3.02	3870.48	4103.54	2.20	2.67	258.37	1.00
8/10/24 19:44	1.29	22.03	2.98	3879.01	4112.58	2.21	2.67	257.80	1.00
8/10/24 23:44	1.31	22.03	3.02	3858.23	4090.49	2.20	2.66	259.19	1.00
8/11/24 3:44	1.31	22.03	3.03	3864.31	4096.93	2.20	2.66	258.78	1.00
8/11/24 7:44	1.33	22.03	3.06	3876.86	4110.21	2.21	2.67	257.94	1.00
8/11/24 11:44	1.32	22.03	3.04	3884.58	4118.50	2.21	2.68	257.43	1.00
8/11/24 15:44	1.28	22.03	2.96	3888.78	4122.96	2.21	2.68	257.15	1.00
8/11/24 19:44	1.27	22.03	2.92	3892.80	4127.14	2.22	2.68	256.88	1.00
8/11/24 23:44	1.29	22.03	2.98	3895.84	4130.24	2.22	2.68	256.68	1.00
8/12/24 3:44	1.29	22.03	2.98	3898.28	4132.88	2.22	2.69	256.52	1.00
8/12/24 7:44	1.30	22.03	3.00	3899.23	4133.85	2.22	2.69	256.46	1.00
8/12/24 11:44	1.30	22.03	3.01	3899.74	4134.40	2.22	2.69	256.43	1.00
8/12/24 15:44	1.27	22.03	2.92	3903.44	4138.33	2.22	2.69	256.18	1.00
8/12/24 19:44	1.26	22.03	2.91	3906.21	4141.22	2.22	2.69	256.00	1.00
8/12/24 23:44	1.29	22.03	2.98	3903.31	4138.09	2.22	2.69	256.19	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/13/24 3:44	1.30	22.03	2.99	3905.82	4140.76	2.22	2.69	256.03	1.00
8/13/24 7:44	1.30	22.03	3.01	3905.73	4140.61	2.22	2.69	256.03	1.00
8/13/24 11:44	1.93	22.06	4.45	2979.83	3157.21	1.67	2.05	335.59	1.00
8/13/24 15:44	1.95	21.98	4.49	2950.82	3131.50	1.65	2.04	338.89	1.00
8/13/24 19:44	1.91	21.97	4.41	2927.53	3107.35	1.64	2.02	341.59	1.00
8/13/24 23:44	1.94	21.97	4.47	2906.32	3085.00	1.63	2.01	344.08	1.00
8/14/24 3:44	1.94	21.97	4.47	2889.70	3067.46	1.62	1.99	346.06	1.00
8/14/24 7:44	1.94	21.97	4.49	2877.42	3054.44	1.61	1.99	347.53	1.00
8/14/24 11:44	2.00	21.97	4.62	2866.17	3042.26	1.60	1.98	348.90	1.00
8/14/24 15:44	1.98	21.97	4.58	2855.40	3030.92	1.60	1.97	350.21	1.00
8/14/24 19:44	1.92	21.97	4.42	2840.83	3015.60	1.59	1.96	352.01	1.00
8/14/24 23:44	1.92	21.96	4.43	2833.37	3007.77	1.59	1.96	352.94	1.00
8/15/24 3:44	1.92	21.96	4.43	2828.89	3003.03	1.58	1.95	353.50	1.00
8/15/24 7:44	0.10	22.11	0.23	605.35	640.76	0.31	0.42	1651.95	1.00
8/15/24 11:44	2.01	22.00	4.64	2994.35	3176.43	1.68	2.06	333.96	1.00
8/15/24 15:44	2.00	21.99	4.62	2957.95	3138.67	1.66	2.04	338.07	1.00
8/15/24 19:44	1.99	21.98	4.60	2934.82	3114.66	1.65	2.02	340.74	1.00
8/15/24 23:44	2.02	21.97	4.65	2915.86	3094.76	1.63	2.01	342.95	1.00
8/16/24 3:44	2.02	21.97	4.66	2900.33	3078.38	1.62	2.00	344.79	1.00
8/16/24 7:44	2.08	22.04	4.80	2810.05	2978.66	1.57	1.94	355.87	1.00
8/16/24 11:44	2.06	21.97	4.75	2756.05	2925.07	1.54	1.90	362.84	1.00
8/16/24 15:44	1.97	21.97	4.55	2737.19	2905.36	1.53	1.89	365.34	1.00
8/16/24 19:44	1.94	21.97	4.49	2723.71	2891.24	1.52	1.88	367.15	1.00
8/16/24 23:44	1.96	21.97	4.52	2712.31	2879.17	1.51	1.87	368.69	1.00
8/17/24 3:44	1.96	21.96	4.53	2703.49	2869.86	1.51	1.87	369.89	1.00
8/17/24 7:44	1.96	21.96	4.53	2696.36	2862.30	1.50	1.86	370.87	1.00
8/17/24 11:44	1.96	21.96	4.53	2690.71	2856.34	1.50	1.86	371.65	1.00
8/17/24 15:44	1.94	21.96	4.48	2684.66	2849.89	1.50	1.85	372.49	1.00
8/17/24 19:44	1.93	21.96	4.46	2679.70	2844.64	1.49	1.85	373.18	1.00
8/17/24 23:44	1.95	21.96	4.51	2675.27	2839.95	1.49	1.85	373.79	1.00
8/18/24 3:44	1.97	21.96	4.54	2671.37	2835.83	1.49	1.84	374.34	1.00
8/18/24 7:44	1.97	21.96	4.56	2668.58	2832.88	1.49	1.84	374.73	1.00
8/18/24 11:44	1.97	21.96	4.54	2665.32	2829.42	1.49	1.84	375.19	1.00
8/18/24 15:44	1.94	21.96	4.47	2663.05	2826.93	1.49	1.84	375.51	1.00
8/18/24 19:44	1.93	21.97	4.46	2660.13	2823.82	1.48	1.84	375.92	1.00
8/18/24 23:44	1.95	21.96	4.49	2658.05	2821.66	1.48	1.83	376.22	1.00
8/19/24 3:44	1.95	21.96	4.49	2656.33	2819.90	1.48	1.83	376.46	1.00
8/19/24 7:44	1.96	21.96	4.53	2654.11	2817.55	1.48	1.83	376.77	1.00
8/19/24 11:44	1.96	21.96	4.52	2652.33	2815.62	1.48	1.83	377.03	1.00
8/19/24 15:44	1.99	21.97	4.58	2650.55	2813.47	1.48	1.83	377.28	1.00
8/19/24 19:44	1.99	21.97	4.58	2649.22	2812.09	1.48	1.83	377.47	1.00
8/19/24 23:44	2.00	21.97	4.63	2647.83	2810.65	1.48	1.83	377.67	1.00
8/20/24 3:44	2.02	21.97	4.67	2646.24	2809.01	1.48	1.83	377.89	1.00
8/20/24 7:44	2.04	21.96	4.71	2644.97	2807.74	1.47	1.83	378.08	1.00
8/20/24 11:44	2.03	21.97	4.69	2644.08	2806.78	1.47	1.82	378.20	1.00
8/20/24 15:44	1.99	21.97	4.60	2642.60	2805.17	1.47	1.82	378.42	1.00
8/20/24 19:44	1.98	21.96	4.57	2642.18	2804.78	1.47	1.82	378.47	1.00
8/20/24 23:44	2.00	21.96	4.62	2640.97	2803.51	1.47	1.82	378.65	1.00
8/21/24 3:44	2.00	21.97	4.61	2639.85	2802.26	1.47	1.82	378.81	1.00
8/21/24 7:44	2.02	21.96	4.66	2638.95	2801.35	1.47	1.82	378.94	1.00
8/21/24 11:44	1.97	22.00	4.56	2721.09	2886.77	1.52	1.88	367.50	1.00
8/21/24 15:44	1.94	21.98	4.48	2721.17	2887.61	1.52	1.88	367.49	1.00
8/21/24 19:44	1.92	21.98	4.43	2718.94	2885.54	1.52	1.88	367.79	1.00
8/21/24 23:44	1.93	21.97	4.46	2717.20	2883.92	1.52	1.87	368.03	1.00
8/22/24 3:44	1.93	21.97	4.45	2714.88	2881.46	1.52	1.87	368.34	1.00
8/22/24 7:44	1.94	21.97	4.47	2712.64	2879.17	1.51	1.87	368.64	1.00
8/22/24 11:44	1.96	21.97	4.52	2710.55	2876.89	1.51	1.87	368.93	1.00
8/22/24 15:44	1.95	22.01	4.51	2680.13	2842.28	1.49	1.85	373.12	1.00
8/22/24 19:44	1.93	21.99	4.46	2673.76	2836.94	1.49	1.84	374.01	1.00
8/22/24 23:44	1.95	21.98	4.51	2669.08	2832.35	1.49	1.84	374.66	1.00
8/23/24 3:44	1.95	21.98	4.50	2664.55	2827.77	1.49	1.84	375.30	1.00
8/23/24 7:44	1.98	21.98	4.57	2660.71	2823.80	1.48	1.84	375.84	1.00
8/23/24 11:44	1.97	22.00	4.56	2699.23	2863.34	1.51	1.86	370.48	1.00
8/23/24 15:44	1.95	21.99	4.50	2693.65	2858.04	1.50	1.86	371.24	1.00
8/23/24 19:44	1.95	21.98	4.51	2688.74	2853.14	1.50	1.85	371.92	1.00
8/23/24 23:44	1.97	21.98	4.56	2682.81	2847.04	1.50	1.85	372.74	1.00
8/24/24 3:44	1.98	21.98	4.58	2677.80	2841.78	1.49	1.85	373.44	1.00
8/24/24 7:44	2.00	21.98	4.61	2673.30	2837.06	1.49	1.84	374.07	1.00
8/24/24 11:44	1.99	21.98	4.60	2668.97	2832.44	1.49	1.84	374.68	1.00
8/24/24 15:44	1.95	21.98	4.51	2664.93	2828.14	1.49	1.84	375.24	1.00
8/24/24 19:44	1.96	21.98	4.52	2660.56	2823.58	1.48	1.84	375.86	1.00
8/24/24 23:44	1.99	21.97	4.59	2657.03	2820.00	1.48	1.83	376.36	1.00
8/25/24 3:44	1.99	21.98	4.60	2654.19	2816.92	1.48	1.83	376.76	1.00
8/25/24 7:44	2.01	21.97	4.63	2650.88	2813.47	1.48	1.83	377.23	1.00
8/25/24 11:44	2.00	21.98	4.63	2648.98	2811.37	1.48	1.83	377.50	1.00
8/25/24 15:44	1.98	21.98	4.58	2646.79	2809.03	1.48	1.83	377.82	1.00
8/25/24 19:44	1.98	21.97	4.57	2644.57	2806.76	1.47	1.82	378.13	1.00
8/25/24 23:44	2.01	21.97	4.63	2642.96	2805.09	1.47	1.82	378.36	1.00
8/26/24 3:44	2.01	21.97	4.65	2640.93	2802.93	1.47	1.82	378.65	1.00
8/26/24 7:44	2.02	21.97	4.67	2639.57	2801.58	1.47	1.82	378.85	1.00
8/26/24 11:44	2.03	21.97	4.68	2637.69	2799.52	1.47	1.82	379.12	1.00
8/26/24 15:44	1.99	21.97	4.60	2637.04	2798.74	1.47	1.82	379.21	1.00
8/26/24 19:44	2.00	21.97	4.61	2636.06	2797.77	1.47	1.82	379.35	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/26/24 23:44	2.02	21.97	4.67	2634.51	2796.26	1.47	1.82	379.58	1.00
8/27/24 3:44	2.03	21.97	4.69	2633.83	2795.45	1.47	1.82	379.68	1.00
8/27/24 7:44	2.03	21.97	4.69	2633.07	2794.64	1.47	1.82	379.78	1.00
8/27/24 11:44	2.03	21.97	4.68	2632.71	2794.26	1.47	1.82	379.84	1.00
8/27/24 15:44	1.99	21.97	4.60	2631.44	2792.88	1.47	1.82	380.02	1.00
8/27/24 19:44	2.00	21.97	4.61	2630.82	2792.27	1.47	1.81	380.11	1.00
8/27/24 23:44	2.00	21.97	4.61	2630.83	2792.28	1.47	1.81	380.11	1.00
8/28/24 3:44	2.00	21.97	4.61	2629.88	2791.27	1.47	1.81	380.25	1.00
8/28/24 7:44	2.00	21.97	4.62	2629.72	2791.15	1.47	1.81	380.27	1.00
8/28/24 11:44	2.01	21.98	4.63	2695.74	2860.76	1.50	1.86	370.96	1.00
8/28/24 15:44	1.95	21.98	4.51	2690.35	2855.31	1.50	1.86	371.70	1.00
8/28/24 19:44	1.95	21.97	4.50	2684.28	2848.92	1.50	1.85	372.54	1.00
8/28/24 23:44	1.96	21.97	4.52	2678.59	2842.91	1.49	1.85	373.33	1.00
8/29/24 3:44	1.96	21.97	4.53	2673.25	2837.23	1.49	1.84	374.08	1.00
8/29/24 7:44	1.97	21.97	4.55	2667.12	2830.72	1.49	1.84	374.94	1.00
8/29/24 11:44	1.97	22.03	4.55	2712.59	2875.84	1.51	1.87	368.65	1.00
8/29/24 15:44	1.93	21.99	4.45	2712.97	2878.45	1.51	1.87	368.60	1.00
8/29/24 19:44	1.92	21.98	4.44	2706.32	2871.78	1.51	1.87	369.51	1.00
8/29/24 23:44	1.94	21.98	4.48	2701.94	2867.25	1.51	1.86	370.10	1.00
8/30/24 3:44	1.96	21.98	4.53	2697.46	2862.50	1.50	1.86	370.72	1.00
8/30/24 7:44	2.01	22.00	4.64	2844.65	3017.39	1.59	1.96	351.54	1.00
8/30/24 11:44	1.98	21.98	4.56	2840.09	3013.66	1.59	1.96	352.10	1.00
8/30/24 15:44	1.96	21.99	4.52	2837.48	3010.82	1.59	1.96	352.43	1.00
8/30/24 19:44	1.95	21.98	4.51	2837.74	3011.29	1.59	1.96	352.39	1.00
8/30/24 23:44	1.98	21.98	4.58	2838.98	3012.69	1.59	1.96	352.24	1.00
8/31/24 3:44	1.97	21.98	4.55	2840.61	3014.34	1.59	1.96	352.04	1.00
8/31/24 7:44	1.98	21.98	4.57	2842.95	3016.88	1.59	1.96	351.75	1.00
8/31/24 11:44	1.99	21.98	4.59	2844.75	3018.79	1.59	1.96	351.52	1.00
8/31/24 15:44	1.95	21.98	4.50	2847.54	3021.72	1.59	1.96	351.18	1.00
8/31/24 19:44	1.93	21.98	4.46	2849.22	3023.48	1.59	1.97	350.97	1.00
8/31/24 23:44	1.95	21.98	4.51	2851.07	3025.51	1.60	1.97	350.75	1.00
9/1/24 3:44	1.95	21.98	4.51	2853.32	3027.89	1.60	1.97	350.47	1.00
9/1/24 7:44	1.97	21.98	4.54	2855.35	3030.06	1.60	1.97	350.22	1.00
9/1/24 11:44	1.97	21.98	4.56	2857.52	3032.35	1.60	1.97	349.95	1.00
9/1/24 15:44	1.95	21.98	4.49	2859.53	3034.38	1.60	1.97	349.71	1.00
9/1/24 19:44	1.95	21.98	4.49	2861.54	3036.53	1.60	1.97	349.46	1.00
9/1/24 23:44	1.97	21.98	4.55	2864.06	3039.26	1.60	1.98	349.15	1.00
9/2/24 3:44	1.96	21.98	4.53	2865.35	3040.59	1.60	1.98	349.00	1.00
9/2/24 7:44	1.97	21.98	4.55	2867.90	3043.29	1.61	1.98	348.69	1.00
9/2/24 11:44	1.93	21.98	4.46	2869.56	3045.08	1.61	1.98	348.49	1.00
9/2/24 15:44	1.92	21.98	4.43	2871.63	3047.19	1.61	1.98	348.23	1.00
9/2/24 19:44	1.92	21.98	4.44	2873.16	3048.85	1.61	1.98	348.05	1.00
9/2/24 23:44	1.93	21.98	4.46	2874.97	3050.79	1.61	1.98	347.83	1.00
9/3/24 3:44	1.91	21.98	4.42	2877.28	3053.18	1.61	1.98	347.55	1.00
9/3/24 7:44	1.92	21.98	4.44	2879.48	3055.56	1.61	1.99	347.28	1.00
9/3/24 11:44	1.92	21.98	4.44	2881.47	3057.67	1.61	1.99	347.04	1.00
9/3/24 15:44	1.90	21.98	4.38	2883.19	3059.40	1.61	1.99	346.84	1.00
9/3/24 19:44	1.89	21.99	4.36	2868.70	3043.72	1.61	1.98	348.59	1.00
9/3/24 23:44	1.91	21.99	4.42	2862.76	3037.66	1.60	1.97	349.31	1.00
9/4/24 3:44	1.91	21.99	4.42	2858.31	3032.96	1.60	1.97	349.86	1.00
9/4/24 7:44	1.92	21.98	4.44	2855.28	3029.76	1.60	1.97	350.23	1.00
9/4/24 11:44	1.92	21.99	4.44	2851.98	3026.24	1.60	1.97	350.63	1.00
9/4/24 15:44	1.90	21.99	4.38	2849.63	3023.67	1.59	1.97	350.92	1.00
9/4/24 19:44	1.89	21.99	4.37	2847.30	3021.24	1.59	1.96	351.21	1.00
9/4/24 23:44	1.91	21.99	4.41	2846.03	3019.89	1.59	1.96	351.37	1.00
9/5/24 3:44	1.92	21.99	4.44	2844.31	3018.03	1.59	1.96	351.58	1.00
9/5/24 7:44	1.94	21.99	4.48	2843.75	3017.47	1.59	1.96	351.65	1.00
9/5/24 11:44	1.95	21.99	4.49	2842.49	3016.11	1.59	1.96	351.80	1.00
9/5/24 15:44	1.93	21.99	4.45	2842.30	3015.83	1.59	1.96	351.83	1.00
9/5/24 19:44	1.91	21.99	4.42	2841.96	3015.47	1.59	1.96	351.87	1.00
9/5/24 23:44	1.95	21.99	4.50	2841.80	3015.34	1.59	1.96	351.89	1.00
9/6/24 3:44	1.96	21.99	4.53	2841.65	3015.17	1.59	1.96	351.91	1.00
9/6/24 7:44	1.96	21.99	4.54	2842.16	3015.65	1.59	1.96	351.85	1.00
9/6/24 11:44	1.95	21.99	4.50	2842.68	3016.20	1.59	1.96	351.78	1.00
9/6/24 15:44	1.92	21.99	4.43	2843.02	3016.45	1.59	1.96	351.74	1.00
9/6/24 19:44	1.91	21.99	4.40	2843.92	3017.43	1.59	1.96	351.63	1.00
9/6/24 23:44	1.92	21.99	4.44	2844.61	3018.20	1.59	1.96	351.54	1.00
9/7/24 3:44	1.92	21.99	4.44	2845.23	3018.85	1.59	1.96	351.47	1.00
9/7/24 7:44	1.93	21.99	4.46	2846.42	3020.08	1.59	1.96	351.32	1.00
9/7/24 11:44	1.94	21.99	4.47	2846.77	3020.46	1.59	1.96	351.27	1.00
9/7/24 15:44	1.89	21.99	4.37	2848.25	3021.89	1.59	1.96	351.09	1.00
9/7/24 19:44	1.89	21.99	4.36	2849.66	3023.46	1.59	1.97	350.92	1.00
9/7/24 23:44	1.89	21.99	4.38	2850.73	3024.60	1.59	1.97	350.79	1.00
9/8/24 3:44	1.90	21.99	4.38	2851.83	3025.72	1.60	1.97	350.65	1.00
9/8/24 7:44	1.91	21.99	4.42	2853.48	3027.49	1.60	1.97	350.45	1.00
9/8/24 11:44	1.92	21.99	4.43	2854.67	3028.74	1.60	1.97	350.30	1.00
9/8/24 15:44	1.89	21.99	4.35	2856.40	3030.41	1.60	1.97	350.09	1.00
9/8/24 19:44	1.88	21.99	4.34	2857.66	3031.78	1.60	1.97	349.94	1.00
9/8/24 23:44	1.90	21.99	4.38	2859.35	3033.62	1.60	1.97	349.73	1.00
9/9/24 3:44	1.90	21.99	4.39	2860.56	3034.88	1.60	1.97	349.58	1.00
9/9/24 7:44	1.90	21.99	4.40	2862.25	3036.68	1.60	1.97	349.38	1.00
9/9/24 11:44	1.91	21.99	4.41	2863.43	3037.90	1.60	1.97	349.23	1.00
9/9/24 15:44	1.89	21.99	4.35	2865.17	3039.67	1.60	1.98	349.02	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/9/24 19:44	1.87	22.00	4.32	2866.82	3041.38	1.60	1.98	348.82	1.00
9/9/24 23:44	1.88	21.99	4.34	2868.34	3043.05	1.61	1.98	348.63	1.00
9/10/24 3:44	1.86	22.00	4.30	2870.06	3044.78	1.61	1.98	348.43	1.00
9/10/24 7:44	1.87	21.99	4.31	2870.96	3045.80	1.61	1.98	348.32	1.00
9/10/24 11:44	1.87	22.00	4.32	2872.60	3047.47	1.61	1.98	348.12	1.00
9/10/24 15:44	1.84	22.00	4.25	2874.46	3049.34	1.61	1.98	347.89	1.00
9/10/24 19:44	1.84	22.00	4.26	2876.31	3051.30	1.61	1.98	347.67	1.00
9/10/24 23:44	1.86	22.00	4.29	2877.25	3052.34	1.61	1.98	347.55	1.00
9/11/24 3:44	1.85	22.00	4.28	2878.92	3054.07	1.61	1.99	347.35	1.00
9/11/24 7:44	1.86	22.00	4.28	2880.44	3055.66	1.61	1.99	347.17	1.00
9/11/24 11:44	1.85	22.00	4.27	2882.31	3057.61	1.61	1.99	346.94	1.00
9/11/24 15:44	1.79	22.00	4.13	2883.66	3059.04	1.61	1.99	346.78	1.00
9/11/24 19:44	1.83	22.00	4.22	2885.15	3060.50	1.61	1.99	346.60	1.00
9/11/24 23:44	1.85	22.00	4.27	2886.11	3061.55	1.62	1.99	346.49	1.00
9/12/24 3:44	1.85	22.00	4.26	2887.87	3063.38	1.62	1.99	346.28	1.00
9/12/24 7:44	1.87	22.00	4.31	2889.15	3064.77	1.62	1.99	346.12	1.00
9/12/24 11:44	1.86	22.00	4.29	2890.08	3065.69	1.62	1.99	346.01	1.00
9/12/24 15:44	1.84	22.00	4.25	2891.54	3067.19	1.62	1.99	345.84	1.00
9/12/24 19:44	1.84	22.00	4.25	2893.10	3068.84	1.62	1.99	345.65	1.00
9/12/24 23:44	1.86	22.00	4.29	2894.35	3070.22	1.62	2.00	345.50	1.00
9/13/24 3:44	1.87	22.00	4.31	2896.27	3072.20	1.62	2.00	345.27	1.00
9/13/24 7:44	1.88	22.00	4.35	2897.39	3073.40	1.62	2.00	345.14	1.00
9/13/24 11:44	1.89	22.00	4.36	2898.37	3074.39	1.62	2.00	345.02	1.00
9/13/24 15:44	1.87	22.00	4.31	2899.92	3075.95	1.62	2.00	344.84	1.00
9/13/24 19:44	1.87	22.00	4.31	2900.93	3077.04	1.62	2.00	344.72	1.00
9/13/24 23:44	1.89	22.00	4.36	2902.06	3078.25	1.62	2.00	344.58	1.00
9/14/24 3:44	1.89	22.00	4.35	2902.95	3079.15	1.63	2.00	344.48	1.00
9/14/24 7:44	1.90	22.00	4.39	2904.34	3080.64	1.63	2.00	344.31	1.00
9/14/24 11:44	1.92	22.00	4.42	2905.98	3082.36	1.63	2.00	344.12	1.00
9/14/24 15:44	1.90	22.01	4.38	2906.89	3083.22	1.63	2.00	344.01	1.00
9/14/24 19:44	1.90	22.01	4.38	2907.50	3083.90	1.63	2.00	343.94	1.00
9/14/24 23:44	1.91	22.01	4.42	2908.77	3085.19	1.63	2.01	343.79	1.00
9/15/24 3:44	1.91	22.01	4.42	2910.24	3086.74	1.63	2.01	343.61	1.00
9/15/24 7:44	1.93	22.01	4.45	2910.73	3087.28	1.63	2.01	343.56	1.00
9/15/24 11:44	1.93	22.01	4.46	2912.00	3088.56	1.63	2.01	343.41	1.00
9/15/24 15:44	1.90	22.01	4.39	2913.37	3089.95	1.63	2.01	343.25	1.00
9/15/24 19:44	1.90	22.01	4.39	2913.76	3090.35	1.63	2.01	343.20	1.00
9/15/24 23:44	1.93	22.01	4.46	2914.81	3091.46	1.63	2.01	343.08	1.00
9/16/24 3:44	1.93	22.01	4.46	2915.76	3092.44	1.63	2.01	342.96	1.00
9/16/24 7:44	1.94	22.01	4.47	2917.03	3093.79	1.63	2.01	342.81	1.00
9/16/24 11:44	1.93	22.01	4.46	2917.78	3094.55	1.63	2.01	342.73	1.00
9/16/24 15:44	1.90	22.01	4.39	2918.61	3095.31	1.63	2.01	342.63	1.00
9/16/24 19:44	1.90	22.01	4.38	2919.28	3096.09	1.63	2.01	342.55	1.00
9/16/24 23:44	1.92	22.01	4.43	2920.19	3097.03	1.64	2.01	342.44	1.00
9/17/24 3:44	1.92	22.01	4.42	2921.08	3097.95	1.64	2.01	342.34	1.00
9/17/24 7:44	1.92	22.01	4.43	2921.93	3098.82	1.64	2.01	342.24	1.00
9/17/24 11:44	1.91	22.01	4.42	2922.72	3099.63	1.64	2.01	342.15	1.00
9/17/24 15:44	1.87	22.01	4.32	2924.00	3100.87	1.64	2.02	342.00	1.00
9/17/24 19:44	1.87	22.01	4.32	2924.52	3101.43	1.64	2.02	341.94	1.00
9/17/24 23:44	1.89	22.01	4.35	2925.13	3102.11	1.64	2.02	341.87	1.00
9/18/24 3:44	1.89	22.01	4.36	2926.17	3103.18	1.64	2.02	341.74	1.00
9/18/24 7:44	1.91	22.01	4.42	2926.80	3103.84	1.64	2.02	341.67	1.00
9/18/24 11:44	1.92	22.02	4.44	2924.65	3101.37	1.64	2.02	341.92	1.00
9/18/24 15:44	1.88	22.01	4.35	2923.09	3099.88	1.64	2.01	342.10	1.00
9/18/24 19:44	1.88	22.01	4.33	2922.35	3099.10	1.64	2.01	342.19	1.00
9/18/24 23:44	1.89	22.01	4.37	2921.81	3098.52	1.64	2.01	342.25	1.00
9/19/24 3:44	1.90	22.01	4.40	2921.21	3097.84	1.64	2.01	342.32	1.00
9/19/24 7:44	1.93	22.02	4.45	2920.12	3096.64	1.64	2.01	342.45	1.00
9/19/24 11:44	1.92	22.02	4.44	2920.12	3096.60	1.64	2.01	342.45	1.00
9/19/24 15:44	1.89	22.02	4.36	2919.19	3095.59	1.63	2.01	342.56	1.00
9/19/24 19:44	1.88	22.02	4.34	2918.82	3095.17	1.63	2.01	342.60	1.00
9/19/24 23:44	1.90	22.02	4.38	2918.02	3094.32	1.63	2.01	342.70	1.00
9/20/24 3:44	1.89	22.02	4.37	2917.24	3093.47	1.63	2.01	342.79	1.00
9/20/24 7:44	1.91	22.02	4.42	2917.54	3093.54	1.63	2.01	342.76	1.00
9/20/24 11:44	1.92	22.03	4.44	3101.97	3288.34	1.74	2.14	322.38	1.00
9/20/24 15:44	1.90	22.03	4.38	3059.97	3244.28	1.72	2.11	326.80	1.00
9/20/24 19:44	1.90	22.02	4.38	3031.41	3214.23	1.70	2.09	329.88	1.00
9/20/24 23:44	1.92	22.02	4.43	3009.69	3191.34	1.69	2.07	332.26	1.00
9/21/24 3:44	1.91	22.02	4.42	2990.27	3170.79	1.68	2.06	334.42	1.00
9/21/24 7:44	1.92	22.02	4.44	2974.73	3154.38	1.67	2.05	336.17	1.00
9/21/24 11:44	1.92	22.02	4.44	2961.62	3140.43	1.66	2.04	337.65	1.00
9/21/24 15:44	1.89	22.02	4.37	2949.98	3128.03	1.65	2.03	338.99	1.00
9/21/24 19:44	1.90	22.02	4.38	2940.26	3117.77	1.65	2.03	340.11	1.00
9/21/24 23:44	1.94	22.02	4.47	2931.11	3108.15	1.64	2.02	341.17	1.00
9/22/24 3:44	1.95	22.02	4.49	2923.44	3099.89	1.64	2.01	342.06	1.00
9/22/24 7:44	1.96	22.02	4.52	2916.66	3092.67	1.63	2.01	342.86	1.00
9/22/24 11:44	1.98	22.02	4.57	2910.30	3085.92	1.63	2.01	343.61	1.00
9/22/24 15:44	1.96	22.02	4.51	2905.02	3080.19	1.63	2.00	344.23	1.00
9/22/24 19:44	1.97	22.02	4.54	2900.16	3075.11	1.62	2.00	344.81	1.00
9/22/24 23:44	1.98	22.02	4.58	2896.12	3070.78	1.62	2.00	345.29	1.00
9/23/24 3:44	1.98	22.02	4.56	2892.24	3066.60	1.62	1.99	345.75	1.00
9/23/24 7:44	1.98	22.02	4.58	2888.62	3062.80	1.62	1.99	346.19	1.00
9/23/24 11:44	1.98	22.02	4.56	2885.22	3059.08	1.61	1.99	346.59	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/23/24 15:44	1.93	22.02	4.45	2882.55	3056.27	1.61	1.99	346.92	1.00
9/23/24 19:44	1.93	22.02	4.46	2879.94	3053.45	1.61	1.98	347.23	1.00
9/23/24 23:44	1.94	22.03	4.48	2877.67	3051.02	1.61	1.98	347.50	1.00
9/24/24 3:44	1.94	22.03	4.48	2875.17	3048.37	1.61	1.98	347.81	1.00
9/24/24 7:44	1.95	22.03	4.51	2873.18	3046.24	1.61	1.98	348.05	1.00
9/24/24 11:44	1.95	22.03	4.51	2871.10	3043.96	1.61	1.98	348.30	1.00
9/24/24 15:44	1.92	22.03	4.44	2869.97	3042.74	1.61	1.98	348.44	1.00
9/24/24 19:44	1.92	22.03	4.44	2868.48	3041.18	1.60	1.98	348.62	1.00
9/24/24 23:44	1.95	22.03	4.50	2866.93	3039.51	1.60	1.98	348.81	1.00
9/25/24 3:44	1.97	22.03	4.55	2865.94	3038.45	1.60	1.97	348.93	1.00
9/25/24 7:44	1.99	22.03	4.59	2864.62	3037.03	1.60	1.97	349.09	1.00
9/25/24 11:44	1.99	22.03	4.59	2863.68	3035.88	1.60	1.97	349.20	1.00
9/25/24 15:44	1.97	22.03	4.54	2863.07	3035.19	1.60	1.97	349.28	1.00
9/25/24 19:44	1.95	22.03	4.50	2861.94	3034.02	1.60	1.97	349.41	1.00
9/25/24 23:44	1.96	22.03	4.53	2860.90	3032.90	1.60	1.97	349.54	1.00
9/26/24 3:44	1.96	22.03	4.53	2860.37	3032.28	1.60	1.97	349.60	1.00
9/26/24 7:44	1.97	22.03	4.55	2860.09	3031.98	1.60	1.97	349.64	1.00
9/26/24 11:44	1.97	22.03	4.54	2858.97	3030.76	1.60	1.97	349.78	1.00
9/26/24 15:44	1.91	22.06	4.42	2905.64	3078.56	1.63	2.00	344.16	1.00
9/26/24 19:44	1.90	22.04	4.38	2906.81	3080.72	1.63	2.00	344.02	1.00
9/26/24 23:44	1.91	22.04	4.40	2909.08	3083.29	1.63	2.00	343.75	1.00
9/27/24 3:44	1.90	22.04	4.38	2912.11	3086.53	1.63	2.01	343.39	1.00
9/27/24 7:44	1.94	22.01	4.49	3109.65	3297.78	1.75	2.14	321.58	1.00
9/27/24 11:44	1.93	22.04	4.47	3082.40	3267.09	1.73	2.12	324.42	1.00
9/27/24 15:44	1.92	22.04	4.42	3063.17	3246.63	1.72	2.11	326.46	1.00
9/27/24 19:44	1.92	22.04	4.44	3045.90	3228.41	1.71	2.10	328.31	1.00
9/27/24 23:44	1.95	22.04	4.49	3030.66	3212.28	1.70	2.09	329.96	1.00
9/28/24 3:44	1.95	22.04	4.51	3017.89	3198.72	1.69	2.08	331.36	1.00
9/28/24 7:44	1.98	22.04	4.57	3004.41	3184.46	1.68	2.07	332.84	1.00
9/28/24 11:44	1.99	22.04	4.60	2993.58	3172.90	1.68	2.06	334.05	1.00
9/28/24 15:44	1.96	22.04	4.53	2983.48	3162.07	1.67	2.06	335.18	1.00
9/28/24 19:44	1.96	22.04	4.53	2973.77	3151.81	1.67	2.05	336.27	1.00
9/28/24 23:44	1.99	22.04	4.59	2965.33	3142.90	1.66	2.04	337.23	1.00
9/29/24 3:44	1.99	22.04	4.60	2957.99	3135.00	1.66	2.04	338.07	1.00
9/29/24 7:44	1.99	22.04	4.59	2950.72	3127.30	1.65	2.03	338.90	1.00
9/29/24 11:44	1.98	22.04	4.56	2945.00	3121.19	1.65	2.03	339.56	1.00
9/29/24 15:44	1.93	22.05	4.46	2939.56	3115.30	1.65	2.02	340.19	1.00
9/29/24 19:44	1.92	22.05	4.44	2934.50	3109.97	1.64	2.02	340.77	1.00
9/29/24 23:44	1.94	22.05	4.49	2929.51	3104.67	1.64	2.02	341.35	1.00
9/30/24 3:44	1.93	22.05	4.47	2925.28	3100.09	1.64	2.02	341.85	1.00
9/30/24 7:44	1.94	22.05	4.48	2921.47	3096.06	1.63	2.01	342.29	1.00
9/30/24 11:44	1.93	22.05	4.47	2918.00	3092.32	1.63	2.01	342.70	1.00
9/30/24 15:44	1.90	22.05	4.39	2915.06	3089.16	1.63	2.01	343.05	1.00
9/30/24 19:44	1.91	22.05	4.41	2911.81	3085.68	1.63	2.01	343.43	1.00
9/30/24 23:44	1.94	22.05	4.48	2909.52	3083.24	1.63	2.00	343.70	1.00
10/1/24 3:44	1.96	22.05	4.53	2906.99	3080.52	1.63	2.00	344.00	1.00
10/1/24 7:44	2.01	22.05	4.65	2905.14	3078.52	1.63	2.00	344.22	1.00
10/1/24 11:44	1.94	22.05	4.47	2902.94	3076.12	1.62	2.00	344.48	1.00
10/1/24 15:44	1.91	22.06	4.42	2901.60	3074.53	1.62	2.00	344.64	1.00
10/1/24 19:44	1.90	22.05	4.39	2899.94	3072.82	1.62	2.00	344.83	1.00
10/1/24 23:44	1.91	22.06	4.40	2898.57	3071.33	1.62	2.00	345.00	1.00
10/2/24 3:44	1.90	22.06	4.38	2897.51	3070.15	1.62	2.00	345.12	1.00
10/2/24 7:44	1.90	22.06	4.38	2896.18	3068.72	1.62	1.99	345.28	1.00
10/2/24 11:44	1.88	22.06	4.35	2895.17	3067.60	1.62	1.99	345.40	1.00
10/2/24 15:44	1.88	22.06	4.34	2894.19	3066.50	1.62	1.99	345.52	1.00
10/2/24 19:44	1.89	22.06	4.36	2893.50	3065.77	1.62	1.99	345.60	1.00
10/2/24 23:44	1.90	22.06	4.38	2892.47	3064.61	1.62	1.99	345.73	1.00
10/3/24 3:44	1.89	22.06	4.36	2891.91	3063.98	1.62	1.99	345.79	1.00
10/3/24 7:44	1.89	22.06	4.36	2891.84	3063.89	1.62	1.99	345.80	1.00
10/3/24 11:44	1.89	22.06	4.37	2890.84	3062.72	1.62	1.99	345.92	1.00
10/3/24 15:44	1.88	22.06	4.35	2890.96	3062.76	1.62	1.99	345.91	1.00
10/3/24 19:44	1.89	22.06	4.37	2890.62	3062.38	1.62	1.99	345.95	1.00
10/3/24 23:44	1.92	22.06	4.44	2889.64	3061.27	1.62	1.99	346.06	1.00
10/4/24 3:44	1.94	22.07	4.48	2889.71	3061.31	1.62	1.99	346.06	1.00
10/4/24 7:44	1.95	22.07	4.50	2889.60	3061.13	1.62	1.99	346.07	1.00
10/4/24 11:44	1.96	22.07	4.52	2888.65	3060.07	1.61	1.99	346.18	1.00
10/4/24 15:44	1.94	22.07	4.47	2888.79	3060.12	1.61	1.99	346.17	1.00
10/4/24 19:44	1.94	22.07	4.49	2888.30	3059.60	1.61	1.99	346.22	1.00
10/4/24 23:44	1.95	22.07	4.51	2888.33	3059.60	1.61	1.99	346.22	1.00
10/5/24 3:44	1.95	22.07	4.50	2887.95	3059.10	1.61	1.99	346.27	1.00
10/5/24 7:44	1.96	22.07	4.51	2887.77	3058.86	1.61	1.99	346.29	1.00
10/5/24 11:44	1.95	22.07	4.50	2887.40	3058.44	1.61	1.99	346.33	1.00
10/5/24 15:44	1.90	22.07	4.40	2887.45	3058.41	1.61	1.99	346.33	1.00
10/5/24 19:44	1.90	22.07	4.39	2887.55	3058.47	1.61	1.99	346.31	1.00
10/5/24 23:44	1.91	22.07	4.42	2887.47	3058.38	1.61	1.99	346.32	1.00
10/6/24 3:44	1.91	22.08	4.42	2887.54	3058.36	1.61	1.99	346.32	1.00
10/6/24 7:44	1.93	22.08	4.47	2887.20	3057.98	1.61	1.99	346.36	1.00
10/6/24 11:44	1.96	22.08	4.53	2887.66	3058.36	1.61	1.99	346.30	1.00
10/6/24 15:44	1.94	22.08	4.47	2887.36	3057.98	1.61	1.99	346.34	1.00
10/6/24 19:44	1.95	22.08	4.49	2887.87	3058.46	1.61	1.99	346.28	1.00
10/6/24 23:44	1.97	22.08	4.54	2887.49	3057.99	1.61	1.99	346.32	1.00
10/7/24 3:44	1.97	22.08	4.54	2887.44	3057.92	1.61	1.99	346.33	1.00
10/7/24 7:44	1.98	22.08	4.56	2887.56	3057.95	1.61	1.99	346.31	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/7/24 11:44	1.98	22.08	4.57	2887.57	3057.91	1.61	1.99	346.31	1.00
10/7/24 15:44	1.91	22.08	4.41	2887.49	3057.78	1.61	1.99	346.32	1.00
10/7/24 19:44	1.91	22.09	4.41	2887.49	3057.70	1.61	1.99	346.32	1.00
10/7/24 23:44	1.92	22.09	4.43	2887.33	3057.49	1.61	1.99	346.34	1.00
10/8/24 3:44	1.91	22.09	4.41	2887.79	3057.89	1.61	1.99	346.29	1.00
10/8/24 7:44	1.92	22.09	4.43	2887.80	3057.85	1.61	1.99	346.28	1.00
10/8/24 11:44	1.92	22.09	4.44	2886.76	3056.66	1.61	1.99	346.41	1.00
10/8/24 15:44	1.90	22.09	4.39	2887.23	3057.11	1.61	1.99	346.35	1.00
10/8/24 19:44	1.91	22.09	4.40	2887.26	3057.08	1.61	1.99	346.35	1.00
10/8/24 23:44	1.93	22.09	4.45	2887.62	3057.39	1.61	1.99	346.31	1.00
10/9/24 3:44	1.93	22.09	4.46	2887.56	3057.28	1.61	1.99	346.31	1.00
10/9/24 7:44	1.94	22.10	4.48	2887.53	3057.16	1.61	1.99	346.32	1.00
10/9/24 11:44	1.94	22.10	4.48	2887.91	3057.50	1.61	1.99	346.27	1.00
10/9/24 15:44	1.91	22.10	4.42	2887.83	3057.37	1.61	1.99	346.28	1.00
10/9/24 19:44	1.92	22.10	4.42	2887.49	3056.95	1.61	1.99	346.32	1.00
10/9/24 23:44	1.93	22.10	4.46	2887.52	3056.90	1.61	1.99	346.32	1.00
10/10/24 3:44	1.93	22.10	4.46	2887.11	3056.41	1.61	1.99	346.37	1.00
10/10/24 7:44	1.94	22.10	4.49	2887.40	3056.61	1.61	1.99	346.33	1.00
10/10/24 11:44	1.94	22.10	4.47	2887.38	3056.51	1.61	1.99	346.33	1.00
10/10/24 15:44	1.91	22.10	4.41	2887.72	3056.82	1.61	1.99	346.29	1.00
10/10/24 19:44	1.91	22.11	4.42	2888.12	3057.14	1.61	1.99	346.25	1.00
10/10/24 23:44	1.93	22.11	4.45	2887.81	3056.79	1.61	1.99	346.28	1.00
10/11/24 3:44	1.94	22.11	4.47	2887.53	3056.40	1.61	1.99	346.32	1.00
10/11/24 7:44	1.94	22.11	4.49	2887.86	3056.68	1.61	1.99	346.28	1.00
10/11/24 11:44	1.95	22.11	4.51	2887.60	3056.32	1.61	1.99	346.31	1.00
10/11/24 15:44	1.92	22.11	4.44	2888.18	3056.85	1.61	1.99	346.24	1.00
10/11/24 19:44	1.92	22.11	4.44	2887.89	3056.47	1.61	1.99	346.27	1.00
10/11/24 23:44	1.94	22.11	4.47	2887.77	3056.32	1.61	1.99	346.29	1.00
10/12/24 3:44	1.93	22.11	4.47	2888.11	3056.56	1.61	1.99	346.25	1.00
10/12/24 7:44	1.95	22.12	4.50	2888.40	3056.79	1.61	1.99	346.21	1.00
10/12/24 11:44	1.95	22.12	4.50	2887.89	3056.18	1.61	1.99	346.27	1.00
10/12/24 15:44	1.91	22.12	4.41	2888.28	3056.51	1.61	1.99	346.23	1.00
10/12/24 19:44	1.91	22.12	4.41	2887.92	3056.05	1.61	1.99	346.27	1.00
10/12/24 23:44	1.91	22.12	4.42	2888.05	3056.11	1.61	1.99	346.25	1.00
10/13/24 3:44	1.92	22.12	4.42	2887.81	3055.78	1.61	1.99	346.28	1.00
10/13/24 7:44	1.94	22.12	4.48	2888.26	3056.18	1.61	1.99	346.23	1.00
10/13/24 11:44	1.96	22.12	4.53	2888.26	3056.08	1.61	1.99	346.23	1.00
10/13/24 15:44	1.94	22.13	4.48	2888.60	3056.34	1.61	1.99	346.19	1.00
10/13/24 19:44	1.94	22.13	4.48	2888.71	3056.37	1.61	1.99	346.17	1.00
10/13/24 23:44	1.96	22.13	4.53	2888.47	3056.06	1.61	1.99	346.20	1.00
10/14/24 3:44	1.96	22.13	4.54	2888.55	3056.03	1.61	1.99	346.19	1.00
10/14/24 7:44	1.97	22.13	4.55	2888.54	3055.98	1.61	1.99	346.20	1.00
10/14/24 11:44	1.96	22.13	4.52	2888.35	3055.68	1.61	1.99	346.22	1.00
10/14/24 15:44	1.91	22.13	4.41	2888.92	3056.17	1.61	1.99	346.15	1.00
10/14/24 19:44	1.90	22.14	4.39	2888.72	3055.87	1.61	1.99	346.17	1.00
10/14/24 23:44	1.91	22.14	4.41	2889.20	3056.27	1.61	1.99	346.12	1.00
10/15/24 3:44	1.90	22.14	4.39	2888.96	3055.98	1.61	1.99	346.15	1.00
10/15/24 7:44	1.90	22.14	4.40	2888.93	3055.86	1.61	1.99	346.15	1.00
10/15/24 11:44	1.90	22.14	4.39	2888.64	3055.47	1.61	1.99	346.18	1.00
10/15/24 15:44	1.87	22.14	4.32	2888.94	3055.68	1.61	1.99	346.15	1.00
10/15/24 19:44	1.89	22.14	4.36	2889.22	3055.89	1.61	1.99	346.11	1.00
10/15/24 23:44	1.93	22.15	4.46	2889.85	3056.46	1.61	1.99	346.04	1.00
10/16/24 3:44	1.96	22.15	4.52	2889.60	3056.08	1.61	1.99	346.07	1.00
10/16/24 7:44	1.97	22.15	4.55	2889.52	3055.89	1.61	1.99	346.08	1.00
10/16/24 11:44	1.95	22.15	4.51	2889.23	3055.50	1.61	1.99	346.11	1.00
10/16/24 15:44	1.91	22.15	4.40	2889.65	3055.87	1.61	1.99	346.06	1.00
10/16/24 19:44	1.90	22.15	4.38	2889.97	3056.11	1.61	1.99	346.02	1.00
10/16/24 23:44	1.89	22.16	4.37	2889.54	3055.53	1.61	1.99	346.08	1.00
10/17/24 3:44	1.88	22.16	4.34	2889.85	3055.78	1.61	1.99	346.04	1.00
10/17/24 7:44	1.88	22.16	4.35	2889.69	3055.54	1.61	1.99	346.06	1.00
10/17/24 11:44	1.88	22.16	4.33	2889.98	3055.74	1.61	1.99	346.02	1.00
10/17/24 15:44	1.90	22.16	4.38	2890.50	3056.19	1.61	1.99	345.96	1.00
10/17/24 19:44	1.90	22.16	4.39	2890.62	3056.17	1.61	1.99	345.95	1.00
10/17/24 23:44	1.91	22.17	4.42	2890.62	3056.07	1.61	1.99	345.95	1.00
10/18/24 3:44	1.91	22.17	4.42	2890.43	3055.79	1.61	1.99	345.97	1.00
10/18/24 7:44	1.92	22.17	4.43	2890.91	3056.22	1.61	1.99	345.91	1.00
10/18/24 11:44	1.94	22.18	4.47	2811.94	2972.17	1.57	1.93	355.63	1.00
10/18/24 15:44	1.90	22.18	4.39	2816.07	2976.66	1.57	1.93	355.10	1.00
10/18/24 19:44	1.92	22.17	4.44	2817.60	2978.33	1.57	1.94	354.91	1.00
10/18/24 23:44	1.95	22.18	4.49	2817.86	2978.51	1.57	1.94	354.88	1.00
10/19/24 3:44	1.95	22.18	4.50	2816.82	2977.35	1.57	1.94	355.01	1.00
10/19/24 7:44	1.96	22.18	4.52	2815.26	2975.62	1.57	1.93	355.21	1.00
10/19/24 11:44	1.97	22.18	4.54	2813.99	2974.18	1.57	1.93	355.37	1.00
10/19/24 15:44	1.93	22.18	4.47	2812.59	2972.59	1.57	1.93	355.54	1.00
10/19/24 19:44	1.94	22.18	4.49	2810.87	2970.73	1.57	1.93	355.76	1.00
10/19/24 23:44	1.96	22.18	4.53	2809.30	2968.96	1.56	1.93	355.96	1.00
10/20/24 3:44	1.97	22.19	4.54	2807.76	2967.20	1.56	1.93	356.16	1.00
10/20/24 7:44	1.98	22.19	4.57	2806.46	2965.75	1.56	1.93	356.32	1.00
10/20/24 11:44	1.95	22.19	4.51	2805.49	2964.64	1.56	1.93	356.44	1.00
10/20/24 15:44	1.91	22.19	4.42	2804.50	2963.46	1.56	1.93	356.57	1.00
10/20/24 19:44	1.92	22.19	4.43	2803.13	2961.95	1.56	1.93	356.74	1.00
10/20/24 23:44	1.92	22.20	4.44	2802.21	2960.81	1.56	1.92	356.86	1.00
10/21/24 3:44	1.91	22.20	4.42	2801.41	2959.92	1.56	1.92	356.96	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/21/24 7:44	1.92	22.20	4.44	2800.43	2958.74	1.56	1.92	357.09	1.00
10/21/24 11:44	1.93	22.20	4.45	2799.91	2958.09	1.56	1.92	357.15	1.00
10/21/24 15:44	1.90	22.20	4.40	2799.52	2957.62	1.56	1.92	357.20	1.00
10/21/24 19:44	1.91	22.20	4.42	2798.80	2956.70	1.56	1.92	357.30	1.00
10/21/24 23:44	1.93	22.21	4.46	2798.40	2956.17	1.56	1.92	357.35	1.00
10/22/24 3:44	1.94	22.21	4.48	2797.76	2955.40	1.56	1.92	357.43	1.00
10/22/24 7:44	1.95	22.21	4.49	2797.45	2954.96	1.56	1.92	357.47	1.00
10/22/24 11:44	1.95	22.21	4.50	2796.93	2954.29	1.56	1.92	357.53	1.00
10/22/24 15:44	1.92	22.21	4.43	2796.45	2953.68	1.56	1.92	357.60	1.00
10/22/24 19:44	1.92	22.21	4.44	2796.25	2953.36	1.56	1.92	357.62	1.00
10/22/24 23:44	1.93	22.22	4.46	2796.00	2953.00	1.56	1.92	357.65	1.00
10/23/24 3:44	1.94	22.22	4.47	2795.84	2952.68	1.55	1.92	357.67	1.00
10/23/24 7:44	1.95	22.22	4.50	2795.47	2952.20	1.55	1.92	357.72	1.00
10/23/24 11:44	1.93	22.22	4.46	2795.00	2951.56	1.55	1.92	357.78	1.00
10/23/24 15:44	1.90	22.22	4.38	2794.98	2951.45	1.55	1.92	357.78	1.00
10/23/24 19:44	1.90	22.23	4.38	2794.77	2951.10	1.55	1.92	357.81	1.00
10/23/24 23:44	1.90	22.23	4.39	2794.07	2950.27	1.55	1.92	357.90	1.00
10/24/24 3:44	1.89	22.23	4.36	2793.74	2949.81	1.55	1.92	357.94	1.00
10/24/24 7:44	1.88	22.23	4.35	2793.59	2949.52	1.55	1.92	357.96	1.00
10/24/24 11:44	1.88	22.23	4.35	2793.72	2949.57	1.55	1.92	357.95	1.00
10/24/24 15:44	1.88	22.24	4.34	2793.09	2948.76	1.55	1.92	358.03	1.00
10/24/24 19:44	1.90	22.24	4.38	2792.98	2948.53	1.55	1.92	358.04	1.00
10/24/24 23:44	1.93	22.24	4.45	2793.01	2948.48	1.55	1.92	358.04	1.00
10/25/24 3:44	1.94	22.24	4.49	2792.58	2947.87	1.55	1.92	358.09	1.00
10/25/24 7:44	1.94	22.26	4.48	2852.68	3010.00	1.59	1.96	350.55	1.00
10/25/24 11:44	1.94	22.25	4.49	2860.00	3018.24	1.59	1.96	349.65	1.00
10/25/24 15:44	1.92	22.25	4.43	2866.91	3025.57	1.60	1.97	348.81	1.00
10/25/24 19:44	1.93	22.25	4.45	2873.32	3032.32	1.60	1.97	348.03	1.00
10/25/24 23:44	1.94	22.26	4.49	2879.09	3038.29	1.60	1.97	347.33	1.00
10/26/24 3:44	1.95	22.26	4.51	2883.38	3042.76	1.61	1.98	346.82	1.00
10/26/24 7:44	1.97	22.26	4.54	2887.29	3046.77	1.61	1.98	346.35	1.00
10/26/24 11:44	1.95	22.26	4.51	2890.46	3049.97	1.61	1.98	345.97	1.00
10/26/24 15:44	1.91	22.26	4.42	2892.81	3052.34	1.61	1.98	345.68	1.00
10/26/24 19:44	1.91	22.27	4.41	2895.39	3054.96	1.61	1.99	345.38	1.00
10/26/24 23:44	1.91	22.27	4.42	2897.42	3056.95	1.61	1.99	345.13	1.00
10/27/24 3:44	1.90	22.27	4.38	2899.40	3058.95	1.61	1.99	344.90	1.00
10/27/24 7:44	1.90	22.27	4.39	2900.70	3060.17	1.61	1.99	344.74	1.00
10/27/24 11:44	1.89	22.27	4.37	2902.22	3061.65	1.62	1.99	344.56	1.00
10/27/24 15:44	1.85	22.28	4.28	2903.70	3063.09	1.62	1.99	344.39	1.00
10/27/24 19:44	1.85	22.28	4.27	2904.62	3063.94	1.62	1.99	344.28	1.00
10/27/24 23:44	1.85	22.28	4.27	2905.12	3064.31	1.62	1.99	344.22	1.00
10/28/24 3:44	1.85	22.28	4.27	2906.48	3065.63	1.62	1.99	344.06	1.00
10/28/24 7:44	1.86	22.28	4.29	2907.16	3066.20	1.62	1.99	343.98	1.00
10/28/24 11:44	1.85	22.29	4.28	2907.16	3066.08	1.62	1.99	343.98	1.00
10/28/24 15:44	1.87	22.29	4.31	2908.17	3067.02	1.62	1.99	343.86	1.00
10/28/24 19:44	1.87	22.29	4.32	2908.58	3067.32	1.62	1.99	343.81	1.00
10/28/24 23:44	1.87	22.29	4.32	2908.99	3067.65	1.62	1.99	343.76	1.00
10/29/24 3:44	1.86	22.29	4.30	2909.35	3067.86	1.62	1.99	343.72	1.00
10/29/24 7:44	1.87	22.30	4.31	2909.52	3067.93	1.62	1.99	343.70	1.00
10/29/24 11:44	1.85	22.30	4.28	2909.77	3068.04	1.62	1.99	343.67	1.00
10/29/24 15:44	1.87	22.30	4.32	2909.86	3068.00	1.62	1.99	343.66	1.00
10/29/24 19:44	1.88	22.30	4.34	2909.90	3067.92	1.62	1.99	343.65	1.00
10/29/24 23:44	1.90	22.31	4.38	2909.83	3067.69	1.62	1.99	343.66	1.00
10/30/24 3:44	1.91	22.31	4.41	2909.63	3067.39	1.62	1.99	343.69	1.00
10/30/24 7:44	1.93	22.31	4.46	2910.20	3067.81	1.62	1.99	343.62	1.00
10/30/24 11:44	1.94	22.31	4.48	2910.44	3067.94	1.62	1.99	343.59	1.00
10/30/24 15:44	1.92	22.31	4.44	2910.28	3067.66	1.62	1.99	343.61	1.00
10/30/24 19:44	1.95	22.32	4.51	2910.09	3067.34	1.62	1.99	343.63	1.00
10/30/24 23:44	1.96	22.32	4.52	2910.46	3067.58	1.62	1.99	343.59	1.00
10/31/24 3:44	1.95	22.32	4.50	2910.23	3067.21	1.62	1.99	343.62	1.00
10/31/24 7:44	1.95	22.32	4.50	2910.08	3066.90	1.62	1.99	343.63	1.00
10/31/24 11:44	1.94	22.33	4.47	2909.78	3066.43	1.62	1.99	343.67	1.00
10/31/24 15:44	1.90	22.33	4.38	2909.80	3066.35	1.62	1.99	343.67	1.00
10/31/24 19:44	1.89	22.33	4.36	2909.46	3065.85	1.62	1.99	343.71	1.00
10/31/24 23:44	1.90	22.33	4.40	2909.38	3065.62	1.62	1.99	343.72	1.00
11/1/24 3:44	1.90	22.33	4.39	2909.07	3065.18	1.62	1.99	343.75	1.00
11/1/24 7:44	1.93	22.35	4.45	2964.05	3122.14	1.65	2.03	337.38	1.00
11/1/24 11:44	1.92	22.34	4.43	2948.48	3106.31	1.64	2.02	339.16	1.00
11/1/24 15:44	1.88	22.34	4.34	2935.42	3092.61	1.63	2.01	340.67	1.00
11/1/24 19:44	1.88	22.34	4.35	2924.36	3080.89	1.63	2.00	341.96	1.00
11/1/24 23:44	1.88	22.34	4.34	2914.51	3070.47	1.62	2.00	343.11	1.00
11/2/24 3:44	1.87	22.34	4.31	2904.96	3060.26	1.62	1.99	344.24	1.00
11/2/24 7:44	1.88	22.34	4.34	2896.60	3051.34	1.61	1.98	345.23	1.00
11/2/24 11:44	1.88	22.35	4.34	2889.27	3043.51	1.61	1.98	346.11	1.00
11/2/24 15:44	1.88	22.35	4.34	2882.33	3036.07	1.60	1.97	346.94	1.00
11/2/24 19:44	1.88	22.35	4.35	2876.85	3030.18	1.60	1.97	347.60	1.00
11/2/24 23:44	1.87	22.35	4.33	2871.74	3024.67	1.60	1.97	348.22	1.00
11/3/24 3:44	1.87	22.35	4.31	2867.74	3020.34	1.59	1.96	348.71	1.00
11/3/24 7:44	1.86	22.36	4.30	2864.24	3016.50	1.59	1.96	349.13	1.00
11/3/24 11:44	1.85	22.36	4.28	2861.73	3013.73	1.59	1.96	349.44	1.00
11/3/24 15:44	1.87	22.36	4.32	2859.84	3011.61	1.59	1.96	349.67	1.00
11/3/24 19:44	1.88	22.36	4.34	2858.17	3009.73	1.59	1.96	349.87	1.00
11/3/24 23:44	1.89	22.37	4.37	2857.02	3008.37	1.59	1.96	350.02	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/4/24 3:44	1.88	22.37	4.35	2856.47	3007.64	1.59	1.95	350.08	1.00
11/4/24 7:44	1.89	22.37	4.37	2855.92	3006.96	1.59	1.95	350.15	1.00
11/4/24 11:44	1.92	22.37	4.43	2855.31	3006.16	1.58	1.95	350.22	1.00
11/4/24 15:44	1.92	22.37	4.43	2854.41	3005.08	1.58	1.95	350.34	1.00
11/4/24 19:44	1.94	22.38	4.48	2854.12	3004.65	1.58	1.95	350.37	1.00
11/4/24 23:44	1.95	22.38	4.51	2853.76	3004.15	1.58	1.95	350.41	1.00
11/5/24 3:44	1.96	22.38	4.52	2852.84	3003.02	1.58	1.95	350.53	1.00
11/5/24 7:44	1.96	22.38	4.52	2851.92	3001.93	1.58	1.95	350.64	1.00
11/5/24 11:44	1.95	22.39	4.50	2851.24	3001.07	1.58	1.95	350.72	1.00
11/5/24 15:44	1.91	22.39	4.41	2850.71	3000.39	1.58	1.95	350.79	1.00
11/5/24 19:44	1.91	22.39	4.40	2850.30	2999.84	1.58	1.95	350.84	1.00
11/5/24 23:44	1.90	22.39	4.40	2849.67	2999.03	1.58	1.95	350.92	1.00
11/6/24 3:44	1.90	22.39	4.38	2849.06	2998.27	1.58	1.95	350.99	1.00
11/6/24 7:44	1.91	22.40	4.41	2848.25	2997.29	1.58	1.95	351.09	1.00
11/6/24 11:44	1.92	22.40	4.44	2847.53	2996.39	1.58	1.95	351.18	1.00
11/6/24 15:44	1.91	22.40	4.40	2846.73	2995.43	1.58	1.95	351.28	1.00
11/6/24 19:44	1.93	22.40	4.46	2846.05	2994.57	1.58	1.95	351.36	1.00
11/6/24 23:44	1.95	22.41	4.51	2845.77	2994.16	1.58	1.95	351.40	1.00
11/7/24 3:44	1.95	22.41	4.51	2844.89	2993.08	1.58	1.95	351.51	1.00
11/7/24 7:44	1.96	22.41	4.53	2844.44	2992.46	1.58	1.95	351.56	1.00
11/7/24 11:44	1.95	22.41	4.50	2843.72	2991.57	1.58	1.94	351.65	1.00
11/7/24 15:44	1.94	22.41	4.48	2843.07	2990.74	1.58	1.94	351.73	1.00
11/7/24 19:44	1.96	22.42	4.52	2842.55	2990.07	1.58	1.94	351.80	1.00
11/7/24 23:44	1.95	22.42	4.50	2841.95	2989.31	1.58	1.94	351.87	1.00
11/8/24 3:44	1.95	22.42	4.50	2841.30	2988.49	1.58	1.94	351.95	1.00
11/8/24 7:44	1.95	22.42	4.51	2841.07	2988.12	1.57	1.94	351.98	1.00
11/8/24 11:44	1.97	22.43	4.55	2747.28	2889.12	1.52	1.88	364.00	1.00
11/8/24 15:44	1.94	22.43	4.48	2745.76	2887.53	1.52	1.88	364.20	1.00
11/8/24 19:44	1.95	22.43	4.50	2744.26	2885.88	1.52	1.88	364.40	1.00
11/8/24 23:44	1.95	22.43	4.51	2742.54	2883.96	1.52	1.87	364.63	1.00
11/9/24 3:44	1.94	22.44	4.49	2741.16	2882.37	1.52	1.87	364.81	1.00
11/9/24 7:44	1.95	22.44	4.49	2739.13	2880.12	1.51	1.87	365.08	1.00
11/9/24 11:44	1.94	22.44	4.49	2737.61	2878.40	1.51	1.87	365.28	1.00
11/9/24 15:44	1.90	22.44	4.39	2736.19	2876.79	1.51	1.87	365.47	1.00
11/9/24 19:44	1.92	22.44	4.43	2734.44	2874.81	1.51	1.87	365.71	1.00
11/9/24 23:44	1.94	22.45	4.47	2733.18	2873.35	1.51	1.87	365.87	1.00
11/10/24 3:44	1.94	22.45	4.49	2732.28	2872.27	1.51	1.87	366.00	1.00
11/10/24 7:44	1.97	22.45	4.55	2731.77	2871.61	1.51	1.87	366.06	1.00
11/10/24 11:44	1.99	22.45	4.59	2732.04	2871.74	1.51	1.87	366.03	1.00
11/10/24 15:44	1.97	22.45	4.54	2732.61	2872.24	1.51	1.87	365.95	1.00
11/10/24 19:44	1.98	22.46	4.56	2733.21	2872.75	1.51	1.87	365.87	1.00
11/10/24 23:44	1.99	22.46	4.60	2734.12	2873.57	1.51	1.87	365.75	1.00
11/11/24 3:44	1.99	22.46	4.60	2734.97	2874.28	1.51	1.87	365.63	1.00
11/11/24 7:44	2.00	22.46	4.61	2735.70	2874.97	1.51	1.87	365.54	1.00
11/11/24 11:44	1.99	22.47	4.61	2735.93	2875.06	1.51	1.87	365.51	1.00
11/11/24 15:44	1.95	22.47	4.50	2736.87	2875.91	1.51	1.87	365.38	1.00
11/11/24 19:44	1.94	22.47	4.48	2736.95	2875.86	1.51	1.87	365.37	1.00
11/11/24 23:44	1.94	22.47	4.49	2738.20	2877.07	1.51	1.87	365.20	1.00
11/12/24 3:44	1.93	22.48	4.45	2738.23	2876.95	1.51	1.87	365.20	1.00
11/12/24 7:44	1.92	22.48	4.44	2738.01	2876.60	1.51	1.87	365.23	1.00
11/12/24 11:44	1.90	22.48	4.39	2738.41	2876.86	1.51	1.87	365.18	1.00
11/12/24 15:44	1.88	22.48	4.33	2738.57	2876.90	1.51	1.87	365.15	1.00
11/12/24 19:44	1.89	22.48	4.36	2738.35	2876.55	1.51	1.87	365.18	1.00
11/12/24 23:44	1.93	22.49	4.45	2738.07	2876.12	1.51	1.87	365.22	1.00
11/13/24 3:44	1.94	22.49	4.49	2738.66	2876.59	1.51	1.87	365.14	1.00
11/13/24 7:44	1.97	22.49	4.54	2738.65	2876.45	1.51	1.87	365.14	1.00
11/13/24 11:44	1.97	22.49	4.54	2738.56	2876.21	1.51	1.87	365.16	1.00
11/13/24 15:44	1.96	22.50	4.54	2738.20	2875.70	1.51	1.87	365.20	1.00
11/13/24 19:44	1.97	22.50	4.56	2738.34	2875.73	1.51	1.87	365.18	1.00
11/13/24 23:44	1.98	22.50	4.57	2738.23	2875.46	1.51	1.87	365.20	1.00
11/14/24 3:44	1.97	22.50	4.56	2738.03	2875.12	1.51	1.87	365.23	1.00
11/14/24 7:44	1.98	22.51	4.57	2737.88	2874.80	1.51	1.87	365.25	1.00
11/14/24 11:44	1.93	22.51	4.46	2737.63	2874.44	1.51	1.87	365.28	1.00
11/14/24 15:44	1.87	22.51	4.33	2737.50	2874.18	1.51	1.87	365.30	1.00
11/14/24 19:44	1.89	22.51	4.36	2737.23	2873.77	1.51	1.87	365.33	1.00
11/14/24 23:44	1.90	22.51	4.39	2737.48	2873.89	1.51	1.87	365.30	1.00
11/15/24 3:44	1.90	22.52	4.39	2737.30	2873.57	1.51	1.87	365.32	1.00
11/15/24 7:44	1.90	22.52	4.39	2737.70	2873.88	1.51	1.87	365.27	1.00
11/15/24 11:44	1.89	22.52	4.37	2737.27	2873.29	1.51	1.87	365.33	1.00
11/15/24 15:44	1.87	22.52	4.31	2737.10	2872.98	1.51	1.87	365.35	1.00
11/15/24 19:44	1.86	22.53	4.30	2736.98	2872.74	1.51	1.87	365.37	1.00
11/15/24 23:44	1.86	22.53	4.29	2736.33	2871.94	1.51	1.87	365.45	1.00
11/16/24 3:44	1.86	22.53	4.29	2736.72	2872.21	1.51	1.87	365.40	1.00
11/16/24 7:44	1.86	22.53	4.31	2736.51	2871.87	1.51	1.87	365.43	1.00
11/16/24 11:44	1.87	22.53	4.31	2736.46	2871.69	1.51	1.87	365.44	1.00
11/16/24 15:44	1.86	22.54	4.28	2736.41	2871.55	1.51	1.87	365.44	1.00
11/16/24 19:44	1.87	22.54	4.32	2736.29	2871.29	1.51	1.87	365.46	1.00
11/16/24 23:44	1.89	22.54	4.36	2736.04	2870.93	1.51	1.87	365.49	1.00
11/17/24 3:44	1.90	22.54	4.39	2736.28	2871.06	1.51	1.87	365.46	1.00
11/17/24 7:44	1.90	22.54	4.39	2735.90	2870.52	1.51	1.87	365.51	1.00
11/17/24 11:44	1.91	22.55	4.40	2735.71	2870.25	1.51	1.87	365.54	1.00
11/17/24 15:44	1.87	22.55	4.32	2735.42	2869.79	1.51	1.87	365.58	1.00
11/17/24 19:44	1.88	22.55	4.33	2735.88	2870.17	1.51	1.87	365.51	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/17/24 23:44	1.85	22.55	4.27	2735.74	2869.95	1.51	1.87	365.53	1.00
11/18/24 3:44	1.86	22.55	4.29	2735.23	2869.29	1.51	1.87	365.60	1.00
11/18/24 7:44	1.88	22.56	4.34	2735.34	2869.31	1.51	1.87	365.59	1.00
11/18/24 11:44	1.89	22.56	4.38	2735.34	2869.19	1.51	1.86	365.59	1.00
11/18/24 15:44	1.88	22.56	4.34	2735.39	2869.14	1.51	1.86	365.58	1.00
11/18/24 19:44	1.90	22.56	4.39	2734.80	2868.41	1.51	1.86	365.66	1.00
11/18/24 23:44	1.90	22.56	4.40	2734.85	2868.36	1.51	1.86	365.65	1.00
11/19/24 3:44	1.90	22.57	4.40	2734.74	2868.13	1.51	1.86	365.67	1.00
11/19/24 7:44	1.90	22.57	4.39	2734.77	2868.03	1.51	1.86	365.66	1.00
11/19/24 11:44	1.90	22.57	4.38	2734.27	2867.41	1.51	1.86	365.73	1.00
11/19/24 15:44	1.90	22.57	4.38	2734.29	2867.33	1.51	1.86	365.73	1.00
11/19/24 19:44	1.92	22.57	4.44	2734.18	2867.12	1.51	1.86	365.74	1.00
11/19/24 23:44	1.88	22.57	4.34	2734.12	2866.93	1.51	1.86	365.75	1.00
11/20/24 3:44	1.89	22.58	4.37	2734.53	2867.23	1.51	1.86	365.69	1.00
11/20/24 7:44	1.94	22.58	4.47	2734.47	2867.06	1.51	1.86	365.70	1.00
11/20/24 11:44	1.86	22.58	4.31	2734.29	2866.76	1.51	1.86	365.73	1.00
11/20/24 15:44	1.86	22.58	4.30	2734.26	2866.65	1.51	1.86	365.73	1.00
11/20/24 19:44	1.87	22.58	4.33	2733.71	2865.98	1.51	1.86	365.80	1.00
11/20/24 23:44	1.87	22.59	4.33	2734.05	2866.21	1.51	1.86	365.76	1.00
11/21/24 3:44	1.87	22.59	4.32	2734.07	2866.13	1.51	1.86	365.76	1.00
11/21/24 7:44	1.88	22.59	4.34	2733.97	2865.93	1.51	1.86	365.77	1.00
11/21/24 11:44	1.88	22.59	4.34	2733.75	2865.59	1.51	1.86	365.80	1.00
11/21/24 15:44	1.87	22.59	4.32	2733.59	2865.34	1.51	1.86	365.82	1.00
11/21/24 19:44	1.88	22.60	4.33	2733.68	2865.29	1.51	1.86	365.81	1.00
11/21/24 23:44	1.88	22.60	4.34	2733.66	2865.17	1.51	1.86	365.81	1.00
11/22/24 3:44	1.87	22.60	4.31	2733.41	2864.82	1.51	1.86	365.84	1.00
11/22/24 7:44	1.87	22.60	4.33	2733.37	2864.65	1.51	1.86	365.85	1.00
11/22/24 11:44	1.87	22.60	4.33	2733.40	2864.59	1.51	1.86	365.85	1.00
11/22/24 15:44	1.85	22.60	4.28	2733.15	2864.20	1.51	1.86	365.88	1.00
11/22/24 19:44	1.87	22.61	4.32	2733.37	2864.32	1.51	1.86	365.85	1.00
11/22/24 23:44	1.87	22.61	4.32	2733.62	2864.52	1.51	1.86	365.82	1.00
11/23/24 3:44	1.87	22.61	4.32	2732.90	2863.62	1.51	1.86	365.91	1.00
11/23/24 7:44	1.87	22.61	4.33	2732.47	2863.08	1.51	1.86	365.97	1.00
11/23/24 11:44	1.87	22.61	4.32	2733.11	2863.63	1.51	1.86	365.88	1.00
11/23/24 15:44	1.88	22.62	4.33	2732.68	2863.07	1.51	1.86	365.94	1.00
11/23/24 19:44	1.88	22.62	4.34	2732.53	2862.84	1.51	1.86	365.96	1.00
11/23/24 23:44	1.89	22.62	4.36	2732.54	2862.74	1.51	1.86	365.96	1.00
11/24/24 3:44	1.88	22.62	4.34	2732.31	2862.40	1.50	1.86	365.99	1.00
11/24/24 7:44	1.89	22.62	4.36	2732.30	2862.28	1.50	1.86	365.99	1.00
11/24/24 11:44	1.89	22.62	4.37	2732.19	2862.05	1.50	1.86	366.01	1.00
11/24/24 15:44	1.88	22.63	4.34	2731.77	2861.51	1.50	1.86	366.06	1.00
11/24/24 19:44	1.90	22.63	4.38	2732.26	2861.94	1.50	1.86	366.00	1.00
11/24/24 23:44	1.90	22.63	4.39	2731.88	2861.38	1.50	1.86	366.05	1.00
11/25/24 3:44	1.91	22.63	4.40	2731.84	2861.28	1.50	1.86	366.05	1.00
11/25/24 7:44	1.89	22.63	4.38	2731.62	2860.95	1.50	1.86	366.08	1.00
11/25/24 11:44	1.91	22.64	4.41	2731.14	2860.31	1.50	1.86	366.15	1.00
11/25/24 15:44	1.91	22.64	4.42	2730.93	2860.00	1.50	1.86	366.18	1.00
11/25/24 19:44	1.88	22.64	4.35	2730.58	2859.49	1.50	1.86	366.22	1.00
11/25/24 23:44	1.88	22.64	4.34	2730.93	2859.77	1.50	1.86	366.18	1.00
11/26/24 3:44	1.86	22.64	4.30	2730.54	2859.30	1.50	1.86	366.23	1.00
11/26/24 7:44	1.86	22.64	4.30	2730.78	2859.42	1.50	1.86	366.20	1.00
11/26/24 11:44	1.87	22.65	4.32	2730.53	2859.06	1.50	1.86	366.23	1.00
11/26/24 15:44	1.88	22.65	4.34	2730.63	2859.06	1.50	1.86	366.22	1.00
11/26/24 19:44	1.88	22.65	4.34	2730.06	2858.40	1.50	1.86	366.29	1.00
11/26/24 23:44	1.88	22.65	4.33	2730.35	2858.61	1.50	1.86	366.25	1.00
11/27/24 3:44	1.87	22.65	4.33	2729.77	2857.88	1.50	1.86	366.33	1.00
11/27/24 7:44	1.87	22.65	4.33	2729.70	2857.73	1.50	1.86	366.34	1.00
11/27/24 11:44	1.88	22.66	4.33	2729.25	2857.12	1.50	1.86	366.40	1.00
11/27/24 15:44	1.88	22.66	4.33	2729.44	2857.22	1.50	1.86	366.38	1.00
11/27/24 19:44	1.89	22.66	4.37	2729.62	2857.35	1.50	1.86	366.35	1.00
11/27/24 23:44	1.88	22.66	4.34	2729.46	2857.03	1.50	1.86	366.37	1.00
11/28/24 3:44	1.88	22.66	4.33	2729.04	2856.50	1.50	1.86	366.43	1.00
11/28/24 7:44	1.88	22.67	4.34	2729.26	2856.63	1.50	1.86	366.40	1.00
11/28/24 11:44	1.88	22.67	4.34	2729.01	2856.22	1.50	1.86	366.43	1.00
11/28/24 15:44	1.87	22.67	4.31	2728.91	2856.07	1.50	1.86	366.45	1.00
11/28/24 19:44	1.88	22.67	4.35	2729.00	2856.06	1.50	1.86	366.43	1.00
11/28/24 23:44	1.89	22.67	4.37	2728.82	2855.75	1.50	1.86	366.46	1.00
11/29/24 3:44	1.89	22.67	4.36	2729.28	2856.15	1.50	1.86	366.40	1.00
11/29/24 7:44	1.89	22.68	4.37	2728.97	2855.71	1.50	1.86	366.44	1.00
11/29/24 11:44	1.89	22.68	4.36	2728.79	2855.40	1.50	1.86	366.46	1.00
11/29/24 15:44	1.87	22.68	4.31	2729.01	2855.57	1.50	1.86	366.43	1.00
11/29/24 19:44	1.87	22.68	4.31	2729.43	2855.88	1.50	1.86	366.38	1.00
11/29/24 23:44	1.87	22.68	4.31	2728.90	2855.25	1.50	1.86	366.45	1.00
11/30/24 3:44	1.87	22.69	4.32	2728.86	2855.10	1.50	1.86	366.45	1.00
11/30/24 7:44	1.87	22.69	4.33	2728.80	2854.95	1.50	1.86	366.46	1.00
11/30/24 11:44	1.88	22.69	4.35	2726.72	2852.69	1.50	1.85	366.74	1.00
11/30/24 15:44	1.87	22.69	4.33	2725.89	2851.71	1.50	1.85	366.85	1.00
11/30/24 19:44	1.88	22.69	4.34	2726.29	2851.98	1.50	1.85	366.80	1.00
11/30/24 23:44	1.88	22.69	4.35	2725.30	2850.88	1.50	1.85	366.93	1.00
12/1/24 3:44	1.88	22.70	4.35	2725.39	2850.90	1.50	1.85	366.92	1.00
12/1/24 7:44	1.89	22.70	4.36	2725.35	2850.74	1.50	1.85	366.93	1.00
12/1/24 11:44	1.88	22.70	4.35	2725.33	2850.64	1.50	1.85	366.93	1.00
12/1/24 15:44	1.87	22.70	4.32	2724.66	2849.85	1.50	1.85	367.02	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/1/24 19:44	1.88	22.70	4.35	2724.58	2849.64	1.50	1.85	367.03	1.00
12/1/24 23:44	1.89	22.70	4.36	2724.61	2849.58	1.50	1.85	367.03	1.00
12/2/24 3:44	1.90	22.71	4.40	2724.81	2849.68	1.50	1.85	367.00	1.00
12/2/24 7:44	1.89	22.71	4.37	2724.33	2849.11	1.50	1.85	367.06	1.00
12/2/24 11:44	1.89	22.71	4.36	2723.78	2848.42	1.50	1.85	367.14	1.00
12/2/24 15:44	1.85	22.71	4.28	2723.92	2848.47	1.50	1.85	367.12	1.00
12/2/24 19:44	1.87	22.71	4.31	2724.29	2848.74	1.50	1.85	367.07	1.00
12/2/24 23:44	1.88	22.71	4.35	2723.89	2848.25	1.50	1.85	367.12	1.00
12/3/24 3:44	1.89	22.72	4.35	2723.71	2847.96	1.50	1.85	367.15	1.00
12/3/24 7:44	1.89	22.72	4.37	2723.79	2847.91	1.50	1.85	367.14	1.00
12/3/24 11:44	1.89	22.72	4.36	2723.39	2847.41	1.50	1.85	367.19	1.00
12/3/24 15:44	1.85	22.72	4.28	2722.99	2846.91	1.50	1.85	367.24	1.00
12/3/24 19:44	1.88	22.72	4.34	2722.94	2846.74	1.50	1.85	367.25	1.00
12/3/24 23:44	1.88	22.72	4.34	2722.77	2846.46	1.50	1.85	367.27	1.00
12/4/24 3:44	1.87	22.73	4.32	2723.18	2846.81	1.50	1.85	367.22	1.00
12/4/24 7:44	1.87	22.73	4.32	2723.04	2846.55	1.50	1.85	367.24	1.00
12/4/24 11:44	1.88	22.73	4.34	2722.83	2846.25	1.50	1.85	367.27	1.00
12/4/24 15:44	1.88	22.73	4.34	2722.15	2845.46	1.50	1.85	367.36	1.00
12/4/24 19:44	1.89	22.73	4.37	2722.43	2845.65	1.50	1.85	367.32	1.00
12/4/24 23:44	1.89	22.73	4.37	2722.20	2845.32	1.50	1.85	367.35	1.00
12/5/24 3:44	1.89	22.74	4.36	2721.82	2844.83	1.50	1.85	367.40	1.00
12/5/24 7:44	1.88	22.74	4.35	2721.85	2844.75	1.50	1.85	367.40	1.00
12/5/24 11:44	1.89	22.74	4.36	2721.60	2844.42	1.50	1.85	367.43	1.00
12/5/24 15:44	1.88	22.74	4.34	2721.33	2844.02	1.49	1.85	367.47	1.00
12/5/24 19:44	1.89	22.74	4.36	2721.02	2843.60	1.49	1.85	367.51	1.00
12/5/24 23:44	1.88	22.74	4.35	2721.33	2843.84	1.49	1.85	367.47	1.00
12/6/24 3:44	1.87	22.75	4.33	2721.13	2843.51	1.49	1.85	367.49	1.00
12/6/24 7:44	1.89	22.75	4.36	2720.91	2843.23	1.49	1.85	367.52	1.00
12/6/24 11:44	1.89	22.75	4.38	2721.06	2843.28	1.49	1.85	367.50	1.00
12/6/24 15:44	1.88	22.75	4.34	2720.60	2842.69	1.49	1.85	367.57	1.00
12/6/24 19:44	1.88	22.75	4.35	2720.25	2842.26	1.49	1.85	367.61	1.00
12/6/24 23:44	1.88	22.76	4.35	2720.41	2842.27	1.49	1.85	367.59	1.00
12/7/24 3:44	1.87	22.76	4.32	2719.94	2841.74	1.49	1.85	367.65	1.00
12/7/24 7:44	1.89	22.76	4.36	2720.03	2841.73	1.49	1.85	367.64	1.00
12/7/24 11:44	1.88	22.76	4.34	2719.94	2841.54	1.49	1.85	367.66	1.00
12/7/24 15:44	1.88	22.76	4.34	2720.00	2841.53	1.49	1.85	367.65	1.00
12/7/24 19:44	1.88	22.76	4.33	2720.23	2841.67	1.49	1.85	367.62	1.00
12/7/24 23:44	1.87	22.76	4.32	2719.99	2841.33	1.49	1.85	367.65	1.00
12/8/24 3:44	1.87	22.77	4.32	2720.21	2841.51	1.49	1.85	367.62	1.00
12/8/24 7:44	1.88	22.77	4.34	2719.74	2840.87	1.49	1.85	367.68	1.00
12/8/24 11:44	1.88	22.77	4.34	2720.01	2841.06	1.49	1.85	367.65	1.00
12/8/24 15:44	1.89	22.77	4.37	2719.92	2840.90	1.49	1.85	367.66	1.00
12/8/24 19:44	1.91	22.77	4.40	2719.50	2840.38	1.49	1.85	367.71	1.00
12/8/24 23:44	1.90	22.77	4.40	2719.50	2840.29	1.49	1.85	367.71	1.00
12/9/24 3:44	1.90	22.78	4.40	2719.18	2839.84	1.49	1.85	367.76	1.00
12/9/24 7:44	1.90	22.78	4.39	2719.30	2839.87	1.49	1.85	367.74	1.00
12/9/24 11:44	1.89	22.78	4.38	2718.94	2839.41	1.49	1.85	367.79	1.00
12/9/24 15:44	1.89	22.78	4.35	2718.93	2839.30	1.49	1.85	367.79	1.00
12/9/24 19:44	1.90	22.78	4.39	2719.01	2839.32	1.49	1.85	367.78	1.00
12/9/24 23:44	1.88	22.78	4.34	2718.77	2838.98	1.49	1.85	367.81	1.00
12/10/24 3:44	1.87	22.79	4.32	2718.70	2838.77	1.49	1.85	367.82	1.00
12/10/24 7:44	1.86	22.79	4.29	2718.25	2838.25	1.49	1.84	367.88	1.00
12/10/24 11:44	1.86	22.79	4.29	2718.55	2838.48	1.49	1.85	367.84	1.00
12/10/24 15:44	1.83	22.80	4.23	2732.50	2852.47	1.50	1.85	365.97	1.00
12/10/24 19:44	1.84	22.80	4.25	2729.56	2849.53	1.50	1.85	366.36	1.00
12/10/24 23:44	1.85	22.80	4.28	2728.05	2847.96	1.50	1.85	366.56	1.00
12/11/24 3:44	1.86	22.80	4.29	2726.34	2846.15	1.50	1.85	366.79	1.00
12/11/24 7:44	1.87	22.80	4.31	2725.11	2844.81	1.50	1.85	366.96	1.00
12/11/24 11:44	1.86	22.80	4.30	2724.22	2843.83	1.49	1.85	367.08	1.00
12/11/24 15:44	1.84	22.80	4.26	2722.67	2842.11	1.49	1.85	367.29	1.00
12/11/24 19:44	1.85	22.80	4.26	2721.82	2841.16	1.49	1.85	367.40	1.00
12/11/24 23:44	1.84	22.80	4.26	2721.12	2840.35	1.49	1.85	367.50	1.00
12/12/24 3:44	1.85	22.80	4.28	2720.21	2839.31	1.49	1.85	367.62	1.00
12/12/24 7:44	1.85	22.81	4.26	2720.88	2839.94	1.49	1.85	367.53	1.00
12/12/24 11:44	1.86	22.81	4.29	2721.20	2840.16	1.49	1.85	367.49	1.00
12/12/24 15:44	1.86	22.81	4.31	2722.10	2841.02	1.49	1.85	367.36	1.00
12/12/24 19:44	1.87	22.81	4.33	2722.75	2841.59	1.49	1.85	367.28	1.00
12/12/24 23:44	1.88	22.81	4.33	2723.15	2841.95	1.49	1.85	367.22	1.00
12/13/24 3:44	1.87	22.81	4.31	2724.74	2843.53	1.49	1.85	367.01	1.00
12/13/24 7:44	1.87	22.81	4.31	2725.57	2844.30	1.49	1.85	366.90	1.00
12/13/24 11:44	1.87	22.82	4.33	2726.06	2844.71	1.50	1.85	366.83	1.00
12/13/24 15:44	1.87	22.82	4.31	2726.60	2845.17	1.50	1.85	366.76	1.00
12/13/24 19:44	1.88	22.82	4.33	2727.05	2845.57	1.50	1.85	366.70	1.00
12/13/24 23:44	1.87	22.82	4.31	2727.65	2846.10	1.50	1.85	366.62	1.00
12/14/24 3:44	1.86	22.82	4.31	2727.44	2845.80	1.50	1.85	366.64	1.00
12/14/24 7:44	1.86	22.82	4.31	2728.33	2846.68	1.50	1.85	366.52	1.00
12/14/24 11:44	1.86	22.83	4.30	2728.73	2846.98	1.50	1.85	366.47	1.00
12/14/24 15:44	1.86	22.83	4.30	2728.63	2846.80	1.50	1.85	366.48	1.00
12/14/24 19:44	1.86	22.83	4.31	2728.82	2846.89	1.50	1.85	366.46	1.00
12/14/24 23:44	1.86	22.83	4.30	2729.07	2847.10	1.50	1.85	366.43	1.00
12/15/24 3:44	1.86	22.83	4.30	2729.45	2847.37	1.50	1.85	366.37	1.00
12/15/24 7:44	1.87	22.83	4.31	2729.54	2847.43	1.50	1.85	366.36	1.00
12/15/24 11:44	1.86	22.83	4.30	2728.95	2846.69	1.50	1.85	366.44	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/15/24 15:44	1.86	22.84	4.30	2729.32	2847.00	1.50	1.85	366.39	1.00
12/15/24 19:44	1.88	22.84	4.33	2729.43	2847.06	1.50	1.85	366.38	1.00
12/15/24 23:44	1.87	22.84	4.32	2729.13	2846.65	1.50	1.85	366.42	1.00
12/16/24 3:44	1.87	22.84	4.32	2729.05	2846.49	1.50	1.85	366.43	1.00
12/16/24 7:44	1.87	22.84	4.31	2728.96	2846.32	1.50	1.85	366.44	1.00
12/16/24 11:44	1.86	22.84	4.29	2729.12	2846.39	1.50	1.85	366.42	1.00
12/16/24 15:44	1.85	22.84	4.28	2728.72	2845.91	1.50	1.85	366.47	1.00
12/16/24 19:44	1.86	22.85	4.30	2728.73	2845.81	1.50	1.85	366.47	1.00
12/16/24 23:44	1.86	22.85	4.31	2728.22	2845.23	1.50	1.85	366.54	1.00
12/17/24 3:44	1.85	22.85	4.28	2728.19	2845.12	1.50	1.85	366.54	1.00
12/17/24 7:44	1.86	22.85	4.29	2727.62	2844.42	1.50	1.85	366.62	1.00
12/17/24 11:44	1.86	22.85	4.30	2727.62	2844.32	1.49	1.85	366.62	1.00
12/17/24 15:44	1.86	22.85	4.30	2727.35	2843.97	1.49	1.85	366.66	1.00
12/17/24 19:44	1.87	22.85	4.33	2727.78	2844.35	1.50	1.85	366.60	1.00
12/17/24 23:44	1.86	22.86	4.28	2727.00	2843.46	1.49	1.85	366.70	1.00
12/18/24 3:44	1.84	22.86	4.25	2727.28	2843.62	1.49	1.85	366.67	1.00
12/18/24 7:44	1.83	22.86	4.22	2726.77	2843.06	1.49	1.85	366.73	1.00
12/18/24 11:44	1.83	22.86	4.22	2726.66	2842.89	1.49	1.85	366.75	1.00
12/18/24 15:44	1.85	22.86	4.26	2726.53	2842.61	1.49	1.85	366.77	1.00
12/18/24 19:44	1.83	22.87	4.23	2739.46	2855.61	1.50	1.86	365.04	1.00
12/18/24 23:44	1.83	22.87	4.22	2739.28	2855.51	1.50	1.86	365.06	1.00
12/19/24 3:44	1.83	22.87	4.22	2741.79	2858.13	1.50	1.86	364.72	1.00
12/19/24 7:44	1.83	22.87	4.23	2744.21	2860.60	1.50	1.86	364.40	1.00
12/19/24 11:44	1.83	22.89	4.23	2742.14	2857.22	1.50	1.86	364.68	1.00
12/19/24 15:44	1.82	22.88	4.21	2740.83	2856.53	1.50	1.86	364.85	1.00
12/19/24 19:44	1.83	22.88	4.24	2740.39	2856.17	1.50	1.86	364.91	1.00
12/19/24 23:44	1.82	22.88	4.21	2739.37	2855.05	1.50	1.86	365.05	1.00
12/20/24 3:44	1.82	22.88	4.21	2738.59	2854.22	1.50	1.86	365.15	1.00
12/20/24 7:44	1.82	22.88	4.20	2737.22	2852.72	1.50	1.85	365.33	1.00
12/20/24 11:44	1.81	22.88	4.18	2736.08	2851.45	1.50	1.85	365.49	1.00
12/20/24 15:44	1.82	22.88	4.20	2735.33	2850.56	1.50	1.85	365.59	1.00
12/20/24 19:44	1.82	22.88	4.20	2734.87	2850.04	1.50	1.85	365.65	1.00
12/20/24 23:44	1.82	22.89	4.20	2733.93	2848.96	1.50	1.85	365.77	1.00
12/21/24 3:44	1.82	22.89	4.19	2733.24	2848.15	1.50	1.85	365.87	1.00
12/21/24 7:44	1.82	22.89	4.20	2732.79	2847.64	1.50	1.85	365.93	1.00
12/21/24 11:44	1.83	22.89	4.23	2732.12	2846.88	1.50	1.85	366.02	1.00
12/21/24 15:44	1.82	22.89	4.20	2731.87	2846.49	1.50	1.85	366.05	1.00
12/21/24 19:44	1.82	22.89	4.21	2731.66	2846.22	1.50	1.85	366.08	1.00
12/21/24 23:44	1.82	22.89	4.21	2731.10	2845.57	1.50	1.85	366.15	1.00
12/22/24 3:44	1.81	22.90	4.19	2731.29	2845.69	1.50	1.85	366.13	1.00
12/22/24 7:44	1.82	22.90	4.20	2731.35	2845.70	1.50	1.85	366.12	1.00
12/22/24 11:44	1.82	22.90	4.20	2731.06	2845.32	1.50	1.85	366.16	1.00
12/22/24 15:44	1.83	22.90	4.24	2730.96	2845.09	1.50	1.85	366.17	1.00
12/22/24 19:44	1.84	22.90	4.25	2731.45	2845.55	1.50	1.85	366.11	1.00
12/22/24 23:44	1.85	22.90	4.27	2731.10	2845.12	1.50	1.85	366.15	1.00
12/23/24 3:44	1.84	22.90	4.26	2730.80	2844.75	1.50	1.85	366.19	1.00
12/23/24 7:44	1.85	22.90	4.26	2731.39	2845.27	1.50	1.85	366.11	1.00
12/23/24 11:44	1.85	22.91	4.26	2731.36	2845.16	1.50	1.85	366.12	1.00
12/23/24 15:44	1.83	22.91	4.23	2731.44	2845.18	1.50	1.85	366.11	1.00
12/23/24 19:44	1.84	22.91	4.26	2731.44	2845.11	1.50	1.85	366.11	1.00
12/23/24 23:44	1.83	22.91	4.23	2732.05	2845.64	1.50	1.85	366.03	1.00
12/24/24 3:44	1.83	22.91	4.24	2732.36	2845.90	1.50	1.85	365.98	1.00
12/24/24 7:44	1.84	22.91	4.24	2732.20	2845.65	1.50	1.85	366.01	1.00
12/24/24 11:44	1.83	22.91	4.23	2732.04	2845.43	1.50	1.85	366.03	1.00
12/24/24 15:44	1.83	22.91	4.22	2732.43	2845.76	1.50	1.85	365.97	1.00
12/24/24 19:44	1.83	22.92	4.22	2732.63	2845.90	1.50	1.85	365.95	1.00
12/24/24 23:44	1.83	22.92	4.22	2732.73	2845.94	1.50	1.85	365.93	1.00
12/25/24 3:44	1.83	22.92	4.23	2732.92	2846.06	1.50	1.85	365.91	1.00
12/25/24 7:44	1.84	22.92	4.26	2733.29	2846.36	1.50	1.85	365.86	1.00
12/25/24 11:44	1.84	22.92	4.24	2733.24	2846.24	1.50	1.85	365.87	1.00
12/25/24 15:44	1.84	22.92	4.26	2732.92	2845.82	1.50	1.85	365.91	1.00
12/25/24 19:44	1.86	22.92	4.29	2733.44	2846.32	1.50	1.85	365.84	1.00
12/25/24 23:44	1.85	22.92	4.27	2733.04	2845.84	1.50	1.85	365.89	1.00
12/26/24 3:44	1.85	22.93	4.27	2733.32	2846.05	1.50	1.85	365.86	1.00
12/26/24 7:44	1.85	22.93	4.27	2733.55	2846.22	1.50	1.85	365.83	1.00
12/26/24 11:44	1.84	22.93	4.25	2733.17	2845.77	1.50	1.85	365.88	1.00
12/26/24 15:44	1.84	22.93	4.25	2733.83	2846.33	1.50	1.85	365.79	1.00
12/26/24 19:44	1.84	22.93	4.26	2733.23	2845.67	1.50	1.85	365.87	1.00
12/26/24 23:44	1.85	22.93	4.27	2733.42	2845.80	1.50	1.85	365.84	1.00
12/27/24 3:44	1.85	22.93	4.28	2733.67	2846.01	1.50	1.85	365.81	1.00
12/27/24 7:44	1.85	22.94	4.27	2733.29	2845.51	1.50	1.85	365.86	1.00
12/27/24 11:44	1.84	22.94	4.25	2733.76	2845.96	1.50	1.85	365.80	1.00
12/27/24 15:44	1.84	22.94	4.26	2733.67	2845.77	1.50	1.85	365.81	1.00
12/27/24 19:44	1.85	22.94	4.27	2733.58	2845.60	1.50	1.85	365.82	1.00
12/27/24 23:44	1.85	22.94	4.28	2733.66	2845.64	1.50	1.85	365.81	1.00
12/28/24 3:44	1.85	22.94	4.28	2733.72	2845.56	1.50	1.85	365.80	1.00
12/28/24 7:44	1.84	22.94	4.25	2733.78	2845.64	1.50	1.85	365.79	1.00
12/28/24 11:44	1.84	22.94	4.25	2733.17	2844.94	1.50	1.85	365.88	1.00
12/28/24 15:44	1.83	22.94	4.23	2733.65	2845.34	1.50	1.85	365.81	1.00
12/28/24 19:44	1.84	22.95	4.25	2733.96	2845.61	1.50	1.85	365.77	1.00
12/28/24 23:44	1.84	22.95	4.26	2733.13	2844.68	1.50	1.85	365.88	1.00
12/29/24 3:44	1.84	22.95	4.26	2733.96	2845.47	1.50	1.85	365.77	1.00
12/29/24 7:44	1.84	22.95	4.25	2733.48	2844.90	1.50	1.85	365.83	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/29/24 11:44	1.83	22.95	4.23	2733.15	2844.48	1.50	1.85	365.88	1.00
12/29/24 15:44	1.83	22.95	4.24	2733.35	2844.62	1.50	1.85	365.85	1.00
12/29/24 19:44	1.84	22.95	4.24	2733.27	2844.49	1.50	1.85	365.86	1.00
12/29/24 23:44	1.83	22.95	4.24	2733.01	2844.12	1.49	1.85	365.90	1.00
12/30/24 3:44	1.84	22.96	4.25	2733.35	2844.41	1.50	1.85	365.85	1.00
12/30/24 7:44	1.85	22.96	4.27	2733.07	2844.08	1.49	1.85	365.89	1.00
12/30/24 11:44	1.84	22.96	4.25	2732.71	2843.64	1.49	1.85	365.94	1.00
12/30/24 15:44	1.84	22.96	4.25	2733.07	2843.95	1.49	1.85	365.89	1.00
12/30/24 19:44	1.84	22.96	4.25	2732.73	2843.53	1.49	1.85	365.93	1.00
12/30/24 23:44	1.84	22.96	4.24	2732.49	2843.19	1.49	1.85	365.97	1.00
12/31/24 3:44	1.83	22.96	4.22	2732.33	2842.99	1.49	1.85	365.99	1.00
12/31/24 7:44	1.82	22.96	4.20	2732.52	2843.05	1.49	1.85	365.96	1.00
12/31/24 11:44	1.82	22.97	4.21	2732.57	2842.93	1.49	1.85	365.96	1.00
12/31/24 15:44	1.83	22.97	4.22	2732.26	2842.34	1.49	1.85	366.00	1.00
12/31/24 19:44	1.83	22.97	4.23	2732.49	2842.48	1.49	1.85	365.97	1.00
12/31/24 23:44	1.84	22.97	4.24	2732.55	2842.54	1.49	1.85	365.96	1.00
1/1/25 3:44	1.83	22.97	4.23	2732.11	2842.05	1.49	1.85	366.02	1.00
1/1/25 7:44	1.82	22.98	4.21	2732.03	2841.93	1.49	1.85	366.03	1.00
1/1/25 11:44	1.82	22.98	4.21	2731.77	2841.55	1.49	1.85	366.06	1.00
1/1/25 15:44	1.82	22.98	4.20	2731.82	2841.54	1.49	1.85	366.06	1.00
1/1/25 19:44	1.83	22.98	4.22	2731.74	2841.39	1.49	1.85	366.07	1.00
1/1/25 23:44	1.83	22.98	4.22	2731.84	2841.46	1.49	1.85	366.05	1.00
1/2/25 3:44	1.82	22.98	4.21	2731.70	2841.25	1.49	1.85	366.07	1.00
1/2/25 7:44	1.83	22.98	4.24	2731.36	2840.85	1.49	1.85	366.12	1.00
1/2/25 11:44	1.83	22.98	4.24	2731.33	2840.72	1.49	1.85	366.12	1.00
1/2/25 15:44	1.82	22.98	4.21	2731.42	2840.81	1.49	1.85	366.11	1.00
1/2/25 19:44	1.83	22.99	4.24	2730.75	2840.04	1.49	1.85	366.20	1.00
1/2/25 23:44	1.83	22.99	4.24	2731.01	2840.26	1.49	1.85	366.16	1.00
1/3/25 3:44	1.83	22.99	4.23	2730.70	2839.86	1.49	1.85	366.21	1.00
1/3/25 7:44	1.84	22.99	4.25	2731.11	2840.20	1.49	1.85	366.15	1.00
1/3/25 11:44	1.83	22.99	4.23	2731.09	2840.09	1.49	1.85	366.15	1.00
1/3/25 15:44	1.83	22.99	4.23	2730.96	2839.93	1.49	1.85	366.17	1.00
1/3/25 19:44	1.83	22.99	4.22	2730.39	2839.26	1.49	1.85	366.25	1.00
1/3/25 23:44	1.82	22.99	4.21	2730.35	2839.11	1.49	1.85	366.25	1.00
1/4/25 3:44	1.82	23.00	4.21	2730.63	2839.33	1.49	1.85	366.22	1.00
1/4/25 7:44	1.83	23.00	4.23	2730.27	2838.89	1.49	1.85	366.26	1.00
1/4/25 11:44	1.83	23.00	4.22	2730.09	2838.63	1.49	1.85	366.29	1.00
1/4/25 15:44	1.84	23.00	4.26	2729.99	2838.41	1.49	1.84	366.30	1.00
1/4/25 19:44	1.84	23.00	4.25	2729.80	2838.13	1.49	1.84	366.33	1.00
1/4/25 23:44	1.86	23.00	4.29	2729.63	2837.90	1.49	1.84	366.35	1.00
1/5/25 3:44	1.85	23.00	4.27	2729.69	2837.89	1.49	1.84	366.34	1.00
1/5/25 7:44	1.84	23.00	4.25	2729.43	2837.58	1.49	1.84	366.38	1.00
1/5/25 11:44	1.83	23.01	4.23	2729.49	2837.56	1.49	1.84	366.37	1.00
1/5/25 15:44	1.83	23.01	4.23	2729.74	2837.80	1.49	1.84	366.34	1.00
1/5/25 19:44	1.83	23.01	4.22	2729.67	2837.66	1.49	1.84	366.35	1.00
1/5/25 23:44	1.81	23.01	4.18	2729.48	2837.38	1.49	1.84	366.37	1.00
1/6/25 3:44	1.81	23.01	4.19	2729.31	2837.20	1.49	1.84	366.39	1.00
1/6/25 7:44	1.83	23.01	4.22	2729.45	2837.25	1.49	1.84	366.37	1.00
1/6/25 11:44	1.82	23.01	4.21	2729.16	2836.88	1.49	1.84	366.41	1.00
1/6/25 15:44	1.81	23.01	4.18	2729.77	2837.44	1.49	1.84	366.33	1.00
1/6/25 19:44	1.82	23.01	4.21	2729.46	2837.09	1.49	1.84	366.37	1.00
1/6/25 23:44	1.83	23.01	4.23	2728.89	2836.48	1.49	1.84	366.45	1.00
1/7/25 3:44	1.83	23.02	4.24	2728.88	2836.40	1.49	1.84	366.45	1.00
1/7/25 7:44	1.83	23.02	4.23	2728.44	2835.95	1.49	1.84	366.51	1.00
1/7/25 11:44	1.84	23.02	4.25	2728.75	2836.20	1.49	1.84	366.47	1.00
1/7/25 15:44	1.82	23.02	4.21	2728.68	2836.11	1.49	1.84	366.48	1.00
1/7/25 19:44	1.84	23.02	4.25	2728.09	2835.45	1.49	1.84	366.56	1.00
1/7/25 23:44	1.83	23.02	4.24	2728.21	2835.54	1.49	1.84	366.54	1.00
1/8/25 3:44	1.85	23.02	4.27	2728.16	2835.54	1.49	1.84	366.55	1.00
1/8/25 7:44	1.86	23.02	4.29	2728.47	2835.79	1.49	1.84	366.51	1.00
1/8/25 11:44	1.82	23.02	4.20	2728.06	2835.34	1.49	1.84	366.56	1.00
1/8/25 15:44	1.83	23.02	4.22	2728.12	2835.37	1.49	1.84	366.55	1.00
1/8/25 19:44	1.84	23.02	4.24	2727.92	2835.04	1.49	1.84	366.58	1.00
1/8/25 23:44	1.85	23.02	4.27	2727.55	2834.60	1.49	1.84	366.63	1.00
1/9/25 3:44	1.85	23.02	4.28	2727.50	2834.50	1.49	1.84	366.64	1.00
1/9/25 7:44	1.86	23.02	4.29	2727.27	2834.20	1.49	1.84	366.67	1.00
1/9/25 11:44	1.86	23.03	4.30	2727.19	2834.04	1.49	1.84	366.68	1.00
1/9/25 15:44	1.86	23.03	4.29	2726.74	2833.50	1.49	1.84	366.74	1.00
1/9/25 19:44	1.85	23.03	4.27	2726.90	2833.61	1.49	1.84	366.72	1.00
1/9/25 23:44	1.83	23.03	4.23	2726.54	2833.20	1.49	1.84	366.76	1.00
1/10/25 3:44	1.83	23.03	4.23	2726.62	2833.24	1.49	1.84	366.75	1.00
1/10/25 7:44	1.83	23.03	4.22	2726.68	2833.26	1.49	1.84	366.75	1.00
1/10/25 11:44	1.82	23.03	4.21	2726.59	2833.14	1.49	1.84	366.76	1.00
1/10/25 15:44	1.83	23.03	4.23	2726.74	2833.25	1.49	1.84	366.74	1.00
1/10/25 19:44	1.84	23.03	4.24	2726.80	2833.29	1.49	1.84	366.73	1.00
1/10/25 23:44	1.84	23.03	4.26	2726.65	2833.07	1.49	1.84	366.75	1.00
1/11/25 3:44	1.85	23.03	4.28	2726.75	2833.11	1.49	1.84	366.74	1.00
1/11/25 7:44	1.85	23.03	4.28	2726.35	2832.71	1.49	1.84	366.79	1.00
1/11/25 11:44	1.85	23.03	4.28	2726.14	2832.46	1.49	1.84	366.82	1.00
1/11/25 15:44	1.86	23.04	4.30	2725.96	2832.24	1.49	1.84	366.84	1.00
1/11/25 19:44	1.87	23.04	4.32	2726.00	2832.23	1.49	1.84	366.84	1.00
1/11/25 23:44	1.86	23.04	4.29	2725.65	2831.83	1.49	1.84	366.89	1.00
1/12/25 3:44	1.85	23.04	4.26	2725.51	2831.65	1.49	1.84	366.90	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/12/25 7:44	1.83	23.04	4.24	2725.96	2832.04	1.49	1.84	366.84	1.00
1/12/25 11:44	1.82	23.04	4.19	2725.83	2831.88	1.49	1.84	366.86	1.00
1/12/25 15:44	1.82	23.04	4.20	2725.63	2831.61	1.49	1.84	366.89	1.00
1/12/25 19:44	1.83	23.04	4.22	2725.46	2831.40	1.49	1.84	366.91	1.00
1/12/25 23:44	1.82	23.04	4.21	2725.45	2831.35	1.49	1.84	366.91	1.00
1/13/25 3:44	1.82	23.04	4.21	2726.12	2832.02	1.49	1.84	366.82	1.00
1/13/25 7:44	1.82	23.04	4.21	2725.90	2831.72	1.49	1.84	366.85	1.00
1/13/25 11:44	1.82	23.04	4.20	2725.66	2831.45	1.49	1.84	366.88	1.00
1/13/25 15:44	1.83	23.04	4.22	2726.02	2831.78	1.49	1.84	366.84	1.00
1/13/25 19:44	1.83	23.05	4.23	2725.73	2831.46	1.49	1.84	366.87	1.00
1/13/25 23:44	1.83	23.05	4.23	2725.80	2831.52	1.49	1.84	366.86	1.00
1/14/25 3:44	1.83	23.05	4.23	2725.43	2831.05	1.49	1.84	366.91	1.00
1/14/25 7:44	1.84	23.05	4.24	2725.18	2830.76	1.49	1.84	366.95	1.00
1/14/25 11:44	1.84	23.05	4.25	2725.33	2830.87	1.49	1.84	366.93	1.00
1/14/25 15:44	1.83	23.05	4.23	2725.12	2830.60	1.49	1.84	366.96	1.00
1/14/25 19:44	1.84	23.05	4.24	2725.09	2830.56	1.49	1.84	366.96	1.00
1/14/25 23:44	1.82	23.05	4.21	2724.81	2830.17	1.49	1.84	367.00	1.00
1/15/25 3:44	1.83	23.05	4.22	2724.84	2830.22	1.49	1.84	366.99	1.00
1/15/25 7:44	1.82	23.05	4.21	2724.61	2829.90	1.49	1.84	367.02	1.00
1/15/25 11:44	1.82	23.05	4.20	2725.01	2830.28	1.49	1.84	366.97	1.00
1/15/25 15:44	1.83	23.05	4.22	2724.91	2830.11	1.49	1.84	366.99	1.00
1/15/25 19:44	1.83	23.05	4.23	2724.66	2829.84	1.49	1.84	367.02	1.00
1/15/25 23:44	1.83	23.05	4.22	2724.73	2829.87	1.49	1.84	367.01	1.00
1/16/25 3:44	1.83	23.06	4.22	2724.63	2829.73	1.49	1.84	367.02	1.00
1/16/25 7:44	1.83	23.06	4.23	2724.35	2829.36	1.49	1.84	367.06	1.00
1/16/25 11:44	1.83	23.06	4.23	2724.16	2829.05	1.49	1.84	367.09	1.00
1/16/25 15:44	1.85	23.06	4.28	2724.46	2829.38	1.49	1.84	367.05	1.00
1/16/25 19:44	1.85	23.06	4.28	2724.21	2829.09	1.49	1.84	367.08	1.00
1/16/25 23:44	1.86	23.06	4.29	2723.91	2828.74	1.49	1.84	367.12	1.00
1/17/25 3:44	1.87	23.06	4.31	2723.60	2828.38	1.49	1.84	367.16	1.00
1/17/25 7:44	1.86	23.06	4.30	2723.89	2828.63	1.49	1.84	367.12	1.00
1/17/25 11:44	1.86	23.06	4.30	2723.55	2828.26	1.49	1.84	367.17	1.00
1/17/25 15:44	1.87	23.06	4.32	2723.28	2827.91	1.49	1.84	367.20	1.00
1/17/25 19:44	1.86	23.06	4.30	2723.15	2827.75	1.49	1.84	367.22	1.00
1/17/25 23:44	1.85	23.06	4.28	2723.31	2827.89	1.49	1.84	367.20	1.00
1/18/25 3:44	1.85	23.06	4.28	2722.98	2827.49	1.49	1.84	367.25	1.00
1/18/25 7:44	1.83	23.07	4.24	2723.28	2827.76	1.49	1.84	367.20	1.00
1/18/25 11:44	1.83	23.07	4.22	2722.86	2827.29	1.49	1.84	367.26	1.00
1/18/25 15:44	1.85	23.07	4.28	2723.11	2827.48	1.49	1.84	367.23	1.00
1/18/25 19:44	1.80	23.07	4.15	2723.17	2827.53	1.49	1.84	367.22	1.00
1/18/25 23:44	1.77	23.07	4.09	2723.41	2827.64	1.49	1.84	367.19	1.00
1/19/25 3:44	1.78	23.07	4.10	2723.26	2827.53	1.49	1.84	367.21	1.00
1/19/25 7:44	1.79	23.07	4.13	2722.85	2827.06	1.49	1.84	367.26	1.00
1/19/25 11:44	1.79	23.07	4.14	2722.95	2827.11	1.49	1.84	367.25	1.00
1/19/25 15:44	1.84	23.07	4.25	2722.80	2826.91	1.49	1.84	367.27	1.00
1/19/25 19:44	1.85	23.07	4.27	2722.62	2826.71	1.49	1.84	367.29	1.00
1/19/25 23:44	1.85	23.07	4.28	2722.65	2826.71	1.49	1.84	367.29	1.00
1/20/25 3:44	1.85	23.07	4.28	2722.55	2826.54	1.49	1.84	367.30	1.00
1/20/25 7:44	1.84	23.07	4.26	2722.62	2826.60	1.49	1.84	367.29	1.00
1/20/25 11:44	1.84	23.07	4.24	2722.21	2826.15	1.48	1.84	367.35	1.00
1/20/25 15:44	1.84	23.08	4.25	2722.18	2826.07	1.48	1.84	367.35	1.00
1/20/25 19:44	1.82	23.08	4.19	2722.14	2825.99	1.48	1.84	367.36	1.00
1/20/25 23:44	1.78	23.08	4.10	2722.48	2826.30	1.49	1.84	367.31	1.00
1/21/25 3:44	1.78	23.08	4.11	2722.49	2826.27	1.49	1.84	367.31	1.00
1/21/25 7:44	1.78	23.08	4.11	2722.46	2826.19	1.49	1.84	367.32	1.00
1/21/25 11:44	1.79	23.08	4.14	2722.46	2826.17	1.48	1.84	367.31	1.00
1/21/25 15:44	1.83	23.08	4.23	2722.44	2826.05	1.48	1.84	367.32	1.00
1/21/25 19:44	1.84	23.08	4.26	2722.47	2826.12	1.48	1.84	367.31	1.00
1/21/25 23:44	1.85	23.08	4.28	2722.20	2825.76	1.48	1.84	367.35	1.00
1/22/25 3:44	1.86	23.08	4.29	2722.30	2825.90	1.48	1.84	367.34	1.00
1/22/25 7:44	1.86	23.08	4.29	2722.14	2825.69	1.48	1.84	367.36	1.00
1/22/25 11:44	1.85	23.08	4.27	2722.37	2825.89	1.48	1.84	367.33	1.00
1/22/25 15:44	1.85	23.08	4.28	2721.82	2825.29	1.48	1.84	367.40	1.00
1/22/25 19:44	1.84	23.08	4.26	2721.91	2825.34	1.48	1.84	367.39	1.00
1/22/25 23:44	1.81	23.08	4.18	2721.96	2825.38	1.48	1.84	367.38	1.00
1/23/25 3:44	1.81	23.08	4.18	2721.76	2825.14	1.48	1.84	367.41	1.00
1/23/25 7:44	1.80	23.08	4.17	2722.01	2825.35	1.48	1.84	367.38	1.00
1/23/25 11:44	1.80	23.09	4.16	2722.16	2825.48	1.48	1.84	367.36	1.00
1/23/25 15:44	1.82	23.09	4.19	2722.15	2825.44	1.48	1.84	367.36	1.00
1/23/25 19:44	1.82	23.09	4.20	2721.86	2825.09	1.48	1.84	367.40	1.00
1/23/25 23:44	1.82	23.09	4.21	2721.98	2825.20	1.48	1.84	367.38	1.00
1/24/25 3:44	1.83	23.09	4.23	2721.74	2824.91	1.48	1.84	367.41	1.00
1/24/25 7:44	1.84	23.09	4.25	2721.69	2824.82	1.48	1.84	367.42	1.00
1/24/25 11:44	1.84	23.09	4.26	2721.86	2824.96	1.48	1.84	367.40	1.00
1/24/25 15:44	1.86	23.09	4.30	2721.72	2824.78	1.48	1.84	367.41	1.00
1/24/25 19:44	1.86	23.09	4.29	2721.46	2824.50	1.48	1.84	367.45	1.00
1/24/25 23:44	1.85	23.09	4.28	2721.41	2824.39	1.48	1.84	367.46	1.00
1/25/25 3:44	1.85	23.09	4.28	2721.60	2824.57	1.48	1.84	367.43	1.00
1/25/25 7:44	1.86	23.09	4.29	2721.63	2824.58	1.48	1.84	367.43	1.00
1/25/25 11:44	1.84	23.09	4.26	2721.82	2824.72	1.48	1.84	367.40	1.00
1/25/25 15:44	1.85	23.09	4.27	2721.56	2824.39	1.48	1.84	367.44	1.00
1/25/25 19:44	1.83	23.09	4.22	2721.61	2824.42	1.48	1.84	367.43	1.00
1/25/25 23:44	1.81	23.09	4.19	2721.73	2824.55	1.48	1.84	367.41	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/26/25 3:44	1.82	23.09	4.20	2721.80	2824.61	1.48	1.84	367.40	1.00
1/26/25 7:44	1.82	23.10	4.20	2721.77	2824.52	1.48	1.84	367.41	1.00
1/26/25 11:44	1.81	23.10	4.19	2722.16	2824.93	1.48	1.84	367.36	1.00
1/26/25 15:44	1.84	23.10	4.25	2721.87	2824.55	1.48	1.84	367.39	1.00
1/26/25 19:44	1.84	23.10	4.26	2721.50	2824.18	1.48	1.84	367.44	1.00
1/26/25 23:44	1.84	23.10	4.24	2721.35	2823.97	1.48	1.84	367.47	1.00
1/27/25 3:44	1.84	23.10	4.24	2721.49	2824.06	1.48	1.84	367.45	1.00
1/27/25 7:44	1.83	23.10	4.22	2721.37	2823.90	1.48	1.84	367.46	1.00
1/27/25 11:44	1.82	23.10	4.21	2721.29	2823.81	1.48	1.84	367.47	1.00
1/27/25 15:44	1.85	23.10	4.26	2721.27	2823.72	1.48	1.84	367.48	1.00
1/27/25 19:44	1.85	23.10	4.27	2721.39	2823.84	1.48	1.84	367.46	1.00
1/27/25 23:44	1.84	23.10	4.26	2721.20	2823.62	1.48	1.84	367.49	1.00
1/28/25 3:44	1.84	23.10	4.26	2721.49	2823.89	1.48	1.84	367.45	1.00
1/28/25 7:44	1.84	23.10	4.26	2721.47	2823.84	1.48	1.84	367.45	1.00
1/28/25 11:44	1.83	23.10	4.24	2721.25	2823.58	1.48	1.84	367.48	1.00
1/28/25 15:44	1.85	23.10	4.28	2721.44	2823.76	1.48	1.84	367.45	1.00
1/28/25 19:44	1.85	23.10	4.27	2721.18	2823.47	1.48	1.84	367.49	1.00
1/28/25 23:44	1.85	23.10	4.27	2721.27	2823.57	1.48	1.84	367.48	1.00
1/29/25 3:44	1.84	23.10	4.26	2721.13	2823.35	1.48	1.84	367.49	1.00
1/29/25 7:44	1.84	23.10	4.26	2721.35	2823.58	1.48	1.84	367.47	1.00
1/29/25 11:44	1.84	23.11	4.25	2721.29	2823.48	1.48	1.84	367.47	1.00
1/29/25 15:44	1.85	23.11	4.28	2721.37	2823.56	1.48	1.84	367.46	1.00
1/29/25 19:44	1.84	23.11	4.26	2721.21	2823.34	1.48	1.84	367.48	1.00
1/29/25 23:44	1.84	23.11	4.25	2721.40	2823.53	1.48	1.84	367.46	1.00
1/30/25 3:44	1.84	23.11	4.25	2721.52	2823.60	1.48	1.84	367.44	1.00
1/30/25 7:44	1.84	23.11	4.26	2721.49	2823.56	1.48	1.84	367.45	1.00
1/30/25 11:44	1.83	23.11	4.22	2721.33	2823.30	1.48	1.84	367.47	1.00
1/30/25 15:44	1.76	23.11	4.07	2736.27	2838.70	1.49	1.85	365.46	1.00
1/30/25 19:44	1.77	23.11	4.09	2733.15	2835.67	1.49	1.84	365.88	1.00
1/30/25 23:44	1.75	23.11	4.04	2733.52	2836.10	1.49	1.84	365.83	1.00
1/31/25 3:44	1.75	23.11	4.04	2732.72	2835.31	1.49	1.84	365.94	1.00
1/31/25 7:44	1.75	23.11	4.03	2732.54	2835.09	1.49	1.84	365.96	1.00
1/31/25 11:44	1.74	23.11	4.02	2732.52	2835.05	1.49	1.84	365.96	1.00
1/31/25 15:44	1.75	23.11	4.05	2733.05	2835.60	1.49	1.84	365.89	1.00
1/31/25 19:44	1.76	23.11	4.07	2733.16	2835.67	1.49	1.84	365.88	1.00
1/31/25 23:44	1.76	23.11	4.07	2733.00	2835.51	1.49	1.84	365.90	1.00
2/1/25 3:44	1.76	23.11	4.07	2733.01	2835.52	1.49	1.84	365.90	1.00
2/1/25 7:44	1.77	23.11	4.09	2732.67	2835.10	1.49	1.84	365.94	1.00
2/1/25 11:44	1.77	23.11	4.09	2732.49	2834.93	1.49	1.84	365.97	1.00
2/1/25 15:44	1.79	23.11	4.14	2733.28	2835.64	1.49	1.84	365.86	1.00
2/1/25 19:44	1.80	23.11	4.16	2733.22	2835.63	1.49	1.84	365.87	1.00
2/1/25 23:44	1.80	23.11	4.15	2732.97	2835.34	1.49	1.84	365.90	1.00
2/2/25 3:44	1.80	23.11	4.15	2732.84	2835.20	1.49	1.84	365.92	1.00
2/2/25 7:44	1.80	23.11	4.16	2733.27	2835.61	1.49	1.84	365.86	1.00
2/2/25 11:44	1.79	23.11	4.15	2733.29	2835.61	1.49	1.84	365.86	1.00
2/2/25 15:44	1.81	23.11	4.18	2733.64	2835.96	1.49	1.84	365.81	1.00
2/2/25 19:44	1.82	23.11	4.19	2733.47	2835.77	1.49	1.84	365.84	1.00
2/2/25 23:44	1.81	23.11	4.19	2733.63	2835.93	1.49	1.84	365.81	1.00
2/3/25 3:44	1.81	23.11	4.18	2733.79	2836.03	1.49	1.84	365.79	1.00
2/3/25 7:44	1.81	23.11	4.17	2733.31	2835.52	1.49	1.84	365.86	1.00
2/3/25 11:44	1.81	23.11	4.17	2733.24	2835.43	1.49	1.84	365.87	1.00
2/3/25 15:44	1.82	23.11	4.20	2733.67	2835.87	1.49	1.84	365.81	1.00
2/3/25 19:44	1.82	23.11	4.21	2733.43	2835.61	1.49	1.84	365.84	1.00
2/3/25 23:44	1.82	23.11	4.20	2734.05	2836.22	1.49	1.84	365.76	1.00
2/4/25 3:44	1.82	23.11	4.20	2733.97	2836.10	1.49	1.84	365.77	1.00
2/4/25 7:44	1.82	23.11	4.21	2733.59	2835.72	1.49	1.84	365.82	1.00
2/4/25 11:44	1.81	23.11	4.18	2733.89	2836.01	1.49	1.84	365.78	1.00
2/4/25 15:44	1.83	23.12	4.24	2733.94	2836.04	1.49	1.84	365.77	1.00
2/4/25 19:44	1.84	23.12	4.25	2734.30	2836.37	1.49	1.84	365.72	1.00
2/4/25 23:44	1.83	23.12	4.23	2733.99	2836.04	1.49	1.84	365.77	1.00
2/5/25 3:44	1.83	23.12	4.24	2734.26	2836.30	1.49	1.84	365.73	1.00
2/5/25 7:44	1.84	23.12	4.24	2734.27	2836.31	1.49	1.84	365.73	1.00
2/5/25 11:44	1.73	23.14	3.99	2712.92	2812.65	1.48	1.83	368.61	1.00
2/5/25 15:44	1.76	23.13	4.08	2713.07	2813.41	1.48	1.83	368.59	1.00
2/5/25 19:44	1.78	23.13	4.10	2712.54	2813.10	1.48	1.83	368.66	1.00
2/5/25 23:44	1.77	23.13	4.08	2712.71	2813.34	1.48	1.83	368.64	1.00
2/6/25 3:44	1.77	23.13	4.09	2712.44	2813.08	1.48	1.83	368.67	1.00
2/6/25 7:44	1.77	23.13	4.08	2712.30	2812.94	1.48	1.83	368.69	1.00
2/6/25 11:44	1.76	23.13	4.06	2712.20	2812.75	1.48	1.83	368.70	1.00
2/6/25 15:44	1.77	23.13	4.10	2711.73	2812.18	1.48	1.83	368.77	1.00
2/6/25 19:44	1.75	23.13	4.04	2711.45	2812.00	1.48	1.83	368.81	1.00
2/6/25 23:44	1.73	23.13	3.99	2711.19	2811.75	1.48	1.83	368.84	1.00
2/7/25 3:44	1.72	23.13	3.97	2711.56	2812.09	1.48	1.83	368.79	1.00
2/7/25 7:44	1.72	23.13	3.98	2711.91	2812.45	1.48	1.83	368.74	1.00
2/7/25 11:44	1.72	23.13	3.97	2711.68	2812.19	1.48	1.83	368.77	1.00
2/7/25 15:44	1.73	23.13	4.00	2711.94	2812.40	1.48	1.83	368.74	1.00
2/7/25 19:44	1.72	23.13	3.98	2711.64	2812.08	1.48	1.83	368.78	1.00
2/7/25 23:44	1.72	23.13	3.98	2712.06	2812.51	1.48	1.83	368.72	1.00
2/8/25 3:44	1.72	23.13	3.98	2711.89	2812.30	1.48	1.83	368.75	1.00
2/8/25 7:44	1.72	23.13	3.98	2712.32	2812.75	1.48	1.83	368.69	1.00
2/8/25 11:44	1.72	23.13	3.97	2712.35	2812.78	1.48	1.83	368.68	1.00
2/8/25 15:44	1.72	23.13	3.98	2712.14	2812.48	1.48	1.83	368.71	1.00
2/8/25 19:44	1.72	23.13	3.98	2712.45	2812.84	1.48	1.83	368.67	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/8/25 23:44	1.71	23.13	3.95	2712.64	2813.04	1.48	1.83	368.64	1.00
2/9/25 3:44	1.71	23.13	3.94	2712.94	2813.33	1.48	1.83	368.60	1.00
2/9/25 7:44	1.71	23.13	3.94	2712.52	2812.88	1.48	1.83	368.66	1.00
2/9/25 11:44	1.70	23.13	3.93	2712.99	2813.35	1.48	1.83	368.60	1.00
2/9/25 15:44	1.71	23.13	3.95	2713.37	2813.63	1.48	1.83	368.55	1.00
2/9/25 19:44	1.71	23.13	3.95	2713.86	2814.21	1.48	1.83	368.48	1.00
2/9/25 23:44	1.71	23.13	3.94	2713.50	2813.84	1.48	1.83	368.53	1.00
2/10/25 3:44	1.70	23.13	3.94	2713.58	2813.92	1.48	1.83	368.52	1.00
2/10/25 7:44	1.71	23.13	3.95	2713.85	2814.14	1.48	1.83	368.48	1.00
2/10/25 11:44	1.71	23.13	3.95	2714.23	2814.53	1.48	1.83	368.43	1.00
2/10/25 15:44	1.73	23.14	3.99	2714.22	2814.45	1.48	1.83	368.43	1.00
2/10/25 19:44	1.73	23.13	4.00	2714.39	2814.69	1.48	1.83	368.41	1.00
2/10/25 23:44	1.73	23.14	4.00	2714.23	2814.47	1.48	1.83	368.43	1.00
2/11/25 3:44	1.73	23.13	4.00	2714.46	2814.77	1.48	1.83	368.40	1.00
2/11/25 7:44	1.73	23.13	4.00	2714.58	2814.86	1.48	1.83	368.38	1.00
2/11/25 11:44	1.73	23.14	4.00	2714.57	2814.82	1.48	1.83	368.38	1.00
2/11/25 15:44	1.76	23.14	4.06	2714.61	2814.84	1.48	1.83	368.38	1.00
2/11/25 19:44	1.77	23.14	4.08	2714.79	2815.06	1.48	1.83	368.35	1.00
2/11/25 23:44	1.77	23.14	4.08	2714.99	2815.26	1.48	1.83	368.33	1.00
2/12/25 3:44	1.77	23.14	4.08	2714.54	2814.76	1.48	1.83	368.39	1.00
2/12/25 7:44	1.76	23.14	4.07	2714.74	2814.99	1.48	1.83	368.36	1.00
2/12/25 11:44	1.77	23.14	4.08	2715.00	2815.14	1.48	1.83	368.32	1.00
2/12/25 15:44	1.79	23.14	4.13	2714.85	2814.93	1.48	1.83	368.34	1.00
2/12/25 19:44	1.78	23.14	4.11	2715.01	2815.19	1.48	1.83	368.32	1.00
2/12/25 23:44	1.74	23.14	4.02	2714.88	2815.06	1.48	1.83	368.34	1.00
2/13/25 3:44	1.73	23.14	4.01	2715.24	2815.43	1.48	1.83	368.29	1.00
2/13/25 7:44	1.73	23.14	4.00	2715.54	2815.75	1.48	1.83	368.25	1.00
2/13/25 11:44	1.72	23.14	3.98	2715.22	2815.39	1.48	1.83	368.29	1.00
2/13/25 15:44	1.75	23.14	4.03	2705.59	2805.49	1.47	1.82	369.61	1.00
2/13/25 19:44	1.76	23.14	4.06	2702.88	2802.51	1.47	1.82	369.98	1.00
2/13/25 23:44	1.76	23.14	4.05	2700.63	2800.14	1.47	1.82	370.28	1.00
2/14/25 3:44	1.76	23.14	4.07	2698.85	2798.22	1.47	1.82	370.53	1.00
2/14/25 7:44	1.77	23.14	4.08	2697.91	2797.23	1.47	1.82	370.66	1.00
2/14/25 11:44	1.77	23.14	4.10	2696.84	2796.11	1.47	1.82	370.80	1.00
2/14/25 15:44	1.79	23.14	4.14	2696.10	2795.35	1.47	1.82	370.91	1.00
2/14/25 19:44	1.79	23.14	4.14	2695.97	2795.25	1.47	1.82	370.92	1.00
2/14/25 23:44	1.79	23.14	4.14	2695.07	2794.28	1.47	1.82	371.05	1.00
2/15/25 3:44	1.79	23.14	4.14	2695.80	2795.08	1.47	1.82	370.95	1.00
2/15/25 7:44	1.79	23.14	4.13	2696.34	2795.58	1.47	1.82	370.87	1.00
2/15/25 11:44	1.79	23.14	4.12	2696.83	2796.10	1.47	1.82	370.81	1.00
2/15/25 15:44	1.78	23.14	4.12	2697.68	2796.97	1.47	1.82	370.69	1.00
2/15/25 19:44	1.78	23.14	4.12	2698.40	2797.70	1.47	1.82	370.59	1.00
2/15/25 23:44	1.77	23.14	4.09	2699.21	2798.54	1.47	1.82	370.48	1.00
2/16/25 3:44	1.77	23.14	4.08	2700.21	2799.58	1.47	1.82	370.34	1.00
2/16/25 7:44	1.76	23.14	4.06	2700.92	2800.30	1.47	1.82	370.24	1.00
2/16/25 11:44	1.76	23.14	4.06	2701.50	2800.89	1.47	1.82	370.16	1.00
2/16/25 15:44	1.77	23.14	4.10	2701.74	2801.09	1.47	1.82	370.13	1.00
2/16/25 19:44	1.78	23.14	4.11	2702.62	2802.01	1.47	1.82	370.01	1.00
2/16/25 23:44	1.78	23.14	4.11	2703.12	2802.51	1.47	1.82	369.94	1.00
2/17/25 3:44	1.78	23.14	4.12	2703.48	2802.94	1.47	1.82	369.89	1.00
2/17/25 7:44	1.78	23.14	4.12	2703.78	2803.22	1.47	1.82	369.85	1.00
2/17/25 11:44	1.78	23.14	4.12	2703.69	2803.11	1.47	1.82	369.87	1.00
2/17/25 15:44	1.79	23.14	4.14	2703.60	2803.02	1.47	1.82	369.88	1.00
2/17/25 19:44	1.80	23.14	4.15	2703.12	2802.49	1.47	1.82	369.94	1.00
2/17/25 23:44	1.79	23.14	4.14	2703.02	2802.40	1.47	1.82	369.96	1.00
2/18/25 3:44	1.79	23.14	4.13	2702.77	2802.15	1.47	1.82	369.99	1.00
2/18/25 7:44	1.77	23.14	4.09	2702.45	2801.81	1.47	1.82	370.03	1.00
2/18/25 11:44	1.76	23.14	4.07	2701.97	2801.30	1.47	1.82	370.10	1.00
2/18/25 15:44	1.77	23.14	4.10	2702.13	2801.47	1.47	1.82	370.08	1.00
2/18/25 19:44	1.77	23.14	4.09	2701.77	2801.10	1.47	1.82	370.13	1.00
2/18/25 23:44	1.76	23.14	4.06	2701.61	2800.92	1.47	1.82	370.15	1.00
2/19/25 3:44	1.76	23.14	4.06	2701.32	2800.62	1.47	1.82	370.19	1.00
2/19/25 7:44	1.76	23.14	4.06	2701.11	2800.36	1.47	1.82	370.22	1.00
2/19/25 11:44	1.75	23.14	4.05	2700.31	2799.55	1.47	1.82	370.33	1.00
2/19/25 15:44	1.75	23.14	4.05	2700.10	2799.30	1.47	1.82	370.36	1.00
2/19/25 19:44	1.76	23.14	4.07	2700.36	2799.57	1.47	1.82	370.32	1.00
2/19/25 23:44	1.77	23.14	4.09	2699.57	2798.74	1.47	1.82	370.43	1.00
2/20/25 3:44	1.77	23.14	4.08	2699.22	2798.40	1.47	1.82	370.48	1.00
2/20/25 7:44	1.77	23.14	4.09	2699.06	2798.27	1.47	1.82	370.50	1.00
2/20/25 11:44	1.77	23.14	4.08	2698.69	2797.84	1.47	1.82	370.55	1.00
2/20/25 15:44	1.73	23.14	4.01	2698.66	2797.82	1.47	1.82	370.55	1.00
2/20/25 19:44	1.73	23.14	3.99	2698.40	2797.55	1.47	1.82	370.59	1.00
2/20/25 23:44	1.72	23.14	3.98	2697.64	2796.75	1.47	1.82	370.70	1.00
2/21/25 3:44	1.72	23.14	3.97	2697.85	2796.96	1.47	1.82	370.67	1.00
2/21/25 7:44	1.71	23.14	3.95	2698.01	2797.14	1.47	1.82	370.64	1.00
2/21/25 11:44	1.71	23.14	3.94	2697.67	2796.78	1.47	1.82	370.69	1.00
2/21/25 15:44	1.72	23.14	3.96	2697.31	2796.46	1.47	1.82	370.74	1.00
2/21/25 19:44	1.72	23.14	3.97	2697.54	2796.64	1.47	1.82	370.71	1.00
2/21/25 23:44	1.71	23.14	3.95	2697.16	2796.26	1.47	1.82	370.76	1.00
2/22/25 3:44	1.71	23.14	3.95	2696.94	2796.05	1.47	1.82	370.79	1.00
2/22/25 7:44	1.71	23.14	3.95	2696.85	2795.95	1.47	1.82	370.80	1.00
2/22/25 11:44	1.71	23.14	3.95	2696.41	2795.52	1.47	1.82	370.86	1.00
2/22/25 15:44	1.72	23.14	3.97	2696.56	2795.68	1.47	1.82	370.84	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/22/25 19:44	1.72	23.14	3.97	2696.39	2795.48	1.47	1.82	370.87	1.00
2/22/25 23:44	1.72	23.14	3.97	2696.18	2795.28	1.47	1.82	370.90	1.00
2/23/25 3:44	1.71	23.14	3.94	2696.10	2795.22	1.47	1.82	370.91	1.00
2/23/25 7:44	1.71	23.14	3.96	2696.22	2795.35	1.47	1.82	370.89	1.00
2/23/25 11:44	1.71	23.14	3.95	2695.65	2794.75	1.47	1.82	370.97	1.00
2/23/25 15:44	1.72	23.14	3.96	2695.97	2795.01	1.47	1.82	370.92	1.00
2/23/25 19:44	1.72	23.14	3.98	2695.73	2794.83	1.47	1.82	370.96	1.00
2/23/25 23:44	1.72	23.14	3.97	2695.96	2795.05	1.47	1.82	370.93	1.00
2/24/25 3:44	1.72	23.14	3.96	2695.72	2794.82	1.47	1.82	370.96	1.00
2/24/25 7:44	1.72	23.14	3.98	2695.50	2794.60	1.47	1.82	370.99	1.00
2/24/25 11:44	1.72	23.14	3.97	2695.73	2794.85	1.47	1.82	370.96	1.00
2/24/25 15:44	1.71	23.16	3.95	2716.26	2815.25	1.48	1.83	368.15	1.00
2/24/25 19:44	1.74	23.15	4.02	2714.23	2813.71	1.48	1.83	368.43	1.00
2/24/25 23:44	1.74	23.15	4.03	2713.19	2812.73	1.48	1.83	368.57	1.00
2/25/25 3:44	1.75	23.15	4.03	2712.37	2811.92	1.48	1.83	368.68	1.00
2/25/25 7:44	1.75	23.15	4.04	2711.53	2811.10	1.48	1.83	368.80	1.00
2/25/25 11:44	1.74	23.15	4.02	2710.15	2809.68	1.48	1.83	368.98	1.00
2/25/25 15:44	1.73	23.15	3.99	2709.52	2809.01	1.48	1.83	369.07	1.00
2/25/25 19:44	1.73	23.15	4.00	2709.18	2808.70	1.48	1.83	369.11	1.00
2/25/25 23:44	1.73	23.14	4.00	2708.81	2808.31	1.48	1.83	369.17	1.00
2/26/25 3:44	1.73	23.14	3.99	2707.69	2807.17	1.47	1.82	369.32	1.00
2/26/25 7:44	1.72	23.15	3.97	2707.54	2806.98	1.47	1.82	369.34	1.00
2/26/25 11:44	1.71	23.14	3.95	2707.08	2806.53	1.47	1.82	369.40	1.00
2/26/25 15:44	1.72	23.15	3.98	2706.99	2806.37	1.47	1.82	369.41	1.00
2/26/25 19:44	1.72	23.15	3.97	2706.50	2805.91	1.47	1.82	369.48	1.00
2/26/25 23:44	1.70	23.15	3.94	2705.90	2805.28	1.47	1.82	369.56	1.00
2/27/25 3:44	1.70	23.15	3.92	2706.03	2805.40	1.47	1.82	369.54	1.00
2/27/25 7:44	1.70	23.14	3.92	2706.09	2805.49	1.47	1.82	369.54	1.00
2/27/25 11:44	1.70	23.15	3.92	2705.59	2804.95	1.47	1.82	369.61	1.00
2/27/25 15:44	1.71	23.15	3.95	2705.65	2804.97	1.47	1.82	369.60	1.00
2/27/25 19:44	1.71	23.15	3.96	2705.61	2804.97	1.47	1.82	369.60	1.00
2/27/25 23:44	1.71	23.15	3.95	2704.85	2804.20	1.47	1.82	369.71	1.00
2/28/25 3:44	1.72	23.14	3.96	2705.54	2804.94	1.47	1.82	369.61	1.00
2/28/25 7:44	1.72	23.14	3.96	2705.40	2804.82	1.47	1.82	369.63	1.00
2/28/25 11:44	1.72	23.14	3.97	2705.59	2805.00	1.47	1.82	369.61	1.00
2/28/25 15:44	1.72	23.14	3.98	2705.82	2805.23	1.47	1.82	369.57	1.00
2/28/25 19:44	1.73	23.14	4.00	2705.22	2804.63	1.47	1.82	369.66	1.00
2/28/25 23:44	1.73	23.14	3.99	2705.46	2804.89	1.47	1.82	369.62	1.00
3/1/25 3:44	1.72	23.14	3.98	2705.44	2804.86	1.47	1.82	369.63	1.00
3/1/25 7:44	1.72	23.14	3.97	2705.67	2805.11	1.47	1.82	369.59	1.00
3/1/25 11:44	1.71	23.14	3.96	2705.91	2805.33	1.47	1.82	369.56	1.00
3/1/25 15:44	1.72	23.14	3.97	2705.47	2804.86	1.47	1.82	369.62	1.00
3/1/25 19:44	1.72	23.15	3.98	2705.85	2805.23	1.47	1.82	369.57	1.00
3/1/25 23:44	1.72	23.14	3.97	2705.99	2805.45	1.47	1.82	369.55	1.00
3/2/25 3:44	1.72	23.14	3.97	2706.08	2805.54	1.47	1.82	369.54	1.00
3/2/25 7:44	1.73	23.14	3.99	2706.26	2805.74	1.47	1.82	369.51	1.00
3/2/25 11:44	1.72	23.14	3.98	2705.99	2805.46	1.47	1.82	369.55	1.00
3/2/25 15:44	1.72	23.14	3.98	2706.24	2805.69	1.47	1.82	369.52	1.00
3/2/25 19:44	1.73	23.14	3.99	2706.24	2805.76	1.47	1.82	369.52	1.00
3/2/25 23:44	1.72	23.14	3.97	2706.59	2806.06	1.47	1.82	369.47	1.00
3/3/25 3:44	1.72	23.14	3.96	2706.68	2806.16	1.47	1.82	369.46	1.00
3/3/25 7:44	1.71	23.14	3.96	2706.91	2806.41	1.47	1.82	369.43	1.00
3/3/25 11:44	1.72	23.14	3.97	2707.03	2806.54	1.47	1.82	369.41	1.00
3/3/25 15:44	1.72	23.14	3.98	2707.20	2806.71	1.47	1.82	369.38	1.00
3/3/25 19:44	1.72	23.14	3.98	2706.99	2806.52	1.47	1.82	369.41	1.00
3/3/25 23:44	1.72	23.14	3.98	2707.35	2806.90	1.47	1.82	369.37	1.00
3/4/25 3:44	1.72	23.14	3.98	2707.31	2806.87	1.47	1.82	369.37	1.00
3/4/25 7:44	1.72	23.14	3.98	2707.80	2807.39	1.47	1.82	369.30	1.00
3/4/25 11:44	1.72	23.14	3.97	2707.72	2807.33	1.47	1.82	369.31	1.00
3/4/25 15:44	1.72	23.14	3.97	2708.05	2807.64	1.47	1.82	369.27	1.00
3/4/25 19:44	1.71	23.14	3.95	2708.14	2807.74	1.47	1.83	369.26	1.00
3/4/25 23:44	1.70	23.14	3.93	2708.07	2807.70	1.47	1.83	369.27	1.00
3/5/25 3:44	1.70	23.14	3.92	2708.35	2808.03	1.47	1.83	369.23	1.00
3/5/25 7:44	1.69	23.14	3.91	2708.37	2808.03	1.47	1.83	369.23	1.00
3/5/25 11:44	1.69	23.14	3.89	2708.65	2808.33	1.48	1.83	369.19	1.00
3/5/25 15:44	1.71	23.15	3.95	2714.25	2813.44	1.48	1.83	368.43	1.00
3/5/25 19:44	1.71	23.15	3.94	2712.58	2812.14	1.48	1.83	368.65	1.00
3/5/25 23:44	1.71	23.14	3.94	2712.53	2812.22	1.48	1.83	368.66	1.00
3/6/25 3:44	1.71	23.14	3.95	2713.06	2812.82	1.48	1.83	368.59	1.00
3/6/25 7:44	1.71	23.14	3.95	2712.72	2812.55	1.48	1.83	368.63	1.00
3/6/25 11:44	1.71	23.14	3.95	2712.69	2812.55	1.48	1.83	368.64	1.00
3/6/25 15:44	1.72	23.14	3.97	2712.65	2812.50	1.48	1.83	368.64	1.00
3/6/25 19:44	1.72	23.14	3.97	2711.88	2811.74	1.48	1.83	368.75	1.00
3/6/25 23:44	1.72	23.14	3.97	2711.94	2811.84	1.48	1.83	368.74	1.00
3/7/25 3:44	1.72	23.14	3.96	2711.78	2811.66	1.48	1.83	368.76	1.00
3/7/25 7:44	1.71	23.14	3.95	2712.53	2812.50	1.48	1.83	368.66	1.00
3/7/25 11:44	1.71	23.14	3.94	2713.17	2813.08	1.48	1.83	368.57	1.00
3/7/25 15:44	1.71	23.14	3.95	2713.46	2813.41	1.48	1.83	368.53	1.00
3/7/25 19:44	1.71	23.14	3.95	2714.11	2814.15	1.48	1.83	368.45	1.00
3/7/25 23:44	1.70	23.14	3.93	2714.99	2815.12	1.48	1.83	368.33	1.00
3/8/25 3:44	1.70	23.14	3.93	2715.81	2815.96	1.48	1.83	368.21	1.00
3/8/25 7:44	1.70	23.14	3.93	2716.05	2816.23	1.48	1.83	368.18	1.00
3/8/25 11:44	1.69	23.14	3.91	2716.05	2816.24	1.48	1.83	368.18	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/8/25 15:44	1.70	23.14	3.92	2717.56	2817.82	1.48	1.83	367.98	1.00
3/8/25 19:44	1.69	23.14	3.89	2717.66	2817.98	1.48	1.83	367.96	1.00
3/8/25 23:44	1.68	23.14	3.88	2718.38	2818.73	1.48	1.83	367.87	1.00
3/9/25 3:44	1.68	23.14	3.88	2718.52	2818.85	1.48	1.83	367.85	1.00
3/9/25 7:44	1.69	23.14	3.91	2718.86	2819.26	1.48	1.83	367.80	1.00
3/9/25 11:44	1.69	23.14	3.89	2718.82	2819.22	1.48	1.83	367.81	1.00
3/9/25 15:44	1.69	23.14	3.91	2719.10	2819.46	1.48	1.83	367.77	1.00
3/9/25 19:44	1.69	23.13	3.91	2719.46	2819.92	1.48	1.83	367.72	1.00
3/9/25 23:44	1.70	23.13	3.92	2719.16	2819.63	1.48	1.83	367.76	1.00
3/10/25 3:44	1.69	23.13	3.91	2719.49	2819.95	1.48	1.83	367.72	1.00
3/10/25 7:44	1.70	23.13	3.93	2719.28	2819.82	1.48	1.83	367.74	1.00
3/10/25 11:44	1.70	23.14	3.93	2713.53	2813.37	1.48	1.83	368.52	1.00
3/10/25 15:44	1.71	23.14	3.96	2712.76	2812.95	1.48	1.83	368.63	1.00
3/10/25 19:44	1.71	23.13	3.96	2712.54	2812.88	1.48	1.83	368.66	1.00
3/10/25 23:44	1.72	23.13	3.97	2712.49	2812.87	1.48	1.83	368.66	1.00
3/11/25 3:44	1.71	23.13	3.95	2712.72	2813.13	1.48	1.83	368.63	1.00
3/11/25 7:44	1.72	23.13	3.97	2712.40	2812.82	1.48	1.83	368.68	1.00
3/11/25 11:44	1.71	23.13	3.95	2712.36	2812.78	1.48	1.83	368.68	1.00
3/11/25 15:44	1.72	23.13	3.96	2712.13	2812.50	1.48	1.83	368.71	1.00
3/11/25 19:44	1.72	23.13	3.98	2712.04	2812.55	1.48	1.83	368.73	1.00
3/11/25 23:44	1.72	23.13	3.97	2711.65	2812.11	1.48	1.83	368.78	1.00
3/12/25 3:44	1.71	23.13	3.95	2711.30	2811.78	1.48	1.83	368.83	1.00
3/12/25 7:44	1.72	23.13	3.96	2711.10	2811.58	1.48	1.83	368.85	1.00
3/12/25 11:44	1.71	23.13	3.95	2710.66	2811.16	1.48	1.83	368.91	1.00
3/12/25 15:44	1.71	23.13	3.95	2709.73	2810.18	1.48	1.83	369.04	1.00
3/12/25 19:44	1.71	23.13	3.95	2709.60	2810.10	1.48	1.83	369.06	1.00
3/12/25 23:44	1.71	23.13	3.95	2709.26	2809.76	1.48	1.83	369.10	1.00
3/13/25 3:44	1.71	23.13	3.94	2708.42	2808.90	1.48	1.83	369.22	1.00
3/13/25 7:44	1.71	23.13	3.94	2708.75	2809.29	1.48	1.83	369.17	1.00
3/13/25 11:44	1.71	23.13	3.95	2708.14	2808.64	1.48	1.83	369.26	1.00
3/13/25 15:44	1.72	23.13	3.97	2707.52	2808.04	1.47	1.83	369.34	1.00
3/13/25 19:44	1.71	23.13	3.96	2706.94	2807.47	1.47	1.82	369.42	1.00
3/13/25 23:44	1.72	23.13	3.96	2706.68	2807.20	1.47	1.82	369.46	1.00
3/14/25 3:44	1.73	23.12	3.99	2705.99	2806.52	1.47	1.82	369.55	1.00
3/14/25 7:44	1.72	23.12	3.97	2705.45	2806.01	1.47	1.82	369.62	1.00
3/14/25 11:44	1.71	23.12	3.96	2705.46	2806.04	1.47	1.82	369.62	1.00
3/14/25 15:44	1.72	23.12	3.97	2704.81	2805.34	1.47	1.82	369.71	1.00
3/14/25 19:44	1.72	23.12	3.98	2704.48	2805.02	1.47	1.82	369.76	1.00
3/14/25 23:44	1.72	23.12	3.98	2704.11	2804.68	1.47	1.82	369.81	1.00
3/15/25 3:44	1.72	23.12	3.97	2702.96	2803.54	1.47	1.82	369.96	1.00
3/15/25 7:44	1.72	23.12	3.96	2702.95	2803.53	1.47	1.82	369.97	1.00
3/15/25 11:44	1.71	23.12	3.96	2702.55	2803.13	1.47	1.82	370.02	1.00
3/15/25 15:44	1.72	23.12	3.96	2702.35	2802.94	1.47	1.82	370.05	1.00
3/15/25 19:44	1.71	23.12	3.94	2701.98	2802.62	1.47	1.82	370.10	1.00
3/15/25 23:44	1.70	23.12	3.92	2701.32	2801.98	1.47	1.82	370.19	1.00
3/16/25 3:44	1.70	23.12	3.92	2701.38	2802.04	1.47	1.82	370.18	1.00
3/16/25 7:44	1.69	23.12	3.89	2700.84	2801.49	1.47	1.82	370.26	1.00
3/16/25 11:44	1.68	23.12	3.89	2700.22	2800.85	1.47	1.82	370.34	1.00
3/16/25 15:44	1.69	23.12	3.90	2700.23	2800.85	1.47	1.82	370.34	1.00
3/16/25 19:44	1.70	23.12	3.92	2699.47	2800.15	1.47	1.82	370.44	1.00
3/16/25 23:44	1.69	23.12	3.91	2699.58	2800.30	1.47	1.82	370.43	1.00
3/17/25 3:44	1.69	23.12	3.90	2699.13	2799.84	1.47	1.82	370.49	1.00
3/17/25 7:44	1.70	23.12	3.93	2698.68	2799.41	1.47	1.82	370.55	1.00
3/17/25 11:44	1.70	23.12	3.92	2698.83	2799.60	1.47	1.82	370.53	1.00
3/17/25 15:44	1.71	23.12	3.95	2698.74	2799.44	1.47	1.82	370.54	1.00
3/17/25 19:44	1.71	23.11	3.96	2698.00	2798.77	1.47	1.82	370.64	1.00
3/17/25 23:44	1.71	23.11	3.96	2698.11	2798.92	1.47	1.82	370.63	1.00
3/18/25 3:44	1.72	23.11	3.97	2697.80	2798.63	1.47	1.82	370.67	1.00
3/18/25 7:44	1.72	23.11	3.98	2697.37	2798.21	1.47	1.82	370.73	1.00
3/18/25 11:44	1.73	23.11	3.99	2697.05	2797.91	1.47	1.82	370.77	1.00
3/18/25 15:44	1.75	23.11	4.04	2696.99	2797.86	1.47	1.82	370.78	1.00
3/18/25 19:44	1.71	23.11	3.96	2696.49	2797.43	1.47	1.82	370.85	1.00
3/18/25 23:44	1.70	23.11	3.92	2695.62	2796.53	1.47	1.82	370.97	1.00
3/19/25 3:44	1.70	23.11	3.92	2695.93	2796.87	1.47	1.82	370.93	1.00
3/19/25 7:44	1.69	23.11	3.90	2695.47	2796.41	1.47	1.82	370.99	1.00
3/19/25 11:44	1.68	23.11	3.89	2695.28	2796.23	1.47	1.82	371.02	1.00
3/19/25 15:44	1.68	23.11	3.89	2695.10	2796.03	1.47	1.82	371.04	1.00
3/19/25 19:44	1.70	23.11	3.92	2694.92	2795.91	1.47	1.82	371.07	1.00
3/19/25 23:44	1.68	23.11	3.88	2694.96	2795.97	1.47	1.82	371.06	1.00
3/20/25 3:44	1.68	23.11	3.89	2694.81	2795.98	1.47	1.82	371.08	1.00
3/20/25 7:44	1.69	23.11	3.91	2694.38	2795.55	1.47	1.82	371.14	1.00
3/20/25 11:44	1.69	23.11	3.90	2695.55	2796.45	1.47	1.82	370.98	1.00
3/20/25 15:44	1.72	23.11	3.97	2695.38	2796.57	1.47	1.82	371.01	1.00
3/20/25 19:44	1.73	23.11	4.00	2695.81	2796.78	1.47	1.82	370.95	1.00
3/20/25 23:44	1.73	23.11	4.00	2696.38	2797.36	1.47	1.82	370.87	1.00
3/21/25 3:44	1.74	23.11	4.01	2696.65	2797.77	1.47	1.82	370.83	1.00
3/21/25 7:44	1.74	23.11	4.01	2695.36	2796.40	1.47	1.82	371.01	1.00
3/21/25 11:44	1.73	23.11	4.00	2696.54	2797.56	1.47	1.82	370.85	1.00
3/21/25 15:44	1.74	23.10	4.03	2694.33	2795.80	1.47	1.82	371.15	1.00
3/21/25 19:44	1.75	23.10	4.03	2693.00	2794.48	1.47	1.82	371.33	1.00
3/21/25 23:44	1.75	23.10	4.03	2692.57	2794.08	1.47	1.82	371.39	1.00
3/22/25 3:44	1.74	23.10	4.03	2692.68	2794.24	1.47	1.82	371.38	1.00
3/22/25 7:44	1.74	23.10	4.03	2693.02	2794.61	1.47	1.82	371.33	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/22/25 11:44	1.75	23.10	4.03	2692.28	2793.86	1.47	1.82	371.43	1.00
3/22/25 15:44	1.76	23.10	4.07	2692.10	2793.69	1.47	1.82	371.46	1.00
3/22/25 19:44	1.76	23.10	4.07	2691.94	2793.56	1.47	1.82	371.48	1.00
3/22/25 23:44	1.75	23.10	4.05	2691.59	2793.20	1.47	1.82	371.53	1.00
3/23/25 3:44	1.75	23.10	4.05	2691.26	2792.86	1.47	1.82	371.57	1.00
3/23/25 7:44	1.74	23.09	4.01	2691.51	2793.22	1.47	1.82	371.54	1.00
3/23/25 11:44	1.73	23.09	4.00	2691.52	2793.23	1.47	1.82	371.54	1.00
3/23/25 15:44	1.74	23.09	4.02	2691.42	2793.11	1.47	1.82	371.55	1.00
3/23/25 19:44	1.74	23.09	4.01	2691.31	2793.08	1.47	1.82	371.57	1.00
3/23/25 23:44	1.73	23.09	3.99	2691.20	2792.95	1.47	1.82	371.58	1.00
3/24/25 3:44	1.73	23.09	3.99	2690.87	2792.65	1.47	1.82	371.63	1.00
3/24/25 7:44	1.74	23.09	4.01	2691.00	2792.80	1.47	1.82	371.61	1.00
3/24/25 11:44	1.74	23.09	4.01	2690.99	2792.80	1.47	1.82	371.61	1.00
3/24/25 15:44	1.75	23.09	4.05	2690.75	2792.58	1.47	1.82	371.64	1.00
3/24/25 19:44	1.76	23.09	4.06	2690.29	2792.14	1.47	1.81	371.71	1.00
3/24/25 23:44	1.75	23.09	4.04	2690.31	2792.21	1.47	1.81	371.70	1.00
3/25/25 3:44	1.75	23.09	4.04	2689.89	2791.79	1.47	1.81	371.76	1.00
3/25/25 7:44	1.74	23.09	4.02	2690.07	2792.06	1.47	1.81	371.74	1.00
3/25/25 11:44	1.74	23.09	4.02	2689.96	2791.92	1.47	1.81	371.75	1.00
3/25/25 15:44	1.75	23.09	4.05	2689.93	2791.89	1.47	1.81	371.76	1.00
3/25/25 19:44	1.76	23.09	4.06	2689.37	2791.35	1.47	1.81	371.83	1.00
3/25/25 23:44	1.75	23.09	4.05	2689.31	2791.34	1.47	1.81	371.84	1.00
3/26/25 3:44	1.75	23.09	4.04	2689.35	2791.41	1.47	1.81	371.84	1.00
3/26/25 7:44	1.75	23.09	4.04	2689.50	2791.59	1.47	1.81	371.82	1.00
3/26/25 10:11	1.73	23.08	4.00	2689.17	2791.27	1.47	1.81	371.86	1.00
3/26/25 14:11	1.77	23.09	4.08	2688.73	2790.80	1.47	1.81	371.92	1.00
3/26/25 18:11	1.77	23.08	4.09	2688.76	2790.92	1.47	1.81	371.92	1.00
3/26/25 22:11	1.77	23.08	4.08	2688.73	2790.90	1.47	1.81	371.92	1.00
3/27/25 2:11	1.76	23.08	4.07	2688.39	2790.60	1.47	1.81	371.97	1.00
3/27/25 6:11	1.76	23.08	4.07	2688.90	2791.14	1.47	1.81	371.90	1.00
3/27/25 10:11	1.77	23.08	4.08	2688.58	2790.85	1.47	1.81	371.94	1.00
3/27/25 14:11	1.78	23.08	4.10	2688.69	2791.00	1.47	1.81	371.93	1.00
3/27/25 18:11	1.78	23.08	4.10	2687.86	2790.20	1.47	1.81	372.04	1.00
3/27/25 22:11	1.78	23.08	4.11	2688.36	2790.75	1.47	1.81	371.97	1.00
3/28/25 2:11	1.77	23.08	4.10	2688.26	2790.67	1.47	1.81	371.99	1.00
3/28/25 6:11	1.78	23.08	4.11	2687.94	2790.37	1.47	1.81	372.03	1.00
3/28/25 10:11	1.78	23.08	4.11	2688.29	2790.77	1.47	1.81	371.98	1.00
3/28/25 14:11	1.80	23.08	4.15	2687.70	2790.19	1.47	1.81	372.07	1.00
3/28/25 18:11	1.80	23.08	4.16	2687.61	2790.12	1.46	1.81	372.08	1.00
3/28/25 22:11	1.79	23.08	4.14	2687.68	2790.22	1.47	1.81	372.07	1.00
3/29/25 2:11	1.79	23.08	4.13	2687.36	2789.93	1.46	1.81	372.11	1.00
3/29/25 6:11	1.79	23.07	4.13	2687.29	2789.93	1.46	1.81	372.12	1.00
3/29/25 10:11	1.78	23.07	4.11	2687.07	2789.71	1.46	1.81	372.15	1.00
3/29/25 14:11	1.78	23.07	4.12	2686.90	2789.55	1.46	1.81	372.18	1.00
3/29/25 18:11	1.80	23.07	4.16	2687.19	2789.87	1.46	1.81	372.14	1.00
3/29/25 22:11	1.79	23.07	4.14	2686.94	2789.66	1.46	1.81	372.17	1.00
3/30/25 2:11	1.78	23.07	4.11	2686.55	2789.32	1.46	1.81	372.22	1.00
3/30/25 6:11	1.77	23.07	4.10	2686.40	2789.21	1.46	1.81	372.25	1.00
3/30/25 10:11	1.76	23.07	4.07	2686.11	2788.90	1.46	1.81	372.29	1.00
3/30/25 14:11	1.78	23.07	4.12	2685.91	2788.73	1.46	1.81	372.31	1.00
3/30/25 18:11	1.80	23.07	4.15	2686.24	2789.10	1.46	1.81	372.27	1.00
3/30/25 22:11	1.78	23.07	4.12	2686.21	2789.13	1.46	1.81	372.27	1.00
3/31/25 2:11	1.77	23.07	4.08	2686.10	2789.08	1.46	1.81	372.29	1.00
3/31/25 6:11	1.76	23.07	4.07	2685.96	2788.95	1.46	1.81	372.31	1.00
3/31/25 10:11	1.75	23.07	4.04	2685.72	2788.74	1.46	1.81	372.34	1.00
3/31/25 14:11	1.78	23.07	4.11	2685.43	2788.44	1.46	1.81	372.38	1.00
3/31/25 18:11	1.80	23.06	4.16	2685.23	2788.29	1.46	1.81	372.41	1.00
3/31/25 22:11	1.80	23.06	4.16	2685.11	2788.21	1.46	1.81	372.42	1.00
4/1/25 2:11	1.80	23.06	4.16	2685.38	2788.51	1.46	1.81	372.39	1.00
4/1/25 6:11	1.81	23.06	4.18	2685.15	2788.25	1.46	1.81	372.42	1.00
4/1/25 10:11	1.82	23.06	4.19	2685.08	2788.27	1.46	1.81	372.43	1.00
4/1/25 14:11	1.70	23.06	3.92	2674.99	2777.75	1.46	1.81	373.83	1.00
4/1/25 18:11	1.70	23.06	3.92	2673.33	2776.17	1.46	1.80	374.06	1.00
4/1/25 22:11	1.70	23.06	3.93	2671.91	2774.79	1.46	1.80	374.26	1.00
4/2/25 2:11	1.68	23.06	3.88	2671.46	2774.39	1.46	1.80	374.33	1.00
4/2/25 6:11	1.69	23.06	3.90	2671.03	2774.00	1.46	1.80	374.39	1.00
4/2/25 10:11	1.68	23.06	3.88	2670.66	2773.64	1.46	1.80	374.44	1.00
4/2/25 14:11	1.68	23.06	3.89	2669.56	2772.54	1.46	1.80	374.59	1.00
4/2/25 18:11	1.69	23.05	3.90	2668.41	2771.39	1.45	1.80	374.76	1.00
4/2/25 22:11	1.68	23.05	3.89	2667.96	2770.96	1.45	1.80	374.82	1.00
4/3/25 2:11	1.69	23.05	3.90	2667.49	2770.51	1.45	1.80	374.88	1.00
4/3/25 6:11	1.68	23.05	3.89	2666.39	2769.37	1.45	1.80	375.04	1.00
4/3/25 10:11	1.67	23.05	3.86	2665.37	2768.39	1.45	1.80	375.18	1.00
4/3/25 14:11	1.67	23.05	3.86	2664.70	2767.74	1.45	1.80	375.28	1.00
4/3/25 18:11	1.68	23.05	3.88	2663.76	2766.78	1.45	1.80	375.41	1.00
4/3/25 22:11	1.67	23.05	3.86	2663.07	2766.12	1.45	1.80	375.51	1.00
4/4/25 2:11	1.68	23.05	3.87	2662.48	2765.51	1.45	1.80	375.59	1.00
4/4/25 6:11	1.67	23.05	3.86	2661.76	2764.82	1.45	1.80	375.69	1.00
4/4/25 10:11	1.67	23.05	3.86	2661.07	2764.15	1.45	1.80	375.79	1.00
4/4/25 14:11	1.67	23.05	3.86	2660.60	2763.70	1.45	1.80	375.86	1.00
4/4/25 18:11	1.67	23.05	3.86	2660.10	2763.20	1.45	1.80	375.93	1.00
4/4/25 22:11	1.67	23.05	3.85	2659.61	2762.76	1.45	1.80	375.99	1.00
4/5/25 2:11	1.66	23.05	3.84	2659.31	2762.45	1.45	1.80	376.04	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/5/25 6:11	1.67	23.04	3.86	2658.53	2761.72	1.45	1.80	376.15	1.00
4/5/25 10:11	1.65	23.04	3.82	2658.57	2761.79	1.45	1.80	376.14	1.00
4/5/25 14:11	1.65	23.04	3.81	2657.83	2761.06	1.45	1.79	376.25	1.00
4/5/25 18:11	1.66	23.04	3.82	2657.81	2761.07	1.45	1.79	376.25	1.00
4/5/25 22:11	1.65	23.04	3.81	2657.58	2760.91	1.45	1.79	376.28	1.00
4/6/25 2:11	1.65	23.04	3.81	2657.04	2760.37	1.45	1.79	376.36	1.00
4/6/25 6:11	1.65	23.04	3.82	2657.14	2760.51	1.45	1.79	376.34	1.00
4/6/25 10:11	1.66	23.04	3.83	2656.97	2760.39	1.45	1.79	376.37	1.00
4/6/25 14:11	1.66	23.04	3.83	2657.05	2760.50	1.45	1.79	376.36	1.00
4/6/25 18:11	1.66	23.04	3.84	2656.15	2759.63	1.45	1.79	376.48	1.00
4/6/25 22:11	1.67	23.04	3.86	2656.65	2760.20	1.45	1.79	376.41	1.00
4/7/25 2:11	1.66	23.04	3.84	2656.44	2759.99	1.45	1.79	376.44	1.00
4/7/25 6:11	1.67	23.03	3.85	2656.23	2759.83	1.45	1.79	376.47	1.00
4/7/25 10:11	1.67	23.03	3.86	2655.65	2759.28	1.45	1.79	376.56	1.00
4/7/25 14:11	1.66	23.03	3.84	2655.79	2759.44	1.45	1.79	376.54	1.00
4/7/25 18:11	1.66	23.03	3.84	2655.44	2759.14	1.45	1.79	376.59	1.00
4/7/25 22:11	1.67	23.03	3.86	2655.44	2759.19	1.45	1.79	376.58	1.00
4/8/25 2:11	1.66	23.03	3.84	2655.76	2759.56	1.45	1.79	376.54	1.00
4/8/25 6:11	1.66	23.03	3.83	2655.90	2759.76	1.45	1.79	376.52	1.00
4/8/25 10:11	1.67	23.03	3.85	2655.65	2759.53	1.45	1.79	376.56	1.00
4/8/25 14:11	1.66	23.03	3.84	2655.40	2759.31	1.45	1.79	376.59	1.00
4/8/25 18:11	1.66	23.03	3.84	2655.44	2759.40	1.45	1.79	376.59	1.00
4/8/25 22:11	1.67	23.03	3.86	2655.55	2759.56	1.45	1.79	376.57	1.00
4/9/25 2:11	1.67	23.03	3.85	2655.13	2759.17	1.45	1.79	376.63	1.00
4/9/25 6:11	1.67	23.03	3.86	2654.98	2759.05	1.45	1.79	376.65	1.00
4/9/25 10:11	1.66	23.02	3.82	2654.69	2758.86	1.45	1.79	376.69	1.00
4/9/25 14:11	1.64	23.02	3.79	2654.33	2758.48	1.45	1.79	376.74	1.00
4/9/25 18:11	1.63	23.02	3.77	2654.82	2759.00	1.45	1.79	376.67	1.00
4/9/25 22:11	1.63	23.02	3.77	2654.55	2758.77	1.45	1.79	376.71	1.00
4/10/25 2:11	1.63	23.02	3.77	2654.43	2758.69	1.45	1.79	376.73	1.00
4/10/25 6:11	1.63	23.02	3.76	2654.61	2758.97	1.45	1.79	376.70	1.00
4/10/25 10:11	1.62	23.02	3.74	2653.98	2758.33	1.45	1.79	376.79	1.00
4/10/25 14:11	1.62	23.02	3.73	2654.11	2758.51	1.45	1.79	376.77	1.00
4/10/25 18:11	1.62	23.02	3.74	2654.38	2758.83	1.45	1.79	376.74	1.00
4/10/25 22:11	1.62	23.02	3.75	2654.24	2758.74	1.45	1.79	376.76	1.00
4/11/25 2:11	1.62	23.02	3.75	2654.05	2758.58	1.45	1.79	376.78	1.00
4/11/25 6:11	1.62	23.02	3.75	2653.86	2758.40	1.45	1.79	376.81	1.00
4/11/25 10:11	1.62	23.01	3.75	2653.82	2758.44	1.45	1.79	376.82	1.00
4/11/25 14:11	1.62	23.01	3.74	2654.02	2758.68	1.45	1.79	376.79	1.00
4/11/25 18:11	1.62	23.01	3.75	2653.26	2757.94	1.45	1.79	376.90	1.00
4/11/25 22:11	1.63	23.01	3.76	2653.24	2757.97	1.45	1.79	376.90	1.00
4/12/25 2:11	1.62	23.01	3.74	2653.46	2758.23	1.45	1.79	376.87	1.00
4/12/25 6:11	1.63	23.01	3.76	2653.07	2757.88	1.45	1.79	376.92	1.00
4/12/25 10:11	1.63	23.01	3.77	2652.90	2757.75	1.45	1.79	376.95	1.00
4/12/25 14:11	1.63	23.01	3.76	2652.74	2757.64	1.45	1.79	376.97	1.00
4/12/25 18:11	1.63	23.01	3.78	2652.32	2757.26	1.45	1.79	377.03	1.00
4/12/25 22:11	1.64	23.01	3.78	2652.44	2757.42	1.45	1.79	377.01	1.00
4/13/25 2:11	1.64	23.01	3.78	2652.42	2757.45	1.45	1.79	377.01	1.00
4/13/25 6:11	1.64	23.01	3.78	2651.98	2757.02	1.45	1.79	377.08	1.00
4/13/25 10:11	1.63	23.00	3.77	2652.01	2757.10	1.45	1.79	377.07	1.00
4/13/25 14:11	1.63	23.00	3.76	2652.03	2757.15	1.45	1.79	377.07	1.00
4/13/25 18:11	1.63	23.00	3.77	2651.93	2757.11	1.45	1.79	377.08	1.00
4/13/25 22:11	1.63	23.00	3.76	2651.96	2757.20	1.45	1.79	377.08	1.00
4/14/25 2:11	1.62	23.00	3.75	2651.83	2757.10	1.45	1.79	377.10	1.00
4/14/25 6:11	1.62	23.00	3.74	2651.85	2757.15	1.45	1.79	377.09	1.00
4/14/25 10:11	1.60	23.00	3.70	2651.85	2757.24	1.45	1.79	377.09	1.00
4/14/25 14:11	1.61	23.00	3.72	2651.55	2756.93	1.45	1.79	377.14	1.00
4/14/25 18:11	1.62	23.00	3.73	2651.35	2756.82	1.45	1.79	377.17	1.00
4/14/25 22:11	1.62	23.00	3.74	2651.92	2757.42	1.45	1.79	377.09	1.00
4/15/25 2:11	1.61	23.00	3.73	2651.53	2757.08	1.45	1.79	377.14	1.00
4/15/25 6:11	1.61	22.99	3.71	2651.28	2756.87	1.45	1.79	377.18	1.00
4/15/25 10:11	1.60	22.99	3.70	2651.48	2757.11	1.45	1.79	377.15	1.00
4/15/25 14:11	1.61	22.99	3.73	2651.31	2756.98	1.45	1.79	377.17	1.00
4/15/25 18:11	1.62	22.99	3.75	2651.35	2757.08	1.45	1.79	377.17	1.00
4/15/25 22:11	1.62	22.99	3.75	2650.76	2756.51	1.45	1.79	377.25	1.00
4/16/25 2:11	1.63	22.99	3.76	2650.74	2756.57	1.45	1.79	377.25	1.00
4/16/25 6:11	1.63	22.99	3.76	2650.47	2756.32	1.45	1.79	377.29	1.00
4/16/25 10:11	1.62	22.99	3.75	2650.14	2756.03	1.45	1.79	377.34	1.00
4/16/25 14:11	1.64	22.99	3.78	2650.25	2756.18	1.45	1.79	377.32	1.00
4/16/25 18:11	1.63	22.99	3.78	2649.86	2755.86	1.45	1.79	377.38	1.00
4/16/25 22:11	1.64	22.99	3.79	2650.03	2756.07	1.45	1.79	377.35	1.00
4/17/25 2:11	1.62	22.98	3.75	2650.19	2756.29	1.45	1.79	377.33	1.00
4/17/25 6:11	1.63	22.98	3.78	2649.42	2755.52	1.45	1.79	377.44	1.00
4/17/25 10:11	1.64	22.98	3.78	2649.41	2755.59	1.45	1.79	377.44	1.00
4/17/25 14:11	1.63	22.98	3.77	2649.20	2755.42	1.45	1.79	377.47	1.00
4/17/25 18:11	1.63	22.98	3.77	2648.95	2755.19	1.45	1.79	377.51	1.00
4/17/25 22:11	1.64	22.98	3.78	2648.53	2754.79	1.45	1.79	377.57	1.00
4/18/25 2:11	1.64	22.98	3.79	2648.10	2754.40	1.45	1.79	377.63	1.00
4/18/25 6:11	1.63	22.98	3.77	2645.52	2751.78	1.44	1.79	378.00	1.00
4/18/25 10:11	1.64	22.98	3.78	2643.54	2749.78	1.44	1.79	378.28	1.00
4/18/25 14:11	1.64	22.98	3.79	2641.62	2747.83	1.44	1.79	378.56	1.00
4/18/25 18:11	1.64	22.98	3.79	2640.49	2746.73	1.44	1.79	378.72	1.00
4/18/25 22:11	1.64	22.97	3.78	2639.69	2745.92	1.44	1.78	378.83	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/19/25 2:11	1.63	22.97	3.77	2639.35	2745.64	1.44	1.78	378.88	1.00
4/19/25 6:11	1.62	22.97	3.74	2638.38	2744.66	1.44	1.78	379.02	1.00
4/19/25 10:11	1.62	22.97	3.74	2637.22	2743.52	1.44	1.78	379.19	1.00
4/19/25 14:11	1.63	22.97	3.76	2635.67	2741.95	1.44	1.78	379.41	1.00
4/19/25 18:11	1.62	22.97	3.74	2634.16	2740.44	1.44	1.78	379.63	1.00
4/19/25 22:11	1.62	22.97	3.74	2633.03	2739.30	1.44	1.78	379.79	1.00
4/20/25 2:11	1.62	22.97	3.75	2632.54	2738.87	1.44	1.78	379.86	1.00
4/20/25 6:11	1.62	22.97	3.73	2631.60	2737.94	1.44	1.78	380.00	1.00
4/20/25 10:11	1.62	22.97	3.73	2630.50	2736.84	1.44	1.78	380.16	1.00
4/20/25 14:11	1.62	22.96	3.74	2630.06	2736.44	1.44	1.78	380.22	1.00
4/20/25 18:11	1.62	22.96	3.74	2629.29	2735.69	1.43	1.78	380.33	1.00
4/20/25 22:11	1.62	22.96	3.75	2628.50	2734.93	1.43	1.78	380.45	1.00
4/21/25 2:11	1.62	22.96	3.75	2627.66	2734.10	1.43	1.78	380.57	1.00
4/21/25 6:11	1.62	22.96	3.74	2627.23	2733.72	1.43	1.78	380.63	1.00
4/21/25 10:11	1.62	22.96	3.74	2626.59	2733.10	1.43	1.78	380.72	1.00
4/21/25 14:11	1.62	22.96	3.75	2625.30	2731.80	1.43	1.78	380.91	1.00
4/21/25 18:11	1.62	22.96	3.75	2624.24	2730.77	1.43	1.78	381.06	1.00
4/21/25 22:11	1.63	22.96	3.76	2623.03	2729.57	1.43	1.77	381.24	1.00
4/22/25 2:11	1.62	22.96	3.74	2622.31	2728.87	1.43	1.77	381.34	1.00
4/22/25 6:11	1.63	22.95	3.76	2622.05	2728.65	1.43	1.77	381.38	1.00
4/22/25 10:11	1.62	22.95	3.75	2621.08	2727.69	1.43	1.77	381.52	1.00
4/22/25 14:11	1.63	22.95	3.75	2619.80	2726.42	1.43	1.77	381.71	1.00
4/22/25 18:11	1.62	22.95	3.75	2618.14	2724.75	1.43	1.77	381.95	1.00
4/22/25 22:11	1.63	22.95	3.76	2618.01	2724.65	1.43	1.77	381.97	1.00
4/23/25 2:11	1.63	22.95	3.76	2617.19	2723.87	1.43	1.77	382.09	1.00
4/23/25 6:11	1.62	22.95	3.75	2616.68	2723.40	1.43	1.77	382.16	1.00
4/23/25 10:11	1.62	22.95	3.74	2615.90	2722.65	1.43	1.77	382.28	1.00
4/23/25 14:11	1.62	22.95	3.74	2615.74	2722.52	1.43	1.77	382.30	1.00
4/23/25 18:11	1.62	22.95	3.75	2614.19	2720.97	1.43	1.77	382.53	1.00
4/23/25 22:11	1.62	22.94	3.74	2613.59	2720.40	1.43	1.77	382.61	1.00
4/24/25 2:11	1.62	22.94	3.74	2612.85	2719.68	1.43	1.77	382.72	1.00
4/24/25 6:11	1.62	22.94	3.75	2612.23	2719.10	1.43	1.77	382.81	1.00
4/24/25 10:11	1.61	22.94	3.73	2612.25	2719.17	1.43	1.77	382.81	1.00
4/24/25 14:11	1.62	22.94	3.73	2611.42	2718.36	1.43	1.77	382.93	1.00
4/24/25 18:11	1.62	22.94	3.74	2611.85	2718.87	1.43	1.77	382.87	1.00
4/24/25 22:11	1.62	22.94	3.74	2610.21	2717.21	1.42	1.77	383.11	1.00
4/25/25 2:11	1.62	22.94	3.74	2611.03	2718.12	1.43	1.77	382.99	1.00
4/25/25 6:11	1.62	22.94	3.74	2608.82	2715.88	1.42	1.77	383.32	1.00
4/25/25 10:11	1.61	22.94	3.73	2607.62	2714.68	1.42	1.76	383.49	1.00
4/25/25 14:11	1.62	22.93	3.73	2605.23	2712.24	1.42	1.76	383.84	1.00
4/25/25 18:11	1.62	22.93	3.74	2602.20	2709.17	1.42	1.76	384.29	1.00
4/25/25 22:11	1.62	22.93	3.73	2600.31	2707.27	1.42	1.76	384.57	1.00
4/26/25 2:11	1.62	22.93	3.73	2598.63	2705.59	1.42	1.76	384.82	1.00
4/26/25 6:11	1.62	22.93	3.74	2596.76	2703.68	1.42	1.76	385.10	1.00
4/26/25 10:11	1.61	22.93	3.73	2595.84	2702.77	1.42	1.76	385.23	1.00
4/26/25 14:11	1.62	22.93	3.74	2593.41	2700.30	1.42	1.76	385.59	1.00
4/26/25 18:11	1.62	22.93	3.75	2589.94	2696.73	1.41	1.75	386.11	1.00
4/26/25 22:11	1.61	22.93	3.73	2587.45	2694.22	1.41	1.75	386.48	1.00
4/27/25 2:11	1.62	22.93	3.74	2584.65	2691.29	1.41	1.75	386.90	1.00
4/27/25 6:11	1.62	22.92	3.74	2546.01	2651.14	1.39	1.72	392.77	1.00
4/27/25 10:11	1.62	22.92	3.75	2535.38	2640.16	1.38	1.72	394.42	1.00
4/27/25 14:11	1.61	22.92	3.72	2522.32	2626.63	1.37	1.71	396.46	1.00
4/27/25 18:11	1.62	22.92	3.74	2521.96	2626.31	1.37	1.71	396.52	1.00
4/27/25 22:11	1.62	22.92	3.74	2515.20	2619.31	1.37	1.70	397.58	1.00
4/28/25 2:11	1.62	22.92	3.74	2510.71	2614.71	1.37	1.70	398.29	1.00
4/28/25 6:11	1.61	22.92	3.72	2512.72	2616.85	1.37	1.70	397.97	1.00
4/28/25 10:11	1.61	22.92	3.73	2505.10	2608.99	1.36	1.70	399.19	1.00
4/28/25 14:11	1.62	22.91	3.73	2502.18	2605.99	1.36	1.69	399.65	1.00
4/28/25 18:11	1.62	22.91	3.74	2505.98	2609.97	1.37	1.70	399.05	1.00
4/28/25 22:11	1.62	22.91	3.74	2512.87	2617.26	1.37	1.70	397.95	1.00
4/29/25 2:11	1.62	22.91	3.74	2514.11	2618.59	1.37	1.70	397.76	1.00
4/29/25 6:11	1.62	22.91	3.74	2509.22	2613.56	1.37	1.70	398.53	1.00
4/29/25 10:11	1.61	22.91	3.72	2513.10	2617.67	1.37	1.70	397.91	1.00
4/29/25 14:11	1.61	22.91	3.72	2512.06	2616.62	1.37	1.70	398.08	1.00
4/29/25 18:11	1.62	22.91	3.75	2511.07	2615.66	1.37	1.70	398.24	1.00
4/29/25 22:11	1.61	22.91	3.73	2503.70	2608.05	1.36	1.70	399.41	1.00
4/30/25 2:11	1.61	22.90	3.72	2505.98	2610.49	1.37	1.70	399.05	1.00
4/30/25 6:11	1.62	22.90	3.73	2506.96	2611.53	1.37	1.70	398.89	1.00
4/30/25 10:11	1.61	22.90	3.72	2500.11	2604.47	1.36	1.69	399.98	1.00
4/30/25 14:11	1.62	22.90	3.74	2500.74	2605.17	1.36	1.69	399.88	1.00
4/30/25 18:11	1.62	22.90	3.73	2503.31	2607.93	1.36	1.70	399.47	1.00
4/30/25 22:11	1.62	22.90	3.74	2500.73	2605.29	1.36	1.69	399.88	1.00
5/1/25 2:11	1.62	22.90	3.73	2497.22	2601.69	1.36	1.69	400.45	1.00
5/1/25 6:11	1.61	22.90	3.72	2499.12	2603.73	1.36	1.69	400.14	1.00
5/1/25 10:11	1.61	22.90	3.73	2497.06	2601.65	1.36	1.69	400.47	1.00
5/1/25 14:11	1.60	22.89	3.68	2494.68	2599.21	1.36	1.69	400.85	1.00
5/1/25 18:11	1.62	22.89	3.74	2500.94	2605.83	1.36	1.69	399.85	1.00
5/1/25 22:11	1.62	22.89	3.74	2498.91	2603.76	1.36	1.69	400.17	1.00
5/2/25 2:11	1.62	22.89	3.74	2497.52	2602.35	1.36	1.69	400.40	1.00
5/2/25 6:11	1.61	22.89	3.71	2496.45	2601.29	1.36	1.69	400.57	1.00
5/2/25 10:11	1.61	22.89	3.71	2495.56	2600.41	1.36	1.69	400.71	1.00
5/2/25 14:11	1.60	22.89	3.70	2494.39	2599.30	1.36	1.69	400.90	1.00
5/2/25 18:11	1.62	22.89	3.73	2492.72	2597.61	1.36	1.69	401.17	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/2/25 22:11	1.62	22.88	3.74	2491.21	2596.09	1.36	1.69	401.41	1.00
5/3/25 2:11	1.61	22.88	3.73	2492.38	2597.36	1.36	1.69	401.22	1.00
5/3/25 6:11	1.62	22.88	3.75	2490.60	2595.55	1.36	1.69	401.51	1.00
5/3/25 10:11	1.62	22.88	3.73	2489.79	2594.79	1.36	1.69	401.64	1.00
5/3/25 14:11	1.62	22.88	3.75	2490.79	2595.88	1.36	1.69	401.48	1.00
5/3/25 18:11	1.63	22.88	3.76	2488.94	2594.01	1.36	1.69	401.78	1.00
5/3/25 22:11	1.63	22.88	3.76	2487.69	2592.79	1.36	1.69	401.98	1.00
5/4/25 2:11	1.62	22.88	3.75	2486.04	2591.11	1.35	1.68	402.25	1.00
5/4/25 6:11	1.62	22.88	3.75	2485.48	2590.59	1.35	1.68	402.34	1.00
5/4/25 10:11	1.63	22.87	3.77	2485.23	2590.39	1.35	1.68	402.38	1.00
5/4/25 14:11	1.63	22.87	3.76	2484.46	2589.65	1.35	1.68	402.50	1.00
5/4/25 18:11	1.64	22.87	3.79	2484.39	2589.63	1.35	1.68	402.51	1.00
5/4/25 22:11	1.63	22.87	3.76	2484.79	2590.13	1.35	1.68	402.45	1.00
5/5/25 2:11	1.63	22.87	3.76	2484.43	2589.79	1.35	1.68	402.51	1.00
5/5/25 6:11	1.63	22.87	3.76	2484.44	2589.87	1.35	1.68	402.51	1.00
5/5/25 10:11	1.63	22.87	3.76	2484.25	2589.73	1.35	1.68	402.54	1.00
5/5/25 14:11	1.63	22.87	3.76	2482.22	2587.67	1.35	1.68	402.87	1.00
5/5/25 18:11	1.64	22.87	3.78	2481.68	2587.16	1.35	1.68	402.95	1.00
5/5/25 22:11	1.63	22.86	3.76	2484.82	2590.50	1.35	1.68	402.44	1.00
5/6/25 2:11	1.62	22.86	3.73	2486.46	2592.28	1.36	1.68	402.18	1.00
5/6/25 6:11	1.64	22.86	3.78	2486.70	2592.58	1.36	1.69	402.14	1.00
5/6/25 10:11	1.63	22.86	3.76	2489.75	2595.83	1.36	1.69	401.65	1.00
5/6/25 14:11	1.61	22.86	3.73	2489.24	2595.36	1.36	1.69	401.73	1.00
5/6/25 18:11	1.63	22.86	3.77	2487.43	2593.53	1.36	1.69	402.02	1.00
5/6/25 22:11	1.63	22.86	3.75	2488.61	2594.81	1.36	1.69	401.83	1.00
5/7/25 2:11	1.63	22.86	3.76	2488.33	2594.58	1.36	1.69	401.88	1.00
5/7/25 6:11	1.61	22.85	3.73	2487.86	2594.17	1.36	1.69	401.95	1.00
5/7/25 10:11	1.60	22.85	3.70	2483.76	2589.95	1.35	1.68	402.62	1.00
5/7/25 14:11	1.61	22.85	3.72	2482.77	2588.97	1.35	1.68	402.78	1.00
5/7/25 18:11	1.61	22.85	3.72	2483.29	2589.56	1.35	1.68	402.69	1.00
5/7/25 22:11	1.62	22.85	3.75	2482.27	2588.57	1.35	1.68	402.86	1.00
5/8/25 2:11	1.62	22.85	3.75	2482.38	2588.76	1.35	1.68	402.84	1.00
5/8/25 6:11	1.63	22.85	3.76	2483.00	2589.46	1.35	1.68	402.74	1.00
5/8/25 10:11	1.63	22.85	3.75	2482.41	2588.90	1.35	1.68	402.83	1.00
5/8/25 14:11	1.61	22.84	3.71	2482.38	2588.95	1.35	1.68	402.84	1.00
5/8/25 18:11	1.62	22.84	3.75	2481.51	2588.10	1.35	1.68	402.98	1.00
5/8/25 22:11	1.63	22.84	3.77	2482.15	2588.82	1.35	1.68	402.88	1.00
5/9/25 2:11	1.61	22.84	3.73	2482.27	2589.03	1.35	1.68	402.86	1.00
5/9/25 6:11	1.63	22.84	3.75	2481.43	2588.19	1.35	1.68	402.99	1.00
5/9/25 10:11	1.62	22.84	3.75	2481.70	2588.55	1.35	1.68	402.95	1.00
5/9/25 14:11	1.62	22.84	3.73	2481.59	2588.46	1.35	1.68	402.97	1.00
5/9/25 18:11	1.61	22.84	3.72	2481.11	2588.05	1.35	1.68	403.05	1.00
5/9/25 22:11	1.61	22.84	3.73	2481.03	2588.03	1.35	1.68	403.06	1.00
5/10/25 2:11	1.62	22.83	3.74	2480.79	2587.83	1.35	1.68	403.10	1.00
5/10/25 6:11	1.63	22.83	3.77	2481.20	2588.32	1.35	1.68	403.03	1.00
5/10/25 10:11	1.63	22.83	3.76	2480.33	2587.48	1.35	1.68	403.17	1.00
5/10/25 14:11	1.62	22.83	3.73	2480.52	2587.74	1.35	1.68	403.14	1.00
5/10/25 18:11	1.60	22.83	3.70	2478.60	2585.82	1.35	1.68	403.45	1.00
5/10/25 22:11	1.62	22.83	3.74	2479.91	2587.24	1.35	1.68	403.24	1.00
5/11/25 2:11	1.62	22.83	3.74	2479.26	2586.62	1.35	1.68	403.35	1.00
5/11/25 6:11	1.62	22.83	3.75	2479.86	2587.27	1.35	1.68	403.25	1.00
5/11/25 10:11	1.62	22.83	3.73	2483.00	2590.62	1.35	1.68	402.74	1.00
5/11/25 14:11	1.59	22.82	3.66	2482.66	2590.35	1.35	1.68	402.79	1.00
5/11/25 18:11	1.60	22.82	3.70	2482.50	2590.23	1.35	1.68	402.82	1.00
5/11/25 22:11	1.60	22.82	3.70	2482.43	2590.22	1.35	1.68	402.83	1.00
5/12/25 2:11	1.60	22.82	3.70	2478.96	2586.67	1.35	1.68	403.40	1.00
5/12/25 6:11	1.61	22.82	3.71	2481.86	2589.76	1.35	1.68	402.92	1.00
5/12/25 10:11	1.61	22.82	3.71	2481.27	2589.19	1.35	1.68	403.02	1.00
5/12/25 14:11	1.61	22.82	3.72	2480.69	2588.66	1.35	1.68	403.11	1.00
5/12/25 18:11	1.61	22.82	3.73	2480.70	2588.73	1.35	1.68	403.11	1.00
5/12/25 22:11	1.62	22.81	3.74	2480.19	2588.25	1.35	1.68	403.20	1.00
5/13/25 2:11	1.61	22.81	3.73	2479.90	2588.02	1.35	1.68	403.24	1.00
5/13/25 6:11	1.62	22.81	3.74	2478.56	2586.67	1.35	1.68	403.46	1.00
5/13/25 10:11	1.62	22.81	3.74	2478.19	2586.35	1.35	1.68	403.52	1.00
5/13/25 14:11	1.61	22.81	3.71	2478.28	2586.51	1.35	1.68	403.51	1.00
5/13/25 18:11	1.61	22.81	3.73	2477.98	2586.26	1.35	1.68	403.56	1.00
5/13/25 22:11	1.62	22.81	3.75	2478.02	2586.35	1.35	1.68	403.55	1.00
5/14/25 2:11	1.62	22.81	3.75	2478.77	2587.21	1.35	1.68	403.43	1.00
5/14/25 6:11	1.62	22.80	3.74	2478.68	2587.18	1.35	1.68	403.44	1.00
5/14/25 10:11	1.62	22.80	3.74	2478.29	2586.83	1.35	1.68	403.50	1.00
5/14/25 14:11	1.62	22.80	3.75	2477.80	2586.41	1.35	1.68	403.58	1.00
5/14/25 18:11	1.62	22.80	3.73	2479.88	2588.62	1.35	1.68	403.25	1.00
5/14/25 22:11	1.61	22.80	3.73	2479.90	2588.71	1.35	1.68	403.24	1.00
5/15/25 2:11	1.62	22.80	3.74	2478.94	2587.74	1.35	1.68	403.40	1.00
5/15/25 6:11	1.61	22.80	3.72	2480.33	2589.29	1.35	1.68	403.17	1.00
5/15/25 10:11	1.61	22.80	3.71	2481.41	2590.48	1.35	1.68	403.00	1.00
5/15/25 14:11	1.61	22.79	3.72	2481.11	2590.22	1.35	1.68	403.04	1.00
5/15/25 18:11	1.61	22.79	3.72	2480.32	2589.47	1.35	1.68	403.17	1.00
5/15/25 22:11	1.62	22.79	3.74	2480.08	2589.23	1.35	1.68	403.21	1.00
5/16/25 2:11	1.61	22.79	3.72	2480.18	2589.44	1.35	1.68	403.20	1.00
5/16/25 6:11	1.61	22.79	3.71	2479.02	2588.27	1.35	1.68	403.39	1.00
5/16/25 10:11	1.61	22.79	3.72	2479.73	2589.11	1.35	1.68	403.27	1.00
5/16/25 14:11	1.61	22.79	3.72	2479.09	2588.50	1.35	1.68	403.37	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/16/25 18:11	1.61	22.79	3.72	2481.29	2590.87	1.35	1.68	403.02	1.00
5/16/25 22:11	1.61	22.79	3.72	2482.17	2591.81	1.36	1.68	402.87	1.00
5/17/25 2:11	1.61	22.78	3.72	2482.48	2592.21	1.36	1.68	402.82	1.00
5/17/25 6:11	1.61	22.78	3.73	2480.90	2590.64	1.35	1.68	403.08	1.00
5/17/25 10:11	1.61	22.78	3.71	2481.41	2591.24	1.35	1.68	403.00	1.00
5/17/25 14:11	1.61	22.78	3.72	2481.33	2591.18	1.35	1.68	403.01	1.00
5/17/25 18:11	1.61	22.78	3.73	2480.21	2590.09	1.35	1.68	403.19	1.00
5/17/25 22:11	1.61	22.78	3.72	2479.93	2589.87	1.35	1.68	403.24	1.00
5/18/25 2:11	1.61	22.78	3.71	2479.30	2589.25	1.35	1.68	403.34	1.00
5/18/25 6:11	1.62	22.77	3.74	2479.03	2589.06	1.35	1.68	403.38	1.00
5/18/25 10:11	1.61	22.77	3.72	2479.40	2589.49	1.35	1.68	403.32	1.00
5/18/25 14:11	1.61	22.77	3.72	2478.61	2588.71	1.35	1.68	403.45	1.00
5/18/25 18:11	1.61	22.77	3.73	2478.38	2588.55	1.35	1.68	403.49	1.00
5/18/25 22:11	1.62	22.77	3.74	2477.64	2587.84	1.35	1.68	403.61	1.00
5/19/25 2:11	1.62	22.77	3.74	2477.62	2587.89	1.35	1.68	403.61	1.00
5/19/25 6:11	1.62	22.77	3.73	2476.95	2587.26	1.35	1.68	403.72	1.00
5/19/25 10:11	1.61	22.77	3.71	2476.99	2587.35	1.35	1.68	403.72	1.00
5/19/25 14:11	1.61	22.77	3.72	2476.12	2586.52	1.35	1.68	403.86	1.00
5/19/25 18:11	1.61	22.76	3.72	2479.38	2589.99	1.35	1.68	403.33	1.00
5/19/25 22:11	1.60	22.76	3.70	2479.13	2589.77	1.35	1.68	403.37	1.00
5/20/25 2:11	1.60	22.76	3.69	2479.47	2590.20	1.35	1.68	403.31	1.00
5/20/25 6:11	1.60	22.76	3.70	2479.47	2590.24	1.35	1.68	403.31	1.00
5/20/25 10:11	1.60	22.76	3.69	2479.07	2589.89	1.35	1.68	403.38	1.00
5/20/25 14:11	1.60	22.76	3.69	2479.14	2590.03	1.35	1.68	403.37	1.00
5/20/25 18:11	1.60	22.76	3.70	2479.02	2589.97	1.35	1.68	403.39	1.00
5/20/25 22:11	1.61	22.76	3.72	2478.07	2589.07	1.35	1.68	403.54	1.00
5/21/25 2:11	1.61	22.75	3.71	2478.26	2589.30	1.35	1.68	403.51	1.00
5/21/25 6:11	1.60	22.75	3.70	2478.18	2589.29	1.35	1.68	403.52	1.00
5/21/25 10:11	1.61	22.75	3.71	2477.69	2588.84	1.35	1.68	403.60	1.00
5/21/25 14:11	1.60	22.75	3.69	2477.88	2589.12	1.35	1.68	403.57	1.00
5/21/25 18:11	1.61	22.75	3.71	2477.51	2588.79	1.35	1.68	403.63	1.00
5/21/25 22:11	1.61	22.75	3.72	2476.96	2588.27	1.35	1.68	403.72	1.00
5/22/25 2:11	1.61	22.75	3.72	2476.63	2587.95	1.35	1.68	403.78	1.00
5/22/25 6:11	1.61	22.75	3.72	2476.30	2587.73	1.35	1.68	403.83	1.00
5/22/25 10:11	1.60	22.75	3.69	2475.58	2586.99	1.35	1.68	403.95	1.00
5/22/25 14:11	1.61	22.74	3.71	2475.90	2587.39	1.35	1.68	403.89	1.00
5/22/25 18:11	1.61	22.74	3.73	2475.65	2587.21	1.35	1.68	403.93	1.00
5/22/25 22:11	1.61	22.74	3.72	2474.63	2586.22	1.35	1.68	404.10	1.00
5/23/25 2:11	1.61	22.74	3.72	2474.94	2586.57	1.35	1.68	404.05	1.00
5/23/25 6:11	1.61	22.74	3.71	2478.46	2590.35	1.35	1.68	403.48	1.00
5/23/25 10:11	1.60	22.74	3.70	2478.79	2590.74	1.35	1.68	403.42	1.00
5/23/25 14:11	1.60	22.74	3.70	2478.44	2590.43	1.35	1.68	403.48	1.00
5/23/25 18:11	1.61	22.74	3.71	2477.68	2589.71	1.35	1.68	403.60	1.00
5/23/25 22:11	1.61	22.73	3.72	2477.29	2589.38	1.35	1.68	403.67	1.00
5/24/25 2:11	1.61	22.73	3.72	2478.01	2590.19	1.35	1.68	403.55	1.00
5/24/25 6:11	1.61	22.73	3.72	2477.16	2589.39	1.35	1.68	403.69	1.00
5/24/25 10:11	1.60	22.73	3.70	2477.28	2589.54	1.35	1.68	403.67	1.00
5/24/25 14:11	1.61	22.73	3.71	2477.36	2589.67	1.35	1.68	403.66	1.00
5/24/25 18:11	1.61	22.73	3.71	2476.79	2589.15	1.35	1.68	403.75	1.00
5/24/25 22:11	1.61	22.73	3.73	2476.77	2589.18	1.35	1.68	403.75	1.00
5/25/25 2:11	1.61	22.73	3.71	2475.88	2588.33	1.35	1.68	403.90	1.00
5/25/25 6:11	1.61	22.72	3.72	2476.01	2588.53	1.35	1.68	403.88	1.00
5/25/25 10:11	1.60	22.72	3.70	2476.07	2588.67	1.35	1.68	403.87	1.00
5/25/25 14:11	1.61	22.72	3.71	2475.43	2588.03	1.35	1.68	403.97	1.00
5/25/25 18:11	1.61	22.72	3.71	2474.87	2587.52	1.35	1.68	404.06	1.00
5/25/25 22:11	1.60	22.72	3.71	2475.06	2587.78	1.35	1.68	404.03	1.00
5/26/25 2:11	1.61	22.72	3.71	2475.05	2587.85	1.35	1.68	404.03	1.00
5/26/25 6:11	1.61	22.72	3.71	2474.92	2587.77	1.35	1.68	404.05	1.00
5/26/25 10:11	1.61	22.72	3.71	2472.57	2585.36	1.35	1.68	404.44	1.00
5/26/25 14:11	1.60	22.71	3.70	2472.08	2584.94	1.35	1.68	404.52	1.00
5/26/25 18:11	1.61	22.71	3.72	2476.33	2589.43	1.35	1.68	403.82	1.00
5/26/25 22:11	1.61	22.71	3.71	2476.40	2589.57	1.35	1.68	403.81	1.00
5/27/25 2:11	1.60	22.71	3.71	2476.40	2589.65	1.35	1.68	403.81	1.00
5/27/25 6:11	1.60	22.71	3.70	2475.90	2589.22	1.35	1.68	403.89	1.00
5/27/25 10:11	1.60	22.71	3.70	2476.16	2589.54	1.35	1.68	403.85	1.00
5/27/25 14:11	1.60	22.71	3.69	2476.04	2589.48	1.35	1.68	403.87	1.00
5/27/25 18:11	1.61	22.70	3.71	2475.54	2589.03	1.35	1.68	403.95	1.00
5/27/25 22:11	1.61	22.70	3.71	2475.34	2588.89	1.35	1.68	403.98	1.00
5/28/25 2:11	1.61	22.70	3.71	2475.04	2588.65	1.35	1.68	404.03	1.00
5/28/25 6:11	1.60	22.70	3.71	2475.10	2588.73	1.35	1.68	404.02	1.00
5/28/25 10:11	1.60	22.70	3.70	2475.05	2588.77	1.35	1.68	404.03	1.00
5/28/25 14:11	1.60	22.70	3.70	2476.46	2590.30	1.35	1.68	403.80	1.00
5/28/25 18:11	1.61	22.70	3.71	2476.14	2590.04	1.35	1.68	403.85	1.00
5/28/25 22:11	1.61	22.70	3.73	2475.76	2589.70	1.35	1.68	403.92	1.00
5/29/25 2:11	1.61	22.70	3.71	2475.55	2589.53	1.35	1.68	403.95	1.00
5/29/25 6:11	1.61	22.69	3.72	2474.94	2588.97	1.35	1.68	404.05	1.00
5/29/25 10:11	1.60	22.69	3.70	2474.88	2588.95	1.35	1.68	404.06	1.00
5/29/25 14:11	1.60	22.69	3.70	2474.61	2588.75	1.35	1.68	404.10	1.00
5/29/25 18:11	1.60	22.69	3.70	2474.34	2588.48	1.35	1.68	404.15	1.00
5/29/25 22:11	1.60	22.69	3.69	2474.13	2588.28	1.35	1.68	404.18	1.00
5/30/25 2:11	1.60	22.69	3.69	2474.44	2588.65	1.35	1.68	404.13	1.00
5/30/25 6:11	1.60	22.69	3.69	2473.40	2587.64	1.35	1.68	404.30	1.00
5/30/25 10:11	1.60	22.69	3.70	2473.31	2587.59	1.35	1.68	404.32	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/30/25 14:11	1.59	22.69	3.66	2471.11	2585.34	1.35	1.68	404.68	1.00
5/30/25 18:11	1.60	22.69	3.70	2470.83	2585.13	1.35	1.68	404.72	1.00
5/30/25 22:11	1.60	22.68	3.71	2470.55	2584.92	1.35	1.68	404.77	1.00
5/31/25 2:11	1.60	22.68	3.70	2469.86	2584.25	1.35	1.68	404.88	1.00
5/31/25 6:11	1.60	22.68	3.70	2470.02	2584.45	1.35	1.68	404.86	1.00
5/31/25 10:11	1.60	22.68	3.69	2470.21	2584.76	1.35	1.68	404.82	1.00
5/31/25 14:11	1.60	22.68	3.70	2469.11	2583.65	1.35	1.68	405.00	1.00
5/31/25 18:11	1.60	22.68	3.70	2470.06	2584.69	1.35	1.68	404.85	1.00
5/31/25 22:11	1.61	22.68	3.72	2468.95	2583.62	1.35	1.68	405.03	1.00
6/1/25 2:11	1.60	22.68	3.70	2470.88	2585.69	1.35	1.68	404.71	1.00
6/1/25 6:11	1.61	22.67	3.71	2470.77	2585.63	1.35	1.68	404.73	1.00
6/1/25 10:11	1.60	22.67	3.70	2470.31	2585.22	1.35	1.68	404.81	1.00
6/1/25 14:11	1.60	22.67	3.70	2470.33	2585.30	1.35	1.68	404.80	1.00
6/1/25 18:11	1.60	22.67	3.71	2469.51	2584.50	1.35	1.68	404.94	1.00
6/1/25 22:11	1.61	22.67	3.72	2469.49	2584.55	1.35	1.68	404.94	1.00
6/2/25 2:11	1.61	22.67	3.71	2468.77	2583.86	1.35	1.68	405.06	1.00
6/2/25 6:11	1.61	22.67	3.71	2469.08	2584.23	1.35	1.68	405.01	1.00
6/2/25 10:11	1.61	22.67	3.71	2468.46	2583.63	1.35	1.68	405.11	1.00
6/2/25 14:11	1.60	22.66	3.70	2468.18	2583.44	1.35	1.68	405.16	1.00
6/2/25 18:11	1.60	22.66	3.70	2468.13	2583.43	1.35	1.68	405.17	1.00
6/2/25 22:11	1.61	22.66	3.72	2470.72	2586.20	1.35	1.68	404.74	1.00
6/3/25 2:11	1.61	22.66	3.71	2470.78	2586.32	1.35	1.68	404.73	1.00
6/3/25 6:11	1.61	22.66	3.72	2470.34	2585.93	1.35	1.68	404.80	1.00
6/3/25 10:11	1.51	22.66	3.50	2483.87	2599.87	1.36	1.69	402.60	1.00
6/3/25 14:11	1.60	22.66	3.69	2485.10	2601.53	1.36	1.69	402.40	1.00
6/3/25 18:11	1.60	22.66	3.70	2486.17	2602.74	1.36	1.69	402.23	1.00
6/3/25 22:11	1.60	22.65	3.70	2485.95	2602.57	1.36	1.69	402.26	1.00
6/4/25 2:11	1.60	22.65	3.69	2486.40	2603.11	1.36	1.69	402.19	1.00
6/4/25 6:11	1.59	22.65	3.67	2487.12	2603.95	1.36	1.69	402.07	1.00
6/4/25 10:11	1.59	22.65	3.67	2487.35	2604.23	1.36	1.69	402.04	1.00
6/4/25 14:11	1.60	22.65	3.69	2486.52	2603.41	1.36	1.69	402.17	1.00
6/4/25 18:11	1.61	22.65	3.72	2485.75	2602.66	1.36	1.69	402.29	1.00
6/4/25 22:11	1.61	22.65	3.72	2484.97	2601.91	1.36	1.69	402.42	1.00
6/5/25 2:11	1.61	22.65	3.72	2484.42	2601.41	1.36	1.69	402.51	1.00
6/5/25 6:11	1.61	22.64	3.73	2483.38	2600.36	1.36	1.69	402.68	1.00
6/5/25 10:11	1.61	22.64	3.71	2481.75	2598.70	1.36	1.69	402.94	1.00
6/5/25 14:11	1.61	22.64	3.73	2479.33	2596.23	1.36	1.69	403.33	1.00
6/5/25 18:11	1.62	22.64	3.74	2476.38	2593.21	1.36	1.69	403.82	1.00
6/5/25 22:11	1.62	22.64	3.73	2474.68	2591.48	1.36	1.68	404.09	1.00
6/6/25 2:11	1.62	22.64	3.73	2472.95	2589.73	1.35	1.68	404.37	1.00
6/6/25 6:11	1.62	22.64	3.75	2471.60	2588.37	1.35	1.68	404.60	1.00
6/6/25 10:11	1.62	22.64	3.75	2470.39	2587.18	1.35	1.68	404.79	1.00
6/6/25 14:11	1.63	22.64	3.76	2469.34	2586.10	1.35	1.68	404.97	1.00
6/6/25 18:11	1.63	22.63	3.78	2466.92	2583.64	1.35	1.68	405.36	1.00
6/6/25 22:11	1.64	22.63	3.78	2465.99	2582.70	1.35	1.68	405.52	1.00
6/7/25 2:11	1.64	22.63	3.79	2464.78	2581.50	1.35	1.68	405.72	1.00
6/7/25 6:11	1.64	22.63	3.78	2464.29	2581.06	1.35	1.68	405.80	1.00
6/7/25 10:11	1.63	22.63	3.78	2463.48	2580.27	1.35	1.68	405.93	1.00
6/7/25 14:11	1.64	22.63	3.80	2462.58	2579.35	1.35	1.68	406.08	1.00
6/7/25 18:11	1.66	22.63	3.83	2461.33	2578.14	1.35	1.68	406.28	1.00
6/7/25 22:11	1.66	22.63	3.83	2460.43	2577.24	1.35	1.68	406.43	1.00
6/8/25 2:11	1.66	22.63	3.83	2459.01	2575.82	1.35	1.67	406.67	1.00
6/8/25 6:11	1.66	22.62	3.84	2458.13	2574.94	1.35	1.67	406.81	1.00
6/8/25 10:11	1.66	22.62	3.83	2456.97	2573.80	1.35	1.67	407.00	1.00
6/8/25 14:11	1.67	22.62	3.86	2455.20	2571.99	1.34	1.67	407.30	1.00
6/8/25 18:11	1.68	22.62	3.88	2434.83	2550.68	1.33	1.66	410.71	1.00
6/8/25 22:11	1.68	22.62	3.89	2417.59	2532.72	1.32	1.65	413.63	1.00
6/9/25 2:11	1.66	22.62	3.83	2411.83	2526.73	1.32	1.64	414.62	1.00
6/9/25 6:11	1.65	22.62	3.80	2408.52	2523.32	1.32	1.64	415.19	1.00
6/9/25 10:11	1.65	22.62	3.81	2402.31	2516.87	1.31	1.64	416.27	1.00
6/9/25 14:11	1.66	22.62	3.84	2382.97	2496.65	1.30	1.62	419.64	1.00
6/9/25 18:11	1.69	22.61	3.89	2350.48	2462.68	1.28	1.60	425.44	1.00
6/9/25 22:11	1.67	22.61	3.85	2340.25	2451.97	1.28	1.59	427.30	1.00
6/10/25 2:11	1.67	22.61	3.85	2332.62	2444.07	1.27	1.59	428.70	1.00
6/10/25 6:11	1.67	22.61	3.87	2319.87	2430.77	1.27	1.58	431.06	1.00
6/10/25 10:11	1.68	22.61	3.88	2308.92	2419.35	1.26	1.57	433.10	1.00
6/10/25 14:11	1.69	22.61	3.90	2296.52	2406.38	1.25	1.56	435.44	1.00
6/10/25 18:11	1.70	22.61	3.92	2277.59	2386.61	1.24	1.55	439.06	1.00
6/10/25 22:11	1.69	22.61	3.91	2262.97	2371.34	1.23	1.54	441.90	1.00
6/11/25 2:11	1.70	22.61	3.92	2252.71	2360.64	1.23	1.53	443.91	1.00
6/11/25 6:11	1.70	22.61	3.92	2246.08	2353.75	1.22	1.53	445.22	1.00
6/11/25 10:11	1.70	22.60	3.92	2249.87	2357.77	1.23	1.53	444.47	1.00
6/11/25 14:11	1.71	22.60	3.95	2251.11	2359.11	1.23	1.53	444.23	1.00
6/11/25 18:11	1.72	22.60	3.98	2243.79	2351.52	1.22	1.53	445.67	1.00
6/11/25 22:11	1.72	22.60	3.97	2256.58	2364.97	1.23	1.54	443.15	1.00
6/12/25 2:11	1.71	22.60	3.96	2257.54	2366.03	1.23	1.54	442.96	1.00
6/12/25 6:11	1.72	22.60	3.98	2249.25	2357.38	1.23	1.53	444.59	1.00
6/12/25 10:11	1.73	22.60	3.99	2243.08	2350.97	1.22	1.53	445.82	1.00
6/12/25 14:11	1.73	22.60	4.00	2227.23	2334.41	1.21	1.52	448.99	1.00
6/12/25 18:11	1.75	22.59	4.04	2222.64	2329.65	1.21	1.51	449.92	1.00
6/12/25 22:11	1.74	22.59	4.01	2222.52	2329.57	1.21	1.51	449.94	1.00
6/13/25 2:11	1.74	22.59	4.02	2219.40	2326.37	1.21	1.51	450.57	1.00
6/13/25 6:11	1.74	22.59	4.02	2217.62	2324.54	1.21	1.51	450.93	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/13/25 10:11	1.73	22.59	4.01	2215.57	2322.44	1.21	1.51	451.35	1.00
6/13/25 14:11	1.74	22.59	4.03	2212.29	2319.07	1.21	1.51	452.02	1.00
6/13/25 18:11	1.75	22.59	4.05	2207.83	2314.44	1.20	1.50	452.93	1.00
6/13/25 22:11	1.74	22.59	4.01	2206.03	2312.59	1.20	1.50	453.30	1.00
6/14/25 2:11	1.73	22.59	3.99	2204.34	2310.87	1.20	1.50	453.65	1.00
6/14/25 6:11	1.73	22.59	4.00	2202.13	2308.61	1.20	1.50	454.11	1.00
6/14/25 10:11	1.73	22.58	4.00	2198.87	2305.23	1.20	1.50	454.78	1.00
6/14/25 14:11	1.75	22.58	4.03	2192.18	2298.27	1.19	1.49	456.17	1.00
6/14/25 18:11	1.75	22.58	4.05	2185.01	2290.81	1.19	1.49	457.66	1.00
6/14/25 22:11	1.75	22.58	4.04	2179.80	2285.38	1.19	1.49	458.76	1.00
6/15/25 2:11	1.75	22.58	4.04	2174.07	2279.44	1.18	1.48	459.97	1.00
6/15/25 6:11	1.75	22.58	4.05	2167.63	2272.72	1.18	1.48	461.33	1.00
6/15/25 10:11	1.75	22.58	4.05	2161.06	2265.89	1.18	1.47	462.74	1.00
6/15/25 14:11	1.76	22.58	4.07	2153.75	2258.25	1.17	1.47	464.31	1.00
6/15/25 18:11	1.74	22.58	4.03	2149.54	2253.89	1.17	1.47	465.22	1.00
6/15/25 22:11	1.75	22.57	4.05	2144.36	2248.54	1.17	1.46	466.34	1.00
6/16/25 2:11	1.76	22.57	4.07	2139.29	2243.24	1.16	1.46	467.44	1.00
6/16/25 6:11	1.76	22.57	4.06	2133.53	2237.26	1.16	1.45	468.71	1.00
6/16/25 10:11	1.76	22.57	4.06	2129.96	2233.56	1.16	1.45	469.49	1.00
6/16/25 14:11	1.77	22.57	4.10	2120.87	2224.07	1.15	1.45	471.50	1.00
6/16/25 18:11	1.79	22.57	4.13	2112.46	2215.37	1.15	1.44	473.38	1.00
6/16/25 22:11	1.79	22.57	4.13	2105.44	2208.10	1.14	1.44	474.96	1.00
6/17/25 2:11	1.78	22.56	4.12	2099.01	2201.41	1.14	1.43	476.41	1.00
6/17/25 6:11	1.78	22.56	4.12	2093.77	2195.95	1.14	1.43	477.61	1.00
6/17/25 10:11	1.78	22.56	4.11	2090.78	2192.88	1.14	1.43	478.29	1.00
6/17/25 14:11	1.80	22.56	4.15	2125.59	2229.42	1.16	1.45	470.46	1.00
6/17/25 18:11	1.80	22.56	4.17	2108.22	2211.28	1.15	1.44	474.33	1.00
6/17/25 22:11	1.80	22.56	4.16	2150.02	2255.15	1.17	1.47	465.11	1.00
6/18/25 2:11	1.77	22.56	4.09	2143.47	2248.35	1.17	1.46	466.53	1.00
6/18/25 6:11	1.74	22.56	4.03	2138.71	2243.39	1.16	1.46	467.57	1.00
6/18/25 10:11	1.73	22.56	4.01	2132.35	2236.78	1.16	1.45	468.97	1.00
6/18/25 14:11	1.74	22.55	4.02	2120.12	2223.99	1.15	1.45	471.67	1.00
6/18/25 18:11	1.75	22.55	4.05	2111.18	2214.68	1.15	1.44	473.67	1.00
6/18/25 22:11	1.75	22.55	4.04	2108.58	2212.00	1.15	1.44	474.25	1.00
6/19/25 2:11	1.76	22.55	4.06	2109.30	2212.79	1.15	1.44	474.09	1.00
6/19/25 6:11	1.75	22.55	4.04	2110.38	2213.95	1.15	1.44	473.85	1.00
6/19/25 10:11	1.74	22.55	4.03	2104.82	2208.16	1.14	1.44	475.10	1.00
6/19/25 14:11	1.75	22.55	4.04	2099.61	2202.74	1.14	1.43	476.28	1.00
6/19/25 18:11	1.77	22.55	4.08	2092.25	2195.08	1.14	1.43	477.95	1.00
6/19/25 22:11	1.77	22.55	4.09	2087.67	2190.30	1.13	1.42	479.00	1.00
6/20/25 2:11	1.77	22.55	4.10	2084.24	2186.75	1.13	1.42	479.79	1.00
6/20/25 6:11	1.78	22.54	4.11	2082.41	2184.90	1.13	1.42	480.21	1.00
6/20/25 10:11	1.76	22.54	4.08	2078.17	2180.48	1.13	1.42	481.19	1.00
6/20/25 14:11	1.79	22.54	4.13	2080.70	2183.19	1.13	1.42	480.61	1.00
6/20/25 18:11	1.78	22.54	4.11	2075.01	2177.27	1.13	1.42	481.92	1.00
6/20/25 22:11	1.79	22.54	4.13	2071.80	2173.95	1.13	1.41	482.67	1.00
6/21/25 2:11	1.79	22.54	4.13	2069.06	2171.14	1.12	1.41	483.31	1.00
6/21/25 6:11	1.79	22.54	4.13	2065.89	2167.85	1.12	1.41	484.05	1.00
6/21/25 10:11	1.80	22.54	4.15	2067.35	2169.42	1.12	1.41	483.71	1.00
6/21/25 14:11	1.80	22.54	4.17	2062.08	2163.93	1.12	1.41	484.95	1.00
6/21/25 18:11	1.81	22.54	4.18	2063.40	2165.35	1.12	1.41	484.64	1.00
6/21/25 22:11	1.80	22.53	4.16	2063.41	2165.43	1.12	1.41	484.64	1.00
6/22/25 2:11	1.80	22.53	4.15	2062.47	2164.48	1.12	1.41	484.86	1.00
6/22/25 6:11	1.80	22.53	4.15	2059.54	2161.47	1.12	1.40	485.55	1.00
6/22/25 10:11	1.80	22.53	4.15	2057.28	2159.12	1.12	1.40	486.08	1.00
6/22/25 14:11	1.74	22.53	4.03	2051.92	2153.52	1.11	1.40	487.35	1.00
6/22/25 18:11	1.76	22.53	4.07	2048.68	2150.17	1.11	1.40	488.12	1.00
6/22/25 22:11	1.74	22.53	4.01	2051.27	2152.94	1.11	1.40	487.50	1.00
6/23/25 2:11	1.71	22.53	3.95	2048.50	2150.06	1.11	1.40	488.16	1.00
6/23/25 6:11	1.72	22.53	3.97	2045.28	2146.74	1.11	1.40	488.93	1.00
6/23/25 10:11	1.72	22.53	3.97	2043.63	2145.02	1.11	1.39	489.32	1.00
6/23/25 14:11	1.73	22.52	4.01	2040.56	2141.84	1.11	1.39	490.06	1.00
6/23/25 18:11	1.70	22.52	3.92	2037.49	2138.68	1.11	1.39	490.80	1.00
6/23/25 22:11	1.70	22.52	3.92	2037.26	2138.47	1.11	1.39	490.86	1.00
6/24/25 2:11	1.71	22.52	3.94	2036.78	2138.01	1.11	1.39	490.97	1.00
6/24/25 6:11	1.71	22.52	3.95	2034.88	2136.04	1.11	1.39	491.43	1.00
6/24/25 10:11	1.70	22.52	3.93	2034.90	2136.10	1.11	1.39	491.42	1.00
6/24/25 14:11	1.71	22.52	3.95	2034.52	2135.74	1.11	1.39	491.52	1.00
6/24/25 18:11	1.71	22.52	3.95	2034.48	2135.72	1.11	1.39	491.52	1.00
6/24/25 22:11	1.71	22.52	3.96	2036.53	2137.92	1.11	1.39	491.03	1.00
6/25/25 2:11	1.70	22.52	3.93	2035.90	2137.31	1.11	1.39	491.18	1.00
6/25/25 6:11	1.71	22.52	3.94	2035.40	2136.81	1.11	1.39	491.31	1.00
6/25/25 10:11	1.70	22.51	3.94	2038.23	2139.85	1.11	1.39	490.62	1.00
6/25/25 14:11	1.72	22.51	3.98	2046.07	2148.12	1.11	1.40	488.74	1.00
6/25/25 18:11	1.72	22.51	3.97	2052.11	2154.53	1.12	1.40	487.30	1.00
6/25/25 22:11	1.73	22.51	3.99	2055.75	2158.37	1.12	1.40	486.44	1.00
6/26/25 2:11	1.73	22.51	4.00	2055.67	2158.35	1.12	1.40	486.46	1.00
6/26/25 6:11	1.74	22.51	4.02	2056.21	2158.96	1.12	1.40	486.33	1.00
6/26/25 10:11	1.72	22.51	3.98	2056.58	2159.39	1.12	1.40	486.24	1.00
6/26/25 14:11	1.73	22.51	3.99	2049.04	2151.51	1.11	1.40	488.03	1.00
6/26/25 18:11	1.75	22.51	4.04	2060.81	2163.92	1.12	1.41	485.25	1.00
6/26/25 22:11	1.73	22.50	4.00	2098.78	2203.84	1.14	1.43	476.47	1.00
6/27/25 2:11	1.74	22.50	4.01	2110.70	2216.43	1.15	1.44	473.78	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/27/25 6:11	1.72	22.50	3.98	2121.21	2227.50	1.16	1.45	471.43	1.00
6/27/25 10:11	1.72	22.50	3.97	2115.64	2221.71	1.15	1.44	472.67	1.00
6/27/25 14:11	1.71	22.50	3.96	2126.43	2233.07	1.16	1.45	470.27	1.00
6/27/25 18:11	1.73	22.50	3.99	2115.98	2222.13	1.15	1.44	472.59	1.00
6/27/25 22:11	1.73	22.50	3.99	2104.15	2209.76	1.15	1.44	475.25	1.00
6/28/25 2:11	1.73	22.50	4.00	2111.75	2217.79	1.15	1.44	473.54	1.00
6/28/25 6:11	1.74	22.50	4.01	2106.74	2212.56	1.15	1.44	474.67	1.00
6/28/25 10:11	1.73	22.50	4.00	2109.77	2215.78	1.15	1.44	473.99	1.00
6/28/25 14:11	1.75	22.49	4.03	2120.73	2227.34	1.16	1.45	471.54	1.00
6/28/25 18:11	1.74	22.49	4.03	2096.06	2201.45	1.14	1.43	477.09	1.00
6/28/25 22:11	1.74	22.49	4.02	2099.27	2204.86	1.14	1.43	476.36	1.00
6/29/25 2:11	1.75	22.49	4.04	2103.94	2209.82	1.15	1.44	475.30	1.00
6/29/25 6:11	1.74	22.49	4.01	2107.50	2213.56	1.15	1.44	474.50	1.00
6/29/25 10:11	1.74	22.49	4.01	2121.40	2228.22	1.16	1.45	471.39	1.00
6/29/25 14:11	1.75	22.49	4.05	2094.78	2200.29	1.14	1.43	477.38	1.00
6/29/25 18:11	1.76	22.49	4.07	2126.10	2233.23	1.16	1.45	470.34	1.00
6/29/25 22:11	1.76	22.49	4.06	2115.05	2221.66	1.15	1.44	472.80	1.00
6/30/25 2:11	1.73	22.49	4.01	2125.26	2232.43	1.16	1.45	470.53	1.00
6/30/25 6:11	1.75	22.49	4.04	2118.15	2224.97	1.15	1.45	472.11	1.00
6/30/25 10:11	1.74	22.49	4.01	2114.69	2221.38	1.15	1.44	472.88	1.00
6/30/25 14:11	1.73	22.48	4.01	2121.13	2228.19	1.16	1.45	471.45	1.00
6/30/25 18:11	1.76	22.48	4.07	2122.86	2230.08	1.16	1.45	471.06	1.00
6/30/25 22:11	1.75	22.48	4.04	2113.35	2220.12	1.15	1.44	473.18	1.00
7/1/25 2:11	1.75	22.48	4.03	2102.10	2208.35	1.14	1.44	475.71	1.00
7/1/25 6:11	1.74	22.48	4.02	2155.73	2264.71	1.18	1.47	463.88	1.00
7/1/25 10:11	1.74	22.48	4.02	2161.77	2271.07	1.18	1.48	462.58	1.00
7/1/25 14:11	1.75	22.48	4.04	2187.46	2298.09	1.19	1.49	457.15	1.00
7/1/25 18:11	1.77	22.48	4.08	2169.45	2279.21	1.18	1.48	460.95	1.00
7/1/25 22:11	1.76	22.48	4.07	2152.88	2261.85	1.17	1.47	464.49	1.00
7/2/25 2:11	1.77	22.48	4.08	2135.38	2243.47	1.16	1.46	468.30	1.00
7/2/25 6:11	1.78	22.48	4.10	2118.02	2225.28	1.15	1.45	472.14	1.00
7/2/25 10:11	1.78	22.48	4.12	2098.85	2205.17	1.14	1.43	476.45	1.00
7/2/25 14:11	1.79	22.48	4.14	2081.20	2186.66	1.13	1.42	480.49	1.00
7/2/25 18:11	1.80	22.47	4.17	2126.71	2234.52	1.16	1.45	470.21	1.00
7/2/25 22:11	1.80	22.47	4.16	2149.55	2258.55	1.17	1.47	465.21	1.00
7/3/25 2:11	1.76	22.47	4.07	2176.17	2286.58	1.19	1.49	459.52	1.00
7/3/25 6:11	1.77	22.47	4.09	2171.65	2281.86	1.18	1.48	460.48	1.00
7/3/25 10:11	1.78	22.47	4.10	2165.29	2275.21	1.18	1.48	461.83	1.00
7/3/25 14:11	1.79	22.47	4.14	2131.42	2239.66	1.16	1.46	469.17	1.00
7/3/25 18:11	1.76	22.47	4.06	2107.56	2214.63	1.15	1.44	474.48	1.00
7/3/25 22:11	1.75	22.47	4.05	2100.23	2206.96	1.14	1.43	476.14	1.00
7/4/25 2:11	1.76	22.47	4.07	2090.16	2196.43	1.14	1.43	478.43	1.00
7/4/25 6:11	1.77	22.47	4.09	2185.49	2296.65	1.19	1.49	457.56	1.00
7/4/25 10:11	1.76	22.46	4.08	2182.39	2293.44	1.19	1.49	458.21	1.00
7/4/25 14:11	1.78	22.46	4.11	2164.02	2274.16	1.18	1.48	462.10	1.00
7/4/25 18:11	1.79	22.46	4.14	2154.16	2263.83	1.18	1.47	464.22	1.00
7/4/25 22:11	1.79	22.46	4.14	2125.21	2233.43	1.16	1.45	470.54	1.00
7/5/25 2:11	1.79	22.46	4.14	2105.88	2213.17	1.15	1.44	474.86	1.00
7/5/25 6:11	1.79	22.46	4.14	2091.52	2198.09	1.14	1.43	478.12	1.00
7/5/25 10:11	1.79	22.46	4.14	2084.69	2190.94	1.14	1.42	479.69	1.00
7/5/25 14:11	1.79	22.46	4.13	2087.66	2194.08	1.14	1.43	479.01	1.00
7/5/25 18:11	1.81	22.46	4.18	2156.00	2265.99	1.18	1.47	463.82	1.00
7/5/25 22:11	1.80	22.46	4.16	2181.32	2292.63	1.19	1.49	458.44	1.00
7/6/25 2:11	1.80	22.46	4.15	2185.93	2297.54	1.19	1.49	457.47	1.00
7/6/25 6:11	1.79	22.46	4.14	2179.40	2290.70	1.19	1.49	458.84	1.00
7/6/25 10:11	1.79	22.46	4.14	2171.14	2282.03	1.18	1.48	460.59	1.00
7/6/25 14:11	1.81	22.45	4.17	2135.55	2244.67	1.16	1.46	468.26	1.00
7/6/25 18:11	1.82	22.45	4.21	2112.79	2220.78	1.15	1.44	473.31	1.00
7/6/25 22:11	1.80	22.45	4.17	2098.52	2205.83	1.14	1.43	476.53	1.00
7/7/25 2:11	1.82	22.45	4.20	2137.94	2247.28	1.17	1.46	467.74	1.00
7/7/25 6:11	1.82	22.45	4.21	2126.62	2235.43	1.16	1.45	470.23	1.00
7/7/25 10:11	1.81	22.45	4.18	2168.67	2279.68	1.18	1.48	461.11	1.00
7/7/25 14:11	1.82	22.45	4.21	2125.60	2234.42	1.16	1.45	470.46	1.00
7/7/25 18:11	1.84	22.45	4.25	2119.97	2228.56	1.16	1.45	471.71	1.00
7/7/25 22:11	1.83	22.45	4.22	2112.51	2220.75	1.15	1.44	473.37	1.00
7/8/25 2:11	1.83	22.45	4.24	2154.99	2265.38	1.18	1.47	464.04	1.00
7/8/25 6:11	1.82	22.45	4.20	2149.95	2260.18	1.17	1.47	465.13	1.00
7/8/25 10:11	1.81	22.45	4.19	2140.14	2249.91	1.17	1.46	467.26	1.00
7/8/25 14:11	1.83	22.44	4.22	2122.24	2231.12	1.16	1.45	471.20	1.00
7/8/25 18:11	1.85	22.44	4.27	2095.82	2203.37	1.14	1.43	477.14	1.00
7/8/25 22:11	1.80	22.44	4.16	2090.00	2197.30	1.14	1.43	478.47	1.00
7/9/25 2:11	1.81	22.44	4.18	2133.57	2243.15	1.16	1.46	468.70	1.00
7/9/25 6:11	1.80	22.44	4.15	2129.87	2239.28	1.16	1.46	469.51	1.00
7/9/25 10:11	1.80	22.44	4.16	2173.26	2284.94	1.19	1.49	460.14	1.00
7/9/25 14:11	1.83	22.44	4.24	2167.34	2278.75	1.18	1.48	461.40	1.00
7/9/25 18:11	1.85	22.44	4.28	2153.60	2264.35	1.18	1.47	464.34	1.00
7/9/25 22:11	1.85	22.44	4.28	2144.94	2255.29	1.17	1.47	466.21	1.00
7/10/25 2:11	1.86	22.44	4.29	2145.03	2255.41	1.17	1.47	466.19	1.00
7/10/25 6:11	1.81	22.44	4.19	2169.68	2281.37	1.18	1.48	460.90	1.00
7/10/25 10:11	1.83	22.44	4.22	2147.99	2258.61	1.17	1.47	465.55	1.00
7/10/25 14:11	1.85	22.43	4.28	2126.84	2236.41	1.16	1.45	470.18	1.00
7/10/25 18:11	1.86	22.43	4.31	2100.48	2208.72	1.14	1.44	476.08	1.00
7/10/25 22:11	1.88	22.43	4.34	2097.57	2205.71	1.14	1.43	476.74	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/11/25 2:11	1.86	22.43	4.30	2117.66	2226.87	1.15	1.45	472.22	1.00
7/11/25 6:11	1.88	22.43	4.34	2154.57	2265.71	1.18	1.47	464.13	1.00
7/11/25 10:11	1.82	22.43	4.21	2181.92	2294.51	1.19	1.49	458.31	1.00
7/11/25 14:11	1.85	22.43	4.27	2170.15	2282.15	1.19	1.48	460.80	1.00
7/11/25 18:11	1.79	22.43	4.13	2133.68	2243.86	1.16	1.46	468.67	1.00
7/11/25 22:11	1.82	22.43	4.20	2120.43	2229.95	1.16	1.45	471.60	1.00
7/12/25 2:11	1.82	22.43	4.21	2102.06	2210.68	1.15	1.44	475.72	1.00
7/12/25 6:11	1.80	22.43	4.16	2097.63	2206.05	1.14	1.43	476.73	1.00
7/12/25 10:11	1.79	22.43	4.13	2094.12	2202.40	1.14	1.43	477.53	1.00
7/12/25 14:11	1.80	22.43	4.17	2146.64	2257.66	1.17	1.47	465.84	1.00
7/12/25 18:11	1.83	22.42	4.22	2126.91	2236.95	1.16	1.45	470.17	1.00
7/12/25 22:11	1.83	22.42	4.22	2112.92	2222.28	1.15	1.44	473.28	1.00
7/13/25 2:11	1.83	22.42	4.24	2092.66	2201.01	1.14	1.43	477.86	1.00
7/13/25 6:11	1.84	22.42	4.25	2121.00	2230.85	1.16	1.45	471.48	1.00
7/13/25 10:11	1.84	22.42	4.25	2113.07	2222.54	1.15	1.44	473.25	1.00
7/13/25 14:11	1.85	22.42	4.27	2174.01	2286.68	1.19	1.49	459.98	1.00
7/13/25 18:11	1.87	22.42	4.32	2168.90	2281.34	1.18	1.48	461.06	1.00
7/13/25 22:11	1.86	22.42	4.29	2150.58	2262.11	1.17	1.47	464.99	1.00
7/14/25 2:11	1.86	22.42	4.29	2122.12	2232.19	1.16	1.45	471.23	1.00
7/14/25 6:11	1.85	22.42	4.28	2165.64	2278.05	1.18	1.48	461.76	1.00
7/14/25 10:11	1.86	22.42	4.30	2168.41	2280.99	1.18	1.48	461.17	1.00
7/14/25 14:11	1.88	22.42	4.33	2180.22	2293.44	1.19	1.49	458.67	1.00
7/14/25 18:11	1.84	22.41	4.26	2183.76	2297.20	1.19	1.49	457.93	1.00
7/14/25 22:11	1.84	22.41	4.25	2153.57	2265.47	1.18	1.47	464.35	1.00
7/15/25 2:11	1.84	22.41	4.25	2140.49	2251.75	1.17	1.46	467.18	1.00
7/15/25 6:11	1.85	22.41	4.28	2125.57	2236.08	1.16	1.45	470.46	1.00
7/15/25 10:11	1.86	22.41	4.30	2106.93	2216.52	1.15	1.44	474.62	1.00
7/15/25 14:11	1.88	22.41	4.35	2086.57	2195.14	1.14	1.43	479.26	1.00
7/15/25 18:11	1.90	22.41	4.39	2146.68	2258.42	1.17	1.47	465.84	1.00
7/15/25 22:11	1.90	22.41	4.39	2137.38	2248.64	1.17	1.46	467.86	1.00
7/16/25 2:11	1.90	22.41	4.40	2120.16	2230.56	1.16	1.45	471.66	1.00
7/16/25 6:11	1.91	22.41	4.42	2101.77	2211.25	1.15	1.44	475.79	1.00
7/16/25 10:11	1.92	22.41	4.43	2090.85	2199.81	1.14	1.43	478.27	1.00
7/16/25 14:11	1.87	22.41	4.32	2175.05	2288.43	1.19	1.49	459.76	1.00
7/16/25 18:11	1.89	22.41	4.37	2172.00	2285.26	1.19	1.49	460.41	1.00
7/16/25 22:11	1.89	22.40	4.36	2164.80	2277.72	1.18	1.48	461.94	1.00
7/17/25 2:11	1.89	22.40	4.37	2159.06	2271.74	1.18	1.48	463.16	1.00
7/17/25 6:11	1.89	22.40	4.37	2165.20	2278.21	1.18	1.48	461.85	1.00
7/17/25 10:11	1.87	22.40	4.33	2170.26	2283.56	1.19	1.48	460.78	1.00
7/17/25 14:11	1.87	22.40	4.32	2171.85	2285.28	1.19	1.49	460.44	1.00
7/17/25 18:11	1.90	22.40	4.39	2139.81	2251.63	1.17	1.46	467.33	1.00
7/17/25 22:11	1.90	22.40	4.38	2135.73	2247.36	1.17	1.46	468.22	1.00
7/18/25 2:11	1.90	22.40	4.38	2178.56	2292.46	1.19	1.49	459.02	1.00
7/18/25 6:11	1.90	22.40	4.39	2135.24	2246.91	1.17	1.46	468.33	1.00
7/18/25 10:11	1.89	22.40	4.38	2129.26	2240.65	1.16	1.46	469.65	1.00
7/18/25 14:11	1.91	22.40	4.41	2152.19	2264.80	1.18	1.47	464.64	1.00
7/18/25 18:11	1.92	22.40	4.44	2143.82	2256.04	1.17	1.47	466.46	1.00
7/18/25 22:11	1.92	22.39	4.44	2146.89	2259.31	1.17	1.47	465.79	1.00
7/19/25 2:11	1.93	22.39	4.45	2130.87	2242.48	1.16	1.46	469.29	1.00
7/19/25 6:11	1.93	22.39	4.46	2160.31	2273.50	1.18	1.48	462.90	1.00
7/19/25 10:11	1.93	22.39	4.46	2137.65	2249.69	1.17	1.46	467.80	1.00
7/19/25 14:11	1.90	22.39	4.38	2143.47	2255.84	1.17	1.47	466.53	1.00
7/19/25 18:11	1.91	22.39	4.42	2125.52	2236.98	1.16	1.45	470.47	1.00
7/19/25 22:11	1.92	22.39	4.44	2111.69	2222.49	1.15	1.44	473.56	1.00
7/20/25 2:11	1.92	22.39	4.43	2095.33	2205.28	1.14	1.43	477.25	1.00
7/20/25 6:11	1.93	22.39	4.45	2152.76	2265.76	1.18	1.47	464.52	1.00
7/20/25 10:11	1.93	22.39	4.46	2154.22	2267.33	1.18	1.47	464.21	1.00
7/20/25 14:11	1.94	22.39	4.49	2138.60	2250.92	1.17	1.46	467.60	1.00
7/20/25 18:11	1.92	22.39	4.43	2119.39	2230.72	1.16	1.45	471.83	1.00
7/20/25 22:11	1.91	22.39	4.41	2102.20	2212.66	1.15	1.44	475.69	1.00
7/21/25 2:11	1.91	22.39	4.41	2091.03	2200.94	1.14	1.43	478.23	1.00
7/21/25 6:11	1.91	22.38	4.42	2162.16	2275.85	1.18	1.48	462.50	1.00
7/21/25 10:11	1.91	22.38	4.42	2159.04	2272.60	1.18	1.48	463.17	1.00
7/21/25 14:11	1.94	22.38	4.48	2176.74	2291.20	1.19	1.49	459.40	1.00
7/21/25 18:11	1.95	22.38	4.51	2162.84	2276.64	1.18	1.48	462.35	1.00
7/21/25 22:11	1.90	22.38	4.39	2181.38	2296.21	1.19	1.49	458.43	1.00
7/22/25 2:11	1.90	22.38	4.39	2176.71	2291.34	1.19	1.49	459.41	1.00
7/22/25 6:11	1.92	22.38	4.42	2178.21	2292.92	1.19	1.49	459.09	1.00
7/22/25 10:11	1.92	22.38	4.44	2177.12	2291.82	1.19	1.49	459.32	1.00
7/22/25 10:32	1.92	22.38	4.43	2176.11	2290.74	1.19	1.49	459.54	1.00
7/22/25 14:32	1.95	22.38	4.50	2140.57	2253.32	1.17	1.46	467.16	1.00
7/22/25 18:32	1.96	22.38	4.53	2124.77	2236.74	1.16	1.45	470.64	1.00
7/22/25 22:32	1.94	22.38	4.48	2119.32	2231.09	1.16	1.45	471.85	1.00
7/23/25 2:32	1.95	22.38	4.51	2103.63	2214.61	1.15	1.44	475.37	1.00
7/23/25 6:32	1.96	22.38	4.53	2088.21	2198.41	1.14	1.43	478.88	1.00
7/23/25 10:32	1.96	22.37	4.52	2078.53	2188.26	1.13	1.42	481.11	1.00
7/23/25 14:32	1.98	22.37	4.57	2111.43	2222.90	1.15	1.44	473.61	1.00
7/23/25 18:32	1.99	22.37	4.59	2173.44	2288.26	1.19	1.49	460.10	1.00
7/23/25 22:32	1.98	22.37	4.56	2170.67	2285.38	1.19	1.49	460.69	1.00
7/24/25 2:32	1.98	22.37	4.57	2165.95	2280.45	1.18	1.48	461.69	1.00
7/24/25 6:32	1.99	22.37	4.59	2177.84	2292.98	1.19	1.49	459.17	1.00
7/24/25 10:32	1.98	22.37	4.58	2174.61	2289.64	1.19	1.49	459.85	1.00
7/24/25 14:32	1.99	22.37	4.60	2161.83	2276.23	1.18	1.48	462.57	1.00

Table E1: PMW-1 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/24/25 18:32	2.00	22.37	4.61	2131.33	2244.16	1.16	1.46	469.19	1.00
7/24/25 22:32	1.95	22.37	4.51	2113.25	2225.12	1.15	1.45	473.20	1.00
7/25/25 2:32	1.97	22.37	4.54	2099.42	2210.65	1.15	1.44	476.32	1.00
7/25/25 6:32	1.97	22.36	4.56	2173.77	2288.98	1.19	1.49	460.03	1.00
7/25/25 10:32	1.98	22.36	4.57	2191.48	2307.62	1.20	1.50	456.31	1.00
7/25/25 14:32	1.99	22.36	4.61	2195.12	2311.53	1.20	1.50	455.56	1.00
7/25/25 18:32	1.96	22.36	4.54	2160.81	2275.43	1.18	1.48	462.79	1.00
7/25/25 22:32	1.97	22.36	4.56	2151.85	2266.03	1.18	1.47	464.72	1.00
7/26/25 2:32	1.98	22.36	4.58	2140.71	2254.34	1.17	1.47	467.13	1.00
7/26/25 6:32	1.99	22.36	4.59	2125.95	2238.85	1.16	1.46	470.38	1.00
7/26/25 10:32	1.98	22.36	4.58	2108.82	2220.83	1.15	1.44	474.20	1.00
7/26/25 14:32	1.99	22.36	4.59	2181.85	2297.78	1.19	1.49	458.33	1.00
7/26/25 18:32	1.96	22.36	4.53	2153.41	2267.87	1.18	1.47	464.38	1.00
7/26/25 22:32	1.97	22.36	4.56	2142.19	2256.10	1.17	1.47	466.81	1.00
7/27/25 2:32	1.97	22.36	4.55	2133.33	2246.81	1.17	1.46	468.75	1.00
7/27/25 6:32	1.98	22.35	4.58	2115.58	2228.15	1.16	1.45	472.68	1.00
7/27/25 10:32	1.97	22.35	4.55	2104.56	2216.57	1.15	1.44	475.16	1.00
7/27/25 14:32	1.98	22.35	4.57	2155.29	2270.07	1.18	1.48	463.97	1.00
7/27/25 18:32	1.99	22.35	4.60	2144.48	2258.64	1.17	1.47	466.31	1.00
7/27/25 22:32	1.98	22.35	4.58	2133.50	2247.17	1.17	1.46	468.71	1.00
7/28/25 2:32	1.99	22.35	4.60	2110.66	2223.14	1.15	1.45	473.79	1.00
7/28/25 6:32	1.99	22.35	4.61	2103.41	2215.53	1.15	1.44	475.42	1.00
7/28/25 10:32	1.99	22.35	4.60	2163.51	2278.89	1.18	1.48	462.21	1.00
7/28/25 14:32	1.99	22.35	4.60	2146.09	2260.54	1.17	1.47	465.96	1.00
7/28/25 18:32	2.00	22.35	4.63	2131.79	2245.50	1.16	1.46	469.09	1.00
7/28/25 22:32	2.01	22.35	4.64	2120.09	2233.25	1.16	1.45	471.68	1.00
7/29/25 2:32	2.01	22.35	4.63	2108.70	2221.28	1.15	1.44	474.23	1.00
7/29/25 6:32	2.00	22.35	4.63	2147.55	2262.23	1.17	1.47	465.65	1.00
7/29/25 10:32	2.00	22.34	4.63	2191.44	2308.50	1.20	1.50	456.32	1.00
7/29/25 14:32	2.01	22.34	4.64	2183.34	2300.01	1.19	1.50	458.01	1.00
7/29/25 18:32	1.97	22.34	4.56	2152.21	2267.26	1.18	1.47	464.64	1.00
7/29/25 22:32	1.99	22.34	4.60	2143.86	2258.52	1.17	1.47	466.45	1.00
7/30/25 2:32	2.00	22.34	4.61	2132.07	2246.11	1.17	1.46	469.03	1.00
7/30/25 6:32	2.01	22.34	4.63	2113.68	2226.77	1.15	1.45	473.11	1.00
7/30/25 10:32	2.01	22.34	4.63	2098.87	2211.21	1.15	1.44	476.45	1.00
7/30/25 14:32	2.02	22.34	4.66	2197.23	2314.82	1.20	1.50	455.12	1.00
7/30/25 18:32	1.97	22.34	4.55	2192.84	2310.26	1.20	1.50	456.03	1.00
7/30/25 22:32	1.99	22.34	4.59	2189.07	2306.33	1.20	1.50	456.81	1.00
7/31/25 2:32	1.99	22.34	4.60	2157.42	2273.04	1.18	1.48	463.52	1.00
7/31/25 6:32	1.99	22.34	4.59	2148.15	2263.28	1.17	1.47	465.52	1.00
7/31/25 10:32	2.00	22.34	4.61	2139.80	2254.51	1.17	1.47	467.33	1.00
7/31/25 14:32	1.99	22.34	4.60	2117.73	2231.25	1.16	1.45	472.20	1.00
7/31/25 18:32	2.00	22.33	4.63	2172.96	2289.52	1.19	1.49	460.20	1.00
7/31/25 22:32	2.01	22.33	4.65	2204.75	2323.06	1.21	1.51	453.57	1.00

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Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/8/24 7:37	1.29	22.54	2.98	2796.72	2934.40	1.54	1.91	357.56	1.00
5/8/24 11:37	1.30	22.52	2.99	2804.09	2943.72	1.55	1.91	356.62	1.00
5/8/24 15:37	1.32	22.52	3.05	2833.93	2974.55	1.57	1.93	352.87	1.00
5/8/24 19:37	1.34	22.53	3.09	2848.78	2990.00	1.58	1.94	351.03	1.00
5/8/24 23:37	1.33	22.53	3.07	2825.40	2965.45	1.56	1.93	353.93	1.00
5/9/24 3:37	1.33	22.53	3.07	2831.01	2971.37	1.57	1.93	353.23	1.00
5/9/24 7:37	1.32	22.53	3.04	2808.78	2948.03	1.55	1.92	356.03	1.00
5/9/24 11:37	1.30	22.52	3.01	2793.77	2932.75	1.54	1.91	357.94	1.00
5/9/24 15:37	1.32	22.52	3.04	2821.65	2961.85	1.56	1.93	354.40	1.00
5/9/24 19:37	1.31	22.52	3.01	2803.06	2942.26	1.55	1.91	356.75	1.00
5/9/24 23:37	1.28	22.52	2.96	2775.11	2912.92	1.53	1.89	360.35	1.00
5/10/24 3:37	1.26	22.52	2.92	2759.19	2896.27	1.52	1.88	362.42	1.00
5/10/24 7:37	1.27	22.52	2.93	2776.43	2914.35	1.53	1.89	360.17	1.00
5/10/24 11:37	1.28	22.52	2.96	2802.22	2941.55	1.55	1.91	356.86	1.00
5/10/24 15:37	1.31	22.52	3.02	2827.50	2968.13	1.56	1.93	353.67	1.00
5/10/24 19:37	1.30	22.52	3.00	2807.66	2947.31	1.55	1.92	356.17	1.00
5/10/24 23:37	1.30	22.52	3.01	2808.33	2948.08	1.55	1.92	356.08	1.00
5/11/24 3:37	1.30	22.52	3.00	2808.30	2948.08	1.55	1.92	356.09	1.00
5/11/24 7:37	1.30	22.52	3.01	2808.05	2947.89	1.55	1.92	356.12	1.00
5/11/24 11:37	1.31	22.52	3.02	2818.44	2958.87	1.56	1.92	354.81	1.00
5/11/24 15:37	1.32	22.51	3.06	2837.81	2979.24	1.57	1.94	352.38	1.00
5/11/24 19:37	1.32	22.51	3.05	2824.86	2965.66	1.56	1.93	354.00	1.00
5/11/24 23:37	1.31	22.51	3.02	2811.33	2951.54	1.55	1.92	355.70	1.00
5/12/24 3:37	1.31	22.51	3.03	2821.58	2962.34	1.56	1.93	354.41	1.00
5/12/24 7:37	1.30	22.51	3.01	2812.95	2953.28	1.56	1.92	355.50	1.00
5/12/24 11:37	1.32	22.51	3.04	2829.96	2971.22	1.57	1.93	353.36	1.00
5/12/24 15:37	1.32	22.51	3.06	2836.22	2977.85	1.57	1.94	352.58	1.00
5/12/24 19:37	1.31	22.51	3.04	2819.94	2960.77	1.56	1.92	354.62	1.00
5/12/24 23:37	1.30	22.51	3.01	2805.70	2945.89	1.55	1.91	356.42	1.00
5/13/24 3:37	1.30	22.51	2.99	2804.76	2944.90	1.55	1.91	356.54	1.00
5/13/24 7:37	1.29	22.51	2.97	2796.51	2936.34	1.55	1.91	357.59	1.00
5/13/24 11:37	1.29	22.51	2.99	2809.71	2950.23	1.55	1.92	355.91	1.00
5/13/24 15:37	1.31	22.50	3.03	2833.72	2975.55	1.57	1.93	352.89	1.00
5/13/24 19:37	1.31	22.50	3.02	2820.15	2961.29	1.56	1.92	354.59	1.00
5/13/24 23:37	1.30	22.50	3.01	2812.72	2953.55	1.56	1.92	355.53	1.00
5/14/24 3:37	1.30	22.50	3.00	2815.11	2956.11	1.56	1.92	355.23	1.00
5/14/24 7:37	1.30	22.50	2.99	2809.51	2950.28	1.55	1.92	355.93	1.00
5/14/24 11:37	1.31	22.50	3.02	2825.01	2966.60	1.56	1.93	353.98	1.00
5/14/24 15:37	1.32	22.50	3.04	2834.37	2976.50	1.57	1.93	352.81	1.00
5/14/24 19:37	1.31	22.50	3.03	2824.19	2965.81	1.56	1.93	354.08	1.00
5/14/24 23:37	1.31	22.50	3.02	2821.21	2962.75	1.56	1.93	354.46	1.00
5/15/24 3:37	1.31	22.50	3.02	2821.08	2962.65	1.56	1.93	354.47	1.00
5/15/24 7:37	1.30	22.50	3.00	2811.72	2952.87	1.56	1.92	355.65	1.00
5/15/24 11:37	1.31	22.50	3.02	2827.22	2969.22	1.56	1.93	353.70	1.00
5/15/24 15:37	1.32	22.50	3.04	2836.09	2978.57	1.57	1.94	352.60	1.00
5/15/24 19:37	1.31	22.49	3.03	2826.31	2968.34	1.56	1.93	353.82	1.00
5/15/24 23:37	1.30	22.49	2.99	2805.24	2946.23	1.55	1.92	356.48	1.00
5/16/24 3:37	1.29	22.49	2.97	2797.58	2938.22	1.55	1.91	357.45	1.00
5/16/24 7:37	1.28	22.49	2.95	2799.92	2940.76	1.55	1.91	357.15	1.00
5/16/24 11:37	1.29	22.49	2.98	2815.19	2956.87	1.56	1.92	355.22	1.00
5/16/24 15:37	1.27	22.49	2.93	2799.06	2939.91	1.55	1.91	357.26	1.00
5/16/24 19:37	1.29	22.49	2.99	2815.13	2956.90	1.56	1.92	355.22	1.00
5/16/24 23:37	1.28	22.49	2.96	2799.19	2940.18	1.55	1.91	357.25	1.00
5/17/24 3:37	1.29	22.49	2.98	2811.44	2953.12	1.56	1.92	355.69	1.00
5/17/24 7:37	1.29	22.49	2.97	2806.39	2947.85	1.55	1.92	356.33	1.00
5/17/24 11:37	1.29	22.49	2.99	2819.36	2961.56	1.56	1.93	354.69	1.00
5/17/24 15:37	1.30	22.49	3.01	2831.09	2973.90	1.57	1.93	353.22	1.00
5/17/24 19:37	1.30	22.48	3.00	2820.02	2962.33	1.56	1.93	354.61	1.00
5/17/24 23:37	1.29	22.48	2.98	2810.69	2952.57	1.56	1.92	355.78	1.00
5/18/24 3:37	1.29	22.48	2.98	2813.86	2955.91	1.56	1.92	355.38	1.00
5/18/24 7:37	1.28	22.48	2.95	2792.96	2933.98	1.54	1.91	358.04	1.00
5/18/24 11:37	1.28	22.48	2.96	2808.22	2950.12	1.55	1.92	356.10	1.00
5/18/24 15:37	1.30	22.48	3.00	2829.97	2973.00	1.57	1.93	353.36	1.00
5/18/24 19:37	1.29	22.48	2.98	2816.36	2958.75	1.56	1.92	355.07	1.00
5/18/24 23:37	1.29	22.48	2.97	2807.78	2949.76	1.55	1.92	356.15	1.00
5/19/24 3:37	1.29	22.48	2.97	2813.21	2955.53	1.56	1.92	355.47	1.00
5/19/24 7:37	1.28	22.48	2.95	2797.23	2938.79	1.55	1.91	357.50	1.00
5/19/24 11:37	1.29	22.48	2.97	2816.96	2959.60	1.56	1.92	354.99	1.00
5/19/24 15:37	1.30	22.48	2.99	2829.96	2973.30	1.57	1.93	353.36	1.00
5/19/24 19:37	1.29	22.48	2.99	2818.62	2961.41	1.56	1.92	354.78	1.00
5/19/24 23:37	1.29	22.48	2.97	2813.21	2955.75	1.56	1.92	355.47	1.00
5/20/24 3:37	1.29	22.47	2.97	2813.47	2956.06	1.56	1.92	355.43	1.00
5/20/24 7:37	1.28	22.47	2.95	2799.49	2941.43	1.55	1.91	357.21	1.00
5/20/24 11:37	1.29	22.47	2.97	2817.45	2960.38	1.56	1.92	354.93	1.00
5/20/24 15:37	1.30	22.47	3.00	2835.64	2979.56	1.57	1.94	352.65	1.00
5/20/24 19:37	1.29	22.47	2.99	2819.45	2962.53	1.56	1.93	354.68	1.00
5/20/24 23:37	1.29	22.47	2.97	2811.96	2954.73	1.56	1.92	355.62	1.00
5/21/24 3:37	1.28	22.47	2.96	2808.02	2950.66	1.55	1.92	356.12	1.00
5/21/24 7:37	1.27	22.47	2.92	2786.79	2928.36	1.54	1.90	358.84	1.00
5/21/24 11:37	1.28	22.47	2.96	2816.03	2959.20	1.56	1.92	355.11	1.00
5/21/24 15:37	1.29	22.47	2.99	2831.37	2975.37	1.57	1.93	353.19	1.00
5/21/24 19:37	1.28	22.47	2.96	2810.76	2953.69	1.56	1.92	355.78	1.00
5/21/24 23:37	1.28	22.47	2.95	2802.60	2945.19	1.55	1.91	356.81	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/22/24 3:37	1.28	22.46	2.95	2807.75	2950.64	1.55	1.92	356.16	1.00
5/22/24 7:37	1.25	22.46	2.90	2770.14	2911.13	1.53	1.89	360.99	1.00
5/22/24 11:37	1.27	22.46	2.92	2805.29	2948.18	1.55	1.92	356.47	1.00
5/22/24 15:37	1.29	22.46	2.99	2841.70	2986.50	1.57	1.94	351.90	1.00
5/22/24 19:37	1.29	22.46	2.98	2825.02	2968.95	1.56	1.93	353.98	1.00
5/22/24 23:37	1.28	22.46	2.96	2811.73	2955.08	1.56	1.92	355.65	1.00
5/23/24 3:37	1.28	22.46	2.96	2815.39	2958.97	1.56	1.92	355.19	1.00
5/23/24 7:37	1.28	22.46	2.95	2807.48	2950.66	1.55	1.92	356.19	1.00
5/23/24 11:37	1.29	22.46	2.97	2824.40	2968.55	1.56	1.93	354.06	1.00
5/23/24 15:37	1.29	22.46	2.98	2830.23	2974.72	1.57	1.93	353.33	1.00
5/23/24 19:37	1.28	22.46	2.97	2817.04	2960.86	1.56	1.92	354.98	1.00
5/23/24 23:37	1.28	22.46	2.95	2810.17	2953.69	1.56	1.92	355.85	1.00
5/24/24 3:37	1.27	22.46	2.94	2810.90	2954.49	1.56	1.92	355.76	1.00
5/24/24 7:37	1.26	22.45	2.91	2789.49	2932.03	1.54	1.91	358.49	1.00
5/24/24 11:37	1.27	22.45	2.93	2810.46	2954.15	1.56	1.92	355.81	1.00
5/24/24 15:37	1.28	22.45	2.96	2831.92	2976.79	1.57	1.93	353.12	1.00
5/24/24 19:37	1.28	22.45	2.96	2819.64	2963.88	1.56	1.93	354.66	1.00
5/24/24 23:37	1.27	22.45	2.94	2807.62	2951.31	1.55	1.92	356.17	1.00
5/25/24 3:37	1.27	22.45	2.94	2811.40	2955.31	1.56	1.92	355.70	1.00
5/25/24 7:37	1.27	22.45	2.94	2812.47	2956.50	1.56	1.92	355.56	1.00
5/25/24 11:37	1.28	22.45	2.96	2825.53	2970.29	1.56	1.93	353.92	1.00
5/25/24 15:37	1.29	22.45	2.97	2828.42	2973.36	1.57	1.93	353.55	1.00
5/25/24 19:37	1.28	22.45	2.95	2817.71	2962.09	1.56	1.93	354.90	1.00
5/25/24 23:37	1.27	22.45	2.93	2805.22	2949.03	1.55	1.92	356.48	1.00
5/26/24 3:37	1.26	22.45	2.92	2803.12	2946.87	1.55	1.92	356.75	1.00
5/26/24 7:37	1.25	22.45	2.89	2784.30	2927.07	1.54	1.90	359.16	1.00
5/26/24 11:37	1.26	22.44	2.91	2801.83	2945.63	1.55	1.91	356.91	1.00
5/26/24 15:37	1.27	22.44	2.94	2823.88	2968.88	1.56	1.93	354.12	1.00
5/26/24 19:37	1.27	22.44	2.93	2812.06	2956.43	1.56	1.92	355.61	1.00
5/26/24 23:37	1.26	22.44	2.90	2798.04	2941.77	1.55	1.91	357.39	1.00
5/27/24 3:37	1.26	22.44	2.91	2805.14	2949.27	1.55	1.92	356.49	1.00
5/27/24 7:37	1.24	22.44	2.87	2783.77	2926.84	1.54	1.90	359.23	1.00
5/27/24 11:37	1.25	22.44	2.89	2805.00	2949.26	1.55	1.92	356.51	1.00
5/27/24 15:37	1.27	22.44	2.93	2827.08	2972.53	1.57	1.93	353.72	1.00
5/27/24 19:37	1.27	22.44	2.92	2813.65	2958.38	1.56	1.92	355.41	1.00
5/27/24 23:37	1.26	22.44	2.90	2802.96	2947.20	1.55	1.92	356.77	1.00
5/28/24 3:37	1.26	22.44	2.91	2808.87	2953.48	1.56	1.92	356.02	1.00
5/28/24 7:37	1.25	22.44	2.89	2793.90	2937.75	1.55	1.91	357.92	1.00
5/28/24 11:37	1.26	22.43	2.91	2813.44	2958.39	1.56	1.92	355.44	1.00
5/28/24 15:37	1.27	22.43	2.94	2827.91	2973.65	1.57	1.93	353.62	1.00
5/28/24 19:37	1.27	22.43	2.93	2818.30	2963.57	1.56	1.93	354.82	1.00
5/28/24 23:37	1.25	22.43	2.88	2786.41	2930.04	1.54	1.90	358.88	1.00
5/29/24 3:37	1.24	22.43	2.86	2786.97	2930.70	1.54	1.90	358.81	1.00
5/29/24 7:37	1.23	22.43	2.84	2786.60	2930.38	1.54	1.90	358.86	1.00
5/29/24 11:37	1.25	22.43	2.89	2818.68	2964.16	1.56	1.93	354.78	1.00
5/29/24 15:37	1.27	22.43	2.94	2836.09	2982.49	1.57	1.94	352.60	1.00
5/29/24 19:37	1.28	22.43	2.95	2829.05	2975.15	1.57	1.93	353.47	1.00
5/29/24 23:37	1.27	22.43	2.93	2817.35	2962.88	1.56	1.93	354.94	1.00
5/30/24 3:37	1.27	22.43	2.93	2820.96	2966.72	1.56	1.93	354.49	1.00
5/30/24 7:37	1.26	22.43	2.92	2814.09	2959.54	1.56	1.92	355.36	1.00
5/30/24 11:37	1.27	22.43	2.93	2822.78	2968.75	1.56	1.93	354.26	1.00
5/30/24 15:37	1.28	22.43	2.95	2831.41	2977.86	1.57	1.94	353.18	1.00
5/30/24 19:37	1.27	22.43	2.93	2821.85	2967.81	1.56	1.93	354.38	1.00
5/30/24 23:37	1.26	22.42	2.91	2808.57	2953.89	1.56	1.92	356.05	1.00
5/31/24 3:37	1.26	22.42	2.91	2816.09	2961.87	1.56	1.93	355.10	1.00
5/31/24 7:37	1.24	22.42	2.85	2780.50	2924.47	1.54	1.90	359.65	1.00
5/31/24 11:37	1.25	22.42	2.89	2812.14	2957.83	1.56	1.92	355.60	1.00
5/31/24 15:37	1.27	22.42	2.93	2833.28	2980.09	1.57	1.94	352.95	1.00
5/31/24 19:37	1.26	22.42	2.92	2821.61	2967.84	1.56	1.93	354.41	1.00
5/31/24 23:37	1.25	22.42	2.88	2798.90	2944.00	1.55	1.91	357.28	1.00
6/1/24 3:37	1.24	22.42	2.87	2791.83	2936.59	1.55	1.91	358.19	1.00
6/1/24 7:37	1.24	22.42	2.86	2800.22	2945.47	1.55	1.91	357.11	1.00
6/1/24 11:37	1.25	22.42	2.88	2809.41	2955.21	1.56	1.92	355.95	1.00
6/1/24 15:37	1.26	22.42	2.91	2830.63	2977.55	1.57	1.94	353.28	1.00
6/1/24 19:37	1.26	22.42	2.92	2821.81	2968.31	1.56	1.93	354.38	1.00
6/1/24 23:37	1.26	22.41	2.90	2816.02	2962.29	1.56	1.93	355.11	1.00
6/2/24 3:37	1.26	22.41	2.90	2818.83	2965.28	1.56	1.93	354.76	1.00
6/2/24 7:37	1.25	22.41	2.89	2813.03	2959.22	1.56	1.92	355.49	1.00
6/2/24 11:37	1.26	22.41	2.91	2825.31	2972.18	1.57	1.93	353.94	1.00
6/2/24 15:37	1.27	22.41	2.93	2830.48	2977.64	1.57	1.94	353.30	1.00
6/2/24 19:37	1.26	22.41	2.92	2823.03	2969.85	1.56	1.93	354.23	1.00
6/2/24 23:37	1.25	22.41	2.90	2814.48	2960.91	1.56	1.92	355.31	1.00
6/3/24 3:37	1.26	22.41	2.91	2822.57	2969.46	1.56	1.93	354.29	1.00
6/3/24 7:37	1.25	22.41	2.88	2805.08	2951.11	1.55	1.92	356.50	1.00
6/3/24 11:37	1.26	22.41	2.90	2821.72	2968.68	1.56	1.93	354.39	1.00
6/3/24 15:37	1.27	22.41	2.92	2832.47	2980.02	1.57	1.94	353.05	1.00
6/3/24 19:37	1.26	22.41	2.91	2821.48	2968.50	1.56	1.93	354.42	1.00
6/3/24 23:37	1.25	22.41	2.89	2812.30	2958.88	1.56	1.92	355.58	1.00
6/4/24 3:37	1.25	22.41	2.89	2822.81	2969.97	1.56	1.93	354.26	1.00
6/4/24 7:37	1.24	22.41	2.87	2804.19	2950.41	1.55	1.92	356.61	1.00
6/4/24 11:37	1.25	22.40	2.88	2814.72	2961.53	1.56	1.92	355.27	1.00
6/4/24 15:37	1.26	22.40	2.90	2825.10	2972.53	1.57	1.93	353.97	1.00
6/4/24 19:37	1.25	22.40	2.89	2815.55	2962.48	1.56	1.93	355.17	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/4/24 23:37	1.24	22.40	2.87	2806.73	2953.23	1.56	1.92	356.29	1.00
6/5/24 3:37	1.24	22.40	2.86	2805.51	2952.01	1.55	1.92	356.44	1.00
6/5/24 7:37	1.22	22.40	2.82	2783.23	2928.59	1.54	1.90	359.30	1.00
6/5/24 11:37	1.23	22.40	2.84	2799.22	2945.49	1.55	1.91	357.24	1.00
6/5/24 15:37	1.25	22.40	2.88	2821.52	2968.99	1.56	1.93	354.42	1.00
6/5/24 19:37	1.25	22.40	2.88	2816.05	2963.25	1.56	1.93	355.11	1.00
6/5/24 23:37	1.24	22.40	2.86	2801.76	2948.27	1.55	1.92	356.92	1.00
6/6/24 3:37	1.24	22.40	2.86	2807.84	2954.75	1.56	1.92	356.15	1.00
6/6/24 7:37	1.23	22.40	2.84	2796.71	2943.03	1.55	1.91	357.56	1.00
6/6/24 11:37	1.24	22.40	2.85	2809.41	2956.48	1.56	1.92	355.95	1.00
6/6/24 15:37	1.25	22.40	2.88	2822.94	2970.72	1.57	1.93	354.24	1.00
6/6/24 19:37	1.25	22.39	2.88	2817.10	2964.63	1.56	1.93	354.98	1.00
6/6/24 23:37	1.23	22.39	2.84	2798.48	2945.08	1.55	1.91	357.34	1.00
6/7/24 3:37	1.23	22.39	2.83	2800.31	2947.03	1.55	1.92	357.10	1.00
6/7/24 7:37	1.22	22.39	2.83	2800.20	2946.97	1.55	1.92	357.12	1.00
6/7/24 11:37	1.23	22.39	2.85	2813.29	2960.79	1.56	1.92	355.46	1.00
6/7/24 15:37	1.25	22.39	2.88	2828.40	2976.76	1.57	1.93	353.56	1.00
6/7/24 19:37	1.24	22.39	2.87	2818.59	2966.45	1.56	1.93	354.79	1.00
6/7/24 23:37	1.22	22.39	2.83	2792.65	2939.17	1.55	1.91	358.08	1.00
6/8/24 3:37	1.24	22.39	2.86	2817.47	2965.35	1.56	1.93	354.93	1.00
6/8/24 7:37	1.23	22.39	2.85	2811.61	2959.21	1.56	1.92	355.67	1.00
6/8/24 11:37	1.24	22.39	2.86	2818.66	2966.69	1.56	1.93	354.78	1.00
6/8/24 15:37	1.24	22.39	2.87	2822.41	2970.66	1.57	1.93	354.31	1.00
6/8/24 19:37	1.24	22.39	2.86	2818.13	2966.19	1.56	1.93	354.85	1.00
6/8/24 23:37	1.23	22.39	2.85	2812.26	2960.04	1.56	1.92	355.59	1.00
6/9/24 3:37	1.24	22.38	2.86	2816.81	2964.91	1.56	1.93	355.01	1.00
6/9/24 7:37	1.22	22.38	2.83	2805.72	2953.24	1.56	1.92	356.41	1.00
6/9/24 11:37	1.22	22.38	2.82	2799.27	2946.50	1.55	1.92	357.24	1.00
6/9/24 15:37	1.23	22.38	2.85	2819.72	2968.09	1.56	1.93	354.64	1.00
6/9/24 19:37	1.23	22.38	2.84	2808.31	2956.09	1.56	1.92	356.09	1.00
6/9/24 23:37	1.21	22.38	2.80	2788.72	2935.54	1.55	1.91	358.59	1.00
6/10/24 3:37	1.22	22.38	2.82	2808.10	2955.94	1.56	1.92	356.11	1.00
6/10/24 7:37	1.21	22.38	2.80	2797.40	2944.73	1.55	1.91	357.47	1.00
6/10/24 11:37	1.23	22.38	2.83	2814.47	2962.76	1.56	1.93	355.31	1.00
6/10/24 15:37	1.23	22.38	2.83	2813.42	2961.65	1.56	1.93	355.44	1.00
6/10/24 19:37	1.23	22.38	2.84	2813.67	2961.97	1.56	1.93	355.41	1.00
6/10/24 23:37	1.22	22.38	2.82	2805.93	2953.88	1.56	1.92	356.39	1.00
6/11/24 3:37	1.23	22.38	2.84	2814.23	2962.65	1.56	1.93	355.34	1.00
6/11/24 7:37	1.22	22.38	2.82	2808.61	2956.77	1.56	1.92	356.05	1.00
6/11/24 11:37	1.23	22.38	2.85	2827.38	2976.60	1.57	1.93	353.68	1.00
6/11/24 15:37	1.24	22.38	2.87	2836.32	2986.03	1.57	1.94	352.57	1.00
6/11/24 19:37	1.23	22.37	2.83	2803.50	2951.50	1.55	1.92	356.70	1.00
6/11/24 23:37	1.21	22.37	2.81	2788.96	2936.23	1.55	1.91	358.56	1.00
6/12/24 3:37	1.22	22.37	2.81	2804.38	2952.50	1.55	1.92	356.58	1.00
6/12/24 7:37	1.21	22.37	2.80	2802.72	2950.80	1.55	1.92	356.80	1.00
6/12/24 11:37	1.22	22.37	2.82	2811.46	2960.04	1.56	1.92	355.69	1.00
6/12/24 15:37	1.23	22.37	2.84	2825.95	2975.30	1.57	1.93	353.86	1.00
6/12/24 19:37	1.23	22.37	2.84	2821.73	2970.94	1.57	1.93	354.39	1.00
6/12/24 23:37	1.22	22.37	2.82	2807.08	2955.52	1.56	1.92	356.24	1.00
6/13/24 3:37	1.22	22.37	2.83	2814.19	2963.04	1.56	1.93	355.34	1.00
6/13/24 7:37	1.22	22.37	2.81	2801.57	2949.78	1.55	1.92	356.94	1.00
6/13/24 11:37	1.22	22.37	2.82	2812.99	2961.86	1.56	1.93	355.49	1.00
6/13/24 15:37	1.23	22.37	2.84	2822.84	2972.28	1.57	1.93	354.25	1.00
6/13/24 19:37	1.22	22.37	2.82	2812.60	2961.55	1.56	1.93	355.54	1.00
6/13/24 23:37	1.22	22.37	2.81	2809.45	2958.26	1.56	1.92	355.94	1.00
6/14/24 3:37	1.22	22.37	2.81	2810.15	2959.03	1.56	1.92	355.85	1.00
6/14/24 7:37	1.21	22.36	2.78	2794.09	2942.17	1.55	1.91	357.90	1.00
6/14/24 11:37	1.22	22.36	2.81	2817.46	2966.83	1.56	1.93	354.93	1.00
6/14/24 15:37	1.23	22.36	2.83	2826.97	2976.86	1.57	1.93	353.74	1.00
6/14/24 19:37	1.22	22.36	2.81	2813.22	2962.38	1.56	1.93	355.46	1.00
6/14/24 23:37	1.21	22.36	2.79	2796.26	2944.57	1.55	1.91	357.62	1.00
6/15/24 3:37	1.21	22.36	2.80	2814.08	2963.39	1.56	1.93	355.36	1.00
6/15/24 7:37	1.21	22.36	2.79	2808.23	2957.26	1.56	1.92	356.10	1.00
6/15/24 11:37	1.22	22.36	2.82	2820.17	2969.90	1.56	1.93	354.59	1.00
6/15/24 15:37	1.23	22.36	2.84	2830.65	2980.96	1.57	1.94	353.28	1.00
6/15/24 19:37	1.23	22.36	2.84	2826.27	2976.38	1.57	1.93	353.82	1.00
6/15/24 23:37	1.22	22.36	2.81	2813.38	2962.83	1.56	1.93	355.44	1.00
6/16/24 3:37	1.22	22.36	2.82	2817.96	2967.70	1.56	1.93	354.87	1.00
6/16/24 7:37	1.21	22.36	2.80	2813.26	2962.79	1.56	1.93	355.46	1.00
6/16/24 11:37	1.22	22.36	2.82	2821.08	2971.07	1.57	1.93	354.47	1.00
6/16/24 15:37	1.23	22.36	2.84	2832.29	2982.90	1.57	1.94	353.07	1.00
6/16/24 19:37	1.23	22.36	2.83	2824.34	2974.57	1.57	1.93	354.06	1.00
6/16/24 23:37	1.22	22.36	2.81	2811.45	2961.01	1.56	1.92	355.69	1.00
6/17/24 3:37	1.22	22.35	2.82	2821.73	2971.87	1.57	1.93	354.39	1.00
6/17/24 7:37	1.21	22.35	2.80	2813.81	2963.56	1.56	1.93	355.39	1.00
6/17/24 11:37	1.22	22.35	2.82	2825.66	2976.08	1.57	1.93	353.90	1.00
6/17/24 15:37	1.23	22.35	2.84	2834.28	2985.23	1.57	1.94	352.82	1.00
6/17/24 19:37	1.22	22.35	2.83	2823.08	2973.41	1.57	1.93	354.22	1.00
6/17/24 23:37	1.21	22.35	2.80	2811.43	2961.20	1.56	1.92	355.69	1.00
6/18/24 3:37	1.22	22.35	2.81	2820.31	2970.59	1.57	1.93	354.57	1.00
6/18/24 7:37	1.20	22.35	2.78	2803.10	2952.50	1.55	1.92	356.75	1.00
6/18/24 11:37	1.21	22.34	2.80	2812.61	2963.25	1.56	1.93	355.54	1.00
6/18/24 15:37	1.22	22.35	2.82	2825.94	2976.87	1.57	1.93	353.86	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/18/24 19:37	1.21	22.35	2.80	2812.94	2963.08	1.56	1.93	355.50	1.00
6/18/24 23:37	1.19	22.35	2.76	2788.79	2937.64	1.55	1.91	358.58	1.00
6/19/24 3:37	1.20	22.35	2.77	2805.34	2955.12	1.56	1.92	356.46	1.00
6/19/24 7:37	1.18	22.35	2.73	2787.59	2936.39	1.55	1.91	358.73	1.00
6/19/24 11:37	1.20	22.34	2.77	2808.72	2959.28	1.56	1.92	356.03	1.00
6/19/24 15:37	1.20	22.34	2.77	2806.72	2956.79	1.56	1.92	356.29	1.00
6/19/24 19:37	1.19	22.34	2.74	2791.88	2941.07	1.55	1.91	358.18	1.00
6/19/24 23:37	1.18	22.34	2.73	2787.21	2936.18	1.55	1.91	358.78	1.00
6/20/24 3:37	1.18	22.34	2.74	2795.85	2945.32	1.55	1.91	357.67	1.00
6/20/24 7:37	1.17	22.34	2.71	2781.68	2930.37	1.54	1.90	359.50	1.00
6/20/24 11:37	1.18	22.33	2.72	2781.04	2930.20	1.54	1.90	359.58	1.00
6/20/24 15:37	1.19	22.34	2.75	2806.41	2956.65	1.56	1.92	356.33	1.00
6/20/24 19:37	1.20	22.34	2.77	2810.18	2960.57	1.56	1.92	355.85	1.00
6/20/24 23:37	1.19	22.34	2.76	2800.51	2950.40	1.55	1.92	357.08	1.00
6/21/24 3:37	1.20	22.34	2.78	2811.22	2961.71	1.56	1.93	355.72	1.00
6/21/24 7:37	1.20	22.34	2.76	2805.02	2955.21	1.56	1.92	356.50	1.00
6/21/24 11:37	1.19	22.33	2.76	2795.63	2945.79	1.55	1.91	357.70	1.00
6/21/24 15:37	1.21	22.34	2.79	2817.05	2968.06	1.56	1.93	354.98	1.00
6/21/24 19:37	1.21	22.34	2.79	2818.03	2969.02	1.56	1.93	354.86	1.00
6/21/24 23:37	1.20	22.34	2.77	2805.89	2956.26	1.56	1.92	356.39	1.00
6/22/24 3:37	1.21	22.34	2.79	2815.13	2966.03	1.56	1.93	355.22	1.00
6/22/24 7:37	1.20	22.34	2.77	2807.71	2958.21	1.56	1.92	356.16	1.00
6/22/24 11:37	1.21	22.34	2.78	2816.93	2967.98	1.56	1.93	355.00	1.00
6/22/24 15:37	1.21	22.33	2.80	2825.20	2976.73	1.57	1.93	353.96	1.00
6/22/24 19:37	1.21	22.33	2.80	2821.05	2972.36	1.57	1.93	354.48	1.00
6/22/24 23:37	1.20	22.33	2.77	2804.91	2955.40	1.56	1.92	356.52	1.00
6/23/24 3:37	1.20	22.33	2.77	2814.47	2965.47	1.56	1.93	355.31	1.00
6/23/24 7:37	1.20	22.33	2.77	2810.43	2961.23	1.56	1.92	355.82	1.00
6/23/24 11:37	1.20	22.33	2.77	2815.43	2966.57	1.56	1.93	355.19	1.00
6/23/24 15:37	1.21	22.33	2.80	2826.81	2978.59	1.57	1.94	353.76	1.00
6/23/24 19:37	1.21	22.33	2.79	2821.40	2972.91	1.57	1.93	354.43	1.00
6/23/24 23:37	1.20	22.33	2.77	2807.02	2957.79	1.56	1.92	356.25	1.00
6/24/24 3:37	1.20	22.33	2.78	2818.40	2969.82	1.56	1.93	354.81	1.00
6/24/24 7:37	1.20	22.33	2.76	2811.40	2962.44	1.56	1.93	355.69	1.00
6/24/24 11:37	1.20	22.32	2.78	2810.96	2962.41	1.56	1.93	355.75	1.00
6/24/24 15:37	1.21	22.33	2.80	2825.48	2977.50	1.57	1.94	353.92	1.00
6/24/24 19:37	1.21	22.33	2.79	2819.79	2971.46	1.57	1.93	354.64	1.00
6/24/24 23:37	1.20	22.33	2.77	2810.43	2961.63	1.56	1.93	355.82	1.00
6/25/24 3:37	1.20	22.33	2.77	2814.89	2966.32	1.56	1.93	355.25	1.00
6/25/24 7:37	1.20	22.33	2.76	2811.67	2962.95	1.56	1.93	355.66	1.00
6/25/24 11:37	1.20	22.33	2.78	2818.14	2969.79	1.56	1.93	354.84	1.00
6/25/24 15:37	1.20	22.33	2.78	2821.44	2973.30	1.57	1.93	354.43	1.00
6/25/24 19:37	1.20	22.33	2.78	2814.57	2966.07	1.56	1.93	355.29	1.00
6/25/24 23:37	1.20	22.32	2.77	2814.22	2965.77	1.56	1.93	355.34	1.00
6/26/24 3:37	1.20	22.32	2.77	2814.78	2966.37	1.56	1.93	355.27	1.00
6/26/24 7:37	1.19	22.32	2.75	2806.44	2957.60	1.56	1.92	356.32	1.00
6/26/24 11:37	1.20	22.32	2.76	2814.57	2966.23	1.56	1.93	355.29	1.00
6/26/24 15:37	1.20	22.32	2.78	2823.56	2975.69	1.57	1.93	354.16	1.00
6/26/24 19:37	1.20	22.32	2.76	2810.35	2961.79	1.56	1.93	355.83	1.00
6/26/24 23:37	1.18	22.32	2.73	2794.74	2945.36	1.55	1.91	357.82	1.00
6/27/24 3:37	1.19	22.32	2.74	2810.65	2962.19	1.56	1.93	355.79	1.00
6/27/24 7:37	1.19	22.32	2.74	2808.31	2959.77	1.56	1.92	356.09	1.00
6/27/24 11:37	1.20	22.32	2.76	2819.98	2972.07	1.57	1.93	354.61	1.00
6/27/24 15:37	1.21	22.32	2.78	2829.23	2981.87	1.57	1.94	353.45	1.00
6/27/24 19:37	1.20	22.32	2.78	2823.65	2976.01	1.57	1.93	354.15	1.00
6/27/24 23:37	1.19	22.32	2.76	2809.78	2961.39	1.56	1.92	355.90	1.00
6/28/24 3:37	1.20	22.32	2.76	2820.35	2972.59	1.57	1.93	354.57	1.00
6/28/24 7:37	1.19	22.32	2.75	2811.30	2963.05	1.56	1.93	355.71	1.00
6/28/24 11:37	1.20	22.32	2.76	2820.56	2972.86	1.57	1.93	354.54	1.00
6/28/24 15:37	1.20	22.32	2.78	2824.94	2977.49	1.57	1.94	353.99	1.00
6/28/24 19:37	1.20	22.32	2.77	2819.73	2972.04	1.57	1.93	354.64	1.00
6/28/24 23:37	1.19	22.32	2.75	2810.91	2962.77	1.56	1.93	355.76	1.00
6/29/24 3:37	1.18	22.32	2.72	2804.80	2956.37	1.56	1.92	356.53	1.00
6/29/24 7:37	1.17	22.32	2.71	2795.20	2946.27	1.55	1.92	357.76	1.00
6/29/24 11:37	1.17	22.32	2.71	2802.92	2954.42	1.56	1.92	356.77	1.00
6/29/24 15:37	1.18	22.31	2.73	2819.50	2971.94	1.57	1.93	354.67	1.00
6/29/24 19:37	1.18	22.31	2.72	2807.99	2959.82	1.56	1.92	356.13	1.00
6/29/24 23:37	1.16	22.31	2.68	2782.50	2932.95	1.54	1.91	359.39	1.00
6/30/24 3:37	1.16	22.31	2.67	2789.30	2940.17	1.55	1.91	358.51	1.00
6/30/24 7:37	1.16	22.31	2.68	2792.84	2943.92	1.55	1.91	358.06	1.00
6/30/24 11:37	1.17	22.31	2.69	2801.90	2953.52	1.56	1.92	356.90	1.00
6/30/24 15:37	1.18	22.31	2.73	2827.80	2980.84	1.57	1.94	353.63	1.00
6/30/24 19:37	1.18	22.31	2.72	2810.67	2962.77	1.56	1.93	355.79	1.00
6/30/24 23:37	1.17	22.31	2.70	2798.41	2949.89	1.55	1.92	357.35	1.00
7/1/24 3:37	1.18	22.31	2.72	2813.29	2965.62	1.56	1.93	355.46	1.00
7/1/24 7:37	1.18	22.31	2.71	2809.79	2961.94	1.56	1.93	355.90	1.00
7/1/24 11:37	1.18	22.31	2.73	2820.64	2973.42	1.57	1.93	354.53	1.00
7/1/24 15:37	1.19	22.31	2.76	2830.31	2983.64	1.57	1.94	353.32	1.00
7/1/24 19:37	1.19	22.31	2.75	2824.69	2977.77	1.57	1.94	354.02	1.00
7/1/24 23:37	1.18	22.31	2.73	2811.82	2964.18	1.56	1.93	355.64	1.00
7/2/24 3:37	1.18	22.31	2.73	2821.13	2974.08	1.57	1.93	354.47	1.00
7/2/24 7:37	1.18	22.31	2.72	2816.41	2969.08	1.56	1.93	355.06	1.00
7/2/24 11:37	1.18	22.31	2.73	2819.90	2972.82	1.57	1.93	354.62	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/2/24 15:37	1.19	22.31	2.76	2833.03	2986.68	1.57	1.94	352.98	1.00
7/2/24 19:37	1.19	22.31	2.75	2825.04	2978.24	1.57	1.94	353.98	1.00
7/2/24 23:37	1.17	22.31	2.71	2804.37	2956.46	1.56	1.92	356.59	1.00
7/3/24 3:37	1.18	22.31	2.73	2817.92	2970.80	1.57	1.93	354.87	1.00
7/3/24 7:37	1.17	22.31	2.71	2813.86	2966.52	1.56	1.93	355.38	1.00
7/3/24 11:37	1.17	22.31	2.71	2817.43	2970.32	1.56	1.93	354.93	1.00
7/3/24 15:37	1.19	22.30	2.74	2829.52	2983.12	1.57	1.94	353.42	1.00
7/3/24 19:37	1.19	22.30	2.74	2825.35	2978.73	1.57	1.94	353.94	1.00
7/3/24 23:37	1.17	22.30	2.71	2814.93	2967.75	1.56	1.93	355.25	1.00
7/4/24 3:37	1.18	22.30	2.73	2822.14	2975.43	1.57	1.93	354.34	1.00
7/4/24 7:37	1.17	22.30	2.71	2813.06	2965.82	1.56	1.93	355.48	1.00
7/4/24 11:37	1.17	22.30	2.71	2819.56	2972.73	1.57	1.93	354.67	1.00
7/4/24 15:37	1.19	22.30	2.74	2832.94	2986.86	1.57	1.94	352.99	1.00
7/4/24 19:37	1.18	22.30	2.71	2814.90	2967.84	1.56	1.93	355.25	1.00
7/4/24 23:37	1.16	22.30	2.68	2800.69	2952.87	1.56	1.92	357.06	1.00
7/5/24 3:37	1.17	22.30	2.69	2812.17	2965.03	1.56	1.93	355.60	1.00
7/5/24 7:37	1.16	22.30	2.67	2805.15	2957.66	1.56	1.92	356.49	1.00
7/5/24 11:37	1.17	22.30	2.69	2815.51	2968.61	1.56	1.93	355.18	1.00
7/5/24 15:37	1.18	22.30	2.72	2831.28	2985.26	1.57	1.94	353.20	1.00
7/5/24 19:37	1.17	22.30	2.71	2823.57	2977.14	1.57	1.94	354.16	1.00
7/5/24 23:37	1.14	22.30	2.64	2779.40	2930.50	1.54	1.90	359.79	1.00
7/6/24 3:37	1.17	22.30	2.70	2815.88	2969.08	1.56	1.93	355.13	1.00
7/6/24 7:37	1.17	22.30	2.69	2810.80	2963.75	1.56	1.93	355.77	1.00
7/6/24 11:37	1.17	22.30	2.70	2813.12	2966.22	1.56	1.93	355.48	1.00
7/6/24 15:37	1.18	22.30	2.73	2833.60	2987.83	1.57	1.94	352.91	1.00
7/6/24 19:37	1.19	22.30	2.74	2831.22	2985.36	1.57	1.94	353.20	1.00
7/6/24 23:37	1.18	22.30	2.72	2817.91	2971.31	1.57	1.93	354.87	1.00
7/7/24 3:37	1.18	22.30	2.73	2825.11	2978.95	1.57	1.94	353.97	1.00
7/7/24 7:37	1.17	22.30	2.71	2821.63	2975.25	1.57	1.93	354.41	1.00
7/7/24 11:37	1.18	22.30	2.72	2825.76	2979.65	1.57	1.94	353.89	1.00
7/7/24 15:37	1.18	22.30	2.73	2829.86	2984.01	1.57	1.94	353.37	1.00
7/7/24 19:37	1.18	22.30	2.73	2827.28	2981.30	1.57	1.94	353.70	1.00
7/7/24 23:37	1.16	22.30	2.69	2815.28	2968.65	1.56	1.93	355.20	1.00
7/8/24 3:37	1.16	22.29	2.67	2802.29	2955.01	1.56	1.92	356.85	1.00
7/8/24 7:37	1.14	22.29	2.64	2788.07	2940.02	1.55	1.91	358.67	1.00
7/8/24 11:37	1.15	22.29	2.65	2799.16	2951.73	1.55	1.92	357.25	1.00
7/8/24 15:37	1.17	22.29	2.70	2831.41	2985.79	1.57	1.94	353.18	1.00
7/8/24 19:37	1.17	22.29	2.70	2821.85	2975.72	1.57	1.93	354.38	1.00
7/8/24 23:37	1.15	22.29	2.66	2803.70	2956.57	1.56	1.92	356.67	1.00
7/9/24 3:37	1.16	22.29	2.67	2812.82	2966.24	1.56	1.93	355.52	1.00
7/9/24 7:37	1.15	22.29	2.66	2805.87	2958.90	1.56	1.92	356.40	1.00
7/9/24 11:37	1.16	22.29	2.68	2816.95	2970.63	1.57	1.93	354.99	1.00
7/9/24 15:37	1.17	22.29	2.70	2828.83	2983.17	1.57	1.94	353.50	1.00
7/9/24 19:37	1.17	22.29	2.70	2820.81	2974.72	1.57	1.93	354.51	1.00
7/9/24 23:37	1.15	22.29	2.65	2796.97	2949.55	1.55	1.92	357.53	1.00
7/10/24 3:37	1.15	22.29	2.65	2794.58	2947.10	1.55	1.92	357.84	1.00
7/10/24 7:37	1.15	22.29	2.66	2811.83	2965.29	1.56	1.93	355.64	1.00
7/10/24 11:37	1.16	22.29	2.67	2816.42	2970.18	1.56	1.93	355.06	1.00
7/10/24 15:37	1.16	22.29	2.68	2824.08	2978.24	1.57	1.94	354.10	1.00
7/10/24 19:37	1.16	22.29	2.67	2816.60	2970.36	1.56	1.93	355.04	1.00
7/10/24 23:37	1.15	22.29	2.67	2812.15	2965.72	1.56	1.93	355.60	1.00
7/11/24 3:37	1.15	22.29	2.67	2816.09	2969.90	1.56	1.93	355.10	1.00
7/11/24 7:37	1.15	22.29	2.65	2810.86	2964.39	1.56	1.93	355.76	1.00
7/11/24 11:37	1.15	22.29	2.66	2814.26	2968.02	1.56	1.93	355.33	1.00
7/11/24 15:37	1.16	22.29	2.68	2826.00	2980.39	1.57	1.94	353.86	1.00
7/11/24 19:37	1.16	22.29	2.68	2820.90	2975.02	1.57	1.93	354.50	1.00
7/11/24 23:37	1.15	22.29	2.65	2811.28	2964.90	1.56	1.93	355.71	1.00
7/12/24 3:37	1.15	22.29	2.65	2813.95	2967.73	1.56	1.93	355.37	1.00
7/12/24 7:37	1.15	22.29	2.65	2812.11	2965.80	1.56	1.93	355.61	1.00
7/12/24 11:37	1.15	22.29	2.66	2817.90	2971.92	1.57	1.93	354.87	1.00
7/12/24 15:37	1.16	22.29	2.67	2826.54	2981.10	1.57	1.94	353.79	1.00
7/12/24 19:37	1.15	22.29	2.66	2819.24	2973.36	1.57	1.93	354.71	1.00
7/12/24 23:37	1.15	22.29	2.65	2810.25	2963.94	1.56	1.93	355.84	1.00
7/13/24 3:37	1.15	22.29	2.65	2817.29	2971.35	1.57	1.93	354.95	1.00
7/13/24 7:37	1.14	22.29	2.63	2804.03	2957.37	1.56	1.92	356.63	1.00
7/13/24 11:37	1.15	22.28	2.65	2817.41	2971.54	1.57	1.93	354.94	1.00
7/13/24 15:37	1.15	22.28	2.67	2827.14	2981.79	1.57	1.94	353.71	1.00
7/13/24 19:37	1.15	22.28	2.66	2821.33	2975.67	1.57	1.93	354.44	1.00
7/13/24 23:37	1.14	22.28	2.64	2811.27	2965.10	1.56	1.93	355.71	1.00
7/14/24 3:37	1.15	22.28	2.65	2820.52	2974.83	1.57	1.93	354.54	1.00
7/14/24 7:37	1.14	22.28	2.63	2811.67	2965.51	1.56	1.93	355.66	1.00
7/14/24 11:37	1.15	22.28	2.64	2821.19	2975.60	1.57	1.93	354.46	1.00
7/14/24 15:37	1.16	22.28	2.67	2831.11	2986.11	1.57	1.94	353.22	1.00
7/14/24 19:37	1.15	22.28	2.66	2827.33	2982.12	1.57	1.94	353.69	1.00
7/14/24 23:37	1.15	22.28	2.65	2820.18	2974.59	1.57	1.93	354.59	1.00
7/15/24 3:37	1.15	22.28	2.65	2825.64	2980.37	1.57	1.94	353.90	1.00
7/15/24 7:37	1.14	22.28	2.64	2819.96	2974.36	1.57	1.93	354.61	1.00
7/15/24 11:37	1.15	22.28	2.65	2828.04	2982.92	1.57	1.94	353.60	1.00
7/15/24 15:37	1.16	22.28	2.67	2836.73	2992.09	1.58	1.94	352.52	1.00
7/15/24 19:37	1.16	22.28	2.67	2830.42	2985.46	1.57	1.94	353.30	1.00
7/15/24 23:37	1.15	22.28	2.65	2822.38	2976.97	1.57	1.94	354.31	1.00
7/16/24 3:37	1.15	22.28	2.66	2828.34	2983.28	1.57	1.94	353.56	1.00
7/16/24 7:37	1.14	22.28	2.63	2817.91	2972.26	1.57	1.93	354.87	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/16/24 11:37	1.14	22.28	2.64	2826.26	2981.15	1.57	1.94	353.82	1.00
7/16/24 15:37	1.13	22.28	2.62	2810.23	2964.18	1.56	1.93	355.84	1.00
7/16/24 19:37	1.12	22.28	2.58	2789.64	2942.49	1.55	1.91	358.47	1.00
7/16/24 23:37	1.11	22.28	2.55	2776.81	2929.01	1.54	1.90	360.12	1.00
7/17/24 3:37	1.10	22.28	2.54	2757.11	2908.21	1.53	1.89	362.70	1.00
7/17/24 7:37	1.09	22.28	2.51	2724.77	2874.11	1.51	1.87	367.00	1.00
7/17/24 11:37	1.07	22.28	2.48	2709.07	2857.54	1.50	1.86	369.13	1.00
7/17/24 15:37	1.07	22.28	2.47	2715.78	2864.71	1.51	1.86	368.22	1.00
7/17/24 19:37	1.06	22.28	2.46	2720.39	2869.55	1.51	1.87	367.59	1.00
7/17/24 23:37	1.04	22.28	2.41	2685.18	2832.37	1.49	1.84	372.42	1.00
7/18/24 3:37	1.06	22.28	2.44	2712.94	2861.74	1.50	1.86	368.60	1.00
7/18/24 7:37	1.05	22.28	2.43	2712.44	2861.16	1.50	1.86	368.67	1.00
7/18/24 11:37	1.06	22.28	2.44	2716.78	2865.80	1.51	1.86	368.08	1.00
7/18/24 15:37	1.07	22.28	2.46	2728.81	2878.49	1.51	1.87	366.46	1.00
7/18/24 19:37	1.06	22.28	2.44	2717.24	2866.26	1.51	1.86	368.02	1.00
7/18/24 23:37	1.05	22.28	2.42	2708.94	2857.50	1.50	1.86	369.15	1.00
7/19/24 3:37	1.05	22.28	2.44	2719.53	2868.74	1.51	1.86	367.71	1.00
7/19/24 7:37	1.05	22.28	2.42	2712.63	2861.45	1.50	1.86	368.65	1.00
7/19/24 11:37	1.05	22.28	2.43	2717.40	2866.52	1.51	1.86	368.00	1.00
7/19/24 15:37	1.06	22.28	2.45	2725.37	2874.93	1.51	1.87	366.92	1.00
7/19/24 19:37	1.05	22.28	2.44	2720.93	2870.23	1.51	1.87	367.52	1.00
7/19/24 23:37	1.05	22.28	2.42	2712.12	2860.95	1.50	1.86	368.72	1.00
7/20/24 3:37	1.05	22.28	2.42	2716.70	2865.81	1.51	1.86	368.09	1.00
7/20/24 7:37	1.04	22.28	2.40	2701.85	2850.13	1.50	1.85	370.12	1.00
7/20/24 11:37	1.04	22.28	2.41	2706.95	2855.53	1.50	1.86	369.42	1.00
7/20/24 15:37	1.05	22.28	2.43	2716.12	2865.22	1.51	1.86	368.17	1.00
7/20/24 19:37	1.04	22.28	2.41	2706.05	2854.57	1.50	1.86	369.54	1.00
7/20/24 23:37	1.03	22.28	2.38	2692.47	2840.25	1.49	1.85	371.41	1.00
7/21/24 3:37	1.03	22.27	2.39	2702.10	2850.46	1.50	1.85	370.08	1.00
7/21/24 7:37	1.03	22.28	2.38	2700.09	2848.31	1.50	1.85	370.36	1.00
7/21/24 11:37	1.03	22.27	2.39	2702.09	2850.46	1.50	1.85	370.08	1.00
7/21/24 15:37	1.04	22.27	2.41	2712.01	2860.96	1.50	1.86	368.73	1.00
7/21/24 19:37	1.04	22.27	2.39	2707.46	2856.12	1.50	1.86	369.35	1.00
7/21/24 23:37	1.03	22.27	2.37	2696.92	2845.02	1.50	1.85	370.79	1.00
7/22/24 3:37	1.04	22.27	2.39	2710.65	2859.55	1.50	1.86	368.92	1.00
7/22/24 7:37	1.03	22.27	2.38	2704.61	2853.14	1.50	1.85	369.74	1.00
7/22/24 11:37	1.03	22.27	2.39	2707.90	2856.64	1.50	1.86	369.29	1.00
7/22/24 15:37	1.04	22.27	2.40	2714.26	2863.35	1.51	1.86	368.42	1.00
7/22/24 19:37	1.04	22.27	2.40	2713.39	2862.47	1.50	1.86	368.54	1.00
7/22/24 23:37	1.06	22.27	2.44	2742.69	2893.39	1.52	1.88	364.61	1.00
7/23/24 3:37	1.07	22.27	2.47	2753.98	2905.33	1.53	1.89	363.11	1.00
7/23/24 7:37	1.07	22.27	2.48	2757.13	2908.62	1.53	1.89	362.70	1.00
7/23/24 11:37	1.08	22.27	2.50	2769.02	2921.19	1.54	1.90	361.14	1.00
7/23/24 15:37	1.09	22.27	2.52	2786.31	2939.44	1.55	1.91	358.90	1.00
7/23/24 19:37	1.09	22.27	2.53	2788.76	2942.02	1.55	1.91	358.58	1.00
7/23/24 23:37	1.09	22.27	2.51	2786.00	2939.11	1.55	1.91	358.94	1.00
7/24/24 3:37	1.09	22.27	2.52	2793.60	2947.14	1.55	1.92	357.96	1.00
7/24/24 7:37	1.09	22.27	2.51	2791.98	2945.43	1.55	1.91	358.17	1.00
7/24/24 11:37	1.09	22.27	2.53	2801.89	2955.90	1.56	1.92	356.90	1.00
7/24/24 15:37	1.10	22.27	2.55	2813.77	2968.44	1.56	1.93	355.40	1.00
7/24/24 19:37	1.10	22.27	2.55	2812.20	2966.75	1.56	1.93	355.59	1.00
7/24/24 23:37	1.09	22.27	2.52	2801.65	2955.65	1.56	1.92	356.93	1.00
7/25/24 3:37	1.10	22.27	2.54	2812.06	2966.65	1.56	1.93	355.61	1.00
7/25/24 7:37	1.09	22.27	2.53	2806.77	2961.03	1.56	1.92	356.28	1.00
7/25/24 11:37	1.10	22.27	2.54	2815.78	2970.61	1.56	1.93	355.14	1.00
7/25/24 15:37	1.11	22.27	2.56	2827.79	2983.26	1.57	1.94	353.63	1.00
7/25/24 19:37	1.11	22.27	2.57	2826.14	2981.49	1.57	1.94	353.84	1.00
7/25/24 23:37	1.11	22.27	2.55	2820.31	2975.37	1.57	1.93	354.57	1.00
7/26/24 3:37	1.11	22.27	2.57	2827.37	2982.83	1.57	1.94	353.69	1.00
7/26/24 7:37	1.11	22.27	2.56	2825.05	2980.36	1.57	1.94	353.98	1.00
7/26/24 11:37	1.12	22.27	2.58	2833.83	2989.64	1.58	1.94	352.88	1.00
7/26/24 15:37	1.12	22.27	2.59	2842.02	2998.29	1.58	1.95	351.86	1.00
7/26/24 19:37	1.12	22.27	2.58	2835.18	2991.05	1.58	1.94	352.71	1.00
7/26/24 23:37	1.11	22.27	2.55	2818.91	2973.90	1.57	1.93	354.75	1.00
7/27/24 3:37	1.12	22.27	2.58	2836.61	2992.61	1.58	1.95	352.53	1.00
7/27/24 7:37	1.11	22.27	2.56	2830.83	2986.47	1.57	1.94	353.25	1.00
7/27/24 11:37	1.12	22.27	2.58	2839.21	2995.37	1.58	1.95	352.21	1.00
7/27/24 15:37	1.12	22.27	2.59	2844.94	3001.38	1.58	1.95	351.50	1.00
7/27/24 19:37	1.12	22.27	2.58	2840.44	2996.64	1.58	1.95	352.06	1.00
7/27/24 23:37	1.11	22.27	2.57	2832.54	2988.28	1.57	1.94	353.04	1.00
7/28/24 3:37	1.11	22.27	2.57	2838.38	2994.46	1.58	1.95	352.31	1.00
7/28/24 7:37	1.11	22.27	2.55	2828.47	2983.98	1.57	1.94	353.55	1.00
7/28/24 11:37	1.11	22.27	2.57	2839.74	2995.93	1.58	1.95	352.15	1.00
7/28/24 15:37	1.12	22.27	2.59	2847.03	3003.64	1.58	1.95	351.24	1.00
7/28/24 19:37	1.12	22.27	2.58	2841.18	2997.43	1.58	1.95	351.97	1.00
7/28/24 23:37	1.11	22.27	2.56	2831.03	2986.71	1.57	1.94	353.23	1.00
7/29/24 3:37	1.11	22.27	2.57	2840.12	2996.33	1.58	1.95	352.10	1.00
7/29/24 7:37	1.11	22.27	2.56	2832.81	2988.61	1.58	1.94	353.01	1.00
7/29/24 11:37	1.11	22.27	2.56	2840.14	2996.37	1.58	1.95	352.09	1.00
7/29/24 15:37	1.12	22.27	2.59	2849.21	3005.93	1.58	1.95	350.97	1.00
7/29/24 19:37	1.12	22.27	2.58	2843.02	2999.39	1.58	1.95	351.74	1.00
7/29/24 23:37	1.11	22.27	2.56	2837.05	2993.09	1.58	1.95	352.48	1.00
7/30/24 3:37	1.11	22.27	2.57	2843.02	2999.41	1.58	1.95	351.74	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/30/24 7:37	1.11	22.27	2.56	2836.14	2992.12	1.58	1.94	352.59	1.00
7/30/24 11:37	1.12	22.27	2.58	2846.72	3003.34	1.58	1.95	351.28	1.00
7/30/24 15:37	1.12	22.27	2.59	2850.78	3007.60	1.59	1.95	350.78	1.00
7/30/24 19:37	1.12	22.27	2.58	2847.37	3003.98	1.58	1.95	351.20	1.00
7/30/24 23:37	1.11	22.27	2.57	2839.67	2995.86	1.58	1.95	352.15	1.00
7/31/24 3:37	1.12	22.27	2.58	2847.22	3003.82	1.58	1.95	351.22	1.00
7/31/24 7:37	1.11	22.27	2.55	2835.67	2991.62	1.58	1.94	352.65	1.00
7/31/24 11:37	1.11	22.27	2.57	2845.49	3002.03	1.58	1.95	351.43	1.00
7/31/24 15:37	1.11	22.27	2.57	2847.80	3004.46	1.58	1.95	351.15	1.00
7/31/24 19:37	1.09	22.27	2.53	2819.88	2974.89	1.57	1.93	354.63	1.00
7/31/24 23:37	1.09	22.27	2.51	2810.70	2965.28	1.56	1.93	355.78	1.00
8/1/24 3:37	1.10	22.27	2.53	2831.17	2986.92	1.57	1.94	353.21	1.00
8/1/24 7:37	1.08	22.27	2.49	2806.58	2960.87	1.56	1.92	356.31	1.00
8/1/24 11:37	1.09	22.27	2.52	2827.97	2983.54	1.57	1.94	353.61	1.00
8/1/24 15:37	1.11	22.27	2.55	2846.91	3003.54	1.58	1.95	351.26	1.00
8/1/24 19:37	1.10	22.27	2.55	2840.06	2996.26	1.58	1.95	352.11	1.00
8/1/24 23:37	1.09	22.27	2.52	2823.62	2978.89	1.57	1.94	354.16	1.00
8/2/24 3:37	1.09	22.27	2.52	2831.19	2986.93	1.57	1.94	353.21	1.00
8/2/24 7:37	1.09	22.27	2.52	2828.08	2983.63	1.57	1.94	353.60	1.00
8/2/24 11:37	1.10	22.27	2.53	2837.19	2993.28	1.58	1.95	352.46	1.00
8/2/24 15:37	1.11	22.27	2.57	2857.15	3014.35	1.59	1.96	350.00	1.00
8/2/24 19:37	1.11	22.27	2.56	2848.89	3005.59	1.58	1.95	351.01	1.00
8/2/24 23:37	1.10	22.27	2.54	2835.59	2991.52	1.58	1.94	352.66	1.00
8/3/24 3:37	1.11	22.27	2.56	2848.76	3005.45	1.58	1.95	351.03	1.00
8/3/24 7:37	1.10	22.27	2.54	2843.31	2999.68	1.58	1.95	351.70	1.00
8/3/24 11:37	1.10	22.27	2.55	2847.89	3004.51	1.58	1.95	351.14	1.00
8/3/24 15:37	1.12	22.27	2.58	2862.46	3019.90	1.59	1.96	349.35	1.00
8/3/24 19:37	1.11	22.27	2.57	2855.00	3012.01	1.59	1.96	350.26	1.00
8/3/24 23:37	1.11	22.27	2.56	2845.77	3002.28	1.58	1.95	351.40	1.00
8/4/24 3:37	1.11	22.27	2.57	2858.77	3015.99	1.59	1.96	349.80	1.00
8/4/24 7:37	1.11	22.27	2.55	2842.92	2999.25	1.58	1.95	351.75	1.00
8/4/24 11:37	1.11	22.27	2.56	2853.95	3010.91	1.59	1.96	350.39	1.00
8/4/24 15:37	1.12	22.27	2.58	2862.56	3019.98	1.59	1.96	349.34	1.00
8/4/24 19:37	1.11	22.27	2.57	2856.66	3013.71	1.59	1.96	350.06	1.00
8/4/24 23:37	1.11	22.27	2.56	2848.30	3004.90	1.58	1.95	351.09	1.00
8/5/24 3:37	1.11	22.27	2.56	2852.25	3009.07	1.59	1.96	350.60	1.00
8/5/24 7:37	1.10	22.27	2.54	2841.43	2997.64	1.58	1.95	351.94	1.00
8/5/24 11:37	1.11	22.27	2.55	2852.72	3009.59	1.59	1.96	350.54	1.00
8/5/24 15:37	1.12	22.27	2.58	2866.37	3023.98	1.59	1.97	348.87	1.00
8/5/24 19:37	1.11	22.27	2.57	2855.74	3012.73	1.59	1.96	350.17	1.00
8/5/24 23:37	1.10	22.27	2.55	2847.62	3004.16	1.58	1.95	351.17	1.00
8/6/24 3:37	1.10	22.27	2.55	2851.22	3007.95	1.59	1.96	350.73	1.00
8/6/24 7:37	1.10	22.27	2.54	2845.11	3001.50	1.58	1.95	351.48	1.00
8/6/24 11:37	1.10	22.27	2.55	2853.30	3010.16	1.59	1.96	350.47	1.00
8/6/24 15:37	1.11	22.27	2.57	2865.55	3023.08	1.59	1.97	348.97	1.00
8/6/24 19:37	1.11	22.27	2.57	2860.08	3017.30	1.59	1.96	349.64	1.00
8/6/24 23:37	1.11	22.27	2.56	2853.50	3010.35	1.59	1.96	350.45	1.00
8/7/24 3:37	1.11	22.27	2.56	2858.50	3015.60	1.59	1.96	349.83	1.00
8/7/24 7:37	1.11	22.27	2.56	2856.32	3013.31	1.59	1.96	350.10	1.00
8/7/24 11:37	1.11	22.27	2.57	2864.82	3022.26	1.59	1.96	349.06	1.00
8/7/24 15:37	1.12	22.27	2.59	2870.03	3027.78	1.60	1.97	348.43	1.00
8/7/24 19:37	1.12	22.27	2.59	2867.32	3024.88	1.60	1.97	348.76	1.00
8/7/24 23:37	1.11	22.27	2.57	2859.07	3016.19	1.59	1.96	349.76	1.00
8/8/24 3:37	1.12	22.27	2.58	2863.97	3021.35	1.59	1.96	349.17	1.00
8/8/24 7:37	1.11	22.27	2.57	2860.92	3018.10	1.59	1.96	349.54	1.00
8/8/24 11:37	1.11	22.27	2.57	2862.41	3019.69	1.59	1.96	349.36	1.00
8/8/24 15:37	1.12	22.27	2.59	2871.99	3029.79	1.60	1.97	348.19	1.00
8/8/24 19:37	1.12	22.27	2.58	2863.73	3021.06	1.59	1.96	349.19	1.00
8/8/24 23:37	1.10	22.27	2.54	2843.44	2999.58	1.58	1.95	351.69	1.00
8/9/24 3:37	1.09	22.27	2.53	2841.59	2997.68	1.58	1.95	351.92	1.00
8/9/24 7:37	1.09	22.27	2.51	2839.66	2995.62	1.58	1.95	352.15	1.00
8/9/24 11:37	1.10	22.27	2.54	2853.39	3010.15	1.59	1.96	350.46	1.00
8/9/24 15:37	1.11	22.27	2.57	2871.74	3029.50	1.60	1.97	348.22	1.00
8/9/24 19:37	1.11	22.27	2.57	2863.39	3020.64	1.59	1.96	349.24	1.00
8/9/24 23:37	1.10	22.27	2.54	2852.23	3008.87	1.59	1.96	350.60	1.00
8/10/24 3:37	1.10	22.27	2.54	2854.56	3011.30	1.59	1.96	350.32	1.00
8/10/24 7:37	1.09	22.28	2.52	2845.77	3002.02	1.58	1.95	351.40	1.00
8/10/24 11:37	1.10	22.28	2.53	2852.11	3008.70	1.59	1.96	350.62	1.00
8/10/24 15:37	1.10	22.27	2.55	2861.77	3018.92	1.59	1.96	349.43	1.00
8/10/24 19:37	1.10	22.28	2.55	2858.13	3015.04	1.59	1.96	349.88	1.00
8/10/24 23:37	1.09	22.28	2.53	2848.20	3004.55	1.58	1.95	351.10	1.00
8/11/24 3:37	1.10	22.28	2.53	2854.21	3010.89	1.59	1.96	350.36	1.00
8/11/24 7:37	1.10	22.28	2.53	2854.54	3011.20	1.59	1.96	350.32	1.00
8/11/24 11:37	1.11	22.28	2.56	2867.82	3025.27	1.60	1.97	348.70	1.00
8/11/24 15:37	1.12	22.28	2.58	2874.50	3032.30	1.60	1.97	347.89	1.00
8/11/24 19:37	1.11	22.28	2.57	2867.30	3024.63	1.60	1.97	348.76	1.00
8/11/24 23:37	1.10	22.28	2.55	2857.03	3013.79	1.59	1.96	350.01	1.00
8/12/24 3:37	1.11	22.28	2.55	2864.74	3021.95	1.59	1.96	349.07	1.00
8/12/24 7:37	1.11	22.28	2.55	2862.05	3019.05	1.59	1.96	349.40	1.00
8/12/24 11:37	1.11	22.28	2.56	2867.39	3024.74	1.60	1.97	348.75	1.00
8/12/24 15:37	1.12	22.28	2.58	2879.23	3037.21	1.60	1.97	347.31	1.00
8/12/24 19:37	1.11	22.28	2.57	2869.25	3026.63	1.60	1.97	348.52	1.00
8/12/24 23:37	1.10	22.28	2.54	2857.93	3014.70	1.59	1.96	349.90	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/13/24 3:37	1.10	22.28	2.55	2867.71	3025.02	1.60	1.97	348.71	1.00
8/13/24 7:37	1.10	22.28	2.54	2860.70	3017.56	1.59	1.96	349.56	1.00
8/13/24 11:37	2.35	22.23	5.43	3226.67	3406.98	1.81	2.21	309.92	1.00
8/13/24 15:37	2.37	22.17	5.47	3263.39	3449.78	1.83	2.24	306.43	1.00
8/13/24 19:37	2.36	22.16	5.44	3279.37	3467.35	1.84	2.25	304.94	1.00
8/13/24 23:37	2.34	22.16	5.41	3284.82	3473.30	1.85	2.26	304.43	1.00
8/14/24 3:37	2.35	22.16	5.43	3285.50	3474.10	1.85	2.26	304.37	1.00
8/14/24 7:37	2.35	22.16	5.42	3286.47	3475.18	1.85	2.26	304.28	1.00
8/14/24 11:37	2.37	22.16	5.47	3285.38	3474.05	1.85	2.26	304.38	1.00
8/14/24 15:37	2.38	22.16	5.50	3285.92	3474.67	1.85	2.26	304.33	1.00
8/14/24 19:37	2.36	22.16	5.46	3286.61	3475.40	1.85	2.26	304.26	1.00
8/14/24 23:37	2.35	22.16	5.43	3285.65	3474.42	1.85	2.26	304.35	1.00
8/15/24 3:37	2.35	22.16	5.44	3286.25	3475.06	1.85	2.26	304.30	1.00
8/15/24 7:37	2.35	22.15	5.42	3285.00	3473.79	1.85	2.26	304.41	1.00
8/15/24 11:37	2.35	22.18	5.44	3233.81	3417.62	1.82	2.22	309.23	1.00
8/15/24 15:37	2.38	22.17	5.49	3268.49	3455.39	1.84	2.25	305.95	1.00
8/15/24 19:37	2.38	22.16	5.49	3269.28	3456.75	1.84	2.25	305.88	1.00
8/15/24 23:37	2.37	22.16	5.48	3273.24	3461.04	1.84	2.25	305.51	1.00
8/16/24 3:37	2.37	22.16	5.47	3275.70	3463.70	1.84	2.25	305.28	1.00
8/16/24 7:37	2.38	22.19	5.50	3251.98	3436.24	1.83	2.23	307.51	1.00
8/16/24 11:37	2.39	22.20	5.53	3203.35	3384.52	1.80	2.20	312.17	1.00
8/16/24 15:37	2.39	22.17	5.51	3271.28	3458.18	1.84	2.25	305.69	1.00
8/16/24 19:37	2.37	22.16	5.47	3273.10	3460.67	1.84	2.25	305.52	1.00
8/16/24 23:37	2.36	22.16	5.45	3275.68	3463.53	1.84	2.25	305.28	1.00
8/17/24 3:37	2.36	22.16	5.44	3276.91	3464.93	1.84	2.25	305.17	1.00
8/17/24 7:37	2.35	22.16	5.43	3278.14	3466.30	1.84	2.25	305.05	1.00
8/17/24 11:37	2.36	22.16	5.44	3279.39	3467.70	1.84	2.25	304.94	1.00
8/17/24 15:37	2.37	22.16	5.47	3280.13	3468.51	1.84	2.25	304.87	1.00
8/17/24 19:37	2.37	22.16	5.47	3281.07	3469.52	1.84	2.26	304.78	1.00
8/17/24 23:37	2.36	22.16	5.45	3280.70	3469.18	1.84	2.25	304.81	1.00
8/18/24 3:37	2.36	22.16	5.45	3281.50	3470.04	1.84	2.26	304.74	1.00
8/18/24 7:37	2.36	22.15	5.44	3281.59	3470.15	1.84	2.26	304.73	1.00
8/18/24 11:37	2.36	22.15	5.45	3281.54	3470.14	1.84	2.26	304.73	1.00
8/18/24 15:37	2.37	22.15	5.48	3282.16	3470.81	1.85	2.26	304.68	1.00
8/18/24 19:37	2.37	22.15	5.47	3283.22	3471.94	1.85	2.26	304.58	1.00
8/18/24 23:37	2.36	22.15	5.46	3283.18	3471.92	1.85	2.26	304.58	1.00
8/19/24 3:37	2.36	22.15	5.44	3283.68	3472.45	1.85	2.26	304.54	1.00
8/19/24 7:37	2.35	22.15	5.42	3283.48	3472.25	1.85	2.26	304.55	1.00
8/19/24 11:37	2.35	22.15	5.42	3283.56	3472.34	1.85	2.26	304.55	1.00
8/19/24 15:37	2.38	22.15	5.49	3284.00	3472.82	1.85	2.26	304.51	1.00
8/19/24 19:37	2.38	22.15	5.50	3283.92	3472.76	1.85	2.26	304.51	1.00
8/19/24 23:37	2.38	22.15	5.49	3282.92	3471.71	1.85	2.26	304.61	1.00
8/20/24 3:37	2.38	22.15	5.49	3283.22	3472.06	1.85	2.26	304.58	1.00
8/20/24 7:37	2.37	22.15	5.48	3283.67	3472.55	1.85	2.26	304.54	1.00
8/20/24 11:37	2.38	22.15	5.51	3283.52	3472.38	1.85	2.26	304.55	1.00
8/20/24 15:37	2.39	22.15	5.52	3284.02	3472.93	1.85	2.26	304.50	1.00
8/20/24 19:37	2.38	22.15	5.50	3283.57	3472.45	1.85	2.26	304.55	1.00
8/20/24 23:37	2.37	22.15	5.47	3283.59	3472.51	1.85	2.26	304.55	1.00
8/21/24 3:37	2.37	22.15	5.48	3283.37	3472.32	1.85	2.26	304.57	1.00
8/21/24 7:37	2.37	22.15	5.47	3283.60	3472.56	1.85	2.26	304.54	1.00
8/21/24 11:37	2.38	22.15	5.49	3283.95	3472.92	1.85	2.26	304.51	1.00
8/21/24 15:37	2.39	22.15	5.52	3284.31	3473.29	1.85	2.26	304.48	1.00
8/21/24 19:37	2.39	22.15	5.51	3283.65	3472.61	1.85	2.26	304.54	1.00
8/21/24 23:37	2.38	22.15	5.49	3282.22	3471.11	1.85	2.26	304.67	1.00
8/22/24 3:37	2.37	22.15	5.48	3285.61	3474.73	1.85	2.26	304.36	1.00
8/22/24 7:37	2.37	22.15	5.47	3285.35	3474.43	1.85	2.26	304.38	1.00
8/22/24 11:37	2.38	22.15	5.49	3285.36	3474.47	1.85	2.26	304.38	1.00
8/22/24 15:37	2.38	22.18	5.49	3243.93	3428.92	1.82	2.23	308.27	1.00
8/22/24 19:37	2.37	22.16	5.47	3278.60	3466.49	1.84	2.25	305.01	1.00
8/22/24 23:37	2.36	22.16	5.45	3277.39	3465.53	1.84	2.25	305.12	1.00
8/23/24 3:37	2.36	22.16	5.45	3277.95	3466.24	1.84	2.25	305.07	1.00
8/23/24 7:37	2.35	22.16	5.43	3278.21	3466.57	1.84	2.25	305.04	1.00
8/23/24 11:37	2.36	22.15	5.46	3278.39	3466.81	1.84	2.25	305.03	1.00
8/23/24 15:37	2.37	22.15	5.48	3279.61	3468.17	1.84	2.25	304.91	1.00
8/23/24 19:37	2.37	22.15	5.48	3279.62	3468.20	1.84	2.25	304.91	1.00
8/23/24 23:37	2.36	22.15	5.45	3279.48	3468.11	1.84	2.25	304.93	1.00
8/24/24 3:37	2.36	22.15	5.45	3280.53	3469.18	1.84	2.25	304.83	1.00
8/24/24 7:37	2.36	22.15	5.44	3281.25	3470.00	1.84	2.26	304.76	1.00
8/24/24 11:37	2.37	22.15	5.46	3281.55	3470.37	1.84	2.26	304.73	1.00
8/24/24 15:37	2.38	22.15	5.49	3281.42	3470.21	1.84	2.26	304.75	1.00
8/24/24 19:37	2.37	22.15	5.48	3281.83	3470.65	1.84	2.26	304.71	1.00
8/24/24 23:37	2.36	22.15	5.45	3282.32	3471.20	1.85	2.26	304.66	1.00
8/25/24 3:37	2.36	22.15	5.45	3282.39	3471.27	1.85	2.26	304.66	1.00
8/25/24 7:37	2.35	22.15	5.44	3283.67	3472.62	1.85	2.26	304.54	1.00
8/25/24 11:37	2.36	22.15	5.45	3284.06	3473.05	1.85	2.26	304.50	1.00
8/25/24 15:37	2.37	22.15	5.47	3284.16	3473.15	1.85	2.26	304.49	1.00
8/25/24 19:37	2.37	22.15	5.46	3285.12	3474.21	1.85	2.26	304.40	1.00
8/25/24 23:37	2.36	22.15	5.45	3285.65	3474.77	1.85	2.26	304.35	1.00
8/26/24 3:37	2.36	22.15	5.44	3286.39	3475.53	1.85	2.26	304.29	1.00
8/26/24 7:37	2.35	22.15	5.43	3286.89	3476.09	1.85	2.26	304.24	1.00
8/26/24 11:37	2.36	22.15	5.44	3288.06	3477.30	1.85	2.26	304.13	1.00
8/26/24 15:37	2.37	22.15	5.47	3288.57	3477.86	1.85	2.26	304.08	1.00
8/26/24 19:37	2.37	22.15	5.46	3289.73	3479.09	1.85	2.26	303.98	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/26/24 23:37	2.35	22.15	5.43	3290.65	3480.06	1.85	2.26	303.89	1.00
8/27/24 3:37	2.36	22.15	5.44	3291.19	3480.65	1.85	2.26	303.84	1.00
8/27/24 7:37	2.36	22.15	5.45	3291.66	3481.17	1.85	2.26	303.80	1.00
8/27/24 11:37	2.36	22.15	5.44	3292.53	3482.09	1.85	2.26	303.72	1.00
8/27/24 15:37	2.37	22.15	5.47	3293.20	3482.78	1.85	2.26	303.66	1.00
8/27/24 19:37	2.36	22.15	5.46	3294.00	3483.66	1.85	2.26	303.58	1.00
8/27/24 23:37	2.36	22.15	5.45	3295.46	3485.19	1.85	2.27	303.45	1.00
8/28/24 3:37	2.36	22.15	5.46	3296.19	3485.99	1.85	2.27	303.38	1.00
8/28/24 7:37	2.36	22.15	5.44	3297.14	3487.01	1.85	2.27	303.29	1.00
8/28/24 11:37	2.36	22.17	5.46	3266.39	3453.27	1.84	2.24	306.15	1.00
8/28/24 15:37	2.37	22.16	5.48	3287.28	3476.06	1.85	2.26	304.20	1.00
8/28/24 19:37	2.37	22.15	5.47	3291.79	3481.06	1.85	2.26	303.79	1.00
8/28/24 23:37	2.36	22.15	5.46	3292.82	3482.20	1.85	2.26	303.69	1.00
8/29/24 3:37	2.36	22.15	5.46	3294.10	3483.58	1.85	2.26	303.57	1.00
8/29/24 7:37	2.36	22.15	5.45	3295.23	3484.80	1.85	2.27	303.47	1.00
8/29/24 11:37	2.36	22.24	5.45	3269.86	3451.79	1.83	2.24	305.82	1.00
8/29/24 15:37	2.37	22.17	5.46	3299.17	3487.64	1.85	2.27	303.11	1.00
8/29/24 19:37	2.36	22.16	5.45	3304.35	3493.86	1.86	2.27	302.63	1.00
8/29/24 23:37	2.35	22.16	5.43	3305.67	3495.49	1.86	2.27	302.51	1.00
8/30/24 3:37	2.34	22.16	5.41	3306.94	3496.93	1.86	2.27	302.39	1.00
8/30/24 7:37	2.34	22.16	5.40	3300.66	3489.87	1.86	2.27	302.97	1.00
8/30/24 11:37	1.08	22.32	2.50	3044.61	3208.83	1.70	2.09	328.45	1.00
8/30/24 15:37	1.10	22.32	2.55	3044.99	3209.11	1.70	2.09	328.41	1.00
8/30/24 19:37	1.10	22.32	2.53	3041.94	3205.83	1.70	2.08	328.74	1.00
8/30/24 23:37	1.09	22.32	2.52	3041.02	3204.90	1.70	2.08	328.84	1.00
8/31/24 3:37	1.10	22.32	2.54	3042.97	3207.07	1.70	2.08	328.63	1.00
8/31/24 7:37	1.09	22.32	2.52	3042.34	3206.39	1.70	2.08	328.69	1.00
8/31/24 11:37	1.10	22.32	2.53	3042.29	3206.40	1.70	2.08	328.70	1.00
8/31/24 15:37	1.11	22.32	2.56	3044.32	3208.64	1.70	2.09	328.48	1.00
8/31/24 19:37	1.10	22.32	2.55	3044.09	3208.30	1.70	2.09	328.51	1.00
8/31/24 23:37	1.10	22.32	2.54	3042.34	3206.51	1.70	2.08	328.69	1.00
9/1/24 3:37	1.10	22.32	2.54	3041.65	3205.77	1.70	2.08	328.77	1.00
9/1/24 7:37	1.09	22.32	2.53	3041.38	3205.46	1.70	2.08	328.80	1.00
9/1/24 11:37	1.09	22.32	2.53	3039.47	3203.49	1.70	2.08	329.00	1.00
9/1/24 15:37	1.10	22.32	2.54	3040.86	3204.94	1.70	2.08	328.85	1.00
9/1/24 19:37	1.10	22.32	2.54	3041.21	3205.26	1.70	2.08	328.82	1.00
9/1/24 23:37	1.09	22.32	2.51	3040.27	3204.26	1.70	2.08	328.92	1.00
9/2/24 3:37	1.10	22.32	2.53	3040.39	3204.47	1.70	2.08	328.90	1.00
9/2/24 7:37	1.09	22.32	2.52	3041.17	3205.19	1.70	2.08	328.82	1.00
9/2/24 11:37	1.09	22.32	2.52	3041.12	3205.16	1.70	2.08	328.83	1.00
9/2/24 15:37	1.10	22.32	2.53	3041.71	3205.82	1.70	2.08	328.76	1.00
9/2/24 19:37	1.09	22.32	2.52	3041.69	3205.71	1.70	2.08	328.76	1.00
9/2/24 23:37	1.09	22.32	2.52	3041.47	3205.50	1.70	2.08	328.79	1.00
9/3/24 3:37	1.10	22.32	2.53	3041.45	3205.48	1.70	2.08	328.79	1.00
9/3/24 7:37	1.09	22.32	2.53	3041.69	3205.69	1.70	2.08	328.76	1.00
9/3/24 11:37	1.09	22.32	2.52	3041.89	3205.84	1.70	2.08	328.74	1.00
9/3/24 15:37	1.10	22.32	2.54	3042.02	3206.03	1.70	2.08	328.73	1.00
9/3/24 19:37	1.10	22.32	2.54	3080.25	3246.29	1.72	2.11	324.65	1.00
9/3/24 23:37	1.09	22.32	2.52	3075.83	3241.55	1.72	2.11	325.12	1.00
9/4/24 3:37	1.10	22.32	2.53	3073.92	3239.54	1.72	2.11	325.32	1.00
9/4/24 7:37	1.09	22.32	2.52	3073.28	3238.79	1.71	2.11	325.39	1.00
9/4/24 11:37	1.09	22.32	2.52	3073.21	3238.79	1.71	2.11	325.39	1.00
9/4/24 15:37	1.10	22.32	2.55	3074.46	3240.08	1.72	2.11	325.26	1.00
9/4/24 19:37	1.10	22.32	2.54	3073.95	3239.49	1.72	2.11	325.31	1.00
9/4/24 23:37	1.09	22.33	2.52	3073.60	3239.08	1.71	2.11	325.35	1.00
9/5/24 3:37	1.09	22.33	2.52	3073.65	3239.13	1.72	2.11	325.35	1.00
9/5/24 7:37	1.08	22.33	2.50	3073.47	3238.87	1.71	2.11	325.37	1.00
9/5/24 11:37	1.09	22.33	2.51	3073.47	3238.91	1.71	2.11	325.37	1.00
9/5/24 15:37	1.10	22.33	2.53	3075.08	3240.62	1.72	2.11	325.19	1.00
9/5/24 19:37	1.10	22.33	2.53	3075.60	3241.06	1.72	2.11	325.14	1.00
9/5/24 23:37	1.08	22.33	2.49	3073.53	3238.77	1.71	2.11	325.36	1.00
9/6/24 3:37	1.09	22.33	2.51	3074.05	3239.40	1.72	2.11	325.30	1.00
9/6/24 7:37	1.08	22.33	2.50	3074.21	3239.47	1.72	2.11	325.29	1.00
9/6/24 11:37	1.09	22.33	2.51	3074.73	3240.10	1.72	2.11	325.23	1.00
9/6/24 15:37	1.10	22.33	2.53	3076.55	3241.98	1.72	2.11	325.04	1.00
9/6/24 19:37	1.09	22.33	2.53	3077.14	3242.53	1.72	2.11	324.98	1.00
9/6/24 23:37	1.09	22.33	2.52	3077.05	3242.41	1.72	2.11	324.99	1.00
9/7/24 3:37	1.09	22.33	2.52	3077.06	3242.38	1.72	2.11	324.99	1.00
9/7/24 7:37	1.09	22.33	2.51	3076.97	3242.22	1.72	2.11	325.00	1.00
9/7/24 11:37	1.09	22.33	2.52	3076.63	3241.88	1.72	2.11	325.03	1.00
9/7/24 15:37	1.10	22.33	2.54	3079.43	3244.82	1.72	2.11	324.74	1.00
9/7/24 19:37	1.10	22.33	2.53	3079.22	3244.51	1.72	2.11	324.76	1.00
9/7/24 23:37	1.09	22.33	2.53	3079.39	3244.67	1.72	2.11	324.74	1.00
9/8/24 3:37	1.09	22.33	2.52	3079.24	3244.50	1.72	2.11	324.76	1.00
9/8/24 7:37	1.09	22.33	2.51	3079.77	3244.96	1.72	2.11	324.70	1.00
9/8/24 11:37	1.10	22.33	2.53	3079.35	3244.60	1.72	2.11	324.74	1.00
9/8/24 15:37	1.10	22.33	2.54	3081.31	3246.59	1.72	2.11	324.54	1.00
9/8/24 19:37	1.10	22.34	2.53	3081.49	3246.71	1.72	2.11	324.52	1.00
9/8/24 23:37	1.09	22.34	2.51	3081.49	3246.67	1.72	2.11	324.52	1.00
9/9/24 3:37	1.09	22.34	2.52	3081.70	3246.86	1.72	2.11	324.50	1.00
9/9/24 7:37	1.09	22.34	2.51	3082.28	3247.44	1.72	2.11	324.44	1.00
9/9/24 11:37	1.09	22.34	2.52	3082.64	3247.83	1.72	2.11	324.40	1.00
9/9/24 15:37	1.10	22.34	2.53	3084.03	3249.28	1.72	2.11	324.25	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/9/24 19:37	1.10	22.34	2.54	3084.52	3249.74	1.72	2.11	324.20	1.00
9/9/24 23:37	1.10	22.34	2.53	3084.99	3250.21	1.72	2.11	324.15	1.00
9/10/24 3:37	1.10	22.34	2.53	3085.47	3250.67	1.72	2.11	324.10	1.00
9/10/24 7:37	1.09	22.34	2.52	3085.15	3250.23	1.72	2.11	324.13	1.00
9/10/24 11:37	1.10	22.34	2.54	3085.85	3251.03	1.72	2.11	324.06	1.00
9/10/24 15:37	1.11	22.34	2.56	3087.94	3253.22	1.72	2.11	323.84	1.00
9/10/24 19:37	1.10	22.34	2.55	3088.92	3254.11	1.72	2.12	323.74	1.00
9/10/24 23:37	1.10	22.34	2.54	3088.46	3253.65	1.72	2.11	323.79	1.00
9/11/24 3:37	1.10	22.34	2.55	3088.89	3254.07	1.72	2.12	323.74	1.00
9/11/24 7:37	1.10	22.34	2.54	3089.10	3254.23	1.72	2.12	323.72	1.00
9/11/24 11:37	1.10	22.34	2.55	3089.18	3254.33	1.72	2.12	323.71	1.00
9/11/24 15:37	1.06	22.35	2.46	3081.57	3245.82	1.72	2.11	324.51	1.00
9/11/24 19:37	1.07	22.35	2.46	3082.48	3246.85	1.72	2.11	324.41	1.00
9/11/24 23:37	1.07	22.35	2.46	3082.87	3247.18	1.72	2.11	324.37	1.00
9/12/24 3:37	1.07	22.35	2.47	3085.08	3249.49	1.72	2.11	324.14	1.00
9/12/24 7:37	1.06	22.35	2.46	3084.45	3248.74	1.72	2.11	324.21	1.00
9/12/24 11:37	1.07	22.35	2.47	3085.46	3249.84	1.72	2.11	324.10	1.00
9/12/24 15:37	1.08	22.35	2.49	3089.16	3253.68	1.72	2.11	323.71	1.00
9/12/24 19:37	1.07	22.35	2.47	3089.09	3253.51	1.72	2.11	323.72	1.00
9/12/24 23:37	1.06	22.36	2.45	3084.57	3248.67	1.72	2.11	324.19	1.00
9/13/24 3:37	1.06	22.36	2.45	3086.64	3250.86	1.72	2.11	323.98	1.00
9/13/24 7:37	1.06	22.36	2.44	3085.32	3249.40	1.72	2.11	324.12	1.00
9/13/24 11:37	1.06	22.36	2.46	3087.42	3251.66	1.72	2.11	323.90	1.00
9/13/24 15:37	1.07	22.36	2.48	3092.08	3256.53	1.72	2.12	323.41	1.00
9/13/24 19:37	1.07	22.36	2.47	3092.20	3256.56	1.72	2.12	323.39	1.00
9/13/24 23:37	1.06	22.36	2.45	3088.08	3252.17	1.72	2.11	323.83	1.00
9/14/24 3:37	1.06	22.36	2.45	3089.63	3253.80	1.72	2.11	323.66	1.00
9/14/24 7:37	1.06	22.36	2.44	3087.99	3251.97	1.72	2.11	323.84	1.00
9/14/24 11:37	1.06	22.36	2.44	3087.81	3251.81	1.72	2.11	323.85	1.00
9/14/24 15:37	1.07	22.36	2.46	3092.97	3257.24	1.73	2.12	323.31	1.00
9/14/24 19:37	1.06	22.36	2.46	3092.53	3256.69	1.72	2.12	323.36	1.00
9/14/24 23:37	1.06	22.36	2.44	3090.13	3254.10	1.72	2.12	323.61	1.00
9/15/24 3:37	1.06	22.36	2.45	3090.73	3254.77	1.72	2.12	323.55	1.00
9/15/24 7:37	1.05	22.36	2.43	3089.90	3253.76	1.72	2.11	323.63	1.00
9/15/24 11:37	1.06	22.36	2.44	3091.48	3255.40	1.72	2.12	323.47	1.00
9/15/24 15:37	1.07	22.36	2.47	3095.92	3260.15	1.73	2.12	323.01	1.00
9/15/24 19:37	1.06	22.37	2.45	3094.07	3258.02	1.73	2.12	323.20	1.00
9/15/24 23:37	1.05	22.37	2.43	3090.19	3253.89	1.72	2.12	323.60	1.00
9/16/24 3:37	1.06	22.37	2.44	3092.65	3256.53	1.72	2.12	323.35	1.00
9/16/24 7:37	1.06	22.37	2.44	3092.99	3256.79	1.72	2.12	323.31	1.00
9/16/24 11:37	1.06	22.37	2.45	3093.48	3257.31	1.73	2.12	323.26	1.00
9/16/24 15:37	1.07	22.37	2.47	3097.50	3261.55	1.73	2.12	322.84	1.00
9/16/24 19:37	1.06	22.37	2.46	3096.36	3260.23	1.73	2.12	322.96	1.00
9/16/24 23:37	1.06	22.37	2.44	3092.27	3255.89	1.72	2.12	323.39	1.00
9/17/24 3:37	1.06	22.37	2.45	3093.28	3256.93	1.73	2.12	323.28	1.00
9/17/24 7:37	1.06	22.37	2.44	3092.00	3255.49	1.72	2.12	323.42	1.00
9/17/24 11:37	1.06	22.37	2.46	3093.05	3256.64	1.72	2.12	323.31	1.00
9/17/24 15:37	1.07	22.37	2.48	3097.66	3261.45	1.73	2.12	322.82	1.00
9/17/24 19:37	1.07	22.37	2.47	3096.01	3259.58	1.73	2.12	323.00	1.00
9/17/24 23:37	1.06	22.37	2.46	3093.36	3256.80	1.72	2.12	323.27	1.00
9/18/24 3:37	1.06	22.37	2.45	3093.66	3257.04	1.73	2.12	323.24	1.00
9/18/24 7:37	1.06	22.38	2.44	3091.30	3254.46	1.72	2.12	323.49	1.00
9/18/24 11:37	1.09	22.37	2.52	3115.42	3280.26	1.74	2.13	320.98	1.00
9/18/24 15:37	1.10	22.37	2.55	3112.23	3276.85	1.74	2.13	321.31	1.00
9/18/24 19:37	1.10	22.37	2.54	3114.04	3278.69	1.74	2.13	321.13	1.00
9/18/24 23:37	1.10	22.37	2.53	3110.88	3275.35	1.74	2.13	321.45	1.00
9/19/24 3:37	1.09	22.37	2.52	3107.78	3272.02	1.73	2.13	321.77	1.00
9/19/24 7:37	1.09	22.37	2.51	3105.47	3269.53	1.73	2.13	322.01	1.00
9/19/24 11:37	1.09	22.37	2.52	3105.05	3269.17	1.73	2.12	322.06	1.00
9/19/24 15:37	1.10	22.37	2.54	3110.21	3274.52	1.73	2.13	321.52	1.00
9/19/24 19:37	1.10	22.37	2.54	3109.26	3273.39	1.73	2.13	321.62	1.00
9/19/24 23:37	1.09	22.38	2.53	3106.37	3270.31	1.73	2.13	321.92	1.00
9/20/24 3:37	1.09	22.38	2.53	3105.92	3269.83	1.73	2.13	321.97	1.00
9/20/24 7:37	1.09	22.38	2.51	3104.67	3268.35	1.73	2.12	322.10	1.00
9/20/24 11:37	1.09	22.38	2.53	3105.51	3269.36	1.73	2.13	322.01	1.00
9/20/24 15:37	1.10	22.38	2.54	3107.55	3271.46	1.73	2.13	321.80	1.00
9/20/24 19:37	1.10	22.38	2.53	3106.39	3270.12	1.73	2.13	321.92	1.00
9/20/24 23:37	1.09	22.38	2.53	3104.75	3268.43	1.73	2.12	322.09	1.00
9/21/24 3:37	1.09	22.38	2.52	3104.72	3268.29	1.73	2.12	322.09	1.00
9/21/24 7:37	1.09	22.38	2.52	3104.10	3267.55	1.73	2.12	322.15	1.00
9/21/24 11:37	1.09	22.38	2.52	3104.50	3267.99	1.73	2.12	322.11	1.00
9/21/24 15:37	1.10	22.38	2.54	3107.46	3271.06	1.73	2.13	321.81	1.00
9/21/24 19:37	1.09	22.38	2.53	3106.55	3269.96	1.73	2.13	321.90	1.00
9/21/24 23:37	1.08	22.38	2.49	3100.02	3263.00	1.73	2.12	322.58	1.00
9/22/24 3:37	1.08	22.38	2.50	3102.31	3265.47	1.73	2.12	322.34	1.00
9/22/24 7:37	1.07	22.39	2.48	3102.05	3265.08	1.73	2.12	322.37	1.00
9/22/24 11:37	1.07	22.38	2.48	3100.82	3263.84	1.73	2.12	322.49	1.00
9/22/24 15:37	1.09	22.38	2.52	3108.72	3272.16	1.73	2.13	321.68	1.00
9/22/24 19:37	1.09	22.39	2.51	3106.10	3269.21	1.73	2.12	321.95	1.00
9/22/24 23:37	1.08	22.39	2.48	3101.29	3264.17	1.73	2.12	322.45	1.00
9/23/24 3:37	1.08	22.39	2.50	3104.23	3267.25	1.73	2.12	322.14	1.00
9/23/24 7:37	1.08	22.39	2.49	3103.73	3266.62	1.73	2.12	322.19	1.00
9/23/24 11:37	1.09	22.39	2.51	3105.08	3268.09	1.73	2.12	322.05	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/23/24 15:37	1.10	22.39	2.54	3111.27	3274.54	1.73	2.13	321.41	1.00
9/23/24 19:37	1.10	22.39	2.53	3108.99	3272.00	1.73	2.13	321.65	1.00
9/23/24 23:37	1.09	22.39	2.53	3106.61	3269.50	1.73	2.13	321.89	1.00
9/24/24 3:37	1.09	22.39	2.52	3105.73	3268.49	1.73	2.12	321.99	1.00
9/24/24 7:37	1.09	22.39	2.52	3104.66	3267.34	1.73	2.12	322.10	1.00
9/24/24 11:37	1.09	22.39	2.52	3104.71	3267.41	1.73	2.12	322.09	1.00
9/24/24 15:37	1.10	22.39	2.54	3108.63	3271.45	1.73	2.13	321.69	1.00
9/24/24 19:37	1.10	22.40	2.53	3106.71	3269.37	1.73	2.13	321.88	1.00
9/24/24 23:37	1.09	22.40	2.51	3102.73	3265.11	1.73	2.12	322.30	1.00
9/25/24 3:37	1.08	22.40	2.50	3101.63	3263.85	1.73	2.12	322.41	1.00
9/25/24 7:37	1.08	22.40	2.48	3098.36	3260.38	1.73	2.12	322.75	1.00
9/25/24 11:37	1.08	22.40	2.49	3100.65	3262.83	1.73	2.12	322.51	1.00
9/25/24 15:37	1.10	22.40	2.53	3109.04	3271.67	1.73	2.13	321.64	1.00
9/25/24 19:37	1.09	22.40	2.53	3106.62	3268.98	1.73	2.12	321.89	1.00
9/25/24 23:37	1.09	22.40	2.51	3104.55	3266.77	1.73	2.12	322.11	1.00
9/26/24 3:37	1.09	22.40	2.52	3104.81	3267.00	1.73	2.12	322.08	1.00
9/26/24 7:37	1.09	22.40	2.51	3103.31	3265.38	1.73	2.12	322.24	1.00
9/26/24 11:37	1.09	22.40	2.52	3103.72	3265.78	1.73	2.12	322.19	1.00
9/26/24 15:37	1.10	22.41	2.54	3134.51	3297.83	1.75	2.14	319.03	1.00
9/26/24 19:37	1.10	22.41	2.53	3116.73	3279.18	1.74	2.13	320.85	1.00
9/26/24 23:37	1.09	22.41	2.52	3109.78	3271.92	1.73	2.13	321.57	1.00
9/27/24 3:37	1.09	22.41	2.53	3110.65	3272.82	1.73	2.13	321.48	1.00
9/27/24 7:37	1.09	22.41	2.51	3107.78	3269.71	1.73	2.13	321.77	1.00
9/27/24 11:37	1.10	22.45	2.53	3283.92	3452.19	1.83	2.24	304.51	1.00
9/27/24 15:37	1.10	22.42	2.55	3260.11	3428.90	1.82	2.23	306.74	1.00
9/27/24 19:37	1.10	22.42	2.53	3235.33	3403.29	1.81	2.21	309.09	1.00
9/27/24 23:37	1.09	22.41	2.51	3222.67	3390.11	1.80	2.20	310.30	1.00
9/28/24 3:37	1.09	22.41	2.52	3234.67	3402.80	1.81	2.21	309.15	1.00
9/28/24 7:37	1.08	22.41	2.50	3235.34	3403.47	1.81	2.21	309.09	1.00
9/28/24 11:37	1.08	22.41	2.50	3237.96	3406.29	1.81	2.21	308.84	1.00
9/28/24 15:37	1.10	22.41	2.53	3250.16	3419.12	1.82	2.22	307.68	1.00
9/28/24 19:37	1.09	22.41	2.52	3242.07	3410.46	1.81	2.22	308.45	1.00
9/28/24 23:37	1.09	22.42	2.51	3232.53	3400.41	1.81	2.21	309.36	1.00
9/29/24 3:37	1.09	22.42	2.52	3236.92	3405.03	1.81	2.21	308.94	1.00
9/29/24 7:37	1.08	22.42	2.50	3227.75	3395.26	1.80	2.21	309.81	1.00
9/29/24 11:37	1.09	22.42	2.51	3232.84	3400.63	1.81	2.21	309.33	1.00
9/29/24 15:37	1.10	22.42	2.55	3243.30	3411.64	1.81	2.22	308.33	1.00
9/29/24 19:37	1.10	22.42	2.54	3233.47	3401.16	1.81	2.21	309.27	1.00
9/29/24 23:37	1.10	22.42	2.53	3227.89	3395.27	1.80	2.21	309.80	1.00
9/30/24 3:37	1.10	22.42	2.53	3230.93	3398.41	1.80	2.21	309.51	1.00
9/30/24 7:37	1.10	22.42	2.53	3198.02	3363.75	1.78	2.19	312.69	1.00
9/30/24 11:37	1.10	22.42	2.54	3196.07	3361.71	1.78	2.19	312.88	1.00
9/30/24 15:37	1.11	22.42	2.55	3195.53	3361.03	1.78	2.18	312.94	1.00
9/30/24 19:37	1.10	22.42	2.53	3187.83	3352.76	1.78	2.18	313.69	1.00
9/30/24 23:37	1.09	22.42	2.51	3178.37	3342.83	1.77	2.17	314.63	1.00
10/1/24 3:37	1.08	22.43	2.50	3179.97	3344.45	1.77	2.17	314.47	1.00
10/1/24 7:37	1.06	22.43	2.45	3152.32	3315.16	1.76	2.15	317.23	1.00
10/1/24 11:37	1.07	22.43	2.46	3172.73	3336.81	1.77	2.17	315.19	1.00
10/1/24 15:37	1.09	22.43	2.51	3202.60	3368.23	1.79	2.19	312.25	1.00
10/1/24 19:37	1.09	22.43	2.52	3195.15	3360.21	1.78	2.18	312.97	1.00
10/1/24 23:37	1.09	22.43	2.52	3189.48	3354.24	1.78	2.18	313.53	1.00
10/2/24 3:37	1.10	22.43	2.53	3194.88	3359.90	1.78	2.18	313.00	1.00
10/2/24 7:37	1.10	22.43	2.53	3189.85	3354.54	1.78	2.18	313.49	1.00
10/2/24 11:37	1.10	22.43	2.54	3194.55	3359.51	1.78	2.18	313.03	1.00
10/2/24 15:37	1.11	22.43	2.57	3202.17	3367.42	1.79	2.19	312.29	1.00
10/2/24 19:37	1.11	22.43	2.56	3191.91	3356.54	1.78	2.18	313.29	1.00
10/2/24 23:37	1.10	22.43	2.55	3188.92	3353.39	1.78	2.18	313.59	1.00
10/3/24 3:37	1.11	22.43	2.56	3189.41	3353.83	1.78	2.18	313.54	1.00
10/3/24 7:37	1.11	22.43	2.55	3186.99	3351.18	1.78	2.18	313.78	1.00
10/3/24 11:37	1.11	22.44	2.55	3187.90	3352.09	1.78	2.18	313.69	1.00
10/3/24 15:37	1.11	22.44	2.56	3190.44	3354.69	1.78	2.18	313.44	1.00
10/3/24 19:37	1.10	22.44	2.54	3183.24	3347.02	1.78	2.18	314.15	1.00
10/3/24 23:37	1.09	22.44	2.51	3171.93	3335.07	1.77	2.17	315.27	1.00
10/4/24 3:37	1.09	22.44	2.51	3173.92	3337.12	1.77	2.17	315.07	1.00
10/4/24 7:37	1.07	22.44	2.48	3162.84	3325.40	1.76	2.16	316.17	1.00
10/4/24 11:37	1.08	22.44	2.48	3194.70	3358.91	1.78	2.18	313.02	1.00
10/4/24 15:37	1.10	22.44	2.53	3216.54	3381.96	1.80	2.20	310.89	1.00
10/4/24 19:37	1.09	22.44	2.52	3207.53	3372.29	1.79	2.19	311.77	1.00
10/4/24 23:37	1.09	22.44	2.52	3205.57	3370.21	1.79	2.19	311.96	1.00
10/5/24 3:37	1.09	22.44	2.52	3209.19	3373.95	1.79	2.19	311.60	1.00
10/5/24 7:37	1.09	22.44	2.51	3206.99	3371.53	1.79	2.19	311.82	1.00
10/5/24 11:37	1.10	22.44	2.53	3214.19	3379.17	1.79	2.20	311.12	1.00
10/5/24 15:37	1.10	22.45	2.55	3224.79	3390.22	1.80	2.20	310.10	1.00
10/5/24 19:37	1.10	22.45	2.54	3217.87	3382.85	1.80	2.20	310.76	1.00
10/5/24 23:37	1.10	22.45	2.54	3214.42	3379.16	1.79	2.20	311.10	1.00
10/6/24 3:37	1.10	22.45	2.54	3216.56	3381.37	1.79	2.20	310.89	1.00
10/6/24 7:37	1.09	22.45	2.52	3207.01	3371.16	1.79	2.19	311.82	1.00
10/6/24 11:37	1.09	22.45	2.51	3207.76	3372.07	1.79	2.19	311.74	1.00
10/6/24 15:37	1.10	22.45	2.54	3224.99	3390.17	1.80	2.20	310.08	1.00
10/6/24 19:37	1.10	22.45	2.53	3213.46	3377.83	1.79	2.20	311.19	1.00
10/6/24 23:37	1.09	22.45	2.51	3209.58	3373.74	1.79	2.19	311.57	1.00
10/7/24 3:37	1.09	22.45	2.53	3213.24	3377.53	1.79	2.20	311.21	1.00
10/7/24 7:37	1.09	22.45	2.52	3211.95	3376.10	1.79	2.19	311.34	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/7/24 11:37	1.09	22.45	2.52	3213.75	3378.04	1.79	2.20	311.16	1.00
10/7/24 15:37	1.10	22.46	2.54	3222.77	3387.41	1.80	2.20	310.29	1.00
10/7/24 19:37	1.10	22.46	2.54	3217.42	3381.69	1.80	2.20	310.81	1.00
10/7/24 23:37	1.10	22.46	2.53	3215.19	3379.29	1.79	2.20	311.02	1.00
10/8/24 3:37	1.10	22.46	2.54	3216.99	3381.17	1.79	2.20	310.85	1.00
10/8/24 7:37	1.10	22.46	2.53	3214.73	3378.71	1.79	2.20	311.07	1.00
10/8/24 11:37	1.10	22.46	2.54	3215.89	3379.94	1.79	2.20	310.96	1.00
10/8/24 15:37	1.11	22.46	2.55	3221.33	3385.53	1.80	2.20	310.43	1.00
10/8/24 19:37	1.10	22.46	2.54	3213.65	3377.41	1.79	2.20	311.17	1.00
10/8/24 23:37	1.10	22.46	2.53	3210.40	3373.93	1.79	2.19	311.49	1.00
10/9/24 3:37	1.10	22.46	2.53	3211.89	3375.44	1.79	2.19	311.34	1.00
10/9/24 7:37	1.09	22.46	2.52	3210.78	3374.20	1.79	2.19	311.45	1.00
10/9/24 11:37	1.10	22.46	2.53	3213.53	3377.09	1.79	2.20	311.18	1.00
10/9/24 15:37	1.11	22.46	2.55	3220.42	3384.29	1.80	2.20	310.52	1.00
10/9/24 19:37	1.10	22.47	2.54	3214.15	3377.56	1.79	2.20	311.12	1.00
10/9/24 23:37	1.10	22.47	2.53	3212.14	3375.44	1.79	2.19	311.32	1.00
10/10/24 3:37	1.10	22.47	2.54	3212.94	3376.24	1.79	2.19	311.24	1.00
10/10/24 7:37	1.09	22.47	2.52	3205.42	3368.21	1.79	2.19	311.97	1.00
10/10/24 11:37	1.09	22.47	2.53	3212.29	3375.52	1.79	2.19	311.30	1.00
10/10/24 15:37	1.10	22.47	2.55	3218.85	3382.30	1.80	2.20	310.67	1.00
10/10/24 19:37	1.10	22.47	2.53	3212.34	3375.31	1.79	2.19	311.30	1.00
10/10/24 23:37	1.09	22.47	2.53	3209.79	3372.60	1.79	2.19	311.55	1.00
10/11/24 3:37	1.09	22.47	2.52	3208.60	3371.35	1.79	2.19	311.66	1.00
10/11/24 7:37	1.09	22.47	2.51	3205.83	3368.31	1.79	2.19	311.93	1.00
10/11/24 11:37	1.09	22.47	2.52	3207.41	3369.98	1.79	2.19	311.78	1.00
10/11/24 15:37	1.10	22.48	2.54	3216.45	3379.39	1.79	2.20	310.90	1.00
10/11/24 19:37	1.10	22.48	2.53	3211.06	3373.63	1.79	2.19	311.42	1.00
10/11/24 23:37	1.10	22.48	2.53	3208.04	3370.41	1.79	2.19	311.72	1.00
10/12/24 3:37	1.10	22.48	2.53	3209.75	3372.19	1.79	2.19	311.55	1.00
10/12/24 7:37	1.09	22.48	2.52	3204.56	3366.64	1.79	2.19	312.06	1.00
10/12/24 11:37	1.10	22.48	2.53	3210.87	3373.34	1.79	2.19	311.44	1.00
10/12/24 15:37	1.10	22.48	2.55	3215.96	3378.56	1.79	2.20	310.95	1.00
10/12/24 19:37	1.10	22.48	2.54	3209.74	3371.91	1.79	2.19	311.55	1.00
10/12/24 23:37	1.10	22.48	2.54	3209.38	3371.51	1.79	2.19	311.59	1.00
10/13/24 3:37	1.10	22.48	2.53	3208.23	3370.20	1.79	2.19	311.70	1.00
10/13/24 7:37	1.09	22.49	2.51	3198.39	3359.68	1.78	2.18	312.66	1.00
10/13/24 11:37	1.09	22.48	2.51	3201.77	3363.34	1.78	2.19	312.33	1.00
10/13/24 15:37	1.10	22.49	2.54	3213.40	3375.52	1.79	2.19	311.20	1.00
10/13/24 19:37	1.09	22.49	2.53	3205.80	3367.39	1.79	2.19	311.93	1.00
10/13/24 23:37	1.09	22.49	2.51	3201.73	3363.05	1.78	2.19	312.33	1.00
10/14/24 3:37	1.09	22.49	2.52	3203.45	3364.87	1.79	2.19	312.16	1.00
10/14/24 7:37	1.08	22.49	2.50	3193.96	3354.71	1.78	2.18	313.09	1.00
10/14/24 11:37	1.09	22.49	2.51	3203.68	3365.13	1.79	2.19	312.14	1.00
10/14/24 15:37	1.10	22.49	2.54	3216.02	3377.91	1.79	2.20	310.94	1.00
10/14/24 19:37	1.10	22.49	2.54	3209.21	3370.64	1.79	2.19	311.60	1.00
10/14/24 23:37	1.10	22.49	2.53	3206.74	3368.02	1.79	2.19	311.84	1.00
10/15/24 3:37	1.10	22.49	2.54	3207.04	3368.31	1.79	2.19	311.81	1.00
10/15/24 7:37	1.10	22.50	2.53	3203.63	3364.61	1.79	2.19	312.15	1.00
10/15/24 11:37	1.10	22.50	2.54	3205.76	3366.83	1.79	2.19	311.94	1.00
10/15/24 15:37	1.10	22.50	2.55	3209.02	3370.18	1.79	2.19	311.62	1.00
10/15/24 19:37	1.09	22.50	2.52	3200.16	3360.68	1.78	2.18	312.48	1.00
10/15/24 23:37	1.08	22.50	2.49	3187.76	3347.58	1.78	2.18	313.70	1.00
10/16/24 3:37	1.07	22.50	2.47	3183.89	3343.56	1.77	2.17	314.08	1.00
10/16/24 7:37	1.06	22.50	2.45	3183.60	3343.16	1.77	2.17	314.11	1.00
10/16/24 11:37	1.08	22.50	2.49	3198.09	3358.53	1.78	2.18	312.69	1.00
10/16/24 15:37	1.10	22.50	2.54	3216.25	3377.54	1.79	2.20	310.92	1.00
10/16/24 19:37	1.10	22.50	2.53	3205.53	3366.08	1.79	2.19	311.96	1.00
10/16/24 23:37	1.10	22.50	2.53	3203.66	3364.10	1.79	2.19	312.14	1.00
10/17/24 3:37	1.10	22.50	2.54	3206.72	3367.32	1.79	2.19	311.85	1.00
10/17/24 7:37	1.10	22.51	2.54	3204.37	3364.71	1.79	2.19	312.07	1.00
10/17/24 11:37	1.10	22.51	2.55	3205.78	3366.16	1.79	2.19	311.94	1.00
10/17/24 15:37	1.11	22.51	2.56	3210.83	3371.41	1.79	2.19	311.45	1.00
10/17/24 19:37	1.10	22.51	2.55	3205.11	3365.27	1.79	2.19	312.00	1.00
10/17/24 23:37	1.10	22.51	2.54	3203.65	3363.70	1.78	2.19	312.14	1.00
10/18/24 3:37	1.10	22.51	2.55	3206.92	3367.08	1.79	2.19	311.83	1.00
10/18/24 7:37	1.10	22.51	2.54	3204.47	3364.45	1.79	2.19	312.06	1.00
10/18/24 11:37	1.10	22.51	2.55	3187.34	3346.61	1.78	2.18	313.74	1.00
10/18/24 15:37	1.11	22.51	2.56	3194.80	3354.31	1.78	2.18	313.01	1.00
10/18/24 19:37	1.10	22.51	2.54	3187.04	3346.02	1.78	2.17	313.77	1.00
10/18/24 23:37	1.10	22.51	2.53	3188.68	3347.77	1.78	2.18	313.61	1.00
10/19/24 3:37	1.10	22.51	2.54	3196.47	3355.92	1.78	2.18	312.84	1.00
10/19/24 7:37	1.09	22.51	2.52	3187.55	3346.39	1.78	2.18	313.72	1.00
10/19/24 11:37	1.09	22.51	2.52	3191.21	3350.25	1.78	2.18	313.36	1.00
10/19/24 15:37	1.11	22.51	2.56	3208.94	3368.87	1.79	2.19	311.63	1.00
10/19/24 19:37	1.10	22.52	2.53	3192.00	3350.79	1.78	2.18	313.28	1.00
10/19/24 23:37	1.09	22.52	2.51	3185.61	3344.11	1.77	2.17	313.91	1.00
10/20/24 3:37	1.09	22.52	2.52	3194.87	3353.84	1.78	2.18	313.00	1.00
10/20/24 7:37	1.09	22.52	2.51	3190.98	3349.66	1.78	2.18	313.38	1.00
10/20/24 11:37	1.09	22.52	2.52	3193.42	3352.21	1.78	2.18	313.14	1.00
10/20/24 15:37	1.10	22.52	2.55	3205.79	3365.13	1.79	2.19	311.94	1.00
10/20/24 19:37	1.10	22.52	2.54	3198.60	3357.45	1.78	2.18	312.64	1.00
10/20/24 23:37	1.10	22.52	2.54	3197.94	3356.72	1.78	2.18	312.70	1.00
10/21/24 3:37	1.10	22.52	2.54	3198.86	3357.64	1.78	2.18	312.61	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/21/24 7:37	1.10	22.53	2.53	3195.09	3353.55	1.78	2.18	312.98	1.00
10/21/24 11:37	1.10	22.53	2.54	3197.09	3355.68	1.78	2.18	312.78	1.00
10/21/24 15:37	1.11	22.53	2.56	3203.33	3362.15	1.78	2.19	312.18	1.00
10/21/24 19:37	1.10	22.53	2.54	3195.23	3353.49	1.78	2.18	312.97	1.00
10/21/24 23:37	1.09	22.53	2.53	3193.12	3351.26	1.78	2.18	313.17	1.00
10/22/24 3:37	1.10	22.53	2.53	3194.68	3352.85	1.78	2.18	313.02	1.00
10/22/24 7:37	1.09	22.53	2.52	3190.03	3347.83	1.78	2.18	313.48	1.00
10/22/24 11:37	1.09	22.53	2.53	3194.32	3352.37	1.78	2.18	313.06	1.00
10/22/24 15:37	1.10	22.53	2.54	3199.90	3358.17	1.78	2.18	312.51	1.00
10/22/24 19:37	1.10	22.53	2.53	3194.19	3352.04	1.78	2.18	313.07	1.00
10/22/24 23:37	1.09	22.53	2.53	3193.11	3350.88	1.78	2.18	313.17	1.00
10/23/24 3:37	1.09	22.54	2.53	3192.85	3350.57	1.78	2.18	313.20	1.00
10/23/24 7:37	1.09	22.54	2.51	3188.56	3345.88	1.77	2.17	313.62	1.00
10/23/24 11:37	1.08	22.54	2.50	3186.48	3343.79	1.77	2.17	313.83	1.00
10/23/24 15:37	1.09	22.54	2.53	3197.51	3355.27	1.78	2.18	312.74	1.00
10/23/24 19:37	1.09	22.54	2.52	3191.52	3348.84	1.78	2.18	313.33	1.00
10/23/24 23:37	1.09	22.54	2.52	3192.46	3349.84	1.78	2.18	313.24	1.00
10/24/24 3:37	1.10	22.54	2.53	3192.13	3349.41	1.78	2.18	313.27	1.00
10/24/24 7:37	1.09	22.54	2.53	3192.21	3349.43	1.78	2.18	313.26	1.00
10/24/24 11:37	1.10	22.54	2.53	3194.82	3352.14	1.78	2.18	313.01	1.00
10/24/24 15:37	1.10	22.54	2.55	3199.63	3357.12	1.78	2.18	312.54	1.00
10/24/24 19:37	1.10	22.55	2.53	3191.73	3348.70	1.78	2.18	313.31	1.00
10/24/24 23:37	1.08	22.55	2.50	3183.86	3340.28	1.77	2.17	314.08	1.00
10/25/24 3:37	1.07	22.55	2.46	3167.18	3322.61	1.76	2.16	315.74	1.00
10/25/24 7:37	1.06	22.54	2.44	3220.78	3379.26	1.79	2.20	310.48	1.00
10/25/24 11:37	1.06	22.55	2.44	3188.36	3344.81	1.77	2.17	313.64	1.00
10/25/24 15:37	1.08	22.55	2.49	3208.03	3365.52	1.79	2.19	311.72	1.00
10/25/24 19:37	1.08	22.55	2.48	3197.51	3354.28	1.78	2.18	312.74	1.00
10/25/24 23:37	1.07	22.55	2.48	3194.48	3351.13	1.78	2.18	313.04	1.00
10/26/24 3:37	1.08	22.55	2.48	3195.88	3352.52	1.78	2.18	312.90	1.00
10/26/24 7:37	1.07	22.56	2.47	3189.96	3346.21	1.78	2.18	313.48	1.00
10/26/24 11:37	1.08	22.55	2.48	3197.88	3354.59	1.78	2.18	312.71	1.00
10/26/24 15:37	1.09	22.56	2.51	3211.83	3369.15	1.79	2.19	311.35	1.00
10/26/24 19:37	1.09	22.56	2.51	3203.17	3359.92	1.78	2.18	312.19	1.00
10/26/24 23:37	1.09	22.56	2.52	3203.05	3359.73	1.78	2.18	312.20	1.00
10/27/24 3:37	1.09	22.56	2.52	3206.04	3362.84	1.78	2.19	311.91	1.00
10/27/24 7:37	1.09	22.56	2.51	3202.50	3358.97	1.78	2.18	312.26	1.00
10/27/24 11:37	1.10	22.56	2.53	3207.74	3364.52	1.79	2.19	311.75	1.00
10/27/24 15:37	1.10	22.56	2.55	3214.11	3371.12	1.79	2.19	311.13	1.00
10/27/24 19:37	1.10	22.56	2.54	3208.26	3364.83	1.79	2.19	311.70	1.00
10/27/24 23:37	1.10	22.56	2.54	3208.15	3364.68	1.79	2.19	311.71	1.00
10/28/24 3:37	1.10	22.57	2.55	3208.33	3364.79	1.79	2.19	311.69	1.00
10/28/24 7:37	1.10	22.57	2.54	3206.81	3363.11	1.78	2.19	311.84	1.00
10/28/24 11:37	1.10	22.57	2.55	3209.20	3365.63	1.79	2.19	311.60	1.00
10/28/24 15:37	1.11	22.57	2.56	3212.52	3368.95	1.79	2.19	311.28	1.00
10/28/24 19:37	1.10	22.57	2.54	3206.08	3362.13	1.78	2.19	311.91	1.00
10/28/24 23:37	1.10	22.57	2.55	3209.17	3365.38	1.79	2.19	311.61	1.00
10/29/24 3:37	1.11	22.57	2.56	3209.37	3365.49	1.79	2.19	311.59	1.00
10/29/24 7:37	1.10	22.57	2.55	3205.61	3361.46	1.78	2.18	311.95	1.00
10/29/24 11:37	1.11	22.57	2.56	3210.53	3366.66	1.79	2.19	311.48	1.00
10/29/24 15:37	1.11	22.57	2.56	3209.97	3365.90	1.79	2.19	311.53	1.00
10/29/24 19:37	1.10	22.58	2.55	3204.34	3359.89	1.78	2.18	312.08	1.00
10/29/24 23:37	1.10	22.58	2.54	3204.53	3360.08	1.78	2.18	312.06	1.00
10/30/24 3:37	1.10	22.58	2.55	3205.09	3360.59	1.78	2.18	312.00	1.00
10/30/24 7:37	1.09	22.58	2.52	3195.05	3349.91	1.78	2.18	312.98	1.00
10/30/24 11:37	1.09	22.58	2.51	3196.22	3351.18	1.78	2.18	312.87	1.00
10/30/24 15:37	1.09	22.58	2.53	3202.42	3357.58	1.78	2.18	312.26	1.00
10/30/24 19:37	1.08	22.58	2.49	3182.91	3336.85	1.77	2.17	314.18	1.00
10/30/24 23:37	1.08	22.58	2.48	3188.70	3343.11	1.77	2.17	313.61	1.00
10/31/24 3:37	1.08	22.58	2.48	3190.49	3344.87	1.77	2.17	313.43	1.00
10/31/24 7:37	1.07	22.58	2.47	3188.61	3342.86	1.77	2.17	313.62	1.00
10/31/24 11:37	1.09	22.58	2.51	3202.66	3357.72	1.78	2.18	312.24	1.00
10/31/24 15:37	1.10	22.58	2.55	3215.66	3371.30	1.79	2.19	310.98	1.00
10/31/24 19:37	1.10	22.59	2.54	3206.39	3361.41	1.78	2.18	311.88	1.00
10/31/24 23:37	1.09	22.59	2.53	3203.88	3358.76	1.78	2.18	312.12	1.00
11/1/24 3:37	1.10	22.59	2.54	3206.07	3360.99	1.78	2.18	311.91	1.00
11/1/24 7:37	1.10	22.58	2.53	3238.09	3394.71	1.80	2.21	308.82	1.00
11/1/24 11:37	1.10	22.59	2.54	3216.95	3372.41	1.79	2.19	310.85	1.00
11/1/24 15:37	1.11	22.59	2.57	3224.04	3379.84	1.79	2.20	310.17	1.00
11/1/24 19:37	1.10	22.59	2.55	3217.98	3373.35	1.79	2.19	310.75	1.00
11/1/24 23:37	1.10	22.59	2.55	3217.20	3372.46	1.79	2.19	310.83	1.00
11/2/24 3:37	1.11	22.59	2.56	3217.67	3372.88	1.79	2.19	310.78	1.00
11/2/24 7:37	1.11	22.59	2.55	3216.36	3371.45	1.79	2.19	310.91	1.00
11/2/24 11:37	1.11	22.59	2.56	3217.14	3372.25	1.79	2.19	310.83	1.00
11/2/24 15:37	1.12	22.59	2.58	3220.77	3375.98	1.79	2.19	310.48	1.00
11/2/24 19:37	1.11	22.60	2.56	3214.66	3369.41	1.79	2.19	311.07	1.00
11/2/24 23:37	1.11	22.59	2.57	3218.22	3373.19	1.79	2.19	310.73	1.00
11/3/24 3:37	1.11	22.60	2.57	3217.82	3372.69	1.79	2.19	310.77	1.00
11/3/24 7:37	1.11	22.60	2.57	3215.26	3369.91	1.79	2.19	311.02	1.00
11/3/24 11:37	1.12	22.60	2.58	3216.99	3371.71	1.79	2.19	310.85	1.00
11/3/24 15:37	1.12	22.60	2.58	3217.08	3371.69	1.79	2.19	310.84	1.00
11/3/24 19:37	1.11	22.60	2.56	3212.04	3366.26	1.79	2.19	311.33	1.00
11/3/24 23:37	1.11	22.60	2.57	3211.77	3366.03	1.79	2.19	311.36	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/4/24 3:37	1.12	22.60	2.58	3218.05	3372.63	1.79	2.19	310.75	1.00
11/4/24 7:37	1.11	22.60	2.56	3211.35	3365.40	1.79	2.19	311.40	1.00
11/4/24 11:37	1.11	22.60	2.56	3209.41	3363.34	1.78	2.19	311.58	1.00
11/4/24 15:37	1.10	22.61	2.55	3205.36	3358.90	1.78	2.18	311.98	1.00
11/4/24 19:37	1.08	22.61	2.49	3183.89	3336.28	1.77	2.17	314.08	1.00
11/4/24 23:37	1.08	22.61	2.51	3198.22	3351.43	1.78	2.18	312.67	1.00
11/5/24 3:37	1.09	22.61	2.52	3204.70	3358.17	1.78	2.18	312.04	1.00
11/5/24 7:37	1.09	22.61	2.53	3205.70	3359.13	1.78	2.18	311.94	1.00
11/5/24 11:37	1.10	22.61	2.55	3209.58	3363.22	1.78	2.19	311.57	1.00
11/5/24 15:37	1.11	22.61	2.57	3216.55	3370.40	1.79	2.19	310.89	1.00
11/5/24 19:37	1.11	22.61	2.55	3210.03	3363.41	1.78	2.19	311.52	1.00
11/5/24 23:37	1.11	22.61	2.56	3212.30	3365.82	1.79	2.19	311.30	1.00
11/6/24 3:37	1.11	22.61	2.56	3210.61	3363.97	1.79	2.19	311.47	1.00
11/6/24 7:37	1.10	22.61	2.55	3208.33	3361.50	1.78	2.18	311.69	1.00
11/6/24 11:37	1.10	22.61	2.55	3210.40	3363.66	1.79	2.19	311.49	1.00
11/6/24 15:37	1.11	22.62	2.56	3205.22	3358.10	1.78	2.18	311.99	1.00
11/6/24 19:37	1.10	22.62	2.53	3196.97	3349.32	1.78	2.18	312.80	1.00
11/6/24 23:37	1.08	22.62	2.49	3188.30	3340.15	1.77	2.17	313.65	1.00
11/7/24 3:37	1.08	22.62	2.50	3196.44	3348.67	1.78	2.18	312.85	1.00
11/7/24 7:37	1.09	22.62	2.51	3199.32	3351.63	1.78	2.18	312.57	1.00
11/7/24 11:37	1.08	22.62	2.50	3197.54	3349.68	1.78	2.18	312.74	1.00
11/7/24 15:37	1.09	22.62	2.51	3200.33	3352.56	1.78	2.18	312.47	1.00
11/7/24 19:37	1.08	22.62	2.50	3197.52	3349.55	1.78	2.18	312.74	1.00
11/7/24 23:37	1.09	22.62	2.51	3200.93	3353.07	1.78	2.18	312.41	1.00
11/8/24 3:37	1.09	22.63	2.51	3201.26	3353.32	1.78	2.18	312.38	1.00
11/8/24 7:37	1.09	22.63	2.51	3199.04	3350.93	1.78	2.18	312.59	1.00
11/8/24 11:37	1.09	22.63	2.51	3206.34	3358.49	1.78	2.18	311.88	1.00
11/8/24 15:37	1.10	22.63	2.53	3213.81	3366.29	1.79	2.19	311.16	1.00
11/8/24 19:37	1.09	22.63	2.52	3211.60	3363.90	1.79	2.19	311.37	1.00
11/8/24 23:37	1.09	22.63	2.52	3213.48	3365.84	1.79	2.19	311.19	1.00
11/9/24 3:37	1.09	22.63	2.53	3217.78	3370.26	1.79	2.19	310.77	1.00
11/9/24 7:37	1.09	22.63	2.52	3214.14	3366.36	1.79	2.19	311.13	1.00
11/9/24 11:37	1.09	22.63	2.53	3217.97	3370.39	1.79	2.19	310.76	1.00
11/9/24 15:37	1.10	22.63	2.54	3222.42	3374.94	1.79	2.19	310.33	1.00
11/9/24 19:37	1.09	22.64	2.52	3211.31	3363.16	1.78	2.19	311.40	1.00
11/9/24 23:37	1.09	22.64	2.52	3213.04	3365.01	1.79	2.19	311.23	1.00
11/10/24 3:37	1.09	22.64	2.51	3211.00	3362.76	1.78	2.19	311.43	1.00
11/10/24 7:37	1.08	22.64	2.49	3197.73	3348.66	1.78	2.18	312.72	1.00
11/10/24 11:37	1.08	22.64	2.49	3206.92	3358.43	1.78	2.18	311.83	1.00
11/10/24 15:37	1.09	22.64	2.52	3215.21	3366.99	1.79	2.19	311.02	1.00
11/10/24 19:37	1.08	22.64	2.50	3206.55	3357.79	1.78	2.18	311.86	1.00
11/10/24 23:37	1.08	22.64	2.50	3204.71	3355.82	1.78	2.18	312.04	1.00
11/11/24 3:37	1.08	22.64	2.50	3206.85	3358.02	1.78	2.18	311.83	1.00
11/11/24 7:37	1.08	22.64	2.50	3205.22	3356.22	1.78	2.18	311.99	1.00
11/11/24 11:37	1.09	22.64	2.51	3208.89	3360.10	1.78	2.18	311.63	1.00
11/11/24 15:37	1.10	22.64	2.53	3217.53	3369.08	1.79	2.19	310.80	1.00
11/11/24 19:37	1.09	22.65	2.52	3211.44	3362.57	1.78	2.19	311.39	1.00
11/11/24 23:37	1.09	22.65	2.52	3212.14	3363.29	1.78	2.19	311.32	1.00
11/12/24 3:37	1.09	22.65	2.53	3213.67	3364.81	1.79	2.19	311.17	1.00
11/12/24 7:37	1.09	22.65	2.52	3211.35	3362.30	1.78	2.19	311.40	1.00
11/12/24 11:37	1.10	22.65	2.54	3216.74	3367.96	1.79	2.19	310.87	1.00
11/12/24 15:37	1.10	22.65	2.55	3219.92	3371.18	1.79	2.19	310.57	1.00
11/12/24 19:37	1.09	22.65	2.52	3205.31	3355.61	1.78	2.18	311.98	1.00
11/12/24 23:37	1.08	22.66	2.49	3195.56	3345.34	1.77	2.17	312.93	1.00
11/13/24 3:37	1.07	22.66	2.48	3199.70	3349.68	1.78	2.18	312.53	1.00
11/13/24 7:37	1.06	22.66	2.45	3184.17	3333.22	1.77	2.17	314.05	1.00
11/13/24 11:37	1.06	22.66	2.45	3193.83	3343.47	1.77	2.17	313.10	1.00
11/13/24 15:37	1.08	22.66	2.48	3203.76	3353.83	1.78	2.18	312.13	1.00
11/13/24 19:37	1.07	22.66	2.48	3200.85	3350.72	1.78	2.18	312.42	1.00
11/13/24 23:37	1.07	22.66	2.48	3200.72	3350.57	1.78	2.18	312.43	1.00
11/14/24 3:37	1.08	22.66	2.49	3204.25	3354.16	1.78	2.18	312.09	1.00
11/14/24 7:37	1.08	22.66	2.48	3201.86	3351.56	1.78	2.18	312.32	1.00
11/14/24 11:37	1.09	22.66	2.51	3216.14	3366.64	1.79	2.19	310.93	1.00
11/14/24 15:37	1.09	22.66	2.51	3211.54	3361.66	1.78	2.19	311.38	1.00
11/14/24 19:37	1.08	22.66	2.50	3207.18	3357.00	1.78	2.18	311.80	1.00
11/14/24 23:37	1.09	22.66	2.51	3214.64	3364.87	1.79	2.19	311.08	1.00
11/15/24 3:37	1.09	22.66	2.52	3216.51	3366.74	1.79	2.19	310.90	1.00
11/15/24 7:37	1.09	22.67	2.52	3214.63	3364.65	1.79	2.19	311.08	1.00
11/15/24 11:37	1.10	22.66	2.54	3220.43	3370.76	1.79	2.19	310.52	1.00
11/15/24 15:37	1.10	22.67	2.54	3219.05	3369.13	1.79	2.19	310.65	1.00
11/15/24 19:37	1.09	22.67	2.51	3209.82	3359.34	1.78	2.18	311.54	1.00
11/15/24 23:37	1.09	22.67	2.51	3209.74	3359.26	1.78	2.18	311.55	1.00
11/16/24 3:37	1.09	22.67	2.51	3210.09	3359.52	1.78	2.18	311.52	1.00
11/16/24 7:37	1.08	22.67	2.50	3206.15	3355.31	1.78	2.18	311.90	1.00
11/16/24 11:37	1.08	22.67	2.50	3208.25	3357.53	1.78	2.18	311.70	1.00
11/16/24 15:37	1.09	22.67	2.52	3211.35	3360.66	1.78	2.18	311.40	1.00
11/16/24 19:37	1.08	22.68	2.49	3203.37	3352.16	1.78	2.18	312.17	1.00
11/16/24 23:37	1.08	22.68	2.48	3201.12	3349.81	1.78	2.18	312.39	1.00
11/17/24 3:37	1.07	22.68	2.48	3201.13	3349.75	1.78	2.18	312.39	1.00
11/17/24 7:37	1.07	22.68	2.47	3196.94	3345.27	1.77	2.17	312.80	1.00
11/17/24 11:37	1.07	22.68	2.48	3203.01	3351.68	1.78	2.18	312.21	1.00
11/17/24 15:37	1.08	22.68	2.50	3212.02	3361.11	1.78	2.18	311.33	1.00
11/17/24 19:37	1.08	22.68	2.49	3205.62	3354.20	1.78	2.18	311.95	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/17/24 23:37	1.09	22.68	2.51	3212.87	3361.83	1.78	2.19	311.25	1.00
11/18/24 3:37	1.09	22.68	2.52	3211.34	3360.19	1.78	2.18	311.40	1.00
11/18/24 7:37	1.08	22.68	2.49	3205.71	3354.14	1.78	2.18	311.94	1.00
11/18/24 11:37	1.07	22.69	2.48	3202.15	3350.28	1.78	2.18	312.29	1.00
11/18/24 15:37	1.08	22.68	2.50	3210.99	3359.57	1.78	2.18	311.43	1.00
11/18/24 19:37	1.07	22.69	2.48	3199.86	3347.77	1.78	2.18	312.51	1.00
11/18/24 23:37	1.07	22.69	2.46	3200.82	3348.77	1.78	2.18	312.42	1.00
11/19/24 3:37	1.07	22.69	2.46	3200.58	3348.41	1.78	2.18	312.44	1.00
11/19/24 7:37	1.06	22.69	2.44	3192.99	3340.31	1.77	2.17	313.19	1.00
11/19/24 11:37	1.06	22.69	2.44	3192.57	3339.99	1.77	2.17	313.23	1.00
11/19/24 15:37	1.06	22.69	2.45	3202.36	3350.16	1.78	2.18	312.27	1.00
11/19/24 19:37	1.05	22.69	2.42	3182.10	3328.76	1.77	2.16	314.26	1.00
11/19/24 23:37	1.03	22.69	2.39	3171.50	3317.62	1.76	2.16	315.31	1.00
11/20/24 3:37	1.03	22.69	2.38	3180.71	3327.26	1.76	2.16	314.40	1.00
11/20/24 7:37	1.02	22.70	2.36	3168.49	3314.33	1.76	2.15	315.61	1.00
11/20/24 11:37	1.03	22.69	2.39	3185.72	3332.51	1.77	2.17	313.90	1.00
11/20/24 15:37	1.06	22.69	2.45	3209.25	3357.17	1.78	2.18	311.60	1.00
11/20/24 19:37	1.05	22.70	2.42	3193.15	3339.98	1.77	2.17	313.17	1.00
11/20/24 23:37	1.05	22.70	2.43	3194.95	3341.86	1.77	2.17	312.99	1.00
11/21/24 3:37	1.05	22.70	2.43	3197.08	3344.01	1.77	2.17	312.79	1.00
11/21/24 7:37	1.05	22.70	2.42	3194.47	3341.15	1.77	2.17	313.04	1.00
11/21/24 11:37	1.05	22.70	2.43	3198.15	3345.02	1.77	2.17	312.68	1.00
11/21/24 15:37	1.06	22.70	2.45	3204.53	3351.56	1.78	2.18	312.06	1.00
11/21/24 19:37	1.06	22.70	2.44	3199.68	3346.41	1.78	2.18	312.53	1.00
11/21/24 23:37	1.06	22.70	2.44	3200.87	3347.62	1.78	2.18	312.41	1.00
11/22/24 3:37	1.06	22.71	2.45	3202.25	3349.02	1.78	2.18	312.28	1.00
11/22/24 7:37	1.06	22.71	2.44	3200.08	3346.62	1.78	2.18	312.49	1.00
11/22/24 11:37	1.06	22.71	2.45	3202.54	3349.20	1.78	2.18	312.25	1.00
11/22/24 15:37	1.07	22.71	2.47	3209.82	3356.76	1.78	2.18	311.54	1.00
11/22/24 19:37	1.07	22.71	2.46	3205.85	3352.47	1.78	2.18	311.93	1.00
11/22/24 23:37	1.07	22.71	2.46	3208.28	3355.00	1.78	2.18	311.69	1.00
11/23/24 3:37	1.07	22.71	2.46	3206.90	3353.47	1.78	2.18	311.83	1.00
11/23/24 7:37	1.06	22.71	2.45	3204.20	3350.57	1.78	2.18	312.09	1.00
11/23/24 11:37	1.07	22.71	2.47	3208.38	3354.94	1.78	2.18	311.68	1.00
11/23/24 15:37	1.07	22.71	2.48	3214.68	3361.46	1.78	2.18	311.07	1.00
11/23/24 19:37	1.07	22.72	2.47	3210.58	3357.08	1.78	2.18	311.47	1.00
11/23/24 23:37	1.07	22.72	2.47	3210.15	3356.58	1.78	2.18	311.51	1.00
11/24/24 3:37	1.07	22.72	2.47	3212.33	3358.79	1.78	2.18	311.30	1.00
11/24/24 7:37	1.07	22.72	2.46	3207.87	3354.02	1.78	2.18	311.73	1.00
11/24/24 11:37	1.07	22.72	2.47	3208.88	3355.07	1.78	2.18	311.64	1.00
11/24/24 15:37	1.07	22.72	2.47	3211.25	3357.43	1.78	2.18	311.41	1.00
11/24/24 19:37	1.07	22.72	2.46	3207.45	3353.36	1.78	2.18	311.77	1.00
11/24/24 23:37	1.06	22.72	2.44	3201.28	3346.81	1.78	2.18	312.38	1.00
11/25/24 3:37	1.06	22.72	2.44	3202.11	3347.67	1.78	2.18	312.29	1.00
11/25/24 7:37	1.04	22.73	2.40	3183.26	3327.70	1.76	2.16	314.14	1.00
11/25/24 11:37	1.02	22.73	2.36	3175.00	3319.09	1.76	2.16	314.96	1.00
11/25/24 15:37	1.04	22.73	2.40	3195.61	3340.77	1.77	2.17	312.93	1.00
11/25/24 19:37	1.03	22.73	2.38	3185.67	3330.17	1.77	2.16	313.91	1.00
11/25/24 23:37	1.03	22.73	2.39	3190.53	3335.32	1.77	2.17	313.43	1.00
11/26/24 3:37	1.05	22.73	2.42	3204.97	3350.45	1.78	2.18	312.02	1.00
11/26/24 7:37	1.05	22.73	2.44	3208.17	3353.69	1.78	2.18	311.70	1.00
11/26/24 11:37	1.06	22.73	2.45	3212.07	3357.76	1.78	2.18	311.33	1.00
11/26/24 15:37	1.07	22.73	2.48	3221.73	3367.74	1.79	2.19	310.39	1.00
11/26/24 19:37	1.07	22.73	2.47	3215.32	3360.96	1.78	2.18	311.01	1.00
11/26/24 23:37	1.07	22.73	2.46	3214.49	3359.98	1.78	2.18	311.09	1.00
11/27/24 3:37	1.07	22.73	2.47	3215.36	3360.86	1.78	2.18	311.01	1.00
11/27/24 7:37	1.07	22.73	2.46	3213.21	3358.51	1.78	2.18	311.22	1.00
11/27/24 11:37	1.07	22.73	2.46	3214.89	3360.27	1.78	2.18	311.05	1.00
11/27/24 15:37	1.07	22.74	2.47	3217.82	3363.24	1.78	2.19	310.77	1.00
11/27/24 19:37	1.04	22.74	2.41	3186.94	3330.67	1.77	2.16	313.78	1.00
11/27/24 23:37	1.03	22.74	2.37	3184.95	3328.61	1.77	2.16	313.98	1.00
11/28/24 3:37	1.03	22.74	2.38	3195.49	3339.68	1.77	2.17	312.94	1.00
11/28/24 7:37	1.03	22.74	2.38	3192.89	3336.86	1.77	2.17	313.20	1.00
11/28/24 11:37	1.04	22.74	2.40	3202.20	3346.73	1.78	2.18	312.29	1.00
11/28/24 15:37	1.06	22.74	2.44	3214.31	3359.29	1.78	2.18	311.11	1.00
11/28/24 19:37	1.04	22.74	2.41	3198.60	3342.64	1.77	2.17	312.64	1.00
11/28/24 23:37	1.04	22.74	2.39	3197.92	3341.92	1.77	2.17	312.70	1.00
11/29/24 3:37	1.04	22.74	2.40	3199.27	3343.28	1.77	2.17	312.57	1.00
11/29/24 7:37	1.03	22.75	2.39	3197.27	3341.12	1.77	2.17	312.77	1.00
11/29/24 11:37	1.04	22.75	2.40	3204.61	3348.83	1.78	2.18	312.05	1.00
11/29/24 15:37	1.06	22.75	2.44	3215.50	3360.18	1.78	2.18	310.99	1.00
11/29/24 19:37	1.05	22.75	2.43	3208.95	3353.21	1.78	2.18	311.63	1.00
11/29/24 23:37	1.05	22.75	2.43	3209.13	3353.31	1.78	2.18	311.61	1.00
11/30/24 3:37	1.05	22.75	2.43	3208.85	3352.90	1.78	2.18	311.64	1.00
11/30/24 7:37	1.05	22.75	2.43	3208.49	3352.51	1.78	2.18	311.67	1.00
11/30/24 11:37	1.05	22.75	2.42	3206.14	3350.02	1.78	2.18	311.90	1.00
11/30/24 15:37	1.05	22.75	2.44	3213.76	3357.93	1.78	2.18	311.16	1.00
11/30/24 19:37	1.05	22.75	2.42	3208.39	3352.23	1.78	2.18	311.68	1.00
11/30/24 23:37	1.05	22.75	2.42	3209.16	3352.97	1.78	2.18	311.61	1.00
12/1/24 3:37	1.05	22.76	2.42	3207.75	3351.42	1.78	2.18	311.75	1.00
12/1/24 7:37	1.04	22.76	2.41	3205.25	3348.71	1.78	2.18	311.99	1.00
12/1/24 11:37	1.04	22.76	2.41	3204.98	3348.44	1.78	2.18	312.01	1.00
12/1/24 15:37	1.05	22.76	2.43	3212.76	3356.55	1.78	2.18	311.26	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/1/24 19:37	1.04	22.76	2.41	3203.82	3347.03	1.78	2.18	312.13	1.00
12/1/24 23:37	1.03	22.76	2.38	3196.81	3339.65	1.77	2.17	312.81	1.00
12/2/24 3:37	1.03	22.76	2.38	3200.31	3343.28	1.77	2.17	312.47	1.00
12/2/24 7:37	1.03	22.76	2.38	3200.24	3343.14	1.77	2.17	312.48	1.00
12/2/24 11:37	1.03	22.76	2.39	3203.61	3346.71	1.78	2.18	312.15	1.00
12/2/24 15:37	1.05	22.76	2.42	3214.16	3357.62	1.78	2.18	311.12	1.00
12/2/24 19:37	1.04	22.76	2.40	3204.29	3347.21	1.78	2.18	312.08	1.00
12/2/24 23:37	1.03	22.77	2.39	3202.83	3345.63	1.77	2.17	312.22	1.00
12/3/24 3:37	1.04	22.77	2.40	3206.45	3349.37	1.78	2.18	311.87	1.00
12/3/24 7:37	1.04	22.77	2.39	3204.79	3347.58	1.78	2.18	312.03	1.00
12/3/24 11:37	1.04	22.77	2.40	3207.60	3350.50	1.78	2.18	311.76	1.00
12/3/24 15:37	1.05	22.77	2.42	3215.47	3358.70	1.78	2.18	311.00	1.00
12/3/24 19:37	1.05	22.77	2.42	3211.87	3354.81	1.78	2.18	311.35	1.00
12/3/24 23:37	1.05	22.77	2.42	3212.04	3354.94	1.78	2.18	311.33	1.00
12/4/24 3:37	1.05	22.77	2.42	3211.85	3354.68	1.78	2.18	311.35	1.00
12/4/24 7:37	1.05	22.77	2.41	3211.13	3353.82	1.78	2.18	311.42	1.00
12/4/24 11:37	1.05	22.77	2.42	3212.42	3355.15	1.78	2.18	311.29	1.00
12/4/24 15:37	1.05	22.77	2.42	3213.65	3356.37	1.78	2.18	311.17	1.00
12/4/24 19:37	1.04	22.78	2.41	3211.04	3353.53	1.78	2.18	311.43	1.00
12/4/24 23:37	1.04	22.78	2.39	3205.96	3348.13	1.78	2.18	311.92	1.00
12/5/24 3:37	1.03	22.78	2.39	3204.93	3347.04	1.78	2.18	312.02	1.00
12/5/24 7:37	1.03	22.78	2.38	3201.80	3343.68	1.77	2.17	312.32	1.00
12/5/24 11:37	1.03	22.78	2.38	3205.55	3347.62	1.78	2.18	311.96	1.00
12/5/24 15:37	1.04	22.78	2.41	3215.57	3358.05	1.78	2.18	310.99	1.00
12/5/24 19:37	1.04	22.78	2.39	3207.67	3349.64	1.78	2.18	311.75	1.00
12/5/24 23:37	1.03	22.78	2.39	3207.63	3349.57	1.78	2.18	311.76	1.00
12/6/24 3:37	1.04	22.78	2.40	3212.69	3354.85	1.78	2.18	311.27	1.00
12/6/24 7:37	1.03	22.78	2.39	3208.02	3349.88	1.78	2.18	311.72	1.00
12/6/24 11:37	1.03	22.78	2.39	3209.47	3351.40	1.78	2.18	311.58	1.00
12/6/24 15:37	1.04	22.78	2.41	3216.72	3358.90	1.78	2.18	310.88	1.00
12/6/24 19:37	1.04	22.79	2.40	3213.39	3355.33	1.78	2.18	311.20	1.00
12/6/24 23:37	1.04	22.79	2.40	3211.86	3353.70	1.78	2.18	311.35	1.00
12/7/24 3:37	1.04	22.79	2.40	3214.07	3355.95	1.78	2.18	311.13	1.00
12/7/24 7:37	1.04	22.79	2.40	3211.57	3353.21	1.78	2.18	311.37	1.00
12/7/24 11:37	1.04	22.79	2.41	3216.68	3358.58	1.78	2.18	310.88	1.00
12/7/24 15:37	1.05	22.79	2.42	3221.78	3363.85	1.79	2.19	310.39	1.00
12/7/24 19:37	1.05	22.79	2.42	3217.62	3359.41	1.78	2.18	310.79	1.00
12/7/24 23:37	1.05	22.79	2.42	3217.65	3359.36	1.78	2.18	310.79	1.00
12/8/24 3:37	1.05	22.79	2.42	3218.84	3360.57	1.78	2.18	310.67	1.00
12/8/24 7:37	1.05	22.79	2.43	3219.59	3361.30	1.78	2.18	310.60	1.00
12/8/24 11:37	1.05	22.79	2.43	3224.87	3366.81	1.79	2.19	310.09	1.00
12/8/24 15:37	1.06	22.79	2.44	3225.02	3366.86	1.79	2.19	310.08	1.00
12/8/24 19:37	1.05	22.80	2.42	3221.24	3362.84	1.78	2.19	310.44	1.00
12/8/24 23:37	1.05	22.80	2.42	3219.34	3360.79	1.78	2.18	310.62	1.00
12/9/24 3:37	1.05	22.80	2.42	3219.36	3360.77	1.78	2.18	310.62	1.00
12/9/24 7:37	1.05	22.80	2.41	3218.18	3359.49	1.78	2.18	310.73	1.00
12/9/24 11:37	1.05	22.80	2.42	3220.15	3361.51	1.78	2.18	310.54	1.00
12/9/24 15:37	1.05	22.80	2.42	3221.29	3362.58	1.78	2.19	310.43	1.00
12/9/24 19:37	1.04	22.80	2.40	3214.23	3355.11	1.78	2.18	311.12	1.00
12/9/24 23:37	1.02	22.80	2.35	3194.57	3334.36	1.77	2.17	313.03	1.00
12/10/24 3:37	1.01	22.80	2.33	3195.85	3335.79	1.77	2.17	312.91	1.00
12/10/24 7:37	1.00	22.81	2.32	3189.27	3328.78	1.77	2.16	313.55	1.00
12/10/24 11:37	1.00	22.80	2.31	3197.24	3337.23	1.77	2.17	312.77	1.00
12/10/24 15:37	1.02	22.80	2.36	3203.49	3343.74	1.77	2.17	312.16	1.00
12/10/24 19:37	1.02	22.81	2.35	3196.40	3336.21	1.77	2.17	312.85	1.00
12/10/24 23:37	1.02	22.81	2.35	3198.88	3338.76	1.77	2.17	312.61	1.00
12/11/24 3:37	1.02	22.81	2.36	3208.31	3348.59	1.78	2.18	311.69	1.00
12/11/24 7:37	1.02	22.81	2.35	3208.78	3349.01	1.78	2.18	311.64	1.00
12/11/24 11:37	1.03	22.81	2.37	3219.84	3360.64	1.78	2.18	310.57	1.00
12/11/24 15:37	1.04	22.81	2.41	3235.44	3376.85	1.79	2.19	309.08	1.00
12/11/24 19:37	1.04	22.81	2.40	3228.80	3369.73	1.79	2.19	309.71	1.00
12/11/24 23:37	1.04	22.81	2.40	3228.14	3369.03	1.79	2.19	309.78	1.00
12/12/24 3:37	1.04	22.81	2.40	3229.32	3370.18	1.79	2.19	309.66	1.00
12/12/24 7:37	1.04	22.81	2.40	3229.83	3370.68	1.79	2.19	309.61	1.00
12/12/24 11:37	1.04	22.81	2.40	3229.49	3370.27	1.79	2.19	309.65	1.00
12/12/24 15:37	1.05	22.81	2.42	3237.28	3378.35	1.79	2.20	308.90	1.00
12/12/24 19:37	1.04	22.82	2.40	3227.64	3368.10	1.79	2.19	309.82	1.00
12/12/24 23:37	1.04	22.82	2.40	3230.23	3370.85	1.79	2.19	309.58	1.00
12/13/24 3:37	1.04	22.82	2.40	3230.44	3370.96	1.79	2.19	309.56	1.00
12/13/24 7:37	1.04	22.82	2.40	3229.86	3370.27	1.79	2.19	309.61	1.00
12/13/24 11:37	1.04	22.82	2.40	3228.35	3368.70	1.79	2.19	309.76	1.00
12/13/24 15:37	1.04	22.82	2.41	3234.92	3375.54	1.79	2.19	309.13	1.00
12/13/24 19:37	1.03	22.82	2.38	3218.50	3358.20	1.78	2.18	310.70	1.00
12/13/24 23:37	1.02	22.82	2.35	3214.26	3353.75	1.78	2.18	311.11	1.00
12/14/24 3:37	1.02	22.82	2.35	3215.93	3355.48	1.78	2.18	310.95	1.00
12/14/24 7:37	1.02	22.82	2.35	3219.05	3358.64	1.78	2.18	310.65	1.00
12/14/24 11:37	1.02	22.82	2.35	3216.78	3356.28	1.78	2.18	310.87	1.00
12/14/24 15:37	1.04	22.82	2.39	3235.19	3375.51	1.79	2.19	309.10	1.00
12/14/24 19:37	1.03	22.83	2.38	3225.93	3365.69	1.79	2.19	309.99	1.00
12/14/24 23:37	1.03	22.83	2.38	3227.85	3367.72	1.79	2.19	309.80	1.00
12/15/24 3:37	1.03	22.83	2.39	3228.70	3368.49	1.79	2.19	309.72	1.00
12/15/24 7:37	1.03	22.83	2.38	3226.10	3365.68	1.79	2.19	309.97	1.00
12/15/24 11:37	1.03	22.83	2.39	3229.92	3369.71	1.79	2.19	309.61	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/15/24 15:37	1.04	22.83	2.40	3233.74	3373.63	1.79	2.19	309.24	1.00
12/15/24 19:37	1.03	22.83	2.39	3227.13	3366.60	1.79	2.19	309.87	1.00
12/15/24 23:37	1.02	22.83	2.36	3221.60	3360.76	1.78	2.18	310.40	1.00
12/16/24 3:37	1.02	22.83	2.36	3222.47	3361.63	1.78	2.19	310.32	1.00
12/16/24 7:37	1.02	22.83	2.35	3218.39	3357.30	1.78	2.18	310.71	1.00
12/16/24 11:37	1.01	22.83	2.34	3213.87	3352.62	1.78	2.18	311.15	1.00
12/16/24 15:37	1.03	22.83	2.37	3228.69	3368.03	1.79	2.19	309.72	1.00
12/16/24 19:37	1.02	22.84	2.35	3221.75	3360.70	1.78	2.18	310.39	1.00
12/16/24 23:37	1.02	22.84	2.34	3220.06	3358.93	1.78	2.18	310.55	1.00
12/17/24 3:37	1.02	22.84	2.37	3227.55	3366.74	1.79	2.19	309.83	1.00
12/17/24 7:37	1.03	22.84	2.38	3229.15	3368.37	1.79	2.19	309.68	1.00
12/17/24 11:37	1.03	22.84	2.37	3229.00	3368.16	1.79	2.19	309.69	1.00
12/17/24 15:37	1.03	22.84	2.39	3234.31	3373.62	1.79	2.19	309.18	1.00
12/17/24 19:37	1.02	22.84	2.36	3222.31	3360.90	1.78	2.18	310.34	1.00
12/17/24 23:37	1.01	22.84	2.32	3208.72	3346.57	1.78	2.18	311.65	1.00
12/18/24 3:37	0.99	22.84	2.28	3193.78	3330.93	1.77	2.17	313.11	1.00
12/18/24 7:37	0.98	22.85	2.27	3198.23	3335.50	1.77	2.17	312.67	1.00
12/18/24 11:37	0.99	22.84	2.29	3211.56	3349.64	1.78	2.18	311.38	1.00
12/18/24 15:37	1.01	22.84	2.34	3228.17	3366.99	1.79	2.19	309.77	1.00
12/18/24 19:37	1.02	22.84	2.36	3234.78	3373.69	1.79	2.19	309.14	1.00
12/18/24 23:37	1.02	22.84	2.36	3230.66	3369.36	1.79	2.19	309.53	1.00
12/19/24 3:37	1.02	22.85	2.37	3233.62	3372.37	1.79	2.19	309.25	1.00
12/19/24 7:37	1.02	22.85	2.36	3233.77	3372.47	1.79	2.19	309.24	1.00
12/19/24 11:37	1.45	22.72	3.34	3651.90	3818.35	2.04	2.48	273.83	1.00
12/19/24 15:37	1.45	22.72	3.35	3660.37	3827.15	2.05	2.49	273.20	1.00
12/19/24 19:37	1.44	22.72	3.32	3657.63	3824.12	2.05	2.49	273.40	1.00
12/19/24 23:37	1.42	22.72	3.29	3653.74	3820.03	2.04	2.48	273.69	1.00
12/20/24 3:37	1.42	22.72	3.28	3657.65	3824.08	2.05	2.49	273.40	1.00
12/20/24 7:37	1.42	22.72	3.29	3662.23	3828.85	2.05	2.49	273.06	1.00
12/20/24 11:37	1.43	22.72	3.30	3667.92	3834.79	2.05	2.49	272.63	1.00
12/20/24 15:37	1.45	22.72	3.34	3673.36	3840.45	2.05	2.50	272.23	1.00
12/20/24 19:37	1.44	22.72	3.33	3672.05	3838.97	2.05	2.50	272.33	1.00
12/20/24 23:37	1.45	22.72	3.34	3672.55	3839.40	2.05	2.50	272.29	1.00
12/21/24 3:37	1.44	22.73	3.33	3672.20	3838.94	2.05	2.50	272.32	1.00
12/21/24 7:37	1.44	22.73	3.33	3671.83	3838.50	2.05	2.50	272.34	1.00
12/21/24 11:37	1.44	22.73	3.33	3671.45	3838.10	2.05	2.49	272.37	1.00
12/21/24 15:37	1.45	22.73	3.34	3673.11	3839.81	2.05	2.50	272.25	1.00
12/21/24 19:37	1.44	22.73	3.33	3672.53	3839.09	2.05	2.50	272.29	1.00
12/21/24 23:37	1.44	22.73	3.33	3671.46	3837.90	2.05	2.49	272.37	1.00
12/22/24 3:37	1.44	22.73	3.33	3671.69	3838.08	2.05	2.49	272.35	1.00
12/22/24 7:37	1.44	22.73	3.33	3671.60	3837.94	2.05	2.49	272.36	1.00
12/22/24 11:37	1.44	22.73	3.33	3671.69	3838.01	2.05	2.49	272.35	1.00
12/22/24 15:37	1.45	22.73	3.35	3672.47	3838.75	2.05	2.50	272.30	1.00
12/22/24 19:37	1.44	22.73	3.33	3671.55	3837.71	2.05	2.49	272.36	1.00
12/22/24 23:37	1.44	22.73	3.33	3670.12	3836.15	2.05	2.49	272.47	1.00
12/23/24 3:37	1.44	22.73	3.33	3670.30	3836.27	2.05	2.49	272.46	1.00
12/23/24 7:37	1.44	22.74	3.32	3669.97	3835.89	2.05	2.49	272.48	1.00
12/23/24 11:37	1.44	22.74	3.32	3668.65	3834.47	2.05	2.49	272.58	1.00
12/23/24 15:37	1.44	22.74	3.33	3669.52	3835.33	2.05	2.49	272.51	1.00
12/23/24 19:37	1.43	22.74	3.31	3668.24	3833.88	2.05	2.49	272.61	1.00
12/23/24 23:37	1.42	22.74	3.29	3663.67	3829.06	2.05	2.49	272.95	1.00
12/24/24 3:37	1.42	22.74	3.28	3662.70	3828.00	2.05	2.49	273.02	1.00
12/24/24 7:37	1.42	22.74	3.28	3663.57	3828.85	2.05	2.49	272.96	1.00
12/24/24 11:37	1.42	22.74	3.28	3662.56	3827.76	2.05	2.49	273.03	1.00
12/24/24 15:37	1.43	22.74	3.31	3667.50	3832.96	2.05	2.49	272.67	1.00
12/24/24 19:37	1.43	22.74	3.31	3665.74	3831.03	2.05	2.49	272.80	1.00
12/24/24 23:37	1.43	22.74	3.31	3666.11	3831.34	2.05	2.49	272.77	1.00
12/25/24 3:37	1.43	22.74	3.31	3665.40	3830.52	2.05	2.49	272.82	1.00
12/25/24 7:37	1.44	22.74	3.32	3666.82	3831.95	2.05	2.49	272.72	1.00
12/25/24 11:37	1.44	22.74	3.33	3666.02	3831.08	2.05	2.49	272.78	1.00
12/25/24 15:37	1.45	22.74	3.34	3667.45	3832.57	2.05	2.49	272.67	1.00
12/25/24 19:37	1.44	22.75	3.32	3664.78	3829.66	2.05	2.49	272.87	1.00
12/25/24 23:37	1.43	22.75	3.30	3661.91	3826.55	2.05	2.49	273.08	1.00
12/26/24 3:37	1.43	22.75	3.30	3660.92	3825.53	2.05	2.49	273.16	1.00
12/26/24 7:37	1.42	22.75	3.28	3658.30	3822.66	2.04	2.48	273.35	1.00
12/26/24 11:37	1.43	22.75	3.29	3659.59	3824.02	2.04	2.49	273.25	1.00
12/26/24 15:37	1.44	22.75	3.32	3663.60	3828.22	2.05	2.49	272.96	1.00
12/26/24 19:37	1.44	22.75	3.32	3662.33	3826.78	2.05	2.49	273.05	1.00
12/26/24 23:37	1.43	22.75	3.31	3660.48	3824.79	2.05	2.49	273.19	1.00
12/27/24 3:37	1.43	22.75	3.30	3660.39	3824.65	2.05	2.49	273.19	1.00
12/27/24 7:37	1.43	22.75	3.29	3658.77	3822.88	2.04	2.48	273.32	1.00
12/27/24 11:37	1.43	22.75	3.30	3659.77	3823.93	2.04	2.49	273.24	1.00
12/27/24 15:37	1.44	22.75	3.33	3661.68	3825.87	2.05	2.49	273.10	1.00
12/27/24 19:37	1.43	22.75	3.31	3659.92	3823.95	2.04	2.49	273.23	1.00
12/27/24 23:37	1.43	22.76	3.30	3656.55	3820.36	2.04	2.48	273.48	1.00
12/28/24 3:37	1.43	22.76	3.29	3657.06	3820.82	2.04	2.48	273.44	1.00
12/28/24 7:37	1.42	22.76	3.27	3652.52	3815.98	2.04	2.48	273.78	1.00
12/28/24 11:37	1.41	22.76	3.26	3649.85	3813.18	2.04	2.48	273.98	1.00
12/28/24 15:37	1.43	22.76	3.29	3656.22	3819.88	2.04	2.48	273.51	1.00
12/28/24 19:37	1.42	22.76	3.28	3654.20	3817.63	2.04	2.48	273.66	1.00
12/28/24 23:37	1.41	22.76	3.26	3651.94	3815.23	2.04	2.48	273.83	1.00
12/29/24 3:37	1.41	22.76	3.27	3652.16	3815.41	2.04	2.48	273.81	1.00
12/29/24 7:37	1.41	22.76	3.26	3651.01	3814.15	2.04	2.48	273.90	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/29/24 11:37	1.41	22.76	3.26	3652.45	3815.68	2.04	2.48	273.79	1.00
12/29/24 15:37	1.43	22.76	3.29	3655.60	3818.95	2.04	2.48	273.55	1.00
12/29/24 19:37	1.43	22.76	3.29	3654.38	3817.54	2.04	2.48	273.64	1.00
12/29/24 23:37	1.43	22.76	3.30	3655.25	3818.41	2.04	2.48	273.58	1.00
12/30/24 3:37	1.43	22.76	3.30	3654.40	3817.44	2.04	2.48	273.64	1.00
12/30/24 7:37	1.42	22.76	3.28	3651.72	3814.57	2.04	2.48	273.84	1.00
12/30/24 11:37	1.42	22.76	3.27	3650.07	3812.84	2.04	2.48	273.97	1.00
12/30/24 15:37	1.43	22.77	3.29	3653.48	3816.38	2.04	2.48	273.71	1.00
12/30/24 19:37	1.41	22.77	3.26	3649.05	3811.58	2.04	2.48	274.04	1.00
12/30/24 23:37	1.41	22.77	3.24	3645.32	3807.68	2.04	2.47	274.32	1.00
12/31/24 3:37	1.40	22.77	3.23	3641.88	3804.00	2.03	2.47	274.58	1.00
12/31/24 7:37	1.39	22.77	3.21	3640.32	3802.35	2.03	2.47	274.70	1.00
12/31/24 11:37	1.40	22.77	3.23	3644.07	3806.29	2.03	2.47	274.42	1.00
12/31/24 15:37	1.42	22.77	3.28	3651.31	3813.90	2.04	2.48	273.87	1.00
12/31/24 19:37	1.42	22.77	3.27	3648.81	3811.14	2.04	2.48	274.06	1.00
12/31/24 23:37	1.41	22.77	3.25	3645.96	3808.09	2.04	2.48	274.28	1.00
1/1/25 3:37	1.40	22.77	3.23	3643.46	3805.36	2.03	2.47	274.46	1.00
1/1/25 7:37	1.39	22.77	3.21	3639.34	3801.01	2.03	2.47	274.77	1.00
1/1/25 11:37	1.39	22.77	3.22	3640.51	3802.28	2.03	2.47	274.69	1.00
1/1/25 15:37	1.41	22.77	3.26	3646.68	3808.76	2.04	2.48	274.22	1.00
1/1/25 19:37	1.41	22.77	3.26	3645.03	3806.90	2.04	2.47	274.35	1.00
1/1/25 23:37	1.41	22.78	3.25	3644.32	3806.06	2.03	2.47	274.40	1.00
1/2/25 3:37	1.41	22.77	3.26	3645.08	3806.86	2.04	2.47	274.34	1.00
1/2/25 7:37	1.40	22.78	3.24	3642.61	3804.20	2.03	2.47	274.53	1.00
1/2/25 11:37	1.40	22.78	3.23	3641.10	3802.57	2.03	2.47	274.64	1.00
1/2/25 15:37	1.41	22.78	3.26	3643.08	3804.63	2.03	2.47	274.49	1.00
1/2/25 19:37	1.40	22.78	3.24	3641.04	3802.39	2.03	2.47	274.65	1.00
1/2/25 23:37	1.40	22.78	3.23	3638.23	3799.34	2.03	2.47	274.86	1.00
1/3/25 3:37	1.40	22.78	3.22	3638.52	3799.68	2.03	2.47	274.84	1.00
1/3/25 7:37	1.39	22.78	3.21	3637.52	3798.57	2.03	2.47	274.91	1.00
1/3/25 11:37	1.39	22.78	3.22	3637.41	3798.45	2.03	2.47	274.92	1.00
1/3/25 15:37	1.41	22.78	3.26	3642.64	3803.95	2.03	2.47	274.53	1.00
1/3/25 19:37	1.41	22.78	3.26	3640.85	3801.94	2.03	2.47	274.66	1.00
1/3/25 23:37	1.41	22.78	3.26	3639.75	3800.76	2.03	2.47	274.74	1.00
1/4/25 3:37	1.42	22.78	3.27	3639.97	3800.95	2.03	2.47	274.73	1.00
1/4/25 7:37	1.42	22.78	3.27	3639.55	3800.45	2.03	2.47	274.76	1.00
1/4/25 11:37	1.42	22.78	3.27	3638.47	3799.33	2.03	2.47	274.84	1.00
1/4/25 15:37	1.42	22.78	3.29	3638.95	3799.77	2.03	2.47	274.80	1.00
1/4/25 19:37	1.42	22.79	3.29	3637.81	3798.51	2.03	2.47	274.89	1.00
1/4/25 23:37	1.41	22.79	3.25	3635.29	3795.73	2.03	2.47	275.08	1.00
1/5/25 3:37	1.40	22.79	3.24	3630.31	3790.51	2.03	2.46	275.46	1.00
1/5/25 7:37	1.39	22.79	3.21	3626.64	3786.50	2.02	2.46	275.74	1.00
1/5/25 11:37	1.39	22.79	3.20	3626.03	3785.94	2.02	2.46	275.78	1.00
1/5/25 15:37	1.40	22.79	3.23	3630.15	3790.25	2.03	2.46	275.47	1.00
1/5/25 19:37	1.38	22.79	3.19	3621.80	3781.36	2.02	2.46	276.11	1.00
1/5/25 23:37	1.38	22.79	3.17	3620.68	3780.24	2.02	2.46	276.19	1.00
1/6/25 3:37	1.38	22.79	3.18	3624.74	3784.47	2.02	2.46	275.88	1.00
1/6/25 7:37	1.38	22.79	3.18	3624.80	3784.49	2.02	2.46	275.88	1.00
1/6/25 11:37	1.39	22.79	3.20	3626.60	3786.42	2.02	2.46	275.74	1.00
1/6/25 15:37	1.40	22.79	3.23	3630.13	3790.05	2.03	2.46	275.47	1.00
1/6/25 19:37	1.40	22.79	3.22	3628.12	3787.79	2.02	2.46	275.62	1.00
1/6/25 23:37	1.39	22.79	3.22	3626.93	3786.52	2.02	2.46	275.72	1.00
1/7/25 3:37	1.39	22.79	3.22	3626.18	3785.66	2.02	2.46	275.77	1.00
1/7/25 7:37	1.39	22.79	3.21	3624.28	3783.62	2.02	2.46	275.92	1.00
1/7/25 11:37	1.39	22.79	3.20	3621.54	3780.80	2.02	2.46	276.13	1.00
1/7/25 15:37	1.39	22.79	3.22	3624.91	3784.29	2.02	2.46	275.87	1.00
1/7/25 19:37	1.38	22.80	3.19	3619.30	3778.29	2.02	2.46	276.30	1.00
1/7/25 23:37	1.38	22.80	3.17	3615.57	3774.40	2.02	2.45	276.58	1.00
1/8/25 3:37	1.38	22.80	3.18	3618.32	3777.26	2.02	2.46	276.37	1.00
1/8/25 7:37	1.38	22.80	3.18	3618.72	3777.61	2.02	2.46	276.34	1.00
1/8/25 11:37	1.38	22.80	3.19	3619.08	3778.03	2.02	2.46	276.31	1.00
1/8/25 15:37	1.39	22.80	3.22	3622.98	3782.03	2.02	2.46	276.02	1.00
1/8/25 19:37	1.40	22.80	3.24	3622.98	3781.99	2.02	2.46	276.02	1.00
1/8/25 23:37	1.41	22.80	3.25	3623.25	3782.22	2.02	2.46	276.00	1.00
1/9/25 3:37	1.41	22.80	3.26	3622.74	3781.63	2.02	2.46	276.03	1.00
1/9/25 7:37	1.41	22.80	3.25	3621.87	3780.67	2.02	2.46	276.10	1.00
1/9/25 11:37	1.40	22.80	3.24	3619.34	3777.93	2.02	2.46	276.29	1.00
1/9/25 15:37	1.41	22.80	3.24	3618.90	3777.42	2.02	2.46	276.33	1.00
1/9/25 19:37	1.39	22.80	3.20	3613.77	3771.95	2.02	2.45	276.72	1.00
1/9/25 23:37	1.38	22.80	3.19	3608.53	3766.49	2.01	2.45	277.12	1.00
1/10/25 3:37	1.38	22.80	3.18	3610.52	3768.52	2.01	2.45	276.97	1.00
1/10/25 7:37	1.38	22.81	3.18	3609.43	3767.35	2.01	2.45	277.05	1.00
1/10/25 11:37	1.38	22.80	3.19	3610.15	3768.17	2.01	2.45	277.00	1.00
1/10/25 15:37	1.40	22.80	3.23	3614.17	3772.35	2.02	2.45	276.69	1.00
1/10/25 19:37	1.40	22.81	3.22	3613.10	3771.16	2.02	2.45	276.77	1.00
1/10/25 23:37	1.40	22.81	3.23	3612.33	3770.36	2.01	2.45	276.83	1.00
1/11/25 3:37	1.40	22.81	3.24	3614.08	3772.12	2.02	2.45	276.70	1.00
1/11/25 7:37	1.40	22.81	3.24	3612.88	3770.76	2.01	2.45	276.79	1.00
1/11/25 11:37	1.40	22.81	3.24	3611.49	3769.29	2.01	2.45	276.89	1.00
1/11/25 15:37	1.41	22.81	3.25	3611.59	3769.32	2.01	2.45	276.89	1.00
1/11/25 19:37	1.40	22.81	3.23	3608.80	3766.35	2.01	2.45	277.10	1.00
1/11/25 23:37	1.39	22.81	3.21	3605.59	3762.88	2.01	2.45	277.35	1.00
1/12/25 3:37	1.38	22.81	3.19	3601.70	3758.84	2.01	2.44	277.65	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/12/25 7:37	1.38	22.81	3.17	3600.29	3757.30	2.01	2.44	277.76	1.00
1/12/25 11:37	1.36	22.81	3.15	3595.24	3752.00	2.00	2.44	278.15	1.00
1/12/25 15:37	1.38	22.81	3.19	3601.10	3758.17	2.01	2.44	277.69	1.00
1/12/25 19:37	1.37	22.81	3.17	3598.34	3755.20	2.01	2.44	277.91	1.00
1/12/25 23:37	1.37	22.81	3.15	3596.19	3752.91	2.00	2.44	278.07	1.00
1/13/25 3:37	1.37	22.81	3.16	3596.41	3753.11	2.00	2.44	278.05	1.00
1/13/25 7:37	1.37	22.81	3.15	3596.17	3752.83	2.00	2.44	278.07	1.00
1/13/25 11:37	1.37	22.81	3.16	3597.22	3753.97	2.01	2.44	277.99	1.00
1/13/25 15:37	1.38	22.81	3.19	3600.37	3757.23	2.01	2.44	277.75	1.00
1/13/25 19:37	1.38	22.82	3.18	3597.75	3754.39	2.01	2.44	277.95	1.00
1/13/25 23:37	1.37	22.82	3.17	3594.35	3750.77	2.00	2.44	278.21	1.00
1/14/25 3:37	1.38	22.82	3.18	3594.71	3751.19	2.00	2.44	278.19	1.00
1/14/25 7:37	1.37	22.82	3.17	3592.82	3749.14	2.00	2.44	278.33	1.00
1/14/25 11:37	1.37	22.82	3.16	3591.21	3747.41	2.00	2.44	278.46	1.00
1/14/25 15:37	1.38	22.82	3.19	3594.10	3750.43	2.00	2.44	278.23	1.00
1/14/25 19:37	1.37	22.82	3.16	3590.77	3746.83	2.00	2.44	278.49	1.00
1/14/25 23:37	1.36	22.82	3.14	3587.74	3743.65	2.00	2.43	278.73	1.00
1/15/25 3:37	1.37	22.82	3.16	3588.72	3744.68	2.00	2.43	278.65	1.00
1/15/25 7:37	1.36	22.82	3.14	3586.67	3742.42	2.00	2.43	278.81	1.00
1/15/25 11:37	1.36	22.82	3.14	3584.53	3740.22	2.00	2.43	278.98	1.00
1/15/25 15:37	1.37	22.82	3.17	3589.00	3744.92	2.00	2.43	278.63	1.00
1/15/25 19:37	1.37	22.82	3.15	3585.78	3741.43	2.00	2.43	278.88	1.00
1/15/25 23:37	1.36	22.82	3.15	3584.39	3739.94	2.00	2.43	278.99	1.00
1/16/25 3:37	1.37	22.82	3.16	3584.18	3739.75	2.00	2.43	279.00	1.00
1/16/25 7:37	1.37	22.82	3.16	3584.05	3739.56	2.00	2.43	279.01	1.00
1/16/25 11:37	1.37	22.82	3.17	3584.07	3739.58	2.00	2.43	279.01	1.00
1/16/25 15:37	1.38	22.82	3.20	3586.63	3742.24	2.00	2.43	278.81	1.00
1/16/25 19:37	1.39	22.82	3.20	3585.35	3740.81	2.00	2.43	278.91	1.00
1/16/25 23:37	1.39	22.82	3.20	3584.96	3740.34	2.00	2.43	278.94	1.00
1/17/25 3:37	1.39	22.82	3.21	3585.33	3740.73	2.00	2.43	278.91	1.00
1/17/25 7:37	1.39	22.83	3.21	3582.98	3738.20	2.00	2.43	279.10	1.00
1/17/25 11:37	1.39	22.83	3.21	3581.90	3737.06	2.00	2.43	279.18	1.00
1/17/25 15:37	1.39	22.83	3.22	3581.67	3736.79	2.00	2.43	279.20	1.00
1/17/25 19:37	1.38	22.83	3.19	3577.39	3732.17	1.99	2.43	279.53	1.00
1/17/25 23:37	1.38	22.83	3.18	3575.64	3730.37	1.99	2.42	279.67	1.00
1/18/25 3:37	1.38	22.83	3.18	3575.16	3729.88	1.99	2.42	279.71	1.00
1/18/25 7:37	1.36	22.83	3.15	3570.30	3724.63	1.99	2.42	280.09	1.00
1/18/25 11:37	1.36	22.83	3.15	3569.74	3724.12	1.99	2.42	280.13	1.00
1/18/25 15:37	1.38	22.83	3.19	3574.85	3729.50	1.99	2.42	279.73	1.00
1/18/25 19:37	1.33	22.84	3.07	3538.91	3691.33	1.97	2.40	282.57	1.00
1/18/25 23:37	1.33	22.83	3.06	3554.76	3708.32	1.98	2.41	281.31	1.00
1/19/25 3:37	1.33	22.83	3.08	3559.01	3712.85	1.98	2.41	280.98	1.00
1/19/25 7:37	1.34	22.83	3.09	3562.65	3716.58	1.98	2.42	280.69	1.00
1/19/25 11:37	1.35	22.83	3.13	3567.43	3721.69	1.99	2.42	280.31	1.00
1/19/25 15:37	1.38	22.83	3.18	3572.18	3726.63	1.99	2.42	279.94	1.00
1/19/25 19:37	1.38	22.83	3.18	3570.35	3724.56	1.99	2.42	280.08	1.00
1/19/25 23:37	1.37	22.83	3.17	3568.78	3722.84	1.99	2.42	280.21	1.00
1/20/25 3:37	1.37	22.83	3.17	3567.92	3721.92	1.99	2.42	280.28	1.00
1/20/25 7:37	1.36	22.83	3.15	3564.75	3718.53	1.99	2.42	280.52	1.00
1/20/25 11:37	1.36	22.84	3.14	3562.06	3715.71	1.98	2.42	280.74	1.00
1/20/25 15:37	1.37	22.83	3.16	3563.23	3716.94	1.98	2.42	280.64	1.00
1/20/25 19:37	1.35	22.84	3.11	3556.55	3709.77	1.98	2.41	281.17	1.00
1/20/25 23:37	1.33	22.84	3.06	3549.30	3702.20	1.98	2.41	281.75	1.00
1/21/25 3:37	1.33	22.84	3.07	3551.78	3704.86	1.98	2.41	281.55	1.00
1/21/25 7:37	1.34	22.84	3.09	3554.55	3707.79	1.98	2.41	281.33	1.00
1/21/25 11:37	1.35	22.84	3.11	3557.20	3710.58	1.98	2.41	281.12	1.00
1/21/25 15:37	1.37	22.84	3.16	3561.15	3714.68	1.98	2.41	280.81	1.00
1/21/25 19:37	1.37	22.84	3.16	3560.12	3713.54	1.98	2.41	280.89	1.00
1/21/25 23:37	1.37	22.84	3.17	3559.88	3713.27	1.98	2.41	280.91	1.00
1/22/25 3:37	1.37	22.84	3.17	3558.73	3712.01	1.98	2.41	281.00	1.00
1/22/25 7:37	1.37	22.84	3.16	3555.88	3708.93	1.98	2.41	281.22	1.00
1/22/25 11:37	1.36	22.84	3.15	3553.91	3706.82	1.98	2.41	281.38	1.00
1/22/25 15:37	1.37	22.84	3.17	3554.53	3707.50	1.98	2.41	281.33	1.00
1/22/25 19:37	1.36	22.84	3.13	3551.16	3703.82	1.98	2.41	281.60	1.00
1/22/25 23:37	1.34	22.84	3.09	3543.54	3695.81	1.97	2.40	282.20	1.00
1/23/25 3:37	1.34	22.84	3.10	3545.28	3697.72	1.97	2.40	282.07	1.00
1/23/25 7:37	1.34	22.84	3.08	3543.98	3696.30	1.97	2.40	282.17	1.00
1/23/25 11:37	1.34	22.84	3.08	3543.31	3695.61	1.97	2.40	282.22	1.00
1/23/25 15:37	1.35	22.84	3.12	3546.62	3699.08	1.97	2.40	281.96	1.00
1/23/25 19:37	1.35	22.84	3.11	3543.98	3696.26	1.97	2.40	282.17	1.00
1/23/25 23:37	1.35	22.84	3.12	3543.87	3696.20	1.97	2.40	282.18	1.00
1/24/25 3:37	1.36	22.84	3.14	3544.63	3696.96	1.97	2.40	282.12	1.00
1/24/25 7:37	1.36	22.84	3.14	3543.34	3695.54	1.97	2.40	282.22	1.00
1/24/25 11:37	1.36	22.84	3.15	3543.21	3695.36	1.97	2.40	282.23	1.00
1/24/25 15:37	1.37	22.84	3.17	3544.26	3696.47	1.97	2.40	282.15	1.00
1/24/25 19:37	1.37	22.85	3.16	3542.78	3694.86	1.97	2.40	282.26	1.00
1/24/25 23:37	1.36	22.85	3.15	3541.41	3693.38	1.97	2.40	282.37	1.00
1/25/25 3:37	1.37	22.85	3.16	3540.43	3692.36	1.97	2.40	282.45	1.00
1/25/25 7:37	1.36	22.85	3.14	3539.00	3690.80	1.97	2.40	282.57	1.00
1/25/25 11:37	1.35	22.85	3.13	3536.59	3688.24	1.97	2.40	282.76	1.00
1/25/25 15:37	1.36	22.85	3.13	3535.98	3687.57	1.97	2.40	282.81	1.00
1/25/25 19:37	1.34	22.85	3.10	3531.65	3682.93	1.97	2.39	283.15	1.00
1/25/25 23:37	1.34	22.85	3.08	3528.16	3679.34	1.96	2.39	283.43	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/26/25 3:37	1.34	22.85	3.10	3530.35	3681.61	1.96	2.39	283.26	1.00
1/26/25 7:37	1.34	22.85	3.09	3529.31	3680.54	1.96	2.39	283.34	1.00
1/26/25 11:37	1.34	22.85	3.09	3529.07	3680.29	1.96	2.39	283.36	1.00
1/26/25 15:37	1.35	22.85	3.13	3531.70	3683.05	1.97	2.39	283.15	1.00
1/26/25 19:37	1.35	22.85	3.12	3529.85	3681.04	1.96	2.39	283.30	1.00
1/26/25 23:37	1.35	22.85	3.11	3527.86	3678.89	1.96	2.39	283.46	1.00
1/27/25 3:37	1.35	22.85	3.11	3528.14	3679.20	1.96	2.39	283.44	1.00
1/27/25 7:37	1.34	22.85	3.10	3526.64	3677.56	1.96	2.39	283.56	1.00
1/27/25 11:37	1.34	22.85	3.10	3526.04	3676.99	1.96	2.39	283.60	1.00
1/27/25 15:37	1.36	22.85	3.14	3528.34	3679.43	1.96	2.39	283.42	1.00
1/27/25 19:37	1.36	22.85	3.13	3525.38	3676.21	1.96	2.39	283.66	1.00
1/27/25 23:37	1.35	22.85	3.12	3524.38	3675.14	1.96	2.39	283.74	1.00
1/28/25 3:37	1.35	22.85	3.12	3523.10	3673.75	1.96	2.39	283.84	1.00
1/28/25 7:37	1.35	22.85	3.11	3521.73	3672.31	1.96	2.39	283.95	1.00
1/28/25 11:37	1.35	22.85	3.11	3520.25	3670.78	1.96	2.39	284.07	1.00
1/28/25 15:37	1.36	22.85	3.13	3521.68	3672.20	1.96	2.39	283.96	1.00
1/28/25 19:37	1.35	22.85	3.12	3519.49	3669.92	1.96	2.39	284.13	1.00
1/28/25 23:37	1.35	22.85	3.12	3518.62	3668.98	1.96	2.38	284.20	1.00
1/29/25 3:37	1.35	22.85	3.12	3517.70	3668.05	1.96	2.38	284.28	1.00
1/29/25 7:37	1.35	22.85	3.11	3516.85	3667.09	1.96	2.38	284.35	1.00
1/29/25 11:37	1.35	22.85	3.11	3516.33	3666.56	1.96	2.38	284.39	1.00
1/29/25 15:37	1.36	22.86	3.13	3517.24	3667.49	1.96	2.38	284.31	1.00
1/29/25 19:37	1.35	22.86	3.11	3514.32	3664.37	1.95	2.38	284.55	1.00
1/29/25 23:37	1.34	22.86	3.10	3512.36	3662.28	1.95	2.38	284.71	1.00
1/30/25 3:37	1.35	22.86	3.11	3512.53	3662.47	1.95	2.38	284.70	1.00
1/30/25 7:37	1.35	22.86	3.11	3511.28	3661.14	1.95	2.38	284.80	1.00
1/30/25 11:37	1.34	22.86	3.09	3510.41	3660.14	1.95	2.38	284.87	1.00
1/30/25 15:37	1.35	22.85	3.13	3461.81	3609.90	1.92	2.35	288.87	1.00
1/30/25 19:37	1.35	22.85	3.12	3475.10	3623.70	1.93	2.36	287.76	1.00
1/30/25 23:37	1.33	22.86	3.08	3478.96	3627.54	1.93	2.36	287.44	1.00
1/31/25 3:37	1.34	22.85	3.08	3486.93	3635.98	1.94	2.36	286.79	1.00
1/31/25 7:37	1.33	22.85	3.08	3490.00	3639.10	1.94	2.37	286.53	1.00
1/31/25 11:37	1.33	22.86	3.07	3491.56	3640.71	1.94	2.37	286.41	1.00
1/31/25 15:37	1.35	22.85	3.11	3497.82	3647.31	1.94	2.37	285.89	1.00
1/31/25 19:37	1.35	22.86	3.11	3498.48	3647.87	1.95	2.37	285.84	1.00
1/31/25 23:37	1.35	22.86	3.11	3499.18	3648.60	1.95	2.37	285.78	1.00
2/1/25 3:37	1.35	22.86	3.11	3499.58	3648.99	1.95	2.37	285.75	1.00
2/1/25 7:37	1.35	22.86	3.12	3499.58	3648.99	1.95	2.37	285.75	1.00
2/1/25 11:37	1.35	22.86	3.12	3499.20	3648.56	1.95	2.37	285.78	1.00
2/1/25 15:37	1.36	22.86	3.15	3500.38	3649.80	1.95	2.37	285.68	1.00
2/1/25 19:37	1.36	22.86	3.14	3499.45	3648.71	1.95	2.37	285.76	1.00
2/1/25 23:37	1.35	22.86	3.12	3498.51	3647.72	1.95	2.37	285.84	1.00
2/2/25 3:37	1.35	22.86	3.13	3497.75	3646.93	1.94	2.37	285.90	1.00
2/2/25 7:37	1.35	22.86	3.12	3496.00	3645.08	1.94	2.37	286.04	1.00
2/2/25 11:37	1.35	22.86	3.12	3495.05	3644.04	1.94	2.37	286.12	1.00
2/2/25 15:37	1.36	22.86	3.14	3494.42	3643.38	1.94	2.37	286.17	1.00
2/2/25 19:37	1.35	22.86	3.12	3492.97	3641.81	1.94	2.37	286.29	1.00
2/2/25 23:37	1.35	22.86	3.12	3492.00	3640.78	1.94	2.37	286.37	1.00
2/3/25 3:37	1.35	22.86	3.11	3490.94	3639.67	1.94	2.37	286.46	1.00
2/3/25 7:37	1.34	22.86	3.10	3489.29	3637.84	1.94	2.36	286.59	1.00
2/3/25 11:37	1.34	22.86	3.10	3488.03	3636.59	1.94	2.36	286.70	1.00
2/3/25 15:37	1.35	22.86	3.12	3489.29	3637.95	1.94	2.36	286.59	1.00
2/3/25 19:37	1.35	22.86	3.11	3487.40	3635.88	1.94	2.36	286.75	1.00
2/3/25 23:37	1.34	22.86	3.10	3485.74	3634.14	1.94	2.36	286.88	1.00
2/4/25 3:37	1.35	22.86	3.11	3486.01	3634.42	1.94	2.36	286.86	1.00
2/4/25 7:37	1.34	22.86	3.10	3484.58	3632.86	1.94	2.36	286.98	1.00
2/4/25 11:37	1.34	22.86	3.10	3483.29	3631.59	1.94	2.36	287.09	1.00
2/4/25 15:37	1.35	22.86	3.12	3484.15	3632.49	1.94	2.36	287.01	1.00
2/4/25 19:37	1.35	22.86	3.11	3482.86	3631.07	1.94	2.36	287.12	1.00
2/4/25 23:37	1.34	22.86	3.10	3481.79	3629.93	1.94	2.36	287.21	1.00
2/5/25 3:37	1.35	22.86	3.11	3482.44	3630.61	1.94	2.36	287.16	1.00
2/5/25 7:37	1.34	22.86	3.10	3480.58	3628.63	1.93	2.36	287.31	1.00
2/5/25 11:37	1.66	22.78	3.82	3489.82	3644.07	1.94	2.37	286.55	1.00
2/5/25 15:37	1.68	22.78	3.87	3489.77	3644.17	1.94	2.37	286.55	1.00
2/5/25 19:37	1.67	22.78	3.85	3488.06	3642.24	1.94	2.37	286.69	1.00
2/5/25 23:37	1.67	22.78	3.85	3487.26	3641.34	1.94	2.37	286.76	1.00
2/6/25 3:37	1.67	22.78	3.85	3486.52	3640.59	1.94	2.37	286.82	1.00
2/6/25 7:37	1.67	22.78	3.85	3484.82	3638.81	1.94	2.37	286.96	1.00
2/6/25 11:37	1.66	22.78	3.84	3484.38	3638.33	1.94	2.36	286.99	1.00
2/6/25 15:37	1.68	22.78	3.88	3485.02	3638.98	1.94	2.37	286.94	1.00
2/6/25 19:37	1.67	22.79	3.86	3484.09	3637.90	1.94	2.36	287.02	1.00
2/6/25 23:37	1.66	22.79	3.83	3483.36	3637.23	1.94	2.36	287.08	1.00
2/7/25 3:37	1.66	22.78	3.82	3483.23	3637.13	1.94	2.36	287.09	1.00
2/7/25 7:37	1.65	22.78	3.82	3483.26	3637.13	1.94	2.36	287.09	1.00
2/7/25 11:37	1.65	22.78	3.82	3482.71	3636.59	1.94	2.36	287.13	1.00
2/7/25 15:37	1.66	22.78	3.84	3483.45	3637.39	1.94	2.36	287.07	1.00
2/7/25 19:37	1.66	22.79	3.82	3483.07	3636.84	1.94	2.36	287.10	1.00
2/7/25 23:37	1.65	22.79	3.82	3482.17	3635.94	1.94	2.36	287.18	1.00
2/8/25 3:37	1.66	22.79	3.82	3482.29	3636.07	1.94	2.36	287.17	1.00
2/8/25 7:37	1.65	22.79	3.81	3481.12	3634.79	1.94	2.36	287.26	1.00
2/8/25 11:37	1.65	22.79	3.81	3480.44	3634.08	1.94	2.36	287.32	1.00
2/8/25 15:37	1.66	22.79	3.83	3481.26	3634.95	1.94	2.36	287.25	1.00
2/8/25 19:37	1.65	22.79	3.81	3479.96	3633.50	1.94	2.36	287.36	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/8/25 23:37	1.64	22.79	3.78	3478.02	3631.46	1.94	2.36	287.52	1.00
2/9/25 3:37	1.64	22.79	3.78	3478.27	3631.79	1.94	2.36	287.50	1.00
2/9/25 7:37	1.63	22.79	3.77	3477.11	3630.54	1.94	2.36	287.60	1.00
2/9/25 11:37	1.64	22.79	3.78	3476.93	3630.34	1.94	2.36	287.61	1.00
2/9/25 15:37	1.65	22.79	3.80	3477.78	3631.25	1.94	2.36	287.54	1.00
2/9/25 19:37	1.64	22.79	3.78	3476.82	3630.12	1.94	2.36	287.62	1.00
2/9/25 23:37	1.63	22.79	3.77	3475.61	3628.86	1.93	2.36	287.72	1.00
2/10/25 3:37	1.64	22.79	3.79	3476.16	3629.52	1.93	2.36	287.67	1.00
2/10/25 7:37	1.64	22.79	3.80	3475.47	3628.73	1.93	2.36	287.73	1.00
2/10/25 11:37	1.65	22.79	3.80	3474.57	3627.82	1.93	2.36	287.81	1.00
2/10/25 15:37	1.66	22.79	3.82	3475.10	3628.36	1.93	2.36	287.76	1.00
2/10/25 19:37	1.66	22.79	3.82	3474.16	3627.24	1.93	2.36	287.84	1.00
2/10/25 23:37	1.65	22.79	3.82	3473.03	3626.07	1.93	2.36	287.93	1.00
2/11/25 3:37	1.66	22.79	3.82	3473.80	3626.88	1.93	2.36	287.87	1.00
2/11/25 7:37	1.64	22.79	3.80	3472.46	3625.41	1.93	2.36	287.98	1.00
2/11/25 11:37	1.65	22.79	3.81	3471.65	3624.64	1.93	2.36	288.05	1.00
2/11/25 15:37	1.66	22.79	3.83	3471.90	3624.87	1.93	2.36	288.03	1.00
2/11/25 19:37	1.65	22.79	3.81	3470.22	3623.01	1.93	2.35	288.17	1.00
2/11/25 23:37	1.65	22.79	3.82	3470.35	3623.18	1.93	2.36	288.16	1.00
2/12/25 3:37	1.65	22.79	3.82	3469.87	3622.69	1.93	2.35	288.20	1.00
2/12/25 7:37	1.65	22.79	3.80	3469.11	3621.82	1.93	2.35	288.26	1.00
2/12/25 11:37	1.64	22.79	3.79	3467.97	3620.70	1.93	2.35	288.35	1.00
2/12/25 15:37	1.66	22.79	3.83	3468.93	3621.63	1.93	2.35	288.27	1.00
2/12/25 19:37	1.65	22.79	3.80	3466.88	3619.34	1.93	2.35	288.44	1.00
2/12/25 23:37	1.62	22.80	3.75	3465.47	3617.69	1.93	2.35	288.56	1.00
2/13/25 3:37	1.62	22.79	3.75	3464.79	3617.21	1.93	2.35	288.62	1.00
2/13/25 7:37	1.62	22.79	3.74	3464.10	3616.45	1.93	2.35	288.67	1.00
2/13/25 11:37	1.63	22.79	3.76	3464.22	3616.73	1.93	2.35	288.67	1.00
2/13/25 15:37	1.79	22.74	4.14	3474.48	3631.22	1.94	2.36	287.81	1.00
2/13/25 19:37	1.79	22.74	4.14	3472.13	3628.61	1.93	2.36	288.01	1.00
2/13/25 23:37	1.79	22.74	4.14	3470.91	3627.26	1.93	2.36	288.11	1.00
2/14/25 3:37	1.80	22.74	4.16	3470.63	3626.97	1.93	2.36	288.13	1.00
2/14/25 7:37	1.80	22.74	4.16	3470.34	3626.57	1.93	2.36	288.16	1.00
2/14/25 11:37	1.81	22.74	4.18	3470.58	3626.80	1.93	2.36	288.14	1.00
2/14/25 15:37	1.82	22.74	4.21	3469.19	3625.34	1.93	2.36	288.25	1.00
2/14/25 19:37	1.82	22.75	4.20	3468.67	3624.71	1.93	2.36	288.29	1.00
2/14/25 23:37	1.82	22.75	4.20	3468.54	3624.46	1.93	2.36	288.31	1.00
2/15/25 3:37	1.81	22.75	4.18	3468.74	3624.72	1.93	2.36	288.29	1.00
2/15/25 7:37	1.81	22.75	4.18	3468.09	3624.07	1.93	2.36	288.34	1.00
2/15/25 11:37	1.81	22.75	4.17	3468.06	3623.99	1.93	2.36	288.35	1.00
2/15/25 15:37	1.81	22.75	4.18	3466.71	3622.64	1.93	2.35	288.46	1.00
2/15/25 19:37	1.80	22.75	4.16	3466.43	3622.21	1.93	2.35	288.48	1.00
2/15/25 23:37	1.79	22.75	4.14	3465.70	3621.45	1.93	2.35	288.54	1.00
2/16/25 3:37	1.79	22.75	4.13	3465.93	3621.73	1.93	2.35	288.52	1.00
2/16/25 7:37	1.78	22.75	4.11	3466.34	3622.13	1.93	2.35	288.49	1.00
2/16/25 11:37	1.79	22.75	4.13	3465.51	3621.44	1.93	2.35	288.56	1.00
2/16/25 15:37	1.81	22.75	4.17	3466.07	3622.05	1.93	2.35	288.51	1.00
2/16/25 19:37	1.81	22.75	4.17	3464.96	3620.76	1.93	2.35	288.60	1.00
2/16/25 23:37	1.81	22.75	4.17	3464.85	3620.62	1.93	2.35	288.61	1.00
2/17/25 3:37	1.81	22.75	4.19	3464.32	3620.08	1.93	2.35	288.66	1.00
2/17/25 7:37	1.81	22.75	4.18	3463.83	3619.48	1.93	2.35	288.70	1.00
2/17/25 11:37	1.81	22.75	4.19	3464.28	3619.97	1.93	2.35	288.66	1.00
2/17/25 15:37	1.82	22.75	4.21	3463.81	3619.46	1.93	2.35	288.70	1.00
2/17/25 19:37	1.82	22.75	4.19	3463.15	3618.66	1.93	2.35	288.75	1.00
2/17/25 23:37	1.81	22.75	4.19	3463.30	3618.86	1.93	2.35	288.74	1.00
2/18/25 3:37	1.81	22.75	4.19	3463.71	3619.27	1.93	2.35	288.71	1.00
2/18/25 7:37	1.79	22.75	4.14	3462.45	3617.80	1.93	2.35	288.81	1.00
2/18/25 11:37	1.80	22.75	4.14	3464.76	3620.67	1.93	2.35	288.62	1.00
2/18/25 15:37	1.81	22.74	4.17	3464.54	3620.50	1.93	2.35	288.64	1.00
2/18/25 19:37	1.80	22.75	4.15	3462.99	3618.74	1.93	2.35	288.77	1.00
2/18/25 23:37	1.79	22.75	4.13	3463.28	3619.02	1.93	2.35	288.74	1.00
2/19/25 3:37	1.79	22.75	4.12	3462.85	3618.66	1.93	2.35	288.78	1.00
2/19/25 7:37	1.78	22.75	4.12	3463.15	3618.92	1.93	2.35	288.75	1.00
2/19/25 11:37	1.78	22.75	4.11	3463.01	3618.78	1.93	2.35	288.77	1.00
2/19/25 15:37	1.80	22.74	4.15	3463.32	3619.23	1.93	2.35	288.74	1.00
2/19/25 19:37	1.80	22.75	4.16	3461.94	3617.63	1.93	2.35	288.86	1.00
2/19/25 23:37	1.80	22.75	4.15	3461.70	3617.37	1.93	2.35	288.88	1.00
2/20/25 3:37	1.80	22.75	4.15	3461.42	3617.03	1.93	2.35	288.90	1.00
2/20/25 7:37	1.80	22.75	4.15	3461.37	3617.01	1.93	2.35	288.90	1.00
2/20/25 11:37	1.80	22.75	4.15	3461.22	3616.81	1.93	2.35	288.92	1.00
2/20/25 15:37	1.80	22.75	4.16	3459.96	3615.54	1.93	2.35	289.02	1.00
2/20/25 19:37	1.79	22.75	4.13	3459.49	3614.96	1.93	2.35	289.06	1.00
2/20/25 23:37	1.78	22.75	4.11	3460.88	3616.46	1.93	2.35	288.94	1.00
2/21/25 3:37	1.78	22.75	4.10	3461.83	3617.44	1.93	2.35	288.86	1.00
2/21/25 7:37	1.77	22.75	4.09	3461.38	3616.94	1.93	2.35	288.90	1.00
2/21/25 11:37	1.77	22.75	4.10	3461.14	3616.79	1.93	2.35	288.92	1.00
2/21/25 15:37	1.78	22.75	4.12	3462.10	3617.78	1.93	2.35	288.84	1.00
2/21/25 19:37	1.78	22.75	4.10	3460.64	3616.13	1.93	2.35	288.96	1.00
2/21/25 23:37	1.77	22.75	4.09	3460.71	3616.27	1.93	2.35	288.96	1.00
2/22/25 3:37	1.77	22.75	4.10	3461.49	3617.05	1.93	2.35	288.89	1.00
2/22/25 7:37	1.77	22.75	4.10	3460.72	3616.29	1.93	2.35	288.96	1.00
2/22/25 11:37	1.78	22.75	4.10	3460.83	3616.36	1.93	2.35	288.95	1.00
2/22/25 15:37	1.78	22.75	4.12	3461.11	3616.66	1.93	2.35	288.92	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/22/25 19:37	1.78	22.75	4.11	3460.79	3616.22	1.93	2.35	288.95	1.00
2/22/25 23:37	1.78	22.75	4.10	3460.45	3615.91	1.93	2.35	288.98	1.00
2/23/25 3:37	1.78	22.75	4.11	3460.33	3615.79	1.93	2.35	288.99	1.00
2/23/25 7:37	1.78	22.75	4.10	3459.60	3614.98	1.93	2.35	289.05	1.00
2/23/25 11:37	1.78	22.75	4.11	3460.19	3615.62	1.93	2.35	289.00	1.00
2/23/25 15:37	1.78	22.75	4.12	3460.60	3616.04	1.93	2.35	288.97	1.00
2/23/25 19:37	1.78	22.75	4.10	3460.06	3615.42	1.93	2.35	289.01	1.00
2/23/25 23:37	1.77	22.75	4.10	3459.76	3615.15	1.93	2.35	289.04	1.00
2/24/25 3:37	1.78	22.75	4.10	3460.37	3615.81	1.93	2.35	288.99	1.00
2/24/25 7:37	1.78	22.75	4.10	3459.51	3614.89	1.93	2.35	289.06	1.00
2/24/25 11:37	1.78	22.75	4.10	3459.87	3615.25	1.93	2.35	289.03	1.00
2/24/25 15:37	2.10	22.65	4.86	3465.29	3627.94	1.93	2.36	288.58	1.00
2/24/25 19:37	2.11	22.64	4.86	3460.34	3623.36	1.93	2.36	288.99	1.00
2/24/25 23:37	2.11	22.64	4.86	3464.10	3627.47	1.93	2.36	288.68	1.00
2/25/25 3:37	2.11	22.64	4.87	3465.14	3628.61	1.93	2.36	288.59	1.00
2/25/25 7:37	2.11	22.64	4.86	3464.95	3628.40	1.93	2.36	288.60	1.00
2/25/25 11:37	2.11	22.64	4.87	3464.36	3627.78	1.93	2.36	288.65	1.00
2/25/25 15:37	2.12	22.64	4.88	3464.99	3628.41	1.93	2.36	288.60	1.00
2/25/25 19:37	2.11	22.64	4.87	3465.14	3628.59	1.93	2.36	288.59	1.00
2/25/25 23:37	2.11	22.64	4.86	3464.56	3627.94	1.93	2.36	288.64	1.00
2/26/25 3:37	2.11	22.64	4.86	3464.81	3628.17	1.93	2.36	288.62	1.00
2/26/25 7:37	2.09	22.64	4.84	3464.84	3628.17	1.93	2.36	288.61	1.00
2/26/25 11:37	2.09	22.64	4.82	3464.88	3628.18	1.93	2.36	288.61	1.00
2/26/25 15:37	2.10	22.64	4.86	3465.33	3628.65	1.93	2.36	288.57	1.00
2/26/25 19:37	2.09	22.64	4.83	3465.82	3629.14	1.93	2.36	288.53	1.00
2/26/25 23:37	2.08	22.64	4.80	3465.03	3628.28	1.93	2.36	288.60	1.00
2/27/25 3:37	2.07	22.64	4.79	3465.69	3628.98	1.93	2.36	288.54	1.00
2/27/25 7:37	2.07	22.64	4.78	3465.45	3628.68	1.93	2.36	288.56	1.00
2/27/25 11:37	2.07	22.64	4.79	3465.63	3628.88	1.93	2.36	288.55	1.00
2/27/25 15:37	2.09	22.64	4.84	3465.50	3628.73	1.93	2.36	288.56	1.00
2/27/25 19:37	2.09	22.64	4.84	3466.09	3629.35	1.93	2.36	288.51	1.00
2/27/25 23:37	2.10	22.64	4.84	3466.06	3629.33	1.93	2.36	288.51	1.00
2/28/25 3:37	2.10	22.65	4.85	3467.09	3630.36	1.94	2.36	288.43	1.00
2/28/25 7:37	2.10	22.65	4.85	3466.68	3629.90	1.94	2.36	288.46	1.00
2/28/25 11:37	2.10	22.65	4.85	3467.24	3630.52	1.94	2.36	288.41	1.00
2/28/25 15:37	2.11	22.65	4.86	3467.47	3630.74	1.94	2.36	288.39	1.00
2/28/25 19:37	2.10	22.65	4.85	3467.56	3630.80	1.94	2.36	288.39	1.00
2/28/25 23:37	2.10	22.65	4.85	3468.49	3631.75	1.94	2.36	288.31	1.00
3/1/25 3:37	2.10	22.65	4.84	3468.62	3631.85	1.94	2.36	288.30	1.00
3/1/25 7:37	2.09	22.65	4.83	3468.41	3631.63	1.94	2.36	288.32	1.00
3/1/25 11:37	2.09	22.65	4.83	3469.41	3632.64	1.94	2.36	288.23	1.00
3/1/25 15:37	2.10	22.65	4.86	3469.54	3632.77	1.94	2.36	288.22	1.00
3/1/25 19:37	2.10	22.65	4.85	3469.24	3632.46	1.94	2.36	288.25	1.00
3/1/25 23:37	2.10	22.65	4.85	3469.60	3632.85	1.94	2.36	288.22	1.00
3/2/25 3:37	2.10	22.65	4.85	3470.44	3633.72	1.94	2.36	288.15	1.00
3/2/25 7:37	2.10	22.65	4.85	3470.02	3633.25	1.94	2.36	288.18	1.00
3/2/25 11:37	2.09	22.65	4.84	3470.13	3633.35	1.94	2.36	288.17	1.00
3/2/25 15:37	2.10	22.65	4.85	3470.32	3633.53	1.94	2.36	288.16	1.00
3/2/25 19:37	2.10	22.65	4.84	3471.64	3634.89	1.94	2.36	288.05	1.00
3/2/25 23:37	2.09	22.65	4.84	3471.60	3634.83	1.94	2.36	288.05	1.00
3/3/25 3:37	2.10	22.65	4.84	3471.49	3634.71	1.94	2.36	288.06	1.00
3/3/25 7:37	2.10	22.65	4.84	3472.06	3635.30	1.94	2.36	288.01	1.00
3/3/25 11:37	2.10	22.65	4.85	3471.82	3635.01	1.94	2.36	288.03	1.00
3/3/25 15:37	2.11	22.65	4.86	3471.81	3635.00	1.94	2.36	288.03	1.00
3/3/25 19:37	2.10	22.65	4.85	3471.83	3635.03	1.94	2.36	288.03	1.00
3/3/25 23:37	2.09	22.65	4.83	3472.34	3635.54	1.94	2.36	287.99	1.00
3/4/25 3:37	2.09	22.65	4.83	3471.75	3634.92	1.94	2.36	288.04	1.00
3/4/25 7:37	2.10	22.65	4.84	3472.23	3635.41	1.94	2.36	288.00	1.00
3/4/25 11:37	2.08	22.65	4.81	3472.78	3635.97	1.94	2.36	287.95	1.00
3/4/25 15:37	2.08	22.65	4.81	3472.80	3635.98	1.94	2.36	287.95	1.00
3/4/25 19:37	2.07	22.65	4.79	3473.07	3636.22	1.94	2.36	287.93	1.00
3/4/25 23:37	2.07	22.65	4.77	3473.17	3636.32	1.94	2.36	287.92	1.00
3/5/25 3:37	2.06	22.65	4.77	3473.07	3636.21	1.94	2.36	287.93	1.00
3/5/25 7:37	2.06	22.65	4.76	3472.96	3636.11	1.94	2.36	287.94	1.00
3/5/25 11:37	2.07	22.65	4.78	3473.94	3637.10	1.94	2.36	287.86	1.00
3/5/25 15:37	2.09	22.66	4.83	3436.96	3597.49	1.92	2.34	290.95	1.00
3/5/25 19:37	2.09	22.66	4.83	3435.57	3596.65	1.92	2.34	291.07	1.00
3/5/25 23:37	2.09	22.65	4.83	3434.87	3596.16	1.92	2.34	291.13	1.00
3/6/25 3:37	2.10	22.65	4.84	3439.75	3601.30	1.92	2.34	290.72	1.00
3/6/25 7:37	2.10	22.65	4.84	3440.69	3602.29	1.92	2.34	290.64	1.00
3/6/25 11:37	2.10	22.65	4.84	3441.18	3602.78	1.92	2.34	290.60	1.00
3/6/25 15:37	2.10	22.65	4.86	3441.23	3602.80	1.92	2.34	290.59	1.00
3/6/25 19:37	2.10	22.65	4.84	3441.37	3602.95	1.92	2.34	290.58	1.00
3/6/25 23:37	2.09	22.65	4.83	3441.71	3603.31	1.92	2.34	290.55	1.00
3/7/25 3:37	2.09	22.65	4.82	3441.84	3603.46	1.92	2.34	290.54	1.00
3/7/25 7:37	2.08	22.65	4.80	3442.30	3603.93	1.92	2.34	290.50	1.00
3/7/25 11:37	2.09	22.65	4.82	3443.04	3604.62	1.92	2.34	290.44	1.00
3/7/25 15:37	2.09	22.65	4.84	3443.43	3605.05	1.92	2.34	290.41	1.00
3/7/25 19:37	2.09	22.65	4.83	3443.58	3605.25	1.92	2.34	290.40	1.00
3/7/25 23:37	2.07	22.65	4.78	3443.79	3605.41	1.92	2.34	290.38	1.00
3/8/25 3:37	2.07	22.65	4.79	3443.87	3605.46	1.92	2.34	290.37	1.00
3/8/25 7:37	2.07	22.65	4.78	3443.92	3605.49	1.92	2.34	290.37	1.00
3/8/25 11:37	2.07	22.65	4.78	3443.29	3604.85	1.92	2.34	290.42	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/8/25 15:37	2.07	22.65	4.78	3444.63	3606.24	1.92	2.34	290.31	1.00
3/8/25 19:37	2.06	22.65	4.75	3444.83	3606.44	1.92	2.34	290.29	1.00
3/8/25 23:37	2.06	22.65	4.75	3444.65	3606.23	1.92	2.34	290.31	1.00
3/9/25 3:37	2.07	22.65	4.77	3445.58	3607.20	1.92	2.34	290.23	1.00
3/9/25 7:37	2.06	22.65	4.76	3445.79	3607.45	1.92	2.34	290.21	1.00
3/9/25 11:37	2.06	22.65	4.76	3445.84	3607.50	1.92	2.34	290.20	1.00
3/9/25 15:37	2.08	22.65	4.80	3446.38	3608.10	1.92	2.35	290.16	1.00
3/9/25 19:37	2.08	22.65	4.79	3446.30	3607.94	1.92	2.35	290.17	1.00
3/9/25 23:37	2.07	22.65	4.79	3447.04	3608.72	1.92	2.35	290.10	1.00
3/10/25 3:37	2.08	22.65	4.80	3446.65	3608.29	1.92	2.35	290.14	1.00
3/10/25 7:37	2.08	22.65	4.79	3447.46	3609.15	1.92	2.35	290.07	1.00
3/10/25 11:37	2.08	22.67	4.80	3454.41	3615.26	1.93	2.35	289.49	1.00
3/10/25 15:37	2.09	22.66	4.82	3454.59	3616.24	1.93	2.35	289.47	1.00
3/10/25 19:37	2.09	22.66	4.82	3454.84	3616.73	1.93	2.35	289.45	1.00
3/10/25 23:37	2.08	22.66	4.81	3459.26	3621.41	1.93	2.35	289.08	1.00
3/11/25 3:37	2.09	22.66	4.82	3460.72	3622.96	1.93	2.35	288.96	1.00
3/11/25 7:37	2.08	22.66	4.81	3461.04	3623.30	1.93	2.36	288.93	1.00
3/11/25 11:37	2.09	22.66	4.81	3461.56	3623.85	1.93	2.36	288.89	1.00
3/11/25 15:37	2.09	22.66	4.83	3461.70	3623.98	1.93	2.36	288.88	1.00
3/11/25 19:37	2.08	22.66	4.81	3461.28	3623.48	1.93	2.36	288.91	1.00
3/11/25 23:37	2.08	22.66	4.81	3461.19	3623.42	1.93	2.36	288.92	1.00
3/12/25 3:37	2.08	22.66	4.81	3461.94	3624.19	1.93	2.36	288.86	1.00
3/12/25 7:37	2.08	22.66	4.80	3462.48	3624.77	1.93	2.36	288.81	1.00
3/12/25 11:37	2.08	22.66	4.80	3463.10	3625.35	1.93	2.36	288.76	1.00
3/12/25 15:37	2.08	22.66	4.81	3463.13	3625.38	1.93	2.36	288.76	1.00
3/12/25 19:37	2.08	22.66	4.79	3462.79	3625.06	1.93	2.36	288.78	1.00
3/12/25 23:37	2.08	22.66	4.79	3463.78	3626.07	1.93	2.36	288.70	1.00
3/13/25 3:37	2.08	22.66	4.80	3464.41	3626.71	1.93	2.36	288.65	1.00
3/13/25 7:37	2.08	22.66	4.80	3464.27	3626.59	1.93	2.36	288.66	1.00
3/13/25 11:37	2.08	22.66	4.81	3464.51	3626.81	1.93	2.36	288.64	1.00
3/13/25 15:37	2.09	22.66	4.82	3465.12	3627.44	1.93	2.36	288.59	1.00
3/13/25 19:37	2.09	22.66	4.82	3465.46	3627.79	1.93	2.36	288.56	1.00
3/13/25 23:37	2.09	22.66	4.82	3465.94	3628.31	1.93	2.36	288.52	1.00
3/14/25 3:37	2.09	22.66	4.83	3466.08	3628.45	1.93	2.36	288.51	1.00
3/14/25 7:37	2.07	22.66	4.79	3466.22	3628.58	1.93	2.36	288.50	1.00
3/14/25 11:37	2.08	22.66	4.79	3466.37	3628.72	1.93	2.36	288.49	1.00
3/14/25 15:37	2.08	22.66	4.81	3467.46	3629.84	1.94	2.36	288.40	1.00
3/14/25 19:37	2.08	22.66	4.81	3467.07	3629.44	1.93	2.36	288.43	1.00
3/14/25 23:37	2.08	22.66	4.80	3467.64	3630.05	1.94	2.36	288.38	1.00
3/15/25 3:37	2.08	22.66	4.79	3467.77	3630.18	1.94	2.36	288.37	1.00
3/15/25 7:37	2.07	22.66	4.78	3467.89	3630.26	1.94	2.36	288.36	1.00
3/15/25 11:37	2.07	22.66	4.78	3468.50	3630.93	1.94	2.36	288.31	1.00
3/15/25 15:37	2.07	22.66	4.78	3467.95	3630.35	1.94	2.36	288.35	1.00
3/15/25 19:37	2.06	22.66	4.76	3467.97	3630.37	1.94	2.36	288.35	1.00
3/15/25 23:37	2.05	22.66	4.74	3469.02	3631.46	1.94	2.36	288.27	1.00
3/16/25 3:37	2.05	22.66	4.74	3469.48	3631.92	1.94	2.36	288.23	1.00
3/16/25 7:37	2.04	22.66	4.72	3469.00	3631.42	1.94	2.36	288.27	1.00
3/16/25 11:37	2.04	22.66	4.72	3469.94	3632.40	1.94	2.36	288.19	1.00
3/16/25 15:37	2.06	22.66	4.76	3469.51	3631.92	1.94	2.36	288.23	1.00
3/16/25 19:37	2.06	22.66	4.75	3470.10	3632.55	1.94	2.36	288.18	1.00
3/16/25 23:37	2.05	22.66	4.73	3470.94	3633.46	1.94	2.36	288.11	1.00
3/17/25 3:37	2.06	22.66	4.75	3471.05	3633.56	1.94	2.36	288.10	1.00
3/17/25 7:37	2.06	22.66	4.75	3471.61	3634.11	1.94	2.36	288.05	1.00
3/17/25 11:37	2.06	22.66	4.77	3472.02	3634.55	1.94	2.36	288.02	1.00
3/17/25 15:37	2.07	22.66	4.79	3472.53	3635.07	1.94	2.36	287.97	1.00
3/17/25 19:37	2.07	22.66	4.79	3472.22	3634.76	1.94	2.36	288.00	1.00
3/17/25 23:37	2.07	22.66	4.78	3472.32	3634.85	1.94	2.36	287.99	1.00
3/18/25 3:37	2.08	22.66	4.79	3473.04	3635.62	1.94	2.36	287.93	1.00
3/18/25 7:37	2.08	22.66	4.79	3473.37	3635.96	1.94	2.36	287.91	1.00
3/18/25 11:37	2.08	22.66	4.79	3473.87	3636.47	1.94	2.36	287.86	1.00
3/18/25 15:37	2.09	22.66	4.82	3473.76	3636.36	1.94	2.36	287.87	1.00
3/18/25 19:37	2.06	22.66	4.76	3474.30	3636.94	1.94	2.36	287.83	1.00
3/18/25 23:37	2.05	22.66	4.73	3474.02	3636.62	1.94	2.36	287.85	1.00
3/19/25 3:37	2.05	22.66	4.73	3474.69	3637.32	1.94	2.36	287.80	1.00
3/19/25 7:37	2.04	22.66	4.71	3475.43	3638.04	1.94	2.36	287.73	1.00
3/19/25 11:37	2.04	22.66	4.70	3475.03	3637.65	1.94	2.36	287.77	1.00
3/19/25 15:37	2.05	22.66	4.73	3474.83	3637.46	1.94	2.36	287.78	1.00
3/19/25 19:37	2.04	22.66	4.72	3474.75	3637.37	1.94	2.36	287.79	1.00
3/19/25 23:37	2.03	22.66	4.70	3475.94	3638.59	1.94	2.37	287.69	1.00
3/20/25 3:37	2.04	22.66	4.72	3475.63	3638.25	1.94	2.36	287.72	1.00
3/20/25 7:37	2.04	22.66	4.72	3475.77	3638.41	1.94	2.36	287.71	1.00
3/20/25 11:37	2.05	22.66	4.73	3476.16	3638.81	1.94	2.37	287.67	1.00
3/20/25 15:37	2.07	22.66	4.77	3476.91	3639.63	1.94	2.37	287.61	1.00
3/20/25 19:37	2.07	22.66	4.77	3477.03	3639.74	1.94	2.37	287.60	1.00
3/20/25 23:37	2.07	22.66	4.78	3477.18	3639.92	1.94	2.37	287.59	1.00
3/21/25 3:37	2.07	22.66	4.77	3477.46	3640.19	1.94	2.37	287.57	1.00
3/21/25 7:37	2.06	22.66	4.76	3477.05	3639.71	1.94	2.37	287.60	1.00
3/21/25 11:37	2.06	22.66	4.76	3477.75	3640.48	1.94	2.37	287.54	1.00
3/21/25 15:37	2.07	22.66	4.78	3477.80	3640.55	1.94	2.37	287.54	1.00
3/21/25 19:37	2.07	22.66	4.77	3478.47	3641.24	1.94	2.37	287.48	1.00
3/21/25 23:37	2.06	22.66	4.76	3478.76	3641.52	1.94	2.37	287.46	1.00
3/22/25 3:37	2.06	22.66	4.77	3478.71	3641.44	1.94	2.37	287.46	1.00
3/22/25 7:37	2.06	22.66	4.75	3478.48	3641.25	1.94	2.37	287.48	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/22/25 11:37	2.06	22.66	4.76	3479.04	3641.83	1.94	2.37	287.44	1.00
3/22/25 15:37	2.07	22.66	4.78	3479.70	3642.51	1.94	2.37	287.38	1.00
3/22/25 19:37	2.06	22.66	4.77	3479.78	3642.60	1.94	2.37	287.37	1.00
3/22/25 23:37	2.06	22.66	4.76	3480.06	3642.86	1.94	2.37	287.35	1.00
3/23/25 3:37	2.06	22.66	4.75	3479.88	3642.71	1.94	2.37	287.37	1.00
3/23/25 7:37	2.05	22.66	4.73	3480.32	3643.13	1.94	2.37	287.33	1.00
3/23/25 11:37	2.05	22.66	4.73	3479.63	3642.42	1.94	2.37	287.39	1.00
3/23/25 15:37	2.05	22.66	4.74	3479.94	3642.77	1.94	2.37	287.36	1.00
3/23/25 19:37	2.05	22.66	4.72	3480.65	3643.46	1.94	2.37	287.30	1.00
3/23/25 23:37	2.04	22.66	4.71	3480.72	3643.52	1.94	2.37	287.30	1.00
3/24/25 3:37	2.05	22.66	4.72	3481.19	3644.07	1.94	2.37	287.26	1.00
3/24/25 7:37	2.04	22.66	4.71	3481.29	3644.16	1.94	2.37	287.25	1.00
3/24/25 11:37	2.05	22.66	4.73	3481.30	3644.17	1.94	2.37	287.25	1.00
3/24/25 15:37	2.06	22.66	4.75	3481.31	3644.17	1.94	2.37	287.25	1.00
3/24/25 19:37	2.05	22.66	4.74	3482.12	3645.04	1.94	2.37	287.18	1.00
3/24/25 23:37	2.05	22.66	4.72	3482.29	3645.23	1.94	2.37	287.17	1.00
3/25/25 3:37	2.05	22.66	4.73	3482.33	3645.24	1.94	2.37	287.16	1.00
3/25/25 7:37	2.04	22.66	4.71	3482.03	3644.91	1.94	2.37	287.19	1.00
3/25/25 11:37	2.04	22.66	4.72	3482.66	3645.59	1.94	2.37	287.14	1.00
3/25/25 15:37	2.05	22.66	4.73	3483.40	3646.35	1.94	2.37	287.08	1.00
3/25/25 19:37	2.05	22.66	4.73	3482.59	3645.47	1.94	2.37	287.14	1.00
3/25/25 23:37	2.04	22.66	4.72	3483.60	3646.59	1.94	2.37	287.06	1.00
3/26/25 3:37	2.05	22.66	4.72	3483.63	3646.61	1.94	2.37	287.06	1.00
3/26/25 7:37	2.04	22.66	4.70	3483.44	3646.41	1.94	2.37	287.07	1.00
3/26/25 11:37	2.04	22.66	4.72	3483.42	3646.41	1.94	2.37	287.07	1.00
3/26/25 15:37	2.05	22.66	4.74	3483.96	3646.94	1.94	2.37	287.03	1.00
3/26/25 19:37	2.05	22.66	4.73	3483.66	3646.66	1.94	2.37	287.05	1.00
3/26/25 23:37	2.04	22.66	4.72	3484.20	3647.21	1.94	2.37	287.01	1.00
3/27/25 3:37	2.05	22.66	4.72	3484.39	3647.39	1.94	2.37	286.99	1.00
3/27/25 7:37	2.04	22.66	4.71	3484.76	3647.77	1.95	2.37	286.96	1.00
3/27/25 11:37	2.04	22.66	4.72	3484.78	3647.80	1.95	2.37	286.96	1.00
3/27/25 15:37	2.05	22.66	4.74	3485.30	3648.38	1.95	2.37	286.92	1.00
3/27/25 19:37	2.05	22.66	4.73	3484.83	3647.88	1.95	2.37	286.96	1.00
3/27/25 23:37	2.05	22.66	4.73	3485.00	3648.03	1.95	2.37	286.94	1.00
3/28/25 3:37	2.05	22.66	4.72	3484.98	3648.02	1.95	2.37	286.95	1.00
3/28/25 7:37	2.05	22.66	4.72	3486.15	3649.25	1.95	2.37	286.85	1.00
3/28/25 11:37	2.05	22.66	4.73	3485.64	3648.74	1.95	2.37	286.89	1.00
3/28/25 15:37	2.06	22.66	4.75	3485.95	3649.07	1.95	2.37	286.87	1.00
3/28/25 19:37	2.05	22.66	4.74	3486.02	3649.14	1.95	2.37	286.86	1.00
3/28/25 23:37	2.05	22.66	4.72	3485.96	3649.06	1.95	2.37	286.87	1.00
3/29/25 3:37	2.05	22.66	4.72	3486.05	3649.17	1.95	2.37	286.86	1.00
3/29/25 7:37	2.04	22.66	4.71	3485.81	3648.92	1.95	2.37	286.88	1.00
3/29/25 11:37	2.04	22.66	4.71	3485.95	3649.06	1.95	2.37	286.87	1.00
3/29/25 15:37	2.04	22.66	4.72	3486.67	3649.80	1.95	2.37	286.81	1.00
3/29/25 19:37	2.04	22.66	4.72	3486.77	3649.92	1.95	2.37	286.80	1.00
3/29/25 23:37	2.04	22.66	4.71	3486.51	3649.66	1.95	2.37	286.82	1.00
3/30/25 3:37	2.04	22.66	4.70	3486.87	3650.04	1.95	2.37	286.79	1.00
3/30/25 7:37	2.03	22.66	4.68	3486.87	3650.04	1.95	2.37	286.79	1.00
3/30/25 11:37	2.03	22.66	4.69	3487.02	3650.16	1.95	2.37	286.78	1.00
3/30/25 15:37	2.05	22.66	4.72	3487.56	3650.75	1.95	2.37	286.73	1.00
3/30/25 19:37	2.04	22.66	4.71	3487.91	3651.14	1.95	2.37	286.70	1.00
3/30/25 23:37	2.03	22.66	4.69	3487.16	3650.34	1.95	2.37	286.77	1.00
3/31/25 3:37	2.03	22.66	4.68	3488.21	3651.45	1.95	2.37	286.68	1.00
3/31/25 7:37	2.02	22.66	4.67	3488.18	3651.38	1.95	2.37	286.68	1.00
3/31/25 11:37	2.03	22.66	4.68	3488.10	3651.35	1.95	2.37	286.69	1.00
3/31/25 15:37	2.04	22.66	4.72	3488.66	3651.97	1.95	2.37	286.64	1.00
3/31/25 19:37	2.04	22.66	4.72	3488.12	3651.36	1.95	2.37	286.69	1.00
3/31/25 23:37	2.04	22.66	4.71	3488.48	3651.79	1.95	2.37	286.66	1.00
4/1/25 3:37	2.04	22.66	4.72	3488.63	3651.90	1.95	2.37	286.65	1.00
4/1/25 7:37	2.04	22.66	4.72	3488.56	3651.84	1.95	2.37	286.65	1.00
4/1/25 11:37	2.05	22.67	4.74	3422.24	3581.64	1.91	2.33	292.21	1.00
4/1/25 15:37	2.05	22.66	4.74	3419.81	3579.64	1.91	2.33	292.41	1.00
4/1/25 19:37	2.05	22.66	4.74	3417.63	3577.54	1.91	2.33	292.60	1.00
4/1/25 23:37	2.04	22.66	4.71	3424.05	3584.36	1.91	2.33	292.05	1.00
4/2/25 3:37	2.03	22.66	4.68	3424.69	3585.03	1.91	2.33	292.00	1.00
4/2/25 7:37	2.03	22.66	4.68	3424.99	3585.37	1.91	2.33	291.97	1.00
4/2/25 11:37	2.03	22.66	4.69	3425.63	3586.06	1.91	2.33	291.92	1.00
4/2/25 15:37	2.04	22.66	4.71	3425.75	3586.16	1.91	2.33	291.91	1.00
4/2/25 19:37	2.03	22.66	4.70	3425.50	3585.91	1.91	2.33	291.93	1.00
4/2/25 23:37	2.03	22.66	4.68	3425.30	3585.70	1.91	2.33	291.95	1.00
4/3/25 3:37	2.03	22.66	4.69	3425.79	3586.26	1.91	2.33	291.90	1.00
4/3/25 7:37	2.02	22.66	4.67	3425.15	3585.56	1.91	2.33	291.96	1.00
4/3/25 11:37	2.02	22.66	4.67	3425.30	3585.77	1.91	2.33	291.95	1.00
4/3/25 15:37	2.03	22.66	4.69	3425.59	3586.04	1.91	2.33	291.92	1.00
4/3/25 19:37	2.03	22.66	4.68	3425.73	3586.20	1.91	2.33	291.91	1.00
4/3/25 23:37	2.03	22.66	4.68	3425.72	3586.19	1.91	2.33	291.91	1.00
4/4/25 3:37	2.02	22.66	4.67	3425.85	3586.32	1.91	2.33	291.90	1.00
4/4/25 7:37	2.02	22.66	4.65	3426.12	3586.61	1.91	2.33	291.88	1.00
4/4/25 11:37	2.02	22.66	4.67	3425.92	3586.41	1.91	2.33	291.89	1.00
4/4/25 15:37	2.02	22.66	4.67	3425.97	3586.44	1.91	2.33	291.89	1.00
4/4/25 19:37	2.03	22.66	4.68	3426.30	3586.82	1.91	2.33	291.86	1.00
4/4/25 23:37	2.02	22.66	4.66	3426.13	3586.64	1.91	2.33	291.87	1.00
4/5/25 3:37	2.02	22.66	4.66	3426.39	3586.92	1.91	2.33	291.85	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/5/25 7:37	2.01	22.66	4.64	3425.99	3586.51	1.91	2.33	291.89	1.00
4/5/25 11:37	2.01	22.66	4.63	3426.94	3587.52	1.91	2.33	291.81	1.00
4/5/25 15:37	2.01	22.66	4.63	3426.60	3587.16	1.91	2.33	291.83	1.00
4/5/25 19:37	2.01	22.66	4.63	3427.51	3588.11	1.91	2.33	291.76	1.00
4/5/25 23:37	2.01	22.66	4.64	3427.56	3588.21	1.91	2.33	291.75	1.00
4/6/25 3:37	2.02	22.66	4.65	3427.35	3587.99	1.91	2.33	291.77	1.00
4/6/25 7:37	2.02	22.66	4.66	3427.96	3588.59	1.91	2.33	291.72	1.00
4/6/25 11:37	2.02	22.66	4.66	3428.06	3588.72	1.91	2.33	291.71	1.00
4/6/25 15:37	2.03	22.66	4.68	3427.87	3588.56	1.91	2.33	291.73	1.00
4/6/25 19:37	2.03	22.66	4.68	3427.97	3588.64	1.91	2.33	291.72	1.00
4/6/25 23:37	2.02	22.66	4.67	3427.90	3588.55	1.91	2.33	291.72	1.00
4/7/25 3:37	2.03	22.66	4.68	3427.67	3588.32	1.91	2.33	291.74	1.00
4/7/25 7:37	2.02	22.66	4.66	3428.10	3588.80	1.91	2.33	291.71	1.00
4/7/25 11:37	2.02	22.66	4.66	3428.27	3588.94	1.91	2.33	291.69	1.00
4/7/25 15:37	2.03	22.66	4.68	3428.80	3589.53	1.91	2.33	291.65	1.00
4/7/25 19:37	2.02	22.66	4.67	3428.30	3589.01	1.91	2.33	291.69	1.00
4/7/25 23:37	2.02	22.66	4.67	3428.32	3589.03	1.91	2.33	291.69	1.00
4/8/25 3:37	2.02	22.66	4.67	3428.35	3589.08	1.91	2.33	291.69	1.00
4/8/25 7:37	2.02	22.66	4.66	3428.06	3588.77	1.91	2.33	291.71	1.00
4/8/25 11:37	2.02	22.66	4.67	3428.07	3588.81	1.91	2.33	291.71	1.00
4/8/25 15:37	2.03	22.66	4.68	3428.59	3589.34	1.91	2.33	291.67	1.00
4/8/25 19:37	2.02	22.66	4.67	3427.55	3588.26	1.91	2.33	291.75	1.00
4/8/25 23:37	2.02	22.65	4.66	3427.82	3588.59	1.91	2.33	291.73	1.00
4/9/25 3:37	2.02	22.65	4.66	3427.69	3588.42	1.91	2.33	291.74	1.00
4/9/25 7:37	2.01	22.65	4.65	3427.96	3588.72	1.91	2.33	291.72	1.00
4/9/25 11:37	2.01	22.66	4.65	3427.64	3588.34	1.91	2.33	291.75	1.00
4/9/25 15:37	2.01	22.65	4.65	3428.92	3589.74	1.91	2.33	291.64	1.00
4/9/25 19:37	2.01	22.65	4.64	3427.89	3588.67	1.91	2.33	291.72	1.00
4/9/25 23:37	2.00	22.65	4.63	3429.14	3590.00	1.91	2.33	291.62	1.00
4/10/25 3:37	2.00	22.65	4.62	3427.96	3588.78	1.91	2.33	291.72	1.00
4/10/25 7:37	2.00	22.65	4.61	3428.77	3589.62	1.91	2.33	291.65	1.00
4/10/25 11:37	1.99	22.65	4.60	3427.28	3588.04	1.91	2.33	291.78	1.00
4/10/25 15:37	2.00	22.65	4.62	3427.92	3588.73	1.91	2.33	291.72	1.00
4/10/25 19:37	2.00	22.65	4.62	3427.47	3588.25	1.91	2.33	291.76	1.00
4/10/25 23:37	2.00	22.65	4.61	3427.65	3588.49	1.91	2.33	291.75	1.00
4/11/25 3:37	2.00	22.65	4.61	3427.61	3588.46	1.91	2.33	291.75	1.00
4/11/25 7:37	1.99	22.65	4.60	3427.81	3588.67	1.91	2.33	291.73	1.00
4/11/25 11:37	2.00	22.65	4.61	3427.30	3588.11	1.91	2.33	291.78	1.00
4/11/25 15:37	2.01	22.65	4.63	3426.53	3587.33	1.91	2.33	291.84	1.00
4/11/25 19:37	2.00	22.65	4.63	3427.38	3588.25	1.91	2.33	291.77	1.00
4/11/25 23:37	2.00	22.65	4.62	3427.08	3587.92	1.91	2.33	291.79	1.00
4/12/25 3:37	2.01	22.65	4.63	3426.53	3587.36	1.91	2.33	291.84	1.00
4/12/25 7:37	2.00	22.65	4.63	3426.95	3587.77	1.91	2.33	291.80	1.00
4/12/25 11:37	2.01	22.65	4.63	3426.51	3587.36	1.91	2.33	291.84	1.00
4/12/25 15:37	2.01	22.65	4.65	3427.09	3588.01	1.91	2.33	291.79	1.00
4/12/25 19:37	2.01	22.65	4.65	3426.92	3587.81	1.91	2.33	291.81	1.00
4/12/25 23:37	2.01	22.65	4.64	3426.94	3587.87	1.91	2.33	291.81	1.00
4/13/25 3:37	2.01	22.65	4.63	3426.99	3587.91	1.91	2.33	291.80	1.00
4/13/25 7:37	2.00	22.65	4.63	3426.04	3586.92	1.91	2.33	291.88	1.00
4/13/25 11:37	2.01	22.65	4.64	3426.34	3587.26	1.91	2.33	291.86	1.00
4/13/25 15:37	2.01	22.65	4.64	3426.23	3587.14	1.91	2.33	291.87	1.00
4/13/25 19:37	2.00	22.65	4.63	3425.65	3586.53	1.91	2.33	291.92	1.00
4/13/25 23:37	2.00	22.65	4.61	3425.79	3586.72	1.91	2.33	291.90	1.00
4/14/25 3:37	2.00	22.65	4.61	3425.70	3586.64	1.91	2.33	291.91	1.00
4/14/25 7:37	1.98	22.65	4.57	3425.51	3586.42	1.91	2.33	291.93	1.00
4/14/25 11:37	1.98	22.65	4.58	3425.15	3586.06	1.91	2.33	291.96	1.00
4/14/25 15:37	2.00	22.65	4.61	3425.25	3586.17	1.91	2.33	291.95	1.00
4/14/25 19:37	2.00	22.65	4.62	3425.53	3586.48	1.91	2.33	291.93	1.00
4/14/25 23:37	1.99	22.65	4.60	3425.27	3586.23	1.91	2.33	291.95	1.00
4/15/25 3:37	1.99	22.65	4.58	3424.99	3585.94	1.91	2.33	291.97	1.00
4/15/25 7:37	1.98	22.65	4.57	3424.91	3585.88	1.91	2.33	291.98	1.00
4/15/25 11:37	1.99	22.65	4.60	3424.89	3585.86	1.91	2.33	291.98	1.00
4/15/25 15:37	2.00	22.65	4.63	3424.13	3585.08	1.91	2.33	292.04	1.00
4/15/25 19:37	2.01	22.65	4.63	3424.39	3585.37	1.91	2.33	292.02	1.00
4/15/25 23:37	2.01	22.65	4.63	3423.75	3584.73	1.91	2.33	292.08	1.00
4/16/25 3:37	2.01	22.65	4.64	3424.29	3585.33	1.91	2.33	292.03	1.00
4/16/25 7:37	2.01	22.65	4.63	3423.33	3584.28	1.91	2.33	292.11	1.00
4/16/25 11:37	2.01	22.65	4.64	3423.67	3584.65	1.91	2.33	292.08	1.00
4/16/25 15:37	2.02	22.65	4.65	3423.43	3584.44	1.91	2.33	292.10	1.00
4/16/25 19:37	2.01	22.65	4.65	3423.87	3584.92	1.91	2.33	292.07	1.00
4/16/25 23:37	2.01	22.65	4.63	3422.95	3583.97	1.91	2.33	292.15	1.00
4/17/25 3:37	2.01	22.65	4.64	3423.56	3584.63	1.91	2.33	292.09	1.00
4/17/25 7:37	2.01	22.65	4.64	3423.41	3584.48	1.91	2.33	292.11	1.00
4/17/25 11:37	2.01	22.65	4.65	3422.86	3583.88	1.91	2.33	292.15	1.00
4/17/25 15:37	2.02	22.65	4.66	3423.14	3584.20	1.91	2.33	292.13	1.00
4/17/25 19:37	2.02	22.65	4.65	3422.57	3583.60	1.91	2.33	292.18	1.00
4/17/25 23:37	2.01	22.65	4.64	3422.64	3583.69	1.91	2.33	292.17	1.00
4/18/25 3:37	2.01	22.65	4.64	3422.95	3584.04	1.91	2.33	292.15	1.00
4/18/25 7:37	2.00	22.65	4.63	3422.90	3583.96	1.91	2.33	292.15	1.00
4/18/25 11:37	2.01	22.65	4.64	3422.32	3583.41	1.91	2.33	292.20	1.00
4/18/25 15:37	2.01	22.65	4.65	3421.85	3582.94	1.91	2.33	292.24	1.00
4/18/25 19:37	2.01	22.65	4.63	3422.20	3583.33	1.91	2.33	292.21	1.00
4/18/25 23:37	2.00	22.65	4.62	3421.15	3582.25	1.91	2.33	292.30	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/19/25 3:37	2.00	22.65	4.62	3421.49	3582.55	1.91	2.33	292.27	1.00
4/19/25 7:37	1.99	22.65	4.58	3421.42	3582.51	1.91	2.33	292.28	1.00
4/19/25 11:37	1.99	22.65	4.61	3420.47	3581.55	1.91	2.33	292.36	1.00
4/19/25 15:37	2.01	22.65	4.63	3421.13	3582.25	1.91	2.33	292.30	1.00
4/19/25 19:37	1.99	22.64	4.60	3420.91	3582.03	1.91	2.33	292.32	1.00
4/19/25 23:37	1.99	22.65	4.60	3420.33	3581.42	1.91	2.33	292.37	1.00
4/20/25 3:37	1.99	22.64	4.60	3420.47	3581.61	1.91	2.33	292.36	1.00
4/20/25 7:37	1.99	22.64	4.59	3420.57	3581.73	1.91	2.33	292.35	1.00
4/20/25 11:37	1.99	22.64	4.60	3420.63	3581.77	1.91	2.33	292.34	1.00
4/20/25 15:37	2.00	22.64	4.62	3420.49	3581.67	1.91	2.33	292.36	1.00
4/20/25 19:37	2.00	22.64	4.62	3420.21	3581.39	1.91	2.33	292.38	1.00
4/20/25 23:37	1.99	22.64	4.60	3420.08	3581.24	1.91	2.33	292.39	1.00
4/21/25 3:37	1.99	22.64	4.60	3419.74	3580.93	1.91	2.33	292.42	1.00
4/21/25 7:37	1.99	22.64	4.60	3419.97	3581.18	1.91	2.33	292.40	1.00
4/21/25 11:37	2.00	22.64	4.61	3420.33	3581.55	1.91	2.33	292.37	1.00
4/21/25 15:37	2.00	22.64	4.63	3419.13	3580.30	1.91	2.33	292.47	1.00
4/21/25 19:37	2.00	22.64	4.62	3419.35	3580.57	1.91	2.33	292.45	1.00
4/21/25 23:37	2.00	22.64	4.61	3418.83	3580.04	1.91	2.33	292.50	1.00
4/22/25 3:37	2.00	22.64	4.62	3418.81	3580.05	1.91	2.33	292.50	1.00
4/22/25 7:37	1.99	22.64	4.61	3418.28	3579.48	1.91	2.33	292.54	1.00
4/22/25 11:37	2.00	22.64	4.62	3418.24	3579.44	1.91	2.33	292.55	1.00
4/22/25 15:37	2.00	22.64	4.63	3418.34	3579.58	1.91	2.33	292.54	1.00
4/22/25 19:37	2.00	22.64	4.62	3417.78	3579.02	1.91	2.33	292.59	1.00
4/22/25 23:37	2.00	22.64	4.61	3417.41	3578.65	1.91	2.33	292.62	1.00
4/23/25 3:37	2.00	22.64	4.61	3416.85	3578.07	1.91	2.33	292.67	1.00
4/23/25 7:37	1.99	22.64	4.59	3416.95	3578.19	1.91	2.33	292.66	1.00
4/23/25 11:37	1.99	22.64	4.61	3417.39	3578.64	1.91	2.33	292.62	1.00
4/23/25 15:37	2.00	22.64	4.62	3415.83	3577.04	1.91	2.33	292.75	1.00
4/23/25 19:37	2.00	22.64	4.61	3415.94	3577.17	1.91	2.33	292.75	1.00
4/23/25 23:37	1.99	22.64	4.60	3415.86	3577.11	1.91	2.33	292.75	1.00
4/24/25 3:37	1.99	22.64	4.61	3415.76	3576.99	1.91	2.33	292.76	1.00
4/24/25 7:37	1.99	22.64	4.59	3415.80	3577.04	1.91	2.33	292.76	1.00
4/24/25 11:37	1.97	22.64	4.56	3453.82	3616.60	1.93	2.35	289.53	1.00
4/24/25 15:37	1.98	22.64	4.58	3455.17	3618.11	1.93	2.35	289.42	1.00
4/24/25 19:37	1.98	22.64	4.57	3455.27	3618.26	1.93	2.35	289.41	1.00
4/24/25 23:37	1.97	22.64	4.55	3454.57	3617.54	1.93	2.35	289.47	1.00
4/25/25 3:37	1.97	22.64	4.56	3454.02	3616.99	1.93	2.35	289.52	1.00
4/25/25 7:37	1.97	22.64	4.55	3453.77	3616.71	1.93	2.35	289.54	1.00
4/25/25 11:37	1.97	22.64	4.55	3453.83	3616.80	1.93	2.35	289.53	1.00
4/25/25 15:37	1.98	22.64	4.57	3453.16	3616.11	1.93	2.35	289.59	1.00
4/25/25 19:37	1.98	22.64	4.57	3452.72	3615.67	1.93	2.35	289.63	1.00
4/25/25 23:37	1.98	22.64	4.56	3452.78	3615.72	1.93	2.35	289.62	1.00
4/26/25 3:37	1.97	22.64	4.56	3452.87	3615.87	1.93	2.35	289.61	1.00
4/26/25 7:37	1.97	22.64	4.55	3452.28	3615.25	1.93	2.35	289.66	1.00
4/26/25 11:37	1.97	22.64	4.56	3452.75	3615.74	1.93	2.35	289.62	1.00
4/26/25 15:37	1.98	22.64	4.57	3451.86	3614.85	1.93	2.35	289.70	1.00
4/26/25 19:37	1.98	22.64	4.57	3451.66	3614.63	1.93	2.35	289.72	1.00
4/26/25 23:37	1.97	22.64	4.55	3451.56	3614.56	1.93	2.35	289.72	1.00
4/27/25 3:37	1.98	22.64	4.56	3451.23	3614.24	1.93	2.35	289.75	1.00
4/27/25 7:37	1.97	22.64	4.56	3451.09	3614.09	1.93	2.35	289.76	1.00
4/27/25 11:37	1.98	22.64	4.57	3450.84	3613.88	1.93	2.35	289.78	1.00
4/27/25 15:37	1.98	22.64	4.58	3450.28	3613.30	1.93	2.35	289.83	1.00
4/27/25 19:37	1.98	22.64	4.57	3449.84	3612.86	1.93	2.35	289.87	1.00
4/27/25 23:37	1.97	22.64	4.55	3449.60	3612.56	1.93	2.35	289.89	1.00
4/28/25 3:37	1.97	22.64	4.55	3449.07	3612.09	1.92	2.35	289.93	1.00
4/28/25 7:37	1.96	22.64	4.54	3448.80	3611.80	1.92	2.35	289.96	1.00
4/28/25 11:37	1.97	22.64	4.55	3448.84	3611.85	1.92	2.35	289.95	1.00
4/28/25 15:37	1.98	22.64	4.56	3448.75	3611.84	1.92	2.35	289.96	1.00
4/28/25 19:37	1.98	22.64	4.56	3448.88	3611.95	1.92	2.35	289.95	1.00
4/28/25 23:37	1.97	22.64	4.55	3447.66	3610.69	1.92	2.35	290.05	1.00
4/29/25 3:37	1.97	22.64	4.54	3447.44	3610.47	1.92	2.35	290.07	1.00
4/29/25 7:37	1.96	22.64	4.53	3446.97	3610.00	1.92	2.35	290.11	1.00
4/29/25 11:37	1.96	22.64	4.54	3447.00	3610.07	1.92	2.35	290.11	1.00
4/29/25 15:37	1.98	22.63	4.56	3446.65	3609.71	1.92	2.35	290.14	1.00
4/29/25 19:37	1.97	22.63	4.54	3446.29	3609.37	1.92	2.35	290.17	1.00
4/29/25 23:37	1.96	22.63	4.53	3445.79	3608.85	1.92	2.35	290.21	1.00
4/30/25 3:37	1.97	22.63	4.55	3445.50	3608.55	1.92	2.35	290.23	1.00
4/30/25 7:37	1.97	22.63	4.54	3445.02	3608.08	1.92	2.35	290.27	1.00
4/30/25 11:37	1.97	22.63	4.56	3444.72	3607.79	1.92	2.35	290.30	1.00
4/30/25 15:37	1.97	22.63	4.56	3444.84	3607.92	1.92	2.35	290.29	1.00
4/30/25 19:37	1.97	22.63	4.55	3444.14	3607.20	1.92	2.34	290.35	1.00
4/30/25 23:37	1.97	22.63	4.54	3443.89	3606.97	1.92	2.34	290.37	1.00
5/1/25 3:37	1.97	22.63	4.54	3443.27	3606.34	1.92	2.34	290.42	1.00
5/1/25 7:37	1.96	22.63	4.53	3442.76	3605.83	1.92	2.34	290.46	1.00
5/1/25 11:37	1.97	22.63	4.54	3442.30	3605.36	1.92	2.34	290.50	1.00
5/1/25 15:37	1.98	22.63	4.56	3442.60	3605.70	1.92	2.34	290.48	1.00
5/1/25 19:37	1.97	22.63	4.56	3442.09	3605.18	1.92	2.34	290.52	1.00
5/1/25 23:37	1.97	22.63	4.55	3441.27	3604.35	1.92	2.34	290.59	1.00
5/2/25 3:37	1.96	22.63	4.53	3441.81	3604.92	1.92	2.34	290.54	1.00
5/2/25 7:37	1.96	22.63	4.51	3441.14	3604.24	1.92	2.34	290.60	1.00
5/2/25 11:37	1.96	22.63	4.52	3439.39	3602.44	1.92	2.34	290.75	1.00
5/2/25 15:37	1.97	22.63	4.54	3440.15	3603.23	1.92	2.34	290.69	1.00
5/2/25 19:37	1.96	22.63	4.53	3438.88	3601.96	1.92	2.34	290.79	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/2/25 23:37	1.96	22.63	4.52	3439.03	3602.08	1.92	2.34	290.78	1.00
5/3/25 3:37	1.96	22.63	4.53	3439.01	3602.08	1.92	2.34	290.78	1.00
5/3/25 7:37	1.96	22.63	4.53	3438.65	3601.76	1.92	2.34	290.81	1.00
5/3/25 11:37	1.96	22.63	4.54	3437.62	3600.68	1.92	2.34	290.90	1.00
5/3/25 15:37	1.97	22.63	4.56	3437.74	3600.85	1.92	2.34	290.89	1.00
5/3/25 19:37	1.97	22.63	4.55	3437.47	3600.56	1.92	2.34	290.91	1.00
5/3/25 23:37	1.97	22.63	4.56	3437.64	3600.74	1.92	2.34	290.90	1.00
5/4/25 3:37	1.97	22.63	4.56	3437.23	3600.34	1.92	2.34	290.93	1.00
5/4/25 7:37	1.97	22.63	4.56	3437.36	3600.50	1.92	2.34	290.92	1.00
5/4/25 11:37	1.97	22.63	4.56	3436.80	3599.94	1.92	2.34	290.97	1.00
5/4/25 15:37	1.98	22.63	4.57	3436.16	3599.26	1.92	2.34	291.02	1.00
5/4/25 19:37	1.98	22.63	4.57	3435.52	3598.61	1.92	2.34	291.08	1.00
5/4/25 23:37	1.97	22.63	4.55	3435.56	3598.68	1.92	2.34	291.07	1.00
5/5/25 3:37	1.98	22.63	4.56	3435.73	3598.87	1.92	2.34	291.06	1.00
5/5/25 7:37	1.97	22.63	4.55	3435.80	3598.98	1.92	2.34	291.05	1.00
5/5/25 11:37	1.98	22.63	4.56	3434.90	3598.06	1.92	2.34	291.13	1.00
5/5/25 15:37	1.98	22.63	4.57	3435.25	3598.44	1.92	2.34	291.10	1.00
5/5/25 19:37	1.97	22.63	4.54	3434.50	3597.65	1.92	2.34	291.16	1.00
5/5/25 23:37	1.97	22.63	4.54	3434.51	3597.70	1.92	2.34	291.16	1.00
5/6/25 3:37	1.97	22.62	4.54	3433.08	3596.25	1.92	2.34	291.28	1.00
5/6/25 7:37	1.96	22.62	4.53	3433.13	3596.29	1.92	2.34	291.28	1.00
5/6/25 11:37	1.97	22.62	4.54	3432.86	3596.02	1.92	2.34	291.30	1.00
5/6/25 15:37	1.97	22.62	4.55	3432.23	3595.40	1.92	2.34	291.36	1.00
5/6/25 19:37	1.96	22.62	4.53	3432.38	3595.57	1.92	2.34	291.34	1.00
5/6/25 23:37	1.95	22.62	4.51	3431.18	3594.35	1.91	2.34	291.45	1.00
5/7/25 3:37	1.96	22.62	4.51	3431.21	3594.37	1.91	2.34	291.44	1.00
5/7/25 7:37	1.95	22.62	4.50	3431.47	3594.68	1.92	2.34	291.42	1.00
5/7/25 11:37	1.95	22.62	4.51	3430.70	3593.91	1.91	2.34	291.49	1.00
5/7/25 15:37	1.97	22.62	4.54	3430.75	3593.96	1.91	2.34	291.48	1.00
5/7/25 19:37	1.96	22.62	4.53	3430.05	3593.23	1.91	2.34	291.54	1.00
5/7/25 23:37	1.96	22.62	4.52	3430.56	3593.82	1.91	2.34	291.50	1.00
5/8/25 3:37	1.96	22.62	4.52	3429.50	3592.77	1.91	2.34	291.59	1.00
5/8/25 7:37	1.95	22.62	4.50	3429.02	3592.24	1.91	2.33	291.63	1.00
5/8/25 11:37	1.96	22.62	4.52	3428.47	3591.68	1.91	2.33	291.68	1.00
5/8/25 15:37	1.97	22.62	4.54	3428.20	3591.44	1.91	2.33	291.70	1.00
5/8/25 19:37	1.96	22.62	4.53	3427.65	3590.86	1.91	2.33	291.74	1.00
5/8/25 23:37	1.95	22.62	4.51	3427.28	3590.50	1.91	2.33	291.78	1.00
5/9/25 3:37	1.96	22.62	4.52	3427.73	3590.99	1.91	2.33	291.74	1.00
5/9/25 7:37	1.95	22.62	4.51	3427.70	3590.97	1.91	2.33	291.74	1.00
5/9/25 11:37	1.96	22.62	4.52	3425.91	3589.12	1.91	2.33	291.89	1.00
5/9/25 15:37	1.96	22.62	4.53	3425.78	3589.00	1.91	2.33	291.90	1.00
5/9/25 19:37	1.96	22.62	4.53	3425.05	3588.28	1.91	2.33	291.97	1.00
5/9/25 23:37	1.95	22.62	4.51	3425.54	3588.80	1.91	2.33	291.92	1.00
5/10/25 3:37	1.96	22.62	4.52	3425.19	3588.45	1.91	2.33	291.95	1.00
5/10/25 7:37	1.95	22.62	4.51	3424.77	3588.03	1.91	2.33	291.99	1.00
5/10/25 11:37	1.96	22.62	4.52	3424.38	3587.65	1.91	2.33	292.02	1.00
5/10/25 15:37	1.96	22.62	4.54	3423.77	3587.04	1.91	2.33	292.08	1.00
5/10/25 19:37	1.96	22.62	4.53	3424.19	3587.50	1.91	2.33	292.04	1.00
5/10/25 23:37	1.96	22.62	4.53	3423.29	3586.58	1.91	2.33	292.12	1.00
5/11/25 3:37	1.96	22.62	4.53	3422.63	3585.88	1.91	2.33	292.17	1.00
5/11/25 7:37	1.96	22.62	4.53	3422.32	3585.58	1.91	2.33	292.20	1.00
5/11/25 11:37	1.97	22.62	4.54	3421.50	3584.77	1.91	2.33	292.27	1.00
5/11/25 15:37	1.97	22.62	4.55	3422.08	3585.36	1.91	2.33	292.22	1.00
5/11/25 19:37	1.97	22.62	4.55	3421.77	3585.06	1.91	2.33	292.25	1.00
5/11/25 23:37	1.97	22.62	4.55	3420.25	3583.49	1.91	2.33	292.38	1.00
5/12/25 3:37	1.97	22.61	4.55	3420.26	3583.53	1.91	2.33	292.38	1.00
5/12/25 7:37	1.97	22.61	4.55	3419.72	3582.97	1.91	2.33	292.42	1.00
5/12/25 11:37	1.98	22.61	4.56	3419.35	3582.62	1.91	2.33	292.45	1.00
5/12/25 15:37	1.98	22.61	4.57	3419.45	3582.72	1.91	2.33	292.44	1.00
5/12/25 19:37	1.98	22.61	4.57	3419.16	3582.49	1.91	2.33	292.47	1.00
5/12/25 23:37	1.98	22.61	4.56	3419.47	3582.81	1.91	2.33	292.44	1.00
5/13/25 3:37	1.98	22.61	4.56	3418.31	3581.59	1.91	2.33	292.54	1.00
5/13/25 7:37	1.97	22.61	4.55	3418.21	3581.53	1.91	2.33	292.55	1.00
5/13/25 11:37	1.97	22.61	4.56	3417.26	3580.57	1.91	2.33	292.63	1.00
5/13/25 15:37	1.98	22.61	4.57	3417.78	3581.12	1.91	2.33	292.59	1.00
5/13/25 19:37	1.97	22.61	4.56	3417.02	3580.36	1.91	2.33	292.65	1.00
5/13/25 23:37	1.97	22.61	4.55	3416.16	3579.46	1.91	2.33	292.73	1.00
5/14/25 3:37	1.97	22.61	4.55	3416.02	3579.35	1.91	2.33	292.74	1.00
5/14/25 7:37	1.97	22.61	4.55	3416.33	3579.68	1.91	2.33	292.71	1.00
5/14/25 11:37	1.97	22.61	4.55	3414.90	3578.21	1.91	2.33	292.83	1.00
5/14/25 15:37	1.97	22.61	4.56	3415.11	3578.46	1.91	2.33	292.82	1.00
5/14/25 19:37	1.97	22.61	4.55	3414.20	3577.54	1.91	2.33	292.89	1.00
5/14/25 23:37	1.97	22.61	4.55	3414.16	3577.51	1.91	2.33	292.90	1.00
5/15/25 3:37	1.96	22.61	4.54	3413.39	3576.72	1.90	2.32	292.96	1.00
5/15/25 7:37	1.96	22.61	4.52	3413.14	3576.48	1.90	2.32	292.99	1.00
5/15/25 11:37	1.96	22.61	4.53	3412.81	3576.16	1.90	2.32	293.01	1.00
5/15/25 15:37	1.97	22.61	4.56	3411.93	3575.26	1.90	2.32	293.09	1.00
5/15/25 19:37	1.97	22.61	4.55	3412.11	3575.44	1.90	2.32	293.07	1.00
5/15/25 23:37	1.97	22.61	4.54	3411.43	3574.77	1.90	2.32	293.13	1.00
5/16/25 3:37	1.96	22.61	4.53	3411.05	3574.38	1.90	2.32	293.16	1.00
5/16/25 7:37	1.96	22.61	4.52	3411.33	3574.70	1.90	2.32	293.14	1.00
5/16/25 11:37	1.96	22.61	4.53	3409.82	3573.12	1.90	2.32	293.27	1.00
5/16/25 15:37	1.97	22.61	4.55	3409.81	3573.15	1.90	2.32	293.27	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/16/25 19:37	1.97	22.61	4.55	3410.15	3573.53	1.90	2.32	293.24	1.00
5/16/25 23:37	1.96	22.61	4.54	3409.60	3572.96	1.90	2.32	293.29	1.00
5/17/25 3:37	1.97	22.61	4.54	3408.19	3571.51	1.90	2.32	293.41	1.00
5/17/25 7:37	1.96	22.61	4.53	3408.07	3571.41	1.90	2.32	293.42	1.00
5/17/25 11:37	1.97	22.60	4.55	3407.60	3570.96	1.90	2.32	293.46	1.00
5/17/25 15:37	1.97	22.60	4.55	3408.27	3571.67	1.90	2.32	293.40	1.00
5/17/25 19:37	1.97	22.60	4.55	3407.71	3571.13	1.90	2.32	293.45	1.00
5/17/25 23:37	1.97	22.60	4.55	3406.72	3570.08	1.90	2.32	293.54	1.00
5/18/25 3:37	1.97	22.60	4.55	3406.18	3569.56	1.90	2.32	293.58	1.00
5/18/25 7:37	1.97	22.60	4.54	3406.71	3570.09	1.90	2.32	293.54	1.00
5/18/25 11:37	1.97	22.60	4.55	3406.06	3569.48	1.90	2.32	293.59	1.00
5/18/25 15:37	1.97	22.60	4.56	3405.03	3568.40	1.90	2.32	293.68	1.00
5/18/25 19:37	1.97	22.60	4.55	3404.74	3568.11	1.90	2.32	293.71	1.00
5/18/25 23:37	1.97	22.60	4.54	3404.55	3567.96	1.90	2.32	293.72	1.00
5/19/25 3:37	1.97	22.60	4.54	3404.35	3567.74	1.90	2.32	293.74	1.00
5/19/25 7:37	1.96	22.60	4.53	3404.10	3567.49	1.90	2.32	293.76	1.00
5/19/25 11:37	1.97	22.60	4.55	3403.64	3567.05	1.90	2.32	293.80	1.00
5/19/25 15:37	1.97	22.60	4.55	3402.14	3565.48	1.90	2.32	293.93	1.00
5/19/25 19:37	1.96	22.60	4.53	3402.78	3566.22	1.90	2.32	293.88	1.00
5/19/25 23:37	1.95	22.60	4.50	3402.48	3565.91	1.90	2.32	293.90	1.00
5/20/25 3:37	1.95	22.60	4.51	3402.22	3565.65	1.90	2.32	293.93	1.00
5/20/25 7:37	1.95	22.60	4.49	3402.35	3565.82	1.90	2.32	293.91	1.00
5/20/25 11:37	1.95	22.60	4.51	3401.82	3565.29	1.90	2.32	293.96	1.00
5/20/25 15:37	1.96	22.60	4.54	3400.48	3563.90	1.90	2.32	294.08	1.00
5/20/25 19:37	1.96	22.60	4.53	3400.45	3563.88	1.90	2.32	294.08	1.00
5/20/25 23:37	1.96	22.60	4.52	3399.90	3563.33	1.90	2.32	294.13	1.00
5/21/25 3:37	1.96	22.60	4.52	3400.00	3563.44	1.90	2.32	294.12	1.00
5/21/25 7:37	1.95	22.60	4.51	3399.23	3562.67	1.90	2.32	294.18	1.00
5/21/25 11:37	1.96	22.60	4.52	3399.59	3563.06	1.90	2.32	294.15	1.00
5/21/25 15:37	1.97	22.60	4.54	3398.91	3562.39	1.90	2.32	294.21	1.00
5/21/25 19:37	1.97	22.60	4.54	3399.06	3562.56	1.90	2.32	294.20	1.00
5/21/25 23:37	1.96	22.60	4.53	3398.01	3561.49	1.90	2.31	294.29	1.00
5/22/25 3:37	1.96	22.60	4.53	3398.04	3561.56	1.90	2.32	294.29	1.00
5/22/25 7:37	1.96	22.60	4.53	3397.54	3561.04	1.90	2.31	294.33	1.00
5/22/25 11:37	1.96	22.60	4.53	3397.13	3560.67	1.90	2.31	294.37	1.00
5/22/25 15:37	1.97	22.60	4.55	3397.09	3560.64	1.90	2.31	294.37	1.00
5/22/25 19:37	1.97	22.60	4.54	3396.36	3559.88	1.90	2.31	294.43	1.00
5/22/25 23:37	1.97	22.59	4.54	3396.30	3559.83	1.90	2.31	294.44	1.00
5/23/25 3:37	1.96	22.59	4.53	3395.79	3559.33	1.90	2.31	294.48	1.00
5/23/25 7:37	1.96	22.59	4.52	3395.11	3558.62	1.89	2.31	294.54	1.00
5/23/25 11:37	1.96	22.59	4.54	3394.88	3558.39	1.89	2.31	294.56	1.00
5/23/25 15:37	1.97	22.59	4.55	3393.90	3557.43	1.89	2.31	294.65	1.00
5/23/25 19:37	1.97	22.59	4.55	3393.66	3557.17	1.89	2.31	294.67	1.00
5/23/25 23:37	1.96	22.59	4.54	3393.43	3556.96	1.89	2.31	294.69	1.00
5/24/25 3:37	1.96	22.59	4.54	3393.66	3557.21	1.89	2.31	294.67	1.00
5/24/25 7:37	1.96	22.59	4.53	3393.14	3556.70	1.89	2.31	294.71	1.00
5/24/25 11:37	1.97	22.59	4.54	3393.11	3556.65	1.89	2.31	294.71	1.00
5/24/25 15:37	1.97	22.59	4.55	3392.43	3556.00	1.89	2.31	294.77	1.00
5/24/25 19:37	1.97	22.59	4.55	3391.94	3555.49	1.89	2.31	294.82	1.00
5/24/25 23:37	1.97	22.59	4.54	3392.03	3555.61	1.89	2.31	294.81	1.00
5/25/25 3:37	1.96	22.59	4.53	3391.57	3555.16	1.89	2.31	294.85	1.00
5/25/25 7:37	1.96	22.59	4.53	3390.27	3553.80	1.89	2.31	294.96	1.00
5/25/25 11:37	1.96	22.59	4.53	3390.55	3554.16	1.89	2.31	294.94	1.00
5/25/25 15:37	1.97	22.59	4.55	3389.61	3553.19	1.89	2.31	295.02	1.00
5/25/25 19:37	1.97	22.59	4.54	3389.91	3553.53	1.89	2.31	294.99	1.00
5/25/25 23:37	1.96	22.59	4.53	3389.69	3553.32	1.89	2.31	295.01	1.00
5/26/25 3:37	1.96	22.59	4.52	3389.64	3553.29	1.89	2.31	295.02	1.00
5/26/25 7:37	1.96	22.59	4.52	3389.10	3552.75	1.89	2.31	295.06	1.00
5/26/25 11:37	1.96	22.59	4.53	3389.01	3552.67	1.89	2.31	295.07	1.00
5/26/25 15:37	1.97	22.59	4.55	3388.39	3552.06	1.89	2.31	295.13	1.00
5/26/25 19:37	1.96	22.59	4.54	3387.53	3551.17	1.89	2.31	295.20	1.00
5/26/25 23:37	1.95	22.59	4.51	3387.89	3551.57	1.89	2.31	295.17	1.00
5/27/25 3:37	1.96	22.59	4.52	3386.40	3550.03	1.89	2.31	295.30	1.00
5/27/25 7:37	1.95	22.59	4.50	3386.85	3550.51	1.89	2.31	295.26	1.00
5/27/25 11:37	1.96	22.59	4.51	3387.06	3550.77	1.89	2.31	295.24	1.00
5/27/25 15:37	1.97	22.59	4.54	3385.64	3549.29	1.89	2.31	295.37	1.00
5/27/25 19:37	1.97	22.59	4.54	3385.75	3549.43	1.89	2.31	295.36	1.00
5/27/25 23:37	1.97	22.59	4.54	3385.08	3548.76	1.89	2.31	295.41	1.00
5/28/25 3:37	1.96	22.58	4.52	3384.54	3548.21	1.89	2.31	295.46	1.00
5/28/25 7:37	1.96	22.58	4.52	3384.30	3547.99	1.89	2.31	295.48	1.00
5/28/25 11:37	1.96	22.58	4.53	3383.71	3547.39	1.89	2.31	295.53	1.00
5/28/25 15:37	1.97	22.58	4.54	3383.41	3547.12	1.89	2.31	295.56	1.00
5/28/25 19:37	1.97	22.58	4.54	3383.32	3547.03	1.89	2.31	295.57	1.00
5/28/25 23:37	1.97	22.58	4.54	3382.41	3546.12	1.89	2.30	295.65	1.00
5/29/25 3:37	1.97	22.58	4.54	3382.64	3546.34	1.89	2.31	295.63	1.00
5/29/25 7:37	1.96	22.58	4.52	3381.92	3545.62	1.89	2.30	295.69	1.00
5/29/25 11:37	1.96	22.58	4.53	3382.17	3545.93	1.89	2.30	295.67	1.00
5/29/25 15:37	1.97	22.58	4.54	3381.24	3544.97	1.89	2.30	295.75	1.00
5/29/25 19:37	1.96	22.58	4.54	3380.77	3544.47	1.89	2.30	295.79	1.00
5/29/25 23:37	1.95	22.58	4.49	3380.17	3543.90	1.89	2.30	295.84	1.00
5/30/25 3:37	1.95	22.58	4.51	3380.47	3544.24	1.89	2.30	295.82	1.00
5/30/25 7:37	1.95	22.58	4.51	3380.06	3543.80	1.89	2.30	295.85	1.00
5/30/25 11:37	1.96	22.58	4.52	3379.84	3543.59	1.89	2.30	295.87	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/30/25 15:37	1.97	22.58	4.54	3379.25	3543.00	1.89	2.30	295.92	1.00
5/30/25 19:37	1.96	22.58	4.53	3379.00	3542.80	1.89	2.30	295.95	1.00
5/30/25 23:37	1.96	22.58	4.52	3377.78	3541.56	1.89	2.30	296.05	1.00
5/31/25 3:37	1.96	22.58	4.53	3377.61	3541.37	1.89	2.30	296.07	1.00
5/31/25 7:37	1.96	22.58	4.52	3377.93	3541.73	1.89	2.30	296.04	1.00
5/31/25 11:37	1.96	22.58	4.53	3377.84	3541.66	1.89	2.30	296.05	1.00
5/31/25 15:37	1.97	22.58	4.54	3377.46	3541.28	1.88	2.30	296.08	1.00
5/31/25 19:37	1.97	22.58	4.54	3376.64	3540.44	1.88	2.30	296.15	1.00
5/31/25 23:37	1.97	22.58	4.54	3376.47	3540.27	1.88	2.30	296.17	1.00
6/1/25 3:37	1.97	22.58	4.54	3376.03	3539.85	1.88	2.30	296.21	1.00
6/1/25 7:37	1.96	22.58	4.53	3376.06	3539.92	1.88	2.30	296.20	1.00
6/1/25 11:37	1.97	22.58	4.54	3376.13	3539.96	1.88	2.30	296.20	1.00
6/1/25 15:37	1.97	22.58	4.55	3375.45	3539.33	1.88	2.30	296.26	1.00
6/1/25 19:37	1.97	22.58	4.55	3375.16	3539.04	1.88	2.30	296.28	1.00
6/1/25 23:37	1.97	22.58	4.54	3374.40	3538.23	1.88	2.30	296.35	1.00
6/2/25 3:37	1.97	22.58	4.54	3374.87	3538.77	1.88	2.30	296.31	1.00
6/2/25 7:37	1.97	22.57	4.54	3373.80	3537.66	1.88	2.30	296.40	1.00
6/2/25 11:37	1.96	22.57	4.53	3373.37	3537.25	1.88	2.30	296.44	1.00
6/2/25 15:37	1.97	22.57	4.55	3373.40	3537.29	1.88	2.30	296.44	1.00
6/2/25 19:37	1.97	22.57	4.54	3372.66	3536.56	1.88	2.30	296.50	1.00
6/2/25 23:37	1.97	22.57	4.54	3372.28	3536.17	1.88	2.30	296.54	1.00
6/3/25 3:37	1.97	22.57	4.54	3372.13	3536.03	1.88	2.30	296.55	1.00
6/3/25 7:37	1.96	22.57	4.53	3371.37	3535.31	1.88	2.30	296.61	1.00
6/3/25 11:37	1.96	22.58	4.53	3374.67	3538.36	1.88	2.30	296.33	1.00
6/3/25 15:37	1.98	22.57	4.57	3374.77	3538.90	1.88	2.30	296.32	1.00
6/3/25 19:37	1.98	22.57	4.57	3374.78	3539.04	1.88	2.30	296.32	1.00
6/3/25 23:37	1.97	22.57	4.56	3374.35	3538.63	1.88	2.30	296.35	1.00
6/4/25 3:37	1.97	22.57	4.54	3373.92	3538.24	1.88	2.30	296.39	1.00
6/4/25 7:37	1.96	22.57	4.53	3373.58	3537.86	1.88	2.30	296.42	1.00
6/4/25 11:37	1.97	22.57	4.56	3373.31	3537.58	1.88	2.30	296.44	1.00
6/4/25 15:37	1.98	22.57	4.58	3373.01	3537.30	1.88	2.30	296.47	1.00
6/4/25 19:37	1.98	22.57	4.58	3372.08	3536.34	1.88	2.30	296.55	1.00
6/4/25 23:37	1.98	22.57	4.58	3371.85	3536.12	1.88	2.30	296.57	1.00
6/5/25 3:37	1.98	22.57	4.57	3371.77	3536.05	1.88	2.30	296.58	1.00
6/5/25 7:37	1.98	22.57	4.57	3371.53	3535.81	1.88	2.30	296.60	1.00
6/5/25 11:37	1.98	22.57	4.57	3370.80	3535.09	1.88	2.30	296.67	1.00
6/5/25 15:37	1.99	22.57	4.59	3370.15	3534.43	1.88	2.30	296.72	1.00
6/5/25 19:37	1.98	22.57	4.58	3369.46	3533.70	1.88	2.30	296.78	1.00
6/5/25 23:37	1.98	22.57	4.57	3369.32	3533.56	1.88	2.30	296.80	1.00
6/6/25 3:37	1.98	22.57	4.57	3369.04	3533.29	1.88	2.30	296.82	1.00
6/6/25 7:37	1.98	22.57	4.57	3367.80	3532.00	1.88	2.30	296.93	1.00
6/6/25 11:37	1.98	22.57	4.57	3368.27	3532.55	1.88	2.30	296.89	1.00
6/6/25 15:37	1.99	22.57	4.59	3367.73	3531.99	1.88	2.30	296.94	1.00
6/6/25 19:37	1.99	22.56	4.59	3367.29	3531.57	1.88	2.30	296.97	1.00
6/6/25 23:37	1.98	22.56	4.57	3367.18	3531.50	1.88	2.30	296.98	1.00
6/7/25 3:37	1.98	22.56	4.58	3366.18	3530.44	1.88	2.29	297.07	1.00
6/7/25 7:37	1.98	22.56	4.57	3366.39	3530.68	1.88	2.29	297.05	1.00
6/7/25 11:37	1.98	22.56	4.57	3365.12	3529.38	1.88	2.29	297.17	1.00
6/7/25 15:37	1.99	22.56	4.59	3364.87	3529.13	1.88	2.29	297.19	1.00
6/7/25 19:37	1.98	22.56	4.58	3366.05	3530.37	1.88	2.29	297.08	1.00
6/7/25 23:37	1.98	22.56	4.58	3364.55	3528.81	1.88	2.29	297.22	1.00
6/8/25 3:37	1.98	22.56	4.58	3364.53	3528.82	1.88	2.29	297.22	1.00
6/8/25 7:37	1.98	22.56	4.58	3364.56	3528.87	1.88	2.29	297.22	1.00
6/8/25 11:37	1.98	22.56	4.58	3363.78	3528.09	1.88	2.29	297.28	1.00
6/8/25 15:37	1.99	22.56	4.60	3363.61	3527.95	1.88	2.29	297.30	1.00
6/8/25 19:37	1.99	22.56	4.59	3363.15	3527.46	1.88	2.29	297.34	1.00
6/8/25 23:37	1.98	22.56	4.58	3362.21	3526.54	1.88	2.29	297.42	1.00
6/9/25 3:37	1.97	22.56	4.55	3362.10	3526.44	1.88	2.29	297.43	1.00
6/9/25 7:37	1.97	22.56	4.55	3362.27	3526.61	1.88	2.29	297.42	1.00
6/9/25 11:37	1.97	22.56	4.56	3362.07	3526.42	1.88	2.29	297.44	1.00
6/9/25 15:37	1.99	22.56	4.59	3361.39	3525.75	1.88	2.29	297.50	1.00
6/9/25 19:37	1.99	22.56	4.59	3360.97	3525.32	1.88	2.29	297.53	1.00
6/9/25 23:37	1.98	22.56	4.56	3361.86	3526.28	1.88	2.29	297.45	1.00
6/10/25 3:37	1.98	22.56	4.58	3360.81	3525.20	1.88	2.29	297.55	1.00
6/10/25 7:37	1.98	22.56	4.57	3359.77	3524.14	1.88	2.29	297.64	1.00
6/10/25 11:37	1.98	22.56	4.58	3359.94	3524.36	1.88	2.29	297.62	1.00
6/10/25 15:37	1.99	22.56	4.59	3359.52	3523.90	1.88	2.29	297.66	1.00
6/10/25 19:37	1.98	22.56	4.58	3359.17	3523.57	1.87	2.29	297.69	1.00
6/10/25 23:37	1.99	22.56	4.58	3358.99	3523.41	1.87	2.29	297.71	1.00
6/11/25 3:37	1.98	22.56	4.58	3358.40	3522.82	1.87	2.29	297.76	1.00
6/11/25 7:37	1.98	22.56	4.58	3358.84	3523.26	1.87	2.29	297.72	1.00
6/11/25 11:37	1.99	22.56	4.59	3357.52	3521.94	1.87	2.29	297.84	1.00
6/11/25 15:37	1.99	22.56	4.60	3358.56	3523.05	1.87	2.29	297.75	1.00
6/11/25 19:37	1.99	22.56	4.60	3357.29	3521.70	1.87	2.29	297.86	1.00
6/11/25 23:37	1.99	22.55	4.59	3356.85	3521.30	1.87	2.29	297.90	1.00
6/12/25 3:37	1.99	22.55	4.60	3356.31	3520.75	1.87	2.29	297.95	1.00
6/12/25 7:37	1.99	22.55	4.60	3356.67	3521.18	1.87	2.29	297.91	1.00
6/12/25 11:37	2.00	22.55	4.61	3356.16	3520.62	1.87	2.29	297.96	1.00
6/12/25 15:37	2.00	22.55	4.61	3355.83	3520.33	1.87	2.29	297.99	1.00
6/12/25 19:37	1.99	22.55	4.60	3355.25	3519.70	1.87	2.29	298.04	1.00
6/12/25 23:37	2.00	22.55	4.61	3355.39	3519.92	1.87	2.29	298.03	1.00
6/13/25 3:37	1.99	22.55	4.60	3354.57	3519.05	1.87	2.29	298.10	1.00
6/13/25 7:37	1.99	22.55	4.60	3353.62	3518.07	1.87	2.29	298.19	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/13/25 11:37	1.99	22.55	4.61	3353.95	3518.45	1.87	2.29	298.16	1.00
6/13/25 15:37	2.00	22.55	4.61	3352.84	3517.27	1.87	2.29	298.25	1.00
6/13/25 19:37	2.00	22.55	4.61	3352.91	3517.40	1.87	2.29	298.25	1.00
6/13/25 23:37	2.00	22.55	4.61	3351.86	3516.33	1.87	2.29	298.34	1.00
6/14/25 3:37	1.99	22.55	4.60	3352.28	3516.79	1.87	2.29	298.30	1.00
6/14/25 7:37	1.99	22.55	4.60	3351.79	3516.28	1.87	2.29	298.35	1.00
6/14/25 11:37	2.00	22.55	4.61	3351.44	3515.95	1.87	2.29	298.38	1.00
6/14/25 15:37	2.00	22.55	4.62	3350.90	3515.39	1.87	2.29	298.43	1.00
6/14/25 19:37	2.00	22.55	4.61	3350.73	3515.23	1.87	2.28	298.44	1.00
6/14/25 23:37	1.99	22.55	4.60	3349.94	3514.42	1.87	2.28	298.51	1.00
6/15/25 3:37	2.00	22.55	4.61	3349.93	3514.44	1.87	2.28	298.51	1.00
6/15/25 7:37	1.99	22.55	4.60	3349.61	3514.10	1.87	2.28	298.54	1.00
6/15/25 11:37	2.00	22.55	4.61	3349.32	3513.82	1.87	2.28	298.57	1.00
6/15/25 15:37	1.99	22.55	4.59	3348.99	3513.51	1.87	2.28	298.60	1.00
6/15/25 19:37	2.00	22.55	4.61	3348.90	3513.41	1.87	2.28	298.61	1.00
6/15/25 23:37	1.99	22.55	4.60	3348.19	3512.70	1.87	2.28	298.67	1.00
6/16/25 3:37	2.00	22.55	4.61	3347.77	3512.32	1.87	2.28	298.71	1.00
6/16/25 7:37	2.00	22.55	4.61	3347.51	3512.03	1.87	2.28	298.73	1.00
6/16/25 11:37	2.00	22.55	4.61	3347.49	3512.04	1.87	2.28	298.73	1.00
6/16/25 15:37	2.00	22.55	4.63	3346.90	3511.47	1.87	2.28	298.78	1.00
6/16/25 19:37	2.00	22.55	4.63	3346.76	3511.36	1.87	2.28	298.80	1.00
6/16/25 23:37	2.00	22.55	4.63	3346.53	3511.11	1.87	2.28	298.82	1.00
6/17/25 3:37	2.00	22.55	4.62	3345.74	3510.31	1.87	2.28	298.89	1.00
6/17/25 7:37	2.00	22.55	4.62	3345.09	3509.65	1.87	2.28	298.95	1.00
6/17/25 11:37	2.01	22.55	4.63	3345.71	3510.28	1.87	2.28	298.89	1.00
6/17/25 15:37	2.01	22.54	4.64	3345.10	3509.71	1.87	2.28	298.94	1.00
6/17/25 19:37	2.01	22.54	4.63	3344.23	3508.83	1.87	2.28	299.02	1.00
6/17/25 23:37	2.01	22.54	4.63	3344.68	3509.29	1.87	2.28	298.98	1.00
6/18/25 3:37	1.99	22.54	4.60	3344.44	3509.07	1.87	2.28	299.00	1.00
6/18/25 7:37	1.99	22.54	4.59	3343.62	3508.25	1.87	2.28	299.08	1.00
6/18/25 11:37	1.99	22.54	4.60	3343.42	3508.05	1.87	2.28	299.09	1.00
6/18/25 15:37	2.00	22.54	4.62	3343.03	3507.64	1.87	2.28	299.13	1.00
6/18/25 19:37	2.00	22.54	4.62	3342.84	3507.47	1.87	2.28	299.15	1.00
6/18/25 23:37	1.99	22.54	4.61	3342.44	3507.07	1.87	2.28	299.18	1.00
6/19/25 3:37	1.99	22.54	4.60	3342.69	3507.36	1.87	2.28	299.16	1.00
6/19/25 7:37	1.99	22.54	4.59	3341.49	3506.13	1.87	2.28	299.27	1.00
6/19/25 11:37	2.00	22.54	4.61	3341.62	3506.27	1.87	2.28	299.26	1.00
6/19/25 15:37	2.01	22.54	4.63	3340.89	3505.51	1.86	2.28	299.32	1.00
6/19/25 19:37	2.00	22.54	4.62	3340.42	3505.06	1.86	2.28	299.36	1.00
6/19/25 23:37	2.00	22.54	4.62	3340.63	3505.28	1.86	2.28	299.35	1.00
6/20/25 3:37	2.00	22.54	4.63	3339.88	3504.56	1.86	2.28	299.41	1.00
6/20/25 7:37	2.00	22.54	4.62	3340.31	3505.00	1.86	2.28	299.37	1.00
6/20/25 11:37	2.01	22.54	4.64	3338.77	3503.41	1.86	2.28	299.51	1.00
6/20/25 15:37	2.01	22.54	4.65	3339.44	3504.14	1.86	2.28	299.45	1.00
6/20/25 19:37	2.01	22.54	4.65	3339.06	3503.76	1.86	2.28	299.49	1.00
6/20/25 23:37	2.01	22.54	4.63	3338.59	3503.32	1.86	2.28	299.53	1.00
6/21/25 3:37	2.01	22.54	4.64	3338.53	3503.24	1.86	2.28	299.53	1.00
6/21/25 7:37	2.01	22.54	4.63	3338.05	3502.78	1.86	2.28	299.58	1.00
6/21/25 11:37	2.01	22.54	4.64	3337.77	3502.51	1.86	2.28	299.60	1.00
6/21/25 15:37	2.01	22.54	4.65	3337.91	3502.66	1.86	2.28	299.59	1.00
6/21/25 19:37	2.01	22.54	4.65	3336.65	3501.36	1.86	2.28	299.70	1.00
6/21/25 23:37	2.01	22.54	4.63	3337.16	3501.93	1.86	2.28	299.66	1.00
6/22/25 3:37	2.01	22.54	4.64	3336.49	3501.22	1.86	2.28	299.72	1.00
6/22/25 7:37	2.00	22.54	4.63	3335.95	3500.66	1.86	2.28	299.76	1.00
6/22/25 11:37	2.01	22.54	4.64	3334.76	3499.47	1.86	2.27	299.87	1.00
6/22/25 15:37	2.01	22.54	4.65	3335.51	3500.24	1.86	2.28	299.80	1.00
6/22/25 19:37	2.01	22.54	4.65	3334.89	3499.64	1.86	2.27	299.86	1.00
6/22/25 23:37	2.00	22.53	4.61	3334.47	3499.23	1.86	2.27	299.90	1.00
6/23/25 3:37	2.01	22.53	4.63	3334.56	3499.34	1.86	2.27	299.89	1.00
6/23/25 7:37	2.00	22.53	4.62	3333.95	3498.71	1.86	2.27	299.94	1.00
6/23/25 11:37	2.01	22.53	4.63	3333.99	3498.76	1.86	2.27	299.94	1.00
6/23/25 15:37	2.01	22.53	4.64	3333.07	3497.84	1.86	2.27	300.02	1.00
6/23/25 19:37	2.00	22.53	4.62	3333.04	3497.81	1.86	2.27	300.03	1.00
6/23/25 23:37	2.01	22.53	4.64	3333.29	3498.12	1.86	2.27	300.00	1.00
6/24/25 3:37	2.00	22.53	4.63	3332.09	3496.86	1.86	2.27	300.11	1.00
6/24/25 7:37	2.00	22.53	4.62	3331.86	3496.66	1.86	2.27	300.13	1.00
6/24/25 11:37	2.00	22.53	4.62	3331.75	3496.56	1.86	2.27	300.14	1.00
6/24/25 15:37	2.01	22.53	4.65	3331.59	3496.39	1.86	2.27	300.16	1.00
6/24/25 19:37	2.01	22.53	4.64	3331.34	3496.16	1.86	2.27	300.18	1.00
6/24/25 23:37	2.01	22.53	4.64	3330.67	3495.47	1.86	2.27	300.24	1.00
6/25/25 3:37	2.01	22.53	4.64	3330.04	3494.84	1.86	2.27	300.30	1.00
6/25/25 7:37	2.01	22.53	4.64	3330.32	3495.18	1.86	2.27	300.27	1.00
6/25/25 11:37	2.01	22.53	4.64	3329.68	3494.48	1.86	2.27	300.33	1.00
6/25/25 15:37	2.02	22.53	4.66	3329.58	3494.43	1.86	2.27	300.34	1.00
6/25/25 19:37	2.02	22.53	4.66	3329.31	3494.16	1.86	2.27	300.36	1.00
6/25/25 23:37	2.02	22.53	4.66	3328.35	3493.17	1.86	2.27	300.45	1.00
6/26/25 3:37	2.02	22.53	4.66	3328.32	3493.15	1.86	2.27	300.45	1.00
6/26/25 7:37	2.02	22.53	4.65	3328.40	3493.25	1.86	2.27	300.44	1.00
6/26/25 11:37	2.02	22.53	4.66	3328.39	3493.26	1.86	2.27	300.45	1.00
6/26/25 15:37	2.02	22.53	4.67	3327.86	3492.73	1.86	2.27	300.49	1.00
6/26/25 19:37	2.02	22.53	4.67	3327.44	3492.31	1.86	2.27	300.53	1.00
6/26/25 23:37	2.02	22.53	4.67	3326.91	3491.78	1.86	2.27	300.58	1.00
6/27/25 3:37	2.02	22.53	4.67	3326.67	3491.54	1.86	2.27	300.60	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/27/25 7:37	2.02	22.53	4.66	3326.34	3491.23	1.86	2.27	300.63	1.00
6/27/25 11:37	2.02	22.53	4.67	3325.86	3490.73	1.86	2.27	300.67	1.00
6/27/25 15:37	2.03	22.53	4.68	3325.75	3490.65	1.86	2.27	300.68	1.00
6/27/25 19:37	2.02	22.53	4.68	3325.56	3490.45	1.86	2.27	300.70	1.00
6/27/25 23:37	2.02	22.53	4.67	3325.28	3490.19	1.86	2.27	300.73	1.00
6/28/25 3:37	2.03	22.53	4.68	3324.55	3489.44	1.86	2.27	300.79	1.00
6/28/25 7:37	2.03	22.53	4.68	3324.44	3489.35	1.86	2.27	300.80	1.00
6/28/25 11:37	2.03	22.53	4.68	3324.01	3488.91	1.86	2.27	300.84	1.00
6/28/25 15:37	2.03	22.53	4.69	3324.25	3489.18	1.86	2.27	300.82	1.00
6/28/25 19:37	2.03	22.53	4.69	3323.33	3488.21	1.86	2.27	300.90	1.00
6/28/25 23:37	2.03	22.52	4.69	3322.88	3487.78	1.85	2.27	300.94	1.00
6/29/25 3:37	2.03	22.52	4.69	3322.76	3487.67	1.85	2.27	300.95	1.00
6/29/25 7:37	2.03	22.52	4.69	3323.05	3487.96	1.85	2.27	300.93	1.00
6/29/25 11:37	2.03	22.52	4.70	3322.23	3487.16	1.85	2.27	301.00	1.00
6/29/25 15:37	2.04	22.52	4.71	3322.27	3487.20	1.85	2.27	301.00	1.00
6/29/25 19:37	2.04	22.52	4.70	3321.88	3486.81	1.85	2.27	301.03	1.00
6/29/25 23:37	2.03	22.52	4.69	3321.19	3486.12	1.85	2.27	301.10	1.00
6/30/25 3:37	2.03	22.52	4.69	3320.68	3485.59	1.85	2.27	301.14	1.00
6/30/25 7:37	2.03	22.52	4.69	3321.06	3486.02	1.85	2.27	301.11	1.00
6/30/25 11:37	2.03	22.52	4.69	3320.73	3485.68	1.85	2.27	301.14	1.00
6/30/25 15:37	2.04	22.52	4.71	3320.35	3485.32	1.85	2.27	301.17	1.00
6/30/25 19:37	2.04	22.52	4.71	3320.18	3485.16	1.85	2.27	301.19	1.00
6/30/25 23:37	2.03	22.52	4.69	3319.53	3484.48	1.85	2.26	301.25	1.00
7/1/25 3:37	2.04	22.52	4.70	3319.38	3484.34	1.85	2.26	301.26	1.00
7/1/25 7:37	2.04	22.52	4.70	3318.68	3483.65	1.85	2.26	301.32	1.00
7/1/25 11:37	2.04	22.52	4.71	3318.82	3483.82	1.85	2.26	301.31	1.00
7/1/25 15:37	2.05	22.52	4.73	3318.81	3483.79	1.85	2.26	301.31	1.00
7/1/25 19:37	2.05	22.52	4.72	3318.00	3482.94	1.85	2.26	301.39	1.00
7/1/25 23:37	2.05	22.52	4.72	3318.00	3482.98	1.85	2.26	301.39	1.00
7/2/25 3:37	2.05	22.52	4.73	3318.14	3483.15	1.85	2.26	301.37	1.00
7/2/25 7:37	2.05	22.52	4.74	3316.98	3481.97	1.85	2.26	301.48	1.00
7/2/25 11:37	2.05	22.52	4.74	3317.89	3482.91	1.85	2.26	301.40	1.00
7/2/25 15:37	2.06	22.52	4.75	3317.19	3482.21	1.85	2.26	301.46	1.00
7/2/25 19:37	2.06	22.52	4.74	3316.18	3481.18	1.85	2.26	301.55	1.00
7/2/25 23:37	2.05	22.52	4.74	3316.36	3481.37	1.85	2.26	301.54	1.00
7/3/25 3:37	2.06	22.52	4.76	3316.37	3481.42	1.85	2.26	301.53	1.00
7/3/25 7:37	2.06	22.52	4.75	3315.62	3480.65	1.85	2.26	301.60	1.00
7/3/25 11:37	2.06	22.52	4.76	3315.87	3480.92	1.85	2.26	301.58	1.00
7/3/25 15:37	2.06	22.52	4.76	3315.29	3480.33	1.85	2.26	301.63	1.00
7/3/25 19:37	2.06	22.52	4.76	3314.62	3479.68	1.85	2.26	301.69	1.00
7/3/25 23:37	2.06	22.52	4.76	3314.98	3480.02	1.85	2.26	301.66	1.00
7/4/25 3:37	2.07	22.52	4.77	3314.94	3480.00	1.85	2.26	301.66	1.00
7/4/25 7:37	2.06	22.52	4.77	3313.57	3478.62	1.85	2.26	301.79	1.00
7/4/25 11:37	2.07	22.52	4.77	3313.25	3478.27	1.85	2.26	301.82	1.00
7/4/25 15:37	2.07	22.52	4.79	3313.30	3478.37	1.85	2.26	301.81	1.00
7/4/25 19:37	2.07	22.52	4.79	3313.32	3478.38	1.85	2.26	301.81	1.00
7/4/25 23:37	2.07	22.52	4.78	3312.94	3478.01	1.85	2.26	301.85	1.00
7/5/25 3:37	2.07	22.51	4.79	3312.33	3477.39	1.85	2.26	301.90	1.00
7/5/25 7:37	2.07	22.51	4.79	3312.46	3477.56	1.85	2.26	301.89	1.00
7/5/25 11:37	2.08	22.51	4.79	3312.15	3477.23	1.85	2.26	301.92	1.00
7/5/25 15:37	2.08	22.51	4.81	3312.48	3477.60	1.85	2.26	301.89	1.00
7/5/25 19:37	2.08	22.51	4.81	3311.92	3477.03	1.85	2.26	301.94	1.00
7/5/25 23:37	2.07	22.51	4.79	3311.79	3476.92	1.85	2.26	301.95	1.00
7/6/25 3:37	2.08	22.51	4.81	3311.43	3476.56	1.85	2.26	301.98	1.00
7/6/25 7:37	2.08	22.51	4.80	3310.93	3476.04	1.85	2.26	302.03	1.00
7/6/25 11:37	2.08	22.51	4.81	3310.96	3476.08	1.85	2.26	302.03	1.00
7/6/25 15:37	2.09	22.51	4.83	3311.20	3476.37	1.85	2.26	302.01	1.00
7/6/25 19:37	2.09	22.51	4.83	3311.30	3476.47	1.85	2.26	302.00	1.00
7/6/25 23:37	2.09	22.51	4.82	3311.42	3476.63	1.85	2.26	301.98	1.00
7/7/25 3:37	2.09	22.51	4.83	3310.16	3475.31	1.85	2.26	302.10	1.00
7/7/25 7:37	2.09	22.51	4.82	3310.61	3475.81	1.85	2.26	302.06	1.00
7/7/25 11:37	2.09	22.51	4.83	3310.43	3475.63	1.85	2.26	302.08	1.00
7/7/25 15:37	2.10	22.51	4.85	3310.60	3475.87	1.85	2.26	302.06	1.00
7/7/25 19:37	2.10	22.51	4.84	3310.08	3475.28	1.85	2.26	302.11	1.00
7/7/25 23:37	2.08	22.51	4.81	3309.24	3474.43	1.85	2.26	302.18	1.00
7/8/25 3:37	2.09	22.51	4.83	3310.07	3475.34	1.85	2.26	302.11	1.00
7/8/25 7:37	2.10	22.51	4.84	3309.76	3474.98	1.85	2.26	302.14	1.00
7/8/25 11:37	2.10	22.51	4.84	3309.25	3474.51	1.85	2.26	302.18	1.00
7/8/25 15:37	2.11	22.51	4.87	3309.30	3474.57	1.85	2.26	302.18	1.00
7/8/25 19:37	2.10	22.51	4.86	3309.17	3474.48	1.85	2.26	302.19	1.00
7/8/25 23:37	2.10	22.51	4.86	3309.40	3474.71	1.85	2.26	302.17	1.00
7/9/25 3:37	2.11	22.51	4.86	3308.34	3473.63	1.85	2.26	302.27	1.00
7/9/25 7:37	2.10	22.51	4.85	3308.67	3473.96	1.85	2.26	302.24	1.00
7/9/25 11:37	2.11	22.51	4.87	3307.60	3472.85	1.85	2.26	302.33	1.00
7/9/25 15:37	2.12	22.51	4.89	3307.96	3473.26	1.85	2.26	302.30	1.00
7/9/25 19:37	2.12	22.51	4.88	3308.03	3473.37	1.85	2.26	302.29	1.00
7/9/25 23:37	2.11	22.51	4.88	3307.85	3473.13	1.85	2.26	302.31	1.00
7/10/25 3:37	2.12	22.51	4.89	3307.04	3472.33	1.85	2.26	302.38	1.00
7/10/25 7:37	2.12	22.51	4.89	3307.40	3472.74	1.85	2.26	302.35	1.00
7/10/25 11:37	2.12	22.51	4.90	3306.73	3472.03	1.85	2.26	302.41	1.00
7/10/25 15:37	2.13	22.51	4.91	3307.54	3472.91	1.85	2.26	302.34	1.00
7/10/25 19:37	2.13	22.51	4.91	3306.39	3471.71	1.85	2.26	302.44	1.00
7/10/25 23:37	2.13	22.51	4.91	3306.26	3471.58	1.85	2.26	302.46	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/11/25 3:37	2.12	22.51	4.91	3306.87	3472.26	1.85	2.26	302.40	1.00
7/11/25 7:37	2.13	22.51	4.91	3306.02	3471.40	1.85	2.26	302.48	1.00
7/11/25 11:37	2.13	22.51	4.92	3305.67	3471.04	1.85	2.26	302.51	1.00
7/11/25 15:37	2.13	22.51	4.93	3305.71	3471.07	1.85	2.26	302.51	1.00
7/11/25 19:37	2.13	22.51	4.93	3305.44	3470.81	1.85	2.26	302.53	1.00
7/11/25 23:37	2.13	22.51	4.92	3306.36	3471.77	1.85	2.26	302.45	1.00
7/12/25 3:37	2.13	22.50	4.92	3305.05	3470.46	1.85	2.26	302.57	1.00
7/12/25 7:37	2.11	22.50	4.88	3305.06	3470.46	1.85	2.26	302.57	1.00
7/12/25 11:37	2.12	22.50	4.90	3303.57	3468.90	1.84	2.25	302.70	1.00
7/12/25 15:37	2.14	22.50	4.94	3305.11	3470.54	1.85	2.26	302.56	1.00
7/12/25 19:37	2.14	22.50	4.93	3303.78	3469.17	1.84	2.25	302.68	1.00
7/12/25 23:37	2.13	22.50	4.92	3304.37	3469.81	1.84	2.26	302.63	1.00
7/13/25 3:37	2.14	22.50	4.94	3304.26	3469.71	1.84	2.26	302.64	1.00
7/13/25 7:37	2.14	22.50	4.94	3303.57	3469.00	1.84	2.25	302.70	1.00
7/13/25 11:37	2.14	22.50	4.94	3302.73	3468.12	1.84	2.25	302.78	1.00
7/13/25 15:37	2.15	22.50	4.95	3302.91	3468.32	1.84	2.25	302.76	1.00
7/13/25 19:37	2.14	22.50	4.95	3302.98	3468.42	1.84	2.25	302.76	1.00
7/13/25 23:37	2.14	22.50	4.94	3302.25	3467.66	1.84	2.25	302.82	1.00
7/14/25 3:37	2.14	22.50	4.95	3301.76	3467.18	1.84	2.25	302.87	1.00
7/14/25 7:37	2.14	22.50	4.95	3301.51	3466.91	1.84	2.25	302.89	1.00
7/14/25 11:37	2.15	22.50	4.96	3302.58	3468.08	1.84	2.25	302.79	1.00
7/14/25 15:37	2.15	22.50	4.97	3302.20	3467.66	1.84	2.25	302.83	1.00
7/14/25 19:37	2.15	22.50	4.97	3301.47	3466.94	1.84	2.25	302.90	1.00
7/14/25 23:37	2.15	22.50	4.96	3301.88	3467.37	1.84	2.25	302.86	1.00
7/15/25 3:37	2.16	22.50	4.98	3301.55	3467.05	1.84	2.25	302.89	1.00
7/15/25 7:37	2.16	22.50	4.98	3301.21	3466.69	1.84	2.25	302.92	1.00
7/15/25 11:37	2.16	22.50	4.99	3300.37	3465.85	1.84	2.25	303.00	1.00
7/15/25 15:37	2.16	22.50	4.99	3300.77	3466.24	1.84	2.25	302.96	1.00
7/15/25 19:37	2.16	22.50	4.99	3300.22	3465.71	1.84	2.25	303.01	1.00
7/15/25 23:37	2.16	22.50	4.99	3300.35	3465.88	1.84	2.25	303.00	1.00
7/16/25 3:37	2.17	22.50	5.00	3300.01	3465.49	1.84	2.25	303.03	1.00
7/16/25 7:37	2.17	22.50	5.00	3299.99	3465.50	1.84	2.25	303.03	1.00
7/16/25 11:37	2.17	22.50	5.01	3299.87	3465.40	1.84	2.25	303.04	1.00
7/16/25 15:37	2.17	22.50	5.02	3299.39	3464.91	1.84	2.25	303.09	1.00
7/16/25 19:37	2.17	22.50	5.02	3299.30	3464.85	1.84	2.25	303.09	1.00
7/16/25 23:37	2.17	22.50	5.01	3299.48	3465.05	1.84	2.25	303.08	1.00
7/17/25 3:37	2.17	22.50	5.02	3299.07	3464.63	1.84	2.25	303.12	1.00
7/17/25 7:37	2.17	22.50	5.00	3298.78	3464.30	1.84	2.25	303.14	1.00
7/17/25 11:37	2.17	22.50	5.01	3299.09	3464.68	1.84	2.25	303.11	1.00
7/17/25 15:37	2.18	22.50	5.03	3299.01	3464.59	1.84	2.25	303.12	1.00
7/17/25 19:37	2.18	22.50	5.03	3298.50	3464.05	1.84	2.25	303.17	1.00
7/17/25 23:37	2.18	22.50	5.03	3297.84	3463.41	1.84	2.25	303.23	1.00
7/18/25 3:37	2.18	22.50	5.03	3298.35	3463.91	1.84	2.25	303.18	1.00
7/18/25 7:37	2.18	22.50	5.02	3298.37	3463.99	1.84	2.25	303.18	1.00
7/18/25 11:37	2.18	22.50	5.04	3298.34	3463.96	1.84	2.25	303.18	1.00
7/18/25 15:37	2.19	22.50	5.05	3297.70	3463.30	1.84	2.25	303.24	1.00
7/18/25 19:37	2.19	22.50	5.05	3297.83	3463.43	1.84	2.25	303.23	1.00
7/18/25 23:37	2.18	22.50	5.04	3297.59	3463.21	1.84	2.25	303.25	1.00
7/19/25 3:37	2.19	22.50	5.05	3297.40	3463.04	1.84	2.25	303.27	1.00
7/19/25 7:37	2.19	22.50	5.05	3297.39	3463.04	1.84	2.25	303.27	1.00
7/19/25 11:37	2.19	22.50	5.06	3296.49	3462.09	1.84	2.25	303.35	1.00
7/19/25 15:37	2.20	22.50	5.07	3296.91	3462.56	1.84	2.25	303.31	1.00
7/19/25 19:37	2.20	22.49	5.07	3296.55	3462.21	1.84	2.25	303.35	1.00
7/19/25 23:37	2.19	22.50	5.06	3296.47	3462.10	1.84	2.25	303.35	1.00
7/20/25 3:37	2.20	22.49	5.07	3296.75	3462.43	1.84	2.25	303.33	1.00
7/20/25 7:37	2.19	22.49	5.06	3296.50	3462.17	1.84	2.25	303.35	1.00
7/20/25 11:37	2.20	22.49	5.08	3295.32	3460.94	1.84	2.25	303.46	1.00
7/20/25 15:37	2.20	22.49	5.09	3296.46	3462.16	1.84	2.25	303.36	1.00
7/20/25 19:37	2.20	22.49	5.09	3295.24	3460.90	1.84	2.25	303.47	1.00
7/20/25 23:37	2.20	22.49	5.08	3295.86	3461.56	1.84	2.25	303.41	1.00
7/21/25 3:37	2.20	22.49	5.09	3296.06	3461.80	1.84	2.25	303.39	1.00
7/21/25 7:37	2.20	22.49	5.08	3295.91	3461.63	1.84	2.25	303.41	1.00
7/21/25 11:37	2.20	22.49	5.08	3295.51	3461.27	1.84	2.25	303.44	1.00
7/21/25 15:37	2.21	22.49	5.10	3295.34	3461.05	1.84	2.25	303.46	1.00
7/21/25 19:37	2.21	22.49	5.11	3295.46	3461.22	1.84	2.25	303.45	1.00
7/21/25 23:37	2.21	22.49	5.09	3295.19	3460.94	1.84	2.25	303.47	1.00
7/22/25 3:37	2.21	22.49	5.11	3295.26	3461.03	1.84	2.25	303.47	1.00
7/22/25 7:37	2.21	22.49	5.10	3294.64	3460.36	1.84	2.25	303.52	1.00
7/22/25 11:37	2.21	22.49	5.11	3295.56	3461.34	1.84	2.25	303.44	1.00
7/22/25 15:37	2.22	22.49	5.13	3295.35	3461.14	1.84	2.25	303.46	1.00
7/22/25 19:37	2.22	22.49	5.12	3295.29	3461.08	1.84	2.25	303.46	1.00
7/22/25 23:37	2.22	22.49	5.12	3294.52	3460.31	1.84	2.25	303.53	1.00
7/23/25 3:37	2.22	22.49	5.13	3295.45	3461.30	1.84	2.25	303.45	1.00
7/23/25 7:37	2.22	22.49	5.13	3294.61	3460.40	1.84	2.25	303.53	1.00
7/23/25 11:37	2.22	22.49	5.13	3295.32	3461.17	1.84	2.25	303.46	1.00
7/23/25 15:37	2.23	22.49	5.14	3294.87	3460.74	1.84	2.25	303.50	1.00
7/23/25 19:37	2.23	22.49	5.14	3294.75	3460.58	1.84	2.25	303.51	1.00
7/23/25 23:37	2.22	22.49	5.13	3294.38	3460.25	1.84	2.25	303.55	1.00
7/24/25 3:37	2.23	22.49	5.14	3294.79	3460.67	1.84	2.25	303.51	1.00
7/24/25 7:37	2.23	22.49	5.14	3294.65	3460.51	1.84	2.25	303.52	1.00
7/24/25 11:37	2.23	22.49	5.15	3294.73	3460.63	1.84	2.25	303.51	1.00
7/24/25 15:37	2.23	22.49	5.16	3295.21	3461.14	1.84	2.25	303.47	1.00
7/24/25 19:37	2.23	22.49	5.15	3295.31	3461.28	1.84	2.25	303.46	1.00

Table E2: PMW-2 Water Quality and Environmental Monitoring Data

Southern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/24/25 23:37	2.23	22.49	5.16	3294.66	3460.54	1.84	2.25	303.52	1.00
7/25/25 3:37	2.23	22.49	5.16	3294.48	3460.38	1.84	2.25	303.54	1.00
7/25/25 7:37	2.23	22.49	5.16	3295.10	3461.07	1.84	2.25	303.48	1.00
7/25/25 11:37	2.24	22.49	5.17	3294.93	3460.87	1.84	2.25	303.50	1.00
7/25/25 15:37	2.24	22.49	5.18	3295.11	3461.09	1.84	2.25	303.48	1.00
7/25/25 19:37	2.24	22.49	5.18	3295.10	3461.10	1.84	2.25	303.48	1.00
7/25/25 23:37	2.24	22.49	5.17	3294.07	3460.02	1.84	2.25	303.58	1.00
7/26/25 3:37	2.24	22.49	5.18	3294.76	3460.76	1.84	2.25	303.51	1.00
7/26/25 7:37	2.24	22.49	5.17	3295.07	3461.10	1.84	2.25	303.48	1.00
7/26/25 11:37	2.24	22.49	5.17	3294.78	3460.79	1.84	2.25	303.51	1.00
7/26/25 15:37	2.25	22.49	5.20	3294.74	3460.77	1.84	2.25	303.51	1.00
7/26/25 19:37	2.25	22.49	5.19	3294.82	3460.84	1.84	2.25	303.51	1.00
7/26/25 23:37	2.24	22.49	5.17	3294.73	3460.75	1.84	2.25	303.52	1.00
7/27/25 3:37	2.24	22.49	5.17	3295.17	3461.24	1.84	2.25	303.47	1.00
7/27/25 7:37	2.24	22.49	5.17	3294.97	3461.02	1.84	2.25	303.49	1.00
7/27/25 11:37	2.24	22.49	5.17	3294.35	3460.38	1.84	2.25	303.55	1.00
7/27/25 15:37	2.25	22.49	5.19	3295.28	3461.39	1.84	2.25	303.46	1.00
7/27/25 19:37	2.25	22.49	5.19	3294.92	3461.01	1.84	2.25	303.50	1.00
7/27/25 23:37	2.24	22.49	5.17	3295.55	3461.68	1.84	2.25	303.44	1.00
7/28/25 3:37	2.25	22.49	5.18	3295.35	3461.46	1.84	2.25	303.46	1.00
7/28/25 7:37	2.24	22.49	5.17	3295.83	3462.01	1.84	2.25	303.41	1.00
7/28/25 11:37	2.25	22.49	5.19	3295.68	3461.85	1.84	2.25	303.43	1.00
7/28/25 15:37	2.26	22.49	5.21	3295.48	3461.65	1.84	2.25	303.45	1.00
7/28/25 19:37	2.25	22.49	5.20	3295.55	3461.73	1.84	2.25	303.44	1.00
7/28/25 23:37	2.24	22.49	5.18	3295.78	3461.97	1.84	2.25	303.42	1.00
7/29/25 3:37	2.25	22.49	5.20	3296.21	3462.46	1.84	2.25	303.38	1.00
7/29/25 7:37	2.25	22.49	5.19	3295.93	3462.18	1.84	2.25	303.40	1.00
7/29/25 11:37	2.26	22.49	5.21	3295.79	3462.02	1.84	2.25	303.42	1.00
7/29/25 15:37	2.26	22.49	5.22	3296.05	3462.31	1.84	2.25	303.39	1.00
7/29/25 19:37	2.25	22.48	5.21	3296.02	3462.35	1.84	2.25	303.40	1.00
7/29/25 23:37	2.25	22.49	5.20	3296.18	3462.47	1.84	2.25	303.38	1.00
7/30/25 3:37	2.26	22.49	5.21	3296.51	3462.82	1.84	2.25	303.35	1.00
7/30/25 7:37	2.25	22.49	5.20	3296.40	3462.71	1.84	2.25	303.36	1.00
7/30/25 11:37	2.26	22.48	5.21	3296.53	3462.89	1.84	2.25	303.35	1.00
7/30/25 15:37	2.26	22.48	5.22	3297.14	3463.52	1.84	2.25	303.29	1.00
7/30/25 19:37	2.26	22.48	5.22	3297.08	3463.47	1.84	2.25	303.30	1.00
7/30/25 23:37	2.25	22.48	5.20	3297.07	3463.45	1.84	2.25	303.30	1.00
7/31/25 3:37	2.25	22.48	5.20	3297.10	3463.49	1.84	2.25	303.30	1.00
7/31/25 7:37	2.26	22.48	5.21	3297.97	3464.40	1.84	2.25	303.22	1.00
7/31/25 11:37	2.26	22.48	5.21	3298.10	3464.53	1.84	2.25	303.21	1.00
7/31/25 15:37	2.26	22.48	5.23	3297.95	3464.41	1.84	2.25	303.22	1.00
7/31/25 19:37	2.27	22.48	5.23	3297.53	3464.00	1.84	2.25	303.26	1.00
7/31/25 23:37	2.26	22.48	5.22	3298.06	3464.54	1.84	2.25	303.21	1.00

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Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/1/24 14:59	2.11	21.45	4.88	2008.32	2154.50	1.12	1.40	497.93	1.00
7/1/24 15:59	2.12	21.45	4.89	2005.47	2151.47	1.11	1.40	498.64	1.00
7/1/24 16:59	2.13	21.45	4.92	2005.91	2151.97	1.11	1.40	498.53	1.00
7/1/24 17:59	2.14	21.45	4.93	2006.34	2152.43	1.11	1.40	498.42	1.00
7/1/24 18:59	2.14	21.45	4.94	2006.33	2152.43	1.11	1.40	498.42	1.00
7/1/24 19:59	2.14	21.45	4.94	2006.42	2152.52	1.11	1.40	498.40	1.00
7/1/24 20:59	2.14	21.45	4.95	2006.35	2152.45	1.11	1.40	498.42	1.00
7/1/24 21:59	2.14	21.45	4.95	2006.48	2152.63	1.11	1.40	498.38	1.00
7/1/24 22:59	2.14	21.45	4.95	2006.49	2152.58	1.11	1.40	498.38	1.00
7/1/24 23:59	2.14	21.45	4.95	2006.59	2152.72	1.11	1.40	498.36	1.00
7/2/24 0:59	2.14	21.45	4.94	2006.74	2152.89	1.11	1.40	498.32	1.00
7/2/24 1:59	2.14	21.45	4.93	2006.63	2152.77	1.11	1.40	498.35	1.00
7/2/24 2:59	2.14	21.45	4.94	2005.74	2151.83	1.11	1.40	498.57	1.00
7/2/24 3:59	2.14	21.45	4.94	2006.23	2152.36	1.11	1.40	498.45	1.00
7/2/24 4:59	2.14	21.45	4.94	2006.68	2152.83	1.11	1.40	498.34	1.00
7/2/24 5:59	2.14	21.45	4.94	2006.82	2153.00	1.11	1.40	498.30	1.00
7/2/24 6:59	2.13	21.45	4.93	2006.63	2152.79	1.11	1.40	498.35	1.00
7/2/24 7:59	2.14	21.45	4.93	2006.77	2152.94	1.11	1.40	498.31	1.00
7/2/24 8:59	2.14	21.44	4.95	2006.62	2152.82	1.11	1.40	498.35	1.00
7/2/24 9:59	2.15	21.45	4.96	2006.70	2152.86	1.11	1.40	498.33	1.00
7/2/24 10:59	2.15	21.44	4.97	2006.82	2153.02	1.11	1.40	498.30	1.00
7/2/24 11:59	2.16	21.45	4.99	2006.65	2152.81	1.11	1.40	498.34	1.00
7/2/24 12:59	2.16	21.44	5.00	2006.64	2152.84	1.11	1.40	498.35	1.00
7/2/24 13:59	2.17	21.44	5.01	2006.65	2152.83	1.11	1.40	498.34	1.00
7/2/24 14:59	2.17	21.44	5.01	2006.67	2152.86	1.11	1.40	498.34	1.00
7/2/24 15:59	2.18	21.44	5.02	2006.71	2152.92	1.11	1.40	498.33	1.00
7/2/24 16:59	2.17	21.44	5.02	2006.85	2153.08	1.11	1.40	498.29	1.00
7/2/24 17:59	2.17	21.44	5.02	2005.45	2151.57	1.11	1.40	498.64	1.00
7/2/24 18:59	2.17	21.44	5.02	2006.36	2152.55	1.11	1.40	498.41	1.00
7/2/24 19:59	2.18	21.44	5.03	2006.32	2152.52	1.11	1.40	498.43	1.00
7/2/24 20:59	2.17	21.44	5.02	2006.42	2152.66	1.11	1.40	498.40	1.00
7/2/24 21:59	2.18	21.44	5.03	2006.54	2152.75	1.11	1.40	498.37	1.00
7/2/24 22:59	2.18	21.44	5.03	2006.73	2152.97	1.11	1.40	498.32	1.00
7/2/24 23:59	2.18	21.44	5.02	2006.87	2153.12	1.11	1.40	498.29	1.00
7/3/24 0:59	2.18	21.44	5.03	2006.64	2152.90	1.11	1.40	498.34	1.00
7/3/24 1:59	2.18	21.44	5.03	2006.86	2153.12	1.11	1.40	498.29	1.00
7/3/24 2:59	2.18	21.44	5.03	2006.73	2152.96	1.11	1.40	498.32	1.00
7/3/24 3:59	2.18	21.44	5.03	2006.71	2152.94	1.11	1.40	498.33	1.00
7/3/24 4:59	2.18	21.44	5.03	2006.21	2152.42	1.11	1.40	498.45	1.00
7/3/24 5:59	2.18	21.44	5.03	2006.43	2152.70	1.11	1.40	498.40	1.00
7/3/24 6:59	2.18	21.44	5.03	2006.53	2152.80	1.11	1.40	498.37	1.00
7/3/24 7:59	2.18	21.44	5.03	2006.48	2152.74	1.11	1.40	498.38	1.00
7/3/24 8:59	2.18	21.44	5.02	2006.32	2152.59	1.11	1.40	498.43	1.00
7/3/24 9:59	2.18	21.44	5.03	2006.45	2152.73	1.11	1.40	498.39	1.00
7/3/24 10:59	2.17	21.44	5.02	2006.96	2153.27	1.11	1.40	498.27	1.00
7/3/24 11:59	2.17	21.44	5.00	2006.56	2152.83	1.11	1.40	498.37	1.00
7/3/24 12:59	2.16	21.44	4.98	2006.78	2153.08	1.11	1.40	498.31	1.00
7/3/24 13:59	2.15	21.44	4.96	2006.89	2153.20	1.11	1.40	498.28	1.00
7/3/24 14:59	2.14	21.44	4.95	2006.95	2153.28	1.11	1.40	498.27	1.00
7/3/24 15:59	2.14	21.44	4.94	2006.82	2153.13	1.11	1.40	498.30	1.00
7/3/24 16:59	2.14	21.44	4.93	2006.63	2152.95	1.11	1.40	498.35	1.00
7/3/24 17:59	2.14	21.44	4.93	2006.82	2153.13	1.11	1.40	498.30	1.00
7/3/24 18:59	2.13	21.44	4.92	2006.30	2152.57	1.11	1.40	498.43	1.00
7/3/24 19:59	2.13	21.44	4.91	2006.60	2152.92	1.11	1.40	498.36	1.00
7/3/24 20:59	2.12	21.44	4.90	2006.72	2153.04	1.11	1.40	498.33	1.00
7/3/24 21:59	2.12	21.44	4.90	2006.89	2153.25	1.11	1.40	498.28	1.00
7/3/24 22:59	2.12	21.44	4.90	2006.98	2153.32	1.11	1.40	498.26	1.00
7/3/24 23:59	2.12	21.44	4.89	2006.98	2153.33	1.11	1.40	498.26	1.00
7/4/24 0:59	2.12	21.44	4.89	2006.80	2153.14	1.11	1.40	498.31	1.00
7/4/24 1:59	2.12	21.44	4.89	2006.87	2153.22	1.11	1.40	498.29	1.00
7/4/24 2:59	2.12	21.44	4.89	2005.90	2152.18	1.11	1.40	498.53	1.00
7/4/24 3:59	2.11	21.44	4.88	2006.70	2153.06	1.11	1.40	498.33	1.00
7/4/24 4:59	2.11	21.44	4.88	2006.69	2153.04	1.11	1.40	498.33	1.00
7/4/24 5:59	2.11	21.44	4.88	2006.65	2153.01	1.11	1.40	498.34	1.00
7/4/24 6:59	2.11	21.44	4.87	2006.86	2153.23	1.11	1.40	498.29	1.00
7/4/24 7:59	2.11	21.44	4.87	2006.88	2153.24	1.11	1.40	498.29	1.00
7/4/24 8:59	2.11	21.44	4.87	2006.24	2152.56	1.11	1.40	498.45	1.00
7/4/24 9:59	2.11	21.44	4.87	2006.73	2153.12	1.11	1.40	498.32	1.00
7/4/24 10:59	2.11	21.44	4.87	2006.73	2153.10	1.11	1.40	498.32	1.00
7/4/24 11:59	2.11	21.44	4.87	2006.58	2152.91	1.11	1.40	498.36	1.00
7/4/24 12:59	2.11	21.44	4.87	2006.75	2153.13	1.11	1.40	498.32	1.00
7/4/24 13:59	2.11	21.44	4.87	2006.80	2153.20	1.11	1.40	498.31	1.00
7/4/24 14:59	2.11	21.44	4.87	2006.25	2152.58	1.11	1.40	498.44	1.00
7/4/24 15:59	2.11	21.44	4.88	2006.61	2152.98	1.11	1.40	498.35	1.00
7/4/24 16:59	2.11	21.44	4.87	2006.56	2152.94	1.11	1.40	498.37	1.00
7/4/24 17:59	2.11	21.44	4.87	2006.25	2152.59	1.11	1.40	498.44	1.00
7/4/24 18:59	2.10	21.44	4.86	2006.68	2153.07	1.11	1.40	498.34	1.00
7/4/24 19:59	2.11	21.44	4.86	2006.58	2152.97	1.11	1.40	498.36	1.00
7/4/24 20:59	2.10	21.44	4.86	2006.74	2153.14	1.11	1.40	498.32	1.00
7/4/24 21:59	2.10	21.44	4.85	2006.89	2153.32	1.11	1.40	498.28	1.00
7/4/24 22:59	2.10	21.44	4.85	2005.75	2152.10	1.11	1.40	498.57	1.00
7/4/24 23:59	2.10	21.44	4.85	2006.16	2152.53	1.11	1.40	498.46	1.00
7/5/24 0:59	2.10	21.44	4.85	2006.74	2153.16	1.11	1.40	498.32	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/5/24 1:59	2.10	21.44	4.85	2006.61	2153.02	1.11	1.40	498.35	1.00
7/5/24 2:59	2.10	21.44	4.85	2006.81	2153.25	1.11	1.40	498.30	1.00
7/5/24 3:59	2.10	21.44	4.85	2006.93	2153.39	1.11	1.40	498.27	1.00
7/5/24 4:59	2.10	21.44	4.85	2006.44	2152.84	1.11	1.40	498.39	1.00
7/5/24 5:59	2.10	21.44	4.85	2006.85	2153.30	1.11	1.40	498.29	1.00
7/5/24 6:59	2.10	21.44	4.84	2006.82	2153.26	1.11	1.40	498.30	1.00
7/5/24 7:59	2.10	21.44	4.85	2006.81	2153.25	1.11	1.40	498.30	1.00
7/5/24 8:59	2.10	21.44	4.85	2006.79	2153.23	1.11	1.40	498.31	1.00
7/5/24 9:59	2.10	21.44	4.85	2006.67	2153.12	1.11	1.40	498.34	1.00
7/5/24 10:59	2.10	21.44	4.85	2006.90	2153.37	1.11	1.40	498.28	1.00
7/5/24 11:59	2.10	21.44	4.85	2006.78	2153.23	1.11	1.40	498.31	1.00
7/5/24 12:59	2.10	21.44	4.86	2006.60	2153.04	1.11	1.40	498.36	1.00
7/5/24 13:59	2.10	21.44	4.86	2006.69	2153.16	1.11	1.40	498.33	1.00
7/5/24 14:59	2.10	21.44	4.86	2006.83	2153.28	1.11	1.40	498.30	1.00
7/5/24 15:59	2.10	21.44	4.86	2006.79	2153.25	1.11	1.40	498.31	1.00
7/5/24 16:59	2.10	21.44	4.86	2006.83	2153.31	1.11	1.40	498.30	1.00
7/5/24 17:59	2.10	21.44	4.86	2006.81	2153.28	1.11	1.40	498.30	1.00
7/5/24 18:59	2.10	21.44	4.85	2006.91	2153.39	1.11	1.40	498.28	1.00
7/5/24 19:59	2.10	21.44	4.85	2006.92	2153.41	1.11	1.40	498.27	1.00
7/5/24 20:59	2.09	21.44	4.84	2007.00	2153.50	1.11	1.40	498.26	1.00
7/5/24 21:59	2.10	21.44	4.85	2005.82	2152.23	1.11	1.40	498.55	1.00
7/5/24 22:59	2.09	21.44	4.84	2006.61	2153.09	1.11	1.40	498.35	1.00
7/5/24 23:59	2.11	21.44	4.87	2006.68	2153.15	1.11	1.40	498.34	1.00
7/6/24 0:59	2.12	21.44	4.89	2005.92	2152.32	1.11	1.40	498.53	1.00
7/6/24 1:59	2.10	21.44	4.85	2006.29	2152.72	1.11	1.40	498.43	1.00
7/6/24 2:59	2.10	21.44	4.85	2006.45	2152.94	1.11	1.40	498.39	1.00
7/6/24 3:59	2.10	21.44	4.85	2006.07	2152.51	1.11	1.40	498.49	1.00
7/6/24 4:59	2.10	21.44	4.84	2006.56	2153.03	1.11	1.40	498.36	1.00
7/6/24 5:59	2.10	21.44	4.84	2006.71	2153.20	1.11	1.40	498.33	1.00
7/6/24 6:59	2.10	21.44	4.84	2006.46	2152.96	1.11	1.40	498.39	1.00
7/6/24 7:59	2.10	21.44	4.84	2006.69	2153.19	1.11	1.40	498.33	1.00
7/6/24 8:59	2.09	21.44	4.84	2006.88	2153.40	1.11	1.40	498.29	1.00
7/6/24 9:59	2.10	21.44	4.84	2006.24	2152.72	1.11	1.40	498.44	1.00
7/6/24 10:59	2.09	21.44	4.84	2006.62	2153.14	1.11	1.40	498.35	1.00
7/6/24 11:59	2.10	21.44	4.84	2006.69	2153.23	1.11	1.40	498.33	1.00
7/6/24 12:59	2.10	21.44	4.85	2006.23	2152.73	1.11	1.40	498.45	1.00
7/6/24 13:59	2.10	21.44	4.85	2006.34	2152.83	1.11	1.40	498.42	1.00
7/6/24 14:59	2.10	21.44	4.85	2006.79	2153.33	1.11	1.40	498.31	1.00
7/6/24 15:59	2.10	21.44	4.86	2005.90	2152.40	1.11	1.40	498.53	1.00
7/6/24 16:59	2.10	21.44	4.86	2006.49	2153.00	1.11	1.40	498.38	1.00
7/6/24 17:59	2.10	21.44	4.86	2006.72	2153.27	1.11	1.40	498.32	1.00
7/6/24 18:59	2.10	21.44	4.86	2006.67	2153.22	1.11	1.40	498.34	1.00
7/6/24 19:59	2.10	21.44	4.86	2006.86	2153.41	1.11	1.40	498.29	1.00
7/6/24 20:59	2.10	21.44	4.85	2006.76	2153.32	1.11	1.40	498.32	1.00
7/6/24 21:59	2.10	21.44	4.85	2006.79	2153.38	1.11	1.40	498.31	1.00
7/6/24 22:59	2.10	21.44	4.85	2006.30	2152.86	1.11	1.40	498.43	1.00
7/6/24 23:59	2.10	21.44	4.85	2006.63	2153.18	1.11	1.40	498.35	1.00
7/7/24 0:59	2.10	21.44	4.85	2006.86	2153.42	1.11	1.40	498.29	1.00
7/7/24 1:59	2.10	21.44	4.85	2006.35	2152.89	1.11	1.40	498.42	1.00
7/7/24 2:59	2.10	21.44	4.85	2006.54	2153.11	1.11	1.40	498.37	1.00
7/7/24 3:59	2.10	21.44	4.85	2006.72	2153.28	1.11	1.40	498.33	1.00
7/7/24 4:59	2.10	21.44	4.85	2006.37	2152.90	1.11	1.40	498.41	1.00
7/7/24 5:59	2.10	21.44	4.85	2006.70	2153.29	1.11	1.40	498.33	1.00
7/7/24 6:59	2.10	21.44	4.85	2006.67	2153.23	1.11	1.40	498.34	1.00
7/7/24 7:59	2.10	21.44	4.85	2006.06	2152.61	1.11	1.40	498.49	1.00
7/7/24 8:59	2.10	21.44	4.85	2006.42	2152.99	1.11	1.40	498.40	1.00
7/7/24 9:59	2.10	21.44	4.85	2006.77	2153.38	1.11	1.40	498.31	1.00
7/7/24 10:59	2.10	21.44	4.85	2006.69	2153.29	1.11	1.40	498.33	1.00
7/7/24 11:59	2.10	21.44	4.85	2006.79	2153.39	1.11	1.40	498.31	1.00
7/7/24 12:59	2.10	21.44	4.85	2006.85	2153.46	1.11	1.40	498.29	1.00
7/7/24 13:59	2.10	21.44	4.85	2006.87	2153.49	1.11	1.40	498.29	1.00
7/7/24 14:59	2.10	21.44	4.85	2006.31	2152.90	1.11	1.40	498.43	1.00
7/7/24 15:59	2.10	21.43	4.85	2006.60	2153.23	1.11	1.40	498.35	1.00
7/7/24 16:59	2.10	21.44	4.86	2006.73	2153.34	1.11	1.40	498.32	1.00
7/7/24 17:59	2.10	21.43	4.86	2005.71	2152.26	1.11	1.40	498.58	1.00
7/7/24 18:59	2.10	21.44	4.85	2006.14	2152.72	1.11	1.40	498.47	1.00
7/7/24 19:59	2.10	21.43	4.85	2006.60	2153.23	1.11	1.40	498.35	1.00
7/7/24 20:59	2.10	21.43	4.85	2006.86	2153.51	1.11	1.40	498.29	1.00
7/7/24 21:59	2.10	21.44	4.84	2006.71	2153.34	1.11	1.40	498.33	1.00
7/7/24 22:59	2.10	21.43	4.84	2006.70	2153.34	1.11	1.40	498.33	1.00
7/7/24 23:59	2.10	21.43	4.84	2006.86	2153.50	1.11	1.40	498.29	1.00
7/8/24 0:59	2.09	21.43	4.83	2006.45	2153.09	1.11	1.40	498.39	1.00
7/8/24 1:59	2.09	21.43	4.83	2006.74	2153.37	1.11	1.40	498.32	1.00
7/8/24 2:59	2.09	21.43	4.83	2006.99	2153.65	1.11	1.40	498.26	1.00
7/8/24 3:59	2.09	21.43	4.83	2006.00	2152.62	1.11	1.40	498.50	1.00
7/8/24 4:59	2.09	21.43	4.83	2006.49	2153.14	1.11	1.40	498.38	1.00
7/8/24 5:59	2.09	21.43	4.83	2006.77	2153.43	1.11	1.40	498.31	1.00
7/8/24 6:59	2.09	21.43	4.83	2006.39	2153.03	1.11	1.40	498.41	1.00
7/8/24 7:59	2.09	21.43	4.82	2006.59	2153.24	1.11	1.40	498.36	1.00
7/8/24 8:59	2.09	21.43	4.83	2006.44	2153.09	1.11	1.40	498.39	1.00
7/8/24 9:59	2.09	21.43	4.82	2005.64	2152.23	1.11	1.40	498.59	1.00
7/8/24 10:59	2.09	21.43	4.82	2006.48	2153.14	1.11	1.40	498.38	1.00
7/8/24 11:59	2.09	21.43	4.82	2006.98	2153.67	1.11	1.40	498.26	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/8/24 12:59	2.09	21.43	4.83	2006.90	2153.58	1.11	1.40	498.28	1.00
7/8/24 13:59	2.09	21.43	4.83	2006.35	2153.00	1.11	1.40	498.42	1.00
7/8/24 14:59	2.09	21.43	4.84	2006.53	2153.20	1.11	1.40	498.37	1.00
7/8/24 15:59	2.10	21.43	4.84	2006.68	2153.35	1.11	1.40	498.34	1.00
7/8/24 16:59	2.10	21.43	4.84	2006.72	2153.41	1.11	1.40	498.32	1.00
7/8/24 17:59	2.10	21.43	4.84	2006.21	2152.85	1.11	1.40	498.45	1.00
7/8/24 18:59	2.10	21.43	4.84	2006.42	2153.11	1.11	1.40	498.40	1.00
7/8/24 19:59	2.09	21.43	4.84	2006.59	2153.30	1.11	1.40	498.36	1.00
7/8/24 20:59	2.09	21.43	4.83	2006.55	2153.23	1.11	1.40	498.37	1.00
7/8/24 21:59	2.09	21.43	4.83	2006.76	2153.45	1.11	1.40	498.32	1.00
7/8/24 22:59	2.09	21.43	4.83	2006.74	2153.45	1.11	1.40	498.32	1.00
7/8/24 23:59	2.09	21.43	4.83	2006.79	2153.51	1.11	1.40	498.31	1.00
7/9/24 0:59	2.09	21.43	4.83	2006.65	2153.36	1.11	1.40	498.34	1.00
7/9/24 1:59	2.09	21.43	4.83	2006.71	2153.43	1.11	1.40	498.33	1.00
7/9/24 2:59	2.09	21.43	4.83	2006.12	2152.79	1.11	1.40	498.48	1.00
7/9/24 3:59	2.09	21.43	4.83	2006.54	2153.27	1.11	1.40	498.37	1.00
7/9/24 4:59	2.09	21.43	4.82	2006.69	2153.42	1.11	1.40	498.33	1.00
7/9/24 5:59	2.09	21.43	4.82	2006.71	2153.44	1.11	1.40	498.33	1.00
7/9/24 6:59	2.09	21.43	4.82	2006.82	2153.58	1.11	1.40	498.30	1.00
7/9/24 7:59	2.09	21.43	4.82	2006.93	2153.68	1.11	1.40	498.27	1.00
7/9/24 8:59	2.09	21.43	4.82	2006.84	2153.59	1.11	1.40	498.30	1.00
7/9/24 9:59	2.09	21.43	4.82	2006.79	2153.52	1.11	1.40	498.31	1.00
7/9/24 10:59	2.09	21.43	4.82	2006.26	2152.95	1.11	1.40	498.44	1.00
7/9/24 11:59	2.09	21.43	4.83	2006.63	2153.36	1.11	1.40	498.35	1.00
7/9/24 12:59	2.09	21.43	4.83	2006.58	2153.32	1.11	1.40	498.36	1.00
7/9/24 13:59	2.09	21.43	4.83	2006.80	2153.55	1.11	1.40	498.31	1.00
7/9/24 14:59	2.09	21.43	4.83	2006.82	2153.57	1.11	1.40	498.30	1.00
7/9/24 15:59	2.09	21.43	4.83	2006.69	2153.46	1.11	1.40	498.33	1.00
7/9/24 16:59	2.09	21.43	4.84	2005.79	2152.47	1.11	1.40	498.56	1.00
7/9/24 17:59	2.09	21.43	4.84	2006.54	2153.31	1.11	1.40	498.37	1.00
7/9/24 18:59	2.09	21.43	4.84	2006.74	2153.52	1.11	1.40	498.32	1.00
7/9/24 19:59	2.09	21.43	4.83	2006.59	2153.35	1.11	1.40	498.36	1.00
7/9/24 20:59	2.09	21.43	4.83	2006.65	2153.40	1.11	1.40	498.34	1.00
7/9/24 21:59	2.09	21.43	4.83	2006.82	2153.60	1.11	1.40	498.30	1.00
7/9/24 22:59	2.09	21.43	4.82	2006.37	2153.13	1.11	1.40	498.41	1.00
7/9/24 23:59	2.09	21.43	4.82	2006.53	2153.28	1.11	1.40	498.37	1.00
7/10/24 0:59	2.09	21.43	4.82	2006.57	2153.33	1.11	1.40	498.36	1.00
7/10/24 1:59	2.08	21.43	4.81	2006.70	2153.48	1.11	1.40	498.33	1.00
7/10/24 2:59	2.08	21.43	4.81	2006.87	2153.67	1.11	1.40	498.29	1.00
7/10/24 3:59	2.09	21.43	4.82	2006.97	2153.78	1.11	1.40	498.26	1.00
7/10/24 4:59	2.09	21.43	4.82	2005.94	2152.68	1.11	1.40	498.52	1.00
7/10/24 5:59	2.09	21.43	4.82	2006.74	2153.56	1.11	1.40	498.32	1.00
7/10/24 6:59	2.09	21.43	4.82	2006.44	2153.22	1.11	1.40	498.40	1.00
7/10/24 7:59	2.08	21.43	4.81	2006.56	2153.36	1.11	1.40	498.36	1.00
7/10/24 8:59	2.09	21.43	4.82	2006.77	2153.58	1.11	1.40	498.31	1.00
7/10/24 9:59	2.09	21.43	4.82	2006.52	2153.32	1.11	1.40	498.38	1.00
7/10/24 10:59	2.09	21.43	4.82	2006.50	2153.31	1.11	1.40	498.38	1.00
7/10/24 11:59	2.09	21.43	4.82	2006.45	2153.24	1.11	1.40	498.39	1.00
7/10/24 12:59	2.09	21.43	4.83	2006.55	2153.35	1.11	1.40	498.37	1.00
7/10/24 13:59	2.09	21.43	4.83	2006.67	2153.48	1.11	1.40	498.34	1.00
7/10/24 14:59	2.09	21.43	4.83	2006.94	2153.79	1.11	1.40	498.27	1.00
7/10/24 15:59	2.09	21.43	4.82	2006.20	2153.00	1.11	1.40	498.46	1.00
7/10/24 16:59	2.09	21.43	4.82	2006.65	2153.46	1.11	1.40	498.34	1.00
7/10/24 17:59	2.09	21.43	4.82	2006.28	2153.08	1.11	1.40	498.44	1.00
7/10/24 18:59	2.09	21.43	4.82	2006.52	2153.36	1.11	1.40	498.37	1.00
7/10/24 19:59	2.09	21.43	4.82	2005.77	2152.53	1.11	1.40	498.56	1.00
7/10/24 20:59	2.09	21.43	4.82	2006.17	2152.96	1.11	1.40	498.46	1.00
7/10/24 21:59	2.09	21.43	4.82	2006.59	2153.42	1.11	1.40	498.36	1.00
7/10/24 22:59	2.09	21.43	4.82	2006.52	2153.35	1.11	1.40	498.38	1.00
7/10/24 23:59	2.09	21.43	4.82	2006.50	2153.34	1.11	1.40	498.38	1.00
7/11/24 0:59	2.09	21.43	4.82	2006.53	2153.35	1.11	1.40	498.37	1.00
7/11/24 1:59	2.09	21.43	4.82	2006.61	2153.44	1.11	1.40	498.35	1.00
7/11/24 2:59	2.09	21.43	4.82	2006.54	2153.41	1.11	1.40	498.37	1.00
7/11/24 3:59	2.09	21.43	4.82	2006.64	2153.50	1.11	1.40	498.35	1.00
7/11/24 4:59	2.09	21.43	4.82	2006.67	2153.52	1.11	1.40	498.34	1.00
7/11/24 5:59	2.08	21.43	4.81	2006.53	2153.37	1.11	1.40	498.37	1.00
7/11/24 6:59	2.08	21.43	4.81	2006.49	2153.33	1.11	1.40	498.38	1.00
7/11/24 7:59	2.08	21.43	4.81	2006.83	2153.71	1.11	1.40	498.30	1.00
7/11/24 8:59	2.08	21.43	4.81	2006.60	2153.45	1.11	1.40	498.36	1.00
7/11/24 9:59	2.08	21.43	4.81	2006.90	2153.79	1.11	1.40	498.28	1.00
7/11/24 10:59	2.08	21.43	4.81	2006.70	2153.58	1.11	1.40	498.33	1.00
7/11/24 11:59	2.08	21.43	4.82	2006.54	2153.41	1.11	1.40	498.37	1.00
7/11/24 12:59	2.09	21.43	4.82	2006.82	2153.71	1.11	1.40	498.30	1.00
7/11/24 13:59	2.09	21.43	4.82	2006.51	2153.39	1.11	1.40	498.38	1.00
7/11/24 14:59	2.09	21.43	4.82	2006.63	2153.52	1.11	1.40	498.35	1.00
7/11/24 15:59	2.09	21.43	4.82	2006.78	2153.69	1.11	1.40	498.31	1.00
7/11/24 16:59	2.09	21.43	4.82	2006.52	2153.40	1.11	1.40	498.37	1.00
7/11/24 17:59	2.09	21.43	4.82	2006.65	2153.55	1.11	1.40	498.34	1.00
7/11/24 18:59	2.09	21.43	4.82	2006.75	2153.64	1.11	1.40	498.32	1.00
7/11/24 19:59	2.09	21.43	4.82	2006.52	2153.43	1.11	1.40	498.38	1.00
7/11/24 20:59	2.09	21.43	4.82	2006.75	2153.67	1.11	1.40	498.32	1.00
7/11/24 21:59	2.08	21.43	4.81	2006.80	2153.71	1.11	1.40	498.31	1.00
7/11/24 22:59	2.08	21.43	4.81	2006.62	2153.54	1.11	1.40	498.35	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/11/24 23:59	2.08	21.43	4.81	2006.52	2153.43	1.11	1.40	498.37	1.00
7/12/24 0:59	2.08	21.43	4.81	2006.54	2153.44	1.11	1.40	498.37	1.00
7/12/24 1:59	2.08	21.43	4.81	2006.56	2153.48	1.11	1.40	498.37	1.00
7/12/24 2:59	2.08	21.43	4.81	2006.57	2153.48	1.11	1.40	498.36	1.00
7/12/24 3:59	2.08	21.43	4.81	2006.57	2153.50	1.11	1.40	498.36	1.00
7/12/24 4:59	2.08	21.43	4.81	2006.60	2153.52	1.11	1.40	498.36	1.00
7/12/24 5:59	2.08	21.43	4.81	2006.49	2153.39	1.11	1.40	498.38	1.00
7/12/24 6:59	2.08	21.43	4.81	2006.46	2153.39	1.11	1.40	498.39	1.00
7/12/24 7:59	2.08	21.43	4.81	2006.65	2153.56	1.11	1.40	498.34	1.00
7/12/24 8:59	2.08	21.43	4.81	2006.75	2153.68	1.11	1.40	498.32	1.00
7/12/24 9:59	2.08	21.43	4.81	2006.63	2153.58	1.11	1.40	498.35	1.00
7/12/24 10:59	2.08	21.43	4.81	2006.62	2153.55	1.11	1.40	498.35	1.00
7/12/24 11:59	2.08	21.43	4.81	2006.57	2153.51	1.11	1.40	498.36	1.00
7/12/24 12:59	2.08	21.43	4.81	2006.61	2153.56	1.11	1.40	498.35	1.00
7/12/24 13:59	2.08	21.43	4.81	2006.43	2153.35	1.11	1.40	498.40	1.00
7/12/24 14:59	2.09	21.43	4.82	2006.72	2153.67	1.11	1.40	498.33	1.00
7/12/24 15:59	2.08	21.43	4.81	2006.59	2153.54	1.11	1.40	498.36	1.00
7/12/24 16:59	2.09	21.43	4.82	2006.60	2153.54	1.11	1.40	498.36	1.00
7/12/24 17:59	2.09	21.43	4.82	2006.67	2153.62	1.11	1.40	498.34	1.00
7/12/24 18:59	2.08	21.43	4.81	2006.67	2153.65	1.11	1.40	498.34	1.00
7/12/24 19:59	2.08	21.43	4.81	2006.61	2153.57	1.11	1.40	498.35	1.00
7/12/24 20:59	2.08	21.43	4.81	2006.63	2153.59	1.11	1.40	498.35	1.00
7/12/24 21:59	2.08	21.43	4.81	2006.67	2153.63	1.11	1.40	498.34	1.00
7/12/24 22:59	2.08	21.43	4.81	2006.71	2153.68	1.11	1.40	498.33	1.00
7/12/24 23:59	2.08	21.43	4.81	2006.62	2153.58	1.11	1.40	498.35	1.00
7/13/24 0:59	2.08	21.43	4.80	2006.70	2153.67	1.11	1.40	498.33	1.00
7/13/24 1:59	2.08	21.43	4.81	2006.68	2153.65	1.11	1.40	498.34	1.00
7/13/24 2:59	2.08	21.43	4.81	2006.45	2153.42	1.11	1.40	498.39	1.00
7/13/24 3:59	2.08	21.43	4.81	2006.66	2153.65	1.11	1.40	498.34	1.00
7/13/24 4:59	2.08	21.43	4.80	2006.61	2153.58	1.11	1.40	498.35	1.00
7/13/24 5:59	2.08	21.43	4.80	2006.46	2153.45	1.11	1.40	498.39	1.00
7/13/24 6:59	2.08	21.43	4.80	2006.99	2154.01	1.11	1.40	498.26	1.00
7/13/24 7:59	2.08	21.43	4.80	2006.57	2153.55	1.11	1.40	498.36	1.00
7/13/24 8:59	2.08	21.43	4.80	2006.62	2153.62	1.11	1.40	498.35	1.00
7/13/24 9:59	2.08	21.43	4.80	2005.97	2152.94	1.11	1.40	498.51	1.00
7/13/24 10:59	2.08	21.43	4.81	2006.43	2153.41	1.11	1.40	498.40	1.00
7/13/24 11:59	2.08	21.43	4.81	2006.35	2153.33	1.11	1.40	498.42	1.00
7/13/24 12:59	2.08	21.43	4.81	2006.63	2153.63	1.11	1.40	498.35	1.00
7/13/24 13:59	2.08	21.43	4.81	2006.50	2153.50	1.11	1.40	498.38	1.00
7/13/24 14:59	2.08	21.43	4.81	2006.52	2153.52	1.11	1.40	498.37	1.00
7/13/24 15:59	2.08	21.43	4.81	2006.55	2153.56	1.11	1.40	498.37	1.00
7/13/24 16:59	2.08	21.43	4.81	2006.66	2153.68	1.11	1.40	498.34	1.00
7/13/24 17:59	2.08	21.43	4.81	2006.69	2153.69	1.11	1.40	498.33	1.00
7/13/24 18:59	2.08	21.43	4.81	2006.57	2153.60	1.11	1.40	498.36	1.00
7/13/24 19:59	2.08	21.43	4.81	2006.73	2153.75	1.11	1.40	498.32	1.00
7/13/24 20:59	2.08	21.43	4.80	2006.58	2153.58	1.11	1.40	498.36	1.00
7/13/24 21:59	2.08	21.43	4.80	2006.45	2153.48	1.11	1.40	498.39	1.00
7/13/24 22:59	2.08	21.43	4.80	2006.60	2153.63	1.11	1.40	498.36	1.00
7/13/24 23:59	2.08	21.43	4.80	2006.92	2153.99	1.11	1.40	498.27	1.00
7/14/24 0:59	2.08	21.43	4.80	2006.70	2153.73	1.11	1.40	498.33	1.00
7/14/24 1:59	2.08	21.43	4.80	2006.57	2153.60	1.11	1.40	498.36	1.00
7/14/24 2:59	2.08	21.43	4.80	2006.72	2153.77	1.11	1.40	498.32	1.00
7/14/24 3:59	2.08	21.43	4.80	2006.80	2153.86	1.11	1.40	498.31	1.00
7/14/24 4:59	2.08	21.43	4.80	2006.69	2153.73	1.11	1.40	498.33	1.00
7/14/24 5:59	2.08	21.43	4.80	2006.76	2153.82	1.11	1.40	498.32	1.00
7/14/24 6:59	2.08	21.43	4.80	2006.78	2153.85	1.11	1.40	498.31	1.00
7/14/24 7:59	2.08	21.43	4.80	2006.88	2153.95	1.11	1.40	498.29	1.00
7/14/24 8:59	2.08	21.43	4.80	2006.77	2153.83	1.11	1.40	498.31	1.00
7/14/24 9:59	2.08	21.43	4.80	2006.87	2153.93	1.11	1.40	498.29	1.00
7/14/24 10:59	2.08	21.43	4.80	2006.57	2153.62	1.11	1.40	498.36	1.00
7/14/24 11:59	2.08	21.42	4.80	2006.71	2153.78	1.11	1.40	498.33	1.00
7/14/24 12:59	2.08	21.42	4.80	2006.61	2153.69	1.11	1.40	498.35	1.00
7/14/24 13:59	2.08	21.43	4.81	2006.56	2153.61	1.11	1.40	498.37	1.00
7/14/24 14:59	2.08	21.42	4.81	2006.47	2153.53	1.11	1.40	498.39	1.00
7/14/24 15:59	2.08	21.42	4.81	2006.53	2153.62	1.11	1.40	498.37	1.00
7/14/24 16:59	2.08	21.42	4.81	2006.74	2153.82	1.11	1.40	498.32	1.00
7/14/24 17:59	2.08	21.42	4.81	2006.72	2153.81	1.11	1.40	498.33	1.00
7/14/24 18:59	2.08	21.42	4.81	2006.57	2153.66	1.11	1.40	498.36	1.00
7/14/24 19:59	2.08	21.42	4.81	2006.90	2154.00	1.11	1.40	498.28	1.00
7/14/24 20:59	2.08	21.42	4.81	2006.71	2153.81	1.11	1.40	498.33	1.00
7/14/24 21:59	2.08	21.42	4.80	2006.67	2153.77	1.11	1.40	498.34	1.00
7/14/24 22:59	2.08	21.42	4.80	2006.70	2153.79	1.11	1.40	498.33	1.00
7/14/24 23:59	2.08	21.42	4.80	2006.78	2153.89	1.11	1.40	498.31	1.00
7/15/24 0:59	2.08	21.42	4.80	2006.64	2153.75	1.11	1.40	498.35	1.00
7/15/24 1:59	2.08	21.42	4.80	2006.78	2153.88	1.11	1.40	498.31	1.00
7/15/24 2:59	2.08	21.42	4.80	2006.72	2153.84	1.11	1.40	498.33	1.00
7/15/24 3:59	2.08	21.42	4.80	2006.86	2153.96	1.11	1.40	498.29	1.00
7/15/24 4:59	2.08	21.42	4.80	2005.94	2152.98	1.11	1.40	498.52	1.00
7/15/24 5:59	2.08	21.42	4.80	2006.51	2153.59	1.11	1.40	498.38	1.00
7/15/24 6:59	2.08	21.42	4.80	2006.60	2153.71	1.11	1.40	498.35	1.00
7/15/24 7:59	2.08	21.42	4.80	2006.53	2153.63	1.11	1.40	498.37	1.00
7/15/24 8:59	2.08	21.42	4.80	2006.57	2153.67	1.11	1.40	498.36	1.00
7/15/24 9:59	2.08	21.42	4.80	2006.64	2153.77	1.11	1.40	498.34	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/15/24 10:59	2.08	21.42	4.80	2006.18	2153.27	1.11	1.40	498.46	1.00
7/15/24 11:59	2.08	21.42	4.80	2006.89	2154.04	1.11	1.40	498.28	1.00
7/15/24 12:59	2.08	21.42	4.80	2006.56	2153.67	1.11	1.40	498.36	1.00
7/15/24 13:59	2.08	21.42	4.81	2006.71	2153.84	1.11	1.40	498.33	1.00
7/15/24 14:59	2.08	21.42	4.81	2006.64	2153.76	1.11	1.40	498.35	1.00
7/15/24 15:59	2.08	21.42	4.81	2006.01	2153.10	1.11	1.40	498.50	1.00
7/15/24 16:59	2.08	21.42	4.81	2006.53	2153.64	1.11	1.40	498.37	1.00
7/15/24 17:59	2.08	21.42	4.81	2006.44	2153.56	1.11	1.40	498.40	1.00
7/15/24 18:59	2.08	21.42	4.81	2006.55	2153.71	1.11	1.40	498.37	1.00
7/15/24 19:59	2.08	21.42	4.81	2006.44	2153.56	1.11	1.40	498.40	1.00
7/15/24 20:59	2.08	21.42	4.80	2006.65	2153.81	1.11	1.40	498.34	1.00
7/15/24 21:59	2.08	21.42	4.80	2006.67	2153.81	1.11	1.40	498.34	1.00
7/15/24 22:59	2.08	21.42	4.80	2006.69	2153.83	1.11	1.40	498.33	1.00
7/15/24 23:59	2.08	21.42	4.80	2006.81	2154.01	1.11	1.40	498.30	1.00
7/16/24 0:59	2.08	21.42	4.80	2006.74	2153.90	1.11	1.40	498.32	1.00
7/16/24 1:59	2.08	21.42	4.80	2006.33	2153.47	1.11	1.40	498.42	1.00
7/16/24 2:59	2.08	21.42	4.80	2006.41	2153.56	1.11	1.40	498.40	1.00
7/16/24 3:59	2.08	21.42	4.80	2006.71	2153.87	1.11	1.40	498.33	1.00
7/16/24 4:59	2.08	21.42	4.80	2006.77	2153.95	1.11	1.40	498.31	1.00
7/16/24 5:59	2.08	21.42	4.80	2006.81	2154.00	1.11	1.40	498.30	1.00
7/16/24 6:59	2.08	21.42	4.80	2006.54	2153.69	1.11	1.40	498.37	1.00
7/16/24 7:59	2.08	21.42	4.79	2005.76	2152.84	1.11	1.40	498.56	1.00
7/16/24 8:59	2.08	21.42	4.80	2006.12	2153.25	1.11	1.40	498.47	1.00
7/16/24 9:59	2.08	21.42	4.79	2006.51	2153.67	1.11	1.40	498.38	1.00
7/16/24 10:59	2.08	21.42	4.80	2006.28	2153.41	1.11	1.40	498.44	1.00
7/16/24 11:59	2.08	21.42	4.80	2006.59	2153.76	1.11	1.40	498.36	1.00
7/16/24 12:59	2.08	21.42	4.80	2006.47	2153.62	1.11	1.40	498.39	1.00
7/16/24 13:59	2.08	21.42	4.80	2006.51	2153.67	1.11	1.40	498.38	1.00
7/16/24 14:59	2.08	21.42	4.80	2006.66	2153.84	1.11	1.40	498.34	1.00
7/16/24 15:59	2.08	21.42	4.80	2006.81	2153.99	1.11	1.40	498.30	1.00
7/16/24 16:59	2.08	21.42	4.81	2006.79	2153.99	1.11	1.40	498.31	1.00
7/16/24 17:59	2.08	21.42	4.80	2006.68	2153.88	1.11	1.40	498.33	1.00
7/16/24 18:59	2.08	21.42	4.80	2006.44	2153.62	1.11	1.40	498.40	1.00
7/16/24 19:59	2.08	21.42	4.80	2006.64	2153.84	1.11	1.40	498.35	1.00
7/16/24 20:59	2.08	21.42	4.80	2006.77	2153.98	1.11	1.40	498.31	1.00
7/16/24 21:59	2.08	21.42	4.80	2006.88	2154.09	1.11	1.40	498.28	1.00
7/16/24 22:59	2.08	21.42	4.79	2006.60	2153.80	1.11	1.40	498.36	1.00
7/16/24 23:59	2.08	21.42	4.79	2006.58	2153.77	1.11	1.40	498.36	1.00
7/17/24 0:59	2.08	21.42	4.79	2006.05	2153.19	1.11	1.40	498.49	1.00
7/17/24 1:59	2.08	21.42	4.80	2006.23	2153.39	1.11	1.40	498.45	1.00
7/17/24 2:59	2.07	21.42	4.79	2006.30	2153.49	1.11	1.40	498.43	1.00
7/17/24 3:59	2.07	21.42	4.79	2006.42	2153.62	1.11	1.40	498.40	1.00
7/17/24 4:59	2.07	21.42	4.79	2006.25	2153.43	1.11	1.40	498.44	1.00
7/17/24 5:59	2.07	21.42	4.78	2006.54	2153.76	1.11	1.40	498.37	1.00
7/17/24 6:59	2.07	21.42	4.78	2006.59	2153.81	1.11	1.40	498.36	1.00
7/17/24 7:59	2.07	21.42	4.79	2006.62	2153.84	1.11	1.40	498.35	1.00
7/17/24 8:59	2.07	21.42	4.78	2005.70	2152.85	1.11	1.40	498.58	1.00
7/17/24 9:59	2.07	21.42	4.79	2006.20	2153.39	1.11	1.40	498.46	1.00
7/17/24 10:59	2.07	21.42	4.79	2006.74	2153.99	1.11	1.40	498.32	1.00
7/17/24 11:59	2.07	21.42	4.79	2006.61	2153.83	1.11	1.40	498.35	1.00
7/17/24 12:59	2.07	21.42	4.79	2006.43	2153.63	1.11	1.40	498.40	1.00
7/17/24 13:59	2.08	21.42	4.79	2006.65	2153.90	1.11	1.40	498.34	1.00
7/17/24 14:59	2.08	21.42	4.80	2005.70	2152.87	1.11	1.40	498.58	1.00
7/17/24 15:59	2.08	21.42	4.80	2006.27	2153.50	1.11	1.40	498.44	1.00
7/17/24 16:59	2.08	21.42	4.80	2006.74	2153.98	1.11	1.40	498.32	1.00
7/17/24 17:59	2.08	21.42	4.80	2006.67	2153.94	1.11	1.40	498.34	1.00
7/17/24 18:59	2.08	21.42	4.79	2006.71	2153.97	1.11	1.40	498.33	1.00
7/17/24 19:59	2.07	21.42	4.79	2006.73	2153.99	1.11	1.40	498.32	1.00
7/17/24 20:59	2.07	21.42	4.78	2005.93	2153.15	1.11	1.40	498.52	1.00
7/17/24 21:59	2.06	21.42	4.77	2006.47	2153.71	1.11	1.40	498.39	1.00
7/17/24 22:59	2.06	21.42	4.77	2006.56	2153.80	1.11	1.40	498.37	1.00
7/17/24 23:59	2.07	21.42	4.77	2006.57	2153.83	1.11	1.40	498.36	1.00
7/18/24 0:59	2.07	21.42	4.78	2006.60	2153.87	1.11	1.40	498.36	1.00
7/18/24 1:59	2.10	21.42	4.85	2006.66	2153.95	1.11	1.40	498.34	1.00
7/18/24 2:59	2.07	21.42	4.78	2005.62	2152.82	1.11	1.40	498.60	1.00
7/18/24 3:59	2.07	21.42	4.78	2006.40	2153.66	1.11	1.40	498.41	1.00
7/18/24 4:59	2.07	21.42	4.78	2006.55	2153.81	1.11	1.40	498.37	1.00
7/18/24 5:59	2.07	21.42	4.79	2006.89	2154.19	1.11	1.40	498.28	1.00
7/18/24 6:59	2.07	21.42	4.78	2006.29	2153.54	1.11	1.40	498.43	1.00
7/18/24 7:59	2.07	21.42	4.77	2006.56	2153.85	1.11	1.40	498.36	1.00
7/18/24 8:59	2.07	21.42	4.78	2006.63	2153.91	1.11	1.40	498.35	1.00
7/18/24 9:59	2.07	21.42	4.78	2006.24	2153.52	1.11	1.40	498.44	1.00
7/18/24 10:59	2.07	21.42	4.78	2006.32	2153.59	1.11	1.40	498.43	1.00
7/18/24 11:59	2.07	21.42	4.79	2006.83	2154.14	1.11	1.40	498.30	1.00
7/18/24 12:59	2.07	21.42	4.79	2006.72	2154.02	1.11	1.40	498.33	1.00
7/18/24 13:59	2.08	21.42	4.79	2006.29	2153.58	1.11	1.40	498.43	1.00
7/18/24 14:59	2.08	21.42	4.79	2006.67	2153.97	1.11	1.40	498.34	1.00
7/18/24 15:59	2.07	21.42	4.79	2006.76	2154.07	1.11	1.40	498.32	1.00
7/18/24 16:59	2.08	21.42	4.79	2006.75	2154.07	1.11	1.40	498.32	1.00
7/18/24 17:59	2.08	21.42	4.79	2005.91	2153.16	1.11	1.40	498.53	1.00
7/18/24 18:59	2.07	21.42	4.79	2006.37	2153.68	1.11	1.40	498.41	1.00
7/18/24 19:59	2.07	21.42	4.79	2006.74	2154.08	1.11	1.40	498.32	1.00
7/18/24 20:59	2.07	21.42	4.79	2006.65	2153.96	1.11	1.40	498.34	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/18/24 21:59	2.07	21.42	4.79	2006.03	2153.27	1.11	1.40	498.50	1.00
7/18/24 22:59	2.07	21.42	4.78	2006.50	2153.81	1.11	1.40	498.38	1.00
7/18/24 23:59	2.07	21.42	4.79	2006.70	2154.03	1.11	1.40	498.33	1.00
7/19/24 0:59	2.07	21.42	4.78	2006.61	2153.92	1.11	1.40	498.35	1.00
7/19/24 1:59	2.07	21.42	4.78	2006.64	2153.99	1.11	1.40	498.35	1.00
7/19/24 2:59	2.07	21.42	4.78	2006.28	2153.60	1.11	1.40	498.43	1.00
7/19/24 3:59	2.07	21.42	4.79	2006.60	2153.93	1.11	1.40	498.36	1.00
7/19/24 4:59	2.07	21.42	4.78	2006.44	2153.75	1.11	1.40	498.39	1.00
7/19/24 5:59	2.07	21.42	4.78	2006.51	2153.83	1.11	1.40	498.38	1.00
7/19/24 6:59	2.07	21.42	4.78	2006.86	2154.22	1.11	1.40	498.29	1.00
7/19/24 7:59	2.07	21.42	4.77	2006.85	2154.22	1.11	1.40	498.29	1.00
7/19/24 8:59	2.07	21.42	4.77	2006.23	2153.55	1.11	1.40	498.45	1.00
7/19/24 9:59	2.07	21.42	4.78	2006.73	2154.08	1.11	1.40	498.32	1.00
7/19/24 10:59	2.07	21.42	4.77	2006.78	2154.13	1.11	1.40	498.31	1.00
7/19/24 11:59	2.07	21.42	4.77	2006.70	2154.04	1.11	1.40	498.33	1.00
7/19/24 12:59	2.06	21.42	4.77	2006.96	2154.34	1.11	1.40	498.27	1.00
7/19/24 13:59	2.07	21.42	4.77	2006.94	2154.33	1.11	1.40	498.27	1.00
7/19/24 14:59	2.07	21.42	4.77	2006.31	2153.65	1.11	1.40	498.43	1.00
7/19/24 15:59	2.07	21.42	4.77	2006.37	2153.70	1.11	1.40	498.41	1.00
7/19/24 16:59	2.07	21.42	4.78	2006.81	2154.19	1.11	1.40	498.30	1.00
7/19/24 17:59	2.07	21.42	4.77	2006.98	2154.37	1.11	1.40	498.26	1.00
7/19/24 18:59	2.07	21.42	4.77	2006.84	2154.22	1.11	1.40	498.29	1.00
7/19/24 19:59	2.07	21.42	4.77	2006.83	2154.20	1.11	1.40	498.30	1.00
7/19/24 20:59	2.06	21.42	4.77	2007.18	2154.59	1.12	1.40	498.21	1.00
7/19/24 21:59	2.06	21.42	4.77	2006.92	2154.33	1.11	1.40	498.28	1.00
7/19/24 22:59	2.06	21.42	4.77	2007.22	2154.64	1.12	1.40	498.20	1.00
7/19/24 23:59	2.06	21.42	4.77	2006.53	2153.90	1.11	1.40	498.37	1.00
7/20/24 0:59	2.06	21.42	4.77	2006.99	2154.39	1.12	1.40	498.26	1.00
7/20/24 1:59	2.06	21.42	4.77	2007.14	2154.56	1.12	1.40	498.22	1.00
7/20/24 2:59	2.07	21.42	4.77	2007.05	2154.48	1.12	1.40	498.24	1.00
7/20/24 3:59	2.06	21.42	4.77	2006.32	2153.69	1.11	1.40	498.43	1.00
7/20/24 4:59	2.06	21.42	4.77	2006.95	2154.37	1.11	1.40	498.27	1.00
7/20/24 5:59	2.06	21.42	4.76	2006.84	2154.27	1.11	1.40	498.30	1.00
7/20/24 6:59	2.06	21.42	4.76	2006.98	2154.40	1.12	1.40	498.26	1.00
7/20/24 7:59	2.06	21.42	4.77	2006.96	2154.39	1.12	1.40	498.27	1.00
7/20/24 8:59	2.06	21.42	4.76	2006.96	2154.39	1.12	1.40	498.27	1.00
7/20/24 9:59	2.06	21.42	4.76	2006.06	2153.43	1.11	1.40	498.49	1.00
7/20/24 10:59	2.06	21.42	4.76	2006.39	2153.78	1.11	1.40	498.41	1.00
7/20/24 11:59	2.06	21.42	4.77	2006.87	2154.29	1.11	1.40	498.29	1.00
7/20/24 12:59	2.06	21.42	4.76	2006.91	2154.34	1.11	1.40	498.28	1.00
7/20/24 13:59	2.06	21.42	4.77	2006.72	2154.13	1.11	1.40	498.32	1.00
7/20/24 14:59	2.07	21.42	4.77	2006.85	2154.29	1.11	1.40	498.29	1.00
7/20/24 15:59	2.07	21.42	4.77	2007.10	2154.54	1.12	1.40	498.23	1.00
7/20/24 16:59	2.07	21.42	4.77	2007.05	2154.50	1.12	1.40	498.24	1.00
7/20/24 17:59	2.07	21.42	4.77	2007.00	2154.44	1.12	1.40	498.26	1.00
7/20/24 18:59	2.07	21.42	4.77	2006.92	2154.36	1.11	1.40	498.28	1.00
7/20/24 19:59	2.06	21.42	4.76	2006.99	2154.44	1.12	1.40	498.26	1.00
7/20/24 20:59	2.06	21.42	4.77	2006.85	2154.31	1.11	1.40	498.29	1.00
7/20/24 21:59	2.06	21.42	4.76	2006.92	2154.36	1.11	1.40	498.28	1.00
7/20/24 22:59	2.06	21.42	4.76	2006.33	2153.73	1.11	1.40	498.42	1.00
7/20/24 23:59	2.06	21.42	4.75	2006.59	2154.03	1.11	1.40	498.36	1.00
7/21/24 0:59	2.06	21.42	4.75	2006.80	2154.25	1.11	1.40	498.30	1.00
7/21/24 1:59	2.06	21.42	4.75	2006.77	2154.21	1.11	1.40	498.31	1.00
7/21/24 2:59	2.06	21.42	4.75	2006.23	2153.65	1.11	1.40	498.45	1.00
7/21/24 3:59	2.05	21.42	4.74	2006.11	2153.51	1.11	1.40	498.48	1.00
7/21/24 4:59	2.06	21.42	4.76	2006.54	2153.99	1.11	1.40	498.37	1.00
7/21/24 5:59	2.06	21.42	4.76	2006.74	2154.17	1.11	1.40	498.32	1.00
7/21/24 6:59	2.06	21.42	4.76	2006.65	2154.11	1.11	1.40	498.34	1.00
7/21/24 7:59	2.06	21.42	4.76	2006.55	2154.00	1.11	1.40	498.37	1.00
7/21/24 8:59	2.06	21.42	4.76	2006.84	2154.31	1.11	1.40	498.30	1.00
7/21/24 9:59	2.06	21.42	4.75	2006.56	2154.02	1.11	1.40	498.37	1.00
7/21/24 10:59	2.06	21.42	4.76	2006.87	2154.34	1.11	1.40	498.29	1.00
7/21/24 11:59	2.06	21.42	4.76	2006.80	2154.29	1.11	1.40	498.31	1.00
7/21/24 12:59	2.06	21.42	4.76	2006.87	2154.35	1.11	1.40	498.29	1.00
7/21/24 13:59	2.06	21.42	4.76	2006.83	2154.33	1.11	1.40	498.30	1.00
7/21/24 14:59	2.06	21.42	4.76	2006.95	2154.44	1.12	1.40	498.27	1.00
7/21/24 15:59	2.06	21.42	4.76	2006.84	2154.33	1.11	1.40	498.30	1.00
7/21/24 16:59	2.06	21.42	4.76	2006.90	2154.39	1.12	1.40	498.28	1.00
7/21/24 17:59	2.06	21.42	4.77	2007.04	2154.55	1.12	1.40	498.25	1.00
7/21/24 18:59	2.06	21.42	4.76	2006.81	2154.30	1.11	1.40	498.30	1.00
7/21/24 19:59	2.06	21.42	4.76	2006.76	2154.24	1.11	1.40	498.32	1.00
7/21/24 20:59	2.06	21.42	4.76	2006.76	2154.25	1.11	1.40	498.32	1.00
7/21/24 21:59	2.06	21.42	4.75	2006.74	2154.22	1.11	1.40	498.32	1.00
7/21/24 22:59	2.06	21.42	4.75	2006.78	2154.26	1.11	1.40	498.31	1.00
7/21/24 23:59	2.06	21.42	4.75	2006.85	2154.35	1.11	1.40	498.29	1.00
7/22/24 0:59	2.09	21.42	4.82	2005.76	2153.19	1.11	1.40	498.56	1.00
7/22/24 1:59	2.06	21.41	4.76	2006.28	2153.76	1.11	1.40	498.44	1.00
7/22/24 2:59	2.06	21.42	4.76	2006.33	2153.80	1.11	1.40	498.42	1.00
7/22/24 3:59	2.06	21.42	4.76	2006.57	2154.05	1.11	1.40	498.36	1.00
7/22/24 4:59	2.06	21.42	4.76	2006.49	2153.97	1.11	1.40	498.38	1.00
7/22/24 5:59	2.06	21.41	4.76	2006.71	2154.22	1.11	1.40	498.33	1.00
7/22/24 6:59	2.06	21.42	4.75	2006.76	2154.25	1.11	1.40	498.32	1.00
7/22/24 7:59	2.06	21.41	4.75	2006.70	2154.21	1.11	1.40	498.33	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/22/24 8:59	2.06	21.41	4.76	2006.69	2154.21	1.11	1.40	498.33	1.00
7/22/24 9:59	2.06	21.41	4.76	2006.59	2154.10	1.11	1.40	498.36	1.00
7/22/24 10:59	2.06	21.41	4.75	2006.95	2154.48	1.12	1.40	498.27	1.00
7/22/24 11:59	2.06	21.41	4.76	2006.84	2154.40	1.12	1.40	498.29	1.00
7/22/24 12:59	2.06	21.41	4.76	2006.93	2154.48	1.12	1.40	498.27	1.00
7/22/24 13:59	2.06	21.41	4.76	2006.99	2154.54	1.12	1.40	498.26	1.00
7/22/24 14:59	2.06	21.41	4.76	2007.09	2154.65	1.12	1.40	498.23	1.00
7/22/24 15:59	2.06	21.41	4.76	2006.98	2154.54	1.12	1.40	498.26	1.00
7/22/24 16:59	2.06	21.41	4.76	2006.55	2154.06	1.11	1.40	498.37	1.00
7/22/24 17:59	2.06	21.41	4.76	2006.76	2154.29	1.11	1.40	498.32	1.00
7/22/24 18:59	2.06	21.41	4.76	2006.86	2154.39	1.12	1.40	498.29	1.00
7/22/24 19:59	2.06	21.41	4.76	2006.83	2154.38	1.11	1.40	498.30	1.00
7/22/24 20:59	2.06	21.41	4.75	2007.08	2154.66	1.12	1.40	498.24	1.00
7/22/24 21:59	2.05	21.41	4.75	2006.58	2154.12	1.11	1.40	498.36	1.00
7/22/24 22:59	2.06	21.41	4.75	2006.67	2154.20	1.11	1.40	498.34	1.00
7/22/24 23:59	2.06	21.41	4.75	2006.55	2154.07	1.11	1.40	498.37	1.00
7/23/24 0:59	2.06	21.41	4.75	2006.54	2154.09	1.11	1.40	498.37	1.00
7/23/24 1:59	2.06	21.41	4.75	2006.89	2154.48	1.12	1.40	498.28	1.00
7/23/24 2:59	2.06	21.41	4.75	2007.05	2154.64	1.12	1.40	498.24	1.00
7/23/24 3:59	2.06	21.41	4.75	2006.86	2154.42	1.12	1.40	498.29	1.00
7/23/24 4:59	2.06	21.41	4.75	2006.66	2154.21	1.11	1.40	498.34	1.00
7/23/24 5:59	2.06	21.41	4.75	2006.82	2154.39	1.12	1.40	498.30	1.00
7/23/24 6:59	2.06	21.41	4.75	2006.94	2154.52	1.12	1.40	498.27	1.00
7/23/24 7:59	2.05	21.41	4.75	2007.09	2154.67	1.12	1.40	498.23	1.00
7/23/24 8:59	2.05	21.41	4.74	2007.11	2154.73	1.12	1.40	498.23	1.00
7/23/24 9:59	2.05	21.41	4.74	2006.85	2154.44	1.12	1.40	498.29	1.00
7/23/24 10:59	2.05	21.41	4.75	2007.27	2154.90	1.12	1.40	498.19	1.00
7/23/24 11:59	2.06	21.41	4.75	2007.16	2154.78	1.12	1.40	498.22	1.00
7/23/24 12:59	2.06	21.41	4.75	2006.88	2154.48	1.12	1.40	498.29	1.00
7/23/24 13:59	2.06	21.41	4.75	2006.74	2154.32	1.11	1.40	498.32	1.00
7/23/24 14:59	2.06	21.41	4.75	2006.76	2154.35	1.11	1.40	498.32	1.00
7/23/24 15:59	2.06	21.41	4.75	2006.92	2154.50	1.12	1.40	498.28	1.00
7/23/24 16:59	2.06	21.41	4.75	2006.92	2154.53	1.12	1.40	498.27	1.00
7/23/24 17:59	2.06	21.41	4.75	2007.01	2154.62	1.12	1.40	498.25	1.00
7/23/24 18:59	2.06	21.41	4.75	2006.80	2154.39	1.12	1.40	498.31	1.00
7/23/24 19:59	2.06	21.41	4.75	2007.02	2154.62	1.12	1.40	498.25	1.00
7/23/24 20:59	2.06	21.41	4.75	2006.87	2154.46	1.12	1.40	498.29	1.00
7/23/24 21:59	2.05	21.41	4.74	2006.57	2154.15	1.11	1.40	498.36	1.00
7/23/24 22:59	2.05	21.41	4.74	2006.22	2153.77	1.11	1.40	498.45	1.00
7/23/24 23:59	2.05	21.41	4.74	2006.42	2154.01	1.11	1.40	498.40	1.00
7/24/24 0:59	2.05	21.41	4.74	2006.63	2154.23	1.11	1.40	498.35	1.00
7/24/24 1:59	2.05	21.41	4.74	2006.77	2154.38	1.12	1.40	498.31	1.00
7/24/24 2:59	2.05	21.41	4.74	2006.80	2154.42	1.12	1.40	498.31	1.00
7/24/24 3:59	2.05	21.41	4.74	2006.89	2154.52	1.12	1.40	498.28	1.00
7/24/24 4:59	2.05	21.41	4.74	2006.58	2154.18	1.11	1.40	498.36	1.00
7/24/24 5:59	2.05	21.41	4.74	2006.67	2154.27	1.11	1.40	498.34	1.00
7/24/24 6:59	2.05	21.41	4.74	2007.03	2154.67	1.12	1.40	498.25	1.00
7/24/24 7:59	2.05	21.41	4.74	2006.73	2154.34	1.11	1.40	498.32	1.00
7/24/24 8:59	2.05	21.41	4.74	2006.61	2154.23	1.11	1.40	498.35	1.00
7/24/24 9:59	2.05	21.41	4.74	2006.77	2154.39	1.12	1.40	498.31	1.00
7/24/24 10:59	2.05	21.41	4.74	2006.78	2154.41	1.12	1.40	498.31	1.00
7/24/24 11:59	2.05	21.41	4.75	2006.30	2153.90	1.11	1.40	498.43	1.00
7/24/24 12:59	2.05	21.41	4.75	2006.47	2154.08	1.11	1.40	498.39	1.00
7/24/24 13:59	2.06	21.41	4.75	2006.50	2154.13	1.11	1.40	498.38	1.00
7/24/24 14:59	2.06	21.41	4.75	2006.48	2154.10	1.11	1.40	498.39	1.00
7/24/24 15:59	2.06	21.41	4.75	2006.74	2154.36	1.11	1.40	498.32	1.00
7/24/24 16:59	2.06	21.41	4.75	2006.71	2154.34	1.11	1.40	498.33	1.00
7/24/24 17:59	2.06	21.41	4.75	2006.75	2154.40	1.12	1.40	498.32	1.00
7/24/24 18:59	2.06	21.41	4.75	2006.80	2154.43	1.12	1.40	498.31	1.00
7/24/24 19:59	2.06	21.41	4.75	2006.41	2154.04	1.11	1.40	498.40	1.00
7/24/24 20:59	2.06	21.41	4.75	2006.71	2154.35	1.11	1.40	498.33	1.00
7/24/24 21:59	2.05	21.41	4.74	2006.55	2154.18	1.11	1.40	498.37	1.00
7/24/24 22:59	2.05	21.41	4.74	2006.54	2154.18	1.11	1.40	498.37	1.00
7/24/24 23:59	2.05	21.41	4.74	2006.56	2154.19	1.11	1.40	498.37	1.00
7/25/24 0:59	2.05	21.41	4.74	2006.56	2154.22	1.11	1.40	498.36	1.00
7/25/24 1:59	2.05	21.41	4.74	2005.92	2153.51	1.11	1.40	498.52	1.00
7/25/24 2:59	2.05	21.41	4.74	2006.39	2154.04	1.11	1.40	498.41	1.00
7/25/24 3:59	2.05	21.41	4.75	2006.89	2154.56	1.12	1.40	498.28	1.00
7/25/24 4:59	2.05	21.41	4.74	2006.62	2154.29	1.11	1.40	498.35	1.00
7/25/24 5:59	2.05	21.41	4.74	2006.64	2154.31	1.11	1.40	498.35	1.00
7/25/24 6:59	2.05	21.41	4.74	2006.54	2154.18	1.11	1.40	498.37	1.00
7/25/24 7:59	2.05	21.41	4.74	2006.72	2154.40	1.12	1.40	498.33	1.00
7/25/24 8:59	2.05	21.41	4.74	2006.65	2154.32	1.11	1.40	498.34	1.00
7/25/24 9:59	2.05	21.41	4.74	2006.65	2154.31	1.11	1.40	498.34	1.00
7/25/24 10:59	2.05	21.41	4.74	2007.01	2154.70	1.12	1.40	498.25	1.00
7/25/24 11:59	2.05	21.41	4.74	2006.80	2154.47	1.12	1.40	498.31	1.00
7/25/24 12:59	2.05	21.41	4.75	2007.13	2154.84	1.12	1.40	498.22	1.00
7/25/24 13:59	2.06	21.41	4.75	2006.92	2154.62	1.12	1.40	498.28	1.00
7/25/24 14:59	2.06	21.41	4.75	2006.90	2154.60	1.12	1.40	498.28	1.00
7/25/24 15:59	2.06	21.41	4.75	2006.72	2154.40	1.12	1.40	498.33	1.00
7/25/24 16:59	2.06	21.41	4.75	2007.10	2154.79	1.12	1.40	498.23	1.00
7/25/24 17:59	2.06	21.41	4.75	2007.35	2155.08	1.12	1.40	498.17	1.00
7/25/24 18:59	2.06	21.41	4.75	2007.08	2154.78	1.12	1.40	498.24	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/25/24 19:59	2.06	21.41	4.75	2007.05	2154.78	1.12	1.40	498.24	1.00
7/25/24 20:59	2.06	21.41	4.75	2007.05	2154.77	1.12	1.40	498.24	1.00
7/25/24 21:59	2.05	21.41	4.75	2007.23	2154.97	1.12	1.40	498.20	1.00
7/25/24 22:59	2.06	21.41	4.75	2006.96	2154.68	1.12	1.40	498.27	1.00
7/25/24 23:59	2.06	21.41	4.75	2006.92	2154.65	1.12	1.40	498.28	1.00
7/26/24 0:59	2.06	21.41	4.75	2007.08	2154.82	1.12	1.40	498.24	1.00
7/26/24 1:59	2.06	21.41	4.75	2007.34	2155.09	1.12	1.40	498.17	1.00
7/26/24 2:59	2.06	21.41	4.75	2007.07	2154.79	1.12	1.40	498.24	1.00
7/26/24 3:59	2.06	21.41	4.75	2007.36	2155.10	1.12	1.40	498.17	1.00
7/26/24 4:59	2.06	21.41	4.75	2007.36	2155.12	1.12	1.40	498.17	1.00
7/26/24 5:59	2.06	21.41	4.75	2007.02	2154.77	1.12	1.40	498.25	1.00
7/26/24 6:59	2.06	21.41	4.75	2007.04	2154.78	1.12	1.40	498.24	1.00
7/26/24 7:59	2.05	21.41	4.75	2006.16	2153.82	1.11	1.40	498.47	1.00
7/26/24 8:59	2.06	21.41	4.75	2006.46	2154.15	1.11	1.40	498.39	1.00
7/26/24 9:59	2.06	21.41	4.75	2006.93	2154.67	1.12	1.40	498.27	1.00
7/26/24 10:59	2.06	21.41	4.75	2006.72	2154.42	1.12	1.40	498.33	1.00
7/26/24 11:59	2.06	21.41	4.75	2006.95	2154.67	1.12	1.40	498.27	1.00
7/26/24 12:59	2.06	21.41	4.76	2006.97	2154.71	1.12	1.40	498.26	1.00
7/26/24 13:59	2.06	21.41	4.75	2006.88	2154.60	1.12	1.40	498.29	1.00
7/26/24 14:59	2.06	21.41	4.76	2007.02	2154.78	1.12	1.40	498.25	1.00
7/26/24 15:59	2.06	21.41	4.76	2007.02	2154.78	1.12	1.40	498.25	1.00
7/26/24 16:59	2.06	21.41	4.76	2006.86	2154.61	1.12	1.40	498.29	1.00
7/26/24 17:59	2.06	21.41	4.76	2007.02	2154.77	1.12	1.40	498.25	1.00
7/26/24 18:59	2.06	21.41	4.76	2007.14	2154.91	1.12	1.40	498.22	1.00
7/26/24 19:59	2.06	21.41	4.75	2007.07	2154.83	1.12	1.40	498.24	1.00
7/26/24 20:59	2.06	21.41	4.76	2007.26	2155.03	1.12	1.40	498.19	1.00
7/26/24 21:59	2.06	21.41	4.75	2006.95	2154.70	1.12	1.40	498.27	1.00
7/26/24 22:59	2.05	21.41	4.75	2007.07	2154.83	1.12	1.40	498.24	1.00
7/26/24 23:59	2.05	21.41	4.74	2007.24	2155.01	1.12	1.40	498.20	1.00
7/27/24 0:59	2.06	21.41	4.75	2007.08	2154.84	1.12	1.40	498.24	1.00
7/27/24 1:59	2.06	21.41	4.75	2007.14	2154.91	1.12	1.40	498.22	1.00
7/27/24 2:59	2.06	21.41	4.75	2007.16	2154.96	1.12	1.40	498.22	1.00
7/27/24 3:59	2.06	21.41	4.76	2007.15	2154.92	1.12	1.40	498.22	1.00
7/27/24 4:59	2.06	21.41	4.75	2007.28	2155.07	1.12	1.40	498.19	1.00
7/27/24 5:59	2.06	21.41	4.75	2007.07	2154.85	1.12	1.40	498.24	1.00
7/27/24 6:59	2.06	21.41	4.75	2007.25	2155.03	1.12	1.40	498.19	1.00
7/27/24 7:59	2.05	21.41	4.74	2007.32	2155.13	1.12	1.40	498.18	1.00
7/27/24 8:59	2.05	21.41	4.74	2007.08	2154.85	1.12	1.40	498.24	1.00
7/27/24 9:59	2.06	21.41	4.75	2007.10	2154.87	1.12	1.40	498.23	1.00
7/27/24 10:59	2.06	21.41	4.75	2007.26	2155.05	1.12	1.40	498.19	1.00
7/27/24 11:59	2.06	21.41	4.75	2007.23	2155.03	1.12	1.40	498.20	1.00
7/27/24 12:59	2.06	21.41	4.75	2006.98	2154.75	1.12	1.40	498.26	1.00
7/27/24 13:59	2.06	21.41	4.75	2007.07	2154.87	1.12	1.40	498.24	1.00
7/27/24 14:59	2.06	21.41	4.76	2007.31	2155.12	1.12	1.40	498.18	1.00
7/27/24 15:59	2.06	21.41	4.76	2006.91	2154.68	1.12	1.40	498.28	1.00
7/27/24 16:59	2.06	21.41	4.76	2007.09	2154.88	1.12	1.40	498.23	1.00
7/27/24 17:59	2.06	21.41	4.76	2007.07	2154.86	1.12	1.40	498.24	1.00
7/27/24 18:59	2.06	21.41	4.76	2007.10	2154.90	1.12	1.40	498.23	1.00
7/27/24 19:59	2.06	21.41	4.76	2007.31	2155.12	1.12	1.40	498.18	1.00
7/27/24 20:59	2.06	21.41	4.75	2006.94	2154.74	1.12	1.40	498.27	1.00
7/27/24 21:59	2.06	21.41	4.75	2007.28	2155.09	1.12	1.40	498.19	1.00
7/27/24 22:59	2.06	21.41	4.75	2007.17	2154.98	1.12	1.40	498.21	1.00
7/27/24 23:59	2.06	21.41	4.75	2006.95	2154.76	1.12	1.40	498.27	1.00
7/28/24 0:59	2.06	21.41	4.75	2007.23	2155.05	1.12	1.40	498.20	1.00
7/28/24 1:59	2.06	21.41	4.75	2007.19	2155.00	1.12	1.40	498.21	1.00
7/28/24 2:59	2.06	21.41	4.75	2007.14	2154.94	1.12	1.40	498.22	1.00
7/28/24 3:59	2.06	21.41	4.75	2007.08	2154.89	1.12	1.40	498.24	1.00
7/28/24 4:59	2.06	21.41	4.75	2007.03	2154.85	1.12	1.40	498.25	1.00
7/28/24 5:59	2.06	21.41	4.75	2007.34	2155.19	1.12	1.40	498.17	1.00
7/28/24 6:59	2.05	21.41	4.74	2007.20	2155.04	1.12	1.40	498.21	1.00
7/28/24 7:59	2.05	21.41	4.74	2006.90	2154.71	1.12	1.40	498.28	1.00
7/28/24 8:59	2.05	21.41	4.74	2007.07	2154.89	1.12	1.40	498.24	1.00
7/28/24 9:59	2.05	21.41	4.74	2007.22	2155.06	1.12	1.40	498.20	1.00
7/28/24 10:59	2.05	21.41	4.74	2007.00	2154.82	1.12	1.40	498.26	1.00
7/28/24 11:59	2.06	21.41	4.75	2007.00	2154.81	1.12	1.40	498.26	1.00
7/28/24 12:59	2.06	21.41	4.75	2007.20	2155.04	1.12	1.40	498.21	1.00
7/28/24 13:59	2.06	21.41	4.75	2007.41	2155.24	1.12	1.40	498.15	1.00
7/28/24 14:59	2.06	21.41	4.75	2006.98	2154.79	1.12	1.40	498.26	1.00
7/28/24 15:59	2.06	21.41	4.75	2006.91	2154.73	1.12	1.40	498.28	1.00
7/28/24 16:59	2.06	21.41	4.75	2007.07	2154.89	1.12	1.40	498.24	1.00
7/28/24 17:59	2.06	21.41	4.75	2007.23	2155.05	1.12	1.40	498.20	1.00
7/28/24 18:59	2.06	21.41	4.75	2007.37	2155.21	1.12	1.40	498.16	1.00
7/28/24 19:59	2.06	21.41	4.75	2007.18	2155.01	1.12	1.40	498.21	1.00
7/28/24 20:59	2.06	21.41	4.75	2007.18	2155.04	1.12	1.40	498.21	1.00
7/28/24 21:59	2.05	21.41	4.74	2007.17	2155.02	1.12	1.40	498.21	1.00
7/28/24 22:59	2.05	21.41	4.74	2007.30	2155.15	1.12	1.40	498.18	1.00
7/28/24 23:59	2.05	21.41	4.74	2007.10	2154.92	1.12	1.40	498.23	1.00
7/29/24 0:59	2.05	21.41	4.74	2007.14	2154.98	1.12	1.40	498.22	1.00
7/29/24 1:59	2.05	21.41	4.74	2007.34	2155.21	1.12	1.40	498.17	1.00
7/29/24 2:59	2.05	21.41	4.74	2007.42	2155.29	1.12	1.40	498.15	1.00
7/29/24 3:59	2.05	21.41	4.74	2007.44	2155.33	1.12	1.40	498.15	1.00
7/29/24 4:59	2.05	21.41	4.75	2007.18	2155.04	1.12	1.40	498.21	1.00
7/29/24 5:59	2.05	21.41	4.74	2007.13	2154.99	1.12	1.40	498.22	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/29/24 6:59	2.05	21.41	4.74	2007.12	2154.97	1.12	1.40	498.23	1.00
7/29/24 7:59	2.05	21.41	4.74	2007.15	2155.01	1.12	1.40	498.22	1.00
7/29/24 8:59	2.05	21.41	4.74	2006.93	2154.78	1.12	1.40	498.27	1.00
7/29/24 9:59	2.05	21.41	4.74	2006.86	2154.70	1.12	1.40	498.29	1.00
7/29/24 10:59	2.05	21.41	4.74	2006.98	2154.82	1.12	1.40	498.26	1.00
7/29/24 11:59	2.05	21.41	4.75	2006.96	2154.81	1.12	1.40	498.27	1.00
7/29/24 12:59	2.06	21.41	4.75	2006.84	2154.68	1.12	1.40	498.30	1.00
7/29/24 13:59	2.06	21.41	4.75	2007.01	2154.86	1.12	1.40	498.25	1.00
7/29/24 14:59	2.06	21.41	4.75	2006.94	2154.80	1.12	1.40	498.27	1.00
7/29/24 15:59	2.06	21.41	4.75	2006.85	2154.69	1.12	1.40	498.29	1.00
7/29/24 16:59	2.06	21.41	4.75	2006.90	2154.76	1.12	1.40	498.28	1.00
7/29/24 17:59	2.06	21.41	4.76	2007.00	2154.86	1.12	1.40	498.26	1.00
7/29/24 18:59	2.06	21.41	4.75	2007.17	2155.04	1.12	1.40	498.21	1.00
7/29/24 19:59	2.06	21.41	4.75	2007.03	2154.88	1.12	1.40	498.25	1.00
7/29/24 20:59	2.06	21.41	4.75	2006.94	2154.80	1.12	1.40	498.27	1.00
7/29/24 21:59	2.05	21.41	4.75	2007.16	2155.05	1.12	1.40	498.22	1.00
7/29/24 22:59	2.05	21.41	4.74	2007.20	2155.07	1.12	1.40	498.21	1.00
7/29/24 23:59	2.05	21.41	4.74	2007.19	2155.07	1.12	1.40	498.21	1.00
7/30/24 0:59	2.05	21.41	4.74	2007.06	2154.94	1.12	1.40	498.24	1.00
7/30/24 1:59	2.05	21.41	4.74	2007.25	2155.12	1.12	1.40	498.20	1.00
7/30/24 2:59	2.05	21.41	4.74	2007.18	2155.07	1.12	1.40	498.21	1.00
7/30/24 3:59	2.05	21.41	4.74	2007.19	2155.08	1.12	1.40	498.21	1.00
7/30/24 4:59	2.05	21.41	4.74	2007.31	2155.20	1.12	1.40	498.18	1.00
7/30/24 5:59	2.05	21.41	4.74	2007.16	2155.03	1.12	1.40	498.22	1.00
7/30/24 6:59	2.05	21.41	4.74	2007.28	2155.19	1.12	1.40	498.19	1.00
7/30/24 7:59	2.05	21.41	4.74	2007.42	2155.34	1.12	1.40	498.15	1.00
7/30/24 8:59	2.05	21.41	4.74	2007.22	2155.12	1.12	1.40	498.20	1.00
7/30/24 9:59	2.05	21.41	4.74	2006.98	2154.85	1.12	1.40	498.26	1.00
7/30/24 10:59	2.05	21.41	4.75	2007.20	2155.10	1.12	1.40	498.21	1.00
7/30/24 11:59	2.06	21.41	4.75	2007.10	2155.01	1.12	1.40	498.23	1.00
7/30/24 12:59	2.06	21.41	4.75	2007.46	2155.37	1.12	1.40	498.14	1.00
7/30/24 13:59	2.06	21.41	4.75	2007.35	2155.28	1.12	1.40	498.17	1.00
7/30/24 14:59	2.06	21.41	4.75	2007.16	2155.06	1.12	1.40	498.22	1.00
7/30/24 15:59	2.06	21.41	4.75	2007.20	2155.11	1.12	1.40	498.21	1.00
7/30/24 16:59	2.06	21.41	4.75	2007.28	2155.19	1.12	1.40	498.19	1.00
7/30/24 17:59	2.06	21.41	4.75	2007.47	2155.39	1.12	1.40	498.14	1.00
7/30/24 18:59	2.06	21.41	4.75	2007.38	2155.31	1.12	1.40	498.16	1.00
7/30/24 19:59	2.06	21.41	4.75	2007.18	2155.08	1.12	1.40	498.21	1.00
7/30/24 20:59	2.06	21.41	4.75	2007.31	2155.24	1.12	1.40	498.18	1.00
7/30/24 21:59	2.06	21.41	4.75	2007.35	2155.28	1.12	1.40	498.17	1.00
7/30/24 22:59	2.05	21.41	4.75	2007.50	2155.44	1.12	1.40	498.13	1.00
7/30/24 23:59	2.05	21.41	4.74	2007.20	2155.12	1.12	1.40	498.21	1.00
7/31/24 0:59	2.06	21.41	4.75	2007.20	2155.12	1.12	1.40	498.21	1.00
7/31/24 1:59	2.06	21.41	4.75	2007.22	2155.12	1.12	1.40	498.20	1.00
7/31/24 2:59	2.06	21.41	4.75	2006.88	2154.76	1.12	1.40	498.29	1.00
7/31/24 3:59	2.06	21.41	4.75	2007.12	2155.02	1.12	1.40	498.23	1.00
7/31/24 4:59	2.06	21.41	4.75	2007.05	2154.95	1.12	1.40	498.24	1.00
7/31/24 5:59	2.06	21.41	4.75	2007.03	2154.93	1.12	1.40	498.25	1.00
7/31/24 6:59	2.05	21.41	4.74	2006.98	2154.89	1.12	1.40	498.26	1.00
7/31/24 7:59	2.05	21.41	4.74	2007.08	2154.99	1.12	1.40	498.24	1.00
7/31/24 8:59	2.05	21.41	4.74	2007.07	2154.99	1.12	1.40	498.24	1.00
7/31/24 9:59	2.05	21.41	4.74	2006.86	2154.77	1.12	1.40	498.29	1.00
7/31/24 10:59	2.05	21.41	4.74	2007.23	2155.15	1.12	1.40	498.20	1.00
7/31/24 11:59	2.05	21.41	4.75	2007.10	2155.04	1.12	1.40	498.23	1.00
7/31/24 12:59	2.06	21.41	4.75	2007.17	2155.08	1.12	1.40	498.21	1.00
7/31/24 13:59	2.06	21.41	4.75	2007.13	2155.05	1.12	1.40	498.22	1.00
7/31/24 14:59	2.06	21.41	4.75	2007.17	2155.09	1.12	1.40	498.21	1.00
7/31/24 15:59	2.06	21.41	4.75	2006.98	2154.90	1.12	1.40	498.26	1.00
7/31/24 16:59	2.06	21.41	4.76	2007.05	2154.97	1.12	1.40	498.24	1.00
7/31/24 17:59	2.06	21.41	4.75	2007.27	2155.20	1.12	1.40	498.19	1.00
7/31/24 18:59	2.06	21.41	4.75	2007.33	2155.27	1.12	1.40	498.17	1.00
7/31/24 19:59	2.05	21.41	4.74	2007.41	2155.35	1.12	1.40	498.15	1.00
7/31/24 20:59	2.06	21.41	4.75	2007.37	2155.34	1.12	1.40	498.16	1.00
7/31/24 21:59	2.05	21.41	4.74	2007.31	2155.24	1.12	1.40	498.18	1.00
7/31/24 22:59	2.05	21.41	4.74	2007.21	2155.15	1.12	1.40	498.20	1.00
7/31/24 23:59	2.05	21.41	4.74	2007.31	2155.27	1.12	1.40	498.18	1.00
8/1/24 0:59	2.05	21.41	4.74	2007.36	2155.31	1.12	1.40	498.17	1.00
8/1/24 1:59	2.05	21.41	4.74	2007.47	2155.44	1.12	1.40	498.14	1.00
8/1/24 2:59	2.05	21.41	4.74	2007.37	2155.35	1.12	1.40	498.16	1.00
8/1/24 3:59	2.05	21.41	4.74	2007.37	2155.32	1.12	1.40	498.16	1.00
8/1/24 4:59	2.05	21.41	4.74	2007.36	2155.34	1.12	1.40	498.17	1.00
8/1/24 5:59	2.05	21.41	4.74	2007.34	2155.31	1.12	1.40	498.17	1.00
8/1/24 6:59	2.05	21.41	4.73	2007.46	2155.43	1.12	1.40	498.14	1.00
8/1/24 7:59	2.05	21.41	4.73	2007.40	2155.38	1.12	1.40	498.16	1.00
8/1/24 8:59	2.05	21.41	4.73	2007.41	2155.38	1.12	1.40	498.15	1.00
8/1/24 9:59	2.05	21.41	4.73	2007.39	2155.37	1.12	1.40	498.16	1.00
8/1/24 10:59	2.05	21.41	4.73	2007.47	2155.46	1.12	1.40	498.14	1.00
8/1/24 11:59	2.05	21.41	4.74	2007.02	2154.95	1.12	1.40	498.25	1.00
8/1/24 12:59	2.05	21.41	4.74	2007.37	2155.35	1.12	1.40	498.17	1.00
8/1/24 13:59	2.05	21.41	4.74	2007.22	2155.19	1.12	1.40	498.20	1.00
8/1/24 14:59	2.05	21.41	4.74	2007.15	2155.10	1.12	1.40	498.22	1.00
8/1/24 15:59	2.05	21.41	4.75	2007.04	2154.98	1.12	1.40	498.25	1.00
8/1/24 16:59	2.05	21.41	4.74	2006.89	2154.84	1.12	1.40	498.28	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/1/24 17:59	2.06	21.41	4.75	2007.11	2155.07	1.12	1.40	498.23	1.00
8/1/24 18:59	2.05	21.41	4.74	2006.84	2154.78	1.12	1.40	498.30	1.00
8/1/24 19:59	2.05	21.41	4.74	2007.15	2155.12	1.12	1.40	498.22	1.00
8/1/24 20:59	2.05	21.41	4.74	2007.24	2155.20	1.12	1.40	498.20	1.00
8/1/24 21:59	2.05	21.41	4.74	2007.37	2155.35	1.12	1.40	498.16	1.00
8/1/24 22:59	2.05	21.41	4.73	2007.41	2155.39	1.12	1.40	498.15	1.00
8/1/24 23:59	2.05	21.41	4.73	2007.17	2155.14	1.12	1.40	498.21	1.00
8/2/24 0:59	2.05	21.41	4.73	2007.18	2155.15	1.12	1.40	498.21	1.00
8/2/24 1:59	2.05	21.41	4.73	2007.54	2155.55	1.12	1.40	498.12	1.00
8/2/24 2:59	2.05	21.41	4.73	2007.33	2155.31	1.12	1.40	498.18	1.00
8/2/24 3:59	2.05	21.40	4.73	2007.40	2155.41	1.12	1.40	498.16	1.00
8/2/24 4:59	2.05	21.41	4.73	2007.38	2155.35	1.12	1.40	498.16	1.00
8/2/24 5:59	2.05	21.41	4.73	2007.46	2155.46	1.12	1.40	498.14	1.00
8/2/24 6:59	2.05	21.40	4.73	2007.45	2155.47	1.12	1.40	498.14	1.00
8/2/24 7:59	2.05	21.41	4.73	2007.35	2155.34	1.12	1.40	498.17	1.00
8/2/24 8:59	2.05	21.41	4.73	2007.38	2155.36	1.12	1.40	498.16	1.00
8/2/24 9:59	2.05	21.41	4.73	2007.56	2155.57	1.12	1.40	498.12	1.00
8/2/24 10:59	2.05	21.41	4.73	2007.18	2155.15	1.12	1.40	498.21	1.00
8/2/24 11:59	2.05	21.40	4.73	2007.56	2155.58	1.12	1.40	498.12	1.00
8/2/24 12:59	2.05	21.40	4.74	2007.28	2155.27	1.12	1.40	498.19	1.00
8/2/24 13:59	2.05	21.40	4.74	2007.46	2155.46	1.12	1.40	498.14	1.00
8/2/24 14:59	2.06	21.40	4.75	2007.29	2155.30	1.12	1.40	498.18	1.00
8/2/24 15:59	2.06	21.40	4.75	2007.63	2155.64	1.12	1.40	498.10	1.00
8/2/24 16:59	2.06	21.41	4.75	2007.43	2155.42	1.12	1.40	498.15	1.00
8/2/24 17:59	2.06	21.41	4.75	2006.78	2154.73	1.12	1.40	498.31	1.00
8/2/24 18:59	2.06	21.40	4.75	2007.02	2155.00	1.12	1.40	498.25	1.00
8/2/24 19:59	2.06	21.40	4.75	2007.44	2155.45	1.12	1.40	498.15	1.00
8/2/24 20:59	2.05	21.41	4.74	2007.11	2155.08	1.12	1.40	498.23	1.00
8/2/24 21:59	2.05	21.41	4.74	2007.58	2155.56	1.12	1.40	498.11	1.00
8/2/24 22:59	2.05	21.40	4.73	2007.50	2155.51	1.12	1.40	498.13	1.00
8/2/24 23:59	2.05	21.40	4.74	2007.26	2155.26	1.12	1.40	498.19	1.00
8/3/24 0:59	2.05	21.40	4.74	2007.38	2155.40	1.12	1.40	498.16	1.00
8/3/24 1:59	2.05	21.41	4.74	2007.53	2155.53	1.12	1.40	498.13	1.00
8/3/24 2:59	2.05	21.40	4.74	2007.32	2155.32	1.12	1.40	498.18	1.00
8/3/24 3:59	2.05	21.40	4.74	2007.44	2155.44	1.12	1.40	498.15	1.00
8/3/24 4:59	2.05	21.40	4.74	2007.54	2155.56	1.12	1.40	498.12	1.00
8/3/24 5:59	2.05	21.40	4.74	2007.28	2155.31	1.12	1.40	498.19	1.00
8/3/24 6:59	2.05	21.40	4.74	2007.33	2155.33	1.12	1.40	498.18	1.00
8/3/24 7:59	2.05	21.40	4.74	2007.33	2155.34	1.12	1.40	498.17	1.00
8/3/24 8:59	2.05	21.40	4.74	2007.56	2155.60	1.12	1.40	498.12	1.00
8/3/24 9:59	2.05	21.40	4.74	2007.37	2155.39	1.12	1.40	498.16	1.00
8/3/24 10:59	2.05	21.40	4.74	2007.49	2155.51	1.12	1.40	498.13	1.00
8/3/24 11:59	2.05	21.40	4.74	2007.41	2155.44	1.12	1.40	498.15	1.00
8/3/24 12:59	2.06	21.40	4.75	2007.45	2155.45	1.12	1.40	498.15	1.00
8/3/24 13:59	2.06	21.40	4.75	2007.61	2155.65	1.12	1.40	498.10	1.00
8/3/24 14:59	2.06	21.40	4.75	2007.62	2155.67	1.12	1.40	498.10	1.00
8/3/24 15:59	2.06	21.40	4.75	2007.35	2155.37	1.12	1.40	498.17	1.00
8/3/24 16:59	2.06	21.40	4.75	2007.48	2155.51	1.12	1.40	498.14	1.00
8/3/24 17:59	2.06	21.40	4.76	2007.54	2155.56	1.12	1.40	498.12	1.00
8/3/24 18:59	2.06	21.40	4.75	2007.19	2155.19	1.12	1.40	498.21	1.00
8/3/24 19:59	2.06	21.40	4.75	2007.51	2155.55	1.12	1.40	498.13	1.00
8/3/24 20:59	2.06	21.40	4.75	2007.41	2155.44	1.12	1.40	498.15	1.00
8/3/24 21:59	2.05	21.40	4.74	2007.39	2155.40	1.12	1.40	498.16	1.00
8/3/24 22:59	2.06	21.40	4.75	2007.61	2155.67	1.12	1.40	498.10	1.00
8/3/24 23:59	2.06	21.40	4.75	2007.47	2155.50	1.12	1.40	498.14	1.00
8/4/24 0:59	2.05	21.40	4.75	2007.46	2155.50	1.12	1.40	498.14	1.00
8/4/24 1:59	2.05	21.40	4.75	2007.51	2155.54	1.12	1.40	498.13	1.00
8/4/24 2:59	2.06	21.40	4.75	2007.38	2155.41	1.12	1.40	498.16	1.00
8/4/24 3:59	2.06	21.40	4.75	2007.41	2155.44	1.12	1.40	498.15	1.00
8/4/24 4:59	2.06	21.40	4.75	2007.37	2155.39	1.12	1.40	498.17	1.00
8/4/24 5:59	2.06	21.40	4.75	2007.30	2155.33	1.12	1.40	498.18	1.00
8/4/24 6:59	2.05	21.40	4.74	2007.27	2155.28	1.12	1.40	498.19	1.00
8/4/24 7:59	2.05	21.40	4.74	2007.28	2155.30	1.12	1.40	498.19	1.00
8/4/24 8:59	2.05	21.40	4.74	2007.50	2155.55	1.12	1.40	498.13	1.00
8/4/24 9:59	2.05	21.40	4.74	2007.42	2155.45	1.12	1.40	498.15	1.00
8/4/24 10:59	2.05	21.40	4.74	2007.51	2155.53	1.12	1.40	498.13	1.00
8/4/24 11:59	2.06	21.40	4.75	2007.45	2155.48	1.12	1.40	498.15	1.00
8/4/24 12:59	2.06	21.40	4.75	2007.40	2155.44	1.12	1.40	498.16	1.00
8/4/24 13:59	2.06	21.40	4.75	2007.50	2155.55	1.12	1.40	498.13	1.00
8/4/24 14:59	2.06	21.40	4.75	2007.43	2155.48	1.12	1.40	498.15	1.00
8/4/24 15:59	2.06	21.40	4.76	2007.63	2155.69	1.12	1.40	498.10	1.00
8/4/24 16:59	2.06	21.40	4.76	2007.46	2155.52	1.12	1.40	498.14	1.00
8/4/24 17:59	2.06	21.40	4.76	2007.76	2155.85	1.12	1.40	498.07	1.00
8/4/24 18:59	2.06	21.40	4.76	2007.61	2155.66	1.12	1.40	498.10	1.00
8/4/24 19:59	2.06	21.40	4.75	2007.62	2155.68	1.12	1.40	498.10	1.00
8/4/24 20:59	2.06	21.40	4.75	2007.55	2155.60	1.12	1.40	498.12	1.00
8/4/24 21:59	2.06	21.40	4.75	2007.76	2155.84	1.12	1.40	498.07	1.00
8/4/24 22:59	2.06	21.40	4.75	2007.52	2155.57	1.12	1.40	498.13	1.00
8/4/24 23:59	2.06	21.40	4.75	2007.40	2155.45	1.12	1.40	498.16	1.00
8/5/24 0:59	2.06	21.40	4.75	2007.58	2155.65	1.12	1.40	498.11	1.00
8/5/24 1:59	2.06	21.40	4.75	2007.85	2155.92	1.12	1.40	498.04	1.00
8/5/24 2:59	2.06	21.40	4.75	2007.40	2155.45	1.12	1.40	498.16	1.00
8/5/24 3:59	2.06	21.40	4.75	2007.48	2155.53	1.12	1.40	498.14	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/5/24 4:59	2.06	21.40	4.75	2007.21	2155.24	1.12	1.40	498.20	1.00
8/5/24 5:59	2.06	21.40	4.75	2007.32	2155.36	1.12	1.40	498.18	1.00
8/5/24 6:59	2.05	21.40	4.74	2007.41	2155.46	1.12	1.40	498.15	1.00
8/5/24 7:59	2.05	21.40	4.74	2007.39	2155.44	1.12	1.40	498.16	1.00
8/5/24 8:59	2.05	21.40	4.74	2007.69	2155.77	1.12	1.40	498.09	1.00
8/5/24 9:59	2.05	21.40	4.74	2007.41	2155.44	1.12	1.40	498.15	1.00
8/5/24 10:59	2.05	21.40	4.74	2007.39	2155.45	1.12	1.40	498.16	1.00
8/5/24 11:59	2.06	21.40	4.75	2007.35	2155.41	1.12	1.40	498.17	1.00
8/5/24 12:59	2.06	21.40	4.75	2007.42	2155.48	1.12	1.40	498.15	1.00
8/5/24 13:59	2.06	21.40	4.75	2007.48	2155.51	1.12	1.40	498.14	1.00
8/5/24 14:59	2.06	21.40	4.75	2007.56	2155.62	1.12	1.40	498.12	1.00
8/5/24 15:59	2.06	21.40	4.75	2007.49	2155.55	1.12	1.40	498.13	1.00
8/5/24 16:59	2.06	21.40	4.76	2007.57	2155.63	1.12	1.40	498.11	1.00
8/5/24 17:59	2.06	21.40	4.76	2007.54	2155.61	1.12	1.40	498.12	1.00
8/5/24 18:59	2.06	21.40	4.75	2007.54	2155.61	1.12	1.40	498.12	1.00
8/5/24 19:59	2.06	21.40	4.75	2007.54	2155.61	1.12	1.40	498.12	1.00
8/5/24 20:59	2.06	21.40	4.75	2007.66	2155.72	1.12	1.40	498.09	1.00
8/5/24 21:59	2.06	21.40	4.75	2007.65	2155.72	1.12	1.40	498.09	1.00
8/5/24 22:59	2.05	21.40	4.75	2007.61	2155.67	1.12	1.40	498.10	1.00
8/5/24 23:59	2.06	21.40	4.75	2007.41	2155.48	1.12	1.40	498.16	1.00
8/6/24 0:59	2.05	21.40	4.75	2007.56	2155.64	1.12	1.40	498.12	1.00
8/6/24 1:59	2.05	21.40	4.75	2007.86	2155.96	1.12	1.40	498.04	1.00
8/6/24 2:59	2.05	21.40	4.74	2007.47	2155.53	1.12	1.40	498.14	1.00
8/6/24 3:59	2.05	21.40	4.75	2007.52	2155.58	1.12	1.40	498.13	1.00
8/6/24 4:59	2.05	21.40	4.74	2007.51	2155.57	1.12	1.40	498.13	1.00
8/6/24 5:59	2.05	21.40	4.74	2007.57	2155.65	1.12	1.40	498.11	1.00
8/6/24 6:59	2.05	21.40	4.74	2007.78	2155.90	1.12	1.40	498.06	1.00
8/6/24 7:59	2.05	21.40	4.74	2007.66	2155.75	1.12	1.40	498.09	1.00
8/6/24 8:59	2.05	21.40	4.74	2007.70	2155.79	1.12	1.40	498.08	1.00
8/6/24 9:59	2.05	21.40	4.74	2007.64	2155.72	1.12	1.40	498.10	1.00
8/6/24 10:59	2.05	21.40	4.74	2007.49	2155.56	1.12	1.40	498.13	1.00
8/6/24 11:59	2.05	21.40	4.74	2007.41	2155.47	1.12	1.40	498.15	1.00
8/6/24 12:59	2.06	21.40	4.75	2007.60	2155.67	1.12	1.40	498.11	1.00
8/6/24 13:59	2.06	21.40	4.75	2007.78	2155.85	1.12	1.40	498.06	1.00
8/6/24 14:59	2.06	21.40	4.75	2007.58	2155.67	1.12	1.40	498.11	1.00
8/6/24 15:59	2.06	21.40	4.76	2007.50	2155.58	1.12	1.40	498.13	1.00
8/6/24 16:59	2.06	21.40	4.76	2007.50	2155.58	1.12	1.40	498.13	1.00
8/6/24 17:59	2.06	21.40	4.76	2007.67	2155.77	1.12	1.40	498.09	1.00
8/6/24 18:59	2.06	21.40	4.75	2007.65	2155.73	1.12	1.40	498.10	1.00
8/6/24 19:59	2.06	21.40	4.75	2007.54	2155.63	1.12	1.40	498.12	1.00
8/6/24 20:59	2.06	21.40	4.75	2007.50	2155.58	1.12	1.40	498.13	1.00
8/6/24 21:59	2.06	21.40	4.75	2007.46	2155.55	1.12	1.40	498.14	1.00
8/6/24 22:59	2.06	21.40	4.75	2007.76	2155.86	1.12	1.40	498.07	1.00
8/6/24 23:59	2.06	21.40	4.75	2007.51	2155.58	1.12	1.40	498.13	1.00
8/7/24 0:59	2.06	21.40	4.75	2007.66	2155.76	1.12	1.40	498.09	1.00
8/7/24 1:59	2.06	21.40	4.75	2007.47	2155.55	1.12	1.40	498.14	1.00
8/7/24 2:59	2.06	21.40	4.75	2007.70	2155.81	1.12	1.40	498.08	1.00
8/7/24 3:59	2.06	21.40	4.75	2007.52	2155.58	1.12	1.40	498.13	1.00
8/7/24 4:59	2.06	21.40	4.75	2007.62	2155.70	1.12	1.40	498.10	1.00
8/7/24 5:59	2.06	21.40	4.75	2007.47	2155.54	1.12	1.40	498.14	1.00
8/7/24 6:59	2.06	21.40	4.75	2007.46	2155.54	1.12	1.40	498.14	1.00
8/7/24 7:59	2.06	21.40	4.75	2007.52	2155.60	1.12	1.40	498.13	1.00
8/7/24 8:59	2.06	21.40	4.75	2007.58	2155.67	1.12	1.40	498.11	1.00
8/7/24 9:59	2.06	21.40	4.75	2007.33	2155.40	1.12	1.40	498.17	1.00
8/7/24 10:59	2.06	21.40	4.76	2007.48	2155.56	1.12	1.40	498.14	1.00
8/7/24 11:59	2.06	21.40	4.76	2007.55	2155.62	1.12	1.40	498.12	1.00
8/7/24 12:59	2.06	21.40	4.76	2007.43	2155.53	1.12	1.40	498.15	1.00
8/7/24 13:59	2.06	21.40	4.76	2007.54	2155.62	1.12	1.40	498.12	1.00
8/7/24 14:59	2.08	21.45	4.81	2013.11	2159.37	1.12	1.40	496.74	1.00
8/7/24 15:59	2.13	21.43	4.91	2011.72	2159.01	1.12	1.40	497.09	1.00
8/7/24 16:59	2.14	21.42	4.95	2010.78	2158.43	1.12	1.40	497.32	1.00
8/7/24 17:59	2.16	21.41	4.98	2010.39	2158.24	1.12	1.40	497.42	1.00
8/7/24 18:59	2.16	21.41	5.00	2010.18	2158.11	1.12	1.40	497.47	1.00
8/7/24 19:59	2.17	21.41	5.01	2011.44	2159.51	1.12	1.40	497.16	1.00
8/7/24 20:59	2.17	21.41	5.02	2011.40	2159.54	1.12	1.40	497.17	1.00
8/7/24 21:59	2.18	21.41	5.03	2011.27	2159.45	1.12	1.40	497.20	1.00
8/7/24 22:59	2.18	21.41	5.03	2012.27	2160.59	1.12	1.40	496.95	1.00
8/7/24 23:59	2.18	21.41	5.04	2012.11	2160.43	1.12	1.40	496.99	1.00
8/8/24 0:59	2.19	21.40	5.05	2012.08	2160.42	1.12	1.40	497.00	1.00
8/8/24 1:59	2.19	21.40	5.05	2011.62	2159.96	1.12	1.40	497.11	1.00
8/8/24 2:59	2.19	21.40	5.05	2011.23	2159.54	1.12	1.40	497.21	1.00
8/8/24 3:59	2.19	21.40	5.05	2011.56	2159.91	1.12	1.40	497.13	1.00
8/8/24 4:59	2.19	21.40	5.07	2011.30	2159.64	1.12	1.40	497.19	1.00
8/8/24 5:59	2.19	21.40	5.06	2010.96	2159.27	1.12	1.40	497.28	1.00
8/8/24 6:59	2.19	21.40	5.06	2010.60	2158.89	1.12	1.40	497.36	1.00
8/8/24 7:59	2.19	21.40	5.06	2010.94	2159.26	1.12	1.40	497.28	1.00
8/8/24 8:59	2.19	21.40	5.07	2010.92	2159.26	1.12	1.40	497.29	1.00
8/8/24 9:59	2.19	21.40	5.06	2010.82	2159.13	1.12	1.40	497.31	1.00
8/8/24 10:59	2.20	21.40	5.07	2010.73	2159.05	1.12	1.40	497.33	1.00
8/8/24 11:59	2.20	21.40	5.08	2010.69	2159.03	1.12	1.40	497.34	1.00
8/8/24 12:59	2.20	21.40	5.08	2010.34	2158.65	1.12	1.40	497.43	1.00
8/8/24 13:59	2.20	21.40	5.08	2010.67	2158.99	1.12	1.40	497.35	1.00
8/8/24 14:59	2.20	21.40	5.08	2010.61	2158.93	1.12	1.40	497.36	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/8/24 15:59	2.20	21.40	5.09	2010.58	2158.88	1.12	1.40	497.37	1.00
8/8/24 16:59	2.20	21.40	5.08	2010.69	2159.02	1.12	1.40	497.34	1.00
8/8/24 17:59	2.20	21.40	5.08	2010.56	2158.88	1.12	1.40	497.37	1.00
8/8/24 18:59	2.20	21.40	5.09	2010.39	2158.69	1.12	1.40	497.42	1.00
8/8/24 19:59	2.20	21.40	5.08	2010.57	2158.90	1.12	1.40	497.37	1.00
8/8/24 20:59	2.20	21.40	5.07	2010.27	2158.57	1.12	1.40	497.45	1.00
8/8/24 21:59	2.19	21.40	5.06	2010.32	2158.63	1.12	1.40	497.43	1.00
8/8/24 22:59	2.19	21.40	5.06	2010.38	2158.69	1.12	1.40	497.42	1.00
8/8/24 23:59	2.19	21.40	5.07	2010.24	2158.56	1.12	1.40	497.45	1.00
8/9/24 0:59	2.19	21.40	5.05	2010.38	2158.69	1.12	1.40	497.42	1.00
8/9/24 1:59	2.19	21.40	5.05	2010.36	2158.68	1.12	1.40	497.42	1.00
8/9/24 2:59	2.18	21.40	5.04	2010.25	2158.56	1.12	1.40	497.45	1.00
8/9/24 3:59	2.19	21.40	5.05	2010.45	2158.78	1.12	1.40	497.40	1.00
8/9/24 4:59	2.18	21.40	5.05	2010.31	2158.63	1.12	1.40	497.44	1.00
8/9/24 5:59	2.18	21.40	5.04	2009.83	2158.10	1.12	1.40	497.56	1.00
8/9/24 6:59	2.18	21.40	5.03	2009.94	2158.24	1.12	1.40	497.53	1.00
8/9/24 7:59	2.18	21.40	5.03	2010.04	2158.35	1.12	1.40	497.50	1.00
8/9/24 8:59	2.17	21.40	5.01	2010.07	2158.37	1.12	1.40	497.50	1.00
8/9/24 9:59	2.16	21.40	4.99	2009.90	2158.18	1.12	1.40	497.54	1.00
8/9/24 10:59	2.38	21.46	5.49	2013.90	2159.82	1.12	1.40	496.55	1.00
8/9/24 11:59	2.03	21.46	4.70	2012.62	2158.62	1.12	1.40	496.86	1.00
8/9/24 12:59	2.03	21.44	4.70	2013.36	2160.27	1.12	1.40	496.68	1.00
8/9/24 13:59	2.03	21.43	4.69	2013.47	2160.82	1.12	1.40	496.66	1.00
8/9/24 14:59	2.04	21.42	4.70	2014.14	2161.85	1.12	1.41	496.49	1.00
8/9/24 15:59	2.04	21.42	4.72	2013.98	2161.86	1.12	1.41	496.53	1.00
8/9/24 16:59	2.04	21.42	4.71	2014.06	2162.05	1.12	1.41	496.51	1.00
8/9/24 17:59	2.05	21.41	4.73	2013.79	2161.86	1.12	1.41	496.58	1.00
8/9/24 18:59	2.05	21.41	4.73	2013.67	2161.80	1.12	1.41	496.61	1.00
8/9/24 19:59	2.04	21.41	4.72	2014.06	2162.27	1.12	1.41	496.51	1.00
8/9/24 20:59	2.04	21.41	4.72	2014.23	2162.50	1.12	1.41	496.47	1.00
8/9/24 21:59	2.05	21.41	4.73	2014.67	2162.97	1.12	1.41	496.36	1.00
8/9/24 22:59	2.04	21.41	4.72	2014.13	2162.42	1.12	1.41	496.49	1.00
8/9/24 23:59	2.04	21.41	4.71	2014.27	2162.60	1.12	1.41	496.46	1.00
8/10/24 0:59	2.04	21.41	4.71	2014.45	2162.81	1.12	1.41	496.41	1.00
8/10/24 1:59	2.04	21.41	4.71	2014.26	2162.62	1.12	1.41	496.46	1.00
8/10/24 2:59	2.04	21.41	4.72	2014.56	2162.97	1.12	1.41	496.39	1.00
8/10/24 3:59	2.04	21.41	4.71	2014.46	2162.87	1.12	1.41	496.41	1.00
8/10/24 4:59	2.04	21.41	4.70	2014.61	2163.01	1.12	1.41	496.37	1.00
8/10/24 5:59	2.04	21.41	4.71	2014.52	2162.93	1.12	1.41	496.40	1.00
8/10/24 6:59	2.03	21.41	4.69	2014.73	2163.15	1.12	1.41	496.34	1.00
8/10/24 7:59	2.04	21.41	4.70	2014.62	2163.04	1.12	1.41	496.37	1.00
8/10/24 8:59	2.03	21.41	4.70	2014.73	2163.15	1.12	1.41	496.34	1.00
8/10/24 9:59	2.03	21.41	4.69	2014.65	2163.09	1.12	1.41	496.36	1.00
8/10/24 10:59	2.04	21.41	4.70	2014.53	2162.97	1.12	1.41	496.39	1.00
8/10/24 11:59	2.03	21.41	4.69	2014.55	2162.98	1.12	1.41	496.39	1.00
8/10/24 12:59	2.04	21.41	4.71	2014.23	2162.64	1.12	1.41	496.47	1.00
8/10/24 13:59	2.04	21.41	4.70	2014.14	2162.54	1.12	1.41	496.49	1.00
8/10/24 14:59	2.03	21.41	4.70	2014.36	2162.78	1.12	1.41	496.43	1.00
8/10/24 15:59	2.04	21.41	4.71	2014.42	2162.86	1.12	1.41	496.42	1.00
8/10/24 16:59	2.04	21.41	4.70	2014.34	2162.77	1.12	1.41	496.44	1.00
8/10/24 17:59	2.04	21.41	4.71	2014.05	2162.46	1.12	1.41	496.51	1.00
8/10/24 18:59	2.04	21.41	4.71	2014.16	2162.57	1.12	1.41	496.48	1.00
8/10/24 19:59	2.03	21.41	4.70	2014.12	2162.52	1.12	1.41	496.50	1.00
8/10/24 20:59	2.04	21.41	4.70	2013.51	2161.88	1.12	1.41	496.65	1.00
8/10/24 21:59	2.03	21.41	4.70	2013.57	2161.97	1.12	1.41	496.63	1.00
8/10/24 22:59	2.04	21.41	4.70	2013.67	2162.06	1.12	1.41	496.60	1.00
8/10/24 23:59	2.03	21.41	4.70	2013.66	2162.06	1.12	1.41	496.61	1.00
8/11/24 0:59	2.03	21.41	4.70	2013.46	2161.84	1.12	1.41	496.66	1.00
8/11/24 1:59	2.03	21.41	4.69	2012.88	2161.22	1.12	1.40	496.80	1.00
8/11/24 2:59	2.04	21.41	4.71	2013.13	2161.48	1.12	1.40	496.74	1.00
8/11/24 3:59	2.03	21.41	4.70	2012.87	2161.19	1.12	1.40	496.80	1.00
8/11/24 4:59	2.03	21.41	4.69	2013.01	2161.35	1.12	1.40	496.77	1.00
8/11/24 5:59	2.03	21.41	4.70	2012.92	2161.29	1.12	1.40	496.79	1.00
8/11/24 6:59	2.03	21.41	4.70	2012.54	2160.88	1.12	1.40	496.88	1.00
8/11/24 7:59	2.03	21.41	4.70	2012.43	2160.75	1.12	1.40	496.91	1.00
8/11/24 8:59	2.03	21.41	4.69	2012.50	2160.82	1.12	1.40	496.89	1.00
8/11/24 9:59	2.03	21.41	4.70	2012.51	2160.83	1.12	1.40	496.89	1.00
8/11/24 10:59	2.03	21.41	4.69	2012.70	2161.04	1.12	1.40	496.84	1.00
8/11/24 11:59	2.04	21.41	4.71	2012.04	2160.32	1.12	1.40	497.01	1.00
8/11/24 12:59	2.03	21.41	4.69	2012.23	2160.51	1.12	1.40	496.96	1.00
8/11/24 13:59	2.04	21.41	4.70	2012.23	2160.52	1.12	1.40	496.96	1.00
8/11/24 14:59	2.04	21.41	4.71	2011.92	2160.19	1.12	1.40	497.04	1.00
8/11/24 15:59	2.04	21.41	4.70	2012.10	2160.39	1.12	1.40	496.99	1.00
8/11/24 16:59	2.04	21.41	4.71	2012.07	2160.34	1.12	1.40	497.00	1.00
8/11/24 17:59	2.04	21.41	4.70	2011.80	2160.08	1.12	1.40	497.07	1.00
8/11/24 18:59	2.04	21.41	4.70	2011.96	2160.23	1.12	1.40	497.03	1.00
8/11/24 19:59	2.04	21.41	4.71	2011.95	2160.21	1.12	1.40	497.03	1.00
8/11/24 20:59	2.03	21.41	4.70	2011.29	2159.52	1.12	1.40	497.19	1.00
8/11/24 21:59	2.04	21.41	4.71	2011.61	2159.85	1.12	1.40	497.11	1.00
8/11/24 22:59	2.03	21.41	4.69	2011.43	2159.68	1.12	1.40	497.16	1.00
8/11/24 23:59	2.04	21.41	4.70	2011.62	2159.90	1.12	1.40	497.11	1.00
8/12/24 0:59	2.03	21.41	4.70	2011.43	2159.68	1.12	1.40	497.16	1.00
8/12/24 1:59	2.04	21.41	4.71	2011.73	2159.99	1.12	1.40	497.09	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/12/24 2:59	2.03	21.41	4.70	2011.42	2159.66	1.12	1.40	497.16	1.00
8/12/24 3:59	2.04	21.41	4.70	2011.35	2159.62	1.12	1.40	497.18	1.00
8/12/24 4:59	2.03	21.41	4.69	2010.66	2158.84	1.12	1.40	497.35	1.00
8/12/24 5:59	2.04	21.41	4.71	2011.06	2159.27	1.12	1.40	497.25	1.00
8/12/24 6:59	2.03	21.41	4.69	2010.96	2159.17	1.12	1.40	497.28	1.00
8/12/24 7:59	2.03	21.41	4.70	2011.08	2159.32	1.12	1.40	497.24	1.00
8/12/24 8:59	2.03	21.41	4.69	2010.71	2158.92	1.12	1.40	497.34	1.00
8/12/24 9:59	2.04	21.41	4.70	2011.03	2159.24	1.12	1.40	497.26	1.00
8/12/24 10:59	2.03	21.41	4.69	2010.68	2158.86	1.12	1.40	497.34	1.00
8/12/24 11:59	2.02	21.41	4.68	2010.67	2158.86	1.12	1.40	497.35	1.00
8/12/24 12:59	2.02	21.41	4.67	2010.70	2158.91	1.12	1.40	497.34	1.00
8/12/24 13:59	2.02	21.41	4.67	2010.61	2158.77	1.12	1.40	497.36	1.00
8/12/24 14:59	2.02	21.41	4.67	2010.74	2158.94	1.12	1.40	497.33	1.00
8/12/24 15:59	2.02	21.41	4.68	2010.73	2158.93	1.12	1.40	497.33	1.00
8/12/24 16:59	2.04	21.41	4.71	2010.51	2158.70	1.12	1.40	497.39	1.00
8/12/24 17:59	2.05	21.41	4.73	2010.58	2158.77	1.12	1.40	497.37	1.00
8/12/24 18:59	2.05	21.41	4.74	2010.63	2158.82	1.12	1.40	497.36	1.00
8/12/24 19:59	2.06	21.41	4.75	2010.54	2158.73	1.12	1.40	497.38	1.00
8/12/24 20:59	2.06	21.41	4.76	2010.32	2158.49	1.12	1.40	497.43	1.00
8/12/24 21:59	2.06	21.41	4.76	2010.37	2158.55	1.12	1.40	497.42	1.00
8/12/24 22:59	2.06	21.41	4.75	2010.19	2158.33	1.12	1.40	497.47	1.00
8/12/24 23:59	2.06	21.41	4.77	2010.26	2158.42	1.12	1.40	497.45	1.00
8/13/24 0:59	2.07	21.41	4.77	2010.23	2158.40	1.12	1.40	497.46	1.00
8/13/24 1:59	2.07	21.41	4.77	2010.32	2158.50	1.12	1.40	497.43	1.00
8/13/24 2:59	2.07	21.41	4.77	2010.10	2158.26	1.12	1.40	497.49	1.00
8/13/24 3:59	2.07	21.41	4.78	2009.80	2157.93	1.12	1.40	497.56	1.00
8/13/24 4:59	2.07	21.41	4.79	2010.08	2158.24	1.12	1.40	497.49	1.00
8/13/24 5:59	2.07	21.41	4.79	2010.19	2158.34	1.12	1.40	497.47	1.00
8/13/24 6:59	2.07	21.41	4.78	2010.05	2158.21	1.12	1.40	497.50	1.00
8/13/24 7:59	2.07	21.41	4.78	2009.96	2158.09	1.12	1.40	497.52	1.00
8/13/24 8:59	2.07	21.41	4.78	2009.74	2157.84	1.12	1.40	497.58	1.00
8/13/24 9:59	2.07	21.41	4.79	2009.69	2157.81	1.12	1.40	497.59	1.00
8/13/24 10:59	2.08	21.41	4.80	2009.60	2157.73	1.12	1.40	497.61	1.00
8/13/24 11:59	2.08	21.41	4.80	2010.01	2158.17	1.12	1.40	497.51	1.00
8/13/24 12:59	2.08	21.41	4.81	2009.80	2157.89	1.12	1.40	497.56	1.00
8/13/24 13:59	2.08	21.41	4.81	2009.75	2157.88	1.12	1.40	497.58	1.00
8/13/24 14:59	2.08	21.41	4.80	2009.55	2157.65	1.12	1.40	497.62	1.00
8/13/24 15:59	2.08	21.41	4.81	2009.46	2157.57	1.12	1.40	497.65	1.00
8/13/24 16:59	2.09	21.41	4.82	2009.63	2157.72	1.12	1.40	497.60	1.00
8/13/24 17:59	2.09	21.41	4.82	2009.71	2157.83	1.12	1.40	497.58	1.00
8/13/24 18:59	2.08	21.41	4.81	2009.17	2157.24	1.12	1.40	497.72	1.00
8/13/24 19:59	2.08	21.41	4.81	2009.19	2157.27	1.12	1.40	497.71	1.00
8/13/24 20:59	2.08	21.41	4.81	2009.38	2157.47	1.12	1.40	497.67	1.00
8/13/24 21:59	2.08	21.41	4.81	2009.35	2157.43	1.12	1.40	497.67	1.00
8/13/24 22:59	2.08	21.41	4.80	2009.54	2157.65	1.12	1.40	497.63	1.00
8/13/24 23:59	2.08	21.41	4.79	2009.39	2157.49	1.12	1.40	497.66	1.00
8/14/24 0:59	2.08	21.41	4.81	2009.26	2157.34	1.12	1.40	497.70	1.00
8/14/24 1:59	2.08	21.41	4.81	2008.80	2156.85	1.12	1.40	497.81	1.00
8/14/24 2:59	2.08	21.41	4.81	2008.96	2157.01	1.12	1.40	497.77	1.00
8/14/24 3:59	2.08	21.41	4.81	2008.82	2156.87	1.12	1.40	497.80	1.00
8/14/24 4:59	2.08	21.41	4.81	2008.94	2157.01	1.12	1.40	497.77	1.00
8/14/24 5:59	2.09	21.41	4.82	2009.17	2157.24	1.12	1.40	497.72	1.00
8/14/24 6:59	2.08	21.41	4.81	2008.99	2157.06	1.12	1.40	497.76	1.00
8/14/24 7:59	2.08	21.41	4.81	2009.07	2157.15	1.12	1.40	497.74	1.00
8/14/24 8:59	2.08	21.41	4.81	2009.12	2157.18	1.12	1.40	497.73	1.00
8/14/24 9:59	2.09	21.41	4.82	2009.10	2157.16	1.12	1.40	497.74	1.00
8/14/24 10:59	2.08	21.41	4.82	2009.24	2157.32	1.12	1.40	497.70	1.00
8/14/24 11:59	2.08	21.41	4.81	2008.82	2156.88	1.12	1.40	497.80	1.00
8/14/24 12:59	2.09	21.41	4.82	2009.02	2157.10	1.12	1.40	497.76	1.00
8/14/24 13:59	2.09	21.41	4.82	2008.80	2156.84	1.12	1.40	497.81	1.00
8/14/24 14:59	2.09	21.41	4.83	2008.81	2156.86	1.12	1.40	497.81	1.00
8/14/24 15:59	2.09	21.41	4.82	2008.78	2156.84	1.12	1.40	497.81	1.00
8/14/24 16:59	2.09	21.41	4.82	2009.01	2157.08	1.12	1.40	497.76	1.00
8/14/24 17:59	2.09	21.41	4.83	2008.89	2156.94	1.12	1.40	497.79	1.00
8/14/24 18:59	2.09	21.41	4.82	2008.73	2156.79	1.12	1.40	497.83	1.00
8/14/24 19:59	2.09	21.41	4.82	2008.62	2156.65	1.12	1.40	497.86	1.00
8/14/24 20:59	2.09	21.41	4.82	2008.79	2156.83	1.12	1.40	497.81	1.00
8/14/24 21:59	2.09	21.41	4.82	2008.76	2156.81	1.12	1.40	497.82	1.00
8/14/24 22:59	2.09	21.41	4.82	2008.58	2156.59	1.12	1.40	497.86	1.00
8/14/24 23:59	2.09	21.41	4.82	2008.67	2156.70	1.12	1.40	497.84	1.00
8/15/24 0:59	2.08	21.41	4.81	2008.81	2156.89	1.12	1.40	497.81	1.00
8/15/24 1:59	2.09	21.41	4.82	2008.79	2156.86	1.12	1.40	497.81	1.00
8/15/24 2:59	2.09	21.41	4.82	2008.87	2156.91	1.12	1.40	497.79	1.00
8/15/24 3:59	2.09	21.41	4.83	2008.67	2156.71	1.12	1.40	497.84	1.00
8/15/24 4:59	2.09	21.41	4.82	2008.62	2156.66	1.12	1.40	497.85	1.00
8/15/24 5:59	2.09	21.41	4.82	2008.52	2156.55	1.12	1.40	497.88	1.00
8/15/24 6:59	2.08	21.41	4.81	2008.76	2156.80	1.12	1.40	497.82	1.00
8/15/24 7:59	2.08	21.41	4.81	2008.25	2156.25	1.12	1.40	497.95	1.00
8/15/24 8:59	2.09	21.41	4.82	2008.48	2156.51	1.12	1.40	497.89	1.00
8/15/24 9:59	2.09	21.41	4.82	2008.42	2156.45	1.12	1.40	497.91	1.00
8/15/24 10:59	2.09	21.41	4.82	2008.46	2156.47	1.12	1.40	497.89	1.00
8/15/24 11:59	2.09	21.41	4.82	2008.46	2156.49	1.12	1.40	497.89	1.00
8/15/24 12:59	2.09	21.41	4.82	2008.55	2156.58	1.12	1.40	497.87	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/15/24 13:59	2.09	21.41	4.82	2008.46	2156.49	1.12	1.40	497.89	1.00
8/15/24 14:59	2.09	21.41	4.82	2008.40	2156.44	1.12	1.40	497.91	1.00
8/15/24 15:59	2.09	21.41	4.83	2008.35	2156.36	1.12	1.40	497.92	1.00
8/15/24 16:59	2.09	21.41	4.83	2008.35	2156.35	1.12	1.40	497.92	1.00
8/15/24 17:59	2.09	21.41	4.83	2008.50	2156.52	1.12	1.40	497.88	1.00
8/15/24 18:59	2.09	21.41	4.83	2008.51	2156.52	1.12	1.40	497.88	1.00
8/15/24 19:59	2.09	21.41	4.82	2008.37	2156.38	1.12	1.40	497.92	1.00
8/15/24 20:59	2.08	21.41	4.81	2008.33	2156.36	1.12	1.40	497.93	1.00
8/15/24 21:59	2.09	21.41	4.82	2008.24	2156.25	1.12	1.40	497.95	1.00
8/15/24 22:59	2.09	21.41	4.82	2008.17	2156.16	1.12	1.40	497.96	1.00
8/15/24 23:59	2.09	21.41	4.82	2008.32	2156.33	1.12	1.40	497.93	1.00
8/16/24 0:59	2.08	21.41	4.82	2008.45	2156.48	1.12	1.40	497.90	1.00
8/16/24 1:59	2.08	21.41	4.81	2008.40	2156.44	1.12	1.40	497.91	1.00
8/16/24 2:59	2.08	21.41	4.81	2008.14	2156.12	1.12	1.40	497.97	1.00
8/16/24 3:59	2.09	21.41	4.82	2008.13	2156.13	1.12	1.40	497.98	1.00
8/16/24 4:59	2.09	21.41	4.82	2007.95	2155.91	1.12	1.40	498.02	1.00
8/16/24 5:59	2.08	21.41	4.81	2008.28	2156.28	1.12	1.40	497.94	1.00
8/16/24 6:59	2.08	21.41	4.81	2008.26	2156.26	1.12	1.40	497.94	1.00
8/16/24 7:59	2.08	21.41	4.80	2008.21	2156.23	1.12	1.40	497.95	1.00
8/16/24 8:59	2.08	21.41	4.80	2008.02	2156.00	1.12	1.40	498.00	1.00
8/16/24 9:59	2.08	21.41	4.81	2008.28	2156.29	1.12	1.40	497.94	1.00
8/16/24 10:59	2.08	21.41	4.81	2008.33	2156.34	1.12	1.40	497.93	1.00
8/16/24 11:59	2.08	21.41	4.81	2007.96	2155.96	1.12	1.40	498.02	1.00
8/16/24 12:59	2.08	21.41	4.81	2008.13	2156.13	1.12	1.40	497.98	1.00
8/16/24 13:59	2.08	21.41	4.81	2008.21	2156.22	1.12	1.40	497.96	1.00
8/16/24 14:59	2.08	21.41	4.81	2008.07	2156.05	1.12	1.40	497.99	1.00
8/16/24 15:59	2.09	21.41	4.82	2008.12	2156.11	1.12	1.40	497.98	1.00
8/16/24 16:59	2.09	21.41	4.82	2008.03	2156.01	1.12	1.40	498.00	1.00
8/16/24 17:59	2.09	21.41	4.82	2008.29	2156.30	1.12	1.40	497.94	1.00
8/16/24 18:59	2.09	21.41	4.82	2007.92	2155.89	1.12	1.40	498.03	1.00
8/16/24 19:59	2.08	21.41	4.80	2008.07	2156.06	1.12	1.40	497.99	1.00
8/16/24 20:59	2.08	21.41	4.81	2008.20	2156.18	1.12	1.40	497.96	1.00
8/16/24 21:59	2.08	21.41	4.81	2008.13	2156.12	1.12	1.40	497.98	1.00
8/16/24 22:59	2.08	21.41	4.80	2008.04	2156.02	1.12	1.40	498.00	1.00
8/16/24 23:59	2.08	21.41	4.81	2007.73	2155.68	1.12	1.40	498.07	1.00
8/17/24 0:59	2.08	21.41	4.81	2007.83	2155.80	1.12	1.40	498.05	1.00
8/17/24 1:59	2.08	21.41	4.81	2008.01	2155.99	1.12	1.40	498.01	1.00
8/17/24 2:59	2.08	21.41	4.81	2008.00	2155.97	1.12	1.40	498.01	1.00
8/17/24 3:59	2.08	21.41	4.81	2007.81	2155.77	1.12	1.40	498.05	1.00
8/17/24 4:59	2.08	21.41	4.81	2008.04	2156.01	1.12	1.40	498.00	1.00
8/17/24 5:59	2.08	21.41	4.81	2007.85	2155.83	1.12	1.40	498.04	1.00
8/17/24 6:59	2.08	21.41	4.81	2008.20	2156.19	1.12	1.40	497.96	1.00
8/17/24 7:59	2.08	21.41	4.80	2007.81	2155.78	1.12	1.40	498.06	1.00
8/17/24 8:59	2.08	21.41	4.80	2007.97	2155.94	1.12	1.40	498.01	1.00
8/17/24 9:59	2.08	21.41	4.80	2008.01	2155.97	1.12	1.40	498.00	1.00
8/17/24 10:59	2.08	21.41	4.81	2007.79	2155.75	1.12	1.40	498.06	1.00
8/17/24 11:59	2.08	21.41	4.81	2007.93	2155.89	1.12	1.40	498.03	1.00
8/17/24 12:59	2.08	21.41	4.81	2007.74	2155.70	1.12	1.40	498.07	1.00
8/17/24 13:59	2.08	21.41	4.81	2007.67	2155.60	1.12	1.40	498.09	1.00
8/17/24 14:59	2.09	21.41	4.82	2007.79	2155.76	1.12	1.40	498.06	1.00
8/17/24 15:59	2.09	21.41	4.82	2007.96	2155.90	1.12	1.40	498.02	1.00
8/17/24 16:59	2.09	21.41	4.82	2007.53	2155.47	1.12	1.40	498.12	1.00
8/17/24 17:59	2.09	21.41	4.82	2007.70	2155.64	1.12	1.40	498.08	1.00
8/17/24 18:59	2.09	21.41	4.82	2007.58	2155.49	1.12	1.40	498.11	1.00
8/17/24 19:59	2.08	21.41	4.81	2007.54	2155.48	1.12	1.40	498.12	1.00
8/17/24 20:59	2.09	21.41	4.82	2007.61	2155.56	1.12	1.40	498.11	1.00
8/17/24 21:59	2.08	21.41	4.81	2007.58	2155.50	1.12	1.40	498.11	1.00
8/17/24 22:59	2.08	21.41	4.81	2007.42	2155.35	1.12	1.40	498.15	1.00
8/17/24 23:59	2.08	21.41	4.81	2007.76	2155.71	1.12	1.40	498.07	1.00
8/18/24 0:59	2.08	21.41	4.81	2007.67	2155.60	1.12	1.40	498.09	1.00
8/18/24 1:59	2.08	21.41	4.81	2007.62	2155.56	1.12	1.40	498.10	1.00
8/18/24 2:59	2.08	21.41	4.81	2007.52	2155.43	1.12	1.40	498.13	1.00
8/18/24 3:59	2.08	21.41	4.81	2007.55	2155.47	1.12	1.40	498.12	1.00
8/18/24 4:59	2.08	21.41	4.81	2007.62	2155.54	1.12	1.40	498.10	1.00
8/18/24 5:59	2.08	21.41	4.81	2007.47	2155.40	1.12	1.40	498.14	1.00
8/18/24 6:59	2.08	21.41	4.80	2007.50	2155.41	1.12	1.40	498.13	1.00
8/18/24 7:59	2.08	21.41	4.81	2007.62	2155.55	1.12	1.40	498.10	1.00
8/18/24 8:59	2.08	21.41	4.81	2007.54	2155.47	1.12	1.40	498.12	1.00
8/18/24 9:59	2.08	21.41	4.80	2007.49	2155.40	1.12	1.40	498.13	1.00
8/18/24 10:59	2.08	21.41	4.81	2007.34	2155.24	1.12	1.40	498.17	1.00
8/18/24 11:59	2.08	21.41	4.81	2007.47	2155.40	1.12	1.40	498.14	1.00
8/18/24 12:59	2.08	21.41	4.81	2007.58	2155.51	1.12	1.40	498.11	1.00
8/18/24 13:59	2.09	21.41	4.82	2007.28	2155.18	1.12	1.40	498.19	1.00
8/18/24 14:59	2.09	21.41	4.82	2007.43	2155.35	1.12	1.40	498.15	1.00
8/18/24 15:59	2.09	21.41	4.82	2007.16	2155.05	1.12	1.40	498.22	1.00
8/18/24 16:59	2.09	21.41	4.82	2007.47	2155.37	1.12	1.40	498.14	1.00
8/18/24 17:59	2.09	21.41	4.82	2007.33	2155.23	1.12	1.40	498.17	1.00
8/18/24 18:59	2.08	21.41	4.82	2007.38	2155.29	1.12	1.40	498.16	1.00
8/18/24 19:59	2.09	21.41	4.82	2007.48	2155.39	1.12	1.40	498.14	1.00
8/18/24 20:59	2.08	21.41	4.81	2007.50	2155.42	1.12	1.40	498.13	1.00
8/18/24 21:59	2.08	21.41	4.81	2007.15	2155.05	1.12	1.40	498.22	1.00
8/18/24 22:59	2.08	21.41	4.81	2007.38	2155.28	1.12	1.40	498.16	1.00
8/18/24 23:59	2.08	21.41	4.81	2007.58	2155.50	1.12	1.40	498.11	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/19/24 0:59	2.08	21.41	4.81	2007.23	2155.13	1.12	1.40	498.20	1.00
8/19/24 1:59	2.08	21.41	4.81	2007.23	2155.13	1.12	1.40	498.20	1.00
8/19/24 2:59	2.08	21.41	4.81	2007.47	2155.37	1.12	1.40	498.14	1.00
8/19/24 3:59	2.08	21.41	4.81	2007.28	2155.18	1.12	1.40	498.19	1.00
8/19/24 4:59	2.08	21.41	4.81	2007.58	2155.49	1.12	1.40	498.11	1.00
8/19/24 5:59	2.08	21.41	4.81	2007.44	2155.35	1.12	1.40	498.15	1.00
8/19/24 6:59	2.08	21.41	4.81	2007.31	2155.22	1.12	1.40	498.18	1.00
8/19/24 7:59	2.08	21.41	4.80	2007.13	2154.99	1.12	1.40	498.22	1.00
8/19/24 8:59	2.08	21.41	4.80	2007.30	2155.20	1.12	1.40	498.18	1.00
8/19/24 9:59	2.08	21.41	4.80	2007.54	2155.44	1.12	1.40	498.12	1.00
8/19/24 10:59	2.08	21.41	4.80	2007.22	2155.10	1.12	1.40	498.20	1.00
8/19/24 11:59	2.08	21.41	4.81	2007.31	2155.22	1.12	1.40	498.18	1.00
8/19/24 12:59	2.08	21.41	4.81	2007.38	2155.27	1.12	1.40	498.16	1.00
8/19/24 13:59	2.08	21.41	4.81	2007.48	2155.39	1.12	1.40	498.14	1.00
8/19/24 14:59	2.08	21.41	4.82	2007.23	2155.11	1.12	1.40	498.20	1.00
8/19/24 15:59	2.08	21.41	4.81	2007.33	2155.22	1.12	1.40	498.17	1.00
8/19/24 16:59	2.09	21.41	4.82	2007.26	2155.15	1.12	1.40	498.19	1.00
8/19/24 17:59	2.08	21.41	4.81	2007.33	2155.22	1.12	1.40	498.17	1.00
8/19/24 18:59	2.09	21.41	4.82	2007.33	2155.23	1.12	1.40	498.17	1.00
8/19/24 19:59	2.08	21.41	4.81	2007.11	2154.99	1.12	1.40	498.23	1.00
8/19/24 20:59	2.08	21.41	4.81	2007.21	2155.10	1.12	1.40	498.20	1.00
8/19/24 21:59	2.08	21.41	4.81	2007.47	2155.37	1.12	1.40	498.14	1.00
8/19/24 22:59	2.08	21.41	4.81	2007.28	2155.16	1.12	1.40	498.19	1.00
8/19/24 23:59	2.08	21.41	4.81	2007.43	2155.32	1.12	1.40	498.15	1.00
8/20/24 0:59	2.08	21.41	4.80	2007.36	2155.23	1.12	1.40	498.17	1.00
8/20/24 1:59	2.08	21.41	4.81	2007.26	2155.13	1.12	1.40	498.19	1.00
8/20/24 2:59	2.08	21.41	4.80	2007.11	2154.98	1.12	1.40	498.23	1.00
8/20/24 3:59	2.08	21.41	4.80	2007.42	2155.30	1.12	1.40	498.15	1.00
8/20/24 4:59	2.08	21.41	4.80	2007.46	2155.32	1.12	1.40	498.14	1.00
8/20/24 5:59	2.08	21.41	4.80	2007.38	2155.26	1.12	1.40	498.16	1.00
8/20/24 6:59	2.08	21.41	4.80	2007.11	2154.96	1.12	1.40	498.23	1.00
8/20/24 7:59	2.08	21.41	4.79	2007.21	2155.09	1.12	1.40	498.20	1.00
8/20/24 8:59	2.08	21.41	4.79	2007.19	2155.06	1.12	1.40	498.21	1.00
8/20/24 9:59	2.08	21.41	4.80	2007.14	2154.99	1.12	1.40	498.22	1.00
8/20/24 10:59	2.08	21.41	4.80	2007.27	2155.13	1.12	1.40	498.19	1.00
8/20/24 11:59	2.08	21.41	4.80	2007.37	2155.23	1.12	1.40	498.16	1.00
8/20/24 12:59	2.08	21.41	4.81	2007.24	2155.10	1.12	1.40	498.20	1.00
8/20/24 13:59	2.08	21.41	4.80	2007.35	2155.22	1.12	1.40	498.17	1.00
8/20/24 14:59	2.08	21.41	4.81	2007.30	2155.16	1.12	1.40	498.18	1.00
8/20/24 15:59	2.08	21.41	4.81	2007.24	2155.10	1.12	1.40	498.20	1.00
8/20/24 16:59	2.08	21.41	4.81	2007.29	2155.16	1.12	1.40	498.18	1.00
8/20/24 17:59	2.08	21.41	4.81	2007.36	2155.22	1.12	1.40	498.17	1.00
8/20/24 18:59	2.08	21.41	4.81	2007.55	2155.45	1.12	1.40	498.12	1.00
8/20/24 19:59	2.08	21.41	4.81	2007.49	2155.37	1.12	1.40	498.13	1.00
8/20/24 20:59	2.08	21.41	4.81	2007.42	2155.27	1.12	1.40	498.15	1.00
8/20/24 21:59	2.08	21.41	4.80	2007.52	2155.39	1.12	1.40	498.13	1.00
8/20/24 22:59	2.08	21.41	4.80	2007.34	2155.21	1.12	1.40	498.17	1.00
8/20/24 23:59	2.08	21.41	4.80	2007.36	2155.22	1.12	1.40	498.17	1.00
8/21/24 0:59	2.08	21.41	4.80	2007.24	2155.08	1.12	1.40	498.20	1.00
8/21/24 1:59	2.08	21.41	4.80	2007.51	2155.40	1.12	1.40	498.13	1.00
8/21/24 2:59	2.08	21.41	4.80	2007.29	2155.15	1.12	1.40	498.18	1.00
8/21/24 3:59	2.08	21.41	4.80	2007.16	2155.00	1.12	1.40	498.22	1.00
8/21/24 4:59	2.08	21.41	4.80	2007.34	2155.20	1.12	1.40	498.17	1.00
8/21/24 5:59	2.08	21.41	4.79	2007.34	2155.21	1.12	1.40	498.17	1.00
8/21/24 6:59	2.08	21.41	4.79	2007.43	2155.31	1.12	1.40	498.15	1.00
8/21/24 7:59	2.08	21.41	4.79	2007.60	2155.48	1.12	1.40	498.11	1.00
8/21/24 8:59	2.08	21.41	4.80	2007.58	2155.46	1.12	1.40	498.11	1.00
8/21/24 9:59	2.08	21.41	4.80	2008.07	2155.97	1.12	1.40	497.99	1.00
8/21/24 10:59	2.08	21.41	4.80	2008.25	2156.15	1.12	1.40	497.95	1.00
8/21/24 11:59	2.08	21.41	4.80	2008.53	2156.47	1.12	1.40	497.88	1.00
8/21/24 12:59	2.08	21.41	4.81	2008.57	2156.51	1.12	1.40	497.87	1.00
8/21/24 13:59	2.08	21.41	4.80	2008.46	2156.39	1.12	1.40	497.89	1.00
8/21/24 14:59	2.08	21.41	4.80	2008.74	2156.70	1.12	1.40	497.83	1.00
8/21/24 15:59	2.08	21.41	4.80	2008.44	2156.37	1.12	1.40	497.90	1.00
8/21/24 16:59	2.08	21.41	4.81	2008.86	2156.81	1.12	1.40	497.79	1.00
8/21/24 17:59	2.08	21.41	4.80	2008.88	2156.85	1.12	1.40	497.79	1.00
8/21/24 18:59	2.08	21.41	4.81	2008.81	2156.75	1.12	1.40	497.81	1.00
8/21/24 19:59	2.08	21.41	4.80	2008.94	2156.91	1.12	1.40	497.78	1.00
8/21/24 20:59	2.08	21.41	4.80	2008.93	2156.91	1.12	1.40	497.78	1.00
8/21/24 21:59	2.07	21.41	4.79	2008.54	2156.44	1.12	1.40	497.87	1.00
8/21/24 22:59	2.08	21.41	4.80	2008.72	2156.67	1.12	1.40	497.83	1.00
8/21/24 23:59	2.08	21.41	4.79	2008.21	2156.11	1.12	1.40	497.96	1.00
8/22/24 0:59	2.08	21.41	4.80	2008.39	2156.32	1.12	1.40	497.91	1.00
8/22/24 1:59	2.08	21.41	4.80	2008.33	2156.23	1.12	1.40	497.93	1.00
8/22/24 2:59	2.07	21.41	4.79	2008.41	2156.32	1.12	1.40	497.91	1.00
8/22/24 3:59	2.08	21.41	4.79	2008.55	2156.48	1.12	1.40	497.87	1.00
8/22/24 4:59	2.08	21.41	4.80	2008.75	2156.68	1.12	1.40	497.82	1.00
8/22/24 5:59	2.07	21.41	4.79	2008.75	2156.70	1.12	1.40	497.82	1.00
8/22/24 6:59	2.07	21.41	4.79	2008.93	2156.88	1.12	1.40	497.78	1.00
8/22/24 7:59	2.07	21.41	4.79	2008.97	2156.91	1.12	1.40	497.77	1.00
8/22/24 8:59	2.07	21.41	4.78	2009.14	2157.09	1.12	1.40	497.73	1.00
8/22/24 9:59	2.07	21.41	4.79	2009.13	2157.06	1.12	1.40	497.73	1.00
8/22/24 10:59	2.08	21.41	4.79	2008.92	2156.89	1.12	1.40	497.78	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/22/24 11:59	2.07	21.41	4.79	2009.21	2157.18	1.12	1.40	497.71	1.00
8/22/24 12:59	2.08	21.41	4.79	2009.04	2156.99	1.12	1.40	497.75	1.00
8/22/24 13:59	2.07	21.41	4.79	2009.41	2157.39	1.12	1.40	497.66	1.00
8/22/24 14:59	2.08	21.41	4.79	2009.30	2157.28	1.12	1.40	497.69	1.00
8/22/24 15:59	2.08	21.41	4.80	2008.56	2156.44	1.12	1.40	497.87	1.00
8/22/24 16:59	2.07	21.41	4.79	2008.98	2156.93	1.12	1.40	497.77	1.00
8/22/24 17:59	2.08	21.41	4.80	2009.16	2157.12	1.12	1.40	497.72	1.00
8/22/24 18:59	2.07	21.41	4.79	2009.16	2157.11	1.12	1.40	497.72	1.00
8/22/24 19:59	2.07	21.41	4.79	2009.29	2157.24	1.12	1.40	497.69	1.00
8/22/24 20:59	2.07	21.41	4.79	2009.18	2157.11	1.12	1.40	497.71	1.00
8/22/24 21:59	2.07	21.41	4.79	2009.69	2157.67	1.12	1.40	497.59	1.00
8/22/24 22:59	2.07	21.41	4.79	2009.53	2157.50	1.12	1.40	497.63	1.00
8/22/24 23:59	2.07	21.41	4.78	2009.65	2157.65	1.12	1.40	497.60	1.00
8/23/24 0:59	2.07	21.41	4.78	2009.76	2157.74	1.12	1.40	497.57	1.00
8/23/24 1:59	2.07	21.41	4.79	2009.84	2157.83	1.12	1.40	497.55	1.00
8/23/24 2:59	2.07	21.41	4.78	2009.84	2157.83	1.12	1.40	497.55	1.00
8/23/24 3:59	2.07	21.41	4.78	2009.85	2157.83	1.12	1.40	497.55	1.00
8/23/24 4:59	2.07	21.41	4.78	2009.48	2157.44	1.12	1.40	497.64	1.00
8/23/24 5:59	2.07	21.41	4.77	2009.84	2157.83	1.12	1.40	497.55	1.00
8/23/24 6:59	2.07	21.41	4.78	2010.02	2158.02	1.12	1.40	497.51	1.00
8/23/24 7:28	2.15	21.41	4.97	2011.02	2159.16	1.12	1.40	497.26	1.00
8/23/24 8:28	2.15	21.41	4.96	2007.81	2155.79	1.12	1.40	498.05	1.00
8/23/24 9:28	2.15	21.41	4.97	2007.69	2155.68	1.12	1.40	498.08	1.00
8/23/24 10:28	2.15	21.41	4.97	2008.06	2156.07	1.12	1.40	497.99	1.00
8/23/24 11:28	2.15	21.41	4.97	2009.23	2157.33	1.12	1.40	497.70	1.00
8/23/24 12:28	2.16	21.41	4.98	2010.14	2158.30	1.12	1.40	497.48	1.00
8/23/24 13:28	2.15	21.41	4.97	2010.51	2158.71	1.12	1.40	497.39	1.00
8/23/24 14:28	2.16	21.41	4.99	2010.28	2158.45	1.12	1.40	497.44	1.00
8/23/24 15:28	2.16	21.41	4.99	2010.65	2158.87	1.12	1.40	497.35	1.00
8/23/24 16:28	2.16	21.41	4.98	2010.71	2158.90	1.12	1.40	497.34	1.00
8/23/24 17:28	2.16	21.41	4.99	2010.85	2159.07	1.12	1.40	497.30	1.00
8/23/24 18:28	2.16	21.41	4.99	2010.73	2158.96	1.12	1.40	497.33	1.00
8/23/24 19:28	2.16	21.41	4.98	2011.10	2159.36	1.12	1.40	497.24	1.00
8/23/24 20:28	2.16	21.41	4.98	2011.05	2159.28	1.12	1.40	497.25	1.00
8/23/24 21:28	2.16	21.41	4.98	2011.15	2159.38	1.12	1.40	497.23	1.00
8/23/24 22:28	2.16	21.41	4.98	2010.96	2159.20	1.12	1.40	497.27	1.00
8/23/24 23:28	2.15	21.41	4.97	2011.03	2159.26	1.12	1.40	497.26	1.00
8/24/24 0:28	2.16	21.41	4.98	2011.11	2159.34	1.12	1.40	497.24	1.00
8/24/24 1:28	2.16	21.41	4.98	2011.28	2159.52	1.12	1.40	497.20	1.00
8/24/24 2:28	2.15	21.41	4.97	2011.05	2159.28	1.12	1.40	497.25	1.00
8/24/24 3:28	2.15	21.41	4.97	2011.17	2159.38	1.12	1.40	497.22	1.00
8/24/24 4:28	2.15	21.41	4.98	2011.14	2159.37	1.12	1.40	497.23	1.00
8/24/24 5:28	2.15	21.41	4.97	2011.03	2159.24	1.12	1.40	497.26	1.00
8/24/24 6:28	2.15	21.41	4.97	2011.12	2159.34	1.12	1.40	497.23	1.00
8/24/24 7:28	2.15	21.41	4.97	2011.13	2159.37	1.12	1.40	497.23	1.00
8/24/24 8:28	2.15	21.41	4.98	2011.05	2159.28	1.12	1.40	497.25	1.00
8/24/24 9:28	2.15	21.41	4.96	2011.12	2159.36	1.12	1.40	497.23	1.00
8/24/24 10:28	2.15	21.41	4.97	2011.00	2159.22	1.12	1.40	497.27	1.00
8/24/24 11:28	2.15	21.41	4.98	2011.03	2159.24	1.12	1.40	497.26	1.00
8/24/24 12:28	2.16	21.41	4.98	2011.09	2159.30	1.12	1.40	497.24	1.00
8/24/24 13:28	2.16	21.41	4.98	2011.14	2159.36	1.12	1.40	497.23	1.00
8/24/24 14:28	2.16	21.41	4.98	2011.04	2159.25	1.12	1.40	497.26	1.00
8/24/24 15:28	2.16	21.41	4.99	2011.24	2159.48	1.12	1.40	497.21	1.00
8/24/24 16:28	2.16	21.41	4.99	2011.12	2159.34	1.12	1.40	497.24	1.00
8/24/24 17:28	2.16	21.41	4.98	2011.21	2159.42	1.12	1.40	497.21	1.00
8/24/24 18:28	2.16	21.41	4.98	2011.18	2159.39	1.12	1.40	497.22	1.00
8/24/24 19:28	2.16	21.41	4.98	2011.24	2159.47	1.12	1.40	497.20	1.00
8/24/24 20:28	2.16	21.41	4.98	2011.23	2159.45	1.12	1.40	497.21	1.00
8/24/24 21:28	2.15	21.41	4.97	2011.13	2159.32	1.12	1.40	497.23	1.00
8/24/24 22:28	2.15	21.41	4.97	2011.17	2159.37	1.12	1.40	497.22	1.00
8/24/24 23:28	2.16	21.41	4.98	2011.29	2159.51	1.12	1.40	497.19	1.00
8/25/24 0:28	2.15	21.41	4.97	2010.97	2159.15	1.12	1.40	497.27	1.00
8/25/24 1:28	2.15	21.41	4.96	2011.32	2159.55	1.12	1.40	497.19	1.00
8/25/24 2:28	2.15	21.41	4.97	2011.16	2159.36	1.12	1.40	497.22	1.00
8/25/24 3:28	2.15	21.41	4.97	2010.98	2159.18	1.12	1.40	497.27	1.00
8/25/24 4:28	2.15	21.41	4.97	2011.00	2159.19	1.12	1.40	497.27	1.00
8/25/24 5:28	2.15	21.41	4.96	2010.88	2159.06	1.12	1.40	497.29	1.00
8/25/24 6:28	2.15	21.41	4.96	2011.02	2159.23	1.12	1.40	497.26	1.00
8/25/24 7:28	2.15	21.41	4.96	2010.89	2159.05	1.12	1.40	497.29	1.00
8/25/24 8:28	2.15	21.41	4.97	2010.99	2159.18	1.12	1.40	497.27	1.00
8/25/24 9:28	2.15	21.41	4.96	2011.00	2159.18	1.12	1.40	497.27	1.00
8/25/24 10:28	2.15	21.41	4.96	2010.85	2159.03	1.12	1.40	497.30	1.00
8/25/24 11:28	2.15	21.41	4.97	2010.98	2159.16	1.12	1.40	497.27	1.00
8/25/24 12:28	2.15	21.41	4.97	2010.89	2159.08	1.12	1.40	497.29	1.00
8/25/24 13:28	2.15	21.41	4.97	2011.20	2159.36	1.12	1.40	497.22	1.00
8/25/24 14:28	2.15	21.41	4.97	2011.01	2159.17	1.12	1.40	497.26	1.00
8/25/24 15:28	2.15	21.41	4.98	2011.06	2159.24	1.12	1.40	497.25	1.00
8/25/24 16:28	2.15	21.41	4.97	2011.18	2159.38	1.12	1.40	497.22	1.00
8/25/24 17:28	2.15	21.41	4.98	2010.97	2159.14	1.12	1.40	497.27	1.00
8/25/24 18:28	2.15	21.41	4.97	2011.04	2159.23	1.12	1.40	497.26	1.00
8/25/24 19:28	2.15	21.41	4.97	2011.09	2159.26	1.12	1.40	497.24	1.00
8/25/24 20:28	2.15	21.41	4.97	2010.96	2159.15	1.12	1.40	497.27	1.00
8/25/24 21:28	2.15	21.41	4.96	2010.80	2158.98	1.12	1.40	497.32	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/25/24 22:28	2.15	21.41	4.96	2011.08	2159.23	1.12	1.40	497.24	1.00
8/25/24 23:28	2.15	21.41	4.96	2010.89	2159.05	1.12	1.40	497.29	1.00
8/26/24 0:28	2.15	21.41	4.97	2011.14	2159.33	1.12	1.40	497.23	1.00
8/26/24 1:28	2.15	21.41	4.96	2011.33	2159.54	1.12	1.40	497.18	1.00
8/26/24 2:28	2.15	21.41	4.96	2011.01	2159.18	1.12	1.40	497.26	1.00
8/26/24 3:28	2.15	21.41	4.96	2010.88	2159.02	1.12	1.40	497.30	1.00
8/26/24 4:28	2.15	21.41	4.97	2011.16	2159.35	1.12	1.40	497.22	1.00
8/26/24 5:28	2.15	21.41	4.96	2010.94	2159.10	1.12	1.40	497.28	1.00
8/26/24 6:28	2.15	21.41	4.95	2010.86	2158.99	1.12	1.40	497.30	1.00
8/26/24 7:28	2.15	21.41	4.95	2010.96	2159.10	1.12	1.40	497.28	1.00
8/26/24 8:28	2.15	21.41	4.96	2011.10	2159.27	1.12	1.40	497.24	1.00
8/26/24 9:28	2.15	21.41	4.96	2010.85	2159.00	1.12	1.40	497.30	1.00
8/26/24 10:28	2.14	21.41	4.95	2010.91	2159.05	1.12	1.40	497.29	1.00
8/26/24 11:28	2.15	21.41	4.96	2011.02	2159.16	1.12	1.40	497.26	1.00
8/26/24 12:28	2.15	21.41	4.96	2010.88	2159.03	1.12	1.40	497.30	1.00
8/26/24 13:28	2.15	21.41	4.97	2010.97	2159.12	1.12	1.40	497.27	1.00
8/26/24 14:28	2.15	21.41	4.98	2010.72	2158.86	1.12	1.40	497.33	1.00
8/26/24 15:28	2.15	21.41	4.98	2010.73	2158.84	1.12	1.40	497.33	1.00
8/26/24 16:28	2.15	21.41	4.97	2010.84	2158.95	1.12	1.40	497.30	1.00
8/26/24 17:28	2.15	21.41	4.97	2010.97	2159.10	1.12	1.40	497.27	1.00
8/26/24 18:28	2.15	21.41	4.97	2010.92	2159.06	1.12	1.40	497.28	1.00
8/26/24 19:28	2.15	21.41	4.97	2010.74	2158.86	1.12	1.40	497.33	1.00
8/26/24 20:28	2.15	21.41	4.96	2011.05	2159.19	1.12	1.40	497.25	1.00
8/26/24 21:28	2.15	21.41	4.96	2010.86	2158.98	1.12	1.40	497.30	1.00
8/26/24 22:28	2.15	21.41	4.96	2010.85	2158.96	1.12	1.40	497.30	1.00
8/26/24 23:28	2.15	21.41	4.96	2011.00	2159.14	1.12	1.40	497.26	1.00
8/27/24 0:28	2.15	21.41	4.96	2010.93	2159.06	1.12	1.40	497.28	1.00
8/27/24 1:28	2.15	21.41	4.96	2010.60	2158.70	1.12	1.40	497.36	1.00
8/27/24 2:28	2.15	21.41	4.96	2010.78	2158.89	1.12	1.40	497.32	1.00
8/27/24 3:28	2.15	21.41	4.96	2010.96	2159.11	1.12	1.40	497.27	1.00
8/27/24 4:28	2.15	21.41	4.96	2010.95	2159.09	1.12	1.40	497.28	1.00
8/27/24 5:28	2.15	21.41	4.96	2010.83	2158.94	1.12	1.40	497.31	1.00
8/27/24 6:28	2.14	21.41	4.95	2010.99	2159.10	1.12	1.40	497.27	1.00
8/27/24 7:28	2.14	21.41	4.95	2010.92	2159.03	1.12	1.40	497.28	1.00
8/27/24 8:28	2.15	21.41	4.96	2010.70	2158.82	1.12	1.40	497.34	1.00
8/27/24 9:28	2.15	21.41	4.96	2010.90	2159.01	1.12	1.40	497.29	1.00
8/27/24 10:28	2.15	21.41	4.96	2010.90	2159.01	1.12	1.40	497.29	1.00
8/27/24 11:28	2.15	21.41	4.96	2010.98	2159.10	1.12	1.40	497.27	1.00
8/27/24 12:28	2.15	21.41	4.97	2010.74	2158.83	1.12	1.40	497.33	1.00
8/27/24 13:28	2.15	21.41	4.97	2010.71	2158.79	1.12	1.40	497.34	1.00
8/27/24 14:28	2.15	21.41	4.97	2010.84	2158.94	1.12	1.40	497.30	1.00
8/27/24 15:28	2.15	21.41	4.97	2010.88	2158.97	1.12	1.40	497.30	1.00
8/27/24 16:28	2.16	21.41	4.98	2010.89	2158.98	1.12	1.40	497.29	1.00
8/27/24 17:28	2.15	21.41	4.97	2010.92	2159.03	1.12	1.40	497.28	1.00
8/27/24 18:28	2.15	21.41	4.96	2010.79	2158.86	1.12	1.40	497.32	1.00
8/27/24 19:28	2.15	21.41	4.97	2010.88	2158.97	1.12	1.40	497.30	1.00
8/27/24 20:28	2.15	21.41	4.97	2011.09	2159.17	1.12	1.40	497.24	1.00
8/27/24 21:28	2.15	21.41	4.96	2011.06	2159.15	1.12	1.40	497.25	1.00
8/27/24 22:28	2.15	21.41	4.96	2010.86	2158.95	1.12	1.40	497.30	1.00
8/27/24 23:28	2.15	21.41	4.97	2010.94	2159.04	1.12	1.40	497.28	1.00
8/28/24 0:28	2.15	21.41	4.96	2010.76	2158.83	1.12	1.40	497.32	1.00
8/28/24 1:28	2.15	21.41	4.96	2010.95	2159.03	1.12	1.40	497.28	1.00
8/28/24 2:28	2.15	21.41	4.96	2010.96	2159.06	1.12	1.40	497.27	1.00
8/28/24 3:28	2.15	21.41	4.96	2010.87	2158.93	1.12	1.40	497.30	1.00
8/28/24 4:28	2.15	21.41	4.97	2010.75	2158.81	1.12	1.40	497.33	1.00
8/28/24 5:28	2.15	21.41	4.95	2010.73	2158.80	1.12	1.40	497.33	1.00
8/28/24 6:28	2.15	21.41	4.96	2010.77	2158.83	1.12	1.40	497.32	1.00
8/28/24 7:28	2.15	21.41	4.96	2010.84	2158.91	1.12	1.40	497.30	1.00
8/28/24 8:28	2.15	21.41	4.96	2010.88	2158.94	1.12	1.40	497.29	1.00
8/28/24 9:28	0.14	21.51	0.32	2016.77	2160.90	1.12	1.40	495.84	1.00
8/28/24 10:28	2.50	21.59	5.78	2021.74	2162.66	1.12	1.41	494.62	1.00
8/28/24 11:28	2.45	21.47	5.66	2013.01	2158.36	1.12	1.40	496.77	1.00
8/28/24 12:28	2.45	21.44	5.66	2011.41	2157.95	1.12	1.40	497.16	1.00
8/28/24 13:28	2.45	21.43	5.66	2010.61	2157.75	1.12	1.40	497.36	1.00
8/28/24 14:28	2.46	21.42	5.67	2010.32	2157.77	1.12	1.40	497.43	1.00
8/28/24 15:28	2.45	21.42	5.67	2011.10	2158.86	1.12	1.40	497.24	1.00
8/28/24 16:28	2.45	21.41	5.66	2011.54	2159.50	1.12	1.40	497.13	1.00
8/28/24 17:28	2.46	21.41	5.67	2011.94	2160.03	1.12	1.40	497.03	1.00
8/28/24 18:28	2.45	21.41	5.66	2011.84	2160.05	1.12	1.40	497.06	1.00
8/28/24 19:28	2.45	21.41	5.66	2011.66	2159.89	1.12	1.40	497.10	1.00
8/28/24 20:28	2.45	21.41	5.66	2011.71	2159.98	1.12	1.40	497.09	1.00
8/28/24 21:28	2.45	21.40	5.66	2011.46	2159.76	1.12	1.40	497.15	1.00
8/28/24 22:28	2.45	21.40	5.65	2011.42	2159.76	1.12	1.40	497.16	1.00
8/28/24 23:28	2.45	21.40	5.65	2011.27	2159.62	1.12	1.40	497.20	1.00
8/29/24 0:28	2.49	21.40	5.75	2011.22	2159.58	1.12	1.40	497.21	1.00
8/29/24 1:28	2.45	21.40	5.65	2011.39	2159.75	1.12	1.40	497.17	1.00
8/29/24 2:28	2.45	21.40	5.66	2011.19	2159.58	1.12	1.40	497.22	1.00
8/29/24 3:28	2.45	21.40	5.66	2011.39	2159.80	1.12	1.40	497.17	1.00
8/29/24 4:28	2.45	21.40	5.66	2011.53	2159.96	1.12	1.40	497.13	1.00
8/29/24 5:28	2.45	21.40	5.65	2011.52	2159.94	1.12	1.40	497.14	1.00
8/29/24 6:28	2.45	21.40	5.66	2011.25	2159.68	1.12	1.40	497.20	1.00
8/29/24 7:28	2.44	21.40	5.64	2011.54	2159.98	1.12	1.40	497.13	1.00
8/29/24 8:28	2.45	21.40	5.65	2011.69	2160.13	1.12	1.40	497.09	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/29/24 9:28	2.45	21.40	5.65	2011.22	2159.65	1.12	1.40	497.21	1.00
8/29/24 10:28	2.44	21.40	5.65	2011.33	2159.78	1.12	1.40	497.18	1.00
8/29/24 11:28	2.45	21.40	5.66	2011.65	2160.11	1.12	1.40	497.10	1.00
8/29/24 12:28	2.45	21.40	5.66	2011.72	2160.18	1.12	1.40	497.09	1.00
8/29/24 13:28	2.45	21.40	5.65	2011.85	2160.34	1.12	1.40	497.05	1.00
8/29/24 14:28	2.45	21.40	5.67	2011.63	2160.15	1.12	1.40	497.11	1.00
8/29/24 15:28	2.45	21.40	5.67	2011.76	2160.25	1.12	1.40	497.08	1.00
8/29/24 16:28	2.45	21.40	5.66	2012.07	2160.57	1.12	1.40	497.00	1.00
8/29/24 17:28	2.45	21.40	5.66	2012.01	2160.53	1.12	1.40	497.02	1.00
8/29/24 18:28	2.45	21.40	5.67	2012.07	2160.59	1.12	1.40	497.00	1.00
8/29/24 19:28	2.45	21.40	5.65	2012.22	2160.74	1.12	1.40	496.96	1.00
8/29/24 20:28	2.45	21.40	5.65	2012.39	2160.93	1.12	1.40	496.92	1.00
8/29/24 21:28	2.45	21.40	5.66	2012.51	2161.07	1.12	1.40	496.89	1.00
8/29/24 22:28	2.44	21.40	5.65	2012.77	2161.34	1.12	1.40	496.83	1.00
8/29/24 23:28	2.44	21.40	5.64	2013.05	2161.65	1.12	1.41	496.76	1.00
8/30/24 0:28	2.45	21.40	5.65	2012.79	2161.36	1.12	1.40	496.82	1.00
8/30/24 1:28	2.45	21.40	5.65	2013.18	2161.78	1.12	1.41	496.73	1.00
8/30/24 2:28	2.44	21.40	5.65	2013.30	2161.92	1.12	1.41	496.70	1.00
8/30/24 3:28	2.44	21.40	5.64	2013.49	2162.11	1.12	1.41	496.65	1.00
8/30/24 4:28	2.45	21.40	5.65	2013.67	2162.31	1.12	1.41	496.61	1.00
8/30/24 5:28	2.44	21.40	5.64	2014.00	2162.66	1.12	1.41	496.52	1.00
8/30/24 6:28	2.44	21.40	5.63	2014.17	2162.85	1.12	1.41	496.48	1.00
8/30/24 7:28	2.44	21.40	5.64	2014.19	2162.86	1.12	1.41	496.48	1.00
8/30/24 8:28	2.44	21.40	5.63	2014.31	2163.01	1.12	1.41	496.45	1.00
8/30/24 9:28	2.44	21.40	5.64	2014.70	2163.41	1.12	1.41	496.35	1.00
8/30/24 10:28	2.44	21.40	5.64	2014.75	2163.46	1.12	1.41	496.34	1.00
8/30/24 11:28	2.44	21.40	5.63	2015.10	2163.85	1.12	1.41	496.25	1.00
8/30/24 12:28	2.44	21.40	5.64	2014.98	2163.73	1.12	1.41	496.28	1.00
8/30/24 13:28	2.45	21.40	5.65	2015.15	2163.92	1.12	1.41	496.24	1.00
8/30/24 14:28	2.45	21.40	5.65	2015.36	2164.10	1.12	1.41	496.19	1.00
8/30/24 15:28	2.45	21.40	5.65	2015.48	2164.26	1.12	1.41	496.16	1.00
8/30/24 16:28	2.44	21.40	5.64	2015.75	2164.55	1.12	1.41	496.09	1.00
8/30/24 17:28	2.45	21.40	5.66	2015.55	2164.33	1.12	1.41	496.14	1.00
8/30/24 18:28	2.45	21.40	5.66	2015.78	2164.57	1.12	1.41	496.09	1.00
8/30/24 19:28	2.44	21.40	5.65	2015.67	2164.44	1.12	1.41	496.11	1.00
8/30/24 20:28	2.44	21.40	5.64	2015.88	2164.68	1.12	1.41	496.06	1.00
8/30/24 21:28	2.44	21.40	5.64	2015.94	2164.76	1.12	1.41	496.05	1.00
8/30/24 22:28	2.44	21.40	5.64	2016.15	2164.96	1.12	1.41	496.00	1.00
8/30/24 23:28	2.44	21.40	5.64	2016.38	2165.21	1.12	1.41	495.94	1.00
8/31/24 0:28	2.44	21.40	5.64	2016.26	2165.09	1.12	1.41	495.97	1.00
8/31/24 1:28	2.44	21.40	5.64	2016.46	2165.30	1.12	1.41	495.92	1.00
8/31/24 2:28	2.44	21.40	5.64	2016.71	2165.57	1.12	1.41	495.86	1.00
8/31/24 3:28	2.44	21.40	5.65	2016.72	2165.57	1.12	1.41	495.85	1.00
8/31/24 4:28	2.44	21.40	5.64	2016.74	2165.60	1.12	1.41	495.85	1.00
8/31/24 5:28	2.44	21.40	5.64	2016.75	2165.62	1.12	1.41	495.85	1.00
8/31/24 6:28	2.44	21.40	5.64	2016.90	2165.77	1.12	1.41	495.81	1.00
8/31/24 7:28	2.44	21.40	5.64	2017.06	2165.96	1.12	1.41	495.77	1.00
8/31/24 8:28	2.44	21.40	5.64	2016.96	2165.83	1.12	1.41	495.80	1.00
8/31/24 9:28	2.44	21.40	5.64	2016.92	2165.79	1.12	1.41	495.81	1.00
8/31/24 10:28	2.44	21.40	5.64	2017.19	2166.10	1.12	1.41	495.74	1.00
8/31/24 11:28	2.44	21.40	5.65	2017.11	2165.99	1.12	1.41	495.76	1.00
8/31/24 12:28	2.44	21.40	5.64	2017.11	2166.01	1.12	1.41	495.76	1.00
8/31/24 13:28	2.44	21.40	5.64	2017.21	2166.11	1.12	1.41	495.73	1.00
8/31/24 14:28	2.45	21.40	5.65	2017.06	2165.94	1.12	1.41	495.77	1.00
8/31/24 15:28	2.45	21.40	5.66	2017.07	2165.96	1.12	1.41	495.77	1.00
8/31/24 16:28	2.45	21.40	5.66	2017.18	2166.07	1.12	1.41	495.74	1.00
8/31/24 17:28	2.45	21.40	5.65	2017.19	2166.08	1.12	1.41	495.74	1.00
8/31/24 18:28	2.45	21.40	5.65	2017.22	2166.13	1.12	1.41	495.73	1.00
8/31/24 19:28	2.45	21.40	5.66	2017.45	2166.36	1.12	1.41	495.68	1.00
8/31/24 20:28	2.44	21.40	5.65	2017.40	2166.31	1.12	1.41	495.69	1.00
8/31/24 21:28	2.44	21.40	5.64	2017.49	2166.39	1.12	1.41	495.67	1.00
8/31/24 22:28	2.45	21.40	5.65	2017.44	2166.33	1.12	1.41	495.68	1.00
8/31/24 23:28	2.45	21.40	5.65	2017.42	2166.30	1.12	1.41	495.68	1.00
9/1/24 0:28	2.44	21.40	5.64	2017.50	2166.41	1.12	1.41	495.66	1.00
9/1/24 1:28	2.45	21.40	5.65	2017.53	2166.43	1.12	1.41	495.66	1.00
9/1/24 2:28	2.45	21.40	5.65	2017.59	2166.51	1.12	1.41	495.64	1.00
9/1/24 3:28	2.44	21.40	5.64	2017.47	2166.38	1.12	1.41	495.67	1.00
9/1/24 4:28	2.44	21.40	5.64	2017.56	2166.46	1.12	1.41	495.65	1.00
9/1/24 5:28	2.44	21.40	5.63	2017.50	2166.42	1.12	1.41	495.66	1.00
9/1/24 6:28	2.45	21.40	5.65	2017.57	2166.49	1.12	1.41	495.65	1.00
9/1/24 7:28	2.44	21.40	5.64	2017.89	2166.82	1.12	1.41	495.57	1.00
9/1/24 8:28	2.44	21.40	5.63	2017.91	2166.83	1.12	1.41	495.56	1.00
9/1/24 9:28	2.44	21.40	5.64	2017.87	2166.80	1.12	1.41	495.57	1.00
9/1/24 10:28	2.44	21.40	5.64	2017.79	2166.70	1.12	1.41	495.59	1.00
9/1/24 11:28	2.44	21.40	5.64	2018.10	2167.02	1.12	1.41	495.52	1.00
9/1/24 12:28	2.44	21.40	5.64	2017.93	2166.85	1.12	1.41	495.56	1.00
9/1/24 13:28	2.44	21.40	5.63	2017.79	2166.71	1.12	1.41	495.59	1.00
9/1/24 14:28	2.45	21.40	5.65	2017.87	2166.78	1.12	1.41	495.57	1.00
9/1/24 15:28	2.45	21.40	5.65	2018.01	2166.95	1.12	1.41	495.54	1.00
9/1/24 16:28	2.44	21.40	5.64	2017.87	2166.79	1.12	1.41	495.57	1.00
9/1/24 17:28	2.45	21.40	5.65	2018.13	2167.06	1.12	1.41	495.51	1.00
9/1/24 18:28	2.45	21.40	5.65	2018.09	2167.01	1.12	1.41	495.52	1.00
9/1/24 19:28	2.44	21.40	5.64	2017.96	2166.85	1.12	1.41	495.55	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/1/24 20:28	2.44	21.40	5.63	2017.98	2166.91	1.12	1.41	495.55	1.00
9/1/24 21:28	2.44	21.40	5.64	2018.03	2166.96	1.12	1.41	495.53	1.00
9/1/24 22:28	2.44	21.40	5.64	2018.18	2167.11	1.12	1.41	495.50	1.00
9/1/24 23:28	2.44	21.40	5.63	2018.35	2167.29	1.12	1.41	495.45	1.00
9/2/24 0:28	2.44	21.40	5.64	2018.25	2167.19	1.12	1.41	495.48	1.00
9/2/24 1:28	2.44	21.40	5.64	2018.42	2167.36	1.12	1.41	495.44	1.00
9/2/24 2:28	2.44	21.40	5.64	2018.30	2167.24	1.12	1.41	495.47	1.00
9/2/24 3:28	2.44	21.40	5.64	2018.38	2167.32	1.12	1.41	495.45	1.00
9/2/24 4:28	2.44	21.40	5.64	2018.34	2167.30	1.12	1.41	495.46	1.00
9/2/24 5:28	2.44	21.40	5.65	2018.29	2167.22	1.12	1.41	495.47	1.00
9/2/24 6:28	2.44	21.40	5.64	2018.35	2167.27	1.12	1.41	495.45	1.00
9/2/24 7:28	2.45	21.40	5.66	2018.59	2167.53	1.12	1.41	495.40	1.00
9/2/24 8:28	2.49	21.40	5.75	2018.44	2167.37	1.12	1.41	495.43	1.00
9/2/24 9:28	2.44	21.40	5.64	2018.67	2167.62	1.12	1.41	495.38	1.00
9/2/24 10:28	2.33	21.40	5.39	2018.56	2167.49	1.12	1.41	495.40	1.00
9/2/24 11:28	2.23	21.40	5.14	2018.41	2167.34	1.12	1.41	495.44	1.00
9/2/24 12:28	2.44	21.40	5.64	2018.59	2167.54	1.12	1.41	495.40	1.00
9/2/24 13:28	2.44	21.40	5.63	2018.77	2167.74	1.12	1.41	495.35	1.00
9/2/24 14:28	2.44	21.40	5.64	2018.78	2167.73	1.12	1.41	495.35	1.00
9/2/24 15:28	2.45	21.40	5.65	2018.86	2167.81	1.12	1.41	495.33	1.00
9/2/24 16:28	2.44	21.40	5.64	2018.82	2167.76	1.12	1.41	495.34	1.00
9/2/24 17:28	2.44	21.40	5.64	2018.90	2167.86	1.12	1.41	495.32	1.00
9/2/24 18:28	2.45	21.40	5.65	2018.92	2167.88	1.12	1.41	495.31	1.00
9/2/24 19:28	2.44	21.40	5.64	2018.75	2167.69	1.12	1.41	495.36	1.00
9/2/24 20:28	2.44	21.40	5.63	2019.08	2168.04	1.12	1.41	495.27	1.00
9/2/24 21:28	2.44	21.40	5.63	2019.03	2168.01	1.12	1.41	495.29	1.00
9/2/24 22:28	2.44	21.40	5.63	2018.86	2167.81	1.12	1.41	495.33	1.00
9/2/24 23:28	2.44	21.40	5.63	2019.05	2168.00	1.12	1.41	495.28	1.00
9/3/24 0:28	2.44	21.40	5.64	2018.92	2167.87	1.12	1.41	495.31	1.00
9/3/24 1:28	2.44	21.40	5.64	2019.14	2168.10	1.12	1.41	495.26	1.00
9/3/24 2:28	2.44	21.40	5.64	2018.95	2167.90	1.12	1.41	495.31	1.00
9/3/24 3:28	2.44	21.40	5.64	2019.03	2167.98	1.12	1.41	495.29	1.00
9/3/24 4:28	2.45	21.40	5.65	2019.02	2167.99	1.12	1.41	495.29	1.00
9/3/24 5:28	2.44	21.40	5.64	2019.04	2168.00	1.12	1.41	495.28	1.00
9/3/24 6:28	2.44	21.40	5.63	2019.17	2168.12	1.12	1.41	495.25	1.00
9/3/24 7:28	2.44	21.40	5.64	2019.22	2168.19	1.12	1.41	495.24	1.00
9/3/24 8:28	2.44	21.40	5.63	2019.28	2168.23	1.12	1.41	495.23	1.00
9/3/24 9:28	2.44	21.40	5.63	2019.01	2167.96	1.12	1.41	495.29	1.00
9/3/24 10:28	2.44	21.40	5.64	2019.13	2168.09	1.12	1.41	495.26	1.00
9/3/24 11:28	2.44	21.40	5.64	2019.14	2168.10	1.12	1.41	495.26	1.00
9/3/24 12:28	2.44	21.40	5.63	2019.20	2168.16	1.12	1.41	495.24	1.00
9/3/24 13:28	2.44	21.40	5.64	2019.23	2168.19	1.12	1.41	495.24	1.00
9/3/24 14:28	2.44	21.40	5.65	2019.25	2168.20	1.12	1.41	495.23	1.00
9/3/24 15:28	2.42	21.45	5.58	2008.85	2155.00	1.12	1.40	497.80	1.00
9/3/24 16:28	2.44	21.45	5.64	2005.10	2150.78	1.11	1.40	498.73	1.00
9/3/24 17:28	2.44	21.44	5.64	2003.94	2150.30	1.11	1.40	499.02	1.00
9/3/24 18:28	2.44	21.43	5.64	2003.57	2150.36	1.11	1.40	499.11	1.00
9/3/24 19:28	2.44	21.42	5.64	2003.62	2150.70	1.11	1.40	499.10	1.00
9/3/24 20:28	2.44	21.42	5.63	2003.69	2150.93	1.11	1.40	499.08	1.00
9/3/24 21:28	2.44	21.41	5.63	2003.95	2151.36	1.11	1.40	499.01	1.00
9/3/24 22:28	2.44	21.41	5.63	2003.81	2151.27	1.11	1.40	499.05	1.00
9/3/24 23:28	2.44	21.41	5.63	2003.83	2151.36	1.11	1.40	499.04	1.00
9/4/24 0:28	2.44	21.41	5.63	2003.82	2151.41	1.11	1.40	499.05	1.00
9/4/24 1:28	2.44	21.41	5.62	2003.83	2151.44	1.11	1.40	499.04	1.00
9/4/24 2:28	2.44	21.41	5.63	2003.59	2151.22	1.11	1.40	499.10	1.00
9/4/24 3:28	2.44	21.41	5.63	2003.60	2151.28	1.11	1.40	499.10	1.00
9/4/24 4:28	2.44	21.41	5.63	2004.16	2151.88	1.11	1.40	498.96	1.00
9/4/24 5:28	2.44	21.41	5.63	2003.95	2151.64	1.11	1.40	499.01	1.00
9/4/24 6:28	2.43	21.41	5.62	2003.53	2151.24	1.11	1.40	499.12	1.00
9/4/24 7:28	2.43	21.41	5.62	2003.72	2151.42	1.11	1.40	499.07	1.00
9/4/24 8:28	2.43	21.41	5.62	2004.02	2151.76	1.11	1.40	499.00	1.00
9/4/24 9:28	2.43	21.41	5.62	2004.43	2152.21	1.11	1.40	498.89	1.00
9/4/24 10:28	2.43	21.41	5.62	2004.18	2151.92	1.11	1.40	498.96	1.00
9/4/24 11:28	2.44	21.41	5.63	2004.06	2151.78	1.11	1.40	498.99	1.00
9/4/24 12:28	2.44	21.41	5.63	2004.34	2152.10	1.11	1.40	498.92	1.00
9/4/24 13:28	2.44	21.40	5.63	2004.36	2152.14	1.11	1.40	498.91	1.00
9/4/24 14:28	2.44	21.41	5.63	2004.44	2152.22	1.11	1.40	498.89	1.00
9/4/24 15:28	2.44	21.41	5.63	2004.43	2152.20	1.11	1.40	498.90	1.00
9/4/24 16:28	2.44	21.40	5.63	2004.91	2152.74	1.11	1.40	498.77	1.00
9/4/24 17:28	2.44	21.40	5.63	2005.12	2152.96	1.11	1.40	498.72	1.00
9/4/24 18:28	2.44	21.41	5.63	2005.03	2152.83	1.11	1.40	498.75	1.00
9/4/24 19:28	2.44	21.41	5.63	2005.14	2152.97	1.11	1.40	498.72	1.00
9/4/24 20:28	2.44	21.41	5.63	2005.57	2153.42	1.11	1.40	498.61	1.00
9/4/24 21:28	2.44	21.41	5.62	2005.40	2153.25	1.11	1.40	498.65	1.00
9/4/24 22:28	2.43	21.41	5.62	2005.95	2153.83	1.11	1.40	498.52	1.00
9/4/24 23:28	2.43	21.41	5.62	2005.91	2153.79	1.11	1.40	498.53	1.00
9/5/24 0:28	2.43	21.41	5.62	2005.59	2153.45	1.11	1.40	498.61	1.00
9/5/24 1:28	2.43	21.40	5.62	2005.84	2153.73	1.11	1.40	498.55	1.00
9/5/24 2:28	2.43	21.40	5.62	2006.06	2153.97	1.11	1.40	498.49	1.00
9/5/24 3:28	2.43	21.41	5.62	2005.90	2153.78	1.11	1.40	498.53	1.00
9/5/24 4:28	2.43	21.41	5.62	2006.26	2154.15	1.11	1.40	498.44	1.00
9/5/24 5:28	2.43	21.41	5.62	2006.25	2154.15	1.11	1.40	498.44	1.00
9/5/24 6:28	2.43	21.41	5.62	2006.39	2154.30	1.11	1.40	498.41	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/5/24 7:28	2.43	21.41	5.61	2006.51	2154.44	1.12	1.40	498.38	1.00
9/5/24 8:28	2.43	21.41	5.61	2006.63	2154.56	1.12	1.40	498.35	1.00
9/5/24 9:28	2.43	21.41	5.61	2006.49	2154.39	1.12	1.40	498.38	1.00
9/5/24 10:28	2.43	21.41	5.61	2006.39	2154.31	1.11	1.40	498.41	1.00
9/5/24 11:28	2.43	21.40	5.61	2006.64	2154.58	1.12	1.40	498.35	1.00
9/5/24 12:28	2.43	21.41	5.62	2006.82	2154.74	1.12	1.40	498.30	1.00
9/5/24 13:28	2.43	21.41	5.62	2006.78	2154.68	1.12	1.40	498.31	1.00
9/5/24 14:28	2.44	21.41	5.63	2006.78	2154.72	1.12	1.40	498.31	1.00
9/5/24 15:28	2.44	21.41	5.63	2006.85	2154.78	1.12	1.40	498.29	1.00
9/5/24 16:28	2.44	21.41	5.63	2006.93	2154.88	1.12	1.40	498.27	1.00
9/5/24 17:28	2.44	21.41	5.63	2007.05	2154.99	1.12	1.40	498.24	1.00
9/5/24 18:28	2.44	21.41	5.62	2007.14	2155.10	1.12	1.40	498.22	1.00
9/5/24 19:28	2.43	21.41	5.62	2007.01	2154.95	1.12	1.40	498.25	1.00
9/5/24 20:28	2.43	21.41	5.62	2007.24	2155.20	1.12	1.40	498.20	1.00
9/5/24 21:28	2.43	21.41	5.62	2007.29	2155.24	1.12	1.40	498.18	1.00
9/5/24 22:28	2.43	21.41	5.61	2007.46	2155.43	1.12	1.40	498.14	1.00
9/5/24 23:28	2.43	21.41	5.61	2007.49	2155.49	1.12	1.40	498.13	1.00
9/6/24 0:28	2.43	21.41	5.61	2007.50	2155.47	1.12	1.40	498.13	1.00
9/6/24 1:28	2.43	21.41	5.61	2007.89	2155.89	1.12	1.40	498.04	1.00
9/6/24 2:28	2.43	21.41	5.61	2007.59	2155.57	1.12	1.40	498.11	1.00
9/6/24 3:28	2.43	21.41	5.61	2007.65	2155.62	1.12	1.40	498.10	1.00
9/6/24 4:28	2.43	21.41	5.61	2007.77	2155.75	1.12	1.40	498.07	1.00
9/6/24 5:28	2.43	21.41	5.61	2007.76	2155.73	1.12	1.40	498.07	1.00
9/6/24 6:28	2.43	21.41	5.61	2007.64	2155.59	1.12	1.40	498.10	1.00
9/6/24 7:28	2.43	21.41	5.61	2008.12	2156.10	1.12	1.40	497.98	1.00
9/6/24 8:28	2.43	21.41	5.60	2008.13	2156.14	1.12	1.40	497.97	1.00
9/6/24 9:28	2.43	21.41	5.61	2007.94	2155.91	1.12	1.40	498.02	1.00
9/6/24 10:28	2.43	21.41	5.60	2008.11	2156.10	1.12	1.40	497.98	1.00
9/6/24 11:28	2.43	21.41	5.61	2008.28	2156.28	1.12	1.40	497.94	1.00
9/6/24 12:28	2.43	21.41	5.62	2008.26	2156.26	1.12	1.40	497.94	1.00
9/6/24 13:28	2.43	21.41	5.61	2008.35	2156.36	1.12	1.40	497.92	1.00
9/6/24 14:28	2.43	21.41	5.62	2008.35	2156.35	1.12	1.40	497.92	1.00
9/6/24 15:28	2.44	21.41	5.62	2008.52	2156.56	1.12	1.40	497.88	1.00
9/6/24 16:28	2.43	21.41	5.62	2008.54	2156.55	1.12	1.40	497.87	1.00
9/6/24 17:28	2.43	21.41	5.62	2008.57	2156.59	1.12	1.40	497.87	1.00
9/6/24 18:28	2.43	21.41	5.62	2008.67	2156.68	1.12	1.40	497.84	1.00
9/6/24 19:28	2.43	21.41	5.62	2008.84	2156.88	1.12	1.40	497.80	1.00
9/6/24 20:28	2.43	21.41	5.62	2008.98	2157.02	1.12	1.40	497.76	1.00
9/6/24 21:28	2.43	21.41	5.61	2008.84	2156.87	1.12	1.40	497.80	1.00
9/6/24 22:28	2.43	21.41	5.62	2009.07	2157.12	1.12	1.40	497.74	1.00
9/6/24 23:28	2.43	21.41	5.61	2008.86	2156.91	1.12	1.40	497.79	1.00
9/7/24 0:28	2.43	21.41	5.61	2008.81	2156.83	1.12	1.40	497.81	1.00
9/7/24 1:28	2.43	21.41	5.61	2008.98	2156.99	1.12	1.40	497.77	1.00
9/7/24 2:28	2.43	21.41	5.61	2009.29	2157.33	1.12	1.40	497.69	1.00
9/7/24 3:28	2.43	21.41	5.61	2009.20	2157.22	1.12	1.40	497.71	1.00
9/7/24 4:28	2.43	21.41	5.62	2009.16	2157.20	1.12	1.40	497.72	1.00
9/7/24 5:28	2.43	21.41	5.61	2009.29	2157.36	1.12	1.40	497.69	1.00
9/7/24 6:28	2.43	21.41	5.61	2009.33	2157.39	1.12	1.40	497.68	1.00
9/7/24 7:28	2.43	21.41	5.61	2009.18	2157.23	1.12	1.40	497.72	1.00
9/7/24 8:28	2.43	21.41	5.61	2009.25	2157.29	1.12	1.40	497.70	1.00
9/7/24 9:28	2.43	21.41	5.61	2009.46	2157.50	1.12	1.40	497.65	1.00
9/7/24 10:28	2.43	21.41	5.61	2009.29	2157.34	1.12	1.40	497.69	1.00
9/7/24 11:28	2.43	21.41	5.62	2009.29	2157.33	1.12	1.40	497.69	1.00
9/7/24 12:28	2.43	21.41	5.62	2009.44	2157.46	1.12	1.40	497.65	1.00
9/7/24 13:28	2.43	21.41	5.62	2009.57	2157.61	1.12	1.40	497.62	1.00
9/7/24 14:28	2.44	21.41	5.63	2009.34	2157.37	1.12	1.40	497.68	1.00
9/7/24 15:28	2.44	21.41	5.62	2009.55	2157.58	1.12	1.40	497.62	1.00
9/7/24 16:28	2.44	21.41	5.62	2009.71	2157.76	1.12	1.40	497.58	1.00
9/7/24 17:28	2.43	21.41	5.62	2009.78	2157.82	1.12	1.40	497.57	1.00
9/7/24 18:28	2.43	21.41	5.62	2009.80	2157.84	1.12	1.40	497.56	1.00
9/7/24 19:28	2.43	21.41	5.62	2009.71	2157.75	1.12	1.40	497.58	1.00
9/7/24 20:28	2.43	21.41	5.62	2009.75	2157.78	1.12	1.40	497.58	1.00
9/7/24 21:28	2.43	21.41	5.62	2009.90	2157.96	1.12	1.40	497.54	1.00
9/7/24 22:28	2.43	21.41	5.62	2009.90	2157.94	1.12	1.40	497.54	1.00
9/7/24 23:28	2.43	21.41	5.62	2009.93	2157.97	1.12	1.40	497.53	1.00
9/8/24 0:28	2.43	21.41	5.61	2009.82	2157.86	1.12	1.40	497.56	1.00
9/8/24 1:28	2.43	21.41	5.61	2009.94	2157.98	1.12	1.40	497.53	1.00
9/8/24 2:28	2.43	21.41	5.61	2009.97	2158.03	1.12	1.40	497.52	1.00
9/8/24 3:28	2.43	21.41	5.61	2010.08	2158.12	1.12	1.40	497.49	1.00
9/8/24 4:28	2.43	21.41	5.62	2009.95	2157.98	1.12	1.40	497.52	1.00
9/8/24 5:28	2.43	21.41	5.61	2010.13	2158.17	1.12	1.40	497.48	1.00
9/8/24 6:28	2.43	21.41	5.61	2009.95	2157.99	1.12	1.40	497.52	1.00
9/8/24 7:28	2.43	21.41	5.61	2010.23	2158.27	1.12	1.40	497.46	1.00
9/8/24 8:28	2.43	21.41	5.61	2010.14	2158.18	1.12	1.40	497.48	1.00
9/8/24 9:28	2.43	21.41	5.61	2010.22	2158.25	1.12	1.40	497.46	1.00
9/8/24 10:28	2.43	21.41	5.61	2010.32	2158.35	1.12	1.40	497.43	1.00
9/8/24 11:28	2.43	21.41	5.61	2010.25	2158.31	1.12	1.40	497.45	1.00
9/8/24 12:28	2.43	21.41	5.61	2010.29	2158.31	1.12	1.40	497.44	1.00
9/8/24 13:28	2.43	21.41	5.61	2010.44	2158.50	1.12	1.40	497.40	1.00
9/8/24 14:28	2.43	21.41	5.62	2010.64	2158.73	1.12	1.40	497.35	1.00
9/8/24 15:28	2.43	21.41	5.62	2010.31	2158.35	1.12	1.40	497.44	1.00
9/8/24 16:28	2.43	21.41	5.62	2010.43	2158.48	1.12	1.40	497.41	1.00
9/8/24 17:28	2.43	21.41	5.62	2010.58	2158.61	1.12	1.40	497.37	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/8/24 18:28	2.43	21.41	5.62	2010.57	2158.62	1.12	1.40	497.37	1.00
9/8/24 19:28	2.43	21.41	5.62	2010.55	2158.59	1.12	1.40	497.38	1.00
9/8/24 20:28	2.43	21.41	5.61	2010.70	2158.76	1.12	1.40	497.34	1.00
9/8/24 21:28	2.43	21.41	5.61	2010.74	2158.78	1.12	1.40	497.33	1.00
9/8/24 22:28	2.43	21.41	5.61	2010.55	2158.60	1.12	1.40	497.38	1.00
9/8/24 23:28	2.43	21.41	5.61	2010.89	2158.95	1.12	1.40	497.29	1.00
9/9/24 0:28	2.43	21.41	5.61	2011.06	2159.12	1.12	1.40	497.25	1.00
9/9/24 1:28	2.43	21.41	5.61	2010.89	2158.94	1.12	1.40	497.29	1.00
9/9/24 2:28	2.43	21.41	5.61	2010.94	2159.00	1.12	1.40	497.28	1.00
9/9/24 3:28	2.43	21.41	5.61	2010.88	2158.93	1.12	1.40	497.30	1.00
9/9/24 4:28	2.43	21.41	5.61	2011.01	2159.08	1.12	1.40	497.26	1.00
9/9/24 5:28	2.43	21.41	5.61	2011.05	2159.12	1.12	1.40	497.25	1.00
9/9/24 6:28	2.43	21.41	5.61	2011.02	2159.07	1.12	1.40	497.26	1.00
9/9/24 7:28	2.43	21.41	5.61	2010.97	2159.02	1.12	1.40	497.27	1.00
9/9/24 8:28	2.43	21.41	5.60	2011.13	2159.18	1.12	1.40	497.23	1.00
9/9/24 9:28	2.43	21.41	5.61	2011.09	2159.14	1.12	1.40	497.24	1.00
9/9/24 10:28	2.43	21.41	5.61	2011.33	2159.40	1.12	1.40	497.18	1.00
9/9/24 11:28	2.43	21.41	5.62	2011.27	2159.31	1.12	1.40	497.20	1.00
9/9/24 12:28	2.43	21.41	5.61	2011.39	2159.45	1.12	1.40	497.17	1.00
9/9/24 13:28	2.43	21.41	5.61	2011.12	2159.17	1.12	1.40	497.24	1.00
9/9/24 14:28	2.43	21.41	5.62	2010.36	2158.35	1.12	1.40	497.42	1.00
9/9/24 15:28	2.43	21.41	5.62	2010.86	2158.88	1.12	1.40	497.30	1.00
9/9/24 16:28	2.43	21.41	5.61	2011.11	2159.13	1.12	1.40	497.24	1.00
9/9/24 17:28	2.43	21.41	5.61	2011.07	2159.10	1.12	1.40	497.25	1.00
9/9/24 18:28	2.43	21.41	5.62	2011.47	2159.54	1.12	1.40	497.15	1.00
9/9/24 19:28	2.43	21.41	5.62	2011.26	2159.29	1.12	1.40	497.20	1.00
9/9/24 20:28	2.43	21.41	5.62	2011.35	2159.40	1.12	1.40	497.18	1.00
9/9/24 21:28	2.43	21.41	5.62	2011.32	2159.36	1.12	1.40	497.19	1.00
9/9/24 22:28	2.43	21.41	5.61	2011.43	2159.45	1.12	1.40	497.16	1.00
9/9/24 23:28	2.43	21.41	5.61	2011.55	2159.60	1.12	1.40	497.13	1.00
9/10/24 0:28	2.43	21.41	5.61	2011.54	2159.59	1.12	1.40	497.13	1.00
9/10/24 1:28	2.43	21.41	5.62	2011.59	2159.66	1.12	1.40	497.12	1.00
9/10/24 2:28	2.43	21.41	5.62	2011.63	2159.66	1.12	1.40	497.11	1.00
9/10/24 3:28	2.43	21.41	5.62	2011.62	2159.65	1.12	1.40	497.11	1.00
9/10/24 4:28	2.43	21.41	5.61	2011.50	2159.53	1.12	1.40	497.14	1.00
9/10/24 5:28	2.43	21.41	5.61	2011.83	2159.88	1.12	1.40	497.06	1.00
9/10/24 6:28	2.43	21.41	5.61	2011.73	2159.76	1.12	1.40	497.09	1.00
9/10/24 7:28	2.43	21.41	5.62	2011.74	2159.78	1.12	1.40	497.08	1.00
9/10/24 8:28	2.43	21.41	5.61	2011.61	2159.65	1.12	1.40	497.11	1.00
9/10/24 9:28	2.43	21.41	5.61	2011.88	2159.92	1.12	1.40	497.05	1.00
9/10/24 10:28	2.43	21.41	5.62	2011.76	2159.79	1.12	1.40	497.08	1.00
9/10/24 11:28	2.43	21.41	5.62	2012.03	2160.08	1.12	1.40	497.01	1.00
9/10/24 12:28	2.43	21.41	5.61	2012.01	2160.05	1.12	1.40	497.02	1.00
9/10/24 13:28	2.43	21.41	5.62	2011.20	2159.19	1.12	1.40	497.21	1.00
9/10/24 14:28	2.43	21.41	5.62	2011.58	2159.59	1.12	1.40	497.12	1.00
9/10/24 15:28	2.43	21.41	5.62	2012.41	2160.47	1.12	1.40	496.92	1.00
9/10/24 16:28	2.43	21.41	5.62	2012.18	2160.25	1.12	1.40	496.97	1.00
9/10/24 17:28	2.43	21.41	5.62	2012.18	2160.22	1.12	1.40	496.97	1.00
9/10/24 18:28	2.43	21.41	5.62	2012.09	2160.14	1.12	1.40	497.00	1.00
9/10/24 19:28	2.43	21.41	5.62	2012.23	2160.27	1.12	1.40	496.96	1.00
9/10/24 20:28	2.43	21.41	5.62	2012.14	2160.18	1.12	1.40	496.98	1.00
9/10/24 21:28	2.43	21.41	5.62	2012.37	2160.42	1.12	1.40	496.93	1.00
9/10/24 22:28	2.43	21.41	5.61	2012.13	2160.16	1.12	1.40	496.99	1.00
9/10/24 23:28	2.43	21.41	5.61	2011.69	2159.68	1.12	1.40	497.10	1.00
9/11/24 0:28	2.43	21.41	5.62	2012.00	2160.01	1.12	1.40	497.02	1.00
9/11/24 1:28	2.43	21.41	5.62	2012.29	2160.33	1.12	1.40	496.95	1.00
9/11/24 2:28	2.43	21.41	5.61	2012.26	2160.30	1.12	1.40	496.95	1.00
9/11/24 3:28	2.43	21.41	5.61	2012.28	2160.31	1.12	1.40	496.95	1.00
9/11/24 4:28	2.43	21.41	5.62	2012.34	2160.36	1.12	1.40	496.93	1.00
9/11/24 5:28	2.43	21.41	5.62	2012.29	2160.31	1.12	1.40	496.95	1.00
9/11/24 6:28	2.43	21.41	5.61	2012.47	2160.52	1.12	1.40	496.90	1.00
9/11/24 7:28	2.43	21.41	5.61	2012.70	2160.75	1.12	1.40	496.84	1.00
9/11/24 8:28	2.43	21.41	5.62	2012.49	2160.54	1.12	1.40	496.90	1.00
9/11/24 9:28	2.43	21.41	5.61	2012.37	2160.40	1.12	1.40	496.93	1.00
9/11/24 10:28	2.43	21.41	5.62	2012.60	2160.65	1.12	1.40	496.87	1.00
9/11/24 11:28	2.43	21.41	5.62	2013.00	2161.05	1.12	1.40	496.77	1.00
9/11/24 12:28	2.44	21.41	5.63	2012.47	2160.50	1.12	1.40	496.90	1.00
9/11/24 13:28	2.44	21.41	5.63	2012.61	2160.63	1.12	1.40	496.87	1.00
9/11/24 14:28	2.44	21.41	5.63	2012.68	2160.69	1.12	1.40	496.85	1.00
9/11/24 15:28	2.44	21.41	5.63	2012.79	2160.82	1.12	1.40	496.82	1.00
9/11/24 16:28	2.44	21.41	5.63	2012.98	2161.03	1.12	1.40	496.78	1.00
9/11/24 17:28	2.44	21.41	5.63	2012.72	2160.72	1.12	1.40	496.84	1.00
9/11/24 18:28	2.44	21.41	5.64	2012.81	2160.84	1.12	1.40	496.82	1.00
9/11/24 19:28	2.44	21.41	5.63	2012.30	2160.29	1.12	1.40	496.94	1.00
9/11/24 20:28	2.44	21.41	5.62	2012.58	2160.59	1.12	1.40	496.87	1.00
9/11/24 21:28	2.43	21.41	5.62	2012.72	2160.74	1.12	1.40	496.84	1.00
9/11/24 22:28	2.44	21.41	5.63	2012.91	2160.95	1.12	1.40	496.79	1.00
9/11/24 23:28	2.44	21.41	5.63	2013.02	2161.05	1.12	1.40	496.77	1.00
9/12/24 0:28	2.44	21.41	5.63	2013.00	2161.02	1.12	1.40	496.77	1.00
9/12/24 1:28	2.44	21.41	5.63	2012.79	2160.80	1.12	1.40	496.82	1.00
9/12/24 2:28	2.44	21.41	5.63	2012.97	2160.99	1.12	1.40	496.78	1.00
9/12/24 3:28	2.44	21.41	5.63	2013.03	2161.05	1.12	1.40	496.76	1.00
9/12/24 4:28	2.44	21.41	5.63	2013.07	2161.09	1.12	1.40	496.75	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/12/24 5:28	2.44	21.41	5.63	2013.07	2161.08	1.12	1.40	496.75	1.00
9/12/24 6:28	2.43	21.41	5.62	2013.17	2161.19	1.12	1.40	496.73	1.00
9/12/24 7:28	2.44	21.41	5.63	2013.26	2161.30	1.12	1.40	496.71	1.00
9/12/24 8:28	2.44	21.41	5.63	2013.27	2161.29	1.12	1.40	496.70	1.00
9/12/24 9:28	2.44	21.41	5.63	2013.26	2161.29	1.12	1.40	496.71	1.00
9/12/24 10:28	2.44	21.41	5.63	2013.48	2161.52	1.12	1.40	496.65	1.00
9/12/24 11:28	2.44	21.41	5.63	2013.30	2161.33	1.12	1.40	496.70	1.00
9/12/24 12:28	2.44	21.41	5.63	2013.48	2161.51	1.12	1.40	496.65	1.00
9/12/24 13:28	2.44	21.41	5.63	2013.23	2161.22	1.12	1.40	496.71	1.00
9/12/24 14:28	2.44	21.41	5.64	2013.45	2161.46	1.12	1.40	496.66	1.00
9/12/24 15:28	2.44	21.41	5.64	2013.63	2161.68	1.12	1.41	496.62	1.00
9/12/24 16:28	2.44	21.42	5.63	2013.62	2161.61	1.12	1.41	496.62	1.00
9/12/24 17:28	2.44	21.41	5.64	2013.62	2161.65	1.12	1.41	496.62	1.00
9/12/24 18:28	2.44	21.41	5.64	2012.96	2160.93	1.12	1.40	496.78	1.00
9/12/24 19:28	2.44	21.42	5.64	2013.18	2161.13	1.12	1.40	496.73	1.00
9/12/24 20:28	2.44	21.42	5.63	2013.22	2161.20	1.12	1.40	496.72	1.00
9/12/24 21:28	2.43	21.42	5.62	2013.45	2161.44	1.12	1.40	496.66	1.00
9/12/24 22:28	2.44	21.42	5.63	2013.50	2161.48	1.12	1.40	496.65	1.00
9/12/24 23:28	2.44	21.42	5.63	2013.57	2161.57	1.12	1.41	496.63	1.00
9/13/24 0:28	2.43	21.42	5.62	2013.81	2161.82	1.12	1.41	496.57	1.00
9/13/24 1:28	2.44	21.42	5.63	2013.70	2161.67	1.12	1.41	496.60	1.00
9/13/24 2:28	2.44	21.42	5.63	2013.46	2161.44	1.12	1.40	496.66	1.00
9/13/24 3:28	2.44	21.42	5.63	2013.41	2161.38	1.12	1.40	496.67	1.00
9/13/24 4:28	2.43	21.42	5.62	2013.59	2161.57	1.12	1.41	496.62	1.00
9/13/24 5:28	2.43	21.42	5.62	2013.88	2161.88	1.12	1.41	496.55	1.00
9/13/24 6:28	2.44	21.42	5.63	2013.71	2161.71	1.12	1.41	496.60	1.00
9/13/24 7:28	2.44	21.42	5.62	2013.55	2161.50	1.12	1.40	496.64	1.00
9/13/24 8:28	2.43	21.42	5.62	2013.97	2161.96	1.12	1.41	496.53	1.00
9/13/24 9:28	2.43	21.42	5.62	2013.96	2161.95	1.12	1.41	496.54	1.00
9/13/24 10:28	2.43	21.42	5.62	2013.85	2161.83	1.12	1.41	496.56	1.00
9/13/24 11:28	2.44	21.42	5.63	2013.53	2161.47	1.12	1.40	496.64	1.00
9/13/24 12:28	2.44	21.42	5.63	2013.59	2161.57	1.12	1.41	496.62	1.00
9/13/24 13:28	2.44	21.42	5.63	2013.68	2161.64	1.12	1.41	496.60	1.00
9/13/24 14:28	2.44	21.42	5.62	2013.78	2161.75	1.12	1.41	496.58	1.00
9/13/24 15:28	2.44	21.42	5.64	2014.15	2162.11	1.12	1.41	496.49	1.00
9/13/24 16:28	2.44	21.42	5.64	2014.09	2162.06	1.12	1.41	496.50	1.00
9/13/24 17:28	2.44	21.42	5.63	2014.09	2162.09	1.12	1.41	496.50	1.00
9/13/24 18:28	2.43	21.42	5.62	2014.14	2162.11	1.12	1.41	496.49	1.00
9/13/24 19:28	2.44	21.42	5.63	2014.19	2162.16	1.12	1.41	496.48	1.00
9/13/24 20:28	2.44	21.42	5.63	2014.37	2162.35	1.12	1.41	496.43	1.00
9/13/24 21:28	2.44	21.42	5.63	2014.22	2162.19	1.12	1.41	496.47	1.00
9/13/24 22:28	2.43	21.42	5.62	2014.27	2162.27	1.12	1.41	496.46	1.00
9/13/24 23:28	2.43	21.42	5.61	2014.24	2162.21	1.12	1.41	496.47	1.00
9/14/24 0:28	2.43	21.42	5.62	2014.47	2162.46	1.12	1.41	496.41	1.00
9/14/24 1:28	2.44	21.42	5.63	2014.46	2162.45	1.12	1.41	496.41	1.00
9/14/24 2:28	2.44	21.42	5.63	2014.18	2162.12	1.12	1.41	496.48	1.00
9/14/24 3:28	2.43	21.42	5.62	2014.19	2162.15	1.12	1.41	496.48	1.00
9/14/24 4:28	2.43	21.42	5.62	2014.28	2162.23	1.12	1.41	496.45	1.00
9/14/24 5:28	2.43	21.42	5.62	2014.41	2162.37	1.12	1.41	496.42	1.00
9/14/24 6:28	2.43	21.42	5.61	2014.46	2162.41	1.12	1.41	496.41	1.00
9/14/24 7:28	2.44	21.42	5.63	2014.55	2162.50	1.12	1.41	496.39	1.00
9/14/24 8:28	2.43	21.42	5.62	2014.60	2162.57	1.12	1.41	496.38	1.00
9/14/24 9:28	2.43	21.42	5.61	2014.35	2162.32	1.12	1.41	496.44	1.00
9/14/24 10:28	2.43	21.42	5.61	2014.65	2162.61	1.12	1.41	496.36	1.00
9/14/24 11:28	2.43	21.42	5.62	2014.81	2162.79	1.12	1.41	496.32	1.00
9/14/24 12:28	2.43	21.42	5.62	2013.81	2161.71	1.12	1.41	496.57	1.00
9/14/24 13:28	2.43	21.42	5.62	2014.01	2161.91	1.12	1.41	496.52	1.00
9/14/24 14:28	2.44	21.42	5.63	2014.31	2162.24	1.12	1.41	496.45	1.00
9/14/24 15:28	2.44	21.42	5.63	2014.54	2162.49	1.12	1.41	496.39	1.00
9/14/24 16:28	2.44	21.42	5.62	2014.47	2162.41	1.12	1.41	496.41	1.00
9/14/24 17:28	2.43	21.42	5.62	2014.49	2162.42	1.12	1.41	496.40	1.00
9/14/24 18:28	2.44	21.42	5.63	2014.60	2162.54	1.12	1.41	496.38	1.00
9/14/24 19:28	2.44	21.42	5.63	2014.56	2162.50	1.12	1.41	496.39	1.00
9/14/24 20:28	2.43	21.42	5.62	2014.69	2162.64	1.12	1.41	496.35	1.00
9/14/24 21:28	2.43	21.42	5.62	2014.87	2162.83	1.12	1.41	496.31	1.00
9/14/24 22:28	2.43	21.42	5.61	2014.76	2162.71	1.12	1.41	496.34	1.00
9/14/24 23:28	2.43	21.42	5.61	2014.74	2162.68	1.12	1.41	496.34	1.00
9/15/24 0:28	2.43	21.42	5.61	2014.82	2162.76	1.12	1.41	496.32	1.00
9/15/24 1:28	2.44	21.42	5.63	2014.84	2162.77	1.12	1.41	496.32	1.00
9/15/24 2:28	2.44	21.42	5.62	2014.82	2162.73	1.12	1.41	496.32	1.00
9/15/24 3:28	2.43	21.42	5.62	2014.91	2162.86	1.12	1.41	496.30	1.00
9/15/24 4:28	2.43	21.42	5.62	2015.03	2162.96	1.12	1.41	496.27	1.00
9/15/24 5:28	2.43	21.42	5.62	2015.03	2162.97	1.12	1.41	496.27	1.00
9/15/24 6:28	2.43	21.42	5.61	2014.89	2162.83	1.12	1.41	496.30	1.00
9/15/24 7:28	2.43	21.42	5.61	2014.85	2162.76	1.12	1.41	496.31	1.00
9/15/24 8:28	2.43	21.42	5.62	2014.93	2162.83	1.12	1.41	496.30	1.00
9/15/24 9:28	2.43	21.42	5.62	2015.05	2162.96	1.12	1.41	496.27	1.00
9/15/24 10:28	2.43	21.42	5.62	2014.92	2162.84	1.12	1.41	496.30	1.00
9/15/24 11:28	2.43	21.42	5.61	2015.00	2162.92	1.12	1.41	496.28	1.00
9/15/24 12:28	2.43	21.42	5.61	2014.88	2162.78	1.12	1.41	496.31	1.00
9/15/24 13:28	2.44	21.42	5.63	2015.09	2163.01	1.12	1.41	496.25	1.00
9/15/24 14:28	2.44	21.42	5.63	2014.97	2162.87	1.12	1.41	496.29	1.00
9/15/24 15:28	2.44	21.42	5.63	2015.16	2163.07	1.12	1.41	496.24	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/15/24 16:28	2.44	21.42	5.63	2014.90	2162.79	1.12	1.41	496.30	1.00
9/15/24 17:28	2.44	21.42	5.63	2015.00	2162.89	1.12	1.41	496.28	1.00
9/15/24 18:28	2.43	21.42	5.62	2014.87	2162.74	1.12	1.41	496.31	1.00
9/15/24 19:28	2.43	21.42	5.62	2015.13	2163.02	1.12	1.41	496.25	1.00
9/15/24 20:28	2.43	21.42	5.62	2015.02	2162.90	1.12	1.41	496.27	1.00
9/15/24 21:28	2.43	21.42	5.62	2015.02	2162.90	1.12	1.41	496.27	1.00
9/15/24 22:28	2.43	21.42	5.62	2015.23	2163.12	1.12	1.41	496.22	1.00
9/15/24 23:28	2.43	21.42	5.61	2015.28	2163.17	1.12	1.41	496.21	1.00
9/16/24 0:28	2.43	21.42	5.61	2015.36	2163.25	1.12	1.41	496.19	1.00
9/16/24 1:28	2.43	21.42	5.62	2015.15	2163.04	1.12	1.41	496.24	1.00
9/16/24 2:28	2.43	21.42	5.62	2015.07	2162.93	1.12	1.41	496.26	1.00
9/16/24 3:28	2.43	21.42	5.62	2015.30	2163.18	1.12	1.41	496.20	1.00
9/16/24 4:28	2.43	21.42	5.62	2015.32	2163.22	1.12	1.41	496.20	1.00
9/16/24 5:28	2.43	21.42	5.61	2015.14	2162.98	1.12	1.41	496.24	1.00
9/16/24 6:28	2.43	21.42	5.61	2015.20	2163.06	1.12	1.41	496.23	1.00
9/16/24 7:28	2.43	21.42	5.62	2015.10	2162.96	1.12	1.41	496.25	1.00
9/16/24 8:28	2.43	21.42	5.62	2015.15	2163.01	1.12	1.41	496.24	1.00
9/16/24 9:28	2.43	21.42	5.61	2015.17	2163.01	1.12	1.41	496.24	1.00
9/16/24 10:28	2.43	21.42	5.61	2015.31	2163.17	1.12	1.41	496.20	1.00
9/16/24 11:28	2.43	21.42	5.61	2015.23	2163.08	1.12	1.41	496.22	1.00
9/16/24 12:28	2.43	21.42	5.62	2015.05	2162.89	1.12	1.41	496.27	1.00
9/16/24 13:28	2.44	21.42	5.63	2015.11	2162.94	1.12	1.41	496.25	1.00
9/16/24 14:28	2.44	21.42	5.63	2015.09	2162.92	1.12	1.41	496.26	1.00
9/16/24 15:28	2.44	21.42	5.63	2015.09	2162.93	1.12	1.41	496.25	1.00
9/16/24 16:28	2.43	21.42	5.62	2015.25	2163.08	1.12	1.41	496.22	1.00
9/16/24 17:28	2.44	21.42	5.63	2015.25	2163.08	1.12	1.41	496.22	1.00
9/16/24 18:28	2.44	21.42	5.62	2015.13	2162.93	1.12	1.41	496.25	1.00
9/16/24 19:28	2.44	21.42	5.62	2015.16	2162.98	1.12	1.41	496.24	1.00
9/16/24 20:28	2.43	21.42	5.62	2015.30	2163.12	1.12	1.41	496.20	1.00
9/16/24 21:28	2.43	21.42	5.61	2015.15	2162.96	1.12	1.41	496.24	1.00
9/16/24 22:28	2.43	21.42	5.62	2015.20	2163.01	1.12	1.41	496.23	1.00
9/16/24 23:28	2.43	21.42	5.62	2015.10	2162.90	1.12	1.41	496.25	1.00
9/17/24 0:28	2.44	21.42	5.62	2015.09	2162.88	1.12	1.41	496.26	1.00
9/17/24 1:28	2.43	21.42	5.62	2015.17	2162.97	1.12	1.41	496.24	1.00
9/17/24 2:28	2.43	21.42	5.62	2014.97	2162.76	1.12	1.41	496.28	1.00
9/17/24 3:28	2.43	21.42	5.62	2015.17	2162.96	1.12	1.41	496.24	1.00
9/17/24 4:28	2.43	21.42	5.62	2014.96	2162.72	1.12	1.41	496.29	1.00
9/17/24 5:28	2.43	21.42	5.62	2015.00	2162.76	1.12	1.41	496.28	1.00
9/17/24 6:28	2.43	21.42	5.62	2014.94	2162.70	1.12	1.41	496.29	1.00
9/17/24 7:28	2.43	21.42	5.62	2014.89	2162.64	1.12	1.41	496.31	1.00
9/17/24 8:28	2.43	21.42	5.62	2014.81	2162.56	1.12	1.41	496.33	1.00
9/17/24 9:28	2.43	21.42	5.62	2014.95	2162.69	1.12	1.41	496.29	1.00
9/17/24 10:28	2.43	21.42	5.62	2014.99	2162.73	1.12	1.41	496.28	1.00
9/17/24 11:28	2.44	21.42	5.63	2014.70	2162.42	1.12	1.41	496.35	1.00
9/17/24 12:28	2.44	21.42	5.63	2014.88	2162.61	1.12	1.41	496.31	1.00
9/17/24 13:28	2.44	21.42	5.63	2014.92	2162.66	1.12	1.41	496.30	1.00
9/17/24 14:28	2.44	21.42	5.63	2014.77	2162.49	1.12	1.41	496.33	1.00
9/17/24 15:28	2.44	21.42	5.62	2014.73	2162.44	1.12	1.41	496.35	1.00
9/17/24 16:28	2.44	21.42	5.63	2014.63	2162.32	1.12	1.41	496.37	1.00
9/17/24 17:28	2.44	21.42	5.63	2014.48	2162.13	1.12	1.41	496.41	1.00
9/17/24 18:28	2.44	21.42	5.63	2013.37	2160.97	1.12	1.40	496.68	1.00
9/17/24 19:28	2.44	21.42	5.63	2013.78	2161.40	1.12	1.40	496.58	1.00
9/17/24 20:28	2.43	21.42	5.62	2014.03	2161.68	1.12	1.41	496.52	1.00
9/17/24 21:28	2.43	21.42	5.62	2014.07	2161.72	1.12	1.41	496.51	1.00
9/17/24 22:28	2.44	21.42	5.63	2013.91	2161.55	1.12	1.41	496.55	1.00
9/17/24 23:28	2.44	21.42	5.63	2014.09	2161.72	1.12	1.41	496.50	1.00
9/18/24 0:28	2.44	21.42	5.63	2013.98	2161.62	1.12	1.41	496.53	1.00
9/18/24 1:28	2.43	21.42	5.62	2013.98	2161.58	1.12	1.41	496.53	1.00
9/18/24 2:28	2.44	21.42	5.63	2013.94	2161.56	1.12	1.41	496.54	1.00
9/18/24 3:28	2.44	21.42	5.63	2013.88	2161.49	1.12	1.40	496.55	1.00
9/18/24 4:28	2.44	21.43	5.63	2013.76	2161.34	1.12	1.40	496.58	1.00
9/18/24 5:28	2.44	21.43	5.63	2013.74	2161.32	1.12	1.40	496.59	1.00
9/18/24 6:28	2.43	21.42	5.62	2013.84	2161.44	1.12	1.40	496.56	1.00
9/18/24 7:28	2.43	21.43	5.62	2013.68	2161.25	1.12	1.40	496.60	1.00
9/18/24 8:28	2.43	21.43	5.61	2013.75	2161.31	1.12	1.40	496.59	1.00
9/18/24 9:28	2.43	21.43	5.62	2013.73	2161.29	1.12	1.40	496.59	1.00
9/18/24 10:28	2.43	21.43	5.62	2013.67	2161.22	1.12	1.40	496.61	1.00
9/18/24 11:28	2.43	21.43	5.62	2004.81	2151.31	1.11	1.40	498.80	1.00
9/18/24 12:28	2.43	21.43	5.62	2005.40	2152.08	1.11	1.40	498.65	1.00
9/18/24 13:28	2.43	21.43	5.62	2005.82	2152.61	1.11	1.40	498.55	1.00
9/18/24 14:28	2.44	21.43	5.62	2005.94	2152.77	1.11	1.40	498.52	1.00
9/18/24 15:28	2.44	21.43	5.63	2005.78	2152.63	1.11	1.40	498.56	1.00
9/18/24 16:28	2.44	21.43	5.64	2005.86	2152.75	1.11	1.40	498.54	1.00
9/18/24 17:28	2.44	21.43	5.63	2006.20	2153.14	1.11	1.40	498.45	1.00
9/18/24 18:28	2.44	21.43	5.63	2006.66	2153.64	1.11	1.40	498.34	1.00
9/18/24 19:28	2.44	21.43	5.63	2006.84	2153.85	1.11	1.40	498.30	1.00
9/18/24 20:28	2.43	21.43	5.62	2007.03	2154.04	1.11	1.40	498.25	1.00
9/18/24 21:28	2.43	21.43	5.62	2006.93	2153.94	1.11	1.40	498.27	1.00
9/18/24 22:28	2.43	21.43	5.62	2007.00	2154.02	1.11	1.40	498.25	1.00
9/18/24 23:28	2.44	21.43	5.63	2007.15	2154.16	1.11	1.40	498.22	1.00
9/19/24 0:28	2.44	21.43	5.62	2007.20	2154.23	1.11	1.40	498.21	1.00
9/19/24 1:28	2.43	21.43	5.62	2007.19	2154.21	1.11	1.40	498.21	1.00
9/19/24 2:28	2.43	21.43	5.62	2007.16	2154.18	1.11	1.40	498.22	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/19/24 3:28	2.43	21.43	5.62	2007.25	2154.26	1.11	1.40	498.19	1.00
9/19/24 4:28	2.43	21.43	5.62	2007.63	2154.67	1.12	1.40	498.10	1.00
9/19/24 5:28	2.43	21.43	5.62	2007.54	2154.58	1.12	1.40	498.12	1.00
9/19/24 6:28	2.43	21.43	5.62	2007.33	2154.36	1.11	1.40	498.17	1.00
9/19/24 7:28	2.43	21.43	5.61	2007.11	2154.12	1.11	1.40	498.23	1.00
9/19/24 8:28	2.43	21.43	5.61	2007.71	2154.74	1.12	1.40	498.08	1.00
9/19/24 9:28	2.43	21.43	5.61	2007.56	2154.59	1.12	1.40	498.12	1.00
9/19/24 10:28	2.43	21.43	5.62	2007.35	2154.37	1.12	1.40	498.17	1.00
9/19/24 11:28	2.44	21.43	5.63	2007.41	2154.41	1.12	1.40	498.15	1.00
9/19/24 12:28	2.44	21.43	5.63	2007.33	2154.32	1.11	1.40	498.17	1.00
9/19/24 13:28	2.44	21.43	5.62	2007.53	2154.55	1.12	1.40	498.12	1.00
9/19/24 14:28	2.44	21.43	5.62	2007.58	2154.58	1.12	1.40	498.11	1.00
9/19/24 15:28	2.44	21.43	5.62	2007.45	2154.45	1.12	1.40	498.14	1.00
9/19/24 16:28	2.44	21.43	5.63	2007.62	2154.61	1.12	1.40	498.10	1.00
9/19/24 17:28	2.44	21.43	5.63	2007.92	2154.93	1.12	1.40	498.03	1.00
9/19/24 18:28	2.44	21.43	5.63	2007.93	2154.96	1.12	1.40	498.03	1.00
9/19/24 19:28	2.43	21.43	5.62	2007.60	2154.60	1.12	1.40	498.11	1.00
9/19/24 20:28	2.43	21.43	5.62	2007.85	2154.86	1.12	1.40	498.05	1.00
9/19/24 21:28	2.44	21.43	5.63	2008.05	2155.07	1.12	1.40	497.99	1.00
9/19/24 22:28	2.44	21.43	5.63	2008.22	2155.23	1.12	1.40	497.95	1.00
9/19/24 23:28	2.44	21.43	5.63	2008.19	2155.20	1.12	1.40	497.96	1.00
9/20/24 0:28	2.43	21.43	5.62	2008.07	2155.08	1.12	1.40	497.99	1.00
9/20/24 1:28	2.43	21.43	5.62	2008.28	2155.28	1.12	1.40	497.94	1.00
9/20/24 2:28	2.44	21.43	5.62	2008.40	2155.42	1.12	1.40	497.91	1.00
9/20/24 3:28	2.43	21.43	5.62	2008.12	2155.12	1.12	1.40	497.98	1.00
9/20/24 4:28	2.44	21.43	5.62	2008.39	2155.40	1.12	1.40	497.91	1.00
9/20/24 5:28	2.43	21.43	5.62	2008.38	2155.38	1.12	1.40	497.91	1.00
9/20/24 6:28	2.43	21.43	5.62	2008.49	2155.50	1.12	1.40	497.89	1.00
9/20/24 7:28	2.43	21.43	5.61	2008.43	2155.43	1.12	1.40	497.90	1.00
9/20/24 8:28	2.43	21.43	5.62	2008.70	2155.72	1.12	1.40	497.84	1.00
9/20/24 9:28	2.44	21.43	5.62	2008.65	2155.67	1.12	1.40	497.85	1.00
9/20/24 10:28	2.44	21.43	5.63	2009.43	2156.48	1.12	1.40	497.65	1.00
9/20/24 11:28	2.44	21.43	5.63	2008.32	2155.32	1.12	1.40	497.93	1.00
9/20/24 12:28	2.44	21.43	5.63	2008.48	2155.45	1.12	1.40	497.89	1.00
9/20/24 13:28	2.43	21.43	5.62	2008.87	2155.90	1.12	1.40	497.79	1.00
9/20/24 14:28	2.44	21.43	5.63	2008.74	2155.74	1.12	1.40	497.82	1.00
9/20/24 15:28	2.44	21.43	5.63	2008.68	2155.66	1.12	1.40	497.84	1.00
9/20/24 16:28	2.44	21.43	5.63	2008.93	2155.93	1.12	1.40	497.78	1.00
9/20/24 17:28	2.44	21.43	5.63	2008.92	2155.92	1.12	1.40	497.78	1.00
9/20/24 18:28	2.44	21.43	5.63	2009.06	2156.07	1.12	1.40	497.75	1.00
9/20/24 19:28	2.44	21.43	5.63	2009.11	2156.12	1.12	1.40	497.73	1.00
9/20/24 20:28	2.44	21.43	5.63	2009.21	2156.22	1.12	1.40	497.71	1.00
9/20/24 21:28	2.43	21.43	5.62	2009.16	2156.17	1.12	1.40	497.72	1.00
9/20/24 22:28	2.43	21.43	5.62	2009.42	2156.43	1.12	1.40	497.66	1.00
9/20/24 23:28	2.43	21.43	5.62	2009.60	2156.61	1.12	1.40	497.61	1.00
9/21/24 0:28	2.44	21.43	5.62	2009.70	2156.73	1.12	1.40	497.59	1.00
9/21/24 1:28	2.43	21.43	5.62	2009.51	2156.53	1.12	1.40	497.63	1.00
9/21/24 2:28	2.44	21.43	5.62	2009.04	2156.00	1.12	1.40	497.75	1.00
9/21/24 3:28	2.43	21.43	5.62	2009.19	2156.16	1.12	1.40	497.71	1.00
9/21/24 4:28	2.44	21.43	5.63	2009.47	2156.46	1.12	1.40	497.64	1.00
9/21/24 5:28	2.44	21.43	5.63	2009.61	2156.61	1.12	1.40	497.61	1.00
9/21/24 6:28	2.44	21.43	5.63	2009.65	2156.66	1.12	1.40	497.60	1.00
9/21/24 7:28	2.44	21.43	5.62	2009.75	2156.75	1.12	1.40	497.57	1.00
9/21/24 8:28	2.43	21.43	5.61	2009.95	2156.95	1.12	1.40	497.52	1.00
9/21/24 9:28	2.44	21.43	5.63	2010.06	2157.08	1.12	1.40	497.50	1.00
9/21/24 10:28	2.44	21.43	5.62	2009.94	2156.95	1.12	1.40	497.53	1.00
9/21/24 11:28	2.44	21.43	5.63	2010.09	2157.13	1.12	1.40	497.49	1.00
9/21/24 12:28	2.44	21.43	5.63	2010.03	2157.02	1.12	1.40	497.50	1.00
9/21/24 13:28	2.44	21.43	5.63	2010.10	2157.12	1.12	1.40	497.49	1.00
9/21/24 14:28	2.44	21.43	5.64	2010.34	2157.35	1.12	1.40	497.43	1.00
9/21/24 15:28	2.44	21.43	5.64	2010.30	2157.33	1.12	1.40	497.44	1.00
9/21/24 16:28	2.44	21.43	5.64	2010.38	2157.40	1.12	1.40	497.42	1.00
9/21/24 17:28	2.44	21.43	5.63	2010.51	2157.54	1.12	1.40	497.39	1.00
9/21/24 18:28	2.44	21.43	5.63	2010.61	2157.62	1.12	1.40	497.36	1.00
9/21/24 19:28	2.44	21.43	5.62	2010.27	2157.26	1.12	1.40	497.45	1.00
9/21/24 20:28	2.43	21.43	5.62	2010.46	2157.47	1.12	1.40	497.40	1.00
9/21/24 21:28	2.44	21.43	5.63	2010.74	2157.77	1.12	1.40	497.33	1.00
9/21/24 22:28	2.43	21.43	5.62	2010.54	2157.53	1.12	1.40	497.38	1.00
9/21/24 23:28	2.43	21.43	5.61	2010.39	2157.37	1.12	1.40	497.42	1.00
9/22/24 0:28	2.43	21.43	5.61	2010.79	2157.78	1.12	1.40	497.32	1.00
9/22/24 1:28	2.43	21.43	5.61	2010.76	2157.76	1.12	1.40	497.32	1.00
9/22/24 2:28	2.43	21.43	5.61	2010.69	2157.67	1.12	1.40	497.34	1.00
9/22/24 3:28	2.44	21.43	5.63	2010.83	2157.84	1.12	1.40	497.31	1.00
9/22/24 4:28	2.43	21.43	5.62	2010.99	2158.01	1.12	1.40	497.27	1.00
9/22/24 5:28	2.43	21.43	5.62	2010.94	2157.94	1.12	1.40	497.28	1.00
9/22/24 6:28	2.43	21.43	5.61	2011.16	2158.17	1.12	1.40	497.23	1.00
9/22/24 7:28	2.43	21.43	5.61	2011.19	2158.21	1.12	1.40	497.22	1.00
9/22/24 8:28	2.43	21.43	5.61	2011.01	2157.98	1.12	1.40	497.26	1.00
9/22/24 9:28	2.43	21.43	5.61	2011.14	2158.14	1.12	1.40	497.23	1.00
9/22/24 10:28	2.43	21.43	5.61	2011.10	2158.06	1.12	1.40	497.24	1.00
9/22/24 11:28	2.43	21.43	5.61	2011.21	2158.20	1.12	1.40	497.21	1.00
9/22/24 12:28	2.43	21.43	5.62	2011.10	2158.07	1.12	1.40	497.24	1.00
9/22/24 13:28	2.43	21.43	5.62	2011.24	2158.22	1.12	1.40	497.21	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/22/24 14:28	2.43	21.43	5.62	2011.33	2158.32	1.12	1.40	497.18	1.00
9/22/24 15:28	2.43	21.43	5.62	2011.28	2158.26	1.12	1.40	497.20	1.00
9/22/24 16:28	2.44	21.43	5.63	2011.42	2158.40	1.12	1.40	497.16	1.00
9/22/24 17:28	2.44	21.43	5.62	2011.52	2158.52	1.12	1.40	497.14	1.00
9/22/24 18:28	2.44	21.43	5.62	2011.57	2158.55	1.12	1.40	497.12	1.00
9/22/24 19:28	2.43	21.43	5.62	2011.38	2158.35	1.12	1.40	497.17	1.00
9/22/24 20:28	2.43	21.43	5.61	2011.59	2158.58	1.12	1.40	497.12	1.00
9/22/24 21:28	2.43	21.43	5.61	2011.58	2158.57	1.12	1.40	497.12	1.00
9/22/24 22:28	2.43	21.43	5.61	2011.59	2158.57	1.12	1.40	497.12	1.00
9/22/24 23:28	2.43	21.44	5.60	2011.84	2158.82	1.12	1.40	497.06	1.00
9/23/24 0:28	2.43	21.44	5.62	2011.64	2158.61	1.12	1.40	497.11	1.00
9/23/24 1:28	2.43	21.44	5.62	2011.83	2158.80	1.12	1.40	497.06	1.00
9/23/24 2:28	2.43	21.44	5.61	2011.68	2158.65	1.12	1.40	497.10	1.00
9/23/24 3:28	2.43	21.44	5.61	2011.77	2158.72	1.12	1.40	497.08	1.00
9/23/24 4:28	2.43	21.44	5.62	2011.65	2158.61	1.12	1.40	497.10	1.00
9/23/24 5:28	2.43	21.44	5.62	2011.65	2158.58	1.12	1.40	497.10	1.00
9/23/24 6:28	2.43	21.44	5.62	2011.93	2158.89	1.12	1.40	497.04	1.00
9/23/24 7:28	2.43	21.44	5.62	2011.97	2158.93	1.12	1.40	497.02	1.00
9/23/24 8:28	2.43	21.44	5.62	2011.97	2158.91	1.12	1.40	497.03	1.00
9/23/24 9:28	2.43	21.44	5.61	2011.71	2158.64	1.12	1.40	497.09	1.00
9/23/24 10:28	2.43	21.44	5.62	2011.90	2158.84	1.12	1.40	497.04	1.00
9/23/24 11:28	2.43	21.44	5.62	2012.00	2158.92	1.12	1.40	497.02	1.00
9/23/24 12:28	2.44	21.44	5.63	2012.03	2158.97	1.12	1.40	497.01	1.00
9/23/24 13:28	2.44	21.44	5.64	2012.27	2159.22	1.12	1.40	496.95	1.00
9/23/24 14:28	2.44	21.44	5.64	2012.11	2159.04	1.12	1.40	496.99	1.00
9/23/24 15:28	2.43	21.44	5.62	2012.08	2159.01	1.12	1.40	497.00	1.00
9/23/24 16:28	2.44	21.44	5.63	2012.26	2159.20	1.12	1.40	496.95	1.00
9/23/24 17:28	2.44	21.44	5.63	2012.22	2159.14	1.12	1.40	496.96	1.00
9/23/24 18:28	2.44	21.44	5.64	2012.20	2159.13	1.12	1.40	496.97	1.00
9/23/24 19:28	2.44	21.44	5.64	2012.22	2159.13	1.12	1.40	496.96	1.00
9/23/24 20:28	2.44	21.44	5.64	2012.37	2159.30	1.12	1.40	496.93	1.00
9/23/24 21:28	2.44	21.44	5.63	2012.28	2159.20	1.12	1.40	496.95	1.00
9/23/24 22:28	2.44	21.44	5.63	2012.51	2159.43	1.12	1.40	496.89	1.00
9/23/24 23:28	2.44	21.44	5.64	2012.23	2159.12	1.12	1.40	496.96	1.00
9/24/24 0:28	2.44	21.44	5.65	2012.57	2159.48	1.12	1.40	496.88	1.00
9/24/24 1:28	2.44	21.44	5.65	2012.32	2159.22	1.12	1.40	496.94	1.00
9/24/24 2:28	2.44	21.44	5.64	2012.50	2159.41	1.12	1.40	496.89	1.00
9/24/24 3:28	2.44	21.44	5.63	2012.62	2159.54	1.12	1.40	496.86	1.00
9/24/24 4:28	2.45	21.44	5.65	2012.66	2159.58	1.12	1.40	496.86	1.00
9/24/24 5:28	2.45	21.44	5.65	2012.66	2159.57	1.12	1.40	496.86	1.00
9/24/24 6:28	2.44	21.44	5.64	2012.83	2159.77	1.12	1.40	496.81	1.00
9/24/24 7:28	2.44	21.44	5.64	2012.70	2159.60	1.12	1.40	496.84	1.00
9/24/24 8:28	2.44	21.44	5.64	2012.62	2159.51	1.12	1.40	496.87	1.00
9/24/24 9:28	2.44	21.44	5.64	2012.80	2159.71	1.12	1.40	496.82	1.00
9/24/24 10:28	2.43	21.44	5.61	2012.92	2159.83	1.12	1.40	496.79	1.00
9/24/24 11:28	2.43	21.44	5.61	2012.68	2159.56	1.12	1.40	496.85	1.00
9/24/24 12:28	2.44	21.44	5.63	2012.84	2159.74	1.12	1.40	496.81	1.00
9/24/24 13:28	2.44	21.44	5.64	2012.93	2159.81	1.12	1.40	496.79	1.00
9/24/24 14:28	2.44	21.44	5.64	2012.91	2159.80	1.12	1.40	496.79	1.00
9/24/24 15:28	2.45	21.44	5.65	2012.98	2159.86	1.12	1.40	496.78	1.00
9/24/24 16:28	2.45	21.44	5.65	2013.07	2159.97	1.12	1.40	496.75	1.00
9/24/24 17:28	2.45	21.44	5.66	2012.89	2159.77	1.12	1.40	496.80	1.00
9/24/24 18:28	2.45	21.44	5.66	2012.99	2159.86	1.12	1.40	496.77	1.00
9/24/24 19:28	2.45	21.44	5.65	2013.04	2159.91	1.12	1.40	496.76	1.00
9/24/24 20:28	2.45	21.44	5.66	2013.05	2159.90	1.12	1.40	496.76	1.00
9/24/24 21:28	2.45	21.44	5.65	2013.00	2159.84	1.12	1.40	496.77	1.00
9/24/24 22:28	2.44	21.44	5.64	2013.03	2159.89	1.12	1.40	496.76	1.00
9/24/24 23:28	2.45	21.44	5.66	2013.14	2160.00	1.12	1.40	496.74	1.00
9/25/24 0:28	2.45	21.44	5.65	2013.02	2159.89	1.12	1.40	496.77	1.00
9/25/24 1:28	2.45	21.44	5.65	2013.31	2160.17	1.12	1.40	496.70	1.00
9/25/24 2:28	2.45	21.44	5.65	2013.03	2159.89	1.12	1.40	496.76	1.00
9/25/24 3:28	2.44	21.44	5.65	2013.14	2159.96	1.12	1.40	496.74	1.00
9/25/24 4:28	2.45	21.44	5.65	2013.15	2159.97	1.12	1.40	496.74	1.00
9/25/24 5:28	2.45	21.44	5.65	2013.36	2160.20	1.12	1.40	496.68	1.00
9/25/24 6:28	2.44	21.44	5.64	2013.34	2160.19	1.12	1.40	496.69	1.00
9/25/24 7:28	2.44	21.44	5.65	2013.31	2160.14	1.12	1.40	496.69	1.00
9/25/24 8:28	2.44	21.44	5.64	2013.49	2160.33	1.12	1.40	496.65	1.00
9/25/24 9:28	2.44	21.44	5.64	2013.47	2160.31	1.12	1.40	496.66	1.00
9/25/24 10:28	2.44	21.44	5.65	2013.25	2160.08	1.12	1.40	496.71	1.00
9/25/24 11:28	2.44	21.44	5.64	2013.39	2160.22	1.12	1.40	496.67	1.00
9/25/24 12:28	2.45	21.44	5.65	2013.40	2160.23	1.12	1.40	496.67	1.00
9/25/24 13:28	2.45	21.44	5.66	2013.61	2160.46	1.12	1.40	496.62	1.00
9/25/24 14:28	2.45	21.44	5.65	2013.62	2160.46	1.12	1.40	496.62	1.00
9/25/24 15:28	2.45	21.44	5.67	2013.65	2160.45	1.12	1.40	496.61	1.00
9/25/24 16:28	2.45	21.44	5.67	2013.56	2160.37	1.12	1.40	496.63	1.00
9/25/24 17:28	2.45	21.44	5.67	2013.65	2160.46	1.12	1.40	496.61	1.00
9/25/24 18:28	2.45	21.44	5.66	2013.73	2160.55	1.12	1.40	496.59	1.00
9/25/24 19:28	2.45	21.44	5.67	2013.58	2160.40	1.12	1.40	496.63	1.00
9/25/24 20:28	2.45	21.44	5.67	2013.65	2160.44	1.12	1.40	496.61	1.00
9/25/24 21:28	2.45	21.44	5.66	2013.71	2160.50	1.12	1.40	496.60	1.00
9/25/24 22:28	2.45	21.44	5.66	2013.84	2160.64	1.12	1.40	496.56	1.00
9/25/24 23:28	2.46	21.44	5.67	2013.75	2160.55	1.12	1.40	496.59	1.00
9/26/24 0:28	2.45	21.44	5.66	2013.43	2160.18	1.12	1.40	496.66	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/26/24 1:28	2.46	21.44	5.67	2013.62	2160.39	1.12	1.40	496.62	1.00
9/26/24 2:28	2.45	21.44	5.67	2013.85	2160.64	1.12	1.40	496.56	1.00
9/26/24 3:28	2.46	21.44	5.67	2013.95	2160.74	1.12	1.40	496.54	1.00
9/26/24 4:28	2.46	21.44	5.67	2013.93	2160.71	1.12	1.40	496.54	1.00
9/26/24 5:28	2.45	21.44	5.66	2014.04	2160.82	1.12	1.40	496.51	1.00
9/26/24 6:28	2.46	21.44	5.67	2013.38	2160.12	1.12	1.40	496.68	1.00
9/26/24 7:28	2.45	21.44	5.67	2013.58	2160.32	1.12	1.40	496.63	1.00
9/26/24 8:28	2.45	21.44	5.67	2013.59	2160.33	1.12	1.40	496.63	1.00
9/26/24 9:28	2.46	21.44	5.67	2013.42	2160.14	1.12	1.40	496.67	1.00
9/26/24 10:28	2.45	21.44	5.67	2013.54	2160.26	1.12	1.40	496.64	1.00
9/26/24 11:28	2.46	21.44	5.67	2013.51	2160.21	1.12	1.40	496.64	1.00
9/26/24 12:28	2.46	21.44	5.68	2013.55	2160.27	1.12	1.40	496.64	1.00
9/26/24 13:28	2.46	21.44	5.68	2013.74	2160.46	1.12	1.40	496.59	1.00
9/26/24 14:28	2.46	21.47	5.68	2010.08	2155.38	1.12	1.40	497.49	1.00
9/26/24 15:28	2.46	21.46	5.69	2009.06	2154.74	1.12	1.40	497.74	1.00
9/26/24 16:28	2.46	21.45	5.69	2008.72	2154.62	1.12	1.40	497.83	1.00
9/26/24 17:28	2.46	21.45	5.68	2008.74	2154.78	1.12	1.40	497.82	1.00
9/26/24 18:28	2.46	21.45	5.68	2008.86	2155.01	1.12	1.40	497.80	1.00
9/26/24 19:28	2.46	21.45	5.68	2008.60	2154.76	1.12	1.40	497.86	1.00
9/26/24 20:28	2.46	21.45	5.67	2008.92	2155.11	1.12	1.40	497.78	1.00
9/26/24 21:28	2.46	21.45	5.68	2009.08	2155.33	1.12	1.40	497.74	1.00
9/26/24 22:28	2.46	21.45	5.68	2008.87	2155.11	1.12	1.40	497.79	1.00
9/26/24 23:28	2.46	21.45	5.67	2008.83	2155.09	1.12	1.40	497.80	1.00
9/27/24 0:28	2.46	21.45	5.68	2008.64	2154.88	1.12	1.40	497.85	1.00
9/27/24 1:28	2.46	21.45	5.68	2008.57	2154.80	1.12	1.40	497.87	1.00
9/27/24 2:28	2.46	21.45	5.67	2008.62	2154.90	1.12	1.40	497.85	1.00
9/27/24 3:28	2.46	21.45	5.69	2008.88	2155.15	1.12	1.40	497.79	1.00
9/27/24 4:28	2.46	21.45	5.68	2008.97	2155.25	1.12	1.40	497.77	1.00
9/27/24 5:28	2.46	21.45	5.67	2008.95	2155.23	1.12	1.40	497.77	1.00
9/27/24 6:28	2.46	21.45	5.68	2009.03	2155.29	1.12	1.40	497.75	1.00
9/27/24 7:28	2.46	21.45	5.67	2008.95	2155.21	1.12	1.40	497.77	1.00
9/27/24 8:28	2.46	21.45	5.68	2009.01	2155.28	1.12	1.40	497.76	1.00
9/27/24 9:28	2.46	21.45	5.68	2009.08	2155.33	1.12	1.40	497.74	1.00
9/27/24 10:28	2.15	21.47	4.96	1987.00	2130.48	1.10	1.38	503.27	1.00
9/27/24 11:28	2.49	21.51	5.76	1990.03	2132.16	1.10	1.39	502.50	1.00
9/27/24 12:28	2.45	21.50	5.67	1990.01	2132.66	1.10	1.39	502.51	1.00
9/27/24 13:28	2.45	21.49	5.67	1990.00	2133.07	1.10	1.39	502.51	1.00
9/27/24 14:28	2.46	21.48	5.68	1989.32	2132.62	1.10	1.39	502.69	1.00
9/27/24 15:28	2.46	21.48	5.67	1988.24	2131.71	1.10	1.39	502.96	1.00
9/27/24 16:28	2.45	21.47	5.67	1985.96	2129.45	1.10	1.38	503.53	1.00
9/27/24 17:28	2.46	21.47	5.68	1984.46	2128.01	1.10	1.38	503.92	1.00
9/27/24 18:28	2.46	21.47	5.67	1983.98	2127.62	1.10	1.38	504.04	1.00
9/27/24 19:28	2.45	21.46	5.66	1983.07	2126.75	1.10	1.38	504.27	1.00
9/27/24 20:28	2.45	21.46	5.67	1982.88	2126.60	1.10	1.38	504.32	1.00
9/27/24 21:28	2.45	21.46	5.66	1982.06	2125.78	1.10	1.38	504.53	1.00
9/27/24 22:28	2.45	21.46	5.65	1981.87	2125.64	1.10	1.38	504.57	1.00
9/27/24 23:28	2.45	21.46	5.67	1982.12	2125.94	1.10	1.38	504.51	1.00
9/28/24 0:28	2.45	21.46	5.66	1983.20	2127.12	1.10	1.38	504.24	1.00
9/28/24 1:28	2.45	21.46	5.66	1984.07	2128.07	1.10	1.38	504.01	1.00
9/28/24 2:28	2.45	21.46	5.66	1985.62	2129.75	1.10	1.38	503.62	1.00
9/28/24 3:28	2.45	21.46	5.66	1986.44	2130.65	1.10	1.38	503.41	1.00
9/28/24 4:28	2.45	21.46	5.66	1986.92	2131.21	1.10	1.39	503.29	1.00
9/28/24 5:28	2.45	21.46	5.66	1987.73	2132.09	1.10	1.39	503.09	1.00
9/28/24 6:28	2.45	21.46	5.65	1988.38	2132.79	1.10	1.39	502.92	1.00
9/28/24 7:28	2.45	21.46	5.66	1988.21	2132.58	1.10	1.39	502.97	1.00
9/28/24 8:28	2.45	21.45	5.65	1988.66	2133.09	1.10	1.39	502.85	1.00
9/28/24 9:28	2.45	21.45	5.65	1988.60	2133.03	1.10	1.39	502.87	1.00
9/28/24 10:28	2.45	21.45	5.66	1988.58	2133.02	1.10	1.39	502.87	1.00
9/28/24 11:28	2.45	21.45	5.65	1988.80	2133.27	1.10	1.39	502.82	1.00
9/28/24 12:28	2.45	21.45	5.66	1988.86	2133.32	1.10	1.39	502.80	1.00
9/28/24 13:28	2.45	21.45	5.66	1989.08	2133.56	1.10	1.39	502.75	1.00
9/28/24 14:28	2.45	21.45	5.67	1989.16	2133.67	1.10	1.39	502.72	1.00
9/28/24 15:28	2.45	21.45	5.67	1989.34	2133.85	1.10	1.39	502.68	1.00
9/28/24 16:28	2.45	21.45	5.67	1989.71	2134.24	1.10	1.39	502.59	1.00
9/28/24 17:28	2.45	21.45	5.67	1989.81	2134.36	1.10	1.39	502.56	1.00
9/28/24 18:28	2.46	21.45	5.67	1989.88	2134.43	1.10	1.39	502.54	1.00
9/28/24 19:28	2.45	21.45	5.66	1990.26	2134.85	1.10	1.39	502.45	1.00
9/28/24 20:28	2.45	21.45	5.66	1990.41	2135.01	1.10	1.39	502.41	1.00
9/28/24 21:28	2.45	21.45	5.66	1990.68	2135.30	1.10	1.39	502.34	1.00
9/28/24 22:28	2.45	21.45	5.65	1990.81	2135.43	1.10	1.39	502.31	1.00
9/28/24 23:28	2.45	21.45	5.66	1991.06	2135.69	1.10	1.39	502.24	1.00
9/29/24 0:28	2.45	21.45	5.65	1991.47	2136.15	1.11	1.39	502.14	1.00
9/29/24 1:28	2.45	21.45	5.66	1991.60	2136.27	1.11	1.39	502.11	1.00
9/29/24 2:28	2.45	21.45	5.66	1991.71	2136.40	1.11	1.39	502.08	1.00
9/29/24 3:28	2.45	21.45	5.66	1992.17	2136.87	1.11	1.39	501.97	1.00
9/29/24 4:28	2.45	21.45	5.67	1992.35	2137.07	1.11	1.39	501.92	1.00
9/29/24 5:28	2.45	21.45	5.66	1992.79	2137.55	1.11	1.39	501.81	1.00
9/29/24 6:28	2.45	21.45	5.66	1992.86	2137.62	1.11	1.39	501.79	1.00
9/29/24 7:28	2.45	21.45	5.66	1993.16	2137.96	1.11	1.39	501.72	1.00
9/29/24 8:28	2.45	21.45	5.66	1993.29	2138.07	1.11	1.39	501.68	1.00
9/29/24 9:28	2.45	21.45	5.66	1993.61	2138.41	1.11	1.39	501.60	1.00
9/29/24 10:28	2.45	21.46	5.66	1993.92	2138.72	1.11	1.39	501.52	1.00
9/29/24 11:28	2.45	21.45	5.66	1994.25	2139.09	1.11	1.39	501.44	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/29/24 12:28	2.45	21.46	5.67	1994.30	2139.14	1.11	1.39	501.43	1.00
9/29/24 13:28	2.45	21.46	5.66	1994.89	2139.73	1.11	1.39	501.28	1.00
9/29/24 14:28	2.46	21.46	5.68	1995.00	2139.88	1.11	1.39	501.25	1.00
9/29/24 15:28	2.46	21.46	5.67	1995.55	2140.47	1.11	1.39	501.12	1.00
9/29/24 16:28	2.46	21.46	5.68	1995.85	2140.80	1.11	1.39	501.04	1.00
9/29/24 17:28	2.46	21.46	5.67	1996.14	2141.10	1.11	1.39	500.97	1.00
9/29/24 18:28	2.46	21.46	5.68	1996.52	2141.49	1.11	1.39	500.87	1.00
9/29/24 19:28	2.46	21.46	5.68	1996.86	2141.87	1.11	1.39	500.79	1.00
9/29/24 20:28	2.45	21.46	5.66	1996.94	2141.92	1.11	1.39	500.77	1.00
9/29/24 21:28	2.46	21.46	5.67	1997.62	2142.66	1.11	1.39	500.60	1.00
9/29/24 22:28	2.45	21.46	5.67	1997.74	2142.77	1.11	1.39	500.56	1.00
9/29/24 23:28	2.46	21.46	5.67	1998.17	2143.23	1.11	1.39	500.46	1.00
9/30/24 0:28	2.46	21.46	5.68	1998.74	2143.83	1.11	1.39	500.32	1.00
9/30/24 1:28	2.45	21.46	5.67	1998.61	2143.71	1.11	1.39	500.35	1.00
9/30/24 2:28	2.46	21.46	5.67	1999.37	2144.50	1.11	1.39	500.16	1.00
9/30/24 3:28	2.46	21.46	5.67	1999.37	2144.54	1.11	1.39	500.16	1.00
9/30/24 4:28	2.46	21.46	5.67	1999.49	2144.65	1.11	1.39	500.13	1.00
9/30/24 5:28	2.46	21.46	5.68	1999.89	2145.08	1.11	1.39	500.03	1.00
9/30/24 6:28	2.46	21.46	5.67	2000.03	2145.22	1.11	1.39	499.99	1.00
9/30/24 7:28	2.46	21.46	5.67	2000.21	2145.40	1.11	1.39	499.95	1.00
9/30/24 8:28	2.46	21.46	5.68	2000.45	2145.65	1.11	1.39	499.89	1.00
9/30/24 9:28	2.46	21.46	5.67	2000.39	2145.58	1.11	1.39	499.90	1.00
9/30/24 10:28	2.46	21.46	5.67	2000.98	2146.22	1.11	1.40	499.76	1.00
9/30/24 11:28	2.46	21.46	5.68	2001.22	2146.47	1.11	1.40	499.70	1.00
9/30/24 12:28	2.46	21.46	5.69	2001.26	2146.50	1.11	1.40	499.69	1.00
9/30/24 13:28	2.46	21.46	5.68	2001.44	2146.70	1.11	1.40	499.64	1.00
9/30/24 14:28	2.46	21.46	5.68	2001.64	2146.90	1.11	1.40	499.59	1.00
9/30/24 15:28	2.46	21.46	5.69	2001.76	2147.04	1.11	1.40	499.56	1.00
9/30/24 16:28	2.46	21.46	5.68	2001.86	2147.16	1.11	1.40	499.54	1.00
9/30/24 17:28	2.46	21.46	5.69	2002.23	2147.51	1.11	1.40	499.44	1.00
9/30/24 18:28	2.46	21.46	5.68	2002.49	2147.79	1.11	1.40	499.38	1.00
9/30/24 19:28	2.46	21.46	5.68	2002.32	2147.62	1.11	1.40	499.42	1.00
9/30/24 20:28	2.45	21.46	5.67	2002.54	2147.83	1.11	1.40	499.37	1.00
9/30/24 21:28	2.46	21.46	5.67	2002.80	2148.11	1.11	1.40	499.30	1.00
9/30/24 22:28	2.46	21.46	5.67	2003.14	2148.48	1.11	1.40	499.22	1.00
9/30/24 23:28	2.45	21.46	5.66	2003.48	2148.79	1.11	1.40	499.13	1.00
10/1/24 0:28	2.45	21.46	5.67	2003.12	2148.43	1.11	1.40	499.22	1.00
10/1/24 1:28	2.45	21.46	5.67	2003.58	2148.93	1.11	1.40	499.11	1.00
10/1/24 2:28	2.45	21.46	5.66	2003.73	2149.07	1.11	1.40	499.07	1.00
10/1/24 3:28	2.45	21.46	5.66	2003.93	2149.28	1.11	1.40	499.02	1.00
10/1/24 4:28	2.45	21.46	5.66	2004.17	2149.54	1.11	1.40	498.96	1.00
10/1/24 5:28	2.45	21.46	5.65	2004.41	2149.80	1.11	1.40	498.90	1.00
10/1/24 6:28	2.45	21.46	5.65	2004.38	2149.75	1.11	1.40	498.91	1.00
10/1/24 7:28	2.44	21.46	5.65	2004.48	2149.87	1.11	1.40	498.88	1.00
10/1/24 8:28	2.44	21.46	5.64	2004.76	2150.15	1.11	1.40	498.81	1.00
10/1/24 9:28	2.44	21.46	5.64	2004.87	2150.25	1.11	1.40	498.79	1.00
10/1/24 10:28	2.44	21.46	5.65	2005.12	2150.54	1.11	1.40	498.72	1.00
10/1/24 11:28	2.44	21.46	5.65	2005.10	2150.51	1.11	1.40	498.73	1.00
10/1/24 12:28	2.44	21.46	5.64	2005.44	2150.86	1.11	1.40	498.64	1.00
10/1/24 13:28	2.45	21.46	5.65	2005.51	2150.93	1.11	1.40	498.63	1.00
10/1/24 14:28	2.45	21.46	5.66	2005.63	2151.05	1.11	1.40	498.60	1.00
10/1/24 15:28	2.45	21.46	5.66	2005.97	2151.43	1.11	1.40	498.51	1.00
10/1/24 16:28	2.45	21.46	5.66	2006.23	2151.72	1.11	1.40	498.45	1.00
10/1/24 17:28	2.45	21.46	5.67	2006.34	2151.81	1.11	1.40	498.42	1.00
10/1/24 18:28	2.45	21.46	5.67	2006.20	2151.64	1.11	1.40	498.45	1.00
10/1/24 19:28	2.45	21.46	5.66	2006.54	2152.01	1.11	1.40	498.37	1.00
10/1/24 20:28	2.45	21.46	5.67	2006.54	2152.01	1.11	1.40	498.37	1.00
10/1/24 21:28	2.45	21.46	5.66	2006.90	2152.36	1.11	1.40	498.28	1.00
10/1/24 22:28	2.45	21.46	5.66	2007.12	2152.62	1.11	1.40	498.23	1.00
10/1/24 23:28	2.45	21.46	5.67	2007.31	2152.83	1.11	1.40	498.18	1.00
10/2/24 0:28	2.45	21.46	5.66	2007.09	2152.57	1.11	1.40	498.23	1.00
10/2/24 1:28	2.45	21.46	5.67	2007.37	2152.86	1.11	1.40	498.16	1.00
10/2/24 2:28	2.46	21.46	5.67	2007.49	2152.98	1.11	1.40	498.13	1.00
10/2/24 3:28	2.46	21.46	5.67	2007.73	2153.24	1.11	1.40	498.08	1.00
10/2/24 4:28	2.46	21.46	5.68	2008.14	2153.66	1.11	1.40	497.97	1.00
10/2/24 5:28	2.45	21.46	5.67	2008.09	2153.61	1.11	1.40	497.99	1.00
10/2/24 6:28	2.46	21.46	5.67	2008.08	2153.61	1.11	1.40	497.99	1.00
10/2/24 7:28	2.46	21.46	5.68	2008.21	2153.73	1.11	1.40	497.96	1.00
10/2/24 8:28	2.46	21.46	5.67	2008.55	2154.10	1.11	1.40	497.87	1.00
10/2/24 9:28	2.45	21.46	5.67	2008.40	2153.93	1.11	1.40	497.91	1.00
10/2/24 10:28	2.46	21.46	5.68	2008.60	2154.12	1.11	1.40	497.86	1.00
10/2/24 11:28	2.46	21.46	5.68	2008.64	2154.17	1.11	1.40	497.85	1.00
10/2/24 12:28	2.46	21.46	5.68	2008.94	2154.51	1.12	1.40	497.77	1.00
10/2/24 13:28	2.46	21.46	5.69	2009.22	2154.78	1.12	1.40	497.70	1.00
10/2/24 14:28	2.47	21.46	5.69	2009.40	2154.98	1.12	1.40	497.66	1.00
10/2/24 15:28	2.46	21.46	5.69	2009.59	2155.18	1.12	1.40	497.61	1.00
10/2/24 16:28	2.46	21.46	5.69	2009.55	2155.10	1.12	1.40	497.62	1.00
10/2/24 17:28	2.46	21.46	5.69	2009.63	2155.21	1.12	1.40	497.60	1.00
10/2/24 18:28	2.47	21.46	5.69	2009.55	2155.12	1.12	1.40	497.62	1.00
10/2/24 19:28	2.46	21.46	5.69	2009.80	2155.37	1.12	1.40	497.56	1.00
10/2/24 20:28	2.46	21.46	5.69	2010.22	2155.82	1.12	1.40	497.46	1.00
10/2/24 21:28	2.46	21.46	5.68	2010.02	2155.60	1.12	1.40	497.51	1.00
10/2/24 22:28	2.46	21.46	5.69	2010.38	2155.97	1.12	1.40	497.42	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/2/24 23:28	2.46	21.46	5.69	2010.57	2156.17	1.12	1.40	497.37	1.00
10/3/24 0:28	2.46	21.46	5.69	2010.45	2156.04	1.12	1.40	497.40	1.00
10/3/24 1:28	2.46	21.47	5.69	2010.71	2156.30	1.12	1.40	497.34	1.00
10/3/24 2:28	2.46	21.46	5.69	2010.93	2156.55	1.12	1.40	497.28	1.00
10/3/24 3:28	2.47	21.46	5.70	2010.86	2156.47	1.12	1.40	497.30	1.00
10/3/24 4:28	2.46	21.47	5.69	2010.99	2156.60	1.12	1.40	497.27	1.00
10/3/24 5:28	2.46	21.47	5.69	2011.11	2156.73	1.12	1.40	497.24	1.00
10/3/24 6:28	2.47	21.47	5.69	2011.25	2156.87	1.12	1.40	497.20	1.00
10/3/24 7:28	2.46	21.47	5.69	2011.01	2156.59	1.12	1.40	497.26	1.00
10/3/24 8:28	2.46	21.47	5.69	2011.18	2156.78	1.12	1.40	497.22	1.00
10/3/24 9:28	2.46	21.47	5.68	2011.47	2157.06	1.12	1.40	497.15	1.00
10/3/24 10:28	2.46	21.47	5.68	2011.69	2157.31	1.12	1.40	497.09	1.00
10/3/24 11:28	2.47	21.47	5.70	2011.90	2157.51	1.12	1.40	497.04	1.00
10/3/24 12:28	2.46	21.47	5.69	2012.09	2157.72	1.12	1.40	496.99	1.00
10/3/24 13:28	2.47	21.47	5.70	2011.81	2157.40	1.12	1.40	497.06	1.00
10/3/24 14:28	2.47	21.47	5.70	2011.92	2157.54	1.12	1.40	497.04	1.00
10/3/24 15:28	2.47	21.47	5.70	2012.11	2157.73	1.12	1.40	496.99	1.00
10/3/24 16:28	2.47	21.47	5.70	2012.41	2158.07	1.12	1.40	496.92	1.00
10/3/24 17:28	2.46	21.47	5.69	2012.29	2157.90	1.12	1.40	496.95	1.00
10/3/24 18:28	2.47	21.47	5.69	2012.47	2158.09	1.12	1.40	496.90	1.00
10/3/24 19:28	2.46	21.47	5.69	2012.73	2158.37	1.12	1.40	496.84	1.00
10/3/24 20:28	2.46	21.47	5.69	2012.74	2158.35	1.12	1.40	496.84	1.00
10/3/24 21:28	2.46	21.47	5.69	2012.89	2158.52	1.12	1.40	496.80	1.00
10/3/24 22:28	2.46	21.47	5.68	2013.03	2158.69	1.12	1.40	496.76	1.00
10/3/24 23:28	2.46	21.47	5.68	2013.33	2158.99	1.12	1.40	496.69	1.00
10/4/24 0:28	2.46	21.47	5.69	2013.14	2158.78	1.12	1.40	496.74	1.00
10/4/24 1:28	2.46	21.47	5.68	2013.37	2159.01	1.12	1.40	496.68	1.00
10/4/24 2:28	2.46	21.47	5.67	2013.34	2158.99	1.12	1.40	496.69	1.00
10/4/24 3:28	2.46	21.47	5.68	2013.41	2159.04	1.12	1.40	496.67	1.00
10/4/24 4:28	2.46	21.47	5.67	2013.40	2159.04	1.12	1.40	496.67	1.00
10/4/24 5:28	2.46	21.47	5.68	2013.66	2159.30	1.12	1.40	496.61	1.00
10/4/24 6:28	2.46	21.47	5.67	2013.67	2159.30	1.12	1.40	496.61	1.00
10/4/24 7:28	2.45	21.47	5.67	2013.85	2159.48	1.12	1.40	496.56	1.00
10/4/24 8:28	2.45	21.47	5.66	2014.19	2159.84	1.12	1.40	496.48	1.00
10/4/24 9:28	2.45	21.47	5.65	2013.98	2159.61	1.12	1.40	496.53	1.00
10/4/24 10:28	2.45	21.47	5.66	2014.33	2160.00	1.12	1.40	496.44	1.00
10/4/24 11:28	2.45	21.47	5.67	2014.23	2159.80	1.12	1.40	496.47	1.00
10/4/24 12:28	2.46	21.47	5.67	2013.26	2158.79	1.12	1.40	496.71	1.00
10/4/24 13:28	2.46	21.47	5.67	2013.56	2159.11	1.12	1.40	496.63	1.00
10/4/24 14:28	2.46	21.47	5.68	2013.69	2159.25	1.12	1.40	496.60	1.00
10/4/24 15:28	2.46	21.47	5.68	2014.00	2159.57	1.12	1.40	496.52	1.00
10/4/24 16:28	2.46	21.47	5.69	2013.68	2159.23	1.12	1.40	496.60	1.00
10/4/24 17:28	2.46	21.47	5.68	2013.94	2159.51	1.12	1.40	496.54	1.00
10/4/24 18:28	2.46	21.47	5.68	2014.14	2159.73	1.12	1.40	496.49	1.00
10/4/24 19:28	2.46	21.47	5.68	2014.42	2160.02	1.12	1.40	496.42	1.00
10/4/24 20:28	2.46	21.47	5.68	2014.58	2160.18	1.12	1.40	496.38	1.00
10/4/24 21:28	2.46	21.47	5.68	2014.26	2159.82	1.12	1.40	496.46	1.00
10/4/24 22:28	2.46	21.47	5.67	2014.72	2160.32	1.12	1.40	496.35	1.00
10/4/24 23:28	2.46	21.47	5.68	2014.82	2160.42	1.12	1.40	496.32	1.00
10/5/24 0:28	2.46	21.47	5.69	2014.83	2160.43	1.12	1.40	496.32	1.00
10/5/24 1:28	2.46	21.47	5.68	2014.95	2160.54	1.12	1.40	496.29	1.00
10/5/24 2:28	2.46	21.47	5.68	2014.99	2160.59	1.12	1.40	496.28	1.00
10/5/24 3:28	2.46	21.47	5.69	2015.21	2160.84	1.12	1.40	496.23	1.00
10/5/24 4:28	2.46	21.47	5.68	2015.23	2160.83	1.12	1.40	496.22	1.00
10/5/24 5:28	2.46	21.47	5.69	2015.22	2160.82	1.12	1.40	496.22	1.00
10/5/24 6:28	2.46	21.47	5.68	2015.45	2161.05	1.12	1.40	496.17	1.00
10/5/24 7:28	2.46	21.47	5.68	2015.59	2161.19	1.12	1.40	496.13	1.00
10/5/24 8:28	2.46	21.47	5.69	2015.57	2161.16	1.12	1.40	496.14	1.00
10/5/24 9:28	2.46	21.47	5.68	2015.84	2161.46	1.12	1.40	496.07	1.00
10/5/24 10:28	2.46	21.47	5.68	2015.88	2161.51	1.12	1.40	496.06	1.00
10/5/24 11:28	2.46	21.47	5.69	2015.83	2161.44	1.12	1.40	496.07	1.00
10/5/24 12:28	2.47	21.47	5.69	2015.82	2161.41	1.12	1.40	496.08	1.00
10/5/24 13:28	2.47	21.47	5.70	2015.84	2161.41	1.12	1.40	496.07	1.00
10/5/24 14:28	2.47	21.47	5.70	2015.99	2161.55	1.12	1.41	496.03	1.00
10/5/24 15:28	2.47	21.47	5.70	2016.23	2161.84	1.12	1.41	495.98	1.00
10/5/24 16:28	2.47	21.47	5.70	2016.06	2161.64	1.12	1.41	496.02	1.00
10/5/24 17:28	2.47	21.47	5.70	2016.09	2161.67	1.12	1.41	496.01	1.00
10/5/24 18:28	2.47	21.47	5.70	2016.22	2161.81	1.12	1.41	495.98	1.00
10/5/24 19:28	2.47	21.47	5.70	2016.15	2161.72	1.12	1.41	495.99	1.00
10/5/24 20:28	2.47	21.47	5.70	2016.18	2161.75	1.12	1.41	495.99	1.00
10/5/24 21:28	2.47	21.47	5.70	2016.33	2161.89	1.12	1.41	495.95	1.00
10/5/24 22:28	2.46	21.47	5.69	2016.13	2161.68	1.12	1.41	496.00	1.00
10/5/24 23:28	2.47	21.48	5.70	2016.62	2162.19	1.12	1.41	495.88	1.00
10/6/24 0:28	2.47	21.47	5.69	2016.45	2162.02	1.12	1.41	495.92	1.00
10/6/24 1:28	2.47	21.47	5.70	2016.60	2162.17	1.12	1.41	495.89	1.00
10/6/24 2:28	2.47	21.48	5.69	2016.71	2162.28	1.12	1.41	495.86	1.00
10/6/24 3:28	2.47	21.48	5.70	2016.92	2162.49	1.12	1.41	495.81	1.00
10/6/24 4:28	2.46	21.48	5.69	2016.94	2162.51	1.12	1.41	495.80	1.00
10/6/24 5:28	2.47	21.48	5.70	2016.97	2162.52	1.12	1.41	495.79	1.00
10/6/24 6:28	2.47	21.48	5.69	2016.94	2162.48	1.12	1.41	495.80	1.00
10/6/24 7:28	2.47	21.48	5.69	2017.19	2162.78	1.12	1.41	495.74	1.00
10/6/24 8:28	2.46	21.48	5.69	2017.44	2163.02	1.12	1.41	495.68	1.00
10/6/24 9:28	2.46	21.48	5.69	2017.63	2163.22	1.12	1.41	495.63	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/6/24 10:28	2.46	21.48	5.69	2017.51	2163.08	1.12	1.41	495.66	1.00
10/6/24 11:28	2.46	21.48	5.69	2017.62	2163.20	1.12	1.41	495.63	1.00
10/6/24 12:28	2.47	21.48	5.70	2017.78	2163.36	1.12	1.41	495.59	1.00
10/6/24 13:28	2.47	21.48	5.70	2017.60	2163.16	1.12	1.41	495.64	1.00
10/6/24 14:28	2.47	21.48	5.70	2017.85	2163.41	1.12	1.41	495.58	1.00
10/6/24 15:28	2.47	21.48	5.71	2017.37	2162.91	1.12	1.41	495.69	1.00
10/6/24 16:28	2.47	21.48	5.71	2017.37	2162.90	1.12	1.41	495.69	1.00
10/6/24 17:28	2.47	21.48	5.71	2017.69	2163.22	1.12	1.41	495.62	1.00
10/6/24 18:28	2.47	21.48	5.70	2017.87	2163.40	1.12	1.41	495.57	1.00
10/6/24 19:28	2.47	21.48	5.70	2017.81	2163.34	1.12	1.41	495.59	1.00
10/6/24 20:28	2.47	21.48	5.70	2017.78	2163.28	1.12	1.41	495.59	1.00
10/6/24 21:28	2.47	21.48	5.70	2018.10	2163.64	1.12	1.41	495.52	1.00
10/6/24 22:28	2.46	21.48	5.69	2018.04	2163.55	1.12	1.41	495.53	1.00
10/6/24 23:28	2.47	21.48	5.70	2017.91	2163.42	1.12	1.41	495.56	1.00
10/7/24 0:28	2.47	21.48	5.70	2018.10	2163.61	1.12	1.41	495.52	1.00
10/7/24 1:28	2.47	21.48	5.70	2018.20	2163.73	1.12	1.41	495.49	1.00
10/7/24 2:28	2.47	21.48	5.70	2018.13	2163.62	1.12	1.41	495.51	1.00
10/7/24 3:28	2.47	21.48	5.70	2018.18	2163.68	1.12	1.41	495.50	1.00
10/7/24 4:28	2.47	21.48	5.70	2018.24	2163.75	1.12	1.41	495.48	1.00
10/7/24 5:28	2.47	21.48	5.70	2018.42	2163.91	1.12	1.41	495.44	1.00
10/7/24 6:28	2.47	21.48	5.70	2018.40	2163.89	1.12	1.41	495.44	1.00
10/7/24 7:28	2.47	21.48	5.70	2018.55	2164.04	1.12	1.41	495.40	1.00
10/7/24 8:28	2.47	21.48	5.70	2018.59	2164.07	1.12	1.41	495.39	1.00
10/7/24 9:28	2.47	21.48	5.70	2018.80	2164.28	1.12	1.41	495.34	1.00
10/7/24 10:28	2.47	21.48	5.70	2018.79	2164.29	1.12	1.41	495.35	1.00
10/7/24 11:28	2.47	21.48	5.71	2018.81	2164.30	1.12	1.41	495.34	1.00
10/7/24 12:28	2.47	21.48	5.71	2018.82	2164.31	1.12	1.41	495.34	1.00
10/7/24 13:28	2.47	21.48	5.71	2018.69	2164.15	1.12	1.41	495.37	1.00
10/7/24 14:28	2.48	21.48	5.72	2018.59	2164.04	1.12	1.41	495.39	1.00
10/7/24 15:28	2.47	21.48	5.72	2018.45	2163.88	1.12	1.41	495.43	1.00
10/7/24 16:28	2.47	21.48	5.72	2018.52	2163.93	1.12	1.41	495.41	1.00
10/7/24 17:28	2.47	21.48	5.71	2018.75	2164.19	1.12	1.41	495.36	1.00
10/7/24 18:28	2.47	21.48	5.71	2018.91	2164.38	1.12	1.41	495.32	1.00
10/7/24 19:28	2.47	21.48	5.71	2018.79	2164.23	1.12	1.41	495.35	1.00
10/7/24 20:28	2.47	21.48	5.71	2018.83	2164.25	1.12	1.41	495.34	1.00
10/7/24 21:28	2.47	21.48	5.71	2018.86	2164.28	1.12	1.41	495.33	1.00
10/7/24 22:28	2.47	21.48	5.71	2019.02	2164.44	1.12	1.41	495.29	1.00
10/7/24 23:28	2.47	21.48	5.71	2018.88	2164.32	1.12	1.41	495.32	1.00
10/8/24 0:28	2.47	21.48	5.71	2019.06	2164.48	1.12	1.41	495.28	1.00
10/8/24 1:28	2.47	21.48	5.71	2018.95	2164.34	1.12	1.41	495.31	1.00
10/8/24 2:28	2.47	21.48	5.72	2019.09	2164.49	1.12	1.41	495.27	1.00
10/8/24 3:28	2.48	21.48	5.72	2018.79	2164.15	1.12	1.41	495.35	1.00
10/8/24 4:28	2.48	21.48	5.72	2018.92	2164.28	1.12	1.41	495.32	1.00
10/8/24 5:28	2.48	21.48	5.72	2019.12	2164.53	1.12	1.41	495.26	1.00
10/8/24 6:28	2.47	21.48	5.71	2019.03	2164.41	1.12	1.41	495.29	1.00
10/8/24 7:28	2.47	21.48	5.71	2019.02	2164.37	1.12	1.41	495.29	1.00
10/8/24 8:28	2.47	21.48	5.71	2017.70	2162.91	1.12	1.41	495.61	1.00
10/8/24 9:28	2.47	21.48	5.71	2017.15	2162.35	1.12	1.41	495.75	1.00
10/8/24 10:28	2.47	21.48	5.71	2017.47	2162.68	1.12	1.41	495.67	1.00
10/8/24 11:28	2.48	21.48	5.72	2017.49	2162.70	1.12	1.41	495.67	1.00
10/8/24 12:28	2.48	21.48	5.72	2017.36	2162.55	1.12	1.41	495.70	1.00
10/8/24 13:28	2.48	21.48	5.73	2017.30	2162.48	1.12	1.41	495.71	1.00
10/8/24 14:28	2.48	21.48	5.72	2017.27	2162.45	1.12	1.41	495.72	1.00
10/8/24 15:28	2.48	21.49	5.72	2017.50	2162.67	1.12	1.41	495.66	1.00
10/8/24 16:28	2.48	21.49	5.72	2017.21	2162.37	1.12	1.41	495.73	1.00
10/8/24 17:28	2.48	21.49	5.72	2017.13	2162.27	1.12	1.41	495.75	1.00
10/8/24 18:28	2.48	21.49	5.72	2017.34	2162.50	1.12	1.41	495.70	1.00
10/8/24 19:28	2.48	21.49	5.72	2017.40	2162.54	1.12	1.41	495.69	1.00
10/8/24 20:28	2.48	21.49	5.72	2017.56	2162.71	1.12	1.41	495.65	1.00
10/8/24 21:28	2.48	21.49	5.72	2017.68	2162.84	1.12	1.41	495.62	1.00
10/8/24 22:28	2.47	21.49	5.72	2017.35	2162.48	1.12	1.41	495.70	1.00
10/8/24 23:28	2.47	21.49	5.71	2017.56	2162.71	1.12	1.41	495.65	1.00
10/9/24 0:28	2.48	21.49	5.72	2017.55	2162.69	1.12	1.41	495.65	1.00
10/9/24 1:28	2.48	21.49	5.72	2017.28	2162.38	1.12	1.41	495.72	1.00
10/9/24 2:28	2.48	21.49	5.72	2017.53	2162.65	1.12	1.41	495.66	1.00
10/9/24 3:28	2.48	21.49	5.72	2017.03	2162.07	1.12	1.41	495.78	1.00
10/9/24 4:28	2.48	21.49	5.72	2017.13	2162.20	1.12	1.41	495.75	1.00
10/9/24 5:28	2.48	21.49	5.72	2017.11	2162.16	1.12	1.41	495.76	1.00
10/9/24 6:28	2.48	21.49	5.72	2017.02	2162.06	1.12	1.41	495.78	1.00
10/9/24 7:28	2.48	21.49	5.72	2017.31	2162.36	1.12	1.41	495.71	1.00
10/9/24 8:28	2.47	21.49	5.71	2017.03	2162.06	1.12	1.41	495.78	1.00
10/9/24 9:28	2.48	21.49	5.72	2017.23	2162.26	1.12	1.41	495.73	1.00
10/9/24 10:28	2.48	21.49	5.72	2017.24	2162.28	1.12	1.41	495.73	1.00
10/9/24 11:28	2.48	21.49	5.72	2017.20	2162.24	1.12	1.41	495.74	1.00
10/9/24 12:28	2.48	21.49	5.73	2017.10	2162.09	1.12	1.41	495.76	1.00
10/9/24 13:28	2.48	21.49	5.73	2017.25	2162.26	1.12	1.41	495.72	1.00
10/9/24 14:28	2.48	21.49	5.73	2017.28	2162.26	1.12	1.41	495.72	1.00
10/9/24 15:28	2.48	21.49	5.73	2017.31	2162.30	1.12	1.41	495.71	1.00
10/9/24 16:28	2.48	21.49	5.73	2016.99	2161.95	1.12	1.41	495.79	1.00
10/9/24 17:28	2.48	21.49	5.73	2016.97	2161.94	1.12	1.41	495.79	1.00
10/9/24 18:28	2.48	21.49	5.73	2017.08	2162.05	1.12	1.41	495.77	1.00
10/9/24 19:28	2.48	21.49	5.73	2017.09	2162.05	1.12	1.41	495.76	1.00
10/9/24 20:28	2.48	21.49	5.73	2017.01	2161.94	1.12	1.41	495.78	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/9/24 21:28	2.48	21.49	5.73	2016.99	2161.92	1.12	1.41	495.79	1.00
10/9/24 22:28	2.48	21.49	5.73	2016.85	2161.76	1.12	1.41	495.82	1.00
10/9/24 23:28	2.48	21.49	5.73	2016.76	2161.67	1.12	1.41	495.84	1.00
10/10/24 0:28	2.48	21.49	5.72	2016.75	2161.64	1.12	1.41	495.85	1.00
10/10/24 1:28	2.48	21.49	5.72	2016.68	2161.54	1.12	1.41	495.86	1.00
10/10/24 2:28	2.48	21.49	5.72	2018.52	2163.53	1.12	1.41	495.41	1.00
10/10/24 3:28	2.48	21.49	5.73	2018.33	2163.29	1.12	1.41	495.46	1.00
10/10/24 4:28	2.48	21.49	5.73	2018.56	2163.56	1.12	1.41	495.40	1.00
10/10/24 5:28	2.48	21.49	5.73	2018.49	2163.45	1.12	1.41	495.42	1.00
10/10/24 6:28	2.48	21.49	5.73	2018.23	2163.18	1.12	1.41	495.48	1.00
10/10/24 7:28	2.48	21.49	5.72	2018.26	2163.21	1.12	1.41	495.48	1.00
10/10/24 8:28	2.48	21.49	5.72	2018.44	2163.36	1.12	1.41	495.43	1.00
10/10/24 9:28	2.48	21.49	5.72	2018.66	2163.62	1.12	1.41	495.38	1.00
10/10/24 10:28	2.48	21.49	5.72	2018.83	2163.79	1.12	1.41	495.34	1.00
10/10/24 11:28	2.48	21.49	5.73	2018.65	2163.57	1.12	1.41	495.38	1.00
10/10/24 12:28	2.48	21.49	5.73	2018.28	2163.18	1.12	1.41	495.47	1.00
10/10/24 13:28	2.48	21.49	5.74	2018.60	2163.52	1.12	1.41	495.39	1.00
10/10/24 14:28	2.48	21.49	5.74	2018.70	2163.63	1.12	1.41	495.37	1.00
10/10/24 15:28	2.48	21.49	5.74	2018.49	2163.39	1.12	1.41	495.42	1.00
10/10/24 16:28	2.48	21.49	5.73	2018.62	2163.51	1.12	1.41	495.39	1.00
10/10/24 17:28	2.48	21.49	5.73	2018.83	2163.73	1.12	1.41	495.34	1.00
10/10/24 18:28	2.48	21.49	5.73	2018.62	2163.51	1.12	1.41	495.39	1.00
10/10/24 19:28	2.48	21.49	5.73	2018.76	2163.63	1.12	1.41	495.35	1.00
10/10/24 20:28	2.48	21.49	5.73	2018.77	2163.63	1.12	1.41	495.35	1.00
10/10/24 21:28	2.48	21.49	5.73	2018.70	2163.56	1.12	1.41	495.37	1.00
10/10/24 22:28	2.48	21.49	5.73	2018.77	2163.63	1.12	1.41	495.35	1.00
10/10/24 23:28	2.48	21.49	5.73	2018.67	2163.52	1.12	1.41	495.37	1.00
10/11/24 0:28	2.48	21.49	5.72	2018.77	2163.63	1.12	1.41	495.35	1.00
10/11/24 1:28	2.48	21.50	5.73	2018.91	2163.76	1.12	1.41	495.32	1.00
10/11/24 2:28	2.48	21.50	5.73	2018.89	2163.70	1.12	1.41	495.32	1.00
10/11/24 3:28	2.48	21.50	5.73	2018.87	2163.69	1.12	1.41	495.33	1.00
10/11/24 4:28	2.48	21.50	5.73	2018.77	2163.57	1.12	1.41	495.35	1.00
10/11/24 5:28	2.48	21.50	5.73	2018.94	2163.76	1.12	1.41	495.31	1.00
10/11/24 6:28	2.48	21.50	5.72	2018.94	2163.74	1.12	1.41	495.31	1.00
10/11/24 7:28	2.48	21.50	5.73	2019.24	2164.07	1.12	1.41	495.24	1.00
10/11/24 8:28	2.48	21.50	5.72	2019.15	2163.97	1.12	1.41	495.26	1.00
10/11/24 9:28	2.48	21.50	5.73	2019.06	2163.85	1.12	1.41	495.28	1.00
10/11/24 10:28	2.48	21.50	5.73	2018.97	2163.74	1.12	1.41	495.30	1.00
10/11/24 11:28	2.48	21.50	5.73	2019.09	2163.87	1.12	1.41	495.27	1.00
10/11/24 12:28	2.48	21.50	5.73	2019.15	2163.90	1.12	1.41	495.26	1.00
10/11/24 13:28	2.48	21.50	5.73	2018.98	2163.75	1.12	1.41	495.30	1.00
10/11/24 14:28	2.48	21.50	5.74	2018.80	2163.54	1.12	1.41	495.34	1.00
10/11/24 15:28	2.49	21.50	5.74	2018.97	2163.69	1.12	1.41	495.30	1.00
10/11/24 16:28	2.49	21.50	5.74	2018.68	2163.40	1.12	1.41	495.37	1.00
10/11/24 17:28	2.49	21.50	5.74	2018.83	2163.55	1.12	1.41	495.34	1.00
10/11/24 18:28	2.48	21.50	5.74	2018.75	2163.45	1.12	1.41	495.36	1.00
10/11/24 19:28	2.48	21.50	5.74	2018.77	2163.45	1.12	1.41	495.35	1.00
10/11/24 20:28	2.48	21.50	5.74	2018.97	2163.69	1.12	1.41	495.30	1.00
10/11/24 21:28	2.48	21.50	5.74	2019.16	2163.85	1.12	1.41	495.26	1.00
10/11/24 22:28	2.48	21.50	5.74	2019.39	2164.08	1.12	1.41	495.20	1.00
10/11/24 23:28	2.48	21.50	5.73	2019.14	2163.82	1.12	1.41	495.26	1.00
10/12/24 0:28	2.48	21.50	5.74	2019.03	2163.71	1.12	1.41	495.29	1.00
10/12/24 1:28	2.48	21.50	5.74	2019.32	2164.00	1.12	1.41	495.22	1.00
10/12/24 2:28	2.49	21.50	5.74	2019.25	2163.92	1.12	1.41	495.23	1.00
10/12/24 3:28	2.49	21.50	5.74	2019.29	2163.95	1.12	1.41	495.22	1.00
10/12/24 4:28	2.48	21.50	5.73	2019.18	2163.84	1.12	1.41	495.25	1.00
10/12/24 5:28	2.48	21.50	5.73	2019.38	2164.03	1.12	1.41	495.20	1.00
10/12/24 6:28	2.48	21.50	5.74	2019.25	2163.88	1.12	1.41	495.23	1.00
10/12/24 7:28	2.48	21.50	5.74	2019.22	2163.86	1.12	1.41	495.24	1.00
10/12/24 8:28	2.48	21.50	5.73	2019.38	2164.03	1.12	1.41	495.20	1.00
10/12/24 9:28	2.48	21.50	5.73	2019.50	2164.14	1.12	1.41	495.17	1.00
10/12/24 10:28	2.48	21.50	5.73	2019.26	2163.86	1.12	1.41	495.23	1.00
10/12/24 11:28	2.49	21.50	5.74	2019.56	2164.17	1.12	1.41	495.16	1.00
10/12/24 12:28	2.49	21.50	5.75	2019.65	2164.25	1.12	1.41	495.13	1.00
10/12/24 13:28	2.49	21.50	5.74	2019.41	2164.01	1.12	1.41	495.19	1.00
10/12/24 14:28	2.49	21.50	5.75	2019.51	2164.09	1.12	1.41	495.17	1.00
10/12/24 15:28	2.49	21.50	5.75	2019.70	2164.31	1.12	1.41	495.12	1.00
10/12/24 16:28	2.49	21.50	5.75	2019.80	2164.40	1.12	1.41	495.10	1.00
10/12/24 17:28	2.49	21.50	5.74	2019.13	2163.67	1.12	1.41	495.26	1.00
10/12/24 18:28	2.49	21.50	5.74	2019.50	2164.05	1.12	1.41	495.17	1.00
10/12/24 19:28	2.49	21.50	5.75	2019.51	2164.07	1.12	1.41	495.17	1.00
10/12/24 20:28	2.49	21.50	5.75	2019.50	2164.03	1.12	1.41	495.17	1.00
10/12/24 21:28	2.49	21.50	5.74	2019.61	2164.15	1.12	1.41	495.14	1.00
10/12/24 22:28	2.49	21.50	5.74	2019.70	2164.25	1.12	1.41	495.12	1.00
10/12/24 23:28	2.49	21.50	5.74	2019.54	2164.07	1.12	1.41	495.16	1.00
10/13/24 0:28	2.49	21.50	5.75	2019.68	2164.19	1.12	1.41	495.13	1.00
10/13/24 1:28	2.49	21.50	5.74	2019.43	2163.93	1.12	1.41	495.19	1.00
10/13/24 2:28	2.49	21.50	5.74	2019.50	2163.97	1.12	1.41	495.17	1.00
10/13/24 3:28	2.49	21.50	5.75	2019.67	2164.17	1.12	1.41	495.13	1.00
10/13/24 4:28	2.49	21.50	5.75	2019.57	2164.04	1.12	1.41	495.16	1.00
10/13/24 5:28	2.49	21.50	5.74	2019.85	2164.34	1.12	1.41	495.09	1.00
10/13/24 6:28	2.48	21.50	5.74	2019.65	2164.13	1.12	1.41	495.14	1.00
10/13/24 7:28	2.48	21.50	5.74	2019.69	2164.17	1.12	1.41	495.13	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/13/24 8:28	2.48	21.51	5.73	2019.66	2164.13	1.12	1.41	495.13	1.00
10/13/24 9:28	2.48	21.51	5.73	2019.72	2164.15	1.12	1.41	495.12	1.00
10/13/24 10:28	2.48	21.51	5.73	2019.94	2164.38	1.12	1.41	495.06	1.00
10/13/24 11:28	2.49	21.51	5.74	2019.78	2164.20	1.12	1.41	495.10	1.00
10/13/24 12:28	2.49	21.51	5.74	2019.92	2164.36	1.12	1.41	495.07	1.00
10/13/24 13:28	2.49	21.51	5.75	2020.06	2164.48	1.12	1.41	495.04	1.00
10/13/24 14:28	2.49	21.51	5.74	2019.96	2164.38	1.12	1.41	495.06	1.00
10/13/24 15:28	2.49	21.51	5.75	2019.75	2164.15	1.12	1.41	495.11	1.00
10/13/24 16:28	2.49	21.51	5.75	2019.70	2164.08	1.12	1.41	495.12	1.00
10/13/24 17:28	2.49	21.51	5.74	2019.78	2164.15	1.12	1.41	495.10	1.00
10/13/24 18:28	2.49	21.51	5.74	2019.74	2164.10	1.12	1.41	495.11	1.00
10/13/24 19:28	2.49	21.51	5.75	2020.01	2164.37	1.12	1.41	495.05	1.00
10/13/24 20:28	2.49	21.51	5.75	2019.78	2164.13	1.12	1.41	495.10	1.00
10/13/24 21:28	2.48	21.51	5.74	2019.89	2164.23	1.12	1.41	495.08	1.00
10/13/24 22:28	2.49	21.51	5.74	2019.86	2164.20	1.12	1.41	495.08	1.00
10/13/24 23:28	2.49	21.51	5.74	2020.03	2164.38	1.12	1.41	495.04	1.00
10/14/24 0:28	2.49	21.51	5.74	2019.98	2164.33	1.12	1.41	495.05	1.00
10/14/24 1:28	2.48	21.51	5.74	2019.81	2164.11	1.12	1.41	495.10	1.00
10/14/24 2:28	2.49	21.51	5.74	2019.55	2163.85	1.12	1.41	495.16	1.00
10/14/24 3:28	2.49	21.51	5.74	2019.66	2163.92	1.12	1.41	495.13	1.00
10/14/24 4:28	2.48	21.51	5.74	2019.95	2164.24	1.12	1.41	495.06	1.00
10/14/24 5:28	2.48	21.51	5.74	2019.92	2164.22	1.12	1.41	495.07	1.00
10/14/24 6:28	2.48	21.51	5.74	2019.78	2164.06	1.12	1.41	495.10	1.00
10/14/24 7:28	2.48	21.51	5.73	2019.91	2164.18	1.12	1.41	495.07	1.00
10/14/24 8:28	2.48	21.51	5.73	2020.02	2164.29	1.12	1.41	495.04	1.00
10/14/24 9:28	2.48	21.51	5.73	2019.98	2164.24	1.12	1.41	495.06	1.00
10/14/24 10:28	2.48	21.51	5.73	2019.80	2164.03	1.12	1.41	495.10	1.00
10/14/24 11:28	2.48	21.51	5.74	2019.98	2164.22	1.12	1.41	495.05	1.00
10/14/24 12:28	2.49	21.51	5.75	2019.93	2164.16	1.12	1.41	495.07	1.00
10/14/24 13:28	2.49	21.51	5.75	2019.93	2164.14	1.12	1.41	495.07	1.00
10/14/24 14:28	2.49	21.51	5.75	2020.24	2164.48	1.12	1.41	494.99	1.00
10/14/24 15:28	2.49	21.51	5.75	2020.20	2164.41	1.12	1.41	495.00	1.00
10/14/24 16:28	2.49	21.51	5.75	2019.89	2164.08	1.12	1.41	495.08	1.00
10/14/24 17:28	2.49	21.51	5.75	2020.22	2164.39	1.12	1.41	495.00	1.00
10/14/24 18:28	2.49	21.51	5.75	2019.97	2164.15	1.12	1.41	495.06	1.00
10/14/24 19:28	2.49	21.51	5.75	2020.15	2164.32	1.12	1.41	495.01	1.00
10/14/24 20:28	2.49	21.51	5.75	2020.11	2164.28	1.12	1.41	495.02	1.00
10/14/24 21:28	2.49	21.51	5.75	2020.05	2164.19	1.12	1.41	495.04	1.00
10/14/24 22:28	2.49	21.51	5.75	2020.01	2164.14	1.12	1.41	495.05	1.00
10/14/24 23:28	2.49	21.51	5.75	2019.98	2164.13	1.12	1.41	495.05	1.00
10/15/24 0:28	2.49	21.51	5.75	2020.15	2164.30	1.12	1.41	495.01	1.00
10/15/24 1:28	2.49	21.51	5.75	2019.97	2164.08	1.12	1.41	495.06	1.00
10/15/24 2:28	2.49	21.51	5.75	2019.58	2163.63	1.12	1.41	495.15	1.00
10/15/24 3:28	2.49	21.51	5.75	2019.95	2164.04	1.12	1.41	495.06	1.00
10/15/24 4:28	2.49	21.51	5.76	2020.06	2164.15	1.12	1.41	495.04	1.00
10/15/24 5:28	2.49	21.51	5.75	2020.18	2164.27	1.12	1.41	495.01	1.00
10/15/24 6:28	2.49	21.51	5.75	2019.85	2163.93	1.12	1.41	495.09	1.00
10/15/24 7:28	2.49	21.51	5.75	2020.12	2164.19	1.12	1.41	495.02	1.00
10/15/24 8:28	2.49	21.51	5.75	2020.17	2164.23	1.12	1.41	495.01	1.00
10/15/24 9:28	2.49	21.52	5.75	2020.12	2164.17	1.12	1.41	495.02	1.00
10/15/24 10:28	2.49	21.52	5.75	2020.09	2164.14	1.12	1.41	495.03	1.00
10/15/24 11:28	2.49	21.52	5.75	2020.21	2164.25	1.12	1.41	495.00	1.00
10/15/24 12:28	2.49	21.52	5.76	2019.77	2163.76	1.12	1.41	495.10	1.00
10/15/24 13:28	2.49	21.52	5.76	2019.95	2163.94	1.12	1.41	495.06	1.00
10/15/24 14:28	2.49	21.52	5.76	2019.72	2163.69	1.12	1.41	495.12	1.00
10/15/24 15:28	2.50	21.52	5.76	2020.26	2164.26	1.12	1.41	494.99	1.00
10/15/24 16:28	2.49	21.52	5.76	2019.93	2163.90	1.12	1.41	495.07	1.00
10/15/24 17:28	2.49	21.52	5.75	2020.03	2164.00	1.12	1.41	495.04	1.00
10/15/24 18:28	2.49	21.52	5.76	2019.88	2163.83	1.12	1.41	495.08	1.00
10/15/24 19:28	2.49	21.52	5.75	2019.93	2163.88	1.12	1.41	495.07	1.00
10/15/24 20:28	2.49	21.52	5.75	2019.98	2163.90	1.12	1.41	495.06	1.00
10/15/24 21:28	2.49	21.52	5.75	2019.79	2163.70	1.12	1.41	495.10	1.00
10/15/24 22:28	2.48	21.52	5.74	2020.05	2163.97	1.12	1.41	495.04	1.00
10/15/24 23:28	2.48	21.52	5.74	2019.73	2163.64	1.12	1.41	495.12	1.00
10/16/24 0:28	2.48	21.52	5.73	2020.25	2164.17	1.12	1.41	494.99	1.00
10/16/24 1:28	2.48	21.52	5.72	2019.93	2163.82	1.12	1.41	495.07	1.00
10/16/24 2:28	2.48	21.52	5.73	2019.72	2163.58	1.12	1.41	495.12	1.00
10/16/24 3:28	2.48	21.52	5.72	2019.50	2163.35	1.12	1.41	495.17	1.00
10/16/24 4:28	2.48	21.52	5.73	2019.66	2163.49	1.12	1.41	495.13	1.00
10/16/24 5:28	2.48	21.52	5.72	2019.98	2163.84	1.12	1.41	495.05	1.00
10/16/24 6:28	2.48	21.52	5.72	2019.81	2163.65	1.12	1.41	495.10	1.00
10/16/24 7:28	2.48	21.52	5.72	2020.12	2163.97	1.12	1.41	495.02	1.00
10/16/24 8:28	2.47	21.52	5.71	2019.76	2163.57	1.12	1.41	495.11	1.00
10/16/24 9:28	2.48	21.52	5.72	2020.09	2163.90	1.12	1.41	495.03	1.00
10/16/24 10:28	2.48	21.52	5.72	2020.10	2163.90	1.12	1.41	495.02	1.00
10/16/24 11:28	2.48	21.52	5.72	2020.22	2164.05	1.12	1.41	495.00	1.00
10/16/24 12:28	2.48	21.52	5.74	2019.75	2163.53	1.12	1.41	495.11	1.00
10/16/24 13:28	2.48	21.52	5.74	2020.32	2164.13	1.12	1.41	494.97	1.00
10/16/24 14:28	2.49	21.52	5.75	2019.96	2163.74	1.12	1.41	495.06	1.00
10/16/24 15:28	2.49	21.52	5.75	2020.36	2164.15	1.12	1.41	494.96	1.00
10/16/24 16:28	2.49	21.52	5.75	2019.87	2163.61	1.12	1.41	495.08	1.00
10/16/24 17:28	2.49	21.52	5.75	2020.02	2163.76	1.12	1.41	495.05	1.00
10/16/24 18:28	2.49	21.52	5.75	2020.15	2163.93	1.12	1.41	495.01	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/16/24 19:28	2.49	21.52	5.75	2020.24	2163.98	1.12	1.41	494.99	1.00
10/16/24 20:28	2.49	21.52	5.75	2020.01	2163.72	1.12	1.41	495.05	1.00
10/16/24 21:28	2.49	21.52	5.76	2019.85	2163.56	1.12	1.41	495.09	1.00
10/16/24 22:28	2.49	21.52	5.75	2020.01	2163.71	1.12	1.41	495.05	1.00
10/16/24 23:28	2.49	21.52	5.76	2020.13	2163.82	1.12	1.41	495.02	1.00
10/17/24 0:28	2.49	21.52	5.76	2020.14	2163.83	1.12	1.41	495.02	1.00
10/17/24 1:28	2.50	21.52	5.76	2020.26	2163.96	1.12	1.41	494.99	1.00
10/17/24 2:28	2.49	21.52	5.76	2020.03	2163.70	1.12	1.41	495.04	1.00
10/17/24 3:28	2.50	21.52	5.77	2020.05	2163.71	1.12	1.41	495.04	1.00
10/17/24 4:28	2.49	21.52	5.76	2019.82	2163.47	1.12	1.41	495.09	1.00
10/17/24 5:28	2.50	21.52	5.77	2020.19	2163.83	1.12	1.41	495.00	1.00
10/17/24 6:28	2.49	21.52	5.76	2020.04	2163.67	1.12	1.41	495.04	1.00
10/17/24 7:28	2.50	21.52	5.77	2020.24	2163.87	1.12	1.41	494.99	1.00
10/17/24 8:28	2.49	21.52	5.76	2019.97	2163.59	1.12	1.41	495.06	1.00
10/17/24 9:28	2.50	21.52	5.77	2020.02	2163.63	1.12	1.41	495.05	1.00
10/17/24 10:28	2.50	21.53	5.76	2020.22	2163.81	1.12	1.41	495.00	1.00
10/17/24 11:28	2.50	21.53	5.77	2019.75	2163.31	1.12	1.41	495.11	1.00
10/17/24 12:28	2.50	21.53	5.78	2019.79	2163.34	1.12	1.41	495.10	1.00
10/17/24 13:28	2.50	21.53	5.77	2020.03	2163.59	1.12	1.41	495.04	1.00
10/17/24 14:28	2.50	21.53	5.78	2019.86	2163.40	1.12	1.41	495.08	1.00
10/17/24 15:28	2.50	21.53	5.77	2019.83	2163.38	1.12	1.41	495.09	1.00
10/17/24 16:28	2.50	21.53	5.77	2020.08	2163.62	1.12	1.41	495.03	1.00
10/17/24 17:28	2.50	21.53	5.77	2020.01	2163.55	1.12	1.41	495.05	1.00
10/17/24 18:28	2.50	21.53	5.77	2019.92	2163.43	1.12	1.41	495.07	1.00
10/17/24 19:28	2.50	21.53	5.77	2019.95	2163.45	1.12	1.41	495.06	1.00
10/17/24 20:28	2.50	21.53	5.77	2020.09	2163.59	1.12	1.41	495.03	1.00
10/17/24 21:28	2.49	21.53	5.76	2019.75	2163.22	1.12	1.41	495.11	1.00
10/17/24 22:28	2.50	21.53	5.76	2019.53	2162.99	1.12	1.41	495.16	1.00
10/17/24 23:28	2.50	21.53	5.76	2019.75	2163.19	1.12	1.41	495.11	1.00
10/18/24 0:28	2.49	21.53	5.76	2019.88	2163.33	1.12	1.41	495.08	1.00
10/18/24 1:28	2.50	21.53	5.77	2019.96	2163.42	1.12	1.41	495.06	1.00
10/18/24 2:28	2.50	21.53	5.77	2020.29	2163.75	1.12	1.41	494.98	1.00
10/18/24 3:28	2.50	21.53	5.77	2019.91	2163.36	1.12	1.41	495.07	1.00
10/18/24 4:28	2.50	21.53	5.77	2019.91	2163.29	1.12	1.41	495.07	1.00
10/18/24 5:28	2.50	21.53	5.77	2019.93	2163.35	1.12	1.41	495.07	1.00
10/18/24 6:28	2.50	21.53	5.77	2019.99	2163.39	1.12	1.41	495.05	1.00
10/18/24 7:28	2.50	21.53	5.77	2020.04	2163.44	1.12	1.41	495.04	1.00
10/18/24 8:28	2.50	21.53	5.77	2013.89	2156.79	1.12	1.40	496.55	1.00
10/18/24 9:28	2.50	21.53	5.76	2013.05	2155.90	1.12	1.40	496.76	1.00
10/18/24 10:28	2.50	21.53	5.77	2012.27	2155.05	1.12	1.40	496.95	1.00
10/18/24 11:28	2.50	21.53	5.77	2011.75	2154.47	1.12	1.40	497.08	1.00
10/18/24 12:28	2.50	21.53	5.78	2011.49	2154.20	1.11	1.40	497.14	1.00
10/18/24 13:28	2.50	21.53	5.78	2011.24	2153.95	1.11	1.40	497.21	1.00
10/18/24 14:28	2.50	21.53	5.78	2011.63	2154.36	1.12	1.40	497.11	1.00
10/18/24 15:28	2.50	21.53	5.78	2011.55	2154.25	1.11	1.40	497.13	1.00
10/18/24 16:28	2.50	21.53	5.78	2011.84	2154.55	1.12	1.40	497.06	1.00
10/18/24 17:28	2.50	21.53	5.78	2011.54	2154.22	1.11	1.40	497.13	1.00
10/18/24 18:28	2.50	21.53	5.77	2011.45	2154.12	1.11	1.40	497.15	1.00
10/18/24 19:28	2.50	21.53	5.77	2011.56	2154.24	1.11	1.40	497.13	1.00
10/18/24 20:28	2.50	21.53	5.77	2011.50	2154.15	1.11	1.40	497.14	1.00
10/18/24 21:28	2.49	21.53	5.76	2011.56	2154.22	1.11	1.40	497.13	1.00
10/18/24 22:28	2.49	21.53	5.76	2011.51	2154.14	1.11	1.40	497.14	1.00
10/18/24 23:28	2.49	21.53	5.76	2011.73	2154.39	1.12	1.40	497.08	1.00
10/19/24 0:28	2.50	21.53	5.76	2011.60	2154.23	1.11	1.40	497.12	1.00
10/19/24 1:28	2.50	21.53	5.77	2011.75	2154.39	1.12	1.40	497.08	1.00
10/19/24 2:28	2.50	21.53	5.77	2011.68	2154.29	1.11	1.40	497.10	1.00
10/19/24 3:28	2.50	21.53	5.77	2011.87	2154.50	1.12	1.40	497.05	1.00
10/19/24 4:28	2.49	21.53	5.76	2011.98	2154.58	1.12	1.40	497.02	1.00
10/19/24 5:28	2.49	21.54	5.76	2012.03	2154.63	1.12	1.40	497.01	1.00
10/19/24 6:28	2.49	21.54	5.76	2012.36	2154.98	1.12	1.40	496.93	1.00
10/19/24 7:28	2.49	21.54	5.75	2011.95	2154.54	1.12	1.40	497.03	1.00
10/19/24 8:28	2.49	21.54	5.76	2012.10	2154.69	1.12	1.40	496.99	1.00
10/19/24 9:28	2.49	21.54	5.76	2012.54	2155.15	1.12	1.40	496.88	1.00
10/19/24 10:28	2.49	21.54	5.76	2012.47	2155.06	1.12	1.40	496.90	1.00
10/19/24 11:28	2.49	21.54	5.75	2012.51	2155.10	1.12	1.40	496.89	1.00
10/19/24 12:28	2.50	21.54	5.77	2012.63	2155.20	1.12	1.40	496.86	1.00
10/19/24 13:28	2.50	21.54	5.77	2012.39	2154.95	1.12	1.40	496.92	1.00
10/19/24 14:28	2.50	21.54	5.77	2012.52	2155.07	1.12	1.40	496.89	1.00
10/19/24 15:28	2.50	21.54	5.78	2012.45	2154.99	1.12	1.40	496.91	1.00
10/19/24 16:28	2.50	21.54	5.78	2012.42	2154.95	1.12	1.40	496.91	1.00
10/19/24 17:28	2.50	21.54	5.78	2012.91	2155.45	1.12	1.40	496.79	1.00
10/19/24 18:28	2.50	21.54	5.77	2012.75	2155.27	1.12	1.40	496.83	1.00
10/19/24 19:28	2.50	21.54	5.77	2012.46	2154.96	1.12	1.40	496.90	1.00
10/19/24 20:28	2.49	21.54	5.76	2012.83	2155.34	1.12	1.40	496.81	1.00
10/19/24 21:28	2.50	21.54	5.77	2012.79	2155.31	1.12	1.40	496.82	1.00
10/19/24 22:28	2.50	21.54	5.76	2013.12	2155.65	1.12	1.40	496.74	1.00
10/19/24 23:28	2.49	21.54	5.76	2012.78	2155.27	1.12	1.40	496.82	1.00
10/20/24 0:28	2.49	21.54	5.75	2012.98	2155.46	1.12	1.40	496.78	1.00
10/20/24 1:28	2.49	21.54	5.76	2012.66	2155.10	1.12	1.40	496.86	1.00
10/20/24 2:28	2.50	21.54	5.76	2012.88	2155.33	1.12	1.40	496.80	1.00
10/20/24 3:28	2.50	21.54	5.77	2013.46	2155.97	1.12	1.40	496.66	1.00
10/20/24 4:28	2.49	21.54	5.76	2013.20	2155.65	1.12	1.40	496.72	1.00
10/20/24 5:28	2.49	21.54	5.76	2013.34	2155.81	1.12	1.40	496.69	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/20/24 6:28	2.49	21.54	5.76	2013.25	2155.70	1.12	1.40	496.71	1.00
10/20/24 7:28	2.50	21.54	5.76	2013.27	2155.72	1.12	1.40	496.70	1.00
10/20/24 8:28	2.49	21.54	5.76	2013.31	2155.74	1.12	1.40	496.69	1.00
10/20/24 9:28	2.49	21.54	5.76	2013.48	2155.89	1.12	1.40	496.65	1.00
10/20/24 10:28	2.49	21.54	5.76	2013.46	2155.89	1.12	1.40	496.66	1.00
10/20/24 11:28	2.50	21.54	5.77	2013.29	2155.69	1.12	1.40	496.70	1.00
10/20/24 12:28	2.50	21.54	5.77	2013.57	2156.00	1.12	1.40	496.63	1.00
10/20/24 13:28	2.50	21.54	5.78	2013.59	2155.99	1.12	1.40	496.63	1.00
10/20/24 14:28	2.50	21.54	5.78	2013.61	2155.99	1.12	1.40	496.62	1.00
10/20/24 15:28	2.50	21.54	5.77	2013.69	2156.09	1.12	1.40	496.60	1.00
10/20/24 16:28	2.50	21.54	5.79	2013.68	2156.06	1.12	1.40	496.60	1.00
10/20/24 17:28	2.50	21.54	5.78	2013.77	2156.12	1.12	1.40	496.58	1.00
10/20/24 18:28	2.50	21.54	5.78	2013.77	2156.15	1.12	1.40	496.58	1.00
10/20/24 19:28	2.50	21.54	5.77	2013.63	2155.99	1.12	1.40	496.61	1.00
10/20/24 20:28	2.50	21.54	5.77	2013.30	2155.61	1.12	1.40	496.70	1.00
10/20/24 21:28	2.50	21.54	5.78	2013.56	2155.90	1.12	1.40	496.63	1.00
10/20/24 22:28	2.50	21.54	5.78	2013.85	2156.18	1.12	1.40	496.56	1.00
10/20/24 23:28	2.50	21.54	5.78	2013.86	2156.18	1.12	1.40	496.56	1.00
10/21/24 0:28	2.50	21.54	5.78	2013.83	2156.13	1.12	1.40	496.57	1.00
10/21/24 1:28	2.50	21.54	5.78	2013.97	2156.26	1.12	1.40	496.53	1.00
10/21/24 2:28	2.50	21.54	5.78	2014.30	2156.63	1.12	1.40	496.45	1.00
10/21/24 3:28	2.50	21.55	5.79	2013.96	2156.22	1.12	1.40	496.54	1.00
10/21/24 4:28	2.50	21.55	5.78	2013.88	2156.14	1.12	1.40	496.55	1.00
10/21/24 5:28	2.50	21.55	5.78	2013.75	2156.01	1.12	1.40	496.59	1.00
10/21/24 6:28	2.50	21.55	5.78	2014.07	2156.33	1.12	1.40	496.51	1.00
10/21/24 7:28	2.50	21.55	5.77	2014.27	2156.54	1.12	1.40	496.46	1.00
10/21/24 8:28	2.50	21.55	5.78	2014.16	2156.39	1.12	1.40	496.48	1.00
10/21/24 9:28	2.50	21.55	5.78	2014.31	2156.54	1.12	1.40	496.45	1.00
10/21/24 10:28	2.50	21.55	5.78	2014.08	2156.31	1.12	1.40	496.50	1.00
10/21/24 11:28	2.50	21.55	5.78	2014.20	2156.42	1.12	1.40	496.47	1.00
10/21/24 12:28	2.50	21.55	5.78	2014.18	2156.39	1.12	1.40	496.48	1.00
10/21/24 13:28	2.51	21.55	5.79	2014.35	2156.55	1.12	1.40	496.44	1.00
10/21/24 14:28	2.51	21.55	5.79	2014.22	2156.39	1.12	1.40	496.47	1.00
10/21/24 15:28	2.51	21.55	5.79	2014.20	2156.38	1.12	1.40	496.47	1.00
10/21/24 16:28	2.51	21.55	5.79	2014.36	2156.53	1.12	1.40	496.44	1.00
10/21/24 17:28	2.51	21.55	5.79	2014.07	2156.20	1.12	1.40	496.51	1.00
10/21/24 18:28	2.51	21.55	5.79	2014.16	2156.30	1.12	1.40	496.49	1.00
10/21/24 19:28	2.50	21.55	5.78	2013.93	2156.04	1.12	1.40	496.54	1.00
10/21/24 20:28	2.50	21.55	5.78	2014.67	2156.80	1.12	1.40	496.36	1.00
10/21/24 21:28	2.50	21.55	5.78	2014.44	2156.55	1.12	1.40	496.42	1.00
10/21/24 22:28	2.50	21.55	5.78	2014.20	2156.31	1.12	1.40	496.48	1.00
10/21/24 23:28	2.50	21.55	5.78	2014.45	2156.58	1.12	1.40	496.41	1.00
10/22/24 0:28	2.50	21.55	5.78	2014.21	2156.29	1.12	1.40	496.47	1.00
10/22/24 1:28	2.50	21.55	5.78	2014.50	2156.59	1.12	1.40	496.40	1.00
10/22/24 2:28	2.50	21.55	5.78	2014.44	2156.52	1.12	1.40	496.42	1.00
10/22/24 3:28	2.50	21.55	5.78	2014.39	2156.45	1.12	1.40	496.43	1.00
10/22/24 4:28	2.50	21.55	5.78	2014.55	2156.62	1.12	1.40	496.39	1.00
10/22/24 5:28	2.50	21.55	5.78	2014.49	2156.54	1.12	1.40	496.40	1.00
10/22/24 6:28	2.50	21.55	5.78	2014.81	2156.88	1.12	1.40	496.32	1.00
10/22/24 7:28	2.50	21.55	5.78	2014.70	2156.74	1.12	1.40	496.35	1.00
10/22/24 8:28	2.50	21.55	5.77	2014.54	2156.57	1.12	1.40	496.39	1.00
10/22/24 9:28	2.50	21.55	5.77	2014.36	2156.36	1.12	1.40	496.44	1.00
10/22/24 10:28	2.50	21.55	5.78	2014.73	2156.74	1.12	1.40	496.35	1.00
10/22/24 11:28	2.51	21.55	5.79	2014.55	2156.53	1.12	1.40	496.39	1.00
10/22/24 12:28	2.51	21.55	5.79	2014.79	2156.76	1.12	1.40	496.33	1.00
10/22/24 13:28	2.51	21.55	5.79	2014.58	2156.55	1.12	1.40	496.38	1.00
10/22/24 14:28	2.50	21.55	5.78	2014.61	2156.58	1.12	1.40	496.37	1.00
10/22/24 15:28	2.51	21.55	5.80	2014.79	2156.78	1.12	1.40	496.33	1.00
10/22/24 16:28	2.51	21.55	5.80	2014.73	2156.67	1.12	1.40	496.35	1.00
10/22/24 17:28	2.51	21.55	5.79	2014.62	2156.54	1.12	1.40	496.37	1.00
10/22/24 18:28	2.51	21.55	5.79	2014.94	2156.89	1.12	1.40	496.29	1.00
10/22/24 19:28	2.51	21.55	5.79	2014.96	2156.90	1.12	1.40	496.29	1.00
10/22/24 20:28	2.51	21.56	5.79	2015.09	2157.02	1.12	1.40	496.26	1.00
10/22/24 21:28	2.51	21.56	5.79	2015.02	2156.94	1.12	1.40	496.27	1.00
10/22/24 22:28	2.51	21.56	5.79	2015.14	2157.05	1.12	1.40	496.24	1.00
10/22/24 23:28	2.50	21.56	5.79	2015.19	2157.10	1.12	1.40	496.23	1.00
10/23/24 0:28	2.51	21.56	5.79	2015.18	2157.08	1.12	1.40	496.23	1.00
10/23/24 1:28	2.51	21.56	5.79	2015.19	2157.07	1.12	1.40	496.23	1.00
10/23/24 2:28	2.51	21.56	5.79	2015.08	2156.96	1.12	1.40	496.26	1.00
10/23/24 3:28	2.51	21.56	5.79	2015.23	2157.08	1.12	1.40	496.22	1.00
10/23/24 4:28	2.50	21.56	5.79	2015.17	2157.01	1.12	1.40	496.24	1.00
10/23/24 5:28	2.50	21.56	5.78	2015.23	2157.06	1.12	1.40	496.22	1.00
10/23/24 6:28	2.51	21.56	5.79	2014.88	2156.67	1.12	1.40	496.31	1.00
10/23/24 7:28	2.51	21.56	5.79	2015.13	2156.95	1.12	1.40	496.24	1.00
10/23/24 8:28	2.50	21.56	5.78	2015.37	2157.18	1.12	1.40	496.19	1.00
10/23/24 9:28	2.50	21.56	5.78	2014.99	2156.77	1.12	1.40	496.28	1.00
10/23/24 10:28	2.51	21.56	5.79	2015.38	2157.20	1.12	1.40	496.18	1.00
10/23/24 11:28	2.51	21.56	5.79	2015.19	2156.99	1.12	1.40	496.23	1.00
10/23/24 12:28	2.51	21.56	5.79	2016.63	2158.50	1.12	1.40	495.88	1.00
10/23/24 13:28	2.51	21.56	5.80	2016.81	2158.69	1.12	1.40	495.83	1.00
10/23/24 14:28	2.51	21.56	5.80	2017.46	2159.36	1.12	1.40	495.67	1.00
10/23/24 15:28	2.51	21.56	5.81	2016.90	2158.76	1.12	1.40	495.81	1.00
10/23/24 16:28	2.51	21.56	5.80	2016.88	2158.72	1.12	1.40	495.82	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/23/24 17:28	2.51	21.56	5.80	2016.96	2158.80	1.12	1.40	495.80	1.00
10/23/24 18:28	2.51	21.56	5.80	2016.85	2158.68	1.12	1.40	495.82	1.00
10/23/24 19:28	2.51	21.56	5.79	2016.91	2158.74	1.12	1.40	495.81	1.00
10/23/24 20:28	2.51	21.56	5.80	2016.76	2158.56	1.12	1.40	495.85	1.00
10/23/24 21:28	2.51	21.56	5.80	2016.99	2158.77	1.12	1.40	495.79	1.00
10/23/24 22:28	2.51	21.56	5.80	2017.05	2158.84	1.12	1.40	495.77	1.00
10/23/24 23:28	2.51	21.56	5.80	2017.05	2158.83	1.12	1.40	495.77	1.00
10/24/24 0:28	2.51	21.56	5.80	2016.82	2158.57	1.12	1.40	495.83	1.00
10/24/24 1:28	2.51	21.56	5.80	2017.16	2158.93	1.12	1.40	495.75	1.00
10/24/24 2:28	2.51	21.56	5.80	2017.26	2159.03	1.12	1.40	495.72	1.00
10/24/24 3:28	2.51	21.56	5.80	2017.15	2158.87	1.12	1.40	495.75	1.00
10/24/24 4:28	2.51	21.56	5.80	2017.30	2159.03	1.12	1.40	495.71	1.00
10/24/24 5:28	2.51	21.56	5.80	2016.87	2158.58	1.12	1.40	495.82	1.00
10/24/24 6:28	2.51	21.56	5.80	2017.14	2158.85	1.12	1.40	495.75	1.00
10/24/24 7:28	2.51	21.56	5.81	2017.19	2158.88	1.12	1.40	495.74	1.00
10/24/24 8:28	2.51	21.56	5.80	2017.12	2158.82	1.12	1.40	495.76	1.00
10/24/24 9:28	2.51	21.56	5.80	2016.98	2158.65	1.12	1.40	495.79	1.00
10/24/24 10:28	2.52	21.56	5.81	2017.11	2158.76	1.12	1.40	495.76	1.00
10/24/24 11:28	2.52	21.56	5.81	2017.13	2158.79	1.12	1.40	495.75	1.00
10/24/24 12:28	2.51	21.56	5.80	2016.80	2158.44	1.12	1.40	495.84	1.00
10/24/24 13:28	2.51	21.57	5.79	2016.92	2158.52	1.12	1.40	495.81	1.00
10/24/24 14:28	2.51	21.57	5.80	2017.25	2158.87	1.12	1.40	495.73	1.00
10/24/24 15:28	2.50	21.58	5.78	2002.94	2143.09	1.11	1.39	499.27	1.00
10/24/24 16:28	2.51	21.57	5.79	2001.24	2141.43	1.11	1.39	499.69	1.00
10/24/24 17:28	2.51	21.57	5.80	1999.93	2140.14	1.11	1.39	500.02	1.00
10/24/24 18:28	2.51	21.57	5.80	1999.49	2139.73	1.11	1.39	500.13	1.00
10/24/24 19:28	2.51	21.57	5.80	1999.58	2139.83	1.11	1.39	500.10	1.00
10/24/24 20:28	2.51	21.57	5.80	1999.24	2139.48	1.11	1.39	500.19	1.00
10/24/24 21:28	2.51	21.57	5.81	1999.49	2139.76	1.11	1.39	500.13	1.00
10/24/24 22:28	2.51	21.57	5.80	1999.40	2139.66	1.11	1.39	500.15	1.00
10/24/24 23:28	2.51	21.57	5.80	1999.56	2139.81	1.11	1.39	500.11	1.00
10/25/24 0:28	2.51	21.57	5.80	1999.84	2140.10	1.11	1.39	500.04	1.00
10/25/24 1:28	2.51	21.57	5.81	1999.68	2139.95	1.11	1.39	500.08	1.00
10/25/24 2:28	2.51	21.57	5.80	1999.80	2140.07	1.11	1.39	500.05	1.00
10/25/24 3:28	2.51	21.57	5.80	1999.89	2140.15	1.11	1.39	500.03	1.00
10/25/24 4:28	2.51	21.57	5.79	2000.42	2140.69	1.11	1.39	499.90	1.00
10/25/24 5:28	2.50	21.57	5.78	2000.35	2140.61	1.11	1.39	499.91	1.00
10/25/24 6:28	2.51	21.57	5.79	2000.65	2140.95	1.11	1.39	499.84	1.00
10/25/24 7:28	2.51	21.57	5.79	2000.89	2141.18	1.11	1.39	499.78	1.00
10/25/24 8:28	2.50	21.57	5.78	2000.85	2141.12	1.11	1.39	499.79	1.00
10/25/24 9:28	2.50	21.57	5.78	2001.53	2141.83	1.11	1.39	499.62	1.00
10/25/24 10:28	2.51	21.57	5.79	2001.14	2141.43	1.11	1.39	499.71	1.00
10/25/24 11:28	2.50	21.57	5.78	2001.51	2141.79	1.11	1.39	499.62	1.00
10/25/24 12:28	2.51	21.57	5.79	2002.08	2142.39	1.11	1.39	499.48	1.00
10/25/24 13:28	2.51	21.57	5.80	2002.09	2142.39	1.11	1.39	499.48	1.00
10/25/24 14:28	2.51	21.57	5.80	2002.29	2142.60	1.11	1.39	499.43	1.00
10/25/24 15:28	2.52	21.57	5.81	2002.48	2142.81	1.11	1.39	499.38	1.00
10/25/24 16:28	2.52	21.57	5.81	2002.81	2143.14	1.11	1.39	499.30	1.00
10/25/24 17:28	2.51	21.57	5.81	2003.14	2143.48	1.11	1.39	499.22	1.00
10/25/24 18:28	2.52	21.57	5.81	2003.57	2143.94	1.11	1.39	499.11	1.00
10/25/24 19:28	2.51	21.57	5.81	2003.52	2143.87	1.11	1.39	499.12	1.00
10/25/24 20:28	2.51	21.57	5.80	2003.66	2144.00	1.11	1.39	499.09	1.00
10/25/24 21:28	2.51	21.57	5.80	2003.52	2143.84	1.11	1.39	499.12	1.00
10/25/24 22:28	2.51	21.57	5.80	2003.85	2144.17	1.11	1.39	499.04	1.00
10/25/24 23:28	2.51	21.57	5.80	2004.17	2144.52	1.11	1.39	498.96	1.00
10/26/24 0:28	2.51	21.57	5.81	2004.52	2144.86	1.11	1.39	498.87	1.00
10/26/24 1:28	2.51	21.57	5.81	2004.27	2144.58	1.11	1.39	498.93	1.00
10/26/24 2:28	2.51	21.57	5.80	2004.48	2144.82	1.11	1.39	498.88	1.00
10/26/24 3:28	2.52	21.57	5.81	2004.77	2145.13	1.11	1.39	498.81	1.00
10/26/24 4:28	2.51	21.58	5.81	2004.59	2144.89	1.11	1.39	498.86	1.00
10/26/24 5:28	2.51	21.58	5.80	2004.62	2144.93	1.11	1.39	498.85	1.00
10/26/24 6:28	2.51	21.58	5.80	2005.24	2145.58	1.11	1.39	498.69	1.00
10/26/24 7:28	2.51	21.58	5.80	2005.21	2145.52	1.11	1.39	498.70	1.00
10/26/24 8:28	2.51	21.58	5.80	2005.47	2145.79	1.11	1.39	498.64	1.00
10/26/24 9:28	2.51	21.58	5.80	2005.31	2145.62	1.11	1.39	498.68	1.00
10/26/24 10:28	2.51	21.58	5.80	2005.35	2145.65	1.11	1.39	498.67	1.00
10/26/24 11:28	2.51	21.58	5.81	2005.48	2145.77	1.11	1.39	498.63	1.00
10/26/24 12:28	2.52	21.58	5.81	2005.56	2145.84	1.11	1.39	498.61	1.00
10/26/24 13:28	2.52	21.58	5.82	2005.77	2146.07	1.11	1.39	498.56	1.00
10/26/24 14:28	2.52	21.58	5.82	2006.03	2146.35	1.11	1.40	498.50	1.00
10/26/24 15:28	2.52	21.58	5.83	2006.10	2146.40	1.11	1.40	498.48	1.00
10/26/24 16:28	2.52	21.58	5.82	2005.96	2146.24	1.11	1.40	498.51	1.00
10/26/24 17:28	2.52	21.58	5.82	2006.11	2146.38	1.11	1.40	498.48	1.00
10/26/24 18:28	2.52	21.58	5.82	2006.18	2146.49	1.11	1.40	498.46	1.00
10/26/24 19:28	2.52	21.58	5.82	2006.39	2146.65	1.11	1.40	498.41	1.00
10/26/24 20:28	2.52	21.58	5.82	2006.29	2146.55	1.11	1.40	498.43	1.00
10/26/24 21:28	2.52	21.58	5.82	2006.36	2146.62	1.11	1.40	498.41	1.00
10/26/24 22:28	2.52	21.58	5.82	2006.42	2146.65	1.11	1.40	498.40	1.00
10/26/24 23:28	2.52	21.58	5.82	2006.60	2146.86	1.11	1.40	498.36	1.00
10/27/24 0:28	2.52	21.58	5.83	2006.48	2146.67	1.11	1.40	498.38	1.00
10/27/24 1:28	2.52	21.58	5.83	2006.61	2146.80	1.11	1.40	498.35	1.00
10/27/24 2:28	2.52	21.58	5.82	2006.86	2147.07	1.11	1.40	498.29	1.00
10/27/24 3:28	2.52	21.58	5.83	2006.74	2146.93	1.11	1.40	498.32	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/27/24 4:28	2.52	21.58	5.83	2007.08	2147.31	1.11	1.40	498.24	1.00
10/27/24 5:28	2.52	21.58	5.83	2007.20	2147.42	1.11	1.40	498.21	1.00
10/27/24 6:28	2.52	21.58	5.83	2007.08	2147.27	1.11	1.40	498.24	1.00
10/27/24 7:28	2.52	21.58	5.82	2007.39	2147.59	1.11	1.40	498.16	1.00
10/27/24 8:28	2.52	21.58	5.83	2006.96	2147.10	1.11	1.40	498.27	1.00
10/27/24 9:28	2.52	21.58	5.82	2007.53	2147.74	1.11	1.40	498.12	1.00
10/27/24 10:28	2.52	21.58	5.83	2007.10	2147.25	1.11	1.40	498.23	1.00
10/27/24 11:28	2.53	21.58	5.83	2007.40	2147.56	1.11	1.40	498.16	1.00
10/27/24 12:28	2.53	21.58	5.84	2007.51	2147.65	1.11	1.40	498.13	1.00
10/27/24 13:28	2.53	21.58	5.84	2007.87	2148.07	1.11	1.40	498.04	1.00
10/27/24 14:28	2.53	21.58	5.85	2007.42	2147.53	1.11	1.40	498.15	1.00
10/27/24 15:28	2.53	21.58	5.84	2007.82	2147.94	1.11	1.40	498.05	1.00
10/27/24 16:28	2.53	21.58	5.85	2007.79	2147.90	1.11	1.40	498.06	1.00
10/27/24 17:28	2.53	21.58	5.84	2007.90	2148.03	1.11	1.40	498.03	1.00
10/27/24 18:28	2.53	21.58	5.85	2007.71	2147.80	1.11	1.40	498.08	1.00
10/27/24 19:28	2.53	21.59	5.84	2007.76	2147.82	1.11	1.40	498.07	1.00
10/27/24 20:28	2.53	21.59	5.84	2008.04	2148.14	1.11	1.40	498.00	1.00
10/27/24 21:28	2.53	21.59	5.84	2008.19	2148.30	1.11	1.40	497.96	1.00
10/27/24 22:28	2.53	21.59	5.84	2008.07	2148.12	1.11	1.40	497.99	1.00
10/27/24 23:28	2.53	21.59	5.84	2008.10	2148.16	1.11	1.40	497.98	1.00
10/28/24 0:28	2.53	21.59	5.85	2007.94	2147.98	1.11	1.40	498.02	1.00
10/28/24 1:28	2.53	21.59	5.85	2008.07	2148.09	1.11	1.40	497.99	1.00
10/28/24 2:28	2.53	21.59	5.85	2007.93	2147.95	1.11	1.40	498.03	1.00
10/28/24 3:28	2.53	21.59	5.85	2008.53	2148.58	1.11	1.40	497.88	1.00
10/28/24 4:28	2.53	21.59	5.85	2008.29	2148.30	1.11	1.40	497.94	1.00
10/28/24 5:28	2.53	21.59	5.84	2008.56	2148.58	1.11	1.40	497.87	1.00
10/28/24 6:28	2.53	21.59	5.85	2008.58	2148.59	1.11	1.40	497.86	1.00
10/28/24 7:28	2.53	21.59	5.84	2008.71	2148.72	1.11	1.40	497.83	1.00
10/28/24 8:28	2.53	21.59	5.85	2008.48	2148.46	1.11	1.40	497.89	1.00
10/28/24 9:28	2.53	21.59	5.85	2008.49	2148.46	1.11	1.40	497.89	1.00
10/28/24 10:28	2.53	21.59	5.85	2008.67	2148.64	1.11	1.40	497.84	1.00
10/28/24 11:28	2.53	21.59	5.85	2008.59	2148.55	1.11	1.40	497.86	1.00
10/28/24 12:28	2.54	21.59	5.86	2008.61	2148.55	1.11	1.40	497.86	1.00
10/28/24 13:28	2.54	21.59	5.87	2008.54	2148.46	1.11	1.40	497.87	1.00
10/28/24 14:28	2.54	21.59	5.86	2008.65	2148.56	1.11	1.40	497.85	1.00
10/28/24 15:28	2.54	21.59	5.86	2008.95	2148.88	1.11	1.40	497.77	1.00
10/28/24 16:28	2.54	21.59	5.86	2008.99	2148.91	1.11	1.40	497.76	1.00
10/28/24 17:28	2.54	21.59	5.86	2008.95	2148.86	1.11	1.40	497.77	1.00
10/28/24 18:28	2.53	21.59	5.85	2008.91	2148.79	1.11	1.40	497.78	1.00
10/28/24 19:28	2.54	21.59	5.85	2009.22	2149.12	1.11	1.40	497.71	1.00
10/28/24 20:28	2.53	21.59	5.85	2009.06	2148.94	1.11	1.40	497.75	1.00
10/28/24 21:28	2.54	21.59	5.86	2008.73	2148.58	1.11	1.40	497.83	1.00
10/28/24 22:28	2.54	21.59	5.86	2009.18	2149.03	1.11	1.40	497.72	1.00
10/28/24 23:28	2.54	21.59	5.86	2008.92	2148.74	1.11	1.40	497.78	1.00
10/29/24 0:28	2.54	21.59	5.86	2009.09	2148.92	1.11	1.40	497.74	1.00
10/29/24 1:28	2.53	21.59	5.85	2009.44	2149.29	1.11	1.40	497.65	1.00
10/29/24 2:28	2.54	21.59	5.86	2009.21	2149.03	1.11	1.40	497.71	1.00
10/29/24 3:28	2.54	21.59	5.86	2009.36	2149.17	1.11	1.40	497.67	1.00
10/29/24 4:28	2.54	21.59	5.86	2009.46	2149.27	1.11	1.40	497.65	1.00
10/29/24 5:28	2.54	21.59	5.86	2009.57	2149.39	1.11	1.40	497.62	1.00
10/29/24 6:28	2.54	21.59	5.86	2009.41	2149.19	1.11	1.40	497.66	1.00
10/29/24 7:28	2.54	21.59	5.86	2009.47	2149.25	1.11	1.40	497.64	1.00
10/29/24 8:28	2.53	21.60	5.85	2009.47	2149.25	1.11	1.40	497.64	1.00
10/29/24 9:28	2.54	21.60	5.86	2009.44	2149.17	1.11	1.40	497.65	1.00
10/29/24 10:28	2.54	21.60	5.86	2009.54	2149.28	1.11	1.40	497.63	1.00
10/29/24 11:28	2.54	21.60	5.87	2009.35	2149.06	1.11	1.40	497.67	1.00
10/29/24 12:28	2.54	21.60	5.87	2009.45	2149.17	1.11	1.40	497.65	1.00
10/29/24 13:28	2.54	21.60	5.86	2009.56	2149.29	1.11	1.40	497.62	1.00
10/29/24 14:28	2.54	21.60	5.87	2009.62	2149.33	1.11	1.40	497.61	1.00
10/29/24 15:28	2.54	21.60	5.86	2009.42	2149.10	1.11	1.40	497.66	1.00
10/29/24 16:28	2.54	21.60	5.86	2009.87	2149.57	1.11	1.40	497.54	1.00
10/29/24 17:28	2.54	21.60	5.86	2009.76	2149.46	1.11	1.40	497.57	1.00
10/29/24 18:28	2.54	21.60	5.86	2009.95	2149.62	1.11	1.40	497.52	1.00
10/29/24 19:28	2.54	21.60	5.86	2009.99	2149.67	1.11	1.40	497.51	1.00
10/29/24 20:28	2.54	21.60	5.86	2009.69	2149.32	1.11	1.40	497.59	1.00
10/29/24 21:28	2.53	21.60	5.85	2009.83	2149.45	1.11	1.40	497.55	1.00
10/29/24 22:28	2.53	21.60	5.85	2009.78	2149.40	1.11	1.40	497.57	1.00
10/29/24 23:28	2.54	21.60	5.86	2010.00	2149.64	1.11	1.40	497.51	1.00
10/30/24 0:28	2.53	21.60	5.85	2010.02	2149.62	1.11	1.40	497.51	1.00
10/30/24 1:28	2.54	21.60	5.86	2009.90	2149.52	1.11	1.40	497.54	1.00
10/30/24 2:28	2.54	21.60	5.86	2010.08	2149.65	1.11	1.40	497.49	1.00
10/30/24 3:28	2.54	21.60	5.86	2010.28	2149.87	1.11	1.40	497.44	1.00
10/30/24 4:28	2.53	21.60	5.85	2010.11	2149.67	1.11	1.40	497.48	1.00
10/30/24 5:28	2.53	21.60	5.85	2010.12	2149.68	1.11	1.40	497.48	1.00
10/30/24 6:28	2.53	21.60	5.85	2009.97	2149.51	1.11	1.40	497.52	1.00
10/30/24 7:28	2.53	21.60	5.85	2010.22	2149.75	1.11	1.40	497.46	1.00
10/30/24 8:28	2.53	21.60	5.85	2010.41	2149.93	1.11	1.40	497.41	1.00
10/30/24 9:28	2.53	21.60	5.84	2010.44	2149.97	1.11	1.40	497.40	1.00
10/30/24 10:28	2.53	21.60	5.84	2010.31	2149.80	1.11	1.40	497.44	1.00
10/30/24 11:28	2.53	21.60	5.84	2010.22	2149.71	1.11	1.40	497.46	1.00
10/30/24 12:28	2.53	21.60	5.84	2010.21	2149.68	1.11	1.40	497.46	1.00
10/30/24 13:28	2.53	21.60	5.85	2010.32	2149.80	1.11	1.40	497.43	1.00
10/30/24 14:28	2.53	21.60	5.85	2010.53	2150.02	1.11	1.40	497.38	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/30/24 15:28	2.53	21.60	5.85	2010.55	2150.00	1.11	1.40	497.38	1.00
10/30/24 16:28	2.53	21.60	5.85	2010.56	2150.00	1.11	1.40	497.37	1.00
10/30/24 17:28	2.53	21.60	5.84	2010.63	2150.09	1.11	1.40	497.36	1.00
10/30/24 18:28	2.53	21.60	5.84	2010.75	2150.18	1.11	1.40	497.33	1.00
10/30/24 19:28	2.53	21.60	5.84	2010.56	2149.98	1.11	1.40	497.37	1.00
10/30/24 20:28	2.53	21.61	5.84	2010.41	2149.80	1.11	1.40	497.41	1.00
10/30/24 21:28	2.53	21.61	5.83	2010.72	2150.14	1.11	1.40	497.33	1.00
10/30/24 22:28	2.53	21.61	5.84	2010.85	2150.24	1.11	1.40	497.30	1.00
10/30/24 23:28	2.53	21.61	5.84	2010.97	2150.36	1.11	1.40	497.27	1.00
10/31/24 0:28	2.52	21.61	5.83	2010.78	2150.13	1.11	1.40	497.32	1.00
10/31/24 1:28	2.53	21.61	5.83	2010.82	2150.21	1.11	1.40	497.31	1.00
10/31/24 2:28	2.53	21.61	5.83	2010.80	2150.15	1.11	1.40	497.31	1.00
10/31/24 3:28	2.52	21.61	5.83	2010.92	2150.27	1.11	1.40	497.28	1.00
10/31/24 4:28	2.52	21.61	5.83	2010.88	2150.20	1.11	1.40	497.30	1.00
10/31/24 5:28	2.52	21.61	5.83	2010.86	2150.18	1.11	1.40	497.30	1.00
10/31/24 6:28	2.52	21.61	5.83	2011.12	2150.43	1.11	1.40	497.24	1.00
10/31/24 7:28	2.52	21.61	5.82	2011.13	2150.44	1.11	1.40	497.23	1.00
10/31/24 8:28	2.52	21.61	5.82	2011.11	2150.41	1.11	1.40	497.24	1.00
10/31/24 9:28	2.52	21.61	5.83	2011.13	2150.40	1.11	1.40	497.23	1.00
10/31/24 10:28	2.51	21.61	5.80	2011.05	2150.32	1.11	1.40	497.25	1.00
10/31/24 11:28	2.51	21.61	5.79	2011.12	2150.35	1.11	1.40	497.24	1.00
10/31/24 12:28	2.50	21.61	5.78	2011.03	2150.28	1.11	1.40	497.26	1.00
10/31/24 13:28	2.50	21.61	5.77	2011.01	2150.23	1.11	1.40	497.26	1.00
10/31/24 14:28	2.50	21.61	5.76	2011.15	2150.35	1.11	1.40	497.23	1.00
10/31/24 15:28	2.49	21.61	5.76	2011.11	2150.31	1.11	1.40	497.24	1.00
10/31/24 16:28	2.49	21.61	5.75	2011.24	2150.43	1.11	1.40	497.21	1.00
10/31/24 17:28	2.49	21.61	5.75	2011.25	2150.42	1.11	1.40	497.20	1.00
10/31/24 18:28	2.49	21.61	5.74	2011.41	2150.58	1.11	1.40	497.16	1.00
10/31/24 19:28	2.48	21.61	5.74	2011.37	2150.55	1.11	1.40	497.17	1.00
10/31/24 20:28	2.48	21.61	5.73	2011.35	2150.50	1.11	1.40	497.18	1.00
10/31/24 21:28	2.48	21.61	5.73	2011.42	2150.55	1.11	1.40	497.16	1.00
10/31/24 22:28	2.48	21.61	5.73	2011.41	2150.54	1.11	1.40	497.16	1.00
10/31/24 23:28	2.48	21.61	5.72	2011.40	2150.53	1.11	1.40	497.17	1.00
11/1/24 0:28	2.48	21.61	5.72	2011.64	2150.77	1.11	1.40	497.11	1.00
11/1/24 1:28	2.48	21.61	5.72	2011.68	2150.77	1.11	1.40	497.10	1.00
11/1/24 2:28	2.48	21.61	5.72	2011.59	2150.70	1.11	1.40	497.12	1.00
11/1/24 3:28	2.48	21.61	5.72	2011.54	2150.60	1.11	1.40	497.13	1.00
11/1/24 4:28	2.48	21.61	5.73	2011.52	2150.59	1.11	1.40	497.14	1.00
11/1/24 5:28	2.48	21.61	5.72	2011.90	2150.99	1.11	1.40	497.04	1.00
11/1/24 6:28	2.48	21.62	5.73	2011.71	2150.75	1.11	1.40	497.09	1.00
11/1/24 7:28	2.48	21.62	5.73	2011.58	2150.62	1.11	1.40	497.12	1.00
11/1/24 8:28	2.47	21.63	5.71	2000.74	2138.58	1.11	1.39	499.82	1.00
11/1/24 9:28	2.47	21.62	5.71	2000.32	2138.30	1.11	1.39	499.92	1.00
11/1/24 10:28	2.48	21.62	5.72	1999.80	2137.83	1.11	1.39	500.05	1.00
11/1/24 11:28	2.48	21.62	5.72	1999.46	2137.49	1.11	1.39	500.14	1.00
11/1/24 12:28	2.48	21.62	5.72	1999.59	2137.67	1.11	1.39	500.10	1.00
11/1/24 13:28	2.48	21.62	5.73	1999.39	2137.46	1.11	1.39	500.15	1.00
11/1/24 14:28	2.48	21.62	5.74	1999.19	2137.25	1.11	1.39	500.20	1.00
11/1/24 15:28	2.49	21.62	5.74	1998.96	2136.97	1.11	1.39	500.26	1.00
11/1/24 16:28	2.48	21.62	5.74	1999.27	2137.33	1.11	1.39	500.18	1.00
11/1/24 17:28	2.48	21.62	5.74	1998.97	2137.01	1.11	1.39	500.26	1.00
11/1/24 18:28	2.48	21.62	5.73	1999.57	2137.63	1.11	1.39	500.11	1.00
11/1/24 19:28	2.48	21.62	5.74	1999.37	2137.42	1.11	1.39	500.16	1.00
11/1/24 20:28	2.49	21.62	5.75	1999.34	2137.36	1.11	1.39	500.17	1.00
11/1/24 21:28	2.49	21.62	5.74	1999.30	2137.30	1.11	1.39	500.17	1.00
11/1/24 22:28	2.49	21.62	5.75	1999.47	2137.47	1.11	1.39	500.13	1.00
11/1/24 23:28	2.49	21.62	5.75	1999.58	2137.59	1.11	1.39	500.11	1.00
11/2/24 0:28	2.49	21.62	5.75	1999.97	2138.00	1.11	1.39	500.01	1.00
11/2/24 1:28	2.49	21.62	5.75	1999.91	2137.94	1.11	1.39	500.02	1.00
11/2/24 2:28	2.49	21.62	5.75	1999.87	2137.85	1.11	1.39	500.03	1.00
11/2/24 3:28	2.49	21.62	5.74	2000.07	2138.06	1.11	1.39	499.98	1.00
11/2/24 4:28	2.49	21.62	5.76	2000.35	2138.36	1.11	1.39	499.91	1.00
11/2/24 5:28	2.49	21.62	5.75	2000.13	2138.09	1.11	1.39	499.97	1.00
11/2/24 6:28	2.49	21.62	5.75	2000.30	2138.27	1.11	1.39	499.92	1.00
11/2/24 7:28	2.49	21.62	5.75	2000.55	2138.53	1.11	1.39	499.86	1.00
11/2/24 8:28	2.49	21.62	5.75	2000.88	2138.87	1.11	1.39	499.78	1.00
11/2/24 9:28	2.49	21.62	5.76	2000.77	2138.76	1.11	1.39	499.81	1.00
11/2/24 10:28	2.49	21.62	5.76	2001.06	2139.06	1.11	1.39	499.73	1.00
11/2/24 11:28	2.49	21.62	5.76	2001.13	2139.06	1.11	1.39	499.72	1.00
11/2/24 12:28	2.50	21.62	5.77	2001.19	2139.15	1.11	1.39	499.70	1.00
11/2/24 13:28	2.50	21.62	5.77	2001.16	2139.10	1.11	1.39	499.71	1.00
11/2/24 14:28	2.50	21.62	5.77	2001.12	2139.04	1.11	1.39	499.72	1.00
11/2/24 15:28	2.50	21.62	5.77	2001.36	2139.31	1.11	1.39	499.66	1.00
11/2/24 16:28	2.50	21.62	5.77	2001.56	2139.50	1.11	1.39	499.61	1.00
11/2/24 17:28	2.50	21.62	5.78	2001.62	2139.57	1.11	1.39	499.60	1.00
11/2/24 18:28	2.50	21.62	5.78	2001.81	2139.77	1.11	1.39	499.55	1.00
11/2/24 19:28	2.50	21.63	5.77	2001.98	2139.90	1.11	1.39	499.50	1.00
11/2/24 20:28	2.50	21.63	5.78	2002.05	2139.97	1.11	1.39	499.49	1.00
11/2/24 21:28	2.50	21.63	5.78	2002.01	2139.90	1.11	1.39	499.50	1.00
11/2/24 22:28	2.50	21.63	5.78	2002.28	2140.19	1.11	1.39	499.43	1.00
11/2/24 23:28	2.50	21.63	5.78	2002.33	2140.24	1.11	1.39	499.42	1.00
11/3/24 0:28	2.50	21.63	5.78	2002.25	2140.15	1.11	1.39	499.44	1.00
11/3/24 1:28	2.50	21.63	5.78	2002.61	2140.54	1.11	1.39	499.35	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/3/24 2:28	2.50	21.63	5.78	2002.58	2140.48	1.11	1.39	499.36	1.00
11/3/24 3:28	2.51	21.63	5.79	2002.80	2140.68	1.11	1.39	499.30	1.00
11/3/24 4:28	2.51	21.63	5.79	2002.87	2140.75	1.11	1.39	499.28	1.00
11/3/24 5:28	2.51	21.63	5.79	2002.90	2140.77	1.11	1.39	499.28	1.00
11/3/24 6:28	2.51	21.63	5.79	2003.03	2140.90	1.11	1.39	499.24	1.00
11/3/24 7:28	2.51	21.63	5.79	2003.52	2141.41	1.11	1.39	499.12	1.00
11/3/24 8:28	2.51	21.63	5.79	2003.47	2141.34	1.11	1.39	499.13	1.00
11/3/24 9:28	2.51	21.63	5.79	2003.37	2141.24	1.11	1.39	499.16	1.00
11/3/24 10:28	2.51	21.63	5.79	2003.26	2141.09	1.11	1.39	499.19	1.00
11/3/24 11:28	2.51	21.63	5.80	2003.48	2141.31	1.11	1.39	499.13	1.00
11/3/24 12:28	2.51	21.63	5.79	2003.47	2141.31	1.11	1.39	499.13	1.00
11/3/24 13:28	2.51	21.63	5.80	2003.52	2141.36	1.11	1.39	499.12	1.00
11/3/24 14:28	2.51	21.63	5.80	2003.79	2141.63	1.11	1.39	499.05	1.00
11/3/24 15:28	2.51	21.63	5.80	2003.57	2141.39	1.11	1.39	499.11	1.00
11/3/24 16:28	2.51	21.63	5.80	2003.79	2141.59	1.11	1.39	499.06	1.00
11/3/24 17:28	2.51	21.63	5.80	2003.95	2141.76	1.11	1.39	499.01	1.00
11/3/24 18:28	2.51	21.63	5.80	2004.05	2141.85	1.11	1.39	498.99	1.00
11/3/24 19:28	2.51	21.63	5.79	2004.14	2141.94	1.11	1.39	498.97	1.00
11/3/24 20:28	2.51	21.63	5.80	2004.03	2141.81	1.11	1.39	498.99	1.00
11/3/24 21:28	2.51	21.63	5.80	2004.44	2142.21	1.11	1.39	498.89	1.00
11/3/24 22:28	2.51	21.63	5.79	2004.35	2142.11	1.11	1.39	498.91	1.00
11/3/24 23:28	2.51	21.63	5.79	2004.55	2142.30	1.11	1.39	498.86	1.00
11/4/24 0:28	2.51	21.63	5.80	2004.20	2141.94	1.11	1.39	498.95	1.00
11/4/24 1:28	2.51	21.63	5.79	2004.53	2142.24	1.11	1.39	498.87	1.00
11/4/24 2:28	2.51	21.63	5.80	2004.32	2142.04	1.11	1.39	498.92	1.00
11/4/24 3:28	2.51	21.63	5.81	2004.28	2141.98	1.11	1.39	498.93	1.00
11/4/24 4:28	2.51	21.64	5.80	2004.39	2142.06	1.11	1.39	498.90	1.00
11/4/24 5:28	2.51	21.63	5.81	2004.48	2142.19	1.11	1.39	498.88	1.00
11/4/24 6:28	2.51	21.64	5.80	2004.58	2142.25	1.11	1.39	498.86	1.00
11/4/24 7:28	2.51	21.64	5.79	2004.62	2142.29	1.11	1.39	498.85	1.00
11/4/24 8:28	2.51	21.64	5.80	2005.07	2142.75	1.11	1.39	498.74	1.00
11/4/24 9:28	2.51	21.64	5.79	2005.09	2142.78	1.11	1.39	498.73	1.00
11/4/24 10:28	2.50	21.64	5.78	2005.05	2142.71	1.11	1.39	498.74	1.00
11/4/24 11:28	2.51	21.64	5.79	2005.14	2142.80	1.11	1.39	498.72	1.00
11/4/24 12:28	2.51	21.64	5.79	2005.09	2142.74	1.11	1.39	498.73	1.00
11/4/24 13:28	2.51	21.64	5.80	2005.39	2143.04	1.11	1.39	498.66	1.00
11/4/24 14:28	2.51	21.64	5.79	2005.28	2142.92	1.11	1.39	498.68	1.00
11/4/24 15:28	2.50	21.64	5.78	2005.16	2142.75	1.11	1.39	498.71	1.00
11/4/24 16:28	2.50	21.64	5.78	2005.61	2143.24	1.11	1.39	498.60	1.00
11/4/24 17:28	2.50	21.64	5.77	2005.53	2143.16	1.11	1.39	498.62	1.00
11/4/24 18:28	2.49	21.64	5.76	2005.59	2143.21	1.11	1.39	498.61	1.00
11/4/24 19:28	2.49	21.64	5.76	2005.82	2143.42	1.11	1.39	498.55	1.00
11/4/24 20:28	2.49	21.64	5.76	2005.82	2143.42	1.11	1.39	498.55	1.00
11/4/24 21:28	2.49	21.64	5.75	2005.85	2143.42	1.11	1.39	498.54	1.00
11/4/24 22:28	2.49	21.64	5.75	2005.65	2143.20	1.11	1.39	498.59	1.00
11/4/24 23:28	2.49	21.64	5.75	2005.90	2143.45	1.11	1.39	498.53	1.00
11/5/24 0:28	2.49	21.64	5.75	2005.82	2143.37	1.11	1.39	498.55	1.00
11/5/24 1:28	2.49	21.64	5.75	2005.96	2143.51	1.11	1.39	498.51	1.00
11/5/24 2:28	2.49	21.64	5.75	2006.23	2143.79	1.11	1.39	498.45	1.00
11/5/24 3:28	2.49	21.64	5.75	2006.35	2143.88	1.11	1.39	498.42	1.00
11/5/24 4:28	2.49	21.64	5.75	2006.19	2143.69	1.11	1.39	498.46	1.00
11/5/24 5:28	2.49	21.64	5.75	2006.39	2143.91	1.11	1.39	498.41	1.00
11/5/24 6:28	2.49	21.64	5.75	2006.37	2143.85	1.11	1.39	498.41	1.00
11/5/24 7:28	2.49	21.64	5.75	2006.34	2143.83	1.11	1.39	498.42	1.00
11/5/24 8:28	2.49	21.64	5.75	2006.65	2144.14	1.11	1.39	498.34	1.00
11/5/24 9:28	2.49	21.64	5.75	2006.46	2143.93	1.11	1.39	498.39	1.00
11/5/24 10:28	2.49	21.64	5.76	2006.48	2143.95	1.11	1.39	498.39	1.00
11/5/24 11:28	2.49	21.64	5.75	2006.66	2144.11	1.11	1.39	498.34	1.00
11/5/24 12:28	2.49	21.64	5.76	2006.75	2144.20	1.11	1.39	498.32	1.00
11/5/24 13:28	2.50	21.64	5.77	2006.73	2144.15	1.11	1.39	498.32	1.00
11/5/24 14:28	2.50	21.64	5.77	2007.01	2144.44	1.11	1.39	498.25	1.00
11/5/24 15:28	2.50	21.64	5.77	2006.99	2144.42	1.11	1.39	498.26	1.00
11/5/24 16:28	2.50	21.65	5.77	2007.05	2144.46	1.11	1.39	498.24	1.00
11/5/24 17:28	2.50	21.65	5.77	2006.94	2144.35	1.11	1.39	498.27	1.00
11/5/24 18:28	2.50	21.65	5.77	2006.89	2144.29	1.11	1.39	498.28	1.00
11/5/24 19:28	2.49	21.65	5.76	2007.12	2144.52	1.11	1.39	498.23	1.00
11/5/24 20:28	2.49	21.65	5.76	2007.12	2144.48	1.11	1.39	498.23	1.00
11/5/24 21:28	2.49	21.65	5.76	2007.32	2144.70	1.11	1.39	498.18	1.00
11/5/24 22:28	2.49	21.65	5.76	2007.54	2144.94	1.11	1.39	498.12	1.00
11/5/24 23:28	2.49	21.65	5.76	2007.17	2144.51	1.11	1.39	498.21	1.00
11/6/24 0:28	2.49	21.65	5.76	2007.47	2144.81	1.11	1.39	498.14	1.00
11/6/24 1:28	2.49	21.65	5.76	2007.38	2144.71	1.11	1.39	498.16	1.00
11/6/24 2:28	2.49	21.65	5.76	2007.31	2144.64	1.11	1.39	498.18	1.00
11/6/24 3:28	2.49	21.65	5.76	2007.44	2144.75	1.11	1.39	498.15	1.00
11/6/24 4:28	2.49	21.65	5.76	2007.64	2144.96	1.11	1.39	498.10	1.00
11/6/24 5:28	2.49	21.65	5.76	2007.64	2144.95	1.11	1.39	498.10	1.00
11/6/24 6:28	2.49	21.65	5.75	2007.76	2145.06	1.11	1.39	498.07	1.00
11/6/24 7:28	2.49	21.65	5.75	2007.56	2144.81	1.11	1.39	498.12	1.00
11/6/24 8:28	2.49	21.65	5.75	2007.45	2144.71	1.11	1.39	498.15	1.00
11/6/24 9:28	2.49	21.65	5.75	2007.84	2145.10	1.11	1.39	498.05	1.00
11/6/24 10:28	2.49	21.65	5.75	2008.10	2145.37	1.11	1.39	497.98	1.00
11/6/24 11:28	2.49	21.65	5.76	2007.97	2145.21	1.11	1.39	498.02	1.00
11/6/24 12:28	2.49	21.65	5.76	2007.74	2144.97	1.11	1.39	498.07	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/6/24 13:28	2.49	21.65	5.76	2007.90	2145.12	1.11	1.39	498.03	1.00
11/6/24 14:28	2.49	21.65	5.75	2007.97	2145.19	1.11	1.39	498.01	1.00
11/6/24 15:28	2.49	21.65	5.76	2007.96	2145.16	1.11	1.39	498.02	1.00
11/6/24 16:28	2.49	21.65	5.76	2008.14	2145.35	1.11	1.39	497.97	1.00
11/6/24 17:28	2.49	21.65	5.75	2008.17	2145.38	1.11	1.39	497.96	1.00
11/6/24 18:28	2.49	21.65	5.75	2008.11	2145.27	1.11	1.39	497.98	1.00
11/6/24 19:28	2.49	21.65	5.74	2008.15	2145.30	1.11	1.39	497.97	1.00
11/6/24 20:28	2.48	21.65	5.74	2008.11	2145.25	1.11	1.39	497.98	1.00
11/6/24 21:28	2.48	21.65	5.73	2008.31	2145.47	1.11	1.39	497.93	1.00
11/6/24 22:28	2.48	21.65	5.73	2008.34	2145.49	1.11	1.39	497.92	1.00
11/6/24 23:28	2.48	21.65	5.73	2008.45	2145.58	1.11	1.39	497.90	1.00
11/7/24 0:28	2.48	21.65	5.72	2008.49	2145.62	1.11	1.39	497.89	1.00
11/7/24 1:28	2.48	21.65	5.72	2008.34	2145.45	1.11	1.39	497.92	1.00
11/7/24 2:28	2.48	21.66	5.73	2008.60	2145.68	1.11	1.39	497.86	1.00
11/7/24 3:28	2.48	21.66	5.72	2008.65	2145.74	1.11	1.39	497.85	1.00
11/7/24 4:28	2.48	21.66	5.73	2008.67	2145.74	1.11	1.39	497.84	1.00
11/7/24 5:28	2.48	21.66	5.72	2008.75	2145.82	1.11	1.39	497.82	1.00
11/7/24 6:28	2.48	21.66	5.72	2008.66	2145.71	1.11	1.39	497.84	1.00
11/7/24 7:28	2.48	21.66	5.72	2008.76	2145.80	1.11	1.39	497.82	1.00
11/7/24 8:28	2.48	21.66	5.72	2009.09	2146.16	1.11	1.40	497.74	1.00
11/7/24 9:28	2.48	21.66	5.72	2008.88	2145.90	1.11	1.39	497.79	1.00
11/7/24 10:28	2.47	21.66	5.72	2008.87	2145.91	1.11	1.39	497.79	1.00
11/7/24 11:28	2.48	21.66	5.72	2008.97	2146.00	1.11	1.39	497.77	1.00
11/7/24 12:28	2.48	21.66	5.72	2009.21	2146.23	1.11	1.40	497.71	1.00
11/7/24 13:28	2.48	21.66	5.73	2009.01	2146.00	1.11	1.39	497.76	1.00
11/7/24 14:28	2.48	21.66	5.73	2009.31	2146.33	1.11	1.40	497.68	1.00
11/7/24 15:28	2.48	21.66	5.72	2009.26	2146.23	1.11	1.40	497.70	1.00
11/7/24 16:28	2.48	21.66	5.73	2009.29	2146.26	1.11	1.40	497.69	1.00
11/7/24 17:28	2.48	21.66	5.72	2009.30	2146.27	1.11	1.40	497.69	1.00
11/7/24 18:28	2.47	21.66	5.72	2009.27	2146.21	1.11	1.40	497.69	1.00
11/7/24 19:28	2.48	21.66	5.72	2009.60	2146.56	1.11	1.40	497.61	1.00
11/7/24 20:28	2.48	21.66	5.72	2009.55	2146.48	1.11	1.40	497.62	1.00
11/7/24 21:28	2.47	21.66	5.71	2009.50	2146.42	1.11	1.40	497.64	1.00
11/7/24 22:28	2.48	21.66	5.72	2009.53	2146.42	1.11	1.40	497.63	1.00
11/7/24 23:28	2.48	21.66	5.72	2009.66	2146.57	1.11	1.40	497.60	1.00
11/8/24 0:28	2.48	21.66	5.72	2009.63	2146.53	1.11	1.40	497.60	1.00
11/8/24 1:28	2.48	21.66	5.72	2009.63	2146.49	1.11	1.40	497.61	1.00
11/8/24 2:28	2.48	21.66	5.72	2009.67	2146.55	1.11	1.40	497.59	1.00
11/8/24 3:28	2.48	21.66	5.73	2009.60	2146.46	1.11	1.40	497.61	1.00
11/8/24 4:28	2.48	21.66	5.72	2009.84	2146.69	1.11	1.40	497.55	1.00
11/8/24 5:28	2.48	21.66	5.72	2009.76	2146.62	1.11	1.40	497.57	1.00
11/8/24 6:28	2.48	21.66	5.72	2009.82	2146.66	1.11	1.40	497.56	1.00
11/8/24 7:28	2.47	21.66	5.71	2009.43	2146.24	1.11	1.40	497.65	1.00
11/8/24 8:28	2.47	21.66	5.71	2009.61	2146.42	1.11	1.40	497.61	1.00
11/8/24 9:28	2.40	21.66	5.54	2005.91	2142.40	1.11	1.39	498.53	1.00
11/8/24 10:28	2.47	21.67	5.71	2005.13	2141.29	1.11	1.39	498.72	1.00
11/8/24 11:28	2.47	21.67	5.71	2004.96	2141.21	1.11	1.39	498.76	1.00
11/8/24 12:28	2.47	21.67	5.72	2004.56	2140.83	1.11	1.39	498.86	1.00
11/8/24 13:28	2.48	21.67	5.72	2004.44	2140.72	1.11	1.39	498.89	1.00
11/8/24 14:28	2.47	21.67	5.72	2004.50	2140.80	1.11	1.39	498.88	1.00
11/8/24 15:28	2.47	21.67	5.71	2004.42	2140.71	1.11	1.39	498.90	1.00
11/8/24 16:28	2.47	21.67	5.71	2004.47	2140.76	1.11	1.39	498.89	1.00
11/8/24 17:28	2.47	21.67	5.71	2004.89	2141.22	1.11	1.39	498.78	1.00
11/8/24 18:28	2.47	21.67	5.71	2004.69	2141.00	1.11	1.39	498.83	1.00
11/8/24 19:28	2.47	21.67	5.71	2004.55	2140.85	1.11	1.39	498.86	1.00
11/8/24 20:28	2.47	21.67	5.71	2005.07	2141.39	1.11	1.39	498.74	1.00
11/8/24 21:28	2.47	21.67	5.71	2004.75	2141.05	1.11	1.39	498.82	1.00
11/8/24 22:28	2.47	21.67	5.71	2005.06	2141.37	1.11	1.39	498.74	1.00
11/8/24 23:28	2.47	21.67	5.72	2004.89	2141.16	1.11	1.39	498.78	1.00
11/9/24 0:28	2.47	21.67	5.71	2005.22	2141.52	1.11	1.39	498.70	1.00
11/9/24 1:28	2.47	21.67	5.72	2005.24	2141.51	1.11	1.39	498.69	1.00
11/9/24 2:28	2.47	21.67	5.72	2005.36	2141.62	1.11	1.39	498.66	1.00
11/9/24 3:28	2.47	21.67	5.71	2005.64	2141.94	1.11	1.39	498.59	1.00
11/9/24 4:28	2.47	21.67	5.71	2005.62	2141.87	1.11	1.39	498.60	1.00
11/9/24 5:28	2.47	21.67	5.71	2005.88	2142.16	1.11	1.39	498.53	1.00
11/9/24 6:28	2.47	21.67	5.71	2005.97	2142.23	1.11	1.39	498.51	1.00
11/9/24 7:28	2.47	21.67	5.71	2005.93	2142.16	1.11	1.39	498.52	1.00
11/9/24 8:28	2.47	21.67	5.70	2005.86	2142.11	1.11	1.39	498.54	1.00
11/9/24 9:28	2.47	21.67	5.71	2006.27	2142.52	1.11	1.39	498.44	1.00
11/9/24 10:28	2.47	21.67	5.71	2006.45	2142.70	1.11	1.39	498.39	1.00
11/9/24 11:28	2.47	21.67	5.71	2006.53	2142.79	1.11	1.39	498.37	1.00
11/9/24 12:28	2.47	21.67	5.71	2006.37	2142.60	1.11	1.39	498.41	1.00
11/9/24 13:28	2.48	21.67	5.72	2006.52	2142.74	1.11	1.39	498.38	1.00
11/9/24 14:28	2.48	21.67	5.72	2006.88	2143.12	1.11	1.39	498.29	1.00
11/9/24 15:28	2.48	21.67	5.72	2007.00	2143.21	1.11	1.39	498.26	1.00
11/9/24 16:28	2.47	21.67	5.71	2007.01	2143.22	1.11	1.39	498.25	1.00
11/9/24 17:28	2.47	21.67	5.72	2007.31	2143.52	1.11	1.39	498.18	1.00
11/9/24 18:28	2.47	21.67	5.71	2007.54	2143.75	1.11	1.39	498.12	1.00
11/9/24 19:28	2.47	21.67	5.71	2007.47	2143.67	1.11	1.39	498.14	1.00
11/9/24 20:28	2.47	21.67	5.71	2007.60	2143.80	1.11	1.39	498.11	1.00
11/9/24 21:28	2.47	21.67	5.71	2007.55	2143.74	1.11	1.39	498.12	1.00
11/9/24 22:28	2.47	21.67	5.70	2007.43	2143.62	1.11	1.39	498.15	1.00
11/9/24 23:28	2.47	21.67	5.71	2007.89	2144.06	1.11	1.39	498.04	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/10/24 0:28	2.47	21.67	5.71	2007.81	2143.97	1.11	1.39	498.06	1.00
11/10/24 1:28	2.47	21.68	5.70	2007.66	2143.81	1.11	1.39	498.09	1.00
11/10/24 2:28	2.47	21.68	5.70	2008.01	2144.17	1.11	1.39	498.01	1.00
11/10/24 3:28	2.47	21.68	5.71	2008.03	2144.18	1.11	1.39	498.00	1.00
11/10/24 4:28	2.47	21.68	5.70	2008.18	2144.34	1.11	1.39	497.96	1.00
11/10/24 5:28	2.47	21.68	5.70	2008.17	2144.31	1.11	1.39	497.96	1.00
11/10/24 6:28	2.46	21.68	5.69	2008.69	2144.85	1.11	1.39	497.84	1.00
11/10/24 7:28	2.46	21.68	5.69	2008.26	2144.38	1.11	1.39	497.94	1.00
11/10/24 8:28	2.46	21.68	5.69	2008.76	2144.91	1.11	1.39	497.82	1.00
11/10/24 9:28	2.46	21.68	5.69	2008.57	2144.67	1.11	1.39	497.87	1.00
11/10/24 10:28	2.46	21.68	5.69	2008.63	2144.73	1.11	1.39	497.85	1.00
11/10/24 11:28	2.46	21.68	5.69	2008.62	2144.73	1.11	1.39	497.85	1.00
11/10/24 12:28	2.46	21.68	5.69	2008.77	2144.86	1.11	1.39	497.82	1.00
11/10/24 13:28	2.47	21.68	5.70	2009.01	2145.12	1.11	1.39	497.76	1.00
11/10/24 14:28	2.47	21.68	5.70	2009.08	2145.17	1.11	1.39	497.74	1.00
11/10/24 15:28	2.47	21.68	5.70	2008.85	2144.91	1.11	1.39	497.80	1.00
11/10/24 16:28	2.47	21.68	5.70	2009.08	2145.14	1.11	1.39	497.74	1.00
11/10/24 17:28	2.47	21.68	5.70	2009.10	2145.14	1.11	1.39	497.74	1.00
11/10/24 18:28	2.47	21.68	5.70	2009.32	2145.39	1.11	1.39	497.68	1.00
11/10/24 19:28	2.47	21.68	5.70	2009.16	2145.18	1.11	1.39	497.72	1.00
11/10/24 20:28	2.47	21.68	5.70	2009.42	2145.46	1.11	1.39	497.66	1.00
11/10/24 21:28	2.47	21.68	5.69	2009.38	2145.37	1.11	1.39	497.67	1.00
11/10/24 22:28	2.46	21.68	5.69	2009.27	2145.28	1.11	1.39	497.69	1.00
11/10/24 23:28	2.46	21.68	5.69	2009.64	2145.64	1.11	1.39	497.60	1.00
11/11/24 0:28	2.46	21.68	5.69	2009.63	2145.62	1.11	1.39	497.60	1.00
11/11/24 1:28	2.46	21.68	5.69	2009.81	2145.81	1.11	1.39	497.56	1.00
11/11/24 2:28	2.46	21.68	5.69	2009.75	2145.72	1.11	1.39	497.58	1.00
11/11/24 3:28	2.46	21.68	5.69	2009.90	2145.87	1.11	1.39	497.54	1.00
11/11/24 4:28	2.46	21.68	5.69	2010.10	2146.09	1.11	1.39	497.49	1.00
11/11/24 5:28	2.46	21.68	5.69	2009.93	2145.89	1.11	1.39	497.53	1.00
11/11/24 6:28	2.46	21.68	5.69	2010.04	2145.98	1.11	1.39	497.50	1.00
11/11/24 7:28	2.46	21.68	5.69	2010.21	2146.16	1.11	1.40	497.46	1.00
11/11/24 8:28	2.46	21.68	5.68	2010.31	2146.25	1.11	1.40	497.44	1.00
11/11/24 9:28	2.46	21.68	5.68	2010.29	2146.21	1.11	1.40	497.44	1.00
11/11/24 10:28	2.46	21.68	5.68	2010.31	2146.22	1.11	1.40	497.44	1.00
11/11/24 11:28	2.46	21.69	5.69	2010.54	2146.44	1.11	1.40	497.38	1.00
11/11/24 12:28	2.47	21.68	5.70	2010.57	2146.48	1.11	1.40	497.37	1.00
11/11/24 13:28	2.47	21.69	5.70	2010.50	2146.39	1.11	1.40	497.39	1.00
11/11/24 14:28	2.47	21.69	5.71	2010.53	2146.42	1.11	1.40	497.38	1.00
11/11/24 15:28	2.47	21.69	5.71	2010.54	2146.42	1.11	1.40	497.38	1.00
11/11/24 16:28	2.47	21.69	5.71	2010.71	2146.58	1.11	1.40	497.34	1.00
11/11/24 17:28	2.47	21.69	5.71	2010.75	2146.62	1.11	1.40	497.33	1.00
11/11/24 18:28	2.47	21.69	5.70	2010.67	2146.52	1.11	1.40	497.35	1.00
11/11/24 19:28	2.47	21.69	5.70	2010.73	2146.58	1.11	1.40	497.33	1.00
11/11/24 20:28	2.47	21.69	5.70	2011.00	2146.84	1.11	1.40	497.27	1.00
11/11/24 21:28	2.47	21.69	5.69	2011.07	2146.90	1.11	1.40	497.25	1.00
11/11/24 22:28	2.47	21.69	5.69	2010.74	2146.53	1.11	1.40	497.33	1.00
11/11/24 23:28	2.47	21.69	5.70	2010.94	2146.74	1.11	1.40	497.28	1.00
11/12/24 0:28	2.47	21.69	5.70	2011.00	2146.80	1.11	1.40	497.26	1.00
11/12/24 1:28	2.47	21.69	5.70	2011.18	2146.96	1.11	1.40	497.22	1.00
11/12/24 2:28	2.47	21.69	5.70	2011.25	2147.05	1.11	1.40	497.20	1.00
11/12/24 3:28	2.47	21.69	5.70	2011.25	2147.02	1.11	1.40	497.20	1.00
11/12/24 4:28	2.47	21.69	5.71	2011.08	2146.83	1.11	1.40	497.25	1.00
11/12/24 5:28	2.47	21.69	5.70	2011.06	2146.80	1.11	1.40	497.25	1.00
11/12/24 6:28	2.47	21.69	5.70	2011.66	2147.42	1.11	1.40	497.10	1.00
11/12/24 7:28	2.47	21.69	5.70	2011.23	2146.96	1.11	1.40	497.21	1.00
11/12/24 8:28	2.47	21.69	5.70	2011.65	2147.40	1.11	1.40	497.10	1.00
11/12/24 9:28	2.47	21.69	5.70	2011.47	2147.18	1.11	1.40	497.15	1.00
11/12/24 10:28	2.47	21.69	5.70	2011.63	2147.34	1.11	1.40	497.11	1.00
11/12/24 11:28	2.47	21.69	5.70	2011.61	2147.31	1.11	1.40	497.11	1.00
11/12/24 12:28	2.47	21.69	5.71	2011.60	2147.28	1.11	1.40	497.12	1.00
11/12/24 13:28	2.47	21.69	5.72	2011.95	2147.64	1.11	1.40	497.03	1.00
11/12/24 14:28	2.47	21.69	5.71	2011.84	2147.50	1.11	1.40	497.06	1.00
11/12/24 15:28	2.47	21.69	5.71	2011.98	2147.64	1.11	1.40	497.02	1.00
11/12/24 16:28	2.47	21.69	5.70	2012.04	2147.71	1.11	1.40	497.01	1.00
11/12/24 17:28	2.46	21.69	5.69	2012.00	2147.65	1.11	1.40	497.02	1.00
11/12/24 18:28	2.46	21.69	5.67	2011.98	2147.61	1.11	1.40	497.02	1.00
11/12/24 19:28	2.45	21.69	5.66	2012.22	2147.86	1.11	1.40	496.96	1.00
11/12/24 20:28	2.45	21.69	5.65	2011.94	2147.55	1.11	1.40	497.03	1.00
11/12/24 21:28	2.44	21.69	5.64	2012.11	2147.70	1.11	1.40	496.99	1.00
11/12/24 22:28	2.44	21.69	5.63	2012.07	2147.68	1.11	1.40	497.00	1.00
11/12/24 23:28	2.43	21.70	5.62	2011.95	2147.50	1.11	1.40	497.03	1.00
11/13/24 0:28	2.43	21.70	5.62	2012.40	2147.99	1.11	1.40	496.92	1.00
11/13/24 1:28	2.43	21.70	5.61	2012.43	2148.01	1.11	1.40	496.91	1.00
11/13/24 2:28	2.43	21.70	5.60	2012.20	2147.74	1.11	1.40	496.97	1.00
11/13/24 3:28	2.43	21.70	5.60	2012.22	2147.76	1.11	1.40	496.96	1.00
11/13/24 4:28	2.42	21.70	5.60	2012.48	2148.01	1.11	1.40	496.90	1.00
11/13/24 5:28	2.42	21.70	5.59	2012.42	2147.92	1.11	1.40	496.91	1.00
11/13/24 6:28	2.42	21.70	5.59	2012.60	2148.12	1.11	1.40	496.87	1.00
11/13/24 7:28	2.41	21.70	5.58	2012.66	2148.16	1.11	1.40	496.86	1.00
11/13/24 8:28	2.41	21.70	5.57	2012.79	2148.29	1.11	1.40	496.82	1.00
11/13/24 9:28	2.41	21.70	5.57	2012.68	2148.17	1.11	1.40	496.85	1.00
11/13/24 10:28	2.41	21.70	5.57	2012.82	2148.30	1.11	1.40	496.81	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/13/24 11:28	2.41	21.70	5.57	2012.88	2148.33	1.11	1.40	496.80	1.00
11/13/24 12:28	2.41	21.70	5.57	2012.94	2148.42	1.11	1.40	496.79	1.00
11/13/24 13:28	2.41	21.70	5.58	2012.84	2148.27	1.11	1.40	496.81	1.00
11/13/24 14:28	2.41	21.70	5.57	2012.79	2148.22	1.11	1.40	496.82	1.00
11/13/24 15:28	2.41	21.70	5.57	2013.14	2148.58	1.11	1.40	496.74	1.00
11/13/24 16:28	2.41	21.70	5.57	2013.12	2148.55	1.11	1.40	496.74	1.00
11/13/24 17:28	2.41	21.70	5.57	2013.10	2148.50	1.11	1.40	496.75	1.00
11/13/24 18:28	2.41	21.70	5.57	2013.10	2148.49	1.11	1.40	496.75	1.00
11/13/24 19:28	2.41	21.70	5.57	2013.03	2148.42	1.11	1.40	496.76	1.00
11/13/24 20:28	2.41	21.70	5.56	2013.14	2148.52	1.11	1.40	496.74	1.00
11/13/24 21:28	2.41	21.70	5.56	2013.51	2148.91	1.11	1.40	496.65	1.00
11/13/24 22:28	2.41	21.70	5.56	2013.30	2148.68	1.11	1.40	496.70	1.00
11/13/24 23:28	2.41	21.70	5.56	2013.44	2148.79	1.11	1.40	496.66	1.00
11/14/24 0:28	2.41	21.70	5.56	2013.38	2148.74	1.11	1.40	496.68	1.00
11/14/24 1:28	2.41	21.70	5.57	2013.35	2148.68	1.11	1.40	496.68	1.00
11/14/24 2:28	2.41	21.70	5.57	2013.51	2148.83	1.11	1.40	496.65	1.00
11/14/24 3:28	2.41	21.70	5.56	2013.53	2148.87	1.11	1.40	496.64	1.00
11/14/24 4:28	2.41	21.70	5.57	2013.47	2148.78	1.11	1.40	496.66	1.00
11/14/24 5:28	2.41	21.70	5.56	2013.46	2148.76	1.11	1.40	496.66	1.00
11/14/24 6:28	2.41	21.70	5.56	2013.77	2149.07	1.11	1.40	496.58	1.00
11/14/24 7:28	2.41	21.70	5.56	2013.44	2148.70	1.11	1.40	496.66	1.00
11/14/24 8:28	2.41	21.70	5.56	2013.56	2148.84	1.11	1.40	496.63	1.00
11/14/24 9:28	2.41	21.70	5.56	2013.78	2149.07	1.11	1.40	496.58	1.00
11/14/24 10:28	2.41	21.70	5.56	2013.87	2149.13	1.11	1.40	496.56	1.00
11/14/24 11:28	2.41	21.71	5.56	2013.88	2149.08	1.11	1.40	496.55	1.00
11/14/24 12:28	2.41	21.71	5.57	2013.68	2148.86	1.11	1.40	496.60	1.00
11/14/24 13:28	2.41	21.71	5.58	2013.77	2148.96	1.11	1.40	496.58	1.00
11/14/24 14:28	2.41	21.71	5.58	2013.36	2148.52	1.11	1.40	496.68	1.00
11/14/24 15:28	2.41	21.71	5.56	2005.99	2140.30	1.11	1.39	498.51	1.00
11/14/24 16:28	2.41	21.71	5.56	2005.52	2139.92	1.11	1.39	498.62	1.00
11/14/24 17:28	2.41	21.71	5.56	2005.54	2139.99	1.11	1.39	498.62	1.00
11/14/24 18:28	2.40	21.71	5.55	2005.02	2139.49	1.11	1.39	498.75	1.00
11/14/24 19:28	2.40	21.71	5.55	2005.04	2139.55	1.11	1.39	498.74	1.00
11/14/24 20:28	2.40	21.71	5.55	2004.84	2139.34	1.11	1.39	498.79	1.00
11/14/24 21:28	2.40	21.71	5.55	2004.93	2139.44	1.11	1.39	498.77	1.00
11/14/24 22:28	2.40	21.71	5.55	2005.09	2139.61	1.11	1.39	498.73	1.00
11/14/24 23:28	2.40	21.71	5.55	2005.13	2139.64	1.11	1.39	498.72	1.00
11/15/24 0:28	2.40	21.71	5.55	2005.16	2139.68	1.11	1.39	498.71	1.00
11/15/24 1:28	2.40	21.71	5.55	2005.20	2139.70	1.11	1.39	498.70	1.00
11/15/24 2:28	2.40	21.71	5.55	2005.42	2139.92	1.11	1.39	498.65	1.00
11/15/24 3:28	2.40	21.71	5.55	2005.62	2140.13	1.11	1.39	498.60	1.00
11/15/24 4:28	2.40	21.71	5.55	2005.58	2140.07	1.11	1.39	498.61	1.00
11/15/24 5:28	2.40	21.71	5.55	2005.35	2139.82	1.11	1.39	498.67	1.00
11/15/24 6:28	2.40	21.71	5.55	2005.46	2139.92	1.11	1.39	498.64	1.00
11/15/24 7:28	2.40	21.71	5.55	2005.55	2140.01	1.11	1.39	498.62	1.00
11/15/24 8:28	2.40	21.71	5.55	2005.98	2140.47	1.11	1.39	498.51	1.00
11/15/24 9:28	2.40	21.71	5.55	2006.04	2140.49	1.11	1.39	498.50	1.00
11/15/24 10:28	2.40	21.71	5.55	2006.00	2140.46	1.11	1.39	498.50	1.00
11/15/24 11:28	2.41	21.71	5.56	2006.35	2140.81	1.11	1.39	498.42	1.00
11/15/24 12:28	2.41	21.71	5.57	2006.17	2140.65	1.11	1.39	498.46	1.00
11/15/24 13:28	2.41	21.71	5.58	2006.51	2140.97	1.11	1.39	498.38	1.00
11/15/24 14:28	2.42	21.71	5.59	2006.58	2141.05	1.11	1.39	498.36	1.00
11/15/24 15:28	2.42	21.71	5.59	2006.63	2141.07	1.11	1.39	498.35	1.00
11/15/24 16:28	2.42	21.71	5.60	2006.71	2141.15	1.11	1.39	498.33	1.00
11/15/24 17:28	2.43	21.71	5.60	2006.79	2141.22	1.11	1.39	498.31	1.00
11/15/24 18:28	2.43	21.71	5.60	2006.94	2141.38	1.11	1.39	498.27	1.00
11/15/24 19:28	2.43	21.71	5.61	2007.01	2141.43	1.11	1.39	498.25	1.00
11/15/24 20:28	2.43	21.71	5.62	2006.88	2141.27	1.11	1.39	498.29	1.00
11/15/24 21:28	2.43	21.71	5.62	2007.00	2141.40	1.11	1.39	498.26	1.00
11/15/24 22:28	2.43	21.71	5.62	2007.40	2141.79	1.11	1.39	498.16	1.00
11/15/24 23:28	2.44	21.71	5.63	2007.41	2141.81	1.11	1.39	498.15	1.00
11/16/24 0:28	2.44	21.71	5.63	2007.52	2141.92	1.11	1.39	498.13	1.00
11/16/24 1:28	2.44	21.71	5.64	2007.35	2141.74	1.11	1.39	498.17	1.00
11/16/24 2:28	2.44	21.72	5.64	2007.79	2142.20	1.11	1.39	498.06	1.00
11/16/24 3:28	2.44	21.72	5.64	2007.68	2142.05	1.11	1.39	498.09	1.00
11/16/24 4:28	2.44	21.72	5.64	2008.03	2142.43	1.11	1.39	498.00	1.00
11/16/24 5:28	2.45	21.72	5.65	2008.13	2142.50	1.11	1.39	497.98	1.00
11/16/24 6:28	2.45	21.72	5.65	2008.36	2142.76	1.11	1.39	497.92	1.00
11/16/24 7:28	2.45	21.72	5.65	2008.12	2142.48	1.11	1.39	497.98	1.00
11/16/24 8:28	2.45	21.72	5.65	2008.25	2142.60	1.11	1.39	497.95	1.00
11/16/24 9:28	2.45	21.72	5.65	2008.37	2142.74	1.11	1.39	497.92	1.00
11/16/24 10:28	2.45	21.72	5.65	2008.29	2142.62	1.11	1.39	497.94	1.00
11/16/24 11:28	2.45	21.72	5.65	2008.54	2142.88	1.11	1.39	497.87	1.00
11/16/24 12:28	2.45	21.72	5.66	2008.86	2143.19	1.11	1.39	497.80	1.00
11/16/24 13:28	2.45	21.72	5.67	2008.74	2143.07	1.11	1.39	497.83	1.00
11/16/24 14:28	2.45	21.72	5.67	2008.84	2143.16	1.11	1.39	497.80	1.00
11/16/24 15:28	2.45	21.72	5.67	2008.87	2143.18	1.11	1.39	497.79	1.00
11/16/24 16:28	2.46	21.72	5.67	2008.86	2143.19	1.11	1.39	497.80	1.00
11/16/24 17:28	2.46	21.72	5.67	2009.10	2143.41	1.11	1.39	497.74	1.00
11/16/24 18:28	2.45	21.72	5.66	2009.05	2143.35	1.11	1.39	497.75	1.00
11/16/24 19:28	2.45	21.72	5.66	2009.10	2143.37	1.11	1.39	497.74	1.00
11/16/24 20:28	2.45	21.72	5.66	2009.22	2143.47	1.11	1.39	497.71	1.00
11/16/24 21:28	2.45	21.72	5.66	2009.20	2143.46	1.11	1.39	497.71	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/16/24 22:28	2.45	21.72	5.65	2009.43	2143.70	1.11	1.39	497.65	1.00
11/16/24 23:28	2.45	21.72	5.65	2009.59	2143.83	1.11	1.39	497.61	1.00
11/17/24 0:28	2.45	21.72	5.65	2009.54	2143.79	1.11	1.39	497.63	1.00
11/17/24 1:28	2.45	21.72	5.66	2009.80	2144.04	1.11	1.39	497.56	1.00
11/17/24 2:28	2.45	21.72	5.66	2009.76	2144.00	1.11	1.39	497.57	1.00
11/17/24 3:28	2.45	21.72	5.65	2009.70	2143.92	1.11	1.39	497.59	1.00
11/17/24 4:28	2.45	21.72	5.65	2009.72	2143.93	1.11	1.39	497.58	1.00
11/17/24 5:28	2.45	21.72	5.65	2009.95	2144.16	1.11	1.39	497.52	1.00
11/17/24 6:28	2.45	21.72	5.65	2010.02	2144.21	1.11	1.39	497.51	1.00
11/17/24 7:28	2.44	21.72	5.64	2010.14	2144.36	1.11	1.39	497.48	1.00
11/17/24 8:28	2.44	21.72	5.64	2010.24	2144.43	1.11	1.39	497.45	1.00
11/17/24 9:28	2.44	21.72	5.65	2010.28	2144.46	1.11	1.39	497.44	1.00
11/17/24 10:28	2.45	21.72	5.65	2010.33	2144.49	1.11	1.39	497.43	1.00
11/17/24 11:28	2.45	21.72	5.65	2010.46	2144.63	1.11	1.39	497.40	1.00
11/17/24 12:28	2.45	21.73	5.66	2010.57	2144.73	1.11	1.39	497.37	1.00
11/17/24 13:28	2.45	21.73	5.67	2010.56	2144.69	1.11	1.39	497.37	1.00
11/17/24 14:28	2.46	21.73	5.67	2010.58	2144.72	1.11	1.39	497.37	1.00
11/17/24 15:28	2.46	21.73	5.68	2010.71	2144.86	1.11	1.39	497.34	1.00
11/17/24 16:28	2.46	21.73	5.68	2010.78	2144.90	1.11	1.39	497.32	1.00
11/17/24 17:28	2.46	21.73	5.68	2010.83	2144.93	1.11	1.39	497.31	1.00
11/17/24 18:28	2.45	21.73	5.66	2010.67	2144.76	1.11	1.39	497.35	1.00
11/17/24 19:28	2.45	21.73	5.66	2010.71	2144.82	1.11	1.39	497.34	1.00
11/17/24 20:28	2.46	21.73	5.67	2010.97	2145.05	1.11	1.39	497.27	1.00
11/17/24 21:28	2.46	21.73	5.68	2010.89	2144.98	1.11	1.39	497.29	1.00
11/17/24 22:28	2.46	21.73	5.68	2010.98	2145.06	1.11	1.39	497.27	1.00
11/17/24 23:28	2.46	21.73	5.69	2011.08	2145.15	1.11	1.39	497.25	1.00
11/18/24 0:28	2.46	21.73	5.69	2011.02	2145.09	1.11	1.39	497.26	1.00
11/18/24 1:28	2.46	21.73	5.68	2011.31	2145.37	1.11	1.39	497.19	1.00
11/18/24 2:28	2.46	21.73	5.68	2011.26	2145.30	1.11	1.39	497.20	1.00
11/18/24 3:28	2.46	21.73	5.68	2011.17	2145.19	1.11	1.39	497.22	1.00
11/18/24 4:28	2.46	21.73	5.68	2011.29	2145.30	1.11	1.39	497.19	1.00
11/18/24 5:28	2.46	21.73	5.67	2011.25	2145.26	1.11	1.39	497.20	1.00
11/18/24 6:28	2.45	21.73	5.67	2011.27	2145.27	1.11	1.39	497.20	1.00
11/18/24 7:28	2.45	21.73	5.67	2011.82	2145.85	1.11	1.39	497.06	1.00
11/18/24 8:28	2.45	21.73	5.67	2011.70	2145.70	1.11	1.39	497.09	1.00
11/18/24 9:28	2.45	21.73	5.66	2011.55	2145.52	1.11	1.39	497.13	1.00
11/18/24 10:28	2.45	21.73	5.66	2011.92	2145.92	1.11	1.39	497.04	1.00
11/18/24 11:28	2.45	21.73	5.66	2011.99	2145.97	1.11	1.39	497.02	1.00
11/18/24 12:28	2.46	21.73	5.67	2011.87	2145.84	1.11	1.39	497.05	1.00
11/18/24 13:28	2.46	21.73	5.68	2011.96	2145.92	1.11	1.39	497.03	1.00
11/18/24 14:28	2.46	21.73	5.68	2011.95	2145.91	1.11	1.39	497.03	1.00
11/18/24 15:28	2.46	21.73	5.68	2011.80	2145.73	1.11	1.39	497.07	1.00
11/18/24 16:28	2.46	21.73	5.67	2012.31	2146.26	1.11	1.40	496.94	1.00
11/18/24 17:28	2.46	21.73	5.67	2012.17	2146.10	1.11	1.39	496.97	1.00
11/18/24 18:28	2.45	21.73	5.67	2012.22	2146.13	1.11	1.39	496.96	1.00
11/18/24 19:28	2.45	21.73	5.66	2012.33	2146.24	1.11	1.40	496.94	1.00
11/18/24 20:28	2.45	21.73	5.66	2012.25	2146.14	1.11	1.39	496.96	1.00
11/18/24 21:28	2.45	21.73	5.66	2012.38	2146.26	1.11	1.40	496.92	1.00
11/18/24 22:28	2.45	21.73	5.66	2012.15	2146.01	1.11	1.39	496.98	1.00
11/18/24 23:28	2.45	21.73	5.66	2012.35	2146.21	1.11	1.40	496.93	1.00
11/19/24 0:28	2.45	21.73	5.65	2012.51	2146.36	1.11	1.40	496.89	1.00
11/19/24 1:28	2.45	21.73	5.66	2012.63	2146.49	1.11	1.40	496.86	1.00
11/19/24 2:28	2.45	21.74	5.66	2012.58	2146.42	1.11	1.40	496.87	1.00
11/19/24 3:28	2.45	21.74	5.66	2012.68	2146.51	1.11	1.40	496.85	1.00
11/19/24 4:28	2.45	21.74	5.66	2012.74	2146.54	1.11	1.40	496.84	1.00
11/19/24 5:28	2.45	21.74	5.65	2012.83	2146.64	1.11	1.40	496.81	1.00
11/19/24 6:28	2.45	21.74	5.65	2012.71	2146.50	1.11	1.40	496.84	1.00
11/19/24 7:28	2.44	21.74	5.64	2012.74	2146.53	1.11	1.40	496.83	1.00
11/19/24 8:28	2.44	21.74	5.63	2013.15	2146.98	1.11	1.40	496.73	1.00
11/19/24 9:28	2.44	21.74	5.63	2013.21	2146.99	1.11	1.40	496.72	1.00
11/19/24 10:28	2.44	21.74	5.63	2013.08	2146.86	1.11	1.40	496.75	1.00
11/19/24 11:28	2.44	21.74	5.63	2013.29	2147.08	1.11	1.40	496.70	1.00
11/19/24 12:28	2.44	21.74	5.64	2013.26	2147.01	1.11	1.40	496.71	1.00
11/19/24 13:28	2.44	21.74	5.65	2013.12	2146.85	1.11	1.40	496.74	1.00
11/19/24 14:28	2.44	21.74	5.64	2013.54	2147.29	1.11	1.40	496.64	1.00
11/19/24 15:28	2.44	21.74	5.65	2013.54	2147.28	1.11	1.40	496.64	1.00
11/19/24 16:28	2.44	21.74	5.64	2013.46	2147.18	1.11	1.40	496.66	1.00
11/19/24 17:28	2.44	21.74	5.63	2013.53	2147.23	1.11	1.40	496.64	1.00
11/19/24 18:28	2.44	21.74	5.63	2013.71	2147.43	1.11	1.40	496.60	1.00
11/19/24 19:28	2.43	21.74	5.62	2013.52	2147.20	1.11	1.40	496.64	1.00
11/19/24 20:28	2.43	21.74	5.61	2013.62	2147.32	1.11	1.40	496.62	1.00
11/19/24 21:28	2.43	21.74	5.61	2013.59	2147.29	1.11	1.40	496.62	1.00
11/19/24 22:28	2.43	21.74	5.60	2013.80	2147.44	1.11	1.40	496.57	1.00
11/19/24 23:28	2.42	21.74	5.60	2014.02	2147.70	1.11	1.40	496.52	1.00
11/20/24 0:28	2.42	21.74	5.60	2013.80	2147.45	1.11	1.40	496.57	1.00
11/20/24 1:28	2.42	21.74	5.60	2013.94	2147.59	1.11	1.40	496.54	1.00
11/20/24 2:28	2.42	21.74	5.59	2013.98	2147.62	1.11	1.40	496.53	1.00
11/20/24 3:28	2.42	21.74	5.59	2014.05	2147.68	1.11	1.40	496.51	1.00
11/20/24 4:28	2.42	21.74	5.59	2014.22	2147.85	1.11	1.40	496.47	1.00
11/20/24 5:28	2.42	21.74	5.58	2014.40	2148.02	1.11	1.40	496.43	1.00
11/20/24 6:28	2.42	21.74	5.58	2014.47	2148.09	1.11	1.40	496.41	1.00
11/20/24 7:28	2.41	21.74	5.58	2014.23	2147.81	1.11	1.40	496.47	1.00
11/20/24 8:28	2.41	21.74	5.58	2014.56	2148.16	1.11	1.40	496.39	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/20/24 9:28	2.41	21.74	5.58	2014.61	2148.20	1.11	1.40	496.37	1.00
11/20/24 10:28	2.42	21.74	5.58	2014.48	2148.06	1.11	1.40	496.41	1.00
11/20/24 11:28	2.42	21.74	5.58	2014.58	2148.13	1.11	1.40	496.38	1.00
11/20/24 12:28	2.42	21.75	5.60	2014.88	2148.44	1.11	1.40	496.31	1.00
11/20/24 13:28	2.43	21.74	5.60	2015.02	2148.60	1.11	1.40	496.27	1.00
11/20/24 14:28	2.43	21.75	5.62	2014.89	2148.44	1.11	1.40	496.31	1.00
11/20/24 15:28	2.44	21.75	5.63	2014.76	2148.29	1.11	1.40	496.34	1.00
11/20/24 16:28	2.44	21.75	5.63	2015.03	2148.57	1.11	1.40	496.27	1.00
11/20/24 17:28	2.44	21.75	5.64	2015.02	2148.54	1.11	1.40	496.27	1.00
11/20/24 18:28	2.44	21.75	5.64	2015.03	2148.54	1.11	1.40	496.27	1.00
11/20/24 19:28	2.44	21.75	5.63	2015.08	2148.57	1.11	1.40	496.26	1.00
11/20/24 20:28	2.44	21.75	5.63	2014.99	2148.47	1.11	1.40	496.28	1.00
11/20/24 21:28	2.44	21.75	5.63	2015.18	2148.66	1.11	1.40	496.23	1.00
11/20/24 22:28	2.44	21.75	5.64	2015.22	2148.69	1.11	1.40	496.22	1.00
11/20/24 23:28	2.44	21.75	5.63	2015.24	2148.72	1.11	1.40	496.22	1.00
11/21/24 0:28	2.44	21.75	5.64	2015.54	2149.01	1.11	1.40	496.15	1.00
11/21/24 1:28	2.44	21.75	5.64	2015.30	2148.75	1.11	1.40	496.21	1.00
11/21/24 2:28	2.44	21.75	5.64	2015.33	2148.77	1.11	1.40	496.20	1.00
11/21/24 3:28	2.44	21.75	5.64	2015.42	2148.85	1.11	1.40	496.17	1.00
11/21/24 4:28	2.44	21.75	5.64	2015.61	2149.05	1.11	1.40	496.13	1.00
11/21/24 5:28	2.44	21.75	5.63	2015.84	2149.28	1.11	1.40	496.07	1.00
11/21/24 6:28	2.44	21.75	5.63	2015.69	2149.10	1.11	1.40	496.11	1.00
11/21/24 7:28	2.44	21.75	5.63	2015.68	2149.09	1.11	1.40	496.11	1.00
11/21/24 8:28	2.44	21.75	5.62	2015.90	2149.30	1.11	1.40	496.06	1.00
11/21/24 9:28	2.43	21.75	5.62	2015.92	2149.31	1.11	1.40	496.05	1.00
11/21/24 10:28	2.44	21.75	5.63	2015.98	2149.36	1.11	1.40	496.04	1.00
11/21/24 11:28	2.44	21.75	5.63	2016.05	2149.41	1.11	1.40	496.02	1.00
11/21/24 12:28	2.44	21.75	5.64	2016.00	2149.35	1.11	1.40	496.03	1.00
11/21/24 13:28	2.44	21.75	5.64	2015.91	2149.24	1.11	1.40	496.05	1.00
11/21/24 14:28	2.44	21.75	5.63	2016.39	2149.77	1.11	1.40	495.94	1.00
11/21/24 15:28	2.44	21.75	5.63	2016.15	2149.46	1.11	1.40	496.00	1.00
11/21/24 16:28	2.42	21.75	5.59	2016.23	2149.54	1.11	1.40	495.98	1.00
11/21/24 17:28	2.42	21.75	5.58	2016.37	2149.70	1.11	1.40	495.94	1.00
11/21/24 18:28	2.42	21.75	5.58	2016.38	2149.69	1.11	1.40	495.94	1.00
11/21/24 19:28	2.42	21.75	5.58	2016.45	2149.75	1.11	1.40	495.92	1.00
11/21/24 20:28	2.42	21.75	5.58	2016.36	2149.65	1.11	1.40	495.94	1.00
11/21/24 21:28	2.42	21.75	5.59	2016.31	2149.59	1.11	1.40	495.96	1.00
11/21/24 22:28	2.42	21.75	5.59	2016.62	2149.90	1.11	1.40	495.88	1.00
11/21/24 23:28	2.42	21.75	5.59	2016.46	2149.71	1.11	1.40	495.92	1.00
11/22/24 0:28	2.42	21.75	5.59	2016.62	2149.87	1.11	1.40	495.88	1.00
11/22/24 1:28	2.42	21.76	5.59	2016.47	2149.70	1.11	1.40	495.92	1.00
11/22/24 2:28	2.42	21.76	5.59	2016.61	2149.83	1.11	1.40	495.88	1.00
11/22/24 3:28	2.42	21.76	5.59	2016.69	2149.93	1.11	1.40	495.86	1.00
11/22/24 4:28	2.42	21.76	5.59	2016.85	2150.07	1.11	1.40	495.82	1.00
11/22/24 5:28	2.42	21.76	5.59	2016.86	2150.07	1.11	1.40	495.82	1.00
11/22/24 6:28	2.42	21.76	5.59	2016.78	2149.96	1.11	1.40	495.84	1.00
11/22/24 7:28	2.42	21.76	5.59	2016.88	2150.05	1.11	1.40	495.82	1.00
11/22/24 8:28	2.42	21.76	5.59	2016.89	2150.07	1.11	1.40	495.81	1.00
11/22/24 9:28	2.42	21.76	5.59	2016.98	2150.13	1.11	1.40	495.79	1.00
11/22/24 10:28	2.42	21.76	5.59	2016.94	2150.12	1.11	1.40	495.80	1.00
11/22/24 11:28	2.42	21.76	5.59	2017.14	2150.29	1.11	1.40	495.75	1.00
11/22/24 12:28	2.42	21.76	5.60	2017.11	2150.25	1.11	1.40	495.76	1.00
11/22/24 13:28	2.42	21.76	5.59	2017.18	2150.31	1.11	1.40	495.74	1.00
11/22/24 14:28	2.42	21.76	5.60	2016.93	2150.02	1.11	1.40	495.80	1.00
11/22/24 15:28	2.42	21.76	5.59	2017.25	2150.35	1.11	1.40	495.73	1.00
11/22/24 16:28	2.42	21.76	5.59	2017.44	2150.56	1.11	1.40	495.68	1.00
11/22/24 17:28	2.42	21.76	5.60	2017.38	2150.48	1.11	1.40	495.69	1.00
11/22/24 18:28	2.42	21.76	5.60	2017.33	2150.42	1.11	1.40	495.70	1.00
11/22/24 19:28	2.42	21.76	5.60	2017.55	2150.64	1.11	1.40	495.65	1.00
11/22/24 20:28	2.42	21.76	5.60	2017.61	2150.69	1.11	1.40	495.64	1.00
11/22/24 21:28	2.42	21.76	5.60	2017.48	2150.54	1.11	1.40	495.67	1.00
11/22/24 22:28	2.42	21.76	5.59	2017.74	2150.82	1.11	1.40	495.60	1.00
11/22/24 23:28	2.42	21.76	5.60	2017.49	2150.52	1.11	1.40	495.66	1.00
11/23/24 0:28	2.42	21.76	5.60	2017.62	2150.67	1.11	1.40	495.63	1.00
11/23/24 1:28	2.43	21.76	5.60	2017.58	2150.59	1.11	1.40	495.64	1.00
11/23/24 2:28	2.42	21.76	5.60	2017.56	2150.58	1.11	1.40	495.65	1.00
11/23/24 3:28	2.42	21.76	5.60	2017.80	2150.81	1.11	1.40	495.59	1.00
11/23/24 4:28	2.42	21.76	5.60	2017.72	2150.70	1.11	1.40	495.61	1.00
11/23/24 5:28	2.42	21.76	5.60	2017.65	2150.64	1.11	1.40	495.63	1.00
11/23/24 6:28	2.42	21.76	5.60	2018.02	2151.01	1.11	1.40	495.54	1.00
11/23/24 7:28	2.42	21.76	5.60	2017.77	2150.73	1.11	1.40	495.60	1.00
11/23/24 8:28	2.42	21.76	5.59	2017.84	2150.79	1.11	1.40	495.58	1.00
11/23/24 9:28	2.42	21.76	5.59	2017.96	2150.90	1.11	1.40	495.55	1.00
11/23/24 10:28	2.42	21.76	5.60	2018.24	2151.17	1.11	1.40	495.48	1.00
11/23/24 11:28	2.42	21.76	5.60	2018.22	2151.13	1.11	1.40	495.49	1.00
11/23/24 12:28	2.42	21.77	5.59	2018.09	2150.99	1.11	1.40	495.52	1.00
11/23/24 13:28	2.43	21.77	5.60	2018.17	2151.07	1.11	1.40	495.50	1.00
11/23/24 14:28	2.43	21.77	5.60	2018.31	2151.23	1.11	1.40	495.46	1.00
11/23/24 15:28	2.43	21.77	5.61	2018.37	2151.28	1.11	1.40	495.45	1.00
11/23/24 16:28	2.43	21.77	5.60	2018.24	2151.12	1.11	1.40	495.48	1.00
11/23/24 17:28	2.42	21.77	5.60	2018.26	2151.12	1.11	1.40	495.48	1.00
11/23/24 18:28	2.42	21.77	5.60	2018.21	2151.07	1.11	1.40	495.49	1.00
11/23/24 19:28	2.43	21.77	5.60	2018.24	2151.10	1.11	1.40	495.48	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/23/24 20:28	2.43	21.77	5.61	2018.50	2151.34	1.11	1.40	495.42	1.00
11/23/24 21:28	2.43	21.77	5.61	2018.37	2151.17	1.11	1.40	495.45	1.00
11/23/24 22:28	2.42	21.77	5.60	2018.61	2151.44	1.11	1.40	495.39	1.00
11/23/24 23:28	2.43	21.77	5.60	2018.58	2151.39	1.11	1.40	495.40	1.00
11/24/24 0:28	2.43	21.77	5.60	2018.70	2151.51	1.11	1.40	495.37	1.00
11/24/24 1:28	2.43	21.77	5.60	2018.60	2151.40	1.11	1.40	495.39	1.00
11/24/24 2:28	2.42	21.77	5.60	2018.74	2151.53	1.11	1.40	495.36	1.00
11/24/24 3:28	2.43	21.77	5.60	2018.95	2151.73	1.11	1.40	495.31	1.00
11/24/24 4:28	2.43	21.77	5.60	2018.71	2151.48	1.11	1.40	495.37	1.00
11/24/24 5:28	2.43	21.77	5.60	2018.71	2151.48	1.11	1.40	495.36	1.00
11/24/24 6:28	2.43	21.77	5.60	2018.92	2151.67	1.11	1.40	495.31	1.00
11/24/24 7:28	2.42	21.77	5.60	2018.98	2151.74	1.11	1.40	495.30	1.00
11/24/24 8:28	2.42	21.77	5.59	2019.09	2151.84	1.11	1.40	495.27	1.00
11/24/24 9:28	2.42	21.77	5.60	2019.13	2151.84	1.11	1.40	495.26	1.00
11/24/24 10:28	2.42	21.77	5.60	2019.02	2151.74	1.11	1.40	495.29	1.00
11/24/24 11:28	2.42	21.77	5.60	2018.98	2151.70	1.11	1.40	495.30	1.00
11/24/24 12:28	2.42	21.77	5.59	2019.24	2151.95	1.11	1.40	495.24	1.00
11/24/24 13:28	2.43	21.77	5.60	2019.08	2151.75	1.11	1.40	495.28	1.00
11/24/24 14:28	2.43	21.77	5.60	2019.07	2151.74	1.11	1.40	495.28	1.00
11/24/24 15:28	2.42	21.77	5.60	2019.00	2151.64	1.11	1.40	495.29	1.00
11/24/24 16:28	2.42	21.77	5.60	2019.11	2151.76	1.11	1.40	495.27	1.00
11/24/24 17:28	2.42	21.77	5.60	2019.09	2151.73	1.11	1.40	495.27	1.00
11/24/24 18:28	2.42	21.77	5.59	2019.34	2151.97	1.11	1.40	495.21	1.00
11/24/24 19:28	2.42	21.77	5.59	2019.43	2152.06	1.11	1.40	495.19	1.00
11/24/24 20:28	2.42	21.77	5.59	2019.17	2151.77	1.11	1.40	495.25	1.00
11/24/24 21:28	2.42	21.77	5.58	2019.50	2152.12	1.11	1.40	495.17	1.00
11/24/24 22:28	2.42	21.77	5.59	2019.41	2152.03	1.11	1.40	495.19	1.00
11/24/24 23:28	2.42	21.77	5.59	2019.45	2152.04	1.11	1.40	495.18	1.00
11/25/24 0:28	2.42	21.77	5.59	2019.50	2152.09	1.11	1.40	495.17	1.00
11/25/24 1:28	2.42	21.77	5.59	2019.57	2152.13	1.11	1.40	495.16	1.00
11/25/24 2:28	2.42	21.78	5.59	2019.64	2152.20	1.11	1.40	495.14	1.00
11/25/24 3:28	2.42	21.78	5.58	2019.86	2152.43	1.11	1.40	495.08	1.00
11/25/24 4:28	2.42	21.78	5.59	2019.68	2152.21	1.11	1.40	495.13	1.00
11/25/24 5:28	2.42	21.78	5.58	2019.76	2152.30	1.11	1.40	495.11	1.00
11/25/24 6:28	2.41	21.78	5.58	2019.76	2152.29	1.11	1.40	495.11	1.00
11/25/24 7:28	2.41	21.78	5.57	2019.67	2152.19	1.11	1.40	495.13	1.00
11/25/24 8:28	2.41	21.78	5.56	2019.63	2152.13	1.11	1.40	495.14	1.00
11/25/24 9:28	2.40	21.78	5.55	2020.09	2152.59	1.11	1.40	495.03	1.00
11/25/24 10:28	2.40	21.78	5.55	2019.92	2152.37	1.11	1.40	495.07	1.00
11/25/24 11:28	2.40	21.78	5.55	2020.18	2152.66	1.11	1.40	495.01	1.00
11/25/24 12:28	2.40	21.78	5.55	2020.45	2152.94	1.11	1.40	494.94	1.00
11/25/24 13:28	2.41	21.78	5.56	2020.20	2152.66	1.11	1.40	495.00	1.00
11/25/24 14:28	2.41	21.78	5.56	2020.30	2152.75	1.11	1.40	494.98	1.00
11/25/24 15:28	2.41	21.78	5.56	2020.38	2152.84	1.11	1.40	494.96	1.00
11/25/24 16:28	2.41	21.78	5.56	2020.52	2152.96	1.11	1.40	494.92	1.00
11/25/24 17:28	2.40	21.78	5.55	2020.60	2153.06	1.11	1.40	494.90	1.00
11/25/24 18:28	2.40	21.78	5.55	2020.43	2152.85	1.11	1.40	494.94	1.00
11/25/24 19:28	2.40	21.78	5.55	2020.79	2153.24	1.11	1.40	494.86	1.00
11/25/24 20:28	2.40	21.78	5.55	2020.61	2153.02	1.11	1.40	494.90	1.00
11/25/24 21:28	2.40	21.78	5.55	2020.48	2152.87	1.11	1.40	494.93	1.00
11/25/24 22:28	2.40	21.78	5.55	2020.64	2153.01	1.11	1.40	494.89	1.00
11/25/24 23:28	2.40	21.78	5.55	2020.73	2153.10	1.11	1.40	494.87	1.00
11/26/24 0:28	2.41	21.78	5.56	2020.97	2153.34	1.11	1.40	494.81	1.00
11/26/24 1:28	2.41	21.78	5.56	2020.78	2153.14	1.11	1.40	494.86	1.00
11/26/24 2:28	2.41	21.78	5.56	2020.88	2153.24	1.11	1.40	494.83	1.00
11/26/24 3:28	2.41	21.78	5.57	2020.89	2153.24	1.11	1.40	494.83	1.00
11/26/24 4:28	2.41	21.78	5.58	2020.87	2153.19	1.11	1.40	494.84	1.00
11/26/24 5:28	2.42	21.78	5.58	2020.94	2153.27	1.11	1.40	494.82	1.00
11/26/24 6:28	2.42	21.78	5.58	2021.05	2153.36	1.11	1.40	494.79	1.00
11/26/24 7:28	2.42	21.78	5.59	2021.06	2153.38	1.11	1.40	494.79	1.00
11/26/24 8:28	2.41	21.78	5.57	2021.21	2153.51	1.11	1.40	494.75	1.00
11/26/24 9:28	2.41	21.78	5.57	2021.15	2153.44	1.11	1.40	494.77	1.00
11/26/24 10:28	2.41	21.78	5.58	2020.96	2153.22	1.11	1.40	494.81	1.00
11/26/24 11:28	2.42	21.78	5.58	2021.06	2153.31	1.11	1.40	494.79	1.00
11/26/24 12:28	2.42	21.78	5.59	2021.33	2153.58	1.11	1.40	494.72	1.00
11/26/24 13:28	2.42	21.78	5.59	2021.13	2153.36	1.11	1.40	494.77	1.00
11/26/24 14:28	2.42	21.79	5.58	2021.36	2153.59	1.11	1.40	494.72	1.00
11/26/24 15:28	2.42	21.79	5.59	2021.08	2153.30	1.11	1.40	494.78	1.00
11/26/24 16:28	2.42	21.79	5.59	2021.13	2153.33	1.11	1.40	494.77	1.00
11/26/24 17:28	2.41	21.79	5.58	2021.25	2153.44	1.11	1.40	494.74	1.00
11/26/24 18:28	2.42	21.79	5.58	2021.31	2153.52	1.11	1.40	494.73	1.00
11/26/24 19:28	2.42	21.79	5.58	2021.46	2153.65	1.11	1.40	494.69	1.00
11/26/24 20:28	2.42	21.79	5.58	2021.34	2153.52	1.11	1.40	494.72	1.00
11/26/24 21:28	2.42	21.79	5.59	2021.41	2153.57	1.11	1.40	494.70	1.00
11/26/24 22:28	2.42	21.79	5.59	2021.47	2153.61	1.11	1.40	494.69	1.00
11/26/24 23:28	2.42	21.79	5.60	2021.68	2153.84	1.11	1.40	494.64	1.00
11/27/24 0:28	2.42	21.79	5.60	2021.48	2153.61	1.11	1.40	494.69	1.00
11/27/24 1:28	2.42	21.79	5.59	2021.47	2153.59	1.11	1.40	494.69	1.00
11/27/24 2:28	2.42	21.79	5.60	2021.57	2153.68	1.11	1.40	494.67	1.00
11/27/24 3:28	2.41	21.79	5.57	2021.57	2153.68	1.11	1.40	494.66	1.00
11/27/24 4:28	2.42	21.79	5.59	2021.64	2153.73	1.11	1.40	494.65	1.00
11/27/24 5:28	2.42	21.79	5.58	2021.94	2154.04	1.11	1.40	494.57	1.00
11/27/24 6:28	2.42	21.79	5.59	2021.82	2153.90	1.11	1.40	494.60	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/27/24 7:28	2.42	21.79	5.59	2021.76	2153.81	1.11	1.40	494.62	1.00
11/27/24 8:28	2.42	21.79	5.58	2021.80	2153.86	1.11	1.40	494.61	1.00
11/27/24 9:28	2.42	21.79	5.58	2021.74	2153.78	1.11	1.40	494.62	1.00
11/27/24 10:28	2.42	21.79	5.58	2022.26	2154.35	1.12	1.40	494.50	1.00
11/27/24 11:28	2.42	21.79	5.58	2022.10	2154.13	1.11	1.40	494.54	1.00
11/27/24 12:28	2.42	21.79	5.58	2022.19	2154.23	1.12	1.40	494.51	1.00
11/27/24 13:28	2.41	21.79	5.57	2022.12	2154.13	1.11	1.40	494.53	1.00
11/27/24 14:28	2.42	21.79	5.58	2022.20	2154.21	1.12	1.40	494.51	1.00
11/27/24 15:28	2.41	21.79	5.58	2021.96	2153.95	1.11	1.40	494.57	1.00
11/27/24 16:28	2.42	21.79	5.58	2022.28	2154.27	1.12	1.40	494.49	1.00
11/27/24 17:28	2.41	21.79	5.57	2022.08	2154.06	1.11	1.40	494.54	1.00
11/27/24 18:28	2.41	21.79	5.56	2022.16	2154.11	1.11	1.40	494.52	1.00
11/27/24 19:28	2.41	21.79	5.56	2022.04	2153.99	1.11	1.40	494.55	1.00
11/27/24 20:28	2.40	21.79	5.55	2022.30	2154.25	1.12	1.40	494.49	1.00
11/27/24 21:28	2.40	21.79	5.54	2022.47	2154.43	1.12	1.40	494.45	1.00
11/27/24 22:28	2.40	21.79	5.54	2022.39	2154.32	1.12	1.40	494.46	1.00
11/27/24 23:28	2.40	21.79	5.54	2022.49	2154.42	1.12	1.40	494.44	1.00
11/28/24 0:28	2.40	21.79	5.54	2022.80	2154.75	1.12	1.40	494.36	1.00
11/28/24 1:28	2.40	21.79	5.54	2022.78	2154.69	1.12	1.40	494.37	1.00
11/28/24 2:28	2.40	21.80	5.54	2022.58	2154.45	1.12	1.40	494.42	1.00
11/28/24 3:28	2.40	21.80	5.54	2022.60	2154.48	1.12	1.40	494.41	1.00
11/28/24 4:28	2.40	21.80	5.54	2022.89	2154.76	1.12	1.40	494.34	1.00
11/28/24 5:28	2.40	21.80	5.54	2022.81	2154.69	1.12	1.40	494.36	1.00
11/28/24 6:28	2.40	21.80	5.54	2022.63	2154.48	1.12	1.40	494.40	1.00
11/28/24 7:28	2.40	21.80	5.54	2022.87	2154.72	1.12	1.40	494.35	1.00
11/28/24 8:28	2.40	21.80	5.54	2022.59	2154.41	1.12	1.40	494.42	1.00
11/28/24 9:28	2.40	21.80	5.54	2022.89	2154.71	1.12	1.40	494.34	1.00
11/28/24 10:28	2.40	21.80	5.54	2023.00	2154.86	1.12	1.40	494.31	1.00
11/28/24 11:28	2.40	21.80	5.55	2022.99	2154.80	1.12	1.40	494.32	1.00
11/28/24 12:28	2.40	21.80	5.55	2022.60	2154.38	1.12	1.40	494.41	1.00
11/28/24 13:28	2.41	21.80	5.56	2023.02	2154.82	1.12	1.40	494.31	1.00
11/28/24 14:28	2.41	21.80	5.57	2022.91	2154.69	1.12	1.40	494.34	1.00
11/28/24 15:28	2.40	21.80	5.55	2022.79	2154.54	1.12	1.40	494.37	1.00
11/28/24 16:28	2.41	21.80	5.56	2023.10	2154.86	1.12	1.40	494.29	1.00
11/28/24 17:28	2.40	21.80	5.55	2023.10	2154.85	1.12	1.40	494.29	1.00
11/28/24 18:28	2.40	21.80	5.55	2023.10	2154.82	1.12	1.40	494.29	1.00
11/28/24 19:28	2.40	21.80	5.54	2023.13	2154.85	1.12	1.40	494.28	1.00
11/28/24 20:28	2.40	21.80	5.54	2023.07	2154.80	1.12	1.40	494.30	1.00
11/28/24 21:28	2.40	21.80	5.54	2023.12	2154.83	1.12	1.40	494.29	1.00
11/28/24 22:28	2.40	21.80	5.54	2023.24	2154.94	1.12	1.40	494.26	1.00
11/28/24 23:28	2.40	21.80	5.54	2023.28	2154.96	1.12	1.40	494.25	1.00
11/29/24 0:28	2.40	21.80	5.54	2023.14	2154.80	1.12	1.40	494.28	1.00
11/29/24 1:28	2.40	21.80	5.54	2023.38	2155.06	1.12	1.40	494.22	1.00
11/29/24 2:28	2.40	21.80	5.54	2023.41	2155.07	1.12	1.40	494.22	1.00
11/29/24 3:28	2.40	21.80	5.54	2023.34	2155.01	1.12	1.40	494.23	1.00
11/29/24 4:28	2.40	21.80	5.54	2023.38	2154.99	1.12	1.40	494.22	1.00
11/29/24 5:28	2.40	21.80	5.54	2023.33	2154.94	1.12	1.40	494.23	1.00
11/29/24 6:28	2.40	21.80	5.54	2023.60	2155.25	1.12	1.40	494.17	1.00
11/29/24 7:28	2.40	21.80	5.54	2023.45	2155.07	1.12	1.40	494.20	1.00
11/29/24 8:28	2.40	21.80	5.54	2023.55	2155.15	1.12	1.40	494.18	1.00
11/29/24 9:28	2.40	21.80	5.54	2023.70	2155.32	1.12	1.40	494.15	1.00
11/29/24 10:28	2.39	21.80	5.53	2023.95	2155.55	1.12	1.40	494.08	1.00
11/29/24 11:28	2.40	21.80	5.54	2023.76	2155.35	1.12	1.40	494.13	1.00
11/29/24 12:28	2.40	21.80	5.55	2023.91	2155.49	1.12	1.40	494.09	1.00
11/29/24 13:28	2.40	21.80	5.55	2023.78	2155.32	1.12	1.40	494.12	1.00
11/29/24 14:28	2.41	21.80	5.56	2024.06	2155.65	1.12	1.40	494.06	1.00
11/29/24 15:28	2.41	21.80	5.56	2023.70	2155.22	1.12	1.40	494.15	1.00
11/29/24 16:28	2.41	21.81	5.56	2023.88	2155.39	1.12	1.40	494.10	1.00
11/29/24 17:28	2.41	21.81	5.56	2023.83	2155.34	1.12	1.40	494.11	1.00
11/29/24 18:28	2.41	21.81	5.56	2024.02	2155.54	1.12	1.40	494.07	1.00
11/29/24 19:28	2.41	21.81	5.56	2023.88	2155.38	1.12	1.40	494.10	1.00
11/29/24 20:28	2.41	21.81	5.56	2023.99	2155.46	1.12	1.40	494.07	1.00
11/29/24 21:28	2.41	21.81	5.56	2023.72	2155.19	1.12	1.40	494.14	1.00
11/29/24 22:28	2.41	21.81	5.57	2023.26	2154.66	1.12	1.40	494.25	1.00
11/29/24 23:28	2.41	21.81	5.56	2023.47	2154.89	1.12	1.40	494.20	1.00
11/30/24 0:28	2.40	21.81	5.55	2023.81	2155.26	1.12	1.40	494.12	1.00
11/30/24 1:28	2.40	21.81	5.55	2024.08	2155.51	1.12	1.40	494.05	1.00
11/30/24 2:28	2.40	21.81	5.55	2024.19	2155.62	1.12	1.40	494.03	1.00
11/30/24 3:28	2.40	21.81	5.55	2023.90	2155.32	1.12	1.40	494.10	1.00
11/30/24 4:28	2.40	21.81	5.55	2024.03	2155.42	1.12	1.40	494.06	1.00
11/30/24 5:28	2.40	21.81	5.55	2024.22	2155.62	1.12	1.40	494.02	1.00
11/30/24 6:28	2.40	21.81	5.55	2024.25	2155.64	1.12	1.40	494.01	1.00
11/30/24 7:28	2.40	21.81	5.55	2024.27	2155.66	1.12	1.40	494.01	1.00
11/30/24 8:28	2.40	21.81	5.55	2024.45	2155.83	1.12	1.40	493.96	1.00
11/30/24 9:28	2.40	21.81	5.54	2024.12	2155.47	1.12	1.40	494.04	1.00
11/30/24 10:28	2.40	21.81	5.54	2024.06	2155.40	1.12	1.40	494.06	1.00
11/30/24 11:28	2.40	21.81	5.55	2024.49	2155.85	1.12	1.40	493.95	1.00
11/30/24 12:28	2.40	21.81	5.55	2024.52	2155.86	1.12	1.40	493.94	1.00
11/30/24 13:28	2.41	21.81	5.56	2024.50	2155.83	1.12	1.40	493.95	1.00
11/30/24 14:28	2.40	21.81	5.54	2024.61	2155.94	1.12	1.40	493.92	1.00
11/30/24 15:28	2.40	21.81	5.55	2024.61	2155.92	1.12	1.40	493.92	1.00
11/30/24 16:28	2.40	21.81	5.55	2024.49	2155.78	1.12	1.40	493.95	1.00
11/30/24 17:28	2.40	21.81	5.55	2024.58	2155.86	1.12	1.40	493.93	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/30/24 18:28	2.40	21.81	5.54	2024.96	2156.27	1.12	1.40	493.84	1.00
11/30/24 19:28	2.40	21.81	5.55	2024.63	2155.89	1.12	1.40	493.92	1.00
11/30/24 20:28	2.40	21.81	5.55	2024.68	2155.94	1.12	1.40	493.91	1.00
11/30/24 21:28	2.40	21.81	5.55	2024.99	2156.25	1.12	1.40	493.83	1.00
11/30/24 22:28	2.40	21.81	5.55	2024.81	2156.04	1.12	1.40	493.87	1.00
11/30/24 23:28	2.40	21.81	5.55	2024.96	2156.19	1.12	1.40	493.84	1.00
12/1/24 0:28	2.40	21.81	5.55	2024.97	2156.20	1.12	1.40	493.83	1.00
12/1/24 1:28	2.40	21.81	5.55	2024.87	2156.09	1.12	1.40	493.86	1.00
12/1/24 2:28	2.40	21.81	5.55	2025.14	2156.37	1.12	1.40	493.79	1.00
12/1/24 3:28	2.40	21.81	5.55	2025.10	2156.30	1.12	1.40	493.80	1.00
12/1/24 4:28	2.40	21.81	5.55	2025.14	2156.35	1.12	1.40	493.79	1.00
12/1/24 5:28	2.40	21.81	5.55	2025.01	2156.20	1.12	1.40	493.82	1.00
12/1/24 6:28	2.40	21.82	5.55	2025.29	2156.48	1.12	1.40	493.76	1.00
12/1/24 7:28	2.40	21.82	5.55	2025.11	2156.27	1.12	1.40	493.80	1.00
12/1/24 8:28	2.40	21.82	5.54	2025.30	2156.44	1.12	1.40	493.76	1.00
12/1/24 9:28	2.40	21.82	5.55	2025.27	2156.40	1.12	1.40	493.76	1.00
12/1/24 10:28	2.39	21.82	5.53	2025.46	2156.60	1.12	1.40	493.71	1.00
12/1/24 11:28	2.38	21.82	5.51	2025.32	2156.44	1.12	1.40	493.75	1.00
12/1/24 12:28	2.40	21.82	5.54	2025.35	2156.46	1.12	1.40	493.74	1.00
12/1/24 13:28	2.40	21.82	5.54	2025.54	2156.65	1.12	1.40	493.69	1.00
12/1/24 14:28	2.40	21.82	5.54	2025.43	2156.54	1.12	1.40	493.72	1.00
12/1/24 15:28	2.40	21.82	5.54	2025.47	2156.57	1.12	1.40	493.71	1.00
12/1/24 16:28	2.40	21.82	5.54	2025.42	2156.48	1.12	1.40	493.73	1.00
12/1/24 17:28	2.40	21.82	5.54	2025.76	2156.83	1.12	1.40	493.64	1.00
12/1/24 18:28	2.40	21.82	5.54	2025.45	2156.49	1.12	1.40	493.72	1.00
12/1/24 19:28	2.39	21.82	5.52	2025.66	2156.69	1.12	1.40	493.67	1.00
12/1/24 20:28	2.39	21.82	5.52	2025.75	2156.79	1.12	1.40	493.64	1.00
12/1/24 21:28	2.39	21.82	5.52	2025.68	2156.70	1.12	1.40	493.66	1.00
12/1/24 22:28	2.39	21.82	5.52	2025.92	2156.95	1.12	1.40	493.60	1.00
12/1/24 23:28	2.39	21.82	5.52	2025.72	2156.72	1.12	1.40	493.65	1.00
12/2/24 0:28	2.39	21.82	5.52	2025.96	2156.96	1.12	1.40	493.59	1.00
12/2/24 1:28	2.39	21.82	5.52	2025.89	2156.89	1.12	1.40	493.61	1.00
12/2/24 2:28	2.39	21.82	5.52	2025.84	2156.81	1.12	1.40	493.62	1.00
12/2/24 3:28	2.39	21.82	5.52	2025.86	2156.84	1.12	1.40	493.62	1.00
12/2/24 4:28	2.39	21.82	5.52	2026.15	2157.13	1.12	1.40	493.55	1.00
12/2/24 5:28	2.39	21.82	5.52	2026.11	2157.06	1.12	1.40	493.56	1.00
12/2/24 6:28	2.39	21.82	5.51	2026.27	2157.22	1.12	1.40	493.52	1.00
12/2/24 7:28	2.39	21.82	5.52	2026.13	2157.03	1.12	1.40	493.55	1.00
12/2/24 8:28	2.39	21.82	5.52	2026.18	2157.11	1.12	1.40	493.54	1.00
12/2/24 9:28	2.39	21.82	5.51	2026.29	2157.23	1.12	1.40	493.51	1.00
12/2/24 10:28	2.38	21.82	5.51	2026.41	2157.35	1.12	1.40	493.48	1.00
12/2/24 11:28	2.39	21.82	5.51	2026.13	2157.01	1.12	1.40	493.55	1.00
12/2/24 12:28	2.39	21.82	5.52	2026.23	2157.13	1.12	1.40	493.53	1.00
12/2/24 13:28	2.39	21.82	5.53	2026.27	2157.15	1.12	1.40	493.52	1.00
12/2/24 14:28	2.39	21.82	5.53	2026.49	2157.39	1.12	1.40	493.46	1.00
12/2/24 15:28	2.39	21.82	5.53	2026.42	2157.30	1.12	1.40	493.48	1.00
12/2/24 16:28	2.39	21.82	5.53	2026.22	2157.05	1.12	1.40	493.53	1.00
12/2/24 17:28	2.39	21.82	5.52	2026.55	2157.40	1.12	1.40	493.45	1.00
12/2/24 18:28	2.39	21.82	5.52	2026.71	2157.55	1.12	1.40	493.41	1.00
12/2/24 19:28	2.39	21.83	5.52	2026.56	2157.38	1.12	1.40	493.45	1.00
12/2/24 20:28	2.39	21.83	5.52	2026.60	2157.41	1.12	1.40	493.44	1.00
12/2/24 21:28	2.39	21.83	5.52	2026.59	2157.40	1.12	1.40	493.44	1.00
12/2/24 22:28	2.39	21.83	5.51	2026.55	2157.35	1.12	1.40	493.45	1.00
12/2/24 23:28	2.39	21.83	5.51	2026.96	2157.77	1.12	1.40	493.35	1.00
12/3/24 0:28	2.39	21.83	5.51	2026.84	2157.62	1.12	1.40	493.38	1.00
12/3/24 1:28	2.39	21.83	5.52	2026.80	2157.58	1.12	1.40	493.39	1.00
12/3/24 2:28	2.39	21.83	5.52	2026.52	2157.25	1.12	1.40	493.46	1.00
12/3/24 3:28	2.39	21.83	5.52	2026.73	2157.46	1.12	1.40	493.41	1.00
12/3/24 4:28	2.39	21.83	5.52	2026.73	2157.46	1.12	1.40	493.41	1.00
12/3/24 5:28	2.39	21.83	5.52	2026.94	2157.67	1.12	1.40	493.35	1.00
12/3/24 6:28	2.39	21.83	5.52	2026.91	2157.62	1.12	1.40	493.36	1.00
12/3/24 7:28	2.39	21.83	5.52	2026.90	2157.59	1.12	1.40	493.36	1.00
12/3/24 8:28	2.39	21.83	5.52	2026.93	2157.62	1.12	1.40	493.36	1.00
12/3/24 9:28	2.39	21.83	5.52	2026.97	2157.66	1.12	1.40	493.35	1.00
12/3/24 10:28	2.39	21.83	5.53	2027.16	2157.84	1.12	1.40	493.30	1.00
12/3/24 11:28	2.39	21.83	5.53	2027.29	2157.97	1.12	1.40	493.27	1.00
12/3/24 12:28	2.39	21.83	5.52	2027.38	2158.05	1.12	1.40	493.25	1.00
12/3/24 13:28	2.39	21.83	5.53	2027.05	2157.68	1.12	1.40	493.33	1.00
12/3/24 14:28	2.39	21.83	5.53	2027.27	2157.92	1.12	1.40	493.27	1.00
12/3/24 15:28	2.40	21.83	5.53	2027.08	2157.70	1.12	1.40	493.32	1.00
12/3/24 16:28	2.39	21.83	5.53	2027.38	2158.01	1.12	1.40	493.25	1.00
12/3/24 17:28	2.39	21.83	5.53	2027.47	2158.07	1.12	1.40	493.23	1.00
12/3/24 18:28	2.39	21.83	5.52	2027.37	2157.98	1.12	1.40	493.25	1.00
12/3/24 19:28	2.39	21.83	5.52	2027.33	2157.93	1.12	1.40	493.26	1.00
12/3/24 20:28	2.39	21.83	5.52	2027.46	2158.06	1.12	1.40	493.23	1.00
12/3/24 21:28	2.39	21.83	5.52	2027.64	2158.23	1.12	1.40	493.19	1.00
12/3/24 22:28	2.39	21.83	5.52	2027.40	2157.96	1.12	1.40	493.24	1.00
12/3/24 23:28	2.39	21.83	5.52	2027.50	2158.07	1.12	1.40	493.22	1.00
12/4/24 0:28	2.39	21.83	5.53	2027.20	2157.73	1.12	1.40	493.29	1.00
12/4/24 1:28	2.39	21.83	5.53	2027.68	2158.23	1.12	1.40	493.17	1.00
12/4/24 2:28	2.40	21.83	5.53	2027.20	2157.71	1.12	1.40	493.29	1.00
12/4/24 3:28	2.40	21.83	5.53	2027.31	2157.81	1.12	1.40	493.27	1.00
12/4/24 4:28	2.39	21.83	5.53	2027.54	2158.04	1.12	1.40	493.21	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/4/24 5:28	2.40	21.83	5.54	2027.50	2157.99	1.12	1.40	493.22	1.00
12/4/24 6:28	2.39	21.83	5.52	2027.73	2158.22	1.12	1.40	493.16	1.00
12/4/24 7:28	2.39	21.83	5.52	2027.62	2158.10	1.12	1.40	493.19	1.00
12/4/24 8:28	2.39	21.83	5.52	2027.67	2158.14	1.12	1.40	493.18	1.00
12/4/24 9:28	2.39	21.84	5.52	2027.79	2158.25	1.12	1.40	493.15	1.00
12/4/24 10:28	2.39	21.84	5.52	2027.84	2158.31	1.12	1.40	493.14	1.00
12/4/24 11:28	2.39	21.84	5.52	2027.86	2158.29	1.12	1.40	493.13	1.00
12/4/24 12:28	2.39	21.84	5.53	2027.83	2158.26	1.12	1.40	493.14	1.00
12/4/24 13:28	2.39	21.84	5.53	2027.79	2158.21	1.12	1.40	493.15	1.00
12/4/24 14:28	2.40	21.84	5.53	2027.85	2158.27	1.12	1.40	493.13	1.00
12/4/24 15:28	2.40	21.84	5.53	2027.75	2158.13	1.12	1.40	493.16	1.00
12/4/24 16:28	2.40	21.84	5.53	2027.93	2158.33	1.12	1.40	493.11	1.00
12/4/24 17:28	2.39	21.84	5.53	2027.94	2158.33	1.12	1.40	493.11	1.00
12/4/24 18:28	2.39	21.84	5.51	2028.01	2158.40	1.12	1.40	493.09	1.00
12/4/24 19:28	2.39	21.84	5.51	2027.97	2158.32	1.12	1.40	493.10	1.00
12/4/24 20:28	2.39	21.84	5.51	2027.92	2158.25	1.12	1.40	493.12	1.00
12/4/24 21:28	2.39	21.84	5.51	2028.05	2158.41	1.12	1.40	493.08	1.00
12/4/24 22:28	2.38	21.84	5.51	2028.26	2158.60	1.12	1.40	493.03	1.00
12/4/24 23:28	2.38	21.84	5.51	2028.02	2158.33	1.12	1.40	493.09	1.00
12/5/24 0:28	2.38	21.84	5.51	2028.17	2158.50	1.12	1.40	493.05	1.00
12/5/24 1:28	2.38	21.84	5.51	2028.07	2158.38	1.12	1.40	493.08	1.00
12/5/24 2:28	2.38	21.84	5.51	2028.08	2158.37	1.12	1.40	493.08	1.00
12/5/24 3:28	2.38	21.84	5.51	2028.24	2158.53	1.12	1.40	493.04	1.00
12/5/24 4:28	2.38	21.84	5.50	2028.47	2158.77	1.12	1.40	492.98	1.00
12/5/24 5:28	2.38	21.84	5.50	2028.36	2158.65	1.12	1.40	493.01	1.00
12/5/24 6:28	2.38	21.84	5.50	2028.31	2158.59	1.12	1.40	493.02	1.00
12/5/24 7:28	2.38	21.84	5.50	2028.66	2158.93	1.12	1.40	492.94	1.00
12/5/24 8:28	2.38	21.84	5.50	2028.39	2158.62	1.12	1.40	493.00	1.00
12/5/24 9:28	2.39	21.84	5.51	2028.42	2158.66	1.12	1.40	493.00	1.00
12/5/24 10:28	2.40	21.84	5.53	2028.25	2158.46	1.12	1.40	493.04	1.00
12/5/24 11:28	2.40	21.84	5.55	2028.44	2158.64	1.12	1.40	492.99	1.00
12/5/24 12:28	2.41	21.84	5.58	2028.81	2159.04	1.12	1.40	492.90	1.00
12/5/24 13:28	2.42	21.84	5.59	2028.74	2158.95	1.12	1.40	492.92	1.00
12/5/24 14:28	2.42	21.85	5.60	2024.67	2154.23	1.12	1.40	493.91	1.00
12/5/24 15:28	2.43	21.85	5.60	2024.54	2154.21	1.12	1.40	493.94	1.00
12/5/24 16:28	2.43	21.85	5.61	2024.34	2154.06	1.11	1.40	493.99	1.00
12/5/24 17:28	2.43	21.85	5.61	2024.39	2154.13	1.12	1.40	493.98	1.00
12/5/24 18:28	2.43	21.85	5.61	2024.16	2153.93	1.11	1.40	494.03	1.00
12/5/24 19:28	2.43	21.85	5.62	2024.17	2153.96	1.11	1.40	494.03	1.00
12/5/24 20:28	2.43	21.85	5.62	2024.25	2154.05	1.11	1.40	494.01	1.00
12/5/24 21:28	2.43	21.85	5.62	2024.18	2153.96	1.11	1.40	494.03	1.00
12/5/24 22:28	2.43	21.85	5.62	2024.19	2153.97	1.11	1.40	494.03	1.00
12/5/24 23:28	2.44	21.85	5.63	2024.49	2154.28	1.12	1.40	493.95	1.00
12/6/24 0:28	2.44	21.85	5.63	2024.42	2154.20	1.12	1.40	493.97	1.00
12/6/24 1:28	2.44	21.85	5.64	2024.51	2154.29	1.12	1.40	493.95	1.00
12/6/24 2:28	2.44	21.85	5.64	2024.64	2154.42	1.12	1.40	493.92	1.00
12/6/24 3:28	2.44	21.85	5.65	2024.51	2154.29	1.12	1.40	493.95	1.00
12/6/24 4:28	2.44	21.85	5.64	2024.82	2154.58	1.12	1.40	493.87	1.00
12/6/24 5:28	2.44	21.85	5.64	2024.66	2154.42	1.12	1.40	493.91	1.00
12/6/24 6:28	2.44	21.85	5.64	2024.84	2154.59	1.12	1.40	493.87	1.00
12/6/24 7:28	2.44	21.85	5.64	2024.74	2154.46	1.12	1.40	493.89	1.00
12/6/24 8:28	2.44	21.85	5.64	2024.78	2154.50	1.12	1.40	493.88	1.00
12/6/24 9:28	2.44	21.85	5.64	2024.85	2154.56	1.12	1.40	493.86	1.00
12/6/24 10:28	2.44	21.85	5.64	2024.97	2154.68	1.12	1.40	493.83	1.00
12/6/24 11:28	2.45	21.85	5.65	2025.07	2154.77	1.12	1.40	493.81	1.00
12/6/24 12:28	2.45	21.85	5.66	2025.18	2154.89	1.12	1.40	493.78	1.00
12/6/24 13:28	2.45	21.85	5.65	2025.09	2154.78	1.12	1.40	493.81	1.00
12/6/24 14:28	2.45	21.85	5.66	2025.31	2154.99	1.12	1.40	493.75	1.00
12/6/24 15:28	2.45	21.85	5.65	2025.54	2155.20	1.12	1.40	493.70	1.00
12/6/24 16:28	2.45	21.85	5.66	2025.46	2155.13	1.12	1.40	493.72	1.00
12/6/24 17:28	2.45	21.85	5.65	2025.45	2155.10	1.12	1.40	493.72	1.00
12/6/24 18:28	2.45	21.85	5.65	2025.49	2155.14	1.12	1.40	493.71	1.00
12/6/24 19:28	2.45	21.85	5.66	2025.56	2155.18	1.12	1.40	493.69	1.00
12/6/24 20:28	2.45	21.85	5.65	2025.69	2155.32	1.12	1.40	493.66	1.00
12/6/24 21:28	2.45	21.85	5.65	2025.82	2155.44	1.12	1.40	493.63	1.00
12/6/24 22:28	2.45	21.85	5.66	2025.84	2155.44	1.12	1.40	493.62	1.00
12/6/24 23:28	2.45	21.85	5.66	2025.96	2155.57	1.12	1.40	493.59	1.00
12/7/24 0:28	2.45	21.85	5.66	2026.08	2155.67	1.12	1.40	493.56	1.00
12/7/24 1:28	2.45	21.85	5.65	2026.20	2155.79	1.12	1.40	493.54	1.00
12/7/24 2:28	2.45	21.85	5.66	2026.15	2155.74	1.12	1.40	493.55	1.00
12/7/24 3:28	2.45	21.85	5.66	2026.25	2155.82	1.12	1.40	493.52	1.00
12/7/24 4:28	2.45	21.85	5.66	2026.36	2155.92	1.12	1.40	493.50	1.00
12/7/24 5:28	2.45	21.85	5.67	2026.41	2155.97	1.12	1.40	493.48	1.00
12/7/24 6:28	2.45	21.85	5.66	2026.55	2156.12	1.12	1.40	493.45	1.00
12/7/24 7:28	2.45	21.85	5.66	2026.61	2156.15	1.12	1.40	493.43	1.00
12/7/24 8:28	2.45	21.85	5.66	2026.77	2156.32	1.12	1.40	493.40	1.00
12/7/24 9:28	2.45	21.85	5.66	2026.71	2156.25	1.12	1.40	493.41	1.00
12/7/24 10:28	2.45	21.85	5.66	2026.70	2156.23	1.12	1.40	493.41	1.00
12/7/24 11:28	2.45	21.86	5.66	2026.87	2156.36	1.12	1.40	493.37	1.00
12/7/24 12:28	2.45	21.86	5.67	2026.99	2156.50	1.12	1.40	493.34	1.00
12/7/24 13:28	2.46	21.86	5.68	2026.99	2156.48	1.12	1.40	493.34	1.00
12/7/24 14:28	2.46	21.86	5.68	2026.93	2156.43	1.12	1.40	493.36	1.00
12/7/24 15:28	2.46	21.86	5.69	2027.08	2156.55	1.12	1.40	493.32	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/7/24 16:28	2.46	21.86	5.68	2026.91	2156.38	1.12	1.40	493.36	1.00
12/7/24 17:28	2.46	21.86	5.68	2027.42	2156.89	1.12	1.40	493.24	1.00
12/7/24 18:28	2.46	21.86	5.68	2027.25	2156.70	1.12	1.40	493.28	1.00
12/7/24 19:28	2.46	21.86	5.68	2027.22	2156.64	1.12	1.40	493.29	1.00
12/7/24 20:28	2.46	21.86	5.68	2027.43	2156.86	1.12	1.40	493.24	1.00
12/7/24 21:28	2.46	21.86	5.68	2027.41	2156.82	1.12	1.40	493.24	1.00
12/7/24 22:28	2.46	21.86	5.68	2027.57	2156.98	1.12	1.40	493.20	1.00
12/7/24 23:28	2.46	21.86	5.68	2027.54	2156.97	1.12	1.40	493.21	1.00
12/8/24 0:28	2.46	21.86	5.68	2027.63	2157.03	1.12	1.40	493.19	1.00
12/8/24 1:28	2.46	21.86	5.68	2027.34	2156.71	1.12	1.40	493.26	1.00
12/8/24 2:28	2.46	21.86	5.69	2027.57	2156.93	1.12	1.40	493.20	1.00
12/8/24 3:28	2.46	21.86	5.69	2027.78	2157.14	1.12	1.40	493.15	1.00
12/8/24 4:28	2.46	21.86	5.69	2027.64	2156.97	1.12	1.40	493.18	1.00
12/8/24 5:28	2.47	21.86	5.70	2027.91	2157.25	1.12	1.40	493.12	1.00
12/8/24 6:28	2.46	21.86	5.69	2027.85	2157.18	1.12	1.40	493.13	1.00
12/8/24 7:28	2.46	21.86	5.69	2027.77	2157.07	1.12	1.40	493.15	1.00
12/8/24 8:28	2.46	21.86	5.69	2027.81	2157.13	1.12	1.40	493.14	1.00
12/8/24 9:28	2.46	21.86	5.69	2027.98	2157.29	1.12	1.40	493.10	1.00
12/8/24 10:28	2.47	21.86	5.70	2027.99	2157.28	1.12	1.40	493.10	1.00
12/8/24 11:28	2.47	21.86	5.70	2028.07	2157.35	1.12	1.40	493.08	1.00
12/8/24 12:28	2.47	21.86	5.70	2028.10	2157.39	1.12	1.40	493.07	1.00
12/8/24 13:28	2.47	21.86	5.70	2028.05	2157.32	1.12	1.40	493.08	1.00
12/8/24 14:28	2.47	21.86	5.70	2028.15	2157.40	1.12	1.40	493.06	1.00
12/8/24 15:28	2.47	21.86	5.70	2027.91	2157.14	1.12	1.40	493.12	1.00
12/8/24 16:28	2.47	21.86	5.71	2028.11	2157.31	1.12	1.40	493.07	1.00
12/8/24 17:28	2.46	21.86	5.69	2028.18	2157.38	1.12	1.40	493.05	1.00
12/8/24 18:28	2.46	21.86	5.69	2028.35	2157.56	1.12	1.40	493.01	1.00
12/8/24 19:28	2.46	21.86	5.69	2028.46	2157.67	1.12	1.40	492.98	1.00
12/8/24 20:28	2.46	21.87	5.69	2028.43	2157.61	1.12	1.40	492.99	1.00
12/8/24 21:28	2.46	21.87	5.69	2028.52	2157.71	1.12	1.40	492.97	1.00
12/8/24 22:28	2.47	21.87	5.69	2028.33	2157.48	1.12	1.40	493.02	1.00
12/8/24 23:28	2.47	21.87	5.70	2028.58	2157.72	1.12	1.40	492.96	1.00
12/9/24 0:28	2.47	21.87	5.70	2028.46	2157.59	1.12	1.40	492.98	1.00
12/9/24 1:28	2.47	21.87	5.70	2028.62	2157.76	1.12	1.40	492.95	1.00
12/9/24 2:28	2.47	21.87	5.70	2028.63	2157.76	1.12	1.40	492.94	1.00
12/9/24 3:28	2.47	21.87	5.69	2028.48	2157.57	1.12	1.40	492.98	1.00
12/9/24 4:28	2.47	21.87	5.70	2028.58	2157.68	1.12	1.40	492.96	1.00
12/9/24 5:28	2.46	21.87	5.69	2028.73	2157.81	1.12	1.40	492.92	1.00
12/9/24 6:28	2.47	21.87	5.70	2028.64	2157.72	1.12	1.40	492.94	1.00
12/9/24 7:28	2.46	21.87	5.69	2028.89	2157.95	1.12	1.40	492.88	1.00
12/9/24 8:28	2.46	21.87	5.68	2028.92	2157.98	1.12	1.40	492.87	1.00
12/9/24 9:28	2.46	21.87	5.69	2028.92	2157.97	1.12	1.40	492.87	1.00
12/9/24 10:28	2.46	21.87	5.69	2028.77	2157.79	1.12	1.40	492.91	1.00
12/9/24 11:28	2.47	21.87	5.70	2028.95	2157.97	1.12	1.40	492.87	1.00
12/9/24 12:28	2.47	21.87	5.70	2028.98	2157.98	1.12	1.40	492.86	1.00
12/9/24 13:28	2.47	21.87	5.71	2029.02	2158.03	1.12	1.40	492.85	1.00
12/9/24 14:28	2.47	21.87	5.71	2029.13	2158.13	1.12	1.40	492.82	1.00
12/9/24 15:28	2.46	21.87	5.69	2029.07	2158.04	1.12	1.40	492.84	1.00
12/9/24 16:28	2.46	21.87	5.68	2029.11	2158.09	1.12	1.40	492.83	1.00
12/9/24 17:28	2.45	21.87	5.67	2029.33	2158.30	1.12	1.40	492.77	1.00
12/9/24 18:28	2.45	21.87	5.67	2029.19	2158.13	1.12	1.40	492.81	1.00
12/9/24 19:28	2.44	21.87	5.63	2029.37	2158.29	1.12	1.40	492.76	1.00
12/9/24 20:28	2.44	21.87	5.62	2029.18	2158.10	1.12	1.40	492.81	1.00
12/9/24 21:28	2.43	21.87	5.62	2029.35	2158.27	1.12	1.40	492.77	1.00
12/9/24 22:28	2.43	21.87	5.61	2029.53	2158.45	1.12	1.40	492.73	1.00
12/9/24 23:28	2.43	21.87	5.61	2029.39	2158.26	1.12	1.40	492.76	1.00
12/10/24 0:28	2.43	21.87	5.60	2029.52	2158.40	1.12	1.40	492.73	1.00
12/10/24 1:28	2.42	21.87	5.59	2029.70	2158.59	1.12	1.40	492.68	1.00
12/10/24 2:28	2.43	21.87	5.60	2029.77	2158.64	1.12	1.40	492.67	1.00
12/10/24 3:28	2.42	21.87	5.60	2029.71	2158.57	1.12	1.40	492.68	1.00
12/10/24 4:28	2.42	21.87	5.60	2029.83	2158.69	1.12	1.40	492.65	1.00
12/10/24 5:28	2.42	21.88	5.60	2030.06	2158.91	1.12	1.40	492.60	1.00
12/10/24 6:28	2.42	21.88	5.59	2029.66	2158.48	1.12	1.40	492.69	1.00
12/10/24 7:28	2.42	21.88	5.59	2029.96	2158.79	1.12	1.40	492.62	1.00
12/10/24 8:28	2.41	21.88	5.58	2030.22	2159.03	1.12	1.40	492.56	1.00
12/10/24 9:28	2.42	21.88	5.58	2030.07	2158.90	1.12	1.40	492.59	1.00
12/10/24 10:28	2.41	21.88	5.58	2030.51	2159.33	1.12	1.40	492.49	1.00
12/10/24 11:28	2.42	21.88	5.58	2030.25	2159.04	1.12	1.40	492.55	1.00
12/10/24 12:28	2.42	21.88	5.59	2030.33	2159.12	1.12	1.40	492.53	1.00
12/10/24 13:28	2.43	21.88	5.60	2030.58	2159.38	1.12	1.40	492.47	1.00
12/10/24 14:28	2.43	21.88	5.60	2030.59	2159.36	1.12	1.40	492.47	1.00
12/10/24 15:28	2.43	21.88	5.60	2030.61	2159.38	1.12	1.40	492.46	1.00
12/10/24 16:28	2.43	21.88	5.60	2030.45	2159.20	1.12	1.40	492.50	1.00
12/10/24 17:28	2.43	21.88	5.61	2030.51	2159.25	1.12	1.40	492.49	1.00
12/10/24 18:28	2.43	21.88	5.61	2030.35	2159.05	1.12	1.40	492.53	1.00
12/10/24 19:28	2.43	21.88	5.60	2030.61	2159.33	1.12	1.40	492.46	1.00
12/10/24 20:28	2.43	21.88	5.60	2030.79	2159.51	1.12	1.40	492.42	1.00
12/10/24 21:28	2.42	21.88	5.60	2030.73	2159.44	1.12	1.40	492.43	1.00
12/10/24 22:28	2.42	21.88	5.59	2030.71	2159.40	1.12	1.40	492.44	1.00
12/10/24 23:28	2.42	21.88	5.60	2030.88	2159.57	1.12	1.40	492.40	1.00
12/11/24 0:28	2.42	21.88	5.60	2030.78	2159.44	1.12	1.40	492.42	1.00
12/11/24 1:28	2.43	21.88	5.61	2031.02	2159.69	1.12	1.40	492.36	1.00
12/11/24 2:28	2.43	21.88	5.60	2030.97	2159.64	1.12	1.40	492.37	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/11/24 3:28	2.43	21.88	5.60	2031.02	2159.65	1.12	1.40	492.36	1.00
12/11/24 4:28	2.43	21.88	5.60	2031.07	2159.70	1.12	1.40	492.35	1.00
12/11/24 5:28	2.43	21.88	5.60	2031.22	2159.86	1.12	1.40	492.31	1.00
12/11/24 6:28	2.42	21.88	5.60	2031.31	2159.94	1.12	1.40	492.29	1.00
12/11/24 7:28	2.42	21.88	5.60	2031.14	2159.73	1.12	1.40	492.33	1.00
12/11/24 8:28	2.42	21.88	5.60	2031.19	2159.78	1.12	1.40	492.32	1.00
12/11/24 9:28	2.42	21.88	5.60	2031.51	2160.10	1.12	1.40	492.24	1.00
12/11/24 10:28	2.42	21.88	5.60	2031.48	2160.04	1.12	1.40	492.25	1.00
12/11/24 11:28	2.43	21.88	5.61	2031.49	2160.07	1.12	1.40	492.25	1.00
12/11/24 12:28	2.43	21.88	5.61	2031.61	2160.15	1.12	1.40	492.22	1.00
12/11/24 13:28	2.43	21.88	5.62	2031.66	2160.20	1.12	1.40	492.21	1.00
12/11/24 14:28	2.44	21.88	5.62	2031.78	2160.33	1.12	1.40	492.18	1.00
12/11/24 15:28	2.44	21.89	5.63	2031.57	2160.08	1.12	1.40	492.23	1.00
12/11/24 16:28	2.44	21.89	5.63	2031.41	2159.90	1.12	1.40	492.27	1.00
12/11/24 17:28	2.44	21.89	5.64	2031.41	2159.90	1.12	1.40	492.27	1.00
12/11/24 18:28	2.44	21.89	5.64	2031.59	2160.06	1.12	1.40	492.23	1.00
12/11/24 19:28	2.44	21.89	5.63	2031.47	2159.93	1.12	1.40	492.26	1.00
12/11/24 20:28	2.44	21.89	5.63	2031.76	2160.23	1.12	1.40	492.18	1.00
12/11/24 21:28	2.44	21.89	5.63	2031.44	2159.87	1.12	1.40	492.26	1.00
12/11/24 22:28	2.44	21.89	5.63	2031.52	2159.95	1.12	1.40	492.24	1.00
12/11/24 23:28	2.44	21.89	5.63	2031.72	2160.14	1.12	1.40	492.19	1.00
12/12/24 0:28	2.43	21.89	5.61	2031.87	2160.27	1.12	1.40	492.16	1.00
12/12/24 1:28	2.44	21.89	5.63	2031.99	2160.43	1.12	1.40	492.13	1.00
12/12/24 2:28	2.43	21.89	5.62	2031.81	2160.20	1.12	1.40	492.17	1.00
12/12/24 3:28	2.43	21.89	5.62	2032.00	2160.36	1.12	1.40	492.13	1.00
12/12/24 4:28	2.44	21.89	5.63	2031.99	2160.36	1.12	1.40	492.13	1.00
12/12/24 5:28	2.44	21.89	5.62	2032.02	2160.40	1.12	1.40	492.12	1.00
12/12/24 6:28	2.43	21.89	5.62	2032.29	2160.66	1.12	1.40	492.06	1.00
12/12/24 7:28	2.43	21.89	5.62	2032.21	2160.56	1.12	1.40	492.07	1.00
12/12/24 8:28	2.43	21.89	5.62	2032.25	2160.60	1.12	1.40	492.07	1.00
12/12/24 9:28	2.43	21.89	5.62	2032.42	2160.75	1.12	1.40	492.03	1.00
12/12/24 10:28	2.43	21.89	5.62	2032.18	2160.50	1.12	1.40	492.08	1.00
12/12/24 11:28	2.44	21.89	5.63	2032.35	2160.67	1.12	1.40	492.04	1.00
12/12/24 12:28	2.44	21.89	5.63	2032.38	2160.68	1.12	1.40	492.03	1.00
12/12/24 13:28	2.44	21.89	5.64	2032.38	2160.65	1.12	1.40	492.03	1.00
12/12/24 14:28	2.44	21.89	5.63	2032.32	2160.58	1.12	1.40	492.05	1.00
12/12/24 15:28	2.44	21.89	5.64	2032.15	2160.37	1.12	1.40	492.09	1.00
12/12/24 16:28	2.43	21.89	5.62	2032.36	2160.61	1.12	1.40	492.04	1.00
12/12/24 17:28	2.43	21.89	5.62	2032.05	2160.26	1.12	1.40	492.11	1.00
12/12/24 18:28	2.43	21.89	5.62	2032.38	2160.61	1.12	1.40	492.04	1.00
12/12/24 19:28	2.44	21.89	5.63	2032.56	2160.76	1.12	1.40	491.99	1.00
12/12/24 20:28	2.43	21.89	5.62	2032.44	2160.64	1.12	1.40	492.02	1.00
12/12/24 21:28	2.43	21.89	5.62	2032.64	2160.84	1.12	1.40	491.97	1.00
12/12/24 22:28	2.43	21.89	5.62	2032.45	2160.61	1.12	1.40	492.02	1.00
12/12/24 23:28	2.43	21.89	5.62	2032.53	2160.69	1.12	1.40	492.00	1.00
12/13/24 0:28	2.44	21.89	5.63	2032.67	2160.83	1.12	1.40	491.96	1.00
12/13/24 1:28	2.44	21.89	5.63	2032.68	2160.85	1.12	1.40	491.96	1.00
12/13/24 2:28	2.44	21.90	5.63	2032.70	2160.84	1.12	1.40	491.96	1.00
12/13/24 3:28	2.44	21.90	5.63	2032.56	2160.67	1.12	1.40	491.99	1.00
12/13/24 4:28	2.44	21.90	5.63	2032.50	2160.61	1.12	1.40	492.00	1.00
12/13/24 5:28	2.44	21.90	5.63	2032.70	2160.81	1.12	1.40	491.96	1.00
12/13/24 6:28	2.44	21.90	5.64	2033.00	2161.09	1.12	1.40	491.89	1.00
12/13/24 7:28	2.44	21.90	5.63	2032.80	2160.87	1.12	1.40	491.93	1.00
12/13/24 8:28	2.44	21.90	5.63	2033.03	2161.11	1.12	1.40	491.88	1.00
12/13/24 9:28	2.44	21.90	5.63	2032.96	2161.04	1.12	1.40	491.89	1.00
12/13/24 10:28	2.44	21.90	5.63	2033.00	2161.06	1.12	1.40	491.88	1.00
12/13/24 11:28	2.44	21.90	5.63	2033.24	2161.29	1.12	1.40	491.83	1.00
12/13/24 12:28	2.44	21.90	5.64	2033.07	2161.09	1.12	1.40	491.87	1.00
12/13/24 13:28	2.44	21.90	5.64	2033.00	2160.99	1.12	1.40	491.88	1.00
12/13/24 14:28	2.44	21.90	5.65	2033.43	2161.46	1.12	1.40	491.78	1.00
12/13/24 15:28	2.45	21.90	5.65	2033.05	2161.06	1.12	1.40	491.87	1.00
12/13/24 16:28	2.45	21.90	5.65	2033.09	2161.06	1.12	1.40	491.86	1.00
12/13/24 17:28	2.44	21.90	5.64	2033.36	2161.33	1.12	1.40	491.80	1.00
12/13/24 18:28	2.43	21.90	5.62	2033.44	2161.42	1.12	1.40	491.78	1.00
12/13/24 19:28	2.44	21.90	5.63	2033.32	2161.26	1.12	1.40	491.81	1.00
12/13/24 20:28	2.43	21.90	5.62	2033.44	2161.41	1.12	1.40	491.78	1.00
12/13/24 21:28	2.43	21.90	5.62	2033.45	2161.41	1.12	1.40	491.77	1.00
12/13/24 22:28	2.43	21.90	5.62	2033.16	2161.07	1.12	1.40	491.85	1.00
12/13/24 23:28	2.43	21.90	5.61	2033.45	2161.38	1.12	1.40	491.77	1.00
12/14/24 0:28	2.43	21.90	5.61	2033.69	2161.60	1.12	1.41	491.72	1.00
12/14/24 1:28	2.43	21.90	5.61	2033.61	2161.50	1.12	1.40	491.74	1.00
12/14/24 2:28	2.43	21.90	5.61	2033.54	2161.41	1.12	1.40	491.75	1.00
12/14/24 3:28	2.43	21.90	5.61	2033.76	2161.65	1.12	1.41	491.70	1.00
12/14/24 4:28	2.43	21.90	5.60	2033.84	2161.70	1.12	1.41	491.68	1.00
12/14/24 5:28	2.43	21.90	5.61	2033.69	2161.55	1.12	1.41	491.72	1.00
12/14/24 6:28	2.43	21.90	5.61	2033.86	2161.71	1.12	1.41	491.68	1.00
12/14/24 7:28	2.43	21.90	5.61	2033.62	2161.43	1.12	1.40	491.73	1.00
12/14/24 8:28	2.43	21.90	5.60	2033.99	2161.83	1.12	1.41	491.65	1.00
12/14/24 9:28	2.42	21.90	5.60	2033.97	2161.80	1.12	1.41	491.65	1.00
12/14/24 10:28	2.43	21.91	5.60	2034.37	2162.18	1.12	1.41	491.55	1.00
12/14/24 11:28	2.43	21.90	5.61	2034.35	2162.17	1.12	1.41	491.56	1.00
12/14/24 12:28	2.43	21.90	5.61	2033.90	2161.69	1.12	1.41	491.67	1.00
12/14/24 13:28	2.44	21.91	5.63	2034.31	2162.10	1.12	1.41	491.57	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/14/24 14:28	2.44	21.91	5.64	2034.22	2162.00	1.12	1.41	491.59	1.00
12/14/24 15:28	2.44	21.91	5.63	2034.09	2161.85	1.12	1.41	491.62	1.00
12/14/24 16:28	2.44	21.91	5.65	2033.79	2161.46	1.12	1.40	491.69	1.00
12/14/24 17:28	2.44	21.91	5.64	2034.29	2162.04	1.12	1.41	491.57	1.00
12/14/24 18:28	2.44	21.91	5.63	2034.11	2161.83	1.12	1.41	491.62	1.00
12/14/24 19:28	2.44	21.91	5.63	2034.05	2161.77	1.12	1.41	491.63	1.00
12/14/24 20:28	2.44	21.91	5.63	2034.20	2161.88	1.12	1.41	491.59	1.00
12/14/24 21:28	2.44	21.91	5.63	2034.50	2162.20	1.12	1.41	491.52	1.00
12/14/24 22:28	2.43	21.91	5.62	2034.58	2162.29	1.12	1.41	491.50	1.00
12/14/24 23:28	2.43	21.91	5.62	2034.36	2162.03	1.12	1.41	491.56	1.00
12/15/24 0:28	2.43	21.91	5.62	2034.35	2162.03	1.12	1.41	491.56	1.00
12/15/24 1:28	2.44	21.91	5.63	2034.36	2162.01	1.12	1.41	491.55	1.00
12/15/24 2:28	2.44	21.91	5.63	2034.47	2162.10	1.12	1.41	491.53	1.00
12/15/24 3:28	2.44	21.91	5.63	2034.58	2162.22	1.12	1.41	491.50	1.00
12/15/24 4:28	2.44	21.91	5.63	2034.60	2162.21	1.12	1.41	491.50	1.00
12/15/24 5:28	2.44	21.91	5.63	2034.67	2162.28	1.12	1.41	491.48	1.00
12/15/24 6:28	2.44	21.91	5.63	2034.48	2162.09	1.12	1.41	491.53	1.00
12/15/24 7:28	2.44	21.91	5.63	2034.75	2162.33	1.12	1.41	491.46	1.00
12/15/24 8:28	2.44	21.91	5.63	2034.95	2162.53	1.12	1.41	491.41	1.00
12/15/24 9:28	2.44	21.91	5.63	2034.93	2162.52	1.12	1.41	491.42	1.00
12/15/24 10:28	2.44	21.91	5.63	2035.26	2162.84	1.12	1.41	491.34	1.00
12/15/24 11:28	2.44	21.91	5.64	2034.98	2162.55	1.12	1.41	491.40	1.00
12/15/24 12:28	2.44	21.91	5.64	2034.78	2162.30	1.12	1.41	491.45	1.00
12/15/24 13:28	2.44	21.91	5.64	2034.77	2162.29	1.12	1.41	491.45	1.00
12/15/24 14:28	2.44	21.91	5.64	2034.86	2162.38	1.12	1.41	491.43	1.00
12/15/24 15:28	2.45	21.91	5.65	2035.00	2162.50	1.12	1.41	491.40	1.00
12/15/24 16:28	2.45	21.91	5.65	2035.15	2162.67	1.12	1.41	491.36	1.00
12/15/24 17:28	2.44	21.91	5.64	2034.99	2162.48	1.12	1.41	491.40	1.00
12/15/24 18:28	2.44	21.91	5.64	2035.06	2162.54	1.12	1.41	491.39	1.00
12/15/24 19:28	2.44	21.91	5.64	2034.99	2162.45	1.12	1.41	491.40	1.00
12/15/24 20:28	2.44	21.91	5.63	2035.03	2162.47	1.12	1.41	491.39	1.00
12/15/24 21:28	2.44	21.91	5.64	2035.17	2162.61	1.12	1.41	491.36	1.00
12/15/24 22:28	2.44	21.91	5.63	2035.45	2162.91	1.12	1.41	491.29	1.00
12/15/24 23:28	2.44	21.91	5.63	2035.41	2162.85	1.12	1.41	491.30	1.00
12/16/24 0:28	2.44	21.92	5.63	2035.37	2162.81	1.12	1.41	491.31	1.00
12/16/24 1:28	2.44	21.92	5.63	2035.17	2162.57	1.12	1.41	491.36	1.00
12/16/24 2:28	2.43	21.92	5.62	2035.31	2162.66	1.12	1.41	491.33	1.00
12/16/24 3:28	2.44	21.92	5.63	2035.46	2162.83	1.12	1.41	491.29	1.00
12/16/24 4:28	2.44	21.92	5.63	2035.29	2162.64	1.12	1.41	491.33	1.00
12/16/24 5:28	2.44	21.92	5.63	2035.62	2162.97	1.12	1.41	491.25	1.00
12/16/24 6:28	2.43	21.92	5.62	2035.71	2163.08	1.12	1.41	491.23	1.00
12/16/24 7:28	2.43	21.92	5.62	2035.54	2162.88	1.12	1.41	491.27	1.00
12/16/24 8:28	2.43	21.92	5.61	2035.83	2163.15	1.12	1.41	491.20	1.00
12/16/24 9:28	2.43	21.92	5.62	2035.94	2163.31	1.12	1.41	491.17	1.00
12/16/24 10:28	2.43	21.92	5.60	2035.93	2163.25	1.12	1.41	491.18	1.00
12/16/24 11:28	2.43	21.92	5.61	2035.72	2163.03	1.12	1.41	491.23	1.00
12/16/24 12:28	2.43	21.92	5.62	2036.00	2163.31	1.12	1.41	491.16	1.00
12/16/24 13:28	2.44	21.92	5.63	2035.95	2163.24	1.12	1.41	491.17	1.00
12/16/24 14:28	2.44	21.92	5.64	2036.13	2163.42	1.12	1.41	491.13	1.00
12/16/24 15:28	2.44	21.92	5.63	2035.86	2163.12	1.12	1.41	491.19	1.00
12/16/24 16:28	2.44	21.92	5.63	2036.22	2163.49	1.12	1.41	491.11	1.00
12/16/24 17:28	2.44	21.92	5.63	2036.18	2163.45	1.12	1.41	491.11	1.00
12/16/24 18:28	2.44	21.92	5.62	2036.16	2163.39	1.12	1.41	491.12	1.00
12/16/24 19:28	2.43	21.92	5.62	2036.28	2163.51	1.12	1.41	491.09	1.00
12/16/24 20:28	2.43	21.92	5.62	2036.20	2163.40	1.12	1.41	491.11	1.00
12/16/24 21:28	2.44	21.92	5.63	2036.34	2163.53	1.12	1.41	491.08	1.00
12/16/24 22:28	2.43	21.92	5.62	2036.15	2163.36	1.12	1.41	491.12	1.00
12/16/24 23:28	2.43	21.92	5.62	2036.29	2163.47	1.12	1.41	491.09	1.00
12/17/24 0:28	2.44	21.92	5.63	2036.27	2163.45	1.12	1.41	491.09	1.00
12/17/24 1:28	2.44	21.92	5.63	2036.55	2163.73	1.12	1.41	491.03	1.00
12/17/24 2:28	2.41	21.92	5.57	2036.56	2163.71	1.12	1.41	491.02	1.00
12/17/24 3:28	2.41	21.92	5.57	2036.49	2163.63	1.12	1.41	491.04	1.00
12/17/24 4:28	2.41	21.92	5.56	2036.60	2163.73	1.12	1.41	491.01	1.00
12/17/24 5:28	2.41	21.92	5.57	2036.43	2163.55	1.12	1.41	491.05	1.00
12/17/24 6:28	2.41	21.92	5.57	2036.41	2163.52	1.12	1.41	491.06	1.00
12/17/24 7:28	2.41	21.92	5.57	2036.41	2163.48	1.12	1.41	491.06	1.00
12/17/24 8:28	2.41	21.93	5.57	2036.78	2163.86	1.12	1.41	490.97	1.00
12/17/24 9:28	2.41	21.92	5.56	2036.75	2163.84	1.12	1.41	490.98	1.00
12/17/24 10:28	2.41	21.93	5.56	2036.89	2163.96	1.12	1.41	490.94	1.00
12/17/24 11:28	2.41	21.93	5.57	2036.76	2163.80	1.12	1.41	490.98	1.00
12/17/24 12:28	2.41	21.93	5.57	2036.62	2163.64	1.12	1.41	491.01	1.00
12/17/24 13:28	2.41	21.93	5.57	2036.66	2163.69	1.12	1.41	491.00	1.00
12/17/24 14:28	2.41	21.93	5.58	2036.85	2163.88	1.12	1.41	490.95	1.00
12/17/24 15:28	2.41	21.93	5.58	2036.78	2163.80	1.12	1.41	490.97	1.00
12/17/24 16:28	2.41	21.93	5.57	2036.80	2163.80	1.12	1.41	490.97	1.00
12/17/24 17:28	2.41	21.93	5.57	2037.01	2164.02	1.12	1.41	490.91	1.00
12/17/24 18:28	2.41	21.93	5.56	2036.90	2163.87	1.12	1.41	490.94	1.00
12/17/24 19:28	2.41	21.93	5.56	2036.97	2163.93	1.12	1.41	490.92	1.00
12/17/24 20:28	2.40	21.93	5.55	2036.85	2163.82	1.12	1.41	490.95	1.00
12/17/24 21:28	2.40	21.93	5.55	2036.80	2163.72	1.12	1.41	490.97	1.00
12/17/24 22:28	2.40	21.93	5.55	2037.07	2164.00	1.12	1.41	490.90	1.00
12/17/24 23:28	2.40	21.93	5.54	2037.21	2164.14	1.12	1.41	490.87	1.00
12/18/24 0:28	2.40	21.93	5.54	2037.15	2164.07	1.12	1.41	490.88	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/18/24 1:28	2.40	21.93	5.54	2037.07	2163.98	1.12	1.41	490.90	1.00
12/18/24 2:28	2.39	21.93	5.53	2037.17	2164.05	1.12	1.41	490.88	1.00
12/18/24 3:28	2.39	21.93	5.53	2037.51	2164.41	1.12	1.41	490.80	1.00
12/18/24 4:28	2.39	21.93	5.53	2037.24	2164.12	1.12	1.41	490.86	1.00
12/18/24 5:28	2.39	21.93	5.53	2037.53	2164.42	1.12	1.41	490.79	1.00
12/18/24 6:28	2.39	21.93	5.52	2037.51	2164.39	1.12	1.41	490.79	1.00
12/18/24 7:28	2.39	21.93	5.52	2037.47	2164.31	1.12	1.41	490.81	1.00
12/18/24 8:28	2.39	21.93	5.52	2037.90	2164.77	1.12	1.41	490.70	1.00
12/18/24 9:28	2.39	21.93	5.53	2037.64	2164.49	1.12	1.41	490.76	1.00
12/18/24 10:28	2.39	21.93	5.53	2037.65	2164.49	1.12	1.41	490.76	1.00
12/18/24 11:28	2.38	21.93	5.50	2037.77	2164.61	1.12	1.41	490.73	1.00
12/18/24 12:28	2.37	21.93	5.48	2037.50	2164.31	1.12	1.41	490.80	1.00
12/18/24 13:28	2.39	21.95	5.52	2033.99	2159.85	1.12	1.40	491.64	1.00
12/18/24 14:28	2.39	21.94	5.53	2033.74	2159.85	1.12	1.40	491.70	1.00
12/18/24 15:28	2.40	21.94	5.54	2033.91	2160.19	1.12	1.40	491.66	1.00
12/18/24 16:28	2.40	21.94	5.55	2033.52	2159.89	1.12	1.40	491.76	1.00
12/18/24 17:28	2.40	21.94	5.55	2033.68	2160.08	1.12	1.40	491.72	1.00
12/18/24 18:28	2.41	21.94	5.56	2033.78	2160.18	1.12	1.40	491.69	1.00
12/18/24 19:28	2.41	21.94	5.56	2033.86	2160.28	1.12	1.40	491.68	1.00
12/18/24 20:28	2.41	21.94	5.56	2033.64	2160.05	1.12	1.40	491.73	1.00
12/18/24 21:28	2.41	21.94	5.57	2033.39	2159.80	1.12	1.40	491.79	1.00
12/18/24 22:28	2.41	21.94	5.56	2033.77	2160.21	1.12	1.40	491.70	1.00
12/18/24 23:28	2.41	21.94	5.56	2033.68	2160.09	1.12	1.40	491.72	1.00
12/19/24 0:28	2.41	21.94	5.56	2033.73	2160.14	1.12	1.40	491.71	1.00
12/19/24 1:28	2.41	21.94	5.56	2033.70	2160.08	1.12	1.40	491.72	1.00
12/19/24 2:28	2.41	21.94	5.57	2033.74	2160.12	1.12	1.40	491.70	1.00
12/19/24 3:28	2.41	21.94	5.56	2033.55	2159.93	1.12	1.40	491.75	1.00
12/19/24 4:28	2.41	21.94	5.57	2033.57	2159.94	1.12	1.40	491.75	1.00
12/19/24 5:28	2.41	21.94	5.57	2033.57	2159.93	1.12	1.40	491.75	1.00
12/19/24 6:28	2.41	21.94	5.56	2033.38	2159.71	1.12	1.40	491.79	1.00
12/19/24 7:28	2.41	21.94	5.56	2033.52	2159.86	1.12	1.40	491.76	1.00
12/19/24 8:28	2.41	21.94	5.56	2033.45	2159.75	1.12	1.40	491.78	1.00
12/19/24 9:28	2.41	21.94	5.56	2033.37	2159.67	1.12	1.40	491.79	1.00
12/19/24 10:28	2.40	21.95	5.55	2022.89	2148.19	1.11	1.40	494.34	1.00
12/19/24 11:28	2.41	21.94	5.56	2022.67	2148.06	1.11	1.40	494.40	1.00
12/19/24 12:28	2.41	21.94	5.56	2022.51	2147.97	1.11	1.40	494.43	1.00
12/19/24 13:28	2.41	21.94	5.56	2022.52	2148.00	1.11	1.40	494.43	1.00
12/19/24 14:28	2.41	21.94	5.57	2022.70	2148.20	1.11	1.40	494.39	1.00
12/19/24 15:28	2.41	21.94	5.56	2022.74	2148.25	1.11	1.40	494.38	1.00
12/19/24 16:28	2.41	21.94	5.56	2022.95	2148.48	1.11	1.40	494.33	1.00
12/19/24 17:28	2.41	21.94	5.56	2022.94	2148.45	1.11	1.40	494.33	1.00
12/19/24 18:28	2.41	21.94	5.56	2023.02	2148.51	1.11	1.40	494.31	1.00
12/19/24 19:28	2.40	21.94	5.55	2023.02	2148.53	1.11	1.40	494.31	1.00
12/19/24 20:28	2.40	21.94	5.55	2022.79	2148.25	1.11	1.40	494.37	1.00
12/19/24 21:28	2.40	21.94	5.54	2023.15	2148.64	1.11	1.40	494.28	1.00
12/19/24 22:28	2.40	21.94	5.53	2023.23	2148.71	1.11	1.40	494.26	1.00
12/19/24 23:28	2.40	21.94	5.54	2023.31	2148.80	1.11	1.40	494.24	1.00
12/20/24 0:28	2.40	21.94	5.54	2023.43	2148.90	1.11	1.40	494.21	1.00
12/20/24 1:28	2.40	21.94	5.54	2023.45	2148.92	1.11	1.40	494.21	1.00
12/20/24 2:28	2.39	21.94	5.53	2023.69	2149.15	1.11	1.40	494.15	1.00
12/20/24 3:28	2.40	21.94	5.53	2023.78	2149.23	1.11	1.40	494.13	1.00
12/20/24 4:28	2.40	21.94	5.54	2023.78	2149.24	1.11	1.40	494.12	1.00
12/20/24 5:28	2.39	21.94	5.53	2023.47	2148.91	1.11	1.40	494.20	1.00
12/20/24 6:28	2.40	21.94	5.53	2023.77	2149.20	1.11	1.40	494.13	1.00
12/20/24 7:28	2.40	21.94	5.53	2023.57	2148.97	1.11	1.40	494.18	1.00
12/20/24 8:28	2.39	21.94	5.53	2023.81	2149.24	1.11	1.40	494.12	1.00
12/20/24 9:28	2.39	21.95	5.53	2023.57	2148.96	1.11	1.40	494.18	1.00
12/20/24 10:28	2.39	21.95	5.53	2023.86	2149.23	1.11	1.40	494.11	1.00
12/20/24 11:28	2.40	21.95	5.53	2023.81	2149.20	1.11	1.40	494.12	1.00
12/20/24 12:28	2.40	21.95	5.54	2023.82	2149.16	1.11	1.40	494.12	1.00
12/20/24 13:28	2.40	21.95	5.55	2023.80	2149.17	1.11	1.40	494.12	1.00
12/20/24 14:28	2.40	21.95	5.55	2023.98	2149.33	1.11	1.40	494.08	1.00
12/20/24 15:28	2.40	21.95	5.55	2024.11	2149.44	1.11	1.40	494.04	1.00
12/20/24 16:28	2.40	21.95	5.55	2024.04	2149.36	1.11	1.40	494.06	1.00
12/20/24 17:28	2.40	21.95	5.55	2024.13	2149.44	1.11	1.40	494.04	1.00
12/20/24 18:28	2.40	21.95	5.55	2024.20	2149.51	1.11	1.40	494.02	1.00
12/20/24 19:28	2.40	21.95	5.55	2024.43	2149.74	1.11	1.40	493.97	1.00
12/20/24 20:28	2.40	21.95	5.55	2024.32	2149.62	1.11	1.40	493.99	1.00
12/20/24 21:28	2.40	21.95	5.55	2024.43	2149.73	1.11	1.40	493.97	1.00
12/20/24 22:28	2.40	21.95	5.55	2024.58	2149.87	1.11	1.40	493.93	1.00
12/20/24 23:28	2.40	21.95	5.54	2024.69	2149.96	1.11	1.40	493.90	1.00
12/21/24 0:28	2.40	21.95	5.55	2024.47	2149.72	1.11	1.40	493.96	1.00
12/21/24 1:28	2.40	21.95	5.55	2024.70	2149.95	1.11	1.40	493.90	1.00
12/21/24 2:28	2.40	21.95	5.55	2024.72	2149.96	1.11	1.40	493.90	1.00
12/21/24 3:28	2.40	21.95	5.55	2025.01	2150.27	1.11	1.40	493.82	1.00
12/21/24 4:28	2.40	21.95	5.54	2024.78	2149.99	1.11	1.40	493.88	1.00
12/21/24 5:28	2.40	21.95	5.55	2025.00	2150.22	1.11	1.40	493.83	1.00
12/21/24 6:28	2.40	21.95	5.55	2024.73	2149.91	1.11	1.40	493.89	1.00
12/21/24 7:28	2.40	21.95	5.54	2024.76	2149.94	1.11	1.40	493.89	1.00
12/21/24 8:28	2.40	21.95	5.54	2024.87	2150.05	1.11	1.40	493.86	1.00
12/21/24 9:28	2.40	21.95	5.54	2024.92	2150.10	1.11	1.40	493.85	1.00
12/21/24 10:28	2.40	21.95	5.54	2025.27	2150.43	1.11	1.40	493.76	1.00
12/21/24 11:28	2.40	21.95	5.55	2025.02	2150.16	1.11	1.40	493.82	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/21/24 12:28	2.40	21.95	5.54	2025.11	2150.26	1.11	1.40	493.80	1.00
12/21/24 13:28	2.40	21.95	5.55	2025.10	2150.21	1.11	1.40	493.80	1.00
12/21/24 14:28	2.40	21.95	5.55	2024.99	2150.07	1.11	1.40	493.83	1.00
12/21/24 15:28	2.40	21.95	5.54	2024.94	2150.01	1.11	1.40	493.84	1.00
12/21/24 16:28	2.40	21.95	5.55	2025.63	2150.73	1.11	1.40	493.67	1.00
12/21/24 17:28	2.40	21.95	5.55	2025.04	2150.09	1.11	1.40	493.82	1.00
12/21/24 18:28	2.40	21.95	5.54	2025.40	2150.49	1.11	1.40	493.73	1.00
12/21/24 19:28	2.40	21.96	5.55	2025.41	2150.48	1.11	1.40	493.73	1.00
12/21/24 20:28	2.40	21.96	5.54	2025.53	2150.61	1.11	1.40	493.70	1.00
12/21/24 21:28	2.40	21.96	5.54	2025.58	2150.62	1.11	1.40	493.69	1.00
12/21/24 22:28	2.40	21.96	5.54	2025.46	2150.50	1.11	1.40	493.71	1.00
12/21/24 23:28	2.40	21.96	5.54	2025.74	2150.77	1.11	1.40	493.65	1.00
12/22/24 0:28	2.40	21.96	5.54	2025.81	2150.86	1.11	1.40	493.63	1.00
12/22/24 1:28	2.40	21.96	5.55	2025.86	2150.90	1.11	1.40	493.62	1.00
12/22/24 2:28	2.40	21.96	5.54	2025.70	2150.72	1.11	1.40	493.66	1.00
12/22/24 3:28	2.40	21.96	5.55	2025.95	2150.98	1.11	1.40	493.60	1.00
12/22/24 4:28	2.40	21.96	5.54	2025.94	2150.93	1.11	1.40	493.60	1.00
12/22/24 5:28	2.40	21.96	5.54	2026.08	2151.09	1.11	1.40	493.56	1.00
12/22/24 6:28	2.40	21.96	5.54	2026.25	2151.26	1.11	1.40	493.52	1.00
12/22/24 7:28	2.40	21.96	5.54	2026.41	2151.42	1.11	1.40	493.48	1.00
12/22/24 8:28	2.40	21.96	5.54	2026.30	2151.30	1.11	1.40	493.51	1.00
12/22/24 9:28	2.40	21.96	5.54	2026.19	2151.16	1.11	1.40	493.54	1.00
12/22/24 10:28	2.40	21.96	5.54	2026.73	2151.73	1.11	1.40	493.41	1.00
12/22/24 11:28	2.40	21.96	5.54	2026.63	2151.60	1.11	1.40	493.43	1.00
12/22/24 12:28	2.40	21.96	5.55	2026.99	2151.97	1.11	1.40	493.34	1.00
12/22/24 13:28	2.40	21.96	5.55	2026.78	2151.74	1.11	1.40	493.39	1.00
12/22/24 14:28	2.40	21.96	5.55	2027.08	2152.03	1.11	1.40	493.32	1.00
12/22/24 15:28	2.40	21.96	5.55	2027.17	2152.12	1.11	1.40	493.30	1.00
12/22/24 16:28	2.40	21.96	5.54	2027.20	2152.14	1.11	1.40	493.29	1.00
12/22/24 17:28	2.40	21.96	5.55	2027.04	2151.96	1.11	1.40	493.33	1.00
12/22/24 18:28	2.40	21.96	5.54	2027.27	2152.18	1.11	1.40	493.27	1.00
12/22/24 19:28	2.40	21.96	5.54	2027.16	2152.06	1.11	1.40	493.30	1.00
12/22/24 20:28	2.40	21.96	5.53	2027.62	2152.55	1.11	1.40	493.19	1.00
12/22/24 21:28	2.40	21.96	5.54	2027.77	2152.68	1.11	1.40	493.15	1.00
12/22/24 22:28	2.40	21.96	5.54	2027.64	2152.53	1.11	1.40	493.18	1.00
12/22/24 23:28	2.40	21.96	5.53	2027.63	2152.51	1.11	1.40	493.19	1.00
12/23/24 0:28	2.40	21.96	5.54	2027.51	2152.40	1.11	1.40	493.22	1.00
12/23/24 1:28	2.40	21.96	5.54	2027.71	2152.57	1.11	1.40	493.17	1.00
12/23/24 2:28	2.40	21.96	5.53	2027.62	2152.48	1.11	1.40	493.19	1.00
12/23/24 3:28	2.40	21.96	5.53	2027.66	2152.51	1.11	1.40	493.18	1.00
12/23/24 4:28	2.40	21.96	5.54	2027.61	2152.43	1.11	1.40	493.19	1.00
12/23/24 5:28	2.40	21.96	5.54	2027.53	2152.37	1.11	1.40	493.21	1.00
12/23/24 6:28	2.39	21.96	5.53	2027.77	2152.58	1.11	1.40	493.15	1.00
12/23/24 7:28	2.40	21.96	5.53	2027.69	2152.50	1.11	1.40	493.17	1.00
12/23/24 8:28	2.40	21.97	5.53	2027.74	2152.51	1.11	1.40	493.16	1.00
12/23/24 9:28	2.39	21.96	5.53	2027.96	2152.76	1.11	1.40	493.11	1.00
12/23/24 10:28	2.40	21.96	5.53	2027.88	2152.67	1.11	1.40	493.13	1.00
12/23/24 11:28	2.39	21.97	5.53	2027.87	2152.63	1.11	1.40	493.13	1.00
12/23/24 12:28	2.40	21.97	5.54	2027.79	2152.54	1.11	1.40	493.15	1.00
12/23/24 13:28	2.40	21.97	5.54	2028.02	2152.76	1.11	1.40	493.09	1.00
12/23/24 14:28	2.40	21.97	5.54	2027.85	2152.57	1.11	1.40	493.13	1.00
12/23/24 15:28	2.40	21.97	5.53	2028.03	2152.75	1.11	1.40	493.09	1.00
12/23/24 16:28	2.39	21.97	5.53	2028.14	2152.85	1.11	1.40	493.06	1.00
12/23/24 17:28	2.40	21.97	5.54	2028.19	2152.90	1.11	1.40	493.05	1.00
12/23/24 18:28	2.39	21.97	5.53	2028.31	2153.02	1.11	1.40	493.02	1.00
12/23/24 19:28	2.39	21.97	5.53	2028.54	2153.23	1.11	1.40	492.97	1.00
12/23/24 20:28	2.39	21.97	5.52	2028.58	2153.30	1.11	1.40	492.95	1.00
12/23/24 21:28	2.39	21.97	5.52	2028.73	2153.40	1.11	1.40	492.92	1.00
12/23/24 22:28	2.39	21.97	5.52	2028.77	2153.46	1.11	1.40	492.91	1.00
12/23/24 23:28	2.39	21.97	5.51	2028.73	2153.40	1.11	1.40	492.92	1.00
12/24/24 0:28	2.39	21.97	5.51	2028.64	2153.28	1.11	1.40	492.94	1.00
12/24/24 1:28	2.39	21.97	5.52	2028.60	2153.22	1.11	1.40	492.95	1.00
12/24/24 2:28	2.39	21.97	5.51	2028.75	2153.39	1.11	1.40	492.91	1.00
12/24/24 3:28	2.39	21.97	5.52	2028.88	2153.50	1.11	1.40	492.88	1.00
12/24/24 4:28	2.39	21.97	5.51	2028.84	2153.45	1.11	1.40	492.89	1.00
12/24/24 5:28	2.39	21.97	5.52	2029.21	2153.84	1.11	1.40	492.80	1.00
12/24/24 6:28	2.39	21.97	5.51	2029.27	2153.88	1.11	1.40	492.79	1.00
12/24/24 7:28	2.39	21.97	5.51	2029.13	2153.74	1.11	1.40	492.82	1.00
12/24/24 8:28	2.38	21.97	5.51	2029.20	2153.78	1.11	1.40	492.81	1.00
12/24/24 9:28	2.39	21.97	5.51	2029.09	2153.67	1.11	1.40	492.83	1.00
12/24/24 10:28	2.38	21.97	5.51	2029.40	2153.96	1.11	1.40	492.76	1.00
12/24/24 11:28	2.39	21.97	5.51	2029.53	2154.10	1.12	1.40	492.72	1.00
12/24/24 12:28	2.39	21.97	5.52	2029.10	2153.63	1.11	1.40	492.83	1.00
12/24/24 13:28	2.39	21.97	5.52	2029.44	2153.99	1.11	1.40	492.75	1.00
12/24/24 14:28	2.39	21.97	5.52	2029.55	2154.10	1.12	1.40	492.72	1.00
12/24/24 15:28	2.39	21.97	5.52	2029.49	2154.01	1.11	1.40	492.74	1.00
12/24/24 16:28	2.39	21.97	5.52	2029.79	2154.31	1.12	1.40	492.66	1.00
12/24/24 17:28	2.39	21.97	5.53	2029.42	2153.90	1.11	1.40	492.75	1.00
12/24/24 18:28	2.39	21.97	5.52	2029.77	2154.28	1.12	1.40	492.67	1.00
12/24/24 19:28	2.39	21.97	5.52	2029.69	2154.16	1.12	1.40	492.69	1.00
12/24/24 20:28	2.39	21.97	5.52	2029.70	2154.17	1.12	1.40	492.68	1.00
12/24/24 21:28	2.39	21.97	5.52	2029.94	2154.42	1.12	1.40	492.62	1.00
12/24/24 22:28	2.39	21.98	5.52	2029.78	2154.25	1.12	1.40	492.66	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/24/24 23:28	2.39	21.98	5.52	2029.72	2154.18	1.12	1.40	492.68	1.00
12/25/24 0:28	2.39	21.98	5.52	2029.78	2154.19	1.12	1.40	492.66	1.00
12/25/24 1:28	2.39	21.98	5.52	2030.09	2154.52	1.12	1.40	492.59	1.00
12/25/24 2:28	2.39	21.98	5.52	2030.15	2154.57	1.12	1.40	492.57	1.00
12/25/24 3:28	2.39	21.98	5.52	2030.40	2154.83	1.12	1.40	492.51	1.00
12/25/24 4:28	2.39	21.98	5.52	2030.08	2154.49	1.12	1.40	492.59	1.00
12/25/24 5:28	2.39	21.98	5.53	2030.50	2154.92	1.12	1.40	492.49	1.00
12/25/24 6:28	2.39	21.98	5.53	2030.28	2154.67	1.12	1.40	492.54	1.00
12/25/24 7:28	2.39	21.98	5.52	2030.58	2154.99	1.12	1.40	492.47	1.00
12/25/24 8:28	2.39	21.98	5.52	2030.53	2154.90	1.12	1.40	492.48	1.00
12/25/24 9:28	2.39	21.98	5.52	2030.53	2154.92	1.12	1.40	492.48	1.00
12/25/24 10:28	2.39	21.98	5.52	2030.44	2154.79	1.12	1.40	492.50	1.00
12/25/24 11:28	2.39	21.98	5.53	2030.77	2155.12	1.12	1.40	492.42	1.00
12/25/24 12:28	2.40	21.98	5.53	2030.60	2154.95	1.12	1.40	492.46	1.00
12/25/24 13:28	2.40	21.98	5.53	2030.75	2155.08	1.12	1.40	492.43	1.00
12/25/24 14:28	2.40	21.98	5.53	2030.88	2155.23	1.12	1.40	492.40	1.00
12/25/24 15:28	2.40	21.98	5.54	2030.76	2155.07	1.12	1.40	492.43	1.00
12/25/24 16:28	2.39	21.98	5.53	2031.14	2155.47	1.12	1.40	492.34	1.00
12/25/24 17:28	2.39	21.98	5.53	2030.88	2155.16	1.12	1.40	492.40	1.00
12/25/24 18:28	2.39	21.98	5.52	2031.01	2155.29	1.12	1.40	492.37	1.00
12/25/24 19:28	2.39	21.98	5.52	2030.97	2155.24	1.12	1.40	492.37	1.00
12/25/24 20:28	2.39	21.98	5.51	2030.98	2155.25	1.12	1.40	492.37	1.00
12/25/24 21:28	2.39	21.98	5.51	2031.13	2155.40	1.12	1.40	492.34	1.00
12/25/24 22:28	2.38	21.98	5.51	2031.14	2155.38	1.12	1.40	492.33	1.00
12/25/24 23:28	2.39	21.98	5.51	2031.32	2155.58	1.12	1.40	492.29	1.00
12/26/24 0:28	2.38	21.98	5.51	2031.41	2155.67	1.12	1.40	492.27	1.00
12/26/24 1:28	2.38	21.98	5.51	2031.43	2155.67	1.12	1.40	492.27	1.00
12/26/24 2:28	2.38	21.98	5.51	2031.42	2155.63	1.12	1.40	492.27	1.00
12/26/24 3:28	2.39	21.98	5.51	2031.33	2155.54	1.12	1.40	492.29	1.00
12/26/24 4:28	2.38	21.98	5.51	2031.45	2155.67	1.12	1.40	492.26	1.00
12/26/24 5:28	2.38	21.98	5.51	2031.40	2155.57	1.12	1.40	492.27	1.00
12/26/24 6:28	2.38	21.98	5.51	2031.18	2155.34	1.12	1.40	492.33	1.00
12/26/24 7:28	2.38	21.98	5.49	2031.43	2155.58	1.12	1.40	492.26	1.00
12/26/24 8:28	2.38	21.98	5.50	2031.46	2155.62	1.12	1.40	492.26	1.00
12/26/24 9:28	2.38	21.98	5.51	2031.72	2155.89	1.12	1.40	492.19	1.00
12/26/24 10:28	2.38	21.99	5.50	2031.52	2155.65	1.12	1.40	492.24	1.00
12/26/24 11:28	2.38	21.99	5.51	2031.62	2155.75	1.12	1.40	492.22	1.00
12/26/24 12:28	2.39	21.99	5.52	2031.59	2155.73	1.12	1.40	492.22	1.00
12/26/24 13:28	2.39	21.99	5.52	2031.47	2155.58	1.12	1.40	492.26	1.00
12/26/24 14:28	2.39	21.99	5.51	2031.53	2155.63	1.12	1.40	492.24	1.00
12/26/24 15:28	2.39	21.99	5.51	2031.47	2155.56	1.12	1.40	492.26	1.00
12/26/24 16:28	2.39	21.99	5.51	2031.85	2155.96	1.12	1.40	492.16	1.00
12/26/24 17:28	2.39	21.99	5.51	2031.62	2155.68	1.12	1.40	492.22	1.00
12/26/24 18:28	2.39	21.99	5.52	2031.79	2155.87	1.12	1.40	492.18	1.00
12/26/24 19:28	2.39	21.99	5.51	2031.98	2156.05	1.12	1.40	492.13	1.00
12/26/24 20:28	2.38	21.99	5.50	2031.96	2156.01	1.12	1.40	492.14	1.00
12/26/24 21:28	2.38	21.99	5.50	2032.18	2156.23	1.12	1.40	492.08	1.00
12/26/24 22:28	2.38	21.99	5.50	2032.26	2156.31	1.12	1.40	492.06	1.00
12/26/24 23:28	2.39	21.99	5.51	2032.24	2156.28	1.12	1.40	492.07	1.00
12/27/24 0:28	2.38	21.99	5.50	2032.39	2156.45	1.12	1.40	492.03	1.00
12/27/24 1:28	2.38	21.99	5.51	2032.36	2156.38	1.12	1.40	492.04	1.00
12/27/24 2:28	2.38	21.99	5.50	2032.33	2156.33	1.12	1.40	492.05	1.00
12/27/24 3:28	2.38	21.99	5.50	2032.37	2156.38	1.12	1.40	492.04	1.00
12/27/24 4:28	2.38	21.99	5.50	2032.25	2156.25	1.12	1.40	492.06	1.00
12/27/24 5:28	2.38	21.99	5.50	2032.57	2156.57	1.12	1.40	491.99	1.00
12/27/24 6:28	2.38	21.99	5.50	2032.69	2156.65	1.12	1.40	491.96	1.00
12/27/24 7:28	2.38	21.99	5.50	2032.69	2156.67	1.12	1.40	491.96	1.00
12/27/24 8:28	2.38	21.99	5.50	2032.71	2156.67	1.12	1.40	491.95	1.00
12/27/24 9:28	2.38	21.99	5.50	2032.80	2156.73	1.12	1.40	491.93	1.00
12/27/24 10:28	2.38	21.99	5.49	2033.02	2156.97	1.12	1.40	491.88	1.00
12/27/24 11:28	2.38	21.99	5.50	2033.03	2156.97	1.12	1.40	491.88	1.00
12/27/24 12:28	2.38	21.99	5.50	2033.13	2157.06	1.12	1.40	491.85	1.00
12/27/24 13:28	2.39	21.99	5.52	2033.16	2157.09	1.12	1.40	491.85	1.00
12/27/24 14:28	2.39	21.99	5.52	2033.18	2157.10	1.12	1.40	491.84	1.00
12/27/24 15:28	2.39	21.99	5.52	2033.26	2157.19	1.12	1.40	491.82	1.00
12/27/24 16:28	2.38	21.99	5.51	2033.20	2157.11	1.12	1.40	491.83	1.00
12/27/24 17:28	2.38	21.99	5.50	2033.25	2157.15	1.12	1.40	491.82	1.00
12/27/24 18:28	2.38	21.99	5.50	2033.27	2157.16	1.12	1.40	491.82	1.00
12/27/24 19:28	2.38	21.99	5.51	2033.58	2157.48	1.12	1.40	491.74	1.00
12/27/24 20:28	2.38	21.99	5.50	2033.25	2157.13	1.12	1.40	491.82	1.00
12/27/24 21:28	2.38	21.99	5.50	2033.60	2157.48	1.12	1.40	491.74	1.00
12/27/24 22:28	2.38	21.99	5.50	2033.53	2157.39	1.12	1.40	491.76	1.00
12/27/24 23:28	2.38	21.99	5.50	2033.67	2157.53	1.12	1.40	491.72	1.00
12/28/24 0:28	2.38	21.99	5.49	2033.64	2157.47	1.12	1.40	491.73	1.00
12/28/24 1:28	2.38	22.00	5.49	2033.68	2157.49	1.12	1.40	491.72	1.00
12/28/24 2:28	2.38	22.00	5.49	2033.55	2157.36	1.12	1.40	491.75	1.00
12/28/24 3:28	2.38	22.00	5.50	2033.77	2157.58	1.12	1.40	491.70	1.00
12/28/24 4:28	2.38	22.00	5.49	2033.78	2157.57	1.12	1.40	491.70	1.00
12/28/24 5:28	2.38	22.00	5.49	2033.69	2157.47	1.12	1.40	491.72	1.00
12/28/24 6:28	2.37	22.00	5.48	2033.94	2157.74	1.12	1.40	491.66	1.00
12/28/24 7:28	2.38	22.00	5.49	2033.78	2157.55	1.12	1.40	491.69	1.00
12/28/24 8:28	2.37	22.00	5.48	2033.86	2157.61	1.12	1.40	491.68	1.00
12/28/24 9:28	2.37	22.00	5.48	2033.96	2157.71	1.12	1.40	491.65	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/28/24 10:28	2.37	22.00	5.48	2034.26	2158.04	1.12	1.40	491.58	1.00
12/28/24 11:28	2.37	22.00	5.48	2034.30	2158.05	1.12	1.40	491.57	1.00
12/28/24 12:28	2.37	22.00	5.48	2034.20	2157.91	1.12	1.40	491.59	1.00
12/28/24 13:28	2.38	22.00	5.50	2034.08	2157.78	1.12	1.40	491.62	1.00
12/28/24 14:28	2.38	22.00	5.50	2034.20	2157.93	1.12	1.40	491.59	1.00
12/28/24 15:28	2.38	22.00	5.49	2034.15	2157.84	1.12	1.40	491.60	1.00
12/28/24 16:28	2.38	22.00	5.49	2034.24	2157.93	1.12	1.40	491.58	1.00
12/28/24 17:28	2.38	22.00	5.49	2034.32	2157.99	1.12	1.40	491.57	1.00
12/28/24 18:28	2.38	22.00	5.49	2034.50	2158.17	1.12	1.40	491.52	1.00
12/28/24 19:28	2.37	22.00	5.48	2034.36	2158.04	1.12	1.40	491.55	1.00
12/28/24 20:28	2.37	22.00	5.48	2034.65	2158.31	1.12	1.40	491.48	1.00
12/28/24 21:28	2.37	22.00	5.48	2034.40	2158.05	1.12	1.40	491.54	1.00
12/28/24 22:28	2.37	22.00	5.49	2034.57	2158.20	1.12	1.40	491.50	1.00
12/28/24 23:28	2.37	22.00	5.48	2034.39	2158.00	1.12	1.40	491.55	1.00
12/29/24 0:28	2.37	22.00	5.48	2034.88	2158.51	1.12	1.40	491.43	1.00
12/29/24 1:28	2.37	22.00	5.48	2035.02	2158.67	1.12	1.40	491.40	1.00
12/29/24 2:28	2.37	22.00	5.48	2034.58	2158.18	1.12	1.40	491.50	1.00
12/29/24 3:28	2.37	22.00	5.49	2034.84	2158.45	1.12	1.40	491.44	1.00
12/29/24 4:28	2.37	22.00	5.48	2034.53	2158.15	1.12	1.40	491.51	1.00
12/29/24 5:28	2.37	22.00	5.48	2034.53	2158.12	1.12	1.40	491.51	1.00
12/29/24 6:28	2.37	22.00	5.48	2034.54	2158.11	1.12	1.40	491.51	1.00
12/29/24 7:28	2.37	22.00	5.47	2034.48	2158.05	1.12	1.40	491.53	1.00
12/29/24 8:28	2.37	22.00	5.48	2034.76	2158.31	1.12	1.40	491.46	1.00
12/29/24 9:28	2.37	22.00	5.47	2034.85	2158.41	1.12	1.40	491.44	1.00
12/29/24 10:28	2.37	22.00	5.47	2034.79	2158.32	1.12	1.40	491.45	1.00
12/29/24 11:28	2.37	22.00	5.49	2034.99	2158.52	1.12	1.40	491.40	1.00
12/29/24 12:28	2.38	22.00	5.49	2035.37	2158.91	1.12	1.40	491.31	1.00
12/29/24 13:28	2.37	22.00	5.48	2035.39	2158.95	1.12	1.40	491.31	1.00
12/29/24 14:28	2.38	22.00	5.49	2035.05	2158.55	1.12	1.40	491.39	1.00
12/29/24 15:28	2.38	22.00	5.49	2035.33	2158.86	1.12	1.40	491.32	1.00
12/29/24 16:28	2.38	22.00	5.49	2035.21	2158.71	1.12	1.40	491.35	1.00
12/29/24 17:28	2.38	22.01	5.49	2035.29	2158.76	1.12	1.40	491.33	1.00
12/29/24 18:28	2.38	22.01	5.49	2035.33	2158.80	1.12	1.40	491.32	1.00
12/29/24 19:28	2.38	22.01	5.49	2035.33	2158.81	1.12	1.40	491.32	1.00
12/29/24 20:28	2.38	22.01	5.49	2035.58	2159.06	1.12	1.40	491.26	1.00
12/29/24 21:28	2.38	22.01	5.49	2035.44	2158.89	1.12	1.40	491.29	1.00
12/29/24 22:28	2.38	22.01	5.49	2035.69	2159.14	1.12	1.40	491.23	1.00
12/29/24 23:28	2.38	22.01	5.49	2035.70	2159.15	1.12	1.40	491.23	1.00
12/30/24 0:28	2.38	22.01	5.50	2035.88	2159.32	1.12	1.40	491.19	1.00
12/30/24 1:28	2.38	22.01	5.49	2035.82	2159.25	1.12	1.40	491.20	1.00
12/30/24 2:28	2.38	22.01	5.49	2035.89	2159.31	1.12	1.40	491.19	1.00
12/30/24 3:28	2.38	22.01	5.49	2035.78	2159.17	1.12	1.40	491.21	1.00
12/30/24 4:28	2.38	22.01	5.49	2035.86	2159.24	1.12	1.40	491.19	1.00
12/30/24 5:28	2.38	22.01	5.49	2036.10	2159.49	1.12	1.40	491.13	1.00
12/30/24 6:28	2.38	22.01	5.49	2036.21	2159.58	1.12	1.40	491.11	1.00
12/30/24 7:28	2.37	22.01	5.48	2036.16	2159.51	1.12	1.40	491.12	1.00
12/30/24 8:28	2.37	22.01	5.48	2036.23	2159.59	1.12	1.40	491.10	1.00
12/30/24 9:28	2.37	22.01	5.48	2036.38	2159.74	1.12	1.40	491.07	1.00
12/30/24 10:28	2.37	22.01	5.48	2035.98	2159.32	1.12	1.40	491.16	1.00
12/30/24 11:28	2.37	22.01	5.47	2036.68	2160.02	1.12	1.40	491.00	1.00
12/30/24 12:28	2.38	22.01	5.49	2036.78	2160.13	1.12	1.40	490.97	1.00
12/30/24 13:28	2.38	22.01	5.49	2036.50	2159.84	1.12	1.40	491.04	1.00
12/30/24 14:28	2.38	22.02	5.49	2038.89	2161.83	1.12	1.41	490.46	1.00
12/30/24 15:28	2.37	22.02	5.48	2038.13	2161.23	1.12	1.40	490.65	1.00
12/30/24 16:28	2.37	22.02	5.48	2037.60	2160.74	1.12	1.40	490.77	1.00
12/30/24 17:28	2.37	22.01	5.48	2037.64	2160.85	1.12	1.40	490.76	1.00
12/30/24 18:28	2.37	22.01	5.47	2037.32	2160.52	1.12	1.40	490.84	1.00
12/30/24 19:28	2.37	22.01	5.47	2037.25	2160.50	1.12	1.40	490.86	1.00
12/30/24 20:28	2.37	22.01	5.47	2036.79	2160.02	1.12	1.40	490.97	1.00
12/30/24 21:28	2.37	22.01	5.47	2036.91	2160.13	1.12	1.40	490.94	1.00
12/30/24 22:28	2.37	22.01	5.46	2036.98	2160.22	1.12	1.40	490.92	1.00
12/30/24 23:28	2.36	22.01	5.46	2036.82	2160.02	1.12	1.40	490.96	1.00
12/31/24 0:28	2.36	22.01	5.46	2036.88	2160.08	1.12	1.40	490.95	1.00
12/31/24 1:28	2.36	22.01	5.46	2036.88	2160.10	1.12	1.40	490.95	1.00
12/31/24 2:28	2.36	22.01	5.46	2037.23	2160.43	1.12	1.40	490.86	1.00
12/31/24 3:28	2.36	22.01	5.45	2037.34	2160.56	1.12	1.40	490.84	1.00
12/31/24 4:28	2.36	22.01	5.45	2037.48	2160.69	1.12	1.40	490.80	1.00
12/31/24 5:28	2.36	22.01	5.45	2037.49	2160.70	1.12	1.40	490.80	1.00
12/31/24 6:28	2.36	22.01	5.45	2037.34	2160.53	1.12	1.40	490.84	1.00
12/31/24 7:28	2.36	22.02	5.44	2037.31	2160.46	1.12	1.40	490.84	1.00
12/31/24 8:28	2.36	22.02	5.45	2037.56	2160.73	1.12	1.40	490.78	1.00
12/31/24 9:28	2.36	22.02	5.44	2037.40	2160.57	1.12	1.40	490.82	1.00
12/31/24 10:28	2.36	22.02	5.44	2037.37	2160.53	1.12	1.40	490.83	1.00
12/31/24 11:28	2.36	22.02	5.45	2037.70	2160.87	1.12	1.40	490.75	1.00
12/31/24 12:28	2.37	22.02	5.47	2037.52	2160.64	1.12	1.40	490.79	1.00
12/31/24 13:28	2.37	22.02	5.47	2037.54	2160.69	1.12	1.40	490.79	1.00
12/31/24 14:28	2.37	22.02	5.47	2037.93	2161.07	1.12	1.40	490.69	1.00
12/31/24 15:28	2.37	22.02	5.47	2037.56	2160.65	1.12	1.40	490.78	1.00
12/31/24 16:28	2.37	22.02	5.47	2037.95	2161.08	1.12	1.40	490.69	1.00
12/31/24 17:28	2.37	22.02	5.47	2038.08	2161.19	1.12	1.40	490.66	1.00
12/31/24 18:28	2.37	22.02	5.47	2037.83	2160.92	1.12	1.40	490.72	1.00
12/31/24 19:28	2.37	22.02	5.46	2037.90	2161.00	1.12	1.40	490.70	1.00
12/31/24 20:28	2.37	22.02	5.46	2038.35	2161.46	1.12	1.40	490.59	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/31/24 21:28	2.36	22.02	5.46	2038.31	2161.39	1.12	1.40	490.60	1.00
12/31/24 22:28	2.36	22.02	5.46	2038.18	2161.26	1.12	1.40	490.63	1.00
12/31/24 23:28	2.36	22.02	5.45	2038.39	2161.47	1.12	1.40	490.58	1.00
1/1/25 0:28	2.36	22.02	5.45	2038.40	2161.46	1.12	1.40	490.58	1.00
1/1/25 1:28	2.36	22.02	5.45	2038.33	2161.38	1.12	1.40	490.60	1.00
1/1/25 2:28	2.36	22.02	5.45	2038.54	2161.59	1.12	1.41	490.55	1.00
1/1/25 3:28	2.36	22.02	5.45	2038.58	2161.62	1.12	1.41	490.54	1.00
1/1/25 4:28	2.36	22.02	5.45	2038.77	2161.79	1.12	1.41	490.49	1.00
1/1/25 5:28	2.36	22.02	5.44	2038.57	2161.58	1.12	1.41	490.54	1.00
1/1/25 6:28	2.35	22.02	5.44	2038.84	2161.87	1.12	1.41	490.48	1.00
1/1/25 7:28	2.35	22.02	5.44	2038.60	2161.61	1.12	1.41	490.53	1.00
1/1/25 8:28	2.36	22.02	5.44	2038.80	2161.81	1.12	1.41	490.48	1.00
1/1/25 9:28	2.35	22.02	5.44	2038.95	2161.95	1.12	1.41	490.45	1.00
1/1/25 10:28	2.35	22.02	5.44	2039.10	2162.09	1.12	1.41	490.41	1.00
1/1/25 11:28	2.36	22.02	5.44	2039.09	2162.09	1.12	1.41	490.42	1.00
1/1/25 12:28	2.36	22.02	5.45	2039.23	2162.25	1.12	1.41	490.38	1.00
1/1/25 13:28	2.36	22.02	5.46	2039.31	2162.31	1.12	1.41	490.36	1.00
1/1/25 14:28	2.36	22.02	5.45	2039.43	2162.39	1.12	1.41	490.33	1.00
1/1/25 15:28	2.36	22.02	5.46	2039.60	2162.60	1.12	1.41	490.29	1.00
1/1/25 16:28	2.37	22.02	5.47	2039.32	2162.31	1.12	1.41	490.36	1.00
1/1/25 17:28	2.36	22.02	5.46	2039.73	2162.71	1.12	1.41	490.26	1.00
1/1/25 18:28	2.36	22.02	5.46	2039.80	2162.77	1.12	1.41	490.25	1.00
1/1/25 19:28	2.36	22.02	5.45	2039.81	2162.78	1.12	1.41	490.24	1.00
1/1/25 20:28	2.36	22.02	5.45	2039.95	2162.89	1.12	1.41	490.21	1.00
1/1/25 21:28	2.36	22.02	5.46	2039.81	2162.75	1.12	1.41	490.24	1.00
1/1/25 22:28	2.36	22.02	5.45	2039.87	2162.81	1.12	1.41	490.23	1.00
1/1/25 23:28	2.36	22.02	5.45	2040.03	2162.96	1.12	1.41	490.19	1.00
1/2/25 0:28	2.36	22.02	5.45	2040.03	2162.94	1.12	1.41	490.19	1.00
1/2/25 1:28	2.36	22.02	5.46	2040.38	2163.32	1.12	1.41	490.10	1.00
1/2/25 2:28	2.36	22.03	5.45	2040.16	2163.07	1.12	1.41	490.16	1.00
1/2/25 3:28	2.36	22.03	5.45	2040.49	2163.41	1.12	1.41	490.08	1.00
1/2/25 4:28	2.36	22.03	5.45	2040.39	2163.30	1.12	1.41	490.10	1.00
1/2/25 5:28	2.36	22.03	5.45	2040.72	2163.63	1.12	1.41	490.02	1.00
1/2/25 6:28	2.36	22.03	5.45	2040.44	2163.33	1.12	1.41	490.09	1.00
1/2/25 7:28	2.36	22.03	5.44	2040.69	2163.58	1.12	1.41	490.03	1.00
1/2/25 8:28	2.36	22.03	5.45	2040.64	2163.50	1.12	1.41	490.04	1.00
1/2/25 9:28	2.36	22.03	5.44	2040.59	2163.47	1.12	1.41	490.05	1.00
1/2/25 10:28	2.35	22.03	5.44	2040.81	2163.69	1.12	1.41	490.00	1.00
1/2/25 11:28	2.36	22.03	5.44	2040.86	2163.74	1.12	1.41	489.99	1.00
1/2/25 12:28	2.36	22.03	5.45	2040.92	2163.78	1.12	1.41	489.97	1.00
1/2/25 13:28	2.36	22.03	5.46	2041.05	2163.91	1.12	1.41	489.94	1.00
1/2/25 14:28	2.37	22.03	5.46	2041.04	2163.87	1.12	1.41	489.95	1.00
1/2/25 15:28	2.37	22.03	5.46	2041.27	2164.13	1.12	1.41	489.89	1.00
1/2/25 16:28	2.37	22.03	5.47	2041.28	2164.13	1.12	1.41	489.89	1.00
1/2/25 17:28	2.36	22.03	5.46	2041.52	2164.36	1.12	1.41	489.83	1.00
1/2/25 18:28	2.36	22.03	5.46	2041.31	2164.13	1.12	1.41	489.88	1.00
1/2/25 19:28	2.36	22.03	5.45	2041.62	2164.44	1.12	1.41	489.81	1.00
1/2/25 20:28	2.36	22.03	5.45	2041.83	2164.64	1.12	1.41	489.76	1.00
1/2/25 21:28	2.36	22.03	5.45	2041.91	2164.73	1.12	1.41	489.74	1.00
1/2/25 22:28	2.36	22.03	5.45	2041.61	2164.41	1.12	1.41	489.81	1.00
1/2/25 23:28	2.36	22.03	5.44	2042.09	2164.89	1.12	1.41	489.70	1.00
1/3/25 0:28	2.35	22.03	5.44	2041.84	2164.64	1.12	1.41	489.75	1.00
1/3/25 1:28	2.36	22.03	5.45	2041.88	2164.65	1.12	1.41	489.75	1.00
1/3/25 2:28	2.36	22.03	5.44	2042.25	2165.03	1.12	1.41	489.66	1.00
1/3/25 3:28	2.35	22.03	5.44	2042.28	2165.05	1.12	1.41	489.65	1.00
1/3/25 4:28	2.36	22.03	5.44	2042.36	2165.12	1.12	1.41	489.63	1.00
1/3/25 5:28	2.36	22.03	5.44	2042.39	2165.17	1.12	1.41	489.62	1.00
1/3/25 6:28	2.35	22.03	5.44	2042.49	2165.25	1.12	1.41	489.60	1.00
1/3/25 7:28	2.35	22.03	5.44	2042.57	2165.34	1.12	1.41	489.58	1.00
1/3/25 8:28	2.36	22.03	5.44	2042.56	2165.33	1.12	1.41	489.58	1.00
1/3/25 9:28	2.35	22.03	5.44	2042.54	2165.28	1.12	1.41	489.59	1.00
1/3/25 10:28	2.36	22.03	5.44	2042.74	2165.48	1.12	1.41	489.54	1.00
1/3/25 11:28	2.36	22.03	5.44	2042.87	2165.62	1.12	1.41	489.51	1.00
1/3/25 12:28	2.36	22.03	5.45	2043.08	2165.79	1.12	1.41	489.46	1.00
1/3/25 13:28	2.36	22.03	5.46	2042.99	2165.71	1.12	1.41	489.48	1.00
1/3/25 14:28	2.37	22.03	5.46	2043.04	2165.77	1.12	1.41	489.47	1.00
1/3/25 15:28	2.37	22.03	5.47	2042.96	2165.68	1.12	1.41	489.48	1.00
1/3/25 16:28	2.37	22.03	5.46	2043.09	2165.78	1.12	1.41	489.45	1.00
1/3/25 17:28	2.37	22.03	5.47	2043.34	2166.06	1.12	1.41	489.39	1.00
1/3/25 18:28	2.37	22.03	5.47	2043.33	2166.04	1.12	1.41	489.40	1.00
1/3/25 19:28	2.37	22.03	5.46	2043.34	2166.02	1.12	1.41	489.39	1.00
1/3/25 20:28	2.36	22.03	5.46	2043.40	2166.07	1.12	1.41	489.38	1.00
1/3/25 21:28	2.36	22.04	5.46	2043.69	2166.36	1.12	1.41	489.31	1.00
1/3/25 22:28	2.35	22.04	5.44	2043.92	2166.58	1.12	1.41	489.26	1.00
1/3/25 23:28	2.36	22.04	5.45	2043.92	2166.60	1.12	1.41	489.26	1.00
1/4/25 0:28	2.36	22.04	5.45	2043.90	2166.55	1.12	1.41	489.26	1.00
1/4/25 1:28	2.36	22.04	5.45	2043.70	2166.35	1.12	1.41	489.31	1.00
1/4/25 2:28	2.36	22.04	5.45	2043.98	2166.62	1.12	1.41	489.24	1.00
1/4/25 3:28	2.36	22.04	5.45	2043.94	2166.58	1.12	1.41	489.25	1.00
1/4/25 4:28	2.36	22.04	5.45	2043.97	2166.60	1.12	1.41	489.24	1.00
1/4/25 5:28	2.36	22.04	5.45	2043.97	2166.59	1.12	1.41	489.24	1.00
1/4/25 6:28	2.36	22.04	5.44	2044.14	2166.75	1.12	1.41	489.20	1.00
1/4/25 7:28	2.35	22.04	5.44	2044.06	2166.65	1.12	1.41	489.22	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/4/25 8:28	2.35	22.04	5.44	2044.33	2166.93	1.12	1.41	489.16	1.00
1/4/25 9:28	2.35	22.04	5.44	2044.34	2166.92	1.12	1.41	489.15	1.00
1/4/25 10:28	2.35	22.04	5.44	2044.47	2167.07	1.12	1.41	489.12	1.00
1/4/25 11:28	2.36	22.04	5.44	2044.62	2167.22	1.12	1.41	489.09	1.00
1/4/25 12:28	2.36	22.04	5.45	2044.59	2167.18	1.12	1.41	489.09	1.00
1/4/25 13:28	2.36	22.04	5.45	2044.49	2167.05	1.12	1.41	489.12	1.00
1/4/25 14:28	2.36	22.04	5.46	2044.74	2167.34	1.12	1.41	489.06	1.00
1/4/25 15:28	2.36	22.04	5.46	2044.64	2167.20	1.12	1.41	489.08	1.00
1/4/25 16:28	2.36	22.04	5.46	2044.79	2167.36	1.12	1.41	489.05	1.00
1/4/25 17:28	2.36	22.04	5.45	2044.78	2167.31	1.12	1.41	489.05	1.00
1/4/25 18:28	2.35	22.04	5.43	2044.93	2167.49	1.12	1.41	489.01	1.00
1/4/25 19:28	2.36	22.04	5.44	2044.99	2167.52	1.12	1.41	489.00	1.00
1/4/25 20:28	2.35	22.04	5.44	2045.11	2167.65	1.12	1.41	488.97	1.00
1/4/25 21:28	2.35	22.04	5.44	2044.94	2167.46	1.12	1.41	489.01	1.00
1/4/25 22:28	2.35	22.04	5.43	2045.09	2167.60	1.12	1.41	488.98	1.00
1/4/25 23:28	2.35	22.04	5.43	2045.40	2167.90	1.12	1.41	488.90	1.00
1/5/25 0:28	2.35	22.04	5.42	2045.30	2167.81	1.12	1.41	488.92	1.00
1/5/25 1:28	2.35	22.04	5.43	2045.46	2167.94	1.12	1.41	488.89	1.00
1/5/25 2:28	2.35	22.04	5.42	2045.36	2167.84	1.12	1.41	488.91	1.00
1/5/25 3:28	2.35	22.04	5.43	2045.48	2167.96	1.12	1.41	488.88	1.00
1/5/25 4:28	2.35	22.04	5.43	2045.61	2168.09	1.12	1.41	488.85	1.00
1/5/25 5:28	2.35	22.04	5.42	2045.51	2167.99	1.12	1.41	488.88	1.00
1/5/25 6:28	2.35	22.04	5.43	2045.49	2167.95	1.12	1.41	488.88	1.00
1/5/25 7:28	2.34	22.04	5.41	2045.58	2168.03	1.12	1.41	488.86	1.00
1/5/25 8:28	2.34	22.04	5.41	2045.86	2168.30	1.12	1.41	488.79	1.00
1/5/25 9:28	2.34	22.04	5.41	2045.70	2168.14	1.12	1.41	488.83	1.00
1/5/25 10:28	2.34	22.04	5.41	2045.80	2168.21	1.12	1.41	488.81	1.00
1/5/25 11:28	2.34	22.04	5.41	2045.86	2168.30	1.12	1.41	488.79	1.00
1/5/25 12:28	2.35	22.04	5.43	2045.85	2168.26	1.12	1.41	488.79	1.00
1/5/25 13:28	2.35	22.04	5.43	2046.08	2168.49	1.12	1.41	488.74	1.00
1/5/25 14:28	2.35	22.04	5.43	2046.14	2168.55	1.12	1.41	488.73	1.00
1/5/25 15:28	2.35	22.05	5.43	2046.00	2168.39	1.12	1.41	488.76	1.00
1/5/25 16:28	2.35	22.04	5.42	2046.18	2168.59	1.12	1.41	488.72	1.00
1/5/25 17:28	2.35	22.05	5.42	2046.22	2168.59	1.12	1.41	488.71	1.00
1/5/25 18:28	2.34	22.05	5.41	2046.16	2168.54	1.12	1.41	488.72	1.00
1/5/25 19:28	2.34	22.05	5.41	2046.59	2169.00	1.12	1.41	488.62	1.00
1/5/25 20:28	2.34	22.05	5.41	2046.52	2168.90	1.12	1.41	488.63	1.00
1/5/25 21:28	2.34	22.05	5.40	2046.43	2168.79	1.12	1.41	488.66	1.00
1/5/25 22:28	2.34	22.05	5.40	2046.52	2168.87	1.12	1.41	488.64	1.00
1/5/25 23:28	2.34	22.05	5.40	2046.54	2168.89	1.12	1.41	488.63	1.00
1/6/25 0:28	2.34	22.05	5.41	2046.64	2169.00	1.12	1.41	488.60	1.00
1/6/25 1:28	2.34	22.05	5.40	2046.46	2168.78	1.12	1.41	488.65	1.00
1/6/25 2:28	2.34	22.05	5.41	2046.68	2169.03	1.12	1.41	488.60	1.00
1/6/25 3:28	2.34	22.05	5.40	2046.79	2169.13	1.12	1.41	488.57	1.00
1/6/25 4:28	2.34	22.05	5.40	2046.87	2169.17	1.12	1.41	488.55	1.00
1/6/25 5:28	2.34	22.05	5.41	2046.89	2169.20	1.12	1.41	488.55	1.00
1/6/25 6:28	2.34	22.05	5.40	2047.01	2169.33	1.12	1.41	488.52	1.00
1/6/25 7:28	2.34	22.05	5.40	2047.15	2169.45	1.12	1.41	488.49	1.00
1/6/25 8:28	2.34	22.05	5.40	2047.28	2169.58	1.12	1.41	488.45	1.00
1/6/25 9:28	2.34	22.05	5.41	2047.07	2169.35	1.12	1.41	488.50	1.00
1/6/25 10:28	2.34	22.05	5.41	2047.27	2169.58	1.12	1.41	488.45	1.00
1/6/25 11:28	2.35	22.05	5.42	2047.47	2169.77	1.12	1.41	488.41	1.00
1/6/25 12:28	2.34	22.05	5.41	2047.28	2169.54	1.12	1.41	488.45	1.00
1/6/25 13:28	2.35	22.05	5.42	2047.30	2169.56	1.12	1.41	488.45	1.00
1/6/25 14:28	2.35	22.05	5.42	2047.51	2169.78	1.12	1.41	488.40	1.00
1/6/25 15:28	2.35	22.05	5.42	2047.53	2169.76	1.12	1.41	488.39	1.00
1/6/25 16:28	2.34	22.05	5.42	2047.42	2169.65	1.12	1.41	488.42	1.00
1/6/25 17:28	2.34	22.05	5.41	2047.69	2169.95	1.12	1.41	488.35	1.00
1/6/25 18:28	2.34	22.05	5.41	2047.68	2169.92	1.12	1.41	488.36	1.00
1/6/25 19:28	2.34	22.05	5.41	2047.75	2170.01	1.12	1.41	488.34	1.00
1/6/25 20:28	2.34	22.05	5.41	2047.94	2170.19	1.12	1.41	488.30	1.00
1/6/25 21:28	2.34	22.05	5.41	2047.86	2170.09	1.12	1.41	488.31	1.00
1/6/25 22:28	2.34	22.05	5.41	2048.13	2170.34	1.12	1.41	488.25	1.00
1/6/25 23:28	2.34	22.05	5.41	2048.09	2170.29	1.12	1.41	488.26	1.00
1/7/25 0:28	2.34	22.05	5.41	2048.02	2170.19	1.12	1.41	488.28	1.00
1/7/25 1:28	2.34	22.05	5.41	2048.11	2170.31	1.12	1.41	488.25	1.00
1/7/25 2:28	2.34	22.05	5.41	2048.32	2170.52	1.12	1.41	488.20	1.00
1/7/25 3:28	2.34	22.05	5.41	2048.06	2170.22	1.12	1.41	488.27	1.00
1/7/25 4:28	2.34	22.05	5.40	2048.32	2170.49	1.12	1.41	488.21	1.00
1/7/25 5:28	2.34	22.05	5.40	2048.33	2170.49	1.12	1.41	488.20	1.00
1/7/25 6:28	2.34	22.05	5.40	2048.30	2170.45	1.12	1.41	488.21	1.00
1/7/25 7:28	2.34	22.05	5.40	2048.37	2170.52	1.12	1.41	488.19	1.00
1/7/25 8:28	2.34	22.05	5.40	2048.39	2170.51	1.12	1.41	488.19	1.00
1/7/25 9:28	2.34	22.05	5.40	2048.36	2170.50	1.12	1.41	488.20	1.00
1/7/25 10:28	2.34	22.05	5.40	2048.34	2170.46	1.12	1.41	488.20	1.00
1/7/25 11:28	2.34	22.05	5.40	2048.50	2170.62	1.12	1.41	488.16	1.00
1/7/25 12:28	2.34	22.05	5.40	2048.50	2170.60	1.12	1.41	488.16	1.00
1/7/25 13:28	2.34	22.06	5.41	2048.45	2170.54	1.12	1.41	488.17	1.00
1/7/25 14:28	2.34	22.06	5.40	2048.30	2170.37	1.12	1.41	488.21	1.00
1/7/25 15:28	2.34	22.06	5.40	2048.56	2170.64	1.12	1.41	488.15	1.00
1/7/25 16:28	2.33	22.06	5.39	2048.64	2170.73	1.12	1.41	488.13	1.00
1/7/25 17:28	2.33	22.06	5.39	2048.74	2170.82	1.12	1.41	488.10	1.00
1/7/25 18:28	2.33	22.06	5.38	2048.89	2170.98	1.12	1.41	488.07	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/7/25 19:28	2.33	22.06	5.38	2049.02	2171.11	1.12	1.41	488.04	1.00
1/7/25 20:28	2.33	22.06	5.38	2049.01	2171.06	1.12	1.41	488.04	1.00
1/7/25 21:28	2.33	22.06	5.38	2049.09	2171.15	1.12	1.41	488.02	1.00
1/7/25 22:28	2.33	22.06	5.37	2049.26	2171.32	1.12	1.41	487.98	1.00
1/7/25 23:28	2.33	22.06	5.38	2049.08	2171.12	1.12	1.41	488.02	1.00
1/8/25 0:28	2.33	22.06	5.38	2049.36	2171.40	1.12	1.41	487.96	1.00
1/8/25 1:28	2.33	22.06	5.37	2049.34	2171.36	1.12	1.41	487.96	1.00
1/8/25 2:28	2.33	22.06	5.38	2049.61	2171.63	1.12	1.41	487.90	1.00
1/8/25 3:28	2.32	22.06	5.37	2049.61	2171.64	1.12	1.41	487.90	1.00
1/8/25 4:28	2.33	22.06	5.38	2049.51	2171.53	1.12	1.41	487.92	1.00
1/8/25 5:28	2.33	22.06	5.38	2049.67	2171.70	1.12	1.41	487.88	1.00
1/8/25 6:28	2.33	22.06	5.38	2049.70	2171.70	1.12	1.41	487.88	1.00
1/8/25 7:28	2.33	22.06	5.37	2049.63	2171.62	1.12	1.41	487.89	1.00
1/8/25 8:28	2.33	22.06	5.38	2049.79	2171.78	1.12	1.41	487.85	1.00
1/8/25 9:28	2.33	22.06	5.37	2049.72	2171.70	1.12	1.41	487.87	1.00
1/8/25 10:28	2.33	22.06	5.38	2049.88	2171.85	1.12	1.41	487.83	1.00
1/8/25 11:28	2.33	22.06	5.38	2049.96	2171.93	1.12	1.41	487.81	1.00
1/8/25 12:28	2.33	22.06	5.39	2049.85	2171.80	1.12	1.41	487.84	1.00
1/8/25 13:28	2.34	22.06	5.40	2050.00	2171.95	1.12	1.41	487.80	1.00
1/8/25 14:28	2.34	22.06	5.40	2049.94	2171.87	1.12	1.41	487.82	1.00
1/8/25 15:28	2.34	22.06	5.40	2050.28	2172.24	1.12	1.41	487.74	1.00
1/8/25 16:28	2.34	22.06	5.40	2050.09	2172.01	1.12	1.41	487.78	1.00
1/8/25 17:28	2.34	22.06	5.40	2050.07	2172.00	1.12	1.41	487.79	1.00
1/8/25 18:28	2.34	22.06	5.41	2050.00	2171.91	1.12	1.41	487.80	1.00
1/8/25 19:28	2.33	22.06	5.39	2050.00	2171.90	1.12	1.41	487.80	1.00
1/8/25 20:28	2.34	22.06	5.40	2050.17	2172.10	1.12	1.41	487.76	1.00
1/8/25 21:28	2.34	22.06	5.41	2050.15	2172.04	1.12	1.41	487.77	1.00
1/8/25 22:28	2.34	22.06	5.41	2050.25	2172.13	1.12	1.41	487.75	1.00
1/8/25 23:28	2.34	22.06	5.41	2050.54	2172.46	1.13	1.41	487.68	1.00
1/9/25 0:28	2.35	22.06	5.42	2050.44	2172.34	1.12	1.41	487.70	1.00
1/9/25 1:28	2.35	22.06	5.42	2050.35	2172.20	1.12	1.41	487.72	1.00
1/9/25 2:28	2.35	22.06	5.42	2050.41	2172.26	1.12	1.41	487.71	1.00
1/9/25 3:28	2.34	22.06	5.41	2050.61	2172.47	1.13	1.41	487.66	1.00
1/9/25 4:28	2.34	22.06	5.41	2050.71	2172.57	1.13	1.41	487.64	1.00
1/9/25 5:28	2.34	22.06	5.41	2050.57	2172.42	1.13	1.41	487.67	1.00
1/9/25 6:28	2.34	22.06	5.41	2050.59	2172.42	1.13	1.41	487.66	1.00
1/9/25 7:28	2.34	22.06	5.41	2050.66	2172.50	1.13	1.41	487.65	1.00
1/9/25 8:28	2.34	22.06	5.41	2050.62	2172.42	1.13	1.41	487.66	1.00
1/9/25 9:28	2.34	22.06	5.41	2050.77	2172.56	1.13	1.41	487.62	1.00
1/9/25 10:28	2.34	22.06	5.40	2050.81	2172.60	1.13	1.41	487.61	1.00
1/9/25 11:28	2.34	22.07	5.40	2050.97	2172.75	1.13	1.41	487.58	1.00
1/9/25 12:28	2.34	22.07	5.41	2050.68	2172.44	1.13	1.41	487.64	1.00
1/9/25 13:28	2.34	22.07	5.40	2050.82	2172.60	1.13	1.41	487.61	1.00
1/9/25 14:28	2.34	22.07	5.41	2050.78	2172.53	1.13	1.41	487.62	1.00
1/9/25 15:28	2.34	22.07	5.41	2050.94	2172.71	1.13	1.41	487.58	1.00
1/9/25 16:28	2.34	22.07	5.40	2050.95	2172.71	1.13	1.41	487.58	1.00
1/9/25 17:28	2.34	22.07	5.40	2050.96	2172.70	1.13	1.41	487.58	1.00
1/9/25 18:28	2.33	22.07	5.39	2051.06	2172.83	1.13	1.41	487.55	1.00
1/9/25 19:28	2.33	22.07	5.38	2051.10	2172.83	1.13	1.41	487.54	1.00
1/9/25 20:28	2.33	22.07	5.38	2051.29	2173.04	1.13	1.41	487.50	1.00
1/9/25 21:28	2.33	22.07	5.38	2051.26	2173.00	1.13	1.41	487.51	1.00
1/9/25 22:28	2.32	22.07	5.37	2051.38	2173.10	1.13	1.41	487.48	1.00
1/9/25 23:28	2.33	22.07	5.37	2051.22	2172.92	1.13	1.41	487.51	1.00
1/10/25 0:28	2.33	22.07	5.37	2051.67	2173.40	1.13	1.41	487.41	1.00
1/10/25 1:28	2.33	22.07	5.38	2051.36	2173.08	1.13	1.41	487.48	1.00
1/10/25 2:28	2.33	22.07	5.37	2051.40	2173.10	1.13	1.41	487.47	1.00
1/10/25 3:28	2.33	22.07	5.38	2051.53	2173.20	1.13	1.41	487.44	1.00
1/10/25 4:28	2.33	22.07	5.37	2051.61	2173.31	1.13	1.41	487.42	1.00
1/10/25 5:28	2.32	22.07	5.37	2051.74	2173.45	1.13	1.41	487.39	1.00
1/10/25 6:28	2.33	22.07	5.37	2051.87	2173.54	1.13	1.41	487.36	1.00
1/10/25 7:28	2.32	22.07	5.37	2051.79	2173.46	1.13	1.41	487.38	1.00
1/10/25 8:28	2.32	22.07	5.37	2051.89	2173.57	1.13	1.41	487.36	1.00
1/10/25 9:28	2.32	22.07	5.37	2051.76	2173.43	1.13	1.41	487.39	1.00
1/10/25 10:28	2.32	22.07	5.37	2051.76	2173.42	1.13	1.41	487.39	1.00
1/10/25 11:28	2.33	22.07	5.37	2052.00	2173.65	1.13	1.41	487.33	1.00
1/10/25 12:28	2.33	22.07	5.38	2052.26	2173.90	1.13	1.41	487.27	1.00
1/10/25 13:28	2.33	22.07	5.38	2052.23	2173.86	1.13	1.41	487.27	1.00
1/10/25 14:28	2.34	22.07	5.39	2052.22	2173.84	1.13	1.41	487.28	1.00
1/10/25 15:28	2.33	22.07	5.39	2052.32	2173.94	1.13	1.41	487.25	1.00
1/10/25 16:28	2.33	22.07	5.39	2052.21	2173.82	1.13	1.41	487.28	1.00
1/10/25 17:28	2.33	22.07	5.39	2052.49	2174.10	1.13	1.41	487.21	1.00
1/10/25 18:28	2.33	22.07	5.39	2052.51	2174.11	1.13	1.41	487.21	1.00
1/10/25 19:28	2.33	22.07	5.39	2052.18	2173.75	1.13	1.41	487.29	1.00
1/10/25 20:28	2.33	22.07	5.39	2052.58	2174.18	1.13	1.41	487.19	1.00
1/10/25 21:28	2.33	22.07	5.39	2052.46	2174.03	1.13	1.41	487.22	1.00
1/10/25 22:28	2.33	22.07	5.39	2052.39	2173.93	1.13	1.41	487.24	1.00
1/10/25 23:28	2.33	22.07	5.38	2052.43	2174.00	1.13	1.41	487.23	1.00
1/11/25 0:28	2.33	22.07	5.39	2052.61	2174.18	1.13	1.41	487.19	1.00
1/11/25 1:28	2.33	22.07	5.39	2052.54	2174.10	1.13	1.41	487.20	1.00
1/11/25 2:28	2.34	22.07	5.40	2052.79	2174.36	1.13	1.41	487.14	1.00
1/11/25 3:28	2.33	22.07	5.39	2052.62	2174.17	1.13	1.41	487.18	1.00
1/11/25 4:28	2.34	22.07	5.39	2052.69	2174.22	1.13	1.41	487.16	1.00
1/11/25 5:28	2.34	22.07	5.40	2052.75	2174.28	1.13	1.41	487.15	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/11/25 6:28	2.34	22.07	5.40	2052.85	2174.36	1.13	1.41	487.13	1.00
1/11/25 7:28	2.32	22.07	5.36	2052.71	2174.22	1.13	1.41	487.16	1.00
1/11/25 8:28	2.33	22.07	5.39	2052.69	2174.18	1.13	1.41	487.17	1.00
1/11/25 9:28	2.34	22.07	5.39	2052.92	2174.41	1.13	1.41	487.11	1.00
1/11/25 10:28	2.33	22.07	5.39	2052.88	2174.37	1.13	1.41	487.12	1.00
1/11/25 11:28	2.33	22.07	5.39	2053.04	2174.53	1.13	1.41	487.08	1.00
1/11/25 12:28	2.34	22.07	5.40	2052.89	2174.37	1.13	1.41	487.12	1.00
1/11/25 13:28	2.34	22.07	5.40	2053.07	2174.56	1.13	1.41	487.08	1.00
1/11/25 14:28	2.34	22.08	5.40	2053.10	2174.56	1.13	1.41	487.07	1.00
1/11/25 15:28	2.34	22.08	5.40	2053.27	2174.74	1.13	1.41	487.03	1.00
1/11/25 16:28	2.34	22.08	5.40	2053.22	2174.67	1.13	1.41	487.04	1.00
1/11/25 17:28	2.33	22.08	5.39	2053.19	2174.64	1.13	1.41	487.05	1.00
1/11/25 18:28	2.33	22.08	5.38	2053.16	2174.61	1.13	1.41	487.05	1.00
1/11/25 19:28	2.33	22.08	5.38	2053.22	2174.65	1.13	1.41	487.04	1.00
1/11/25 20:28	2.33	22.08	5.38	2053.41	2174.86	1.13	1.41	487.00	1.00
1/11/25 21:28	2.32	22.08	5.36	2053.44	2174.85	1.13	1.41	486.99	1.00
1/11/25 22:28	2.32	22.08	5.37	2053.37	2174.78	1.13	1.41	487.01	1.00
1/11/25 23:28	2.32	22.08	5.37	2053.66	2175.08	1.13	1.41	486.93	1.00
1/12/25 0:28	2.32	22.08	5.36	2053.48	2174.87	1.13	1.41	486.98	1.00
1/12/25 1:28	2.32	22.08	5.36	2053.52	2174.91	1.13	1.41	486.97	1.00
1/12/25 2:28	2.32	22.08	5.36	2053.65	2175.05	1.13	1.41	486.94	1.00
1/12/25 3:28	2.32	22.08	5.35	2053.77	2175.16	1.13	1.41	486.91	1.00
1/12/25 4:28	2.32	22.08	5.35	2053.66	2175.03	1.13	1.41	486.94	1.00
1/12/25 5:28	2.32	22.08	5.36	2053.57	2174.93	1.13	1.41	486.96	1.00
1/12/25 6:28	2.32	22.08	5.35	2053.69	2175.03	1.13	1.41	486.93	1.00
1/12/25 7:28	2.32	22.08	5.35	2053.96	2175.31	1.13	1.41	486.87	1.00
1/12/25 8:28	2.32	22.08	5.35	2053.76	2175.08	1.13	1.41	486.91	1.00
1/12/25 9:28	2.31	22.08	5.35	2053.81	2175.17	1.13	1.41	486.90	1.00
1/12/25 10:28	2.31	22.08	5.34	2053.75	2175.08	1.13	1.41	486.91	1.00
1/12/25 11:28	2.31	22.08	5.34	2054.10	2175.45	1.13	1.41	486.83	1.00
1/12/25 12:28	2.32	22.08	5.35	2054.13	2175.46	1.13	1.41	486.82	1.00
1/12/25 13:28	2.32	22.08	5.35	2053.90	2175.23	1.13	1.41	486.88	1.00
1/12/25 14:28	2.32	22.08	5.36	2054.19	2175.51	1.13	1.41	486.81	1.00
1/12/25 15:28	2.32	22.08	5.36	2054.12	2175.43	1.13	1.41	486.83	1.00
1/12/25 16:28	2.32	22.08	5.35	2054.15	2175.47	1.13	1.41	486.82	1.00
1/12/25 17:28	2.32	22.08	5.35	2054.20	2175.50	1.13	1.41	486.81	1.00
1/12/25 18:28	2.32	22.08	5.35	2054.13	2175.41	1.13	1.41	486.82	1.00
1/12/25 19:28	2.31	22.08	5.35	2054.43	2175.73	1.13	1.41	486.75	1.00
1/12/25 20:28	2.31	22.08	5.35	2054.54	2175.82	1.13	1.41	486.73	1.00
1/12/25 21:28	2.31	22.08	5.35	2054.38	2175.65	1.13	1.41	486.76	1.00
1/12/25 22:28	2.31	22.08	5.34	2054.53	2175.79	1.13	1.41	486.73	1.00
1/12/25 23:28	2.31	22.08	5.34	2054.74	2176.02	1.13	1.41	486.68	1.00
1/13/25 0:28	2.32	22.08	5.35	2054.74	2176.01	1.13	1.41	486.68	1.00
1/13/25 1:28	2.31	22.08	5.35	2054.88	2176.16	1.13	1.41	486.65	1.00
1/13/25 2:28	2.31	22.08	5.34	2054.82	2176.07	1.13	1.41	486.66	1.00
1/13/25 3:28	2.31	22.08	5.34	2054.98	2176.22	1.13	1.41	486.62	1.00
1/13/25 4:28	2.31	22.08	5.34	2054.88	2176.13	1.13	1.41	486.65	1.00
1/13/25 5:28	2.31	22.08	5.34	2054.94	2176.18	1.13	1.41	486.63	1.00
1/13/25 6:28	2.31	22.08	5.34	2054.95	2176.18	1.13	1.41	486.63	1.00
1/13/25 7:28	2.31	22.08	5.34	2054.95	2176.17	1.13	1.41	486.63	1.00
1/13/25 8:28	2.31	22.08	5.33	2054.93	2176.14	1.13	1.41	486.63	1.00
1/13/25 9:28	2.31	22.08	5.34	2054.97	2176.17	1.13	1.41	486.63	1.00
1/13/25 10:28	2.31	22.08	5.33	2055.10	2176.30	1.13	1.41	486.59	1.00
1/13/25 11:28	2.31	22.08	5.34	2054.95	2176.13	1.13	1.41	486.63	1.00
1/13/25 12:28	2.32	22.08	5.35	2054.90	2176.07	1.13	1.41	486.64	1.00
1/13/25 13:28	2.32	22.08	5.36	2055.11	2176.28	1.13	1.41	486.59	1.00
1/13/25 14:28	2.32	22.08	5.35	2055.31	2176.49	1.13	1.41	486.54	1.00
1/13/25 15:28	2.32	22.09	5.35	2055.31	2176.48	1.13	1.41	486.55	1.00
1/13/25 16:28	2.32	22.09	5.35	2055.14	2176.29	1.13	1.41	486.59	1.00
1/13/25 17:28	2.32	22.09	5.35	2055.24	2176.40	1.13	1.41	486.56	1.00
1/13/25 18:28	2.32	22.09	5.35	2055.35	2176.49	1.13	1.41	486.54	1.00
1/13/25 19:28	2.32	22.09	5.35	2055.45	2176.61	1.13	1.41	486.51	1.00
1/13/25 20:28	2.31	22.09	5.34	2055.52	2176.67	1.13	1.41	486.49	1.00
1/13/25 21:28	2.31	22.09	5.34	2055.59	2176.74	1.13	1.41	486.48	1.00
1/13/25 22:28	2.31	22.09	5.34	2055.44	2176.58	1.13	1.41	486.51	1.00
1/13/25 23:28	2.31	22.09	5.34	2055.57	2176.69	1.13	1.41	486.48	1.00
1/14/25 0:28	2.31	22.09	5.34	2055.74	2176.86	1.13	1.41	486.44	1.00
1/14/25 1:28	2.31	22.09	5.34	2055.86	2176.99	1.13	1.42	486.41	1.00
1/14/25 2:28	2.31	22.09	5.34	2055.82	2176.94	1.13	1.42	486.42	1.00
1/14/25 3:28	2.31	22.09	5.34	2055.93	2177.04	1.13	1.42	486.40	1.00
1/14/25 4:28	2.31	22.09	5.34	2055.77	2176.86	1.13	1.41	486.43	1.00
1/14/25 5:28	2.31	22.09	5.34	2056.03	2177.13	1.13	1.42	486.37	1.00
1/14/25 6:28	2.31	22.09	5.34	2056.15	2177.24	1.13	1.42	486.35	1.00
1/14/25 7:28	2.31	22.09	5.33	2056.06	2177.13	1.13	1.42	486.37	1.00
1/14/25 8:28	2.31	22.09	5.34	2056.17	2177.22	1.13	1.42	486.34	1.00
1/14/25 9:28	2.31	22.09	5.34	2056.41	2177.49	1.13	1.42	486.28	1.00
1/14/25 10:28	2.31	22.09	5.33	2056.28	2177.34	1.13	1.42	486.32	1.00
1/14/25 11:28	2.31	22.09	5.34	2056.21	2177.25	1.13	1.42	486.33	1.00
1/14/25 12:28	2.31	22.09	5.34	2056.27	2177.30	1.13	1.42	486.32	1.00
1/14/25 13:28	2.32	22.09	5.35	2056.33	2177.38	1.13	1.42	486.30	1.00
1/14/25 14:28	2.32	22.09	5.35	2056.10	2177.11	1.13	1.42	486.36	1.00
1/14/25 15:28	2.31	22.09	5.33	2056.20	2177.19	1.13	1.42	486.33	1.00
1/14/25 16:28	2.31	22.09	5.34	2056.20	2177.22	1.13	1.42	486.33	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/14/25 17:28	2.31	22.09	5.33	2056.24	2177.23	1.13	1.42	486.32	1.00
1/14/25 18:28	2.31	22.09	5.33	2056.53	2177.54	1.13	1.42	486.26	1.00
1/14/25 19:28	2.30	22.09	5.32	2056.64	2177.64	1.13	1.42	486.23	1.00
1/14/25 20:28	2.31	22.09	5.32	2056.50	2177.48	1.13	1.42	486.26	1.00
1/14/25 21:28	2.30	22.09	5.32	2056.60	2177.59	1.13	1.42	486.24	1.00
1/14/25 22:28	2.30	22.09	5.32	2056.52	2177.49	1.13	1.42	486.26	1.00
1/14/25 23:28	2.30	22.09	5.31	2056.45	2177.40	1.13	1.42	486.28	1.00
1/15/25 0:28	2.31	22.09	5.33	2056.41	2177.36	1.13	1.42	486.28	1.00
1/15/25 1:28	2.30	22.09	5.32	2056.75	2177.71	1.13	1.42	486.20	1.00
1/15/25 2:28	2.31	22.09	5.32	2056.80	2177.76	1.13	1.42	486.19	1.00
1/15/25 3:28	2.31	22.09	5.33	2057.07	2178.06	1.13	1.42	486.13	1.00
1/15/25 4:28	2.30	22.09	5.32	2056.70	2177.65	1.13	1.42	486.22	1.00
1/15/25 5:28	2.31	22.09	5.33	2056.79	2177.72	1.13	1.42	486.19	1.00
1/15/25 6:28	2.30	22.09	5.32	2057.02	2177.98	1.13	1.42	486.14	1.00
1/15/25 7:28	2.30	22.09	5.32	2057.11	2178.05	1.13	1.42	486.12	1.00
1/15/25 8:28	2.30	22.09	5.32	2057.20	2178.19	1.13	1.42	486.10	1.00
1/15/25 9:28	2.30	22.09	5.31	2057.11	2178.03	1.13	1.42	486.12	1.00
1/15/25 10:28	2.30	22.09	5.31	2057.24	2178.15	1.13	1.42	486.09	1.00
1/15/25 11:28	2.30	22.09	5.31	2057.33	2178.24	1.13	1.42	486.07	1.00
1/15/25 12:28	2.30	22.09	5.32	2057.19	2178.10	1.13	1.42	486.10	1.00
1/15/25 13:28	2.31	22.09	5.33	2057.21	2178.09	1.13	1.42	486.10	1.00
1/15/25 14:28	2.31	22.10	5.34	2050.04	2170.10	1.12	1.41	487.80	1.00
1/15/25 15:28	2.30	22.10	5.31	2048.83	2168.79	1.12	1.41	488.08	1.00
1/15/25 16:28	2.30	22.10	5.30	2048.41	2168.51	1.12	1.41	488.18	1.00
1/15/25 17:28	2.30	22.10	5.31	2048.47	2168.65	1.12	1.41	488.17	1.00
1/15/25 18:28	2.29	22.10	5.30	2048.20	2168.43	1.12	1.41	488.23	1.00
1/15/25 19:28	2.30	22.10	5.30	2048.00	2168.24	1.12	1.41	488.28	1.00
1/15/25 20:28	2.29	22.10	5.30	2048.03	2168.26	1.12	1.41	488.27	1.00
1/15/25 21:28	2.29	22.10	5.30	2048.06	2168.30	1.12	1.41	488.27	1.00
1/15/25 22:28	2.29	22.10	5.30	2047.54	2167.74	1.12	1.41	488.39	1.00
1/15/25 23:28	2.29	22.10	5.30	2047.76	2167.96	1.12	1.41	488.34	1.00
1/16/25 0:28	2.29	22.10	5.30	2047.61	2167.82	1.12	1.41	488.37	1.00
1/16/25 1:28	2.29	22.10	5.30	2047.74	2167.96	1.12	1.41	488.34	1.00
1/16/25 2:28	2.29	22.10	5.30	2047.83	2168.04	1.12	1.41	488.32	1.00
1/16/25 3:28	2.29	22.10	5.30	2047.69	2167.91	1.12	1.41	488.35	1.00
1/16/25 4:28	2.30	22.10	5.30	2047.86	2168.05	1.12	1.41	488.32	1.00
1/16/25 5:28	2.29	22.10	5.30	2047.98	2168.17	1.12	1.41	488.29	1.00
1/16/25 6:28	2.29	22.10	5.30	2048.12	2168.32	1.12	1.41	488.25	1.00
1/16/25 7:28	2.29	22.10	5.30	2047.87	2168.05	1.12	1.41	488.31	1.00
1/16/25 8:28	2.30	22.10	5.30	2047.92	2168.10	1.12	1.41	488.30	1.00
1/16/25 9:28	2.29	22.10	5.30	2048.13	2168.33	1.12	1.41	488.25	1.00
1/16/25 10:28	2.29	22.10	5.30	2048.09	2168.26	1.12	1.41	488.26	1.00
1/16/25 11:28	2.29	22.10	5.30	2048.04	2168.20	1.12	1.41	488.27	1.00
1/16/25 12:28	2.30	22.10	5.30	2048.27	2168.43	1.12	1.41	488.22	1.00
1/16/25 13:28	2.30	22.10	5.31	2048.13	2168.27	1.12	1.41	488.25	1.00
1/16/25 14:28	2.30	22.10	5.32	2048.48	2168.64	1.12	1.41	488.17	1.00
1/16/25 15:28	2.30	22.10	5.32	2048.20	2168.35	1.12	1.41	488.23	1.00
1/16/25 16:28	2.30	22.10	5.32	2048.40	2168.55	1.12	1.41	488.19	1.00
1/16/25 17:28	2.30	22.10	5.32	2048.27	2168.42	1.12	1.41	488.22	1.00
1/16/25 18:28	2.30	22.10	5.32	2048.33	2168.48	1.12	1.41	488.20	1.00
1/16/25 19:28	2.30	22.10	5.32	2048.57	2168.73	1.12	1.41	488.14	1.00
1/16/25 20:28	2.30	22.10	5.32	2048.54	2168.68	1.12	1.41	488.15	1.00
1/16/25 21:28	2.30	22.10	5.31	2048.89	2169.04	1.12	1.41	488.07	1.00
1/16/25 22:28	2.30	22.10	5.31	2049.10	2169.27	1.12	1.41	488.02	1.00
1/16/25 23:28	2.30	22.10	5.32	2048.97	2169.13	1.12	1.41	488.05	1.00
1/17/25 0:28	2.30	22.10	5.32	2049.30	2169.44	1.12	1.41	487.97	1.00
1/17/25 1:28	2.30	22.10	5.32	2049.35	2169.49	1.12	1.41	487.96	1.00
1/17/25 2:28	2.30	22.10	5.32	2049.21	2169.34	1.12	1.41	487.99	1.00
1/17/25 3:28	2.30	22.10	5.32	2049.45	2169.57	1.12	1.41	487.94	1.00
1/17/25 4:28	2.31	22.10	5.33	2049.18	2169.27	1.12	1.41	488.00	1.00
1/17/25 5:28	2.30	22.10	5.32	2049.44	2169.56	1.12	1.41	487.94	1.00
1/17/25 6:28	2.30	22.10	5.32	2049.28	2169.38	1.12	1.41	487.98	1.00
1/17/25 7:28	2.30	22.10	5.32	2049.64	2169.75	1.12	1.41	487.89	1.00
1/17/25 8:28	2.30	22.10	5.32	2049.53	2169.61	1.12	1.41	487.92	1.00
1/17/25 9:28	2.30	22.10	5.32	2049.43	2169.52	1.12	1.41	487.94	1.00
1/17/25 10:28	2.30	22.10	5.32	2049.53	2169.61	1.12	1.41	487.92	1.00
1/17/25 11:28	2.30	22.10	5.32	2049.76	2169.85	1.12	1.41	487.86	1.00
1/17/25 12:28	2.30	22.10	5.32	2049.65	2169.74	1.12	1.41	487.89	1.00
1/17/25 13:28	2.30	22.10	5.32	2049.57	2169.61	1.12	1.41	487.91	1.00
1/17/25 14:28	2.30	22.10	5.32	2049.70	2169.75	1.12	1.41	487.88	1.00
1/17/25 15:28	2.31	22.10	5.33	2050.14	2170.24	1.12	1.41	487.77	1.00
1/17/25 16:28	2.30	22.10	5.32	2050.05	2170.13	1.12	1.41	487.79	1.00
1/17/25 17:28	2.30	22.10	5.32	2050.01	2170.07	1.12	1.41	487.80	1.00
1/17/25 18:28	2.30	22.10	5.31	2049.92	2169.95	1.12	1.41	487.82	1.00
1/17/25 19:28	2.30	22.10	5.30	2050.22	2170.25	1.12	1.41	487.75	1.00
1/17/25 20:28	2.30	22.10	5.30	2049.93	2169.96	1.12	1.41	487.82	1.00
1/17/25 21:28	2.30	22.10	5.31	2050.25	2170.30	1.12	1.41	487.75	1.00
1/17/25 22:28	2.30	22.10	5.30	2050.31	2170.36	1.12	1.41	487.73	1.00
1/17/25 23:28	2.30	22.10	5.30	2050.14	2170.15	1.12	1.41	487.77	1.00
1/18/25 0:28	2.30	22.11	5.30	2050.39	2170.40	1.12	1.41	487.71	1.00
1/18/25 1:28	2.30	22.10	5.30	2050.52	2170.54	1.12	1.41	487.68	1.00
1/18/25 2:28	2.30	22.11	5.30	2050.95	2170.98	1.12	1.41	487.58	1.00
1/18/25 3:28	2.29	22.11	5.30	2050.72	2170.73	1.12	1.41	487.63	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/18/25 4:28	2.30	22.11	5.30	2050.73	2170.74	1.12	1.41	487.63	1.00
1/18/25 5:28	2.29	22.11	5.30	2051.00	2171.03	1.12	1.41	487.57	1.00
1/18/25 6:28	2.29	22.11	5.29	2050.91	2170.93	1.12	1.41	487.59	1.00
1/18/25 7:28	2.29	22.11	5.29	2051.10	2171.12	1.12	1.41	487.54	1.00
1/18/25 8:28	2.29	22.11	5.29	2050.94	2170.93	1.12	1.41	487.58	1.00
1/18/25 9:28	2.29	22.11	5.28	2050.99	2170.98	1.12	1.41	487.57	1.00
1/18/25 10:28	2.29	22.11	5.29	2051.14	2171.14	1.12	1.41	487.53	1.00
1/18/25 11:28	2.29	22.11	5.29	2051.04	2171.02	1.12	1.41	487.56	1.00
1/18/25 12:28	2.29	22.11	5.30	2050.99	2171.00	1.12	1.41	487.57	1.00
1/18/25 13:28	2.30	22.11	5.30	2050.94	2170.92	1.12	1.41	487.58	1.00
1/18/25 14:28	2.29	22.11	5.30	2051.12	2171.10	1.12	1.41	487.54	1.00
1/18/25 15:28	2.29	22.11	5.30	2051.43	2171.40	1.12	1.41	487.47	1.00
1/18/25 16:28	2.29	22.11	5.30	2051.34	2171.30	1.12	1.41	487.49	1.00
1/18/25 17:28	2.29	22.11	5.30	2051.49	2171.46	1.12	1.41	487.45	1.00
1/18/25 18:28	2.29	22.11	5.29	2051.62	2171.60	1.12	1.41	487.42	1.00
1/18/25 19:28	2.27	22.11	5.25	2051.50	2171.47	1.12	1.41	487.45	1.00
1/18/25 20:28	2.27	22.11	5.25	2051.54	2171.49	1.12	1.41	487.44	1.00
1/18/25 21:28	2.27	22.11	5.25	2051.77	2171.72	1.12	1.41	487.38	1.00
1/18/25 22:28	2.28	22.11	5.26	2051.67	2171.61	1.12	1.41	487.41	1.00
1/18/25 23:28	2.27	22.11	5.25	2051.83	2171.78	1.12	1.41	487.37	1.00
1/19/25 0:28	2.28	22.11	5.26	2051.91	2171.84	1.12	1.41	487.35	1.00
1/19/25 1:28	2.28	22.11	5.26	2051.91	2171.85	1.12	1.41	487.35	1.00
1/19/25 2:28	2.28	22.11	5.26	2052.07	2172.00	1.12	1.41	487.31	1.00
1/19/25 3:28	2.28	22.11	5.26	2051.99	2171.90	1.12	1.41	487.33	1.00
1/19/25 4:28	2.28	22.11	5.26	2052.24	2172.17	1.12	1.41	487.27	1.00
1/19/25 5:28	2.28	22.11	5.26	2051.87	2171.76	1.12	1.41	487.36	1.00
1/19/25 6:28	2.27	22.11	5.25	2052.17	2172.09	1.12	1.41	487.29	1.00
1/19/25 7:28	2.28	22.11	5.26	2052.37	2172.27	1.12	1.41	487.24	1.00
1/19/25 8:28	2.28	22.11	5.26	2052.33	2172.25	1.12	1.41	487.25	1.00
1/19/25 9:28	2.28	22.11	5.26	2052.40	2172.31	1.12	1.41	487.23	1.00
1/19/25 10:28	2.28	22.11	5.26	2052.50	2172.41	1.13	1.41	487.21	1.00
1/19/25 11:28	2.28	22.11	5.27	2052.55	2172.43	1.13	1.41	487.20	1.00
1/19/25 12:28	2.28	22.11	5.28	2052.60	2172.48	1.13	1.41	487.19	1.00
1/19/25 13:28	2.29	22.11	5.28	2052.33	2172.19	1.12	1.41	487.25	1.00
1/19/25 14:28	2.29	22.11	5.29	2052.78	2172.65	1.13	1.41	487.14	1.00
1/19/25 15:28	2.29	22.11	5.29	2052.82	2172.70	1.13	1.41	487.14	1.00
1/19/25 16:28	2.29	22.11	5.29	2053.10	2173.01	1.13	1.41	487.07	1.00
1/19/25 17:28	2.29	22.11	5.29	2053.03	2172.90	1.13	1.41	487.08	1.00
1/19/25 18:28	2.29	22.11	5.28	2052.97	2172.85	1.13	1.41	487.10	1.00
1/19/25 19:28	2.29	22.11	5.29	2052.87	2172.73	1.13	1.41	487.12	1.00
1/19/25 20:28	2.29	22.11	5.29	2053.17	2173.04	1.13	1.41	487.05	1.00
1/19/25 21:28	2.29	22.11	5.29	2052.80	2172.65	1.13	1.41	487.14	1.00
1/19/25 22:28	2.29	22.11	5.28	2053.37	2173.23	1.13	1.41	487.00	1.00
1/19/25 23:28	2.28	22.11	5.27	2053.27	2173.12	1.13	1.41	487.03	1.00
1/20/25 0:28	2.28	22.11	5.27	2053.38	2173.24	1.13	1.41	487.00	1.00
1/20/25 1:28	2.28	22.11	5.27	2053.58	2173.43	1.13	1.41	486.95	1.00
1/20/25 2:28	2.28	22.11	5.27	2053.46	2173.28	1.13	1.41	486.98	1.00
1/20/25 3:28	2.28	22.11	5.27	2053.44	2173.29	1.13	1.41	486.99	1.00
1/20/25 4:28	2.28	22.11	5.27	2053.57	2173.39	1.13	1.41	486.96	1.00
1/20/25 5:28	2.28	22.11	5.27	2053.61	2173.44	1.13	1.41	486.95	1.00
1/20/25 6:28	2.28	22.11	5.26	2053.38	2173.18	1.13	1.41	487.00	1.00
1/20/25 7:28	2.28	22.11	5.26	2053.39	2173.21	1.13	1.41	487.00	1.00
1/20/25 8:28	2.28	22.11	5.26	2053.51	2173.33	1.13	1.41	486.97	1.00
1/20/25 9:28	2.28	22.11	5.26	2053.53	2173.32	1.13	1.41	486.97	1.00
1/20/25 10:28	2.28	22.11	5.26	2053.58	2173.37	1.13	1.41	486.96	1.00
1/20/25 11:28	2.28	22.11	5.26	2053.73	2173.52	1.13	1.41	486.92	1.00
1/20/25 12:28	2.27	22.11	5.25	2053.81	2173.59	1.13	1.41	486.90	1.00
1/20/25 13:28	2.28	22.11	5.26	2053.82	2173.61	1.13	1.41	486.90	1.00
1/20/25 14:28	2.28	22.11	5.26	2053.83	2173.61	1.13	1.41	486.90	1.00
1/20/25 15:28	2.28	22.12	5.26	2053.79	2173.55	1.13	1.41	486.91	1.00
1/20/25 16:28	2.27	22.12	5.25	2054.12	2173.87	1.13	1.41	486.83	1.00
1/20/25 17:28	2.27	22.12	5.25	2054.02	2173.80	1.13	1.41	486.85	1.00
1/20/25 18:28	2.27	22.12	5.24	2054.40	2174.18	1.13	1.41	486.76	1.00
1/20/25 19:28	2.27	22.12	5.24	2054.43	2174.22	1.13	1.41	486.75	1.00
1/20/25 20:28	2.26	22.12	5.23	2054.36	2174.12	1.13	1.41	486.77	1.00
1/20/25 21:28	2.26	22.12	5.23	2054.09	2173.84	1.13	1.41	486.83	1.00
1/20/25 22:28	2.26	22.12	5.23	2054.39	2174.16	1.13	1.41	486.76	1.00
1/20/25 23:28	2.26	22.12	5.23	2054.41	2174.18	1.13	1.41	486.76	1.00
1/21/25 0:28	2.26	22.12	5.23	2054.42	2174.17	1.13	1.41	486.75	1.00
1/21/25 1:28	2.26	22.12	5.23	2054.57	2174.33	1.13	1.41	486.72	1.00
1/21/25 2:28	2.26	22.12	5.22	2054.70	2174.46	1.13	1.41	486.69	1.00
1/21/25 3:28	2.26	22.12	5.23	2054.62	2174.37	1.13	1.41	486.71	1.00
1/21/25 4:28	2.26	22.12	5.23	2054.57	2174.29	1.13	1.41	486.72	1.00
1/21/25 5:28	2.26	22.12	5.23	2054.74	2174.46	1.13	1.41	486.68	1.00
1/21/25 6:28	2.26	22.12	5.23	2054.72	2174.44	1.13	1.41	486.68	1.00
1/21/25 7:28	2.26	22.12	5.23	2054.96	2174.71	1.13	1.41	486.63	1.00
1/21/25 8:28	2.26	22.12	5.23	2055.05	2174.77	1.13	1.41	486.61	1.00
1/21/25 9:28	2.26	22.12	5.23	2054.93	2174.64	1.13	1.41	486.64	1.00
1/21/25 10:28	2.26	22.12	5.22	2055.13	2174.83	1.13	1.41	486.59	1.00
1/21/25 11:28	2.25	22.12	5.20	2055.09	2174.79	1.13	1.41	486.60	1.00
1/21/25 12:28	2.25	22.12	5.19	2055.14	2174.86	1.13	1.41	486.59	1.00
1/21/25 13:28	2.24	22.12	5.18	2055.15	2174.83	1.13	1.41	486.58	1.00
1/21/25 14:28	2.24	22.12	5.18	2055.23	2174.91	1.13	1.41	486.56	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/21/25 15:28	2.24	22.12	5.17	2055.25	2174.91	1.13	1.41	486.56	1.00
1/21/25 16:28	2.23	22.12	5.16	2055.17	2174.83	1.13	1.41	486.58	1.00
1/21/25 17:28	2.23	22.12	5.16	2055.14	2174.77	1.13	1.41	486.59	1.00
1/21/25 18:28	2.23	22.12	5.15	2055.17	2174.80	1.13	1.41	486.58	1.00
1/21/25 19:28	2.23	22.12	5.15	2055.16	2174.79	1.13	1.41	486.58	1.00
1/21/25 20:28	2.22	22.12	5.14	2055.12	2174.74	1.13	1.41	486.59	1.00
1/21/25 21:28	2.22	22.12	5.13	2055.06	2174.68	1.13	1.41	486.60	1.00
1/21/25 22:28	2.22	22.12	5.13	2055.20	2174.85	1.13	1.41	486.57	1.00
1/21/25 23:28	2.22	22.12	5.13	2055.01	2174.62	1.13	1.41	486.62	1.00
1/22/25 0:28	2.22	22.12	5.12	2055.21	2174.83	1.13	1.41	486.57	1.00
1/22/25 1:28	2.22	22.12	5.12	2055.15	2174.76	1.13	1.41	486.58	1.00
1/22/25 2:28	2.22	22.12	5.12	2055.29	2174.89	1.13	1.41	486.55	1.00
1/22/25 3:28	2.21	22.12	5.12	2055.24	2174.83	1.13	1.41	486.56	1.00
1/22/25 4:28	2.21	22.12	5.11	2055.33	2174.91	1.13	1.41	486.54	1.00
1/22/25 5:28	2.21	22.12	5.11	2055.32	2174.90	1.13	1.41	486.54	1.00
1/22/25 6:28	2.21	22.12	5.10	2055.49	2175.07	1.13	1.41	486.50	1.00
1/22/25 7:28	2.21	22.12	5.10	2055.28	2174.87	1.13	1.41	486.55	1.00
1/22/25 8:28	2.20	22.12	5.09	2055.30	2174.87	1.13	1.41	486.55	1.00
1/22/25 9:28	2.20	22.12	5.09	2055.41	2174.97	1.13	1.41	486.52	1.00
1/22/25 10:28	2.20	22.12	5.09	2055.68	2175.24	1.13	1.41	486.46	1.00
1/22/25 11:28	2.20	22.12	5.08	2055.63	2175.20	1.13	1.41	486.47	1.00
1/22/25 12:28	2.20	22.12	5.09	2055.58	2175.15	1.13	1.41	486.48	1.00
1/22/25 13:28	2.20	22.12	5.09	2055.76	2175.32	1.13	1.41	486.44	1.00
1/22/25 14:28	2.20	22.12	5.09	2055.66	2175.22	1.13	1.41	486.46	1.00
1/22/25 15:28	2.21	22.12	5.10	2055.76	2175.34	1.13	1.41	486.44	1.00
1/22/25 16:28	2.21	22.12	5.10	2055.80	2175.39	1.13	1.41	486.43	1.00
1/22/25 17:28	2.21	22.12	5.10	2055.58	2175.13	1.13	1.41	486.48	1.00
1/22/25 18:28	2.22	22.12	5.12	2055.65	2175.19	1.13	1.41	486.47	1.00
1/22/25 19:28	2.22	22.12	5.13	2055.85	2175.39	1.13	1.41	486.42	1.00
1/22/25 20:28	2.23	22.12	5.14	2055.96	2175.52	1.13	1.41	486.39	1.00
1/22/25 21:28	2.23	22.12	5.15	2056.10	2175.68	1.13	1.41	486.36	1.00
1/22/25 22:28	2.23	22.12	5.15	2056.13	2175.68	1.13	1.41	486.35	1.00
1/22/25 23:28	2.23	22.12	5.16	2056.26	2175.81	1.13	1.41	486.32	1.00
1/23/25 0:28	2.23	22.12	5.16	2056.41	2175.98	1.13	1.41	486.28	1.00
1/23/25 1:28	2.24	22.12	5.16	2056.29	2175.83	1.13	1.41	486.31	1.00
1/23/25 2:28	2.24	22.12	5.17	2056.62	2176.20	1.13	1.41	486.23	1.00
1/23/25 3:28	2.24	22.12	5.18	2056.63	2176.18	1.13	1.41	486.23	1.00
1/23/25 4:28	2.24	22.12	5.18	2056.74	2176.30	1.13	1.41	486.21	1.00
1/23/25 5:28	2.24	22.12	5.18	2056.51	2176.07	1.13	1.41	486.26	1.00
1/23/25 6:28	2.24	22.12	5.18	2056.56	2176.10	1.13	1.41	486.25	1.00
1/23/25 7:28	2.24	22.12	5.18	2056.74	2176.30	1.13	1.41	486.21	1.00
1/23/25 8:28	2.24	22.12	5.18	2057.00	2176.56	1.13	1.41	486.15	1.00
1/23/25 9:28	2.24	22.12	5.18	2057.00	2176.55	1.13	1.41	486.15	1.00
1/23/25 10:28	2.24	22.12	5.18	2056.96	2176.50	1.13	1.41	486.15	1.00
1/23/25 11:28	2.24	22.12	5.18	2056.98	2176.53	1.13	1.41	486.15	1.00
1/23/25 12:28	2.24	22.12	5.18	2057.00	2176.54	1.13	1.41	486.14	1.00
1/23/25 13:28	2.25	22.12	5.19	2056.96	2176.47	1.13	1.41	486.16	1.00
1/23/25 14:28	2.25	22.12	5.19	2057.16	2176.70	1.13	1.41	486.11	1.00
1/23/25 15:28	2.24	22.12	5.18	2057.36	2176.91	1.13	1.41	486.06	1.00
1/23/25 16:28	2.24	22.13	5.18	2057.32	2176.84	1.13	1.41	486.07	1.00
1/23/25 17:28	2.24	22.13	5.18	2057.22	2176.73	1.13	1.41	486.09	1.00
1/23/25 18:28	2.24	22.13	5.18	2057.49	2177.01	1.13	1.42	486.03	1.00
1/23/25 19:28	2.24	22.13	5.18	2057.30	2176.80	1.13	1.41	486.07	1.00
1/23/25 20:28	2.24	22.13	5.19	2057.41	2176.91	1.13	1.41	486.05	1.00
1/23/25 21:28	2.24	22.13	5.18	2057.58	2177.08	1.13	1.42	486.01	1.00
1/23/25 22:28	2.25	22.13	5.19	2057.52	2177.00	1.13	1.42	486.02	1.00
1/23/25 23:28	2.25	22.13	5.19	2057.64	2177.12	1.13	1.42	485.99	1.00
1/24/25 0:28	2.25	22.13	5.19	2057.69	2177.20	1.13	1.42	485.98	1.00
1/24/25 1:28	2.25	22.13	5.20	2057.72	2177.19	1.13	1.42	485.97	1.00
1/24/25 2:28	2.25	22.13	5.20	2057.93	2177.43	1.13	1.42	485.93	1.00
1/24/25 3:28	2.25	22.13	5.20	2057.91	2177.39	1.13	1.42	485.93	1.00
1/24/25 4:28	2.25	22.13	5.20	2058.00	2177.50	1.13	1.42	485.91	1.00
1/24/25 5:28	2.25	22.13	5.21	2058.05	2177.53	1.13	1.42	485.90	1.00
1/24/25 6:28	2.25	22.13	5.20	2058.05	2177.53	1.13	1.42	485.90	1.00
1/24/25 7:28	2.26	22.13	5.21	2058.08	2177.57	1.13	1.42	485.89	1.00
1/24/25 8:28	2.26	22.13	5.21	2058.12	2177.60	1.13	1.42	485.88	1.00
1/24/25 9:28	2.26	22.13	5.21	2058.12	2177.58	1.13	1.42	485.88	1.00
1/24/25 10:28	2.25	22.13	5.21	2058.16	2177.62	1.13	1.42	485.87	1.00
1/24/25 11:28	2.26	22.13	5.21	2058.13	2177.58	1.13	1.42	485.88	1.00
1/24/25 12:28	2.26	22.13	5.21	2058.44	2177.91	1.13	1.42	485.81	1.00
1/24/25 13:28	2.26	22.13	5.22	2058.26	2177.72	1.13	1.42	485.85	1.00
1/24/25 14:28	2.26	22.13	5.23	2058.32	2177.76	1.13	1.42	485.83	1.00
1/24/25 15:28	2.26	22.13	5.23	2058.51	2177.98	1.13	1.42	485.79	1.00
1/24/25 16:28	2.26	22.13	5.23	2058.64	2178.11	1.13	1.42	485.76	1.00
1/24/25 17:28	2.26	22.13	5.23	2058.68	2178.16	1.13	1.42	485.75	1.00
1/24/25 18:28	2.26	22.13	5.23	2058.61	2178.09	1.13	1.42	485.76	1.00
1/24/25 19:28	2.26	22.13	5.23	2058.54	2177.98	1.13	1.42	485.78	1.00
1/24/25 20:28	2.26	22.13	5.23	2058.71	2178.13	1.13	1.42	485.74	1.00
1/24/25 21:28	2.26	22.13	5.23	2058.83	2178.28	1.13	1.42	485.71	1.00
1/24/25 22:28	2.26	22.13	5.23	2059.10	2178.55	1.13	1.42	485.65	1.00
1/24/25 23:28	2.26	22.13	5.22	2058.79	2178.20	1.13	1.42	485.72	1.00
1/25/25 0:28	2.26	22.13	5.23	2058.88	2178.31	1.13	1.42	485.70	1.00
1/25/25 1:28	2.26	22.13	5.23	2059.08	2178.50	1.13	1.42	485.65	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/25/25 2:28	2.26	22.13	5.22	2058.96	2178.40	1.13	1.42	485.68	1.00
1/25/25 3:28	2.26	22.13	5.22	2059.07	2178.51	1.13	1.42	485.66	1.00
1/25/25 4:28	2.26	22.13	5.22	2059.13	2178.53	1.13	1.42	485.64	1.00
1/25/25 5:28	2.26	22.13	5.22	2059.23	2178.66	1.13	1.42	485.62	1.00
1/25/25 6:28	2.26	22.13	5.22	2059.29	2178.73	1.13	1.42	485.60	1.00
1/25/25 7:28	2.26	22.13	5.22	2059.39	2178.82	1.13	1.42	485.58	1.00
1/25/25 8:28	2.26	22.13	5.22	2059.25	2178.65	1.13	1.42	485.61	1.00
1/25/25 9:28	2.26	22.13	5.21	2059.22	2178.62	1.13	1.42	485.62	1.00
1/25/25 10:28	2.26	22.13	5.21	2059.36	2178.75	1.13	1.42	485.59	1.00
1/25/25 11:28	2.26	22.13	5.21	2059.50	2178.89	1.13	1.42	485.55	1.00
1/25/25 12:28	2.26	22.13	5.21	2059.69	2179.09	1.13	1.42	485.51	1.00
1/25/25 13:28	2.26	22.13	5.22	2059.68	2179.08	1.13	1.42	485.51	1.00
1/25/25 14:28	2.26	22.13	5.22	2059.62	2179.01	1.13	1.42	485.53	1.00
1/25/25 15:28	2.26	22.13	5.21	2059.86	2179.26	1.13	1.42	485.47	1.00
1/25/25 16:28	2.26	22.13	5.21	2059.66	2179.05	1.13	1.42	485.52	1.00
1/25/25 17:28	2.26	22.13	5.21	2059.72	2179.08	1.13	1.42	485.50	1.00
1/25/25 18:28	2.25	22.13	5.21	2059.73	2179.11	1.13	1.42	485.50	1.00
1/25/25 19:28	2.25	22.13	5.20	2059.88	2179.25	1.13	1.42	485.47	1.00
1/25/25 20:28	2.25	22.13	5.20	2060.06	2179.45	1.13	1.42	485.42	1.00
1/25/25 21:28	2.25	22.13	5.19	2059.92	2179.27	1.13	1.42	485.46	1.00
1/25/25 22:28	2.25	22.13	5.19	2060.05	2179.42	1.13	1.42	485.42	1.00
1/25/25 23:28	2.25	22.13	5.19	2060.09	2179.47	1.13	1.42	485.41	1.00
1/26/25 0:28	2.25	22.13	5.19	2060.15	2179.49	1.13	1.42	485.40	1.00
1/26/25 1:28	2.25	22.13	5.19	2060.35	2179.71	1.13	1.42	485.35	1.00
1/26/25 2:28	2.25	22.13	5.19	2060.38	2179.73	1.13	1.42	485.35	1.00
1/26/25 3:28	2.25	22.13	5.19	2060.44	2179.80	1.13	1.42	485.33	1.00
1/26/25 4:28	2.25	22.13	5.19	2060.55	2179.91	1.13	1.42	485.31	1.00
1/26/25 5:28	2.25	22.13	5.19	2060.55	2179.89	1.13	1.42	485.31	1.00
1/26/25 6:28	2.25	22.13	5.19	2060.49	2179.84	1.13	1.42	485.32	1.00
1/26/25 7:28	2.25	22.13	5.19	2060.70	2180.05	1.13	1.42	485.27	1.00
1/26/25 8:28	2.25	22.13	5.19	2060.46	2179.79	1.13	1.42	485.33	1.00
1/26/25 9:28	2.25	22.13	5.19	2060.85	2180.20	1.13	1.42	485.24	1.00
1/26/25 10:28	2.25	22.13	5.19	2060.72	2180.04	1.13	1.42	485.27	1.00
1/26/25 11:28	2.25	22.13	5.19	2061.02	2180.37	1.13	1.42	485.20	1.00
1/26/25 12:28	2.25	22.13	5.19	2060.80	2180.11	1.13	1.42	485.25	1.00
1/26/25 13:28	2.25	22.13	5.20	2060.88	2180.21	1.13	1.42	485.23	1.00
1/26/25 14:28	2.25	22.13	5.20	2061.08	2180.41	1.13	1.42	485.18	1.00
1/26/25 15:28	2.25	22.13	5.20	2061.40	2180.77	1.13	1.42	485.11	1.00
1/26/25 16:28	2.25	22.13	5.21	2061.15	2180.47	1.13	1.42	485.17	1.00
1/26/25 17:28	2.25	22.13	5.20	2061.18	2180.52	1.13	1.42	485.16	1.00
1/26/25 18:28	2.25	22.13	5.20	2061.05	2180.39	1.13	1.42	485.19	1.00
1/26/25 19:28	2.25	22.14	5.20	2061.28	2180.60	1.13	1.42	485.13	1.00
1/26/25 20:28	2.25	22.14	5.19	2061.04	2180.33	1.13	1.42	485.19	1.00
1/26/25 21:28	2.25	22.14	5.19	2061.22	2180.53	1.13	1.42	485.15	1.00
1/26/25 22:28	2.25	22.14	5.19	2061.12	2180.41	1.13	1.42	485.17	1.00
1/26/25 23:28	2.25	22.14	5.19	2061.54	2180.86	1.13	1.42	485.07	1.00
1/27/25 0:28	2.25	22.14	5.20	2061.08	2180.38	1.13	1.42	485.18	1.00
1/27/25 1:28	2.25	22.14	5.19	2061.66	2180.95	1.13	1.42	485.05	1.00
1/27/25 2:28	2.25	22.14	5.19	2061.63	2180.93	1.13	1.42	485.05	1.00
1/27/25 3:28	2.25	22.14	5.19	2061.69	2181.01	1.13	1.42	485.04	1.00
1/27/25 4:28	2.25	22.14	5.19	2061.73	2181.03	1.13	1.42	485.03	1.00
1/27/25 5:28	2.25	22.14	5.19	2061.98	2181.28	1.13	1.42	484.97	1.00
1/27/25 6:28	2.25	22.14	5.19	2061.74	2181.02	1.13	1.42	485.03	1.00
1/27/25 7:28	2.25	22.14	5.19	2062.02	2181.32	1.13	1.42	484.96	1.00
1/27/25 8:28	2.25	22.14	5.19	2061.96	2181.24	1.13	1.42	484.98	1.00
1/27/25 9:28	2.24	22.14	5.18	2061.78	2181.04	1.13	1.42	485.02	1.00
1/27/25 10:28	2.24	22.14	5.18	2061.99	2181.28	1.13	1.42	484.97	1.00
1/27/25 11:28	2.25	22.14	5.19	2061.77	2181.04	1.13	1.42	485.02	1.00
1/27/25 12:28	2.25	22.14	5.19	2062.22	2181.52	1.13	1.42	484.91	1.00
1/27/25 13:28	2.25	22.14	5.20	2062.04	2181.31	1.13	1.42	484.96	1.00
1/27/25 14:28	2.25	22.14	5.21	2061.92	2181.20	1.13	1.42	484.98	1.00
1/27/25 15:28	2.25	22.14	5.21	2062.24	2181.51	1.13	1.42	484.91	1.00
1/27/25 16:28	2.25	22.14	5.21	2062.32	2181.59	1.13	1.42	484.89	1.00
1/27/25 17:28	2.25	22.14	5.21	2062.46	2181.74	1.13	1.42	484.86	1.00
1/27/25 18:28	2.25	22.14	5.20	2062.49	2181.79	1.13	1.42	484.85	1.00
1/27/25 19:28	2.25	22.14	5.20	2062.67	2181.93	1.13	1.42	484.81	1.00
1/27/25 20:28	2.25	22.14	5.19	2062.43	2181.68	1.13	1.42	484.86	1.00
1/27/25 21:28	2.25	22.14	5.20	2062.41	2181.65	1.13	1.42	484.87	1.00
1/27/25 22:28	2.25	22.14	5.19	2062.69	2181.95	1.13	1.42	484.80	1.00
1/27/25 23:28	2.25	22.14	5.19	2062.50	2181.73	1.13	1.42	484.85	1.00
1/28/25 0:28	2.25	22.14	5.20	2062.84	2182.09	1.13	1.42	484.77	1.00
1/28/25 1:28	2.25	22.14	5.19	2062.79	2182.01	1.13	1.42	484.78	1.00
1/28/25 2:28	2.24	22.14	5.18	2062.97	2182.21	1.13	1.42	484.74	1.00
1/28/25 3:28	2.25	22.14	5.19	2062.64	2181.85	1.13	1.42	484.82	1.00
1/28/25 4:28	2.25	22.14	5.19	2062.84	2182.09	1.13	1.42	484.77	1.00
1/28/25 5:28	2.25	22.14	5.19	2063.04	2182.28	1.13	1.42	484.72	1.00
1/28/25 6:28	2.25	22.14	5.19	2063.09	2182.32	1.13	1.42	484.71	1.00
1/28/25 7:28	2.25	22.14	5.19	2063.31	2182.56	1.13	1.42	484.66	1.00
1/28/25 8:28	2.24	22.14	5.18	2063.03	2182.26	1.13	1.42	484.72	1.00
1/28/25 9:28	2.24	22.14	5.18	2063.06	2182.29	1.13	1.42	484.72	1.00
1/28/25 10:28	2.24	22.14	5.18	2063.14	2182.39	1.13	1.42	484.70	1.00
1/28/25 11:28	2.24	22.14	5.18	2063.36	2182.59	1.13	1.42	484.65	1.00
1/28/25 12:28	2.25	22.14	5.19	2063.32	2182.54	1.13	1.42	484.66	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/28/25 13:28	2.25	22.14	5.20	2063.19	2182.39	1.13	1.42	484.69	1.00
1/28/25 14:28	2.25	22.14	5.20	2063.46	2182.65	1.13	1.42	484.62	1.00
1/28/25 15:28	2.25	22.14	5.20	2063.58	2182.79	1.13	1.42	484.60	1.00
1/28/25 16:28	2.25	22.14	5.19	2063.39	2182.60	1.13	1.42	484.64	1.00
1/28/25 17:28	2.25	22.14	5.19	2063.51	2182.71	1.13	1.42	484.61	1.00
1/28/25 18:28	2.25	22.14	5.19	2063.74	2182.96	1.13	1.42	484.56	1.00
1/28/25 19:28	2.25	22.14	5.19	2063.56	2182.74	1.13	1.42	484.60	1.00
1/28/25 20:28	2.25	22.14	5.19	2063.73	2182.95	1.13	1.42	484.56	1.00
1/28/25 21:28	2.25	22.14	5.19	2063.49	2182.69	1.13	1.42	484.61	1.00
1/28/25 22:28	2.25	22.14	5.19	2063.94	2183.15	1.13	1.42	484.51	1.00
1/28/25 23:28	2.24	22.14	5.19	2063.63	2182.83	1.13	1.42	484.58	1.00
1/29/25 0:28	2.24	22.14	5.18	2063.83	2183.03	1.13	1.42	484.54	1.00
1/29/25 1:28	2.24	22.14	5.18	2063.97	2183.17	1.13	1.42	484.50	1.00
1/29/25 2:28	2.24	22.14	5.18	2063.89	2183.06	1.13	1.42	484.52	1.00
1/29/25 3:28	2.24	22.14	5.19	2064.24	2183.43	1.13	1.42	484.44	1.00
1/29/25 4:28	2.25	22.14	5.19	2064.06	2183.23	1.13	1.42	484.48	1.00
1/29/25 5:28	2.24	22.14	5.18	2064.15	2183.33	1.13	1.42	484.46	1.00
1/29/25 6:28	2.24	22.14	5.18	2064.21	2183.40	1.13	1.42	484.45	1.00
1/29/25 7:28	2.24	22.14	5.17	2064.22	2183.38	1.13	1.42	484.44	1.00
1/29/25 8:28	2.24	22.14	5.17	2064.39	2183.56	1.13	1.42	484.41	1.00
1/29/25 9:28	2.24	22.14	5.18	2064.27	2183.45	1.13	1.42	484.43	1.00
1/29/25 10:28	2.24	22.14	5.18	2064.56	2183.76	1.13	1.42	484.36	1.00
1/29/25 11:28	2.24	22.15	5.18	2062.99	2181.67	1.13	1.42	484.73	1.00
1/29/25 12:28	2.24	22.15	5.18	2062.30	2181.10	1.13	1.42	484.89	1.00
1/29/25 13:28	2.24	22.15	5.18	2062.24	2181.13	1.13	1.42	484.91	1.00
1/29/25 14:28	2.24	22.14	5.18	2062.26	2181.20	1.13	1.42	484.90	1.00
1/29/25 15:28	2.25	22.14	5.19	2062.16	2181.12	1.13	1.42	484.93	1.00
1/29/25 16:28	2.25	22.14	5.19	2061.94	2180.91	1.13	1.42	484.98	1.00
1/29/25 17:28	2.24	22.14	5.18	2061.89	2180.86	1.13	1.42	484.99	1.00
1/29/25 18:28	2.24	22.14	5.18	2062.07	2181.06	1.13	1.42	484.95	1.00
1/29/25 19:28	2.24	22.14	5.17	2061.85	2180.82	1.13	1.42	485.00	1.00
1/29/25 20:28	2.24	22.14	5.18	2062.10	2181.08	1.13	1.42	484.94	1.00
1/29/25 21:28	2.25	22.14	5.19	2062.23	2181.24	1.13	1.42	484.91	1.00
1/29/25 22:28	2.24	22.14	5.17	2062.21	2181.20	1.13	1.42	484.92	1.00
1/29/25 23:28	2.24	22.14	5.17	2062.25	2181.23	1.13	1.42	484.91	1.00
1/30/25 0:28	2.24	22.14	5.17	2062.48	2181.49	1.13	1.42	484.85	1.00
1/30/25 1:28	2.24	22.14	5.18	2062.72	2181.72	1.13	1.42	484.80	1.00
1/30/25 2:28	2.24	22.14	5.17	2063.00	2182.01	1.13	1.42	484.73	1.00
1/30/25 3:28	2.24	22.14	5.18	2062.74	2181.74	1.13	1.42	484.79	1.00
1/30/25 4:28	2.24	22.14	5.18	2062.86	2181.87	1.13	1.42	484.76	1.00
1/30/25 5:28	2.24	22.14	5.18	2063.12	2182.15	1.13	1.42	484.70	1.00
1/30/25 6:28	2.24	22.14	5.18	2063.27	2182.29	1.13	1.42	484.67	1.00
1/30/25 7:28	2.24	22.14	5.18	2063.63	2182.66	1.13	1.42	484.58	1.00
1/30/25 8:28	2.24	22.14	5.17	2063.50	2182.52	1.13	1.42	484.61	1.00
1/30/25 9:28	2.24	22.14	5.17	2063.55	2182.59	1.13	1.42	484.60	1.00
1/30/25 10:28	2.24	22.15	5.18	2063.74	2182.74	1.13	1.42	484.56	1.00
1/30/25 11:28	2.24	22.15	5.18	2063.77	2182.80	1.13	1.42	484.55	1.00
1/30/25 12:28	2.24	22.15	5.18	2063.89	2182.93	1.13	1.42	484.52	1.00
1/30/25 13:28	2.25	22.15	5.19	2064.27	2183.32	1.13	1.42	484.43	1.00
1/30/25 14:28	2.25	22.15	5.19	2064.00	2183.02	1.13	1.42	484.50	1.00
1/30/25 15:28	2.25	22.15	5.19	2064.01	2183.02	1.13	1.42	484.49	1.00
1/30/25 16:28	2.25	22.15	5.19	2064.08	2183.11	1.13	1.42	484.48	1.00
1/30/25 17:28	2.24	22.15	5.18	2064.26	2183.28	1.13	1.42	484.44	1.00
1/30/25 18:28	2.24	22.15	5.17	2064.11	2183.12	1.13	1.42	484.47	1.00
1/30/25 19:28	2.24	22.15	5.17	2064.54	2183.57	1.13	1.42	484.37	1.00
1/30/25 20:28	2.24	22.15	5.17	2064.60	2183.64	1.13	1.42	484.36	1.00
1/30/25 21:28	2.23	22.15	5.16	2064.48	2183.49	1.13	1.42	484.38	1.00
1/30/25 22:28	2.23	22.15	5.16	2064.75	2183.77	1.13	1.42	484.32	1.00
1/30/25 23:28	2.23	22.15	5.15	2064.56	2183.57	1.13	1.42	484.36	1.00
1/31/25 0:28	2.23	22.15	5.15	2064.65	2183.64	1.13	1.42	484.34	1.00
1/31/25 1:28	2.23	22.15	5.15	2064.74	2183.74	1.13	1.42	484.32	1.00
1/31/25 2:28	2.23	22.15	5.15	2064.65	2183.65	1.13	1.42	484.34	1.00
1/31/25 3:28	2.23	22.15	5.15	2064.95	2183.99	1.13	1.42	484.27	1.00
1/31/25 4:28	2.23	22.15	5.15	2064.96	2183.96	1.13	1.42	484.27	1.00
1/31/25 5:28	2.23	22.15	5.15	2064.89	2183.89	1.13	1.42	484.29	1.00
1/31/25 6:28	2.23	22.15	5.15	2064.92	2183.93	1.13	1.42	484.28	1.00
1/31/25 7:28	2.23	22.15	5.15	2064.94	2183.95	1.13	1.42	484.28	1.00
1/31/25 8:28	2.23	22.15	5.15	2065.29	2184.28	1.13	1.42	484.19	1.00
1/31/25 9:28	2.22	22.15	5.12	2065.13	2184.13	1.13	1.42	484.23	1.00
1/31/25 10:28	2.21	22.15	5.10	2065.13	2184.13	1.13	1.42	484.23	1.00
1/31/25 11:28	2.20	22.15	5.09	2065.50	2184.51	1.13	1.42	484.14	1.00
1/31/25 12:28	2.20	22.15	5.09	2065.46	2184.45	1.13	1.42	484.15	1.00
1/31/25 13:28	2.20	22.15	5.09	2065.39	2184.37	1.13	1.42	484.17	1.00
1/31/25 14:28	2.20	22.15	5.08	2065.48	2184.48	1.13	1.42	484.15	1.00
1/31/25 15:28	2.21	22.15	5.10	2065.46	2184.45	1.13	1.42	484.15	1.00
1/31/25 16:28	2.22	22.15	5.12	2065.45	2184.43	1.13	1.42	484.16	1.00
1/31/25 17:28	2.22	22.15	5.13	2065.54	2184.54	1.13	1.42	484.13	1.00
1/31/25 18:28	2.22	22.15	5.14	2065.43	2184.42	1.13	1.42	484.16	1.00
1/31/25 19:28	2.23	22.15	5.14	2065.71	2184.69	1.13	1.42	484.10	1.00
1/31/25 20:28	2.23	22.15	5.14	2065.72	2184.70	1.13	1.42	484.09	1.00
1/31/25 21:28	2.23	22.15	5.15	2065.87	2184.86	1.13	1.42	484.06	1.00
1/31/25 22:28	2.23	22.15	5.15	2066.10	2185.09	1.13	1.42	484.00	1.00
1/31/25 23:28	2.23	22.15	5.15	2066.05	2185.04	1.13	1.42	484.02	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/1/25 0:28	2.23	22.15	5.15	2066.22	2185.24	1.13	1.42	483.97	1.00
2/1/25 1:28	2.23	22.15	5.15	2066.08	2185.06	1.13	1.42	484.01	1.00
2/1/25 2:28	2.23	22.15	5.15	2066.32	2185.34	1.13	1.42	483.95	1.00
2/1/25 3:28	2.23	22.15	5.16	2066.53	2185.52	1.13	1.42	483.90	1.00
2/1/25 4:28	2.24	22.15	5.17	2066.65	2185.66	1.13	1.42	483.88	1.00
2/1/25 5:28	2.24	22.15	5.16	2066.57	2185.59	1.13	1.42	483.89	1.00
2/1/25 6:28	2.23	22.15	5.16	2066.45	2185.42	1.13	1.42	483.92	1.00
2/1/25 7:28	2.23	22.15	5.16	2066.38	2185.39	1.13	1.42	483.94	1.00
2/1/25 8:28	2.23	22.15	5.16	2066.72	2185.72	1.13	1.42	483.86	1.00
2/1/25 9:28	2.23	22.15	5.16	2066.85	2185.87	1.13	1.42	483.83	1.00
2/1/25 10:28	2.23	22.15	5.16	2066.78	2185.77	1.13	1.42	483.85	1.00
2/1/25 11:28	2.24	22.15	5.16	2066.80	2185.78	1.13	1.42	483.84	1.00
2/1/25 12:28	2.24	22.15	5.17	2066.76	2185.74	1.13	1.42	483.85	1.00
2/1/25 13:28	2.24	22.15	5.17	2066.93	2185.90	1.13	1.42	483.81	1.00
2/1/25 14:28	2.24	22.15	5.18	2066.99	2185.99	1.13	1.42	483.79	1.00
2/1/25 15:28	2.24	22.15	5.17	2067.29	2186.29	1.13	1.42	483.73	1.00
2/1/25 16:28	2.24	22.15	5.17	2067.32	2186.32	1.13	1.42	483.72	1.00
2/1/25 17:28	2.24	22.15	5.17	2067.19	2186.17	1.13	1.42	483.75	1.00
2/1/25 18:28	2.24	22.15	5.17	2067.05	2186.02	1.13	1.42	483.78	1.00
2/1/25 19:28	2.24	22.15	5.16	2067.33	2186.30	1.13	1.42	483.72	1.00
2/1/25 20:28	2.24	22.15	5.16	2067.28	2186.29	1.13	1.42	483.73	1.00
2/1/25 21:28	2.23	22.15	5.16	2067.35	2186.34	1.13	1.42	483.71	1.00
2/1/25 22:28	2.23	22.15	5.16	2067.36	2186.34	1.13	1.42	483.71	1.00
2/1/25 23:28	2.23	22.15	5.16	2067.36	2186.35	1.13	1.42	483.71	1.00
2/2/25 0:28	2.23	22.15	5.16	2067.22	2186.19	1.13	1.42	483.74	1.00
2/2/25 1:28	2.23	22.15	5.16	2067.29	2186.27	1.13	1.42	483.72	1.00
2/2/25 2:28	2.23	22.15	5.16	2067.31	2186.26	1.13	1.42	483.72	1.00
2/2/25 3:28	2.23	22.15	5.16	2067.40	2186.36	1.13	1.42	483.70	1.00
2/2/25 4:28	2.23	22.15	5.15	2067.50	2186.47	1.13	1.42	483.68	1.00
2/2/25 5:28	2.23	22.15	5.15	2067.40	2186.35	1.13	1.42	483.70	1.00
2/2/25 6:28	2.23	22.15	5.15	2067.62	2186.57	1.13	1.42	483.65	1.00
2/2/25 7:28	2.23	22.15	5.15	2067.73	2186.70	1.13	1.42	483.62	1.00
2/2/25 8:28	2.23	22.15	5.15	2067.73	2186.70	1.13	1.42	483.62	1.00
2/2/25 9:28	2.23	22.15	5.15	2067.68	2186.62	1.13	1.42	483.63	1.00
2/2/25 10:28	2.23	22.15	5.15	2067.70	2186.64	1.13	1.42	483.63	1.00
2/2/25 11:28	2.23	22.15	5.15	2067.95	2186.90	1.13	1.42	483.57	1.00
2/2/25 12:28	2.23	22.15	5.16	2068.13	2187.09	1.13	1.42	483.53	1.00
2/2/25 13:28	2.23	22.15	5.16	2067.97	2186.91	1.13	1.42	483.57	1.00
2/2/25 14:28	2.24	22.15	5.17	2068.15	2187.11	1.13	1.42	483.52	1.00
2/2/25 15:28	2.24	22.15	5.16	2068.14	2187.10	1.13	1.42	483.53	1.00
2/2/25 16:28	2.23	22.15	5.16	2068.28	2187.26	1.13	1.42	483.49	1.00
2/2/25 17:28	2.23	22.15	5.15	2068.16	2187.12	1.13	1.42	483.52	1.00
2/2/25 18:28	2.23	22.15	5.15	2068.41	2187.37	1.13	1.42	483.46	1.00
2/2/25 19:28	2.23	22.15	5.15	2068.46	2187.41	1.13	1.42	483.45	1.00
2/2/25 20:28	2.23	22.15	5.15	2068.42	2187.36	1.13	1.42	483.46	1.00
2/2/25 21:28	2.23	22.15	5.15	2068.62	2187.61	1.13	1.42	483.41	1.00
2/2/25 22:28	2.23	22.15	5.15	2068.44	2187.39	1.13	1.42	483.46	1.00
2/2/25 23:28	2.23	22.15	5.15	2068.65	2187.61	1.13	1.42	483.41	1.00
2/3/25 0:28	2.23	22.15	5.15	2068.81	2187.77	1.13	1.42	483.37	1.00
2/3/25 1:28	2.23	22.15	5.14	2068.69	2187.64	1.13	1.42	483.40	1.00
2/3/25 2:28	2.23	22.15	5.14	2068.64	2187.57	1.13	1.42	483.41	1.00
2/3/25 3:28	2.23	22.15	5.15	2068.67	2187.60	1.13	1.42	483.40	1.00
2/3/25 4:28	2.23	22.15	5.15	2068.68	2187.63	1.13	1.42	483.40	1.00
2/3/25 5:28	2.23	22.15	5.15	2069.00	2187.95	1.13	1.42	483.32	1.00
2/3/25 6:28	2.23	22.15	5.15	2068.98	2187.92	1.13	1.42	483.33	1.00
2/3/25 7:28	2.23	22.15	5.14	2068.89	2187.81	1.13	1.42	483.35	1.00
2/3/25 8:28	2.22	22.15	5.14	2069.14	2188.09	1.13	1.42	483.29	1.00
2/3/25 9:28	2.22	22.15	5.14	2069.36	2188.31	1.13	1.42	483.24	1.00
2/3/25 10:28	2.23	22.15	5.14	2069.04	2187.95	1.13	1.42	483.32	1.00
2/3/25 11:28	2.23	22.15	5.14	2069.09	2188.03	1.13	1.42	483.30	1.00
2/3/25 12:28	2.23	22.15	5.15	2069.33	2188.26	1.13	1.42	483.25	1.00
2/3/25 13:28	2.23	22.15	5.15	2069.42	2188.38	1.13	1.42	483.23	1.00
2/3/25 14:28	2.23	22.15	5.15	2069.34	2188.27	1.13	1.42	483.25	1.00
2/3/25 15:28	2.23	22.15	5.15	2069.66	2188.62	1.13	1.42	483.17	1.00
2/3/25 16:28	2.23	22.15	5.14	2069.68	2188.62	1.13	1.42	483.17	1.00
2/3/25 17:28	2.23	22.15	5.14	2069.73	2188.68	1.13	1.42	483.16	1.00
2/3/25 18:28	2.23	22.15	5.14	2069.62	2188.56	1.13	1.42	483.18	1.00
2/3/25 19:28	2.23	22.16	5.14	2069.52	2188.44	1.13	1.42	483.20	1.00
2/3/25 20:28	2.23	22.15	5.14	2069.66	2188.60	1.13	1.42	483.17	1.00
2/3/25 21:28	2.22	22.16	5.14	2069.74	2188.66	1.13	1.42	483.15	1.00
2/3/25 22:28	2.22	22.16	5.14	2069.88	2188.81	1.13	1.42	483.12	1.00
2/3/25 23:28	2.22	22.16	5.13	2070.12	2189.07	1.13	1.42	483.06	1.00
2/4/25 0:28	2.22	22.16	5.14	2070.03	2188.98	1.13	1.42	483.08	1.00
2/4/25 1:28	2.22	22.16	5.14	2070.07	2188.99	1.13	1.42	483.08	1.00
2/4/25 2:28	2.22	22.16	5.14	2069.87	2188.79	1.13	1.42	483.12	1.00
2/4/25 3:28	2.23	22.16	5.14	2070.19	2189.14	1.13	1.42	483.05	1.00
2/4/25 4:28	2.23	22.16	5.14	2070.25	2189.19	1.13	1.42	483.03	1.00
2/4/25 5:28	2.22	22.16	5.14	2070.20	2189.11	1.13	1.42	483.05	1.00
2/4/25 6:28	2.22	22.16	5.13	2070.14	2189.07	1.13	1.42	483.06	1.00
2/4/25 7:28	2.22	22.16	5.14	2070.47	2189.41	1.13	1.42	482.98	1.00
2/4/25 8:28	2.22	22.16	5.13	2070.73	2189.66	1.13	1.42	482.92	1.00
2/4/25 9:28	2.22	22.16	5.13	2070.55	2189.47	1.13	1.42	482.96	1.00
2/4/25 10:28	2.22	22.16	5.13	2070.65	2189.60	1.13	1.42	482.94	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/4/25 11:28	2.22	22.16	5.13	2070.53	2189.45	1.13	1.42	482.97	1.00
2/4/25 12:28	2.23	22.16	5.14	2070.85	2189.79	1.13	1.42	482.89	1.00
2/4/25 13:28	2.23	22.16	5.15	2070.52	2189.43	1.13	1.42	482.97	1.00
2/4/25 14:28	2.23	22.16	5.15	2070.53	2189.44	1.13	1.42	482.97	1.00
2/4/25 15:28	2.23	22.16	5.15	2070.89	2189.82	1.13	1.42	482.88	1.00
2/4/25 16:28	2.23	22.16	5.15	2070.85	2189.76	1.13	1.42	482.89	1.00
2/4/25 17:28	2.23	22.16	5.14	2070.77	2189.70	1.13	1.42	482.91	1.00
2/4/25 18:28	2.22	22.16	5.14	2071.00	2189.93	1.13	1.42	482.86	1.00
2/4/25 19:28	2.22	22.16	5.14	2070.76	2189.68	1.13	1.42	482.91	1.00
2/4/25 20:28	2.22	22.16	5.13	2070.79	2189.70	1.13	1.42	482.91	1.00
2/4/25 21:28	2.22	22.16	5.13	2071.10	2190.02	1.13	1.42	482.84	1.00
2/4/25 22:28	2.22	22.16	5.13	2071.11	2190.05	1.13	1.42	482.83	1.00
2/4/25 23:28	2.22	22.16	5.13	2071.40	2190.32	1.13	1.42	482.77	1.00
2/5/25 0:28	2.22	22.16	5.13	2071.19	2190.11	1.13	1.42	482.81	1.00
2/5/25 1:28	2.22	22.16	5.13	2071.26	2190.18	1.13	1.42	482.80	1.00
2/5/25 2:28	2.22	22.16	5.13	2071.26	2190.15	1.13	1.42	482.80	1.00
2/5/25 3:28	2.22	22.16	5.13	2071.46	2190.37	1.13	1.42	482.75	1.00
2/5/25 4:28	2.22	22.16	5.13	2071.61	2190.56	1.13	1.42	482.72	1.00
2/5/25 5:28	2.22	22.16	5.13	2071.73	2190.64	1.13	1.42	482.69	1.00
2/5/25 6:28	2.22	22.16	5.13	2071.53	2190.44	1.13	1.42	482.74	1.00
2/5/25 7:28	2.22	22.16	5.13	2071.59	2190.53	1.13	1.42	482.72	1.00
2/5/25 8:28	2.22	22.16	5.13	2071.52	2190.44	1.13	1.42	482.74	1.00
2/5/25 9:28	2.22	22.16	5.13	2071.89	2190.80	1.14	1.42	482.65	1.00
2/5/25 10:28	2.22	22.16	5.13	2071.57	2190.48	1.13	1.42	482.73	1.00
2/5/25 11:28	2.22	22.16	5.13	2072.08	2191.02	1.14	1.42	482.61	1.00
2/5/25 12:28	2.22	22.16	5.14	2071.68	2190.58	1.13	1.42	482.70	1.00
2/5/25 13:28	2.23	22.16	5.14	2072.08	2191.02	1.14	1.42	482.61	1.00
2/5/25 14:28	2.23	22.16	5.14	2071.81	2190.74	1.14	1.42	482.67	1.00
2/5/25 15:28	2.23	22.16	5.14	2071.96	2190.86	1.14	1.42	482.64	1.00
2/5/25 16:28	2.23	22.16	5.15	2071.89	2190.80	1.14	1.42	482.65	1.00
2/5/25 17:28	2.22	22.16	5.14	2072.17	2191.09	1.14	1.42	482.59	1.00
2/5/25 18:28	2.22	22.16	5.13	2072.40	2191.33	1.14	1.42	482.53	1.00
2/5/25 19:28	2.22	22.16	5.13	2072.16	2191.07	1.14	1.42	482.59	1.00
2/5/25 20:28	2.22	22.16	5.12	2072.24	2191.16	1.14	1.42	482.57	1.00
2/5/25 21:28	2.22	22.16	5.12	2072.24	2191.16	1.14	1.42	482.57	1.00
2/5/25 22:28	2.22	22.16	5.12	2072.56	2191.50	1.14	1.42	482.49	1.00
2/5/25 23:28	2.22	22.16	5.12	2072.32	2191.23	1.14	1.42	482.55	1.00
2/6/25 0:28	2.22	22.16	5.12	2072.55	2191.47	1.14	1.42	482.50	1.00
2/6/25 1:28	2.22	22.16	5.12	2072.44	2191.35	1.14	1.42	482.52	1.00
2/6/25 2:28	2.22	22.16	5.12	2072.42	2191.32	1.14	1.42	482.53	1.00
2/6/25 3:28	2.22	22.16	5.12	2072.89	2191.82	1.14	1.42	482.42	1.00
2/6/25 4:28	2.21	22.16	5.12	2072.75	2191.68	1.14	1.42	482.45	1.00
2/6/25 5:28	2.21	22.16	5.11	2072.81	2191.72	1.14	1.42	482.44	1.00
2/6/25 6:28	2.21	22.16	5.11	2072.80	2191.73	1.14	1.42	482.44	1.00
2/6/25 7:28	2.21	22.16	5.11	2072.69	2191.59	1.14	1.42	482.46	1.00
2/6/25 8:28	2.21	22.16	5.11	2072.74	2191.63	1.14	1.42	482.45	1.00
2/6/25 9:28	2.21	22.16	5.11	2073.00	2191.90	1.14	1.42	482.39	1.00
2/6/25 10:28	2.21	22.16	5.11	2073.10	2192.03	1.14	1.42	482.37	1.00
2/6/25 11:28	2.21	22.16	5.11	2072.97	2191.88	1.14	1.42	482.40	1.00
2/6/25 12:28	2.22	22.16	5.12	2073.24	2192.18	1.14	1.42	482.34	1.00
2/6/25 13:28	2.22	22.16	5.12	2073.16	2192.09	1.14	1.42	482.36	1.00
2/6/25 14:28	2.22	22.16	5.12	2073.29	2192.22	1.14	1.42	482.32	1.00
2/6/25 15:28	2.22	22.16	5.12	2073.06	2191.95	1.14	1.42	482.38	1.00
2/6/25 16:28	2.22	22.16	5.13	2073.54	2192.49	1.14	1.43	482.27	1.00
2/6/25 17:28	2.22	22.16	5.12	2073.83	2192.77	1.14	1.43	482.20	1.00
2/6/25 18:28	2.22	22.16	5.12	2073.54	2192.47	1.14	1.43	482.27	1.00
2/6/25 19:28	2.21	22.16	5.11	2073.51	2192.42	1.14	1.43	482.27	1.00
2/6/25 20:28	2.21	22.16	5.11	2073.66	2192.56	1.14	1.43	482.24	1.00
2/6/25 21:28	2.21	22.16	5.11	2073.75	2192.69	1.14	1.43	482.22	1.00
2/6/25 22:28	2.21	22.16	5.11	2073.62	2192.54	1.14	1.43	482.25	1.00
2/6/25 23:28	2.21	22.16	5.11	2073.79	2192.70	1.14	1.43	482.21	1.00
2/7/25 0:28	2.21	22.16	5.11	2074.06	2193.00	1.14	1.43	482.15	1.00
2/7/25 1:28	2.21	22.16	5.11	2073.78	2192.67	1.14	1.43	482.21	1.00
2/7/25 2:28	2.21	22.16	5.11	2073.59	2192.49	1.14	1.43	482.26	1.00
2/7/25 3:28	2.21	22.16	5.11	2074.16	2193.08	1.14	1.43	482.12	1.00
2/7/25 4:28	2.21	22.16	5.11	2073.85	2192.78	1.14	1.43	482.19	1.00
2/7/25 5:28	2.22	22.16	5.12	2074.00	2192.91	1.14	1.43	482.16	1.00
2/7/25 6:28	2.21	22.16	5.11	2073.91	2192.81	1.14	1.43	482.18	1.00
2/7/25 7:28	2.21	22.16	5.11	2074.20	2193.13	1.14	1.43	482.11	1.00
2/7/25 8:28	2.21	22.16	5.11	2074.02	2192.93	1.14	1.43	482.15	1.00
2/7/25 9:28	2.21	22.16	5.11	2074.18	2193.08	1.14	1.43	482.12	1.00
2/7/25 10:28	2.21	22.16	5.11	2074.17	2193.08	1.14	1.43	482.12	1.00
2/7/25 11:28	2.21	22.16	5.11	2074.36	2193.28	1.14	1.43	482.08	1.00
2/7/25 12:28	2.22	22.16	5.12	2074.31	2193.21	1.14	1.43	482.09	1.00
2/7/25 13:28	2.22	22.16	5.12	2074.40	2193.32	1.14	1.43	482.07	1.00
2/7/25 14:28	2.22	22.16	5.12	2074.51	2193.42	1.14	1.43	482.04	1.00
2/7/25 15:28	2.22	22.16	5.12	2074.75	2193.69	1.14	1.43	481.99	1.00
2/7/25 16:28	2.22	22.16	5.12	2074.56	2193.47	1.14	1.43	482.03	1.00
2/7/25 17:28	2.21	22.16	5.11	2074.74	2193.66	1.14	1.43	481.99	1.00
2/7/25 18:28	2.21	22.16	5.11	2074.60	2193.53	1.14	1.43	482.02	1.00
2/7/25 19:28	2.21	22.16	5.11	2074.62	2193.53	1.14	1.43	482.02	1.00
2/7/25 20:28	2.21	22.16	5.11	2074.75	2193.69	1.14	1.43	481.99	1.00
2/7/25 21:28	2.21	22.16	5.10	2074.53	2193.43	1.14	1.43	482.04	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/7/25 22:28	2.21	22.16	5.10	2074.95	2193.89	1.14	1.43	481.94	1.00
2/7/25 23:28	2.21	22.16	5.11	2075.05	2193.99	1.14	1.43	481.92	1.00
2/8/25 0:28	2.21	22.16	5.10	2074.83	2193.73	1.14	1.43	481.97	1.00
2/8/25 1:28	2.21	22.16	5.11	2074.97	2193.90	1.14	1.43	481.93	1.00
2/8/25 2:28	2.21	22.16	5.11	2075.01	2193.93	1.14	1.43	481.93	1.00
2/8/25 3:28	2.21	22.16	5.11	2075.29	2194.21	1.14	1.43	481.86	1.00
2/8/25 4:28	2.21	22.16	5.11	2075.24	2194.14	1.14	1.43	481.87	1.00
2/8/25 5:28	2.21	22.16	5.11	2075.25	2194.17	1.14	1.43	481.87	1.00
2/8/25 6:28	2.21	22.16	5.10	2075.16	2194.08	1.14	1.43	481.89	1.00
2/8/25 7:28	2.21	22.16	5.10	2075.29	2194.20	1.14	1.43	481.86	1.00
2/8/25 8:28	2.21	22.16	5.10	2075.08	2193.99	1.14	1.43	481.91	1.00
2/8/25 9:28	2.21	22.16	5.10	2075.09	2193.99	1.14	1.43	481.91	1.00
2/8/25 10:28	2.21	22.16	5.10	2075.47	2194.40	1.14	1.43	481.82	1.00
2/8/25 11:28	2.21	22.16	5.10	2075.56	2194.49	1.14	1.43	481.80	1.00
2/8/25 12:28	2.21	22.16	5.10	2075.60	2194.52	1.14	1.43	481.79	1.00
2/8/25 13:28	2.21	22.16	5.11	2075.38	2194.30	1.14	1.43	481.84	1.00
2/8/25 14:28	2.21	22.16	5.11	2075.56	2194.50	1.14	1.43	481.80	1.00
2/8/25 15:28	2.21	22.16	5.11	2075.71	2194.65	1.14	1.43	481.76	1.00
2/8/25 16:28	2.21	22.16	5.11	2075.53	2194.42	1.14	1.43	481.81	1.00
2/8/25 17:28	2.21	22.16	5.11	2075.77	2194.68	1.14	1.43	481.75	1.00
2/8/25 18:28	2.21	22.16	5.10	2075.92	2194.85	1.14	1.43	481.71	1.00
2/8/25 19:28	2.21	22.16	5.10	2075.97	2194.88	1.14	1.43	481.70	1.00
2/8/25 20:28	2.21	22.16	5.10	2075.87	2194.78	1.14	1.43	481.73	1.00
2/8/25 21:28	2.20	22.16	5.09	2076.16	2195.07	1.14	1.43	481.66	1.00
2/8/25 22:28	2.20	22.16	5.09	2076.05	2194.99	1.14	1.43	481.68	1.00
2/8/25 23:28	2.20	22.16	5.09	2076.10	2195.01	1.14	1.43	481.67	1.00
2/9/25 0:28	2.20	22.16	5.09	2076.00	2194.90	1.14	1.43	481.70	1.00
2/9/25 1:28	2.20	22.16	5.09	2076.04	2194.95	1.14	1.43	481.69	1.00
2/9/25 2:28	2.20	22.16	5.09	2076.07	2194.99	1.14	1.43	481.68	1.00
2/9/25 3:28	2.20	22.16	5.09	2076.09	2194.98	1.14	1.43	481.68	1.00
2/9/25 4:28	2.20	22.16	5.09	2076.01	2194.94	1.14	1.43	481.69	1.00
2/9/25 5:28	2.20	22.16	5.08	2076.15	2195.08	1.14	1.43	481.66	1.00
2/9/25 6:28	2.20	22.16	5.08	2076.22	2195.14	1.14	1.43	481.64	1.00
2/9/25 7:28	2.20	22.16	5.08	2076.29	2195.22	1.14	1.43	481.63	1.00
2/9/25 8:28	2.20	22.16	5.08	2076.39	2195.29	1.14	1.43	481.61	1.00
2/9/25 9:28	2.20	22.16	5.08	2076.43	2195.35	1.14	1.43	481.60	1.00
2/9/25 10:28	2.20	22.16	5.08	2076.68	2195.61	1.14	1.43	481.54	1.00
2/9/25 11:28	2.20	22.16	5.08	2076.50	2195.42	1.14	1.43	481.58	1.00
2/9/25 12:28	2.20	22.16	5.09	2076.66	2195.59	1.14	1.43	481.54	1.00
2/9/25 13:28	2.20	22.16	5.09	2076.73	2195.66	1.14	1.43	481.53	1.00
2/9/25 14:28	2.21	22.16	5.10	2076.84	2195.78	1.14	1.43	481.50	1.00
2/9/25 15:28	2.21	22.16	5.10	2076.47	2195.37	1.14	1.43	481.59	1.00
2/9/25 16:28	2.21	22.16	5.10	2077.06	2196.00	1.14	1.43	481.45	1.00
2/9/25 17:28	2.20	22.16	5.09	2076.86	2195.78	1.14	1.43	481.50	1.00
2/9/25 18:28	2.20	22.16	5.09	2076.76	2195.69	1.14	1.43	481.52	1.00
2/9/25 19:28	2.20	22.16	5.08	2077.06	2195.99	1.14	1.43	481.45	1.00
2/9/25 20:28	2.20	22.16	5.08	2077.27	2196.20	1.14	1.43	481.40	1.00
2/9/25 21:28	2.20	22.16	5.08	2077.33	2196.26	1.14	1.43	481.39	1.00
2/9/25 22:28	2.20	22.16	5.08	2077.21	2196.14	1.14	1.43	481.42	1.00
2/9/25 23:28	2.20	22.16	5.08	2077.36	2196.30	1.14	1.43	481.38	1.00
2/10/25 0:28	2.20	22.16	5.07	2077.23	2196.18	1.14	1.43	481.41	1.00
2/10/25 1:28	2.20	22.17	5.08	2077.16	2196.07	1.14	1.43	481.43	1.00
2/10/25 2:28	2.20	22.16	5.08	2077.23	2196.15	1.14	1.43	481.41	1.00
2/10/25 3:28	2.20	22.16	5.08	2077.30	2196.25	1.14	1.43	481.39	1.00
2/10/25 4:28	2.20	22.16	5.08	2077.64	2196.59	1.14	1.43	481.32	1.00
2/10/25 5:28	2.20	22.16	5.08	2077.54	2196.48	1.14	1.43	481.34	1.00
2/10/25 6:28	2.20	22.17	5.08	2077.54	2196.47	1.14	1.43	481.34	1.00
2/10/25 7:28	2.20	22.16	5.08	2077.48	2196.43	1.14	1.43	481.35	1.00
2/10/25 8:28	2.20	22.16	5.07	2077.76	2196.71	1.14	1.43	481.29	1.00
2/10/25 9:28	2.20	22.17	5.07	2077.90	2196.84	1.14	1.43	481.26	1.00
2/10/25 10:28	2.20	22.17	5.08	2077.71	2196.64	1.14	1.43	481.30	1.00
2/10/25 11:28	2.20	22.17	5.08	2077.76	2196.70	1.14	1.43	481.29	1.00
2/10/25 12:28	2.20	22.17	5.08	2077.87	2196.80	1.14	1.43	481.26	1.00
2/10/25 13:28	2.21	22.17	5.10	2077.96	2196.91	1.14	1.43	481.24	1.00
2/10/25 14:28	2.21	22.17	5.10	2077.86	2196.80	1.14	1.43	481.26	1.00
2/10/25 15:28	2.21	22.17	5.10	2078.08	2197.03	1.14	1.43	481.21	1.00
2/10/25 16:28	2.21	22.17	5.10	2078.29	2197.26	1.14	1.43	481.16	1.00
2/10/25 17:28	2.20	22.17	5.09	2078.11	2197.07	1.14	1.43	481.21	1.00
2/10/25 18:28	2.20	22.17	5.09	2078.18	2197.12	1.14	1.43	481.19	1.00
2/10/25 19:28	2.20	22.17	5.09	2078.13	2197.07	1.14	1.43	481.20	1.00
2/10/25 20:28	2.20	22.17	5.09	2078.31	2197.26	1.14	1.43	481.16	1.00
2/10/25 21:28	2.21	22.17	5.10	2078.18	2197.13	1.14	1.43	481.19	1.00
2/10/25 22:28	2.21	22.17	5.09	2078.36	2197.30	1.14	1.43	481.15	1.00
2/10/25 23:28	2.20	22.17	5.09	2078.56	2197.50	1.14	1.43	481.10	1.00
2/11/25 0:28	2.20	22.17	5.09	2078.53	2197.49	1.14	1.43	481.11	1.00
2/11/25 1:28	2.20	22.17	5.09	2078.64	2197.59	1.14	1.43	481.08	1.00
2/11/25 2:28	2.20	22.17	5.08	2078.64	2197.59	1.14	1.43	481.08	1.00
2/11/25 3:28	2.20	22.17	5.09	2078.38	2197.31	1.14	1.43	481.14	1.00
2/11/25 4:28	2.20	22.17	5.08	2078.50	2197.43	1.14	1.43	481.12	1.00
2/11/25 5:28	2.20	22.17	5.07	2078.55	2197.50	1.14	1.43	481.11	1.00
2/11/25 6:28	2.20	22.17	5.07	2078.67	2197.64	1.14	1.43	481.08	1.00
2/11/25 7:28	2.19	22.17	5.07	2078.61	2197.56	1.14	1.43	481.09	1.00
2/11/25 8:28	2.19	22.17	5.07	2078.99	2197.95	1.14	1.43	481.00	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/11/25 9:28	2.19	22.17	5.07	2078.99	2197.96	1.14	1.43	481.00	1.00
2/11/25 10:28	2.20	22.17	5.07	2078.96	2197.93	1.14	1.43	481.01	1.00
2/11/25 11:28	2.19	22.17	5.07	2078.83	2197.79	1.14	1.43	481.04	1.00
2/11/25 12:28	2.20	22.17	5.08	2078.92	2197.88	1.14	1.43	481.02	1.00
2/11/25 13:28	2.20	22.17	5.09	2079.10	2198.06	1.14	1.43	480.98	1.00
2/11/25 14:28	2.20	22.17	5.08	2079.16	2198.13	1.14	1.43	480.96	1.00
2/11/25 15:28	2.20	22.17	5.08	2079.15	2198.13	1.14	1.43	480.97	1.00
2/11/25 16:28	2.20	22.17	5.09	2079.18	2198.13	1.14	1.43	480.96	1.00
2/11/25 17:28	2.20	22.17	5.09	2079.35	2198.35	1.14	1.43	480.92	1.00
2/11/25 18:28	2.20	22.17	5.09	2079.22	2198.19	1.14	1.43	480.95	1.00
2/11/25 19:28	2.20	22.17	5.08	2079.37	2198.35	1.14	1.43	480.91	1.00
2/11/25 20:28	2.20	22.17	5.08	2079.53	2198.50	1.14	1.43	480.88	1.00
2/11/25 21:28	2.20	22.17	5.08	2079.21	2198.16	1.14	1.43	480.95	1.00
2/11/25 22:28	2.20	22.17	5.08	2079.51	2198.49	1.14	1.43	480.88	1.00
2/11/25 23:28	2.20	22.17	5.09	2079.47	2198.43	1.14	1.43	480.89	1.00
2/12/25 0:28	2.20	22.17	5.09	2079.69	2198.66	1.14	1.43	480.84	1.00
2/12/25 1:28	2.20	22.17	5.08	2079.47	2198.45	1.14	1.43	480.89	1.00
2/12/25 2:28	2.20	22.17	5.08	2079.55	2198.51	1.14	1.43	480.87	1.00
2/12/25 3:28	2.20	22.17	5.08	2079.83	2198.82	1.14	1.43	480.81	1.00
2/12/25 4:28	2.20	22.17	5.08	2079.89	2198.89	1.14	1.43	480.79	1.00
2/12/25 5:28	2.20	22.17	5.08	2079.97	2198.94	1.14	1.43	480.78	1.00
2/12/25 6:28	2.20	22.17	5.07	2080.12	2199.11	1.14	1.43	480.74	1.00
2/12/25 7:28	2.20	22.17	5.07	2080.16	2199.14	1.14	1.43	480.73	1.00
2/12/25 8:28	2.19	22.17	5.07	2080.28	2199.27	1.14	1.43	480.70	1.00
2/12/25 9:28	2.19	22.17	5.07	2080.05	2199.03	1.14	1.43	480.76	1.00
2/12/25 10:28	2.19	22.17	5.07	2079.91	2198.89	1.14	1.43	480.79	1.00
2/12/25 11:28	2.20	22.17	5.07	2080.23	2199.23	1.14	1.43	480.72	1.00
2/12/25 12:28	2.20	22.17	5.07	2080.15	2199.13	1.14	1.43	480.74	1.00
2/12/25 13:28	2.20	22.17	5.08	2080.15	2199.14	1.14	1.43	480.74	1.00
2/12/25 14:28	2.20	22.17	5.08	2080.41	2199.41	1.14	1.43	480.67	1.00
2/12/25 15:28	2.20	22.17	5.08	2080.35	2199.32	1.14	1.43	480.69	1.00
2/12/25 16:28	2.20	22.17	5.07	2080.43	2199.44	1.14	1.43	480.67	1.00
2/12/25 17:28	2.19	22.17	5.07	2080.55	2199.56	1.14	1.43	480.64	1.00
2/12/25 18:28	2.19	22.17	5.06	2080.44	2199.43	1.14	1.43	480.67	1.00
2/12/25 19:28	2.19	22.17	5.06	2080.37	2199.34	1.14	1.43	480.68	1.00
2/12/25 20:28	2.19	22.17	5.06	2080.60	2199.59	1.14	1.43	480.63	1.00
2/12/25 21:28	2.19	22.17	5.06	2080.47	2199.45	1.14	1.43	480.66	1.00
2/12/25 22:28	2.19	22.17	5.05	2080.62	2199.61	1.14	1.43	480.62	1.00
2/12/25 23:28	2.18	22.17	5.04	2080.72	2199.72	1.14	1.43	480.60	1.00
2/13/25 0:28	2.18	22.17	5.04	2080.68	2199.68	1.14	1.43	480.61	1.00
2/13/25 1:28	2.18	22.17	5.04	2080.76	2199.76	1.14	1.43	480.59	1.00
2/13/25 2:28	2.18	22.17	5.03	2080.88	2199.88	1.14	1.43	480.57	1.00
2/13/25 3:28	2.18	22.17	5.04	2080.94	2199.94	1.14	1.43	480.55	1.00
2/13/25 4:28	2.18	22.17	5.04	2080.76	2199.74	1.14	1.43	480.59	1.00
2/13/25 5:28	2.18	22.17	5.04	2080.97	2199.96	1.14	1.43	480.54	1.00
2/13/25 6:28	2.18	22.17	5.03	2081.17	2200.18	1.14	1.43	480.50	1.00
2/13/25 7:28	2.18	22.17	5.03	2081.21	2200.23	1.14	1.43	480.49	1.00
2/13/25 8:28	2.18	22.17	5.03	2081.18	2200.19	1.14	1.43	480.50	1.00
2/13/25 9:28	2.18	22.17	5.03	2081.14	2200.14	1.14	1.43	480.51	1.00
2/13/25 10:28	2.18	22.17	5.03	2080.99	2199.99	1.14	1.43	480.54	1.00
2/13/25 11:28	2.18	22.17	5.03	2081.08	2200.06	1.14	1.43	480.52	1.00
2/13/25 12:28	2.18	22.17	5.03	2081.38	2200.40	1.14	1.43	480.45	1.00
2/13/25 13:28	2.18	22.17	5.04	2081.43	2200.44	1.14	1.43	480.44	1.00
2/13/25 14:28	2.18	22.17	5.05	2081.26	2200.27	1.14	1.43	480.48	1.00
2/13/25 15:28	2.18	22.17	5.03	2081.37	2200.40	1.14	1.43	480.45	1.00
2/13/25 16:28	2.17	22.17	5.02	2081.66	2200.70	1.14	1.43	480.39	1.00
2/13/25 17:28	2.17	22.17	5.02	2081.60	2200.62	1.14	1.43	480.40	1.00
2/13/25 18:28	2.17	22.17	5.01	2081.62	2200.64	1.14	1.43	480.40	1.00
2/13/25 19:28	2.17	22.17	5.02	2081.67	2200.69	1.14	1.43	480.38	1.00
2/13/25 20:28	2.17	22.17	5.02	2081.57	2200.58	1.14	1.43	480.41	1.00
2/13/25 21:28	2.18	22.17	5.03	2081.76	2200.78	1.14	1.43	480.36	1.00
2/13/25 22:28	2.18	22.17	5.03	2081.75	2200.76	1.14	1.43	480.37	1.00
2/13/25 23:28	2.18	22.17	5.03	2081.95	2200.98	1.14	1.43	480.32	1.00
2/14/25 0:28	2.18	22.17	5.04	2081.91	2200.93	1.14	1.43	480.33	1.00
2/14/25 1:28	2.18	22.17	5.04	2082.16	2201.23	1.14	1.43	480.27	1.00
2/14/25 2:28	2.18	22.17	5.03	2082.06	2201.12	1.14	1.43	480.29	1.00
2/14/25 3:28	2.18	22.17	5.03	2082.24	2201.30	1.14	1.43	480.25	1.00
2/14/25 4:28	2.18	22.17	5.04	2081.86	2200.86	1.14	1.43	480.34	1.00
2/14/25 5:28	2.19	22.17	5.05	2082.09	2201.12	1.14	1.43	480.29	1.00
2/14/25 6:28	2.19	22.17	5.05	2082.05	2201.08	1.14	1.43	480.30	1.00
2/14/25 7:28	2.19	22.17	5.05	2082.18	2201.21	1.14	1.43	480.27	1.00
2/14/25 8:28	2.18	22.17	5.04	2082.24	2201.29	1.14	1.43	480.25	1.00
2/14/25 9:28	2.19	22.17	5.05	2082.60	2201.64	1.14	1.43	480.17	1.00
2/14/25 10:28	2.19	22.17	5.05	2082.19	2201.23	1.14	1.43	480.26	1.00
2/14/25 11:28	2.19	22.17	5.06	2082.40	2201.44	1.14	1.43	480.22	1.00
2/14/25 12:28	2.19	22.17	5.07	2082.27	2201.32	1.14	1.43	480.24	1.00
2/14/25 13:28	2.20	22.17	5.08	2082.49	2201.55	1.14	1.43	480.19	1.00
2/14/25 14:28	2.19	22.17	5.07	2082.61	2201.67	1.14	1.43	480.17	1.00
2/14/25 15:28	2.19	22.17	5.07	2082.79	2201.88	1.14	1.43	480.12	1.00
2/14/25 16:28	2.19	22.17	5.07	2082.68	2201.75	1.14	1.43	480.15	1.00
2/14/25 17:28	2.19	22.17	5.07	2082.85	2201.91	1.14	1.43	480.11	1.00
2/14/25 18:28	2.19	22.17	5.07	2082.75	2201.83	1.14	1.43	480.13	1.00
2/14/25 19:28	2.20	22.17	5.07	2082.85	2201.90	1.14	1.43	480.11	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/14/25 20:28	2.20	22.17	5.07	2082.88	2201.95	1.14	1.43	480.11	1.00
2/14/25 21:28	2.19	22.17	5.07	2082.85	2201.91	1.14	1.43	480.11	1.00
2/14/25 22:28	2.20	22.17	5.07	2082.85	2201.90	1.14	1.43	480.11	1.00
2/14/25 23:28	2.19	22.17	5.07	2082.98	2202.05	1.14	1.43	480.08	1.00
2/15/25 0:28	2.19	22.17	5.07	2083.12	2202.18	1.14	1.43	480.05	1.00
2/15/25 1:28	2.19	22.17	5.07	2083.19	2202.26	1.14	1.43	480.03	1.00
2/15/25 2:28	2.19	22.17	5.07	2083.06	2202.12	1.14	1.43	480.06	1.00
2/15/25 3:28	2.19	22.17	5.06	2083.10	2202.15	1.14	1.43	480.05	1.00
2/15/25 4:28	2.19	22.17	5.07	2083.19	2202.27	1.14	1.43	480.03	1.00
2/15/25 5:28	2.19	22.17	5.06	2083.06	2202.11	1.14	1.43	480.06	1.00
2/15/25 6:28	2.19	22.17	5.06	2083.22	2202.29	1.14	1.43	480.03	1.00
2/15/25 7:28	2.19	22.17	5.06	2083.62	2202.71	1.14	1.43	479.93	1.00
2/15/25 8:28	2.19	22.17	5.06	2083.38	2202.44	1.14	1.43	479.99	1.00
2/15/25 9:28	2.19	22.17	5.06	2083.66	2202.75	1.14	1.43	479.92	1.00
2/15/25 10:28	2.19	22.17	5.06	2083.65	2202.75	1.14	1.43	479.93	1.00
2/15/25 11:28	2.19	22.17	5.06	2083.28	2202.35	1.14	1.43	480.01	1.00
2/15/25 12:28	2.19	22.17	5.06	2083.55	2202.64	1.14	1.43	479.95	1.00
2/15/25 13:28	2.19	22.17	5.05	2083.79	2202.88	1.14	1.43	479.90	1.00
2/15/25 14:28	2.19	22.17	5.06	2083.68	2202.80	1.14	1.43	479.92	1.00
2/15/25 15:28	2.19	22.17	5.06	2083.68	2202.76	1.14	1.43	479.92	1.00
2/15/25 16:28	2.19	22.17	5.06	2083.59	2202.67	1.14	1.43	479.94	1.00
2/15/25 17:28	2.19	22.17	5.05	2084.02	2203.15	1.14	1.43	479.84	1.00
2/15/25 18:28	2.18	22.17	5.05	2083.76	2202.84	1.14	1.43	479.90	1.00
2/15/25 19:28	2.18	22.17	5.04	2083.97	2203.07	1.14	1.43	479.85	1.00
2/15/25 20:28	2.18	22.17	5.04	2083.97	2203.07	1.14	1.43	479.85	1.00
2/15/25 21:28	2.18	22.17	5.04	2083.93	2203.03	1.14	1.43	479.86	1.00
2/15/25 22:28	2.18	22.17	5.03	2084.03	2203.14	1.14	1.43	479.84	1.00
2/15/25 23:28	2.18	22.17	5.04	2084.22	2203.32	1.14	1.43	479.80	1.00
2/16/25 0:28	2.18	22.17	5.03	2084.20	2203.31	1.14	1.43	479.80	1.00
2/16/25 1:28	2.18	22.17	5.03	2084.40	2203.54	1.14	1.43	479.75	1.00
2/16/25 2:28	2.18	22.17	5.03	2084.14	2203.25	1.14	1.43	479.81	1.00
2/16/25 3:28	2.18	22.17	5.03	2084.47	2203.59	1.14	1.43	479.74	1.00
2/16/25 4:28	2.18	22.17	5.03	2084.50	2203.62	1.14	1.43	479.73	1.00
2/16/25 5:28	2.18	22.17	5.02	2084.40	2203.52	1.14	1.43	479.75	1.00
2/16/25 6:28	2.18	22.17	5.03	2084.40	2203.51	1.14	1.43	479.76	1.00
2/16/25 7:28	2.17	22.17	5.02	2084.38	2203.48	1.14	1.43	479.76	1.00
2/16/25 8:28	2.17	22.17	5.02	2084.64	2203.78	1.14	1.43	479.70	1.00
2/16/25 9:28	2.17	22.17	5.02	2084.63	2203.76	1.14	1.43	479.70	1.00
2/16/25 10:28	2.17	22.17	5.02	2084.66	2203.81	1.14	1.43	479.69	1.00
2/16/25 11:28	2.18	22.17	5.03	2084.65	2203.78	1.14	1.43	479.70	1.00
2/16/25 12:28	2.18	22.17	5.03	2084.64	2203.77	1.14	1.43	479.70	1.00
2/16/25 13:28	2.18	22.17	5.04	2084.80	2203.95	1.14	1.43	479.66	1.00
2/16/25 14:28	2.18	22.17	5.04	2084.74	2203.89	1.14	1.43	479.68	1.00
2/16/25 15:28	2.18	22.17	5.05	2084.90	2204.05	1.14	1.43	479.64	1.00
2/16/25 16:28	2.18	22.17	5.04	2084.95	2204.11	1.14	1.43	479.63	1.00
2/16/25 17:28	2.18	22.17	5.04	2084.84	2203.97	1.14	1.43	479.65	1.00
2/16/25 18:28	2.18	22.17	5.04	2084.97	2204.11	1.14	1.43	479.62	1.00
2/16/25 19:28	2.18	22.17	5.04	2084.93	2204.08	1.14	1.43	479.63	1.00
2/16/25 20:28	2.18	22.17	5.04	2085.36	2204.51	1.14	1.43	479.53	1.00
2/16/25 21:28	2.18	22.17	5.04	2085.21	2204.37	1.14	1.43	479.57	1.00
2/16/25 22:28	2.18	22.17	5.04	2085.31	2204.47	1.14	1.43	479.54	1.00
2/16/25 23:28	2.18	22.17	5.04	2085.24	2204.41	1.14	1.43	479.56	1.00
2/17/25 0:28	2.18	22.17	5.05	2085.31	2204.48	1.14	1.43	479.54	1.00
2/17/25 1:28	2.19	22.17	5.05	2085.40	2204.53	1.14	1.43	479.52	1.00
2/17/25 2:28	2.19	22.17	5.05	2085.33	2204.51	1.14	1.43	479.54	1.00
2/17/25 3:28	2.19	22.17	5.06	2085.46	2204.59	1.14	1.43	479.51	1.00
2/17/25 4:28	2.19	22.17	5.05	2085.47	2204.65	1.14	1.43	479.51	1.00
2/17/25 5:28	2.18	22.17	5.04	2085.86	2205.04	1.14	1.43	479.42	1.00
2/17/25 6:28	2.18	22.17	5.04	2085.41	2204.58	1.14	1.43	479.52	1.00
2/17/25 7:28	2.18	22.17	5.04	2085.56	2204.72	1.14	1.43	479.49	1.00
2/17/25 8:28	2.18	22.17	5.04	2085.66	2204.85	1.14	1.43	479.46	1.00
2/17/25 9:28	2.18	22.17	5.04	2085.62	2204.78	1.14	1.43	479.47	1.00
2/17/25 10:28	2.18	22.17	5.04	2085.75	2204.93	1.14	1.43	479.44	1.00
2/17/25 11:28	2.18	22.17	5.04	2085.87	2205.04	1.14	1.43	479.42	1.00
2/17/25 12:28	2.18	22.17	5.04	2085.88	2205.05	1.14	1.43	479.41	1.00
2/17/25 13:28	2.19	22.17	5.05	2085.76	2204.92	1.14	1.43	479.44	1.00
2/17/25 14:28	2.19	22.17	5.05	2086.04	2205.23	1.14	1.43	479.38	1.00
2/17/25 15:28	2.19	22.17	5.05	2085.92	2205.10	1.14	1.43	479.40	1.00
2/17/25 16:28	2.18	22.17	5.04	2086.29	2205.48	1.14	1.43	479.32	1.00
2/17/25 17:28	2.18	22.17	5.04	2086.00	2205.18	1.14	1.43	479.39	1.00
2/17/25 18:28	2.18	22.17	5.04	2086.28	2205.49	1.14	1.43	479.32	1.00
2/17/25 19:28	2.18	22.17	5.03	2086.23	2205.44	1.14	1.43	479.33	1.00
2/17/25 20:28	2.18	22.17	5.03	2086.20	2205.40	1.14	1.43	479.34	1.00
2/17/25 21:28	2.18	22.17	5.03	2085.96	2205.15	1.14	1.43	479.40	1.00
2/17/25 22:28	2.18	22.17	5.03	2086.18	2205.39	1.14	1.43	479.34	1.00
2/17/25 23:28	2.18	22.17	5.03	2086.05	2205.24	1.14	1.43	479.37	1.00
2/18/25 0:28	2.18	22.17	5.03	2086.27	2205.46	1.14	1.43	479.32	1.00
2/18/25 1:28	2.18	22.17	5.03	2086.50	2205.71	1.14	1.43	479.27	1.00
2/18/25 2:28	2.18	22.17	5.03	2086.50	2205.71	1.14	1.43	479.27	1.00
2/18/25 3:28	2.18	22.17	5.03	2086.69	2205.92	1.14	1.43	479.23	1.00
2/18/25 4:28	2.18	22.17	5.03	2086.69	2205.93	1.14	1.43	479.23	1.00
2/18/25 5:28	2.17	22.17	5.02	2086.48	2205.70	1.14	1.43	479.28	1.00
2/18/25 6:28	2.17	22.17	5.01	2086.81	2206.03	1.14	1.43	479.20	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/18/25 7:28	2.17	22.17	5.01	2086.83	2206.05	1.14	1.43	479.20	1.00
2/18/25 8:28	2.17	22.17	5.01	2086.69	2205.90	1.14	1.43	479.23	1.00
2/18/25 9:28	2.17	22.17	5.00	2086.71	2205.93	1.14	1.43	479.22	1.00
2/18/25 10:28	2.17	22.17	5.01	2086.61	2205.83	1.14	1.43	479.25	1.00
2/18/25 11:28	2.17	22.17	5.00	2086.67	2205.90	1.14	1.43	479.23	1.00
2/18/25 12:28	2.17	22.17	5.01	2086.83	2206.06	1.14	1.43	479.20	1.00
2/18/25 13:28	2.17	22.17	5.01	2086.81	2206.05	1.14	1.43	479.20	1.00
2/18/25 14:28	2.17	22.17	5.02	2087.06	2206.30	1.14	1.43	479.14	1.00
2/18/25 15:28	2.17	22.17	5.02	2087.06	2206.29	1.14	1.43	479.14	1.00
2/18/25 16:28	2.17	22.17	5.01	2087.09	2206.33	1.14	1.43	479.14	1.00
2/18/25 17:28	2.17	22.17	5.01	2087.09	2206.31	1.14	1.43	479.14	1.00
2/18/25 18:28	2.17	22.17	5.01	2087.20	2206.44	1.14	1.43	479.11	1.00
2/18/25 19:28	2.17	22.17	5.01	2087.23	2206.47	1.14	1.43	479.10	1.00
2/18/25 20:28	2.17	22.17	5.00	2087.19	2206.44	1.14	1.43	479.11	1.00
2/18/25 21:28	2.16	22.17	5.00	2087.18	2206.44	1.14	1.43	479.12	1.00
2/18/25 22:28	2.16	22.17	5.00	2087.37	2206.63	1.14	1.43	479.07	1.00
2/18/25 23:28	2.16	22.17	5.00	2087.40	2206.65	1.14	1.43	479.07	1.00
2/19/25 0:28	2.16	22.17	4.99	2087.36	2206.62	1.14	1.43	479.07	1.00
2/19/25 1:28	2.16	22.17	5.00	2087.54	2206.81	1.14	1.43	479.03	1.00
2/19/25 2:28	2.16	22.17	5.00	2087.41	2206.65	1.14	1.43	479.06	1.00
2/19/25 3:28	2.16	22.17	4.99	2087.68	2206.97	1.14	1.43	479.00	1.00
2/19/25 4:28	2.16	22.17	5.00	2087.80	2207.07	1.14	1.43	478.97	1.00
2/19/25 5:28	2.16	22.17	4.99	2087.62	2206.89	1.14	1.43	479.01	1.00
2/19/25 6:28	2.16	22.17	4.99	2087.58	2206.83	1.14	1.43	479.02	1.00
2/19/25 7:28	2.16	22.17	4.99	2087.86	2207.13	1.14	1.43	478.96	1.00
2/19/25 8:28	2.16	22.17	4.99	2087.79	2207.06	1.14	1.43	478.98	1.00
2/19/25 9:28	2.16	22.17	4.99	2087.89	2207.18	1.14	1.43	478.95	1.00
2/19/25 10:28	2.16	22.17	4.99	2087.77	2207.06	1.14	1.43	478.98	1.00
2/19/25 11:28	2.15	22.18	4.98	2087.06	2205.81	1.14	1.43	479.14	1.00
2/19/25 12:28	2.16	22.18	4.98	2086.98	2205.87	1.14	1.43	479.16	1.00
2/19/25 13:28	2.16	22.18	4.98	2086.96	2205.92	1.14	1.43	479.17	1.00
2/19/25 14:28	2.16	22.17	4.99	2087.20	2206.26	1.14	1.43	479.11	1.00
2/19/25 15:28	2.16	22.17	4.99	2087.05	2206.15	1.14	1.43	479.15	1.00
2/19/25 16:28	2.16	22.17	4.99	2087.00	2206.13	1.14	1.43	479.16	1.00
2/19/25 17:28	2.16	22.17	4.99	2087.13	2206.27	1.14	1.43	479.13	1.00
2/19/25 18:28	2.16	22.17	5.00	2087.33	2206.51	1.14	1.43	479.08	1.00
2/19/25 19:28	2.16	22.17	4.99	2087.23	2206.42	1.14	1.43	479.10	1.00
2/19/25 20:28	2.16	22.17	4.99	2087.48	2206.69	1.14	1.43	479.05	1.00
2/19/25 21:28	2.16	22.17	4.99	2087.10	2206.29	1.14	1.43	479.13	1.00
2/19/25 22:28	2.16	22.17	4.99	2087.25	2206.47	1.14	1.43	479.10	1.00
2/19/25 23:28	2.16	22.17	4.99	2087.64	2206.89	1.14	1.43	479.01	1.00
2/20/25 0:28	2.16	22.17	4.99	2087.74	2207.00	1.14	1.43	478.99	1.00
2/20/25 1:28	2.16	22.17	4.99	2087.53	2206.78	1.14	1.43	479.03	1.00
2/20/25 2:28	2.16	22.17	4.99	2087.81	2207.07	1.14	1.43	478.97	1.00
2/20/25 3:28	2.16	22.17	4.99	2087.90	2207.19	1.14	1.43	478.95	1.00
2/20/25 4:28	2.16	22.17	4.99	2088.25	2207.56	1.14	1.43	478.87	1.00
2/20/25 5:28	2.16	22.17	4.99	2088.12	2207.41	1.14	1.43	478.90	1.00
2/20/25 6:28	2.16	22.17	4.99	2088.28	2207.57	1.14	1.43	478.86	1.00
2/20/25 7:28	2.16	22.17	4.99	2088.44	2207.74	1.14	1.44	478.83	1.00
2/20/25 8:28	2.16	22.17	4.99	2088.48	2207.79	1.14	1.44	478.82	1.00
2/20/25 9:28	2.16	22.17	4.99	2088.32	2207.60	1.14	1.43	478.85	1.00
2/20/25 10:28	2.16	22.17	4.99	2088.78	2208.11	1.14	1.44	478.75	1.00
2/20/25 11:28	2.16	22.17	4.99	2088.95	2208.30	1.14	1.44	478.71	1.00
2/20/25 12:28	2.16	22.17	4.99	2088.74	2208.07	1.14	1.44	478.76	1.00
2/20/25 13:28	2.16	22.17	4.98	2089.01	2208.36	1.14	1.44	478.70	1.00
2/20/25 14:28	2.15	22.17	4.96	2089.27	2208.62	1.14	1.44	478.64	1.00
2/20/25 15:28	2.14	22.17	4.95	2088.98	2208.33	1.14	1.44	478.70	1.00
2/20/25 16:28	2.14	22.17	4.94	2089.17	2208.52	1.14	1.44	478.66	1.00
2/20/25 17:28	2.13	22.17	4.93	2089.13	2208.48	1.14	1.44	478.67	1.00
2/20/25 18:28	2.13	22.17	4.92	2089.06	2208.41	1.14	1.44	478.68	1.00
2/20/25 19:28	2.13	22.17	4.91	2089.19	2208.53	1.14	1.44	478.66	1.00
2/20/25 20:28	2.12	22.17	4.91	2089.23	2208.58	1.14	1.44	478.64	1.00
2/20/25 21:28	2.12	22.17	4.90	2088.95	2208.28	1.14	1.44	478.71	1.00
2/20/25 22:28	2.12	22.17	4.90	2089.39	2208.74	1.14	1.44	478.61	1.00
2/20/25 23:28	2.12	22.17	4.89	2089.10	2208.42	1.14	1.44	478.67	1.00
2/21/25 0:28	2.12	22.17	4.89	2089.08	2208.41	1.14	1.44	478.68	1.00
2/21/25 1:28	2.12	22.17	4.89	2089.09	2208.44	1.14	1.44	478.68	1.00
2/21/25 2:28	2.11	22.17	4.88	2089.14	2208.48	1.14	1.44	478.67	1.00
2/21/25 3:28	2.11	22.17	4.88	2089.15	2208.49	1.14	1.44	478.66	1.00
2/21/25 4:28	2.11	22.17	4.88	2089.16	2208.52	1.14	1.44	478.66	1.00
2/21/25 5:28	2.11	22.17	4.87	2089.46	2208.83	1.14	1.44	478.59	1.00
2/21/25 6:28	2.11	22.17	4.87	2089.18	2208.52	1.14	1.44	478.66	1.00
2/21/25 7:28	2.11	22.17	4.86	2089.15	2208.49	1.14	1.44	478.66	1.00
2/21/25 8:28	2.11	22.17	4.86	2089.25	2208.60	1.14	1.44	478.64	1.00
2/21/25 9:28	2.11	22.17	4.86	2088.99	2208.33	1.14	1.44	478.70	1.00
2/21/25 10:28	2.11	22.17	4.86	2089.18	2208.50	1.14	1.44	478.66	1.00
2/21/25 11:28	2.11	22.17	4.87	2089.30	2208.66	1.14	1.44	478.63	1.00
2/21/25 12:28	2.11	22.17	4.87	2089.14	2208.48	1.14	1.44	478.67	1.00
2/21/25 13:28	2.11	22.17	4.87	2089.45	2208.80	1.14	1.44	478.59	1.00
2/21/25 14:28	2.11	22.17	4.88	2089.20	2208.55	1.14	1.44	478.65	1.00
2/21/25 15:28	2.11	22.17	4.87	2089.38	2208.75	1.14	1.44	478.61	1.00
2/21/25 16:28	2.11	22.17	4.87	2089.30	2208.67	1.14	1.44	478.63	1.00
2/21/25 17:28	2.11	22.17	4.87	2089.16	2208.50	1.14	1.44	478.66	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/21/25 18:28	2.10	22.17	4.86	2089.26	2208.61	1.14	1.44	478.64	1.00
2/21/25 19:28	2.10	22.17	4.86	2089.56	2208.95	1.14	1.44	478.57	1.00
2/21/25 20:28	2.10	22.17	4.86	2089.57	2208.96	1.14	1.44	478.57	1.00
2/21/25 21:28	2.10	22.17	4.86	2089.33	2208.70	1.14	1.44	478.62	1.00
2/21/25 22:28	2.10	22.17	4.85	2089.66	2209.05	1.15	1.44	478.55	1.00
2/21/25 23:28	2.10	22.17	4.85	2089.41	2208.79	1.14	1.44	478.60	1.00
2/22/25 0:28	2.10	22.17	4.85	2089.66	2209.05	1.15	1.44	478.55	1.00
2/22/25 1:28	2.10	22.17	4.85	2089.49	2208.86	1.14	1.44	478.59	1.00
2/22/25 2:28	2.10	22.17	4.85	2089.40	2208.77	1.14	1.44	478.61	1.00
2/22/25 3:28	2.10	22.17	4.85	2089.61	2209.02	1.15	1.44	478.56	1.00
2/22/25 4:28	2.10	22.17	4.85	2089.41	2208.80	1.14	1.44	478.60	1.00
2/22/25 5:28	2.10	22.17	4.85	2089.58	2208.99	1.15	1.44	478.56	1.00
2/22/25 6:28	2.10	22.17	4.85	2089.62	2209.03	1.15	1.44	478.56	1.00
2/22/25 7:28	2.10	22.17	4.85	2089.92	2209.35	1.15	1.44	478.49	1.00
2/22/25 8:28	2.10	22.17	4.85	2089.75	2209.17	1.15	1.44	478.53	1.00
2/22/25 9:28	2.10	22.17	4.84	2089.80	2209.21	1.15	1.44	478.52	1.00
2/22/25 10:28	2.10	22.17	4.85	2089.80	2209.20	1.15	1.44	478.52	1.00
2/22/25 11:28	2.10	22.17	4.85	2089.80	2209.22	1.15	1.44	478.51	1.00
2/22/25 12:28	2.10	22.17	4.85	2089.95	2209.38	1.15	1.44	478.48	1.00
2/22/25 13:28	2.10	22.17	4.86	2089.86	2209.28	1.15	1.44	478.50	1.00
2/22/25 14:28	2.10	22.17	4.86	2089.91	2209.33	1.15	1.44	478.49	1.00
2/22/25 15:28	2.10	22.17	4.86	2089.80	2209.23	1.15	1.44	478.52	1.00
2/22/25 16:28	2.10	22.17	4.86	2090.11	2209.55	1.15	1.44	478.44	1.00
2/22/25 17:28	2.10	22.17	4.86	2089.96	2209.39	1.15	1.44	478.48	1.00
2/22/25 18:28	2.10	22.17	4.85	2090.07	2209.51	1.15	1.44	478.45	1.00
2/22/25 19:28	2.10	22.17	4.86	2090.07	2209.53	1.15	1.44	478.45	1.00
2/22/25 20:28	2.10	22.17	4.85	2090.15	2209.60	1.15	1.44	478.43	1.00
2/22/25 21:28	2.10	22.17	4.85	2090.06	2209.50	1.15	1.44	478.45	1.00
2/22/25 22:28	2.10	22.17	4.85	2090.22	2209.70	1.15	1.44	478.42	1.00
2/22/25 23:28	2.10	22.17	4.85	2090.15	2209.61	1.15	1.44	478.43	1.00
2/23/25 0:28	2.10	22.17	4.85	2090.02	2209.47	1.15	1.44	478.46	1.00
2/23/25 1:28	2.10	22.17	4.86	2090.00	2209.45	1.15	1.44	478.47	1.00
2/23/25 2:28	2.10	22.17	4.86	2090.13	2209.57	1.15	1.44	478.44	1.00
2/23/25 3:28	2.10	22.17	4.86	2090.28	2209.77	1.15	1.44	478.40	1.00
2/23/25 4:28	2.10	22.17	4.86	2090.31	2209.79	1.15	1.44	478.40	1.00
2/23/25 5:28	2.10	22.17	4.86	2090.43	2209.90	1.15	1.44	478.37	1.00
2/23/25 6:28	2.10	22.17	4.85	2090.37	2209.87	1.15	1.44	478.38	1.00
2/23/25 7:28	2.10	22.17	4.85	2090.30	2209.78	1.15	1.44	478.40	1.00
2/23/25 8:28	2.10	22.17	4.85	2090.38	2209.85	1.15	1.44	478.38	1.00
2/23/25 9:28	2.10	22.17	4.85	2090.35	2209.83	1.15	1.44	478.39	1.00
2/23/25 10:28	2.10	22.17	4.85	2090.18	2209.65	1.15	1.44	478.43	1.00
2/23/25 11:28	2.10	22.17	4.85	2090.51	2210.01	1.15	1.44	478.35	1.00
2/23/25 12:28	2.10	22.17	4.86	2090.47	2209.96	1.15	1.44	478.36	1.00
2/23/25 13:28	2.11	22.17	4.86	2090.45	2209.97	1.15	1.44	478.37	1.00
2/23/25 14:28	2.10	22.17	4.86	2090.55	2210.04	1.15	1.44	478.34	1.00
2/23/25 15:28	2.10	22.17	4.86	2090.44	2209.94	1.15	1.44	478.37	1.00
2/23/25 16:28	2.10	22.17	4.85	2090.61	2210.13	1.15	1.44	478.33	1.00
2/23/25 17:28	2.10	22.17	4.85	2090.72	2210.25	1.15	1.44	478.30	1.00
2/23/25 18:28	2.10	22.17	4.85	2090.74	2210.26	1.15	1.44	478.30	1.00
2/23/25 19:28	2.10	22.17	4.85	2090.52	2210.05	1.15	1.44	478.35	1.00
2/23/25 20:28	2.10	22.17	4.84	2090.57	2210.08	1.15	1.44	478.34	1.00
2/23/25 21:28	2.10	22.17	4.84	2090.71	2210.25	1.15	1.44	478.31	1.00
2/23/25 22:28	2.10	22.17	4.84	2090.80	2210.34	1.15	1.44	478.29	1.00
2/23/25 23:28	2.10	22.17	4.84	2090.66	2210.20	1.15	1.44	478.32	1.00
2/24/25 0:28	2.10	22.17	4.84	2090.88	2210.42	1.15	1.44	478.27	1.00
2/24/25 1:28	2.10	22.17	4.84	2090.81	2210.35	1.15	1.44	478.28	1.00
2/24/25 2:28	2.10	22.17	4.84	2090.83	2210.36	1.15	1.44	478.28	1.00
2/24/25 3:28	2.10	22.17	4.84	2090.72	2210.27	1.15	1.44	478.30	1.00
2/24/25 4:28	2.10	22.17	4.84	2090.88	2210.42	1.15	1.44	478.27	1.00
2/24/25 5:28	2.10	22.17	4.84	2090.90	2210.46	1.15	1.44	478.26	1.00
2/24/25 6:28	2.10	22.17	4.84	2090.92	2210.48	1.15	1.44	478.26	1.00
2/24/25 7:28	2.10	22.17	4.84	2091.00	2210.55	1.15	1.44	478.24	1.00
2/24/25 8:28	2.10	22.17	4.84	2090.84	2210.40	1.15	1.44	478.28	1.00
2/24/25 9:28	2.10	22.17	4.84	2090.85	2210.41	1.15	1.44	478.28	1.00
2/24/25 10:28	2.10	22.17	4.85	2090.94	2210.50	1.15	1.44	478.25	1.00
2/24/25 11:28	2.10	22.17	4.85	2091.01	2210.58	1.15	1.44	478.24	1.00
2/24/25 12:28	2.10	22.17	4.85	2091.06	2210.63	1.15	1.44	478.23	1.00
2/24/25 13:28	2.10	22.17	4.86	2091.30	2210.90	1.15	1.44	478.17	1.00
2/24/25 14:28	2.10	22.17	4.86	2091.13	2210.71	1.15	1.44	478.21	1.00
2/24/25 15:28	2.09	22.17	4.82	2091.37	2210.95	1.15	1.44	478.16	1.00
2/24/25 16:28	2.09	22.17	4.82	2091.05	2210.64	1.15	1.44	478.23	1.00
2/24/25 17:28	2.08	22.17	4.81	2090.94	2210.53	1.15	1.44	478.25	1.00
2/24/25 18:28	2.08	22.17	4.81	2091.12	2210.72	1.15	1.44	478.21	1.00
2/24/25 19:28	2.08	22.17	4.81	2091.33	2210.92	1.15	1.44	478.17	1.00
2/24/25 20:28	2.08	22.17	4.80	2091.03	2210.62	1.15	1.44	478.23	1.00
2/24/25 21:28	2.08	22.17	4.81	2091.27	2210.86	1.15	1.44	478.18	1.00
2/24/25 22:28	2.08	22.17	4.81	2091.23	2210.84	1.15	1.44	478.19	1.00
2/24/25 23:28	2.08	22.17	4.81	2091.32	2210.94	1.15	1.44	478.17	1.00
2/25/25 0:28	2.08	22.17	4.81	2091.03	2210.64	1.15	1.44	478.23	1.00
2/25/25 1:28	2.08	22.17	4.81	2091.29	2210.92	1.15	1.44	478.17	1.00
2/25/25 2:28	2.08	22.17	4.81	2091.41	2211.04	1.15	1.44	478.15	1.00
2/25/25 3:28	2.08	22.17	4.81	2091.28	2210.91	1.15	1.44	478.18	1.00
2/25/25 4:28	2.08	22.17	4.81	2091.45	2211.10	1.15	1.44	478.14	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/25/25 5:28	2.08	22.17	4.80	2091.48	2211.11	1.15	1.44	478.13	1.00
2/25/25 6:28	2.08	22.17	4.80	2091.28	2210.93	1.15	1.44	478.18	1.00
2/25/25 7:28	2.08	22.17	4.80	2091.09	2210.71	1.15	1.44	478.22	1.00
2/25/25 8:28	2.08	22.17	4.80	2091.63	2211.31	1.15	1.44	478.10	1.00
2/25/25 9:28	2.08	22.17	4.80	2091.70	2211.36	1.15	1.44	478.08	1.00
2/25/25 10:28	2.08	22.17	4.80	2091.40	2211.05	1.15	1.44	478.15	1.00
2/25/25 11:28	2.08	22.17	4.82	2091.50	2211.13	1.15	1.44	478.13	1.00
2/25/25 12:28	2.10	22.17	4.84	2091.49	2211.14	1.15	1.44	478.13	1.00
2/25/25 13:28	2.11	22.17	4.87	2091.40	2211.05	1.15	1.44	478.15	1.00
2/25/25 14:28	2.11	22.17	4.88	2091.32	2210.97	1.15	1.44	478.17	1.00
2/25/25 15:28	2.11	22.17	4.89	2091.66	2211.34	1.15	1.44	478.09	1.00
2/25/25 16:28	2.12	22.17	4.90	2091.85	2211.55	1.15	1.44	478.04	1.00
2/25/25 17:28	2.12	22.17	4.91	2091.77	2211.46	1.15	1.44	478.06	1.00
2/25/25 18:28	2.13	22.17	4.91	2091.79	2211.48	1.15	1.44	478.06	1.00
2/25/25 19:28	2.13	22.17	4.92	2092.19	2211.91	1.15	1.44	477.97	1.00
2/25/25 20:28	2.13	22.17	4.93	2092.14	2211.86	1.15	1.44	477.98	1.00
2/25/25 21:28	2.13	22.17	4.93	2092.14	2211.87	1.15	1.44	477.98	1.00
2/25/25 22:28	2.14	22.17	4.93	2092.35	2212.08	1.15	1.44	477.93	1.00
2/25/25 23:28	2.14	22.17	4.93	2092.26	2211.99	1.15	1.44	477.95	1.00
2/26/25 0:28	2.14	22.17	4.94	2092.48	2212.22	1.15	1.44	477.90	1.00
2/26/25 1:28	2.14	22.17	4.94	2092.24	2212.00	1.15	1.44	477.96	1.00
2/26/25 2:28	2.14	22.17	4.94	2092.53	2212.28	1.15	1.44	477.89	1.00
2/26/25 3:28	2.14	22.17	4.94	2092.58	2212.33	1.15	1.44	477.88	1.00
2/26/25 4:28	2.14	22.17	4.95	2092.62	2212.40	1.15	1.44	477.87	1.00
2/26/25 5:28	2.14	22.17	4.95	2092.59	2212.37	1.15	1.44	477.88	1.00
2/26/25 6:28	2.14	22.17	4.95	2092.73	2212.51	1.15	1.44	477.84	1.00
2/26/25 7:28	2.14	22.17	4.94	2092.68	2212.42	1.15	1.44	477.86	1.00
2/26/25 8:28	2.13	22.17	4.93	2092.78	2212.55	1.15	1.44	477.83	1.00
2/26/25 9:28	2.14	22.17	4.93	2092.83	2212.63	1.15	1.44	477.82	1.00
2/26/25 10:28	2.14	22.17	4.94	2092.57	2212.34	1.15	1.44	477.88	1.00
2/26/25 11:28	2.14	22.17	4.94	2092.89	2212.70	1.15	1.44	477.81	1.00
2/26/25 12:28	2.14	22.17	4.94	2093.02	2212.80	1.15	1.44	477.78	1.00
2/26/25 13:28	2.14	22.17	4.95	2092.82	2212.62	1.15	1.44	477.82	1.00
2/26/25 14:28	2.14	22.17	4.95	2093.03	2212.85	1.15	1.44	477.78	1.00
2/26/25 15:28	2.15	22.17	4.96	2092.91	2212.71	1.15	1.44	477.80	1.00
2/26/25 16:28	2.14	22.17	4.95	2093.25	2213.06	1.15	1.44	477.73	1.00
2/26/25 17:28	2.15	22.17	4.96	2093.42	2213.25	1.15	1.44	477.69	1.00
2/26/25 18:28	2.14	22.17	4.95	2093.33	2213.16	1.15	1.44	477.71	1.00
2/26/25 19:28	2.13	22.17	4.93	2093.39	2213.23	1.15	1.44	477.69	1.00
2/26/25 20:28	2.12	22.17	4.89	2093.25	2213.06	1.15	1.44	477.72	1.00
2/26/25 21:28	2.11	22.17	4.87	2093.47	2213.30	1.15	1.44	477.68	1.00
2/26/25 22:28	2.10	22.16	4.85	2093.46	2213.33	1.15	1.44	477.68	1.00
2/26/25 23:28	2.09	22.17	4.84	2093.36	2213.18	1.15	1.44	477.70	1.00
2/27/25 0:28	2.09	22.17	4.82	2093.45	2213.28	1.15	1.44	477.68	1.00
2/27/25 1:28	2.08	22.17	4.81	2093.37	2213.19	1.15	1.44	477.70	1.00
2/27/25 2:28	2.08	22.17	4.81	2093.51	2213.34	1.15	1.44	477.67	1.00
2/27/25 3:28	2.08	22.17	4.80	2093.33	2213.16	1.15	1.44	477.71	1.00
2/27/25 4:28	2.08	22.17	4.80	2093.49	2213.32	1.15	1.44	477.67	1.00
2/27/25 5:28	2.08	22.17	4.80	2093.56	2213.40	1.15	1.44	477.66	1.00
2/27/25 6:28	2.07	22.17	4.79	2093.47	2213.31	1.15	1.44	477.68	1.00
2/27/25 7:28	2.07	22.17	4.79	2093.76	2213.59	1.15	1.44	477.61	1.00
2/27/25 8:28	2.07	22.17	4.78	2093.45	2213.29	1.15	1.44	477.68	1.00
2/27/25 9:28	2.07	22.17	4.78	2093.37	2213.21	1.15	1.44	477.70	1.00
2/27/25 10:28	2.07	22.17	4.78	2093.54	2213.39	1.15	1.44	477.66	1.00
2/27/25 11:28	2.07	22.17	4.78	2093.69	2213.55	1.15	1.44	477.63	1.00
2/27/25 12:28	2.07	22.16	4.79	2093.73	2213.63	1.15	1.44	477.62	1.00
2/27/25 13:28	2.07	22.16	4.79	2093.72	2213.59	1.15	1.44	477.62	1.00
2/27/25 14:28	2.08	22.17	4.80	2093.72	2213.58	1.15	1.44	477.62	1.00
2/27/25 15:28	2.08	22.16	4.80	2093.87	2213.75	1.15	1.44	477.59	1.00
2/27/25 16:28	2.08	22.16	4.80	2093.47	2213.33	1.15	1.44	477.68	1.00
2/27/25 17:28	2.08	22.16	4.80	2093.73	2213.60	1.15	1.44	477.62	1.00
2/27/25 18:28	2.08	22.16	4.79	2093.56	2213.42	1.15	1.44	477.65	1.00
2/27/25 19:28	2.07	22.16	4.79	2093.68	2213.56	1.15	1.44	477.63	1.00
2/27/25 20:28	2.07	22.16	4.79	2093.67	2213.56	1.15	1.44	477.63	1.00
2/27/25 21:28	2.07	22.16	4.79	2093.70	2213.58	1.15	1.44	477.62	1.00
2/27/25 22:28	2.07	22.16	4.79	2093.70	2213.58	1.15	1.44	477.62	1.00
2/27/25 23:28	2.08	22.16	4.79	2093.57	2213.43	1.15	1.44	477.65	1.00
2/28/25 0:28	2.08	22.16	4.80	2093.67	2213.55	1.15	1.44	477.63	1.00
2/28/25 1:28	2.08	22.16	4.80	2093.86	2213.76	1.15	1.44	477.59	1.00
2/28/25 2:28	2.08	22.16	4.80	2093.74	2213.63	1.15	1.44	477.61	1.00
2/28/25 3:28	2.08	22.16	4.80	2094.05	2213.97	1.15	1.44	477.54	1.00
2/28/25 4:28	2.08	22.16	4.80	2093.81	2213.71	1.15	1.44	477.60	1.00
2/28/25 5:28	2.08	22.16	4.80	2093.93	2213.83	1.15	1.44	477.57	1.00
2/28/25 6:28	2.08	22.16	4.80	2093.82	2213.73	1.15	1.44	477.60	1.00
2/28/25 7:28	2.08	22.16	4.80	2094.16	2214.07	1.15	1.44	477.52	1.00
2/28/25 8:28	2.08	22.16	4.80	2093.92	2213.85	1.15	1.44	477.57	1.00
2/28/25 9:28	2.08	22.16	4.80	2093.91	2213.83	1.15	1.44	477.58	1.00
2/28/25 10:28	2.08	22.16	4.80	2093.85	2213.78	1.15	1.44	477.59	1.00
2/28/25 11:28	2.08	22.16	4.81	2093.75	2213.68	1.15	1.44	477.61	1.00
2/28/25 12:28	2.08	22.16	4.81	2093.91	2213.84	1.15	1.44	477.57	1.00
2/28/25 13:28	2.09	22.16	4.82	2093.78	2213.70	1.15	1.44	477.60	1.00
2/28/25 14:28	2.09	22.16	4.82	2093.89	2213.82	1.15	1.44	477.58	1.00
2/28/25 15:28	2.09	22.16	4.82	2094.06	2214.04	1.15	1.44	477.54	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/28/25 16:28	2.09	22.16	4.82	2094.11	2214.07	1.15	1.44	477.53	1.00
2/28/25 17:28	2.08	22.16	4.81	2093.95	2213.89	1.15	1.44	477.57	1.00
2/28/25 18:28	2.08	22.16	4.81	2094.22	2214.18	1.15	1.44	477.51	1.00
2/28/25 19:28	2.08	22.16	4.80	2094.10	2214.06	1.15	1.44	477.53	1.00
2/28/25 20:28	2.08	22.16	4.80	2093.88	2213.83	1.15	1.44	477.58	1.00
2/28/25 21:28	2.08	22.16	4.80	2094.21	2214.19	1.15	1.44	477.51	1.00
2/28/25 22:28	2.08	22.16	4.80	2094.13	2214.10	1.15	1.44	477.52	1.00
2/28/25 23:28	2.08	22.16	4.80	2094.22	2214.19	1.15	1.44	477.50	1.00
3/1/25 0:28	2.08	22.16	4.80	2093.82	2213.77	1.15	1.44	477.60	1.00
3/1/25 1:28	2.08	22.16	4.80	2094.31	2214.29	1.15	1.44	477.49	1.00
3/1/25 2:28	2.08	22.16	4.80	2094.05	2214.03	1.15	1.44	477.54	1.00
3/1/25 3:28	2.08	22.16	4.80	2094.22	2214.21	1.15	1.44	477.51	1.00
3/1/25 4:28	2.08	22.16	4.80	2093.95	2213.93	1.15	1.44	477.57	1.00
3/1/25 5:28	2.08	22.16	4.80	2094.16	2214.15	1.15	1.44	477.52	1.00
3/1/25 6:28	2.08	22.16	4.79	2094.06	2214.06	1.15	1.44	477.54	1.00
3/1/25 7:28	2.07	22.16	4.79	2093.92	2213.88	1.15	1.44	477.57	1.00
3/1/25 8:28	2.07	22.16	4.79	2093.91	2213.90	1.15	1.44	477.58	1.00
3/1/25 9:28	2.07	22.16	4.79	2094.10	2214.10	1.15	1.44	477.53	1.00
3/1/25 10:28	2.08	22.16	4.79	2094.17	2214.17	1.15	1.44	477.52	1.00
3/1/25 11:28	2.08	22.16	4.79	2094.16	2214.14	1.15	1.44	477.52	1.00
3/1/25 12:28	2.08	22.16	4.80	2093.86	2213.87	1.15	1.44	477.59	1.00
3/1/25 13:28	2.08	22.16	4.80	2094.35	2214.41	1.15	1.44	477.47	1.00
3/1/25 14:28	2.08	22.16	4.81	2094.20	2214.23	1.15	1.44	477.51	1.00
3/1/25 15:28	2.09	22.16	4.82	2094.20	2214.22	1.15	1.44	477.51	1.00
3/1/25 16:28	2.07	22.16	4.78	2094.36	2214.40	1.15	1.44	477.47	1.00
3/1/25 17:28	2.07	22.16	4.79	2094.31	2214.33	1.15	1.44	477.48	1.00
3/1/25 18:28	2.07	22.16	4.79	2094.39	2214.43	1.15	1.44	477.47	1.00
3/1/25 19:28	2.07	22.16	4.79	2094.37	2214.41	1.15	1.44	477.47	1.00
3/1/25 20:28	2.07	22.16	4.78	2094.44	2214.50	1.15	1.44	477.46	1.00
3/1/25 21:28	2.07	22.16	4.78	2094.41	2214.48	1.15	1.44	477.46	1.00
3/1/25 22:28	2.07	22.16	4.79	2094.33	2214.41	1.15	1.44	477.48	1.00
3/1/25 23:28	2.08	22.16	4.79	2094.41	2214.49	1.15	1.44	477.46	1.00
3/2/25 0:28	2.08	22.16	4.80	2094.42	2214.49	1.15	1.44	477.46	1.00
3/2/25 1:28	2.08	22.16	4.80	2094.43	2214.49	1.15	1.44	477.46	1.00
3/2/25 2:28	2.08	22.16	4.80	2094.67	2214.76	1.15	1.44	477.40	1.00
3/2/25 3:28	2.08	22.16	4.79	2094.15	2214.22	1.15	1.44	477.52	1.00
3/2/25 4:28	2.08	22.16	4.80	2094.58	2214.66	1.15	1.44	477.42	1.00
3/2/25 5:28	2.08	22.16	4.80	2094.47	2214.55	1.15	1.44	477.45	1.00
3/2/25 6:28	2.08	22.16	4.79	2094.67	2214.78	1.15	1.44	477.40	1.00
3/2/25 7:28	2.08	22.16	4.79	2094.41	2214.50	1.15	1.44	477.46	1.00
3/2/25 8:28	2.07	22.16	4.79	2094.58	2214.68	1.15	1.44	477.42	1.00
3/2/25 9:28	2.07	22.16	4.79	2094.63	2214.74	1.15	1.44	477.41	1.00
3/2/25 10:28	2.07	22.16	4.79	2094.60	2214.72	1.15	1.44	477.42	1.00
3/2/25 11:28	2.07	22.16	4.79	2094.38	2214.47	1.15	1.44	477.47	1.00
3/2/25 12:28	2.07	22.16	4.79	2094.77	2214.89	1.15	1.44	477.38	1.00
3/2/25 13:28	2.08	22.16	4.80	2094.63	2214.75	1.15	1.44	477.41	1.00
3/2/25 14:28	2.08	22.16	4.80	2094.72	2214.85	1.15	1.44	477.39	1.00
3/2/25 15:28	2.07	22.16	4.79	2094.78	2214.91	1.15	1.44	477.38	1.00
3/2/25 16:28	2.07	22.16	4.79	2094.71	2214.84	1.15	1.44	477.39	1.00
3/2/25 17:28	2.07	22.16	4.78	2094.71	2214.85	1.15	1.44	477.39	1.00
3/2/25 18:28	2.07	22.16	4.78	2094.71	2214.84	1.15	1.44	477.39	1.00
3/2/25 19:28	2.07	22.16	4.78	2094.86	2215.02	1.15	1.44	477.36	1.00
3/2/25 20:28	2.07	22.16	4.78	2094.86	2215.01	1.15	1.44	477.36	1.00
3/2/25 21:28	2.07	22.16	4.78	2094.59	2214.73	1.15	1.44	477.42	1.00
3/2/25 22:28	2.07	22.16	4.78	2094.80	2214.95	1.15	1.44	477.37	1.00
3/2/25 23:28	2.07	22.16	4.78	2094.54	2214.69	1.15	1.44	477.43	1.00
3/3/25 0:28	2.07	22.16	4.78	2094.88	2215.03	1.15	1.44	477.35	1.00
3/3/25 1:28	2.07	22.16	4.79	2094.80	2214.97	1.15	1.44	477.37	1.00
3/3/25 2:28	2.07	22.16	4.79	2094.64	2214.78	1.15	1.44	477.41	1.00
3/3/25 3:28	2.08	22.16	4.80	2094.96	2215.14	1.15	1.44	477.34	1.00
3/3/25 4:28	2.08	22.16	4.79	2094.70	2214.88	1.15	1.44	477.39	1.00
3/3/25 5:28	2.08	22.16	4.79	2094.54	2214.70	1.15	1.44	477.43	1.00
3/3/25 6:28	2.07	22.16	4.79	2095.14	2215.33	1.15	1.44	477.30	1.00
3/3/25 7:28	2.08	22.16	4.80	2095.02	2215.22	1.15	1.44	477.32	1.00
3/3/25 8:28	2.08	22.16	4.80	2094.89	2215.10	1.15	1.44	477.35	1.00
3/3/25 9:28	2.08	22.16	4.80	2094.72	2214.91	1.15	1.44	477.39	1.00
3/3/25 10:28	2.08	22.16	4.80	2094.89	2215.09	1.15	1.44	477.35	1.00
3/3/25 11:28	2.08	22.16	4.80	2094.83	2215.03	1.15	1.44	477.37	1.00
3/3/25 12:28	2.08	22.16	4.81	2094.83	2215.03	1.15	1.44	477.37	1.00
3/3/25 13:28	2.08	22.16	4.81	2094.63	2214.81	1.15	1.44	477.41	1.00
3/3/25 14:28	2.07	22.16	4.78	2094.62	2214.80	1.15	1.44	477.41	1.00
3/3/25 15:28	2.07	22.16	4.79	2094.69	2214.90	1.15	1.44	477.40	1.00
3/3/25 16:28	2.07	22.16	4.78	2094.87	2215.09	1.15	1.44	477.36	1.00
3/3/25 17:28	2.07	22.16	4.78	2094.94	2215.15	1.15	1.44	477.34	1.00
3/3/25 18:28	2.07	22.16	4.78	2094.85	2215.06	1.15	1.44	477.36	1.00
3/3/25 19:28	2.07	22.16	4.78	2094.78	2215.01	1.15	1.44	477.38	1.00
3/3/25 20:28	2.07	22.16	4.77	2094.90	2215.14	1.15	1.44	477.35	1.00
3/3/25 21:28	2.07	22.16	4.77	2094.71	2214.96	1.15	1.44	477.39	1.00
3/3/25 22:28	2.06	22.16	4.77	2094.98	2215.22	1.15	1.44	477.33	1.00
3/3/25 23:28	2.06	22.16	4.77	2094.87	2215.10	1.15	1.44	477.36	1.00
3/4/25 0:28	2.07	22.16	4.77	2095.16	2215.43	1.15	1.44	477.29	1.00
3/4/25 1:28	2.07	22.16	4.78	2094.89	2215.13	1.15	1.44	477.35	1.00
3/4/25 2:28	2.07	22.16	4.77	2094.89	2215.14	1.15	1.44	477.35	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/4/25 3:28	2.07	22.16	4.77	2094.67	2214.92	1.15	1.44	477.40	1.00
3/4/25 4:28	2.07	22.16	4.78	2094.78	2215.04	1.15	1.44	477.38	1.00
3/4/25 5:28	2.07	22.16	4.78	2094.71	2214.96	1.15	1.44	477.39	1.00
3/4/25 6:28	2.07	22.16	4.78	2094.77	2215.02	1.15	1.44	477.38	1.00
3/4/25 7:28	2.07	22.16	4.77	2094.83	2215.10	1.15	1.44	477.37	1.00
3/4/25 8:28	2.07	22.16	4.77	2094.79	2215.07	1.15	1.44	477.37	1.00
3/4/25 9:28	2.06	22.16	4.77	2094.77	2215.04	1.15	1.44	477.38	1.00
3/4/25 10:28	2.06	22.16	4.77	2094.75	2215.01	1.15	1.44	477.38	1.00
3/4/25 11:28	2.06	22.16	4.75	2094.91	2215.18	1.15	1.44	477.35	1.00
3/4/25 12:28	2.06	22.16	4.75	2094.70	2214.97	1.15	1.44	477.40	1.00
3/4/25 13:28	2.06	22.16	4.77	2094.83	2215.11	1.15	1.44	477.37	1.00
3/4/25 14:28	2.07	22.16	4.79	2095.03	2215.32	1.15	1.44	477.32	1.00
3/4/25 15:28	2.08	22.16	4.81	2094.99	2215.29	1.15	1.44	477.33	1.00
3/4/25 16:28	2.09	22.16	4.82	2094.60	2214.89	1.15	1.44	477.42	1.00
3/4/25 17:28	2.09	22.16	4.83	2094.94	2215.27	1.15	1.44	477.34	1.00
3/4/25 18:28	2.09	22.16	4.83	2094.96	2215.27	1.15	1.44	477.34	1.00
3/4/25 19:28	2.09	22.16	4.84	2094.87	2215.19	1.15	1.44	477.36	1.00
3/4/25 20:28	2.09	22.16	4.84	2095.01	2215.34	1.15	1.44	477.32	1.00
3/4/25 21:28	2.10	22.16	4.84	2095.01	2215.35	1.15	1.44	477.33	1.00
3/4/25 22:28	2.10	22.16	4.85	2095.29	2215.65	1.15	1.44	477.26	1.00
3/4/25 23:28	2.10	22.16	4.85	2095.16	2215.50	1.15	1.44	477.29	1.00
3/5/25 0:28	2.10	22.16	4.84	2095.46	2215.82	1.15	1.44	477.22	1.00
3/5/25 1:28	2.10	22.16	4.85	2095.22	2215.57	1.15	1.44	477.28	1.00
3/5/25 2:28	2.10	22.16	4.85	2095.18	2215.54	1.15	1.44	477.28	1.00
3/5/25 3:28	2.10	22.16	4.85	2095.29	2215.67	1.15	1.44	477.26	1.00
3/5/25 4:28	2.10	22.16	4.85	2095.26	2215.61	1.15	1.44	477.27	1.00
3/5/25 5:28	2.10	22.16	4.86	2095.48	2215.86	1.15	1.44	477.22	1.00
3/5/25 6:28	2.10	22.16	4.86	2095.28	2215.65	1.15	1.44	477.26	1.00
3/5/25 7:28	2.10	22.16	4.85	2095.42	2215.82	1.15	1.44	477.23	1.00
3/5/25 8:28	2.10	22.16	4.85	2094.89	2215.25	1.15	1.44	477.35	1.00
3/5/25 9:28	2.10	22.16	4.86	2095.39	2215.77	1.15	1.44	477.24	1.00
3/5/25 10:28	2.10	22.16	4.86	2095.21	2215.59	1.15	1.44	477.28	1.00
3/5/25 11:28	2.11	22.15	4.86	2095.33	2215.74	1.15	1.44	477.25	1.00
3/5/25 12:28	2.11	22.15	4.88	2095.45	2215.86	1.15	1.44	477.23	1.00
3/5/25 13:28	2.11	22.16	4.88	2095.52	2215.93	1.15	1.44	477.21	1.00
3/5/25 14:28	2.12	22.15	4.89	2095.54	2215.96	1.15	1.44	477.20	1.00
3/5/25 15:28	2.12	22.16	4.89	2095.49	2215.89	1.15	1.44	477.22	1.00
3/5/25 16:28	2.12	22.15	4.90	2095.51	2215.93	1.15	1.44	477.21	1.00
3/5/25 17:28	2.12	22.15	4.90	2095.40	2215.83	1.15	1.44	477.24	1.00
3/5/25 18:28	2.12	22.15	4.90	2095.55	2215.97	1.15	1.44	477.20	1.00
3/5/25 19:28	2.12	22.15	4.90	2095.63	2216.06	1.15	1.44	477.18	1.00
3/5/25 20:28	2.12	22.16	4.90	2095.84	2216.27	1.15	1.44	477.14	1.00
3/5/25 21:28	2.12	22.15	4.90	2095.74	2216.18	1.15	1.44	477.16	1.00
3/5/25 22:28	2.12	22.15	4.90	2095.85	2216.30	1.15	1.44	477.13	1.00
3/5/25 23:28	2.13	22.15	4.91	2095.55	2216.00	1.15	1.44	477.20	1.00
3/6/25 0:28	2.13	22.15	4.92	2095.80	2216.25	1.15	1.44	477.15	1.00
3/6/25 1:28	2.13	22.15	4.91	2095.73	2216.18	1.15	1.44	477.16	1.00
3/6/25 2:28	2.13	22.15	4.91	2095.61	2216.05	1.15	1.44	477.19	1.00
3/6/25 3:28	2.13	22.15	4.91	2095.88	2216.36	1.15	1.44	477.13	1.00
3/6/25 4:28	2.13	22.15	4.91	2095.77	2216.25	1.15	1.44	477.15	1.00
3/6/25 5:28	2.12	22.15	4.91	2095.82	2216.28	1.15	1.44	477.14	1.00
3/6/25 6:28	2.12	22.15	4.91	2096.01	2216.48	1.15	1.44	477.10	1.00
3/6/25 7:28	2.13	22.15	4.91	2096.12	2216.62	1.15	1.44	477.07	1.00
3/6/25 8:28	2.13	22.15	4.92	2095.84	2216.33	1.15	1.44	477.14	1.00
3/6/25 9:28	2.13	22.15	4.92	2096.19	2216.70	1.15	1.44	477.06	1.00
3/6/25 10:28	2.13	22.15	4.92	2096.04	2216.53	1.15	1.44	477.09	1.00
3/6/25 11:28	2.13	22.15	4.92	2096.02	2216.52	1.15	1.44	477.09	1.00
3/6/25 12:28	2.13	22.15	4.93	2095.98	2216.47	1.15	1.44	477.10	1.00
3/6/25 13:28	2.14	22.15	4.94	2096.36	2216.89	1.15	1.44	477.02	1.00
3/6/25 14:28	2.14	22.15	4.94	2096.29	2216.83	1.15	1.44	477.03	1.00
3/6/25 15:28	2.13	22.17	4.92	2094.48	2214.35	1.15	1.44	477.45	1.00
3/6/25 16:28	2.13	22.16	4.92	2094.47	2214.59	1.15	1.44	477.45	1.00
3/6/25 17:28	2.13	22.16	4.92	2094.54	2214.73	1.15	1.44	477.43	1.00
3/6/25 18:28	2.13	22.16	4.92	2094.37	2214.65	1.15	1.44	477.47	1.00
3/6/25 19:28	2.13	22.16	4.92	2094.50	2214.81	1.15	1.44	477.44	1.00
3/6/25 20:28	2.12	22.16	4.91	2094.12	2214.44	1.15	1.44	477.53	1.00
3/6/25 21:28	2.12	22.15	4.91	2094.23	2214.60	1.15	1.44	477.50	1.00
3/6/25 22:28	2.13	22.15	4.92	2094.17	2214.53	1.15	1.44	477.52	1.00
3/6/25 23:28	2.13	22.15	4.92	2094.23	2214.61	1.15	1.44	477.50	1.00
3/7/25 0:28	2.13	22.15	4.91	2094.22	2214.62	1.15	1.44	477.50	1.00
3/7/25 1:28	2.12	22.15	4.91	2094.18	2214.57	1.15	1.44	477.51	1.00
3/7/25 2:28	2.13	22.15	4.91	2094.30	2214.73	1.15	1.44	477.49	1.00
3/7/25 3:28	2.13	22.15	4.92	2094.24	2214.66	1.15	1.44	477.50	1.00
3/7/25 4:28	2.13	22.15	4.91	2094.31	2214.76	1.15	1.44	477.49	1.00
3/7/25 5:28	2.12	22.15	4.91	2094.38	2214.84	1.15	1.44	477.47	1.00
3/7/25 6:28	2.13	22.15	4.91	2094.50	2214.95	1.15	1.44	477.44	1.00
3/7/25 7:28	2.12	22.15	4.91	2094.57	2215.03	1.15	1.44	477.43	1.00
3/7/25 8:28	2.12	22.15	4.90	2094.97	2215.48	1.15	1.44	477.33	1.00
3/7/25 9:28	2.12	22.15	4.90	2094.92	2215.44	1.15	1.44	477.34	1.00
3/7/25 10:28	2.12	22.15	4.90	2095.06	2215.58	1.15	1.44	477.31	1.00
3/7/25 11:28	2.12	22.15	4.91	2095.08	2215.60	1.15	1.44	477.31	1.00
3/7/25 12:28	2.13	22.15	4.91	2095.17	2215.71	1.15	1.44	477.29	1.00
3/7/25 13:28	2.13	22.15	4.92	2095.35	2215.88	1.15	1.44	477.25	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/7/25 14:28	2.13	22.15	4.93	2095.67	2216.23	1.15	1.44	477.17	1.00
3/7/25 15:28	2.13	22.15	4.93	2095.60	2216.17	1.15	1.44	477.19	1.00
3/7/25 16:28	2.13	22.15	4.93	2095.78	2216.35	1.15	1.44	477.15	1.00
3/7/25 17:28	2.13	22.15	4.93	2095.77	2216.33	1.15	1.44	477.15	1.00
3/7/25 18:28	2.13	22.15	4.93	2095.90	2216.50	1.15	1.44	477.12	1.00
3/7/25 19:28	2.13	22.15	4.93	2096.14	2216.75	1.15	1.44	477.07	1.00
3/7/25 20:28	2.13	22.15	4.92	2095.99	2216.60	1.15	1.44	477.10	1.00
3/7/25 21:28	2.13	22.15	4.91	2095.98	2216.58	1.15	1.44	477.10	1.00
3/7/25 22:28	2.12	22.15	4.90	2096.28	2216.90	1.15	1.44	477.04	1.00
3/7/25 23:28	2.12	22.15	4.90	2096.18	2216.79	1.15	1.44	477.06	1.00
3/8/25 0:28	2.12	22.15	4.90	2096.21	2216.82	1.15	1.44	477.05	1.00
3/8/25 1:28	2.12	22.15	4.89	2096.49	2217.13	1.15	1.44	476.99	1.00
3/8/25 2:28	2.12	22.15	4.89	2096.45	2217.10	1.15	1.44	477.00	1.00
3/8/25 3:28	2.12	22.15	4.89	2096.46	2217.11	1.15	1.44	477.00	1.00
3/8/25 4:28	2.12	22.15	4.90	2096.65	2217.31	1.15	1.44	476.95	1.00
3/8/25 5:28	2.12	22.15	4.90	2096.79	2217.47	1.15	1.44	476.92	1.00
3/8/25 6:28	2.12	22.15	4.90	2096.93	2217.60	1.15	1.44	476.89	1.00
3/8/25 7:28	2.12	22.15	4.90	2096.93	2217.63	1.15	1.44	476.89	1.00
3/8/25 8:28	2.12	22.15	4.89	2097.07	2217.78	1.15	1.44	476.86	1.00
3/8/25 9:28	2.11	22.15	4.88	2096.99	2217.69	1.15	1.44	476.87	1.00
3/8/25 10:28	2.12	22.15	4.89	2097.19	2217.90	1.15	1.44	476.83	1.00
3/8/25 11:28	2.12	22.15	4.89	2096.92	2217.62	1.15	1.44	476.89	1.00
3/8/25 12:28	2.12	22.15	4.89	2097.11	2217.83	1.15	1.44	476.85	1.00
3/8/25 13:28	2.12	22.15	4.89	2097.25	2217.96	1.15	1.44	476.81	1.00
3/8/25 14:28	2.12	22.15	4.90	2097.47	2218.20	1.15	1.44	476.77	1.00
3/8/25 15:28	2.12	22.15	4.89	2097.36	2218.10	1.15	1.44	476.79	1.00
3/8/25 16:28	2.12	22.15	4.89	2097.59	2218.34	1.15	1.44	476.74	1.00
3/8/25 17:28	2.11	22.15	4.88	2097.51	2218.26	1.15	1.44	476.76	1.00
3/8/25 18:28	2.11	22.15	4.87	2097.54	2218.30	1.15	1.44	476.75	1.00
3/8/25 19:28	2.11	22.15	4.87	2097.58	2218.35	1.15	1.44	476.74	1.00
3/8/25 20:28	2.11	22.15	4.87	2097.64	2218.41	1.15	1.44	476.73	1.00
3/8/25 21:28	2.11	22.15	4.87	2097.81	2218.60	1.15	1.44	476.69	1.00
3/8/25 22:28	2.11	22.15	4.87	2097.96	2218.78	1.15	1.44	476.65	1.00
3/8/25 23:28	2.11	22.15	4.87	2098.04	2218.83	1.15	1.44	476.64	1.00
3/9/25 0:28	2.11	22.15	4.88	2097.96	2218.75	1.15	1.44	476.65	1.00
3/9/25 1:28	2.11	22.15	4.88	2098.17	2218.99	1.15	1.44	476.61	1.00
3/9/25 2:28	2.11	22.15	4.88	2098.27	2219.09	1.15	1.44	476.58	1.00
3/9/25 3:28	2.11	22.15	4.88	2098.36	2219.20	1.15	1.44	476.56	1.00
3/9/25 4:28	2.11	22.15	4.88	2098.44	2219.27	1.15	1.44	476.54	1.00
3/9/25 5:28	2.11	22.15	4.88	2098.54	2219.40	1.15	1.44	476.52	1.00
3/9/25 6:28	2.11	22.15	4.88	2098.36	2219.21	1.15	1.44	476.56	1.00
3/9/25 7:28	2.11	22.15	4.88	2098.76	2219.61	1.15	1.44	476.47	1.00
3/9/25 8:28	2.11	22.15	4.87	2098.54	2219.41	1.15	1.44	476.52	1.00
3/9/25 9:28	2.11	22.15	4.87	2098.73	2219.61	1.15	1.44	476.48	1.00
3/9/25 10:28	2.11	22.15	4.88	2098.55	2219.41	1.15	1.44	476.52	1.00
3/9/25 11:28	2.11	22.15	4.88	2098.79	2219.67	1.15	1.44	476.47	1.00
3/9/25 12:28	2.12	22.15	4.89	2098.87	2219.76	1.15	1.44	476.45	1.00
3/9/25 13:28	2.12	22.15	4.89	2099.03	2219.94	1.15	1.44	476.41	1.00
3/9/25 14:28	2.12	22.15	4.89	2098.93	2219.82	1.15	1.44	476.43	1.00
3/9/25 15:28	2.12	22.15	4.90	2098.93	2219.85	1.15	1.44	476.43	1.00
3/9/25 16:28	2.12	22.15	4.90	2098.94	2219.86	1.15	1.44	476.43	1.00
3/9/25 17:28	2.12	22.15	4.90	2098.97	2219.87	1.15	1.44	476.42	1.00
3/9/25 18:28	2.12	22.15	4.90	2099.23	2220.16	1.15	1.44	476.37	1.00
3/9/25 19:28	2.12	22.15	4.90	2099.27	2220.21	1.15	1.44	476.36	1.00
3/9/25 20:28	2.12	22.15	4.90	2099.29	2220.22	1.15	1.44	476.35	1.00
3/9/25 21:28	2.12	22.15	4.90	2099.42	2220.38	1.15	1.44	476.32	1.00
3/9/25 22:28	2.12	22.15	4.90	2099.46	2220.41	1.15	1.44	476.31	1.00
3/9/25 23:28	2.12	22.15	4.90	2099.10	2220.06	1.15	1.44	476.39	1.00
3/10/25 0:28	2.12	22.15	4.90	2099.33	2220.28	1.15	1.44	476.34	1.00
3/10/25 1:28	2.12	22.15	4.90	2099.44	2220.42	1.15	1.44	476.32	1.00
3/10/25 2:28	2.12	22.15	4.90	2099.90	2220.89	1.15	1.44	476.21	1.00
3/10/25 3:28	2.12	22.15	4.90	2099.72	2220.72	1.15	1.44	476.25	1.00
3/10/25 4:28	2.12	22.15	4.90	2099.41	2220.39	1.15	1.44	476.32	1.00
3/10/25 5:28	2.12	22.15	4.90	2099.72	2220.71	1.15	1.44	476.25	1.00
3/10/25 6:28	2.12	22.15	4.90	2099.63	2220.61	1.15	1.44	476.28	1.00
3/10/25 7:28	2.12	22.15	4.89	2099.60	2220.61	1.15	1.44	476.28	1.00
3/10/25 8:28	2.12	22.15	4.89	2099.85	2220.88	1.15	1.44	476.22	1.00
3/10/25 9:28	2.12	22.15	4.89	2099.85	2220.86	1.15	1.44	476.23	1.00
3/10/25 10:28	2.12	22.15	4.90	2099.97	2221.00	1.15	1.44	476.20	1.00
3/10/25 11:28	2.12	22.15	4.90	2099.93	2220.95	1.15	1.44	476.21	1.00
3/10/25 12:28	2.13	22.15	4.91	2099.92	2220.94	1.15	1.44	476.21	1.00
3/10/25 13:28	2.13	22.15	4.92	2099.83	2220.85	1.15	1.44	476.23	1.00
3/10/25 14:28	2.11	22.15	4.89	2099.98	2221.01	1.15	1.44	476.20	1.00
3/10/25 15:28	2.11	22.15	4.89	2099.85	2220.88	1.15	1.44	476.23	1.00
3/10/25 16:28	2.12	22.15	4.89	2100.35	2221.43	1.15	1.44	476.11	1.00
3/10/25 17:28	2.12	22.15	4.89	2100.30	2221.38	1.15	1.44	476.12	1.00
3/10/25 18:28	2.12	22.15	4.89	2100.07	2221.15	1.15	1.44	476.17	1.00
3/10/25 19:28	2.12	22.15	4.89	2100.10	2221.16	1.15	1.44	476.17	1.00
3/10/25 20:28	2.12	22.15	4.89	2100.23	2221.32	1.15	1.44	476.14	1.00
3/10/25 21:28	2.11	22.15	4.88	2100.20	2221.27	1.15	1.44	476.15	1.00
3/10/25 22:28	2.11	22.15	4.88	2100.30	2221.40	1.15	1.44	476.12	1.00
3/10/25 23:28	2.11	22.15	4.88	2100.40	2221.50	1.15	1.44	476.10	1.00
3/11/25 0:28	2.11	22.15	4.88	2100.18	2221.28	1.15	1.44	476.15	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/11/25 1:28	2.11	22.15	4.89	2100.42	2221.53	1.15	1.44	476.09	1.00
3/11/25 2:28	2.12	22.14	4.89	2100.34	2221.47	1.15	1.44	476.11	1.00
3/11/25 3:28	2.12	22.15	4.89	2100.30	2221.41	1.15	1.44	476.12	1.00
3/11/25 4:28	2.12	22.15	4.89	2100.53	2221.64	1.15	1.44	476.07	1.00
3/11/25 5:28	2.12	22.15	4.89	2100.40	2221.52	1.15	1.44	476.10	1.00
3/11/25 6:28	2.12	22.15	4.89	2100.54	2221.68	1.15	1.44	476.07	1.00
3/11/25 7:28	2.12	22.14	4.89	2100.70	2221.87	1.15	1.44	476.03	1.00
3/11/25 8:28	2.11	22.14	4.88	2100.33	2221.47	1.15	1.44	476.12	1.00
3/11/25 9:28	2.11	22.15	4.88	2100.48	2221.62	1.15	1.44	476.08	1.00
3/11/25 10:28	2.11	22.14	4.88	2100.74	2221.90	1.15	1.44	476.02	1.00
3/11/25 11:28	2.11	22.14	4.88	2100.60	2221.77	1.15	1.44	476.05	1.00
3/11/25 12:28	2.12	22.14	4.89	2100.78	2221.95	1.15	1.44	476.01	1.00
3/11/25 13:28	2.12	22.14	4.90	2100.73	2221.91	1.15	1.44	476.03	1.00
3/11/25 14:28	2.12	22.14	4.90	2100.76	2221.95	1.15	1.44	476.02	1.00
3/11/25 15:28	2.12	22.14	4.90	2100.51	2221.66	1.15	1.44	476.08	1.00
3/11/25 16:28	2.12	22.14	4.90	2100.85	2222.05	1.15	1.44	476.00	1.00
3/11/25 17:28	2.12	22.14	4.89	2100.95	2222.14	1.15	1.44	475.97	1.00
3/11/25 18:28	2.11	22.14	4.88	2100.78	2221.98	1.15	1.44	476.01	1.00
3/11/25 19:28	2.11	22.14	4.88	2100.94	2222.15	1.15	1.44	475.98	1.00
3/11/25 20:28	2.11	22.14	4.87	2100.65	2221.86	1.15	1.44	476.04	1.00
3/11/25 21:28	2.11	22.14	4.87	2100.80	2222.02	1.15	1.44	476.01	1.00
3/11/25 22:28	2.11	22.14	4.87	2100.88	2222.12	1.15	1.44	475.99	1.00
3/11/25 23:28	2.11	22.14	4.88	2100.95	2222.18	1.15	1.44	475.98	1.00
3/12/25 0:28	2.11	22.14	4.88	2101.06	2222.29	1.15	1.44	475.95	1.00
3/12/25 1:28	2.11	22.14	4.88	2101.06	2222.31	1.15	1.44	475.95	1.00
3/12/25 2:28	2.11	22.14	4.88	2101.22	2222.48	1.15	1.44	475.91	1.00
3/12/25 3:28	2.11	22.14	4.88	2101.18	2222.42	1.15	1.44	475.92	1.00
3/12/25 4:28	2.11	22.14	4.88	2101.07	2222.33	1.15	1.44	475.95	1.00
3/12/25 5:28	2.11	22.14	4.88	2101.19	2222.43	1.15	1.44	475.92	1.00
3/12/25 6:28	2.11	22.14	4.87	2101.34	2222.62	1.15	1.44	475.89	1.00
3/12/25 7:28	2.11	22.14	4.87	2101.54	2222.83	1.15	1.44	475.84	1.00
3/12/25 8:28	2.11	22.14	4.87	2101.50	2222.78	1.15	1.44	475.85	1.00
3/12/25 9:28	2.11	22.14	4.87	2101.24	2222.53	1.15	1.44	475.91	1.00
3/12/25 10:28	2.11	22.14	4.87	2101.28	2222.57	1.15	1.44	475.90	1.00
3/12/25 11:28	2.11	22.14	4.87	2101.34	2222.64	1.15	1.44	475.89	1.00
3/12/25 12:28	2.11	22.14	4.88	2101.14	2222.44	1.15	1.44	475.93	1.00
3/12/25 13:28	2.11	22.14	4.88	2101.50	2222.80	1.15	1.44	475.85	1.00
3/12/25 14:28	2.11	22.14	4.88	2101.70	2223.02	1.15	1.44	475.81	1.00
3/12/25 15:28	2.11	22.14	4.88	2101.46	2222.77	1.15	1.44	475.86	1.00
3/12/25 16:28	2.11	22.14	4.88	2101.55	2222.88	1.15	1.44	475.84	1.00
3/12/25 17:28	2.11	22.14	4.88	2101.64	2222.99	1.15	1.44	475.82	1.00
3/12/25 18:28	2.11	22.14	4.88	2101.84	2223.22	1.15	1.45	475.77	1.00
3/12/25 19:28	2.11	22.14	4.88	2101.84	2223.18	1.15	1.45	475.77	1.00
3/12/25 20:28	2.11	22.14	4.87	2101.76	2223.11	1.15	1.45	475.79	1.00
3/12/25 21:28	2.11	22.14	4.88	2101.80	2223.16	1.15	1.45	475.78	1.00
3/12/25 22:28	2.11	22.14	4.87	2101.60	2222.95	1.15	1.44	475.83	1.00
3/12/25 23:28	2.11	22.14	4.88	2101.80	2223.19	1.15	1.45	475.78	1.00
3/13/25 0:28	2.11	22.14	4.87	2101.76	2223.14	1.15	1.45	475.79	1.00
3/13/25 1:28	2.11	22.14	4.87	2101.80	2223.16	1.15	1.45	475.78	1.00
3/13/25 2:28	2.11	22.14	4.88	2101.87	2223.27	1.15	1.45	475.77	1.00
3/13/25 3:28	2.11	22.14	4.88	2102.09	2223.49	1.15	1.45	475.72	1.00
3/13/25 4:28	2.11	22.14	4.88	2102.10	2223.53	1.15	1.45	475.71	1.00
3/13/25 5:28	2.11	22.14	4.88	2102.11	2223.53	1.15	1.45	475.71	1.00
3/13/25 6:28	2.11	22.14	4.88	2102.04	2223.42	1.15	1.45	475.73	1.00
3/13/25 7:28	2.11	22.14	4.88	2102.04	2223.44	1.15	1.45	475.73	1.00
3/13/25 8:28	2.11	22.14	4.87	2102.03	2223.44	1.15	1.45	475.73	1.00
3/13/25 9:28	2.11	22.14	4.87	2102.05	2223.47	1.15	1.45	475.73	1.00
3/13/25 10:28	2.11	22.14	4.87	2102.01	2223.43	1.15	1.45	475.74	1.00
3/13/25 11:28	2.11	22.14	4.88	2101.97	2223.39	1.15	1.45	475.74	1.00
3/13/25 12:28	2.12	22.14	4.89	2102.22	2223.64	1.15	1.45	475.69	1.00
3/13/25 13:28	2.12	22.14	4.89	2102.31	2223.76	1.15	1.45	475.67	1.00
3/13/25 14:28	2.11	22.14	4.88	2101.99	2223.44	1.15	1.45	475.74	1.00
3/13/25 15:28	2.11	22.14	4.88	2101.99	2223.42	1.15	1.45	475.74	1.00
3/13/25 16:28	2.11	22.14	4.88	2102.38	2223.85	1.15	1.45	475.65	1.00
3/13/25 17:28	2.11	22.14	4.88	2102.16	2223.63	1.15	1.45	475.70	1.00
3/13/25 18:28	2.12	22.14	4.89	2102.33	2223.80	1.15	1.45	475.66	1.00
3/13/25 19:28	2.11	22.14	4.88	2102.34	2223.84	1.15	1.45	475.66	1.00
3/13/25 20:28	2.11	22.14	4.88	2102.38	2223.85	1.15	1.45	475.65	1.00
3/13/25 21:28	2.11	22.14	4.88	2102.40	2223.90	1.15	1.45	475.65	1.00
3/13/25 22:28	2.11	22.14	4.88	2102.41	2223.92	1.15	1.45	475.65	1.00
3/13/25 23:28	2.12	22.14	4.89	2101.88	2223.35	1.15	1.45	475.77	1.00
3/14/25 0:28	2.12	22.14	4.89	2102.56	2224.08	1.15	1.45	475.61	1.00
3/14/25 1:28	2.12	22.14	4.89	2102.39	2223.89	1.15	1.45	475.65	1.00
3/14/25 2:28	2.12	22.14	4.90	2102.51	2224.04	1.15	1.45	475.62	1.00
3/14/25 3:28	2.12	22.14	4.89	2102.22	2223.76	1.15	1.45	475.69	1.00
3/14/25 4:28	2.11	22.14	4.88	2102.21	2223.71	1.15	1.45	475.69	1.00
3/14/25 5:28	2.11	22.14	4.87	2102.30	2223.84	1.15	1.45	475.67	1.00
3/14/25 6:28	2.11	22.14	4.87	2102.45	2223.98	1.15	1.45	475.64	1.00
3/14/25 7:28	2.11	22.14	4.86	2102.41	2223.94	1.15	1.45	475.65	1.00
3/14/25 8:28	2.11	22.14	4.87	2102.37	2223.92	1.15	1.45	475.65	1.00
3/14/25 9:28	2.11	22.14	4.86	2102.53	2224.09	1.15	1.45	475.62	1.00
3/14/25 10:28	2.11	22.14	4.87	2102.39	2223.95	1.15	1.45	475.65	1.00
3/14/25 11:28	2.11	22.14	4.87	2102.38	2223.94	1.15	1.45	475.65	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/14/25 12:28	2.11	22.14	4.87	2102.62	2224.19	1.15	1.45	475.60	1.00
3/14/25 13:28	2.11	22.14	4.88	2102.74	2224.31	1.15	1.45	475.57	1.00
3/14/25 14:28	2.12	22.14	4.89	2102.69	2224.26	1.15	1.45	475.58	1.00
3/14/25 15:28	2.12	22.14	4.89	2102.39	2223.96	1.15	1.45	475.65	1.00
3/14/25 16:28	2.11	22.14	4.88	2102.63	2224.21	1.15	1.45	475.59	1.00
3/14/25 17:28	2.11	22.14	4.88	2102.69	2224.29	1.15	1.45	475.58	1.00
3/14/25 18:28	2.12	22.14	4.89	2102.70	2224.29	1.15	1.45	475.58	1.00
3/14/25 19:28	2.11	22.14	4.88	2102.50	2224.10	1.15	1.45	475.62	1.00
3/14/25 20:28	2.11	22.14	4.87	2102.60	2224.20	1.15	1.45	475.60	1.00
3/14/25 21:28	2.11	22.14	4.87	2102.79	2224.41	1.15	1.45	475.56	1.00
3/14/25 22:28	2.11	22.14	4.87	2102.58	2224.18	1.15	1.45	475.61	1.00
3/14/25 23:28	2.11	22.14	4.88	2102.63	2224.28	1.15	1.45	475.60	1.00
3/15/25 0:28	2.11	22.14	4.87	2102.73	2224.36	1.15	1.45	475.57	1.00
3/15/25 1:28	2.11	22.14	4.86	2102.56	2224.16	1.15	1.45	475.61	1.00
3/15/25 2:28	2.10	22.14	4.86	2102.63	2224.25	1.15	1.45	475.60	1.00
3/15/25 3:28	2.11	22.14	4.87	2102.98	2224.64	1.15	1.45	475.51	1.00
3/15/25 4:28	2.11	22.14	4.87	2103.10	2224.75	1.15	1.45	475.49	1.00
3/15/25 5:28	2.11	22.14	4.87	2102.85	2224.50	1.15	1.45	475.55	1.00
3/15/25 6:28	2.11	22.14	4.86	2102.91	2224.58	1.15	1.45	475.53	1.00
3/15/25 7:28	2.10	22.14	4.86	2102.84	2224.48	1.15	1.45	475.55	1.00
3/15/25 8:28	2.10	22.14	4.86	2102.92	2224.60	1.15	1.45	475.53	1.00
3/15/25 9:28	2.10	22.14	4.86	2102.82	2224.50	1.15	1.45	475.55	1.00
3/15/25 10:28	2.11	22.14	4.86	2102.87	2224.57	1.15	1.45	475.54	1.00
3/15/25 11:28	2.11	22.14	4.87	2102.92	2224.60	1.15	1.45	475.53	1.00
3/15/25 12:28	2.11	22.14	4.87	2103.03	2224.73	1.15	1.45	475.50	1.00
3/15/25 13:28	2.11	22.14	4.87	2102.94	2224.64	1.15	1.45	475.52	1.00
3/15/25 14:28	2.11	22.14	4.87	2102.99	2224.69	1.15	1.45	475.51	1.00
3/15/25 15:28	2.10	22.14	4.86	2103.04	2224.75	1.15	1.45	475.50	1.00
3/15/25 16:28	2.10	22.14	4.86	2103.34	2225.06	1.15	1.45	475.44	1.00
3/15/25 17:28	2.10	22.14	4.86	2103.45	2225.19	1.15	1.45	475.41	1.00
3/15/25 18:28	2.10	22.14	4.86	2103.18	2224.92	1.15	1.45	475.47	1.00
3/15/25 19:28	2.10	22.14	4.86	2103.20	2224.92	1.15	1.45	475.47	1.00
3/15/25 20:28	2.10	22.13	4.85	2103.42	2225.19	1.15	1.45	475.42	1.00
3/15/25 21:28	2.10	22.13	4.85	2103.18	2224.94	1.15	1.45	475.47	1.00
3/15/25 22:28	2.10	22.13	4.84	2103.29	2225.05	1.15	1.45	475.45	1.00
3/15/25 23:28	2.10	22.13	4.84	2103.07	2224.83	1.15	1.45	475.50	1.00
3/16/25 0:28	2.09	22.13	4.84	2103.21	2224.97	1.15	1.45	475.46	1.00
3/16/25 1:28	2.10	22.14	4.84	2103.37	2225.13	1.15	1.45	475.43	1.00
3/16/25 2:28	2.10	22.13	4.84	2103.21	2224.98	1.15	1.45	475.46	1.00
3/16/25 3:28	2.10	22.13	4.84	2103.25	2225.04	1.15	1.45	475.46	1.00
3/16/25 4:28	2.09	22.13	4.84	2103.10	2224.89	1.15	1.45	475.49	1.00
3/16/25 5:28	2.10	22.13	4.84	2103.44	2225.26	1.15	1.45	475.41	1.00
3/16/25 6:28	2.09	22.13	4.84	2103.65	2225.45	1.15	1.45	475.36	1.00
3/16/25 7:28	2.09	22.13	4.83	2103.43	2225.22	1.15	1.45	475.41	1.00
3/16/25 8:28	2.09	22.13	4.82	2103.56	2225.37	1.15	1.45	475.38	1.00
3/16/25 9:28	2.09	22.13	4.83	2103.53	2225.35	1.15	1.45	475.39	1.00
3/16/25 10:28	2.10	22.13	4.84	2103.43	2225.25	1.15	1.45	475.41	1.00
3/16/25 11:28	2.10	22.13	4.84	2103.50	2225.34	1.15	1.45	475.40	1.00
3/16/25 12:28	2.10	22.13	4.84	2103.79	2225.65	1.15	1.45	475.33	1.00
3/16/25 13:28	2.10	22.13	4.85	2103.47	2225.31	1.15	1.45	475.40	1.00
3/16/25 14:28	2.10	22.13	4.84	2103.64	2225.49	1.15	1.45	475.37	1.00
3/16/25 15:28	2.10	22.13	4.85	2103.64	2225.50	1.15	1.45	475.37	1.00
3/16/25 16:28	2.10	22.13	4.85	2103.98	2225.87	1.15	1.45	475.29	1.00
3/16/25 17:28	2.10	22.13	4.85	2103.52	2225.36	1.15	1.45	475.39	1.00
3/16/25 18:28	2.10	22.13	4.85	2103.64	2225.52	1.15	1.45	475.37	1.00
3/16/25 19:28	2.10	22.13	4.85	2103.67	2225.54	1.15	1.45	475.36	1.00
3/16/25 20:28	2.09	22.13	4.84	2103.85	2225.73	1.15	1.45	475.32	1.00
3/16/25 21:28	2.09	22.13	4.84	2103.75	2225.65	1.15	1.45	475.34	1.00
3/16/25 22:28	2.09	22.13	4.83	2103.93	2225.83	1.15	1.45	475.30	1.00
3/16/25 23:28	2.09	22.13	4.84	2104.05	2225.98	1.15	1.45	475.27	1.00
3/17/25 0:28	2.10	22.13	4.84	2103.56	2225.48	1.15	1.45	475.38	1.00
3/17/25 1:28	2.10	22.13	4.85	2103.73	2225.66	1.15	1.45	475.35	1.00
3/17/25 2:28	2.10	22.13	4.85	2103.55	2225.47	1.15	1.45	475.39	1.00
3/17/25 3:28	2.10	22.13	4.85	2103.79	2225.71	1.15	1.45	475.33	1.00
3/17/25 4:28	2.10	22.13	4.85	2103.80	2225.73	1.15	1.45	475.33	1.00
3/17/25 5:28	2.10	22.13	4.85	2104.24	2226.22	1.15	1.45	475.23	1.00
3/17/25 6:28	2.10	22.13	4.85	2103.96	2225.92	1.15	1.45	475.29	1.00
3/17/25 7:28	2.10	22.13	4.85	2104.05	2226.02	1.15	1.45	475.27	1.00
3/17/25 8:28	2.10	22.13	4.85	2104.03	2226.01	1.15	1.45	475.28	1.00
3/17/25 9:28	2.10	22.13	4.84	2104.09	2226.06	1.15	1.45	475.27	1.00
3/17/25 10:28	2.10	22.13	4.84	2104.34	2226.31	1.15	1.45	475.21	1.00
3/17/25 11:28	2.10	22.13	4.85	2104.14	2226.12	1.15	1.45	475.25	1.00
3/17/25 12:28	2.10	22.13	4.85	2104.28	2226.30	1.15	1.45	475.22	1.00
3/17/25 13:28	2.10	22.13	4.85	2104.13	2226.13	1.15	1.45	475.26	1.00
3/17/25 14:28	2.10	22.13	4.85	2104.20	2226.21	1.15	1.45	475.24	1.00
3/17/25 15:28	2.10	22.13	4.85	2104.10	2226.11	1.15	1.45	475.26	1.00
3/17/25 16:28	2.11	22.13	4.86	2104.33	2226.36	1.15	1.45	475.21	1.00
3/17/25 17:28	2.11	22.13	4.87	2104.16	2226.19	1.15	1.45	475.25	1.00
3/17/25 18:28	2.11	22.13	4.86	2104.58	2226.65	1.15	1.45	475.16	1.00
3/17/25 19:28	2.11	22.13	4.86	2104.24	2226.28	1.15	1.45	475.23	1.00
3/17/25 20:28	2.10	22.13	4.86	2104.72	2226.79	1.15	1.45	475.12	1.00
3/17/25 21:28	2.10	22.13	4.86	2104.45	2226.50	1.15	1.45	475.18	1.00
3/17/25 22:28	2.10	22.13	4.86	2104.58	2226.65	1.15	1.45	475.15	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/17/25 23:28	2.11	22.13	4.87	2104.30	2226.37	1.15	1.45	475.22	1.00
3/18/25 0:28	2.11	22.13	4.87	2104.51	2226.58	1.15	1.45	475.17	1.00
3/18/25 1:28	2.11	22.13	4.86	2104.19	2226.24	1.15	1.45	475.24	1.00
3/18/25 2:28	2.11	22.13	4.87	2104.59	2226.69	1.15	1.45	475.15	1.00
3/18/25 3:28	2.10	22.13	4.85	2104.34	2226.42	1.15	1.45	475.21	1.00
3/18/25 4:28	2.10	22.13	4.86	2104.90	2227.03	1.15	1.45	475.08	1.00
3/18/25 5:28	2.11	22.13	4.86	2104.72	2226.86	1.15	1.45	475.12	1.00
3/18/25 6:28	2.10	22.13	4.86	2104.39	2226.48	1.15	1.45	475.20	1.00
3/18/25 7:28	2.10	22.13	4.86	2104.65	2226.77	1.15	1.45	475.14	1.00
3/18/25 8:28	2.11	22.13	4.86	2104.73	2226.87	1.15	1.45	475.12	1.00
3/18/25 9:28	2.10	22.13	4.86	2104.55	2226.69	1.15	1.45	475.16	1.00
3/18/25 10:28	2.11	22.13	4.86	2104.95	2227.10	1.15	1.45	475.07	1.00
3/18/25 11:28	2.11	22.13	4.87	2104.42	2226.56	1.15	1.45	475.19	1.00
3/18/25 12:28	2.11	22.13	4.88	2104.20	2226.33	1.15	1.45	475.24	1.00
3/18/25 13:28	2.11	22.13	4.88	2104.80	2226.94	1.15	1.45	475.11	1.00
3/18/25 14:28	2.11	22.13	4.88	2104.40	2226.53	1.15	1.45	475.19	1.00
3/18/25 15:28	2.11	22.13	4.88	2104.71	2226.87	1.15	1.45	475.12	1.00
3/18/25 16:28	2.11	22.13	4.87	2104.71	2226.87	1.15	1.45	475.12	1.00
3/18/25 17:28	2.10	22.13	4.86	2104.70	2226.89	1.15	1.45	475.13	1.00
3/18/25 18:28	2.10	22.13	4.85	2104.39	2226.56	1.15	1.45	475.20	1.00
3/18/25 19:28	2.09	22.13	4.84	2104.93	2227.12	1.15	1.45	475.07	1.00
3/18/25 20:28	2.09	22.13	4.83	2104.83	2227.03	1.15	1.45	475.10	1.00
3/18/25 21:28	2.09	22.13	4.83	2104.92	2227.13	1.15	1.45	475.08	1.00
3/18/25 22:28	2.09	22.13	4.83	2104.62	2226.82	1.15	1.45	475.14	1.00
3/18/25 23:28	2.09	22.13	4.83	2105.07	2227.30	1.15	1.45	475.04	1.00
3/19/25 0:28	2.09	22.13	4.83	2104.68	2226.88	1.15	1.45	475.13	1.00
3/19/25 1:28	2.09	22.13	4.83	2104.76	2226.99	1.15	1.45	475.11	1.00
3/19/25 2:28	2.09	22.13	4.83	2105.09	2227.33	1.16	1.45	475.04	1.00
3/19/25 3:28	2.09	22.13	4.82	2104.57	2226.79	1.15	1.45	475.16	1.00
3/19/25 4:28	2.09	22.13	4.82	2104.85	2227.09	1.15	1.45	475.09	1.00
3/19/25 5:28	2.09	22.13	4.82	2105.22	2227.49	1.16	1.45	475.01	1.00
3/19/25 6:28	2.09	22.13	4.82	2105.03	2227.29	1.15	1.45	475.05	1.00
3/19/25 7:28	2.09	22.13	4.82	2104.75	2226.99	1.15	1.45	475.12	1.00
3/19/25 8:28	2.08	22.13	4.82	2104.78	2227.04	1.15	1.45	475.11	1.00
3/19/25 9:28	2.08	22.13	4.81	2105.51	2227.81	1.16	1.45	474.95	1.00
3/19/25 10:28	2.08	22.13	4.81	2104.97	2227.23	1.15	1.45	475.07	1.00
3/19/25 11:28	2.08	22.13	4.81	2105.02	2227.30	1.15	1.45	475.05	1.00
3/19/25 12:28	2.08	22.13	4.81	2105.10	2227.41	1.16	1.45	475.04	1.00
3/19/25 13:28	2.08	22.13	4.81	2105.25	2227.56	1.16	1.45	475.00	1.00
3/19/25 14:28	2.09	22.13	4.82	2104.97	2227.28	1.15	1.45	475.07	1.00
3/19/25 15:28	2.09	22.12	4.82	2105.12	2227.44	1.16	1.45	475.03	1.00
3/19/25 16:28	2.09	22.12	4.83	2105.22	2227.55	1.16	1.45	475.01	1.00
3/19/25 17:28	2.09	22.12	4.82	2105.67	2228.04	1.16	1.45	474.91	1.00
3/19/25 18:28	2.08	22.12	4.82	2105.27	2227.63	1.16	1.45	475.00	1.00
3/19/25 19:28	2.08	22.13	4.82	2105.32	2227.64	1.16	1.45	474.99	1.00
3/19/25 20:28	2.08	22.12	4.81	2105.15	2227.49	1.16	1.45	475.03	1.00
3/19/25 21:28	2.08	22.12	4.81	2105.44	2227.81	1.16	1.45	474.96	1.00
3/19/25 22:28	2.08	22.12	4.81	2105.46	2227.86	1.16	1.45	474.95	1.00
3/19/25 23:28	2.08	22.12	4.81	2105.19	2227.55	1.16	1.45	475.02	1.00
3/20/25 0:28	2.08	22.12	4.80	2105.60	2228.00	1.16	1.45	474.92	1.00
3/20/25 1:28	2.08	22.12	4.81	2105.50	2227.89	1.16	1.45	474.95	1.00
3/20/25 2:28	2.08	22.12	4.81	2105.12	2227.49	1.16	1.45	475.03	1.00
3/20/25 3:28	2.09	22.12	4.82	2105.59	2228.01	1.16	1.45	474.93	1.00
3/20/25 4:28	2.08	22.12	4.81	2105.76	2228.18	1.16	1.45	474.89	1.00
3/20/25 5:28	2.08	22.12	4.82	2105.44	2227.85	1.16	1.45	474.96	1.00
3/20/25 6:28	2.08	22.12	4.81	2105.40	2227.81	1.16	1.45	474.97	1.00
3/20/25 7:28	2.08	22.12	4.81	2105.62	2228.05	1.16	1.45	474.92	1.00
3/20/25 8:28	2.08	22.12	4.81	2105.34	2227.77	1.16	1.45	474.98	1.00
3/20/25 9:28	2.08	22.12	4.82	2105.85	2228.30	1.16	1.45	474.87	1.00
3/20/25 10:28	2.09	22.12	4.82	2105.87	2228.34	1.16	1.45	474.86	1.00
3/20/25 11:28	2.09	22.12	4.83	2105.71	2228.17	1.16	1.45	474.90	1.00
3/20/25 12:28	2.09	22.12	4.83	2105.76	2228.23	1.16	1.45	474.89	1.00
3/20/25 13:28	2.09	22.12	4.84	2105.53	2227.98	1.16	1.45	474.94	1.00
3/20/25 14:28	2.10	22.12	4.85	2105.55	2228.02	1.16	1.45	474.94	1.00
3/20/25 15:28	2.10	22.12	4.85	2105.49	2227.97	1.16	1.45	474.95	1.00
3/20/25 16:28	2.10	22.12	4.84	2106.06	2228.57	1.16	1.45	474.82	1.00
3/20/25 17:28	2.10	22.12	4.84	2105.70	2228.20	1.16	1.45	474.90	1.00
3/20/25 18:28	2.10	22.12	4.85	2105.95	2228.44	1.16	1.45	474.85	1.00
3/20/25 19:28	2.10	22.12	4.85	2106.03	2228.55	1.16	1.45	474.83	1.00
3/20/25 20:28	2.09	22.12	4.84	2105.74	2228.25	1.16	1.45	474.89	1.00
3/20/25 21:28	2.10	22.12	4.84	2105.91	2228.41	1.16	1.45	474.85	1.00
3/20/25 22:28	2.10	22.12	4.84	2105.96	2228.48	1.16	1.45	474.84	1.00
3/20/25 23:28	2.10	22.12	4.84	2105.57	2228.10	1.16	1.45	474.93	1.00
3/21/25 0:28	2.10	22.12	4.85	2105.94	2228.48	1.16	1.45	474.85	1.00
3/21/25 1:28	2.10	22.12	4.85	2106.03	2228.59	1.16	1.45	474.83	1.00
3/21/25 2:28	2.10	22.12	4.86	2106.01	2228.59	1.16	1.45	474.83	1.00
3/21/25 3:28	2.10	22.12	4.86	2105.87	2228.42	1.16	1.45	474.86	1.00
3/21/25 4:28	2.10	22.12	4.85	2105.98	2228.55	1.16	1.45	474.84	1.00
3/21/25 5:28	2.10	22.12	4.85	2105.73	2228.28	1.16	1.45	474.89	1.00
3/21/25 6:28	2.10	22.12	4.85	2106.29	2228.89	1.16	1.45	474.77	1.00
3/21/25 7:28	2.09	22.12	4.84	2106.09	2228.67	1.16	1.45	474.81	1.00
3/21/25 8:28	2.10	22.12	4.84	2106.00	2228.60	1.16	1.45	474.83	1.00
3/21/25 9:28	2.10	22.12	4.84	2106.11	2228.69	1.16	1.45	474.81	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/21/25 10:28	2.10	22.12	4.84	2106.35	2228.99	1.16	1.45	474.75	1.00
3/21/25 11:28	2.10	22.12	4.84	2106.07	2228.68	1.16	1.45	474.82	1.00
3/21/25 12:28	2.10	22.12	4.85	2106.10	2228.72	1.16	1.45	474.81	1.00
3/21/25 13:28	2.10	22.12	4.85	2106.08	2228.70	1.16	1.45	474.82	1.00
3/21/25 14:28	2.10	22.12	4.85	2106.12	2228.74	1.16	1.45	474.81	1.00
3/21/25 15:28	2.10	22.12	4.85	2106.20	2228.84	1.16	1.45	474.79	1.00
3/21/25 16:28	2.10	22.12	4.85	2106.36	2229.03	1.16	1.45	474.75	1.00
3/21/25 17:28	2.10	22.12	4.85	2106.28	2228.94	1.16	1.45	474.77	1.00
3/21/25 18:28	2.10	22.12	4.85	2106.20	2228.86	1.16	1.45	474.79	1.00
3/21/25 19:28	2.10	22.12	4.85	2106.23	2228.92	1.16	1.45	474.78	1.00
3/21/25 20:28	2.10	22.12	4.85	2106.10	2228.75	1.16	1.45	474.81	1.00
3/21/25 21:28	2.10	22.12	4.84	2106.13	2228.79	1.16	1.45	474.80	1.00
3/21/25 22:28	2.10	22.12	4.84	2106.50	2229.21	1.16	1.45	474.72	1.00
3/21/25 23:28	2.10	22.12	4.84	2106.05	2228.74	1.16	1.45	474.82	1.00
3/22/25 0:28	2.09	22.12	4.84	2106.47	2229.18	1.16	1.45	474.73	1.00
3/22/25 1:28	2.09	22.12	4.84	2106.48	2229.20	1.16	1.45	474.73	1.00
3/22/25 2:28	2.10	22.12	4.84	2106.39	2229.09	1.16	1.45	474.75	1.00
3/22/25 3:28	2.10	22.12	4.84	2106.51	2229.24	1.16	1.45	474.72	1.00
3/22/25 4:28	2.09	22.12	4.84	2106.59	2229.34	1.16	1.45	474.70	1.00
3/22/25 5:28	2.09	22.12	4.84	2106.33	2229.06	1.16	1.45	474.76	1.00
3/22/25 6:28	2.09	22.12	4.84	2106.22	2228.96	1.16	1.45	474.78	1.00
3/22/25 7:28	2.09	22.12	4.83	2106.48	2229.23	1.16	1.45	474.73	1.00
3/22/25 8:28	2.09	22.12	4.83	2106.38	2229.14	1.16	1.45	474.75	1.00
3/22/25 9:28	2.09	22.12	4.83	2106.29	2229.05	1.16	1.45	474.77	1.00
3/22/25 10:28	2.09	22.12	4.83	2106.40	2229.18	1.16	1.45	474.74	1.00
3/22/25 11:28	2.09	22.12	4.83	2106.60	2229.39	1.16	1.45	474.70	1.00
3/22/25 12:28	2.09	22.12	4.84	2106.19	2228.96	1.16	1.45	474.79	1.00
3/22/25 13:28	2.10	22.12	4.84	2106.38	2229.16	1.16	1.45	474.75	1.00
3/22/25 14:28	2.10	22.12	4.84	2106.47	2229.27	1.16	1.45	474.73	1.00
3/22/25 15:28	2.10	22.12	4.85	2106.68	2229.48	1.16	1.45	474.68	1.00
3/22/25 16:28	2.10	22.12	4.84	2106.49	2229.31	1.16	1.45	474.72	1.00
3/22/25 17:28	2.10	22.12	4.84	2106.58	2229.43	1.16	1.45	474.70	1.00
3/22/25 18:28	2.10	22.12	4.84	2106.44	2229.25	1.16	1.45	474.74	1.00
3/22/25 19:28	2.09	22.12	4.84	2106.54	2229.39	1.16	1.45	474.71	1.00
3/22/25 20:28	2.09	22.12	4.84	2106.76	2229.61	1.16	1.45	474.66	1.00
3/22/25 21:28	2.09	22.11	4.83	2106.33	2229.17	1.16	1.45	474.76	1.00
3/22/25 22:28	2.09	22.11	4.83	2106.67	2229.54	1.16	1.45	474.68	1.00
3/22/25 23:28	2.09	22.11	4.83	2106.81	2229.68	1.16	1.45	474.65	1.00
3/23/25 0:28	2.09	22.11	4.83	2106.52	2229.40	1.16	1.45	474.72	1.00
3/23/25 1:28	2.09	22.11	4.83	2106.57	2229.45	1.16	1.45	474.70	1.00
3/23/25 2:28	2.09	22.12	4.83	2106.79	2229.65	1.16	1.45	474.66	1.00
3/23/25 3:28	2.09	22.11	4.83	2106.75	2229.64	1.16	1.45	474.66	1.00
3/23/25 4:28	2.09	22.11	4.82	2106.84	2229.74	1.16	1.45	474.65	1.00
3/23/25 5:28	2.09	22.11	4.82	2106.66	2229.56	1.16	1.45	474.68	1.00
3/23/25 6:28	2.09	22.11	4.82	2106.44	2229.33	1.16	1.45	474.73	1.00
3/23/25 7:28	2.08	22.11	4.82	2106.64	2229.58	1.16	1.45	474.69	1.00
3/23/25 8:28	2.08	22.11	4.82	2106.92	2229.84	1.16	1.45	474.63	1.00
3/23/25 9:28	2.09	22.11	4.82	2106.93	2229.87	1.16	1.45	474.62	1.00
3/23/25 10:28	2.09	22.11	4.82	2106.67	2229.59	1.16	1.45	474.68	1.00
3/23/25 11:28	2.09	22.11	4.82	2106.73	2229.67	1.16	1.45	474.67	1.00
3/23/25 12:28	2.09	22.11	4.82	2107.02	2229.98	1.16	1.45	474.60	1.00
3/23/25 13:28	2.09	22.11	4.82	2106.92	2229.89	1.16	1.45	474.63	1.00
3/23/25 14:28	2.09	22.11	4.82	2106.95	2229.95	1.16	1.45	474.62	1.00
3/23/25 15:28	2.09	22.11	4.82	2106.85	2229.82	1.16	1.45	474.64	1.00
3/23/25 16:28	2.08	22.11	4.82	2106.90	2229.90	1.16	1.45	474.63	1.00
3/23/25 17:28	2.09	22.11	4.82	2106.88	2229.84	1.16	1.45	474.64	1.00
3/23/25 18:28	2.08	22.11	4.81	2107.10	2230.11	1.16	1.45	474.59	1.00
3/23/25 19:28	2.08	22.11	4.81	2107.02	2230.02	1.16	1.45	474.60	1.00
3/23/25 20:28	2.08	22.11	4.81	2106.72	2229.73	1.16	1.45	474.67	1.00
3/23/25 21:28	2.08	22.11	4.81	2106.77	2229.78	1.16	1.45	474.66	1.00
3/23/25 22:28	2.08	22.11	4.81	2107.03	2230.05	1.16	1.45	474.60	1.00
3/23/25 23:28	2.08	22.11	4.81	2107.04	2230.06	1.16	1.45	474.60	1.00
3/24/25 0:28	2.08	22.11	4.81	2106.88	2229.91	1.16	1.45	474.64	1.00
3/24/25 1:28	2.08	22.11	4.81	2107.25	2230.30	1.16	1.45	474.55	1.00
3/24/25 2:28	2.08	22.11	4.81	2107.19	2230.25	1.16	1.45	474.57	1.00
3/24/25 3:28	2.09	22.11	4.82	2107.41	2230.50	1.16	1.45	474.52	1.00
3/24/25 4:28	2.08	22.11	4.81	2107.09	2230.15	1.16	1.45	474.59	1.00
3/24/25 5:28	2.08	22.11	4.81	2107.17	2230.26	1.16	1.45	474.57	1.00
3/24/25 6:28	2.08	22.11	4.81	2106.96	2230.02	1.16	1.45	474.62	1.00
3/24/25 7:28	2.08	22.11	4.81	2107.17	2230.26	1.16	1.45	474.57	1.00
3/24/25 8:28	2.08	22.11	4.81	2107.29	2230.39	1.16	1.45	474.54	1.00
3/24/25 9:28	2.08	22.11	4.82	2107.20	2230.30	1.16	1.45	474.56	1.00
3/24/25 10:28	2.08	22.11	4.81	2107.14	2230.27	1.16	1.45	474.58	1.00
3/24/25 11:28	2.09	22.11	4.82	2107.33	2230.46	1.16	1.45	474.53	1.00
3/24/25 12:28	2.09	22.11	4.82	2107.05	2230.18	1.16	1.45	474.60	1.00
3/24/25 13:28	2.09	22.11	4.82	2107.45	2230.60	1.16	1.45	474.51	1.00
3/24/25 14:28	2.09	22.11	4.83	2107.22	2230.37	1.16	1.45	474.56	1.00
3/24/25 15:28	2.09	22.11	4.83	2107.16	2230.31	1.16	1.45	474.57	1.00
3/24/25 16:28	2.09	22.11	4.83	2107.39	2230.56	1.16	1.45	474.52	1.00
3/24/25 17:28	2.09	22.11	4.83	2107.33	2230.50	1.16	1.45	474.53	1.00
3/24/25 18:28	2.09	22.11	4.82	2107.45	2230.63	1.16	1.45	474.51	1.00
3/24/25 19:28	2.09	22.11	4.82	2107.48	2230.67	1.16	1.45	474.50	1.00
3/24/25 20:28	2.09	22.11	4.82	2107.35	2230.54	1.16	1.45	474.53	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/24/25 21:28	2.08	22.11	4.81	2107.47	2230.68	1.16	1.45	474.50	1.00
3/24/25 22:28	2.08	22.11	4.81	2107.59	2230.79	1.16	1.45	474.48	1.00
3/24/25 23:28	2.08	22.11	4.81	2107.35	2230.55	1.16	1.45	474.53	1.00
3/25/25 0:28	2.08	22.11	4.81	2107.65	2230.88	1.16	1.45	474.46	1.00
3/25/25 1:28	2.08	22.11	4.81	2107.46	2230.69	1.16	1.45	474.50	1.00
3/25/25 2:28	2.08	22.11	4.81	2107.67	2230.92	1.16	1.45	474.46	1.00
3/25/25 3:28	2.08	22.11	4.81	2107.65	2230.88	1.16	1.45	474.46	1.00
3/25/25 4:28	2.08	22.11	4.81	2107.50	2230.77	1.16	1.45	474.50	1.00
3/25/25 5:28	2.08	22.11	4.81	2107.69	2230.94	1.16	1.45	474.45	1.00
3/25/25 6:28	2.08	22.11	4.81	2107.59	2230.86	1.16	1.45	474.48	1.00
3/25/25 7:28	2.08	22.11	4.80	2107.57	2230.83	1.16	1.45	474.48	1.00
3/25/25 8:28	2.08	22.11	4.80	2107.48	2230.75	1.16	1.45	474.50	1.00
3/25/25 9:28	2.08	22.11	4.80	2107.67	2230.96	1.16	1.45	474.46	1.00
3/25/25 10:28	2.08	22.11	4.81	2107.46	2230.74	1.16	1.45	474.50	1.00
3/25/25 11:28	2.08	22.11	4.81	2107.82	2231.14	1.16	1.45	474.42	1.00
3/25/25 12:28	2.08	22.11	4.81	2107.76	2231.09	1.16	1.45	474.44	1.00
3/25/25 13:28	2.08	22.11	4.81	2107.79	2231.12	1.16	1.45	474.43	1.00
3/25/25 14:28	2.09	22.11	4.82	2107.84	2231.18	1.16	1.45	474.42	1.00
3/25/25 15:28	2.08	22.11	4.81	2107.57	2230.88	1.16	1.45	474.48	1.00
3/25/25 16:28	2.08	22.11	4.81	2107.52	2230.85	1.16	1.45	474.49	1.00
3/25/25 17:28	2.08	22.11	4.81	2107.76	2231.09	1.16	1.45	474.44	1.00
3/25/25 18:28	2.08	22.11	4.81	2107.84	2231.19	1.16	1.45	474.42	1.00
3/25/25 19:28	2.08	22.10	4.81	2107.74	2231.11	1.16	1.45	474.44	1.00
3/25/25 20:28	2.08	22.10	4.80	2107.78	2231.15	1.16	1.45	474.43	1.00
3/25/25 21:28	2.08	22.10	4.80	2107.75	2231.13	1.16	1.45	474.44	1.00
3/25/25 22:28	2.08	22.10	4.80	2107.80	2231.19	1.16	1.45	474.43	1.00
3/25/25 23:28	2.08	22.10	4.80	2107.57	2230.93	1.16	1.45	474.48	1.00
3/26/25 0:28	2.08	22.10	4.80	2107.84	2231.23	1.16	1.45	474.42	1.00
3/26/25 1:28	2.08	22.10	4.80	2107.86	2231.26	1.16	1.45	474.41	1.00
3/26/25 2:28	2.08	22.10	4.80	2107.95	2231.36	1.16	1.45	474.39	1.00
3/26/25 3:28	2.08	22.10	4.80	2107.92	2231.34	1.16	1.45	474.40	1.00
3/26/25 4:28	2.08	22.10	4.80	2107.97	2231.38	1.16	1.45	474.39	1.00
3/26/25 5:28	2.08	22.10	4.80	2107.68	2231.10	1.16	1.45	474.46	1.00
3/26/25 6:28	2.08	22.10	4.80	2108.01	2231.44	1.16	1.45	474.38	1.00
3/26/25 7:28	2.08	22.10	4.80	2107.90	2231.34	1.16	1.45	474.41	1.00
3/26/25 8:28	2.08	22.10	4.80	2107.97	2231.45	1.16	1.45	474.39	1.00
3/26/25 9:28	2.08	22.10	4.80	2108.10	2231.55	1.16	1.45	474.36	1.00
3/26/25 10:28	2.08	22.10	4.80	2107.80	2231.25	1.16	1.45	474.43	1.00
3/26/25 11:28	2.08	22.10	4.81	2107.89	2231.35	1.16	1.45	474.41	1.00
3/26/25 12:28	2.08	22.10	4.81	2108.13	2231.63	1.16	1.45	474.35	1.00
3/26/25 13:28	2.08	22.10	4.82	2108.00	2231.51	1.16	1.45	474.38	1.00
3/26/25 14:28	2.09	22.10	4.82	2107.97	2231.49	1.16	1.45	474.39	1.00
3/26/25 15:28	2.08	22.10	4.81	2107.91	2231.41	1.16	1.45	474.40	1.00
3/26/25 16:28	2.08	22.10	4.81	2108.06	2231.58	1.16	1.45	474.37	1.00
3/26/25 17:28	2.08	22.10	4.81	2108.22	2231.77	1.16	1.45	474.33	1.00
3/26/25 18:28	2.08	22.10	4.81	2108.13	2231.66	1.16	1.45	474.35	1.00
3/26/25 19:28	2.08	22.10	4.81	2108.21	2231.75	1.16	1.45	474.34	1.00
3/26/25 20:28	2.08	22.10	4.80	2108.35	2231.92	1.16	1.45	474.31	1.00
3/26/25 21:28	2.08	22.10	4.80	2108.15	2231.70	1.16	1.45	474.35	1.00
3/26/25 22:28	2.08	22.10	4.80	2108.09	2231.61	1.16	1.45	474.36	1.00
3/26/25 23:28	2.08	22.10	4.80	2108.12	2231.70	1.16	1.45	474.36	1.00
3/27/25 0:28	2.08	22.10	4.80	2108.10	2231.67	1.16	1.45	474.36	1.00
3/27/25 1:28	2.08	22.10	4.80	2108.12	2231.70	1.16	1.45	474.36	1.00
3/27/25 2:28	2.08	22.10	4.80	2108.25	2231.84	1.16	1.45	474.33	1.00
3/27/25 3:28	2.08	22.10	4.80	2108.26	2231.87	1.16	1.45	474.32	1.00
3/27/25 4:28	2.08	22.10	4.80	2108.38	2231.97	1.16	1.45	474.30	1.00
3/27/25 5:28	2.08	22.10	4.80	2108.29	2231.91	1.16	1.45	474.32	1.00
3/27/25 6:28	2.08	22.10	4.80	2108.20	2231.81	1.16	1.45	474.34	1.00
3/27/25 7:28	2.08	22.10	4.79	2108.64	2232.29	1.16	1.45	474.24	1.00
3/27/25 8:28	2.08	22.10	4.80	2108.50	2232.15	1.16	1.45	474.27	1.00
3/27/25 9:28	2.08	22.10	4.80	2108.40	2232.06	1.16	1.45	474.29	1.00
3/27/25 10:28	2.08	22.10	4.80	2108.64	2232.31	1.16	1.45	474.24	1.00
3/27/25 11:28	2.08	22.10	4.80	2108.52	2232.20	1.16	1.45	474.27	1.00
3/27/25 12:28	2.08	22.10	4.80	2108.44	2232.11	1.16	1.45	474.28	1.00
3/27/25 13:28	2.08	22.10	4.81	2108.71	2232.42	1.16	1.45	474.22	1.00
3/27/25 14:28	2.08	22.10	4.81	2108.69	2232.40	1.16	1.45	474.23	1.00
3/27/25 15:28	2.08	22.10	4.81	2108.37	2232.06	1.16	1.45	474.30	1.00
3/27/25 16:28	2.08	22.10	4.80	2108.42	2232.10	1.16	1.45	474.29	1.00
3/27/25 17:28	2.08	22.10	4.80	2108.34	2232.03	1.16	1.45	474.31	1.00
3/27/25 18:28	2.08	22.10	4.80	2108.48	2232.21	1.16	1.45	474.27	1.00
3/27/25 19:28	2.08	22.10	4.80	2108.55	2232.27	1.16	1.45	474.26	1.00
3/27/25 20:28	2.08	22.10	4.80	2108.48	2232.23	1.16	1.45	474.27	1.00
3/27/25 21:28	2.08	22.10	4.80	2108.35	2232.06	1.16	1.45	474.30	1.00
3/27/25 22:28	2.08	22.10	4.80	2108.35	2232.08	1.16	1.45	474.30	1.00
3/27/25 23:28	2.08	22.10	4.80	2108.59	2232.36	1.16	1.45	474.25	1.00
3/28/25 0:28	2.08	22.10	4.80	2108.55	2232.33	1.16	1.45	474.26	1.00
3/28/25 1:28	2.08	22.10	4.80	2108.31	2232.05	1.16	1.45	474.31	1.00
3/28/25 2:28	2.08	22.10	4.81	2108.60	2232.40	1.16	1.45	474.25	1.00
3/28/25 3:28	2.08	22.10	4.80	2108.49	2232.26	1.16	1.45	474.27	1.00
3/28/25 4:28	2.08	22.10	4.80	2108.30	2232.07	1.16	1.45	474.32	1.00
3/28/25 5:28	2.08	22.10	4.79	2108.51	2232.30	1.16	1.45	474.27	1.00
3/28/25 6:28	2.08	22.10	4.80	2108.44	2232.24	1.16	1.45	474.28	1.00
3/28/25 7:28	2.08	22.10	4.79	2108.55	2232.35	1.16	1.45	474.26	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/28/25 8:28	2.08	22.10	4.80	2108.77	2232.60	1.16	1.45	474.21	1.00
3/28/25 9:28	2.08	22.10	4.79	2108.77	2232.63	1.16	1.45	474.21	1.00
3/28/25 10:28	2.08	22.10	4.80	2108.73	2232.57	1.16	1.45	474.22	1.00
3/28/25 11:28	2.08	22.10	4.80	2108.52	2232.36	1.16	1.45	474.27	1.00
3/28/25 12:28	2.08	22.10	4.80	2108.70	2232.56	1.16	1.45	474.23	1.00
3/28/25 13:28	2.08	22.10	4.81	2108.68	2232.54	1.16	1.45	474.23	1.00
3/28/25 14:28	2.08	22.10	4.81	2108.96	2232.84	1.16	1.45	474.17	1.00
3/28/25 15:28	2.08	22.10	4.81	2108.70	2232.57	1.16	1.45	474.22	1.00
3/28/25 16:28	2.08	22.09	4.80	2108.90	2232.81	1.16	1.45	474.18	1.00
3/28/25 17:28	2.08	22.09	4.80	2108.79	2232.69	1.16	1.45	474.21	1.00
3/28/25 18:28	2.08	22.09	4.80	2108.78	2232.69	1.16	1.45	474.21	1.00
3/28/25 19:28	2.08	22.09	4.80	2108.65	2232.56	1.16	1.45	474.24	1.00
3/28/25 20:28	2.08	22.09	4.80	2109.00	2232.94	1.16	1.45	474.16	1.00
3/28/25 21:28	2.08	22.09	4.79	2108.78	2232.71	1.16	1.45	474.21	1.00
3/28/25 22:28	2.08	22.09	4.79	2108.89	2232.84	1.16	1.45	474.18	1.00
3/28/25 23:28	2.08	22.09	4.79	2109.02	2232.96	1.16	1.45	474.15	1.00
3/29/25 0:28	2.08	22.09	4.80	2108.81	2232.76	1.16	1.45	474.20	1.00
3/29/25 1:28	2.08	22.09	4.79	2108.89	2232.86	1.16	1.45	474.18	1.00
3/29/25 2:28	2.07	22.09	4.79	2108.69	2232.64	1.16	1.45	474.23	1.00
3/29/25 3:28	2.08	22.09	4.80	2108.97	2232.93	1.16	1.45	474.17	1.00
3/29/25 4:28	2.08	22.09	4.80	2109.06	2233.04	1.16	1.45	474.15	1.00
3/29/25 5:28	2.08	22.09	4.80	2108.86	2232.85	1.16	1.45	474.19	1.00
3/29/25 6:28	2.08	22.09	4.80	2108.81	2232.80	1.16	1.45	474.20	1.00
3/29/25 7:28	2.08	22.09	4.79	2108.79	2232.79	1.16	1.45	474.21	1.00
3/29/25 8:28	2.07	22.09	4.79	2108.83	2232.85	1.16	1.45	474.20	1.00
3/29/25 9:28	2.07	22.09	4.79	2108.86	2232.88	1.16	1.45	474.19	1.00
3/29/25 10:28	2.07	22.09	4.79	2108.82	2232.84	1.16	1.45	474.20	1.00
3/29/25 11:28	2.07	22.09	4.79	2108.89	2232.92	1.16	1.45	474.18	1.00
3/29/25 12:28	2.07	22.09	4.79	2108.75	2232.78	1.16	1.45	474.22	1.00
3/29/25 13:28	2.08	22.09	4.80	2109.00	2233.06	1.16	1.45	474.16	1.00
3/29/25 14:28	2.07	22.09	4.79	2108.93	2232.98	1.16	1.45	474.17	1.00
3/29/25 15:28	2.07	22.09	4.79	2108.81	2232.88	1.16	1.45	474.20	1.00
3/29/25 16:28	2.07	22.09	4.79	2109.00	2233.08	1.16	1.45	474.16	1.00
3/29/25 17:28	2.08	22.09	4.80	2109.01	2233.09	1.16	1.45	474.16	1.00
3/29/25 18:28	2.08	22.09	4.80	2108.84	2232.92	1.16	1.45	474.19	1.00
3/29/25 19:28	2.07	22.09	4.79	2108.86	2232.95	1.16	1.45	474.19	1.00
3/29/25 20:28	2.07	22.09	4.79	2109.11	2233.20	1.16	1.45	474.13	1.00
3/29/25 21:28	2.07	22.09	4.79	2108.92	2233.03	1.16	1.45	474.18	1.00
3/29/25 22:28	2.07	22.09	4.79	2108.98	2233.10	1.16	1.45	474.16	1.00
3/29/25 23:28	2.07	22.09	4.79	2108.99	2233.10	1.16	1.45	474.16	1.00
3/30/25 0:28	2.07	22.09	4.79	2109.12	2233.27	1.16	1.45	474.13	1.00
3/30/25 1:28	2.07	22.09	4.79	2108.99	2233.11	1.16	1.45	474.16	1.00
3/30/25 2:28	2.07	22.09	4.79	2108.91	2233.05	1.16	1.45	474.18	1.00
3/30/25 3:28	2.07	22.09	4.78	2109.03	2233.19	1.16	1.45	474.15	1.00
3/30/25 4:28	2.07	22.09	4.78	2109.12	2233.28	1.16	1.45	474.13	1.00
3/30/25 5:28	2.07	22.09	4.78	2109.16	2233.30	1.16	1.45	474.12	1.00
3/30/25 6:28	2.07	22.09	4.78	2109.14	2233.32	1.16	1.45	474.13	1.00
3/30/25 7:28	2.07	22.09	4.78	2109.07	2233.27	1.16	1.45	474.14	1.00
3/30/25 8:28	2.07	22.09	4.78	2109.19	2233.39	1.16	1.45	474.11	1.00
3/30/25 9:28	2.07	22.09	4.77	2109.27	2233.46	1.16	1.45	474.10	1.00
3/30/25 10:28	2.07	22.09	4.77	2109.24	2233.46	1.16	1.45	474.10	1.00
3/30/25 11:28	2.07	22.09	4.78	2109.04	2233.25	1.16	1.45	474.15	1.00
3/30/25 12:28	2.07	22.09	4.78	2109.23	2233.45	1.16	1.45	474.11	1.00
3/30/25 13:28	2.07	22.09	4.79	2109.35	2233.61	1.16	1.45	474.08	1.00
3/30/25 14:28	2.08	22.09	4.80	2109.17	2233.41	1.16	1.45	474.12	1.00
3/30/25 15:28	2.08	22.09	4.79	2109.17	2233.44	1.16	1.45	474.12	1.00
3/30/25 16:28	2.08	22.09	4.79	2109.28	2233.53	1.16	1.45	474.10	1.00
3/30/25 17:28	2.08	22.09	4.80	2109.06	2233.31	1.16	1.45	474.15	1.00
3/30/25 18:28	2.07	22.09	4.79	2109.25	2233.51	1.16	1.45	474.10	1.00
3/30/25 19:28	2.07	22.09	4.79	2109.22	2233.49	1.16	1.45	474.11	1.00
3/30/25 20:28	2.07	22.09	4.78	2109.53	2233.85	1.16	1.45	474.04	1.00
3/30/25 21:28	2.07	22.09	4.78	2109.34	2233.65	1.16	1.45	474.08	1.00
3/30/25 22:28	2.07	22.09	4.77	2109.16	2233.47	1.16	1.45	474.12	1.00
3/30/25 23:28	2.07	22.09	4.78	2109.13	2233.44	1.16	1.45	474.13	1.00
3/31/25 0:28	2.07	22.09	4.77	2109.24	2233.56	1.16	1.45	474.10	1.00
3/31/25 1:28	2.07	22.09	4.77	2109.03	2233.36	1.16	1.45	474.15	1.00
3/31/25 2:28	2.07	22.09	4.77	2109.30	2233.63	1.16	1.45	474.09	1.00
3/31/25 3:28	2.06	22.09	4.77	2109.27	2233.62	1.16	1.45	474.10	1.00
3/31/25 4:28	2.07	22.09	4.77	2109.05	2233.38	1.16	1.45	474.15	1.00
3/31/25 5:28	2.07	22.09	4.77	2109.12	2233.46	1.16	1.45	474.13	1.00
3/31/25 6:28	2.07	22.08	4.77	2109.44	2233.82	1.16	1.45	474.06	1.00
3/31/25 7:28	2.06	22.08	4.77	2109.30	2233.68	1.16	1.45	474.09	1.00
3/31/25 8:28	2.06	22.08	4.77	2109.21	2233.58	1.16	1.45	474.11	1.00
3/31/25 9:28	2.06	22.08	4.77	2109.49	2233.89	1.16	1.45	474.05	1.00
3/31/25 10:28	2.06	22.08	4.77	2109.19	2233.59	1.16	1.45	474.11	1.00
3/31/25 11:28	2.06	22.08	4.77	2109.42	2233.85	1.16	1.45	474.06	1.00
3/31/25 12:28	2.07	22.08	4.78	2109.23	2233.65	1.16	1.45	474.11	1.00
3/31/25 13:28	2.07	22.08	4.78	2109.28	2233.70	1.16	1.45	474.10	1.00
3/31/25 14:28	2.08	22.08	4.79	2109.51	2233.96	1.16	1.45	474.04	1.00
3/31/25 15:28	2.08	22.08	4.79	2109.16	2233.60	1.16	1.45	474.12	1.00
3/31/25 16:28	2.08	22.08	4.80	2109.09	2233.54	1.16	1.45	474.14	1.00
3/31/25 17:28	2.08	22.08	4.79	2109.38	2233.85	1.16	1.45	474.07	1.00
3/31/25 18:28	2.07	22.08	4.78	2109.22	2233.67	1.16	1.45	474.11	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/31/25 19:28	2.07	22.08	4.79	2109.55	2234.04	1.16	1.45	474.03	1.00
3/31/25 20:28	2.07	22.08	4.78	2109.40	2233.89	1.16	1.45	474.07	1.00
3/31/25 21:28	2.07	22.08	4.78	2109.25	2233.73	1.16	1.45	474.10	1.00
3/31/25 22:28	2.07	22.08	4.78	2109.02	2233.50	1.16	1.45	474.15	1.00
3/31/25 23:28	2.07	22.08	4.79	2108.99	2233.48	1.16	1.45	474.16	1.00
4/1/25 0:28	2.07	22.08	4.79	2109.32	2233.86	1.16	1.45	474.09	1.00
4/1/25 1:28	2.08	22.08	4.79	2109.36	2233.87	1.16	1.45	474.08	1.00
4/1/25 2:28	2.07	22.08	4.78	2109.35	2233.87	1.16	1.45	474.08	1.00
4/1/25 3:28	2.07	22.08	4.78	2109.25	2233.78	1.16	1.45	474.10	1.00
4/1/25 4:28	2.07	22.08	4.79	2109.18	2233.71	1.16	1.45	474.12	1.00
4/1/25 5:28	2.07	22.08	4.79	2109.36	2233.92	1.16	1.45	474.08	1.00
4/1/25 6:28	2.07	22.08	4.79	2109.25	2233.80	1.16	1.45	474.10	1.00
4/1/25 7:28	2.07	22.08	4.79	2109.18	2233.73	1.16	1.45	474.12	1.00
4/1/25 8:28	2.07	22.08	4.78	2109.32	2233.88	1.16	1.45	474.09	1.00
4/1/25 9:28	2.08	22.08	4.80	2109.25	2233.84	1.16	1.45	474.10	1.00
4/1/25 10:28	2.07	22.08	4.79	2109.30	2233.90	1.16	1.45	474.09	1.00
4/1/25 11:28	2.08	22.08	4.80	2109.20	2233.79	1.16	1.45	474.11	1.00
4/1/25 12:28	2.07	22.08	4.79	2109.18	2233.79	1.16	1.45	474.12	1.00
4/1/25 13:28	2.08	22.08	4.81	2109.23	2233.83	1.16	1.45	474.11	1.00
4/1/25 14:28	2.07	22.08	4.79	2109.13	2233.75	1.16	1.45	474.13	1.00
4/1/25 15:28	2.08	22.08	4.80	2109.09	2233.73	1.16	1.45	474.14	1.00
4/1/25 16:28	2.08	22.08	4.80	2109.22	2233.84	1.16	1.45	474.11	1.00
4/1/25 17:28	2.08	22.08	4.80	2109.28	2233.90	1.16	1.45	474.10	1.00
4/1/25 18:28	2.08	22.08	4.80	2109.15	2233.81	1.16	1.45	474.12	1.00
4/1/25 19:28	2.07	22.08	4.79	2109.42	2234.09	1.16	1.45	474.06	1.00
4/1/25 20:28	2.08	22.08	4.80	2109.26	2233.92	1.16	1.45	474.10	1.00
4/1/25 21:28	2.08	22.08	4.79	2109.26	2233.94	1.16	1.45	474.10	1.00
4/1/25 22:28	2.08	22.08	4.79	2109.20	2233.88	1.16	1.45	474.11	1.00
4/1/25 23:28	2.07	22.08	4.77	2109.15	2233.85	1.16	1.45	474.12	1.00
4/2/25 0:28	2.06	22.08	4.77	2108.91	2233.59	1.16	1.45	474.18	1.00
4/2/25 1:28	2.06	22.08	4.77	2109.00	2233.70	1.16	1.45	474.16	1.00
4/2/25 2:28	2.07	22.08	4.77	2108.98	2233.67	1.16	1.45	474.16	1.00
4/2/25 3:28	2.06	22.08	4.77	2109.14	2233.85	1.16	1.45	474.13	1.00
4/2/25 4:28	2.06	22.08	4.77	2109.22	2233.94	1.16	1.45	474.11	1.00
4/2/25 5:28	2.06	22.08	4.77	2109.33	2234.07	1.16	1.45	474.08	1.00
4/2/25 6:28	2.06	22.08	4.76	2109.16	2233.89	1.16	1.45	474.12	1.00
4/2/25 7:28	2.06	22.08	4.76	2108.90	2233.61	1.16	1.45	474.18	1.00
4/2/25 8:28	2.06	22.08	4.76	2109.28	2234.02	1.16	1.45	474.10	1.00
4/2/25 9:28	2.06	22.08	4.76	2109.45	2234.21	1.16	1.45	474.06	1.00
4/2/25 10:28	2.05	22.08	4.74	2104.76	2229.04	1.16	1.45	475.11	1.00
4/2/25 11:28	2.05	22.08	4.74	2104.39	2228.75	1.16	1.45	475.20	1.00
4/2/25 12:28	2.05	22.08	4.74	2104.50	2228.92	1.16	1.45	475.17	1.00
4/2/25 13:28	2.05	22.08	4.74	2103.91	2228.32	1.16	1.45	475.31	1.00
4/2/25 14:28	2.05	22.08	4.74	2103.83	2228.26	1.16	1.45	475.32	1.00
4/2/25 15:28	2.05	22.08	4.74	2103.76	2228.20	1.16	1.45	475.34	1.00
4/2/25 16:28	2.05	22.08	4.74	2103.82	2228.30	1.16	1.45	475.33	1.00
4/2/25 17:28	2.05	22.08	4.74	2103.83	2228.29	1.16	1.45	475.32	1.00
4/2/25 18:28	2.05	22.08	4.74	2103.83	2228.32	1.16	1.45	475.32	1.00
4/2/25 19:28	2.05	22.07	4.74	2103.78	2228.28	1.16	1.45	475.34	1.00
4/2/25 20:28	2.05	22.07	4.73	2103.66	2228.16	1.16	1.45	475.36	1.00
4/2/25 21:28	2.05	22.07	4.73	2103.75	2228.26	1.16	1.45	475.34	1.00
4/2/25 22:28	2.05	22.07	4.73	2103.78	2228.32	1.16	1.45	475.33	1.00
4/2/25 23:28	2.05	22.07	4.73	2103.87	2228.42	1.16	1.45	475.32	1.00
4/3/25 0:28	2.05	22.07	4.73	2103.90	2228.44	1.16	1.45	475.31	1.00
4/3/25 1:28	2.05	22.07	4.73	2104.14	2228.69	1.16	1.45	475.25	1.00
4/3/25 2:28	2.05	22.07	4.73	2103.94	2228.50	1.16	1.45	475.30	1.00
4/3/25 3:28	2.05	22.07	4.73	2104.16	2228.74	1.16	1.45	475.25	1.00
4/3/25 4:28	2.05	22.07	4.73	2103.78	2228.36	1.16	1.45	475.33	1.00
4/3/25 5:28	2.05	22.07	4.72	2103.93	2228.52	1.16	1.45	475.30	1.00
4/3/25 6:28	2.04	22.07	4.72	2104.22	2228.83	1.16	1.45	475.24	1.00
4/3/25 7:28	2.05	22.07	4.72	2104.10	2228.73	1.16	1.45	475.26	1.00
4/3/25 8:28	2.05	22.07	4.73	2104.26	2228.89	1.16	1.45	475.23	1.00
4/3/25 9:28	2.05	22.07	4.72	2104.31	2228.96	1.16	1.45	475.21	1.00
4/3/25 10:28	2.04	22.07	4.72	2104.32	2229.00	1.16	1.45	475.21	1.00
4/3/25 11:28	2.05	22.07	4.73	2104.08	2228.74	1.16	1.45	475.27	1.00
4/3/25 12:28	2.05	22.07	4.73	2104.39	2229.07	1.16	1.45	475.20	1.00
4/3/25 13:28	2.05	22.07	4.73	2104.20	2228.88	1.16	1.45	475.24	1.00
4/3/25 14:28	2.05	22.07	4.73	2104.26	2228.97	1.16	1.45	475.23	1.00
4/3/25 15:28	2.05	22.07	4.73	2104.27	2228.97	1.16	1.45	475.22	1.00
4/3/25 16:28	2.05	22.07	4.73	2104.35	2229.06	1.16	1.45	475.21	1.00
4/3/25 17:28	2.05	22.07	4.73	2104.32	2229.06	1.16	1.45	475.21	1.00
4/3/25 18:28	2.05	22.07	4.73	2104.26	2228.98	1.16	1.45	475.23	1.00
4/3/25 19:28	2.05	22.07	4.73	2104.48	2229.23	1.16	1.45	475.18	1.00
4/3/25 20:28	2.04	22.07	4.72	2104.49	2229.26	1.16	1.45	475.18	1.00
4/3/25 21:28	2.04	22.07	4.72	2104.29	2229.05	1.16	1.45	475.22	1.00
4/3/25 22:28	2.04	22.07	4.72	2104.23	2228.98	1.16	1.45	475.23	1.00
4/3/25 23:28	2.05	22.07	4.73	2104.02	2228.75	1.16	1.45	475.28	1.00
4/4/25 0:28	2.04	22.07	4.72	2104.12	2228.90	1.16	1.45	475.26	1.00
4/4/25 1:28	2.04	22.07	4.72	2104.29	2229.06	1.16	1.45	475.22	1.00
4/4/25 2:28	2.04	22.07	4.72	2104.26	2229.07	1.16	1.45	475.23	1.00
4/4/25 3:28	2.04	22.07	4.72	2104.29	2229.09	1.16	1.45	475.22	1.00
4/4/25 4:28	2.04	22.07	4.72	2104.43	2229.27	1.16	1.45	475.19	1.00
4/4/25 5:28	2.04	22.07	4.72	2104.39	2229.22	1.16	1.45	475.20	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/4/25 6:28	2.04	22.07	4.72	2104.27	2229.12	1.16	1.45	475.22	1.00
4/4/25 7:28	2.04	22.07	4.71	2104.36	2229.19	1.16	1.45	475.20	1.00
4/4/25 8:28	2.04	22.07	4.71	2104.32	2229.16	1.16	1.45	475.21	1.00
4/4/25 9:28	2.04	22.07	4.72	2104.48	2229.36	1.16	1.45	475.18	1.00
4/4/25 10:28	2.04	22.07	4.71	2104.73	2229.62	1.16	1.45	475.12	1.00
4/4/25 11:28	2.04	22.07	4.71	2104.41	2229.28	1.16	1.45	475.19	1.00
4/4/25 12:28	2.04	22.07	4.72	2104.60	2229.49	1.16	1.45	475.15	1.00
4/4/25 13:28	2.04	22.07	4.72	2104.79	2229.70	1.16	1.45	475.11	1.00
4/4/25 14:28	2.04	22.07	4.72	2104.81	2229.73	1.16	1.45	475.10	1.00
4/4/25 15:28	2.04	22.07	4.72	2104.95	2229.89	1.16	1.45	475.07	1.00
4/4/25 16:28	2.04	22.07	4.71	2104.69	2229.62	1.16	1.45	475.13	1.00
4/4/25 17:28	2.04	22.07	4.72	2105.01	2229.99	1.16	1.45	475.06	1.00
4/4/25 18:28	2.04	22.07	4.71	2104.87	2229.84	1.16	1.45	475.09	1.00
4/4/25 19:28	2.05	22.07	4.73	2104.79	2229.75	1.16	1.45	475.11	1.00
4/4/25 20:28	2.04	22.07	4.71	2104.80	2229.78	1.16	1.45	475.10	1.00
4/4/25 21:28	2.04	22.07	4.71	2104.75	2229.74	1.16	1.45	475.12	1.00
4/4/25 22:28	2.04	22.07	4.71	2105.05	2230.06	1.16	1.45	475.05	1.00
4/4/25 23:28	2.04	22.06	4.71	2104.88	2229.88	1.16	1.45	475.09	1.00
4/5/25 0:28	2.04	22.06	4.71	2104.91	2229.92	1.16	1.45	475.08	1.00
4/5/25 1:28	2.04	22.06	4.71	2105.12	2230.17	1.16	1.45	475.03	1.00
4/5/25 2:28	2.04	22.06	4.71	2105.13	2230.17	1.16	1.45	475.03	1.00
4/5/25 3:28	2.04	22.06	4.71	2104.87	2229.91	1.16	1.45	475.09	1.00
4/5/25 4:28	2.04	22.06	4.71	2105.12	2230.18	1.16	1.45	475.03	1.00
4/5/25 5:28	2.04	22.06	4.71	2104.95	2230.01	1.16	1.45	475.07	1.00
4/5/25 6:28	2.04	22.06	4.71	2105.07	2230.14	1.16	1.45	475.04	1.00
4/5/25 7:28	2.04	22.06	4.71	2104.95	2230.04	1.16	1.45	475.07	1.00
4/5/25 8:28	2.04	22.06	4.71	2105.23	2230.35	1.16	1.45	475.01	1.00
4/5/25 9:28	2.04	22.06	4.71	2105.19	2230.31	1.16	1.45	475.02	1.00
4/5/25 10:28	2.04	22.06	4.71	2105.20	2230.31	1.16	1.45	475.01	1.00
4/5/25 11:28	2.04	22.06	4.71	2105.51	2230.66	1.16	1.45	474.94	1.00
4/5/25 12:28	2.04	22.06	4.71	2105.65	2230.83	1.16	1.45	474.91	1.00
4/5/25 13:28	2.03	22.06	4.69	2105.49	2230.65	1.16	1.45	474.95	1.00
4/5/25 14:28	1.97	22.06	4.55	2105.66	2230.83	1.16	1.45	474.91	1.00
4/5/25 15:28	2.04	22.06	4.71	2105.36	2230.53	1.16	1.45	474.98	1.00
4/5/25 16:28	2.04	22.06	4.70	2105.78	2230.96	1.16	1.45	474.88	1.00
4/5/25 17:28	2.03	22.06	4.69	2105.70	2230.90	1.16	1.45	474.90	1.00
4/5/25 18:28	2.03	22.06	4.70	2105.71	2230.94	1.16	1.45	474.90	1.00
4/5/25 19:28	2.03	22.06	4.70	2105.66	2230.87	1.16	1.45	474.91	1.00
4/5/25 20:28	2.03	22.06	4.70	2105.66	2230.86	1.16	1.45	474.91	1.00
4/5/25 21:28	2.03	22.06	4.70	2105.56	2230.79	1.16	1.45	474.93	1.00
4/5/25 22:28	2.03	22.06	4.70	2105.76	2230.99	1.16	1.45	474.89	1.00
4/5/25 23:28	2.03	22.06	4.70	2105.85	2231.12	1.16	1.45	474.87	1.00
4/6/25 0:28	2.04	22.06	4.70	2105.77	2231.05	1.16	1.45	474.89	1.00
4/6/25 1:28	2.03	22.06	4.70	2106.06	2231.36	1.16	1.45	474.82	1.00
4/6/25 2:28	2.04	22.06	4.70	2105.88	2231.17	1.16	1.45	474.86	1.00
4/6/25 3:28	2.04	22.06	4.70	2105.89	2231.19	1.16	1.45	474.86	1.00
4/6/25 4:28	2.04	22.06	4.70	2105.99	2231.30	1.16	1.45	474.84	1.00
4/6/25 5:28	2.04	22.06	4.70	2105.83	2231.16	1.16	1.45	474.87	1.00
4/6/25 6:28	2.04	22.06	4.70	2106.13	2231.46	1.16	1.45	474.80	1.00
4/6/25 7:28	2.03	22.06	4.70	2105.86	2231.20	1.16	1.45	474.86	1.00
4/6/25 8:28	2.03	22.06	4.70	2105.92	2231.27	1.16	1.45	474.85	1.00
4/6/25 9:28	2.04	22.06	4.70	2105.77	2231.10	1.16	1.45	474.89	1.00
4/6/25 10:28	2.03	22.06	4.70	2105.97	2231.35	1.16	1.45	474.84	1.00
4/6/25 11:28	2.04	22.06	4.70	2106.18	2231.57	1.16	1.45	474.79	1.00
4/6/25 12:28	2.04	22.06	4.70	2106.06	2231.45	1.16	1.45	474.82	1.00
4/6/25 13:28	2.04	22.06	4.71	2106.20	2231.60	1.16	1.45	474.79	1.00
4/6/25 14:28	2.04	22.06	4.71	2106.27	2231.68	1.16	1.45	474.77	1.00
4/6/25 15:28	2.04	22.06	4.71	2105.86	2231.26	1.16	1.45	474.87	1.00
4/6/25 16:28	2.04	22.06	4.71	2106.13	2231.55	1.16	1.45	474.81	1.00
4/6/25 17:28	2.04	22.06	4.71	2106.27	2231.72	1.16	1.45	474.77	1.00
4/6/25 18:28	2.04	22.06	4.71	2106.30	2231.77	1.16	1.45	474.77	1.00
4/6/25 19:28	2.04	22.06	4.71	2106.17	2231.64	1.16	1.45	474.80	1.00
4/6/25 20:28	2.04	22.06	4.71	2106.08	2231.53	1.16	1.45	474.82	1.00
4/6/25 21:28	2.04	22.06	4.70	2106.08	2231.54	1.16	1.45	474.82	1.00
4/6/25 22:28	2.04	22.06	4.71	2106.07	2231.53	1.16	1.45	474.82	1.00
4/6/25 23:28	2.04	22.06	4.71	2105.97	2231.44	1.16	1.45	474.84	1.00
4/7/25 0:28	2.04	22.06	4.70	2106.29	2231.81	1.16	1.45	474.77	1.00
4/7/25 1:28	2.04	22.06	4.70	2106.15	2231.64	1.16	1.45	474.80	1.00
4/7/25 2:28	2.04	22.06	4.70	2106.41	2231.93	1.16	1.45	474.74	1.00
4/7/25 3:28	2.04	22.05	4.70	2106.31	2231.85	1.16	1.45	474.76	1.00
4/7/25 4:28	2.04	22.06	4.71	2106.46	2232.01	1.16	1.45	474.73	1.00
4/7/25 5:28	2.03	22.05	4.70	2106.28	2231.84	1.16	1.45	474.77	1.00
4/7/25 6:28	2.03	22.05	4.70	2106.45	2232.02	1.16	1.45	474.73	1.00
4/7/25 7:28	2.03	22.05	4.70	2106.41	2231.97	1.16	1.45	474.74	1.00
4/7/25 8:28	2.03	22.05	4.70	2106.32	2231.90	1.16	1.45	474.76	1.00
4/7/25 9:28	2.03	22.05	4.70	2106.31	2231.88	1.16	1.45	474.77	1.00
4/7/25 10:28	2.03	22.05	4.69	2106.20	2231.79	1.16	1.45	474.79	1.00
4/7/25 11:28	2.03	22.05	4.70	2106.36	2231.96	1.16	1.45	474.75	1.00
4/7/25 12:28	2.04	22.05	4.70	2106.43	2232.05	1.16	1.45	474.74	1.00
4/7/25 13:28	2.04	22.05	4.70	2106.33	2231.94	1.16	1.45	474.76	1.00
4/7/25 14:28	2.04	22.05	4.70	2106.55	2232.18	1.16	1.45	474.71	1.00
4/7/25 15:28	2.04	22.05	4.70	2106.27	2231.91	1.16	1.45	474.77	1.00
4/7/25 16:28	2.04	22.05	4.70	2106.56	2232.23	1.16	1.45	474.71	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/7/25 17:28	2.03	22.05	4.68	2106.43	2232.09	1.16	1.45	474.74	1.00
4/7/25 18:28	2.02	22.05	4.66	2106.48	2232.16	1.16	1.45	474.73	1.00
4/7/25 19:28	2.01	22.05	4.64	2106.37	2232.05	1.16	1.45	474.75	1.00
4/7/25 20:28	2.00	22.05	4.63	2106.38	2232.04	1.16	1.45	474.75	1.00
4/7/25 21:28	2.00	22.05	4.62	2106.47	2232.17	1.16	1.45	474.73	1.00
4/7/25 22:28	1.99	22.05	4.61	2106.28	2231.96	1.16	1.45	474.77	1.00
4/7/25 23:28	1.99	22.05	4.60	2106.28	2231.97	1.16	1.45	474.77	1.00
4/8/25 0:28	1.99	22.05	4.60	2106.56	2232.27	1.16	1.45	474.71	1.00
4/8/25 1:28	1.99	22.05	4.59	2106.22	2231.90	1.16	1.45	474.78	1.00
4/8/25 2:28	1.99	22.05	4.59	2106.44	2232.16	1.16	1.45	474.73	1.00
4/8/25 3:28	1.98	22.05	4.58	2106.50	2232.23	1.16	1.45	474.72	1.00
4/8/25 4:28	1.98	22.05	4.58	2106.44	2232.21	1.16	1.45	474.73	1.00
4/8/25 5:28	1.98	22.05	4.57	2106.41	2232.13	1.16	1.45	474.74	1.00
4/8/25 6:28	1.98	22.05	4.57	2106.56	2232.30	1.16	1.45	474.71	1.00
4/8/25 7:28	1.98	22.05	4.57	2106.58	2232.34	1.16	1.45	474.70	1.00
4/8/25 8:28	1.98	22.05	4.57	2106.75	2232.52	1.16	1.45	474.67	1.00
4/8/25 9:28	1.98	22.05	4.57	2106.62	2232.41	1.16	1.45	474.69	1.00
4/8/25 10:28	1.98	22.05	4.57	2106.57	2232.35	1.16	1.45	474.71	1.00
4/8/25 11:28	1.98	22.05	4.58	2106.64	2232.43	1.16	1.45	474.69	1.00
4/8/25 12:28	1.98	22.05	4.57	2106.76	2232.58	1.16	1.45	474.66	1.00
4/8/25 13:28	1.98	22.05	4.57	2106.58	2232.41	1.16	1.45	474.70	1.00
4/8/25 14:28	1.98	22.05	4.57	2106.70	2232.54	1.16	1.45	474.68	1.00
4/8/25 15:28	1.98	22.05	4.57	2106.52	2232.34	1.16	1.45	474.72	1.00
4/8/25 16:28	1.98	22.05	4.57	2106.64	2232.49	1.16	1.45	474.69	1.00
4/8/25 17:28	1.97	22.05	4.56	2106.70	2232.57	1.16	1.45	474.68	1.00
4/8/25 18:28	1.98	22.05	4.56	2106.22	2232.07	1.16	1.45	474.78	1.00
4/8/25 19:28	1.98	22.05	4.56	2106.39	2232.26	1.16	1.45	474.75	1.00
4/8/25 20:28	1.98	22.05	4.56	2106.62	2232.51	1.16	1.45	474.69	1.00
4/8/25 21:28	1.97	22.05	4.56	2106.54	2232.42	1.16	1.45	474.71	1.00
4/8/25 22:28	1.97	22.05	4.56	2106.54	2232.40	1.16	1.45	474.71	1.00
4/8/25 23:28	1.97	22.05	4.56	2106.49	2232.40	1.16	1.45	474.72	1.00
4/9/25 0:28	1.97	22.05	4.56	2106.68	2232.61	1.16	1.45	474.68	1.00
4/9/25 1:28	1.98	22.05	4.56	2106.67	2232.60	1.16	1.45	474.68	1.00
4/9/25 2:28	1.97	22.05	4.55	2106.53	2232.47	1.16	1.45	474.71	1.00
4/9/25 3:28	1.97	22.05	4.55	2106.46	2232.37	1.16	1.45	474.73	1.00
4/9/25 4:28	1.97	22.05	4.55	2106.44	2232.35	1.16	1.45	474.74	1.00
4/9/25 5:28	1.97	22.05	4.55	2106.76	2232.73	1.16	1.45	474.66	1.00
4/9/25 6:28	1.97	22.05	4.55	2106.77	2232.75	1.16	1.45	474.66	1.00
4/9/25 7:28	1.97	22.05	4.55	2106.66	2232.65	1.16	1.45	474.68	1.00
4/9/25 8:28	1.97	22.05	4.54	2106.53	2232.52	1.16	1.45	474.71	1.00
4/9/25 9:28	1.97	22.05	4.54	2106.61	2232.60	1.16	1.45	474.70	1.00
4/9/25 10:28	1.97	22.05	4.54	2106.73	2232.73	1.16	1.45	474.67	1.00
4/9/25 11:28	1.97	22.05	4.54	2106.60	2232.60	1.16	1.45	474.70	1.00
4/9/25 12:28	1.97	22.04	4.55	2106.72	2232.75	1.16	1.45	474.67	1.00
4/9/25 13:28	1.97	22.04	4.55	2106.56	2232.59	1.16	1.45	474.71	1.00
4/9/25 14:28	1.97	22.04	4.55	2106.47	2232.50	1.16	1.45	474.73	1.00
4/9/25 15:28	1.97	22.04	4.55	2106.52	2232.56	1.16	1.45	474.72	1.00
4/9/25 16:28	1.97	22.04	4.54	2106.55	2232.59	1.16	1.45	474.71	1.00
4/9/25 17:28	1.97	22.04	4.54	2106.54	2232.57	1.16	1.45	474.71	1.00
4/9/25 18:28	1.97	22.04	4.54	2106.51	2232.57	1.16	1.45	474.72	1.00
4/9/25 19:28	1.97	22.04	4.54	2106.39	2232.44	1.16	1.45	474.75	1.00
4/9/25 20:28	1.97	22.04	4.54	2106.67	2232.73	1.16	1.45	474.68	1.00
4/9/25 21:28	1.96	22.04	4.53	2106.46	2232.54	1.16	1.45	474.73	1.00
4/9/25 22:28	1.96	22.04	4.54	2106.67	2232.76	1.16	1.45	474.68	1.00
4/9/25 23:28	1.96	22.04	4.53	2106.56	2232.67	1.16	1.45	474.71	1.00
4/10/25 0:28	1.96	22.04	4.53	2106.56	2232.67	1.16	1.45	474.71	1.00
4/10/25 1:28	1.96	22.04	4.54	2106.35	2232.46	1.16	1.45	474.75	1.00
4/10/25 2:28	1.96	22.04	4.54	2106.42	2232.55	1.16	1.45	474.74	1.00
4/10/25 3:28	1.96	22.04	4.53	2106.50	2232.63	1.16	1.45	474.72	1.00
4/10/25 4:28	1.96	22.04	4.53	2106.44	2232.57	1.16	1.45	474.73	1.00
4/10/25 5:28	1.96	22.04	4.53	2106.65	2232.82	1.16	1.45	474.69	1.00
4/10/25 6:28	1.96	22.04	4.53	2106.34	2232.50	1.16	1.45	474.76	1.00
4/10/25 7:28	1.96	22.04	4.53	2106.41	2232.59	1.16	1.45	474.74	1.00
4/10/25 8:28	1.96	22.04	4.53	2106.57	2232.74	1.16	1.45	474.71	1.00
4/10/25 9:28	1.96	22.04	4.53	2106.46	2232.63	1.16	1.45	474.73	1.00
4/10/25 10:28	1.96	22.04	4.52	2106.35	2232.51	1.16	1.45	474.76	1.00
4/10/25 11:28	1.96	22.04	4.52	2106.45	2232.64	1.16	1.45	474.73	1.00
4/10/25 12:28	1.96	22.04	4.53	2106.41	2232.61	1.16	1.45	474.74	1.00
4/10/25 13:28	1.96	22.04	4.53	2106.44	2232.67	1.16	1.45	474.73	1.00
4/10/25 14:28	1.96	22.04	4.53	2106.53	2232.74	1.16	1.45	474.71	1.00
4/10/25 15:28	1.96	22.04	4.53	2106.29	2232.51	1.16	1.45	474.77	1.00
4/10/25 16:28	1.96	22.04	4.53	2106.52	2232.78	1.16	1.45	474.72	1.00
4/10/25 17:28	1.96	22.04	4.53	2106.23	2232.47	1.16	1.45	474.78	1.00
4/10/25 18:28	1.96	22.04	4.53	2106.24	2232.51	1.16	1.45	474.78	1.00
4/10/25 19:28	1.96	22.04	4.53	2106.34	2232.60	1.16	1.45	474.76	1.00
4/10/25 20:28	1.96	22.04	4.52	2106.31	2232.58	1.16	1.45	474.76	1.00
4/10/25 21:28	1.96	22.04	4.52	2106.26	2232.52	1.16	1.45	474.77	1.00
4/10/25 22:28	1.96	22.04	4.52	2106.24	2232.51	1.16	1.45	474.78	1.00
4/10/25 23:28	1.96	22.04	4.52	2106.37	2232.67	1.16	1.45	474.75	1.00
4/11/25 0:28	1.95	22.04	4.52	2106.43	2232.74	1.16	1.45	474.74	1.00
4/11/25 1:28	1.96	22.04	4.52	2106.28	2232.59	1.16	1.45	474.77	1.00
4/11/25 2:28	1.96	22.04	4.52	2106.12	2232.42	1.16	1.45	474.81	1.00
4/11/25 3:28	1.96	22.04	4.52	2106.20	2232.49	1.16	1.45	474.79	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/11/25 4:28	1.96	22.04	4.52	2106.19	2232.51	1.16	1.45	474.79	1.00
4/11/25 5:28	1.96	22.04	4.52	2106.23	2232.57	1.16	1.45	474.78	1.00
4/11/25 6:28	1.95	22.04	4.51	2106.30	2232.64	1.16	1.45	474.77	1.00
4/11/25 7:28	1.95	22.04	4.52	2106.18	2232.55	1.16	1.45	474.79	1.00
4/11/25 8:28	1.95	22.04	4.51	2106.46	2232.85	1.16	1.45	474.73	1.00
4/11/25 9:28	1.96	22.04	4.52	2106.39	2232.77	1.16	1.45	474.75	1.00
4/11/25 10:28	1.97	22.04	4.54	2106.18	2232.53	1.16	1.45	474.79	1.00
4/11/25 11:28	1.98	22.04	4.56	2106.31	2232.71	1.16	1.45	474.76	1.00
4/11/25 12:28	1.99	22.04	4.59	2105.97	2232.35	1.16	1.45	474.84	1.00
4/11/25 13:28	2.00	22.04	4.62	2106.31	2232.70	1.16	1.45	474.76	1.00
4/11/25 14:28	2.01	22.04	4.63	2106.16	2232.57	1.16	1.45	474.80	1.00
4/11/25 15:28	2.01	22.04	4.65	2106.11	2232.53	1.16	1.45	474.81	1.00
4/11/25 16:28	2.02	22.03	4.65	2106.09	2232.54	1.16	1.45	474.81	1.00
4/11/25 17:28	2.02	22.04	4.66	2106.25	2232.68	1.16	1.45	474.78	1.00
4/11/25 18:28	2.02	22.03	4.67	2106.03	2232.50	1.16	1.45	474.83	1.00
4/11/25 19:28	2.02	22.03	4.67	2106.06	2232.56	1.16	1.45	474.82	1.00
4/11/25 20:28	2.02	22.03	4.67	2106.05	2232.51	1.16	1.45	474.82	1.00
4/11/25 21:28	2.02	22.03	4.67	2106.33	2232.83	1.16	1.45	474.76	1.00
4/11/25 22:28	2.03	22.03	4.68	2105.96	2232.44	1.16	1.45	474.84	1.00
4/11/25 23:28	2.03	22.03	4.68	2106.25	2232.76	1.16	1.45	474.78	1.00
4/12/25 0:28	2.03	22.03	4.68	2105.75	2232.22	1.16	1.45	474.89	1.00
4/12/25 1:28	2.03	22.03	4.68	2105.98	2232.48	1.16	1.45	474.84	1.00
4/12/25 2:28	2.03	22.03	4.69	2105.87	2232.37	1.16	1.45	474.86	1.00
4/12/25 3:28	2.03	22.03	4.69	2105.73	2232.24	1.16	1.45	474.89	1.00
4/12/25 4:28	2.03	22.03	4.69	2105.96	2232.51	1.16	1.45	474.84	1.00
4/12/25 5:28	2.03	22.03	4.69	2105.79	2232.31	1.16	1.45	474.88	1.00
4/12/25 6:28	2.03	22.03	4.69	2105.92	2232.46	1.16	1.45	474.85	1.00
4/12/25 7:28	2.03	22.03	4.69	2105.88	2232.44	1.16	1.45	474.86	1.00
4/12/25 8:28	2.03	22.03	4.69	2105.91	2232.45	1.16	1.45	474.85	1.00
4/12/25 9:28	2.03	22.03	4.69	2105.95	2232.52	1.16	1.45	474.85	1.00
4/12/25 10:28	2.03	22.03	4.70	2105.86	2232.43	1.16	1.45	474.87	1.00
4/12/25 11:28	2.04	22.03	4.70	2106.25	2232.87	1.16	1.45	474.78	1.00
4/12/25 12:28	2.04	22.03	4.70	2105.88	2232.48	1.16	1.45	474.86	1.00
4/12/25 13:28	2.04	22.03	4.70	2105.79	2232.40	1.16	1.45	474.88	1.00
4/12/25 14:28	2.04	22.03	4.71	2105.85	2232.47	1.16	1.45	474.87	1.00
4/12/25 15:28	2.04	22.03	4.70	2105.81	2232.44	1.16	1.45	474.88	1.00
4/12/25 16:28	2.03	22.03	4.70	2105.69	2232.31	1.16	1.45	474.90	1.00
4/12/25 17:28	2.04	22.03	4.70	2105.56	2232.18	1.16	1.45	474.93	1.00
4/12/25 18:28	2.04	22.03	4.71	2105.58	2232.22	1.16	1.45	474.93	1.00
4/12/25 19:28	2.04	22.03	4.70	2105.65	2232.30	1.16	1.45	474.91	1.00
4/12/25 20:28	2.03	22.03	4.70	2105.76	2232.43	1.16	1.45	474.89	1.00
4/12/25 21:28	2.03	22.03	4.70	2105.77	2232.46	1.16	1.45	474.89	1.00
4/12/25 22:28	2.03	22.03	4.70	2105.62	2232.29	1.16	1.45	474.92	1.00
4/12/25 23:28	2.03	22.03	4.70	2105.61	2232.28	1.16	1.45	474.92	1.00
4/13/25 0:28	2.04	22.03	4.70	2105.47	2232.14	1.16	1.45	474.95	1.00
4/13/25 1:28	2.04	22.03	4.70	2105.56	2232.26	1.16	1.45	474.93	1.00
4/13/25 2:28	2.04	22.03	4.70	2105.60	2232.32	1.16	1.45	474.92	1.00
4/13/25 3:28	2.04	22.03	4.70	2105.58	2232.29	1.16	1.45	474.93	1.00
4/13/25 4:28	2.03	22.03	4.70	2105.36	2232.08	1.16	1.45	474.98	1.00
4/13/25 5:28	2.03	22.03	4.70	2105.39	2232.09	1.16	1.45	474.97	1.00
4/13/25 6:28	2.03	22.03	4.70	2105.48	2232.23	1.16	1.45	474.95	1.00
4/13/25 7:28	2.03	22.03	4.70	2105.59	2232.34	1.16	1.45	474.93	1.00
4/13/25 8:28	2.03	22.03	4.70	2105.25	2231.99	1.16	1.45	475.00	1.00
4/13/25 9:28	2.03	22.03	4.70	2105.36	2232.13	1.16	1.45	474.98	1.00
4/13/25 10:28	2.03	22.03	4.70	2105.22	2231.99	1.16	1.45	475.01	1.00
4/13/25 11:28	2.03	22.03	4.70	2105.33	2232.10	1.16	1.45	474.99	1.00
4/13/25 12:28	2.04	22.03	4.70	2105.13	2231.89	1.16	1.45	475.03	1.00
4/13/25 13:28	2.04	22.03	4.70	2105.27	2232.06	1.16	1.45	475.00	1.00
4/13/25 14:28	2.04	22.03	4.70	2105.17	2231.97	1.16	1.45	475.02	1.00
4/13/25 15:28	2.04	22.03	4.71	2105.11	2231.93	1.16	1.45	475.03	1.00
4/13/25 16:28	2.04	22.03	4.70	2105.03	2231.82	1.16	1.45	475.05	1.00
4/13/25 17:28	2.04	22.03	4.70	2105.11	2231.92	1.16	1.45	475.04	1.00
4/13/25 18:28	2.04	22.02	4.70	2104.80	2231.62	1.16	1.45	475.10	1.00
4/13/25 19:28	2.03	22.03	4.70	2105.06	2231.87	1.16	1.45	475.05	1.00
4/13/25 20:28	2.03	22.02	4.70	2105.17	2232.03	1.16	1.45	475.02	1.00
4/13/25 21:28	2.03	22.02	4.69	2104.87	2231.70	1.16	1.45	475.09	1.00
4/13/25 22:28	2.03	22.02	4.69	2104.70	2231.52	1.16	1.45	475.13	1.00
4/13/25 23:28	2.03	22.02	4.69	2104.94	2231.79	1.16	1.45	475.07	1.00
4/14/25 0:28	2.03	22.02	4.70	2104.98	2231.85	1.16	1.45	475.06	1.00
4/14/25 1:28	2.03	22.02	4.69	2104.76	2231.63	1.16	1.45	475.11	1.00
4/14/25 2:28	2.03	22.02	4.69	2104.81	2231.69	1.16	1.45	475.10	1.00
4/14/25 3:28	2.03	22.02	4.69	2104.79	2231.70	1.16	1.45	475.11	1.00
4/14/25 4:28	2.03	22.02	4.69	2104.56	2231.46	1.16	1.45	475.16	1.00
4/14/25 5:28	2.03	22.02	4.68	2104.73	2231.64	1.16	1.45	475.12	1.00
4/14/25 6:28	2.03	22.02	4.68	2104.66	2231.58	1.16	1.45	475.14	1.00
4/14/25 7:28	2.03	22.02	4.68	2104.86	2231.78	1.16	1.45	475.09	1.00
4/14/25 8:28	2.02	22.02	4.66	2104.69	2231.63	1.16	1.45	475.13	1.00
4/14/25 9:28	2.00	22.02	4.62	2104.75	2231.71	1.16	1.45	475.12	1.00
4/14/25 10:28	1.99	22.02	4.59	2104.52	2231.47	1.16	1.45	475.17	1.00
4/14/25 11:28	1.98	22.02	4.58	2105.00	2231.97	1.16	1.45	475.06	1.00
4/14/25 12:28	1.98	22.02	4.57	2104.68	2231.65	1.16	1.45	475.13	1.00
4/14/25 13:28	1.97	22.02	4.56	2104.96	2231.95	1.16	1.45	475.07	1.00
4/14/25 14:28	1.97	22.02	4.55	2104.49	2231.47	1.16	1.45	475.17	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/14/25 15:28	1.97	22.02	4.54	2104.59	2231.58	1.16	1.45	475.15	1.00
4/14/25 16:28	1.96	22.02	4.53	2104.62	2231.61	1.16	1.45	475.15	1.00
4/14/25 17:28	1.96	22.02	4.54	2104.28	2231.25	1.16	1.45	475.22	1.00
4/14/25 18:28	1.97	22.02	4.55	2104.58	2231.59	1.16	1.45	475.15	1.00
4/14/25 19:28	1.98	22.02	4.57	2104.42	2231.44	1.16	1.45	475.19	1.00
4/14/25 20:28	1.98	22.02	4.58	2104.30	2231.30	1.16	1.45	475.22	1.00
4/14/25 21:28	1.99	22.02	4.59	2104.42	2231.46	1.16	1.45	475.19	1.00
4/14/25 22:28	1.99	22.02	4.59	2104.29	2231.33	1.16	1.45	475.22	1.00
4/14/25 23:28	1.99	22.02	4.60	2104.43	2231.49	1.16	1.45	475.19	1.00
4/15/25 0:28	1.99	22.02	4.61	2104.17	2231.21	1.16	1.45	475.25	1.00
4/15/25 1:28	2.00	22.02	4.61	2104.50	2231.58	1.16	1.45	475.17	1.00
4/15/25 2:28	2.00	22.02	4.61	2104.34	2231.41	1.16	1.45	475.21	1.00
4/15/25 3:28	2.00	22.02	4.61	2104.30	2231.37	1.16	1.45	475.22	1.00
4/15/25 4:28	2.00	22.02	4.62	2104.22	2231.30	1.16	1.45	475.23	1.00
4/15/25 5:28	2.00	22.02	4.62	2104.36	2231.48	1.16	1.45	475.20	1.00
4/15/25 6:28	2.00	22.02	4.62	2104.35	2231.47	1.16	1.45	475.21	1.00
4/15/25 7:28	2.00	22.02	4.62	2104.47	2231.61	1.16	1.45	475.18	1.00
4/15/25 8:28	1.99	22.02	4.60	2104.24	2231.36	1.16	1.45	475.23	1.00
4/15/25 9:28	1.99	22.02	4.60	2104.40	2231.55	1.16	1.45	475.20	1.00
4/15/25 10:28	1.99	22.02	4.61	2104.51	2231.67	1.16	1.45	475.17	1.00
4/15/25 11:28	2.00	22.02	4.63	2104.31	2231.46	1.16	1.45	475.22	1.00
4/15/25 12:28	2.01	22.02	4.64	2104.31	2231.49	1.16	1.45	475.21	1.00
4/15/25 13:28	2.01	22.02	4.65	2103.80	2230.98	1.16	1.45	475.33	1.00
4/15/25 14:28	2.01	22.02	4.65	2104.51	2231.70	1.16	1.45	475.17	1.00
4/15/25 15:28	2.02	22.02	4.66	2104.09	2231.28	1.16	1.45	475.27	1.00
4/15/25 16:28	2.02	22.02	4.66	2103.97	2231.16	1.16	1.45	475.29	1.00
4/15/25 17:28	2.02	22.02	4.66	2103.89	2231.09	1.16	1.45	475.31	1.00
4/15/25 18:28	2.02	22.01	4.67	2103.92	2231.15	1.16	1.45	475.30	1.00
4/15/25 19:28	2.02	22.01	4.66	2103.82	2231.03	1.16	1.45	475.33	1.00
4/15/25 20:28	2.02	22.01	4.66	2103.98	2231.19	1.16	1.45	475.29	1.00
4/15/25 21:28	2.02	22.01	4.66	2103.87	2231.10	1.16	1.45	475.31	1.00
4/15/25 22:28	2.02	22.01	4.66	2103.76	2230.98	1.16	1.45	475.34	1.00
4/15/25 23:28	2.02	22.01	4.66	2103.79	2231.04	1.16	1.45	475.33	1.00
4/16/25 0:28	2.02	22.01	4.67	2103.90	2231.13	1.16	1.45	475.31	1.00
4/16/25 1:28	2.02	22.01	4.67	2103.90	2231.16	1.16	1.45	475.31	1.00
4/16/25 2:28	2.02	22.01	4.67	2103.74	2231.02	1.16	1.45	475.34	1.00
4/16/25 3:28	2.02	22.01	4.67	2103.87	2231.16	1.16	1.45	475.31	1.00
4/16/25 4:28	2.02	22.01	4.67	2103.81	2231.10	1.16	1.45	475.33	1.00
4/16/25 5:28	2.02	22.01	4.67	2103.66	2230.95	1.16	1.45	475.36	1.00
4/16/25 6:28	2.02	22.01	4.67	2103.55	2230.85	1.16	1.45	475.39	1.00
4/16/25 7:28	2.02	22.01	4.67	2103.47	2230.77	1.16	1.45	475.40	1.00
4/16/25 8:28	2.02	22.01	4.67	2103.59	2230.90	1.16	1.45	475.38	1.00
4/16/25 9:28	2.02	22.01	4.67	2103.60	2230.93	1.16	1.45	475.38	1.00
4/16/25 10:28	2.02	22.01	4.68	2103.76	2231.08	1.16	1.45	475.34	1.00
4/16/25 11:28	2.03	22.01	4.68	2103.39	2230.72	1.16	1.45	475.42	1.00
4/16/25 12:28	2.03	22.01	4.68	2103.14	2230.46	1.16	1.45	475.48	1.00
4/16/25 13:28	2.03	22.01	4.68	2103.22	2230.57	1.16	1.45	475.46	1.00
4/16/25 14:28	2.03	22.01	4.69	2103.24	2230.58	1.16	1.45	475.46	1.00
4/16/25 15:28	2.03	22.01	4.69	2103.15	2230.51	1.16	1.45	475.48	1.00
4/16/25 16:28	2.03	22.01	4.69	2103.04	2230.41	1.16	1.45	475.50	1.00
4/16/25 17:28	2.03	22.01	4.68	2102.87	2230.24	1.16	1.45	475.54	1.00
4/16/25 18:28	2.02	22.01	4.67	2102.77	2230.13	1.16	1.45	475.56	1.00
4/16/25 19:28	2.02	22.01	4.68	2102.94	2230.31	1.16	1.45	475.52	1.00
4/16/25 20:28	2.02	22.01	4.67	2102.86	2230.25	1.16	1.45	475.54	1.00
4/16/25 21:28	2.02	22.01	4.67	2102.88	2230.27	1.16	1.45	475.54	1.00
4/16/25 22:28	2.02	22.01	4.67	2102.74	2230.13	1.16	1.45	475.57	1.00
4/16/25 23:28	2.02	22.01	4.67	2102.62	2230.02	1.16	1.45	475.60	1.00
4/17/25 0:28	2.02	22.01	4.67	2102.75	2230.17	1.16	1.45	475.57	1.00
4/17/25 1:28	2.02	22.01	4.67	2102.73	2230.16	1.16	1.45	475.57	1.00
4/17/25 2:28	2.02	22.01	4.67	2102.88	2230.33	1.16	1.45	475.54	1.00
4/17/25 3:28	2.02	22.01	4.67	2102.68	2230.13	1.16	1.45	475.58	1.00
4/17/25 4:28	2.02	22.01	4.67	2102.68	2230.13	1.16	1.45	475.58	1.00
4/17/25 5:28	2.02	22.01	4.67	2102.74	2230.20	1.16	1.45	475.57	1.00
4/17/25 6:28	2.02	22.01	4.67	2102.34	2229.78	1.16	1.45	475.66	1.00
4/17/25 7:28	2.02	22.01	4.67	2102.54	2230.02	1.16	1.45	475.61	1.00
4/17/25 8:28	2.02	22.01	4.66	2102.29	2229.75	1.16	1.45	475.67	1.00
4/17/25 9:28	2.02	22.01	4.66	2102.60	2230.10	1.16	1.45	475.60	1.00
4/17/25 10:28	2.02	22.01	4.67	2102.40	2229.90	1.16	1.45	475.65	1.00
4/17/25 11:28	2.03	22.01	4.69	2102.19	2229.68	1.16	1.45	475.70	1.00
4/17/25 12:28	2.03	22.01	4.68	2102.38	2229.89	1.16	1.45	475.65	1.00
4/17/25 13:28	2.03	22.01	4.69	2102.20	2229.69	1.16	1.45	475.69	1.00
4/17/25 14:28	2.03	22.01	4.68	2102.15	2229.68	1.16	1.45	475.70	1.00
4/17/25 15:28	2.02	22.01	4.67	2102.23	2229.78	1.16	1.45	475.69	1.00
4/17/25 16:28	2.03	22.01	4.69	2102.00	2229.52	1.16	1.45	475.74	1.00
4/17/25 17:28	2.03	22.00	4.70	2102.15	2229.70	1.16	1.45	475.70	1.00
4/17/25 18:28	2.03	22.01	4.68	2101.92	2229.46	1.16	1.45	475.75	1.00
4/17/25 19:28	2.02	22.00	4.67	2101.91	2229.45	1.16	1.45	475.76	1.00
4/17/25 20:28	2.02	22.00	4.66	2101.97	2229.53	1.16	1.45	475.74	1.00
4/17/25 21:28	2.02	22.00	4.67	2101.78	2229.33	1.16	1.45	475.79	1.00
4/17/25 22:28	2.02	22.00	4.66	2101.91	2229.47	1.16	1.45	475.76	1.00
4/17/25 23:28	2.02	22.00	4.66	2101.67	2229.22	1.16	1.45	475.81	1.00
4/18/25 0:28	2.02	22.00	4.67	2101.82	2229.41	1.16	1.45	475.78	1.00
4/18/25 1:28	2.02	22.00	4.66	2101.73	2229.33	1.16	1.45	475.80	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/18/25 2:28	2.02	22.00	4.66	2101.73	2229.34	1.16	1.45	475.80	1.00
4/18/25 3:28	2.02	22.00	4.66	2101.89	2229.53	1.16	1.45	475.76	1.00
4/18/25 4:28	2.02	22.00	4.66	2101.54	2229.14	1.16	1.45	475.84	1.00
4/18/25 5:28	2.01	22.00	4.65	2101.63	2229.26	1.16	1.45	475.82	1.00
4/18/25 6:28	2.01	22.00	4.65	2101.38	2229.00	1.16	1.45	475.88	1.00
4/18/25 7:28	2.01	22.00	4.65	2101.43	2229.06	1.16	1.45	475.87	1.00
4/18/25 8:28	2.01	22.00	4.65	2101.68	2229.33	1.16	1.45	475.81	1.00
4/18/25 9:28	2.01	22.00	4.65	2101.50	2229.15	1.16	1.45	475.85	1.00
4/18/25 10:28	2.01	22.00	4.65	2101.51	2229.17	1.16	1.45	475.85	1.00
4/18/25 11:28	2.01	22.00	4.65	2101.46	2229.15	1.16	1.45	475.86	1.00
4/18/25 12:28	2.02	22.00	4.66	2101.55	2229.25	1.16	1.45	475.84	1.00
4/18/25 13:28	2.02	22.00	4.66	2101.50	2229.19	1.16	1.45	475.85	1.00
4/18/25 14:28	2.02	22.00	4.66	2101.47	2229.17	1.16	1.45	475.86	1.00
4/18/25 15:28	2.02	22.00	4.66	2101.39	2229.09	1.16	1.45	475.88	1.00
4/18/25 16:28	2.02	22.00	4.66	2101.28	2229.02	1.16	1.45	475.90	1.00
4/18/25 17:28	2.01	22.00	4.65	2101.07	2228.80	1.16	1.45	475.95	1.00
4/18/25 18:28	2.01	22.00	4.65	2101.17	2228.89	1.16	1.45	475.93	1.00
4/18/25 19:28	2.02	22.00	4.66	2101.16	2228.92	1.16	1.45	475.93	1.00
4/18/25 20:28	2.01	22.00	4.64	2101.28	2229.04	1.16	1.45	475.90	1.00
4/18/25 21:28	2.01	22.00	4.64	2100.98	2228.73	1.16	1.45	475.97	1.00
4/18/25 22:28	2.01	22.00	4.64	2100.95	2228.68	1.16	1.45	475.98	1.00
4/18/25 23:28	2.01	22.00	4.63	2100.80	2228.57	1.16	1.45	476.01	1.00
4/19/25 0:28	2.01	22.00	4.64	2100.91	2228.68	1.16	1.45	475.98	1.00
4/19/25 1:28	2.01	22.00	4.64	2100.87	2228.66	1.16	1.45	475.99	1.00
4/19/25 2:28	2.01	22.00	4.63	2100.69	2228.47	1.16	1.45	476.03	1.00
4/19/25 3:28	2.01	22.00	4.64	2100.78	2228.56	1.16	1.45	476.01	1.00
4/19/25 4:28	2.00	22.00	4.63	2100.85	2228.64	1.16	1.45	476.00	1.00
4/19/25 5:28	2.00	22.00	4.63	2100.62	2228.41	1.16	1.45	476.05	1.00
4/19/25 6:28	2.00	22.00	4.63	2100.81	2228.64	1.16	1.45	476.01	1.00
4/19/25 7:28	2.00	22.00	4.62	2100.62	2228.43	1.16	1.45	476.05	1.00
4/19/25 8:28	2.00	22.00	4.62	2100.67	2228.49	1.16	1.45	476.04	1.00
4/19/25 9:28	2.00	22.00	4.63	2100.66	2228.49	1.16	1.45	476.04	1.00
4/19/25 10:28	2.00	22.00	4.63	2100.64	2228.49	1.16	1.45	476.05	1.00
4/19/25 11:28	2.00	22.00	4.63	2100.68	2228.56	1.16	1.45	476.04	1.00
4/19/25 12:28	2.01	22.00	4.64	2100.45	2228.33	1.16	1.45	476.09	1.00
4/19/25 13:28	2.01	22.00	4.63	2100.60	2228.49	1.16	1.45	476.05	1.00
4/19/25 14:28	2.01	22.00	4.64	2100.65	2228.56	1.16	1.45	476.04	1.00
4/19/25 15:28	2.01	22.00	4.64	2100.39	2228.28	1.16	1.45	476.10	1.00
4/19/25 16:28	2.01	21.99	4.64	2100.47	2228.39	1.16	1.45	476.08	1.00
4/19/25 17:28	2.01	21.99	4.63	2100.42	2228.34	1.16	1.45	476.09	1.00
4/19/25 18:28	2.00	21.99	4.63	2100.56	2228.50	1.16	1.45	476.06	1.00
4/19/25 19:28	2.00	21.99	4.63	2100.42	2228.36	1.16	1.45	476.10	1.00
4/19/25 20:28	2.00	21.99	4.62	2100.29	2228.21	1.16	1.45	476.13	1.00
4/19/25 21:28	2.00	21.99	4.63	2100.30	2228.24	1.16	1.45	476.12	1.00
4/19/25 22:28	2.00	21.99	4.62	2100.32	2228.27	1.16	1.45	476.12	1.00
4/19/25 23:28	2.00	21.99	4.62	2099.92	2227.84	1.16	1.45	476.21	1.00
4/20/25 0:28	2.00	21.99	4.62	2100.23	2228.22	1.16	1.45	476.14	1.00
4/20/25 1:28	2.00	21.99	4.62	2100.01	2227.97	1.16	1.45	476.19	1.00
4/20/25 2:28	2.00	21.99	4.62	2100.21	2228.19	1.16	1.45	476.14	1.00
4/20/25 3:28	2.00	21.99	4.62	2100.10	2228.09	1.16	1.45	476.17	1.00
4/20/25 4:28	2.00	21.99	4.62	2100.26	2228.26	1.16	1.45	476.13	1.00
4/20/25 5:28	2.00	21.99	4.62	2100.15	2228.18	1.16	1.45	476.16	1.00
4/20/25 6:28	2.00	21.99	4.61	2100.02	2228.03	1.16	1.45	476.19	1.00
4/20/25 7:28	2.00	21.99	4.62	2100.17	2228.20	1.16	1.45	476.15	1.00
4/20/25 8:28	2.00	21.99	4.62	2099.95	2227.97	1.16	1.45	476.20	1.00
4/20/25 9:28	2.00	21.99	4.62	2100.01	2228.06	1.16	1.45	476.19	1.00
4/20/25 10:28	2.00	21.99	4.61	2099.97	2228.02	1.16	1.45	476.20	1.00
4/20/25 11:28	2.00	21.99	4.62	2099.86	2227.93	1.16	1.45	476.22	1.00
4/20/25 12:28	2.00	21.99	4.62	2099.91	2227.99	1.16	1.45	476.21	1.00
4/20/25 13:28	2.00	21.99	4.62	2099.90	2227.97	1.16	1.45	476.21	1.00
4/20/25 14:28	2.00	21.99	4.62	2099.70	2227.79	1.16	1.45	476.26	1.00
4/20/25 15:28	2.00	21.99	4.63	2099.74	2227.81	1.16	1.45	476.25	1.00
4/20/25 16:28	2.00	21.99	4.62	2099.82	2227.92	1.16	1.45	476.23	1.00
4/20/25 17:28	2.00	21.99	4.63	2099.78	2227.91	1.16	1.45	476.24	1.00
4/20/25 18:28	2.00	21.99	4.63	2099.72	2227.81	1.16	1.45	476.25	1.00
4/20/25 19:28	2.00	21.99	4.62	2099.63	2227.73	1.16	1.45	476.27	1.00
4/20/25 20:28	2.00	21.99	4.62	2099.66	2227.78	1.16	1.45	476.27	1.00
4/20/25 21:28	2.00	21.99	4.62	2099.75	2227.91	1.16	1.45	476.25	1.00
4/20/25 22:28	2.00	21.99	4.61	2099.65	2227.80	1.16	1.45	476.27	1.00
4/20/25 23:28	2.00	21.99	4.61	2099.60	2227.75	1.16	1.45	476.28	1.00
4/21/25 0:28	2.00	21.99	4.61	2099.59	2227.75	1.16	1.45	476.28	1.00
4/21/25 1:28	2.00	21.99	4.61	2099.81	2227.98	1.16	1.45	476.23	1.00
4/21/25 2:28	1.99	21.99	4.61	2099.75	2227.94	1.16	1.45	476.25	1.00
4/21/25 3:28	2.00	21.99	4.61	2099.75	2227.95	1.16	1.45	476.25	1.00
4/21/25 4:28	2.00	21.99	4.61	2099.74	2227.95	1.16	1.45	476.25	1.00
4/21/25 5:28	1.99	21.99	4.61	2099.40	2227.61	1.16	1.45	476.33	1.00
4/21/25 6:28	1.99	21.99	4.60	2099.59	2227.81	1.16	1.45	476.28	1.00
4/21/25 7:28	1.99	21.99	4.61	2099.69	2227.93	1.16	1.45	476.26	1.00
4/21/25 8:28	1.99	21.99	4.60	2099.65	2227.89	1.16	1.45	476.27	1.00
4/21/25 9:28	1.99	21.99	4.61	2099.34	2227.58	1.16	1.45	476.34	1.00
4/21/25 10:28	2.00	21.99	4.61	2099.45	2227.69	1.16	1.45	476.32	1.00
4/21/25 11:28	1.99	21.99	4.61	2099.37	2227.62	1.16	1.45	476.33	1.00
4/21/25 12:28	2.00	21.99	4.61	2099.35	2227.59	1.16	1.45	476.34	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/21/25 13:28	2.00	21.99	4.62	2099.42	2227.69	1.16	1.45	476.32	1.00
4/21/25 14:28	2.00	21.99	4.62	2099.11	2227.38	1.15	1.45	476.39	1.00
4/21/25 15:28	2.00	21.98	4.62	2099.21	2227.51	1.16	1.45	476.37	1.00
4/21/25 16:28	2.00	21.98	4.62	2099.15	2227.46	1.16	1.45	476.38	1.00
4/21/25 17:28	2.00	21.98	4.62	2099.23	2227.53	1.16	1.45	476.36	1.00
4/21/25 18:28	2.00	21.98	4.62	2099.21	2227.54	1.16	1.45	476.37	1.00
4/21/25 19:28	2.00	21.98	4.61	2099.21	2227.53	1.16	1.45	476.37	1.00
4/21/25 20:28	2.00	21.98	4.61	2099.04	2227.36	1.15	1.45	476.41	1.00
4/21/25 21:28	1.99	21.98	4.60	2098.86	2227.21	1.15	1.45	476.45	1.00
4/21/25 22:28	2.00	21.98	4.61	2098.84	2227.18	1.15	1.45	476.45	1.00
4/21/25 23:28	1.99	21.98	4.61	2099.06	2227.42	1.16	1.45	476.40	1.00
4/22/25 0:28	1.99	21.98	4.61	2099.11	2227.47	1.16	1.45	476.39	1.00
4/22/25 1:28	2.00	21.98	4.61	2099.12	2227.49	1.16	1.45	476.39	1.00
4/22/25 2:28	2.00	21.98	4.61	2098.84	2227.20	1.15	1.45	476.45	1.00
4/22/25 3:28	2.00	21.98	4.61	2098.85	2227.21	1.15	1.45	476.45	1.00
4/22/25 4:28	2.00	21.98	4.61	2098.86	2227.25	1.15	1.45	476.45	1.00
4/22/25 5:28	1.99	21.98	4.60	2099.01	2227.44	1.16	1.45	476.41	1.00
4/22/25 6:28	1.99	21.98	4.60	2098.73	2227.15	1.15	1.45	476.48	1.00
4/22/25 7:28	1.99	21.98	4.60	2098.92	2227.35	1.15	1.45	476.43	1.00
4/22/25 8:28	1.99	21.98	4.60	2098.75	2227.18	1.15	1.45	476.47	1.00
4/22/25 9:28	1.99	21.98	4.60	2098.66	2227.09	1.15	1.45	476.50	1.00
4/22/25 10:28	1.99	21.98	4.60	2098.75	2227.19	1.15	1.45	476.47	1.00
4/22/25 11:28	1.99	21.98	4.60	2098.72	2227.19	1.15	1.45	476.48	1.00
4/22/25 12:28	1.99	21.98	4.59	2098.68	2227.14	1.15	1.45	476.49	1.00
4/22/25 13:28	1.98	21.98	4.56	2098.59	2227.09	1.15	1.45	476.51	1.00
4/22/25 14:28	1.97	21.98	4.55	2098.71	2227.20	1.15	1.45	476.48	1.00
4/22/25 15:28	1.96	21.98	4.54	2098.87	2227.37	1.15	1.45	476.45	1.00
4/22/25 16:28	1.96	21.98	4.53	2098.92	2227.41	1.16	1.45	476.44	1.00
4/22/25 17:28	1.96	21.98	4.52	2100.59	2229.21	1.16	1.45	476.06	1.00
4/22/25 18:28	1.96	21.98	4.52	2100.42	2229.03	1.16	1.45	476.10	1.00
4/22/25 19:28	1.95	21.98	4.51	2100.46	2229.06	1.16	1.45	476.09	1.00
4/22/25 20:28	1.95	21.98	4.50	2100.37	2229.00	1.16	1.45	476.11	1.00
4/22/25 21:28	1.95	21.98	4.50	2100.28	2228.92	1.16	1.45	476.13	1.00
4/22/25 22:28	1.95	21.98	4.49	2100.22	2228.86	1.16	1.45	476.14	1.00
4/22/25 23:28	1.95	21.98	4.49	2100.03	2228.67	1.16	1.45	476.18	1.00
4/23/25 0:28	1.95	21.98	4.49	2100.35	2229.02	1.16	1.45	476.11	1.00
4/23/25 1:28	1.95	21.98	4.49	2100.24	2228.92	1.16	1.45	476.14	1.00
4/23/25 2:28	1.94	21.98	4.49	2099.98	2228.64	1.16	1.45	476.19	1.00
4/23/25 3:28	1.94	21.98	4.49	2099.95	2228.64	1.16	1.45	476.20	1.00
4/23/25 4:28	1.94	21.98	4.49	2099.87	2228.54	1.16	1.45	476.22	1.00
4/23/25 5:28	1.94	21.98	4.49	2099.85	2228.54	1.16	1.45	476.22	1.00
4/23/25 6:28	1.94	21.98	4.48	2099.89	2228.59	1.16	1.45	476.21	1.00
4/23/25 7:28	1.94	21.98	4.48	2099.57	2228.23	1.16	1.45	476.29	1.00
4/23/25 8:28	1.94	21.98	4.48	2099.71	2228.41	1.16	1.45	476.26	1.00
4/23/25 9:28	1.94	21.98	4.47	2099.51	2228.21	1.16	1.45	476.30	1.00
4/23/25 10:28	1.94	21.98	4.48	2099.39	2228.12	1.16	1.45	476.33	1.00
4/23/25 11:28	1.94	21.98	4.48	2099.23	2227.93	1.16	1.45	476.37	1.00
4/23/25 12:28	1.94	21.98	4.48	2099.36	2228.07	1.16	1.45	476.34	1.00
4/23/25 13:28	1.94	21.97	4.48	2099.41	2228.15	1.16	1.45	476.32	1.00
4/23/25 14:28	1.94	21.97	4.48	2099.09	2227.83	1.16	1.45	476.40	1.00
4/23/25 15:28	1.94	21.97	4.49	2099.22	2227.98	1.16	1.45	476.37	1.00
4/23/25 16:28	1.94	21.97	4.48	2099.12	2227.88	1.16	1.45	476.39	1.00
4/23/25 17:28	1.94	21.97	4.48	2098.87	2227.61	1.16	1.45	476.45	1.00
4/23/25 18:28	1.94	21.97	4.48	2098.87	2227.62	1.16	1.45	476.45	1.00
4/23/25 19:28	1.94	21.97	4.48	2098.81	2227.57	1.16	1.45	476.46	1.00
4/23/25 20:28	1.94	21.97	4.47	2098.94	2227.70	1.16	1.45	476.43	1.00
4/23/25 21:28	1.93	21.97	4.47	2098.70	2227.45	1.16	1.45	476.48	1.00
4/23/25 22:28	1.94	21.97	4.48	2098.67	2227.45	1.16	1.45	476.49	1.00
4/23/25 23:28	1.94	21.97	4.47	2098.35	2227.11	1.15	1.45	476.57	1.00
4/24/25 0:28	1.94	21.97	4.47	2098.49	2227.27	1.15	1.45	476.53	1.00
4/24/25 1:28	1.94	21.97	4.47	2098.64	2227.44	1.16	1.45	476.50	1.00
4/24/25 2:28	1.94	21.97	4.47	2098.53	2227.32	1.15	1.45	476.52	1.00
4/24/25 3:28	1.93	21.97	4.47	2098.31	2227.10	1.15	1.45	476.57	1.00
4/24/25 4:28	1.93	21.97	4.47	2098.39	2227.19	1.15	1.45	476.56	1.00
4/24/25 5:28	1.93	21.97	4.47	2098.62	2227.44	1.16	1.45	476.50	1.00
4/24/25 6:28	1.93	21.97	4.46	2098.34	2227.18	1.15	1.45	476.57	1.00
4/24/25 7:28	1.93	21.97	4.46	2098.43	2227.26	1.15	1.45	476.55	1.00
4/24/25 8:28	1.93	21.97	4.46	2098.15	2227.01	1.15	1.45	476.61	1.00
4/24/25 9:28	1.93	21.97	4.46	2098.14	2226.99	1.15	1.45	476.61	1.00
4/24/25 10:28	1.93	21.97	4.47	2098.16	2227.01	1.15	1.45	476.61	1.00
4/24/25 11:28	1.93	21.97	4.46	2097.90	2226.74	1.15	1.45	476.67	1.00
4/24/25 12:28	1.93	21.97	4.47	2097.96	2226.83	1.15	1.45	476.65	1.00
4/24/25 13:28	1.94	21.97	4.47	2097.97	2226.84	1.15	1.45	476.65	1.00
4/24/25 14:28	1.94	21.97	4.47	2097.89	2226.78	1.15	1.45	476.67	1.00
4/24/25 15:28	1.94	21.97	4.47	2097.60	2226.46	1.15	1.45	476.74	1.00
4/24/25 16:28	1.94	21.97	4.47	2097.70	2226.57	1.15	1.45	476.71	1.00
4/24/25 17:28	1.93	21.97	4.46	2097.50	2226.38	1.15	1.45	476.76	1.00
4/24/25 18:28	1.93	21.97	4.46	2097.55	2226.44	1.15	1.45	476.75	1.00
4/24/25 19:28	1.93	21.97	4.46	2097.39	2226.28	1.15	1.45	476.78	1.00
4/24/25 20:28	1.93	21.97	4.46	2097.58	2226.49	1.15	1.45	476.74	1.00
4/24/25 21:28	1.93	21.97	4.46	2097.40	2226.31	1.15	1.45	476.78	1.00
4/24/25 22:28	1.93	21.97	4.46	2097.57	2226.51	1.15	1.45	476.74	1.00
4/24/25 23:28	1.93	21.97	4.46	2097.29	2226.21	1.15	1.45	476.81	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/25/25 0:28	1.93	21.97	4.46	2097.39	2226.33	1.15	1.45	476.78	1.00
4/25/25 1:28	1.93	21.97	4.46	2097.12	2226.04	1.15	1.45	476.85	1.00
4/25/25 2:28	1.93	21.97	4.46	2097.14	2226.07	1.15	1.45	476.84	1.00
4/25/25 3:28	1.93	21.97	4.46	2097.28	2226.24	1.15	1.45	476.81	1.00
4/25/25 4:28	1.93	21.97	4.46	2096.92	2225.88	1.15	1.45	476.89	1.00
4/25/25 5:28	1.93	21.97	4.46	2096.96	2225.92	1.15	1.45	476.88	1.00
4/25/25 6:28	1.93	21.97	4.45	2096.91	2225.87	1.15	1.45	476.89	1.00
4/25/25 7:28	1.93	21.97	4.45	2096.91	2225.88	1.15	1.45	476.89	1.00
4/25/25 8:28	1.93	21.97	4.45	2097.08	2226.07	1.15	1.45	476.85	1.00
4/25/25 9:28	1.93	21.97	4.45	2096.86	2225.84	1.15	1.45	476.90	1.00
4/25/25 10:28	1.93	21.97	4.45	2096.86	2225.84	1.15	1.45	476.90	1.00
4/25/25 11:28	1.93	21.97	4.45	2096.67	2225.67	1.15	1.45	476.95	1.00
4/25/25 12:28	1.93	21.97	4.46	2096.42	2225.41	1.15	1.45	477.00	1.00
4/25/25 13:28	1.93	21.96	4.46	2096.69	2225.72	1.15	1.45	476.94	1.00
4/25/25 14:28	1.93	21.97	4.46	2096.49	2225.47	1.15	1.45	476.99	1.00
4/25/25 15:28	1.93	21.96	4.46	2096.23	2225.22	1.15	1.45	477.05	1.00
4/25/25 16:28	1.94	21.96	4.47	2096.46	2225.47	1.15	1.45	476.99	1.00
4/25/25 17:28	1.93	21.96	4.46	2096.41	2225.43	1.15	1.45	477.01	1.00
4/25/25 18:28	1.93	21.96	4.46	2096.19	2225.23	1.15	1.45	477.06	1.00
4/25/25 19:28	1.93	21.96	4.46	2096.17	2225.21	1.15	1.45	477.06	1.00
4/25/25 20:28	1.93	21.96	4.46	2096.13	2225.18	1.15	1.45	477.07	1.00
4/25/25 21:28	1.93	21.96	4.46	2096.05	2225.11	1.15	1.45	477.09	1.00
4/25/25 22:28	1.93	21.96	4.46	2095.76	2224.80	1.15	1.45	477.15	1.00
4/25/25 23:28	1.93	21.96	4.45	2095.74	2224.78	1.15	1.45	477.16	1.00
4/26/25 0:28	1.93	21.96	4.46	2095.86	2224.93	1.15	1.45	477.13	1.00
4/26/25 1:28	1.93	21.96	4.45	2095.73	2224.80	1.15	1.45	477.16	1.00
4/26/25 2:28	1.93	21.96	4.45	2095.56	2224.61	1.15	1.45	477.20	1.00
4/26/25 3:28	1.93	21.96	4.45	2095.51	2224.57	1.15	1.45	477.21	1.00
4/26/25 4:28	1.93	21.96	4.45	2095.53	2224.61	1.15	1.45	477.21	1.00
4/26/25 5:28	1.93	21.96	4.45	2095.40	2224.48	1.15	1.45	477.24	1.00
4/26/25 6:28	1.93	21.96	4.45	2095.47	2224.55	1.15	1.45	477.22	1.00
4/26/25 7:28	1.92	21.96	4.44	2095.31	2224.41	1.15	1.45	477.26	1.00
4/26/25 8:28	1.93	21.96	4.45	2095.38	2224.48	1.15	1.45	477.24	1.00
4/26/25 9:28	1.93	21.96	4.45	2095.23	2224.34	1.15	1.45	477.28	1.00
4/26/25 10:28	1.93	21.96	4.45	2095.21	2224.33	1.15	1.45	477.28	1.00
4/26/25 11:28	1.93	21.96	4.45	2095.23	2224.36	1.15	1.45	477.27	1.00
4/26/25 12:28	1.93	21.96	4.45	2095.18	2224.31	1.15	1.45	477.28	1.00
4/26/25 13:28	1.93	21.96	4.45	2094.96	2224.08	1.15	1.45	477.34	1.00
4/26/25 14:28	1.93	21.96	4.45	2094.83	2223.96	1.15	1.45	477.36	1.00
4/26/25 15:28	1.93	21.96	4.46	2094.86	2224.00	1.15	1.45	477.36	1.00
4/26/25 16:28	1.93	21.96	4.46	2094.62	2223.76	1.15	1.45	477.41	1.00
4/26/25 17:28	1.93	21.96	4.46	2094.64	2223.80	1.15	1.45	477.41	1.00
4/26/25 18:28	1.93	21.96	4.47	2094.50	2223.66	1.15	1.45	477.44	1.00
4/26/25 19:28	1.93	21.96	4.47	2094.51	2223.66	1.15	1.45	477.44	1.00
4/26/25 20:28	1.92	21.96	4.45	2094.49	2223.66	1.15	1.45	477.44	1.00
4/26/25 21:28	1.92	21.96	4.44	2094.29	2223.47	1.15	1.45	477.49	1.00
4/26/25 22:28	1.92	21.96	4.44	2094.52	2223.73	1.15	1.45	477.44	1.00
4/26/25 23:28	1.93	21.96	4.45	2094.51	2223.70	1.15	1.45	477.44	1.00
4/27/25 0:28	1.92	21.96	4.44	2094.35	2223.55	1.15	1.45	477.48	1.00
4/27/25 1:28	1.93	21.96	4.45	2094.36	2223.57	1.15	1.45	477.47	1.00
4/27/25 2:28	1.93	21.96	4.45	2094.25	2223.46	1.15	1.45	477.50	1.00
4/27/25 3:28	1.93	21.96	4.45	2094.25	2223.46	1.15	1.45	477.50	1.00
4/27/25 4:28	1.93	21.96	4.45	2094.31	2223.53	1.15	1.45	477.49	1.00
4/27/25 5:28	1.93	21.96	4.45	2094.12	2223.36	1.15	1.45	477.53	1.00
4/27/25 6:28	1.92	21.96	4.44	2093.98	2223.21	1.15	1.45	477.56	1.00
4/27/25 7:28	1.92	21.96	4.44	2093.82	2223.06	1.15	1.44	477.60	1.00
4/27/25 8:28	1.92	21.96	4.44	2093.60	2222.83	1.15	1.44	477.65	1.00
4/27/25 9:28	1.92	21.96	4.44	2093.66	2222.91	1.15	1.44	477.63	1.00
4/27/25 10:28	1.93	21.96	4.45	2093.56	2222.80	1.15	1.44	477.65	1.00
4/27/25 11:28	1.93	21.96	4.45	2093.68	2222.93	1.15	1.44	477.63	1.00
4/27/25 12:28	1.93	21.96	4.46	2093.60	2222.86	1.15	1.44	477.65	1.00
4/27/25 13:28	1.93	21.96	4.46	2093.35	2222.59	1.15	1.44	477.70	1.00
4/27/25 14:28	1.94	21.96	4.48	2093.22	2222.47	1.15	1.44	477.73	1.00
4/27/25 15:28	1.93	21.95	4.45	2093.07	2222.34	1.15	1.44	477.77	1.00
4/27/25 16:28	1.93	21.95	4.46	2092.90	2222.14	1.15	1.44	477.81	1.00
4/27/25 17:28	1.93	21.95	4.46	2092.81	2222.08	1.15	1.44	477.83	1.00
4/27/25 18:28	1.93	21.95	4.46	2092.67	2221.93	1.15	1.44	477.86	1.00
4/27/25 19:28	1.93	21.95	4.45	2092.88	2222.15	1.15	1.44	477.81	1.00
4/27/25 20:28	1.93	21.95	4.45	2092.72	2221.99	1.15	1.44	477.85	1.00
4/27/25 21:28	1.92	21.95	4.44	2092.60	2221.89	1.15	1.44	477.88	1.00
4/27/25 22:28	1.92	21.95	4.44	2092.63	2221.92	1.15	1.44	477.87	1.00
4/27/25 23:28	1.92	21.95	4.44	2092.62	2221.93	1.15	1.44	477.87	1.00
4/28/25 0:28	1.92	21.95	4.44	2092.78	2222.10	1.15	1.44	477.83	1.00
4/28/25 1:28	1.92	21.95	4.44	2092.63	2221.93	1.15	1.44	477.87	1.00
4/28/25 2:28	1.92	21.95	4.44	2092.52	2221.87	1.15	1.44	477.89	1.00
4/28/25 3:28	1.92	21.95	4.44	2092.32	2221.65	1.15	1.44	477.94	1.00
4/28/25 4:28	1.92	21.95	4.44	2092.08	2221.40	1.15	1.44	477.99	1.00
4/28/25 5:28	1.92	21.95	4.43	2092.21	2221.54	1.15	1.44	477.96	1.00
4/28/25 6:28	1.92	21.95	4.43	2092.36	2221.72	1.15	1.44	477.93	1.00
4/28/25 7:28	1.92	21.95	4.43	2092.16	2221.53	1.15	1.44	477.97	1.00
4/28/25 8:28	1.92	21.95	4.43	2092.45	2221.80	1.15	1.44	477.91	1.00
4/28/25 9:28	1.92	21.95	4.43	2092.05	2221.39	1.15	1.44	478.00	1.00
4/28/25 10:28	1.92	21.95	4.44	2092.02	2221.39	1.15	1.44	478.01	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/28/25 11:28	1.92	21.95	4.44	2091.72	2221.08	1.15	1.44	478.07	1.00
4/28/25 12:28	1.92	21.95	4.44	2091.49	2220.84	1.15	1.44	478.13	1.00
4/28/25 13:28	1.92	21.95	4.45	2091.60	2220.96	1.15	1.44	478.10	1.00
4/28/25 14:28	1.92	21.95	4.44	2091.48	2220.84	1.15	1.44	478.13	1.00
4/28/25 15:28	1.93	21.95	4.45	2091.43	2220.82	1.15	1.44	478.14	1.00
4/28/25 16:28	1.93	21.95	4.45	2091.23	2220.59	1.15	1.44	478.19	1.00
4/28/25 17:28	1.92	21.95	4.44	2091.10	2220.48	1.15	1.44	478.22	1.00
4/28/25 18:28	1.92	21.95	4.45	2091.09	2220.46	1.15	1.44	478.22	1.00
4/28/25 19:28	1.92	21.95	4.43	2091.17	2220.56	1.15	1.44	478.20	1.00
4/28/25 20:28	1.92	21.95	4.43	2091.14	2220.55	1.15	1.44	478.21	1.00
4/28/25 21:28	1.92	21.95	4.43	2090.84	2220.21	1.15	1.44	478.28	1.00
4/28/25 22:28	1.92	21.95	4.43	2091.16	2220.60	1.15	1.44	478.20	1.00
4/28/25 23:28	1.92	21.95	4.43	2090.82	2220.25	1.15	1.44	478.28	1.00
4/29/25 0:28	1.92	21.95	4.43	2090.84	2220.24	1.15	1.44	478.28	1.00
4/29/25 1:28	1.92	21.95	4.43	2090.90	2220.35	1.15	1.44	478.26	1.00
4/29/25 2:28	1.92	21.95	4.43	2090.43	2219.85	1.15	1.44	478.37	1.00
4/29/25 3:28	1.92	21.95	4.43	2090.73	2220.14	1.15	1.44	478.30	1.00
4/29/25 4:28	1.92	21.95	4.43	2090.43	2219.86	1.15	1.44	478.37	1.00
4/29/25 5:28	1.92	21.95	4.43	2090.45	2219.89	1.15	1.44	478.37	1.00
4/29/25 6:28	1.91	21.95	4.42	2090.36	2219.81	1.15	1.44	478.39	1.00
4/29/25 7:28	1.91	21.95	4.42	2090.32	2219.79	1.15	1.44	478.39	1.00
4/29/25 8:28	1.92	21.95	4.43	2090.24	2219.69	1.15	1.44	478.41	1.00
4/29/25 9:28	1.91	21.95	4.42	2090.24	2219.71	1.15	1.44	478.41	1.00
4/29/25 10:28	1.92	21.95	4.43	2090.37	2219.87	1.15	1.44	478.38	1.00
4/29/25 11:28	1.92	21.95	4.43	2090.08	2219.55	1.15	1.44	478.45	1.00
4/29/25 12:28	1.92	21.95	4.43	2090.29	2219.77	1.15	1.44	478.40	1.00
4/29/25 13:28	1.92	21.95	4.43	2089.78	2219.25	1.15	1.44	478.52	1.00
4/29/25 14:28	1.92	21.95	4.43	2089.68	2219.16	1.15	1.44	478.54	1.00
4/29/25 15:28	1.92	21.94	4.44	2089.73	2219.22	1.15	1.44	478.53	1.00
4/29/25 16:28	1.92	21.94	4.44	2089.25	2218.72	1.15	1.44	478.64	1.00
4/29/25 17:28	1.92	21.94	4.44	2089.29	2218.77	1.15	1.44	478.63	1.00
4/29/25 18:28	1.92	21.94	4.44	2089.14	2218.61	1.15	1.44	478.67	1.00
4/29/25 19:28	1.92	21.94	4.43	2089.43	2218.93	1.15	1.44	478.60	1.00
4/29/25 20:28	1.91	21.94	4.42	2089.44	2218.94	1.15	1.44	478.60	1.00
4/29/25 21:28	1.91	21.94	4.42	2089.30	2218.82	1.15	1.44	478.63	1.00
4/29/25 22:28	1.92	21.94	4.43	2089.01	2218.51	1.15	1.44	478.70	1.00
4/29/25 23:28	1.92	21.94	4.42	2088.98	2218.52	1.15	1.44	478.70	1.00
4/30/25 0:28	1.92	21.94	4.43	2089.10	2218.63	1.15	1.44	478.67	1.00
4/30/25 1:28	1.92	21.94	4.43	2089.05	2218.60	1.15	1.44	478.69	1.00
4/30/25 2:28	1.92	21.94	4.43	2088.88	2218.40	1.15	1.44	478.72	1.00
4/30/25 3:28	1.92	21.94	4.42	2088.77	2218.31	1.15	1.44	478.75	1.00
4/30/25 4:28	1.92	21.94	4.42	2088.75	2218.29	1.15	1.44	478.75	1.00
4/30/25 5:28	1.92	21.94	4.43	2088.58	2218.14	1.15	1.44	478.80	1.00
4/30/25 6:28	1.91	21.94	4.42	2088.69	2218.27	1.15	1.44	478.77	1.00
4/30/25 7:28	1.92	21.94	4.42	2088.58	2218.16	1.15	1.44	478.79	1.00
4/30/25 8:28	1.92	21.94	4.43	2088.69	2218.27	1.15	1.44	478.77	1.00
4/30/25 9:28	1.92	21.94	4.44	2088.36	2217.93	1.15	1.44	478.84	1.00
4/30/25 10:28	1.93	21.94	4.47	2088.41	2217.99	1.15	1.44	478.83	1.00
4/30/25 11:28	1.95	21.94	4.49	2088.34	2217.92	1.15	1.44	478.85	1.00
4/30/25 12:28	1.95	21.94	4.51	2088.35	2217.94	1.15	1.44	478.85	1.00
4/30/25 13:28	1.96	21.94	4.53	2087.91	2217.49	1.15	1.44	478.95	1.00
4/30/25 14:28	1.96	21.94	4.54	2088.12	2217.72	1.15	1.44	478.90	1.00
4/30/25 15:28	1.97	21.94	4.54	2087.81	2217.41	1.15	1.44	478.97	1.00
4/30/25 16:28	1.97	21.94	4.55	2087.96	2217.59	1.15	1.44	478.94	1.00
4/30/25 17:28	1.97	21.94	4.56	2087.79	2217.39	1.15	1.44	478.98	1.00
4/30/25 18:28	1.98	21.94	4.57	2087.74	2217.36	1.15	1.44	478.99	1.00
4/30/25 19:28	1.98	21.94	4.56	2087.57	2217.20	1.15	1.44	479.03	1.00
4/30/25 20:28	1.98	21.94	4.56	2087.69	2217.32	1.15	1.44	479.00	1.00
4/30/25 21:28	1.98	21.94	4.56	2087.46	2217.10	1.15	1.44	479.05	1.00
4/30/25 22:28	1.98	21.94	4.57	2087.54	2217.22	1.15	1.44	479.03	1.00
4/30/25 23:28	1.98	21.94	4.57	2087.38	2217.04	1.15	1.44	479.07	1.00
5/1/25 0:28	1.98	21.94	4.58	2087.34	2216.98	1.15	1.44	479.08	1.00
5/1/25 1:28	1.99	21.94	4.59	2087.64	2217.32	1.15	1.44	479.01	1.00
5/1/25 2:28	1.98	21.94	4.58	2087.30	2216.98	1.15	1.44	479.09	1.00
5/1/25 3:28	1.98	21.94	4.58	2087.42	2217.10	1.15	1.44	479.06	1.00
5/1/25 4:28	1.98	21.94	4.58	2087.24	2216.92	1.15	1.44	479.10	1.00
5/1/25 5:28	1.98	21.94	4.58	2087.15	2216.84	1.15	1.44	479.12	1.00
5/1/25 6:28	1.98	21.94	4.58	2087.14	2216.83	1.15	1.44	479.12	1.00
5/1/25 7:28	1.98	21.94	4.58	2087.27	2217.01	1.15	1.44	479.09	1.00
5/1/25 8:28	1.98	21.94	4.58	2087.12	2216.83	1.15	1.44	479.13	1.00
5/1/25 9:28	1.98	21.94	4.58	2087.01	2216.72	1.15	1.44	479.15	1.00
5/1/25 10:28	1.98	21.94	4.58	2086.87	2216.60	1.15	1.44	479.19	1.00
5/1/25 11:28	1.99	21.94	4.60	2087.08	2216.84	1.15	1.44	479.14	1.00
5/1/25 12:28	1.99	21.94	4.60	2086.83	2216.56	1.15	1.44	479.20	1.00
5/1/25 13:28	1.99	21.93	4.60	2086.94	2216.72	1.15	1.44	479.17	1.00
5/1/25 14:28	1.99	21.94	4.60	2086.55	2216.28	1.15	1.44	479.26	1.00
5/1/25 15:28	1.99	21.93	4.60	2086.52	2216.28	1.15	1.44	479.27	1.00
5/1/25 16:28	1.99	21.93	4.60	2086.25	2216.00	1.15	1.44	479.33	1.00
5/1/25 17:28	2.00	21.93	4.61	2086.22	2215.98	1.15	1.44	479.34	1.00
5/1/25 18:28	2.00	21.93	4.61	2086.15	2215.93	1.15	1.44	479.35	1.00
5/1/25 19:28	1.99	21.93	4.60	2086.03	2215.78	1.15	1.44	479.38	1.00
5/1/25 20:28	1.99	21.93	4.60	2085.89	2215.67	1.15	1.44	479.41	1.00
5/1/25 21:28	1.99	21.93	4.60	2086.04	2215.84	1.15	1.44	479.38	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/1/25 22:28	1.99	21.93	4.60	2085.75	2215.53	1.15	1.44	479.44	1.00
5/1/25 23:28	1.99	21.93	4.60	2085.86	2215.69	1.15	1.44	479.42	1.00
5/2/25 0:28	1.99	21.93	4.60	2085.88	2215.69	1.15	1.44	479.41	1.00
5/2/25 1:28	1.99	21.93	4.60	2085.79	2215.61	1.15	1.44	479.43	1.00
5/2/25 2:28	1.99	21.93	4.60	2085.65	2215.46	1.15	1.44	479.47	1.00
5/2/25 3:28	1.99	21.93	4.60	2085.70	2215.52	1.15	1.44	479.46	1.00
5/2/25 4:28	1.99	21.93	4.59	2085.64	2215.47	1.15	1.44	479.47	1.00
5/2/25 5:28	1.99	21.93	4.60	2085.65	2215.47	1.15	1.44	479.47	1.00
5/2/25 6:28	1.99	21.93	4.59	2085.76	2215.63	1.15	1.44	479.44	1.00
5/2/25 7:28	1.99	21.93	4.59	2085.54	2215.41	1.15	1.44	479.49	1.00
5/2/25 8:28	1.99	21.93	4.59	2085.61	2215.48	1.15	1.44	479.48	1.00
5/2/25 9:28	1.99	21.93	4.59	2085.71	2215.60	1.15	1.44	479.45	1.00
5/2/25 10:28	1.99	21.93	4.59	2085.58	2215.49	1.15	1.44	479.48	1.00
5/2/25 11:28	1.99	21.93	4.59	2085.72	2215.62	1.15	1.44	479.45	1.00
5/2/25 12:28	1.99	21.93	4.59	2085.30	2215.19	1.15	1.44	479.55	1.00
5/2/25 13:28	1.99	21.93	4.59	2085.23	2215.14	1.15	1.44	479.56	1.00
5/2/25 14:28	1.99	21.93	4.60	2085.30	2215.22	1.15	1.44	479.55	1.00
5/2/25 15:28	1.99	21.93	4.60	2085.24	2215.18	1.15	1.44	479.56	1.00
5/2/25 16:28	1.99	21.93	4.60	2085.31	2215.25	1.15	1.44	479.54	1.00
5/2/25 17:28	1.99	21.93	4.60	2085.10	2215.02	1.15	1.44	479.59	1.00
5/2/25 18:28	1.99	21.93	4.60	2085.18	2215.14	1.15	1.44	479.57	1.00
5/2/25 19:28	1.99	21.93	4.59	2084.98	2214.94	1.15	1.44	479.62	1.00
5/2/25 20:28	1.99	21.93	4.59	2085.27	2215.25	1.15	1.44	479.55	1.00
5/2/25 21:28	1.99	21.93	4.59	2084.98	2214.95	1.15	1.44	479.62	1.00
5/2/25 22:28	1.99	21.93	4.59	2085.02	2215.01	1.15	1.44	479.61	1.00
5/2/25 23:28	1.99	21.93	4.59	2085.02	2215.01	1.15	1.44	479.61	1.00
5/3/25 0:28	1.99	21.93	4.59	2085.21	2215.24	1.15	1.44	479.57	1.00
5/3/25 1:28	1.99	21.93	4.59	2085.01	2215.01	1.15	1.44	479.61	1.00
5/3/25 2:28	1.99	21.93	4.59	2085.05	2215.09	1.15	1.44	479.60	1.00
5/3/25 3:28	1.99	21.93	4.59	2084.98	2214.99	1.15	1.44	479.62	1.00
5/3/25 4:28	1.99	21.93	4.59	2084.72	2214.75	1.15	1.44	479.68	1.00
5/3/25 5:28	1.99	21.93	4.59	2084.84	2214.87	1.15	1.44	479.65	1.00
5/3/25 6:28	1.99	21.93	4.59	2084.60	2214.65	1.15	1.44	479.71	1.00
5/3/25 7:28	1.99	21.93	4.59	2084.62	2214.64	1.15	1.44	479.70	1.00
5/3/25 8:28	1.99	21.93	4.59	2084.43	2214.48	1.15	1.44	479.75	1.00
5/3/25 9:28	1.99	21.92	4.59	2084.46	2214.53	1.15	1.44	479.74	1.00
5/3/25 10:28	1.99	21.93	4.59	2084.67	2214.74	1.15	1.44	479.69	1.00
5/3/25 11:28	1.99	21.92	4.60	2084.55	2214.64	1.15	1.44	479.72	1.00
5/3/25 12:28	1.99	21.92	4.60	2084.28	2214.35	1.15	1.44	479.78	1.00
5/3/25 13:28	1.99	21.92	4.60	2084.29	2214.36	1.15	1.44	479.78	1.00
5/3/25 14:28	1.99	21.92	4.61	2083.91	2213.99	1.15	1.44	479.87	1.00
5/3/25 15:28	1.99	21.92	4.61	2083.79	2213.87	1.15	1.44	479.90	1.00
5/3/25 16:28	1.99	21.92	4.61	2083.83	2213.94	1.15	1.44	479.89	1.00
5/3/25 17:28	2.00	21.92	4.61	2083.71	2213.80	1.15	1.44	479.91	1.00
5/3/25 18:28	2.00	21.92	4.62	2083.73	2213.84	1.15	1.44	479.91	1.00
5/3/25 19:28	2.00	21.92	4.61	2083.71	2213.82	1.15	1.44	479.91	1.00
5/3/25 20:28	1.99	21.92	4.60	2083.42	2213.52	1.15	1.44	479.98	1.00
5/3/25 21:28	1.99	21.92	4.60	2083.69	2213.83	1.15	1.44	479.92	1.00
5/3/25 22:28	1.99	21.92	4.60	2083.52	2213.66	1.15	1.44	479.96	1.00
5/3/25 23:28	1.99	21.92	4.60	2083.39	2213.49	1.15	1.44	479.99	1.00
5/4/25 0:28	1.99	21.92	4.60	2083.04	2213.14	1.15	1.44	480.07	1.00
5/4/25 1:28	1.99	21.92	4.60	2083.31	2213.48	1.15	1.44	480.01	1.00
5/4/25 2:28	1.99	21.92	4.60	2083.07	2213.20	1.15	1.44	480.06	1.00
5/4/25 3:28	1.99	21.92	4.61	2083.03	2213.19	1.15	1.44	480.07	1.00
5/4/25 4:28	1.99	21.92	4.60	2082.89	2213.04	1.15	1.44	480.10	1.00
5/4/25 5:28	1.99	21.92	4.60	2082.87	2213.02	1.15	1.44	480.11	1.00
5/4/25 6:28	2.00	21.92	4.61	2082.69	2212.85	1.15	1.44	480.15	1.00
5/4/25 7:28	2.00	21.92	4.61	2082.84	2213.02	1.15	1.44	480.11	1.00
5/4/25 8:28	1.99	21.92	4.60	2082.95	2213.14	1.15	1.44	480.09	1.00
5/4/25 9:28	1.99	21.92	4.61	2082.82	2213.01	1.15	1.44	480.12	1.00
5/4/25 10:28	2.00	21.92	4.61	2082.56	2212.76	1.15	1.44	480.18	1.00
5/4/25 11:28	2.00	21.92	4.61	2082.35	2212.53	1.15	1.44	480.23	1.00
5/4/25 12:28	2.00	21.92	4.61	2082.05	2212.23	1.15	1.44	480.30	1.00
5/4/25 13:28	2.00	21.92	4.61	2082.10	2212.29	1.15	1.44	480.28	1.00
5/4/25 14:28	2.00	21.92	4.61	2082.02	2212.24	1.15	1.44	480.30	1.00
5/4/25 15:28	2.00	21.92	4.61	2081.99	2212.21	1.15	1.44	480.31	1.00
5/4/25 16:28	2.00	21.92	4.62	2081.83	2212.02	1.15	1.44	480.35	1.00
5/4/25 17:28	1.99	21.92	4.61	2081.98	2212.21	1.15	1.44	480.31	1.00
5/4/25 18:28	1.99	21.92	4.61	2081.59	2211.81	1.15	1.44	480.40	1.00
5/4/25 19:28	2.00	21.92	4.61	2081.66	2211.90	1.15	1.44	480.39	1.00
5/4/25 20:28	1.99	21.92	4.60	2081.48	2211.71	1.15	1.44	480.43	1.00
5/4/25 21:28	1.99	21.92	4.61	2081.53	2211.77	1.15	1.44	480.42	1.00
5/4/25 22:28	1.99	21.92	4.61	2081.79	2212.06	1.15	1.44	480.36	1.00
5/4/25 23:28	2.00	21.92	4.61	2081.45	2211.73	1.15	1.44	480.43	1.00
5/5/25 0:28	2.00	21.92	4.61	2081.46	2211.73	1.15	1.44	480.43	1.00
5/5/25 1:28	2.00	21.92	4.62	2081.48	2211.74	1.15	1.44	480.43	1.00
5/5/25 2:28	2.00	21.92	4.62	2081.15	2211.42	1.15	1.44	480.50	1.00
5/5/25 3:28	2.00	21.92	4.61	2081.14	2211.42	1.15	1.44	480.51	1.00
5/5/25 4:28	2.00	21.92	4.61	2081.45	2211.77	1.15	1.44	480.43	1.00
5/5/25 5:28	2.00	21.91	4.61	2081.11	2211.42	1.15	1.44	480.51	1.00
5/5/25 6:28	1.99	21.92	4.61	2081.10	2211.38	1.15	1.44	480.52	1.00
5/5/25 7:28	1.99	21.91	4.61	2080.64	2210.94	1.15	1.44	480.62	1.00
5/5/25 8:28	1.99	21.91	4.59	2080.86	2211.17	1.15	1.44	480.57	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/5/25 9:28	1.98	21.91	4.58	2080.48	2210.80	1.15	1.44	480.66	1.00
5/5/25 10:28	1.99	21.91	4.59	2080.75	2211.09	1.15	1.44	480.60	1.00
5/5/25 11:28	1.99	21.91	4.59	2080.62	2210.95	1.15	1.44	480.63	1.00
5/5/25 12:28	1.99	21.91	4.60	2080.41	2210.72	1.15	1.44	480.68	1.00
5/5/25 13:28	1.99	21.91	4.60	2080.63	2210.98	1.15	1.44	480.62	1.00
5/5/25 14:28	1.98	21.91	4.57	2080.19	2210.54	1.15	1.44	480.72	1.00
5/5/25 15:28	1.97	21.91	4.55	2080.09	2210.42	1.15	1.44	480.75	1.00
5/5/25 16:28	1.96	21.91	4.52	2079.68	2210.00	1.15	1.44	480.84	1.00
5/5/25 17:28	1.95	21.91	4.51	2079.84	2210.18	1.15	1.44	480.81	1.00
5/5/25 18:28	1.95	21.91	4.50	2079.89	2210.25	1.15	1.44	480.79	1.00
5/5/25 19:28	1.94	21.91	4.49	2079.65	2209.98	1.15	1.44	480.85	1.00
5/5/25 20:28	1.94	21.91	4.48	2079.66	2210.01	1.15	1.44	480.85	1.00
5/5/25 21:28	1.94	21.91	4.49	2079.63	2209.97	1.15	1.44	480.86	1.00
5/5/25 22:28	1.93	21.91	4.46	2079.60	2209.98	1.15	1.44	480.86	1.00
5/5/25 23:28	1.93	21.91	4.47	2079.64	2210.02	1.15	1.44	480.85	1.00
5/6/25 0:28	1.93	21.91	4.45	2079.54	2209.91	1.15	1.44	480.87	1.00
5/6/25 1:28	1.93	21.91	4.46	2079.48	2209.88	1.15	1.44	480.89	1.00
5/6/25 2:28	1.93	21.91	4.46	2079.39	2209.78	1.15	1.44	480.91	1.00
5/6/25 3:28	1.93	21.91	4.45	2079.23	2209.62	1.15	1.44	480.95	1.00
5/6/25 4:28	1.92	21.91	4.44	2079.35	2209.77	1.15	1.44	480.92	1.00
5/6/25 5:28	1.92	21.91	4.44	2079.54	2209.97	1.15	1.44	480.88	1.00
5/6/25 6:28	1.92	21.91	4.44	2079.05	2209.45	1.15	1.44	480.99	1.00
5/6/25 7:28	1.92	21.91	4.44	2079.34	2209.79	1.15	1.44	480.92	1.00
5/6/25 8:28	1.92	21.91	4.44	2079.22	2209.68	1.15	1.44	480.95	1.00
5/6/25 9:28	1.92	21.91	4.44	2079.08	2209.53	1.15	1.44	480.98	1.00
5/6/25 10:28	1.92	21.91	4.43	2079.34	2209.81	1.15	1.44	480.92	1.00
5/6/25 11:28	1.92	21.91	4.44	2078.97	2209.43	1.15	1.44	481.01	1.00
5/6/25 12:28	1.92	21.91	4.44	2079.19	2209.67	1.15	1.44	480.96	1.00
5/6/25 13:28	1.92	21.91	4.44	2078.91	2209.37	1.15	1.44	481.02	1.00
5/6/25 14:28	1.92	21.91	4.43	2078.67	2209.12	1.15	1.44	481.08	1.00
5/6/25 15:28	1.92	21.91	4.44	2078.70	2209.18	1.15	1.44	481.07	1.00
5/6/25 16:28	1.92	21.91	4.43	2078.56	2209.02	1.14	1.44	481.10	1.00
5/6/25 17:28	1.92	21.91	4.43	2078.59	2209.07	1.14	1.44	481.09	1.00
5/6/25 18:28	1.92	21.91	4.43	2078.91	2209.43	1.15	1.44	481.02	1.00
5/6/25 19:28	1.91	21.91	4.42	2078.70	2209.21	1.15	1.44	481.07	1.00
5/6/25 20:28	1.91	21.91	4.42	2078.62	2209.12	1.14	1.44	481.09	1.00
5/6/25 21:28	1.91	21.91	4.42	2078.74	2209.26	1.15	1.44	481.06	1.00
5/6/25 22:28	1.91	21.91	4.42	2078.64	2209.16	1.15	1.44	481.08	1.00
5/6/25 23:28	1.91	21.91	4.41	2078.61	2209.15	1.15	1.44	481.09	1.00
5/7/25 0:28	1.91	21.91	4.41	2078.69	2209.23	1.15	1.44	481.07	1.00
5/7/25 1:28	1.91	21.91	4.41	2078.67	2209.22	1.15	1.44	481.08	1.00
5/7/25 2:28	1.91	21.91	4.42	2078.47	2209.03	1.14	1.44	481.12	1.00
5/7/25 3:28	1.91	21.91	4.41	2078.47	2209.03	1.14	1.44	481.12	1.00
5/7/25 4:28	1.91	21.91	4.42	2078.60	2209.18	1.15	1.44	481.09	1.00
5/7/25 5:28	1.91	21.91	4.41	2078.61	2209.20	1.15	1.44	481.09	1.00
5/7/25 6:28	1.91	21.90	4.41	2078.50	2209.11	1.14	1.44	481.12	1.00
5/7/25 7:28	1.91	21.90	4.41	2078.30	2208.90	1.14	1.44	481.16	1.00
5/7/25 8:28	1.91	21.90	4.41	2078.57	2209.18	1.15	1.44	481.10	1.00
5/7/25 9:28	1.91	21.90	4.41	2078.41	2209.06	1.14	1.44	481.14	1.00
5/7/25 10:28	1.92	21.90	4.43	2078.54	2209.19	1.15	1.44	481.11	1.00
5/7/25 11:28	1.93	21.90	4.45	2078.43	2209.07	1.14	1.44	481.13	1.00
5/7/25 12:28	1.94	21.90	4.48	2078.33	2208.97	1.14	1.44	481.16	1.00
5/7/25 13:28	1.95	21.90	4.50	2078.23	2208.89	1.14	1.44	481.18	1.00
5/7/25 14:28	1.95	21.90	4.51	2078.31	2208.98	1.14	1.44	481.16	1.00
5/7/25 15:28	1.96	21.90	4.53	2078.33	2209.01	1.14	1.44	481.15	1.00
5/7/25 16:28	1.96	21.90	4.54	2078.09	2208.76	1.14	1.44	481.21	1.00
5/7/25 17:28	1.96	21.90	4.53	2078.02	2208.69	1.14	1.44	481.23	1.00
5/7/25 18:28	1.97	21.90	4.54	2078.15	2208.82	1.14	1.44	481.20	1.00
5/7/25 19:28	1.97	21.90	4.55	2078.09	2208.78	1.14	1.44	481.21	1.00
5/7/25 20:28	1.97	21.90	4.55	2078.13	2208.83	1.14	1.44	481.20	1.00
5/7/25 21:28	1.97	21.90	4.55	2078.40	2209.14	1.15	1.44	481.14	1.00
5/7/25 22:28	1.97	21.90	4.55	2078.34	2209.08	1.14	1.44	481.15	1.00
5/7/25 23:28	1.97	21.90	4.55	2078.06	2208.79	1.14	1.44	481.22	1.00
5/8/25 0:28	1.97	21.90	4.56	2078.19	2208.92	1.14	1.44	481.19	1.00
5/8/25 1:28	1.97	21.90	4.56	2078.26	2209.02	1.14	1.44	481.17	1.00
5/8/25 2:28	1.97	21.90	4.56	2078.23	2208.99	1.14	1.44	481.18	1.00
5/8/25 3:28	1.98	21.90	4.56	2078.20	2209.00	1.14	1.44	481.19	1.00
5/8/25 4:28	1.97	21.90	4.56	2078.02	2208.81	1.14	1.44	481.23	1.00
5/8/25 5:28	1.97	21.90	4.56	2078.13	2208.94	1.14	1.44	481.20	1.00
5/8/25 6:28	1.97	21.90	4.56	2078.44	2209.28	1.15	1.44	481.13	1.00
5/8/25 7:28	1.97	21.90	4.56	2078.27	2209.13	1.15	1.44	481.17	1.00
5/8/25 8:28	1.98	21.90	4.56	2078.15	2208.98	1.14	1.44	481.20	1.00
5/8/25 9:28	1.98	21.90	4.57	2078.31	2209.16	1.15	1.44	481.16	1.00
5/8/25 10:28	1.98	21.90	4.57	2078.07	2208.93	1.14	1.44	481.22	1.00
5/8/25 11:28	1.98	21.90	4.57	2078.04	2208.92	1.14	1.44	481.22	1.00
5/8/25 12:28	1.98	21.90	4.58	2077.89	2208.75	1.14	1.44	481.26	1.00
5/8/25 13:28	1.98	21.90	4.58	2078.02	2208.90	1.14	1.44	481.23	1.00
5/8/25 14:28	1.98	21.90	4.58	2077.80	2208.67	1.14	1.44	481.28	1.00
5/8/25 15:28	1.98	21.90	4.58	2077.84	2208.75	1.14	1.44	481.27	1.00
5/8/25 16:28	1.98	21.90	4.58	2077.75	2208.64	1.14	1.44	481.29	1.00
5/8/25 17:28	1.98	21.90	4.57	2077.86	2208.75	1.14	1.44	481.26	1.00
5/8/25 18:28	1.98	21.90	4.57	2077.67	2208.59	1.14	1.44	481.31	1.00
5/8/25 19:28	1.98	21.90	4.58	2077.51	2208.41	1.14	1.44	481.35	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/8/25 20:28	1.98	21.90	4.57	2077.89	2208.80	1.14	1.44	481.26	1.00
5/8/25 21:28	1.98	21.90	4.57	2077.71	2208.65	1.14	1.44	481.30	1.00
5/8/25 22:28	1.98	21.90	4.58	2077.85	2208.79	1.14	1.44	481.27	1.00
5/8/25 23:28	1.98	21.90	4.57	2077.67	2208.63	1.14	1.44	481.31	1.00
5/9/25 0:28	1.98	21.90	4.57	2077.44	2208.40	1.14	1.44	481.36	1.00
5/9/25 1:28	1.98	21.90	4.57	2077.62	2208.58	1.14	1.44	481.32	1.00
5/9/25 2:28	1.98	21.89	4.58	2077.64	2208.63	1.14	1.44	481.32	1.00
5/9/25 3:28	1.98	21.89	4.58	2077.50	2208.48	1.14	1.44	481.35	1.00
5/9/25 4:28	1.98	21.89	4.58	2077.46	2208.47	1.14	1.44	481.36	1.00
5/9/25 5:28	1.98	21.89	4.58	2077.43	2208.44	1.14	1.44	481.36	1.00
5/9/25 6:28	1.98	21.89	4.57	2077.52	2208.55	1.14	1.44	481.34	1.00
5/9/25 7:28	1.98	21.89	4.57	2077.56	2208.59	1.14	1.44	481.33	1.00
5/9/25 8:28	1.98	21.89	4.57	2077.45	2208.50	1.14	1.44	481.36	1.00
5/9/25 9:28	1.98	21.89	4.57	2077.63	2208.70	1.14	1.44	481.32	1.00
5/9/25 10:28	1.98	21.89	4.57	2077.85	2208.90	1.14	1.44	481.27	1.00
5/9/25 11:28	1.98	21.89	4.57	2077.43	2208.47	1.14	1.44	481.36	1.00
5/9/25 12:28	1.98	21.89	4.58	2077.44	2208.50	1.14	1.44	481.36	1.00
5/9/25 13:28	1.98	21.89	4.58	2077.39	2208.47	1.14	1.44	481.37	1.00
5/9/25 14:28	1.98	21.89	4.58	2077.22	2208.30	1.14	1.44	481.41	1.00
5/9/25 15:28	1.98	21.89	4.58	2077.20	2208.30	1.14	1.44	481.42	1.00
5/9/25 16:28	1.98	21.89	4.58	2077.38	2208.50	1.14	1.44	481.38	1.00
5/9/25 17:28	1.98	21.89	4.58	2076.90	2208.00	1.14	1.44	481.49	1.00
5/9/25 18:28	1.99	21.89	4.59	2076.89	2208.01	1.14	1.44	481.49	1.00
5/9/25 19:28	1.98	21.89	4.58	2077.27	2208.39	1.14	1.44	481.40	1.00
5/9/25 20:28	1.98	21.89	4.58	2077.25	2208.38	1.14	1.44	481.41	1.00
5/9/25 21:28	1.98	21.89	4.57	2077.23	2208.38	1.14	1.44	481.41	1.00
5/9/25 22:28	1.98	21.89	4.57	2077.33	2208.51	1.14	1.44	481.39	1.00
5/9/25 23:28	1.98	21.89	4.58	2077.46	2208.66	1.14	1.44	481.36	1.00
5/10/25 0:28	1.98	21.89	4.58	2077.43	2208.62	1.14	1.44	481.36	1.00
5/10/25 1:28	1.98	21.89	4.58	2077.64	2208.88	1.14	1.44	481.32	1.00
5/10/25 2:28	1.98	21.89	4.58	2077.39	2208.62	1.14	1.44	481.37	1.00
5/10/25 3:28	1.98	21.89	4.58	2077.47	2208.71	1.14	1.44	481.35	1.00
5/10/25 4:28	1.98	21.89	4.58	2077.21	2208.45	1.14	1.44	481.41	1.00
5/10/25 5:28	1.98	21.89	4.58	2077.26	2208.51	1.14	1.44	481.40	1.00
5/10/25 6:28	1.98	21.89	4.57	2077.68	2208.94	1.14	1.44	481.31	1.00
5/10/25 7:28	1.98	21.89	4.58	2077.49	2208.77	1.14	1.44	481.35	1.00
5/10/25 8:28	1.98	21.89	4.58	2077.33	2208.60	1.14	1.44	481.39	1.00
5/10/25 9:28	1.98	21.89	4.58	2077.50	2208.80	1.14	1.44	481.35	1.00
5/10/25 10:28	1.98	21.89	4.58	2077.38	2208.68	1.14	1.44	481.37	1.00
5/10/25 11:28	1.98	21.89	4.58	2077.36	2208.66	1.14	1.44	481.38	1.00
5/10/25 12:28	1.98	21.89	4.58	2077.39	2208.71	1.14	1.44	481.37	1.00
5/10/25 13:28	1.98	21.89	4.58	2077.26	2208.59	1.14	1.44	481.40	1.00
5/10/25 14:28	1.99	21.89	4.59	2077.28	2208.61	1.14	1.44	481.40	1.00
5/10/25 15:28	1.99	21.89	4.59	2077.37	2208.73	1.14	1.44	481.38	1.00
5/10/25 16:28	1.99	21.89	4.59	2077.34	2208.71	1.14	1.44	481.39	1.00
5/10/25 17:28	1.99	21.89	4.59	2077.43	2208.81	1.14	1.44	481.36	1.00
5/10/25 18:28	1.99	21.89	4.59	2077.25	2208.62	1.14	1.44	481.41	1.00
5/10/25 19:28	1.99	21.89	4.59	2077.32	2208.71	1.14	1.44	481.39	1.00
5/10/25 20:28	1.98	21.89	4.58	2077.54	2208.95	1.14	1.44	481.34	1.00
5/10/25 21:28	1.98	21.89	4.58	2077.47	2208.89	1.14	1.44	481.35	1.00
5/10/25 22:28	1.98	21.89	4.58	2077.70	2209.13	1.14	1.44	481.30	1.00
5/10/25 23:28	1.98	21.88	4.58	2077.57	2209.00	1.14	1.44	481.33	1.00
5/11/25 0:28	1.98	21.88	4.58	2077.62	2209.06	1.14	1.44	481.32	1.00
5/11/25 1:28	1.98	21.88	4.58	2077.53	2209.01	1.14	1.44	481.34	1.00
5/11/25 2:28	1.98	21.88	4.58	2077.71	2209.19	1.15	1.44	481.30	1.00
5/11/25 3:28	1.98	21.88	4.58	2077.67	2209.18	1.15	1.44	481.31	1.00
5/11/25 4:28	1.98	21.88	4.58	2077.85	2209.35	1.15	1.44	481.27	1.00
5/11/25 5:28	1.98	21.88	4.58	2077.75	2209.25	1.15	1.44	481.29	1.00
5/11/25 6:28	1.98	21.88	4.58	2078.00	2209.52	1.15	1.44	481.23	1.00
5/11/25 7:28	1.98	21.88	4.58	2077.99	2209.54	1.15	1.44	481.23	1.00
5/11/25 8:28	1.98	21.88	4.58	2077.95	2209.51	1.15	1.44	481.24	1.00
5/11/25 9:28	1.98	21.88	4.58	2078.17	2209.75	1.15	1.44	481.19	1.00
5/11/25 10:28	1.98	21.88	4.58	2077.83	2209.41	1.15	1.44	481.27	1.00
5/11/25 11:28	1.98	21.88	4.58	2078.05	2209.63	1.15	1.44	481.22	1.00
5/11/25 12:28	1.99	21.88	4.59	2078.03	2209.64	1.15	1.44	481.22	1.00
5/11/25 13:28	1.99	21.88	4.60	2078.08	2209.70	1.15	1.44	481.21	1.00
5/11/25 14:28	1.99	21.88	4.60	2078.14	2209.77	1.15	1.44	481.20	1.00
5/11/25 15:28	1.99	21.88	4.60	2078.05	2209.68	1.15	1.44	481.22	1.00
5/11/25 16:28	1.99	21.88	4.59	2078.17	2209.81	1.15	1.44	481.19	1.00
5/11/25 17:28	1.99	21.88	4.59	2077.95	2209.62	1.15	1.44	481.24	1.00
5/11/25 18:28	1.99	21.88	4.59	2077.92	2209.60	1.15	1.44	481.25	1.00
5/11/25 19:28	1.99	21.88	4.59	2078.13	2209.82	1.15	1.44	481.20	1.00
5/11/25 20:28	1.99	21.88	4.60	2077.87	2209.55	1.15	1.44	481.26	1.00
5/11/25 21:28	1.99	21.88	4.59	2077.94	2209.61	1.15	1.44	481.25	1.00
5/11/25 22:28	1.99	21.88	4.59	2078.12	2209.84	1.15	1.44	481.20	1.00
5/11/25 23:28	1.99	21.88	4.60	2078.17	2209.89	1.15	1.44	481.19	1.00
5/12/25 0:28	1.99	21.88	4.60	2078.22	2209.97	1.15	1.44	481.18	1.00
5/12/25 1:28	1.99	21.88	4.60	2078.12	2209.86	1.15	1.44	481.20	1.00
5/12/25 2:28	1.99	21.88	4.60	2078.17	2209.93	1.15	1.44	481.19	1.00
5/12/25 3:28	1.99	21.88	4.59	2078.18	2209.94	1.15	1.44	481.19	1.00
5/12/25 4:28	1.99	21.88	4.60	2078.20	2209.98	1.15	1.44	481.18	1.00
5/12/25 5:28	1.99	21.88	4.59	2078.17	2209.97	1.15	1.44	481.19	1.00
5/12/25 6:28	1.99	21.88	4.59	2078.32	2210.11	1.15	1.44	481.16	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/12/25 7:28	1.99	21.88	4.59	2078.32	2210.13	1.15	1.44	481.16	1.00
5/12/25 8:28	1.99	21.88	4.59	2078.14	2209.95	1.15	1.44	481.20	1.00
5/12/25 9:28	1.99	21.88	4.59	2078.23	2210.06	1.15	1.44	481.18	1.00
5/12/25 10:28	1.99	21.88	4.59	2078.24	2210.06	1.15	1.44	481.18	1.00
5/12/25 11:28	1.99	21.88	4.60	2078.12	2209.96	1.15	1.44	481.20	1.00
5/12/25 12:28	1.99	21.88	4.60	2077.79	2209.63	1.15	1.44	481.28	1.00
5/12/25 13:28	1.99	21.88	4.60	2077.67	2209.50	1.15	1.44	481.31	1.00
5/12/25 14:28	1.99	21.88	4.60	2077.44	2209.28	1.15	1.44	481.36	1.00
5/12/25 15:28	1.99	21.88	4.60	2077.67	2209.52	1.15	1.44	481.31	1.00
5/12/25 16:28	1.99	21.88	4.60	2077.63	2209.49	1.15	1.44	481.32	1.00
5/12/25 17:28	1.98	21.87	4.56	2077.42	2209.29	1.15	1.44	481.37	1.00
5/12/25 18:28	1.96	21.87	4.54	2077.21	2209.08	1.14	1.44	481.42	1.00
5/12/25 19:28	1.95	21.87	4.51	2077.21	2209.07	1.14	1.44	481.41	1.00
5/12/25 20:28	1.95	21.88	4.50	2077.15	2208.99	1.14	1.44	481.43	1.00
5/12/25 21:28	1.94	21.87	4.48	2077.30	2209.17	1.15	1.44	481.39	1.00
5/12/25 22:28	1.94	21.87	4.47	2077.10	2208.97	1.14	1.44	481.44	1.00
5/12/25 23:28	1.93	21.87	4.47	2077.01	2208.91	1.14	1.44	481.46	1.00
5/13/25 0:28	1.93	21.87	4.46	2076.87	2208.77	1.14	1.44	481.49	1.00
5/13/25 1:28	1.93	21.87	4.45	2076.73	2208.62	1.14	1.44	481.53	1.00
5/13/25 2:28	1.92	21.87	4.44	2076.79	2208.69	1.14	1.44	481.51	1.00
5/13/25 3:28	1.92	21.87	4.44	2076.65	2208.56	1.14	1.44	481.54	1.00
5/13/25 4:28	1.92	21.87	4.44	2076.49	2208.39	1.14	1.44	481.58	1.00
5/13/25 5:28	1.92	21.87	4.43	2076.42	2208.33	1.14	1.44	481.60	1.00
5/13/25 6:28	1.92	21.87	4.43	2076.45	2208.36	1.14	1.44	481.59	1.00
5/13/25 7:28	1.92	21.87	4.43	2076.44	2208.37	1.14	1.44	481.59	1.00
5/13/25 8:28	1.91	21.87	4.41	2076.52	2208.45	1.14	1.44	481.57	1.00
5/13/25 9:28	1.92	21.87	4.43	2076.26	2208.19	1.14	1.44	481.63	1.00
5/13/25 10:28	1.93	21.87	4.45	2076.07	2207.99	1.14	1.44	481.68	1.00
5/13/25 11:28	1.94	21.87	4.48	2076.43	2208.38	1.14	1.44	481.60	1.00
5/13/25 12:28	1.95	21.87	4.49	2076.65	2208.63	1.14	1.44	481.54	1.00
5/13/25 13:28	1.96	21.87	4.52	2076.45	2208.41	1.14	1.44	481.59	1.00
5/13/25 14:28	1.96	21.87	4.52	2076.16	2208.13	1.14	1.44	481.66	1.00
5/13/25 15:28	1.96	21.87	4.54	2076.40	2208.42	1.14	1.44	481.60	1.00
5/13/25 16:28	1.96	21.87	4.54	2076.22	2208.22	1.14	1.44	481.64	1.00
5/13/25 17:28	1.96	21.87	4.54	2076.24	2208.27	1.14	1.44	481.64	1.00
5/13/25 18:28	1.95	21.87	4.50	2076.29	2208.32	1.14	1.44	481.63	1.00
5/13/25 19:28	1.94	21.87	4.48	2076.24	2208.28	1.14	1.44	481.64	1.00
5/13/25 20:28	1.93	21.87	4.47	2076.29	2208.34	1.14	1.44	481.63	1.00
5/13/25 21:28	1.93	21.87	4.46	2076.08	2208.12	1.14	1.44	481.68	1.00
5/13/25 22:28	1.93	21.87	4.45	2076.34	2208.39	1.14	1.44	481.62	1.00
5/13/25 23:28	1.92	21.87	4.45	2076.19	2208.24	1.14	1.44	481.65	1.00
5/14/25 0:28	1.92	21.87	4.44	2076.05	2208.13	1.14	1.44	481.68	1.00
5/14/25 1:28	1.92	21.87	4.44	2076.04	2208.11	1.14	1.44	481.69	1.00
5/14/25 2:28	1.92	21.87	4.44	2076.05	2208.11	1.14	1.44	481.68	1.00
5/14/25 3:28	1.92	21.87	4.43	2075.79	2207.89	1.14	1.44	481.74	1.00
5/14/25 4:28	1.92	21.87	4.43	2075.95	2208.03	1.14	1.44	481.71	1.00
5/14/25 5:28	1.92	21.87	4.43	2075.84	2207.94	1.14	1.44	481.73	1.00
5/14/25 6:28	1.92	21.87	4.43	2075.78	2207.89	1.14	1.44	481.75	1.00
5/14/25 7:28	1.92	21.87	4.42	2075.68	2207.79	1.14	1.44	481.77	1.00
5/14/25 8:28	1.92	21.87	4.42	2075.82	2207.95	1.14	1.44	481.74	1.00
5/14/25 9:28	1.92	21.87	4.43	2075.44	2207.55	1.14	1.43	481.82	1.00
5/14/25 10:28	1.91	21.87	4.42	2075.45	2207.56	1.14	1.43	481.82	1.00
5/14/25 11:28	1.91	21.87	4.42	2075.42	2207.54	1.14	1.43	481.83	1.00
5/14/25 12:28	1.91	21.87	4.42	2075.39	2207.50	1.14	1.43	481.84	1.00
5/14/25 13:28	1.91	21.87	4.42	2075.09	2207.20	1.14	1.43	481.91	1.00
5/14/25 14:28	1.91	21.87	4.41	2074.91	2207.04	1.14	1.43	481.95	1.00
5/14/25 15:28	1.91	21.87	4.42	2075.00	2207.12	1.14	1.43	481.93	1.00
5/14/25 16:28	1.91	21.87	4.42	2075.02	2207.17	1.14	1.43	481.92	1.00
5/14/25 17:28	1.91	21.86	4.42	2074.59	2206.73	1.14	1.43	482.02	1.00
5/14/25 18:28	1.91	21.86	4.42	2074.74	2206.90	1.14	1.43	481.99	1.00
5/14/25 19:28	1.91	21.87	4.42	2074.82	2206.97	1.14	1.43	481.97	1.00
5/14/25 20:28	1.91	21.86	4.42	2074.96	2207.13	1.14	1.43	481.94	1.00
5/14/25 21:28	1.91	21.86	4.41	2075.15	2207.34	1.14	1.43	481.89	1.00
5/14/25 22:28	1.91	21.86	4.41	2074.91	2207.09	1.14	1.43	481.95	1.00
5/14/25 23:28	1.91	21.86	4.42	2074.94	2207.14	1.14	1.43	481.94	1.00
5/15/25 0:28	1.91	21.86	4.41	2074.68	2206.87	1.14	1.43	482.00	1.00
5/15/25 1:28	1.91	21.86	4.41	2074.80	2207.04	1.14	1.43	481.97	1.00
5/15/25 2:28	1.91	21.86	4.41	2074.70	2206.92	1.14	1.43	482.00	1.00
5/15/25 3:28	1.91	21.86	4.41	2074.83	2207.06	1.14	1.43	481.97	1.00
5/15/25 4:28	1.91	21.86	4.41	2074.95	2207.20	1.14	1.43	481.94	1.00
5/15/25 5:28	1.91	21.86	4.41	2075.01	2207.28	1.14	1.43	481.92	1.00
5/15/25 6:28	1.91	21.86	4.41	2074.87	2207.13	1.14	1.43	481.96	1.00
5/15/25 7:28	1.91	21.86	4.40	2074.94	2207.21	1.14	1.43	481.94	1.00
5/15/25 8:28	1.91	21.86	4.40	2074.90	2207.18	1.14	1.43	481.95	1.00
5/15/25 9:28	1.91	21.86	4.41	2074.79	2207.06	1.14	1.43	481.98	1.00
5/15/25 10:28	1.91	21.86	4.41	2074.71	2207.01	1.14	1.43	481.99	1.00
5/15/25 11:28	1.91	21.86	4.41	2074.75	2207.04	1.14	1.43	481.99	1.00
5/15/25 12:28	1.91	21.86	4.41	2074.66	2206.97	1.14	1.43	482.01	1.00
5/15/25 13:28	1.91	21.86	4.42	2074.25	2206.52	1.14	1.43	482.10	1.00
5/15/25 14:28	1.91	21.86	4.42	2074.27	2206.57	1.14	1.43	482.10	1.00
5/15/25 15:28	1.91	21.86	4.42	2074.17	2206.49	1.14	1.43	482.12	1.00
5/15/25 16:28	1.91	21.86	4.42	2074.17	2206.47	1.14	1.43	482.12	1.00
5/15/25 17:28	1.91	21.86	4.42	2073.91	2206.20	1.14	1.43	482.18	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/15/25 18:28	1.91	21.86	4.41	2073.97	2206.27	1.14	1.43	482.17	1.00
5/15/25 19:28	1.91	21.86	4.41	2073.96	2206.28	1.14	1.43	482.17	1.00
5/15/25 20:28	1.91	21.86	4.41	2074.20	2206.54	1.14	1.43	482.11	1.00
5/15/25 21:28	1.91	21.86	4.41	2074.24	2206.58	1.14	1.43	482.10	1.00
5/15/25 22:28	1.91	21.86	4.41	2074.23	2206.60	1.14	1.43	482.11	1.00
5/15/25 23:28	1.91	21.86	4.41	2074.41	2206.80	1.14	1.43	482.06	1.00
5/16/25 0:28	1.91	21.86	4.41	2074.32	2206.69	1.14	1.43	482.09	1.00
5/16/25 1:28	1.91	21.86	4.41	2074.16	2206.55	1.14	1.43	482.12	1.00
5/16/25 2:28	1.91	21.86	4.41	2074.12	2206.49	1.14	1.43	482.13	1.00
5/16/25 3:28	1.91	21.86	4.41	2074.29	2206.68	1.14	1.43	482.09	1.00
5/16/25 4:28	1.91	21.86	4.40	2074.24	2206.65	1.14	1.43	482.10	1.00
5/16/25 5:28	1.91	21.86	4.40	2074.46	2206.89	1.14	1.43	482.05	1.00
5/16/25 6:28	1.91	21.86	4.40	2074.26	2206.70	1.14	1.43	482.10	1.00
5/16/25 7:28	1.91	21.86	4.40	2074.35	2206.80	1.14	1.43	482.08	1.00
5/16/25 8:28	1.91	21.86	4.41	2074.11	2206.54	1.14	1.43	482.13	1.00
5/16/25 9:28	1.91	21.86	4.41	2073.94	2206.39	1.14	1.43	482.18	1.00
5/16/25 10:28	1.91	21.86	4.41	2073.91	2206.35	1.14	1.43	482.18	1.00
5/16/25 11:28	1.91	21.86	4.41	2074.01	2206.46	1.14	1.43	482.16	1.00
5/16/25 12:28	1.91	21.86	4.41	2073.74	2206.23	1.14	1.43	482.22	1.00
5/16/25 13:28	1.91	21.86	4.41	2073.59	2206.03	1.14	1.43	482.26	1.00
5/16/25 14:28	1.91	21.86	4.41	2073.64	2206.08	1.14	1.43	482.24	1.00
5/16/25 15:28	1.91	21.86	4.42	2073.55	2206.02	1.14	1.43	482.26	1.00
5/16/25 16:28	1.91	21.86	4.42	2073.71	2206.21	1.14	1.43	482.23	1.00
5/16/25 17:28	1.91	21.86	4.42	2073.45	2205.95	1.14	1.43	482.29	1.00
5/16/25 18:28	1.91	21.86	4.41	2073.70	2206.22	1.14	1.43	482.23	1.00
5/16/25 19:28	1.91	21.86	4.41	2073.30	2205.79	1.14	1.43	482.32	1.00
5/16/25 20:28	1.91	21.86	4.41	2073.57	2206.09	1.14	1.43	482.26	1.00
5/16/25 21:28	1.91	21.85	4.40	2073.43	2205.95	1.14	1.43	482.29	1.00
5/16/25 22:28	1.91	21.85	4.40	2073.34	2205.84	1.14	1.43	482.31	1.00
5/16/25 23:28	1.91	21.85	4.40	2073.40	2205.91	1.14	1.43	482.30	1.00
5/17/25 0:28	1.91	21.85	4.41	2073.38	2205.92	1.14	1.43	482.31	1.00
5/17/25 1:28	1.91	21.85	4.41	2073.31	2205.86	1.14	1.43	482.32	1.00
5/17/25 2:28	1.91	21.85	4.41	2073.35	2205.90	1.14	1.43	482.31	1.00
5/17/25 3:28	1.91	21.85	4.41	2073.28	2205.84	1.14	1.43	482.33	1.00
5/17/25 4:28	1.91	21.85	4.40	2073.18	2205.75	1.14	1.43	482.35	1.00
5/17/25 5:28	1.91	21.85	4.41	2073.24	2205.80	1.14	1.43	482.34	1.00
5/17/25 6:28	1.90	21.85	4.40	2073.13	2205.72	1.14	1.43	482.36	1.00
5/17/25 7:28	1.91	21.85	4.40	2073.23	2205.82	1.14	1.43	482.34	1.00
5/17/25 8:28	1.91	21.85	4.40	2073.27	2205.88	1.14	1.43	482.33	1.00
5/17/25 9:28	1.91	21.85	4.41	2072.99	2205.59	1.14	1.43	482.39	1.00
5/17/25 10:28	1.91	21.85	4.41	2073.04	2205.65	1.14	1.43	482.38	1.00
5/17/25 11:28	1.91	21.85	4.41	2072.91	2205.52	1.14	1.43	482.41	1.00
5/17/25 12:28	1.91	21.85	4.41	2072.65	2205.24	1.14	1.43	482.47	1.00
5/17/25 13:28	1.91	21.85	4.41	2072.74	2205.34	1.14	1.43	482.45	1.00
5/17/25 14:28	1.91	21.85	4.41	2072.65	2205.27	1.14	1.43	482.47	1.00
5/17/25 15:28	1.91	21.85	4.41	2072.65	2205.27	1.14	1.43	482.47	1.00
5/17/25 16:28	1.91	21.85	4.41	2072.59	2205.21	1.14	1.43	482.49	1.00
5/17/25 17:28	1.91	21.85	4.41	2072.20	2204.80	1.14	1.43	482.58	1.00
5/17/25 18:28	1.91	21.85	4.41	2072.45	2205.10	1.14	1.43	482.52	1.00
5/17/25 19:28	1.91	21.85	4.41	2072.24	2204.89	1.14	1.43	482.57	1.00
5/17/25 20:28	1.91	21.85	4.41	2072.21	2204.84	1.14	1.43	482.58	1.00
5/17/25 21:28	1.91	21.85	4.41	2072.26	2204.89	1.14	1.43	482.56	1.00
5/17/25 22:28	1.91	21.85	4.41	2072.07	2204.71	1.14	1.43	482.61	1.00
5/17/25 23:28	1.91	21.85	4.41	2072.13	2204.78	1.14	1.43	482.60	1.00
5/18/25 0:28	1.91	21.85	4.41	2072.14	2204.82	1.14	1.43	482.59	1.00
5/18/25 1:28	1.91	21.85	4.41	2071.96	2204.62	1.14	1.43	482.64	1.00
5/18/25 2:28	1.91	21.85	4.41	2071.80	2204.45	1.14	1.43	482.67	1.00
5/18/25 3:28	1.91	21.85	4.41	2071.84	2204.50	1.14	1.43	482.66	1.00
5/18/25 4:28	1.91	21.85	4.41	2071.89	2204.58	1.14	1.43	482.65	1.00
5/18/25 5:28	1.91	21.85	4.40	2072.12	2204.81	1.14	1.43	482.60	1.00
5/18/25 6:28	1.91	21.85	4.40	2071.65	2204.34	1.14	1.43	482.71	1.00
5/18/25 7:28	1.91	21.85	4.40	2071.56	2204.25	1.14	1.43	482.73	1.00
5/18/25 8:28	1.91	21.85	4.40	2071.72	2204.41	1.14	1.43	482.69	1.00
5/18/25 9:28	1.91	21.85	4.41	2071.69	2204.41	1.14	1.43	482.70	1.00
5/18/25 10:28	1.91	21.85	4.41	2071.27	2203.97	1.14	1.43	482.79	1.00
5/18/25 11:28	1.90	21.85	4.39	2071.23	2203.93	1.14	1.43	482.81	1.00
5/18/25 12:28	1.91	21.85	4.42	2071.11	2203.80	1.14	1.43	482.83	1.00
5/18/25 13:28	1.91	21.85	4.42	2070.73	2203.41	1.14	1.43	482.92	1.00
5/18/25 14:28	1.91	21.85	4.41	2070.42	2203.11	1.14	1.43	482.99	1.00
5/18/25 15:28	1.91	21.85	4.41	2070.04	2202.69	1.14	1.43	483.08	1.00
5/18/25 16:28	1.91	21.85	4.41	2070.02	2202.71	1.14	1.43	483.09	1.00
5/18/25 17:28	1.91	21.85	4.41	2070.18	2202.87	1.14	1.43	483.05	1.00
5/18/25 18:28	1.91	21.85	4.41	2069.91	2202.60	1.14	1.43	483.11	1.00
5/18/25 19:28	1.91	21.85	4.41	2070.03	2202.73	1.14	1.43	483.08	1.00
5/18/25 20:28	1.91	21.85	4.41	2070.01	2202.70	1.14	1.43	483.09	1.00
5/18/25 21:28	1.91	21.85	4.40	2070.03	2202.75	1.14	1.43	483.09	1.00
5/18/25 22:28	1.91	21.85	4.41	2069.75	2202.45	1.14	1.43	483.15	1.00
5/18/25 23:28	1.91	21.85	4.41	2070.05	2202.79	1.14	1.43	483.08	1.00
5/19/25 0:28	1.91	21.85	4.41	2069.73	2202.44	1.14	1.43	483.15	1.00
5/19/25 1:28	1.91	21.84	4.40	2069.85	2202.60	1.14	1.43	483.13	1.00
5/19/25 2:28	1.91	21.84	4.40	2069.59	2202.32	1.14	1.43	483.19	1.00
5/19/25 3:28	1.91	21.84	4.40	2069.54	2202.28	1.14	1.43	483.20	1.00
5/19/25 4:28	1.90	21.84	4.40	2069.47	2202.21	1.14	1.43	483.21	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/19/25 5:28	1.91	21.84	4.40	2069.41	2202.17	1.14	1.43	483.23	1.00
5/19/25 6:28	1.91	21.84	4.40	2069.67	2202.45	1.14	1.43	483.17	1.00
5/19/25 7:28	1.90	21.84	4.40	2069.41	2202.17	1.14	1.43	483.23	1.00
5/19/25 8:28	1.91	21.84	4.40	2069.47	2202.24	1.14	1.43	483.22	1.00
5/19/25 9:28	1.91	21.84	4.40	2069.26	2202.03	1.14	1.43	483.26	1.00
5/19/25 10:28	1.91	21.84	4.41	2069.40	2202.19	1.14	1.43	483.23	1.00
5/19/25 11:28	1.91	21.84	4.41	2069.06	2201.82	1.14	1.43	483.31	1.00
5/19/25 12:28	1.91	21.84	4.41	2068.83	2201.61	1.14	1.43	483.36	1.00
5/19/25 13:28	1.91	21.84	4.40	2069.02	2201.82	1.14	1.43	483.32	1.00
5/19/25 14:28	1.91	21.84	4.42	2069.14	2201.96	1.14	1.43	483.29	1.00
5/19/25 15:28	1.91	21.84	4.42	2068.87	2201.66	1.14	1.43	483.36	1.00
5/19/25 16:28	1.91	21.84	4.41	2068.92	2201.73	1.14	1.43	483.34	1.00
5/19/25 17:28	1.91	21.84	4.41	2068.74	2201.53	1.14	1.43	483.39	1.00
5/19/25 18:28	1.91	21.84	4.41	2068.62	2201.43	1.14	1.43	483.41	1.00
5/19/25 19:28	1.91	21.84	4.41	2068.65	2201.48	1.14	1.43	483.41	1.00
5/19/25 20:28	1.91	21.84	4.40	2068.80	2201.63	1.14	1.43	483.37	1.00
5/19/25 21:28	1.90	21.84	4.40	2068.78	2201.63	1.14	1.43	483.38	1.00
5/19/25 22:28	1.90	21.84	4.39	2069.24	2202.11	1.14	1.43	483.27	1.00
5/19/25 23:28	1.90	21.84	4.40	2069.25	2202.15	1.14	1.43	483.27	1.00
5/20/25 0:28	1.90	21.84	4.39	2069.26	2202.15	1.14	1.43	483.26	1.00
5/20/25 1:28	1.90	21.84	4.40	2069.05	2201.95	1.14	1.43	483.31	1.00
5/20/25 2:28	1.91	21.84	4.40	2069.24	2202.14	1.14	1.43	483.27	1.00
5/20/25 3:28	1.90	21.84	4.40	2069.08	2201.99	1.14	1.43	483.31	1.00
5/20/25 4:28	1.90	21.84	4.39	2069.16	2202.09	1.14	1.43	483.29	1.00
5/20/25 5:28	1.90	21.84	4.39	2069.29	2202.23	1.14	1.43	483.26	1.00
5/20/25 6:28	1.90	21.84	4.39	2069.08	2202.01	1.14	1.43	483.31	1.00
5/20/25 7:28	1.90	21.84	4.39	2068.90	2201.83	1.14	1.43	483.35	1.00
5/20/25 8:28	1.90	21.84	4.39	2069.10	2202.05	1.14	1.43	483.30	1.00
5/20/25 9:28	1.90	21.84	4.39	2069.39	2202.37	1.14	1.43	483.23	1.00
5/20/25 10:28	1.90	21.84	4.39	2069.05	2202.02	1.14	1.43	483.31	1.00
5/20/25 11:28	1.90	21.84	4.39	2069.31	2202.29	1.14	1.43	483.25	1.00
5/20/25 12:28	1.90	21.84	4.40	2068.90	2201.88	1.14	1.43	483.35	1.00
5/20/25 13:28	1.91	21.84	4.40	2068.98	2201.98	1.14	1.43	483.33	1.00
5/20/25 14:28	1.91	21.84	4.40	2068.99	2201.99	1.14	1.43	483.33	1.00
5/20/25 15:28	1.91	21.84	4.41	2068.33	2201.29	1.14	1.43	483.48	1.00
5/20/25 16:28	1.91	21.84	4.41	2068.58	2201.58	1.14	1.43	483.42	1.00
5/20/25 17:28	1.91	21.84	4.41	2068.49	2201.48	1.14	1.43	483.44	1.00
5/20/25 18:28	1.91	21.84	4.41	2068.14	2201.14	1.14	1.43	483.53	1.00
5/20/25 19:28	1.91	21.84	4.40	2068.27	2201.24	1.14	1.43	483.50	1.00
5/20/25 20:28	1.90	21.84	4.40	2068.60	2201.63	1.14	1.43	483.42	1.00
5/20/25 21:28	1.90	21.84	4.40	2068.35	2201.36	1.14	1.43	483.48	1.00
5/20/25 22:28	1.90	21.84	4.39	2068.24	2201.25	1.14	1.43	483.50	1.00
5/20/25 23:28	1.90	21.84	4.40	2068.43	2201.48	1.14	1.43	483.46	1.00
5/21/25 0:28	1.90	21.84	4.40	2068.26	2201.31	1.14	1.43	483.50	1.00
5/21/25 1:28	1.90	21.84	4.39	2068.20	2201.27	1.14	1.43	483.51	1.00
5/21/25 2:28	1.90	21.84	4.40	2068.51	2201.58	1.14	1.43	483.44	1.00
5/21/25 3:28	1.90	21.84	4.39	2068.26	2201.33	1.14	1.43	483.50	1.00
5/21/25 4:28	1.90	21.83	4.40	2068.25	2201.33	1.14	1.43	483.50	1.00
5/21/25 5:28	1.90	21.83	4.39	2068.07	2201.15	1.14	1.43	483.54	1.00
5/21/25 6:28	1.90	21.83	4.39	2068.11	2201.20	1.14	1.43	483.53	1.00
5/21/25 7:28	1.90	21.83	4.39	2068.42	2201.52	1.14	1.43	483.46	1.00
5/21/25 8:28	1.90	21.83	4.39	2068.34	2201.45	1.14	1.43	483.48	1.00
5/21/25 9:28	1.90	21.83	4.39	2068.17	2201.28	1.14	1.43	483.52	1.00
5/21/25 10:28	1.90	21.83	4.39	2068.28	2201.42	1.14	1.43	483.49	1.00
5/21/25 11:28	1.90	21.83	4.40	2067.96	2201.07	1.14	1.43	483.57	1.00
5/21/25 12:28	1.90	21.83	4.40	2067.72	2200.82	1.14	1.43	483.63	1.00
5/21/25 13:28	1.90	21.83	4.40	2067.75	2200.86	1.14	1.43	483.62	1.00
5/21/25 14:28	1.91	21.83	4.40	2067.58	2200.69	1.14	1.43	483.66	1.00
5/21/25 15:28	1.91	21.83	4.40	2067.53	2200.66	1.14	1.43	483.67	1.00
5/21/25 16:28	1.91	21.83	4.41	2067.21	2200.31	1.14	1.43	483.74	1.00
5/21/25 17:28	1.91	21.83	4.40	2067.28	2200.41	1.14	1.43	483.73	1.00
5/21/25 18:28	1.91	21.83	4.41	2067.16	2200.28	1.14	1.43	483.76	1.00
5/21/25 19:28	1.91	21.83	4.40	2067.19	2200.34	1.14	1.43	483.75	1.00
5/21/25 20:28	1.90	21.83	4.40	2067.17	2200.32	1.14	1.43	483.75	1.00
5/21/25 21:28	1.91	21.83	4.40	2067.00	2200.15	1.14	1.43	483.79	1.00
5/21/25 22:28	1.90	21.83	4.40	2066.92	2200.07	1.14	1.43	483.81	1.00
5/21/25 23:28	1.90	21.83	4.39	2066.84	2199.98	1.14	1.43	483.83	1.00
5/22/25 0:28	1.90	21.83	4.40	2066.90	2200.06	1.14	1.43	483.82	1.00
5/22/25 1:28	1.91	21.83	4.40	2066.85	2200.00	1.14	1.43	483.83	1.00
5/22/25 2:28	1.90	21.83	4.40	2066.60	2199.76	1.14	1.43	483.89	1.00
5/22/25 3:28	1.91	21.83	4.40	2066.78	2199.95	1.14	1.43	483.84	1.00
5/22/25 4:28	1.90	21.83	4.40	2066.95	2200.14	1.14	1.43	483.80	1.00
5/22/25 5:28	1.90	21.83	4.40	2066.77	2199.95	1.14	1.43	483.85	1.00
5/22/25 6:28	1.90	21.83	4.40	2066.50	2199.69	1.14	1.43	483.91	1.00
5/22/25 7:28	1.90	21.83	4.39	2066.71	2199.90	1.14	1.43	483.86	1.00
5/22/25 8:28	1.90	21.83	4.39	2066.66	2199.86	1.14	1.43	483.87	1.00
5/22/25 9:28	1.90	21.83	4.40	2066.73	2199.95	1.14	1.43	483.86	1.00
5/22/25 10:28	1.91	21.83	4.41	2066.70	2199.92	1.14	1.43	483.86	1.00
5/22/25 11:28	1.92	21.83	4.44	2066.95	2200.20	1.14	1.43	483.81	1.00
5/22/25 12:28	1.93	21.83	4.45	2066.84	2200.09	1.14	1.43	483.83	1.00
5/22/25 13:28	1.94	21.83	4.47	2066.92	2200.20	1.14	1.43	483.81	1.00
5/22/25 14:28	1.94	21.83	4.48	2066.73	2199.99	1.14	1.43	483.86	1.00
5/22/25 15:28	1.95	21.83	4.49	2066.55	2199.83	1.14	1.43	483.90	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/22/25 16:28	1.95	21.83	4.51	2066.57	2199.84	1.14	1.43	483.89	1.00
5/22/25 17:28	1.95	21.83	4.51	2066.59	2199.88	1.14	1.43	483.89	1.00
5/22/25 18:28	1.96	21.83	4.52	2066.90	2200.24	1.14	1.43	483.82	1.00
5/22/25 19:28	1.96	21.83	4.53	2066.59	2199.89	1.14	1.43	483.89	1.00
5/22/25 20:28	1.96	21.83	4.54	2066.88	2200.22	1.14	1.43	483.82	1.00
5/22/25 21:28	1.97	21.83	4.54	2066.89	2200.24	1.14	1.43	483.82	1.00
5/22/25 22:28	1.97	21.83	4.54	2067.00	2200.33	1.14	1.43	483.79	1.00
5/22/25 23:28	1.97	21.83	4.55	2066.57	2199.91	1.14	1.43	483.89	1.00
5/23/25 0:28	1.97	21.83	4.55	2066.73	2200.11	1.14	1.43	483.86	1.00
5/23/25 1:28	1.97	21.83	4.55	2066.73	2200.11	1.14	1.43	483.86	1.00
5/23/25 2:28	1.97	21.83	4.55	2067.18	2200.60	1.14	1.43	483.75	1.00
5/23/25 3:28	1.97	21.83	4.55	2066.93	2200.32	1.14	1.43	483.81	1.00
5/23/25 4:28	1.97	21.83	4.55	2066.98	2200.40	1.14	1.43	483.80	1.00
5/23/25 5:28	1.97	21.83	4.55	2067.01	2200.45	1.14	1.43	483.79	1.00
5/23/25 6:28	1.97	21.83	4.55	2067.28	2200.73	1.14	1.43	483.73	1.00
5/23/25 7:28	1.97	21.82	4.56	2067.23	2200.68	1.14	1.43	483.74	1.00
5/23/25 8:28	1.97	21.82	4.55	2067.20	2200.67	1.14	1.43	483.75	1.00
5/23/25 9:28	1.97	21.82	4.56	2067.24	2200.74	1.14	1.43	483.74	1.00
5/23/25 10:28	1.98	21.82	4.57	2067.27	2200.75	1.14	1.43	483.73	1.00
5/23/25 11:28	1.97	21.82	4.56	2067.20	2200.70	1.14	1.43	483.75	1.00
5/23/25 12:28	1.98	21.82	4.57	2067.08	2200.57	1.14	1.43	483.77	1.00
5/23/25 13:28	1.98	21.82	4.57	2067.27	2200.80	1.14	1.43	483.73	1.00
5/23/25 14:28	1.98	21.82	4.58	2067.25	2200.78	1.14	1.43	483.73	1.00
5/23/25 15:28	1.98	21.82	4.58	2067.05	2200.58	1.14	1.43	483.78	1.00
5/23/25 16:28	1.98	21.82	4.58	2067.13	2200.66	1.14	1.43	483.76	1.00
5/23/25 17:28	1.98	21.82	4.58	2067.08	2200.61	1.14	1.43	483.77	1.00
5/23/25 18:28	1.98	21.82	4.57	2066.93	2200.49	1.14	1.43	483.81	1.00
5/23/25 19:28	1.98	21.82	4.58	2067.28	2200.88	1.14	1.43	483.73	1.00
5/23/25 20:28	1.98	21.82	4.57	2067.44	2201.03	1.14	1.43	483.69	1.00
5/23/25 21:28	1.97	21.82	4.56	2067.32	2200.92	1.14	1.43	483.72	1.00
5/23/25 22:28	1.98	21.82	4.56	2067.31	2200.93	1.14	1.43	483.72	1.00
5/23/25 23:28	1.98	21.82	4.57	2067.30	2200.94	1.14	1.43	483.72	1.00
5/24/25 0:28	1.98	21.82	4.57	2067.66	2201.31	1.14	1.43	483.64	1.00
5/24/25 1:28	1.98	21.82	4.57	2067.65	2201.31	1.14	1.43	483.64	1.00
5/24/25 2:28	1.98	21.82	4.57	2067.54	2201.21	1.14	1.43	483.67	1.00
5/24/25 3:28	1.98	21.82	4.57	2067.86	2201.55	1.14	1.43	483.59	1.00
5/24/25 4:28	1.98	21.82	4.57	2067.81	2201.49	1.14	1.43	483.60	1.00
5/24/25 5:28	1.98	21.82	4.58	2067.73	2201.43	1.14	1.43	483.62	1.00
5/24/25 6:28	1.98	21.82	4.57	2067.99	2201.74	1.14	1.43	483.56	1.00
5/24/25 7:28	1.98	21.82	4.57	2068.09	2201.85	1.14	1.43	483.54	1.00
5/24/25 8:28	1.98	21.82	4.57	2068.09	2201.87	1.14	1.43	483.54	1.00
5/24/25 9:28	1.98	21.82	4.57	2068.38	2202.19	1.14	1.43	483.47	1.00
5/24/25 10:28	1.97	21.82	4.54	2068.02	2201.79	1.14	1.43	483.56	1.00
5/24/25 11:28	1.96	21.82	4.53	2067.96	2201.73	1.14	1.43	483.57	1.00
5/24/25 12:28	1.97	21.82	4.54	2068.06	2201.83	1.14	1.43	483.55	1.00
5/24/25 13:28	1.97	21.82	4.55	2068.10	2201.92	1.14	1.43	483.54	1.00
5/24/25 14:28	1.98	21.82	4.56	2068.15	2201.94	1.14	1.43	483.52	1.00
5/24/25 15:28	1.98	21.82	4.57	2068.28	2202.12	1.14	1.43	483.49	1.00
5/24/25 16:28	1.98	21.82	4.56	2068.06	2201.89	1.14	1.43	483.55	1.00
5/24/25 17:28	1.98	21.82	4.57	2068.13	2201.97	1.14	1.43	483.53	1.00
5/24/25 18:28	1.98	21.82	4.58	2068.01	2201.86	1.14	1.43	483.56	1.00
5/24/25 19:28	1.98	21.82	4.58	2068.27	2202.14	1.14	1.43	483.50	1.00
5/24/25 20:28	1.98	21.82	4.57	2068.26	2202.15	1.14	1.43	483.50	1.00
5/24/25 21:28	1.98	21.82	4.58	2068.53	2202.43	1.14	1.43	483.44	1.00
5/24/25 22:28	1.98	21.82	4.58	2068.48	2202.37	1.14	1.43	483.45	1.00
5/24/25 23:28	1.98	21.82	4.58	2068.80	2202.72	1.14	1.43	483.37	1.00
5/25/25 0:28	1.98	21.82	4.57	2068.74	2202.69	1.14	1.43	483.39	1.00
5/25/25 1:28	1.98	21.82	4.57	2068.82	2202.79	1.14	1.43	483.37	1.00
5/25/25 2:28	1.98	21.82	4.57	2068.90	2202.90	1.14	1.43	483.35	1.00
5/25/25 3:28	1.98	21.82	4.58	2069.05	2203.05	1.14	1.43	483.31	1.00
5/25/25 4:28	1.98	21.82	4.58	2069.02	2203.03	1.14	1.43	483.32	1.00
5/25/25 5:28	1.98	21.81	4.57	2069.17	2203.20	1.14	1.43	483.29	1.00
5/25/25 6:28	1.98	21.82	4.57	2069.33	2203.36	1.14	1.43	483.25	1.00
5/25/25 7:28	1.98	21.81	4.57	2069.33	2203.39	1.14	1.43	483.25	1.00
5/25/25 8:28	1.98	21.81	4.57	2069.63	2203.70	1.14	1.43	483.18	1.00
5/25/25 9:28	1.98	21.81	4.58	2069.68	2203.77	1.14	1.43	483.17	1.00
5/25/25 10:28	1.98	21.81	4.57	2069.76	2203.87	1.14	1.43	483.15	1.00
5/25/25 11:28	1.98	21.81	4.58	2069.84	2203.96	1.14	1.43	483.13	1.00
5/25/25 12:28	1.98	21.81	4.58	2069.65	2203.77	1.14	1.43	483.17	1.00
5/25/25 13:28	1.98	21.81	4.58	2069.63	2203.74	1.14	1.43	483.18	1.00
5/25/25 14:28	1.98	21.81	4.58	2069.77	2203.92	1.14	1.43	483.15	1.00
5/25/25 15:28	1.99	21.81	4.59	2069.67	2203.83	1.14	1.43	483.17	1.00
5/25/25 16:28	1.98	21.81	4.58	2069.75	2203.91	1.14	1.43	483.15	1.00
5/25/25 17:28	1.98	21.81	4.58	2069.76	2203.94	1.14	1.43	483.15	1.00
5/25/25 18:28	1.98	21.81	4.58	2069.91	2204.11	1.14	1.43	483.11	1.00
5/25/25 19:28	1.98	21.81	4.58	2069.85	2204.04	1.14	1.43	483.13	1.00
5/25/25 20:28	1.98	21.81	4.58	2070.04	2204.24	1.14	1.43	483.08	1.00
5/25/25 21:28	1.98	21.81	4.58	2070.16	2204.41	1.14	1.43	483.05	1.00
5/25/25 22:28	1.98	21.81	4.58	2070.28	2204.54	1.14	1.43	483.03	1.00
5/25/25 23:28	1.98	21.81	4.57	2070.35	2204.60	1.14	1.43	483.01	1.00
5/26/25 0:28	1.98	21.81	4.57	2070.56	2204.84	1.14	1.43	482.96	1.00
5/26/25 1:28	1.98	21.81	4.57	2070.56	2204.86	1.14	1.43	482.96	1.00
5/26/25 2:28	1.98	21.81	4.57	2070.70	2205.02	1.14	1.43	482.93	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/26/25 3:28	1.98	21.81	4.57	2070.34	2204.62	1.14	1.43	483.01	1.00
5/26/25 4:28	1.98	21.81	4.57	2070.89	2205.23	1.14	1.43	482.88	1.00
5/26/25 5:28	1.98	21.81	4.57	2070.58	2204.92	1.14	1.43	482.96	1.00
5/26/25 6:28	1.98	21.81	4.57	2071.13	2205.51	1.14	1.43	482.83	1.00
5/26/25 7:28	1.98	21.81	4.57	2071.11	2205.50	1.14	1.43	482.83	1.00
5/26/25 8:28	1.98	21.81	4.57	2071.38	2205.81	1.14	1.43	482.77	1.00
5/26/25 9:28	1.98	21.81	4.56	2071.60	2206.03	1.14	1.43	482.72	1.00
5/26/25 10:28	1.98	21.81	4.56	2071.36	2205.80	1.14	1.43	482.77	1.00
5/26/25 11:28	1.97	21.81	4.55	2071.55	2206.01	1.14	1.43	482.73	1.00
5/26/25 12:28	1.97	21.81	4.56	2071.72	2206.20	1.14	1.43	482.69	1.00
5/26/25 13:28	1.98	21.81	4.57	2071.46	2205.93	1.14	1.43	482.75	1.00
5/26/25 14:28	1.98	21.81	4.58	2071.38	2205.87	1.14	1.43	482.77	1.00
5/26/25 15:28	1.98	21.81	4.58	2071.43	2205.92	1.14	1.43	482.76	1.00
5/26/25 16:28	1.98	21.81	4.57	2071.25	2205.72	1.14	1.43	482.80	1.00
5/26/25 17:28	1.97	21.81	4.56	2071.30	2205.78	1.14	1.43	482.79	1.00
5/26/25 18:28	1.97	21.81	4.55	2071.36	2205.87	1.14	1.43	482.77	1.00
5/26/25 19:28	1.97	21.81	4.54	2071.50	2206.04	1.14	1.43	482.74	1.00
5/26/25 20:28	1.97	21.81	4.54	2071.86	2206.45	1.14	1.43	482.66	1.00
5/26/25 21:28	1.96	21.81	4.53	2071.54	2206.10	1.14	1.43	482.73	1.00
5/26/25 22:28	1.96	21.81	4.52	2071.78	2206.37	1.14	1.43	482.68	1.00
5/26/25 23:28	1.96	21.81	4.52	2072.02	2206.62	1.14	1.43	482.62	1.00
5/27/25 0:28	1.96	21.81	4.52	2071.96	2206.56	1.14	1.43	482.63	1.00
5/27/25 1:28	1.95	21.81	4.51	2072.25	2206.88	1.14	1.43	482.57	1.00
5/27/25 2:28	1.96	21.81	4.52	2072.16	2206.78	1.14	1.43	482.59	1.00
5/27/25 3:28	1.95	21.81	4.52	2072.27	2206.93	1.14	1.43	482.56	1.00
5/27/25 4:28	1.95	21.81	4.51	2072.06	2206.70	1.14	1.43	482.61	1.00
5/27/25 5:28	1.95	21.81	4.51	2072.09	2206.75	1.14	1.43	482.60	1.00
5/27/25 6:28	1.95	21.81	4.51	2072.31	2206.98	1.14	1.43	482.55	1.00
5/27/25 7:28	1.95	21.80	4.51	2072.50	2207.20	1.14	1.43	482.51	1.00
5/27/25 8:28	1.95	21.80	4.51	2072.61	2207.34	1.14	1.43	482.48	1.00
5/27/25 9:28	1.96	21.80	4.53	2072.59	2207.32	1.14	1.43	482.49	1.00
5/27/25 10:28	1.97	21.80	4.54	2072.54	2207.27	1.14	1.43	482.50	1.00
5/27/25 11:28	1.97	21.80	4.54	2072.94	2207.71	1.14	1.44	482.41	1.00
5/27/25 12:28	1.97	21.80	4.55	2072.61	2207.36	1.14	1.43	482.48	1.00
5/27/25 13:28	1.97	21.80	4.55	2072.78	2207.56	1.14	1.43	482.44	1.00
5/27/25 14:28	1.97	21.80	4.56	2073.18	2208.01	1.14	1.44	482.35	1.00
5/27/25 15:28	1.98	21.80	4.57	2073.14	2207.96	1.14	1.44	482.36	1.00
5/27/25 16:28	1.98	21.80	4.57	2073.23	2208.06	1.14	1.44	482.34	1.00
5/27/25 17:28	1.98	21.80	4.57	2073.34	2208.18	1.14	1.44	482.31	1.00
5/27/25 18:28	1.98	21.80	4.57	2073.35	2208.21	1.14	1.44	482.31	1.00
5/27/25 19:28	1.97	21.80	4.55	2073.59	2208.48	1.14	1.44	482.26	1.00
5/27/25 20:28	1.98	21.80	4.57	2073.38	2208.26	1.14	1.44	482.30	1.00
5/27/25 21:28	1.98	21.80	4.58	2073.74	2208.67	1.14	1.44	482.22	1.00
5/27/25 22:28	1.98	21.80	4.58	2073.90	2208.84	1.14	1.44	482.18	1.00
5/27/25 23:28	1.98	21.80	4.57	2074.18	2209.12	1.14	1.44	482.12	1.00
5/28/25 0:28	1.98	21.80	4.58	2074.40	2209.37	1.15	1.44	482.07	1.00
5/28/25 1:28	1.98	21.80	4.57	2074.22	2209.21	1.15	1.44	482.11	1.00
5/28/25 2:28	1.98	21.80	4.57	2074.49	2209.49	1.15	1.44	482.05	1.00
5/28/25 3:28	1.98	21.80	4.57	2074.56	2209.59	1.15	1.44	482.03	1.00
5/28/25 4:28	1.98	21.80	4.57	2074.93	2210.00	1.15	1.44	481.94	1.00
5/28/25 5:28	1.98	21.80	4.57	2074.78	2209.84	1.15	1.44	481.98	1.00
5/28/25 6:28	1.98	21.80	4.57	2074.94	2210.02	1.15	1.44	481.94	1.00
5/28/25 7:28	1.98	21.80	4.57	2075.42	2210.54	1.15	1.44	481.83	1.00
5/28/25 8:28	1.98	21.80	4.56	2075.41	2210.53	1.15	1.44	481.83	1.00
5/28/25 9:28	1.98	21.80	4.57	2075.45	2210.60	1.15	1.44	481.82	1.00
5/28/25 10:28	1.98	21.80	4.58	2075.36	2210.51	1.15	1.44	481.84	1.00
5/28/25 11:28	1.98	21.80	4.57	2075.52	2210.68	1.15	1.44	481.81	1.00
5/28/25 12:28	1.98	21.80	4.57	2075.70	2210.90	1.15	1.44	481.76	1.00
5/28/25 13:28	1.98	21.80	4.58	2075.65	2210.85	1.15	1.44	481.78	1.00
5/28/25 14:28	1.98	21.80	4.57	2075.86	2211.07	1.15	1.44	481.73	1.00
5/28/25 15:28	1.98	21.80	4.58	2075.81	2211.04	1.15	1.44	481.74	1.00
5/28/25 16:28	1.99	21.80	4.59	2075.95	2211.19	1.15	1.44	481.71	1.00
5/28/25 17:28	1.98	21.80	4.58	2075.83	2211.05	1.15	1.44	481.74	1.00
5/28/25 18:28	1.99	21.80	4.59	2075.90	2211.16	1.15	1.44	481.72	1.00
5/28/25 19:28	1.98	21.80	4.58	2076.27	2211.57	1.15	1.44	481.63	1.00
5/28/25 20:28	1.98	21.80	4.58	2076.22	2211.53	1.15	1.44	481.64	1.00
5/28/25 21:28	1.98	21.80	4.58	2076.27	2211.59	1.15	1.44	481.63	1.00
5/28/25 22:28	1.98	21.80	4.57	2076.76	2212.12	1.15	1.44	481.52	1.00
5/28/25 23:28	1.98	21.80	4.58	2076.85	2212.20	1.15	1.44	481.50	1.00
5/29/25 0:28	1.98	21.80	4.58	2076.66	2212.01	1.15	1.44	481.54	1.00
5/29/25 1:28	1.98	21.80	4.58	2076.85	2212.23	1.15	1.44	481.50	1.00
5/29/25 2:28	1.98	21.80	4.58	2076.85	2212.23	1.15	1.44	481.50	1.00
5/29/25 3:28	1.98	21.80	4.58	2077.01	2212.40	1.15	1.44	481.46	1.00
5/29/25 4:28	1.98	21.79	4.58	2077.18	2212.63	1.15	1.44	481.42	1.00
5/29/25 5:28	1.98	21.80	4.58	2077.32	2212.77	1.15	1.44	481.39	1.00
5/29/25 6:28	1.98	21.80	4.57	2077.71	2213.19	1.15	1.44	481.30	1.00
5/29/25 7:28	1.98	21.80	4.58	2077.86	2213.33	1.15	1.44	481.27	1.00
5/29/25 8:28	1.98	21.79	4.58	2078.06	2213.60	1.15	1.44	481.22	1.00
5/29/25 9:28	1.98	21.79	4.58	2078.21	2213.77	1.15	1.44	481.18	1.00
5/29/25 10:28	1.98	21.79	4.58	2078.16	2213.73	1.15	1.44	481.19	1.00
5/29/25 11:28	1.98	21.79	4.58	2078.49	2214.07	1.15	1.44	481.12	1.00
5/29/25 12:28	1.98	21.79	4.58	2078.43	2214.02	1.15	1.44	481.13	1.00
5/29/25 13:28	1.98	21.79	4.58	2078.37	2213.97	1.15	1.44	481.15	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/29/25 14:28	1.99	21.79	4.59	2078.42	2214.04	1.15	1.44	481.13	1.00
5/29/25 15:28	1.98	21.79	4.58	2078.70	2214.33	1.15	1.44	481.07	1.00
5/29/25 16:28	1.97	21.79	4.56	2078.93	2214.58	1.15	1.44	481.02	1.00
5/29/25 17:28	1.98	21.79	4.57	2079.19	2214.87	1.15	1.44	480.96	1.00
5/29/25 18:28	1.98	21.79	4.58	2078.88	2214.55	1.15	1.44	481.03	1.00
5/29/25 19:28	1.98	21.79	4.58	2079.08	2214.74	1.15	1.44	480.98	1.00
5/29/25 20:28	1.98	21.79	4.57	2079.43	2215.15	1.15	1.44	480.90	1.00
5/29/25 21:28	1.98	21.79	4.57	2079.54	2215.30	1.15	1.44	480.88	1.00
5/29/25 22:28	1.97	21.79	4.56	2079.78	2215.53	1.15	1.44	480.82	1.00
5/29/25 23:28	1.97	21.79	4.56	2080.08	2215.87	1.15	1.44	480.75	1.00
5/30/25 0:28	1.98	21.79	4.56	2080.37	2216.19	1.15	1.44	480.68	1.00
5/30/25 1:28	1.97	21.79	4.56	2080.24	2216.06	1.15	1.44	480.71	1.00
5/30/25 2:28	1.98	21.79	4.57	2080.23	2216.06	1.15	1.44	480.72	1.00
5/30/25 3:28	1.98	21.79	4.57	2080.59	2216.45	1.15	1.44	480.63	1.00
5/30/25 4:28	1.98	21.79	4.57	2080.69	2216.57	1.15	1.44	480.61	1.00
5/30/25 5:28	1.98	21.79	4.57	2080.91	2216.80	1.15	1.44	480.56	1.00
5/30/25 6:28	1.98	21.79	4.56	2080.79	2216.69	1.15	1.44	480.59	1.00
5/30/25 7:28	1.97	21.79	4.56	2081.24	2217.18	1.15	1.44	480.48	1.00
5/30/25 8:28	1.98	21.79	4.56	2081.25	2217.20	1.15	1.44	480.48	1.00
5/30/25 9:28	1.98	21.79	4.57	2081.25	2217.21	1.15	1.44	480.48	1.00
5/30/25 10:28	1.98	21.79	4.57	2081.52	2217.52	1.15	1.44	480.42	1.00
5/30/25 11:28	1.98	21.79	4.57	2081.45	2217.44	1.15	1.44	480.43	1.00
5/30/25 12:28	1.98	21.79	4.58	2081.66	2217.68	1.15	1.44	480.39	1.00
5/30/25 13:28	1.98	21.79	4.58	2081.80	2217.82	1.15	1.44	480.35	1.00
5/30/25 14:28	1.98	21.79	4.58	2081.66	2217.70	1.15	1.44	480.39	1.00
5/30/25 15:28	1.98	21.79	4.58	2081.88	2217.92	1.15	1.44	480.33	1.00
5/30/25 16:28	1.98	21.79	4.58	2081.97	2218.04	1.15	1.44	480.31	1.00
5/30/25 17:28	1.98	21.79	4.58	2081.99	2218.08	1.15	1.44	480.31	1.00
5/30/25 18:28	1.98	21.79	4.58	2082.18	2218.29	1.15	1.44	480.27	1.00
5/30/25 19:28	1.98	21.79	4.57	2082.10	2218.21	1.15	1.44	480.28	1.00
5/30/25 20:28	1.98	21.79	4.57	2082.60	2218.77	1.15	1.44	480.17	1.00
5/30/25 21:28	1.98	21.79	4.57	2082.67	2218.83	1.15	1.44	480.15	1.00
5/30/25 22:28	1.98	21.79	4.58	2082.77	2218.96	1.15	1.44	480.13	1.00
5/30/25 23:28	1.98	21.79	4.58	2082.91	2219.11	1.15	1.44	480.10	1.00
5/31/25 0:28	1.98	21.79	4.58	2083.15	2219.38	1.15	1.44	480.04	1.00
5/31/25 1:28	1.98	21.79	4.58	2083.18	2219.41	1.15	1.44	480.04	1.00
5/31/25 2:28	1.98	21.79	4.58	2083.12	2219.36	1.15	1.44	480.05	1.00
5/31/25 3:28	1.98	21.79	4.58	2083.60	2219.91	1.15	1.44	479.94	1.00
5/31/25 4:28	1.98	21.79	4.58	2083.68	2219.95	1.15	1.44	479.92	1.00
5/31/25 5:28	1.98	21.79	4.58	2083.74	2220.05	1.15	1.44	479.91	1.00
5/31/25 6:28	1.98	21.79	4.57	2083.82	2220.14	1.15	1.44	479.89	1.00
5/31/25 7:28	1.98	21.79	4.57	2083.73	2220.05	1.15	1.44	479.91	1.00
5/31/25 8:28	1.98	21.78	4.58	2084.21	2220.59	1.15	1.44	479.80	1.00
5/31/25 9:28	1.98	21.78	4.58	2084.16	2220.54	1.15	1.44	479.81	1.00
5/31/25 10:28	1.98	21.78	4.58	2084.40	2220.82	1.15	1.44	479.75	1.00
5/31/25 11:28	1.98	21.78	4.58	2084.47	2220.88	1.15	1.44	479.74	1.00
5/31/25 12:28	1.98	21.78	4.58	2084.61	2221.05	1.15	1.44	479.71	1.00
5/31/25 13:28	1.98	21.78	4.58	2084.67	2221.12	1.15	1.44	479.69	1.00
5/31/25 14:28	1.99	21.78	4.59	2084.53	2220.97	1.15	1.44	479.73	1.00
5/31/25 15:28	1.99	21.78	4.59	2085.02	2221.54	1.15	1.44	479.61	1.00
5/31/25 16:28	1.99	21.78	4.60	2084.58	2221.04	1.15	1.44	479.71	1.00
5/31/25 17:28	1.99	21.78	4.59	2084.94	2221.43	1.15	1.44	479.63	1.00
5/31/25 18:28	1.99	21.78	4.59	2085.05	2221.56	1.15	1.44	479.60	1.00
5/31/25 19:28	1.98	21.78	4.58	2084.99	2221.52	1.15	1.44	479.62	1.00
5/31/25 20:28	1.98	21.78	4.58	2085.57	2222.14	1.15	1.44	479.49	1.00
5/31/25 21:28	1.98	21.78	4.58	2085.13	2221.67	1.15	1.44	479.59	1.00
5/31/25 22:28	1.98	21.78	4.58	2085.60	2222.20	1.15	1.44	479.48	1.00
5/31/25 23:28	1.98	21.78	4.58	2085.67	2222.28	1.15	1.44	479.46	1.00
6/1/25 0:28	1.98	21.78	4.58	2086.05	2222.68	1.15	1.44	479.38	1.00
6/1/25 1:28	1.98	21.78	4.58	2085.62	2222.25	1.15	1.44	479.47	1.00
6/1/25 2:28	1.98	21.78	4.58	2086.00	2222.65	1.15	1.44	479.39	1.00
6/1/25 3:28	1.98	21.78	4.58	2085.98	2222.63	1.15	1.44	479.39	1.00
6/1/25 4:28	1.99	21.78	4.59	2086.11	2222.78	1.15	1.44	479.36	1.00
6/1/25 5:28	1.98	21.78	4.58	2086.32	2223.00	1.15	1.44	479.31	1.00
6/1/25 6:28	1.98	21.78	4.58	2086.27	2222.98	1.15	1.44	479.32	1.00
6/1/25 7:28	1.99	21.78	4.58	2086.21	2222.91	1.15	1.44	479.34	1.00
6/1/25 8:28	1.99	21.78	4.59	2086.74	2223.47	1.15	1.45	479.22	1.00
6/1/25 9:28	1.99	21.78	4.59	2086.73	2223.49	1.15	1.45	479.22	1.00
6/1/25 10:28	1.99	21.78	4.59	2086.74	2223.51	1.15	1.45	479.22	1.00
6/1/25 11:28	1.99	21.78	4.59	2086.92	2223.70	1.15	1.45	479.17	1.00
6/1/25 12:28	1.99	21.78	4.59	2086.92	2223.72	1.15	1.45	479.17	1.00
6/1/25 13:28	1.99	21.78	4.59	2086.71	2223.48	1.15	1.45	479.22	1.00
6/1/25 14:28	1.99	21.78	4.59	2087.05	2223.87	1.15	1.45	479.15	1.00
6/1/25 15:28	1.99	21.78	4.59	2087.27	2224.12	1.15	1.45	479.09	1.00
6/1/25 16:28	1.99	21.78	4.60	2087.03	2223.89	1.15	1.45	479.15	1.00
6/1/25 17:28	1.99	21.78	4.60	2087.10	2223.96	1.15	1.45	479.13	1.00
6/1/25 18:28	1.99	21.78	4.60	2087.19	2224.06	1.15	1.45	479.11	1.00
6/1/25 19:28	1.99	21.78	4.59	2087.51	2224.41	1.15	1.45	479.04	1.00
6/1/25 20:28	1.99	21.78	4.59	2087.38	2224.29	1.15	1.45	479.07	1.00
6/1/25 21:28	1.99	21.78	4.59	2087.30	2224.21	1.15	1.45	479.09	1.00
6/1/25 22:28	1.98	21.78	4.58	2087.49	2224.42	1.15	1.45	479.04	1.00
6/1/25 23:28	1.99	21.78	4.59	2087.67	2224.62	1.15	1.45	479.00	1.00
6/2/25 0:28	1.99	21.78	4.59	2087.91	2224.86	1.15	1.45	478.95	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/2/25 1:28	1.99	21.78	4.59	2087.88	2224.86	1.15	1.45	478.96	1.00
6/2/25 2:28	1.99	21.78	4.59	2087.79	2224.78	1.15	1.45	478.98	1.00
6/2/25 3:28	1.99	21.78	4.59	2088.19	2225.21	1.15	1.45	478.88	1.00
6/2/25 4:28	1.99	21.78	4.59	2088.22	2225.26	1.15	1.45	478.88	1.00
6/2/25 5:28	1.99	21.78	4.59	2087.97	2225.00	1.15	1.45	478.93	1.00
6/2/25 6:28	1.99	21.78	4.59	2088.48	2225.55	1.15	1.45	478.82	1.00
6/2/25 7:28	1.99	21.78	4.59	2088.61	2225.68	1.15	1.45	478.79	1.00
6/2/25 8:28	1.99	21.78	4.59	2088.78	2225.87	1.15	1.45	478.75	1.00
6/2/25 9:28	1.98	21.77	4.58	2088.88	2226.01	1.15	1.45	478.72	1.00
6/2/25 10:28	1.97	21.77	4.54	2088.81	2225.93	1.15	1.45	478.74	1.00
6/2/25 11:28	1.96	21.77	4.52	2089.06	2226.22	1.15	1.45	478.69	1.00
6/2/25 12:28	1.95	21.77	4.51	2088.79	2225.92	1.15	1.45	478.75	1.00
6/2/25 13:28	1.95	21.77	4.50	2088.84	2225.98	1.15	1.45	478.73	1.00
6/2/25 14:28	1.95	21.77	4.49	2088.92	2226.07	1.15	1.45	478.72	1.00
6/2/25 15:28	1.94	21.77	4.49	2088.80	2225.96	1.15	1.45	478.74	1.00
6/2/25 16:28	1.94	21.77	4.48	2088.78	2225.95	1.15	1.45	478.75	1.00
6/2/25 17:28	1.94	21.77	4.48	2088.92	2226.10	1.15	1.45	478.72	1.00
6/2/25 18:28	1.94	21.77	4.47	2088.74	2225.92	1.15	1.45	478.76	1.00
6/2/25 19:28	1.93	21.77	4.47	2088.96	2226.18	1.15	1.45	478.71	1.00
6/2/25 20:28	1.93	21.77	4.46	2089.09	2226.33	1.15	1.45	478.68	1.00
6/2/25 21:28	1.93	21.77	4.45	2088.80	2226.03	1.15	1.45	478.74	1.00
6/2/25 22:28	1.93	21.77	4.45	2089.19	2226.42	1.15	1.45	478.65	1.00
6/2/25 23:28	1.93	21.77	4.45	2088.90	2226.14	1.15	1.45	478.72	1.00
6/3/25 0:28	1.93	21.77	4.45	2088.87	2226.10	1.15	1.45	478.73	1.00
6/3/25 1:28	1.92	21.77	4.44	2088.68	2225.92	1.15	1.45	478.77	1.00
6/3/25 2:28	1.92	21.77	4.45	2088.63	2225.89	1.15	1.45	478.78	1.00
6/3/25 3:28	1.92	21.77	4.44	2088.59	2225.83	1.15	1.45	478.79	1.00
6/3/25 4:28	1.92	21.77	4.44	2088.57	2225.82	1.15	1.45	478.80	1.00
6/3/25 5:28	1.92	21.77	4.44	2088.95	2226.24	1.15	1.45	478.71	1.00
6/3/25 6:28	1.92	21.77	4.44	2088.64	2225.91	1.15	1.45	478.78	1.00
6/3/25 7:28	1.92	21.77	4.43	2088.75	2226.05	1.15	1.45	478.75	1.00
6/3/25 8:28	1.92	21.77	4.43	2089.24	2226.56	1.15	1.45	478.64	1.00
6/3/25 9:28	1.93	21.77	4.46	2089.00	2226.32	1.15	1.45	478.70	1.00
6/3/25 10:28	1.86	21.77	4.29	2088.66	2225.99	1.15	1.45	478.78	1.00
6/3/25 11:28	1.94	21.77	4.47	2103.55	2241.74	1.16	1.46	475.39	1.00
6/3/25 12:28	1.95	21.77	4.51	2109.03	2247.62	1.17	1.46	474.15	1.00
6/3/25 13:28	1.96	21.77	4.52	2110.51	2249.27	1.17	1.46	473.82	1.00
6/3/25 14:28	1.96	21.77	4.54	2110.74	2249.53	1.17	1.46	473.77	1.00
6/3/25 15:28	1.97	21.77	4.55	2111.13	2249.97	1.17	1.46	473.68	1.00
6/3/25 16:28	1.97	21.77	4.55	2110.94	2249.78	1.17	1.46	473.72	1.00
6/3/25 17:28	1.97	21.77	4.56	2110.94	2249.79	1.17	1.46	473.72	1.00
6/3/25 18:28	1.97	21.77	4.56	2111.31	2250.19	1.17	1.46	473.64	1.00
6/3/25 19:28	1.97	21.77	4.55	2111.24	2250.10	1.17	1.46	473.66	1.00
6/3/25 20:28	1.97	21.77	4.55	2110.87	2249.74	1.17	1.46	473.74	1.00
6/3/25 21:28	1.97	21.77	4.56	2110.82	2249.70	1.17	1.46	473.75	1.00
6/3/25 22:28	1.98	21.77	4.56	2110.79	2249.67	1.17	1.46	473.76	1.00
6/3/25 23:28	1.98	21.77	4.56	2111.02	2249.94	1.17	1.46	473.70	1.00
6/4/25 0:28	1.97	21.77	4.56	2110.82	2249.71	1.17	1.46	473.75	1.00
6/4/25 1:28	1.97	21.77	4.56	2110.58	2249.46	1.17	1.46	473.80	1.00
6/4/25 2:28	1.97	21.77	4.56	2110.90	2249.81	1.17	1.46	473.73	1.00
6/4/25 3:28	1.97	21.77	4.56	2110.78	2249.70	1.17	1.46	473.76	1.00
6/4/25 4:28	1.97	21.77	4.56	2110.43	2249.33	1.17	1.46	473.84	1.00
6/4/25 5:28	1.97	21.77	4.55	2110.58	2249.52	1.17	1.46	473.80	1.00
6/4/25 6:28	1.97	21.77	4.55	2110.38	2249.30	1.17	1.46	473.85	1.00
6/4/25 7:28	1.97	21.77	4.56	2110.20	2249.13	1.17	1.46	473.89	1.00
6/4/25 8:28	1.97	21.77	4.55	2110.45	2249.39	1.17	1.46	473.83	1.00
6/4/25 9:28	1.97	21.77	4.56	2110.15	2249.06	1.17	1.46	473.90	1.00
6/4/25 10:28	1.98	21.77	4.57	2110.14	2249.09	1.17	1.46	473.90	1.00
6/4/25 11:28	1.98	21.77	4.57	2110.18	2249.14	1.17	1.46	473.89	1.00
6/4/25 12:28	1.98	21.77	4.58	2110.09	2249.04	1.17	1.46	473.91	1.00
6/4/25 13:28	1.98	21.76	4.58	2110.06	2249.03	1.17	1.46	473.92	1.00
6/4/25 14:28	1.98	21.77	4.58	2109.72	2248.65	1.17	1.46	474.00	1.00
6/4/25 15:28	1.98	21.76	4.58	2109.64	2248.59	1.17	1.46	474.01	1.00
6/4/25 16:28	1.98	21.76	4.58	2109.24	2248.18	1.17	1.46	474.10	1.00
6/4/25 17:28	1.98	21.76	4.58	2109.77	2248.75	1.17	1.46	473.99	1.00
6/4/25 18:28	1.99	21.76	4.59	2109.73	2248.73	1.17	1.46	473.99	1.00
6/4/25 19:28	1.99	21.76	4.59	2109.85	2248.84	1.17	1.46	473.97	1.00
6/4/25 20:28	1.98	21.76	4.58	2109.70	2248.68	1.17	1.46	474.00	1.00
6/4/25 21:28	1.98	21.76	4.58	2109.98	2249.00	1.17	1.46	473.94	1.00
6/4/25 22:28	1.98	21.76	4.58	2109.47	2248.50	1.17	1.46	474.05	1.00
6/4/25 23:28	1.98	21.76	4.58	2109.94	2248.98	1.17	1.46	473.95	1.00
6/5/25 0:28	1.98	21.76	4.58	2109.66	2248.69	1.17	1.46	474.01	1.00
6/5/25 1:28	1.98	21.76	4.57	2109.36	2248.39	1.17	1.46	474.08	1.00
6/5/25 2:28	1.99	21.76	4.59	2109.87	2248.93	1.17	1.46	473.96	1.00
6/5/25 3:28	1.99	21.76	4.59	2109.72	2248.78	1.17	1.46	474.00	1.00
6/5/25 4:28	1.98	21.76	4.58	2110.00	2249.07	1.17	1.46	473.93	1.00
6/5/25 5:28	1.98	21.76	4.58	2109.87	2248.97	1.17	1.46	473.96	1.00
6/5/25 6:28	1.98	21.76	4.58	2109.94	2249.04	1.17	1.46	473.95	1.00
6/5/25 7:28	1.98	21.76	4.58	2110.02	2249.12	1.17	1.46	473.93	1.00
6/5/25 8:28	1.98	21.76	4.57	2109.95	2249.08	1.17	1.46	473.95	1.00
6/5/25 9:28	1.99	21.76	4.59	2110.03	2249.14	1.17	1.46	473.93	1.00
6/5/25 10:28	1.99	21.76	4.59	2109.82	2248.95	1.17	1.46	473.97	1.00
6/5/25 11:28	1.99	21.76	4.58	2109.70	2248.82	1.17	1.46	474.00	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/5/25 12:28	1.99	21.76	4.59	2110.03	2249.17	1.17	1.46	473.93	1.00
6/5/25 13:28	1.98	21.76	4.58	2109.83	2248.98	1.17	1.46	473.97	1.00
6/5/25 14:28	1.99	21.76	4.59	2109.90	2249.05	1.17	1.46	473.96	1.00
6/5/25 15:28	1.99	21.76	4.59	2109.90	2249.07	1.17	1.46	473.96	1.00
6/5/25 16:28	1.99	21.76	4.60	2110.01	2249.21	1.17	1.46	473.93	1.00
6/5/25 17:28	1.99	21.76	4.59	2110.02	2249.22	1.17	1.46	473.93	1.00
6/5/25 18:28	1.98	21.76	4.58	2110.10	2249.30	1.17	1.46	473.91	1.00
6/5/25 19:28	1.98	21.76	4.58	2109.92	2249.13	1.17	1.46	473.95	1.00
6/5/25 20:28	1.98	21.76	4.58	2109.94	2249.13	1.17	1.46	473.95	1.00
6/5/25 21:28	1.99	21.76	4.59	2109.93	2249.13	1.17	1.46	473.95	1.00
6/5/25 22:28	1.98	21.76	4.58	2110.21	2249.44	1.17	1.46	473.89	1.00
6/5/25 23:28	1.99	21.76	4.59	2110.07	2249.32	1.17	1.46	473.92	1.00
6/6/25 0:28	1.99	21.76	4.59	2109.82	2249.05	1.17	1.46	473.97	1.00
6/6/25 1:28	1.98	21.76	4.58	2110.11	2249.36	1.17	1.46	473.91	1.00
6/6/25 2:28	1.98	21.76	4.58	2109.95	2249.22	1.17	1.46	473.94	1.00
6/6/25 3:28	1.98	21.76	4.58	2110.29	2249.60	1.17	1.46	473.87	1.00
6/6/25 4:28	1.99	21.76	4.59	2110.43	2249.77	1.17	1.46	473.84	1.00
6/6/25 5:28	1.99	21.76	4.59	2110.26	2249.59	1.17	1.46	473.88	1.00
6/6/25 6:28	1.99	21.76	4.59	2109.91	2249.23	1.17	1.46	473.95	1.00
6/6/25 7:28	1.98	21.76	4.58	2110.57	2249.94	1.17	1.46	473.81	1.00
6/6/25 8:28	1.98	21.76	4.58	2109.96	2249.28	1.17	1.46	473.94	1.00
6/6/25 9:28	1.98	21.76	4.58	2109.90	2249.24	1.17	1.46	473.96	1.00
6/6/25 10:28	1.99	21.76	4.59	2110.42	2249.80	1.17	1.46	473.84	1.00
6/6/25 11:28	1.99	21.76	4.59	2109.98	2249.34	1.17	1.46	473.94	1.00
6/6/25 12:28	1.99	21.76	4.59	2110.18	2249.53	1.17	1.46	473.89	1.00
6/6/25 13:28	1.99	21.76	4.60	2109.87	2249.24	1.17	1.46	473.96	1.00
6/6/25 14:28	1.99	21.76	4.59	2109.86	2249.23	1.17	1.46	473.96	1.00
6/6/25 15:28	1.99	21.76	4.59	2110.10	2249.48	1.17	1.46	473.91	1.00
6/6/25 16:28	1.99	21.76	4.60	2109.91	2249.29	1.17	1.46	473.95	1.00
6/6/25 17:28	1.99	21.76	4.60	2109.61	2249.00	1.17	1.46	474.02	1.00
6/6/25 18:28	1.99	21.75	4.60	2110.06	2249.48	1.17	1.46	473.92	1.00
6/6/25 19:28	1.99	21.76	4.60	2110.01	2249.42	1.17	1.46	473.93	1.00
6/6/25 20:28	1.99	21.75	4.59	2109.78	2249.20	1.17	1.46	473.98	1.00
6/6/25 21:28	1.98	21.75	4.58	2110.06	2249.50	1.17	1.46	473.92	1.00
6/6/25 22:28	1.98	21.75	4.58	2110.20	2249.67	1.17	1.46	473.89	1.00
6/6/25 23:28	1.99	21.75	4.59	2109.63	2249.04	1.17	1.46	474.02	1.00
6/7/25 0:28	1.99	21.75	4.59	2110.10	2249.57	1.17	1.46	473.91	1.00
6/7/25 1:28	1.99	21.75	4.59	2109.74	2249.22	1.17	1.46	473.99	1.00
6/7/25 2:28	1.99	21.75	4.59	2109.79	2249.23	1.17	1.46	473.98	1.00
6/7/25 3:28	1.99	21.75	4.59	2109.67	2249.14	1.17	1.46	474.01	1.00
6/7/25 4:28	1.99	21.75	4.59	2110.06	2249.56	1.17	1.46	473.92	1.00
6/7/25 5:28	1.99	21.75	4.59	2109.87	2249.36	1.17	1.46	473.96	1.00
6/7/25 6:28	1.99	21.75	4.59	2110.01	2249.52	1.17	1.46	473.93	1.00
6/7/25 7:28	1.99	21.75	4.59	2110.05	2249.59	1.17	1.46	473.92	1.00
6/7/25 8:28	1.99	21.75	4.59	2110.23	2249.76	1.17	1.46	473.88	1.00
6/7/25 9:28	1.99	21.75	4.58	2109.80	2249.31	1.17	1.46	473.98	1.00
6/7/25 10:28	1.98	21.75	4.58	2110.10	2249.67	1.17	1.46	473.91	1.00
6/7/25 11:28	1.99	21.75	4.59	2110.08	2249.64	1.17	1.46	473.92	1.00
6/7/25 12:28	1.99	21.75	4.60	2109.91	2249.46	1.17	1.46	473.95	1.00
6/7/25 13:28	1.99	21.75	4.60	2110.00	2249.55	1.17	1.46	473.93	1.00
6/7/25 14:28	1.99	21.75	4.60	2110.07	2249.67	1.17	1.46	473.92	1.00
6/7/25 15:28	1.99	21.75	4.59	2110.48	2250.10	1.17	1.46	473.83	1.00
6/7/25 16:28	1.99	21.75	4.59	2110.56	2250.18	1.17	1.46	473.81	1.00
6/7/25 17:28	1.99	21.75	4.60	2110.31	2249.91	1.17	1.46	473.87	1.00
6/7/25 18:28	1.99	21.75	4.60	2110.45	2250.10	1.17	1.46	473.83	1.00
6/7/25 19:28	1.99	21.75	4.60	2110.08	2249.73	1.17	1.46	473.92	1.00
6/7/25 20:28	1.99	21.75	4.59	2110.33	2249.99	1.17	1.46	473.86	1.00
6/7/25 21:28	1.99	21.75	4.59	2110.39	2250.06	1.17	1.46	473.85	1.00
6/7/25 22:28	1.99	21.75	4.59	2110.44	2250.11	1.17	1.46	473.83	1.00
6/7/25 23:28	1.99	21.75	4.59	2110.09	2249.77	1.17	1.46	473.91	1.00
6/8/25 0:28	1.99	21.75	4.59	2110.07	2249.74	1.17	1.46	473.92	1.00
6/8/25 1:28	1.99	21.75	4.60	2110.69	2250.42	1.17	1.46	473.78	1.00
6/8/25 2:28	1.99	21.75	4.60	2110.33	2250.06	1.17	1.46	473.86	1.00
6/8/25 3:28	1.99	21.75	4.60	2110.21	2249.91	1.17	1.46	473.89	1.00
6/8/25 4:28	1.99	21.75	4.60	2110.56	2250.29	1.17	1.46	473.81	1.00
6/8/25 5:28	1.99	21.75	4.59	2110.15	2249.86	1.17	1.46	473.90	1.00
6/8/25 6:28	1.99	21.75	4.59	2110.62	2250.37	1.17	1.46	473.80	1.00
6/8/25 7:28	1.99	21.75	4.58	2110.40	2250.17	1.17	1.46	473.84	1.00
6/8/25 8:28	1.99	21.75	4.59	2110.60	2250.37	1.17	1.46	473.80	1.00
6/8/25 9:28	1.99	21.75	4.60	2110.69	2250.48	1.17	1.46	473.78	1.00
6/8/25 10:28	1.99	21.75	4.60	2110.35	2250.11	1.17	1.46	473.86	1.00
6/8/25 11:28	1.99	21.75	4.60	2110.37	2250.15	1.17	1.46	473.85	1.00
6/8/25 12:28	1.99	21.75	4.60	2110.32	2250.10	1.17	1.46	473.86	1.00
6/8/25 13:28	1.99	21.75	4.59	2110.39	2250.20	1.17	1.46	473.85	1.00
6/8/25 14:28	1.99	21.75	4.60	2110.33	2250.15	1.17	1.46	473.86	1.00
6/8/25 15:28	2.00	21.75	4.61	2110.16	2249.97	1.17	1.46	473.90	1.00
6/8/25 16:28	2.00	21.75	4.61	2110.33	2250.13	1.17	1.46	473.86	1.00
6/8/25 17:28	1.99	21.75	4.61	2110.21	2250.04	1.17	1.46	473.89	1.00
6/8/25 18:28	1.99	21.75	4.60	2110.42	2250.26	1.17	1.46	473.84	1.00
6/8/25 19:28	1.99	21.75	4.60	2110.29	2250.14	1.17	1.46	473.87	1.00
6/8/25 20:28	1.99	21.75	4.60	2110.40	2250.27	1.17	1.46	473.84	1.00
6/8/25 21:28	1.99	21.75	4.59	2110.56	2250.44	1.17	1.46	473.81	1.00
6/8/25 22:28	1.99	21.75	4.59	2110.22	2250.10	1.17	1.46	473.88	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/8/25 23:28	1.99	21.75	4.60	2110.50	2250.40	1.17	1.46	473.82	1.00
6/9/25 0:28	1.99	21.75	4.60	2110.33	2250.22	1.17	1.46	473.86	1.00
6/9/25 1:28	1.99	21.74	4.59	2110.45	2250.37	1.17	1.46	473.83	1.00
6/9/25 2:28	1.98	21.74	4.58	2110.55	2250.48	1.17	1.46	473.81	1.00
6/9/25 3:28	1.98	21.74	4.58	2110.67	2250.62	1.17	1.46	473.78	1.00
6/9/25 4:28	1.98	21.74	4.58	2110.37	2250.31	1.17	1.46	473.85	1.00
6/9/25 5:28	1.98	21.74	4.58	2110.60	2250.57	1.17	1.46	473.80	1.00
6/9/25 6:28	1.98	21.74	4.58	2110.55	2250.50	1.17	1.46	473.81	1.00
6/9/25 7:28	1.98	21.74	4.58	2110.57	2250.54	1.17	1.46	473.81	1.00
6/9/25 8:28	1.98	21.74	4.58	2110.60	2250.55	1.17	1.46	473.80	1.00
6/9/25 9:28	1.99	21.74	4.59	2110.67	2250.65	1.17	1.46	473.78	1.00
6/9/25 10:28	1.99	21.74	4.59	2110.16	2250.14	1.17	1.46	473.90	1.00
6/9/25 11:28	1.98	21.74	4.58	2110.42	2250.41	1.17	1.46	473.84	1.00
6/9/25 12:28	1.98	21.74	4.58	2110.45	2250.44	1.17	1.46	473.83	1.00
6/9/25 13:28	1.99	21.74	4.59	2110.22	2250.19	1.17	1.46	473.89	1.00
6/9/25 14:28	1.99	21.74	4.60	2110.48	2250.51	1.17	1.46	473.83	1.00
6/9/25 15:28	1.99	21.74	4.60	2110.72	2250.75	1.17	1.46	473.77	1.00
6/9/25 16:28	1.99	21.74	4.60	2110.64	2250.67	1.17	1.46	473.79	1.00
6/9/25 17:28	1.99	21.74	4.60	2110.40	2250.43	1.17	1.46	473.84	1.00
6/9/25 18:28	1.99	21.74	4.60	2110.49	2250.53	1.17	1.46	473.82	1.00
6/9/25 19:28	1.99	21.74	4.59	2110.85	2250.94	1.17	1.46	473.74	1.00
6/9/25 20:28	1.99	21.74	4.59	2110.39	2250.45	1.17	1.46	473.85	1.00
6/9/25 21:28	1.99	21.74	4.59	2111.00	2251.09	1.17	1.46	473.71	1.00
6/9/25 22:28	1.99	21.74	4.60	2110.37	2250.43	1.17	1.46	473.85	1.00
6/9/25 23:28	1.99	21.74	4.59	2110.17	2250.24	1.17	1.46	473.89	1.00
6/10/25 0:28	1.99	21.74	4.59	2110.70	2250.81	1.17	1.46	473.78	1.00
6/10/25 1:28	1.99	21.74	4.59	2110.51	2250.63	1.17	1.46	473.82	1.00
6/10/25 2:28	1.98	21.74	4.58	2110.76	2250.89	1.17	1.46	473.76	1.00
6/10/25 3:28	1.99	21.74	4.59	2110.70	2250.82	1.17	1.46	473.78	1.00
6/10/25 4:28	1.99	21.74	4.59	2111.03	2251.19	1.17	1.46	473.70	1.00
6/10/25 5:28	1.99	21.74	4.59	2110.75	2250.91	1.17	1.46	473.77	1.00
6/10/25 6:28	1.99	21.74	4.59	2111.07	2251.25	1.17	1.46	473.69	1.00
6/10/25 7:28	1.99	21.74	4.59	2110.82	2250.98	1.17	1.46	473.75	1.00
6/10/25 8:28	1.99	21.74	4.59	2111.06	2251.26	1.17	1.46	473.69	1.00
6/10/25 9:28	1.99	21.74	4.59	2110.86	2251.05	1.17	1.46	473.74	1.00
6/10/25 10:28	1.98	21.74	4.58	2111.09	2251.32	1.17	1.46	473.69	1.00
6/10/25 11:28	1.99	21.74	4.59	2110.77	2250.98	1.17	1.46	473.76	1.00
6/10/25 12:28	1.99	21.74	4.60	2110.84	2251.06	1.17	1.46	473.75	1.00
6/10/25 13:28	1.99	21.74	4.60	2110.87	2251.09	1.17	1.46	473.74	1.00
6/10/25 14:28	1.99	21.74	4.60	2110.83	2251.06	1.17	1.46	473.75	1.00
6/10/25 15:28	1.99	21.74	4.60	2110.50	2250.74	1.17	1.46	473.82	1.00
6/10/25 16:28	1.99	21.74	4.60	2110.52	2250.77	1.17	1.46	473.82	1.00
6/10/25 17:28	1.99	21.74	4.59	2110.30	2250.53	1.17	1.46	473.87	1.00
6/10/25 18:28	1.99	21.74	4.59	2110.38	2250.62	1.17	1.46	473.85	1.00
6/10/25 19:28	1.99	21.74	4.59	2110.32	2250.57	1.17	1.46	473.86	1.00
6/10/25 20:28	1.99	21.74	4.59	2110.31	2250.57	1.17	1.46	473.86	1.00
6/10/25 21:28	1.99	21.74	4.59	2110.10	2250.35	1.17	1.46	473.91	1.00
6/10/25 22:28	1.99	21.74	4.59	2110.22	2250.49	1.17	1.46	473.88	1.00
6/10/25 23:28	1.99	21.74	4.59	2110.09	2250.35	1.17	1.46	473.91	1.00
6/11/25 0:28	1.99	21.74	4.59	2109.95	2250.22	1.17	1.46	473.95	1.00
6/11/25 1:28	1.99	21.74	4.60	2110.20	2250.47	1.17	1.46	473.89	1.00
6/11/25 2:28	1.99	21.74	4.60	2110.19	2250.48	1.17	1.46	473.89	1.00
6/11/25 3:28	1.99	21.74	4.60	2110.09	2250.42	1.17	1.46	473.91	1.00
6/11/25 4:28	1.99	21.74	4.60	2110.00	2250.30	1.17	1.46	473.93	1.00
6/11/25 5:28	1.99	21.74	4.59	2109.93	2250.23	1.17	1.46	473.95	1.00
6/11/25 6:28	1.99	21.74	4.59	2110.16	2250.50	1.17	1.46	473.90	1.00
6/11/25 7:28	1.99	21.73	4.59	2109.82	2250.15	1.17	1.46	473.97	1.00
6/11/25 8:28	1.99	21.73	4.60	2110.04	2250.39	1.17	1.46	473.92	1.00
6/11/25 9:28	1.99	21.73	4.60	2109.89	2250.24	1.17	1.46	473.96	1.00
6/11/25 10:28	1.99	21.73	4.60	2109.90	2250.27	1.17	1.46	473.96	1.00
6/11/25 11:28	1.99	21.73	4.60	2109.84	2250.21	1.17	1.46	473.97	1.00
6/11/25 12:28	1.99	21.73	4.60	2109.90	2250.28	1.17	1.46	473.96	1.00
6/11/25 13:28	1.99	21.73	4.60	2109.85	2250.20	1.17	1.46	473.97	1.00
6/11/25 14:28	2.00	21.73	4.61	2109.77	2250.15	1.17	1.46	473.99	1.00
6/11/25 15:28	1.99	21.73	4.61	2109.84	2250.23	1.17	1.46	473.97	1.00
6/11/25 16:28	1.99	21.73	4.60	2110.14	2250.57	1.17	1.46	473.90	1.00
6/11/25 17:28	1.99	21.73	4.60	2109.95	2250.36	1.17	1.46	473.95	1.00
6/11/25 18:28	1.99	21.73	4.60	2110.05	2250.49	1.17	1.46	473.92	1.00
6/11/25 19:28	1.99	21.73	4.60	2109.98	2250.42	1.17	1.46	473.94	1.00
6/11/25 20:28	1.99	21.73	4.60	2109.92	2250.37	1.17	1.46	473.95	1.00
6/11/25 21:28	1.99	21.73	4.60	2109.97	2250.43	1.17	1.46	473.94	1.00
6/11/25 22:28	1.99	21.73	4.60	2110.10	2250.57	1.17	1.46	473.91	1.00
6/11/25 23:28	1.99	21.73	4.59	2110.29	2250.78	1.17	1.46	473.87	1.00
6/12/25 0:28	1.99	21.73	4.59	2110.06	2250.54	1.17	1.46	473.92	1.00
6/12/25 1:28	1.99	21.73	4.60	2110.19	2250.67	1.17	1.46	473.89	1.00
6/12/25 2:28	2.00	21.73	4.61	2109.94	2250.44	1.17	1.46	473.95	1.00
6/12/25 3:28	1.99	21.73	4.61	2110.20	2250.72	1.17	1.46	473.89	1.00
6/12/25 4:28	1.99	21.73	4.60	2110.34	2250.87	1.17	1.46	473.86	1.00
6/12/25 5:28	1.99	21.73	4.60	2110.11	2250.66	1.17	1.46	473.91	1.00
6/12/25 6:28	1.99	21.73	4.60	2109.59	2250.11	1.17	1.46	474.03	1.00
6/12/25 7:28	1.99	21.73	4.60	2109.68	2250.20	1.17	1.46	474.01	1.00
6/12/25 8:28	1.99	21.73	4.60	2109.89	2250.45	1.17	1.46	473.96	1.00
6/12/25 9:28	1.99	21.73	4.61	2109.57	2250.10	1.17	1.46	474.03	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/12/25 10:28	1.99	21.73	4.60	2109.94	2250.51	1.17	1.46	473.95	1.00
6/12/25 11:28	1.99	21.73	4.60	2109.75	2250.31	1.17	1.46	473.99	1.00
6/12/25 12:28	2.00	21.73	4.61	2109.73	2250.28	1.17	1.46	473.99	1.00
6/12/25 13:28	2.00	21.73	4.61	2109.51	2250.07	1.17	1.46	474.04	1.00
6/12/25 14:28	1.99	21.73	4.61	2109.39	2249.96	1.17	1.46	474.07	1.00
6/12/25 15:28	2.00	21.73	4.62	2109.56	2250.17	1.17	1.46	474.03	1.00
6/12/25 16:28	2.00	21.73	4.61	2109.62	2250.23	1.17	1.46	474.02	1.00
6/12/25 17:28	2.00	21.73	4.61	2110.02	2250.66	1.17	1.46	473.93	1.00
6/12/25 18:28	1.99	21.73	4.61	2109.73	2250.36	1.17	1.46	473.99	1.00
6/12/25 19:28	1.99	21.73	4.61	2109.47	2250.09	1.17	1.46	474.05	1.00
6/12/25 20:28	1.99	21.73	4.61	2109.69	2250.33	1.17	1.46	474.00	1.00
6/12/25 21:28	2.00	21.73	4.61	2109.66	2250.30	1.17	1.46	474.01	1.00
6/12/25 22:28	1.99	21.73	4.61	2109.89	2250.56	1.17	1.46	473.96	1.00
6/12/25 23:28	1.99	21.73	4.60	2109.77	2250.45	1.17	1.46	473.99	1.00
6/13/25 0:28	1.99	21.73	4.60	2109.75	2250.44	1.17	1.46	473.99	1.00
6/13/25 1:28	2.00	21.73	4.61	2109.75	2250.44	1.17	1.46	473.99	1.00
6/13/25 2:28	2.00	21.73	4.61	2109.49	2250.18	1.17	1.46	474.05	1.00
6/13/25 3:28	2.00	21.73	4.61	2109.79	2250.50	1.17	1.46	473.98	1.00
6/13/25 4:28	1.99	21.73	4.60	2109.79	2250.53	1.17	1.46	473.98	1.00
6/13/25 5:28	1.99	21.73	4.60	2109.64	2250.34	1.17	1.46	474.01	1.00
6/13/25 6:28	1.99	21.73	4.60	2109.79	2250.53	1.17	1.46	473.98	1.00
6/13/25 7:28	2.00	21.73	4.61	2110.01	2250.78	1.17	1.46	473.93	1.00
6/13/25 8:28	1.99	21.73	4.60	2110.23	2250.99	1.17	1.46	473.88	1.00
6/13/25 9:28	1.99	21.73	4.60	2110.41	2251.23	1.17	1.46	473.84	1.00
6/13/25 10:28	1.99	21.73	4.60	2110.25	2251.01	1.17	1.46	473.88	1.00
6/13/25 11:28	2.00	21.73	4.61	2110.31	2251.09	1.17	1.46	473.86	1.00
6/13/25 12:28	2.00	21.72	4.61	2110.37	2251.19	1.17	1.46	473.85	1.00
6/13/25 13:28	2.00	21.72	4.61	2110.21	2251.03	1.17	1.46	473.89	1.00
6/13/25 14:28	2.00	21.72	4.61	2110.45	2251.30	1.17	1.46	473.83	1.00
6/13/25 15:28	2.00	21.72	4.61	2110.46	2251.29	1.17	1.46	473.83	1.00
6/13/25 16:28	2.00	21.72	4.61	2110.47	2251.31	1.17	1.46	473.83	1.00
6/13/25 17:28	2.00	21.72	4.61	2110.58	2251.47	1.17	1.46	473.80	1.00
6/13/25 18:28	2.00	21.72	4.62	2110.59	2251.47	1.17	1.46	473.80	1.00
6/13/25 19:28	2.00	21.72	4.62	2110.73	2251.62	1.17	1.46	473.77	1.00
6/13/25 20:28	2.00	21.72	4.61	2110.69	2251.60	1.17	1.46	473.78	1.00
6/13/25 21:28	1.99	21.72	4.60	2111.07	2252.01	1.17	1.46	473.69	1.00
6/13/25 22:28	1.99	21.72	4.60	2111.01	2251.96	1.17	1.46	473.71	1.00
6/13/25 23:28	2.00	21.72	4.62	2110.79	2251.72	1.17	1.46	473.76	1.00
6/14/25 0:28	1.99	21.72	4.60	2110.63	2251.55	1.17	1.46	473.79	1.00
6/14/25 1:28	2.00	21.72	4.61	2110.92	2251.89	1.17	1.46	473.73	1.00
6/14/25 2:28	1.99	21.72	4.60	2110.85	2251.83	1.17	1.46	473.74	1.00
6/14/25 3:28	1.99	21.72	4.60	2110.97	2251.95	1.17	1.46	473.72	1.00
6/14/25 4:28	1.99	21.72	4.60	2111.08	2252.09	1.17	1.46	473.69	1.00
6/14/25 5:28	2.00	21.72	4.61	2111.32	2252.33	1.17	1.46	473.64	1.00
6/14/25 6:28	1.99	21.72	4.60	2111.61	2252.65	1.17	1.46	473.57	1.00
6/14/25 7:28	1.99	21.72	4.60	2111.67	2252.74	1.17	1.46	473.56	1.00
6/14/25 8:28	1.99	21.72	4.60	2111.84	2252.92	1.17	1.46	473.52	1.00
6/14/25 9:28	2.00	21.72	4.61	2112.00	2253.10	1.17	1.46	473.48	1.00
6/14/25 10:28	1.99	21.72	4.61	2111.91	2253.01	1.17	1.46	473.51	1.00
6/14/25 11:28	1.99	21.72	4.61	2112.07	2253.19	1.17	1.46	473.47	1.00
6/14/25 12:28	2.00	21.72	4.61	2111.90	2253.03	1.17	1.46	473.51	1.00
6/14/25 13:28	2.00	21.72	4.61	2112.28	2253.43	1.17	1.46	473.42	1.00
6/14/25 14:28	2.00	21.72	4.61	2112.21	2253.37	1.17	1.46	473.44	1.00
6/14/25 15:28	2.00	21.72	4.61	2112.23	2253.37	1.17	1.46	473.43	1.00
6/14/25 16:28	2.00	21.72	4.62	2112.26	2253.41	1.17	1.46	473.43	1.00
6/14/25 17:28	2.00	21.72	4.61	2112.30	2253.48	1.17	1.46	473.42	1.00
6/14/25 18:28	2.00	21.72	4.61	2112.31	2253.49	1.17	1.46	473.42	1.00
6/14/25 19:28	2.00	21.72	4.62	2112.38	2253.56	1.17	1.46	473.40	1.00
6/14/25 20:28	2.00	21.72	4.61	2112.46	2253.68	1.17	1.46	473.38	1.00
6/14/25 21:28	2.00	21.72	4.61	2112.69	2253.91	1.17	1.47	473.33	1.00
6/14/25 22:28	1.99	21.72	4.60	2112.70	2253.96	1.17	1.47	473.33	1.00
6/14/25 23:28	1.99	21.72	4.61	2112.91	2254.18	1.17	1.47	473.28	1.00
6/15/25 0:28	1.99	21.72	4.61	2113.21	2254.52	1.17	1.47	473.21	1.00
6/15/25 1:28	2.00	21.72	4.61	2113.37	2254.68	1.17	1.47	473.18	1.00
6/15/25 2:28	1.99	21.72	4.60	2113.49	2254.85	1.17	1.47	473.15	1.00
6/15/25 3:28	2.00	21.72	4.61	2113.51	2254.85	1.17	1.47	473.15	1.00
6/15/25 4:28	2.00	21.72	4.61	2113.47	2254.82	1.17	1.47	473.16	1.00
6/15/25 5:28	2.00	21.72	4.61	2113.54	2254.89	1.17	1.47	473.14	1.00
6/15/25 6:28	2.00	21.72	4.61	2113.87	2255.25	1.17	1.47	473.07	1.00
6/15/25 7:28	1.99	21.72	4.60	2114.23	2255.66	1.17	1.47	472.99	1.00
6/15/25 8:28	2.00	21.72	4.61	2114.02	2255.42	1.17	1.47	473.03	1.00
6/15/25 9:28	2.00	21.72	4.61	2114.27	2255.71	1.17	1.47	472.98	1.00
6/15/25 10:28	2.00	21.72	4.61	2113.96	2255.37	1.17	1.47	473.05	1.00
6/15/25 11:28	2.00	21.72	4.61	2114.00	2255.45	1.17	1.47	473.04	1.00
6/15/25 12:28	2.00	21.72	4.62	2113.91	2255.35	1.17	1.47	473.06	1.00
6/15/25 13:28	2.00	21.72	4.61	2114.22	2255.69	1.17	1.47	472.99	1.00
6/15/25 14:28	2.00	21.72	4.62	2114.44	2255.95	1.17	1.47	472.94	1.00
6/15/25 15:28	2.00	21.72	4.62	2114.28	2255.76	1.17	1.47	472.97	1.00
6/15/25 16:28	2.00	21.72	4.61	2114.52	2256.04	1.17	1.47	472.92	1.00
6/15/25 17:28	2.00	21.72	4.63	2114.44	2255.96	1.17	1.47	472.94	1.00
6/15/25 18:28	2.00	21.72	4.61	2114.89	2256.41	1.17	1.47	472.84	1.00
6/15/25 19:28	2.00	21.72	4.61	2114.88	2256.43	1.17	1.47	472.84	1.00
6/15/25 20:28	1.99	21.72	4.61	2115.05	2256.62	1.17	1.47	472.80	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/15/25 21:28	2.00	21.71	4.61	2115.66	2257.30	1.17	1.47	472.66	1.00
6/15/25 22:28	2.00	21.71	4.61	2115.75	2257.40	1.17	1.47	472.64	1.00
6/15/25 23:28	1.99	21.71	4.60	2116.01	2257.69	1.17	1.47	472.59	1.00
6/16/25 0:28	2.00	21.71	4.61	2115.99	2257.65	1.17	1.47	472.59	1.00
6/16/25 1:28	2.00	21.71	4.61	2116.29	2257.98	1.17	1.47	472.52	1.00
6/16/25 2:28	2.00	21.71	4.61	2116.26	2257.99	1.17	1.47	472.53	1.00
6/16/25 3:28	2.00	21.71	4.62	2116.70	2258.43	1.17	1.47	472.43	1.00
6/16/25 4:28	2.00	21.71	4.61	2116.64	2258.41	1.17	1.47	472.45	1.00
6/16/25 5:28	2.00	21.71	4.61	2116.61	2258.35	1.17	1.47	472.45	1.00
6/16/25 6:28	2.00	21.71	4.61	2116.78	2258.55	1.17	1.47	472.42	1.00
6/16/25 7:28	2.00	21.71	4.61	2116.99	2258.80	1.17	1.47	472.37	1.00
6/16/25 8:28	2.00	21.71	4.61	2116.92	2258.72	1.17	1.47	472.38	1.00
6/16/25 9:28	2.00	21.71	4.61	2116.90	2258.69	1.17	1.47	472.39	1.00
6/16/25 10:28	2.00	21.71	4.61	2116.97	2258.79	1.17	1.47	472.37	1.00
6/16/25 11:28	2.00	21.71	4.61	2116.95	2258.77	1.17	1.47	472.38	1.00
6/16/25 12:28	2.00	21.71	4.62	2117.08	2258.93	1.17	1.47	472.35	1.00
6/16/25 13:28	2.00	21.71	4.62	2117.12	2258.95	1.17	1.47	472.34	1.00
6/16/25 14:28	2.00	21.71	4.62	2117.24	2259.12	1.17	1.47	472.31	1.00
6/16/25 15:28	2.00	21.71	4.62	2117.44	2259.31	1.17	1.47	472.27	1.00
6/16/25 16:28	2.00	21.71	4.63	2117.58	2259.50	1.17	1.47	472.24	1.00
6/16/25 17:28	2.00	21.71	4.62	2117.70	2259.62	1.17	1.47	472.21	1.00
6/16/25 18:28	2.00	21.71	4.63	2117.85	2259.79	1.17	1.47	472.18	1.00
6/16/25 19:28	2.00	21.71	4.62	2117.88	2259.85	1.17	1.47	472.17	1.00
6/16/25 20:28	2.00	21.71	4.62	2117.77	2259.72	1.17	1.47	472.20	1.00
6/16/25 21:28	2.00	21.71	4.62	2117.93	2259.89	1.17	1.47	472.16	1.00
6/16/25 22:28	2.00	21.71	4.62	2117.85	2259.83	1.17	1.47	472.18	1.00
6/16/25 23:28	2.00	21.71	4.62	2118.11	2260.12	1.17	1.47	472.12	1.00
6/17/25 0:28	2.00	21.71	4.62	2118.38	2260.41	1.17	1.47	472.06	1.00
6/17/25 1:28	2.00	21.71	4.62	2118.28	2260.28	1.17	1.47	472.08	1.00
6/17/25 2:28	2.00	21.71	4.62	2118.41	2260.45	1.17	1.47	472.05	1.00
6/17/25 3:28	2.00	21.71	4.62	2118.62	2260.69	1.17	1.47	472.00	1.00
6/17/25 4:28	2.00	21.71	4.62	2118.65	2260.74	1.17	1.47	472.00	1.00
6/17/25 5:28	2.00	21.71	4.62	2118.81	2260.90	1.17	1.47	471.96	1.00
6/17/25 6:28	2.00	21.71	4.62	2118.93	2261.03	1.17	1.47	471.94	1.00
6/17/25 7:28	2.00	21.71	4.61	2119.24	2261.39	1.17	1.47	471.87	1.00
6/17/25 8:28	2.00	21.71	4.62	2119.08	2261.20	1.17	1.47	471.90	1.00
6/17/25 9:28	2.00	21.71	4.62	2119.07	2261.21	1.17	1.47	471.90	1.00
6/17/25 10:28	2.00	21.71	4.62	2119.60	2261.78	1.17	1.47	471.79	1.00
6/17/25 11:28	2.00	21.71	4.63	2119.63	2261.84	1.17	1.47	471.78	1.00
6/17/25 12:28	2.00	21.71	4.63	2119.53	2261.72	1.17	1.47	471.80	1.00
6/17/25 13:28	2.00	21.71	4.62	2119.76	2261.97	1.17	1.47	471.75	1.00
6/17/25 14:28	2.01	21.71	4.63	2119.34	2261.55	1.17	1.47	471.84	1.00
6/17/25 15:28	2.00	21.71	4.63	2119.76	2261.99	1.17	1.47	471.75	1.00
6/17/25 16:28	2.01	21.71	4.64	2119.72	2261.96	1.17	1.47	471.76	1.00
6/17/25 17:28	2.00	21.71	4.63	2119.75	2261.99	1.17	1.47	471.75	1.00
6/17/25 18:28	2.00	21.71	4.63	2119.99	2262.27	1.17	1.47	471.70	1.00
6/17/25 19:28	2.00	21.71	4.63	2120.10	2262.40	1.17	1.47	471.68	1.00
6/17/25 20:28	2.00	21.71	4.62	2120.30	2262.62	1.17	1.47	471.63	1.00
6/17/25 21:28	2.00	21.71	4.62	2120.29	2262.61	1.17	1.47	471.63	1.00
6/17/25 22:28	2.00	21.71	4.63	2120.24	2262.57	1.17	1.47	471.65	1.00
6/17/25 23:28	2.00	21.71	4.62	2120.48	2262.82	1.17	1.47	471.59	1.00
6/18/25 0:28	2.00	21.71	4.62	2120.43	2262.78	1.17	1.47	471.60	1.00
6/18/25 1:28	2.00	21.71	4.62	2120.18	2262.51	1.17	1.47	471.66	1.00
6/18/25 2:28	2.00	21.71	4.62	2120.70	2263.08	1.17	1.47	471.54	1.00
6/18/25 3:28	1.99	21.71	4.61	2120.82	2263.22	1.17	1.47	471.52	1.00
6/18/25 4:28	2.00	21.71	4.61	2120.73	2263.13	1.17	1.47	471.54	1.00
6/18/25 5:28	2.00	21.71	4.61	2120.60	2263.00	1.17	1.47	471.56	1.00
6/18/25 6:28	2.00	21.71	4.61	2120.71	2263.12	1.17	1.47	471.54	1.00
6/18/25 7:28	2.00	21.71	4.61	2120.87	2263.30	1.17	1.47	471.51	1.00
6/18/25 8:28	1.99	21.71	4.60	2121.06	2263.51	1.17	1.47	471.46	1.00
6/18/25 9:28	2.00	21.70	4.61	2121.24	2263.71	1.17	1.47	471.42	1.00
6/18/25 10:28	2.00	21.70	4.61	2121.19	2263.67	1.17	1.47	471.43	1.00
6/18/25 11:28	2.00	21.70	4.61	2121.17	2263.65	1.17	1.47	471.44	1.00
6/18/25 12:28	2.00	21.70	4.62	2121.67	2264.18	1.17	1.47	471.33	1.00
6/18/25 13:28	2.00	21.70	4.62	2121.42	2263.96	1.17	1.47	471.38	1.00
6/18/25 14:28	2.00	21.70	4.62	2121.97	2264.51	1.18	1.47	471.26	1.00
6/18/25 15:28	2.00	21.70	4.62	2121.82	2264.39	1.18	1.47	471.29	1.00
6/18/25 16:28	2.00	21.70	4.62	2121.89	2264.45	1.18	1.47	471.28	1.00
6/18/25 17:28	2.00	21.70	4.63	2122.03	2264.62	1.18	1.47	471.25	1.00
6/18/25 18:28	2.00	21.70	4.62	2122.07	2264.68	1.18	1.47	471.24	1.00
6/18/25 19:28	2.00	21.70	4.62	2121.82	2264.43	1.18	1.47	471.29	1.00
6/18/25 20:28	2.00	21.70	4.62	2122.19	2264.81	1.18	1.47	471.21	1.00
6/18/25 21:28	2.00	21.70	4.61	2122.15	2264.79	1.18	1.47	471.22	1.00
6/18/25 22:28	2.00	21.70	4.61	2122.34	2264.99	1.18	1.47	471.18	1.00
6/18/25 23:28	2.00	21.70	4.62	2122.78	2265.46	1.18	1.47	471.08	1.00
6/19/25 0:28	2.00	21.70	4.61	2122.79	2265.49	1.18	1.47	471.08	1.00
6/19/25 1:28	2.00	21.70	4.61	2122.58	2265.27	1.18	1.47	471.12	1.00
6/19/25 2:28	2.00	21.70	4.61	2122.67	2265.37	1.18	1.47	471.10	1.00
6/19/25 3:28	2.00	21.70	4.62	2122.84	2265.56	1.18	1.47	471.07	1.00
6/19/25 4:28	2.00	21.70	4.61	2122.98	2265.73	1.18	1.47	471.04	1.00
6/19/25 5:28	2.00	21.70	4.61	2123.08	2265.81	1.18	1.47	471.01	1.00
6/19/25 6:28	2.00	21.70	4.61	2123.07	2265.81	1.18	1.47	471.02	1.00
6/19/25 7:28	2.00	21.70	4.61	2123.38	2266.15	1.18	1.47	470.95	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/19/25 8:28	1.99	21.70	4.60	2123.36	2266.15	1.18	1.47	470.95	1.00
6/19/25 9:28	2.00	21.70	4.61	2123.49	2266.29	1.18	1.47	470.92	1.00
6/19/25 10:28	2.00	21.70	4.61	2123.73	2266.57	1.18	1.47	470.87	1.00
6/19/25 11:28	2.00	21.70	4.61	2123.72	2266.56	1.18	1.47	470.87	1.00
6/19/25 12:28	2.00	21.70	4.62	2123.89	2266.75	1.18	1.47	470.83	1.00
6/19/25 13:28	2.00	21.70	4.62	2123.87	2266.73	1.18	1.47	470.84	1.00
6/19/25 14:28	2.00	21.70	4.62	2124.02	2266.90	1.18	1.47	470.81	1.00
6/19/25 15:28	2.00	21.70	4.63	2124.44	2267.36	1.18	1.47	470.71	1.00
6/19/25 16:28	2.00	21.70	4.62	2124.55	2267.49	1.18	1.47	470.69	1.00
6/19/25 17:28	2.00	21.70	4.62	2124.71	2267.64	1.18	1.47	470.65	1.00
6/19/25 18:28	2.00	21.70	4.63	2124.92	2267.91	1.18	1.47	470.61	1.00
6/19/25 19:28	2.00	21.70	4.62	2124.74	2267.70	1.18	1.47	470.65	1.00
6/19/25 20:28	2.00	21.70	4.62	2125.05	2268.05	1.18	1.47	470.58	1.00
6/19/25 21:28	2.00	21.70	4.62	2125.13	2268.13	1.18	1.47	470.56	1.00
6/19/25 22:28	2.00	21.70	4.62	2125.01	2268.02	1.18	1.47	470.59	1.00
6/19/25 23:28	2.00	21.70	4.62	2125.36	2268.41	1.18	1.47	470.51	1.00
6/20/25 0:28	2.00	21.70	4.63	2125.34	2268.38	1.18	1.47	470.51	1.00
6/20/25 1:28	2.00	21.70	4.62	2125.55	2268.62	1.18	1.47	470.47	1.00
6/20/25 2:28	2.00	21.70	4.63	2125.35	2268.40	1.18	1.47	470.51	1.00
6/20/25 3:28	2.00	21.70	4.62	2125.59	2268.67	1.18	1.47	470.46	1.00
6/20/25 4:28	2.00	21.70	4.63	2125.53	2268.62	1.18	1.47	470.47	1.00
6/20/25 5:28	2.00	21.70	4.63	2125.48	2268.55	1.18	1.47	470.48	1.00
6/20/25 6:28	2.00	21.70	4.62	2125.43	2268.52	1.18	1.47	470.49	1.00
6/20/25 7:28	2.00	21.70	4.62	2125.90	2269.05	1.18	1.47	470.39	1.00
6/20/25 8:28	2.00	21.70	4.63	2125.81	2268.95	1.18	1.47	470.41	1.00
6/20/25 9:28	2.00	21.70	4.62	2125.65	2268.77	1.18	1.47	470.44	1.00
6/20/25 10:28	2.00	21.70	4.62	2125.97	2269.13	1.18	1.47	470.37	1.00
6/20/25 11:28	2.00	21.70	4.63	2126.06	2269.24	1.18	1.48	470.35	1.00
6/20/25 12:28	2.00	21.70	4.63	2126.29	2269.49	1.18	1.48	470.30	1.00
6/20/25 13:28	2.01	21.70	4.64	2126.35	2269.55	1.18	1.48	470.29	1.00
6/20/25 14:28	2.01	21.70	4.64	2126.18	2269.39	1.18	1.48	470.33	1.00
6/20/25 15:28	2.01	21.70	4.63	2126.21	2269.41	1.18	1.48	470.32	1.00
6/20/25 16:28	2.01	21.70	4.64	2126.63	2269.88	1.18	1.48	470.23	1.00
6/20/25 17:28	2.01	21.70	4.63	2126.63	2269.89	1.18	1.48	470.23	1.00
6/20/25 18:28	2.00	21.70	4.63	2126.74	2270.01	1.18	1.48	470.20	1.00
6/20/25 19:28	2.01	21.70	4.64	2126.60	2269.87	1.18	1.48	470.23	1.00
6/20/25 20:28	2.00	21.70	4.63	2126.72	2270.01	1.18	1.48	470.21	1.00
6/20/25 21:28	2.00	21.70	4.62	2127.03	2270.34	1.18	1.48	470.14	1.00
6/20/25 22:28	2.00	21.69	4.63	2126.90	2270.22	1.18	1.48	470.17	1.00
6/20/25 23:28	2.01	21.69	4.64	2127.16	2270.51	1.18	1.48	470.11	1.00
6/21/25 0:28	2.01	21.69	4.63	2126.90	2270.22	1.18	1.48	470.17	1.00
6/21/25 1:28	2.00	21.69	4.63	2127.21	2270.58	1.18	1.48	470.10	1.00
6/21/25 2:28	2.00	21.69	4.63	2127.31	2270.68	1.18	1.48	470.08	1.00
6/21/25 3:28	2.01	21.69	4.63	2127.44	2270.83	1.18	1.48	470.05	1.00
6/21/25 4:28	2.01	21.69	4.63	2127.74	2271.15	1.18	1.48	469.98	1.00
6/21/25 5:28	2.00	21.69	4.62	2127.65	2271.08	1.18	1.48	470.00	1.00
6/21/25 6:28	2.00	21.69	4.63	2127.64	2271.07	1.18	1.48	470.01	1.00
6/21/25 7:28	2.00	21.69	4.63	2127.59	2271.04	1.18	1.48	470.02	1.00
6/21/25 8:28	2.00	21.69	4.63	2127.84	2271.29	1.18	1.48	469.96	1.00
6/21/25 9:28	2.01	21.69	4.63	2128.03	2271.49	1.18	1.48	469.92	1.00
6/21/25 10:28	2.01	21.69	4.64	2127.96	2271.43	1.18	1.48	469.93	1.00
6/21/25 11:28	2.01	21.69	4.63	2128.11	2271.58	1.18	1.48	469.90	1.00
6/21/25 12:28	2.01	21.69	4.64	2128.21	2271.73	1.18	1.48	469.88	1.00
6/21/25 13:28	2.01	21.69	4.64	2128.23	2271.75	1.18	1.48	469.87	1.00
6/21/25 14:28	2.01	21.69	4.63	2128.38	2271.91	1.18	1.48	469.84	1.00
6/21/25 15:28	2.01	21.69	4.64	2128.54	2272.09	1.18	1.48	469.80	1.00
6/21/25 16:28	2.01	21.69	4.64	2128.48	2272.03	1.18	1.48	469.82	1.00
6/21/25 17:28	2.01	21.69	4.64	2128.71	2272.28	1.18	1.48	469.77	1.00
6/21/25 18:28	2.01	21.69	4.64	2128.94	2272.55	1.18	1.48	469.72	1.00
6/21/25 19:28	2.01	21.69	4.64	2129.07	2272.69	1.18	1.48	469.69	1.00
6/21/25 20:28	2.00	21.69	4.63	2129.07	2272.69	1.18	1.48	469.69	1.00
6/21/25 21:28	2.00	21.69	4.63	2129.26	2272.88	1.18	1.48	469.65	1.00
6/21/25 22:28	2.01	21.69	4.63	2129.39	2273.06	1.18	1.48	469.62	1.00
6/21/25 23:28	2.01	21.69	4.63	2129.71	2273.40	1.18	1.48	469.55	1.00
6/22/25 0:28	2.00	21.69	4.63	2129.86	2273.56	1.18	1.48	469.52	1.00
6/22/25 1:28	2.00	21.69	4.62	2129.76	2273.46	1.18	1.48	469.54	1.00
6/22/25 2:28	2.01	21.69	4.63	2129.82	2273.54	1.18	1.48	469.52	1.00
6/22/25 3:28	2.01	21.69	4.64	2130.18	2273.95	1.18	1.48	469.44	1.00
6/22/25 4:28	2.01	21.69	4.63	2130.23	2273.97	1.18	1.48	469.43	1.00
6/22/25 5:28	2.00	21.69	4.63	2130.24	2273.99	1.18	1.48	469.43	1.00
6/22/25 6:28	2.00	21.69	4.62	2130.33	2274.11	1.18	1.48	469.41	1.00
6/22/25 7:28	2.00	21.69	4.63	2130.52	2274.32	1.18	1.48	469.37	1.00
6/22/25 8:28	2.00	21.69	4.63	2130.49	2274.29	1.18	1.48	469.38	1.00
6/22/25 9:28	2.01	21.69	4.63	2130.73	2274.55	1.18	1.48	469.32	1.00
6/22/25 10:28	2.00	21.69	4.63	2130.74	2274.57	1.18	1.48	469.32	1.00
6/22/25 11:28	2.01	21.69	4.63	2130.92	2274.80	1.18	1.48	469.28	1.00
6/22/25 12:28	2.01	21.69	4.63	2131.07	2274.94	1.18	1.48	469.25	1.00
6/22/25 13:28	2.01	21.69	4.63	2131.10	2274.97	1.18	1.48	469.24	1.00
6/22/25 14:28	2.01	21.69	4.64	2130.92	2274.80	1.18	1.48	469.28	1.00
6/22/25 15:28	2.01	21.69	4.64	2131.54	2275.46	1.18	1.48	469.14	1.00
6/22/25 16:28	2.01	21.69	4.63	2131.38	2275.30	1.18	1.48	469.18	1.00
6/22/25 17:28	2.01	21.69	4.64	2131.50	2275.45	1.18	1.48	469.15	1.00
6/22/25 18:28	2.01	21.69	4.64	2131.43	2275.37	1.18	1.48	469.17	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/22/25 19:28	2.01	21.69	4.63	2131.73	2275.71	1.18	1.48	469.10	1.00
6/22/25 20:28	2.01	21.69	4.64	2131.65	2275.64	1.18	1.48	469.12	1.00
6/22/25 21:28	2.00	21.69	4.63	2131.85	2275.82	1.18	1.48	469.08	1.00
6/22/25 22:28	2.00	21.69	4.63	2131.80	2275.80	1.18	1.48	469.09	1.00
6/22/25 23:28	2.00	21.69	4.62	2131.92	2275.93	1.18	1.48	469.06	1.00
6/23/25 0:28	2.00	21.69	4.62	2132.10	2276.12	1.18	1.48	469.02	1.00
6/23/25 1:28	2.00	21.69	4.63	2132.21	2276.25	1.18	1.48	469.00	1.00
6/23/25 2:28	2.01	21.69	4.63	2132.05	2276.10	1.18	1.48	469.03	1.00
6/23/25 3:28	2.00	21.69	4.63	2132.17	2276.23	1.18	1.48	469.01	1.00
6/23/25 4:28	2.00	21.69	4.62	2132.36	2276.39	1.18	1.48	468.96	1.00
6/23/25 5:28	2.00	21.69	4.62	2132.51	2276.60	1.18	1.48	468.93	1.00
6/23/25 6:28	2.00	21.69	4.63	2132.48	2276.57	1.18	1.48	468.94	1.00
6/23/25 7:28	2.00	21.69	4.63	2132.64	2276.77	1.18	1.48	468.90	1.00
6/23/25 8:28	2.01	21.69	4.63	2132.64	2276.75	1.18	1.48	468.90	1.00
6/23/25 9:28	2.00	21.69	4.63	2133.05	2277.21	1.18	1.48	468.81	1.00
6/23/25 10:28	2.01	21.69	4.63	2132.63	2276.62	1.18	1.48	468.91	1.00
6/23/25 11:28	2.01	21.69	4.64	2132.44	2276.50	1.18	1.48	468.95	1.00
6/23/25 12:28	2.01	21.69	4.64	2132.18	2276.23	1.18	1.48	469.00	1.00
6/23/25 13:28	2.01	21.69	4.64	2132.57	2276.70	1.18	1.48	468.92	1.00
6/23/25 14:28	2.01	21.69	4.64	2132.98	2277.13	1.18	1.48	468.83	1.00
6/23/25 15:28	2.01	21.69	4.64	2132.61	2276.77	1.18	1.48	468.91	1.00
6/23/25 16:28	2.01	21.68	4.65	2133.04	2277.24	1.18	1.48	468.82	1.00
6/23/25 17:28	2.01	21.68	4.63	2133.24	2277.47	1.18	1.48	468.77	1.00
6/23/25 18:28	2.00	21.68	4.63	2133.34	2277.59	1.18	1.48	468.75	1.00
6/23/25 19:28	2.00	21.68	4.63	2133.81	2278.09	1.18	1.48	468.65	1.00
6/23/25 20:28	2.00	21.68	4.63	2133.62	2277.88	1.18	1.48	468.69	1.00
6/23/25 21:28	2.00	21.68	4.62	2134.12	2278.42	1.18	1.48	468.58	1.00
6/23/25 22:28	2.00	21.68	4.62	2134.25	2278.59	1.18	1.48	468.55	1.00
6/23/25 23:28	2.01	21.68	4.64	2134.19	2278.50	1.18	1.48	468.56	1.00
6/24/25 0:28	2.01	21.68	4.63	2134.50	2278.84	1.18	1.48	468.49	1.00
6/24/25 1:28	2.00	21.68	4.63	2134.44	2278.81	1.18	1.48	468.51	1.00
6/24/25 2:28	2.00	21.68	4.63	2134.60	2278.98	1.18	1.48	468.47	1.00
6/24/25 3:28	2.00	21.68	4.62	2134.73	2279.13	1.18	1.48	468.44	1.00
6/24/25 4:28	2.00	21.68	4.63	2134.92	2279.33	1.18	1.48	468.40	1.00
6/24/25 5:28	2.01	21.68	4.63	2135.38	2279.85	1.18	1.48	468.30	1.00
6/24/25 6:28	2.00	21.68	4.63	2135.19	2279.65	1.18	1.48	468.34	1.00
6/24/25 7:28	2.00	21.68	4.62	2135.20	2279.65	1.18	1.48	468.34	1.00
6/24/25 8:28	2.00	21.68	4.61	2135.37	2279.85	1.18	1.48	468.30	1.00
6/24/25 9:28	2.00	21.68	4.63	2135.73	2280.25	1.18	1.48	468.22	1.00
6/24/25 10:28	2.00	21.68	4.63	2135.48	2279.97	1.18	1.48	468.28	1.00
6/24/25 11:28	2.01	21.68	4.63	2135.53	2280.03	1.18	1.48	468.27	1.00
6/24/25 12:28	2.01	21.68	4.65	2135.53	2280.04	1.18	1.48	468.27	1.00
6/24/25 13:28	2.01	21.68	4.64	2135.97	2280.52	1.18	1.48	468.17	1.00
6/24/25 14:28	2.01	21.68	4.64	2136.00	2280.57	1.18	1.48	468.16	1.00
6/24/25 15:28	2.01	21.68	4.64	2136.35	2280.94	1.18	1.48	468.09	1.00
6/24/25 16:28	1.99	21.68	4.60	2136.40	2280.99	1.18	1.48	468.08	1.00
6/24/25 17:28	1.98	21.68	4.57	2136.25	2280.84	1.18	1.48	468.11	1.00
6/24/25 18:28	1.97	21.68	4.55	2136.42	2281.02	1.18	1.48	468.07	1.00
6/24/25 19:28	1.97	21.68	4.55	2136.28	2280.89	1.18	1.48	468.10	1.00
6/24/25 20:28	1.98	21.68	4.57	2136.29	2280.89	1.18	1.48	468.10	1.00
6/24/25 21:28	1.98	21.68	4.58	2136.16	2280.77	1.18	1.48	468.13	1.00
6/24/25 22:28	1.99	21.68	4.59	2136.27	2280.91	1.18	1.48	468.11	1.00
6/24/25 23:28	1.99	21.68	4.60	2136.22	2280.85	1.18	1.48	468.12	1.00
6/25/25 0:28	2.00	21.68	4.61	2136.56	2281.23	1.18	1.48	468.04	1.00
6/25/25 1:28	2.00	21.68	4.62	2136.58	2281.26	1.18	1.48	468.04	1.00
6/25/25 2:28	2.00	21.68	4.62	2136.97	2281.67	1.18	1.48	467.95	1.00
6/25/25 3:28	1.99	21.68	4.59	2136.77	2281.47	1.18	1.48	468.00	1.00
6/25/25 4:28	1.98	21.68	4.57	2136.84	2281.56	1.18	1.48	467.98	1.00
6/25/25 5:28	1.97	21.68	4.55	2136.76	2281.48	1.18	1.48	468.00	1.00
6/25/25 6:28	1.97	21.68	4.54	2137.20	2281.96	1.18	1.48	467.90	1.00
6/25/25 7:28	1.96	21.68	4.53	2137.01	2281.77	1.18	1.48	467.94	1.00
6/25/25 8:28	1.96	21.68	4.52	2136.99	2281.72	1.18	1.48	467.95	1.00
6/25/25 9:28	1.95	21.68	4.51	2137.20	2281.97	1.18	1.48	467.90	1.00
6/25/25 10:28	1.96	21.68	4.52	2137.05	2281.81	1.18	1.48	467.93	1.00
6/25/25 11:28	1.95	21.68	4.51	2136.77	2281.50	1.18	1.48	468.00	1.00
6/25/25 12:28	1.95	21.68	4.51	2136.71	2281.46	1.18	1.48	468.01	1.00
6/25/25 13:28	1.95	21.68	4.51	2136.89	2281.66	1.18	1.48	467.97	1.00
6/25/25 14:28	1.95	21.68	4.51	2137.00	2281.78	1.18	1.48	467.95	1.00
6/25/25 15:28	1.95	21.68	4.51	2136.83	2281.59	1.18	1.48	467.98	1.00
6/25/25 16:28	1.95	21.68	4.51	2136.89	2281.67	1.18	1.48	467.97	1.00
6/25/25 17:28	1.95	21.68	4.50	2136.89	2281.69	1.18	1.48	467.97	1.00
6/25/25 18:28	1.95	21.68	4.50	2136.83	2281.63	1.18	1.48	467.98	1.00
6/25/25 19:28	1.95	21.68	4.50	2136.58	2281.36	1.18	1.48	468.04	1.00
6/25/25 20:28	1.95	21.68	4.49	2136.84	2281.64	1.18	1.48	467.98	1.00
6/25/25 21:28	1.95	21.68	4.49	2136.83	2281.63	1.18	1.48	467.98	1.00
6/25/25 22:28	1.95	21.68	4.49	2136.56	2281.37	1.18	1.48	468.04	1.00
6/25/25 23:28	1.95	21.68	4.50	2136.58	2281.37	1.18	1.48	468.04	1.00
6/26/25 0:28	1.95	21.68	4.49	2136.64	2281.44	1.18	1.48	468.02	1.00
6/26/25 1:28	1.95	21.68	4.49	2136.65	2281.49	1.18	1.48	468.02	1.00
6/26/25 2:28	1.95	21.68	4.50	2136.88	2281.72	1.18	1.48	467.97	1.00
6/26/25 3:28	1.95	21.68	4.49	2136.69	2281.52	1.18	1.48	468.01	1.00
6/26/25 4:28	1.94	21.68	4.49	2136.46	2281.28	1.18	1.48	468.06	1.00
6/26/25 5:28	1.94	21.68	4.48	2136.53	2281.36	1.18	1.48	468.05	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/26/25 6:28	1.94	21.68	4.49	2136.80	2281.67	1.18	1.48	467.99	1.00
6/26/25 7:28	1.94	21.68	4.48	2136.67	2281.54	1.18	1.48	468.02	1.00
6/26/25 8:28	1.94	21.68	4.49	2136.60	2281.47	1.18	1.48	468.03	1.00
6/26/25 9:28	1.94	21.68	4.49	2136.61	2281.49	1.18	1.48	468.03	1.00
6/26/25 10:28	1.94	21.68	4.49	2136.69	2281.58	1.18	1.48	468.01	1.00
6/26/25 11:28	1.94	21.68	4.48	2136.69	2281.58	1.18	1.48	468.01	1.00
6/26/25 12:28	1.94	21.68	4.48	2136.51	2281.39	1.18	1.48	468.05	1.00
6/26/25 13:28	1.94	21.67	4.49	2136.48	2281.37	1.18	1.48	468.06	1.00
6/26/25 14:28	1.94	21.67	4.49	2136.78	2281.69	1.18	1.48	467.99	1.00
6/26/25 15:28	1.94	21.67	4.49	2136.38	2281.27	1.18	1.48	468.08	1.00
6/26/25 16:28	1.94	21.67	4.49	2136.26	2281.15	1.18	1.48	468.11	1.00
6/26/25 17:28	1.94	21.67	4.49	2136.33	2281.23	1.18	1.48	468.09	1.00
6/26/25 18:28	1.94	21.67	4.49	2136.29	2281.20	1.18	1.48	468.10	1.00
6/26/25 19:28	1.94	21.67	4.48	2136.25	2281.15	1.18	1.48	468.11	1.00
6/26/25 20:28	1.94	21.67	4.48	2136.27	2281.17	1.18	1.48	468.11	1.00
6/26/25 21:28	1.94	21.67	4.48	2136.16	2281.06	1.18	1.48	468.13	1.00
6/26/25 22:28	1.94	21.67	4.48	2136.02	2280.93	1.18	1.48	468.16	1.00
6/26/25 23:28	1.94	21.67	4.48	2136.34	2281.27	1.18	1.48	468.09	1.00
6/27/25 0:28	1.94	21.67	4.48	2135.97	2280.87	1.18	1.48	468.17	1.00
6/27/25 1:28	1.94	21.67	4.48	2136.14	2281.05	1.18	1.48	468.13	1.00
6/27/25 2:28	1.94	21.67	4.48	2136.09	2281.01	1.18	1.48	468.14	1.00
6/27/25 3:28	1.94	21.67	4.48	2135.97	2280.91	1.18	1.48	468.17	1.00
6/27/25 4:28	1.94	21.67	4.48	2136.00	2280.95	1.18	1.48	468.17	1.00
6/27/25 5:28	1.94	21.67	4.48	2135.88	2280.83	1.18	1.48	468.19	1.00
6/27/25 6:28	1.94	21.67	4.48	2135.85	2280.80	1.18	1.48	468.20	1.00
6/27/25 7:28	1.94	21.67	4.48	2135.98	2280.93	1.18	1.48	468.17	1.00
6/27/25 8:28	1.94	21.67	4.48	2136.14	2281.14	1.18	1.48	468.13	1.00
6/27/25 9:28	1.94	21.67	4.48	2136.12	2281.10	1.18	1.48	468.14	1.00
6/27/25 10:28	1.94	21.67	4.48	2135.94	2280.93	1.18	1.48	468.18	1.00
6/27/25 11:28	1.94	21.67	4.48	2136.09	2281.09	1.18	1.48	468.15	1.00
6/27/25 12:28	1.94	21.67	4.48	2136.03	2281.02	1.18	1.48	468.16	1.00
6/27/25 13:28	1.94	21.67	4.47	2135.83	2280.80	1.18	1.48	468.20	1.00
6/27/25 14:28	1.94	21.67	4.48	2135.90	2280.90	1.18	1.48	468.19	1.00
6/27/25 15:28	1.94	21.67	4.49	2135.73	2280.70	1.18	1.48	468.22	1.00
6/27/25 16:28	1.94	21.67	4.48	2135.66	2280.64	1.18	1.48	468.24	1.00
6/27/25 17:28	1.94	21.67	4.49	2135.74	2280.76	1.18	1.48	468.22	1.00
6/27/25 18:28	1.94	21.67	4.48	2135.80	2280.80	1.18	1.48	468.21	1.00
6/27/25 19:28	1.94	21.67	4.48	2135.90	2280.90	1.18	1.48	468.19	1.00
6/27/25 20:28	1.94	21.67	4.48	2135.77	2280.79	1.18	1.48	468.21	1.00
6/27/25 21:28	1.94	21.67	4.48	2135.64	2280.65	1.18	1.48	468.24	1.00
6/27/25 22:28	1.94	21.67	4.48	2135.75	2280.77	1.18	1.48	468.22	1.00
6/27/25 23:28	1.94	21.67	4.48	2135.67	2280.69	1.18	1.48	468.24	1.00
6/28/25 0:28	1.94	21.67	4.48	2135.64	2280.67	1.18	1.48	468.24	1.00
6/28/25 1:28	1.94	21.67	4.48	2135.61	2280.64	1.18	1.48	468.25	1.00
6/28/25 2:28	1.94	21.67	4.48	2135.66	2280.69	1.18	1.48	468.24	1.00
6/28/25 3:28	1.94	21.67	4.48	2135.67	2280.72	1.18	1.48	468.24	1.00
6/28/25 4:28	1.94	21.67	4.48	2135.84	2280.91	1.18	1.48	468.20	1.00
6/28/25 5:28	1.94	21.67	4.48	2135.57	2280.62	1.18	1.48	468.26	1.00
6/28/25 6:28	1.94	21.67	4.48	2135.75	2280.80	1.18	1.48	468.22	1.00
6/28/25 7:28	1.94	21.67	4.48	2135.59	2280.64	1.18	1.48	468.26	1.00
6/28/25 8:28	1.94	21.67	4.48	2135.54	2280.61	1.18	1.48	468.27	1.00
6/28/25 9:28	1.94	21.67	4.48	2135.50	2280.56	1.18	1.48	468.27	1.00
6/28/25 10:28	1.94	21.67	4.49	2135.44	2280.50	1.18	1.48	468.29	1.00
6/28/25 11:28	1.94	21.67	4.48	2135.59	2280.68	1.18	1.48	468.26	1.00
6/28/25 12:28	1.94	21.67	4.49	2135.31	2280.37	1.18	1.48	468.32	1.00
6/28/25 13:28	1.94	21.67	4.49	2135.54	2280.65	1.18	1.48	468.27	1.00
6/28/25 14:28	1.94	21.67	4.49	2135.50	2280.61	1.18	1.48	468.27	1.00
6/28/25 15:28	1.94	21.67	4.49	2135.47	2280.57	1.18	1.48	468.28	1.00
6/28/25 16:28	1.95	21.67	4.49	2135.24	2280.32	1.18	1.48	468.33	1.00
6/28/25 17:28	1.94	21.67	4.49	2135.29	2280.38	1.18	1.48	468.32	1.00
6/28/25 18:28	1.94	21.67	4.48	2135.58	2280.70	1.18	1.48	468.26	1.00
6/28/25 19:28	1.94	21.67	4.49	2135.52	2280.64	1.18	1.48	468.27	1.00
6/28/25 20:28	1.94	21.67	4.48	2135.38	2280.48	1.18	1.48	468.30	1.00
6/28/25 21:28	1.94	21.67	4.48	2135.37	2280.49	1.18	1.48	468.30	1.00
6/28/25 22:28	1.94	21.67	4.48	2135.36	2280.50	1.18	1.48	468.30	1.00
6/28/25 23:28	1.94	21.67	4.48	2135.38	2280.48	1.18	1.48	468.30	1.00
6/29/25 0:28	1.94	21.67	4.49	2135.36	2280.50	1.18	1.48	468.31	1.00
6/29/25 1:28	1.94	21.67	4.49	2135.38	2280.52	1.18	1.48	468.30	1.00
6/29/25 2:28	1.94	21.67	4.48	2135.60	2280.76	1.18	1.48	468.25	1.00
6/29/25 3:28	1.94	21.67	4.48	2135.31	2280.47	1.18	1.48	468.32	1.00
6/29/25 4:28	1.94	21.67	4.48	2135.54	2280.73	1.18	1.48	468.26	1.00
6/29/25 5:28	1.94	21.67	4.48	2135.41	2280.59	1.18	1.48	468.29	1.00
6/29/25 6:28	1.94	21.67	4.49	2135.32	2280.49	1.18	1.48	468.31	1.00
6/29/25 7:28	1.94	21.67	4.48	2135.43	2280.64	1.18	1.48	468.29	1.00
6/29/25 8:28	1.94	21.67	4.49	2135.45	2280.63	1.18	1.48	468.29	1.00
6/29/25 9:28	1.94	21.67	4.49	2135.11	2280.28	1.18	1.48	468.36	1.00
6/29/25 10:28	1.94	21.67	4.49	2135.37	2280.57	1.18	1.48	468.30	1.00
6/29/25 11:28	1.94	21.67	4.49	2135.40	2280.61	1.18	1.48	468.30	1.00
6/29/25 12:28	1.94	21.67	4.49	2135.27	2280.47	1.18	1.48	468.33	1.00
6/29/25 13:28	1.94	21.67	4.49	2135.39	2280.60	1.18	1.48	468.30	1.00
6/29/25 14:28	1.94	21.67	4.49	2135.35	2280.56	1.18	1.48	468.31	1.00
6/29/25 15:28	1.95	21.67	4.50	2135.39	2280.61	1.18	1.48	468.30	1.00
6/29/25 16:28	1.95	21.67	4.50	2135.18	2280.38	1.18	1.48	468.35	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/29/25 17:28	1.95	21.67	4.49	2135.20	2280.41	1.18	1.48	468.34	1.00
6/29/25 18:28	1.95	21.67	4.50	2135.13	2280.35	1.18	1.48	468.36	1.00
6/29/25 19:28	1.95	21.67	4.49	2135.33	2280.57	1.18	1.48	468.31	1.00
6/29/25 20:28	1.94	21.67	4.49	2134.91	2280.14	1.18	1.48	468.40	1.00
6/29/25 21:28	1.94	21.66	4.48	2135.05	2280.31	1.18	1.48	468.37	1.00
6/29/25 22:28	1.94	21.67	4.49	2135.19	2280.45	1.18	1.48	468.34	1.00
6/29/25 23:28	1.94	21.67	4.48	2135.14	2280.37	1.18	1.48	468.35	1.00
6/30/25 0:28	1.94	21.66	4.48	2135.21	2280.48	1.18	1.48	468.34	1.00
6/30/25 1:28	1.94	21.66	4.48	2135.19	2280.45	1.18	1.48	468.34	1.00
6/30/25 2:28	1.94	21.66	4.48	2135.24	2280.53	1.18	1.48	468.33	1.00
6/30/25 3:28	1.94	21.66	4.49	2135.25	2280.54	1.18	1.48	468.33	1.00
6/30/25 4:28	1.94	21.66	4.49	2134.95	2280.21	1.18	1.48	468.40	1.00
6/30/25 5:28	1.94	21.66	4.49	2134.95	2280.21	1.18	1.48	468.40	1.00
6/30/25 6:28	1.94	21.66	4.49	2135.31	2280.59	1.18	1.48	468.32	1.00
6/30/25 7:28	1.94	21.66	4.48	2135.14	2280.43	1.18	1.48	468.35	1.00
6/30/25 8:28	1.94	21.66	4.48	2135.24	2280.55	1.18	1.48	468.33	1.00
6/30/25 9:28	1.95	21.66	4.50	2135.12	2280.44	1.18	1.48	468.36	1.00
6/30/25 10:28	1.96	21.66	4.52	2134.97	2280.25	1.18	1.48	468.39	1.00
6/30/25 11:28	1.96	21.66	4.54	2134.85	2280.16	1.18	1.48	468.42	1.00
6/30/25 12:28	1.97	21.66	4.56	2135.06	2280.36	1.18	1.48	468.37	1.00
6/30/25 13:28	1.98	21.66	4.57	2134.90	2280.22	1.18	1.48	468.41	1.00
6/30/25 14:28	1.98	21.66	4.57	2134.18	2279.42	1.18	1.48	468.56	1.00
6/30/25 15:28	1.99	21.66	4.58	2133.72	2278.97	1.18	1.48	468.67	1.00
6/30/25 16:28	1.99	21.66	4.59	2134.22	2279.49	1.18	1.48	468.56	1.00
6/30/25 17:28	1.99	21.66	4.61	2134.13	2279.43	1.18	1.48	468.57	1.00
6/30/25 18:28	2.00	21.66	4.61	2134.20	2279.48	1.18	1.48	468.56	1.00
6/30/25 19:28	2.00	21.66	4.61	2134.20	2279.50	1.18	1.48	468.56	1.00
6/30/25 20:28	2.00	21.66	4.61	2134.93	2280.30	1.18	1.48	468.40	1.00
6/30/25 21:28	2.00	21.66	4.62	2135.26	2280.67	1.18	1.48	468.33	1.00
6/30/25 22:28	2.00	21.66	4.62	2135.63	2281.03	1.18	1.48	468.25	1.00
6/30/25 23:28	2.00	21.66	4.62	2135.90	2281.32	1.18	1.48	468.19	1.00
7/1/25 0:28	2.00	21.66	4.62	2136.27	2281.73	1.18	1.48	468.11	1.00
7/1/25 1:28	2.00	21.66	4.62	2136.32	2281.80	1.18	1.48	468.10	1.00
7/1/25 2:28	2.01	21.66	4.63	2136.74	2282.27	1.18	1.48	468.00	1.00
7/1/25 3:28	2.01	21.66	4.64	2137.00	2282.55	1.19	1.48	467.95	1.00
7/1/25 4:28	2.01	21.66	4.63	2136.95	2282.49	1.18	1.48	467.96	1.00
7/1/25 5:28	2.01	21.66	4.64	2137.31	2282.89	1.19	1.48	467.88	1.00
7/1/25 6:28	2.00	21.66	4.63	2137.59	2283.20	1.19	1.48	467.82	1.00
7/1/25 7:28	2.01	21.66	4.63	2137.69	2283.32	1.19	1.48	467.79	1.00
7/1/25 8:28	2.01	21.66	4.64	2138.03	2283.66	1.19	1.48	467.72	1.00
7/1/25 9:28	2.01	21.66	4.64	2138.27	2283.94	1.19	1.48	467.67	1.00
7/1/25 10:28	2.01	21.66	4.65	2138.53	2284.21	1.19	1.48	467.61	1.00
7/1/25 11:28	2.01	21.66	4.65	2138.20	2283.87	1.19	1.48	467.68	1.00
7/1/25 12:28	2.01	21.66	4.64	2138.63	2284.33	1.19	1.48	467.59	1.00
7/1/25 13:28	2.01	21.66	4.65	2138.79	2284.49	1.19	1.48	467.55	1.00
7/1/25 14:28	2.02	21.66	4.66	2138.64	2284.36	1.19	1.48	467.59	1.00
7/1/25 15:28	2.02	21.66	4.66	2139.04	2284.78	1.19	1.49	467.50	1.00
7/1/25 16:28	2.02	21.66	4.65	2139.26	2285.05	1.19	1.49	467.45	1.00
7/1/25 17:28	2.02	21.66	4.66	2139.31	2285.09	1.19	1.49	467.44	1.00
7/1/25 18:28	2.01	21.66	4.65	2139.78	2285.58	1.19	1.49	467.34	1.00
7/1/25 19:28	2.02	21.66	4.66	2139.57	2285.37	1.19	1.49	467.38	1.00
7/1/25 20:28	2.02	21.66	4.66	2139.86	2285.70	1.19	1.49	467.32	1.00
7/1/25 21:28	2.02	21.66	4.66	2140.17	2286.02	1.19	1.49	467.25	1.00
7/1/25 22:28	2.02	21.66	4.66	2140.26	2286.14	1.19	1.49	467.23	1.00
7/1/25 23:28	2.02	21.66	4.66	2140.59	2286.51	1.19	1.49	467.16	1.00
7/2/25 0:28	2.02	21.66	4.66	2140.71	2286.63	1.19	1.49	467.13	1.00
7/2/25 1:28	2.02	21.66	4.66	2141.13	2287.11	1.19	1.49	467.04	1.00
7/2/25 2:28	2.02	21.66	4.67	2141.24	2287.20	1.19	1.49	467.02	1.00
7/2/25 3:28	2.02	21.66	4.67	2141.64	2287.65	1.19	1.49	466.93	1.00
7/2/25 4:28	2.02	21.66	4.67	2141.50	2287.51	1.19	1.49	466.96	1.00
7/2/25 5:28	2.02	21.66	4.66	2141.95	2288.00	1.19	1.49	466.87	1.00
7/2/25 6:28	2.02	21.66	4.66	2142.14	2288.19	1.19	1.49	466.82	1.00
7/2/25 7:28	2.03	21.66	4.69	2142.15	2288.24	1.19	1.49	466.82	1.00
7/2/25 8:28	2.02	21.66	4.67	2142.60	2288.72	1.19	1.49	466.72	1.00
7/2/25 9:28	2.02	21.66	4.67	2143.06	2289.19	1.19	1.49	466.62	1.00
7/2/25 10:28	2.02	21.66	4.67	2143.06	2289.21	1.19	1.49	466.62	1.00
7/2/25 11:28	2.02	21.66	4.67	2143.32	2289.49	1.19	1.49	466.57	1.00
7/2/25 12:28	2.02	21.66	4.68	2143.37	2289.53	1.19	1.49	466.55	1.00
7/2/25 13:28	2.03	21.66	4.68	2143.56	2289.78	1.19	1.49	466.51	1.00
7/2/25 14:28	2.03	21.66	4.68	2143.70	2289.91	1.19	1.49	466.48	1.00
7/2/25 15:28	2.03	21.66	4.68	2144.09	2290.34	1.19	1.49	466.40	1.00
7/2/25 16:28	2.03	21.66	4.68	2144.30	2290.55	1.19	1.49	466.35	1.00
7/2/25 17:28	2.02	21.66	4.67	2144.26	2290.53	1.19	1.49	466.36	1.00
7/2/25 18:28	2.02	21.66	4.67	2144.31	2290.60	1.19	1.49	466.35	1.00
7/2/25 19:28	2.03	21.66	4.68	2144.55	2290.84	1.19	1.49	466.30	1.00
7/2/25 20:28	2.03	21.66	4.68	2144.47	2290.75	1.19	1.49	466.32	1.00
7/2/25 21:28	2.03	21.66	4.68	2144.62	2290.92	1.19	1.49	466.28	1.00
7/2/25 22:28	2.03	21.66	4.68	2144.87	2291.21	1.19	1.49	466.23	1.00
7/2/25 23:28	2.02	21.66	4.68	2144.84	2291.19	1.19	1.49	466.24	1.00
7/3/25 0:28	2.02	21.66	4.67	2144.96	2291.31	1.19	1.49	466.21	1.00
7/3/25 1:28	2.02	21.66	4.67	2144.93	2291.29	1.19	1.49	466.22	1.00
7/3/25 2:28	2.03	21.66	4.69	2145.08	2291.44	1.19	1.49	466.18	1.00
7/3/25 3:28	2.03	21.66	4.70	2145.56	2291.97	1.19	1.49	466.08	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/3/25 4:28	2.03	21.66	4.69	2145.61	2292.05	1.19	1.49	466.07	1.00
7/3/25 5:28	2.03	21.66	4.68	2146.04	2292.49	1.19	1.49	465.97	1.00
7/3/25 6:28	2.02	21.65	4.68	2145.79	2292.24	1.19	1.49	466.03	1.00
7/3/25 7:28	2.02	21.66	4.67	2146.14	2292.61	1.19	1.49	465.95	1.00
7/3/25 8:28	2.03	21.65	4.69	2146.20	2292.72	1.19	1.49	465.94	1.00
7/3/25 9:28	2.03	21.65	4.69	2146.37	2292.88	1.19	1.49	465.90	1.00
7/3/25 10:28	2.03	21.65	4.69	2146.56	2293.09	1.19	1.49	465.86	1.00
7/3/25 11:28	2.03	21.65	4.69	2146.57	2293.09	1.19	1.49	465.86	1.00
7/3/25 12:28	2.03	21.65	4.68	2146.75	2293.31	1.19	1.49	465.82	1.00
7/3/25 13:28	2.03	21.65	4.68	2147.05	2293.63	1.19	1.49	465.75	1.00
7/3/25 14:28	2.03	21.65	4.69	2146.97	2293.55	1.19	1.49	465.77	1.00
7/3/25 15:28	2.03	21.65	4.69	2147.50	2294.14	1.19	1.49	465.66	1.00
7/3/25 16:28	2.03	21.65	4.69	2147.62	2294.25	1.19	1.49	465.63	1.00
7/3/25 17:28	2.03	21.65	4.69	2147.52	2294.14	1.19	1.49	465.65	1.00
7/3/25 18:28	2.03	21.65	4.69	2147.53	2294.19	1.19	1.49	465.65	1.00
7/3/25 19:28	2.03	21.65	4.69	2147.53	2294.18	1.19	1.49	465.65	1.00
7/3/25 20:28	2.03	21.65	4.68	2147.58	2294.24	1.19	1.49	465.64	1.00
7/3/25 21:28	2.03	21.65	4.69	2147.76	2294.45	1.19	1.49	465.60	1.00
7/3/25 22:28	2.03	21.65	4.69	2148.18	2294.88	1.19	1.49	465.51	1.00
7/3/25 23:28	2.03	21.65	4.69	2147.72	2294.41	1.19	1.49	465.61	1.00
7/4/25 0:28	2.03	21.65	4.68	2148.57	2295.34	1.19	1.49	465.43	1.00
7/4/25 1:28	2.03	21.65	4.69	2148.53	2295.28	1.19	1.49	465.43	1.00
7/4/25 2:28	2.03	21.65	4.69	2148.26	2294.99	1.19	1.49	465.49	1.00
7/4/25 3:28	2.03	21.65	4.70	2148.44	2295.19	1.19	1.49	465.45	1.00
7/4/25 4:28	2.03	21.65	4.70	2148.58	2295.36	1.19	1.49	465.42	1.00
7/4/25 5:28	2.03	21.65	4.69	2149.12	2295.93	1.19	1.49	465.31	1.00
7/4/25 6:28	2.03	21.65	4.69	2149.19	2296.03	1.19	1.49	465.29	1.00
7/4/25 7:28	2.03	21.65	4.68	2149.15	2295.98	1.19	1.49	465.30	1.00
7/4/25 8:28	2.03	21.65	4.69	2149.13	2295.97	1.19	1.49	465.31	1.00
7/4/25 9:28	2.03	21.65	4.69	2149.10	2295.93	1.19	1.49	465.31	1.00
7/4/25 10:28	2.03	21.65	4.69	2149.22	2296.09	1.19	1.49	465.29	1.00
7/4/25 11:28	2.03	21.65	4.69	2149.65	2296.54	1.19	1.49	465.19	1.00
7/4/25 12:28	2.03	21.65	4.69	2149.87	2296.81	1.19	1.49	465.14	1.00
7/4/25 13:28	2.03	21.65	4.70	2149.87	2296.81	1.19	1.49	465.14	1.00
7/4/25 14:28	2.04	21.65	4.70	2150.14	2297.07	1.19	1.49	465.09	1.00
7/4/25 15:28	2.04	21.65	4.70	2150.02	2296.96	1.19	1.49	465.11	1.00
7/4/25 16:28	2.04	21.65	4.70	2149.93	2296.88	1.19	1.49	465.13	1.00
7/4/25 17:28	2.03	21.65	4.70	2150.37	2297.33	1.19	1.49	465.04	1.00
7/4/25 18:28	2.04	21.65	4.70	2150.40	2297.40	1.19	1.49	465.03	1.00
7/4/25 19:28	2.04	21.65	4.71	2150.81	2297.84	1.19	1.49	464.94	1.00
7/4/25 20:28	2.04	21.65	4.70	2150.93	2297.96	1.19	1.49	464.92	1.00
7/4/25 21:28	2.03	21.65	4.70	2150.92	2297.98	1.19	1.49	464.92	1.00
7/4/25 22:28	2.03	21.65	4.70	2151.15	2298.22	1.19	1.49	464.87	1.00
7/4/25 23:28	2.03	21.65	4.69	2151.14	2298.20	1.19	1.49	464.87	1.00
7/5/25 0:28	2.04	21.65	4.70	2151.21	2298.30	1.19	1.49	464.85	1.00
7/5/25 1:28	2.04	21.65	4.71	2151.32	2298.42	1.19	1.49	464.83	1.00
7/5/25 2:28	2.04	21.65	4.71	2151.46	2298.56	1.19	1.49	464.80	1.00
7/5/25 3:28	2.04	21.65	4.70	2151.45	2298.57	1.19	1.49	464.80	1.00
7/5/25 4:28	2.03	21.65	4.70	2151.55	2298.67	1.19	1.49	464.78	1.00
7/5/25 5:28	2.03	21.65	4.69	2151.85	2298.99	1.19	1.49	464.72	1.00
7/5/25 6:28	2.04	21.65	4.70	2151.92	2299.07	1.19	1.49	464.70	1.00
7/5/25 7:28	2.04	21.65	4.71	2151.99	2299.14	1.19	1.49	464.69	1.00
7/5/25 8:28	2.03	21.65	4.70	2152.22	2299.43	1.19	1.49	464.64	1.00
7/5/25 9:28	2.03	21.65	4.70	2152.50	2299.71	1.19	1.49	464.58	1.00
7/5/25 10:28	2.04	21.65	4.70	2152.49	2299.73	1.19	1.49	464.58	1.00
7/5/25 11:28	2.04	21.65	4.71	2152.73	2299.96	1.19	1.49	464.53	1.00
7/5/25 12:28	2.04	21.65	4.71	2152.65	2299.88	1.19	1.49	464.54	1.00
7/5/25 13:28	2.04	21.65	4.71	2152.93	2300.22	1.19	1.50	464.48	1.00
7/5/25 14:28	2.04	21.65	4.70	2153.08	2300.35	1.19	1.50	464.45	1.00
7/5/25 15:28	2.04	21.65	4.70	2152.83	2300.09	1.19	1.50	464.50	1.00
7/5/25 16:28	2.04	21.65	4.71	2153.20	2300.50	1.19	1.50	464.43	1.00
7/5/25 17:28	2.04	21.65	4.72	2153.28	2300.60	1.19	1.50	464.41	1.00
7/5/25 18:28	2.04	21.65	4.71	2153.77	2301.12	1.20	1.50	464.30	1.00
7/5/25 19:28	2.04	21.65	4.71	2153.41	2300.74	1.19	1.50	464.38	1.00
7/5/25 20:28	2.04	21.65	4.70	2153.65	2301.00	1.20	1.50	464.33	1.00
7/5/25 21:28	2.03	21.65	4.70	2153.88	2301.27	1.20	1.50	464.28	1.00
7/5/25 22:28	2.03	21.65	4.70	2153.87	2301.26	1.20	1.50	464.28	1.00
7/5/25 23:28	2.04	21.65	4.71	2153.97	2301.37	1.20	1.50	464.26	1.00
7/6/25 0:28	2.04	21.65	4.71	2154.06	2301.49	1.20	1.50	464.24	1.00
7/6/25 1:28	2.04	21.65	4.71	2154.46	2301.90	1.20	1.50	464.15	1.00
7/6/25 2:28	2.04	21.65	4.71	2154.66	2302.11	1.20	1.50	464.11	1.00
7/6/25 3:28	2.04	21.65	4.70	2154.75	2302.22	1.20	1.50	464.09	1.00
7/6/25 4:28	2.04	21.65	4.71	2154.74	2302.23	1.20	1.50	464.09	1.00
7/6/25 5:28	2.04	21.65	4.71	2155.01	2302.49	1.20	1.50	464.04	1.00
7/6/25 6:28	2.04	21.65	4.71	2155.00	2302.50	1.20	1.50	464.04	1.00
7/6/25 7:28	2.04	21.65	4.71	2154.84	2302.34	1.20	1.50	464.07	1.00
7/6/25 8:28	2.04	21.65	4.71	2155.03	2302.58	1.20	1.50	464.03	1.00
7/6/25 9:28	2.04	21.65	4.70	2155.09	2302.61	1.20	1.50	464.02	1.00
7/6/25 10:28	2.04	21.65	4.71	2155.17	2302.72	1.20	1.50	464.00	1.00
7/6/25 11:28	2.04	21.65	4.72	2155.18	2302.73	1.20	1.50	464.00	1.00
7/6/25 12:28	2.04	21.65	4.72	2155.69	2303.28	1.20	1.50	463.89	1.00
7/6/25 13:28	2.04	21.65	4.72	2155.59	2303.17	1.20	1.50	463.91	1.00
7/6/25 14:28	2.04	21.64	4.72	2156.09	2303.72	1.20	1.50	463.80	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/6/25 15:28	2.04	21.65	4.71	2156.12	2303.73	1.20	1.50	463.80	1.00
7/6/25 16:28	2.05	21.64	4.73	2155.94	2303.60	1.20	1.50	463.83	1.00
7/6/25 17:28	2.05	21.64	4.73	2156.52	2304.18	1.20	1.50	463.71	1.00
7/6/25 18:28	2.04	21.64	4.72	2156.58	2304.26	1.20	1.50	463.70	1.00
7/6/25 19:28	2.04	21.64	4.72	2156.92	2304.64	1.20	1.50	463.62	1.00
7/6/25 20:28	2.04	21.64	4.72	2156.59	2304.29	1.20	1.50	463.69	1.00
7/6/25 21:28	2.04	21.64	4.71	2156.94	2304.67	1.20	1.50	463.62	1.00
7/6/25 22:28	2.04	21.64	4.71	2156.91	2304.64	1.20	1.50	463.63	1.00
7/6/25 23:28	2.04	21.64	4.72	2157.30	2305.07	1.20	1.50	463.54	1.00
7/7/25 0:28	2.05	21.64	4.72	2157.34	2305.10	1.20	1.50	463.53	1.00
7/7/25 1:28	2.04	21.64	4.72	2157.63	2305.43	1.20	1.50	463.47	1.00
7/7/25 2:28	2.04	21.64	4.72	2157.39	2305.17	1.20	1.50	463.52	1.00
7/7/25 3:28	2.04	21.64	4.72	2157.50	2305.31	1.20	1.50	463.50	1.00
7/7/25 4:28	2.04	21.64	4.72	2157.66	2305.47	1.20	1.50	463.46	1.00
7/7/25 5:28	2.05	21.64	4.72	2157.96	2305.81	1.20	1.50	463.40	1.00
7/7/25 6:28	2.05	21.64	4.73	2158.15	2306.00	1.20	1.50	463.36	1.00
7/7/25 7:28	2.04	21.64	4.72	2158.17	2306.04	1.20	1.50	463.36	1.00
7/7/25 8:28	2.05	21.64	4.72	2158.27	2306.17	1.20	1.50	463.33	1.00
7/7/25 9:28	2.04	21.64	4.72	2158.33	2306.22	1.20	1.50	463.32	1.00
7/7/25 10:28	2.04	21.64	4.71	2158.74	2306.66	1.20	1.50	463.23	1.00
7/7/25 11:28	2.05	21.64	4.72	2158.71	2306.65	1.20	1.50	463.24	1.00
7/7/25 12:28	2.05	21.64	4.73	2158.95	2306.89	1.20	1.50	463.19	1.00
7/7/25 13:28	2.05	21.64	4.73	2159.12	2307.10	1.20	1.50	463.15	1.00
7/7/25 14:28	2.05	21.64	4.73	2159.27	2307.25	1.20	1.50	463.12	1.00
7/7/25 15:28	2.05	21.64	4.73	2159.47	2307.47	1.20	1.50	463.08	1.00
7/7/25 16:28	2.05	21.64	4.73	2159.59	2307.60	1.20	1.50	463.05	1.00
7/7/25 17:28	2.05	21.64	4.74	2159.75	2307.77	1.20	1.50	463.02	1.00
7/7/25 18:28	2.05	21.64	4.73	2159.88	2307.93	1.20	1.50	462.99	1.00
7/7/25 19:28	2.05	21.64	4.73	2160.29	2308.39	1.20	1.50	462.90	1.00
7/7/25 20:28	2.05	21.64	4.73	2160.23	2308.33	1.20	1.50	462.91	1.00
7/7/25 21:28	2.04	21.64	4.72	2160.70	2308.81	1.20	1.50	462.81	1.00
7/7/25 22:28	2.04	21.64	4.71	2160.51	2308.62	1.20	1.50	462.85	1.00
7/7/25 23:28	2.04	21.64	4.72	2160.26	2308.36	1.20	1.50	462.91	1.00
7/8/25 0:28	2.05	21.64	4.73	2160.27	2308.38	1.20	1.50	462.91	1.00
7/8/25 1:28	2.05	21.64	4.74	2160.38	2308.50	1.20	1.50	462.88	1.00
7/8/25 2:28	2.05	21.64	4.72	2160.46	2308.59	1.20	1.50	462.86	1.00
7/8/25 3:28	2.04	21.64	4.72	2160.45	2308.60	1.20	1.50	462.87	1.00
7/8/25 4:28	2.05	21.64	4.73	2160.49	2308.63	1.20	1.50	462.86	1.00
7/8/25 5:28	2.05	21.64	4.73	2160.90	2309.06	1.20	1.50	462.77	1.00
7/8/25 6:28	2.05	21.64	4.73	2161.01	2309.19	1.20	1.50	462.75	1.00
7/8/25 7:28	2.05	21.64	4.73	2161.26	2309.47	1.20	1.50	462.69	1.00
7/8/25 8:28	2.05	21.64	4.73	2161.63	2309.84	1.20	1.50	462.61	1.00
7/8/25 9:28	2.05	21.64	4.72	2161.94	2310.20	1.20	1.50	462.55	1.00
7/8/25 10:28	2.05	21.64	4.73	2161.78	2310.05	1.20	1.50	462.58	1.00
7/8/25 11:28	2.05	21.64	4.74	2161.84	2310.11	1.20	1.50	462.57	1.00
7/8/25 12:28	2.05	21.64	4.74	2161.87	2310.16	1.20	1.50	462.56	1.00
7/8/25 13:28	2.05	21.64	4.74	2162.09	2310.38	1.20	1.50	462.52	1.00
7/8/25 14:28	2.05	21.64	4.74	2161.85	2310.15	1.20	1.50	462.57	1.00
7/8/25 15:28	2.05	21.64	4.75	2162.21	2310.54	1.20	1.50	462.49	1.00
7/8/25 16:28	2.05	21.64	4.75	2162.37	2310.71	1.20	1.50	462.46	1.00
7/8/25 17:28	2.06	21.64	4.75	2162.40	2310.74	1.20	1.50	462.45	1.00
7/8/25 18:28	2.05	21.64	4.74	2162.63	2311.01	1.20	1.50	462.40	1.00
7/8/25 19:28	2.05	21.64	4.73	2162.67	2311.05	1.20	1.50	462.39	1.00
7/8/25 20:28	2.05	21.64	4.74	2162.72	2311.11	1.20	1.50	462.38	1.00
7/8/25 21:28	2.06	21.64	4.75	2163.08	2311.48	1.20	1.50	462.30	1.00
7/8/25 22:28	2.05	21.64	4.74	2163.46	2311.89	1.20	1.50	462.22	1.00
7/8/25 23:28	2.05	21.64	4.74	2163.43	2311.89	1.20	1.50	462.23	1.00
7/9/25 0:28	2.05	21.64	4.74	2163.57	2312.04	1.20	1.50	462.20	1.00
7/9/25 1:28	2.05	21.64	4.74	2163.69	2312.21	1.20	1.50	462.17	1.00
7/9/25 2:28	2.06	21.64	4.75	2163.71	2312.21	1.20	1.50	462.17	1.00
7/9/25 3:28	2.05	21.64	4.75	2163.96	2312.45	1.20	1.50	462.12	1.00
7/9/25 4:28	2.05	21.64	4.74	2163.89	2312.41	1.20	1.50	462.13	1.00
7/9/25 5:28	2.05	21.64	4.74	2164.29	2312.85	1.20	1.50	462.04	1.00
7/9/25 6:28	2.05	21.64	4.74	2164.41	2312.95	1.20	1.50	462.02	1.00
7/9/25 7:28	2.05	21.64	4.75	2164.44	2313.03	1.20	1.50	462.01	1.00
7/9/25 8:28	2.06	21.64	4.75	2164.19	2312.75	1.20	1.50	462.07	1.00
7/9/25 9:28	2.05	21.64	4.74	2164.66	2313.25	1.20	1.50	461.97	1.00
7/9/25 10:28	2.05	21.64	4.75	2164.61	2313.20	1.20	1.50	461.98	1.00
7/9/25 11:28	2.05	21.64	4.74	2165.00	2313.63	1.20	1.50	461.89	1.00
7/9/25 12:28	2.06	21.64	4.75	2164.93	2313.55	1.20	1.50	461.91	1.00
7/9/25 13:28	2.06	21.64	4.76	2164.91	2313.53	1.20	1.50	461.91	1.00
7/9/25 14:28	2.06	21.64	4.76	2165.31	2313.97	1.20	1.50	461.83	1.00
7/9/25 15:28	2.06	21.64	4.75	2165.53	2314.22	1.20	1.50	461.78	1.00
7/9/25 16:28	2.06	21.64	4.75	2165.54	2314.23	1.20	1.50	461.78	1.00
7/9/25 17:28	2.06	21.64	4.77	2165.28	2313.97	1.20	1.50	461.83	1.00
7/9/25 18:28	2.06	21.64	4.76	2165.99	2314.71	1.20	1.50	461.68	1.00
7/9/25 19:28	2.06	21.64	4.76	2165.91	2314.65	1.20	1.50	461.70	1.00
7/9/25 20:28	2.06	21.64	4.75	2166.14	2314.89	1.20	1.50	461.65	1.00
7/9/25 21:28	2.06	21.64	4.75	2166.20	2314.95	1.20	1.50	461.64	1.00
7/9/25 22:28	2.06	21.64	4.76	2166.38	2315.16	1.20	1.50	461.60	1.00
7/9/25 23:28	2.06	21.64	4.76	2166.07	2314.83	1.20	1.50	461.67	1.00
7/10/25 0:28	2.06	21.64	4.76	2166.25	2315.01	1.20	1.50	461.63	1.00
7/10/25 1:28	2.06	21.64	4.75	2166.67	2315.48	1.20	1.51	461.54	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/10/25 2:28	2.06	21.63	4.76	2166.78	2315.62	1.20	1.51	461.51	1.00
7/10/25 3:28	2.06	21.64	4.76	2166.57	2315.38	1.20	1.50	461.56	1.00
7/10/25 4:28	2.06	21.64	4.77	2166.86	2315.70	1.20	1.51	461.50	1.00
7/10/25 5:28	2.06	21.64	4.76	2167.14	2315.98	1.20	1.51	461.44	1.00
7/10/25 6:28	2.06	21.63	4.76	2167.29	2316.16	1.20	1.51	461.41	1.00
7/10/25 7:28	2.06	21.63	4.75	2167.29	2316.17	1.20	1.51	461.41	1.00
7/10/25 8:28	2.06	21.63	4.76	2167.58	2316.49	1.20	1.51	461.34	1.00
7/10/25 9:28	2.06	21.63	4.77	2167.59	2316.51	1.20	1.51	461.34	1.00
7/10/25 10:28	2.07	21.63	4.77	2168.01	2316.95	1.20	1.51	461.25	1.00
7/10/25 11:28	2.06	21.63	4.76	2167.77	2316.71	1.20	1.51	461.30	1.00
7/10/25 12:28	2.06	21.63	4.76	2167.96	2316.92	1.20	1.51	461.26	1.00
7/10/25 13:28	2.07	21.63	4.77	2168.37	2317.36	1.20	1.51	461.18	1.00
7/10/25 14:28	2.07	21.63	4.78	2168.44	2317.42	1.20	1.51	461.16	1.00
7/10/25 15:28	2.07	21.63	4.78	2168.37	2317.38	1.20	1.51	461.18	1.00
7/10/25 16:28	2.07	21.63	4.77	2168.92	2317.98	1.20	1.51	461.06	1.00
7/10/25 17:28	2.07	21.63	4.77	2168.97	2318.03	1.20	1.51	461.05	1.00
7/10/25 18:28	2.07	21.63	4.78	2169.24	2318.31	1.20	1.51	460.99	1.00
7/10/25 19:28	2.07	21.63	4.78	2169.16	2318.24	1.20	1.51	461.01	1.00
7/10/25 20:28	2.07	21.63	4.78	2169.58	2318.70	1.20	1.51	460.92	1.00
7/10/25 21:28	2.07	21.63	4.77	2169.68	2318.80	1.20	1.51	460.90	1.00
7/10/25 22:28	2.07	21.63	4.77	2169.38	2318.49	1.20	1.51	460.96	1.00
7/10/25 23:28	2.06	21.63	4.77	2169.76	2318.89	1.20	1.51	460.88	1.00
7/11/25 0:28	2.07	21.63	4.77	2169.70	2318.84	1.20	1.51	460.89	1.00
7/11/25 1:28	2.06	21.63	4.76	2169.89	2319.02	1.20	1.51	460.85	1.00
7/11/25 2:28	2.07	21.63	4.78	2170.05	2319.23	1.21	1.51	460.82	1.00
7/11/25 3:28	2.07	21.63	4.78	2170.27	2319.44	1.21	1.51	460.77	1.00
7/11/25 4:28	2.07	21.63	4.78	2170.48	2319.67	1.21	1.51	460.73	1.00
7/11/25 5:28	2.07	21.63	4.78	2170.69	2319.91	1.21	1.51	460.68	1.00
7/11/25 6:28	2.07	21.63	4.78	2170.51	2319.73	1.21	1.51	460.72	1.00
7/11/25 7:28	2.07	21.63	4.78	2170.85	2320.11	1.21	1.51	460.65	1.00
7/11/25 8:28	2.07	21.63	4.77	2171.45	2320.75	1.21	1.51	460.52	1.00
7/11/25 9:28	2.07	21.63	4.77	2171.59	2320.89	1.21	1.51	460.49	1.00
7/11/25 10:28	2.07	21.63	4.78	2171.86	2321.21	1.21	1.51	460.44	1.00
7/11/25 11:28	2.07	21.63	4.79	2172.00	2321.34	1.21	1.51	460.41	1.00
7/11/25 12:28	2.07	21.63	4.79	2172.06	2321.44	1.21	1.51	460.39	1.00
7/11/25 13:28	2.07	21.63	4.78	2172.17	2321.54	1.21	1.51	460.37	1.00
7/11/25 14:28	2.07	21.63	4.78	2172.15	2321.53	1.21	1.51	460.37	1.00
7/11/25 15:28	2.07	21.63	4.79	2172.55	2321.97	1.21	1.51	460.29	1.00
7/11/25 16:28	2.07	21.63	4.79	2172.28	2321.69	1.21	1.51	460.35	1.00
7/11/25 17:28	2.07	21.63	4.79	2172.64	2322.08	1.21	1.51	460.27	1.00
7/11/25 18:28	2.07	21.63	4.78	2172.88	2322.32	1.21	1.51	460.22	1.00
7/11/25 19:28	2.07	21.63	4.79	2172.89	2322.36	1.21	1.51	460.22	1.00
7/11/25 20:28	2.07	21.63	4.78	2173.24	2322.71	1.21	1.51	460.14	1.00
7/11/25 21:28	2.07	21.63	4.78	2173.58	2323.08	1.21	1.51	460.07	1.00
7/11/25 22:28	2.07	21.63	4.78	2173.17	2322.65	1.21	1.51	460.16	1.00
7/11/25 23:28	2.07	21.63	4.78	2173.59	2323.12	1.21	1.51	460.07	1.00
7/12/25 0:28	2.07	21.63	4.78	2173.54	2323.05	1.21	1.51	460.08	1.00
7/12/25 1:28	2.08	21.63	4.79	2173.65	2323.19	1.21	1.51	460.05	1.00
7/12/25 2:28	2.07	21.63	4.79	2173.84	2323.40	1.21	1.51	460.02	1.00
7/12/25 3:28	2.07	21.63	4.79	2174.03	2323.62	1.21	1.51	459.98	1.00
7/12/25 4:28	2.07	21.63	4.78	2174.35	2323.94	1.21	1.51	459.91	1.00
7/12/25 5:28	2.08	21.63	4.80	2174.78	2324.40	1.21	1.51	459.82	1.00
7/12/25 6:28	2.06	21.63	4.77	2175.24	2324.91	1.21	1.51	459.72	1.00
7/12/25 7:28	2.07	21.63	4.77	2175.24	2324.93	1.21	1.51	459.72	1.00
7/12/25 8:28	2.06	21.63	4.77	2175.19	2324.86	1.21	1.51	459.73	1.00
7/12/25 9:28	2.07	21.63	4.77	2175.83	2325.56	1.21	1.51	459.59	1.00
7/12/25 10:28	2.07	21.63	4.77	2176.21	2325.99	1.21	1.51	459.51	1.00
7/12/25 11:28	2.07	21.63	4.78	2176.40	2326.16	1.21	1.51	459.48	1.00
7/12/25 12:28	2.07	21.63	4.79	2176.83	2326.64	1.21	1.51	459.38	1.00
7/12/25 13:28	2.07	21.63	4.79	2177.06	2326.89	1.21	1.51	459.33	1.00
7/12/25 14:28	2.07	21.63	4.79	2177.34	2327.20	1.21	1.51	459.28	1.00
7/12/25 15:28	2.07	21.63	4.79	2177.84	2327.72	1.21	1.51	459.17	1.00
7/12/25 16:28	2.08	21.63	4.80	2177.87	2327.76	1.21	1.51	459.16	1.00
7/12/25 17:28	2.08	21.63	4.80	2178.05	2327.97	1.21	1.51	459.13	1.00
7/12/25 18:28	2.08	21.63	4.80	2177.66	2327.58	1.21	1.51	459.21	1.00
7/12/25 19:28	2.07	21.63	4.79	2177.90	2327.84	1.21	1.51	459.16	1.00
7/12/25 20:28	2.07	21.63	4.79	2177.87	2327.79	1.21	1.51	459.16	1.00
7/12/25 21:28	2.07	21.63	4.79	2177.65	2327.56	1.21	1.51	459.21	1.00
7/12/25 22:28	2.07	21.63	4.79	2177.71	2327.63	1.21	1.51	459.20	1.00
7/12/25 23:28	2.07	21.63	4.79	2177.67	2327.60	1.21	1.51	459.21	1.00
7/13/25 0:28	2.07	21.63	4.79	2178.07	2328.03	1.21	1.51	459.12	1.00
7/13/25 1:28	2.07	21.63	4.79	2178.23	2328.20	1.21	1.51	459.09	1.00
7/13/25 2:28	2.08	21.63	4.80	2178.10	2328.05	1.21	1.51	459.12	1.00
7/13/25 3:28	2.08	21.63	4.80	2178.12	2328.10	1.21	1.51	459.11	1.00
7/13/25 4:28	2.08	21.63	4.80	2178.47	2328.46	1.21	1.51	459.04	1.00
7/13/25 5:28	2.08	21.63	4.80	2178.44	2328.45	1.21	1.51	459.04	1.00
7/13/25 6:28	2.07	21.63	4.79	2178.63	2328.66	1.21	1.51	459.00	1.00
7/13/25 7:28	2.08	21.63	4.80	2178.98	2329.03	1.21	1.51	458.93	1.00
7/13/25 8:28	2.08	21.63	4.80	2179.07	2329.13	1.21	1.51	458.91	1.00
7/13/25 9:28	2.08	21.63	4.80	2179.21	2329.30	1.21	1.51	458.88	1.00
7/13/25 10:28	2.08	21.63	4.79	2179.39	2329.48	1.21	1.51	458.84	1.00
7/13/25 11:28	2.08	21.63	4.79	2179.38	2329.46	1.21	1.51	458.85	1.00
7/13/25 12:28	2.08	21.63	4.81	2179.50	2329.63	1.21	1.51	458.82	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/13/25 13:28	2.08	21.63	4.81	2179.61	2329.73	1.21	1.51	458.80	1.00
7/13/25 14:28	2.08	21.63	4.81	2180.17	2330.36	1.21	1.51	458.68	1.00
7/13/25 15:28	2.08	21.63	4.80	2180.07	2330.24	1.21	1.51	458.70	1.00
7/13/25 16:28	2.08	21.63	4.81	2180.33	2330.51	1.21	1.51	458.65	1.00
7/13/25 17:28	2.08	21.63	4.81	2180.54	2330.76	1.21	1.51	458.60	1.00
7/13/25 18:28	2.08	21.63	4.81	2180.59	2330.79	1.21	1.52	458.59	1.00
7/13/25 19:28	2.08	21.63	4.80	2181.03	2331.27	1.21	1.52	458.50	1.00
7/13/25 20:28	2.08	21.63	4.80	2181.15	2331.43	1.21	1.52	458.47	1.00
7/13/25 21:28	2.08	21.63	4.80	2181.07	2331.33	1.21	1.52	458.49	1.00
7/13/25 22:28	2.08	21.63	4.80	2181.42	2331.70	1.21	1.52	458.42	1.00
7/13/25 23:28	2.08	21.63	4.80	2181.25	2331.53	1.21	1.52	458.45	1.00
7/14/25 0:28	2.08	21.63	4.80	2181.60	2331.92	1.21	1.52	458.38	1.00
7/14/25 1:28	2.08	21.63	4.80	2181.42	2331.73	1.21	1.52	458.42	1.00
7/14/25 2:28	2.08	21.62	4.80	2181.85	2332.20	1.21	1.52	458.33	1.00
7/14/25 3:28	2.08	21.63	4.81	2181.79	2332.11	1.21	1.52	458.34	1.00
7/14/25 4:28	2.08	21.62	4.81	2182.57	2332.96	1.21	1.52	458.18	1.00
7/14/25 5:28	2.08	21.62	4.81	2182.72	2333.15	1.21	1.52	458.14	1.00
7/14/25 6:28	2.08	21.62	4.80	2183.24	2333.68	1.21	1.52	458.04	1.00
7/14/25 7:28	2.08	21.62	4.80	2183.88	2334.38	1.21	1.52	457.90	1.00
7/14/25 8:28	2.08	21.62	4.81	2183.96	2334.48	1.21	1.52	457.88	1.00
7/14/25 9:28	2.09	21.62	4.82	2184.40	2334.96	1.21	1.52	457.79	1.00
7/14/25 10:28	2.08	21.62	4.81	2184.35	2334.89	1.21	1.52	457.80	1.00
7/14/25 11:28	2.08	21.62	4.82	2184.43	2335.01	1.21	1.52	457.79	1.00
7/14/25 12:28	2.08	21.62	4.81	2184.37	2334.93	1.21	1.52	457.80	1.00
7/14/25 13:28	2.09	21.62	4.82	2184.65	2335.24	1.21	1.52	457.74	1.00
7/14/25 14:28	2.09	21.62	4.82	2184.59	2335.18	1.21	1.52	457.75	1.00
7/14/25 15:28	2.09	21.62	4.82	2184.55	2335.15	1.21	1.52	457.76	1.00
7/14/25 16:28	2.09	21.62	4.82	2184.72	2335.33	1.21	1.52	457.72	1.00
7/14/25 17:28	2.09	21.62	4.82	2184.85	2335.47	1.21	1.52	457.70	1.00
7/14/25 18:28	2.09	21.62	4.83	2185.18	2335.83	1.21	1.52	457.63	1.00
7/14/25 19:28	2.09	21.62	4.83	2185.38	2336.05	1.21	1.52	457.59	1.00
7/14/25 20:28	2.09	21.62	4.82	2185.64	2336.31	1.21	1.52	457.53	1.00
7/14/25 21:28	2.09	21.62	4.82	2185.47	2336.17	1.21	1.52	457.57	1.00
7/14/25 22:28	2.09	21.62	4.82	2185.92	2336.63	1.21	1.52	457.47	1.00
7/14/25 23:28	2.09	21.62	4.82	2185.71	2336.41	1.21	1.52	457.52	1.00
7/15/25 0:28	2.09	21.62	4.82	2185.89	2336.61	1.21	1.52	457.48	1.00
7/15/25 1:28	2.09	21.62	4.82	2186.09	2336.83	1.21	1.52	457.44	1.00
7/15/25 2:28	2.09	21.62	4.82	2186.21	2336.97	1.21	1.52	457.41	1.00
7/15/25 3:28	2.09	21.62	4.82	2186.68	2337.45	1.22	1.52	457.31	1.00
7/15/25 4:28	2.09	21.62	4.83	2186.67	2337.45	1.22	1.52	457.32	1.00
7/15/25 5:28	2.09	21.62	4.83	2186.75	2337.53	1.22	1.52	457.30	1.00
7/15/25 6:28	2.09	21.62	4.82	2186.92	2337.72	1.22	1.52	457.26	1.00
7/15/25 7:28	2.09	21.62	4.82	2187.09	2337.92	1.22	1.52	457.23	1.00
7/15/25 8:28	2.09	21.62	4.82	2187.36	2338.22	1.22	1.52	457.17	1.00
7/15/25 9:28	2.09	21.62	4.83	2187.86	2338.77	1.22	1.52	457.07	1.00
7/15/25 10:28	2.09	21.62	4.83	2187.97	2338.87	1.22	1.52	457.05	1.00
7/15/25 11:28	2.09	21.62	4.83	2188.12	2339.03	1.22	1.52	457.01	1.00
7/15/25 12:28	2.09	21.62	4.83	2188.91	2339.90	1.22	1.52	456.85	1.00
7/15/25 13:28	2.09	21.62	4.83	2188.78	2339.76	1.22	1.52	456.88	1.00
7/15/25 14:28	2.10	21.62	4.84	2188.92	2339.91	1.22	1.52	456.85	1.00
7/15/25 15:28	2.10	21.62	4.84	2188.98	2339.98	1.22	1.52	456.83	1.00
7/15/25 16:28	2.09	21.62	4.83	2189.17	2340.18	1.22	1.52	456.79	1.00
7/15/25 17:28	2.10	21.62	4.84	2189.19	2340.22	1.22	1.52	456.79	1.00
7/15/25 18:28	2.10	21.62	4.84	2189.02	2340.03	1.22	1.52	456.83	1.00
7/15/25 19:28	2.10	21.62	4.84	2189.48	2340.51	1.22	1.52	456.73	1.00
7/15/25 20:28	2.09	21.62	4.84	2189.74	2340.81	1.22	1.52	456.68	1.00
7/15/25 21:28	2.09	21.62	4.83	2189.69	2340.76	1.22	1.52	456.69	1.00
7/15/25 22:28	2.09	21.62	4.83	2189.67	2340.73	1.22	1.52	456.69	1.00
7/15/25 23:28	2.10	21.62	4.84	2189.88	2340.98	1.22	1.52	456.65	1.00
7/16/25 0:28	2.10	21.62	4.84	2189.97	2341.07	1.22	1.52	456.63	1.00
7/16/25 1:28	2.10	21.62	4.84	2190.14	2341.27	1.22	1.52	456.59	1.00
7/16/25 2:28	2.10	21.62	4.84	2190.42	2341.56	1.22	1.52	456.53	1.00
7/16/25 3:28	2.09	21.62	4.83	2190.60	2341.76	1.22	1.52	456.50	1.00
7/16/25 4:28	2.10	21.62	4.84	2190.82	2342.00	1.22	1.52	456.45	1.00
7/16/25 5:28	2.10	21.62	4.85	2191.07	2342.26	1.22	1.52	456.40	1.00
7/16/25 6:28	2.10	21.62	4.84	2191.13	2342.34	1.22	1.52	456.39	1.00
7/16/25 7:28	2.09	21.62	4.84	2191.25	2342.48	1.22	1.52	456.36	1.00
7/16/25 8:28	2.09	21.62	4.84	2191.54	2342.79	1.22	1.52	456.30	1.00
7/16/25 9:28	2.10	21.62	4.84	2191.89	2343.15	1.22	1.52	456.23	1.00
7/16/25 10:28	2.10	21.62	4.85	2191.62	2342.89	1.22	1.52	456.28	1.00
7/16/25 11:28	2.10	21.62	4.85	2191.86	2343.13	1.22	1.52	456.23	1.00
7/16/25 12:28	2.10	21.62	4.85	2192.07	2343.37	1.22	1.52	456.19	1.00
7/16/25 13:28	2.10	21.62	4.85	2192.17	2343.48	1.22	1.52	456.17	1.00
7/16/25 14:28	2.10	21.62	4.86	2192.76	2344.12	1.22	1.52	456.05	1.00
7/16/25 15:28	2.10	21.62	4.85	2192.86	2344.23	1.22	1.52	456.03	1.00
7/16/25 16:28	2.10	21.62	4.85	2193.05	2344.42	1.22	1.52	455.99	1.00
7/16/25 17:28	2.10	21.62	4.86	2193.15	2344.55	1.22	1.52	455.97	1.00
7/16/25 18:28	2.10	21.62	4.86	2193.36	2344.77	1.22	1.52	455.92	1.00
7/16/25 19:28	2.10	21.62	4.85	2193.68	2345.13	1.22	1.52	455.85	1.00
7/16/25 20:28	2.10	21.62	4.85	2193.66	2345.12	1.22	1.52	455.86	1.00
7/16/25 21:28	2.09	21.62	4.83	2193.84	2345.31	1.22	1.52	455.82	1.00
7/16/25 22:28	2.10	21.62	4.85	2193.72	2345.17	1.22	1.52	455.85	1.00
7/16/25 23:28	2.10	21.62	4.85	2194.25	2345.76	1.22	1.52	455.74	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/17/25 0:28	2.10	21.62	4.85	2194.32	2345.85	1.22	1.52	455.72	1.00
7/17/25 1:28	2.10	21.62	4.85	2194.35	2345.86	1.22	1.52	455.72	1.00
7/17/25 2:28	2.10	21.62	4.85	2194.73	2346.28	1.22	1.53	455.64	1.00
7/17/25 3:28	2.10	21.62	4.86	2195.03	2346.60	1.22	1.53	455.57	1.00
7/17/25 4:28	2.10	21.62	4.86	2195.07	2346.67	1.22	1.53	455.57	1.00
7/17/25 5:28	2.10	21.62	4.86	2195.38	2347.00	1.22	1.53	455.50	1.00
7/17/25 6:28	2.10	21.62	4.84	2195.52	2347.12	1.22	1.53	455.47	1.00
7/17/25 7:28	2.10	21.62	4.84	2195.75	2347.39	1.22	1.53	455.42	1.00
7/17/25 8:28	2.10	21.62	4.85	2195.93	2347.60	1.22	1.53	455.39	1.00
7/17/25 9:28	2.10	21.62	4.85	2196.22	2347.90	1.22	1.53	455.33	1.00
7/17/25 10:28	2.10	21.62	4.85	2196.36	2348.05	1.22	1.53	455.30	1.00
7/17/25 11:28	2.10	21.62	4.85	2196.20	2347.87	1.22	1.53	455.33	1.00
7/17/25 12:28	2.10	21.62	4.86	2196.67	2348.40	1.22	1.53	455.23	1.00
7/17/25 13:28	2.11	21.62	4.87	2196.88	2348.62	1.22	1.53	455.19	1.00
7/17/25 14:28	2.11	21.62	4.87	2197.34	2349.11	1.22	1.53	455.10	1.00
7/17/25 15:28	2.10	21.62	4.86	2197.62	2349.42	1.22	1.53	455.04	1.00
7/17/25 16:28	2.11	21.62	4.87	2198.01	2349.84	1.22	1.53	454.96	1.00
7/17/25 17:28	2.11	21.62	4.87	2198.00	2349.81	1.22	1.53	454.96	1.00
7/17/25 18:28	2.11	21.62	4.87	2198.61	2350.49	1.22	1.53	454.83	1.00
7/17/25 19:28	2.11	21.62	4.87	2198.72	2350.61	1.22	1.53	454.81	1.00
7/17/25 20:28	2.10	21.62	4.86	2199.10	2351.04	1.22	1.53	454.73	1.00
7/17/25 21:28	2.11	21.62	4.86	2199.17	2351.11	1.22	1.53	454.72	1.00
7/17/25 22:28	2.11	21.62	4.87	2199.53	2351.49	1.22	1.53	454.64	1.00
7/17/25 23:28	2.11	21.62	4.87	2199.59	2351.56	1.22	1.53	454.63	1.00
7/18/25 0:28	2.11	21.62	4.86	2199.85	2351.84	1.22	1.53	454.58	1.00
7/18/25 1:28	2.11	21.62	4.86	2200.19	2352.22	1.22	1.53	454.51	1.00
7/18/25 2:28	2.11	21.62	4.87	2200.67	2352.75	1.22	1.53	454.41	1.00
7/18/25 3:28	2.11	21.62	4.87	2200.70	2352.78	1.22	1.53	454.40	1.00
7/18/25 4:28	2.11	21.62	4.87	2201.12	2353.22	1.22	1.53	454.31	1.00
7/18/25 5:28	2.11	21.62	4.87	2201.23	2353.36	1.22	1.53	454.29	1.00
7/18/25 6:28	2.11	21.62	4.86	2201.51	2353.65	1.22	1.53	454.23	1.00
7/18/25 7:28	2.10	21.62	4.86	2202.05	2354.20	1.22	1.53	454.12	1.00
7/18/25 8:28	2.11	21.62	4.87	2202.03	2354.21	1.22	1.53	454.13	1.00
7/18/25 9:28	2.11	21.62	4.87	2202.01	2354.19	1.22	1.53	454.13	1.00
7/18/25 10:28	2.11	21.62	4.87	2202.12	2354.32	1.22	1.53	454.11	1.00
7/18/25 11:28	2.11	21.62	4.87	2202.13	2354.33	1.22	1.53	454.11	1.00
7/18/25 12:28	2.11	21.62	4.88	2202.30	2354.51	1.22	1.53	454.07	1.00
7/18/25 13:28	2.11	21.62	4.88	2202.46	2354.69	1.22	1.53	454.04	1.00
7/18/25 14:28	2.11	21.62	4.88	2202.74	2354.98	1.22	1.53	453.98	1.00
7/18/25 15:28	2.11	21.61	4.88	2202.94	2355.22	1.22	1.53	453.94	1.00
7/18/25 16:28	2.12	21.62	4.89	2203.15	2355.42	1.22	1.53	453.89	1.00
7/18/25 17:28	2.11	21.61	4.88	2203.47	2355.78	1.23	1.53	453.83	1.00
7/18/25 18:28	2.11	21.61	4.88	2203.64	2355.97	1.23	1.53	453.79	1.00
7/18/25 19:28	2.11	21.62	4.88	2203.80	2356.13	1.23	1.53	453.76	1.00
7/18/25 20:28	2.11	21.61	4.88	2203.95	2356.31	1.23	1.53	453.73	1.00
7/18/25 21:28	2.11	21.61	4.88	2203.85	2356.21	1.23	1.53	453.75	1.00
7/18/25 22:28	2.11	21.61	4.88	2204.61	2357.03	1.23	1.53	453.59	1.00
7/18/25 23:28	2.11	21.61	4.88	2204.56	2356.96	1.23	1.53	453.61	1.00
7/19/25 0:28	2.11	21.61	4.88	2204.70	2357.11	1.23	1.53	453.58	1.00
7/19/25 1:28	2.12	21.61	4.89	2204.84	2357.30	1.23	1.53	453.55	1.00
7/19/25 2:28	2.12	21.61	4.89	2204.77	2357.23	1.23	1.53	453.56	1.00
7/19/25 3:28	2.12	21.61	4.89	2205.50	2358.00	1.23	1.53	453.41	1.00
7/19/25 4:28	2.11	21.61	4.88	2205.62	2358.14	1.23	1.53	453.39	1.00
7/19/25 5:28	2.11	21.61	4.88	2205.73	2358.24	1.23	1.53	453.36	1.00
7/19/25 6:28	2.12	21.61	4.89	2205.76	2358.29	1.23	1.53	453.36	1.00
7/19/25 7:28	2.12	21.61	4.89	2205.98	2358.50	1.23	1.53	453.31	1.00
7/19/25 8:28	2.12	21.61	4.89	2206.62	2359.21	1.23	1.53	453.18	1.00
7/19/25 9:28	2.12	21.61	4.89	2206.79	2359.40	1.23	1.53	453.15	1.00
7/19/25 10:28	2.12	21.61	4.89	2206.95	2359.56	1.23	1.53	453.11	1.00
7/19/25 11:28	2.12	21.61	4.90	2207.19	2359.84	1.23	1.53	453.06	1.00
7/19/25 12:28	2.12	21.61	4.90	2207.13	2359.75	1.23	1.53	453.08	1.00
7/19/25 13:28	2.12	21.61	4.89	2207.63	2360.29	1.23	1.53	452.97	1.00
7/19/25 14:28	2.12	21.61	4.90	2207.79	2360.47	1.23	1.53	452.94	1.00
7/19/25 15:28	2.12	21.61	4.90	2208.32	2361.05	1.23	1.53	452.83	1.00
7/19/25 16:28	2.12	21.61	4.90	2208.64	2361.40	1.23	1.53	452.77	1.00
7/19/25 17:28	2.12	21.61	4.90	2208.65	2361.41	1.23	1.53	452.77	1.00
7/19/25 18:28	2.12	21.61	4.90	2209.13	2361.92	1.23	1.54	452.67	1.00
7/19/25 19:28	2.12	21.61	4.90	2209.16	2361.96	1.23	1.54	452.66	1.00
7/19/25 20:28	2.12	21.61	4.90	2209.28	2362.12	1.23	1.54	452.64	1.00
7/19/25 21:28	2.12	21.61	4.90	2209.48	2362.32	1.23	1.54	452.60	1.00
7/19/25 22:28	2.12	21.61	4.90	2209.74	2362.60	1.23	1.54	452.54	1.00
7/19/25 23:28	2.12	21.61	4.89	2209.74	2362.61	1.23	1.54	452.54	1.00
7/20/25 0:28	2.12	21.61	4.90	2209.97	2362.86	1.23	1.54	452.49	1.00
7/20/25 1:28	2.12	21.61	4.91	2210.06	2362.96	1.23	1.54	452.48	1.00
7/20/25 2:28	2.12	21.61	4.90	2210.31	2363.23	1.23	1.54	452.43	1.00
7/20/25 3:28	2.12	21.61	4.90	2210.83	2363.77	1.23	1.54	452.32	1.00
7/20/25 4:28	2.12	21.61	4.90	2210.97	2363.94	1.23	1.54	452.29	1.00
7/20/25 5:28	2.12	21.61	4.91	2211.42	2364.41	1.23	1.54	452.20	1.00
7/20/25 6:28	2.12	21.61	4.91	2211.46	2364.45	1.23	1.54	452.19	1.00
7/20/25 7:28	2.12	21.61	4.90	2211.91	2364.94	1.23	1.54	452.10	1.00
7/20/25 8:28	2.12	21.61	4.90	2211.80	2364.83	1.23	1.54	452.12	1.00
7/20/25 9:28	2.12	21.61	4.90	2212.15	2365.21	1.23	1.54	452.05	1.00
7/20/25 10:28	2.13	21.61	4.91	2212.48	2365.57	1.23	1.54	451.98	1.00

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Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/20/25 11:28	2.13	21.61	4.91	2212.83	2365.95	1.23	1.54	451.91	1.00
7/20/25 12:28	2.13	21.61	4.91	2212.86	2366.00	1.23	1.54	451.90	1.00
7/20/25 13:28	2.13	21.61	4.91	2212.98	2366.12	1.23	1.54	451.88	1.00
7/20/25 14:28	2.13	21.61	4.91	2213.57	2366.76	1.23	1.54	451.76	1.00
7/20/25 15:28	2.13	21.61	4.92	2213.72	2366.92	1.23	1.54	451.73	1.00
7/20/25 16:28	2.13	21.61	4.91	2214.17	2367.41	1.23	1.54	451.64	1.00
7/20/25 17:28	2.13	21.61	4.92	2214.09	2367.34	1.23	1.54	451.65	1.00
7/20/25 18:28	2.13	21.61	4.92	2214.49	2367.76	1.23	1.54	451.57	1.00
7/20/25 19:28	2.13	21.61	4.91	2214.59	2367.87	1.23	1.54	451.55	1.00
7/20/25 20:28	2.12	21.61	4.91	2214.76	2368.05	1.23	1.54	451.52	1.00
7/20/25 21:28	2.13	21.61	4.91	2215.13	2368.45	1.23	1.54	451.44	1.00
7/20/25 22:28	2.13	21.61	4.92	2215.54	2368.89	1.23	1.54	451.36	1.00
7/20/25 23:28	2.13	21.61	4.92	2215.47	2368.82	1.23	1.54	451.37	1.00
7/21/25 0:28	2.13	21.61	4.91	2215.98	2369.36	1.23	1.54	451.27	1.00
7/21/25 1:28	2.13	21.61	4.91	2216.24	2369.64	1.23	1.54	451.21	1.00
7/21/25 2:28	2.13	21.61	4.92	2216.57	2370.02	1.23	1.54	451.15	1.00
7/21/25 3:28	2.13	21.61	4.92	2217.18	2370.66	1.23	1.54	451.02	1.00
7/21/25 4:28	2.13	21.61	4.92	2217.03	2370.51	1.23	1.54	451.05	1.00
7/21/25 5:28	2.13	21.61	4.91	2217.69	2371.23	1.23	1.54	450.92	1.00
7/21/25 6:28	2.13	21.61	4.91	2217.70	2371.22	1.23	1.54	450.92	1.00
7/21/25 7:28	2.13	21.61	4.92	2218.08	2371.65	1.23	1.54	450.84	1.00
7/21/25 8:28	2.13	21.61	4.92	2218.64	2372.25	1.23	1.54	450.73	1.00
7/21/25 9:28	2.13	21.61	4.92	2218.62	2372.24	1.23	1.54	450.73	1.00
7/21/25 10:28	2.13	21.61	4.92	2218.96	2372.59	1.23	1.54	450.66	1.00
7/21/25 11:28	2.13	21.61	4.93	2219.21	2372.86	1.23	1.54	450.61	1.00
7/21/25 12:28	2.13	21.61	4.93	2219.01	2372.64	1.23	1.54	450.65	1.00
7/21/25 13:28	2.13	21.61	4.93	2219.29	2372.98	1.23	1.54	450.60	1.00
7/21/25 14:28	2.13	21.61	4.91	2219.52	2373.20	1.23	1.54	450.55	1.00
7/21/25 15:28	2.11	21.61	4.88	2219.49	2373.16	1.23	1.54	450.55	1.00
7/21/25 16:28	2.10	21.61	4.85	2219.21	2372.86	1.23	1.54	450.61	1.00
7/21/25 17:28	2.09	21.61	4.83	2219.44	2373.14	1.23	1.54	450.56	1.00
7/21/25 18:28	2.09	21.61	4.82	2219.65	2373.34	1.23	1.54	450.52	1.00
7/21/25 19:28	2.08	21.61	4.81	2219.36	2373.06	1.23	1.54	450.58	1.00
7/21/25 20:28	2.08	21.61	4.80	2219.57	2373.24	1.23	1.54	450.54	1.00
7/21/25 21:28	2.07	21.61	4.78	2219.09	2372.76	1.23	1.54	450.63	1.00
7/21/25 22:28	2.07	21.61	4.78	2219.16	2372.84	1.23	1.54	450.62	1.00
7/21/25 23:28	2.07	21.61	4.77	2219.00	2372.68	1.23	1.54	450.65	1.00
7/22/25 0:28	2.06	21.61	4.76	2218.84	2372.50	1.23	1.54	450.69	1.00
7/22/25 1:28	2.06	21.61	4.76	2218.80	2372.46	1.23	1.54	450.69	1.00
7/22/25 2:28	2.06	21.61	4.76	2218.70	2372.36	1.23	1.54	450.71	1.00
7/22/25 3:28	2.06	21.61	4.76	2218.26	2371.90	1.23	1.54	450.80	1.00
7/22/25 4:28	2.06	21.61	4.75	2218.18	2371.81	1.23	1.54	450.82	1.00
7/22/25 5:28	2.06	21.61	4.75	2218.19	2371.81	1.23	1.54	450.82	1.00
7/22/25 6:28	2.05	21.61	4.74	2217.68	2371.26	1.23	1.54	450.92	1.00
7/22/25 7:28	2.05	21.61	4.74	2217.77	2371.36	1.23	1.54	450.90	1.00
7/22/25 8:28	2.05	21.61	4.73	2217.55	2371.13	1.23	1.54	450.95	1.00
7/22/25 9:28	2.05	21.61	4.73	2217.50	2371.08	1.23	1.54	450.96	1.00
7/22/25 10:28	2.05	21.61	4.74	2217.92	2371.53	1.23	1.54	450.87	1.00
7/22/25 11:28	2.05	21.61	4.73	2217.49	2371.07	1.23	1.54	450.96	1.00
7/22/25 12:28	2.05	21.61	4.74	2217.30	2370.89	1.23	1.54	451.00	1.00
7/22/25 13:28	2.05	21.61	4.73	2217.49	2371.11	1.23	1.54	450.96	1.00
7/22/25 14:28	2.05	21.61	4.73	2217.25	2370.85	1.23	1.54	451.01	1.00
7/22/25 15:28	2.05	21.61	4.72	2217.13	2370.69	1.23	1.54	451.03	1.00
7/22/25 16:28	2.05	21.61	4.73	2217.40	2370.99	1.23	1.54	450.98	1.00
7/22/25 17:28	2.05	21.61	4.74	2217.21	2370.82	1.23	1.54	451.02	1.00
7/22/25 18:28	2.06	21.61	4.76	2216.93	2370.51	1.23	1.54	451.08	1.00
7/22/25 19:28	2.07	21.61	4.79	2216.97	2370.54	1.23	1.54	451.07	1.00
7/22/25 20:28	2.08	21.61	4.80	2216.80	2370.38	1.23	1.54	451.10	1.00
7/22/25 21:28	2.09	21.61	4.82	2217.13	2370.72	1.23	1.54	451.03	1.00
7/22/25 22:28	2.09	21.61	4.83	2217.57	2371.20	1.23	1.54	450.94	1.00
7/22/25 23:28	2.09	21.61	4.83	2218.13	2371.81	1.23	1.54	450.83	1.00
7/23/25 0:28	2.10	21.61	4.85	2218.85	2372.58	1.23	1.54	450.68	1.00
7/23/25 1:28	2.10	21.61	4.86	2219.63	2373.45	1.23	1.54	450.53	1.00
7/23/25 2:28	2.11	21.61	4.87	2220.19	2374.03	1.24	1.54	450.41	1.00
7/23/25 3:28	2.11	21.61	4.87	2221.15	2375.07	1.24	1.54	450.22	1.00
7/23/25 4:28	2.11	21.61	4.87	2221.76	2375.72	1.24	1.54	450.09	1.00
7/23/25 5:28	2.11	21.61	4.88	2222.15	2376.14	1.24	1.54	450.01	1.00
7/23/25 6:28	2.11	21.61	4.88	2222.55	2376.55	1.24	1.54	449.93	1.00
7/23/25 7:28	2.11	21.61	4.88	2223.27	2377.33	1.24	1.55	449.79	1.00
7/23/25 8:28	2.10	21.61	4.85	2223.20	2377.25	1.24	1.55	449.80	1.00
7/23/25 9:28	2.09	21.61	4.84	2223.33	2377.39	1.24	1.55	449.78	1.00
7/23/25 10:28	2.10	21.61	4.86	2223.23	2377.30	1.24	1.55	449.80	1.00
7/23/25 11:28	2.11	21.61	4.87	2223.31	2377.38	1.24	1.55	449.78	1.00
7/23/25 12:28	2.12	21.61	4.89	2222.92	2376.97	1.24	1.55	449.86	1.00
7/23/25 13:28	2.12	21.61	4.90	2223.37	2377.46	1.24	1.55	449.77	1.00
7/23/25 14:28	2.12	21.61	4.90	2224.00	2378.12	1.24	1.55	449.64	1.00
7/23/25 15:28	2.12	21.61	4.91	2224.56	2378.75	1.24	1.55	449.53	1.00
7/23/25 16:28	2.12	21.61	4.91	2225.40	2379.66	1.24	1.55	449.36	1.00
7/23/25 17:28	2.13	21.61	4.91	2225.51	2379.75	1.24	1.55	449.34	1.00
7/23/25 18:28	2.13	21.61	4.92	2226.00	2380.28	1.24	1.55	449.24	1.00
7/23/25 19:28	2.13	21.61	4.92	2226.42	2380.75	1.24	1.55	449.15	1.00
7/23/25 20:28	2.13	21.61	4.92	2226.79	2381.15	1.24	1.55	449.08	1.00
7/23/25 21:28	2.13	21.61	4.92	2227.22	2381.60	1.24	1.55	448.99	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/23/25 22:28	2.13	21.61	4.92	2227.55	2381.94	1.24	1.55	448.92	1.00
7/23/25 23:28	2.13	21.61	4.92	2227.98	2382.40	1.24	1.55	448.84	1.00
7/24/25 0:28	2.13	21.61	4.92	2228.06	2382.50	1.24	1.55	448.82	1.00
7/24/25 1:28	2.13	21.61	4.93	2228.43	2382.90	1.24	1.55	448.75	1.00
7/24/25 2:28	2.13	21.61	4.93	2228.68	2383.15	1.24	1.55	448.70	1.00
7/24/25 3:28	2.13	21.61	4.93	2229.12	2383.67	1.24	1.55	448.61	1.00
7/24/25 4:28	2.14	21.61	4.93	2229.55	2384.12	1.24	1.55	448.52	1.00
7/24/25 5:28	2.13	21.61	4.93	2230.00	2384.59	1.24	1.55	448.43	1.00
7/24/25 6:28	2.14	21.61	4.94	2230.20	2384.80	1.24	1.55	448.39	1.00
7/24/25 7:28	2.14	21.61	4.93	2230.80	2385.44	1.24	1.55	448.27	1.00
7/24/25 8:28	2.14	21.61	4.93	2230.79	2385.45	1.24	1.55	448.27	1.00
7/24/25 9:28	2.14	21.61	4.94	2231.17	2385.88	1.24	1.55	448.19	1.00
7/24/25 10:28	2.14	21.61	4.94	2231.67	2386.39	1.24	1.55	448.09	1.00
7/24/25 11:28	2.14	21.61	4.94	2231.68	2386.41	1.24	1.55	448.09	1.00
7/24/25 12:28	2.14	21.61	4.94	2232.31	2387.08	1.24	1.55	447.97	1.00
7/24/25 13:28	2.14	21.61	4.94	2232.47	2387.26	1.24	1.55	447.93	1.00
7/24/25 14:28	2.14	21.61	4.95	2233.11	2387.96	1.24	1.55	447.81	1.00
7/24/25 15:28	2.14	21.60	4.95	2233.21	2388.06	1.24	1.55	447.79	1.00
7/24/25 16:28	2.14	21.61	4.95	2233.61	2388.47	1.24	1.55	447.71	1.00
7/24/25 17:28	2.14	21.60	4.95	2233.66	2388.56	1.24	1.55	447.69	1.00
7/24/25 18:28	2.14	21.60	4.94	2234.42	2389.37	1.24	1.55	447.54	1.00
7/24/25 19:28	2.14	21.60	4.95	2234.46	2389.41	1.24	1.55	447.54	1.00
7/24/25 20:28	2.14	21.60	4.94	2235.09	2390.11	1.24	1.55	447.41	1.00
7/24/25 21:28	2.14	21.60	4.95	2235.27	2390.27	1.24	1.55	447.37	1.00
7/24/25 22:28	2.14	21.60	4.95	2235.71	2390.75	1.24	1.55	447.29	1.00
7/24/25 23:28	2.14	21.60	4.95	2235.93	2390.99	1.24	1.55	447.24	1.00
7/25/25 0:28	2.14	21.60	4.95	2236.20	2391.28	1.24	1.55	447.19	1.00
7/25/25 1:28	2.15	21.60	4.95	2236.92	2392.05	1.24	1.55	447.04	1.00
7/25/25 2:28	2.15	21.60	4.96	2236.75	2391.86	1.24	1.55	447.08	1.00
7/25/25 3:28	2.14	21.60	4.95	2237.34	2392.50	1.25	1.56	446.96	1.00
7/25/25 4:28	2.15	21.60	4.96	2237.62	2392.82	1.25	1.56	446.90	1.00
7/25/25 5:28	2.15	21.60	4.96	2238.03	2393.28	1.25	1.56	446.82	1.00
7/25/25 6:28	2.15	21.60	4.96	2238.35	2393.58	1.25	1.56	446.76	1.00
7/25/25 7:28	2.15	21.60	4.96	2238.68	2393.97	1.25	1.56	446.69	1.00
7/25/25 8:28	2.15	21.60	4.96	2239.14	2394.45	1.25	1.56	446.60	1.00
7/25/25 9:28	2.15	21.60	4.96	2239.23	2394.54	1.25	1.56	446.58	1.00
7/25/25 10:28	2.15	21.60	4.96	2239.69	2395.05	1.25	1.56	446.49	1.00
7/25/25 11:28	2.15	21.60	4.96	2239.98	2395.34	1.25	1.56	446.43	1.00
7/25/25 12:28	2.15	21.60	4.97	2240.47	2395.89	1.25	1.56	446.33	1.00
7/25/25 13:28	2.15	21.60	4.97	2240.71	2396.14	1.25	1.56	446.29	1.00
7/25/25 14:28	2.15	21.60	4.97	2240.71	2396.16	1.25	1.56	446.29	1.00
7/25/25 15:28	2.15	21.60	4.97	2241.22	2396.69	1.25	1.56	446.19	1.00
7/25/25 16:28	2.15	21.60	4.97	2241.55	2397.04	1.25	1.56	446.12	1.00
7/25/25 17:28	2.15	21.60	4.97	2242.04	2397.58	1.25	1.56	446.02	1.00
7/25/25 18:28	2.15	21.60	4.97	2242.12	2397.67	1.25	1.56	446.01	1.00
7/25/25 19:28	2.15	21.60	4.97	2242.65	2398.24	1.25	1.56	445.90	1.00
7/25/25 20:28	2.15	21.60	4.97	2243.00	2398.61	1.25	1.56	445.83	1.00
7/25/25 21:28	2.15	21.60	4.97	2243.36	2398.98	1.25	1.56	445.76	1.00
7/25/25 22:28	2.15	21.60	4.97	2243.33	2398.97	1.25	1.56	445.77	1.00
7/25/25 23:28	2.15	21.60	4.97	2243.64	2399.30	1.25	1.56	445.70	1.00
7/26/25 0:28	2.15	21.60	4.97	2243.93	2399.60	1.25	1.56	445.65	1.00
7/26/25 1:28	2.15	21.60	4.97	2244.17	2399.85	1.25	1.56	445.60	1.00
7/26/25 2:28	2.15	21.60	4.97	2244.55	2400.28	1.25	1.56	445.52	1.00
7/26/25 3:28	2.16	21.60	4.98	2244.97	2400.73	1.25	1.56	445.44	1.00
7/26/25 4:28	2.16	21.60	4.98	2245.04	2400.81	1.25	1.56	445.43	1.00
7/26/25 5:28	2.16	21.60	4.98	2245.38	2401.19	1.25	1.56	445.36	1.00
7/26/25 6:28	2.15	21.60	4.98	2246.15	2401.99	1.25	1.56	445.21	1.00
7/26/25 7:28	2.15	21.60	4.98	2246.13	2402.01	1.25	1.56	445.21	1.00
7/26/25 8:28	2.15	21.60	4.98	2246.71	2402.59	1.25	1.56	445.09	1.00
7/26/25 9:28	2.16	21.60	4.98	2246.80	2402.71	1.25	1.56	445.08	1.00
7/26/25 10:28	2.15	21.60	4.97	2247.12	2403.06	1.25	1.56	445.01	1.00
7/26/25 11:28	2.16	21.60	4.98	2247.49	2403.46	1.25	1.56	444.94	1.00
7/26/25 12:28	2.16	21.60	4.98	2247.41	2403.37	1.25	1.56	444.96	1.00
7/26/25 13:28	2.16	21.60	4.98	2248.03	2404.04	1.25	1.56	444.83	1.00
7/26/25 14:28	2.16	21.60	4.99	2248.49	2404.56	1.25	1.56	444.74	1.00
7/26/25 15:28	2.16	21.60	4.99	2248.89	2404.98	1.25	1.56	444.66	1.00
7/26/25 16:28	2.16	21.60	4.99	2249.48	2405.59	1.25	1.56	444.55	1.00
7/26/25 17:28	2.16	21.60	4.99	2249.68	2405.80	1.25	1.56	444.51	1.00
7/26/25 18:28	2.16	21.60	4.98	2250.02	2406.16	1.25	1.56	444.44	1.00
7/26/25 19:28	2.16	21.60	4.99	2250.34	2406.50	1.25	1.56	444.38	1.00
7/26/25 20:28	2.16	21.60	4.98	2250.39	2406.57	1.25	1.56	444.37	1.00
7/26/25 21:28	2.16	21.60	4.99	2250.66	2406.87	1.25	1.56	444.31	1.00
7/26/25 22:28	2.16	21.60	4.99	2251.12	2407.35	1.25	1.56	444.22	1.00
7/26/25 23:28	2.16	21.60	4.98	2251.36	2407.63	1.25	1.56	444.18	1.00
7/27/25 0:28	2.16	21.60	4.99	2251.52	2407.80	1.25	1.57	444.15	1.00
7/27/25 1:28	2.16	21.60	4.99	2251.67	2407.94	1.25	1.57	444.12	1.00
7/27/25 2:28	2.16	21.60	4.99	2251.94	2408.25	1.25	1.57	444.06	1.00
7/27/25 3:28	2.16	21.60	4.99	2252.31	2408.65	1.25	1.57	443.99	1.00
7/27/25 4:28	2.16	21.60	4.98	2252.65	2409.01	1.25	1.57	443.92	1.00
7/27/25 5:28	2.16	21.60	4.99	2252.70	2409.08	1.25	1.57	443.91	1.00
7/27/25 6:28	2.16	21.60	4.99	2253.32	2409.71	1.25	1.57	443.79	1.00
7/27/25 7:28	2.16	21.60	4.98	2253.56	2409.99	1.25	1.57	443.74	1.00
7/27/25 8:28	2.16	21.60	4.99	2253.91	2410.39	1.26	1.57	443.67	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/27/25 9:28	2.16	21.60	4.98	2254.43	2410.93	1.26	1.57	443.57	1.00
7/27/25 10:28	2.16	21.60	4.99	2254.48	2410.98	1.26	1.57	443.56	1.00
7/27/25 11:28	2.16	21.60	4.99	2254.96	2411.51	1.26	1.57	443.47	1.00
7/27/25 12:28	2.16	21.60	5.00	2255.14	2411.70	1.26	1.57	443.43	1.00
7/27/25 13:28	2.16	21.60	5.00	2255.57	2412.17	1.26	1.57	443.35	1.00
7/27/25 14:28	2.17	21.60	5.00	2256.26	2412.91	1.26	1.57	443.21	1.00
7/27/25 15:28	2.16	21.60	4.99	2256.15	2412.79	1.26	1.57	443.23	1.00
7/27/25 16:28	2.17	21.60	5.00	2257.01	2413.71	1.26	1.57	443.06	1.00
7/27/25 17:28	2.16	21.60	4.99	2257.36	2414.09	1.26	1.57	443.00	1.00
7/27/25 18:28	2.16	21.60	5.00	2257.40	2414.13	1.26	1.57	442.99	1.00
7/27/25 19:28	2.16	21.60	4.99	2257.73	2414.50	1.26	1.57	442.92	1.00
7/27/25 20:28	2.16	21.60	4.99	2258.02	2414.78	1.26	1.57	442.87	1.00
7/27/25 21:28	2.16	21.60	4.99	2258.27	2415.05	1.26	1.57	442.82	1.00
7/27/25 22:28	2.16	21.60	4.99	2258.58	2415.39	1.26	1.57	442.76	1.00
7/27/25 23:28	2.16	21.60	5.00	2258.85	2415.68	1.26	1.57	442.70	1.00
7/28/25 0:28	2.16	21.60	5.00	2259.12	2415.98	1.26	1.57	442.65	1.00
7/28/25 1:28	2.16	21.60	5.00	2259.66	2416.55	1.26	1.57	442.54	1.00
7/28/25 2:28	2.17	21.60	5.00	2259.83	2416.75	1.26	1.57	442.51	1.00
7/28/25 3:28	2.17	21.60	5.00	2260.58	2417.56	1.26	1.57	442.36	1.00
7/28/25 4:28	2.17	21.60	5.00	2260.74	2417.71	1.26	1.57	442.33	1.00
7/28/25 5:28	2.16	21.60	5.00	2261.14	2418.15	1.26	1.57	442.26	1.00
7/28/25 6:28	2.17	21.60	5.00	2261.32	2418.35	1.26	1.57	442.22	1.00
7/28/25 7:28	2.16	21.60	4.99	2261.77	2418.83	1.26	1.57	442.13	1.00
7/28/25 8:28	2.17	21.60	5.00	2261.99	2419.06	1.26	1.57	442.09	1.00
7/28/25 9:28	2.17	21.60	5.00	2262.41	2419.51	1.26	1.57	442.01	1.00
7/28/25 10:28	2.17	21.60	5.00	2262.76	2419.89	1.26	1.57	441.94	1.00
7/28/25 11:28	2.16	21.60	5.00	2262.98	2420.14	1.26	1.57	441.89	1.00
7/28/25 12:28	2.17	21.60	5.01	2263.44	2420.65	1.26	1.57	441.80	1.00
7/28/25 13:28	2.17	21.60	5.01	2263.94	2421.15	1.26	1.57	441.71	1.00
7/28/25 14:28	2.17	21.60	5.01	2264.22	2421.45	1.26	1.57	441.65	1.00
7/28/25 15:28	2.17	21.60	5.02	2264.67	2421.95	1.26	1.57	441.56	1.00
7/28/25 16:28	2.17	21.60	5.01	2265.15	2422.47	1.26	1.57	441.47	1.00
7/28/25 17:28	2.17	21.60	5.02	2265.56	2422.89	1.26	1.57	441.39	1.00
7/28/25 18:28	2.17	21.60	5.01	2265.96	2423.35	1.26	1.58	441.31	1.00
7/28/25 19:28	2.17	21.60	5.02	2266.40	2423.81	1.26	1.58	441.23	1.00
7/28/25 20:28	2.17	21.60	5.01	2266.59	2424.00	1.26	1.58	441.19	1.00
7/28/25 21:28	2.17	21.60	5.01	2266.92	2424.35	1.26	1.58	441.13	1.00
7/28/25 22:28	2.17	21.60	5.01	2267.01	2424.47	1.26	1.58	441.11	1.00
7/28/25 23:28	2.17	21.60	5.01	2267.48	2424.98	1.26	1.58	441.02	1.00
7/29/25 0:28	2.17	21.60	5.00	2267.68	2425.19	1.26	1.58	440.98	1.00
7/29/25 1:28	2.17	21.60	5.01	2267.69	2425.22	1.26	1.58	440.98	1.00
7/29/25 2:28	2.17	21.60	5.01	2268.17	2425.71	1.26	1.58	440.89	1.00
7/29/25 3:28	2.17	21.60	5.01	2268.41	2425.95	1.26	1.58	440.84	1.00
7/29/25 4:28	2.17	21.60	5.02	2269.07	2426.69	1.26	1.58	440.71	1.00
7/29/25 5:28	2.17	21.60	5.01	2269.13	2426.76	1.26	1.58	440.70	1.00
7/29/25 6:28	2.17	21.60	5.01	2269.78	2427.44	1.26	1.58	440.57	1.00
7/29/25 7:28	2.17	21.60	5.01	2270.00	2427.67	1.26	1.58	440.53	1.00
7/29/25 8:28	2.17	21.60	5.01	2270.17	2427.88	1.26	1.58	440.49	1.00
7/29/25 9:28	2.17	21.60	5.02	2270.55	2428.28	1.26	1.58	440.42	1.00
7/29/25 10:28	2.17	21.60	5.02	2271.20	2428.98	1.27	1.58	440.30	1.00
7/29/25 11:28	2.17	21.60	5.02	2271.78	2429.60	1.27	1.58	440.18	1.00
7/29/25 12:28	2.17	21.60	5.02	2272.11	2429.95	1.27	1.58	440.12	1.00
7/29/25 13:28	2.18	21.60	5.03	2272.36	2430.23	1.27	1.58	440.07	1.00
7/29/25 14:28	2.18	21.60	5.03	2272.91	2430.82	1.27	1.58	439.96	1.00
7/29/25 15:28	2.18	21.60	5.03	2273.22	2431.14	1.27	1.58	439.90	1.00
7/29/25 16:28	2.18	21.60	5.03	2273.98	2431.96	1.27	1.58	439.76	1.00
7/29/25 17:28	2.18	21.60	5.03	2274.11	2432.10	1.27	1.58	439.73	1.00
7/29/25 18:28	2.18	21.60	5.03	2274.44	2432.44	1.27	1.58	439.67	1.00
7/29/25 19:28	2.18	21.60	5.03	2274.92	2432.95	1.27	1.58	439.58	1.00
7/29/25 20:28	2.17	21.60	5.02	2275.12	2433.19	1.27	1.58	439.54	1.00
7/29/25 21:28	2.17	21.60	5.02	2275.23	2433.29	1.27	1.58	439.52	1.00
7/29/25 22:28	2.18	21.60	5.03	2275.73	2433.84	1.27	1.58	439.42	1.00
7/29/25 23:28	2.18	21.60	5.02	2276.30	2434.45	1.27	1.58	439.31	1.00
7/30/25 0:28	2.18	21.60	5.03	2276.51	2434.68	1.27	1.58	439.27	1.00
7/30/25 1:28	2.18	21.60	5.03	2277.08	2435.29	1.27	1.58	439.16	1.00
7/30/25 2:28	2.18	21.60	5.03	2277.53	2435.78	1.27	1.58	439.07	1.00
7/30/25 3:28	2.18	21.60	5.03	2277.81	2436.08	1.27	1.58	439.02	1.00
7/30/25 4:28	2.18	21.60	5.03	2278.12	2436.41	1.27	1.58	438.96	1.00
7/30/25 5:28	2.18	21.60	5.03	2278.86	2437.19	1.27	1.58	438.82	1.00
7/30/25 6:28	2.18	21.60	5.03	2278.54	2436.87	1.27	1.58	438.88	1.00
7/30/25 7:28	2.18	21.60	5.03	2279.18	2437.55	1.27	1.58	438.76	1.00
7/30/25 8:28	2.18	21.60	5.03	2279.44	2437.85	1.27	1.58	438.70	1.00
7/30/25 9:28	2.18	21.60	5.03	2279.63	2438.02	1.27	1.58	438.67	1.00
7/30/25 10:28	2.18	21.60	5.03	2280.20	2438.64	1.27	1.59	438.56	1.00
7/30/25 11:28	2.18	21.60	5.04	2280.53	2438.98	1.27	1.59	438.49	1.00
7/30/25 12:28	2.18	21.60	5.04	2281.26	2439.79	1.27	1.59	438.35	1.00
7/30/25 13:28	2.18	21.60	5.05	2281.46	2439.99	1.27	1.59	438.32	1.00
7/30/25 14:28	2.19	21.60	5.05	2282.10	2440.69	1.27	1.59	438.19	1.00
7/30/25 15:28	2.18	21.60	5.04	2282.28	2440.88	1.27	1.59	438.16	1.00
7/30/25 16:28	2.18	21.60	5.05	2282.73	2441.34	1.27	1.59	438.07	1.00
7/30/25 17:28	2.19	21.60	5.05	2282.94	2441.56	1.27	1.59	438.03	1.00
7/30/25 18:28	2.18	21.60	5.04	2283.19	2441.85	1.27	1.59	437.98	1.00
7/30/25 19:28	2.18	21.60	5.04	2283.55	2442.24	1.27	1.59	437.92	1.00

Table E3: PMW-7 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/30/25 20:28	2.18	21.60	5.04	2284.00	2442.71	1.27	1.59	437.83	1.00
7/30/25 21:28	2.18	21.60	5.03	2284.40	2443.16	1.27	1.59	437.75	1.00
7/30/25 22:28	2.18	21.60	5.04	2284.66	2443.45	1.27	1.59	437.70	1.00
7/30/25 23:28	2.18	21.60	5.04	2284.75	2443.52	1.27	1.59	437.68	1.00
7/31/25 0:28	2.18	21.60	5.04	2285.39	2444.22	1.27	1.59	437.56	1.00
7/31/25 1:28	2.18	21.60	5.04	2285.78	2444.65	1.27	1.59	437.49	1.00
7/31/25 2:28	2.18	21.60	5.04	2285.91	2444.79	1.27	1.59	437.46	1.00
7/31/25 3:28	2.18	21.60	5.04	2286.25	2445.15	1.27	1.59	437.40	1.00
7/31/25 4:28	2.18	21.60	5.04	2286.72	2445.65	1.27	1.59	437.31	1.00
7/31/25 5:28	2.18	21.60	5.04	2287.04	2445.99	1.27	1.59	437.25	1.00
7/31/25 6:28	2.18	21.60	5.04	2287.41	2446.40	1.27	1.59	437.18	1.00
7/31/25 7:28	2.18	21.60	5.04	2287.60	2446.58	1.27	1.59	437.14	1.00
7/31/25 8:28	2.18	21.60	5.04	2288.18	2447.22	1.28	1.59	437.03	1.00
7/31/25 9:28	2.18	21.60	5.04	2288.45	2447.50	1.28	1.59	436.98	1.00
7/31/25 10:28	2.18	21.60	5.04	2289.09	2448.21	1.28	1.59	436.85	1.00
7/31/25 11:28	2.19	21.60	5.05	2289.45	2448.56	1.28	1.59	436.79	1.00
7/31/25 12:28	2.18	21.60	5.05	2289.82	2448.97	1.28	1.59	436.72	1.00
7/31/25 13:28	2.19	21.60	5.05	2290.42	2449.61	1.28	1.59	436.60	1.00
7/31/25 14:28	2.19	21.60	5.05	2290.94	2450.17	1.28	1.59	436.50	1.00
7/31/25 15:28	2.19	21.60	5.05	2291.43	2450.71	1.28	1.59	436.41	1.00
7/31/25 16:28	2.19	21.60	5.06	2291.55	2450.85	1.28	1.59	436.39	1.00
7/31/25 17:28	2.19	21.60	5.05	2292.12	2451.44	1.28	1.59	436.28	1.00
7/31/25 18:28	2.19	21.60	5.05	2292.31	2451.65	1.28	1.59	436.24	1.00
7/31/25 19:28	2.19	21.60	5.06	2292.97	2452.34	1.28	1.59	436.12	1.00
7/31/25 20:28	2.19	21.60	5.05	2293.11	2452.50	1.28	1.59	436.09	1.00
7/31/25 21:28	2.19	21.60	5.05	2293.44	2452.84	1.28	1.59	436.03	1.00
7/31/25 22:28	2.19	21.60	5.05	2293.52	2452.96	1.28	1.59	436.01	1.00
7/31/25 23:28	2.19	21.60	5.05	2293.83	2453.29	1.28	1.59	435.95	1.00

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Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/18/24 10:08	-2.17	25.47	-5.01	6.07	6.02	0.00	0.00	164719.92	1.00
7/18/24 11:08	-0.42	21.10	-0.98	2027.41	2190.65	1.13	1.42	493.24	1.00
7/18/24 12:08	-0.43	21.08	-0.99	2029.46	2193.80	1.14	1.43	492.74	1.00
7/18/24 13:08	-0.43	21.06	-1.00	2029.75	2194.90	1.14	1.43	492.67	1.00
7/18/24 14:08	-0.43	21.05	-1.00	2029.84	2195.42	1.14	1.43	492.65	1.00
7/18/24 15:08	-0.44	21.05	-1.01	2030.42	2196.24	1.14	1.43	492.51	1.00
7/18/24 16:08	-0.43	21.04	-0.99	2035.12	2201.52	1.14	1.43	491.37	1.00
7/18/24 17:08	-0.43	21.04	-1.00	2035.43	2201.98	1.14	1.43	491.30	1.00
7/18/24 18:08	-0.44	21.04	-1.01	2036.03	2202.71	1.14	1.43	491.15	1.00
7/18/24 19:08	-0.44	21.04	-1.02	2036.19	2203.01	1.14	1.43	491.11	1.00
7/18/24 20:08	-0.44	21.03	-1.02	2036.33	2203.30	1.14	1.43	491.08	1.00
7/18/24 21:08	-0.44	21.03	-1.02	2036.29	2203.29	1.14	1.43	491.09	1.00
7/18/24 22:08	-0.44	21.03	-1.03	2037.40	2204.49	1.14	1.43	490.82	1.00
7/18/24 23:08	-0.45	21.03	-1.03	2038.93	2206.21	1.14	1.43	490.45	1.00
7/19/24 0:08	-0.45	21.03	-1.03	2039.30	2206.73	1.14	1.43	490.37	1.00
7/19/24 1:08	-0.45	21.03	-1.03	2039.69	2207.06	1.14	1.43	490.27	1.00
7/19/24 2:08	-0.45	21.04	-1.03	2040.82	2207.84	1.14	1.44	490.00	1.00
7/19/24 3:08	-0.45	21.03	-1.03	2040.55	2207.91	1.14	1.44	490.06	1.00
7/19/24 4:08	-0.45	21.04	-1.04	2041.27	2208.33	1.14	1.44	489.89	1.00
7/19/24 5:08	-0.45	21.03	-1.04	2041.06	2208.37	1.14	1.44	489.94	1.00
7/19/24 6:08	-0.45	21.03	-1.04	2041.48	2208.87	1.14	1.44	489.84	1.00
7/19/24 7:08	-0.45	21.03	-1.05	2041.38	2209.02	1.14	1.44	489.87	1.00
7/19/24 8:08	-0.45	21.03	-1.04	2042.06	2209.44	1.14	1.44	489.70	1.00
7/19/24 9:08	-0.45	21.03	-1.05	2041.69	2209.30	1.14	1.44	489.79	1.00
7/19/24 10:08	-0.45	21.03	-1.05	2043.56	2211.27	1.15	1.44	489.34	1.00
7/19/24 11:08	-0.44	21.03	-1.02	2043.41	2211.29	1.15	1.44	489.38	1.00
7/19/24 12:08	-0.44	21.03	-1.01	2043.91	2211.84	1.15	1.44	489.26	1.00
7/19/24 13:08	-0.43	21.03	-0.99	2043.76	2211.58	1.15	1.44	489.29	1.00
7/19/24 14:08	-0.43	21.04	-0.99	2044.79	2212.32	1.15	1.44	489.05	1.00
7/19/24 15:08	-0.42	21.03	-0.98	2044.76	2212.39	1.15	1.44	489.05	1.00
7/19/24 16:08	-0.42	21.03	-0.97	2044.74	2212.69	1.15	1.44	489.06	1.00
7/19/24 17:08	-0.42	21.02	-0.97	2044.69	2212.70	1.15	1.44	489.07	1.00
7/19/24 18:08	-0.42	21.02	-0.96	2045.05	2213.11	1.15	1.44	488.99	1.00
7/19/24 19:08	-0.42	21.03	-0.96	2045.46	2213.36	1.15	1.44	488.89	1.00
7/19/24 20:08	-0.42	21.02	-0.97	2045.47	2213.59	1.15	1.44	488.89	1.00
7/19/24 21:08	-0.42	21.03	-0.97	2046.24	2214.10	1.15	1.44	488.70	1.00
7/19/24 22:08	-0.42	21.02	-0.97	2046.04	2214.23	1.15	1.44	488.75	1.00
7/19/24 23:08	-0.42	21.02	-0.96	2046.41	2214.57	1.15	1.44	488.66	1.00
7/20/24 0:08	-0.42	21.02	-0.96	2047.09	2215.32	1.15	1.44	488.50	1.00
7/20/24 1:08	-0.42	21.02	-0.96	2047.59	2215.88	1.15	1.44	488.38	1.00
7/20/24 2:08	-0.42	21.02	-0.96	2047.80	2216.09	1.15	1.44	488.33	1.00
7/20/24 3:08	-0.41	21.02	-0.95	2048.14	2216.46	1.15	1.44	488.25	1.00
7/20/24 4:08	-0.41	21.03	-0.96	2048.70	2217.02	1.15	1.44	488.11	1.00
7/20/24 5:08	-0.42	21.02	-0.96	2048.85	2217.30	1.15	1.44	488.08	1.00
7/20/24 6:08	-0.41	21.02	-0.96	2049.07	2217.52	1.15	1.44	488.03	1.00
7/20/24 7:08	-0.42	21.02	-0.96	2049.54	2218.02	1.15	1.44	487.92	1.00
7/20/24 8:08	-0.41	21.02	-0.96	2049.34	2217.80	1.15	1.44	487.96	1.00
7/20/24 9:08	-0.42	21.02	-0.96	2050.21	2218.74	1.15	1.44	487.75	1.00
7/20/24 10:08	-0.41	21.02	-0.96	2050.18	2218.72	1.15	1.44	487.76	1.00
7/20/24 11:08	-0.41	21.02	-0.95	2050.39	2218.96	1.15	1.44	487.71	1.00
7/20/24 12:08	-0.41	21.02	-0.95	2050.51	2219.00	1.15	1.44	487.68	1.00
7/20/24 13:08	-0.41	21.02	-0.95	2050.75	2219.34	1.15	1.44	487.63	1.00
7/20/24 14:08	-0.41	21.02	-0.94	2050.73	2219.31	1.15	1.44	487.63	1.00
7/20/24 15:08	-0.40	21.02	-0.93	2051.41	2219.96	1.15	1.44	487.47	1.00
7/20/24 16:08	-0.40	21.03	-0.93	2051.26	2219.72	1.15	1.44	487.50	1.00
7/20/24 17:08	-0.40	21.03	-0.92	2051.65	2219.90	1.15	1.44	487.41	1.00
7/20/24 18:08	-0.40	21.03	-0.92	2051.85	2220.13	1.15	1.44	487.36	1.00
7/20/24 19:08	-0.40	21.03	-0.92	2051.86	2220.21	1.15	1.44	487.36	1.00
7/20/24 20:08	-0.40	21.03	-0.92	2052.18	2220.40	1.15	1.44	487.29	1.00
7/20/24 21:08	-0.40	21.04	-0.92	2052.64	2220.80	1.15	1.44	487.18	1.00
7/20/24 22:08	-0.40	21.03	-0.93	2052.68	2220.95	1.15	1.44	487.17	1.00
7/20/24 23:08	-0.40	21.03	-0.93	2052.58	2221.13	1.15	1.44	487.19	1.00
7/21/24 0:08	-0.41	21.03	-0.94	2053.57	2221.93	1.15	1.44	486.96	1.00
7/21/24 1:08	-0.41	21.03	-0.94	2053.94	2222.37	1.15	1.44	486.87	1.00
7/21/24 2:08	-0.41	21.03	-0.94	2053.44	2221.90	1.15	1.44	486.99	1.00
7/21/24 3:08	-0.40	21.03	-0.93	2053.76	2222.10	1.15	1.44	486.91	1.00
7/21/24 4:08	-0.40	21.03	-0.92	2053.90	2222.30	1.15	1.44	486.88	1.00
7/21/24 5:08	-0.40	21.03	-0.92	2054.30	2222.71	1.15	1.44	486.78	1.00
7/21/24 6:08	-0.40	21.03	-0.92	2054.00	2222.38	1.15	1.44	486.85	1.00
7/21/24 7:08	-0.40	21.03	-0.93	2053.99	2222.50	1.15	1.44	486.86	1.00
7/21/24 8:08	-0.40	21.03	-0.93	2054.35	2222.71	1.15	1.44	486.77	1.00
7/21/24 9:08	-0.40	21.03	-0.93	2054.25	2222.68	1.15	1.44	486.80	1.00
7/21/24 10:08	-0.40	21.03	-0.93	2054.12	2222.67	1.15	1.44	486.83	1.00
7/21/24 11:08	-0.40	21.03	-0.93	2053.74	2222.03	1.15	1.44	486.92	1.00
7/21/24 12:08	-0.40	21.03	-0.92	2053.64	2222.01	1.15	1.44	486.94	1.00
7/21/24 13:08	-0.40	21.03	-0.91	2053.50	2222.00	1.15	1.44	486.97	1.00
7/21/24 14:08	-0.39	21.03	-0.90	2053.86	2222.21	1.15	1.44	486.89	1.00
7/21/24 15:08	-0.39	21.03	-0.90	2053.87	2222.28	1.15	1.44	486.89	1.00
7/21/24 16:08	-0.39	21.03	-0.90	2054.32	2222.81	1.15	1.44	486.78	1.00
7/21/24 17:08	-0.39	21.03	-0.90	2053.47	2221.95	1.15	1.44	486.98	1.00
7/21/24 18:08	-0.39	21.03	-0.90	2053.92	2222.58	1.15	1.44	486.87	1.00
7/21/24 19:08	-0.39	21.03	-0.90	2052.74	2221.21	1.15	1.44	487.15	1.00
7/21/24 20:08	-0.39	21.03	-0.90	2052.95	2221.20	1.15	1.44	487.10	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/21/24 21:08	-0.39	21.03	-0.90	2053.32	2221.71	1.15	1.44	487.02	1.00
7/21/24 22:08	-0.39	21.03	-0.91	2053.12	2221.44	1.15	1.44	487.06	1.00
7/21/24 23:08	-0.39	21.03	-0.91	2053.37	2221.74	1.15	1.44	487.00	1.00
7/22/24 0:08	-0.39	21.03	-0.91	2053.24	2221.65	1.15	1.44	487.03	1.00
7/22/24 1:08	-0.39	21.03	-0.90	2053.15	2221.45	1.15	1.44	487.06	1.00
7/22/24 2:08	-0.39	21.03	-0.90	2053.13	2221.51	1.15	1.44	487.06	1.00
7/22/24 3:08	-0.39	21.03	-0.90	2053.15	2221.46	1.15	1.44	487.06	1.00
7/22/24 4:08	-0.39	21.03	-0.90	2053.40	2221.73	1.15	1.44	487.00	1.00
7/22/24 5:08	-0.39	21.03	-0.91	2053.46	2221.78	1.15	1.44	486.98	1.00
7/22/24 6:08	-0.39	21.03	-0.91	2052.98	2221.28	1.15	1.44	487.10	1.00
7/22/24 7:08	-0.39	21.03	-0.91	2053.16	2221.49	1.15	1.44	487.05	1.00
7/22/24 8:08	-0.39	21.03	-0.90	2053.17	2221.69	1.15	1.44	487.05	1.00
7/22/24 9:08	-0.39	21.03	-0.91	2053.12	2221.71	1.15	1.44	487.06	1.00
7/22/24 10:08	-0.39	21.03	-0.90	2053.35	2221.90	1.15	1.44	487.01	1.00
7/22/24 11:08	-0.39	21.03	-0.90	2053.52	2221.86	1.15	1.44	486.97	1.00
7/22/24 12:08	-0.39	21.03	-0.90	2053.69	2222.06	1.15	1.44	486.93	1.00
7/22/24 13:08	-0.39	21.03	-0.90	2053.78	2222.35	1.15	1.44	486.91	1.00
7/22/24 14:08	-0.39	21.03	-0.90	2053.20	2221.66	1.15	1.44	487.04	1.00
7/22/24 15:08	-0.39	21.03	-0.89	2053.34	2221.88	1.15	1.44	487.01	1.00
7/22/24 16:08	-0.39	21.03	-0.89	2053.35	2221.86	1.15	1.44	487.01	1.00
7/22/24 17:08	-0.39	21.03	-0.90	2053.38	2221.92	1.15	1.44	487.00	1.00
7/22/24 18:08	-0.39	21.03	-0.89	2053.74	2222.21	1.15	1.44	486.92	1.00
7/22/24 19:08	-0.39	21.03	-0.90	2053.73	2222.08	1.15	1.44	486.92	1.00
7/22/24 20:08	-0.39	21.03	-0.90	2053.70	2222.13	1.15	1.44	486.93	1.00
7/22/24 21:08	-0.39	21.03	-0.90	2053.88	2222.30	1.15	1.44	486.88	1.00
7/22/24 22:08	-0.39	21.03	-0.91	2053.76	2222.23	1.15	1.44	486.91	1.00
7/22/24 23:08	-0.39	21.03	-0.90	2053.71	2222.30	1.15	1.44	486.92	1.00
7/23/24 0:08	-0.39	21.03	-0.90	2053.76	2222.17	1.15	1.44	486.91	1.00
7/23/24 1:08	-0.39	21.03	-0.91	2054.04	2222.50	1.15	1.44	486.85	1.00
7/23/24 2:08	-0.39	21.03	-0.90	2053.59	2222.17	1.15	1.44	486.95	1.00
7/23/24 3:08	-0.39	21.03	-0.90	2053.57	2222.14	1.15	1.44	486.96	1.00
7/23/24 4:08	-0.39	21.03	-0.90	2054.00	2222.45	1.15	1.44	486.85	1.00
7/23/24 5:08	-0.39	21.03	-0.90	2053.60	2222.00	1.15	1.44	486.95	1.00
7/23/24 6:08	-0.39	21.03	-0.90	2053.38	2221.90	1.15	1.44	487.00	1.00
7/23/24 7:08	-0.39	21.03	-0.91	2053.69	2222.03	1.15	1.44	486.93	1.00
7/23/24 8:08	-0.39	21.03	-0.91	2053.58	2221.91	1.15	1.44	486.95	1.00
7/23/24 9:08	-0.39	21.03	-0.91	2053.22	2221.59	1.15	1.44	487.04	1.00
7/23/24 10:08	-0.39	21.03	-0.91	2053.27	2221.69	1.15	1.44	487.03	1.00
7/23/24 11:08	-0.39	21.03	-0.91	2054.01	2222.48	1.15	1.44	486.85	1.00
7/23/24 12:08	-0.39	21.03	-0.90	2053.61	2221.91	1.15	1.44	486.95	1.00
7/23/24 13:08	-0.39	21.03	-0.90	2053.52	2221.87	1.15	1.44	486.97	1.00
7/23/24 14:08	-0.39	21.03	-0.90	2053.45	2221.77	1.15	1.44	486.99	1.00
7/23/24 15:08	-0.39	21.03	-0.90	2052.74	2221.12	1.15	1.44	487.15	1.00
7/23/24 16:08	-0.39	21.03	-0.90	2052.92	2221.32	1.15	1.44	487.11	1.00
7/23/24 17:08	-0.39	21.03	-0.89	2052.89	2221.21	1.15	1.44	487.12	1.00
7/23/24 18:08	-0.39	21.03	-0.90	2053.09	2221.35	1.15	1.44	487.07	1.00
7/23/24 19:08	-0.39	21.03	-0.90	2052.95	2221.25	1.15	1.44	487.10	1.00
7/23/24 20:08	-0.39	21.03	-0.90	2053.21	2221.53	1.15	1.44	487.04	1.00
7/23/24 21:08	-0.39	21.03	-0.90	2052.75	2221.11	1.15	1.44	487.15	1.00
7/23/24 22:08	-0.39	21.03	-0.90	2052.91	2221.30	1.15	1.44	487.11	1.00
7/23/24 23:08	-0.39	21.03	-0.90	2053.09	2221.49	1.15	1.44	487.07	1.00
7/24/24 0:08	-0.39	21.03	-0.90	2052.66	2221.24	1.15	1.44	487.17	1.00
7/24/24 1:08	-0.39	21.03	-0.90	2053.13	2221.69	1.15	1.44	487.06	1.00
7/24/24 2:08	-0.39	21.03	-0.90	2053.03	2221.37	1.15	1.44	487.08	1.00
7/24/24 3:08	-0.39	21.03	-0.90	2053.07	2221.40	1.15	1.44	487.07	1.00
7/24/24 4:08	-0.39	21.03	-0.91	2053.05	2221.44	1.15	1.44	487.08	1.00
7/24/24 5:08	-0.39	21.03	-0.90	2052.99	2221.35	1.15	1.44	487.09	1.00
7/24/24 6:08	-0.39	21.03	-0.91	2053.22	2221.66	1.15	1.44	487.04	1.00
7/24/24 7:08	-0.39	21.03	-0.91	2052.95	2221.26	1.15	1.44	487.10	1.00
7/24/24 8:08	-0.39	21.03	-0.91	2052.64	2221.04	1.15	1.44	487.18	1.00
7/24/24 9:08	-0.39	21.03	-0.91	2052.66	2221.14	1.15	1.44	487.17	1.00
7/24/24 10:08	-0.39	21.03	-0.90	2052.90	2221.52	1.15	1.44	487.12	1.00
7/24/24 11:08	-0.39	21.03	-0.90	2052.91	2221.22	1.15	1.44	487.11	1.00
7/24/24 12:08	-0.39	21.03	-0.90	2052.81	2221.07	1.15	1.44	487.14	1.00
7/24/24 13:08	-0.39	21.03	-0.90	2052.95	2221.24	1.15	1.44	487.11	1.00
7/24/24 14:08	-0.39	21.03	-0.90	2052.83	2221.18	1.15	1.44	487.13	1.00
7/24/24 15:08	-0.39	21.03	-0.90	2052.79	2221.22	1.15	1.44	487.14	1.00
7/24/24 16:08	-0.39	21.03	-0.89	2052.80	2221.16	1.15	1.44	487.14	1.00
7/24/24 17:08	-0.39	21.03	-0.89	2052.58	2220.98	1.15	1.44	487.19	1.00
7/24/24 18:08	-0.39	21.03	-0.89	2052.66	2220.95	1.15	1.44	487.17	1.00
7/24/24 19:08	-0.38	21.03	-0.89	2052.79	2221.07	1.15	1.44	487.14	1.00
7/24/24 20:08	-0.39	21.03	-0.90	2052.81	2221.04	1.15	1.44	487.14	1.00
7/24/24 21:08	-0.39	21.03	-0.90	2053.09	2221.47	1.15	1.44	487.07	1.00
7/24/24 22:08	-0.39	21.03	-0.90	2053.69	2222.08	1.15	1.44	486.93	1.00
7/24/24 23:08	-0.39	21.03	-0.90	2052.71	2221.22	1.15	1.44	487.16	1.00
7/25/24 0:08	-0.39	21.03	-0.90	2052.48	2220.85	1.15	1.44	487.22	1.00
7/25/24 1:08	-0.39	21.03	-0.90	2052.20	2220.41	1.15	1.44	487.28	1.00
7/25/24 2:08	-0.39	21.03	-0.90	2052.38	2220.66	1.15	1.44	487.24	1.00
7/25/24 3:08	-0.39	21.03	-0.90	2052.14	2220.33	1.15	1.44	487.30	1.00
7/25/24 4:08	-0.39	21.03	-0.90	2052.02	2220.46	1.15	1.44	487.32	1.00
7/25/24 5:08	-0.39	21.03	-0.90	2052.09	2220.31	1.15	1.44	487.31	1.00
7/25/24 6:08	-0.39	21.03	-0.90	2052.06	2220.31	1.15	1.44	487.32	1.00
7/25/24 7:08	-0.39	21.03	-0.90	2051.46	2219.68	1.15	1.44	487.46	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/25/24 8:08	-0.39	21.03	-0.90	2051.52	2219.67	1.15	1.44	487.44	1.00
7/25/24 9:08	-0.39	21.03	-0.90	2051.40	2219.58	1.15	1.44	487.47	1.00
7/25/24 10:08	-0.39	21.03	-0.90	2051.37	2219.53	1.15	1.44	487.48	1.00
7/25/24 11:08	-0.39	21.03	-0.90	2051.66	2219.85	1.15	1.44	487.41	1.00
7/25/24 12:08	-0.39	21.03	-0.89	2051.46	2219.80	1.15	1.44	487.46	1.00
7/25/24 13:08	-0.39	21.03	-0.89	2051.30	2219.73	1.15	1.44	487.50	1.00
7/25/24 14:08	-0.39	21.03	-0.89	2051.01	2219.45	1.15	1.44	487.56	1.00
7/25/24 15:08	-0.38	21.03	-0.89	2050.96	2219.08	1.15	1.44	487.58	1.00
7/25/24 16:08	-0.38	21.03	-0.89	2050.95	2219.04	1.15	1.44	487.58	1.00
7/25/24 17:08	-0.38	21.03	-0.89	2050.90	2219.02	1.15	1.44	487.59	1.00
7/25/24 18:08	-0.38	21.03	-0.89	2050.55	2218.87	1.15	1.44	487.67	1.00
7/25/24 19:08	-0.38	21.03	-0.89	2050.99	2219.20	1.15	1.44	487.57	1.00
7/25/24 20:08	-0.38	21.03	-0.89	2050.73	2218.84	1.15	1.44	487.63	1.00
7/25/24 21:08	-0.39	21.03	-0.89	2050.81	2218.98	1.15	1.44	487.61	1.00
7/25/24 22:08	-0.39	21.03	-0.89	2051.48	2219.67	1.15	1.44	487.45	1.00
7/25/24 23:08	-0.39	21.03	-0.90	2051.15	2219.35	1.15	1.44	487.53	1.00
7/26/24 0:08	-0.39	21.03	-0.89	2050.30	2218.54	1.15	1.44	487.73	1.00
7/26/24 1:08	-0.39	21.03	-0.89	2050.05	2218.07	1.15	1.44	487.79	1.00
7/26/24 2:08	-0.38	21.03	-0.89	2050.02	2218.05	1.15	1.44	487.80	1.00
7/26/24 3:08	-0.38	21.03	-0.89	2049.64	2217.65	1.15	1.44	487.89	1.00
7/26/24 4:08	-0.38	21.03	-0.89	2050.40	2218.50	1.15	1.44	487.71	1.00
7/26/24 5:08	-0.39	21.03	-0.89	2050.58	2218.75	1.15	1.44	487.67	1.00
7/26/24 6:08	-0.39	21.03	-0.89	2050.43	2218.61	1.15	1.44	487.70	1.00
7/26/24 7:08	-0.39	21.03	-0.89	2049.91	2217.98	1.15	1.44	487.83	1.00
7/26/24 8:08	-0.39	21.03	-0.89	2049.86	2217.94	1.15	1.44	487.84	1.00
7/26/24 9:08	-0.39	21.03	-0.89	2049.84	2217.88	1.15	1.44	487.84	1.00
7/26/24 10:08	-0.39	21.03	-0.89	2050.30	2218.37	1.15	1.44	487.73	1.00
7/26/24 11:08	-0.39	21.03	-0.89	2050.24	2218.29	1.15	1.44	487.75	1.00
7/26/24 12:08	-0.38	21.03	-0.89	2050.95	2219.11	1.15	1.44	487.58	1.00
7/26/24 13:08	-0.38	21.03	-0.88	2049.07	2217.10	1.15	1.44	488.03	1.00
7/26/24 14:08	-0.38	21.03	-0.88	2049.72	2217.73	1.15	1.44	487.87	1.00
7/26/24 15:08	-0.38	21.03	-0.88	2049.48	2217.63	1.15	1.44	487.93	1.00
7/26/24 16:08	-0.38	21.03	-0.88	2049.44	2217.63	1.15	1.44	487.94	1.00
7/26/24 17:08	-0.38	21.03	-0.88	2049.35	2217.63	1.15	1.44	487.96	1.00
7/26/24 18:08	-0.38	21.03	-0.88	2049.32	2217.34	1.15	1.44	487.97	1.00
7/26/24 19:08	-0.38	21.03	-0.88	2049.50	2217.49	1.15	1.44	487.92	1.00
7/26/24 20:08	-0.38	21.03	-0.88	2049.44	2217.51	1.15	1.44	487.94	1.00
7/26/24 21:08	-0.38	21.03	-0.88	2049.11	2217.18	1.15	1.44	488.02	1.00
7/26/24 22:08	-0.38	21.03	-0.89	2049.38	2217.36	1.15	1.44	487.95	1.00
7/26/24 23:08	-0.39	21.03	-0.89	2049.37	2217.37	1.15	1.44	487.96	1.00
7/27/24 0:08	-0.39	21.03	-0.89	2049.58	2217.58	1.15	1.44	487.90	1.00
7/27/24 1:08	-0.38	21.03	-0.89	2049.47	2217.68	1.15	1.44	487.93	1.00
7/27/24 2:08	-0.38	21.03	-0.89	2049.76	2217.96	1.15	1.44	487.86	1.00
7/27/24 3:08	-0.38	21.03	-0.88	2049.58	2217.76	1.15	1.44	487.91	1.00
7/27/24 4:08	-0.38	21.03	-0.88	2049.44	2217.72	1.15	1.44	487.94	1.00
7/27/24 5:08	-0.38	21.03	-0.89	2049.55	2217.84	1.15	1.44	487.91	1.00
7/27/24 6:08	-0.38	21.03	-0.89	2049.28	2217.62	1.15	1.44	487.98	1.00
7/27/24 7:08	-0.38	21.03	-0.89	2049.16	2217.20	1.15	1.44	488.01	1.00
7/27/24 8:08	-0.39	21.03	-0.89	2049.20	2217.26	1.15	1.44	487.99	1.00
7/27/24 9:08	-0.38	21.03	-0.89	2049.20	2217.27	1.15	1.44	487.99	1.00
7/27/24 10:08	-0.39	21.03	-0.89	2049.13	2217.13	1.15	1.44	488.01	1.00
7/27/24 11:08	-0.38	21.03	-0.89	2049.13	2217.07	1.15	1.44	488.01	1.00
7/27/24 12:08	-0.38	21.03	-0.88	2049.01	2217.16	1.15	1.44	488.04	1.00
7/27/24 13:08	-0.38	21.03	-0.88	2049.27	2217.41	1.15	1.44	487.98	1.00
7/27/24 14:08	-0.38	21.03	-0.88	2048.50	2216.62	1.15	1.44	488.16	1.00
7/27/24 15:08	-0.38	21.03	-0.88	2048.55	2216.70	1.15	1.44	488.15	1.00
7/27/24 16:08	-0.38	21.03	-0.88	2048.79	2216.94	1.15	1.44	488.09	1.00
7/27/24 17:08	-0.38	21.03	-0.88	2048.88	2216.86	1.15	1.44	488.07	1.00
7/27/24 18:08	-0.38	21.03	-0.88	2048.98	2217.16	1.15	1.44	488.05	1.00
7/27/24 19:08	-0.38	21.03	-0.88	2049.26	2217.55	1.15	1.44	487.98	1.00
7/27/24 20:08	-0.38	21.03	-0.88	2049.10	2217.17	1.15	1.44	488.02	1.00
7/27/24 21:08	-0.38	21.03	-0.89	2049.24	2217.26	1.15	1.44	487.99	1.00
7/27/24 22:08	-0.38	21.03	-0.89	2049.36	2217.38	1.15	1.44	487.96	1.00
7/27/24 23:08	-0.38	21.03	-0.89	2049.43	2217.59	1.15	1.44	487.94	1.00
7/28/24 0:08	-0.39	21.03	-0.89	2049.40	2217.45	1.15	1.44	487.95	1.00
7/28/24 1:08	-0.38	21.03	-0.89	2049.83	2217.90	1.15	1.44	487.85	1.00
7/28/24 2:08	-0.38	21.04	-0.89	2049.64	2217.58	1.15	1.44	487.89	1.00
7/28/24 3:08	-0.38	21.03	-0.89	2049.11	2217.12	1.15	1.44	488.02	1.00
7/28/24 4:08	-0.38	21.03	-0.89	2049.03	2217.03	1.15	1.44	488.04	1.00
7/28/24 5:08	-0.39	21.03	-0.89	2049.06	2217.00	1.15	1.44	488.03	1.00
7/28/24 6:08	-0.39	21.03	-0.89	2049.53	2217.48	1.15	1.44	487.92	1.00
7/28/24 7:08	-0.39	21.03	-0.89	2049.59	2217.61	1.15	1.44	487.90	1.00
7/28/24 8:08	-0.39	21.03	-0.90	2049.39	2217.46	1.15	1.44	487.95	1.00
7/28/24 9:08	-0.39	21.03	-0.89	2049.32	2217.53	1.15	1.44	487.97	1.00
7/28/24 10:08	-0.39	21.03	-0.89	2048.71	2216.79	1.15	1.44	488.11	1.00
7/28/24 11:08	-0.39	21.03	-0.89	2048.62	2216.92	1.15	1.44	488.13	1.00
7/28/24 12:08	-0.39	21.03	-0.89	2049.07	2217.10	1.15	1.44	488.03	1.00
7/28/24 13:08	-0.39	21.03	-0.89	2048.83	2216.83	1.15	1.44	488.08	1.00
7/28/24 14:08	-0.38	21.03	-0.89	2049.15	2217.14	1.15	1.44	488.01	1.00
7/28/24 15:08	-0.38	21.03	-0.88	2049.25	2217.35	1.15	1.44	487.98	1.00
7/28/24 16:08	-0.38	21.03	-0.88	2049.21	2217.19	1.15	1.44	487.99	1.00
7/28/24 17:08	-0.38	21.03	-0.88	2049.71	2217.77	1.15	1.44	487.87	1.00
7/28/24 18:08	-0.38	21.03	-0.88	2049.59	2217.57	1.15	1.44	487.90	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/28/24 19:08	-0.38	21.03	-0.88	2049.46	2217.50	1.15	1.44	487.93	1.00
7/28/24 20:08	-0.38	21.03	-0.89	2049.27	2217.30	1.15	1.44	487.98	1.00
7/28/24 21:08	-0.38	21.03	-0.89	2050.22	2218.28	1.15	1.44	487.75	1.00
7/28/24 22:08	-0.39	21.03	-0.89	2050.38	2218.44	1.15	1.44	487.71	1.00
7/28/24 23:08	-0.39	21.03	-0.89	2049.96	2218.06	1.15	1.44	487.81	1.00
7/29/24 0:08	-0.39	21.03	-0.89	2050.02	2218.10	1.15	1.44	487.80	1.00
7/29/24 1:08	-0.39	21.03	-0.89	2049.87	2217.92	1.15	1.44	487.84	1.00
7/29/24 2:08	-0.38	21.03	-0.89	2050.23	2218.30	1.15	1.44	487.75	1.00
7/29/24 3:08	-0.39	21.03	-0.89	2050.05	2218.12	1.15	1.44	487.79	1.00
7/29/24 4:08	-0.38	21.03	-0.89	2049.73	2217.83	1.15	1.44	487.87	1.00
7/29/24 5:08	-0.39	21.03	-0.89	2050.26	2218.28	1.15	1.44	487.74	1.00
7/29/24 6:08	-0.39	21.03	-0.89	2050.40	2218.49	1.15	1.44	487.71	1.00
7/29/24 7:08	-0.39	21.03	-0.90	2049.64	2217.59	1.15	1.44	487.89	1.00
7/29/24 8:08	-0.39	21.03	-0.90	2049.93	2217.93	1.15	1.44	487.82	1.00
7/29/24 9:08	-0.39	21.03	-0.90	2050.87	2218.94	1.15	1.44	487.60	1.00
7/29/24 10:08	-0.39	21.03	-0.89	2050.71	2218.76	1.15	1.44	487.64	1.00
7/29/24 11:08	-0.39	21.03	-0.89	2050.66	2218.70	1.15	1.44	487.65	1.00
7/29/24 12:08	-0.38	21.03	-0.89	2050.89	2219.02	1.15	1.44	487.59	1.00
7/29/24 13:08	-0.38	21.03	-0.89	2050.61	2218.67	1.15	1.44	487.66	1.00
7/29/24 14:08	-0.38	21.03	-0.88	2050.66	2218.70	1.15	1.44	487.65	1.00
7/29/24 15:08	-0.38	21.04	-0.88	2050.43	2218.43	1.15	1.44	487.70	1.00
7/29/24 16:08	-0.38	21.03	-0.88	2050.06	2218.11	1.15	1.44	487.79	1.00
7/29/24 17:08	-0.38	21.03	-0.88	2049.91	2217.99	1.15	1.44	487.83	1.00
7/29/24 18:08	-0.38	21.03	-0.88	2050.02	2218.23	1.15	1.44	487.80	1.00
7/29/24 19:08	-0.38	21.03	-0.89	2049.64	2217.68	1.15	1.44	487.89	1.00
7/29/24 20:08	-0.38	21.03	-0.88	2050.04	2218.07	1.15	1.44	487.79	1.00
7/29/24 21:08	-0.38	21.03	-0.89	2050.14	2218.17	1.15	1.44	487.77	1.00
7/29/24 22:08	-0.39	21.03	-0.89	2050.14	2218.13	1.15	1.44	487.77	1.00
7/29/24 23:08	-0.39	21.03	-0.89	2048.98	2217.04	1.15	1.44	488.05	1.00
7/30/24 0:08	-0.38	21.03	-0.89	2049.40	2217.35	1.15	1.44	487.95	1.00
7/30/24 1:08	-0.39	21.04	-0.89	2049.70	2217.64	1.15	1.44	487.88	1.00
7/30/24 2:08	-0.39	21.03	-0.89	2049.47	2217.42	1.15	1.44	487.93	1.00
7/30/24 3:08	-0.38	21.03	-0.89	2049.63	2217.58	1.15	1.44	487.89	1.00
7/30/24 4:08	-0.38	21.04	-0.89	2049.79	2217.72	1.15	1.44	487.86	1.00
7/30/24 5:08	-0.38	21.03	-0.89	2050.09	2218.13	1.15	1.44	487.78	1.00
7/30/24 6:08	-0.39	21.03	-0.89	2051.05	2219.22	1.15	1.44	487.56	1.00
7/30/24 7:08	-0.39	21.03	-0.89	2051.15	2219.23	1.15	1.44	487.53	1.00
7/30/24 8:08	-0.39	21.04	-0.89	2050.69	2218.71	1.15	1.44	487.64	1.00
7/30/24 9:08	-0.39	21.03	-0.89	2050.57	2218.63	1.15	1.44	487.67	1.00
7/30/24 10:08	-0.38	21.04	-0.89	2050.20	2218.16	1.15	1.44	487.76	1.00
7/30/24 11:08	-0.38	21.03	-0.89	2050.42	2218.54	1.15	1.44	487.70	1.00
7/30/24 12:08	-0.38	21.03	-0.88	2050.06	2218.09	1.15	1.44	487.79	1.00
7/30/24 13:08	-0.38	21.03	-0.88	2050.01	2218.13	1.15	1.44	487.80	1.00
7/30/24 14:08	-0.38	21.03	-0.88	2050.07	2218.08	1.15	1.44	487.79	1.00
7/30/24 15:08	-0.38	21.03	-0.88	2050.16	2218.18	1.15	1.44	487.77	1.00
7/30/24 16:08	-0.38	21.03	-0.88	2049.93	2217.96	1.15	1.44	487.82	1.00
7/30/24 17:08	-0.38	21.03	-0.88	2049.96	2218.00	1.15	1.44	487.82	1.00
7/30/24 18:08	-0.38	21.03	-0.88	2050.38	2218.45	1.15	1.44	487.71	1.00
7/30/24 19:08	-0.38	21.03	-0.88	2050.20	2218.23	1.15	1.44	487.76	1.00
7/30/24 20:08	-0.38	21.04	-0.88	2050.36	2218.35	1.15	1.44	487.72	1.00
7/30/24 21:08	-0.38	21.03	-0.88	2050.51	2218.53	1.15	1.44	487.68	1.00
7/30/24 22:08	-0.38	21.03	-0.88	2050.50	2218.53	1.15	1.44	487.69	1.00
7/30/24 23:08	-0.38	21.04	-0.88	2050.31	2218.30	1.15	1.44	487.73	1.00
7/31/24 0:08	-0.38	21.04	-0.88	2050.19	2218.16	1.15	1.44	487.76	1.00
7/31/24 1:08	-0.38	21.04	-0.88	2050.07	2218.04	1.15	1.44	487.79	1.00
7/31/24 2:08	-0.38	21.04	-0.88	2050.31	2218.28	1.15	1.44	487.73	1.00
7/31/24 3:08	-0.38	21.04	-0.88	2050.43	2218.42	1.15	1.44	487.70	1.00
7/31/24 4:08	-0.38	21.04	-0.88	2051.17	2219.20	1.15	1.44	487.53	1.00
7/31/24 5:08	-0.38	21.04	-0.88	2050.93	2218.94	1.15	1.44	487.58	1.00
7/31/24 6:08	-0.38	21.04	-0.88	2050.73	2218.72	1.15	1.44	487.63	1.00
7/31/24 7:08	-0.38	21.04	-0.89	2050.84	2218.83	1.15	1.44	487.61	1.00
7/31/24 8:08	-0.39	21.04	-0.89	2051.10	2219.16	1.15	1.44	487.54	1.00
7/31/24 9:08	-0.38	21.04	-0.89	2050.87	2218.90	1.15	1.44	487.60	1.00
7/31/24 10:08	-0.38	21.03	-0.89	2050.75	2218.81	1.15	1.44	487.63	1.00
7/31/24 11:08	-0.38	21.04	-0.89	2050.45	2218.43	1.15	1.44	487.70	1.00
7/31/24 12:08	-0.38	21.04	-0.89	2050.97	2218.97	1.15	1.44	487.57	1.00
7/31/24 13:08	-0.38	21.03	-0.88	2051.08	2219.15	1.15	1.44	487.55	1.00
7/31/24 14:08	-0.38	21.04	-0.88	2051.04	2219.03	1.15	1.44	487.56	1.00
7/31/24 15:08	-0.38	21.03	-0.88	2051.04	2219.16	1.15	1.44	487.56	1.00
7/31/24 16:08	-0.38	21.03	-0.88	2050.88	2218.97	1.15	1.44	487.60	1.00
7/31/24 17:08	-0.38	21.03	-0.88	2050.69	2218.75	1.15	1.44	487.64	1.00
7/31/24 18:08	-0.38	21.04	-0.88	2050.52	2218.51	1.15	1.44	487.68	1.00
7/31/24 19:08	-0.38	21.03	-0.88	2050.84	2218.88	1.15	1.44	487.61	1.00
7/31/24 20:08	-0.39	21.03	-0.89	2050.47	2218.51	1.15	1.44	487.69	1.00
7/31/24 21:08	-0.38	21.03	-0.88	2050.43	2218.47	1.15	1.44	487.70	1.00
7/31/24 22:08	-0.38	21.03	-0.89	2050.55	2218.57	1.15	1.44	487.67	1.00
7/31/24 23:08	-0.39	21.04	-0.89	2050.73	2218.70	1.15	1.44	487.63	1.00
8/1/24 0:08	-0.39	21.04	-0.90	2050.78	2218.75	1.15	1.44	487.62	1.00
8/1/24 1:08	-0.39	21.04	-0.89	2050.69	2218.65	1.15	1.44	487.64	1.00
8/1/24 2:08	-0.39	21.04	-0.89	2051.05	2219.06	1.15	1.44	487.55	1.00
8/1/24 3:08	-0.38	21.04	-0.89	2051.42	2219.51	1.15	1.44	487.47	1.00
8/1/24 4:08	-0.38	21.04	-0.89	2051.92	2220.00	1.15	1.44	487.35	1.00
8/1/24 5:08	-0.38	21.04	-0.89	2051.90	2219.97	1.15	1.44	487.35	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/1/24 6:08	-0.39	21.04	-0.89	2051.81	2219.87	1.15	1.44	487.37	1.00
8/1/24 7:08	-0.39	21.04	-0.90	2051.92	2219.99	1.15	1.44	487.35	1.00
8/1/24 8:08	-0.39	21.04	-0.90	2052.35	2220.50	1.15	1.44	487.25	1.00
8/1/24 9:08	-0.39	21.04	-0.90	2052.60	2220.74	1.15	1.44	487.19	1.00
8/1/24 10:08	-0.39	21.03	-0.90	2052.38	2220.58	1.15	1.44	487.24	1.00
8/1/24 11:08	-0.39	21.03	-0.89	2051.70	2219.85	1.15	1.44	487.40	1.00
8/1/24 12:08	-0.39	21.04	-0.90	2051.96	2220.05	1.15	1.44	487.34	1.00
8/1/24 13:08	-0.38	21.04	-0.89	2052.11	2220.22	1.15	1.44	487.30	1.00
8/1/24 14:08	-0.39	21.03	-0.89	2051.69	2219.80	1.15	1.44	487.40	1.00
8/1/24 15:08	-0.38	21.04	-0.89	2051.58	2219.63	1.15	1.44	487.43	1.00
8/1/24 16:08	-0.38	21.04	-0.88	2051.64	2219.69	1.15	1.44	487.41	1.00
8/1/24 17:08	-0.38	21.04	-0.88	2051.73	2219.70	1.15	1.44	487.39	1.00
8/1/24 18:08	-0.38	21.04	-0.89	2051.82	2219.85	1.15	1.44	487.37	1.00
8/1/24 19:08	-0.38	21.04	-0.89	2051.37	2219.34	1.15	1.44	487.48	1.00
8/1/24 20:08	-0.39	21.04	-0.89	2051.16	2219.16	1.15	1.44	487.53	1.00
8/1/24 21:08	-0.38	21.04	-0.89	2051.27	2219.32	1.15	1.44	487.50	1.00
8/1/24 22:08	-0.39	21.04	-0.89	2051.74	2219.82	1.15	1.44	487.39	1.00
8/1/24 23:08	-0.39	21.04	-0.90	2051.74	2219.79	1.15	1.44	487.39	1.00
8/2/24 0:08	-0.39	21.03	-0.90	2051.77	2219.93	1.15	1.44	487.38	1.00
8/2/24 1:08	-0.39	21.03	-0.90	2051.62	2219.75	1.15	1.44	487.42	1.00
8/2/24 2:08	-0.39	21.04	-0.90	2051.84	2219.92	1.15	1.44	487.37	1.00
8/2/24 3:08	-0.39	21.04	-0.90	2051.51	2219.50	1.15	1.44	487.45	1.00
8/2/24 4:08	-0.39	21.04	-0.90	2051.10	2219.11	1.15	1.44	487.54	1.00
8/2/24 5:08	-0.39	21.04	-0.89	2050.91	2218.89	1.15	1.44	487.59	1.00
8/2/24 6:08	-0.39	21.04	-0.90	2050.99	2218.93	1.15	1.44	487.57	1.00
8/2/24 7:08	-0.39	21.04	-0.90	2050.93	2218.97	1.15	1.44	487.58	1.00
8/2/24 8:08	-0.39	21.04	-0.90	2050.95	2218.94	1.15	1.44	487.58	1.00
8/2/24 9:08	-0.39	21.04	-0.90	2050.83	2218.86	1.15	1.44	487.61	1.00
8/2/24 10:08	-0.39	21.04	-0.90	2050.47	2218.42	1.15	1.44	487.69	1.00
8/2/24 11:08	-0.39	21.04	-0.90	2048.73	2216.56	1.15	1.44	488.11	1.00
8/2/24 12:08	-0.39	21.04	-0.89	2048.64	2216.45	1.15	1.44	488.13	1.00
8/2/24 13:08	-0.38	21.04	-0.89	2048.03	2215.80	1.15	1.44	488.27	1.00
8/2/24 14:08	-0.38	21.04	-0.89	2048.03	2215.75	1.15	1.44	488.27	1.00
8/2/24 15:08	-0.38	21.04	-0.88	2047.98	2215.74	1.15	1.44	488.29	1.00
8/2/24 16:08	-0.38	21.04	-0.88	2048.02	2215.77	1.15	1.44	488.28	1.00
8/2/24 17:08	-0.38	21.04	-0.88	2048.59	2216.31	1.15	1.44	488.14	1.00
8/2/24 18:08	-0.38	21.04	-0.88	2048.38	2216.08	1.15	1.44	488.19	1.00
8/2/24 19:08	-0.38	21.04	-0.89	2047.98	2215.65	1.15	1.44	488.29	1.00
8/2/24 20:08	-0.38	21.04	-0.88	2048.39	2216.08	1.15	1.44	488.19	1.00
8/2/24 21:08	-0.39	21.04	-0.89	2047.13	2214.73	1.15	1.44	488.49	1.00
8/2/24 22:08	-0.38	21.04	-0.88	2046.90	2214.51	1.15	1.44	488.54	1.00
8/2/24 23:08	-0.39	21.04	-0.89	2045.91	2213.44	1.15	1.44	488.78	1.00
8/3/24 0:08	-0.39	21.04	-0.89	2044.81	2212.19	1.15	1.44	489.04	1.00
8/3/24 1:08	-0.39	21.04	-0.89	2044.42	2211.82	1.15	1.44	489.14	1.00
8/3/24 2:08	-0.38	21.04	-0.89	2044.25	2211.60	1.15	1.44	489.18	1.00
8/3/24 3:08	-0.38	21.04	-0.89	2044.62	2212.00	1.15	1.44	489.09	1.00
8/3/24 4:08	-0.38	21.04	-0.89	2044.50	2211.88	1.15	1.44	489.12	1.00
8/3/24 5:08	-0.39	21.04	-0.89	2044.29	2211.67	1.15	1.44	489.17	1.00
8/3/24 6:08	-0.39	21.04	-0.89	2044.23	2211.58	1.15	1.44	489.18	1.00
8/3/24 7:08	-0.38	21.04	-0.89	2044.18	2211.53	1.15	1.44	489.19	1.00
8/3/24 8:08	-0.39	21.04	-0.89	2043.78	2211.22	1.15	1.44	489.29	1.00
8/3/24 9:08	-0.38	21.04	-0.89	2044.03	2211.39	1.15	1.44	489.23	1.00
8/3/24 10:08	-0.39	21.04	-0.89	2043.62	2210.91	1.15	1.44	489.33	1.00
8/3/24 11:08	-0.38	21.04	-0.89	2043.40	2210.68	1.15	1.44	489.38	1.00
8/3/24 12:08	-0.38	21.04	-0.88	2043.86	2211.20	1.15	1.44	489.27	1.00
8/3/24 13:08	-0.38	21.04	-0.88	2042.84	2210.07	1.15	1.44	489.51	1.00
8/3/24 14:08	-0.38	21.04	-0.88	2042.72	2209.95	1.15	1.44	489.54	1.00
8/3/24 15:08	-0.38	21.04	-0.88	2042.53	2209.75	1.15	1.44	489.59	1.00
8/3/24 16:08	-0.38	21.04	-0.87	2042.70	2209.90	1.15	1.44	489.55	1.00
8/3/24 17:08	-0.38	21.04	-0.88	2042.76	2210.03	1.15	1.44	489.53	1.00
8/3/24 18:08	-0.38	21.04	-0.87	2041.85	2209.07	1.14	1.44	489.75	1.00
8/3/24 19:08	-0.38	21.04	-0.87	2042.39	2209.60	1.14	1.44	489.62	1.00
8/3/24 20:08	-0.38	21.04	-0.88	2042.55	2209.70	1.15	1.44	489.59	1.00
8/3/24 21:08	-0.38	21.04	-0.88	2042.41	2209.59	1.14	1.44	489.62	1.00
8/3/24 22:08	-0.38	21.04	-0.89	2042.23	2209.39	1.14	1.44	489.66	1.00
8/3/24 23:08	-0.38	21.04	-0.88	2042.63	2209.81	1.15	1.44	489.57	1.00
8/4/24 0:08	-0.38	21.04	-0.88	2042.61	2209.82	1.15	1.44	489.57	1.00
8/4/24 1:08	-0.38	21.04	-0.88	2042.61	2209.78	1.15	1.44	489.57	1.00
8/4/24 2:08	-0.38	21.04	-0.88	2042.84	2210.05	1.15	1.44	489.51	1.00
8/4/24 3:08	-0.38	21.04	-0.88	2042.61	2209.78	1.15	1.44	489.57	1.00
8/4/24 4:08	-0.38	21.04	-0.88	2042.33	2209.47	1.14	1.44	489.64	1.00
8/4/24 5:08	-0.38	21.04	-0.88	2042.43	2209.64	1.14	1.44	489.61	1.00
8/4/24 6:08	-0.38	21.04	-0.88	2042.64	2209.82	1.15	1.44	489.56	1.00
8/4/24 7:08	-0.38	21.04	-0.89	2042.50	2209.63	1.14	1.44	489.60	1.00
8/4/24 8:08	-0.38	21.04	-0.88	2042.99	2210.16	1.15	1.44	489.48	1.00
8/4/24 9:08	-0.38	21.04	-0.89	2043.19	2210.39	1.15	1.44	489.43	1.00
8/4/24 10:08	-0.38	21.04	-0.88	2043.12	2210.34	1.15	1.44	489.45	1.00
8/4/24 11:08	-0.38	21.04	-0.88	2043.12	2210.31	1.15	1.44	489.45	1.00
8/4/24 12:08	-0.38	21.04	-0.88	2042.37	2209.49	1.14	1.44	489.63	1.00
8/4/24 13:08	-0.38	21.04	-0.87	2042.57	2209.72	1.15	1.44	489.58	1.00
8/4/24 14:08	-0.38	21.04	-0.87	2042.69	2209.85	1.15	1.44	489.55	1.00
8/4/24 15:08	-0.38	21.04	-0.87	2042.55	2209.71	1.15	1.44	489.58	1.00
8/4/24 16:08	-0.38	21.04	-0.87	2042.52	2209.73	1.15	1.44	489.59	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/4/24 17:08	-0.38	21.04	-0.87	2042.89	2210.10	1.15	1.44	489.50	1.00
8/4/24 18:08	-0.38	21.04	-0.87	2043.64	2210.90	1.15	1.44	489.32	1.00
8/4/24 19:08	-0.38	21.04	-0.87	2043.33	2210.55	1.15	1.44	489.40	1.00
8/4/24 20:08	-0.38	21.04	-0.88	2043.32	2210.62	1.15	1.44	489.40	1.00
8/4/24 21:08	-0.38	21.04	-0.88	2043.98	2211.25	1.15	1.44	489.24	1.00
8/4/24 22:08	-0.38	21.04	-0.88	2043.61	2210.84	1.15	1.44	489.33	1.00
8/4/24 23:08	-0.38	21.04	-0.88	2043.43	2210.66	1.15	1.44	489.37	1.00
8/5/24 0:08	-0.38	21.04	-0.88	2043.19	2210.42	1.15	1.44	489.43	1.00
8/5/24 1:08	-0.38	21.04	-0.88	2043.26	2210.45	1.15	1.44	489.41	1.00
8/5/24 2:08	-0.38	21.04	-0.87	2042.51	2209.61	1.14	1.44	489.59	1.00
8/5/24 3:08	-0.38	21.04	-0.88	2042.65	2209.77	1.15	1.44	489.56	1.00
8/5/24 4:08	-0.38	21.04	-0.87	2042.44	2209.54	1.14	1.44	489.61	1.00
8/5/24 5:08	-0.38	21.04	-0.88	2042.49	2209.66	1.14	1.44	489.60	1.00
8/5/24 6:08	-0.38	21.04	-0.88	2042.14	2209.30	1.14	1.44	489.68	1.00
8/5/24 7:08	-0.38	21.04	-0.89	2042.61	2209.80	1.15	1.44	489.57	1.00
8/5/24 8:08	-0.38	21.04	-0.88	2042.58	2209.73	1.15	1.44	489.58	1.00
8/5/24 9:08	-0.38	21.04	-0.89	2042.64	2209.79	1.15	1.44	489.56	1.00
8/5/24 10:08	-0.38	21.04	-0.89	2042.82	2209.95	1.15	1.44	489.52	1.00
8/5/24 11:08	-0.38	21.04	-0.88	2043.00	2210.14	1.15	1.44	489.48	1.00
8/5/24 12:08	-0.38	21.04	-0.88	2042.98	2210.13	1.15	1.44	489.48	1.00
8/5/24 13:08	-0.38	21.04	-0.88	2043.23	2210.39	1.15	1.44	489.42	1.00
8/5/24 14:08	-0.38	21.04	-0.87	2043.51	2210.71	1.15	1.44	489.35	1.00
8/5/24 15:08	-0.38	21.04	-0.87	2043.41	2210.56	1.15	1.44	489.38	1.00
8/5/24 16:08	-0.38	21.04	-0.88	2043.12	2210.28	1.15	1.44	489.45	1.00
8/5/24 17:08	-0.38	21.04	-0.88	2042.77	2209.89	1.15	1.44	489.53	1.00
8/5/24 18:08	-0.38	21.04	-0.88	2043.63	2210.83	1.15	1.44	489.32	1.00
8/5/24 19:08	-0.38	21.04	-0.87	2043.37	2210.57	1.15	1.44	489.39	1.00
8/5/24 20:08	-0.38	21.04	-0.88	2043.73	2210.92	1.15	1.44	489.30	1.00
8/5/24 21:08	-0.38	21.04	-0.88	2043.29	2210.41	1.15	1.44	489.41	1.00
8/5/24 22:08	-0.38	21.04	-0.88	2043.16	2210.32	1.15	1.44	489.44	1.00
8/5/24 23:08	-0.38	21.04	-0.88	2043.44	2210.60	1.15	1.44	489.37	1.00
8/6/24 0:08	-0.38	21.04	-0.88	2043.49	2210.65	1.15	1.44	489.36	1.00
8/6/24 1:08	-0.38	21.04	-0.88	2043.53	2210.68	1.15	1.44	489.35	1.00
8/6/24 2:08	-0.38	21.04	-0.88	2043.11	2210.23	1.15	1.44	489.45	1.00
8/6/24 3:08	-0.38	21.04	-0.88	2043.45	2210.59	1.15	1.44	489.37	1.00
8/6/24 4:08	-0.38	21.04	-0.88	2043.42	2210.60	1.15	1.44	489.38	1.00
8/6/24 5:08	-0.38	21.04	-0.88	2043.56	2210.71	1.15	1.44	489.34	1.00
8/6/24 6:08	-0.38	21.04	-0.89	2043.85	2211.04	1.15	1.44	489.27	1.00
8/6/24 7:08	-0.38	21.04	-0.88	2043.70	2210.87	1.15	1.44	489.31	1.00
8/6/24 8:08	-0.38	21.04	-0.89	2043.67	2210.84	1.15	1.44	489.32	1.00
8/6/24 9:08	-0.38	21.04	-0.88	2043.51	2210.65	1.15	1.44	489.35	1.00
8/6/24 10:08	-0.38	21.04	-0.89	2043.31	2210.42	1.15	1.44	489.40	1.00
8/6/24 11:08	-0.38	21.04	-0.88	2043.52	2210.66	1.15	1.44	489.35	1.00
8/6/24 12:08	-0.38	21.04	-0.88	2043.68	2210.81	1.15	1.44	489.31	1.00
8/6/24 13:08	-0.38	21.04	-0.88	2043.79	2210.92	1.15	1.44	489.29	1.00
8/6/24 14:08	-0.38	21.04	-0.87	2043.46	2210.61	1.15	1.44	489.37	1.00
8/6/24 15:08	-0.38	21.04	-0.87	2043.73	2210.87	1.15	1.44	489.30	1.00
8/6/24 16:08	-0.38	21.04	-0.87	2043.59	2210.74	1.15	1.44	489.33	1.00
8/6/24 17:08	-0.38	21.04	-0.88	2042.75	2209.82	1.15	1.44	489.54	1.00
8/6/24 18:08	-0.38	21.04	-0.87	2042.63	2209.65	1.14	1.44	489.56	1.00
8/6/24 19:08	-0.38	21.04	-0.87	2042.81	2209.92	1.15	1.44	489.52	1.00
8/6/24 20:08	-0.38	21.04	-0.88	2042.59	2209.65	1.14	1.44	489.57	1.00
8/6/24 21:08	-0.38	21.04	-0.88	2042.83	2209.88	1.15	1.44	489.52	1.00
8/6/24 22:08	-0.38	21.04	-0.88	2042.52	2209.66	1.14	1.44	489.59	1.00
8/6/24 23:08	-0.38	21.04	-0.88	2042.67	2209.78	1.15	1.44	489.56	1.00
8/7/24 0:08	-0.38	21.04	-0.88	2042.37	2209.43	1.14	1.44	489.63	1.00
8/7/24 1:08	-0.38	21.04	-0.87	2042.48	2209.51	1.14	1.44	489.60	1.00
8/7/24 2:08	-0.38	21.04	-0.87	2042.54	2209.59	1.14	1.44	489.59	1.00
8/7/24 3:08	-0.38	21.04	-0.88	2042.68	2209.73	1.15	1.44	489.55	1.00
8/7/24 4:08	-0.38	21.04	-0.88	2042.73	2209.76	1.15	1.44	489.54	1.00
8/7/24 5:08	-0.38	21.04	-0.87	2042.56	2209.58	1.14	1.44	489.58	1.00
8/7/24 6:08	-0.38	21.04	-0.88	2042.41	2209.43	1.14	1.44	489.62	1.00
8/7/24 7:08	-0.38	21.04	-0.88	2042.28	2209.30	1.14	1.44	489.65	1.00
8/7/24 8:08	-0.38	21.04	-0.88	2042.34	2209.34	1.14	1.44	489.63	1.00
8/7/24 9:08	-0.38	21.04	-0.88	2042.16	2209.13	1.14	1.44	489.68	1.00
8/7/24 10:08	-0.38	21.04	-0.87	2042.33	2209.34	1.14	1.44	489.64	1.00
8/7/24 11:08	-0.38	21.04	-0.87	2042.54	2209.55	1.14	1.44	489.59	1.00
8/7/24 12:08	-0.38	21.04	-0.87	2042.56	2209.56	1.14	1.44	489.58	1.00
8/7/24 13:08	-0.38	21.04	-0.87	2042.47	2209.47	1.14	1.44	489.60	1.00
8/7/24 14:08	-0.37	21.04	-0.87	2042.26	2209.27	1.14	1.44	489.65	1.00
8/7/24 15:08	-1.65	21.05	-3.82	2028.67	2194.28	1.14	1.43	492.93	1.00
8/7/24 16:08	-0.35	21.16	-0.81	2031.74	2192.40	1.14	1.43	492.19	1.00
8/7/24 17:08	-0.36	21.12	-0.83	2032.09	2194.53	1.14	1.43	492.10	1.00
8/7/24 18:08	-0.36	21.10	-0.84	2031.78	2195.16	1.14	1.43	492.18	1.00
8/7/24 19:08	-0.36	21.09	-0.84	2031.90	2195.87	1.14	1.43	492.15	1.00
8/7/24 20:08	-0.37	21.08	-0.85	2031.82	2196.18	1.14	1.43	492.17	1.00
8/7/24 21:08	-0.37	21.08	-0.85	2031.40	2195.98	1.14	1.43	492.27	1.00
8/7/24 22:08	-0.37	21.07	-0.86	2031.42	2196.21	1.14	1.43	492.27	1.00
8/7/24 23:08	-0.37	21.07	-0.86	2031.67	2196.62	1.14	1.43	492.21	1.00
8/8/24 0:08	-0.37	21.07	-0.86	2031.52	2196.55	1.14	1.43	492.24	1.00
8/8/24 1:08	-0.37	21.06	-0.86	2032.06	2197.22	1.14	1.43	492.11	1.00
8/8/24 2:08	-0.37	21.06	-0.86	2031.78	2196.98	1.14	1.43	492.18	1.00
8/8/24 3:08	-0.37	21.06	-0.86	2031.87	2197.10	1.14	1.43	492.16	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/8/24 4:08	-0.37	21.06	-0.86	2031.90	2197.26	1.14	1.43	492.15	1.00
8/8/24 5:08	-0.37	21.06	-0.86	2031.51	2196.86	1.14	1.43	492.24	1.00
8/8/24 6:08	-0.37	21.06	-0.86	2031.82	2197.25	1.14	1.43	492.17	1.00
8/8/24 7:08	-0.37	21.06	-0.86	2031.85	2197.32	1.14	1.43	492.16	1.00
8/8/24 8:08	-0.37	21.06	-0.86	2031.70	2197.24	1.14	1.43	492.20	1.00
8/8/24 9:08	-0.37	21.05	-0.86	2031.66	2197.23	1.14	1.43	492.21	1.00
8/8/24 10:08	-0.37	21.05	-0.86	2031.74	2197.38	1.14	1.43	492.19	1.00
8/8/24 11:08	-0.37	21.05	-0.86	2031.29	2196.97	1.14	1.43	492.30	1.00
8/8/24 12:08	-0.37	21.05	-0.86	2031.98	2197.62	1.14	1.43	492.13	1.00
8/8/24 13:08	-0.37	21.05	-0.86	2031.74	2197.38	1.14	1.43	492.19	1.00
8/8/24 14:08	-0.37	21.05	-0.86	2032.10	2197.79	1.14	1.43	492.10	1.00
8/8/24 15:08	-0.37	21.05	-0.85	2032.02	2197.73	1.14	1.43	492.12	1.00
8/8/24 16:08	-0.37	21.05	-0.85	2031.72	2197.41	1.14	1.43	492.19	1.00
8/8/24 17:08	-0.37	21.05	-0.85	2031.76	2197.48	1.14	1.43	492.18	1.00
8/8/24 18:08	-0.37	21.05	-0.85	2031.84	2197.58	1.14	1.43	492.17	1.00
8/8/24 19:08	-0.37	21.05	-0.85	2031.99	2197.74	1.14	1.43	492.13	1.00
8/8/24 20:08	-0.37	21.05	-0.85	2032.06	2197.83	1.14	1.43	492.11	1.00
8/8/24 21:08	-0.37	21.05	-0.85	2032.09	2197.86	1.14	1.43	492.10	1.00
8/8/24 22:08	-0.37	21.05	-0.86	2032.15	2197.96	1.14	1.43	492.09	1.00
8/8/24 23:08	-0.37	21.05	-0.86	2031.90	2197.66	1.14	1.43	492.15	1.00
8/9/24 0:08	-0.37	21.05	-0.86	2031.88	2197.65	1.14	1.43	492.16	1.00
8/9/24 1:08	-0.37	21.05	-0.86	2032.13	2197.93	1.14	1.43	492.10	1.00
8/9/24 2:08	-0.37	21.05	-0.86	2032.31	2198.11	1.14	1.43	492.05	1.00
8/9/24 3:08	-0.37	21.05	-0.86	2032.16	2197.96	1.14	1.43	492.09	1.00
8/9/24 4:08	-0.37	21.05	-0.86	2032.19	2197.99	1.14	1.43	492.08	1.00
8/9/24 5:08	-0.37	21.05	-0.86	2031.95	2197.76	1.14	1.43	492.14	1.00
8/9/24 6:08	-0.37	21.05	-0.86	2032.48	2198.32	1.14	1.43	492.01	1.00
8/9/24 7:08	-0.37	21.05	-0.86	2031.94	2197.74	1.14	1.43	492.14	1.00
8/9/24 8:08	-0.37	21.05	-0.86	2032.32	2198.14	1.14	1.43	492.05	1.00
8/9/24 9:08	-0.37	21.05	-0.85	2032.27	2198.11	1.14	1.43	492.06	1.00
8/9/24 10:08	-0.37	21.05	-0.84	2032.53	2198.39	1.14	1.43	492.00	1.00
8/9/24 11:08	-1.42	21.12	-3.27	2015.74	2176.89	1.13	1.41	496.10	1.00
8/9/24 12:08	-0.31	21.14	-0.72	2021.60	2182.49	1.13	1.42	494.66	1.00
8/9/24 13:08	-0.31	21.11	-0.72	2021.17	2183.35	1.13	1.42	494.76	1.00
8/9/24 14:08	-0.31	21.09	-0.72	2021.17	2184.08	1.13	1.42	494.76	1.00
8/9/24 15:08	-0.31	21.09	-0.72	2021.20	2184.55	1.13	1.42	494.76	1.00
8/9/24 16:08	-0.31	21.08	-0.72	2021.59	2185.27	1.13	1.42	494.66	1.00
8/9/24 17:08	-0.31	21.07	-0.72	2021.41	2185.29	1.13	1.42	494.70	1.00
8/9/24 18:08	-0.31	21.07	-0.72	2021.07	2185.02	1.13	1.42	494.79	1.00
8/9/24 19:08	-0.31	21.07	-0.72	2021.32	2185.44	1.13	1.42	494.73	1.00
8/9/24 20:08	-0.31	21.07	-0.72	2021.70	2185.93	1.13	1.42	494.63	1.00
8/9/24 21:08	-0.32	21.07	-0.73	2021.66	2185.93	1.13	1.42	494.64	1.00
8/9/24 22:08	-0.32	21.06	-0.73	2021.94	2186.29	1.13	1.42	494.57	1.00
8/9/24 23:08	-0.31	21.06	-0.73	2021.55	2185.87	1.13	1.42	494.67	1.00
8/10/24 0:08	-0.32	21.06	-0.73	2022.31	2186.77	1.13	1.42	494.48	1.00
8/10/24 1:08	-0.32	21.06	-0.73	2022.08	2186.55	1.13	1.42	494.54	1.00
8/10/24 2:08	-0.32	21.06	-0.73	2021.56	2185.96	1.13	1.42	494.67	1.00
8/10/24 3:08	-0.31	21.06	-0.73	2021.89	2186.36	1.13	1.42	494.59	1.00
8/10/24 4:08	-0.31	21.06	-0.72	2022.07	2186.62	1.13	1.42	494.54	1.00
8/10/24 5:08	-0.31	21.06	-0.72	2022.00	2186.57	1.13	1.42	494.56	1.00
8/10/24 6:08	-0.31	21.06	-0.73	2021.83	2186.50	1.13	1.42	494.60	1.00
8/10/24 7:08	-0.32	21.06	-0.73	2022.04	2186.65	1.13	1.42	494.55	1.00
8/10/24 8:08	-0.32	21.06	-0.73	2022.04	2186.68	1.13	1.42	494.55	1.00
8/10/24 9:08	-0.32	21.06	-0.73	2022.16	2186.77	1.13	1.42	494.52	1.00
8/10/24 10:08	-0.32	21.06	-0.73	2022.04	2186.68	1.13	1.42	494.55	1.00
8/10/24 11:08	-0.31	21.06	-0.72	2021.91	2186.53	1.13	1.42	494.58	1.00
8/10/24 12:08	-0.31	21.06	-0.72	2022.47	2187.16	1.13	1.42	494.44	1.00
8/10/24 13:08	-0.31	21.05	-0.72	2022.43	2187.24	1.13	1.42	494.45	1.00
8/10/24 14:08	-0.31	21.06	-0.72	2022.85	2187.59	1.13	1.42	494.35	1.00
8/10/24 15:08	-0.31	21.06	-0.71	2022.81	2187.55	1.13	1.42	494.36	1.00
8/10/24 16:08	-0.31	21.06	-0.71	2022.74	2187.56	1.13	1.42	494.38	1.00
8/10/24 17:08	-0.31	21.06	-0.71	2022.74	2187.56	1.13	1.42	494.38	1.00
8/10/24 18:08	-0.31	21.06	-0.71	2022.90	2187.73	1.13	1.42	494.34	1.00
8/10/24 19:08	-0.31	21.06	-0.71	2022.98	2187.74	1.13	1.42	494.32	1.00
8/10/24 20:08	-0.31	21.06	-0.71	2022.92	2187.74	1.13	1.42	494.33	1.00
8/10/24 21:08	-0.31	21.05	-0.72	2022.87	2187.73	1.13	1.42	494.35	1.00
8/10/24 22:08	-0.31	21.06	-0.72	2022.92	2187.64	1.13	1.42	494.34	1.00
8/10/24 23:08	-0.31	21.06	-0.72	2023.19	2187.96	1.13	1.42	494.27	1.00
8/11/24 0:08	-0.31	21.06	-0.72	2022.88	2187.72	1.13	1.42	494.34	1.00
8/11/24 1:08	-0.31	21.06	-0.72	2022.89	2187.69	1.13	1.42	494.34	1.00
8/11/24 2:08	-0.31	21.06	-0.71	2023.06	2187.89	1.13	1.42	494.30	1.00
8/11/24 3:08	-0.31	21.06	-0.71	2023.14	2187.96	1.13	1.42	494.28	1.00
8/11/24 4:08	-0.31	21.06	-0.71	2023.17	2188.00	1.13	1.42	494.27	1.00
8/11/24 5:08	-0.31	21.06	-0.71	2023.20	2188.04	1.13	1.42	494.27	1.00
8/11/24 6:08	-0.31	21.06	-0.71	2023.12	2187.93	1.13	1.42	494.29	1.00
8/11/24 7:08	-0.31	21.06	-0.72	2023.35	2188.22	1.13	1.42	494.23	1.00
8/11/24 8:08	-0.31	21.06	-0.72	2023.61	2188.50	1.13	1.42	494.17	1.00
8/11/24 9:08	-0.31	21.06	-0.71	2023.23	2188.10	1.13	1.42	494.26	1.00
8/11/24 10:08	-0.31	21.06	-0.71	2023.42	2188.26	1.13	1.42	494.21	1.00
8/11/24 11:08	-0.31	21.06	-0.71	2023.21	2188.08	1.13	1.42	494.26	1.00
8/11/24 12:08	-0.31	21.05	-0.71	2023.25	2188.15	1.13	1.42	494.25	1.00
8/11/24 13:08	-0.31	21.06	-0.71	2023.50	2188.36	1.13	1.42	494.19	1.00
8/11/24 14:08	-0.31	21.06	-0.71	2023.39	2188.25	1.13	1.42	494.22	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/11/24 15:08	-0.30	21.05	-0.70	2023.67	2188.65	1.13	1.42	494.15	1.00
8/11/24 16:08	-0.31	21.06	-0.70	2023.61	2188.52	1.13	1.42	494.17	1.00
8/11/24 17:08	-0.30	21.05	-0.70	2023.85	2188.78	1.13	1.42	494.11	1.00
8/11/24 18:08	-0.30	21.06	-0.70	2023.95	2188.85	1.13	1.42	494.08	1.00
8/11/24 19:08	-0.31	21.05	-0.70	2024.01	2188.97	1.13	1.42	494.07	1.00
8/11/24 20:08	-0.31	21.06	-0.71	2023.99	2188.91	1.13	1.42	494.07	1.00
8/11/24 21:08	-0.31	21.06	-0.71	2023.98	2188.90	1.13	1.42	494.08	1.00
8/11/24 22:08	-0.31	21.05	-0.71	2023.76	2188.81	1.13	1.42	494.13	1.00
8/11/24 23:08	-0.31	21.05	-0.71	2024.25	2189.23	1.13	1.42	494.01	1.00
8/12/24 0:08	-0.31	21.06	-0.71	2024.39	2189.35	1.13	1.42	493.98	1.00
8/12/24 1:08	-0.31	21.05	-0.71	2024.00	2188.95	1.13	1.42	494.07	1.00
8/12/24 2:08	-0.31	21.05	-0.71	2024.14	2189.09	1.13	1.42	494.04	1.00
8/12/24 3:08	-0.31	21.05	-0.71	2024.29	2189.25	1.13	1.42	494.00	1.00
8/12/24 4:08	-0.31	21.05	-0.71	2024.08	2189.03	1.13	1.42	494.05	1.00
8/12/24 5:08	-0.31	21.05	-0.71	2023.88	2188.82	1.13	1.42	494.10	1.00
8/12/24 6:08	-0.31	21.05	-0.71	2023.87	2188.80	1.13	1.42	494.10	1.00
8/12/24 7:08	-0.31	21.06	-0.71	2024.19	2189.13	1.13	1.42	494.03	1.00
8/12/24 8:08	-0.31	21.06	-0.71	2023.85	2188.75	1.13	1.42	494.11	1.00
8/12/24 9:08	-0.31	21.06	-0.71	2024.11	2189.05	1.13	1.42	494.04	1.00
8/12/24 10:08	-0.31	21.06	-0.71	2024.25	2189.20	1.13	1.42	494.01	1.00
8/12/24 11:08	-0.30	21.05	-0.70	2024.07	2189.02	1.13	1.42	494.05	1.00
8/12/24 12:08	-0.30	21.05	-0.70	2024.39	2189.36	1.13	1.42	493.98	1.00
8/12/24 13:08	-0.30	21.06	-0.70	2024.46	2189.40	1.13	1.42	493.96	1.00
8/12/24 14:08	-0.30	21.06	-0.69	2024.22	2189.16	1.13	1.42	494.02	1.00
8/12/24 15:08	-0.30	21.05	-0.69	2024.54	2189.63	1.13	1.42	493.94	1.00
8/12/24 16:08	-0.30	21.06	-0.69	2024.26	2189.20	1.13	1.42	494.01	1.00
8/12/24 17:08	-0.31	21.05	-0.71	2024.65	2189.64	1.13	1.42	493.91	1.00
8/12/24 18:08	-0.31	21.05	-0.72	2024.24	2189.20	1.13	1.42	494.01	1.00
8/12/24 19:08	-0.31	21.05	-0.73	2024.73	2189.74	1.13	1.42	493.89	1.00
8/12/24 20:08	-0.32	21.06	-0.73	2024.43	2189.37	1.13	1.42	493.97	1.00
8/12/24 21:08	-0.32	21.06	-0.74	2024.62	2189.61	1.13	1.42	493.92	1.00
8/12/24 22:08	-0.32	21.05	-0.74	2024.60	2189.59	1.13	1.42	493.93	1.00
8/12/24 23:08	-0.32	21.06	-0.74	2024.64	2189.60	1.13	1.42	493.92	1.00
8/13/24 0:08	-0.32	21.06	-0.75	2024.44	2189.40	1.13	1.42	493.96	1.00
8/13/24 1:08	-0.32	21.05	-0.74	2024.54	2189.52	1.13	1.42	493.94	1.00
8/13/24 2:08	-0.32	21.06	-0.74	2024.20	2189.14	1.13	1.42	494.02	1.00
8/13/24 3:08	-0.32	21.06	-0.74	2024.46	2189.40	1.13	1.42	493.96	1.00
8/13/24 4:08	-0.32	21.06	-0.74	2024.56	2189.51	1.13	1.42	493.93	1.00
8/13/24 5:08	-0.32	21.06	-0.74	2024.55	2189.51	1.13	1.42	493.94	1.00
8/13/24 6:08	-0.32	21.06	-0.74	2024.50	2189.44	1.13	1.42	493.95	1.00
8/13/24 7:08	-0.32	21.06	-0.75	2024.83	2189.83	1.13	1.42	493.87	1.00
8/13/24 8:08	-0.32	21.06	-0.75	2024.56	2189.51	1.13	1.42	493.94	1.00
8/13/24 9:08	-0.32	21.06	-0.75	2024.63	2189.61	1.13	1.42	493.92	1.00
8/13/24 10:08	-0.32	21.06	-0.75	2024.70	2189.66	1.13	1.42	493.90	1.00
8/13/24 11:08	-0.32	21.06	-0.75	2024.64	2189.57	1.13	1.42	493.91	1.00
8/13/24 12:08	-0.32	21.06	-0.75	2024.52	2189.43	1.13	1.42	493.94	1.00
8/13/24 13:08	-0.32	21.06	-0.74	2024.62	2189.57	1.13	1.42	493.92	1.00
8/13/24 14:08	-0.32	21.06	-0.74	2025.19	2190.19	1.13	1.42	493.78	1.00
8/13/24 15:08	-0.32	21.06	-0.74	2025.05	2190.02	1.13	1.42	493.82	1.00
8/13/24 16:08	-0.32	21.06	-0.74	2025.33	2190.34	1.13	1.42	493.75	1.00
8/13/24 17:08	-0.32	21.06	-0.74	2025.50	2190.51	1.13	1.42	493.70	1.00
8/13/24 18:08	-0.32	21.06	-0.75	2025.65	2190.69	1.13	1.42	493.67	1.00
8/13/24 19:08	-0.32	21.06	-0.74	2025.23	2190.24	1.13	1.42	493.77	1.00
8/13/24 20:08	-0.32	21.06	-0.75	2025.30	2190.33	1.13	1.42	493.75	1.00
8/13/24 21:08	-0.32	21.06	-0.75	2025.33	2190.36	1.13	1.42	493.75	1.00
8/13/24 22:08	-0.33	21.06	-0.75	2024.95	2189.91	1.13	1.42	493.84	1.00
8/13/24 23:08	-0.33	21.06	-0.76	2025.12	2190.09	1.13	1.42	493.80	1.00
8/14/24 0:08	-0.33	21.06	-0.76	2024.81	2189.76	1.13	1.42	493.87	1.00
8/14/24 1:08	-0.33	21.06	-0.75	2024.78	2189.72	1.13	1.42	493.88	1.00
8/14/24 2:08	-0.32	21.06	-0.74	2025.23	2190.19	1.13	1.42	493.77	1.00
8/14/24 3:08	-0.32	21.06	-0.75	2024.71	2189.64	1.13	1.42	493.90	1.00
8/14/24 4:08	-0.32	21.06	-0.74	2025.24	2190.21	1.13	1.42	493.77	1.00
8/14/24 5:08	-0.32	21.06	-0.75	2025.47	2190.46	1.13	1.42	493.71	1.00
8/14/24 6:08	-0.32	21.06	-0.75	2025.53	2190.52	1.13	1.42	493.70	1.00
8/14/24 7:08	-0.33	21.06	-0.75	2025.50	2190.48	1.13	1.42	493.71	1.00
8/14/24 8:08	-0.33	21.06	-0.75	2025.55	2190.54	1.13	1.42	493.69	1.00
8/14/24 9:08	-0.32	21.06	-0.75	2025.98	2190.99	1.13	1.42	493.59	1.00
8/14/24 10:08	-0.32	21.06	-0.75	2025.89	2190.92	1.13	1.42	493.61	1.00
8/14/24 11:08	-0.32	21.06	-0.75	2025.96	2191.01	1.13	1.42	493.59	1.00
8/14/24 12:08	-0.32	21.06	-0.75	2025.45	2190.46	1.13	1.42	493.72	1.00
8/14/24 13:08	-0.32	21.06	-0.74	2025.30	2190.30	1.13	1.42	493.75	1.00
8/14/24 14:08	-0.32	21.06	-0.74	2025.24	2190.18	1.13	1.42	493.77	1.00
8/14/24 15:08	-0.32	21.06	-0.74	2024.92	2189.84	1.13	1.42	493.85	1.00
8/14/24 16:08	-0.32	21.06	-0.74	2024.99	2189.95	1.13	1.42	493.83	1.00
8/14/24 17:08	-0.32	21.06	-0.74	2024.69	2189.64	1.13	1.42	493.90	1.00
8/14/24 18:08	-0.32	21.06	-0.74	2024.89	2189.82	1.13	1.42	493.85	1.00
8/14/24 19:08	-0.32	21.06	-0.74	2024.45	2189.37	1.13	1.42	493.96	1.00
8/14/24 20:08	-0.32	21.06	-0.75	2024.65	2189.60	1.13	1.42	493.91	1.00
8/14/24 21:08	-0.32	21.06	-0.75	2025.09	2190.07	1.13	1.42	493.81	1.00
8/14/24 22:08	-0.32	21.06	-0.75	2024.96	2189.90	1.13	1.42	493.84	1.00
8/14/24 23:08	-0.32	21.06	-0.75	2024.62	2189.52	1.13	1.42	493.92	1.00
8/15/24 0:08	-0.32	21.06	-0.75	2025.12	2190.05	1.13	1.42	493.80	1.00
8/15/24 1:08	-0.32	21.06	-0.75	2024.83	2189.73	1.13	1.42	493.87	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/15/24 2:08	-0.32	21.06	-0.75	2025.02	2189.98	1.13	1.42	493.82	1.00
8/15/24 3:08	-0.32	21.06	-0.75	2025.05	2189.97	1.13	1.42	493.82	1.00
8/15/24 4:08	-0.32	21.06	-0.75	2025.14	2190.04	1.13	1.42	493.79	1.00
8/15/24 5:08	-0.32	21.06	-0.75	2025.40	2190.32	1.13	1.42	493.73	1.00
8/15/24 6:08	-0.32	21.06	-0.75	2025.15	2190.04	1.13	1.42	493.79	1.00
8/15/24 7:08	-0.33	21.06	-0.75	2025.31	2190.22	1.13	1.42	493.75	1.00
8/15/24 8:08	-0.33	21.06	-0.75	2025.22	2190.12	1.13	1.42	493.77	1.00
8/15/24 9:08	-0.33	21.06	-0.75	2025.10	2189.99	1.13	1.42	493.80	1.00
8/15/24 10:08	-0.33	21.06	-0.75	2025.18	2190.07	1.13	1.42	493.78	1.00
8/15/24 11:08	-0.33	21.06	-0.75	2025.15	2190.03	1.13	1.42	493.79	1.00
8/15/24 12:08	-0.32	21.06	-0.75	2025.45	2190.36	1.13	1.42	493.72	1.00
8/15/24 13:08	-0.32	21.06	-0.75	2025.36	2190.27	1.13	1.42	493.74	1.00
8/15/24 14:08	-0.32	21.06	-0.75	2025.28	2190.18	1.13	1.42	493.76	1.00
8/15/24 15:08	-0.32	21.06	-0.74	2025.45	2190.38	1.13	1.42	493.72	1.00
8/15/24 16:08	-0.32	21.06	-0.75	2024.96	2189.81	1.13	1.42	493.84	1.00
8/15/24 17:08	-0.32	21.06	-0.74	2025.24	2190.14	1.13	1.42	493.77	1.00
8/15/24 18:08	-0.32	21.06	-0.74	2024.83	2189.74	1.13	1.42	493.87	1.00
8/15/24 19:08	-0.32	21.06	-0.75	2024.55	2189.41	1.13	1.42	493.94	1.00
8/15/24 20:08	-0.32	21.06	-0.75	2025.21	2190.14	1.13	1.42	493.78	1.00
8/15/24 21:08	-0.33	21.06	-0.75	2024.76	2189.64	1.13	1.42	493.88	1.00
8/15/24 22:08	-0.33	21.06	-0.76	2024.66	2189.51	1.13	1.42	493.91	1.00
8/15/24 23:08	-0.33	21.06	-0.75	2024.68	2189.55	1.13	1.42	493.90	1.00
8/16/24 0:08	-0.33	21.06	-0.75	2024.71	2189.53	1.13	1.42	493.90	1.00
8/16/24 1:08	-0.33	21.06	-0.75	2024.62	2189.45	1.13	1.42	493.92	1.00
8/16/24 2:08	-0.33	21.06	-0.75	2024.69	2189.50	1.13	1.42	493.90	1.00
8/16/24 3:08	-0.33	21.06	-0.75	2024.95	2189.79	1.13	1.42	493.84	1.00
8/16/24 4:08	-0.33	21.06	-0.75	2024.93	2189.76	1.13	1.42	493.84	1.00
8/16/24 5:08	-0.33	21.06	-0.75	2024.96	2189.78	1.13	1.42	493.84	1.00
8/16/24 6:08	-0.33	21.06	-0.76	2025.24	2190.08	1.13	1.42	493.77	1.00
8/16/24 7:08	-0.33	21.06	-0.76	2025.07	2189.91	1.13	1.42	493.81	1.00
8/16/24 8:08	-0.33	21.06	-0.76	2025.04	2189.85	1.13	1.42	493.82	1.00
8/16/24 9:08	-0.33	21.06	-0.76	2025.43	2190.31	1.13	1.42	493.72	1.00
8/16/24 10:08	-0.33	21.06	-0.76	2025.46	2190.34	1.13	1.42	493.71	1.00
8/16/24 11:08	-0.33	21.06	-0.76	2025.51	2190.37	1.13	1.42	493.70	1.00
8/16/24 12:08	-0.33	21.06	-0.75	2025.53	2190.37	1.13	1.42	493.70	1.00
8/16/24 13:08	-0.33	21.06	-0.75	2025.25	2190.07	1.13	1.42	493.77	1.00
8/16/24 14:08	-0.32	21.06	-0.75	2025.38	2190.21	1.13	1.42	493.73	1.00
8/16/24 15:08	-0.32	21.06	-0.75	2025.36	2190.19	1.13	1.42	493.74	1.00
8/16/24 16:08	-0.32	21.06	-0.75	2024.82	2189.62	1.13	1.42	493.87	1.00
8/16/24 17:08	-0.33	21.06	-0.75	2024.55	2189.31	1.13	1.42	493.94	1.00
8/16/24 18:08	-0.33	21.06	-0.75	2024.99	2189.79	1.13	1.42	493.83	1.00
8/16/24 19:08	-0.33	21.06	-0.76	2024.89	2189.73	1.13	1.42	493.85	1.00
8/16/24 20:08	-0.33	21.06	-0.76	2024.75	2189.54	1.13	1.42	493.89	1.00
8/16/24 21:08	-0.33	21.06	-0.76	2025.27	2190.08	1.13	1.42	493.76	1.00
8/16/24 22:08	-0.33	21.06	-0.76	2025.12	2189.95	1.13	1.42	493.80	1.00
8/16/24 23:08	-0.33	21.06	-0.76	2025.31	2190.13	1.13	1.42	493.75	1.00
8/17/24 0:08	-0.33	21.06	-0.76	2025.27	2190.07	1.13	1.42	493.76	1.00
8/17/24 1:08	-0.33	21.06	-0.76	2025.06	2189.87	1.13	1.42	493.81	1.00
8/17/24 2:08	-0.33	21.06	-0.76	2024.93	2189.72	1.13	1.42	493.84	1.00
8/17/24 3:08	-0.33	21.06	-0.76	2025.22	2190.02	1.13	1.42	493.77	1.00
8/17/24 4:08	-0.33	21.06	-0.76	2024.65	2189.42	1.13	1.42	493.91	1.00
8/17/24 5:08	-0.33	21.06	-0.76	2025.29	2190.09	1.13	1.42	493.76	1.00
8/17/24 6:08	-0.33	21.06	-0.76	2025.71	2190.55	1.13	1.42	493.65	1.00
8/17/24 7:08	-0.33	21.06	-0.76	2025.41	2190.18	1.13	1.42	493.73	1.00
8/17/24 8:08	-0.33	21.06	-0.76	2025.30	2190.11	1.13	1.42	493.76	1.00
8/17/24 9:08	-0.33	21.06	-0.76	2024.98	2189.78	1.13	1.42	493.83	1.00
8/17/24 10:08	-0.33	21.06	-0.76	2025.32	2190.12	1.13	1.42	493.75	1.00
8/17/24 11:08	-0.33	21.06	-0.76	2025.70	2190.54	1.13	1.42	493.66	1.00
8/17/24 12:08	-0.33	21.06	-0.76	2025.99	2190.86	1.13	1.42	493.59	1.00
8/17/24 13:08	-0.33	21.06	-0.76	2025.61	2190.43	1.13	1.42	493.68	1.00
8/17/24 14:08	-0.33	21.06	-0.75	2025.95	2190.81	1.13	1.42	493.59	1.00
8/17/24 15:08	-0.33	21.06	-0.75	2025.96	2190.79	1.13	1.42	493.59	1.00
8/17/24 16:08	-0.33	21.06	-0.75	2026.25	2191.11	1.13	1.42	493.52	1.00
8/17/24 17:08	-0.33	21.06	-0.75	2026.33	2191.20	1.13	1.42	493.50	1.00
8/17/24 18:08	-0.33	21.06	-0.75	2026.22	2191.10	1.13	1.42	493.53	1.00
8/17/24 19:08	-0.33	21.06	-0.75	2026.33	2191.19	1.13	1.42	493.50	1.00
8/17/24 20:08	-0.33	21.06	-0.76	2026.17	2191.02	1.13	1.42	493.54	1.00
8/17/24 21:08	-0.33	21.06	-0.76	2025.80	2190.63	1.13	1.42	493.63	1.00
8/17/24 22:08	-0.33	21.06	-0.76	2026.19	2191.04	1.13	1.42	493.54	1.00
8/17/24 23:08	-0.33	21.06	-0.76	2025.85	2190.65	1.13	1.42	493.62	1.00
8/18/24 0:08	-0.33	21.06	-0.76	2026.04	2190.87	1.13	1.42	493.57	1.00
8/18/24 1:08	-0.33	21.06	-0.76	2026.16	2190.98	1.13	1.42	493.55	1.00
8/18/24 2:08	-0.33	21.06	-0.76	2025.97	2190.79	1.13	1.42	493.59	1.00
8/18/24 3:08	-0.33	21.06	-0.76	2025.69	2190.49	1.13	1.42	493.66	1.00
8/18/24 4:08	-0.33	21.06	-0.76	2026.02	2190.83	1.13	1.42	493.58	1.00
8/18/24 5:08	-0.33	21.06	-0.76	2026.14	2190.96	1.13	1.42	493.55	1.00
8/18/24 6:08	-0.33	21.06	-0.76	2026.19	2191.03	1.13	1.42	493.54	1.00
8/18/24 7:08	-0.33	21.06	-0.77	2026.40	2191.23	1.13	1.42	493.49	1.00
8/18/24 8:08	-0.33	21.06	-0.76	2026.15	2190.97	1.13	1.42	493.55	1.00
8/18/24 9:08	-0.33	21.06	-0.77	2026.12	2190.93	1.13	1.42	493.56	1.00
8/18/24 10:08	-0.33	21.06	-0.77	2026.30	2191.13	1.13	1.42	493.51	1.00
8/18/24 11:08	-0.33	21.06	-0.76	2026.52	2191.34	1.14	1.42	493.46	1.00
8/18/24 12:08	-0.33	21.06	-0.76	2026.43	2191.24	1.13	1.42	493.48	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/18/24 13:08	-0.33	21.06	-0.76	2026.24	2191.05	1.13	1.42	493.53	1.00
8/18/24 14:08	-0.33	21.06	-0.76	2026.54	2191.37	1.14	1.42	493.45	1.00
8/18/24 15:08	-0.33	21.06	-0.75	2026.42	2191.26	1.13	1.42	493.48	1.00
8/18/24 16:08	-0.33	21.06	-0.76	2026.58	2191.41	1.14	1.42	493.44	1.00
8/18/24 17:08	-0.33	21.06	-0.76	2026.75	2191.57	1.14	1.42	493.40	1.00
8/18/24 18:08	-0.33	21.06	-0.76	2026.21	2191.01	1.13	1.42	493.53	1.00
8/18/24 19:08	-0.33	21.06	-0.76	2026.38	2191.18	1.13	1.42	493.49	1.00
8/18/24 20:08	-0.33	21.06	-0.76	2026.27	2191.03	1.13	1.42	493.52	1.00
8/18/24 21:08	-0.33	21.06	-0.76	2026.01	2190.77	1.13	1.42	493.58	1.00
8/18/24 22:08	-0.33	21.06	-0.76	2026.28	2191.04	1.13	1.42	493.52	1.00
8/18/24 23:08	-0.33	21.06	-0.76	2026.53	2191.30	1.13	1.42	493.46	1.00
8/19/24 0:08	-0.33	21.06	-0.76	2026.35	2191.14	1.13	1.42	493.50	1.00
8/19/24 1:08	-0.33	21.06	-0.76	2026.41	2191.18	1.13	1.42	493.48	1.00
8/19/24 2:08	-0.33	21.06	-0.76	2026.38	2191.18	1.13	1.42	493.49	1.00
8/19/24 3:08	-0.33	21.06	-0.76	2026.43	2191.21	1.13	1.42	493.48	1.00
8/19/24 4:08	-0.33	21.06	-0.76	2026.24	2191.00	1.13	1.42	493.52	1.00
8/19/24 5:08	-0.33	21.06	-0.77	2026.64	2191.44	1.14	1.42	493.43	1.00
8/19/24 6:08	-0.33	21.06	-0.77	2026.32	2191.07	1.13	1.42	493.51	1.00
8/19/24 7:08	-0.33	21.06	-0.77	2026.40	2191.15	1.13	1.42	493.49	1.00
8/19/24 8:08	-0.33	21.06	-0.77	2026.77	2191.55	1.14	1.42	493.40	1.00
8/19/24 9:08	-0.33	21.06	-0.77	2026.04	2190.78	1.13	1.42	493.57	1.00
8/19/24 10:08	-0.33	21.06	-0.77	2026.24	2190.96	1.13	1.42	493.53	1.00
8/19/24 11:08	-0.33	21.06	-0.77	2026.78	2191.58	1.14	1.42	493.39	1.00
8/19/24 12:08	-0.33	21.06	-0.77	2026.35	2191.10	1.13	1.42	493.50	1.00
8/19/24 13:08	-0.33	21.06	-0.76	2026.64	2191.41	1.14	1.42	493.43	1.00
8/19/24 14:08	-0.33	21.06	-0.76	2026.39	2191.14	1.13	1.42	493.49	1.00
8/19/24 15:08	-0.33	21.06	-0.76	2026.74	2191.48	1.14	1.42	493.40	1.00
8/19/24 16:08	-0.33	21.06	-0.76	2026.88	2191.66	1.14	1.42	493.37	1.00
8/19/24 17:08	-0.33	21.06	-0.76	2026.85	2191.60	1.14	1.42	493.38	1.00
8/19/24 18:08	-0.33	21.06	-0.76	2027.24	2192.03	1.14	1.42	493.28	1.00
8/19/24 19:08	-0.33	21.06	-0.76	2027.14	2191.91	1.14	1.42	493.31	1.00
8/19/24 20:08	-0.33	21.06	-0.76	2026.61	2191.35	1.14	1.42	493.44	1.00
8/19/24 21:08	-0.33	21.06	-0.77	2026.88	2191.63	1.14	1.42	493.37	1.00
8/19/24 22:08	-0.33	21.06	-0.77	2027.00	2191.76	1.14	1.42	493.34	1.00
8/19/24 23:08	-0.33	21.06	-0.77	2027.07	2191.83	1.14	1.42	493.32	1.00
8/20/24 0:08	-0.33	21.06	-0.77	2026.80	2191.54	1.14	1.42	493.39	1.00
8/20/24 1:08	-0.33	21.06	-0.77	2027.24	2192.02	1.14	1.42	493.28	1.00
8/20/24 2:08	-0.33	21.06	-0.77	2027.17	2191.93	1.14	1.42	493.30	1.00
8/20/24 3:08	-0.33	21.06	-0.77	2027.25	2192.01	1.14	1.42	493.28	1.00
8/20/24 4:08	-0.33	21.06	-0.77	2027.33	2192.10	1.14	1.42	493.26	1.00
8/20/24 5:08	-0.33	21.06	-0.77	2027.13	2191.88	1.14	1.42	493.31	1.00
8/20/24 6:08	-0.33	21.07	-0.77	2027.18	2191.91	1.14	1.42	493.30	1.00
8/20/24 7:08	-0.34	21.07	-0.78	2027.25	2191.99	1.14	1.42	493.28	1.00
8/20/24 8:08	-0.34	21.06	-0.78	2027.46	2192.23	1.14	1.42	493.23	1.00
8/20/24 9:08	-0.34	21.06	-0.78	2027.45	2192.22	1.14	1.42	493.23	1.00
8/20/24 10:08	-0.33	21.07	-0.77	2027.47	2192.22	1.14	1.42	493.23	1.00
8/20/24 11:08	-0.33	21.07	-0.77	2027.38	2192.12	1.14	1.42	493.25	1.00
8/20/24 12:08	-0.33	21.07	-0.77	2027.40	2192.16	1.14	1.42	493.24	1.00
8/20/24 13:08	-0.33	21.07	-0.77	2027.41	2192.14	1.14	1.42	493.24	1.00
8/20/24 14:08	-0.33	21.07	-0.77	2027.49	2192.23	1.14	1.42	493.22	1.00
8/20/24 15:08	-0.33	21.07	-0.77	2027.41	2192.14	1.14	1.42	493.24	1.00
8/20/24 16:08	-0.33	21.06	-0.76	2027.55	2192.33	1.14	1.43	493.21	1.00
8/20/24 17:08	-0.33	21.07	-0.77	2027.45	2192.18	1.14	1.42	493.23	1.00
8/20/24 18:08	-0.33	21.07	-0.76	2027.88	2192.64	1.14	1.43	493.12	1.00
8/20/24 19:08	-0.33	21.07	-0.77	2027.80	2192.54	1.14	1.43	493.15	1.00
8/20/24 20:08	-0.33	21.07	-0.77	2027.52	2192.25	1.14	1.42	493.21	1.00
8/20/24 21:08	-0.33	21.07	-0.77	2027.60	2192.32	1.14	1.43	493.19	1.00
8/20/24 22:08	-0.34	21.07	-0.77	2027.45	2192.16	1.14	1.42	493.23	1.00
8/20/24 23:08	-0.34	21.07	-0.78	2027.69	2192.41	1.14	1.43	493.17	1.00
8/21/24 0:08	-0.34	21.07	-0.78	2027.40	2192.12	1.14	1.42	493.24	1.00
8/21/24 1:08	-0.34	21.07	-0.78	2027.69	2192.42	1.14	1.43	493.17	1.00
8/21/24 2:08	-0.34	21.07	-0.78	2027.73	2192.44	1.14	1.43	493.16	1.00
8/21/24 3:08	-0.34	21.07	-0.77	2027.99	2192.72	1.14	1.43	493.10	1.00
8/21/24 4:08	-0.33	21.07	-0.77	2028.00	2192.75	1.14	1.43	493.10	1.00
8/21/24 5:08	-0.34	21.07	-0.77	2027.76	2192.47	1.14	1.43	493.16	1.00
8/21/24 6:08	-0.34	21.07	-0.78	2027.68	2192.39	1.14	1.43	493.18	1.00
8/21/24 7:08	-0.34	21.07	-0.78	2027.52	2192.20	1.14	1.42	493.21	1.00
8/21/24 8:08	-0.34	21.07	-0.78	2028.14	2192.87	1.14	1.43	493.06	1.00
8/21/24 9:08	-0.34	21.07	-0.78	2027.88	2192.62	1.14	1.43	493.13	1.00
8/21/24 10:08	-0.34	21.07	-0.78	2027.65	2192.32	1.14	1.43	493.18	1.00
8/21/24 11:08	-0.34	21.07	-0.78	2028.15	2192.90	1.14	1.43	493.06	1.00
8/21/24 12:08	-0.34	21.07	-0.78	2027.91	2192.64	1.14	1.43	493.12	1.00
8/21/24 13:08	-0.33	21.07	-0.77	2027.45	2192.11	1.14	1.42	493.23	1.00
8/21/24 14:08	-0.33	21.07	-0.77	2027.69	2192.37	1.14	1.43	493.17	1.00
8/21/24 15:08	-0.33	21.07	-0.77	2027.90	2192.62	1.14	1.43	493.12	1.00
8/21/24 16:08	-0.33	21.07	-0.77	2027.70	2192.38	1.14	1.43	493.17	1.00
8/21/24 17:08	-0.33	21.07	-0.77	2027.96	2192.65	1.14	1.43	493.11	1.00
8/21/24 18:08	-0.33	21.07	-0.77	2027.84	2192.51	1.14	1.43	493.14	1.00
8/21/24 19:08	-0.33	21.07	-0.77	2027.96	2192.65	1.14	1.43	493.11	1.00
8/21/24 20:08	-0.33	21.07	-0.77	2028.11	2192.80	1.14	1.43	493.07	1.00
8/21/24 21:08	-0.34	21.07	-0.78	2027.56	2192.19	1.14	1.42	493.20	1.00
8/21/24 22:08	-0.34	21.07	-0.78	2028.03	2192.71	1.14	1.43	493.09	1.00
8/21/24 23:08	-0.34	21.07	-0.78	2027.96	2192.62	1.14	1.43	493.11	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/22/24 0:08	-0.34	21.07	-0.78	2027.90	2192.55	1.14	1.43	493.12	1.00
8/22/24 1:08	-0.34	21.07	-0.77	2028.07	2192.75	1.14	1.43	493.08	1.00
8/22/24 2:08	-0.34	21.07	-0.78	2028.30	2192.98	1.14	1.43	493.02	1.00
8/22/24 3:08	-0.34	21.07	-0.78	2028.02	2192.69	1.14	1.43	493.09	1.00
8/22/24 4:08	-0.34	21.07	-0.78	2028.07	2192.70	1.14	1.43	493.08	1.00
8/22/24 5:08	-0.34	21.07	-0.78	2027.84	2192.47	1.14	1.43	493.14	1.00
8/22/24 6:08	-0.34	21.07	-0.78	2027.70	2192.32	1.14	1.43	493.17	1.00
8/22/24 7:08	-0.34	21.07	-0.78	2028.32	2192.98	1.14	1.43	493.02	1.00
8/22/24 8:08	-0.34	21.07	-0.78	2027.84	2192.47	1.14	1.43	493.13	1.00
8/22/24 9:08	-0.34	21.07	-0.78	2028.42	2193.08	1.14	1.43	492.99	1.00
8/22/24 10:08	-0.34	21.07	-0.78	2028.75	2193.46	1.14	1.43	492.92	1.00
8/22/24 11:08	-0.34	21.07	-0.78	2028.57	2193.23	1.14	1.43	492.96	1.00
8/22/24 12:08	-0.34	21.07	-0.78	2028.56	2193.24	1.14	1.43	492.96	1.00
8/22/24 13:08	-0.34	21.07	-0.78	2028.78	2193.47	1.14	1.43	492.91	1.00
8/22/24 14:08	-0.34	21.07	-0.78	2028.55	2193.24	1.14	1.43	492.96	1.00
8/22/24 15:08	-0.34	21.07	-0.78	2028.70	2193.39	1.14	1.43	492.93	1.00
8/22/24 16:08	-0.33	21.07	-0.77	2028.57	2193.22	1.14	1.43	492.96	1.00
8/22/24 17:08	-0.34	21.07	-0.77	2028.98	2193.70	1.14	1.43	492.86	1.00
8/22/24 18:08	-0.33	21.07	-0.77	2028.35	2193.00	1.14	1.43	493.01	1.00
8/22/24 19:08	-0.34	21.07	-0.78	2028.58	2193.25	1.14	1.43	492.96	1.00
8/22/24 20:08	-0.34	21.07	-0.78	2028.81	2193.50	1.14	1.43	492.90	1.00
8/22/24 21:08	-0.34	21.07	-0.78	2029.03	2193.73	1.14	1.43	492.85	1.00
8/22/24 22:08	-0.34	21.07	-0.78	2028.71	2193.38	1.14	1.43	492.92	1.00
8/22/24 23:08	-0.34	21.07	-0.78	2028.55	2193.20	1.14	1.43	492.96	1.00
8/23/24 0:08	-0.34	21.07	-0.78	2028.88	2193.57	1.14	1.43	492.88	1.00
8/23/24 1:08	-0.34	21.07	-0.79	2029.10	2193.82	1.14	1.43	492.83	1.00
8/23/24 2:08	-0.34	21.07	-0.78	2028.52	2193.18	1.14	1.43	492.97	1.00
8/23/24 3:08	-0.34	21.07	-0.79	2029.21	2193.90	1.14	1.43	492.80	1.00
8/23/24 4:08	-0.34	21.07	-0.79	2029.00	2193.69	1.14	1.43	492.85	1.00
8/23/24 5:08	-0.34	21.07	-0.79	2029.09	2193.76	1.14	1.43	492.83	1.00
8/23/24 6:08	-0.34	21.07	-0.79	2029.18	2193.86	1.14	1.43	492.81	1.00
8/23/24 7:08	-0.34	21.07	-0.79	2029.26	2193.95	1.14	1.43	492.79	1.00
8/23/24 8:08	-0.34	21.07	-0.79	2028.77	2193.43	1.14	1.43	492.91	1.00
8/23/24 9:08	-0.34	21.07	-0.79	2029.02	2193.67	1.14	1.43	492.85	1.00
8/23/24 10:08	-0.34	21.07	-0.79	2028.72	2193.37	1.14	1.43	492.92	1.00
8/23/24 10:13	-0.34	21.07	-0.79	2028.76	2193.42	1.14	1.43	492.91	1.00
8/23/24 10:15	-0.34	21.07	-0.79	2028.81	2193.42	1.14	1.43	492.90	1.00
8/23/24 11:15	-0.34	21.07	-0.79	2028.81	2193.44	1.14	1.43	492.90	1.00
8/23/24 12:15	-0.34	21.07	-0.79	2029.39	2194.08	1.14	1.43	492.76	1.00
8/23/24 13:15	-0.34	21.07	-0.78	2029.39	2194.05	1.14	1.43	492.76	1.00
8/23/24 14:15	-0.34	21.07	-0.78	2029.56	2194.26	1.14	1.43	492.72	1.00
8/23/24 15:15	-0.34	21.07	-0.78	2029.69	2194.39	1.14	1.43	492.69	1.00
8/23/24 16:15	-0.34	21.07	-0.78	2029.55	2194.23	1.14	1.43	492.72	1.00
8/23/24 17:15	-0.34	21.07	-0.78	2029.68	2194.38	1.14	1.43	492.69	1.00
8/23/24 18:15	-0.34	21.07	-0.78	2029.68	2194.39	1.14	1.43	492.69	1.00
8/23/24 19:15	-0.34	21.07	-0.78	2029.02	2193.67	1.14	1.43	492.85	1.00
8/23/24 20:15	-0.34	21.07	-0.78	2028.89	2193.50	1.14	1.43	492.88	1.00
8/23/24 21:15	-0.34	21.07	-0.79	2029.26	2193.92	1.14	1.43	492.79	1.00
8/23/24 22:15	-0.34	21.07	-0.79	2029.33	2193.98	1.14	1.43	492.77	1.00
8/23/24 23:15	-0.34	21.07	-0.79	2029.65	2194.34	1.14	1.43	492.70	1.00
8/24/24 0:15	-0.34	21.07	-0.79	2029.61	2194.28	1.14	1.43	492.71	1.00
8/24/24 1:15	-0.34	21.07	-0.79	2029.89	2194.60	1.14	1.43	492.64	1.00
8/24/24 2:15	-0.34	21.07	-0.80	2029.68	2194.35	1.14	1.43	492.69	1.00
8/24/24 3:15	-0.34	21.07	-0.80	2029.83	2194.51	1.14	1.43	492.65	1.00
8/24/24 4:15	-0.34	21.07	-0.79	2030.00	2194.69	1.14	1.43	492.61	1.00
8/24/24 5:15	-0.34	21.07	-0.79	2029.92	2194.59	1.14	1.43	492.63	1.00
8/24/24 6:15	-0.34	21.07	-0.79	2029.92	2194.60	1.14	1.43	492.63	1.00
8/24/24 7:15	-0.35	21.07	-0.80	2029.69	2194.32	1.14	1.43	492.69	1.00
8/24/24 8:15	-0.34	21.07	-0.79	2029.58	2194.20	1.14	1.43	492.71	1.00
8/24/24 9:15	-0.34	21.07	-0.80	2029.63	2194.26	1.14	1.43	492.70	1.00
8/24/24 10:15	-0.34	21.07	-0.79	2029.80	2194.43	1.14	1.43	492.66	1.00
8/24/24 11:15	-0.34	21.07	-0.79	2029.60	2194.23	1.14	1.43	492.71	1.00
8/24/24 12:15	-0.34	21.07	-0.79	2029.50	2194.13	1.14	1.43	492.73	1.00
8/24/24 13:15	-0.34	21.07	-0.79	2029.51	2194.14	1.14	1.43	492.73	1.00
8/24/24 14:15	-0.34	21.07	-0.79	2029.72	2194.36	1.14	1.43	492.68	1.00
8/24/24 15:15	-0.34	21.07	-0.78	2029.48	2194.10	1.14	1.43	492.74	1.00
8/24/24 16:15	-0.34	21.07	-0.79	2029.61	2194.23	1.14	1.43	492.71	1.00
8/24/24 17:15	-0.34	21.07	-0.79	2029.57	2194.16	1.14	1.43	492.72	1.00
8/24/24 18:15	-0.34	21.07	-0.78	2029.91	2194.55	1.14	1.43	492.63	1.00
8/24/24 19:15	-0.34	21.07	-0.79	2030.11	2194.74	1.14	1.43	492.59	1.00
8/24/24 20:15	-0.34	21.07	-0.79	2030.13	2194.79	1.14	1.43	492.58	1.00
8/24/24 21:15	-0.35	21.07	-0.80	2029.66	2194.27	1.14	1.43	492.69	1.00
8/24/24 22:15	-0.34	21.07	-0.80	2030.23	2194.88	1.14	1.43	492.56	1.00
8/24/24 23:15	-0.34	21.07	-0.80	2030.28	2194.94	1.14	1.43	492.54	1.00
8/25/24 0:15	-0.35	21.07	-0.80	2030.29	2194.94	1.14	1.43	492.54	1.00
8/25/24 1:15	-0.35	21.07	-0.80	2030.14	2194.76	1.14	1.43	492.58	1.00
8/25/24 2:15	-0.35	21.07	-0.80	2030.43	2195.07	1.14	1.43	492.51	1.00
8/25/24 3:15	-0.35	21.07	-0.80	2030.89	2195.57	1.14	1.43	492.40	1.00
8/25/24 4:15	-0.35	21.07	-0.80	2030.61	2195.26	1.14	1.43	492.46	1.00
8/25/24 5:15	-0.35	21.07	-0.80	2030.52	2195.15	1.14	1.43	492.48	1.00
8/25/24 6:15	-0.35	21.07	-0.80	2030.43	2195.07	1.14	1.43	492.51	1.00
8/25/24 7:15	-0.35	21.07	-0.80	2030.09	2194.71	1.14	1.43	492.59	1.00
8/25/24 8:15	-0.35	21.07	-0.80	2030.30	2194.93	1.14	1.43	492.54	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/25/24 9:15	-0.35	21.07	-0.81	2030.02	2194.63	1.14	1.43	492.61	1.00
8/25/24 10:15	-0.35	21.07	-0.80	2030.20	2194.80	1.14	1.43	492.56	1.00
8/25/24 11:15	-0.35	21.07	-0.80	2030.23	2194.85	1.14	1.43	492.55	1.00
8/25/24 12:15	-0.35	21.07	-0.80	2030.31	2194.92	1.14	1.43	492.54	1.00
8/25/24 13:15	-0.35	21.07	-0.80	2030.15	2194.74	1.14	1.43	492.57	1.00
8/25/24 14:15	-0.34	21.07	-0.80	2030.39	2195.01	1.14	1.43	492.52	1.00
8/25/24 15:15	-0.34	21.07	-0.79	2030.21	2194.80	1.14	1.43	492.56	1.00
8/25/24 16:15	-0.34	21.07	-0.79	2030.30	2194.88	1.14	1.43	492.54	1.00
8/25/24 17:15	-0.34	21.07	-0.79	2030.13	2194.73	1.14	1.43	492.58	1.00
8/25/24 18:15	-0.34	21.07	-0.79	2030.23	2194.82	1.14	1.43	492.55	1.00
8/25/24 19:15	-0.34	21.07	-0.80	2030.43	2195.03	1.14	1.43	492.51	1.00
8/25/24 20:15	-0.35	21.07	-0.80	2030.03	2194.61	1.14	1.43	492.60	1.00
8/25/24 21:15	-0.35	21.07	-0.81	2030.77	2195.39	1.14	1.43	492.42	1.00
8/25/24 22:15	-0.35	21.07	-0.81	2030.51	2195.10	1.14	1.43	492.49	1.00
8/25/24 23:15	-0.35	21.07	-0.81	2030.56	2195.16	1.14	1.43	492.47	1.00
8/26/24 0:15	-0.35	21.07	-0.81	2030.35	2194.94	1.14	1.43	492.53	1.00
8/26/24 1:15	-0.35	21.07	-0.81	2030.98	2195.59	1.14	1.43	492.37	1.00
8/26/24 2:15	-0.35	21.07	-0.80	2030.59	2195.18	1.14	1.43	492.47	1.00
8/26/24 3:15	-0.35	21.07	-0.80	2030.56	2195.15	1.14	1.43	492.48	1.00
8/26/24 4:15	-0.35	21.07	-0.81	2030.25	2194.82	1.14	1.43	492.55	1.00
8/26/24 5:15	-0.35	21.07	-0.80	2030.50	2195.09	1.14	1.43	492.49	1.00
8/26/24 6:15	-0.35	21.07	-0.81	2030.39	2194.96	1.14	1.43	492.52	1.00
8/26/24 7:15	-0.35	21.07	-0.81	2030.40	2194.97	1.14	1.43	492.51	1.00
8/26/24 8:15	-0.35	21.07	-0.81	2030.60	2195.18	1.14	1.43	492.47	1.00
8/26/24 9:15	-0.35	21.07	-0.81	2030.77	2195.36	1.14	1.43	492.42	1.00
8/26/24 10:15	-0.35	21.07	-0.81	2030.68	2195.25	1.14	1.43	492.45	1.00
8/26/24 11:15	-0.35	21.07	-0.81	2031.04	2195.65	1.14	1.43	492.36	1.00
8/26/24 12:15	-0.35	21.07	-0.81	2031.33	2195.96	1.14	1.43	492.29	1.00
8/26/24 13:15	-0.35	21.07	-0.80	2031.19	2195.82	1.14	1.43	492.32	1.00
8/26/24 14:15	-0.35	21.07	-0.80	2031.23	2195.87	1.14	1.43	492.31	1.00
8/26/24 15:15	-0.34	21.08	-0.80	2031.44	2196.07	1.14	1.43	492.26	1.00
8/26/24 16:15	-0.34	21.08	-0.79	2031.41	2196.02	1.14	1.43	492.27	1.00
8/26/24 17:15	-0.35	21.08	-0.80	2031.56	2196.19	1.14	1.43	492.23	1.00
8/26/24 18:15	-0.35	21.08	-0.80	2031.54	2196.15	1.14	1.43	492.24	1.00
8/26/24 19:15	-0.35	21.08	-0.80	2031.65	2196.28	1.14	1.43	492.21	1.00
8/26/24 20:15	-0.35	21.08	-0.81	2031.56	2196.18	1.14	1.43	492.23	1.00
8/26/24 21:15	-0.35	21.08	-0.81	2031.52	2196.12	1.14	1.43	492.24	1.00
8/26/24 22:15	-0.35	21.08	-0.81	2031.61	2196.22	1.14	1.43	492.22	1.00
8/26/24 23:15	-0.35	21.08	-0.81	2031.40	2195.99	1.14	1.43	492.27	1.00
8/27/24 0:15	-0.35	21.08	-0.81	2031.62	2196.21	1.14	1.43	492.22	1.00
8/27/24 1:15	-0.35	21.08	-0.81	2031.16	2195.71	1.14	1.43	492.33	1.00
8/27/24 2:15	-0.35	21.08	-0.81	2031.15	2195.70	1.14	1.43	492.33	1.00
8/27/24 3:15	-0.35	21.08	-0.81	2031.06	2195.61	1.14	1.43	492.35	1.00
8/27/24 4:15	-0.35	21.08	-0.81	2031.00	2195.52	1.14	1.43	492.37	1.00
8/27/24 5:15	-0.35	21.08	-0.81	2030.91	2195.45	1.14	1.43	492.39	1.00
8/27/24 6:15	-0.35	21.08	-0.81	2030.98	2195.53	1.14	1.43	492.37	1.00
8/27/24 7:15	-0.35	21.08	-0.81	2030.98	2195.51	1.14	1.43	492.37	1.00
8/27/24 8:15	-0.35	21.08	-0.81	2030.61	2195.10	1.14	1.43	492.46	1.00
8/27/24 9:15	-0.35	21.08	-0.81	2031.00	2195.51	1.14	1.43	492.37	1.00
8/27/24 10:15	-0.35	21.08	-0.81	2030.71	2195.20	1.14	1.43	492.44	1.00
8/27/24 11:15	-0.35	21.08	-0.81	2030.81	2195.32	1.14	1.43	492.41	1.00
8/27/24 12:15	-0.35	21.08	-0.81	2031.14	2195.67	1.14	1.43	492.33	1.00
8/27/24 13:15	-0.35	21.08	-0.80	2030.89	2195.38	1.14	1.43	492.40	1.00
8/27/24 14:15	-0.35	21.08	-0.80	2030.99	2195.49	1.14	1.43	492.37	1.00
8/27/24 15:15	-0.35	21.08	-0.80	2030.99	2195.49	1.14	1.43	492.37	1.00
8/27/24 16:15	-0.35	21.08	-0.80	2030.86	2195.36	1.14	1.43	492.40	1.00
8/27/24 17:15	-0.35	21.08	-0.81	2031.32	2195.86	1.14	1.43	492.29	1.00
8/27/24 18:15	-0.35	21.08	-0.80	2031.20	2195.71	1.14	1.43	492.32	1.00
8/27/24 19:15	-0.35	21.08	-0.80	2031.37	2195.87	1.14	1.43	492.28	1.00
8/27/24 20:15	-0.35	21.08	-0.81	2030.81	2195.29	1.14	1.43	492.41	1.00
8/27/24 21:15	-0.35	21.08	-0.81	2031.19	2195.70	1.14	1.43	492.32	1.00
8/27/24 22:15	-0.35	21.08	-0.81	2030.94	2195.41	1.14	1.43	492.38	1.00
8/27/24 23:15	-0.35	21.08	-0.81	2031.37	2195.88	1.14	1.43	492.28	1.00
8/28/24 0:15	-0.35	21.08	-0.81	2031.57	2196.08	1.14	1.43	492.23	1.00
8/28/24 1:15	-0.35	21.08	-0.81	2031.35	2195.84	1.14	1.43	492.28	1.00
8/28/24 2:15	-0.35	21.08	-0.81	2031.29	2195.76	1.14	1.43	492.30	1.00
8/28/24 3:15	-0.35	21.08	-0.81	2031.31	2195.79	1.14	1.43	492.29	1.00
8/28/24 4:15	-0.35	21.08	-0.81	2031.49	2195.98	1.14	1.43	492.25	1.00
8/28/24 5:15	-0.35	21.08	-0.81	2031.55	2196.04	1.14	1.43	492.24	1.00
8/28/24 6:15	-0.35	21.08	-0.81	2031.90	2196.44	1.14	1.43	492.15	1.00
8/28/24 7:15	-0.35	21.08	-0.81	2031.84	2196.35	1.14	1.43	492.17	1.00
8/28/24 8:15	-0.35	21.08	-0.81	2031.47	2195.95	1.14	1.43	492.25	1.00
8/28/24 9:15	-0.35	21.08	-0.81	2032.12	2196.65	1.14	1.43	492.10	1.00
8/28/24 10:15	-0.35	21.08	-0.81	2031.70	2196.17	1.14	1.43	492.20	1.00
8/28/24 11:15	-0.35	21.08	-0.81	2032.08	2196.62	1.14	1.43	492.11	1.00
8/28/24 12:15	-0.35	21.08	-0.81	2031.81	2196.29	1.14	1.43	492.17	1.00
8/28/24 13:15	-0.30	21.37	-0.68	2046.98	2199.63	1.14	1.43	488.52	1.00
8/28/24 14:15	-0.30	21.27	-0.69	2042.65	2199.46	1.14	1.43	489.56	1.00
8/28/24 15:15	-0.30	21.21	-0.69	2040.91	2200.19	1.14	1.43	489.98	1.00
8/28/24 16:15	-0.30	21.18	-0.68	2039.74	2200.43	1.14	1.43	490.26	1.00
8/28/24 17:15	-0.30	21.15	-0.68	2039.37	2201.06	1.14	1.43	490.35	1.00
8/28/24 18:15	-0.30	21.14	-0.68	2038.15	2200.41	1.14	1.43	490.64	1.00
8/28/24 19:15	-0.30	21.13	-0.69	2037.76	2200.48	1.14	1.43	490.74	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
8/28/24 20:15	-0.30	21.12	-0.69	2036.55	2199.53	1.14	1.43	491.03	1.00
8/28/24 21:15	-0.30	21.11	-0.69	2036.90	2200.18	1.14	1.43	490.94	1.00
8/28/24 22:15	-0.30	21.11	-0.69	2036.99	2200.45	1.14	1.43	490.92	1.00
8/28/24 23:15	-0.30	21.11	-0.69	2036.37	2199.97	1.14	1.43	491.07	1.00
8/29/24 0:15	-0.17	21.10	-0.39	2036.71	2200.48	1.14	1.43	490.99	1.00
8/29/24 1:15	-0.19	21.10	-0.45	2036.94	2200.81	1.14	1.43	490.93	1.00
8/29/24 2:15	-0.30	21.10	-0.69	2036.52	2200.46	1.14	1.43	491.03	1.00
8/29/24 3:15	-0.30	21.10	-0.69	2036.65	2200.67	1.14	1.43	491.00	1.00
8/29/24 4:15	-0.30	21.10	-0.69	2037.17	2201.30	1.14	1.43	490.88	1.00
8/29/24 5:15	-0.30	21.10	-0.69	2037.14	2201.31	1.14	1.43	490.89	1.00
8/29/24 6:15	-0.30	21.09	-0.69	2037.45	2201.69	1.14	1.43	490.81	1.00
8/29/24 7:15	-0.30	21.09	-0.69	2037.48	2201.78	1.14	1.43	490.80	1.00
8/29/24 8:15	-0.30	21.09	-0.69	2037.07	2201.37	1.14	1.43	490.90	1.00
8/29/24 9:15	-0.30	21.09	-0.70	2037.13	2201.48	1.14	1.43	490.89	1.00
8/29/24 10:15	-0.30	21.09	-0.70	2037.53	2201.93	1.14	1.43	490.79	1.00
8/29/24 11:15	-0.30	21.09	-0.69	2037.73	2202.16	1.14	1.43	490.74	1.00
8/29/24 12:15	-0.30	21.09	-0.69	2037.68	2202.13	1.14	1.43	490.75	1.00
8/29/24 13:15	-0.30	21.09	-0.69	2038.21	2202.72	1.14	1.43	490.63	1.00
8/29/24 14:15	-0.30	21.09	-0.68	2037.65	2202.13	1.14	1.43	490.76	1.00
8/29/24 15:15	-0.30	21.09	-0.69	2038.08	2202.62	1.14	1.43	490.66	1.00
8/29/24 16:15	-0.30	21.09	-0.69	2037.69	2202.21	1.14	1.43	490.75	1.00
8/29/24 17:15	-0.30	21.09	-0.69	2037.93	2202.48	1.14	1.43	490.69	1.00
8/29/24 18:15	-0.30	21.09	-0.69	2038.49	2203.07	1.14	1.43	490.56	1.00
8/29/24 19:15	-0.30	21.09	-0.69	2038.49	2203.12	1.14	1.43	490.56	1.00
8/29/24 20:15	-0.30	21.09	-0.70	2038.37	2202.99	1.14	1.43	490.59	1.00
8/29/24 21:15	-0.30	21.09	-0.69	2038.45	2203.08	1.14	1.43	490.57	1.00
8/29/24 22:15	-0.30	21.09	-0.70	2038.52	2203.16	1.14	1.43	490.55	1.00
8/29/24 23:15	-0.30	21.09	-0.69	2038.94	2203.64	1.14	1.43	490.45	1.00
8/30/24 0:15	-0.30	21.09	-0.70	2038.66	2203.33	1.14	1.43	490.52	1.00
8/30/24 1:15	-0.30	21.09	-0.70	2038.34	2202.98	1.14	1.43	490.60	1.00
8/30/24 2:15	-0.30	21.09	-0.70	2038.73	2203.42	1.14	1.43	490.50	1.00
8/30/24 3:15	-0.30	21.09	-0.70	2038.69	2203.38	1.14	1.43	490.51	1.00
8/30/24 4:15	-0.30	21.09	-0.70	2038.83	2203.54	1.14	1.43	490.48	1.00
8/30/24 5:15	-0.30	21.09	-0.70	2038.91	2203.63	1.14	1.43	490.46	1.00
8/30/24 6:15	-0.31	21.09	-0.71	2038.74	2203.45	1.14	1.43	490.50	1.00
8/30/24 7:15	-0.31	21.09	-0.71	2038.80	2203.51	1.14	1.43	490.48	1.00
8/30/24 8:15	-0.31	21.09	-0.71	2038.84	2203.55	1.14	1.43	490.48	1.00
8/30/24 9:15	-0.31	21.09	-0.71	2038.84	2203.57	1.14	1.43	490.48	1.00
8/30/24 10:15	-0.31	21.09	-0.71	2039.44	2204.20	1.14	1.43	490.33	1.00
8/30/24 11:15	-0.31	21.09	-0.71	2038.94	2203.67	1.14	1.43	490.45	1.00
8/30/24 12:15	-0.31	21.09	-0.71	2038.87	2203.60	1.14	1.43	490.47	1.00
8/30/24 13:15	-0.30	21.09	-0.70	2038.67	2203.39	1.14	1.43	490.52	1.00
8/30/24 14:15	-0.30	21.09	-0.70	2039.01	2203.77	1.14	1.43	490.44	1.00
8/30/24 15:15	-0.30	21.09	-0.70	2039.06	2203.82	1.14	1.43	490.42	1.00
8/30/24 16:15	-0.30	21.09	-0.70	2038.94	2203.66	1.14	1.43	490.45	1.00
8/30/24 17:15	-0.30	21.09	-0.70	2039.15	2203.88	1.14	1.43	490.40	1.00
8/30/24 18:15	-0.30	21.09	-0.70	2039.18	2203.91	1.14	1.43	490.39	1.00
8/30/24 19:15	-0.30	21.09	-0.70	2038.98	2203.72	1.14	1.43	490.44	1.00
8/30/24 20:15	-0.30	21.09	-0.70	2038.97	2203.71	1.14	1.43	490.44	1.00
8/30/24 21:15	-0.31	21.09	-0.71	2039.04	2203.77	1.14	1.43	490.43	1.00
8/30/24 22:15	-0.31	21.09	-0.71	2039.10	2203.85	1.14	1.43	490.41	1.00
8/30/24 23:15	-0.31	21.09	-0.71	2038.93	2203.68	1.14	1.43	490.45	1.00
8/31/24 0:15	-0.31	21.09	-0.71	2039.19	2203.97	1.14	1.43	490.39	1.00
8/31/24 1:15	-0.31	21.09	-0.70	2039.22	2203.99	1.14	1.43	490.38	1.00
8/31/24 2:15	-0.31	21.09	-0.71	2039.06	2203.81	1.14	1.43	490.42	1.00
8/31/24 3:15	-0.30	21.09	-0.70	2039.23	2204.00	1.14	1.43	490.38	1.00
8/31/24 4:15	-0.30	21.09	-0.70	2039.05	2203.78	1.14	1.43	490.43	1.00
8/31/24 5:15	-0.31	21.09	-0.71	2039.27	2204.03	1.14	1.43	490.37	1.00
8/31/24 6:15	-0.30	21.09	-0.70	2039.14	2203.88	1.14	1.43	490.40	1.00
8/31/24 7:15	-0.31	21.09	-0.71	2038.64	2203.35	1.14	1.43	490.52	1.00
8/31/24 8:15	-0.31	21.09	-0.71	2039.45	2204.24	1.14	1.43	490.33	1.00
8/31/24 9:15	-0.31	21.09	-0.71	2038.99	2203.73	1.14	1.43	490.44	1.00
8/31/24 10:15	-0.31	21.09	-0.71	2038.84	2203.58	1.14	1.43	490.48	1.00
8/31/24 11:15	-0.31	21.09	-0.71	2038.94	2203.65	1.14	1.43	490.45	1.00
8/31/24 12:15	-0.31	21.09	-0.70	2038.58	2203.28	1.14	1.43	490.54	1.00
8/31/24 13:15	-0.30	21.09	-0.70	2038.78	2203.48	1.14	1.43	490.49	1.00
8/31/24 14:15	-0.30	21.09	-0.70	2038.92	2203.65	1.14	1.43	490.46	1.00
8/31/24 15:15	-0.30	21.09	-0.70	2039.12	2203.85	1.14	1.43	490.41	1.00
8/31/24 16:15	-0.30	21.09	-0.70	2039.42	2204.19	1.14	1.43	490.34	1.00
8/31/24 17:15	-0.30	21.09	-0.70	2039.49	2204.24	1.14	1.43	490.32	1.00
8/31/24 18:15	-0.30	21.09	-0.70	2039.48	2204.24	1.14	1.43	490.32	1.00
8/31/24 19:15	-0.30	21.09	-0.70	2039.72	2204.49	1.14	1.43	490.26	1.00
8/31/24 20:15	-0.30	21.09	-0.70	2039.84	2204.62	1.14	1.43	490.24	1.00
8/31/24 21:15	-0.30	21.09	-0.70	2040.02	2204.82	1.14	1.43	490.19	1.00
8/31/24 22:15	-0.31	21.09	-0.71	2040.04	2204.83	1.14	1.43	490.19	1.00
8/31/24 23:15	-0.30	21.09	-0.70	2039.72	2204.49	1.14	1.43	490.26	1.00
9/1/24 0:15	-0.31	21.09	-0.71	2039.37	2204.14	1.14	1.43	490.35	1.00
9/1/24 1:15	-0.30	21.09	-0.70	2039.96	2204.74	1.14	1.43	490.21	1.00
9/1/24 2:15	-0.30	21.09	-0.70	2040.21	2205.04	1.14	1.43	490.15	1.00
9/1/24 3:15	-0.30	21.09	-0.70	2040.10	2204.88	1.14	1.43	490.17	1.00
9/1/24 4:15	-0.30	21.09	-0.70	2039.60	2204.35	1.14	1.43	490.29	1.00
9/1/24 5:15	-0.31	21.09	-0.71	2039.77	2204.52	1.14	1.43	490.25	1.00
9/1/24 6:15	-0.31	21.09	-0.71	2039.97	2204.75	1.14	1.43	490.20	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/1/24 7:15	-0.31	21.09	-0.71	2039.86	2204.64	1.14	1.43	490.23	1.00
9/1/24 8:15	-0.31	21.09	-0.71	2039.55	2204.30	1.14	1.43	490.30	1.00
9/1/24 9:15	-0.31	21.09	-0.71	2039.69	2204.44	1.14	1.43	490.27	1.00
9/1/24 10:15	-0.31	21.09	-0.71	2039.78	2204.53	1.14	1.43	490.25	1.00
9/1/24 11:15	-0.31	21.09	-0.71	2040.07	2204.84	1.14	1.43	490.18	1.00
9/1/24 12:15	-0.31	21.09	-0.71	2040.35	2205.14	1.14	1.43	490.11	1.00
9/1/24 13:15	-0.30	21.09	-0.70	2040.31	2205.10	1.14	1.43	490.12	1.00
9/1/24 14:15	-0.31	21.09	-0.71	2040.46	2205.24	1.14	1.43	490.09	1.00
9/1/24 15:15	-0.30	21.09	-0.70	2040.25	2205.03	1.14	1.43	490.14	1.00
9/1/24 16:15	-0.30	21.09	-0.70	2040.62	2205.41	1.14	1.43	490.05	1.00
9/1/24 17:15	-0.30	21.09	-0.70	2040.64	2205.44	1.14	1.43	490.04	1.00
9/1/24 18:15	-0.30	21.09	-0.70	2040.56	2205.35	1.14	1.43	490.06	1.00
9/1/24 19:15	-0.31	21.09	-0.71	2040.45	2205.21	1.14	1.43	490.09	1.00
9/1/24 20:15	-0.31	21.09	-0.71	2039.94	2204.67	1.14	1.43	490.21	1.00
9/1/24 21:15	-0.31	21.09	-0.71	2039.63	2204.32	1.14	1.43	490.29	1.00
9/1/24 22:15	-0.31	21.09	-0.72	2039.72	2204.45	1.14	1.43	490.26	1.00
9/1/24 23:15	-0.31	21.09	-0.71	2039.74	2204.44	1.14	1.43	490.26	1.00
9/2/24 0:15	-0.31	21.09	-0.71	2039.48	2204.17	1.14	1.43	490.32	1.00
9/2/24 1:15	-0.31	21.09	-0.71	2039.42	2204.10	1.14	1.43	490.34	1.00
9/2/24 2:15	-0.31	21.09	-0.71	2039.81	2204.51	1.14	1.43	490.24	1.00
9/2/24 3:15	-0.31	21.09	-0.71	2039.79	2204.48	1.14	1.43	490.25	1.00
9/2/24 4:15	-0.31	21.09	-0.71	2039.91	2204.62	1.14	1.43	490.22	1.00
9/2/24 5:15	-0.31	21.09	-0.71	2039.46	2204.07	1.14	1.43	490.33	1.00
9/2/24 6:15	-0.31	21.09	-0.71	2039.48	2204.15	1.14	1.43	490.32	1.00
9/2/24 7:15	-0.31	21.09	-0.71	2039.70	2204.37	1.14	1.43	490.27	1.00
9/2/24 8:15	-0.30	21.09	-0.70	2039.90	2204.58	1.14	1.43	490.22	1.00
9/2/24 9:15	-0.30	21.09	-0.69	2040.10	2204.81	1.14	1.43	490.17	1.00
9/2/24 10:15	-0.31	21.09	-0.71	2040.33	2205.05	1.14	1.43	490.12	1.00
9/2/24 11:15	-0.31	21.09	-0.72	2039.61	2204.26	1.14	1.43	490.29	1.00
9/2/24 12:15	-0.31	21.09	-0.71	2039.61	2204.25	1.14	1.43	490.29	1.00
9/2/24 13:15	-0.31	21.09	-0.71	2039.38	2204.00	1.14	1.43	490.35	1.00
9/2/24 14:15	-0.31	21.09	-0.71	2039.64	2204.26	1.14	1.43	490.28	1.00
9/2/24 15:15	-0.31	21.09	-0.71	2040.02	2204.73	1.14	1.43	490.19	1.00
9/2/24 16:15	-0.31	21.09	-0.71	2040.46	2205.16	1.14	1.43	490.09	1.00
9/2/24 17:15	-0.31	21.09	-0.71	2040.13	2204.81	1.14	1.43	490.17	1.00
9/2/24 18:15	-0.31	21.09	-0.71	2040.56	2205.27	1.14	1.43	490.06	1.00
9/2/24 19:15	-0.31	21.09	-0.71	2040.20	2204.86	1.14	1.43	490.15	1.00
9/2/24 20:15	-0.31	21.09	-0.71	2040.36	2205.06	1.14	1.43	490.11	1.00
9/2/24 21:15	-0.31	21.09	-0.72	2039.94	2204.60	1.14	1.43	490.21	1.00
9/2/24 22:15	-0.31	21.09	-0.72	2040.25	2204.92	1.14	1.43	490.14	1.00
9/2/24 23:15	-0.31	21.09	-0.71	2039.84	2204.48	1.14	1.43	490.23	1.00
9/3/24 0:15	-0.31	21.09	-0.71	2039.78	2204.42	1.14	1.43	490.25	1.00
9/3/24 1:15	-0.31	21.09	-0.71	2039.92	2204.57	1.14	1.43	490.21	1.00
9/3/24 2:15	-0.31	21.09	-0.71	2040.32	2204.98	1.14	1.43	490.12	1.00
9/3/24 3:15	-0.31	21.09	-0.71	2040.89	2205.61	1.14	1.43	489.98	1.00
9/3/24 4:15	-0.31	21.09	-0.71	2040.56	2205.24	1.14	1.43	490.06	1.00
9/3/24 5:15	-0.31	21.09	-0.71	2040.23	2204.87	1.14	1.43	490.14	1.00
9/3/24 6:15	-0.31	21.09	-0.71	2039.54	2204.13	1.14	1.43	490.31	1.00
9/3/24 7:15	-0.31	21.09	-0.71	2039.83	2204.41	1.14	1.43	490.24	1.00
9/3/24 8:15	-0.31	21.09	-0.71	2039.41	2203.97	1.14	1.43	490.34	1.00
9/3/24 9:15	-0.31	21.09	-0.72	2039.97	2204.60	1.14	1.43	490.20	1.00
9/3/24 10:15	-0.31	21.09	-0.72	2039.61	2204.19	1.14	1.43	490.29	1.00
9/3/24 11:15	-0.31	21.09	-0.71	2040.08	2204.69	1.14	1.43	490.18	1.00
9/3/24 12:15	-0.31	21.09	-0.71	2039.61	2204.18	1.14	1.43	490.29	1.00
9/3/24 13:15	-0.31	21.09	-0.71	2039.70	2204.29	1.14	1.43	490.27	1.00
9/3/24 14:15	-0.31	21.09	-0.71	2039.49	2204.06	1.14	1.43	490.32	1.00
9/3/24 15:15	0.10	21.17	0.23	2018.65	2178.06	1.13	1.42	495.38	1.00
9/3/24 16:15	0.11	21.13	0.25	1990.16	2148.91	1.11	1.40	502.47	1.00
9/3/24 17:15	0.11	21.12	0.25	1988.74	2147.97	1.11	1.40	502.83	1.00
9/3/24 18:15	0.11	21.11	0.25	1988.99	2148.58	1.11	1.40	502.77	1.00
9/3/24 19:15	0.11	21.11	0.25	1988.65	2148.45	1.11	1.40	502.85	1.00
9/3/24 20:15	0.11	21.10	0.25	1988.71	2148.63	1.11	1.40	502.84	1.00
9/3/24 21:15	0.11	21.10	0.24	1989.00	2149.07	1.11	1.40	502.77	1.00
9/3/24 22:15	0.11	21.10	0.24	1990.49	2150.78	1.11	1.40	502.39	1.00
9/3/24 23:15	0.11	21.10	0.24	1990.85	2151.23	1.11	1.40	502.30	1.00
9/4/24 0:15	0.11	21.10	0.24	1991.28	2151.74	1.11	1.40	502.19	1.00
9/4/24 1:15	0.11	21.09	0.24	1991.36	2151.87	1.11	1.40	502.17	1.00
9/4/24 2:15	0.11	21.09	0.25	1991.60	2152.19	1.11	1.40	502.11	1.00
9/4/24 3:15	0.11	21.09	0.25	1991.51	2152.11	1.11	1.40	502.13	1.00
9/4/24 4:15	0.11	21.09	0.25	1992.03	2152.66	1.11	1.40	502.00	1.00
9/4/24 5:15	0.11	21.09	0.24	1992.20	2152.89	1.11	1.40	501.96	1.00
9/4/24 6:15	0.10	21.09	0.24	1992.24	2152.95	1.11	1.40	501.95	1.00
9/4/24 7:15	0.10	21.09	0.24	1991.95	2152.63	1.11	1.40	502.02	1.00
9/4/24 8:15	0.10	21.09	0.24	1992.53	2153.27	1.11	1.40	501.87	1.00
9/4/24 9:15	0.10	21.09	0.24	1992.19	2152.92	1.11	1.40	501.96	1.00
9/4/24 10:15	0.10	21.09	0.24	1992.38	2153.12	1.11	1.40	501.91	1.00
9/4/24 11:15	0.11	21.09	0.25	1992.54	2153.30	1.11	1.40	501.87	1.00
9/4/24 12:15	0.11	21.09	0.25	1992.69	2153.45	1.11	1.40	501.84	1.00
9/4/24 13:15	0.11	21.09	0.25	1992.81	2153.59	1.11	1.40	501.81	1.00
9/4/24 14:15	0.11	21.09	0.25	1992.89	2153.68	1.11	1.40	501.78	1.00
9/4/24 15:15	0.11	21.09	0.25	1992.61	2153.39	1.11	1.40	501.85	1.00
9/4/24 16:15	0.11	21.09	0.25	1993.30	2154.12	1.11	1.40	501.68	1.00
9/4/24 17:15	0.11	21.09	0.25	1993.31	2154.13	1.11	1.40	501.68	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/4/24 18:15	0.11	21.09	0.25	1993.26	2154.08	1.11	1.40	501.69	1.00
9/4/24 19:15	0.11	21.09	0.25	1993.51	2154.35	1.11	1.40	501.63	1.00
9/4/24 20:15	0.11	21.09	0.25	1993.57	2154.41	1.11	1.40	501.61	1.00
9/4/24 21:15	0.11	21.09	0.25	1993.66	2154.53	1.11	1.40	501.59	1.00
9/4/24 22:15	0.11	21.09	0.24	1994.05	2154.94	1.12	1.40	501.49	1.00
9/4/24 23:15	0.10	21.09	0.24	1993.78	2154.65	1.12	1.40	501.56	1.00
9/5/24 0:15	0.10	21.09	0.24	1994.50	2155.45	1.12	1.40	501.38	1.00
9/5/24 1:15	0.10	21.09	0.24	1994.25	2155.14	1.12	1.40	501.44	1.00
9/5/24 2:15	0.11	21.09	0.24	1994.36	2155.30	1.12	1.40	501.41	1.00
9/5/24 3:15	0.10	21.09	0.24	1994.44	2155.37	1.12	1.40	501.39	1.00
9/5/24 4:15	0.10	21.09	0.24	1994.41	2155.34	1.12	1.40	501.40	1.00
9/5/24 5:15	0.10	21.09	0.24	1994.31	2155.20	1.12	1.40	501.43	1.00
9/5/24 6:15	0.10	21.09	0.24	1994.63	2155.55	1.12	1.40	501.35	1.00
9/5/24 7:15	0.10	21.09	0.24	1994.82	2155.74	1.12	1.40	501.30	1.00
9/5/24 8:15	0.10	21.09	0.24	1994.67	2155.58	1.12	1.40	501.34	1.00
9/5/24 9:15	0.10	21.09	0.24	1994.98	2155.90	1.12	1.40	501.26	1.00
9/5/24 10:15	0.10	21.09	0.24	1994.85	2155.80	1.12	1.40	501.29	1.00
9/5/24 11:15	0.10	21.09	0.24	1995.12	2156.08	1.12	1.40	501.22	1.00
9/5/24 12:15	0.11	21.09	0.24	1994.76	2155.68	1.12	1.40	501.31	1.00
9/5/24 13:15	0.11	21.09	0.25	1994.36	2155.23	1.12	1.40	501.41	1.00
9/5/24 14:15	0.11	21.09	0.25	1995.06	2156.01	1.12	1.40	501.24	1.00
9/5/24 15:15	0.11	21.09	0.25	1995.32	2156.27	1.12	1.40	501.17	1.00
9/5/24 16:15	0.11	21.09	0.25	1995.35	2156.32	1.12	1.40	501.17	1.00
9/5/24 17:15	0.11	21.09	0.25	1995.42	2156.39	1.12	1.40	501.15	1.00
9/5/24 18:15	0.11	21.09	0.25	1995.79	2156.78	1.12	1.40	501.06	1.00
9/5/24 19:15	0.11	21.09	0.25	1995.23	2156.17	1.12	1.40	501.20	1.00
9/5/24 20:15	0.11	21.09	0.24	1995.98	2156.98	1.12	1.40	501.01	1.00
9/5/24 21:15	0.10	21.09	0.24	1995.82	2156.78	1.12	1.40	501.05	1.00
9/5/24 22:15	0.10	21.09	0.23	1996.03	2157.02	1.12	1.40	500.99	1.00
9/5/24 23:15	0.10	21.09	0.23	1995.82	2156.78	1.12	1.40	501.05	1.00
9/6/24 0:15	0.10	21.09	0.24	1996.06	2157.05	1.12	1.40	500.99	1.00
9/6/24 1:15	0.10	21.09	0.24	1995.89	2156.88	1.12	1.40	501.03	1.00
9/6/24 2:15	0.10	21.09	0.24	1996.23	2157.23	1.12	1.40	500.94	1.00
9/6/24 3:15	0.10	21.09	0.24	1996.29	2157.30	1.12	1.40	500.93	1.00
9/6/24 4:15	0.10	21.09	0.24	1996.42	2157.44	1.12	1.40	500.90	1.00
9/6/24 5:15	0.10	21.09	0.24	1996.33	2157.34	1.12	1.40	500.92	1.00
9/6/24 6:15	0.10	21.09	0.24	1996.57	2157.57	1.12	1.40	500.86	1.00
9/6/24 7:15	0.10	21.09	0.24	1996.48	2157.50	1.12	1.40	500.88	1.00
9/6/24 8:15	0.10	21.09	0.24	1997.09	2158.14	1.12	1.40	500.73	1.00
9/6/24 9:15	0.10	21.09	0.24	1996.76	2157.79	1.12	1.40	500.81	1.00
9/6/24 10:15	0.10	21.09	0.24	1997.04	2158.09	1.12	1.40	500.74	1.00
9/6/24 11:15	0.10	21.09	0.24	1996.98	2158.03	1.12	1.40	500.76	1.00
9/6/24 12:15	0.11	21.09	0.25	1997.01	2158.05	1.12	1.40	500.75	1.00
9/6/24 13:15	0.11	21.09	0.24	1997.03	2158.06	1.12	1.40	500.74	1.00
9/6/24 14:15	0.11	21.09	0.25	1997.09	2158.12	1.12	1.40	500.73	1.00
9/6/24 15:15	0.11	21.09	0.25	1997.16	2158.22	1.12	1.40	500.71	1.00
9/6/24 16:15	0.11	21.09	0.25	1996.79	2157.80	1.12	1.40	500.80	1.00
9/6/24 17:15	0.11	21.09	0.25	1996.57	2157.59	1.12	1.40	500.86	1.00
9/6/24 18:15	0.11	21.09	0.25	1996.53	2157.53	1.12	1.40	500.87	1.00
9/6/24 19:15	0.11	21.09	0.25	1996.65	2157.65	1.12	1.40	500.84	1.00
9/6/24 20:15	0.11	21.09	0.24	1996.03	2156.97	1.12	1.40	500.99	1.00
9/6/24 21:15	0.10	21.09	0.24	1996.21	2157.16	1.12	1.40	500.95	1.00
9/6/24 22:15	0.10	21.09	0.24	1996.42	2157.38	1.12	1.40	500.90	1.00
9/6/24 23:15	0.10	21.09	0.24	1995.85	2156.75	1.12	1.40	501.04	1.00
9/7/24 0:15	0.10	21.09	0.24	1996.27	2157.22	1.12	1.40	500.93	1.00
9/7/24 1:15	0.10	21.09	0.24	1995.94	2156.88	1.12	1.40	501.02	1.00
9/7/24 2:15	0.10	21.09	0.24	1996.10	2157.02	1.12	1.40	500.98	1.00
9/7/24 3:15	0.10	21.10	0.24	1996.07	2156.94	1.12	1.40	500.98	1.00
9/7/24 4:15	0.10	21.09	0.24	1996.09	2156.98	1.12	1.40	500.98	1.00
9/7/24 5:15	0.10	21.09	0.24	1995.84	2156.75	1.12	1.40	501.04	1.00
9/7/24 6:15	0.10	21.09	0.24	1995.96	2156.85	1.12	1.40	501.01	1.00
9/7/24 7:15	0.10	21.09	0.24	1995.87	2156.75	1.12	1.40	501.03	1.00
9/7/24 8:15	0.10	21.09	0.24	1995.93	2156.81	1.12	1.40	501.02	1.00
9/7/24 9:15	0.10	21.09	0.24	1995.38	2156.22	1.12	1.40	501.16	1.00
9/7/24 10:15	0.10	21.09	0.24	1995.64	2156.48	1.12	1.40	501.09	1.00
9/7/24 11:15	0.10	21.09	0.24	1995.39	2156.22	1.12	1.40	501.15	1.00
9/7/24 12:15	0.10	21.09	0.24	1995.99	2156.88	1.12	1.40	501.00	1.00
9/7/24 13:15	0.11	21.09	0.24	1995.89	2156.79	1.12	1.40	501.03	1.00
9/7/24 14:15	0.11	21.09	0.25	1996.04	2156.93	1.12	1.40	500.99	1.00
9/7/24 15:15	0.11	21.10	0.25	1995.96	2156.83	1.12	1.40	501.01	1.00
9/7/24 16:15	0.11	21.09	0.25	1995.66	2156.51	1.12	1.40	501.09	1.00
9/7/24 17:15	0.11	21.09	0.25	1995.93	2156.80	1.12	1.40	501.02	1.00
9/7/24 18:15	0.11	21.10	0.25	1995.74	2156.59	1.12	1.40	501.07	1.00
9/7/24 19:15	0.11	21.10	0.25	1995.63	2156.46	1.12	1.40	501.09	1.00
9/7/24 20:15	0.11	21.10	0.25	1995.35	2156.16	1.12	1.40	501.16	1.00
9/7/24 21:15	0.11	21.10	0.24	1995.27	2156.07	1.12	1.40	501.19	1.00
9/7/24 22:15	0.11	21.10	0.24	1995.63	2156.45	1.12	1.40	501.09	1.00
9/7/24 23:15	0.10	21.10	0.24	1995.57	2156.37	1.12	1.40	501.11	1.00
9/8/24 0:15	0.10	21.10	0.24	1995.30	2156.10	1.12	1.40	501.18	1.00
9/8/24 1:15	0.10	21.10	0.24	1995.50	2156.31	1.12	1.40	501.13	1.00
9/8/24 2:15	0.11	21.10	0.24	1995.83	2156.66	1.12	1.40	501.04	1.00
9/8/24 3:15	0.11	21.10	0.24	1996.03	2156.86	1.12	1.40	501.00	1.00
9/8/24 4:15	0.11	21.10	0.24	1995.48	2156.28	1.12	1.40	501.13	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/8/24 5:15	0.10	21.10	0.24	1995.20	2155.97	1.12	1.40	501.20	1.00
9/8/24 6:15	0.10	21.10	0.24	1995.77	2156.58	1.12	1.40	501.06	1.00
9/8/24 7:15	0.10	21.10	0.24	1995.61	2156.40	1.12	1.40	501.10	1.00
9/8/24 8:15	0.10	21.10	0.24	1995.88	2156.69	1.12	1.40	501.03	1.00
9/8/24 9:15	0.10	21.10	0.24	1995.90	2156.73	1.12	1.40	501.03	1.00
9/8/24 10:15	0.10	21.10	0.24	1995.92	2156.70	1.12	1.40	501.02	1.00
9/8/24 11:15	0.11	21.10	0.24	1995.88	2156.70	1.12	1.40	501.03	1.00
9/8/24 12:15	0.10	21.10	0.24	1995.59	2156.37	1.12	1.40	501.10	1.00
9/8/24 13:15	0.11	21.10	0.25	1995.50	2156.26	1.12	1.40	501.13	1.00
9/8/24 14:15	0.11	21.10	0.25	1995.27	2156.02	1.12	1.40	501.19	1.00
9/8/24 15:15	0.11	21.10	0.25	1995.71	2156.48	1.12	1.40	501.08	1.00
9/8/24 16:15	0.11	21.10	0.25	1995.39	2156.14	1.12	1.40	501.16	1.00
9/8/24 17:15	0.11	21.10	0.25	1995.70	2156.47	1.12	1.40	501.08	1.00
9/8/24 18:15	0.11	21.10	0.25	1995.59	2156.35	1.12	1.40	501.11	1.00
9/8/24 19:15	0.11	21.10	0.25	1995.72	2156.49	1.12	1.40	501.07	1.00
9/8/24 20:15	0.11	21.10	0.24	1995.59	2156.35	1.12	1.40	501.11	1.00
9/8/24 21:15	0.10	21.10	0.24	1995.79	2156.55	1.12	1.40	501.05	1.00
9/8/24 22:15	0.10	21.10	0.24	1995.82	2156.59	1.12	1.40	501.05	1.00
9/8/24 23:15	0.10	21.10	0.24	1995.98	2156.77	1.12	1.40	501.01	1.00
9/9/24 0:15	0.10	21.10	0.24	1995.97	2156.75	1.12	1.40	501.01	1.00
9/9/24 1:15	0.10	21.10	0.24	1996.28	2157.09	1.12	1.40	500.93	1.00
9/9/24 2:15	0.10	21.10	0.24	1995.80	2156.55	1.12	1.40	501.05	1.00
9/9/24 3:15	0.10	21.10	0.24	1995.74	2156.49	1.12	1.40	501.07	1.00
9/9/24 4:15	0.10	21.10	0.24	1995.87	2156.65	1.12	1.40	501.03	1.00
9/9/24 5:15	0.10	21.10	0.24	1996.23	2156.98	1.12	1.40	500.94	1.00
9/9/24 6:15	0.10	21.10	0.24	1996.55	2157.35	1.12	1.40	500.86	1.00
9/9/24 7:15	0.10	21.10	0.24	1996.64	2157.48	1.12	1.40	500.84	1.00
9/9/24 8:15	0.10	21.10	0.24	1996.45	2157.26	1.12	1.40	500.89	1.00
9/9/24 9:15	0.10	21.10	0.24	1996.21	2156.98	1.12	1.40	500.95	1.00
9/9/24 10:15	0.10	21.10	0.24	1996.63	2157.40	1.12	1.40	500.84	1.00
9/9/24 11:15	0.10	21.10	0.24	1996.39	2157.16	1.12	1.40	500.90	1.00
9/9/24 12:15	0.11	21.10	0.24	1996.77	2157.56	1.12	1.40	500.81	1.00
9/9/24 13:15	0.11	21.10	0.24	1996.94	2157.74	1.12	1.40	500.77	1.00
9/9/24 14:15	0.11	21.10	0.25	1996.96	2157.74	1.12	1.40	500.76	1.00
9/9/24 15:15	0.11	21.10	0.25	1996.81	2157.59	1.12	1.40	500.80	1.00
9/9/24 16:15	0.11	21.10	0.25	1996.91	2157.70	1.12	1.40	500.77	1.00
9/9/24 17:15	0.11	21.10	0.25	1996.60	2157.36	1.12	1.40	500.85	1.00
9/9/24 18:15	0.11	21.10	0.25	1996.63	2157.40	1.12	1.40	500.84	1.00
9/9/24 19:15	0.11	21.10	0.25	1982.56	2142.19	1.11	1.39	504.40	1.00
9/9/24 20:15	0.11	21.10	0.25	1982.50	2142.11	1.11	1.39	504.41	1.00
9/9/24 21:15	0.11	21.10	0.24	1982.65	2142.27	1.11	1.39	504.37	1.00
9/9/24 22:15	0.11	21.10	0.25	1982.69	2142.32	1.11	1.39	504.37	1.00
9/9/24 23:15	0.11	21.10	0.24	1983.03	2142.66	1.11	1.39	504.28	1.00
9/10/24 0:15	0.11	21.10	0.24	1982.80	2142.43	1.11	1.39	504.34	1.00
9/10/24 1:15	0.11	21.10	0.25	1983.08	2142.74	1.11	1.39	504.27	1.00
9/10/24 2:15	0.11	21.10	0.25	1982.85	2142.47	1.11	1.39	504.33	1.00
9/10/24 3:15	0.11	21.10	0.25	1982.99	2142.64	1.11	1.39	504.29	1.00
9/10/24 4:15	0.11	21.10	0.25	1982.99	2142.62	1.11	1.39	504.29	1.00
9/10/24 5:15	0.11	21.10	0.25	1983.21	2142.85	1.11	1.39	504.23	1.00
9/10/24 6:15	0.11	21.10	0.25	1983.38	2143.04	1.11	1.39	504.19	1.00
9/10/24 7:15	0.11	21.10	0.24	1983.70	2143.37	1.11	1.39	504.11	1.00
9/10/24 8:15	0.11	21.10	0.24	1983.75	2143.44	1.11	1.39	504.10	1.00
9/10/24 9:15	0.10	21.10	0.24	1983.33	2142.96	1.11	1.39	504.20	1.00
9/10/24 10:15	0.11	21.10	0.24	1983.59	2143.22	1.11	1.39	504.14	1.00
9/10/24 11:15	0.11	21.10	0.25	1983.59	2143.23	1.11	1.39	504.14	1.00
9/10/24 12:15	0.11	21.10	0.25	1983.52	2143.15	1.11	1.39	504.16	1.00
9/10/24 13:15	0.11	21.10	0.25	1983.30	2142.94	1.11	1.39	504.21	1.00
9/10/24 14:15	0.11	21.10	0.25	1983.48	2143.08	1.11	1.39	504.17	1.00
9/10/24 15:15	0.11	21.10	0.25	1983.29	2142.89	1.11	1.39	504.21	1.00
9/10/24 16:15	0.11	21.10	0.25	1983.55	2143.16	1.11	1.39	504.15	1.00
9/10/24 17:15	0.11	21.10	0.25	1983.54	2143.17	1.11	1.39	504.15	1.00
9/10/24 18:15	0.11	21.10	0.25	1983.70	2143.33	1.11	1.39	504.11	1.00
9/10/24 19:15	0.11	21.10	0.25	1983.97	2143.63	1.11	1.39	504.04	1.00
9/10/24 20:15	0.11	21.10	0.25	1984.27	2143.94	1.11	1.39	503.96	1.00
9/10/24 21:15	0.11	21.10	0.24	1984.47	2144.18	1.11	1.39	503.91	1.00
9/10/24 22:15	0.11	21.10	0.25	1984.63	2144.31	1.11	1.39	503.87	1.00
9/10/24 23:15	0.11	21.10	0.25	1984.46	2144.14	1.11	1.39	503.92	1.00
9/11/24 0:15	0.11	21.10	0.25	1984.22	2143.90	1.11	1.39	503.98	1.00
9/11/24 1:15	0.11	21.10	0.25	1984.60	2144.28	1.11	1.39	503.88	1.00
9/11/24 2:15	0.11	21.10	0.25	1984.51	2144.20	1.11	1.39	503.90	1.00
9/11/24 3:15	0.11	21.10	0.25	1984.70	2144.40	1.11	1.39	503.85	1.00
9/11/24 4:15	0.11	21.10	0.25	1984.71	2144.40	1.11	1.39	503.85	1.00
9/11/24 5:15	0.11	21.10	0.25	1984.96	2144.68	1.11	1.39	503.79	1.00
9/11/24 6:15	0.11	21.10	0.25	1984.78	2144.48	1.11	1.39	503.84	1.00
9/11/24 7:15	0.10	21.10	0.24	1984.63	2144.30	1.11	1.39	503.87	1.00
9/11/24 8:15	0.11	21.10	0.24	1984.30	2143.95	1.11	1.39	503.96	1.00
9/11/24 9:15	0.11	21.10	0.24	1984.41	2144.06	1.11	1.39	503.93	1.00
9/11/24 10:15	0.10	21.10	0.24	1984.44	2144.08	1.11	1.39	503.92	1.00
9/11/24 11:15	0.11	21.10	0.24	1984.73	2144.41	1.11	1.39	503.85	1.00
9/11/24 12:15	0.11	21.10	0.25	1984.66	2144.33	1.11	1.39	503.86	1.00
9/11/24 13:15	0.11	21.10	0.25	1984.70	2144.35	1.11	1.39	503.86	1.00
9/11/24 14:15	0.11	21.10	0.25	1984.72	2144.38	1.11	1.39	503.85	1.00
9/11/24 15:15	0.11	21.10	0.25	1984.66	2144.29	1.11	1.39	503.87	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/11/24 16:15	0.11	21.10	0.25	1984.75	2144.40	1.11	1.39	503.84	1.00
9/11/24 17:15	0.11	21.10	0.25	1984.64	2144.28	1.11	1.39	503.87	1.00
9/11/24 18:15	0.11	21.10	0.25	1984.57	2144.21	1.11	1.39	503.89	1.00
9/11/24 19:15	0.11	21.10	0.25	1984.55	2144.17	1.11	1.39	503.89	1.00
9/11/24 20:15	0.11	21.10	0.24	1984.57	2144.19	1.11	1.39	503.89	1.00
9/11/24 21:15	0.10	21.10	0.24	1984.56	2144.17	1.11	1.39	503.89	1.00
9/11/24 22:15	0.11	21.10	0.24	1984.67	2144.30	1.11	1.39	503.86	1.00
9/11/24 23:15	0.10	21.10	0.24	1984.75	2144.36	1.11	1.39	503.84	1.00
9/12/24 0:15	0.10	21.10	0.24	1984.32	2143.88	1.11	1.39	503.95	1.00
9/12/24 1:15	0.11	21.10	0.24	1984.83	2144.46	1.11	1.39	503.82	1.00
9/12/24 2:15	0.11	21.10	0.24	1984.60	2144.21	1.11	1.39	503.88	1.00
9/12/24 3:15	0.11	21.10	0.25	1985.11	2144.75	1.11	1.39	503.75	1.00
9/12/24 4:15	0.11	21.10	0.24	1985.42	2145.08	1.11	1.39	503.67	1.00
9/12/24 5:15	0.11	21.10	0.24	1985.57	2145.23	1.11	1.39	503.63	1.00
9/12/24 6:15	0.10	21.10	0.24	1985.73	2145.42	1.11	1.39	503.59	1.00
9/12/24 7:15	0.10	21.10	0.24	1985.79	2145.48	1.11	1.39	503.58	1.00
9/12/24 8:15	0.10	21.10	0.24	1985.84	2145.53	1.11	1.39	503.56	1.00
9/12/24 9:15	0.10	21.10	0.24	1986.17	2145.89	1.11	1.39	503.48	1.00
9/12/24 10:15	0.10	21.10	0.24	1986.07	2145.78	1.11	1.39	503.51	1.00
9/12/24 11:15	0.10	21.10	0.24	1985.98	2145.66	1.11	1.39	503.53	1.00
9/12/24 12:15	0.11	21.10	0.25	1985.80	2145.47	1.11	1.39	503.57	1.00
9/12/24 13:15	0.11	21.10	0.25	1985.77	2145.42	1.11	1.39	503.58	1.00
9/12/24 14:15	0.11	21.10	0.25	1985.71	2145.36	1.11	1.39	503.60	1.00
9/12/24 15:15	0.11	21.10	0.25	1985.82	2145.47	1.11	1.39	503.57	1.00
9/12/24 16:15	0.11	21.10	0.25	1985.40	2145.00	1.11	1.39	503.68	1.00
9/12/24 17:15	0.11	21.10	0.24	1985.13	2144.74	1.11	1.39	503.75	1.00
9/12/24 18:15	0.11	21.10	0.25	1985.21	2144.82	1.11	1.39	503.73	1.00
9/12/24 19:15	0.11	21.10	0.25	1985.41	2145.02	1.11	1.39	503.67	1.00
9/12/24 20:15	0.10	21.10	0.24	1985.18	2144.76	1.11	1.39	503.73	1.00
9/12/24 21:15	0.10	21.11	0.24	1985.53	2145.10	1.11	1.39	503.64	1.00
9/12/24 22:15	0.10	21.10	0.24	1985.42	2145.00	1.11	1.39	503.67	1.00
9/12/24 23:15	0.10	21.10	0.24	1985.15	2144.72	1.11	1.39	503.74	1.00
9/13/24 0:15	0.10	21.10	0.24	1985.46	2145.07	1.11	1.39	503.66	1.00
9/13/24 1:15	0.10	21.10	0.24	1985.76	2145.38	1.11	1.39	503.59	1.00
9/13/24 2:15	0.10	21.11	0.24	1985.85	2145.46	1.11	1.39	503.56	1.00
9/13/24 3:15	0.10	21.10	0.24	1986.16	2145.80	1.11	1.39	503.48	1.00
9/13/24 4:15	0.10	21.11	0.24	1986.50	2146.15	1.11	1.39	503.40	1.00
9/13/24 5:15	0.10	21.10	0.24	1986.66	2146.33	1.11	1.40	503.36	1.00
9/13/24 6:15	0.10	21.11	0.23	1986.47	2146.12	1.11	1.39	503.41	1.00
9/13/24 7:15	0.10	21.11	0.23	1986.69	2146.35	1.11	1.40	503.35	1.00
9/13/24 8:15	0.10	21.11	0.23	1986.95	2146.64	1.11	1.40	503.28	1.00
9/13/24 9:15	0.10	21.11	0.23	1986.99	2146.69	1.11	1.40	503.27	1.00
9/13/24 10:15	0.10	21.11	0.23	1987.14	2146.83	1.11	1.40	503.24	1.00
9/13/24 11:15	0.10	21.11	0.24	1987.23	2146.95	1.11	1.40	503.21	1.00
9/13/24 12:15	0.10	21.11	0.24	1987.24	2146.93	1.11	1.40	503.21	1.00
9/13/24 13:15	0.11	21.11	0.24	1987.12	2146.80	1.11	1.40	503.24	1.00
9/13/24 14:15	0.10	21.11	0.24	1987.60	2147.32	1.11	1.40	503.12	1.00
9/13/24 15:15	0.11	21.11	0.25	1987.34	2147.03	1.11	1.40	503.18	1.00
9/13/24 16:15	0.11	21.11	0.25	1987.44	2147.12	1.11	1.40	503.16	1.00
9/13/24 17:15	0.11	21.11	0.24	1987.31	2146.98	1.11	1.40	503.19	1.00
9/13/24 18:15	0.11	21.11	0.24	1987.55	2147.24	1.11	1.40	503.13	1.00
9/13/24 19:15	0.10	21.11	0.24	1987.56	2147.27	1.11	1.40	503.13	1.00
9/13/24 20:15	0.10	21.11	0.24	1987.22	2146.87	1.11	1.40	503.22	1.00
9/13/24 21:15	0.10	21.11	0.24	1987.56	2147.21	1.11	1.40	503.13	1.00
9/13/24 22:15	0.10	21.11	0.24	1987.10	2146.75	1.11	1.40	503.25	1.00
9/13/24 23:15	0.10	21.11	0.23	1987.26	2146.93	1.11	1.40	503.20	1.00
9/14/24 0:15	0.10	21.11	0.23	1987.02	2146.65	1.11	1.40	503.27	1.00
9/14/24 1:15	0.10	21.11	0.24	1987.16	2146.80	1.11	1.40	503.23	1.00
9/14/24 2:15	0.10	21.11	0.24	1987.19	2146.82	1.11	1.40	503.22	1.00
9/14/24 3:15	0.10	21.11	0.24	1987.74	2147.40	1.11	1.40	503.08	1.00
9/14/24 4:15	0.10	21.11	0.24	1987.25	2146.87	1.11	1.40	503.21	1.00
9/14/24 5:15	0.10	21.11	0.24	1987.58	2147.23	1.11	1.40	503.13	1.00
9/14/24 6:15	0.10	21.11	0.23	1987.47	2147.11	1.11	1.40	503.15	1.00
9/14/24 7:15	0.10	21.11	0.23	1987.62	2147.27	1.11	1.40	503.11	1.00
9/14/24 8:15	0.10	21.11	0.23	1988.02	2147.69	1.11	1.40	503.01	1.00
9/14/24 9:15	0.10	21.11	0.23	1988.18	2147.88	1.11	1.40	502.97	1.00
9/14/24 10:15	0.10	21.11	0.23	1988.14	2147.81	1.11	1.40	502.98	1.00
9/14/24 11:15	0.10	21.11	0.23	1988.07	2147.73	1.11	1.40	503.00	1.00
9/14/24 12:15	0.10	21.11	0.24	1987.67	2147.33	1.11	1.40	503.10	1.00
9/14/24 13:15	0.10	21.11	0.24	1987.61	2147.24	1.11	1.40	503.12	1.00
9/14/24 14:15	0.10	21.11	0.24	1987.30	2146.91	1.11	1.40	503.19	1.00
9/14/24 15:15	0.11	21.11	0.24	1987.60	2147.18	1.11	1.40	503.12	1.00
9/14/24 16:15	0.10	21.11	0.24	1987.87	2147.47	1.11	1.40	503.05	1.00
9/14/24 17:15	0.10	21.11	0.24	1987.91	2147.54	1.11	1.40	503.04	1.00
9/14/24 18:15	0.10	21.11	0.24	1987.92	2147.53	1.11	1.40	503.04	1.00
9/14/24 19:15	0.10	21.11	0.24	1988.54	2148.22	1.11	1.40	502.88	1.00
9/14/24 20:15	0.10	21.11	0.24	1988.45	2148.12	1.11	1.40	502.90	1.00
9/14/24 21:15	0.10	21.11	0.24	1988.88	2148.55	1.11	1.40	502.80	1.00
9/14/24 22:15	0.10	21.11	0.23	1988.57	2148.25	1.11	1.40	502.87	1.00
9/14/24 23:15	0.10	21.11	0.23	1988.76	2148.40	1.11	1.40	502.83	1.00
9/15/24 0:15	0.10	21.11	0.23	1988.86	2148.52	1.11	1.40	502.80	1.00
9/15/24 1:15	0.10	21.11	0.23	1989.02	2148.70	1.11	1.40	502.76	1.00
9/15/24 2:15	0.10	21.11	0.24	1989.05	2148.72	1.11	1.40	502.75	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/15/24 3:15	0.10	21.11	0.24	1988.69	2148.34	1.11	1.40	502.84	1.00
9/15/24 4:15	0.10	21.11	0.24	1988.19	2147.81	1.11	1.40	502.97	1.00
9/15/24 5:15	0.10	21.11	0.23	1988.22	2147.83	1.11	1.40	502.96	1.00
9/15/24 6:15	0.10	21.11	0.23	1988.15	2147.74	1.11	1.40	502.98	1.00
9/15/24 7:15	0.10	21.11	0.23	1987.84	2147.43	1.11	1.40	503.06	1.00
9/15/24 8:15	0.10	21.11	0.23	1987.67	2147.22	1.11	1.40	503.10	1.00
9/15/24 9:15	0.10	21.11	0.23	1987.73	2147.27	1.11	1.40	503.09	1.00
9/15/24 10:15	0.10	21.11	0.23	1987.96	2147.54	1.11	1.40	503.03	1.00
9/15/24 11:15	0.10	21.11	0.23	1988.32	2147.95	1.11	1.40	502.94	1.00
9/15/24 12:15	0.10	21.11	0.24	1988.00	2147.57	1.11	1.40	503.02	1.00
9/15/24 13:15	0.10	21.11	0.24	1987.61	2147.15	1.11	1.40	503.12	1.00
9/15/24 14:15	0.10	21.11	0.24	1988.37	2147.91	1.11	1.40	502.93	1.00
9/15/24 15:15	0.10	21.11	0.24	1988.39	2147.97	1.11	1.40	502.92	1.00
9/15/24 16:15	0.11	21.11	0.24	1988.52	2148.09	1.11	1.40	502.89	1.00
9/15/24 17:15	0.10	21.11	0.24	1988.58	2148.15	1.11	1.40	502.87	1.00
9/15/24 18:15	0.10	21.11	0.24	1988.61	2148.19	1.11	1.40	502.86	1.00
9/15/24 19:15	0.10	21.11	0.24	1988.67	2148.27	1.11	1.40	502.85	1.00
9/15/24 20:15	0.10	21.11	0.23	1988.51	2148.10	1.11	1.40	502.89	1.00
9/15/24 21:15	0.10	21.11	0.23	1988.62	2148.18	1.11	1.40	502.86	1.00
9/15/24 22:15	0.10	21.11	0.23	1989.28	2148.94	1.11	1.40	502.69	1.00
9/15/24 23:15	0.10	21.11	0.23	1990.07	2149.77	1.11	1.40	502.50	1.00
9/16/24 0:15	0.10	21.11	0.23	1990.13	2149.82	1.11	1.40	502.48	1.00
9/16/24 1:15	0.10	21.11	0.23	1990.50	2150.22	1.11	1.40	502.39	1.00
9/16/24 2:15	0.10	21.11	0.23	1989.77	2149.40	1.11	1.40	502.57	1.00
9/16/24 3:15	0.10	21.11	0.23	1989.91	2149.53	1.11	1.40	502.54	1.00
9/16/24 4:15	0.10	21.11	0.23	1989.87	2149.52	1.11	1.40	502.55	1.00
9/16/24 5:15	0.10	21.11	0.23	1989.74	2149.37	1.11	1.40	502.58	1.00
9/16/24 6:15	0.10	21.11	0.23	1989.96	2149.61	1.11	1.40	502.52	1.00
9/16/24 7:15	0.10	21.11	0.23	1990.17	2149.84	1.11	1.40	502.47	1.00
9/16/24 8:15	0.10	21.11	0.23	1990.16	2149.81	1.11	1.40	502.47	1.00
9/16/24 9:15	0.10	21.11	0.23	1990.41	2150.09	1.11	1.40	502.41	1.00
9/16/24 10:15	0.10	21.11	0.23	1990.04	2149.68	1.11	1.40	502.50	1.00
9/16/24 11:15	0.10	21.11	0.23	1990.35	2150.01	1.11	1.40	502.43	1.00
9/16/24 12:15	0.10	21.11	0.24	1990.36	2150.02	1.11	1.40	502.42	1.00
9/16/24 13:15	0.10	21.11	0.24	1990.23	2149.87	1.11	1.40	502.45	1.00
9/16/24 14:15	0.10	21.11	0.24	1990.25	2149.88	1.11	1.40	502.45	1.00
9/16/24 15:15	0.10	21.11	0.24	1990.26	2149.89	1.11	1.40	502.45	1.00
9/16/24 16:15	0.10	21.11	0.24	1990.03	2149.64	1.11	1.40	502.51	1.00
9/16/24 17:15	0.10	21.11	0.24	1990.39	2149.98	1.11	1.40	502.42	1.00
9/16/24 18:15	0.10	21.11	0.24	1989.95	2149.54	1.11	1.40	502.53	1.00
9/16/24 19:15	0.10	21.11	0.24	1990.04	2149.62	1.11	1.40	502.50	1.00
9/16/24 20:15	0.10	21.11	0.24	1989.73	2149.29	1.11	1.40	502.58	1.00
9/16/24 21:15	0.10	21.11	0.23	1989.71	2149.27	1.11	1.40	502.59	1.00
9/16/24 22:15	0.10	21.11	0.23	1990.24	2149.84	1.11	1.40	502.45	1.00
9/16/24 23:15	0.10	21.11	0.23	1990.46	2150.08	1.11	1.40	502.40	1.00
9/17/24 0:15	0.10	21.11	0.23	1990.60	2150.19	1.11	1.40	502.36	1.00
9/17/24 1:15	0.10	21.11	0.24	1990.61	2150.23	1.11	1.40	502.36	1.00
9/17/24 2:15	0.10	21.11	0.23	1990.82	2150.45	1.11	1.40	502.31	1.00
9/17/24 3:15	0.10	21.11	0.24	1990.44	2150.05	1.11	1.40	502.40	1.00
9/17/24 4:15	0.10	21.11	0.24	1990.65	2150.26	1.11	1.40	502.35	1.00
9/17/24 5:15	0.10	21.11	0.24	1990.87	2150.49	1.11	1.40	502.29	1.00
9/17/24 6:15	0.10	21.11	0.24	1990.67	2150.28	1.11	1.40	502.34	1.00
9/17/24 7:15	0.10	21.11	0.23	1990.64	2150.23	1.11	1.40	502.35	1.00
9/17/24 8:15	0.10	21.11	0.23	1990.65	2150.25	1.11	1.40	502.35	1.00
9/17/24 9:15	0.10	21.11	0.23	1990.90	2150.52	1.11	1.40	502.29	1.00
9/17/24 10:15	0.10	21.11	0.24	1990.83	2150.43	1.11	1.40	502.30	1.00
9/17/24 11:15	0.10	21.12	0.24	1990.57	2150.12	1.11	1.40	502.37	1.00
9/17/24 12:15	0.10	21.11	0.24	1990.67	2150.23	1.11	1.40	502.34	1.00
9/17/24 13:15	0.11	21.11	0.24	1990.96	2150.56	1.11	1.40	502.27	1.00
9/17/24 14:15	0.11	21.11	0.25	1991.28	2150.90	1.11	1.40	502.19	1.00
9/17/24 15:15	0.11	21.11	0.25	1991.68	2151.32	1.11	1.40	502.09	1.00
9/17/24 16:15	0.11	21.11	0.24	1991.55	2151.19	1.11	1.40	502.12	1.00
9/17/24 17:15	0.11	21.12	0.24	1991.63	2151.25	1.11	1.40	502.10	1.00
9/17/24 18:15	0.11	21.11	0.25	1991.02	2150.61	1.11	1.40	502.26	1.00
9/17/24 19:15	0.11	21.12	0.24	1991.01	2150.55	1.11	1.40	502.26	1.00
9/17/24 20:15	0.10	21.12	0.24	1991.32	2150.91	1.11	1.40	502.18	1.00
9/17/24 21:15	0.10	21.12	0.24	1990.88	2150.45	1.11	1.40	502.29	1.00
9/17/24 22:15	0.10	21.12	0.24	1991.28	2150.86	1.11	1.40	502.19	1.00
9/17/24 23:15	0.10	21.12	0.24	1990.87	2150.43	1.11	1.40	502.29	1.00
9/18/24 0:15	0.10	21.12	0.24	1990.94	2150.50	1.11	1.40	502.28	1.00
9/18/24 1:15	0.10	21.12	0.24	1991.25	2150.80	1.11	1.40	502.20	1.00
9/18/24 2:15	0.10	21.12	0.24	1990.97	2150.52	1.11	1.40	502.27	1.00
9/18/24 3:15	0.10	21.12	0.24	1990.68	2150.23	1.11	1.40	502.34	1.00
9/18/24 4:15	0.10	21.12	0.24	1990.82	2150.34	1.11	1.40	502.30	1.00
9/18/24 5:15	0.10	21.12	0.24	1990.98	2150.51	1.11	1.40	502.27	1.00
9/18/24 6:15	0.10	21.12	0.24	1990.79	2150.31	1.11	1.40	502.31	1.00
9/18/24 7:15	0.10	21.12	0.23	1991.50	2151.05	1.11	1.40	502.13	1.00
9/18/24 8:15	0.10	21.12	0.23	1992.15	2151.77	1.11	1.40	501.97	1.00
9/18/24 9:15	0.10	21.12	0.23	1991.74	2151.32	1.11	1.40	502.07	1.00
9/18/24 10:15	0.10	21.12	0.24	1991.86	2151.44	1.11	1.40	502.04	1.00
9/18/24 11:15	0.11	21.12	0.25	2041.71	2204.90	1.14	1.43	489.79	1.00
9/18/24 12:15	0.11	21.12	0.25	2030.73	2193.05	1.14	1.43	492.43	1.00
9/18/24 13:15	0.11	21.12	0.25	2030.56	2192.93	1.14	1.43	492.47	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/18/24 14:15	0.11	21.12	0.25	2030.24	2192.61	1.14	1.43	492.55	1.00
9/18/24 15:15	0.11	21.12	0.25	2030.71	2193.15	1.14	1.43	492.44	1.00
9/18/24 16:15	0.11	21.12	0.25	2030.12	2192.56	1.14	1.43	492.58	1.00
9/18/24 17:15	0.11	21.12	0.25	2030.23	2192.71	1.14	1.43	492.56	1.00
9/18/24 18:15	0.11	21.12	0.26	2030.15	2192.63	1.14	1.43	492.57	1.00
9/18/24 19:15	0.11	21.12	0.25	2029.78	2192.28	1.14	1.42	492.67	1.00
9/18/24 20:15	0.11	21.12	0.25	2030.01	2192.52	1.14	1.43	492.61	1.00
9/18/24 21:15	0.11	21.12	0.24	2030.33	2192.88	1.14	1.43	492.53	1.00
9/18/24 22:15	0.11	21.12	0.24	2029.73	2192.22	1.14	1.42	492.68	1.00
9/18/24 23:15	0.11	21.12	0.25	2030.02	2192.53	1.14	1.43	492.61	1.00
9/19/24 0:15	0.10	21.12	0.24	2030.23	2192.78	1.14	1.43	492.55	1.00
9/19/24 1:15	0.11	21.12	0.24	2031.21	2193.84	1.14	1.43	492.32	1.00
9/19/24 2:15	0.11	21.12	0.24	2031.59	2194.26	1.14	1.43	492.23	1.00
9/19/24 3:15	0.11	21.12	0.25	2031.45	2194.07	1.14	1.43	492.26	1.00
9/19/24 4:15	0.11	21.12	0.24	2031.17	2193.79	1.14	1.43	492.33	1.00
9/19/24 5:15	0.11	21.12	0.24	2031.17	2193.79	1.14	1.43	492.33	1.00
9/19/24 6:15	0.10	21.12	0.24	2031.74	2194.39	1.14	1.43	492.19	1.00
9/19/24 7:15	0.10	21.12	0.24	2032.00	2194.67	1.14	1.43	492.13	1.00
9/19/24 8:15	0.10	21.12	0.23	2032.18	2194.88	1.14	1.43	492.08	1.00
9/19/24 9:15	0.10	21.12	0.24	2032.45	2195.17	1.14	1.43	492.02	1.00
9/19/24 10:15	0.10	21.12	0.24	2032.47	2195.17	1.14	1.43	492.01	1.00
9/19/24 11:15	0.11	21.12	0.24	2032.47	2195.19	1.14	1.43	492.01	1.00
9/19/24 12:15	0.11	21.12	0.25	2032.56	2195.27	1.14	1.43	491.99	1.00
9/19/24 13:15	0.11	21.12	0.25	2032.78	2195.52	1.14	1.43	491.94	1.00
9/19/24 14:15	0.11	21.12	0.25	2033.12	2195.86	1.14	1.43	491.86	1.00
9/19/24 15:15	0.11	21.12	0.25	2032.78	2195.50	1.14	1.43	491.94	1.00
9/19/24 16:15	0.11	21.12	0.25	2032.84	2195.58	1.14	1.43	491.92	1.00
9/19/24 17:15	0.11	21.12	0.25	2032.43	2195.12	1.14	1.43	492.02	1.00
9/19/24 18:15	0.11	21.12	0.25	2032.82	2195.53	1.14	1.43	491.93	1.00
9/19/24 19:15	0.11	21.12	0.25	2032.62	2195.33	1.14	1.43	491.98	1.00
9/19/24 20:15	0.11	21.12	0.25	2033.32	2196.07	1.14	1.43	491.81	1.00
9/19/24 21:15	0.11	21.12	0.25	2033.79	2196.58	1.14	1.43	491.69	1.00
9/19/24 22:15	0.11	21.12	0.25	2033.88	2196.67	1.14	1.43	491.67	1.00
9/19/24 23:15	0.11	21.12	0.25	2033.67	2196.43	1.14	1.43	491.72	1.00
9/20/24 0:15	0.11	21.12	0.25	2034.05	2196.87	1.14	1.43	491.63	1.00
9/20/24 1:15	0.11	21.12	0.25	2033.38	2196.13	1.14	1.43	491.79	1.00
9/20/24 2:15	0.11	21.12	0.25	2033.46	2196.22	1.14	1.43	491.77	1.00
9/20/24 3:15	0.11	21.12	0.25	2033.67	2196.44	1.14	1.43	491.72	1.00
9/20/24 4:15	0.11	21.12	0.25	2034.45	2197.26	1.14	1.43	491.53	1.00
9/20/24 5:15	0.11	21.12	0.25	2034.31	2197.12	1.14	1.43	491.57	1.00
9/20/24 6:15	0.11	21.12	0.25	2034.55	2197.37	1.14	1.43	491.51	1.00
9/20/24 7:15	0.10	21.12	0.24	2034.43	2197.23	1.14	1.43	491.54	1.00
9/20/24 8:15	0.10	21.12	0.24	2034.55	2197.36	1.14	1.43	491.51	1.00
9/20/24 9:15	0.11	21.12	0.24	2034.11	2196.87	1.14	1.43	491.62	1.00
9/20/24 10:15	0.11	21.12	0.25	2034.09	2196.85	1.14	1.43	491.62	1.00
9/20/24 11:15	0.11	21.12	0.25	2034.18	2196.95	1.14	1.43	491.60	1.00
9/20/24 12:15	0.11	21.12	0.25	2034.50	2197.30	1.14	1.43	491.52	1.00
9/20/24 13:15	0.11	21.12	0.26	2033.36	2196.06	1.14	1.43	491.80	1.00
9/20/24 14:15	0.11	21.12	0.25	2033.45	2196.14	1.14	1.43	491.78	1.00
9/20/24 15:15	0.11	21.12	0.25	2033.71	2196.44	1.14	1.43	491.71	1.00
9/20/24 16:15	0.11	21.12	0.25	2034.18	2196.94	1.14	1.43	491.60	1.00
9/20/24 17:15	0.11	21.12	0.26	2034.22	2196.97	1.14	1.43	491.59	1.00
9/20/24 18:15	0.11	21.12	0.26	2034.59	2197.36	1.14	1.43	491.50	1.00
9/20/24 19:15	0.11	21.12	0.25	2034.18	2196.90	1.14	1.43	491.60	1.00
9/20/24 20:15	0.11	21.12	0.25	2034.15	2196.85	1.14	1.43	491.60	1.00
9/20/24 21:15	0.11	21.12	0.24	2033.51	2196.18	1.14	1.43	491.76	1.00
9/20/24 22:15	0.10	21.12	0.24	2034.15	2196.87	1.14	1.43	491.61	1.00
9/20/24 23:15	0.11	21.12	0.25	2034.67	2197.44	1.14	1.43	491.48	1.00
9/21/24 0:15	0.11	21.12	0.25	2035.36	2198.15	1.14	1.43	491.31	1.00
9/21/24 1:15	0.11	21.12	0.25	2035.34	2198.12	1.14	1.43	491.32	1.00
9/21/24 2:15	0.11	21.12	0.25	2034.95	2197.72	1.14	1.43	491.41	1.00
9/21/24 3:15	0.11	21.12	0.25	2035.29	2198.10	1.14	1.43	491.33	1.00
9/21/24 4:15	0.11	21.12	0.25	2035.43	2198.21	1.14	1.43	491.30	1.00
9/21/24 5:15	0.11	21.12	0.25	2035.28	2198.06	1.14	1.43	491.33	1.00
9/21/24 6:15	0.11	21.12	0.26	2035.52	2198.30	1.14	1.43	491.28	1.00
9/21/24 7:15	0.11	21.12	0.25	2035.42	2198.21	1.14	1.43	491.30	1.00
9/21/24 8:15	0.11	21.12	0.25	2035.24	2198.00	1.14	1.43	491.34	1.00
9/21/24 9:15	0.11	21.12	0.25	2035.25	2198.01	1.14	1.43	491.34	1.00
9/21/24 10:15	0.11	21.12	0.25	2035.15	2197.90	1.14	1.43	491.36	1.00
9/21/24 11:15	0.11	21.12	0.25	2034.61	2197.31	1.14	1.43	491.49	1.00
9/21/24 12:15	0.11	21.12	0.26	2035.12	2197.86	1.14	1.43	491.37	1.00
9/21/24 13:15	0.11	21.12	0.26	2035.03	2197.74	1.14	1.43	491.39	1.00
9/21/24 14:15	0.11	21.12	0.26	2035.19	2197.88	1.14	1.43	491.35	1.00
9/21/24 15:15	0.11	21.12	0.26	2034.82	2197.51	1.14	1.43	491.44	1.00
9/21/24 16:15	0.11	21.12	0.26	2034.58	2197.27	1.14	1.43	491.50	1.00
9/21/24 17:15	0.11	21.12	0.26	2034.91	2197.61	1.14	1.43	491.42	1.00
9/21/24 18:15	0.11	21.12	0.26	2034.90	2197.60	1.14	1.43	491.43	1.00
9/21/24 19:15	0.11	21.12	0.26	2034.68	2197.36	1.14	1.43	491.48	1.00
9/21/24 20:15	0.11	21.12	0.25	2034.72	2197.38	1.14	1.43	491.47	1.00
9/21/24 21:15	0.11	21.13	0.25	2034.99	2197.63	1.14	1.43	491.40	1.00
9/21/24 22:15	0.11	21.12	0.25	2035.02	2197.68	1.14	1.43	491.40	1.00
9/21/24 23:15	0.11	21.12	0.24	2034.70	2197.33	1.14	1.43	491.47	1.00
9/22/24 0:15	0.11	21.12	0.25	2035.50	2198.21	1.14	1.43	491.28	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/22/24 1:15	0.11	21.12	0.25	2035.17	2197.86	1.14	1.43	491.36	1.00
9/22/24 2:15	0.11	21.12	0.25	2034.95	2197.62	1.14	1.43	491.41	1.00
9/22/24 3:15	0.11	21.13	0.25	2035.33	2197.97	1.14	1.43	491.32	1.00
9/22/24 4:15	0.11	21.13	0.25	2035.54	2198.21	1.14	1.43	491.27	1.00
9/22/24 5:15	0.11	21.13	0.25	2035.79	2198.48	1.14	1.43	491.21	1.00
9/22/24 6:15	0.11	21.13	0.25	2036.01	2198.71	1.14	1.43	491.16	1.00
9/22/24 7:15	0.11	21.13	0.24	2035.42	2198.08	1.14	1.43	491.30	1.00
9/22/24 8:15	0.10	21.13	0.24	2035.44	2198.11	1.14	1.43	491.29	1.00
9/22/24 9:15	0.10	21.13	0.24	2035.48	2198.17	1.14	1.43	491.28	1.00
9/22/24 10:15	0.10	21.13	0.24	2035.52	2198.20	1.14	1.43	491.28	1.00
9/22/24 11:15	0.11	21.13	0.24	2035.41	2198.07	1.14	1.43	491.30	1.00
9/22/24 12:15	0.11	21.13	0.24	2035.13	2197.75	1.14	1.43	491.37	1.00
9/22/24 13:15	0.11	21.13	0.25	2034.66	2197.24	1.14	1.43	491.48	1.00
9/22/24 14:15	0.11	21.13	0.26	2035.49	2198.13	1.14	1.43	491.28	1.00
9/22/24 15:15	0.11	21.13	0.25	2035.94	2198.61	1.14	1.43	491.17	1.00
9/22/24 16:15	0.11	21.13	0.26	2035.68	2198.32	1.14	1.43	491.24	1.00
9/22/24 17:15	0.11	21.13	0.26	2035.76	2198.41	1.14	1.43	491.22	1.00
9/22/24 18:15	0.11	21.13	0.25	2035.86	2198.50	1.14	1.43	491.19	1.00
9/22/24 19:15	0.11	21.13	0.25	2035.98	2198.66	1.14	1.43	491.16	1.00
9/22/24 20:15	0.11	21.13	0.24	2035.92	2198.55	1.14	1.43	491.18	1.00
9/22/24 21:15	0.10	21.13	0.24	2036.05	2198.70	1.14	1.43	491.15	1.00
9/22/24 22:15	0.10	21.13	0.24	2036.25	2198.91	1.14	1.43	491.10	1.00
9/22/24 23:15	0.10	21.13	0.24	2036.60	2199.24	1.14	1.43	491.02	1.00
9/23/24 0:15	0.11	21.13	0.24	2036.63	2199.29	1.14	1.43	491.01	1.00
9/23/24 1:15	0.11	21.13	0.25	2036.37	2199.01	1.14	1.43	491.07	1.00
9/23/24 2:15	0.11	21.13	0.24	2036.56	2199.21	1.14	1.43	491.03	1.00
9/23/24 3:15	0.11	21.13	0.25	2035.57	2198.12	1.14	1.43	491.26	1.00
9/23/24 4:15	0.11	21.13	0.25	2036.22	2198.85	1.14	1.43	491.11	1.00
9/23/24 5:15	0.11	21.13	0.25	2036.08	2198.70	1.14	1.43	491.14	1.00
9/23/24 6:15	0.11	21.13	0.25	2035.79	2198.35	1.14	1.43	491.21	1.00
9/23/24 7:15	0.11	21.13	0.24	2035.76	2198.33	1.14	1.43	491.22	1.00
9/23/24 8:15	0.11	21.13	0.25	2035.40	2197.96	1.14	1.43	491.30	1.00
9/23/24 9:15	0.11	21.13	0.25	2035.66	2198.23	1.14	1.43	491.24	1.00
9/23/24 10:15	0.11	21.13	0.25	2035.96	2198.53	1.14	1.43	491.17	1.00
9/23/24 11:15	0.11	21.13	0.25	2036.41	2199.02	1.14	1.43	491.06	1.00
9/23/24 12:15	0.11	21.13	0.26	2036.38	2198.99	1.14	1.43	491.07	1.00
9/23/24 13:15	0.11	21.13	0.26	2036.31	2198.88	1.14	1.43	491.08	1.00
9/23/24 14:15	0.11	21.13	0.26	2035.77	2198.30	1.14	1.43	491.21	1.00
9/23/24 15:15	0.11	21.13	0.26	2036.27	2198.84	1.14	1.43	491.09	1.00
9/23/24 16:15	0.11	21.13	0.26	2035.91	2198.45	1.14	1.43	491.18	1.00
9/23/24 17:15	0.11	21.13	0.26	2036.06	2198.59	1.14	1.43	491.15	1.00
9/23/24 18:15	0.11	21.13	0.26	2035.62	2198.08	1.14	1.43	491.25	1.00
9/23/24 19:15	0.11	21.13	0.26	2036.51	2199.08	1.14	1.43	491.04	1.00
9/23/24 20:15	0.11	21.13	0.26	2036.18	2198.69	1.14	1.43	491.12	1.00
9/23/24 21:15	0.11	21.13	0.25	2035.63	2198.10	1.14	1.43	491.25	1.00
9/23/24 22:15	0.11	21.13	0.26	2036.72	2199.28	1.14	1.43	490.99	1.00
9/23/24 23:15	0.11	21.13	0.26	2036.44	2198.98	1.14	1.43	491.05	1.00
9/24/24 0:15	0.11	21.13	0.26	2036.93	2199.52	1.14	1.43	490.93	1.00
9/24/24 1:15	0.11	21.13	0.26	2037.01	2199.60	1.14	1.43	490.92	1.00
9/24/24 2:15	0.11	21.13	0.26	2037.16	2199.76	1.14	1.43	490.88	1.00
9/24/24 3:15	0.11	21.13	0.26	2036.99	2199.59	1.14	1.43	490.92	1.00
9/24/24 4:15	0.11	21.13	0.26	2037.10	2199.69	1.14	1.43	490.89	1.00
9/24/24 5:15	0.11	21.13	0.26	2037.11	2199.70	1.14	1.43	490.89	1.00
9/24/24 6:15	0.11	21.13	0.26	2037.12	2199.71	1.14	1.43	490.89	1.00
9/24/24 7:15	0.11	21.13	0.26	2036.90	2199.41	1.14	1.43	490.94	1.00
9/24/24 8:15	0.11	21.13	0.26	2037.48	2200.05	1.14	1.43	490.80	1.00
9/24/24 9:15	0.11	21.13	0.26	2036.89	2199.45	1.14	1.43	490.94	1.00
9/24/24 10:15	0.11	21.13	0.26	2036.71	2199.25	1.14	1.43	490.99	1.00
9/24/24 11:15	0.12	21.13	0.27	2036.09	2198.58	1.14	1.43	491.14	1.00
9/24/24 12:15	0.12	21.13	0.27	2036.53	2199.04	1.14	1.43	491.03	1.00
9/24/24 13:15	0.12	21.13	0.27	2036.70	2199.18	1.14	1.43	490.99	1.00
9/24/24 14:15	0.12	21.13	0.27	2037.48	2200.03	1.14	1.43	490.80	1.00
9/24/24 15:15	0.12	21.13	0.27	2036.57	2199.04	1.14	1.43	491.02	1.00
9/24/24 16:15	0.12	21.13	0.27	2037.35	2199.87	1.14	1.43	490.83	1.00
9/24/24 17:15	0.12	21.13	0.27	2036.94	2199.43	1.14	1.43	490.93	1.00
9/24/24 18:15	0.12	21.13	0.27	2037.37	2199.91	1.14	1.43	490.83	1.00
9/24/24 19:15	0.11	21.13	0.26	2037.42	2199.93	1.14	1.43	490.82	1.00
9/24/24 20:15	0.11	21.13	0.26	2036.93	2199.42	1.14	1.43	490.94	1.00
9/24/24 21:15	0.11	21.13	0.26	2036.71	2199.20	1.14	1.43	490.99	1.00
9/24/24 22:15	0.11	21.13	0.26	2036.58	2199.03	1.14	1.43	491.02	1.00
9/24/24 23:15	0.11	21.13	0.26	2036.85	2199.29	1.14	1.43	490.96	1.00
9/25/24 0:15	0.11	21.13	0.26	2036.57	2198.97	1.14	1.43	491.02	1.00
9/25/24 1:15	0.11	21.13	0.26	2036.13	2198.48	1.14	1.43	491.13	1.00
9/25/24 2:15	0.11	21.13	0.26	2035.97	2198.35	1.14	1.43	491.17	1.00
9/25/24 3:15	0.11	21.13	0.25	2036.60	2199.02	1.14	1.43	491.01	1.00
9/25/24 4:15	0.11	21.13	0.26	2036.78	2199.21	1.14	1.43	490.97	1.00
9/25/24 5:15	0.11	21.13	0.25	2035.95	2198.30	1.14	1.43	491.17	1.00
9/25/24 6:15	0.11	21.13	0.25	2035.89	2198.24	1.14	1.43	491.19	1.00
9/25/24 7:15	0.11	21.13	0.25	2036.67	2199.06	1.14	1.43	491.00	1.00
9/25/24 8:15	0.11	21.13	0.25	2037.18	2199.61	1.14	1.43	490.88	1.00
9/25/24 9:15	0.11	21.13	0.25	2037.65	2200.12	1.14	1.43	490.76	1.00
9/25/24 10:15	0.11	21.13	0.25	2036.81	2199.19	1.14	1.43	490.96	1.00
9/25/24 11:15	0.11	21.13	0.25	2030.27	2192.14	1.14	1.42	492.55	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/25/24 12:15	0.11	21.13	0.26	2029.99	2191.84	1.14	1.42	492.61	1.00
9/25/24 13:15	0.11	21.13	0.26	2030.41	2192.30	1.14	1.42	492.51	1.00
9/25/24 14:15	0.12	21.13	0.27	2030.47	2192.34	1.14	1.43	492.50	1.00
9/25/24 15:15	0.12	21.13	0.27	2030.15	2192.02	1.14	1.42	492.57	1.00
9/25/24 16:15	0.12	21.13	0.27	2030.51	2192.41	1.14	1.43	492.49	1.00
9/25/24 17:15	0.12	21.14	0.27	2030.83	2192.69	1.14	1.43	492.41	1.00
9/25/24 18:15	0.12	21.14	0.27	2031.61	2193.54	1.14	1.43	492.22	1.00
9/25/24 19:15	0.12	21.13	0.27	2031.46	2193.40	1.14	1.43	492.26	1.00
9/25/24 20:15	0.12	21.13	0.27	2031.06	2192.98	1.14	1.43	492.35	1.00
9/25/24 21:15	0.12	21.13	0.27	2031.17	2193.09	1.14	1.43	492.33	1.00
9/25/24 22:15	0.12	21.13	0.27	2031.17	2193.07	1.14	1.43	492.33	1.00
9/25/24 23:15	0.12	21.13	0.27	2031.00	2192.89	1.14	1.43	492.37	1.00
9/26/24 0:15	0.12	21.14	0.27	2031.30	2193.16	1.14	1.43	492.30	1.00
9/26/24 1:15	0.12	21.14	0.27	2031.00	2192.85	1.14	1.43	492.37	1.00
9/26/24 2:15	0.12	21.14	0.27	2031.29	2193.18	1.14	1.43	492.30	1.00
9/26/24 3:15	0.12	21.14	0.27	2031.90	2193.84	1.14	1.43	492.15	1.00
9/26/24 4:15	0.12	21.14	0.27	2031.46	2193.35	1.14	1.43	492.26	1.00
9/26/24 5:15	0.12	21.14	0.27	2031.17	2193.04	1.14	1.43	492.33	1.00
9/26/24 6:15	0.12	21.14	0.27	2031.59	2193.49	1.14	1.43	492.23	1.00
9/26/24 7:15	0.12	21.14	0.27	2031.90	2193.78	1.14	1.43	492.15	1.00
9/26/24 8:15	0.12	21.14	0.27	2031.70	2193.58	1.14	1.43	492.20	1.00
9/26/24 9:15	0.12	21.14	0.27	2031.39	2193.23	1.14	1.43	492.27	1.00
9/26/24 10:15	0.12	21.14	0.27	2032.50	2194.43	1.14	1.43	492.00	1.00
9/26/24 11:15	0.12	21.14	0.28	2032.40	2194.30	1.14	1.43	492.03	1.00
9/26/24 12:15	0.12	21.14	0.28	2032.47	2194.39	1.14	1.43	492.01	1.00
9/26/24 13:15	0.12	21.14	0.28	2031.58	2193.42	1.14	1.43	492.23	1.00
9/26/24 14:15	0.13	21.15	0.29	2022.70	2183.19	1.13	1.42	494.39	1.00
9/26/24 15:15	0.12	21.15	0.28	2018.30	2178.71	1.13	1.42	495.47	1.00
9/26/24 16:15	0.12	21.14	0.29	2017.08	2177.48	1.13	1.42	495.77	1.00
9/26/24 17:15	0.12	21.14	0.28	2016.98	2177.45	1.13	1.42	495.79	1.00
9/26/24 18:15	0.12	21.14	0.29	2017.14	2177.67	1.13	1.42	495.75	1.00
9/26/24 19:15	0.12	21.14	0.28	2016.83	2177.36	1.13	1.42	495.83	1.00
9/26/24 20:15	0.12	21.14	0.28	2016.43	2176.96	1.13	1.42	495.92	1.00
9/26/24 21:15	0.12	21.14	0.28	2017.00	2177.58	1.13	1.42	495.79	1.00
9/26/24 22:15	0.12	21.14	0.28	2016.53	2177.07	1.13	1.42	495.90	1.00
9/26/24 23:15	0.12	21.14	0.28	2016.60	2177.15	1.13	1.42	495.88	1.00
9/27/24 0:15	0.12	21.14	0.28	2017.23	2177.83	1.13	1.42	495.73	1.00
9/27/24 1:15	0.12	21.14	0.29	2017.53	2178.16	1.13	1.42	495.65	1.00
9/27/24 2:15	0.12	21.14	0.29	2017.04	2177.63	1.13	1.42	495.78	1.00
9/27/24 3:15	0.12	21.14	0.28	2017.12	2177.72	1.13	1.42	495.76	1.00
9/27/24 4:15	0.12	21.14	0.28	2017.23	2177.83	1.13	1.42	495.73	1.00
9/27/24 5:15	0.12	21.14	0.29	2017.36	2177.98	1.13	1.42	495.70	1.00
9/27/24 6:15	0.12	21.14	0.29	2016.98	2177.58	1.13	1.42	495.79	1.00
9/27/24 7:15	0.12	21.14	0.28	2016.86	2177.41	1.13	1.42	495.82	1.00
9/27/24 8:15	0.12	21.14	0.28	2017.28	2177.87	1.13	1.42	495.72	1.00
9/27/24 9:15	0.12	21.14	0.28	2016.92	2177.48	1.13	1.42	495.81	1.00
9/27/24 10:15	0.12	21.14	0.28	2017.13	2177.71	1.13	1.42	495.75	1.00
9/27/24 11:15	0.12	21.14	0.28	2016.90	2177.44	1.13	1.42	495.81	1.00
9/27/24 12:15	0.12	21.14	0.29	2016.68	2177.21	1.13	1.42	495.87	1.00
9/27/24 13:15	0.13	21.14	0.29	2016.64	2177.16	1.13	1.42	495.88	1.00
9/27/24 14:15	0.13	21.14	0.29	2016.98	2177.52	1.13	1.42	495.79	1.00
9/27/24 15:15	0.13	21.14	0.29	2016.69	2177.21	1.13	1.42	495.86	1.00
9/27/24 16:15	0.13	21.14	0.29	2017.21	2177.76	1.13	1.42	495.73	1.00
9/27/24 17:15	0.13	21.14	0.29	2017.39	2177.97	1.13	1.42	495.69	1.00
9/27/24 18:15	0.13	21.14	0.29	2017.45	2178.00	1.13	1.42	495.68	1.00
9/27/24 19:15	0.12	21.14	0.29	2017.69	2178.27	1.13	1.42	495.62	1.00
9/27/24 20:15	0.12	21.14	0.29	2017.79	2178.38	1.13	1.42	495.59	1.00
9/27/24 21:15	0.12	21.14	0.28	2017.91	2178.49	1.13	1.42	495.56	1.00
9/27/24 22:15	0.12	21.14	0.28	2018.17	2178.79	1.13	1.42	495.50	1.00
9/27/24 23:15	0.12	21.14	0.28	2018.11	2178.70	1.13	1.42	495.51	1.00
9/28/24 0:15	0.12	21.14	0.28	2018.45	2179.05	1.13	1.42	495.43	1.00
9/28/24 1:15	0.12	21.14	0.28	2018.81	2179.45	1.13	1.42	495.34	1.00
9/28/24 2:15	0.12	21.14	0.28	2018.68	2179.30	1.13	1.42	495.37	1.00
9/28/24 3:15	0.12	21.14	0.28	2019.00	2179.65	1.13	1.42	495.30	1.00
9/28/24 4:15	0.12	21.14	0.28	2019.04	2179.69	1.13	1.42	495.28	1.00
9/28/24 5:15	0.12	21.14	0.28	2018.89	2179.51	1.13	1.42	495.32	1.00
9/28/24 6:15	0.12	21.14	0.28	2019.63	2180.31	1.13	1.42	495.14	1.00
9/28/24 7:15	0.12	21.14	0.27	2019.18	2179.80	1.13	1.42	495.25	1.00
9/28/24 8:15	0.12	21.14	0.27	2019.56	2180.22	1.13	1.42	495.16	1.00
9/28/24 9:15	0.12	21.14	0.28	2019.07	2179.67	1.13	1.42	495.28	1.00
9/28/24 10:15	0.12	21.14	0.28	2019.30	2179.93	1.13	1.42	495.22	1.00
9/28/24 11:15	0.12	21.14	0.28	2019.27	2179.89	1.13	1.42	495.23	1.00
9/28/24 12:15	0.12	21.14	0.28	2019.16	2179.77	1.13	1.42	495.26	1.00
9/28/24 13:15	0.12	21.14	0.29	2018.92	2179.50	1.13	1.42	495.31	1.00
9/28/24 14:15	0.13	21.14	0.29	2019.23	2179.82	1.13	1.42	495.24	1.00
9/28/24 15:15	0.13	21.14	0.30	2019.61	2180.26	1.13	1.42	495.14	1.00
9/28/24 16:15	0.13	21.14	0.30	2019.76	2180.39	1.13	1.42	495.11	1.00
9/28/24 17:15	0.13	21.14	0.30	2019.68	2180.29	1.13	1.42	495.13	1.00
9/28/24 18:15	0.13	21.14	0.29	2019.34	2179.93	1.13	1.42	495.21	1.00
9/28/24 19:15	0.13	21.14	0.29	2018.79	2179.34	1.13	1.42	495.35	1.00
9/28/24 20:15	0.12	21.14	0.29	2018.66	2179.18	1.13	1.42	495.38	1.00
9/28/24 21:15	0.12	21.14	0.28	2018.42	2178.93	1.13	1.42	495.44	1.00
9/28/24 22:15	0.12	21.14	0.28	2018.89	2179.38	1.13	1.42	495.32	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
9/28/24 23:15	0.12	21.14	0.28	2018.83	2179.34	1.13	1.42	495.34	1.00
9/29/24 0:15	0.12	21.14	0.28	2018.60	2179.08	1.13	1.42	495.39	1.00
9/29/24 1:15	0.12	21.14	0.29	2018.92	2179.44	1.13	1.42	495.31	1.00
9/29/24 2:15	0.13	21.14	0.29	2018.59	2179.03	1.13	1.42	495.40	1.00
9/29/24 3:15	0.13	21.14	0.29	2018.24	2178.70	1.13	1.42	495.48	1.00
9/29/24 4:15	0.13	21.14	0.29	2018.19	2178.62	1.13	1.42	495.49	1.00
9/29/24 5:15	0.12	21.14	0.28	2018.63	2179.11	1.13	1.42	495.39	1.00
9/29/24 6:15	0.12	21.14	0.28	2018.70	2179.18	1.13	1.42	495.37	1.00
9/29/24 7:15	0.12	21.14	0.28	2019.77	2180.34	1.13	1.42	495.10	1.00
9/29/24 8:15	0.12	21.14	0.29	2019.93	2180.50	1.13	1.42	495.07	1.00
9/29/24 9:15	0.12	21.14	0.29	2019.61	2180.14	1.13	1.42	495.14	1.00
9/29/24 10:15	0.12	21.15	0.28	2019.37	2179.87	1.13	1.42	495.20	1.00
9/29/24 11:15	0.12	21.14	0.29	2019.55	2180.07	1.13	1.42	495.16	1.00
9/29/24 12:15	0.13	21.15	0.30	2019.52	2180.02	1.13	1.42	495.17	1.00
9/29/24 13:15	0.13	21.15	0.30	2019.74	2180.27	1.13	1.42	495.11	1.00
9/29/24 14:15	0.13	21.15	0.30	2019.96	2180.50	1.13	1.42	495.06	1.00
9/29/24 15:15	0.13	21.15	0.30	2020.03	2180.56	1.13	1.42	495.04	1.00
9/29/24 16:15	0.13	21.15	0.31	2019.40	2179.89	1.13	1.42	495.20	1.00
9/29/24 17:15	0.13	21.15	0.31	2019.89	2180.39	1.13	1.42	495.08	1.00
9/29/24 18:15	0.13	21.15	0.31	2020.21	2180.76	1.13	1.42	495.00	1.00
9/29/24 19:15	0.13	21.15	0.30	2019.91	2180.38	1.13	1.42	495.07	1.00
9/29/24 20:15	0.13	21.15	0.30	2019.40	2179.86	1.13	1.42	495.20	1.00
9/29/24 21:15	0.13	21.15	0.30	2019.53	2180.01	1.13	1.42	495.16	1.00
9/29/24 22:15	0.13	21.15	0.30	2019.79	2180.29	1.13	1.42	495.10	1.00
9/29/24 23:15	0.13	21.15	0.30	2020.08	2180.57	1.13	1.42	495.03	1.00
9/30/24 0:15	0.13	21.15	0.30	2019.79	2180.26	1.13	1.42	495.10	1.00
9/30/24 1:15	0.13	21.15	0.30	2019.80	2180.26	1.13	1.42	495.10	1.00
9/30/24 2:15	0.13	21.15	0.30	2020.31	2180.80	1.13	1.42	494.97	1.00
9/30/24 3:15	0.13	21.15	0.31	2019.44	2179.85	1.13	1.42	495.19	1.00
9/30/24 4:15	0.13	21.15	0.31	2019.88	2180.32	1.13	1.42	495.08	1.00
9/30/24 5:15	0.13	21.15	0.30	2019.35	2179.70	1.13	1.42	495.21	1.00
9/30/24 6:15	0.13	21.15	0.30	2019.47	2179.89	1.13	1.42	495.18	1.00
9/30/24 7:15	0.13	21.15	0.30	2019.36	2179.75	1.13	1.42	495.21	1.00
9/30/24 8:15	0.13	21.15	0.30	2019.66	2180.08	1.13	1.42	495.13	1.00
9/30/24 9:15	0.13	21.15	0.31	2019.98	2180.41	1.13	1.42	495.06	1.00
9/30/24 10:15	0.13	21.15	0.31	2020.25	2180.68	1.13	1.42	494.99	1.00
9/30/24 11:15	0.14	21.15	0.31	2020.09	2180.52	1.13	1.42	495.03	1.00
9/30/24 12:15	0.14	21.15	0.31	2020.00	2180.45	1.13	1.42	495.05	1.00
9/30/24 13:15	0.13	21.15	0.31	2019.97	2180.36	1.13	1.42	495.06	1.00
9/30/24 14:15	0.14	21.15	0.31	2019.32	2179.65	1.13	1.42	495.22	1.00
9/30/24 15:15	0.14	21.15	0.31	2019.51	2179.87	1.13	1.42	495.17	1.00
9/30/24 16:15	0.14	21.15	0.31	2019.47	2179.80	1.13	1.42	495.18	1.00
9/30/24 17:15	0.14	21.15	0.31	2019.65	2179.98	1.13	1.42	495.14	1.00
9/30/24 18:15	0.14	21.15	0.31	2019.50	2179.85	1.13	1.42	495.17	1.00
9/30/24 19:15	0.13	21.15	0.31	2019.00	2179.27	1.13	1.42	495.30	1.00
9/30/24 20:15	0.13	21.15	0.31	2019.23	2179.50	1.13	1.42	495.24	1.00
9/30/24 21:15	0.13	21.15	0.30	2019.22	2179.47	1.13	1.42	495.24	1.00
9/30/24 22:15	0.13	21.15	0.30	2019.16	2179.40	1.13	1.42	495.26	1.00
9/30/24 23:15	0.13	21.15	0.30	2019.34	2179.64	1.13	1.42	495.21	1.00
10/1/24 0:15	0.13	21.15	0.30	2019.19	2179.48	1.13	1.42	495.25	1.00
10/1/24 1:15	0.13	21.15	0.30	2019.12	2179.38	1.13	1.42	495.27	1.00
10/1/24 2:15	0.13	21.15	0.30	2019.43	2179.72	1.13	1.42	495.19	1.00
10/1/24 3:15	0.13	21.15	0.30	2019.29	2179.58	1.13	1.42	495.22	1.00
10/1/24 4:15	0.13	21.15	0.30	2019.11	2179.37	1.13	1.42	495.27	1.00
10/1/24 5:15	0.12	21.15	0.29	2019.11	2179.36	1.13	1.42	495.27	1.00
10/1/24 6:15	0.12	21.15	0.29	2019.10	2179.30	1.13	1.42	495.27	1.00
10/1/24 7:15	0.12	21.15	0.28	2018.99	2179.20	1.13	1.42	495.30	1.00
10/1/24 8:15	0.12	21.15	0.28	2019.01	2179.26	1.13	1.42	495.29	1.00
10/1/24 9:15	0.12	21.15	0.28	2019.22	2179.46	1.13	1.42	495.24	1.00
10/1/24 10:15	0.12	21.15	0.28	2019.26	2179.50	1.13	1.42	495.23	1.00
10/1/24 11:15	0.12	21.15	0.28	2019.56	2179.82	1.13	1.42	495.16	1.00
10/1/24 12:15	0.12	21.15	0.29	2019.80	2180.02	1.13	1.42	495.10	1.00
10/1/24 13:15	0.13	21.15	0.29	2019.19	2179.40	1.13	1.42	495.25	1.00
10/1/24 14:15	0.13	21.15	0.30	2020.57	2180.89	1.13	1.42	494.91	1.00
10/1/24 15:15	0.13	21.15	0.30	2020.18	2180.44	1.13	1.42	495.01	1.00
10/1/24 16:15	0.13	21.15	0.30	2020.32	2180.60	1.13	1.42	494.97	1.00
10/1/24 17:15	0.13	21.15	0.31	2020.33	2180.58	1.13	1.42	494.97	1.00
10/1/24 18:15	0.13	21.15	0.31	2020.51	2180.78	1.13	1.42	494.92	1.00
10/1/24 19:15	0.13	21.15	0.31	2020.05	2180.26	1.13	1.42	495.04	1.00
10/1/24 20:15	0.13	21.15	0.31	2019.77	2179.99	1.13	1.42	495.11	1.00
10/1/24 21:15	0.13	21.15	0.30	2019.49	2179.67	1.13	1.42	495.18	1.00
10/1/24 22:15	0.13	21.15	0.30	2019.69	2179.90	1.13	1.42	495.13	1.00
10/1/24 23:15	0.13	21.15	0.31	2019.56	2179.74	1.13	1.42	495.16	1.00
10/2/24 0:15	0.13	21.15	0.31	2019.85	2180.05	1.13	1.42	495.09	1.00
10/2/24 1:15	0.14	21.15	0.31	2019.71	2179.89	1.13	1.42	495.12	1.00
10/2/24 2:15	0.13	21.15	0.31	2020.08	2180.29	1.13	1.42	495.03	1.00
10/2/24 3:15	0.14	21.15	0.32	2019.74	2179.91	1.13	1.42	495.11	1.00
10/2/24 4:15	0.14	21.15	0.31	2019.74	2179.90	1.13	1.42	495.11	1.00
10/2/24 5:15	0.14	21.15	0.31	2019.24	2179.37	1.13	1.42	495.24	1.00
10/2/24 6:15	0.14	21.15	0.32	2019.00	2179.11	1.13	1.42	495.30	1.00
10/2/24 7:15	0.14	21.15	0.31	2019.83	2180.00	1.13	1.42	495.09	1.00
10/2/24 8:15	0.14	21.15	0.31	2020.74	2180.97	1.13	1.42	494.87	1.00
10/2/24 9:15	0.14	21.15	0.32	2020.24	2180.44	1.13	1.42	494.99	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/2/24 10:15	0.14	21.15	0.32	2020.24	2180.38	1.13	1.42	494.99	1.00
10/2/24 11:15	0.14	21.15	0.33	2020.46	2180.64	1.13	1.42	494.94	1.00
10/2/24 12:15	0.14	21.15	0.33	2020.52	2180.68	1.13	1.42	494.92	1.00
10/2/24 13:15	0.15	21.15	0.34	2020.19	2180.34	1.13	1.42	495.00	1.00
10/2/24 14:15	0.15	21.15	0.34	2020.27	2180.43	1.13	1.42	494.98	1.00
10/2/24 15:15	0.15	21.15	0.34	2020.09	2180.25	1.13	1.42	495.03	1.00
10/2/24 16:15	0.15	21.15	0.34	2020.14	2180.28	1.13	1.42	495.02	1.00
10/2/24 17:15	0.15	21.15	0.34	2019.67	2179.75	1.13	1.42	495.13	1.00
10/2/24 18:15	0.15	21.15	0.34	2019.98	2180.09	1.13	1.42	495.05	1.00
10/2/24 19:15	0.15	21.15	0.34	2019.51	2179.59	1.13	1.42	495.17	1.00
10/2/24 20:15	0.15	21.15	0.34	2019.82	2179.92	1.13	1.42	495.09	1.00
10/2/24 21:15	0.15	21.15	0.34	2020.00	2180.11	1.13	1.42	495.05	1.00
10/2/24 22:15	0.15	21.16	0.34	2019.98	2180.06	1.13	1.42	495.06	1.00
10/2/24 23:15	0.15	21.16	0.34	2019.75	2179.82	1.13	1.42	495.11	1.00
10/3/24 0:15	0.15	21.16	0.34	2020.26	2180.35	1.13	1.42	494.99	1.00
10/3/24 1:15	0.15	21.16	0.34	2019.87	2179.91	1.13	1.42	495.08	1.00
10/3/24 2:15	0.15	21.16	0.35	2020.09	2180.18	1.13	1.42	495.03	1.00
10/3/24 3:15	0.15	21.16	0.35	2020.55	2180.63	1.13	1.42	494.92	1.00
10/3/24 4:15	0.15	21.16	0.34	2019.77	2179.77	1.13	1.42	495.10	1.00
10/3/24 5:15	0.15	21.16	0.35	2019.54	2179.56	1.13	1.42	495.16	1.00
10/3/24 6:15	0.15	21.16	0.35	2019.57	2179.55	1.13	1.42	495.16	1.00
10/3/24 7:15	0.15	21.16	0.35	2019.10	2179.05	1.13	1.42	495.27	1.00
10/3/24 8:15	0.15	21.16	0.35	2018.85	2178.80	1.13	1.42	495.33	1.00
10/3/24 9:15	0.15	21.16	0.35	2019.57	2179.56	1.13	1.42	495.16	1.00
10/3/24 10:15	0.15	21.16	0.35	2018.84	2178.76	1.13	1.42	495.33	1.00
10/3/24 11:15	0.15	21.16	0.35	2018.88	2178.81	1.13	1.42	495.32	1.00
10/3/24 12:15	0.16	21.16	0.36	2019.04	2178.96	1.13	1.42	495.29	1.00
10/3/24 13:15	0.15	21.16	0.35	2019.19	2179.13	1.13	1.42	495.25	1.00
10/3/24 14:15	0.16	21.16	0.36	2019.17	2179.10	1.13	1.42	495.25	1.00
10/3/24 15:15	0.16	21.16	0.36	2019.29	2179.23	1.13	1.42	495.22	1.00
10/3/24 16:15	0.15	21.16	0.35	2019.47	2179.38	1.13	1.42	495.18	1.00
10/3/24 17:15	0.15	21.16	0.35	2019.54	2179.47	1.13	1.42	495.16	1.00
10/3/24 18:15	0.15	21.16	0.36	2019.76	2179.71	1.13	1.42	495.11	1.00
10/3/24 19:15	0.15	21.16	0.35	2019.26	2179.14	1.13	1.42	495.23	1.00
10/3/24 20:15	0.15	21.16	0.35	2019.16	2179.02	1.13	1.42	495.26	1.00
10/3/24 21:15	0.15	21.16	0.34	2019.20	2179.11	1.13	1.42	495.25	1.00
10/3/24 22:15	0.15	21.16	0.34	2019.15	2179.04	1.13	1.42	495.26	1.00
10/3/24 23:15	0.15	21.16	0.34	2019.02	2178.86	1.13	1.42	495.29	1.00
10/4/24 0:15	0.15	21.16	0.34	2018.97	2178.82	1.13	1.42	495.30	1.00
10/4/24 1:15	0.15	21.16	0.34	2019.29	2179.16	1.13	1.42	495.22	1.00
10/4/24 2:15	0.15	21.16	0.34	2019.00	2178.85	1.13	1.42	495.30	1.00
10/4/24 3:15	0.15	21.16	0.34	2019.36	2179.22	1.13	1.42	495.21	1.00
10/4/24 4:15	0.15	21.16	0.34	2019.20	2179.04	1.13	1.42	495.25	1.00
10/4/24 5:15	0.15	21.16	0.34	2019.42	2179.28	1.13	1.42	495.19	1.00
10/4/24 6:15	0.14	21.16	0.33	2019.14	2178.98	1.13	1.42	495.26	1.00
10/4/24 7:15	0.14	21.16	0.33	2018.97	2178.80	1.13	1.42	495.30	1.00
10/4/24 8:15	0.14	21.16	0.33	2019.17	2179.02	1.13	1.42	495.25	1.00
10/4/24 9:15	0.14	21.16	0.32	2019.12	2178.94	1.13	1.42	495.27	1.00
10/4/24 10:15	0.14	21.16	0.33	2019.27	2179.08	1.13	1.42	495.23	1.00
10/4/24 11:15	0.13	21.16	0.29	2025.49	2185.76	1.13	1.42	493.71	1.00
10/4/24 12:15	0.13	21.16	0.30	2025.61	2185.86	1.13	1.42	493.68	1.00
10/4/24 13:15	0.13	21.16	0.30	2025.84	2186.10	1.13	1.42	493.62	1.00
10/4/24 14:15	0.13	21.16	0.31	2025.82	2186.12	1.13	1.42	493.63	1.00
10/4/24 15:15	0.13	21.16	0.31	2025.73	2185.99	1.13	1.42	493.65	1.00
10/4/24 16:15	0.13	21.16	0.31	2025.38	2185.64	1.13	1.42	493.73	1.00
10/4/24 17:15	0.13	21.16	0.31	2025.45	2185.70	1.13	1.42	493.72	1.00
10/4/24 18:15	0.14	21.16	0.31	2025.42	2185.68	1.13	1.42	493.72	1.00
10/4/24 19:15	0.13	21.16	0.31	2025.63	2185.90	1.13	1.42	493.67	1.00
10/4/24 20:15	0.13	21.16	0.31	2025.61	2185.86	1.13	1.42	493.68	1.00
10/4/24 21:15	0.13	21.16	0.31	2025.65	2185.91	1.13	1.42	493.67	1.00
10/4/24 22:15	0.13	21.16	0.31	2025.31	2185.53	1.13	1.42	493.75	1.00
10/4/24 23:15	0.13	21.16	0.31	2025.70	2185.95	1.13	1.42	493.66	1.00
10/5/24 0:15	0.13	21.16	0.31	2025.33	2185.55	1.13	1.42	493.75	1.00
10/5/24 1:15	0.14	21.16	0.31	2024.88	2185.05	1.13	1.42	493.86	1.00
10/5/24 2:15	0.14	21.16	0.31	2024.91	2185.09	1.13	1.42	493.85	1.00
10/5/24 3:15	0.14	21.16	0.32	2024.72	2184.88	1.13	1.42	493.89	1.00
10/5/24 4:15	0.14	21.16	0.31	2024.86	2185.02	1.13	1.42	493.86	1.00
10/5/24 5:15	0.14	21.16	0.31	2024.55	2184.69	1.13	1.42	493.94	1.00
10/5/24 6:15	0.14	21.16	0.31	2024.37	2184.49	1.13	1.42	493.98	1.00
10/5/24 7:15	0.14	21.16	0.31	2024.53	2184.63	1.13	1.42	493.94	1.00
10/5/24 8:15	0.14	21.16	0.32	2024.33	2184.42	1.13	1.42	493.99	1.00
10/5/24 9:15	0.14	21.16	0.31	2024.69	2184.81	1.13	1.42	493.90	1.00
10/5/24 10:15	0.14	21.16	0.32	2024.61	2184.70	1.13	1.42	493.92	1.00
10/5/24 11:15	0.14	21.16	0.32	2024.70	2184.79	1.13	1.42	493.90	1.00
10/5/24 12:15	0.14	21.16	0.33	2024.15	2184.20	1.13	1.42	494.04	1.00
10/5/24 13:15	0.14	21.16	0.33	2023.78	2183.81	1.13	1.42	494.13	1.00
10/5/24 14:15	0.14	21.16	0.33	2023.85	2183.86	1.13	1.42	494.11	1.00
10/5/24 15:15	0.14	21.16	0.33	2023.82	2183.83	1.13	1.42	494.11	1.00
10/5/24 16:15	0.14	21.16	0.33	2023.96	2183.98	1.13	1.42	494.08	1.00
10/5/24 17:15	0.14	21.16	0.33	2023.47	2183.44	1.13	1.42	494.20	1.00
10/5/24 18:15	0.14	21.16	0.33	2023.35	2183.30	1.13	1.42	494.23	1.00
10/5/24 19:15	0.14	21.16	0.33	2023.42	2183.38	1.13	1.42	494.21	1.00
10/5/24 20:15	0.14	21.17	0.33	2023.19	2183.09	1.13	1.42	494.27	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/5/24 21:15	0.14	21.16	0.33	2023.42	2183.37	1.13	1.42	494.21	1.00
10/5/24 22:15	0.14	21.16	0.33	2022.88	2182.77	1.13	1.42	494.34	1.00
10/5/24 23:15	0.14	21.17	0.33	2023.19	2183.09	1.13	1.42	494.27	1.00
10/6/24 0:15	0.14	21.17	0.33	2022.83	2182.70	1.13	1.42	494.36	1.00
10/6/24 1:15	0.14	21.17	0.33	2022.94	2182.81	1.13	1.42	494.33	1.00
10/6/24 2:15	0.15	21.17	0.34	2021.84	2181.58	1.13	1.42	494.60	1.00
10/6/24 3:15	0.15	21.17	0.34	2021.47	2181.20	1.13	1.42	494.69	1.00
10/6/24 4:15	0.15	21.17	0.34	2021.76	2181.51	1.13	1.42	494.62	1.00
10/6/24 5:15	0.14	21.17	0.33	2021.93	2181.69	1.13	1.42	494.58	1.00
10/6/24 6:15	0.15	21.17	0.34	2022.01	2181.79	1.13	1.42	494.56	1.00
10/6/24 7:15	0.14	21.17	0.33	2022.36	2182.14	1.13	1.42	494.47	1.00
10/6/24 8:15	0.14	21.17	0.33	2022.12	2181.90	1.13	1.42	494.53	1.00
10/6/24 9:15	0.14	21.17	0.33	2021.56	2181.26	1.13	1.42	494.67	1.00
10/6/24 10:15	0.14	21.17	0.32	2021.64	2181.36	1.13	1.42	494.65	1.00
10/6/24 11:15	0.14	21.17	0.33	2021.56	2181.27	1.13	1.42	494.67	1.00
10/6/24 12:15	0.14	21.17	0.33	2021.72	2181.45	1.13	1.42	494.63	1.00
10/6/24 13:15	0.15	21.17	0.34	2021.65	2181.36	1.13	1.42	494.65	1.00
10/6/24 14:15	0.15	21.17	0.34	2020.93	2180.57	1.13	1.42	494.82	1.00
10/6/24 15:15	0.15	21.17	0.35	2020.83	2180.46	1.13	1.42	494.85	1.00
10/6/24 16:15	0.15	21.17	0.35	2020.62	2180.20	1.13	1.42	494.90	1.00
10/6/24 17:15	0.15	21.17	0.34	2020.68	2180.27	1.13	1.42	494.88	1.00
10/6/24 18:15	0.15	21.17	0.34	2020.67	2180.28	1.13	1.42	494.88	1.00
10/6/24 19:15	0.15	21.17	0.34	2020.25	2179.80	1.13	1.42	494.99	1.00
10/6/24 20:15	0.15	21.17	0.34	2020.40	2179.95	1.13	1.42	494.95	1.00
10/6/24 21:15	0.15	21.17	0.34	2020.68	2180.24	1.13	1.42	494.88	1.00
10/6/24 22:15	0.15	21.17	0.34	2020.55	2180.11	1.13	1.42	494.92	1.00
10/6/24 23:15	0.15	21.17	0.34	2020.22	2179.72	1.13	1.42	495.00	1.00
10/7/24 0:15	0.15	21.17	0.34	2020.14	2179.65	1.13	1.42	495.02	1.00
10/7/24 1:15	0.15	21.17	0.34	2020.33	2179.84	1.13	1.42	494.97	1.00
10/7/24 2:15	0.15	21.17	0.34	2020.55	2180.06	1.13	1.42	494.92	1.00
10/7/24 3:15	0.15	21.17	0.35	2020.30	2179.83	1.13	1.42	494.98	1.00
10/7/24 4:15	0.15	21.17	0.35	2020.34	2179.83	1.13	1.42	494.97	1.00
10/7/24 5:15	0.15	21.17	0.35	2020.08	2179.58	1.13	1.42	495.03	1.00
10/7/24 6:15	0.15	21.17	0.35	2019.77	2179.19	1.13	1.42	495.11	1.00
10/7/24 7:15	0.15	21.17	0.35	2019.45	2178.88	1.13	1.42	495.18	1.00
10/7/24 8:15	0.15	21.17	0.35	2019.41	2178.82	1.13	1.42	495.19	1.00
10/7/24 9:15	0.15	21.17	0.34	2019.12	2178.49	1.13	1.42	495.26	1.00
10/7/24 10:15	0.15	21.17	0.35	2018.49	2177.81	1.13	1.42	495.42	1.00
10/7/24 11:15	0.15	21.17	0.35	2018.38	2177.70	1.13	1.42	495.45	1.00
10/7/24 12:15	0.16	21.17	0.36	2018.53	2177.85	1.13	1.42	495.41	1.00
10/7/24 13:15	0.16	21.17	0.37	2018.49	2177.77	1.13	1.42	495.42	1.00
10/7/24 14:15	0.16	21.17	0.37	2018.50	2177.80	1.13	1.42	495.42	1.00
10/7/24 15:15	0.16	21.17	0.37	2018.50	2177.81	1.13	1.42	495.42	1.00
10/7/24 16:15	0.16	21.17	0.37	2018.34	2177.60	1.13	1.42	495.46	1.00
10/7/24 17:15	0.16	21.17	0.37	2017.95	2177.18	1.13	1.42	495.55	1.00
10/7/24 18:15	0.16	21.17	0.37	2018.55	2177.85	1.13	1.42	495.40	1.00
10/7/24 19:15	0.15	21.17	0.35	2018.15	2177.39	1.13	1.42	495.50	1.00
10/7/24 20:15	0.15	21.17	0.34	2017.58	2176.77	1.13	1.41	495.64	1.00
10/7/24 21:15	0.15	21.17	0.35	2017.20	2176.35	1.13	1.41	495.74	1.00
10/7/24 22:15	0.15	21.17	0.35	2017.46	2176.63	1.13	1.41	495.67	1.00
10/7/24 23:15	0.15	21.17	0.35	2017.23	2176.38	1.13	1.41	495.73	1.00
10/8/24 0:15	0.15	21.17	0.36	2017.24	2176.39	1.13	1.41	495.73	1.00
10/8/24 1:15	0.15	21.17	0.36	2018.39	2177.59	1.13	1.42	495.45	1.00
10/8/24 2:15	0.16	21.17	0.36	2018.06	2177.26	1.13	1.42	495.53	1.00
10/8/24 3:15	0.16	21.17	0.36	2018.61	2177.81	1.13	1.42	495.39	1.00
10/8/24 4:15	0.16	21.17	0.36	2018.25	2177.45	1.13	1.42	495.48	1.00
10/8/24 5:15	0.16	21.17	0.36	2018.40	2177.61	1.13	1.42	495.44	1.00
10/8/24 6:15	0.16	21.17	0.36	2017.97	2177.13	1.13	1.42	495.55	1.00
10/8/24 7:15	0.16	21.17	0.37	2019.04	2178.29	1.13	1.42	495.28	1.00
10/8/24 8:15	0.16	21.17	0.36	2018.92	2178.14	1.13	1.42	495.31	1.00
10/8/24 9:15	0.16	21.17	0.36	2018.73	2177.90	1.13	1.42	495.36	1.00
10/8/24 10:15	0.16	21.17	0.37	2019.03	2178.25	1.13	1.42	495.29	1.00
10/8/24 11:15	0.16	21.17	0.37	2019.17	2178.41	1.13	1.42	495.25	1.00
10/8/24 12:15	0.15	21.17	0.36	2018.83	2178.03	1.13	1.42	495.34	1.00
10/8/24 13:15	0.16	21.17	0.36	2018.64	2177.82	1.13	1.42	495.38	1.00
10/8/24 14:15	0.16	21.17	0.37	2018.46	2177.61	1.13	1.42	495.43	1.00
10/8/24 15:15	0.16	21.17	0.37	2017.26	2176.31	1.13	1.41	495.72	1.00
10/8/24 16:15	0.16	21.17	0.37	2016.91	2175.92	1.13	1.41	495.81	1.00
10/8/24 17:15	0.16	21.17	0.38	2016.91	2175.93	1.13	1.41	495.81	1.00
10/8/24 18:15	0.16	21.17	0.38	2016.94	2175.94	1.13	1.41	495.80	1.00
10/8/24 19:15	0.16	21.17	0.37	2017.28	2176.31	1.13	1.41	495.72	1.00
10/8/24 20:15	0.16	21.17	0.37	2016.96	2175.95	1.13	1.41	495.80	1.00
10/8/24 21:15	0.16	21.17	0.37	2016.64	2175.61	1.13	1.41	495.88	1.00
10/8/24 22:15	0.16	21.17	0.37	2016.62	2175.57	1.13	1.41	495.88	1.00
10/8/24 23:15	0.16	21.17	0.37	2016.92	2175.90	1.13	1.41	495.81	1.00
10/9/24 0:15	0.16	21.18	0.37	2016.59	2175.52	1.13	1.41	495.89	1.00
10/9/24 1:15	0.15	21.18	0.36	2016.66	2175.61	1.13	1.41	495.87	1.00
10/9/24 2:15	0.16	21.18	0.36	2017.13	2176.08	1.13	1.41	495.75	1.00
10/9/24 3:15	0.16	21.18	0.36	2017.03	2175.98	1.13	1.41	495.78	1.00
10/9/24 4:15	0.16	21.18	0.36	2016.96	2175.91	1.13	1.41	495.80	1.00
10/9/24 5:15	0.16	21.18	0.36	2016.53	2175.44	1.13	1.41	495.90	1.00
10/9/24 6:15	0.16	21.18	0.37	2016.92	2175.85	1.13	1.41	495.81	1.00
10/9/24 7:15	0.16	21.18	0.37	2016.68	2175.57	1.13	1.41	495.86	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/9/24 8:15	0.16	21.18	0.37	2016.20	2175.07	1.13	1.41	495.98	1.00
10/9/24 9:15	0.16	21.18	0.37	2016.41	2175.29	1.13	1.41	495.93	1.00
10/9/24 10:15	0.16	21.18	0.37	2016.39	2175.25	1.13	1.41	495.94	1.00
10/9/24 11:15	0.16	21.18	0.38	2016.08	2174.91	1.13	1.41	496.01	1.00
10/9/24 12:15	0.17	21.18	0.38	2016.26	2175.10	1.13	1.41	495.97	1.00
10/9/24 13:15	0.17	21.18	0.38	2016.35	2175.19	1.13	1.41	495.94	1.00
10/9/24 14:15	0.16	21.18	0.37	2016.44	2175.26	1.13	1.41	495.92	1.00
10/9/24 15:15	0.16	21.18	0.37	2016.05	2174.86	1.13	1.41	496.02	1.00
10/9/24 16:15	0.16	21.18	0.38	2015.95	2174.74	1.13	1.41	496.04	1.00
10/9/24 17:15	0.16	21.18	0.38	2015.75	2174.54	1.13	1.41	496.09	1.00
10/9/24 18:15	0.16	21.18	0.38	2015.47	2174.21	1.13	1.41	496.16	1.00
10/9/24 19:15	0.16	21.18	0.38	2015.43	2174.16	1.13	1.41	496.17	1.00
10/9/24 20:15	0.16	21.18	0.38	2015.66	2174.38	1.13	1.41	496.11	1.00
10/9/24 21:15	0.16	21.18	0.38	2015.80	2174.55	1.13	1.41	496.08	1.00
10/9/24 22:15	0.16	21.18	0.38	2015.84	2174.58	1.13	1.41	496.07	1.00
10/9/24 23:15	0.17	21.18	0.38	2016.20	2174.96	1.13	1.41	495.98	1.00
10/10/24 0:15	0.17	21.18	0.38	2016.30	2175.07	1.13	1.41	495.96	1.00
10/10/24 1:15	0.16	21.18	0.38	2016.02	2174.76	1.13	1.41	496.03	1.00
10/10/24 2:15	0.16	21.18	0.38	2015.87	2174.58	1.13	1.41	496.06	1.00
10/10/24 3:15	0.16	21.18	0.38	2015.96	2174.66	1.13	1.41	496.04	1.00
10/10/24 4:15	0.16	21.18	0.36	2015.82	2174.54	1.13	1.41	496.07	1.00
10/10/24 5:15	0.16	21.18	0.36	2015.85	2174.52	1.13	1.41	496.07	1.00
10/10/24 6:15	0.15	21.18	0.35	2015.90	2174.61	1.13	1.41	496.06	1.00
10/10/24 7:15	0.15	21.18	0.36	2015.14	2173.75	1.13	1.41	496.24	1.00
10/10/24 8:15	0.15	21.18	0.36	2014.94	2173.54	1.13	1.41	496.29	1.00
10/10/24 9:15	0.15	21.18	0.36	2014.98	2173.59	1.13	1.41	496.28	1.00
10/10/24 10:15	0.16	21.18	0.36	2014.36	2172.91	1.13	1.41	496.44	1.00
10/10/24 11:15	0.16	21.18	0.37	2014.56	2173.12	1.13	1.41	496.39	1.00
10/10/24 12:15	0.16	21.18	0.38	2014.40	2172.94	1.13	1.41	496.42	1.00
10/10/24 13:15	0.17	21.18	0.38	2013.90	2172.40	1.12	1.41	496.55	1.00
10/10/24 14:15	0.17	21.18	0.39	2013.83	2172.32	1.12	1.41	496.57	1.00
10/10/24 15:15	0.17	21.18	0.39	2013.71	2172.17	1.12	1.41	496.60	1.00
10/10/24 16:15	0.17	21.18	0.39	2013.59	2172.02	1.12	1.41	496.63	1.00
10/10/24 17:15	0.17	21.18	0.39	2013.76	2172.22	1.12	1.41	496.58	1.00
10/10/24 18:15	0.16	21.18	0.37	2013.00	2171.39	1.12	1.41	496.77	1.00
10/10/24 19:15	0.16	21.18	0.37	2012.70	2171.07	1.12	1.41	496.84	1.00
10/10/24 20:15	0.16	21.18	0.37	2013.10	2171.46	1.12	1.41	496.75	1.00
10/10/24 21:15	0.16	21.18	0.37	2013.14	2171.52	1.12	1.41	496.74	1.00
10/10/24 22:15	0.16	21.18	0.38	2013.35	2171.75	1.12	1.41	496.68	1.00
10/10/24 23:15	0.16	21.18	0.38	2013.38	2171.76	1.12	1.41	496.68	1.00
10/11/24 0:15	0.16	21.18	0.38	2012.94	2171.30	1.12	1.41	496.79	1.00
10/11/24 1:15	0.17	21.18	0.38	2012.29	2170.58	1.12	1.41	496.95	1.00
10/11/24 2:15	0.16	21.18	0.38	2012.54	2170.83	1.12	1.41	496.88	1.00
10/11/24 3:15	0.17	21.18	0.38	2012.25	2170.53	1.12	1.41	496.96	1.00
10/11/24 4:15	0.17	21.18	0.39	2012.73	2171.05	1.12	1.41	496.84	1.00
10/11/24 5:15	0.17	21.18	0.39	2012.70	2171.01	1.12	1.41	496.85	1.00
10/11/24 6:15	0.17	21.18	0.39	2012.74	2171.04	1.12	1.41	496.83	1.00
10/11/24 7:15	0.17	21.18	0.38	2012.14	2170.40	1.12	1.41	496.98	1.00
10/11/24 8:15	0.17	21.18	0.38	2011.88	2170.10	1.12	1.41	497.05	1.00
10/11/24 9:15	0.17	21.18	0.39	2011.88	2170.09	1.12	1.41	497.05	1.00
10/11/24 10:15	0.17	21.18	0.39	2012.24	2170.48	1.12	1.41	496.96	1.00
10/11/24 11:15	0.17	21.18	0.39	2011.90	2170.10	1.12	1.41	497.04	1.00
10/11/24 12:15	0.17	21.18	0.40	2011.63	2169.81	1.12	1.41	497.11	1.00
10/11/24 13:15	0.17	21.18	0.38	2011.96	2170.14	1.12	1.41	497.03	1.00
10/11/24 14:15	0.17	21.18	0.40	2011.28	2169.41	1.12	1.41	497.20	1.00
10/11/24 15:15	0.17	21.18	0.40	2011.00	2169.10	1.12	1.41	497.27	1.00
10/11/24 16:15	0.17	21.18	0.40	2011.35	2169.47	1.12	1.41	497.18	1.00
10/11/24 17:15	0.17	21.18	0.40	2011.02	2169.10	1.12	1.41	497.26	1.00
10/11/24 18:15	0.17	21.19	0.40	2010.60	2168.55	1.12	1.41	497.37	1.00
10/11/24 19:15	0.16	21.18	0.38	2010.55	2168.56	1.12	1.41	497.38	1.00
10/11/24 20:15	0.16	21.18	0.38	2010.31	2168.33	1.12	1.41	497.44	1.00
10/11/24 21:15	0.16	21.18	0.37	2010.27	2168.28	1.12	1.41	497.45	1.00
10/11/24 22:15	0.16	21.18	0.38	2010.75	2168.79	1.12	1.41	497.33	1.00
10/11/24 23:15	0.16	21.19	0.38	2010.37	2168.37	1.12	1.41	497.42	1.00
10/12/24 0:15	0.17	21.19	0.39	2010.47	2168.48	1.12	1.41	497.40	1.00
10/12/24 1:15	0.17	21.19	0.39	2010.07	2168.03	1.12	1.41	497.49	1.00
10/12/24 2:15	0.17	21.19	0.39	2010.10	2168.07	1.12	1.41	497.49	1.00
10/12/24 3:15	0.17	21.19	0.39	2009.66	2167.59	1.12	1.41	497.60	1.00
10/12/24 4:15	0.17	21.19	0.40	2009.85	2167.76	1.12	1.41	497.55	1.00
10/12/24 5:15	0.17	21.19	0.39	2009.78	2167.69	1.12	1.41	497.57	1.00
10/12/24 6:15	0.17	21.19	0.40	2009.56	2167.45	1.12	1.41	497.62	1.00
10/12/24 7:15	0.17	21.19	0.40	2009.80	2167.72	1.12	1.41	497.56	1.00
10/12/24 8:15	0.17	21.19	0.39	2009.98	2167.87	1.12	1.41	497.52	1.00
10/12/24 9:15	0.17	21.19	0.39	2009.67	2167.54	1.12	1.41	497.59	1.00
10/12/24 10:15	0.17	21.19	0.40	2009.81	2167.70	1.12	1.41	497.56	1.00
10/12/24 11:15	0.17	21.19	0.40	2009.64	2167.49	1.12	1.41	497.60	1.00
10/12/24 12:15	0.18	21.19	0.41	2009.14	2166.96	1.12	1.41	497.73	1.00
10/12/24 13:15	0.17	21.19	0.40	2009.15	2166.97	1.12	1.41	497.72	1.00
10/12/24 14:15	0.17	21.19	0.39	2008.82	2166.60	1.12	1.41	497.81	1.00
10/12/24 15:15	0.17	21.19	0.40	2009.03	2166.82	1.12	1.41	497.75	1.00
10/12/24 16:15	0.17	21.19	0.40	2008.60	2166.35	1.12	1.41	497.86	1.00
10/12/24 17:15	0.17	21.19	0.40	2008.65	2166.41	1.12	1.41	497.85	1.00
10/12/24 18:15	0.18	21.19	0.41	2008.28	2165.99	1.12	1.41	497.94	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/12/24 19:15	0.17	21.19	0.40	2007.54	2165.18	1.12	1.41	498.12	1.00
10/12/24 20:15	0.17	21.19	0.40	2007.63	2165.26	1.12	1.41	498.10	1.00
10/12/24 21:15	0.17	21.19	0.40	2007.62	2165.27	1.12	1.41	498.10	1.00
10/12/24 22:15	0.17	21.19	0.40	2007.96	2165.62	1.12	1.41	498.02	1.00
10/12/24 23:15	0.18	21.19	0.41	2008.02	2165.67	1.12	1.41	498.00	1.00
10/13/24 0:15	0.18	21.19	0.41	2007.86	2165.51	1.12	1.41	498.04	1.00
10/13/24 1:15	0.18	21.19	0.41	2008.02	2165.66	1.12	1.41	498.00	1.00
10/13/24 2:15	0.18	21.19	0.41	2008.37	2166.05	1.12	1.41	497.92	1.00
10/13/24 3:15	0.17	21.19	0.40	2008.20	2165.88	1.12	1.41	497.96	1.00
10/13/24 4:15	0.17	21.19	0.40	2008.05	2165.67	1.12	1.41	498.00	1.00
10/13/24 5:15	0.17	21.19	0.40	2008.14	2165.75	1.12	1.41	497.97	1.00
10/13/24 6:15	0.17	21.19	0.39	2007.89	2165.49	1.12	1.41	498.04	1.00
10/13/24 7:15	0.17	21.19	0.39	2008.40	2165.99	1.12	1.41	497.91	1.00
10/13/24 8:15	0.17	21.19	0.39	2008.12	2165.72	1.12	1.41	497.98	1.00
10/13/24 9:15	0.17	21.19	0.39	2007.93	2165.50	1.12	1.41	498.03	1.00
10/13/24 10:15	0.17	21.19	0.40	2008.04	2165.62	1.12	1.41	498.00	1.00
10/13/24 11:15	0.17	21.19	0.40	2007.80	2165.37	1.12	1.41	498.06	1.00
10/13/24 12:15	0.17	21.19	0.40	2007.87	2165.43	1.12	1.41	498.04	1.00
10/13/24 13:15	0.18	21.19	0.41	2008.15	2165.73	1.12	1.41	497.97	1.00
10/13/24 14:15	0.17	21.19	0.40	2007.61	2165.16	1.12	1.41	498.10	1.00
10/13/24 15:15	0.18	21.19	0.40	2007.47	2164.97	1.12	1.41	498.14	1.00
10/13/24 16:15	0.18	21.19	0.41	2006.98	2164.44	1.12	1.41	498.26	1.00
10/13/24 17:15	0.18	21.19	0.41	2007.34	2164.83	1.12	1.41	498.17	1.00
10/13/24 18:15	0.18	21.19	0.41	2006.54	2163.95	1.12	1.41	498.37	1.00
10/13/24 19:15	0.17	21.19	0.39	2006.75	2164.19	1.12	1.41	498.32	1.00
10/13/24 20:15	0.17	21.19	0.39	2006.85	2164.25	1.12	1.41	498.29	1.00
10/13/24 21:15	0.17	21.19	0.39	2006.45	2163.87	1.12	1.41	498.39	1.00
10/13/24 22:15	0.17	21.19	0.39	2006.64	2164.05	1.12	1.41	498.34	1.00
10/13/24 23:15	0.17	21.19	0.39	2006.34	2163.70	1.12	1.41	498.42	1.00
10/14/24 0:15	0.17	21.19	0.40	2006.11	2163.44	1.12	1.41	498.48	1.00
10/14/24 1:15	0.17	21.19	0.40	2005.63	2162.94	1.12	1.41	498.60	1.00
10/14/24 2:15	0.17	21.19	0.40	2005.56	2162.85	1.12	1.41	498.61	1.00
10/14/24 3:15	0.17	21.19	0.40	2005.30	2162.55	1.12	1.41	498.68	1.00
10/14/24 4:15	0.17	21.19	0.39	2005.07	2162.31	1.12	1.41	498.74	1.00
10/14/24 5:15	0.17	21.19	0.39	2005.16	2162.40	1.12	1.41	498.71	1.00
10/14/24 6:15	0.17	21.19	0.39	2004.60	2161.76	1.12	1.41	498.85	1.00
10/14/24 7:15	0.17	21.19	0.39	2004.99	2162.21	1.12	1.41	498.76	1.00
10/14/24 8:15	0.17	21.19	0.39	2004.49	2161.67	1.12	1.41	498.88	1.00
10/14/24 9:15	0.17	21.19	0.39	2004.89	2162.07	1.12	1.41	498.78	1.00
10/14/24 10:15	0.17	21.19	0.40	2004.40	2161.55	1.12	1.41	498.90	1.00
10/14/24 11:15	0.17	21.19	0.40	2004.64	2161.79	1.12	1.41	498.84	1.00
10/14/24 12:15	0.17	21.19	0.39	2004.48	2161.62	1.12	1.41	498.88	1.00
10/14/24 13:15	0.17	21.19	0.40	2004.56	2161.70	1.12	1.41	498.86	1.00
10/14/24 14:15	0.17	21.19	0.40	2004.42	2161.56	1.12	1.41	498.90	1.00
10/14/24 15:15	0.18	21.19	0.41	2004.18	2161.29	1.12	1.40	498.96	1.00
10/14/24 16:15	0.18	21.19	0.41	2004.17	2161.26	1.12	1.40	498.96	1.00
10/14/24 17:15	0.18	21.19	0.41	2003.80	2160.85	1.12	1.40	499.05	1.00
10/14/24 18:15	0.18	21.19	0.41	2003.91	2160.97	1.12	1.40	499.02	1.00
10/14/24 19:15	0.18	21.20	0.41	2003.57	2160.59	1.12	1.40	499.11	1.00
10/14/24 20:15	0.18	21.20	0.41	2003.14	2160.12	1.12	1.40	499.22	1.00
10/14/24 21:15	0.18	21.20	0.41	2003.58	2160.58	1.12	1.40	499.11	1.00
10/14/24 22:15	0.18	21.20	0.41	2002.91	2159.87	1.12	1.40	499.27	1.00
10/14/24 23:15	0.18	21.20	0.40	2003.03	2159.98	1.12	1.40	499.24	1.00
10/15/24 0:15	0.18	21.20	0.41	2002.83	2159.77	1.12	1.40	499.29	1.00
10/15/24 1:15	0.18	21.20	0.41	2003.15	2160.12	1.12	1.40	499.21	1.00
10/15/24 2:15	0.18	21.20	0.42	2002.81	2159.72	1.12	1.40	499.30	1.00
10/15/24 3:15	0.18	21.20	0.41	2002.60	2159.49	1.12	1.40	499.35	1.00
10/15/24 4:15	0.18	21.20	0.41	2002.25	2159.10	1.12	1.40	499.44	1.00
10/15/24 5:15	0.17	21.20	0.39	2002.00	2158.82	1.12	1.40	499.50	1.00
10/15/24 6:15	0.17	21.20	0.40	2002.18	2159.02	1.12	1.40	499.46	1.00
10/15/24 7:15	0.17	21.20	0.40	2001.47	2158.24	1.12	1.40	499.63	1.00
10/15/24 8:15	0.18	21.20	0.40	2001.66	2158.44	1.12	1.40	499.59	1.00
10/15/24 9:15	0.18	21.20	0.41	2001.39	2158.18	1.12	1.40	499.65	1.00
10/15/24 10:15	0.18	21.20	0.40	2001.69	2158.47	1.12	1.40	499.58	1.00
10/15/24 11:15	0.18	21.20	0.42	2000.89	2157.59	1.12	1.40	499.78	1.00
10/15/24 12:15	0.18	21.20	0.41	2000.76	2157.44	1.12	1.40	499.81	1.00
10/15/24 13:15	0.18	21.20	0.41	2000.57	2157.26	1.12	1.40	499.86	1.00
10/15/24 14:15	0.18	21.20	0.42	2000.43	2157.08	1.12	1.40	499.89	1.00
10/15/24 15:15	0.18	21.20	0.42	2000.08	2156.70	1.12	1.40	499.98	1.00
10/15/24 16:15	0.18	21.20	0.41	1999.92	2156.48	1.12	1.40	500.02	1.00
10/15/24 17:15	0.18	21.20	0.41	1999.75	2156.32	1.12	1.40	500.06	1.00
10/15/24 18:15	0.18	21.20	0.41	2000.10	2156.71	1.12	1.40	499.98	1.00
10/15/24 19:15	0.18	21.20	0.40	1999.84	2156.41	1.12	1.40	500.04	1.00
10/15/24 20:15	0.17	21.20	0.40	1999.55	2156.10	1.12	1.40	500.11	1.00
10/15/24 21:15	0.17	21.20	0.40	1999.67	2156.22	1.12	1.40	500.08	1.00
10/15/24 22:15	0.17	21.20	0.40	1999.82	2156.38	1.12	1.40	500.04	1.00
10/15/24 23:15	0.17	21.20	0.40	1999.65	2156.18	1.12	1.40	500.09	1.00
10/16/24 0:15	0.17	21.20	0.39	1999.72	2156.24	1.12	1.40	500.07	1.00
10/16/24 1:15	0.17	21.20	0.38	1999.68	2156.20	1.12	1.40	500.08	1.00
10/16/24 2:15	0.17	21.20	0.38	1999.59	2156.10	1.12	1.40	500.10	1.00
10/16/24 3:15	0.17	21.20	0.39	1999.67	2156.19	1.12	1.40	500.08	1.00
10/16/24 4:15	0.17	21.20	0.39	1999.28	2155.74	1.12	1.40	500.18	1.00
10/16/24 5:15	0.17	21.20	0.39	1998.81	2155.26	1.12	1.40	500.30	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/16/24 6:15	0.16	21.20	0.38	1998.58	2154.98	1.12	1.40	500.35	1.00
10/16/24 7:15	0.16	21.20	0.37	1998.38	2154.77	1.12	1.40	500.41	1.00
10/16/24 8:15	0.16	21.20	0.38	1998.49	2154.84	1.12	1.40	500.38	1.00
10/16/24 9:15	0.16	21.20	0.38	1998.28	2154.62	1.12	1.40	500.43	1.00
10/16/24 10:15	0.17	21.20	0.38	1998.08	2154.42	1.11	1.40	500.48	1.00
10/16/24 11:15	0.17	21.20	0.40	1998.97	2155.35	1.12	1.40	500.26	1.00
10/16/24 12:15	0.17	21.20	0.39	1998.28	2154.59	1.12	1.40	500.43	1.00
10/16/24 13:15	0.17	21.20	0.40	1998.07	2154.38	1.11	1.40	500.48	1.00
10/16/24 14:15	0.18	21.20	0.42	1997.39	2153.64	1.11	1.40	500.65	1.00
10/16/24 15:15	0.17	21.20	0.40	1996.82	2153.02	1.11	1.40	500.80	1.00
10/16/24 16:15	0.18	21.20	0.41	1996.89	2153.08	1.11	1.40	500.78	1.00
10/16/24 17:15	0.18	21.20	0.41	1996.78	2152.94	1.11	1.40	500.81	1.00
10/16/24 18:15	0.18	21.20	0.42	1996.22	2152.34	1.11	1.40	500.95	1.00
10/16/24 19:15	0.18	21.20	0.42	1996.13	2152.25	1.11	1.40	500.97	1.00
10/16/24 20:15	0.17	21.20	0.40	1995.87	2151.98	1.11	1.40	501.04	1.00
10/16/24 21:15	0.18	21.20	0.41	1995.80	2151.88	1.11	1.40	501.05	1.00
10/16/24 22:15	0.18	21.20	0.41	1995.61	2151.68	1.11	1.40	501.10	1.00
10/16/24 23:15	0.18	21.20	0.42	1995.32	2151.36	1.11	1.40	501.17	1.00
10/17/24 0:15	0.18	21.20	0.42	1995.49	2151.53	1.11	1.40	501.13	1.00
10/17/24 1:15	0.18	21.20	0.41	1995.37	2151.38	1.11	1.40	501.16	1.00
10/17/24 2:15	0.18	21.20	0.41	1994.69	2150.65	1.11	1.40	501.33	1.00
10/17/24 3:15	0.18	21.20	0.42	1994.27	2150.20	1.11	1.40	501.44	1.00
10/17/24 4:15	0.18	21.20	0.42	1994.22	2150.14	1.11	1.40	501.45	1.00
10/17/24 5:15	0.18	21.20	0.41	1993.56	2149.41	1.11	1.40	501.62	1.00
10/17/24 6:15	0.18	21.20	0.42	1993.61	2149.46	1.11	1.40	501.60	1.00
10/17/24 7:15	0.18	21.20	0.42	1993.71	2149.58	1.11	1.40	501.58	1.00
10/17/24 8:15	0.18	21.20	0.43	1993.24	2149.05	1.11	1.40	501.70	1.00
10/17/24 9:15	0.19	21.20	0.43	1993.23	2149.03	1.11	1.40	501.70	1.00
10/17/24 10:15	0.18	21.20	0.42	1992.23	2147.93	1.11	1.40	501.95	1.00
10/17/24 11:15	0.18	21.21	0.43	1991.85	2147.50	1.11	1.40	502.05	1.00
10/17/24 12:15	0.19	21.20	0.43	1991.25	2146.86	1.11	1.40	502.20	1.00
10/17/24 13:15	0.18	21.21	0.42	1990.60	2146.14	1.11	1.39	502.36	1.00
10/17/24 14:15	0.18	21.21	0.42	1990.56	2146.09	1.11	1.39	502.37	1.00
10/17/24 15:15	0.19	21.21	0.43	1990.03	2145.55	1.11	1.39	502.50	1.00
10/17/24 16:15	0.19	21.21	0.43	1989.47	2144.94	1.11	1.39	502.65	1.00
10/17/24 17:15	0.18	21.21	0.42	1989.48	2144.94	1.11	1.39	502.64	1.00
10/17/24 18:15	0.18	21.21	0.42	1989.15	2144.58	1.11	1.39	502.73	1.00
10/17/24 19:15	0.18	21.21	0.42	1988.99	2144.38	1.11	1.39	502.77	1.00
10/17/24 20:15	0.19	21.21	0.43	1988.88	2144.27	1.11	1.39	502.79	1.00
10/17/24 21:15	0.19	21.21	0.43	1988.23	2143.55	1.11	1.39	502.96	1.00
10/17/24 22:15	0.19	21.21	0.43	1987.95	2143.24	1.11	1.39	503.03	1.00
10/17/24 23:15	0.18	21.21	0.42	1987.35	2142.61	1.11	1.39	503.18	1.00
10/18/24 0:15	0.18	21.21	0.42	1987.54	2142.81	1.11	1.39	503.13	1.00
10/18/24 1:15	0.18	21.21	0.42	1987.18	2142.40	1.11	1.39	503.22	1.00
10/18/24 2:15	0.19	21.21	0.44	1986.56	2141.73	1.11	1.39	503.38	1.00
10/18/24 3:15	0.18	21.21	0.42	1986.22	2141.36	1.11	1.39	503.47	1.00
10/18/24 4:15	0.18	21.21	0.42	1985.05	2140.07	1.11	1.39	503.77	1.00
10/18/24 5:15	0.18	21.21	0.42	1984.67	2139.67	1.11	1.39	503.86	1.00
10/18/24 6:15	0.18	21.21	0.42	1984.48	2139.45	1.11	1.39	503.91	1.00
10/18/24 7:15	0.19	21.21	0.43	1984.41	2139.38	1.11	1.39	503.93	1.00
10/18/24 8:15	0.19	21.21	0.43	1984.76	2139.72	1.11	1.39	503.84	1.00
10/18/24 9:15	0.17	21.21	0.38	2032.50	2191.01	1.13	1.42	492.00	1.00
10/18/24 10:15	0.17	21.21	0.39	2031.77	2190.29	1.13	1.42	492.18	1.00
10/18/24 11:15	0.17	21.21	0.39	2030.95	2189.44	1.13	1.42	492.38	1.00
10/18/24 12:15	0.17	21.21	0.39	2031.18	2189.71	1.13	1.42	492.32	1.00
10/18/24 13:15	0.17	21.21	0.40	2030.91	2189.42	1.13	1.42	492.39	1.00
10/18/24 14:15	0.17	21.21	0.39	2030.83	2189.33	1.13	1.42	492.41	1.00
10/18/24 15:15	0.17	21.21	0.40	2030.60	2189.08	1.13	1.42	492.46	1.00
10/18/24 16:15	0.17	21.21	0.40	2029.98	2188.42	1.13	1.42	492.62	1.00
10/18/24 17:15	0.17	21.21	0.40	2030.05	2188.47	1.13	1.42	492.60	1.00
10/18/24 18:15	0.17	21.21	0.40	2029.56	2187.95	1.13	1.42	492.72	1.00
10/18/24 19:15	0.17	21.21	0.39	2029.54	2187.91	1.13	1.42	492.72	1.00
10/18/24 20:15	0.17	21.21	0.39	2028.82	2187.14	1.13	1.42	492.90	1.00
10/18/24 21:15	0.17	21.21	0.39	2028.89	2187.24	1.13	1.42	492.88	1.00
10/18/24 22:15	0.17	21.21	0.38	2029.08	2187.42	1.13	1.42	492.84	1.00
10/18/24 23:15	0.17	21.21	0.38	2028.88	2187.19	1.13	1.42	492.88	1.00
10/19/24 0:15	0.17	21.21	0.39	2028.22	2186.45	1.13	1.42	493.04	1.00
10/19/24 1:15	0.17	21.21	0.39	2028.24	2186.45	1.13	1.42	493.04	1.00
10/19/24 2:15	0.17	21.21	0.39	2028.02	2186.26	1.13	1.42	493.09	1.00
10/19/24 3:15	0.17	21.21	0.39	2027.42	2185.60	1.13	1.42	493.24	1.00
10/19/24 4:15	0.17	21.21	0.39	2027.49	2185.68	1.13	1.42	493.22	1.00
10/19/24 5:15	0.17	21.21	0.39	2027.36	2185.52	1.13	1.42	493.25	1.00
10/19/24 6:15	0.17	21.21	0.39	2027.20	2185.33	1.13	1.42	493.29	1.00
10/19/24 7:15	0.17	21.21	0.39	2027.38	2185.52	1.13	1.42	493.25	1.00
10/19/24 8:15	0.17	21.21	0.38	2026.87	2184.98	1.13	1.42	493.37	1.00
10/19/24 9:15	0.17	21.21	0.38	2026.88	2184.96	1.13	1.42	493.37	1.00
10/19/24 10:15	0.17	21.21	0.38	2026.80	2184.88	1.13	1.42	493.39	1.00
10/19/24 11:15	0.17	21.21	0.39	2026.86	2184.94	1.13	1.42	493.37	1.00
10/19/24 12:15	0.17	21.21	0.39	2026.43	2184.47	1.13	1.42	493.48	1.00
10/19/24 13:15	0.17	21.21	0.40	2026.26	2184.26	1.13	1.42	493.52	1.00
10/19/24 14:15	0.17	21.21	0.40	2026.45	2184.49	1.13	1.42	493.47	1.00
10/19/24 15:15	0.17	21.21	0.40	2026.56	2184.59	1.13	1.42	493.45	1.00
10/19/24 16:15	0.17	21.21	0.40	2026.41	2184.39	1.13	1.42	493.48	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/19/24 17:15	0.18	21.21	0.41	2026.79	2184.83	1.13	1.42	493.39	1.00
10/19/24 18:15	0.17	21.21	0.39	2026.56	2184.53	1.13	1.42	493.45	1.00
10/19/24 19:15	0.17	21.21	0.39	2026.36	2184.35	1.13	1.42	493.50	1.00
10/19/24 20:15	0.17	21.21	0.38	2026.07	2184.03	1.13	1.42	493.57	1.00
10/19/24 21:15	0.17	21.21	0.39	2026.78	2184.80	1.13	1.42	493.39	1.00
10/19/24 22:15	0.17	21.21	0.38	2026.45	2184.43	1.13	1.42	493.47	1.00
10/19/24 23:15	0.17	21.21	0.38	2026.34	2184.28	1.13	1.42	493.50	1.00
10/20/24 0:15	0.17	21.21	0.38	2026.33	2184.27	1.13	1.42	493.50	1.00
10/20/24 1:15	0.17	21.21	0.39	2026.57	2184.53	1.13	1.42	493.44	1.00
10/20/24 2:15	0.17	21.21	0.39	2026.19	2184.09	1.13	1.42	493.54	1.00
10/20/24 3:15	0.17	21.21	0.39	2026.08	2183.98	1.13	1.42	493.56	1.00
10/20/24 4:15	0.17	21.21	0.39	2025.77	2183.64	1.13	1.42	493.64	1.00
10/20/24 5:15	0.17	21.21	0.39	2025.72	2183.58	1.13	1.42	493.65	1.00
10/20/24 6:15	0.17	21.22	0.39	2025.62	2183.47	1.13	1.42	493.68	1.00
10/20/24 7:15	0.17	21.22	0.39	2025.80	2183.66	1.13	1.42	493.63	1.00
10/20/24 8:15	0.17	21.22	0.39	2025.65	2183.48	1.13	1.42	493.67	1.00
10/20/24 9:15	0.17	21.22	0.39	2025.58	2183.40	1.13	1.42	493.69	1.00
10/20/24 10:15	0.17	21.22	0.39	2025.16	2182.94	1.13	1.42	493.79	1.00
10/20/24 11:15	0.17	21.22	0.39	2025.07	2182.85	1.13	1.42	493.81	1.00
10/20/24 12:15	0.17	21.22	0.40	2024.77	2182.50	1.13	1.42	493.88	1.00
10/20/24 13:15	0.18	21.22	0.41	2024.90	2182.62	1.13	1.42	493.85	1.00
10/20/24 14:15	0.18	21.22	0.41	2024.60	2182.28	1.13	1.42	493.92	1.00
10/20/24 15:15	0.18	21.22	0.41	2024.47	2182.17	1.13	1.42	493.96	1.00
10/20/24 16:15	0.18	21.22	0.41	2024.71	2182.42	1.13	1.42	493.90	1.00
10/20/24 17:15	0.18	21.22	0.42	2024.41	2182.08	1.13	1.42	493.97	1.00
10/20/24 18:15	0.18	21.22	0.41	2023.94	2181.56	1.13	1.42	494.09	1.00
10/20/24 19:15	0.18	21.22	0.41	2024.35	2182.03	1.13	1.42	493.98	1.00
10/20/24 20:15	0.18	21.22	0.41	2024.29	2181.92	1.13	1.42	494.00	1.00
10/20/24 21:15	0.18	21.22	0.41	2023.94	2181.53	1.13	1.42	494.09	1.00
10/20/24 22:15	0.18	21.22	0.41	2024.03	2181.64	1.13	1.42	494.06	1.00
10/20/24 23:15	0.18	21.22	0.41	2024.18	2181.81	1.13	1.42	494.03	1.00
10/21/24 0:15	0.18	21.22	0.42	2024.01	2181.60	1.13	1.42	494.07	1.00
10/21/24 1:15	0.18	21.22	0.42	2024.31	2181.94	1.13	1.42	494.00	1.00
10/21/24 2:15	0.18	21.22	0.42	2023.93	2181.52	1.13	1.42	494.09	1.00
10/21/24 3:15	0.18	21.22	0.42	2023.54	2181.08	1.13	1.42	494.18	1.00
10/21/24 4:15	0.18	21.22	0.42	2023.71	2181.24	1.13	1.42	494.14	1.00
10/21/24 5:15	0.18	21.22	0.42	2024.30	2181.90	1.13	1.42	494.00	1.00
10/21/24 6:15	0.18	21.22	0.42	2023.41	2180.92	1.13	1.42	494.22	1.00
10/21/24 7:15	0.18	21.22	0.42	2023.84	2181.38	1.13	1.42	494.11	1.00
10/21/24 8:15	0.18	21.22	0.41	2023.10	2180.55	1.13	1.42	494.29	1.00
10/21/24 9:15	0.18	21.22	0.42	2023.32	2180.79	1.13	1.42	494.24	1.00
10/21/24 10:15	0.18	21.22	0.42	2023.17	2180.61	1.13	1.42	494.27	1.00
10/21/24 11:15	0.18	21.22	0.42	2023.05	2180.50	1.13	1.42	494.30	1.00
10/21/24 12:15	0.19	21.22	0.43	2023.01	2180.46	1.13	1.42	494.31	1.00
10/21/24 13:15	0.19	21.22	0.43	2023.18	2180.62	1.13	1.42	494.27	1.00
10/21/24 14:15	0.19	21.22	0.43	2023.28	2180.71	1.13	1.42	494.25	1.00
10/21/24 15:15	0.19	21.22	0.44	2023.07	2180.50	1.13	1.42	494.30	1.00
10/21/24 16:15	0.19	21.22	0.44	2022.92	2180.29	1.13	1.42	494.33	1.00
10/21/24 17:15	0.19	21.22	0.44	2022.75	2180.14	1.13	1.42	494.38	1.00
10/21/24 18:15	0.19	21.22	0.43	2022.44	2179.77	1.13	1.42	494.45	1.00
10/21/24 19:15	0.19	21.22	0.43	2022.57	2179.91	1.13	1.42	494.42	1.00
10/21/24 20:15	0.18	21.22	0.43	2022.25	2179.59	1.13	1.42	494.50	1.00
10/21/24 21:15	0.18	21.22	0.43	2022.11	2179.42	1.13	1.42	494.53	1.00
10/21/24 22:15	0.18	21.22	0.43	2022.13	2179.43	1.13	1.42	494.53	1.00
10/21/24 23:15	0.19	21.22	0.43	2022.01	2179.29	1.13	1.42	494.56	1.00
10/22/24 0:15	0.19	21.22	0.43	2021.65	2178.92	1.13	1.42	494.64	1.00
10/22/24 1:15	0.19	21.22	0.43	2021.64	2178.90	1.13	1.42	494.65	1.00
10/22/24 2:15	0.19	21.22	0.43	2021.25	2178.44	1.13	1.42	494.74	1.00
10/22/24 3:15	0.19	21.22	0.43	2021.20	2178.38	1.13	1.42	494.75	1.00
10/22/24 4:15	0.19	21.22	0.43	2020.85	2178.01	1.13	1.42	494.84	1.00
10/22/24 5:15	0.19	21.22	0.43	2020.34	2177.44	1.13	1.42	494.97	1.00
10/22/24 6:15	0.19	21.22	0.43	2020.15	2177.24	1.13	1.42	495.01	1.00
10/22/24 7:15	0.19	21.22	0.43	2020.24	2177.31	1.13	1.42	494.99	1.00
10/22/24 8:15	0.18	21.22	0.43	2020.30	2177.38	1.13	1.42	494.98	1.00
10/22/24 9:15	0.19	21.22	0.43	2019.84	2176.88	1.13	1.41	495.09	1.00
10/22/24 10:15	0.19	21.22	0.43	2019.76	2176.78	1.13	1.41	495.11	1.00
10/22/24 11:15	0.19	21.22	0.43	2019.39	2176.39	1.13	1.41	495.20	1.00
10/22/24 12:15	0.19	21.22	0.44	2019.37	2176.36	1.13	1.41	495.20	1.00
10/22/24 13:15	0.19	21.22	0.44	2019.46	2176.44	1.13	1.41	495.18	1.00
10/22/24 14:15	0.19	21.22	0.45	2019.13	2176.08	1.13	1.41	495.26	1.00
10/22/24 15:15	0.19	21.22	0.45	2018.91	2175.85	1.13	1.41	495.32	1.00
10/22/24 16:15	0.19	21.22	0.45	2018.53	2175.42	1.13	1.41	495.41	1.00
10/22/24 17:15	0.20	21.22	0.45	2018.78	2175.67	1.13	1.41	495.35	1.00
10/22/24 18:15	0.19	21.22	0.45	2018.58	2175.46	1.13	1.41	495.40	1.00
10/22/24 19:15	0.19	21.23	0.44	2018.68	2175.53	1.13	1.41	495.37	1.00
10/22/24 20:15	0.19	21.22	0.45	2018.46	2175.33	1.13	1.41	495.43	1.00
10/22/24 21:15	0.19	21.23	0.45	2018.73	2175.60	1.13	1.41	495.36	1.00
10/22/24 22:15	0.19	21.23	0.45	2018.73	2175.59	1.13	1.41	495.36	1.00
10/22/24 23:15	0.19	21.23	0.45	2019.19	2176.07	1.13	1.41	495.25	1.00
10/23/24 0:15	0.19	21.23	0.45	2019.02	2175.87	1.13	1.41	495.29	1.00
10/23/24 1:15	0.19	21.23	0.45	2018.51	2175.33	1.13	1.41	495.41	1.00
10/23/24 2:15	0.19	21.23	0.45	2018.86	2175.71	1.13	1.41	495.33	1.00
10/23/24 3:15	0.19	21.23	0.45	2018.78	2175.62	1.13	1.41	495.35	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/23/24 4:15	0.19	21.23	0.45	2018.84	2175.64	1.13	1.41	495.34	1.00
10/23/24 5:15	0.19	21.23	0.45	2018.70	2175.50	1.13	1.41	495.37	1.00
10/23/24 6:15	0.19	21.23	0.44	2018.35	2175.12	1.13	1.41	495.46	1.00
10/23/24 7:15	0.19	21.23	0.44	2018.46	2175.23	1.13	1.41	495.43	1.00
10/23/24 8:15	0.19	21.23	0.44	2018.46	2175.24	1.13	1.41	495.43	1.00
10/23/24 9:15	0.19	21.23	0.44	2018.62	2175.40	1.13	1.41	495.39	1.00
10/23/24 10:15	0.19	21.23	0.45	2018.44	2175.21	1.13	1.41	495.43	1.00
10/23/24 11:15	0.19	21.23	0.44	2017.88	2174.56	1.13	1.41	495.57	1.00
10/23/24 12:15	0.19	21.23	0.43	2018.23	2174.95	1.13	1.41	495.48	1.00
10/23/24 13:15	0.19	21.23	0.43	2018.60	2175.34	1.13	1.41	495.39	1.00
10/23/24 14:15	0.19	21.23	0.44	2018.23	2174.91	1.13	1.41	495.48	1.00
10/23/24 15:15	0.19	21.23	0.44	2017.57	2174.22	1.13	1.41	495.65	1.00
10/23/24 16:15	0.19	21.23	0.45	2017.32	2173.93	1.13	1.41	495.71	1.00
10/23/24 17:15	0.19	21.23	0.45	2016.99	2173.56	1.13	1.41	495.79	1.00
10/23/24 18:15	0.19	21.23	0.45	2017.06	2173.63	1.13	1.41	495.77	1.00
10/23/24 19:15	0.19	21.23	0.45	2016.82	2173.36	1.13	1.41	495.83	1.00
10/23/24 20:15	0.19	21.23	0.45	2016.28	2172.77	1.12	1.41	495.96	1.00
10/23/24 21:15	0.19	21.23	0.45	2016.38	2172.90	1.13	1.41	495.94	1.00
10/23/24 22:15	0.19	21.23	0.45	2016.09	2172.56	1.12	1.41	496.01	1.00
10/23/24 23:15	0.20	21.23	0.45	2015.95	2172.41	1.12	1.41	496.04	1.00
10/24/24 0:15	0.20	21.23	0.46	2016.10	2172.55	1.12	1.41	496.01	1.00
10/24/24 1:15	0.20	21.23	0.46	2015.96	2172.40	1.12	1.41	496.04	1.00
10/24/24 2:15	0.20	21.23	0.46	2015.47	2171.83	1.12	1.41	496.16	1.00
10/24/24 3:15	0.20	21.23	0.46	2015.26	2171.62	1.12	1.41	496.21	1.00
10/24/24 4:15	0.20	21.23	0.47	2015.36	2171.73	1.12	1.41	496.19	1.00
10/24/24 5:15	0.20	21.23	0.46	2014.90	2171.25	1.12	1.41	496.30	1.00
10/24/24 6:15	0.20	21.23	0.46	2014.95	2171.29	1.12	1.41	496.29	1.00
10/24/24 7:15	0.20	21.23	0.47	2014.65	2170.97	1.12	1.41	496.36	1.00
10/24/24 8:15	0.20	21.23	0.46	2014.83	2171.15	1.12	1.41	496.32	1.00
10/24/24 9:15	0.20	21.23	0.46	2014.32	2170.58	1.12	1.41	496.45	1.00
10/24/24 10:15	0.20	21.23	0.46	2014.12	2170.37	1.12	1.41	496.49	1.00
10/24/24 11:15	0.20	21.23	0.46	2013.94	2170.15	1.12	1.41	496.54	1.00
10/24/24 12:15	0.20	21.23	0.46	2014.06	2170.28	1.12	1.41	496.51	1.00
10/24/24 13:15	0.19	21.23	0.45	2012.99	2169.12	1.12	1.41	496.77	1.00
10/24/24 14:15	0.19	21.23	0.45	2013.26	2169.39	1.12	1.41	496.71	1.00
10/24/24 15:15	0.18	21.24	0.43	2035.89	2193.55	1.14	1.43	491.18	1.00
10/24/24 16:15	0.18	21.24	0.43	2033.39	2190.89	1.13	1.42	491.79	1.00
10/24/24 17:15	0.18	21.24	0.42	2032.96	2190.48	1.13	1.42	491.89	1.00
10/24/24 18:15	0.18	21.23	0.42	2033.42	2191.00	1.13	1.42	491.78	1.00
10/24/24 19:15	0.18	21.23	0.42	2032.98	2190.56	1.13	1.42	491.89	1.00
10/24/24 20:15	0.18	21.23	0.41	2032.42	2189.97	1.13	1.42	492.02	1.00
10/24/24 21:15	0.18	21.23	0.41	2032.23	2189.75	1.13	1.42	492.07	1.00
10/24/24 22:15	0.18	21.23	0.41	2032.21	2189.74	1.13	1.42	492.08	1.00
10/24/24 23:15	0.18	21.23	0.41	2032.33	2189.85	1.13	1.42	492.04	1.00
10/25/24 0:15	0.18	21.23	0.40	2031.78	2189.27	1.13	1.42	492.18	1.00
10/25/24 1:15	0.17	21.23	0.40	2031.19	2188.65	1.13	1.42	492.32	1.00
10/25/24 2:15	0.17	21.23	0.40	2031.36	2188.80	1.13	1.42	492.28	1.00
10/25/24 3:15	0.17	21.23	0.39	2031.04	2188.47	1.13	1.42	492.36	1.00
10/25/24 4:15	0.17	21.23	0.39	2031.24	2188.67	1.13	1.42	492.31	1.00
10/25/24 5:15	0.16	21.23	0.38	2031.03	2188.44	1.13	1.42	492.36	1.00
10/25/24 6:15	0.17	21.24	0.38	2031.13	2188.51	1.13	1.42	492.34	1.00
10/25/24 7:15	0.16	21.24	0.38	2030.71	2188.05	1.13	1.42	492.44	1.00
10/25/24 8:15	0.16	21.23	0.38	2030.88	2188.25	1.13	1.42	492.40	1.00
10/25/24 9:15	0.16	21.23	0.38	2031.49	2188.90	1.13	1.42	492.25	1.00
10/25/24 10:15	0.16	21.24	0.38	2031.23	2188.59	1.13	1.42	492.31	1.00
10/25/24 11:15	0.16	21.24	0.38	2030.84	2188.16	1.13	1.42	492.41	1.00
10/25/24 12:15	0.17	21.23	0.39	2030.89	2188.26	1.13	1.42	492.39	1.00
10/25/24 13:15	0.17	21.24	0.39	2031.06	2188.40	1.13	1.42	492.35	1.00
10/25/24 14:15	0.17	21.24	0.39	2030.52	2187.83	1.13	1.42	492.48	1.00
10/25/24 15:15	0.17	21.24	0.40	2030.52	2187.81	1.13	1.42	492.48	1.00
10/25/24 16:15	0.17	21.24	0.39	2030.77	2188.09	1.13	1.42	492.42	1.00
10/25/24 17:15	0.17	21.24	0.40	2030.87	2188.17	1.13	1.42	492.40	1.00
10/25/24 18:15	0.17	21.24	0.40	2030.94	2188.24	1.13	1.42	492.38	1.00
10/25/24 19:15	0.17	21.24	0.39	2030.92	2188.21	1.13	1.42	492.39	1.00
10/25/24 20:15	0.17	21.24	0.39	2031.23	2188.54	1.13	1.42	492.31	1.00
10/25/24 21:15	0.17	21.24	0.39	2030.63	2187.88	1.13	1.42	492.46	1.00
10/25/24 22:15	0.17	21.24	0.39	2030.99	2188.24	1.13	1.42	492.37	1.00
10/25/24 23:15	0.17	21.24	0.39	2030.82	2188.07	1.13	1.42	492.41	1.00
10/26/24 0:15	0.17	21.24	0.39	2031.12	2188.34	1.13	1.42	492.34	1.00
10/26/24 1:15	0.17	21.24	0.39	2030.71	2187.93	1.13	1.42	492.44	1.00
10/26/24 2:15	0.17	21.24	0.39	2030.98	2188.24	1.13	1.42	492.37	1.00
10/26/24 3:15	0.17	21.24	0.39	2030.79	2187.99	1.13	1.42	492.42	1.00
10/26/24 4:15	0.17	21.24	0.39	2030.64	2187.85	1.13	1.42	492.46	1.00
10/26/24 5:15	0.17	21.24	0.39	2030.86	2188.10	1.13	1.42	492.40	1.00
10/26/24 6:15	0.17	21.24	0.39	2030.88	2188.09	1.13	1.42	492.40	1.00
10/26/24 7:15	0.17	21.24	0.39	2030.61	2187.78	1.13	1.42	492.46	1.00
10/26/24 8:15	0.17	21.24	0.38	2030.54	2187.70	1.13	1.42	492.48	1.00
10/26/24 9:15	0.17	21.24	0.38	2029.93	2187.05	1.13	1.42	492.63	1.00
10/26/24 10:15	0.17	21.24	0.39	2030.38	2187.51	1.13	1.42	492.52	1.00
10/26/24 11:15	0.17	21.24	0.39	2030.49	2187.64	1.13	1.42	492.49	1.00
10/26/24 12:15	0.17	21.24	0.40	2030.36	2187.46	1.13	1.42	492.52	1.00
10/26/24 13:15	0.17	21.24	0.40	2030.41	2187.52	1.13	1.42	492.51	1.00
10/26/24 14:15	0.18	21.24	0.41	2030.46	2187.59	1.13	1.42	492.50	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/26/24 15:15	0.18	21.24	0.41	2030.31	2187.40	1.13	1.42	492.54	1.00
10/26/24 16:15	0.18	21.24	0.41	2030.06	2187.13	1.13	1.42	492.60	1.00
10/26/24 17:15	0.18	21.24	0.41	2030.08	2187.14	1.13	1.42	492.59	1.00
10/26/24 18:15	0.18	21.24	0.41	2030.22	2187.26	1.13	1.42	492.56	1.00
10/26/24 19:15	0.18	21.24	0.41	2029.90	2186.93	1.13	1.42	492.64	1.00
10/26/24 20:15	0.18	21.24	0.41	2030.17	2187.20	1.13	1.42	492.57	1.00
10/26/24 21:15	0.18	21.24	0.41	2030.12	2187.16	1.13	1.42	492.58	1.00
10/26/24 22:15	0.18	21.24	0.41	2029.77	2186.77	1.13	1.42	492.67	1.00
10/26/24 23:15	0.18	21.24	0.41	2030.08	2187.09	1.13	1.42	492.59	1.00
10/27/24 0:15	0.18	21.24	0.41	2030.01	2186.99	1.13	1.42	492.61	1.00
10/27/24 1:15	0.18	21.24	0.41	2029.94	2186.96	1.13	1.42	492.63	1.00
10/27/24 2:15	0.18	21.24	0.41	2029.81	2186.80	1.13	1.42	492.66	1.00
10/27/24 3:15	0.18	21.24	0.41	2029.98	2186.97	1.13	1.42	492.61	1.00
10/27/24 4:15	0.18	21.24	0.42	2030.02	2186.99	1.13	1.42	492.61	1.00
10/27/24 5:15	0.18	21.24	0.41	2030.07	2187.08	1.13	1.42	492.59	1.00
10/27/24 6:15	0.18	21.24	0.41	2029.70	2186.67	1.13	1.42	492.68	1.00
10/27/24 7:15	0.18	21.24	0.41	2029.64	2186.57	1.13	1.42	492.70	1.00
10/27/24 8:15	0.18	21.24	0.41	2029.91	2186.85	1.13	1.42	492.63	1.00
10/27/24 9:15	0.18	21.24	0.41	2029.48	2186.37	1.13	1.42	492.74	1.00
10/27/24 10:15	0.18	21.24	0.41	2029.84	2186.76	1.13	1.42	492.65	1.00
10/27/24 11:15	0.18	21.24	0.42	2030.12	2187.07	1.13	1.42	492.58	1.00
10/27/24 12:15	0.18	21.24	0.42	2030.16	2187.11	1.13	1.42	492.57	1.00
10/27/24 13:15	0.18	21.24	0.43	2030.21	2187.12	1.13	1.42	492.56	1.00
10/27/24 14:15	0.18	21.24	0.43	2030.21	2187.14	1.13	1.42	492.56	1.00
10/27/24 15:15	0.19	21.24	0.43	2030.18	2187.09	1.13	1.42	492.57	1.00
10/27/24 16:15	0.19	21.24	0.43	2030.62	2187.55	1.13	1.42	492.46	1.00
10/27/24 17:15	0.19	21.24	0.43	2030.24	2187.15	1.13	1.42	492.55	1.00
10/27/24 18:15	0.19	21.24	0.43	2030.23	2187.12	1.13	1.42	492.56	1.00
10/27/24 19:15	0.18	21.24	0.42	2030.01	2186.86	1.13	1.42	492.61	1.00
10/27/24 20:15	0.18	21.25	0.42	2029.05	2185.81	1.13	1.42	492.84	1.00
10/27/24 21:15	0.18	21.25	0.42	2029.42	2186.21	1.13	1.42	492.75	1.00
10/27/24 22:15	0.18	21.25	0.43	2030.00	2186.83	1.13	1.42	492.61	1.00
10/27/24 23:15	0.19	21.25	0.43	2029.75	2186.56	1.13	1.42	492.67	1.00
10/28/24 0:15	0.19	21.25	0.43	2029.31	2186.09	1.13	1.42	492.78	1.00
10/28/24 1:15	0.19	21.25	0.43	2029.56	2186.36	1.13	1.42	492.72	1.00
10/28/24 2:15	0.19	21.25	0.43	2029.94	2186.77	1.13	1.42	492.62	1.00
10/28/24 3:15	0.19	21.25	0.43	2029.96	2186.73	1.13	1.42	492.62	1.00
10/28/24 4:15	0.19	21.25	0.43	2030.43	2187.28	1.13	1.42	492.51	1.00
10/28/24 5:15	0.19	21.25	0.43	2031.86	2188.79	1.13	1.42	492.16	1.00
10/28/24 6:15	0.19	21.25	0.43	2031.86	2188.78	1.13	1.42	492.16	1.00
10/28/24 7:15	0.19	21.25	0.43	2031.48	2188.36	1.13	1.42	492.25	1.00
10/28/24 8:15	0.18	21.25	0.43	2032.12	2189.02	1.13	1.42	492.10	1.00
10/28/24 9:15	0.18	21.25	0.43	2031.68	2188.57	1.13	1.42	492.20	1.00
10/28/24 10:15	0.19	21.25	0.43	2033.91	2190.97	1.13	1.42	491.66	1.00
10/28/24 11:15	0.19	21.25	0.43	2034.27	2191.35	1.14	1.42	491.58	1.00
10/28/24 12:15	0.19	21.25	0.43	2034.41	2191.48	1.14	1.42	491.54	1.00
10/28/24 13:15	0.19	21.25	0.44	2034.49	2191.58	1.14	1.42	491.52	1.00
10/28/24 14:15	0.19	21.25	0.44	2034.74	2191.84	1.14	1.42	491.46	1.00
10/28/24 15:15	0.19	21.25	0.44	2034.63	2191.69	1.14	1.42	491.49	1.00
10/28/24 16:15	0.19	21.25	0.44	2034.72	2191.78	1.14	1.42	491.47	1.00
10/28/24 17:15	0.19	21.25	0.44	2034.90	2191.98	1.14	1.42	491.42	1.00
10/28/24 18:15	0.19	21.25	0.44	2034.78	2191.84	1.14	1.42	491.45	1.00
10/28/24 19:15	0.19	21.25	0.44	2034.37	2191.40	1.14	1.42	491.55	1.00
10/28/24 20:15	0.19	21.25	0.44	2034.88	2191.94	1.14	1.42	491.43	1.00
10/28/24 21:15	0.19	21.25	0.44	2034.42	2191.46	1.14	1.42	491.54	1.00
10/28/24 22:15	0.19	21.25	0.44	2034.51	2191.52	1.14	1.42	491.52	1.00
10/28/24 23:15	0.19	21.25	0.44	2034.56	2191.57	1.14	1.42	491.51	1.00
10/29/24 0:15	0.19	21.25	0.44	2034.80	2191.84	1.14	1.42	491.45	1.00
10/29/24 1:15	0.19	21.25	0.44	2034.72	2191.75	1.14	1.42	491.47	1.00
10/29/24 2:15	0.19	21.25	0.44	2035.21	2192.26	1.14	1.42	491.35	1.00
10/29/24 3:15	0.19	21.25	0.44	2035.33	2192.37	1.14	1.43	491.32	1.00
10/29/24 4:15	0.19	21.25	0.44	2034.97	2191.97	1.14	1.42	491.41	1.00
10/29/24 5:15	0.19	21.25	0.44	2035.35	2192.37	1.14	1.43	491.32	1.00
10/29/24 6:15	0.19	21.25	0.44	2035.57	2192.56	1.14	1.43	491.26	1.00
10/29/24 7:15	0.19	21.25	0.44	2035.31	2192.32	1.14	1.43	491.33	1.00
10/29/24 8:15	0.19	21.25	0.44	2035.36	2192.38	1.14	1.43	491.31	1.00
10/29/24 9:15	0.19	21.25	0.44	2035.50	2192.50	1.14	1.43	491.28	1.00
10/29/24 10:15	0.19	21.25	0.44	2035.50	2192.51	1.14	1.43	491.28	1.00
10/29/24 11:15	0.19	21.25	0.44	2035.98	2193.01	1.14	1.43	491.17	1.00
10/29/24 12:15	0.20	21.25	0.45	2036.04	2193.06	1.14	1.43	491.15	1.00
10/29/24 13:15	0.20	21.25	0.46	2036.01	2193.04	1.14	1.43	491.16	1.00
10/29/24 14:15	0.20	21.25	0.46	2035.61	2192.58	1.14	1.43	491.25	1.00
10/29/24 15:15	0.19	21.25	0.45	2035.55	2192.51	1.14	1.43	491.27	1.00
10/29/24 16:15	0.20	21.25	0.45	2035.78	2192.75	1.14	1.43	491.21	1.00
10/29/24 17:15	0.19	21.25	0.45	2035.49	2192.43	1.14	1.43	491.28	1.00
10/29/24 18:15	0.19	21.25	0.45	2035.04	2191.95	1.14	1.42	491.39	1.00
10/29/24 19:15	0.19	21.25	0.44	2035.71	2192.65	1.14	1.43	491.23	1.00
10/29/24 20:15	0.19	21.25	0.44	2036.01	2192.97	1.14	1.43	491.16	1.00
10/29/24 21:15	0.19	21.25	0.44	2035.87	2192.83	1.14	1.43	491.19	1.00
10/29/24 22:15	0.19	21.25	0.44	2035.98	2192.94	1.14	1.43	491.16	1.00
10/29/24 23:15	0.19	21.25	0.44	2036.20	2193.15	1.14	1.43	491.11	1.00
10/30/24 0:15	0.19	21.25	0.44	2035.63	2192.55	1.14	1.43	491.25	1.00
10/30/24 1:15	0.19	21.25	0.44	2036.11	2193.05	1.14	1.43	491.13	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
10/30/24 2:15	0.19	21.25	0.44	2036.29	2193.22	1.14	1.43	491.09	1.00
10/30/24 3:15	0.19	21.25	0.44	2036.09	2193.00	1.14	1.43	491.14	1.00
10/30/24 4:15	0.19	21.25	0.44	2036.12	2193.03	1.14	1.43	491.13	1.00
10/30/24 5:15	0.19	21.25	0.44	2036.22	2193.15	1.14	1.43	491.11	1.00
10/30/24 6:15	0.19	21.25	0.44	2036.34	2193.24	1.14	1.43	491.08	1.00
10/30/24 7:15	0.19	21.25	0.43	2036.64	2193.57	1.14	1.43	491.00	1.00
10/30/24 8:15	0.19	21.25	0.43	2036.46	2193.36	1.14	1.43	491.05	1.00
10/30/24 9:15	0.19	21.25	0.43	2036.27	2193.15	1.14	1.43	491.09	1.00
10/30/24 10:15	0.19	21.26	0.43	2036.47	2193.35	1.14	1.43	491.05	1.00
10/30/24 11:15	0.19	21.26	0.43	2036.09	2192.95	1.14	1.43	491.14	1.00
10/30/24 12:15	0.19	21.26	0.44	2036.28	2193.14	1.14	1.43	491.09	1.00
10/30/24 13:15	0.19	21.26	0.44	2036.45	2193.32	1.14	1.43	491.05	1.00
10/30/24 14:15	0.19	21.26	0.44	2036.62	2193.49	1.14	1.43	491.01	1.00
10/30/24 15:15	0.19	21.26	0.44	2036.27	2193.10	1.14	1.43	491.09	1.00
10/30/24 16:15	0.19	21.26	0.44	2035.98	2192.79	1.14	1.43	491.16	1.00
10/30/24 17:15	0.19	21.26	0.44	2035.94	2192.74	1.14	1.43	491.17	1.00
10/30/24 18:15	0.19	21.26	0.43	2035.96	2192.76	1.14	1.43	491.17	1.00
10/30/24 19:15	0.18	21.26	0.43	2036.33	2193.15	1.14	1.43	491.08	1.00
10/30/24 20:15	0.18	21.26	0.42	2036.14	2192.91	1.14	1.43	491.13	1.00
10/30/24 21:15	0.18	21.26	0.42	2036.13	2192.91	1.14	1.43	491.13	1.00
10/30/24 22:15	0.18	21.26	0.42	2036.43	2193.21	1.14	1.43	491.05	1.00
10/30/24 23:15	0.18	21.26	0.42	2036.49	2193.27	1.14	1.43	491.04	1.00
10/31/24 0:15	0.18	21.26	0.42	2036.56	2193.34	1.14	1.43	491.02	1.00
10/31/24 1:15	0.18	21.26	0.42	2036.87	2193.68	1.14	1.43	490.95	1.00
10/31/24 2:15	0.18	21.26	0.42	2036.46	2193.25	1.14	1.43	491.05	1.00
10/31/24 3:15	0.18	21.26	0.42	2036.74	2193.51	1.14	1.43	490.98	1.00
10/31/24 4:15	0.18	21.26	0.42	2036.83	2193.61	1.14	1.43	490.96	1.00
10/31/24 5:15	0.18	21.26	0.42	2036.72	2193.49	1.14	1.43	490.99	1.00
10/31/24 6:15	0.18	21.26	0.42	2036.69	2193.44	1.14	1.43	490.99	1.00
10/31/24 7:15	0.18	21.26	0.42	2037.08	2193.85	1.14	1.43	490.90	1.00
10/31/24 8:15	0.18	21.26	0.41	2037.33	2194.12	1.14	1.43	490.84	1.00
10/31/24 9:15	0.18	21.26	0.41	2036.78	2193.52	1.14	1.43	490.97	1.00
10/31/24 10:15	0.19	21.26	0.43	2037.80	2194.61	1.14	1.43	490.73	1.00
10/31/24 11:15	0.19	21.26	0.44	2037.66	2194.45	1.14	1.43	490.76	1.00
10/31/24 12:15	0.20	21.26	0.46	2037.47	2194.23	1.14	1.43	490.81	1.00
10/31/24 13:15	0.20	21.26	0.47	2037.59	2194.37	1.14	1.43	490.78	1.00
10/31/24 14:15	0.21	21.26	0.48	2037.64	2194.42	1.14	1.43	490.76	1.00
10/31/24 15:15	0.21	21.26	0.48	2037.53	2194.26	1.14	1.43	490.79	1.00
10/31/24 16:15	0.21	21.26	0.48	2037.43	2194.18	1.14	1.43	490.81	1.00
10/31/24 17:15	0.21	21.26	0.49	2037.49	2194.21	1.14	1.43	490.80	1.00
10/31/24 18:15	0.21	21.26	0.49	2037.47	2194.17	1.14	1.43	490.80	1.00
10/31/24 19:15	0.21	21.26	0.48	2037.69	2194.43	1.14	1.43	490.75	1.00
10/31/24 20:15	0.21	21.26	0.48	2037.62	2194.31	1.14	1.43	490.77	1.00
10/31/24 21:15	0.21	21.26	0.48	2037.11	2193.78	1.14	1.43	490.89	1.00
10/31/24 22:15	0.21	21.26	0.48	2037.28	2193.98	1.14	1.43	490.85	1.00
10/31/24 23:15	0.21	21.26	0.48	2037.52	2194.19	1.14	1.43	490.79	1.00
11/1/24 0:15	0.21	21.26	0.48	2037.21	2193.87	1.14	1.43	490.87	1.00
11/1/24 1:15	0.21	21.26	0.48	2036.95	2193.58	1.14	1.43	490.93	1.00
11/1/24 2:15	0.21	21.26	0.49	2037.55	2194.22	1.14	1.43	490.79	1.00
11/1/24 3:15	0.21	21.26	0.49	2037.40	2194.05	1.14	1.43	490.82	1.00
11/1/24 4:15	0.21	21.26	0.49	2037.25	2193.89	1.14	1.43	490.86	1.00
11/1/24 5:15	0.21	21.26	0.49	2037.64	2194.31	1.14	1.43	490.76	1.00
11/1/24 6:15	0.21	21.26	0.49	2037.50	2194.14	1.14	1.43	490.80	1.00
11/1/24 7:15	0.21	21.26	0.49	2037.34	2193.98	1.14	1.43	490.84	1.00
11/1/24 8:15	0.20	21.27	0.46	2023.45	2178.55	1.13	1.42	494.20	1.00
11/1/24 9:15	0.20	21.27	0.46	2022.22	2177.40	1.13	1.42	494.51	1.00
11/1/24 10:15	0.20	21.27	0.46	2021.88	2177.12	1.13	1.42	494.59	1.00
11/1/24 11:15	0.20	21.27	0.46	2021.89	2177.14	1.13	1.42	494.59	1.00
11/1/24 12:15	0.20	21.27	0.47	2021.20	2176.44	1.13	1.41	494.76	1.00
11/1/24 13:15	0.20	21.26	0.47	2020.90	2176.14	1.13	1.41	494.83	1.00
11/1/24 14:15	0.21	21.26	0.47	2020.41	2175.63	1.13	1.41	494.95	1.00
11/1/24 15:15	0.21	21.26	0.47	2020.55	2175.78	1.13	1.41	494.92	1.00
11/1/24 16:15	0.20	21.26	0.47	2020.16	2175.35	1.13	1.41	495.01	1.00
11/1/24 17:15	0.20	21.26	0.47	2020.07	2175.26	1.13	1.41	495.03	1.00
11/1/24 18:15	0.20	21.26	0.47	2020.32	2175.52	1.13	1.41	494.97	1.00
11/1/24 19:15	0.20	21.26	0.47	2020.12	2175.31	1.13	1.41	495.02	1.00
11/1/24 20:15	0.20	21.26	0.47	2019.81	2175.00	1.13	1.41	495.10	1.00
11/1/24 21:15	0.20	21.27	0.46	2019.67	2174.78	1.13	1.41	495.13	1.00
11/1/24 22:15	0.20	21.27	0.46	2019.25	2174.36	1.13	1.41	495.23	1.00
11/1/24 23:15	0.20	21.27	0.47	2018.92	2173.98	1.13	1.41	495.32	1.00
11/2/24 0:15	0.20	21.27	0.47	2018.96	2174.04	1.13	1.41	495.30	1.00
11/2/24 1:15	0.20	21.27	0.47	2019.06	2174.13	1.13	1.41	495.28	1.00
11/2/24 2:15	0.20	21.27	0.47	2019.59	2174.71	1.13	1.41	495.15	1.00
11/2/24 3:15	0.20	21.27	0.47	2019.57	2174.66	1.13	1.41	495.16	1.00
11/2/24 4:15	0.20	21.27	0.47	2019.78	2174.90	1.13	1.41	495.10	1.00
11/2/24 5:15	0.20	21.27	0.46	2019.60	2174.68	1.13	1.41	495.15	1.00
11/2/24 6:15	0.20	21.27	0.47	2019.33	2174.36	1.13	1.41	495.21	1.00
11/2/24 7:15	0.20	21.27	0.47	2019.21	2174.25	1.13	1.41	495.24	1.00
11/2/24 8:15	0.20	21.27	0.46	2019.55	2174.61	1.13	1.41	495.16	1.00
11/2/24 9:15	0.20	21.27	0.46	2019.43	2174.49	1.13	1.41	495.19	1.00
11/2/24 10:15	0.20	21.27	0.46	2019.11	2174.12	1.13	1.41	495.27	1.00
11/2/24 11:15	0.20	21.27	0.47	2018.86	2173.83	1.13	1.41	495.33	1.00
11/2/24 12:15	0.20	21.27	0.47	2018.37	2173.32	1.13	1.41	495.45	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/2/24 13:15	0.21	21.27	0.47	2018.53	2173.46	1.13	1.41	495.41	1.00
11/2/24 14:15	0.20	21.27	0.47	2018.21	2173.11	1.13	1.41	495.49	1.00
11/2/24 15:15	0.20	21.27	0.47	2018.21	2173.13	1.13	1.41	495.49	1.00
11/2/24 16:15	0.21	21.27	0.47	2018.14	2173.03	1.13	1.41	495.51	1.00
11/2/24 17:15	0.20	21.27	0.47	2018.06	2172.94	1.13	1.41	495.53	1.00
11/2/24 18:15	0.20	21.27	0.47	2018.14	2173.02	1.13	1.41	495.51	1.00
11/2/24 19:15	0.20	21.27	0.46	2018.05	2172.90	1.13	1.41	495.53	1.00
11/2/24 20:15	0.20	21.27	0.46	2018.42	2173.31	1.13	1.41	495.44	1.00
11/2/24 21:15	0.20	21.27	0.47	2017.92	2172.76	1.12	1.41	495.56	1.00
11/2/24 22:15	0.20	21.27	0.47	2018.24	2173.09	1.13	1.41	495.48	1.00
11/2/24 23:15	0.20	21.27	0.47	2018.10	2172.94	1.13	1.41	495.52	1.00
11/3/24 0:15	0.20	21.27	0.47	2017.91	2172.71	1.12	1.41	495.56	1.00
11/3/24 1:15	0.20	21.27	0.47	2017.84	2172.64	1.12	1.41	495.58	1.00
11/3/24 2:15	0.20	21.27	0.47	2017.76	2172.56	1.12	1.41	495.60	1.00
11/3/24 3:15	0.20	21.27	0.47	2017.71	2172.47	1.12	1.41	495.61	1.00
11/3/24 4:15	0.20	21.27	0.47	2017.83	2172.59	1.12	1.41	495.58	1.00
11/3/24 5:15	0.20	21.27	0.47	2017.88	2172.66	1.12	1.41	495.57	1.00
11/3/24 6:15	0.20	21.27	0.47	2017.10	2171.82	1.12	1.41	495.76	1.00
11/3/24 7:15	0.20	21.27	0.47	2017.31	2172.02	1.12	1.41	495.71	1.00
11/3/24 8:15	0.20	21.27	0.47	2017.68	2172.43	1.12	1.41	495.62	1.00
11/3/24 9:15	0.20	21.27	0.47	2017.57	2172.28	1.12	1.41	495.65	1.00
11/3/24 10:15	0.20	21.27	0.47	2017.64	2172.35	1.12	1.41	495.63	1.00
11/3/24 11:15	0.20	21.27	0.47	2017.12	2171.80	1.12	1.41	495.76	1.00
11/3/24 12:15	0.20	21.27	0.47	2017.41	2172.08	1.12	1.41	495.69	1.00
11/3/24 13:15	0.21	21.27	0.48	2016.65	2171.30	1.12	1.41	495.87	1.00
11/3/24 14:15	0.21	21.27	0.48	2017.61	2172.27	1.12	1.41	495.64	1.00
11/3/24 15:15	0.20	21.27	0.47	2017.37	2172.03	1.12	1.41	495.70	1.00
11/3/24 16:15	0.21	21.27	0.48	2017.30	2171.96	1.12	1.41	495.71	1.00
11/3/24 17:15	0.21	21.27	0.48	2017.27	2171.94	1.12	1.41	495.72	1.00
11/3/24 18:15	0.20	21.27	0.47	2017.23	2171.87	1.12	1.41	495.73	1.00
11/3/24 19:15	0.20	21.27	0.47	2017.25	2171.88	1.12	1.41	495.72	1.00
11/3/24 20:15	0.20	21.27	0.47	2016.81	2171.40	1.12	1.41	495.83	1.00
11/3/24 21:15	0.20	21.27	0.47	2016.36	2170.88	1.12	1.41	495.94	1.00
11/3/24 22:15	0.20	21.27	0.46	2016.17	2170.67	1.12	1.41	495.99	1.00
11/3/24 23:15	0.20	21.27	0.47	2016.03	2170.55	1.12	1.41	496.02	1.00
11/4/24 0:15	0.20	21.27	0.47	2016.31	2170.84	1.12	1.41	495.96	1.00
11/4/24 1:15	0.20	21.27	0.47	2015.90	2170.38	1.12	1.41	496.06	1.00
11/4/24 2:15	0.20	21.27	0.47	2016.63	2171.14	1.12	1.41	495.88	1.00
11/4/24 3:15	0.20	21.27	0.47	2017.10	2171.64	1.12	1.41	495.76	1.00
11/4/24 4:15	0.20	21.27	0.47	2016.95	2171.48	1.12	1.41	495.80	1.00
11/4/24 5:15	0.21	21.27	0.47	2017.05	2171.57	1.12	1.41	495.77	1.00
11/4/24 6:15	0.21	21.27	0.47	2017.24	2171.76	1.12	1.41	495.73	1.00
11/4/24 7:15	0.20	21.27	0.47	2017.43	2171.98	1.12	1.41	495.68	1.00
11/4/24 8:15	0.20	21.27	0.47	2017.01	2171.52	1.12	1.41	495.78	1.00
11/4/24 9:15	0.20	21.27	0.46	2017.02	2171.52	1.12	1.41	495.78	1.00
11/4/24 10:15	0.20	21.27	0.46	2016.60	2171.07	1.12	1.41	495.89	1.00
11/4/24 11:15	0.20	21.28	0.47	2016.83	2171.31	1.12	1.41	495.83	1.00
11/4/24 12:15	0.20	21.28	0.47	2016.49	2170.93	1.12	1.41	495.91	1.00
11/4/24 13:15	0.21	21.28	0.47	2016.05	2170.42	1.12	1.41	496.02	1.00
11/4/24 14:15	0.20	21.28	0.47	2015.80	2170.17	1.12	1.41	496.08	1.00
11/4/24 15:15	0.20	21.28	0.46	2015.48	2169.78	1.12	1.41	496.16	1.00
11/4/24 16:15	0.20	21.28	0.46	2015.53	2169.87	1.12	1.41	496.15	1.00
11/4/24 17:15	0.20	21.28	0.46	2015.73	2170.07	1.12	1.41	496.10	1.00
11/4/24 18:15	0.19	21.28	0.45	2016.11	2170.47	1.12	1.41	496.01	1.00
11/4/24 19:15	0.19	21.28	0.45	2015.72	2170.04	1.12	1.41	496.10	1.00
11/4/24 20:15	0.19	21.28	0.45	2016.36	2170.71	1.12	1.41	495.94	1.00
11/4/24 21:15	0.19	21.28	0.44	2016.07	2170.42	1.12	1.41	496.01	1.00
11/4/24 22:15	0.19	21.28	0.44	2016.40	2170.74	1.12	1.41	495.93	1.00
11/4/24 23:15	0.19	21.28	0.45	2016.25	2170.57	1.12	1.41	495.97	1.00
11/5/24 0:15	0.20	21.28	0.45	2016.07	2170.39	1.12	1.41	496.01	1.00
11/5/24 1:15	0.19	21.28	0.45	2016.49	2170.80	1.12	1.41	495.91	1.00
11/5/24 2:15	0.19	21.28	0.45	2016.51	2170.82	1.12	1.41	495.91	1.00
11/5/24 3:15	0.20	21.28	0.46	2015.65	2169.91	1.12	1.41	496.12	1.00
11/5/24 4:15	0.20	21.28	0.46	2016.11	2170.39	1.12	1.41	496.00	1.00
11/5/24 5:15	0.20	21.28	0.46	2015.69	2169.87	1.12	1.41	496.11	1.00
11/5/24 6:15	0.20	21.28	0.46	2015.85	2170.09	1.12	1.41	496.07	1.00
11/5/24 7:15	0.20	21.28	0.46	2016.08	2170.32	1.12	1.41	496.01	1.00
11/5/24 8:15	0.20	21.28	0.46	2015.59	2169.82	1.12	1.41	496.13	1.00
11/5/24 9:15	0.20	21.28	0.46	2015.76	2169.99	1.12	1.41	496.09	1.00
11/5/24 10:15	0.20	21.28	0.46	2015.56	2169.75	1.12	1.41	496.14	1.00
11/5/24 11:15	0.20	21.28	0.47	2015.67	2169.85	1.12	1.41	496.11	1.00
11/5/24 12:15	0.20	21.28	0.47	2015.26	2169.44	1.12	1.41	496.21	1.00
11/5/24 13:15	0.21	21.28	0.48	2015.32	2169.50	1.12	1.41	496.20	1.00
11/5/24 14:15	0.21	21.28	0.48	2014.88	2168.99	1.12	1.41	496.31	1.00
11/5/24 15:15	0.21	21.28	0.48	2015.12	2169.26	1.12	1.41	496.25	1.00
11/5/24 16:15	0.21	21.28	0.48	2014.95	2169.06	1.12	1.41	496.29	1.00
11/5/24 17:15	0.21	21.28	0.48	2014.39	2168.42	1.12	1.41	496.43	1.00
11/5/24 18:15	0.21	21.28	0.48	2014.55	2168.61	1.12	1.41	496.39	1.00
11/5/24 19:15	0.20	21.28	0.47	2014.67	2168.74	1.12	1.41	496.36	1.00
11/5/24 20:15	0.21	21.28	0.47	2014.23	2168.23	1.12	1.41	496.47	1.00
11/5/24 21:15	0.21	21.28	0.48	2014.50	2168.53	1.12	1.41	496.40	1.00
11/5/24 22:15	0.21	21.28	0.48	2014.84	2168.88	1.12	1.41	496.32	1.00
11/5/24 23:15	0.21	21.28	0.48	2015.04	2169.09	1.12	1.41	496.27	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/6/24 0:15	0.21	21.28	0.48	2014.58	2168.59	1.12	1.41	496.38	1.00
11/6/24 1:15	0.21	21.28	0.48	2014.48	2168.47	1.12	1.41	496.41	1.00
11/6/24 2:15	0.21	21.28	0.48	2015.18	2169.23	1.12	1.41	496.23	1.00
11/6/24 3:15	0.21	21.28	0.48	2014.53	2168.51	1.12	1.41	496.39	1.00
11/6/24 4:15	0.21	21.28	0.48	2014.71	2168.70	1.12	1.41	496.35	1.00
11/6/24 5:15	0.21	21.28	0.48	2014.98	2168.99	1.12	1.41	496.28	1.00
11/6/24 6:15	0.21	21.28	0.48	2015.20	2169.21	1.12	1.41	496.23	1.00
11/6/24 7:15	0.21	21.28	0.48	2014.70	2168.66	1.12	1.41	496.35	1.00
11/6/24 8:15	0.20	21.28	0.47	2014.57	2168.51	1.12	1.41	496.39	1.00
11/6/24 9:15	0.21	21.28	0.47	2014.27	2168.17	1.12	1.41	496.46	1.00
11/6/24 10:15	0.21	21.28	0.48	2013.90	2167.80	1.12	1.41	496.55	1.00
11/6/24 11:15	0.21	21.28	0.48	2014.09	2167.97	1.12	1.41	496.50	1.00
11/6/24 12:15	0.21	21.28	0.48	2014.30	2168.22	1.12	1.41	496.45	1.00
11/6/24 13:15	0.21	21.28	0.48	2014.21	2168.11	1.12	1.41	496.47	1.00
11/6/24 14:15	0.21	21.28	0.48	2014.41	2168.30	1.12	1.41	496.42	1.00
11/6/24 15:15	0.21	21.28	0.48	2014.11	2167.97	1.12	1.41	496.50	1.00
11/6/24 16:15	0.21	21.28	0.48	2014.29	2168.17	1.12	1.41	496.45	1.00
11/6/24 17:15	0.21	21.28	0.48	2013.41	2167.21	1.12	1.41	496.67	1.00
11/6/24 18:15	0.21	21.28	0.48	2013.84	2167.67	1.12	1.41	496.56	1.00
11/6/24 19:15	0.20	21.29	0.47	2013.96	2167.77	1.12	1.41	496.53	1.00
11/6/24 20:15	0.21	21.28	0.47	2013.93	2167.75	1.12	1.41	496.54	1.00
11/6/24 21:15	0.20	21.29	0.46	2013.81	2167.59	1.12	1.41	496.57	1.00
11/6/24 22:15	0.20	21.29	0.46	2014.00	2167.80	1.12	1.41	496.52	1.00
11/6/24 23:15	0.20	21.29	0.46	2014.32	2168.14	1.12	1.41	496.45	1.00
11/7/24 0:15	0.20	21.29	0.46	2014.20	2167.99	1.12	1.41	496.48	1.00
11/7/24 1:15	0.20	21.29	0.45	2014.28	2168.07	1.12	1.41	496.46	1.00
11/7/24 2:15	0.20	21.29	0.46	2014.55	2168.35	1.12	1.41	496.39	1.00
11/7/24 3:15	0.20	21.29	0.46	2014.62	2168.40	1.12	1.41	496.37	1.00
11/7/24 4:15	0.20	21.29	0.46	2014.65	2168.46	1.12	1.41	496.36	1.00
11/7/24 5:15	0.20	21.29	0.46	2014.55	2168.34	1.12	1.41	496.39	1.00
11/7/24 6:15	0.20	21.29	0.46	2014.43	2168.21	1.12	1.41	496.42	1.00
11/7/24 7:15	0.20	21.29	0.46	2014.31	2168.05	1.12	1.41	496.45	1.00
11/7/24 8:15	0.20	21.29	0.47	2014.38	2168.08	1.12	1.41	496.43	1.00
11/7/24 9:15	0.20	21.29	0.46	2014.29	2168.06	1.12	1.41	496.45	1.00
11/7/24 10:15	0.20	21.29	0.46	2014.57	2168.32	1.12	1.41	496.38	1.00
11/7/24 11:15	0.20	21.29	0.46	2014.37	2168.10	1.12	1.41	496.43	1.00
11/7/24 12:15	0.20	21.29	0.46	2014.12	2167.80	1.12	1.41	496.50	1.00
11/7/24 13:15	0.20	21.29	0.47	2014.24	2167.94	1.12	1.41	496.46	1.00
11/7/24 14:15	0.20	21.29	0.47	2014.10	2167.78	1.12	1.41	496.50	1.00
11/7/24 15:15	0.20	21.29	0.47	2014.56	2168.18	1.12	1.41	496.39	1.00
11/7/24 16:15	0.20	21.29	0.47	2014.03	2167.70	1.12	1.41	496.52	1.00
11/7/24 17:15	0.20	21.29	0.47	2014.79	2168.51	1.12	1.41	496.33	1.00
11/7/24 18:15	0.20	21.29	0.46	2014.39	2168.07	1.12	1.41	496.43	1.00
11/7/24 19:15	0.20	21.29	0.47	2014.59	2168.27	1.12	1.41	496.38	1.00
11/7/24 20:15	0.20	21.29	0.47	2014.30	2167.97	1.12	1.41	496.45	1.00
11/7/24 21:15	0.20	21.29	0.47	2014.48	2168.14	1.12	1.41	496.41	1.00
11/7/24 22:15	0.20	21.29	0.46	2014.32	2167.95	1.12	1.41	496.45	1.00
11/7/24 23:15	0.20	21.29	0.47	2014.40	2168.05	1.12	1.41	496.42	1.00
11/8/24 0:15	0.20	21.29	0.47	2014.62	2168.26	1.12	1.41	496.37	1.00
11/8/24 1:15	0.20	21.29	0.47	2014.49	2168.14	1.12	1.41	496.40	1.00
11/8/24 2:15	0.21	21.29	0.48	2014.75	2168.40	1.12	1.41	496.34	1.00
11/8/24 3:15	0.20	21.29	0.47	2014.35	2167.96	1.12	1.41	496.44	1.00
11/8/24 4:15	0.20	21.29	0.47	2014.26	2167.84	1.12	1.41	496.46	1.00
11/8/24 5:15	0.20	21.29	0.47	2014.09	2167.66	1.12	1.41	496.50	1.00
11/8/24 6:15	0.20	21.29	0.47	2014.13	2167.70	1.12	1.41	496.49	1.00
11/8/24 7:15	0.20	21.29	0.46	2014.59	2168.19	1.12	1.41	496.38	1.00
11/8/24 8:15	0.20	21.29	0.47	2014.29	2167.82	1.12	1.41	496.45	1.00
11/8/24 9:15	0.20	21.29	0.46	2014.25	2167.78	1.12	1.41	496.46	1.00
11/8/24 10:15	0.19	21.30	0.44	2056.04	2212.36	1.15	1.44	486.37	1.00
11/8/24 11:15	0.20	21.30	0.46	2055.99	2212.43	1.15	1.44	486.38	1.00
11/8/24 12:15	0.20	21.30	0.46	2055.87	2212.39	1.15	1.44	486.41	1.00
11/8/24 13:15	0.20	21.30	0.46	2055.75	2212.30	1.15	1.44	486.44	1.00
11/8/24 14:15	0.20	21.29	0.46	2055.89	2212.47	1.15	1.44	486.41	1.00
11/8/24 15:15	0.20	21.29	0.46	2055.70	2212.30	1.15	1.44	486.45	1.00
11/8/24 16:15	0.20	21.29	0.46	2054.91	2211.47	1.15	1.44	486.64	1.00
11/8/24 17:15	0.20	21.29	0.46	2054.96	2211.49	1.15	1.44	486.63	1.00
11/8/24 18:15	0.20	21.29	0.46	2054.75	2211.29	1.15	1.44	486.68	1.00
11/8/24 19:15	0.20	21.29	0.45	2055.16	2211.71	1.15	1.44	486.58	1.00
11/8/24 20:15	0.20	21.29	0.45	2055.58	2212.15	1.15	1.44	486.48	1.00
11/8/24 21:15	0.20	21.29	0.45	2055.50	2212.09	1.15	1.44	486.50	1.00
11/8/24 22:15	0.20	21.29	0.45	2055.82	2212.44	1.15	1.44	486.42	1.00
11/8/24 23:15	0.20	21.29	0.46	2055.14	2211.67	1.15	1.44	486.59	1.00
11/9/24 0:15	0.20	21.29	0.46	2055.26	2211.81	1.15	1.44	486.56	1.00
11/9/24 1:15	0.20	21.29	0.46	2055.23	2211.75	1.15	1.44	486.56	1.00
11/9/24 2:15	0.20	21.29	0.46	2055.59	2212.15	1.15	1.44	486.48	1.00
11/9/24 3:15	0.20	21.29	0.46	2055.22	2211.75	1.15	1.44	486.57	1.00
11/9/24 4:15	0.20	21.30	0.46	2055.14	2211.64	1.15	1.44	486.58	1.00
11/9/24 5:15	0.20	21.29	0.46	2054.85	2211.35	1.15	1.44	486.65	1.00
11/9/24 6:15	0.20	21.30	0.46	2055.20	2211.68	1.15	1.44	486.57	1.00
11/9/24 7:15	0.20	21.30	0.46	2054.70	2211.16	1.15	1.44	486.69	1.00
11/9/24 8:15	0.20	21.30	0.45	2054.83	2211.29	1.15	1.44	486.66	1.00
11/9/24 9:15	0.20	21.30	0.45	2054.71	2211.17	1.15	1.44	486.69	1.00
11/9/24 10:15	0.20	21.30	0.46	2054.52	2210.96	1.15	1.44	486.73	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/9/24 11:15	0.20	21.30	0.46	2055.09	2211.55	1.15	1.44	486.60	1.00
11/9/24 12:15	0.20	21.30	0.46	2054.69	2211.11	1.15	1.44	486.69	1.00
11/9/24 13:15	0.20	21.30	0.47	2054.41	2210.80	1.15	1.44	486.76	1.00
11/9/24 14:15	0.20	21.30	0.47	2054.92	2211.35	1.15	1.44	486.64	1.00
11/9/24 15:15	0.20	21.30	0.47	2054.15	2210.52	1.15	1.44	486.82	1.00
11/9/24 16:15	0.20	21.30	0.47	2054.62	2210.99	1.15	1.44	486.71	1.00
11/9/24 17:15	0.20	21.30	0.47	2054.65	2211.03	1.15	1.44	486.70	1.00
11/9/24 18:15	0.20	21.30	0.46	2054.69	2211.08	1.15	1.44	486.69	1.00
11/9/24 19:15	0.20	21.30	0.46	2054.47	2210.81	1.15	1.44	486.74	1.00
11/9/24 20:15	0.20	21.30	0.46	2054.18	2210.49	1.15	1.44	486.81	1.00
11/9/24 21:15	0.20	21.30	0.46	2054.07	2210.36	1.15	1.44	486.84	1.00
11/9/24 22:15	0.20	21.30	0.45	2054.55	2210.87	1.15	1.44	486.73	1.00
11/9/24 23:15	0.20	21.30	0.46	2054.37	2210.69	1.15	1.44	486.77	1.00
11/10/24 0:15	0.20	21.30	0.46	2054.16	2210.46	1.15	1.44	486.82	1.00
11/10/24 1:15	0.20	21.30	0.46	2054.12	2210.40	1.15	1.44	486.83	1.00
11/10/24 2:15	0.20	21.30	0.46	2054.23	2210.48	1.15	1.44	486.80	1.00
11/10/24 3:15	0.20	21.30	0.46	2054.19	2210.44	1.15	1.44	486.81	1.00
11/10/24 4:15	0.20	21.30	0.46	2054.27	2210.51	1.15	1.44	486.79	1.00
11/10/24 5:15	0.20	21.30	0.45	2054.54	2210.82	1.15	1.44	486.73	1.00
11/10/24 6:15	0.19	21.30	0.45	2054.37	2210.62	1.15	1.44	486.77	1.00
11/10/24 7:15	0.19	21.30	0.45	2054.19	2210.43	1.15	1.44	486.81	1.00
11/10/24 8:15	0.19	21.30	0.44	2053.82	2210.01	1.15	1.44	486.90	1.00
11/10/24 9:15	0.19	21.30	0.44	2054.10	2210.31	1.15	1.44	486.83	1.00
11/10/24 10:15	0.19	21.30	0.44	2054.07	2210.25	1.15	1.44	486.84	1.00
11/10/24 11:15	0.19	21.30	0.45	2054.01	2210.21	1.15	1.44	486.85	1.00
11/10/24 12:15	0.19	21.30	0.45	2054.70	2210.92	1.15	1.44	486.69	1.00
11/10/24 13:15	0.20	21.30	0.46	2054.34	2210.51	1.15	1.44	486.77	1.00
11/10/24 14:15	0.20	21.30	0.46	2054.36	2210.55	1.15	1.44	486.77	1.00
11/10/24 15:15	0.20	21.30	0.46	2053.83	2209.96	1.15	1.44	486.90	1.00
11/10/24 16:15	0.20	21.30	0.46	2053.64	2209.75	1.15	1.44	486.94	1.00
11/10/24 17:15	0.20	21.30	0.45	2053.98	2210.12	1.15	1.44	486.86	1.00
11/10/24 18:15	0.20	21.30	0.46	2053.53	2209.61	1.15	1.44	486.97	1.00
11/10/24 19:15	0.20	21.30	0.45	2053.40	2209.46	1.14	1.44	487.00	1.00
11/10/24 20:15	0.20	21.30	0.45	2053.12	2209.16	1.14	1.44	487.06	1.00
11/10/24 21:15	0.19	21.30	0.45	2053.21	2209.24	1.14	1.44	487.04	1.00
11/10/24 22:15	0.19	21.30	0.45	2053.04	2209.08	1.14	1.44	487.08	1.00
11/10/24 23:15	0.19	21.30	0.45	2053.19	2209.22	1.14	1.44	487.05	1.00
11/11/24 0:15	0.19	21.30	0.45	2053.34	2209.35	1.14	1.44	487.01	1.00
11/11/24 1:15	0.20	21.30	0.45	2053.08	2209.08	1.14	1.44	487.07	1.00
11/11/24 2:15	0.20	21.30	0.45	2053.32	2209.33	1.14	1.44	487.02	1.00
11/11/24 3:15	0.20	21.30	0.45	2053.54	2209.58	1.15	1.44	486.96	1.00
11/11/24 4:15	0.20	21.30	0.45	2053.41	2209.40	1.14	1.44	486.99	1.00
11/11/24 5:15	0.20	21.30	0.45	2053.43	2209.42	1.14	1.44	486.99	1.00
11/11/24 6:15	0.19	21.31	0.45	2053.43	2209.26	1.14	1.44	486.99	1.00
11/11/24 7:15	0.19	21.30	0.45	2052.35	2208.20	1.14	1.44	487.25	1.00
11/11/24 8:15	0.19	21.30	0.44	2052.11	2207.98	1.14	1.44	487.30	1.00
11/11/24 9:15	0.19	21.30	0.45	2052.52	2208.43	1.14	1.44	487.21	1.00
11/11/24 10:15	0.19	21.30	0.45	2051.84	2207.69	1.14	1.43	487.37	1.00
11/11/24 11:15	0.20	21.30	0.45	2052.26	2208.11	1.14	1.44	487.27	1.00
11/11/24 12:15	0.20	21.30	0.46	2052.47	2208.36	1.14	1.44	487.22	1.00
11/11/24 13:15	0.20	21.30	0.46	2052.31	2208.16	1.14	1.44	487.26	1.00
11/11/24 14:15	0.20	21.30	0.46	2053.13	2209.04	1.14	1.44	487.06	1.00
11/11/24 15:15	0.20	21.31	0.46	2053.61	2209.54	1.15	1.44	486.95	1.00
11/11/24 16:15	0.20	21.31	0.46	2053.50	2209.42	1.14	1.44	486.97	1.00
11/11/24 17:15	0.20	21.31	0.46	2053.73	2209.67	1.15	1.44	486.92	1.00
11/11/24 18:15	0.20	21.31	0.46	2053.12	2208.96	1.14	1.44	487.06	1.00
11/11/24 19:15	0.20	21.31	0.46	2053.03	2208.85	1.14	1.44	487.09	1.00
11/11/24 20:15	0.20	21.31	0.46	2053.13	2208.98	1.14	1.44	487.06	1.00
11/11/24 21:15	0.20	21.31	0.46	2052.81	2208.64	1.14	1.44	487.14	1.00
11/11/24 22:15	0.20	21.31	0.46	2053.26	2209.12	1.14	1.44	487.03	1.00
11/11/24 23:15	0.20	21.31	0.46	2052.89	2208.71	1.14	1.44	487.12	1.00
11/12/24 0:15	0.20	21.31	0.46	2053.09	2208.90	1.14	1.44	487.07	1.00
11/12/24 1:15	0.20	21.31	0.47	2052.97	2208.78	1.14	1.44	487.10	1.00
11/12/24 2:15	0.20	21.31	0.46	2053.17	2208.98	1.14	1.44	487.05	1.00
11/12/24 3:15	0.20	21.31	0.46	2053.17	2208.95	1.14	1.44	487.05	1.00
11/12/24 4:15	0.20	21.31	0.47	2053.21	2209.00	1.14	1.44	487.04	1.00
11/12/24 5:15	0.20	21.31	0.47	2052.67	2208.33	1.14	1.44	487.17	1.00
11/12/24 6:15	0.20	21.31	0.46	2052.29	2207.97	1.14	1.44	487.26	1.00
11/12/24 7:15	0.20	21.31	0.46	2052.15	2207.83	1.14	1.44	487.29	1.00
11/12/24 8:15	0.20	21.31	0.46	2052.11	2207.78	1.14	1.44	487.30	1.00
11/12/24 9:15	0.20	21.31	0.47	2051.69	2207.31	1.14	1.43	487.40	1.00
11/12/24 10:15	0.20	21.31	0.47	2051.71	2207.35	1.14	1.43	487.40	1.00
11/12/24 11:15	0.20	21.31	0.47	2051.60	2207.24	1.14	1.43	487.42	1.00
11/12/24 12:15	0.21	21.31	0.48	2051.70	2207.32	1.14	1.43	487.40	1.00
11/12/24 13:15	0.21	21.31	0.48	2051.76	2207.37	1.14	1.43	487.39	1.00
11/12/24 14:15	0.21	21.31	0.48	2051.90	2207.48	1.14	1.43	487.35	1.00
11/12/24 15:15	0.21	21.31	0.48	2051.99	2207.59	1.14	1.43	487.33	1.00
11/12/24 16:15	0.21	21.31	0.48	2051.73	2207.32	1.14	1.43	487.39	1.00
11/12/24 17:15	0.21	21.31	0.47	2051.87	2207.46	1.14	1.43	487.36	1.00
11/12/24 18:15	0.21	21.31	0.47	2052.20	2207.82	1.14	1.44	487.28	1.00
11/12/24 19:15	0.20	21.31	0.46	2051.95	2207.54	1.14	1.43	487.34	1.00
11/12/24 20:15	0.20	21.31	0.46	2051.76	2207.30	1.14	1.43	487.39	1.00
11/12/24 21:15	0.20	21.31	0.45	2051.67	2207.20	1.14	1.43	487.41	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/12/24 22:15	0.19	21.31	0.45	2051.41	2206.89	1.14	1.43	487.47	1.00
11/12/24 23:15	0.19	21.31	0.44	2051.57	2207.09	1.14	1.43	487.43	1.00
11/13/24 0:15	0.19	21.31	0.44	2051.43	2206.92	1.14	1.43	487.46	1.00
11/13/24 1:15	0.19	21.31	0.44	2051.46	2206.94	1.14	1.43	487.46	1.00
11/13/24 2:15	0.19	21.31	0.44	2051.60	2207.09	1.14	1.43	487.43	1.00
11/13/24 3:15	0.19	21.31	0.43	2050.82	2206.27	1.14	1.43	487.61	1.00
11/13/24 4:15	0.19	21.31	0.43	2050.93	2206.35	1.14	1.43	487.58	1.00
11/13/24 5:15	0.18	21.31	0.43	2050.46	2205.86	1.14	1.43	487.69	1.00
11/13/24 6:15	0.18	21.31	0.42	2050.97	2206.39	1.14	1.43	487.57	1.00
11/13/24 7:15	0.18	21.31	0.42	2051.18	2206.61	1.14	1.43	487.52	1.00
11/13/24 8:15	0.18	21.31	0.41	2051.22	2206.66	1.14	1.43	487.52	1.00
11/13/24 9:15	0.18	21.31	0.41	2051.41	2206.82	1.14	1.43	487.47	1.00
11/13/24 10:15	0.18	21.31	0.41	2051.02	2206.40	1.14	1.43	487.56	1.00
11/13/24 11:15	0.18	21.31	0.41	2051.36	2206.78	1.14	1.43	487.48	1.00
11/13/24 12:15	0.18	21.31	0.42	2051.36	2206.74	1.14	1.43	487.48	1.00
11/13/24 13:15	0.18	21.31	0.42	2051.68	2207.06	1.14	1.43	487.41	1.00
11/13/24 14:15	0.18	21.31	0.42	2051.03	2206.38	1.14	1.43	487.56	1.00
11/13/24 15:15	0.18	21.31	0.42	2051.03	2206.36	1.14	1.43	487.56	1.00
11/13/24 16:15	0.19	21.31	0.44	2051.40	2206.77	1.14	1.43	487.47	1.00
11/13/24 17:15	0.19	21.31	0.44	2051.38	2206.75	1.14	1.43	487.48	1.00
11/13/24 18:15	0.19	21.31	0.44	2051.57	2206.94	1.14	1.43	487.43	1.00
11/13/24 19:15	0.19	21.31	0.44	2051.54	2206.89	1.14	1.43	487.44	1.00
11/13/24 20:15	0.19	21.31	0.43	2051.77	2207.16	1.14	1.43	487.38	1.00
11/13/24 21:15	0.19	21.31	0.43	2051.46	2206.80	1.14	1.43	487.46	1.00
11/13/24 22:15	0.19	21.32	0.43	2051.61	2206.94	1.14	1.43	487.42	1.00
11/13/24 23:15	0.19	21.32	0.43	2051.83	2207.18	1.14	1.43	487.37	1.00
11/14/24 0:15	0.19	21.32	0.43	2051.60	2206.90	1.14	1.43	487.42	1.00
11/14/24 1:15	0.19	21.32	0.43	2051.91	2207.24	1.14	1.43	487.35	1.00
11/14/24 2:15	0.19	21.32	0.44	2051.87	2207.20	1.14	1.43	487.36	1.00
11/14/24 3:15	0.19	21.32	0.44	2046.58	2201.51	1.14	1.43	488.62	1.00
11/14/24 4:15	0.19	21.32	0.44	2046.37	2201.25	1.14	1.43	488.67	1.00
11/14/24 5:15	0.19	21.32	0.44	2046.29	2201.14	1.14	1.43	488.69	1.00
11/14/24 6:15	0.19	21.32	0.44	2046.14	2200.99	1.14	1.43	488.73	1.00
11/14/24 7:15	0.19	21.32	0.44	2046.34	2201.21	1.14	1.43	488.68	1.00
11/14/24 8:15	0.19	21.32	0.44	2046.59	2201.47	1.14	1.43	488.62	1.00
11/14/24 9:15	0.19	21.32	0.44	2046.07	2200.91	1.14	1.43	488.74	1.00
11/14/24 10:15	0.19	21.32	0.44	2046.33	2201.16	1.14	1.43	488.68	1.00
11/14/24 11:15	0.20	21.32	0.45	2046.32	2201.14	1.14	1.43	488.68	1.00
11/14/24 12:15	0.20	21.32	0.46	2046.40	2201.23	1.14	1.43	488.66	1.00
11/14/24 13:15	0.20	21.32	0.47	2046.01	2200.74	1.14	1.43	488.76	1.00
11/14/24 14:15	0.20	21.32	0.47	2045.46	2200.16	1.14	1.43	488.89	1.00
11/14/24 15:15	0.17	21.33	0.40	2042.64	2196.69	1.14	1.43	489.56	1.00
11/14/24 16:15	0.17	21.32	0.39	2041.18	2195.29	1.14	1.43	489.91	1.00
11/14/24 17:15	0.17	21.32	0.40	2040.92	2195.09	1.14	1.43	489.97	1.00
11/14/24 18:15	0.17	21.32	0.40	2040.01	2194.16	1.14	1.43	490.19	1.00
11/14/24 19:15	0.17	21.32	0.40	2040.72	2194.95	1.14	1.43	490.02	1.00
11/14/24 20:15	0.17	21.32	0.40	2040.63	2194.86	1.14	1.43	490.05	1.00
11/14/24 21:15	0.17	21.32	0.40	2040.36	2194.62	1.14	1.43	490.11	1.00
11/14/24 22:15	0.17	21.32	0.40	2040.11	2194.31	1.14	1.43	490.17	1.00
11/14/24 23:15	0.17	21.32	0.40	2040.44	2194.67	1.14	1.43	490.09	1.00
11/15/24 0:15	0.17	21.32	0.40	2039.95	2194.16	1.14	1.43	490.21	1.00
11/15/24 1:15	0.17	21.32	0.40	2039.99	2194.19	1.14	1.43	490.20	1.00
11/15/24 2:15	0.17	21.32	0.40	2039.99	2194.17	1.14	1.43	490.20	1.00
11/15/24 3:15	0.17	21.32	0.40	2039.62	2193.79	1.14	1.43	490.29	1.00
11/15/24 4:15	0.17	21.32	0.40	2039.31	2193.47	1.14	1.43	490.36	1.00
11/15/24 5:15	0.17	21.32	0.40	2039.37	2193.50	1.14	1.43	490.35	1.00
11/15/24 6:15	0.17	21.32	0.39	2039.12	2193.22	1.14	1.43	490.41	1.00
11/15/24 7:15	0.17	21.32	0.39	2039.35	2193.49	1.14	1.43	490.35	1.00
11/15/24 8:15	0.17	21.32	0.39	2039.13	2193.23	1.14	1.43	490.40	1.00
11/15/24 9:15	0.17	21.32	0.40	2038.90	2192.98	1.14	1.43	490.46	1.00
11/15/24 10:15	0.17	21.32	0.40	2039.22	2193.31	1.14	1.43	490.38	1.00
11/15/24 11:15	0.17	21.32	0.40	2039.10	2193.18	1.14	1.43	490.41	1.00
11/15/24 12:15	0.18	21.32	0.41	2039.35	2193.43	1.14	1.43	490.35	1.00
11/15/24 13:15	0.18	21.32	0.41	2038.82	2192.86	1.14	1.43	490.48	1.00
11/15/24 14:15	0.18	21.32	0.42	2039.14	2193.20	1.14	1.43	490.40	1.00
11/15/24 15:15	0.18	21.32	0.42	2039.19	2193.25	1.14	1.43	490.39	1.00
11/15/24 16:15	0.18	21.32	0.42	2039.25	2193.30	1.14	1.43	490.38	1.00
11/15/24 17:15	0.18	21.32	0.42	2038.89	2192.92	1.14	1.43	490.46	1.00
11/15/24 18:15	0.18	21.32	0.42	2038.94	2192.97	1.14	1.43	490.45	1.00
11/15/24 19:15	0.18	21.32	0.42	2038.92	2192.93	1.14	1.43	490.46	1.00
11/15/24 20:15	0.18	21.32	0.42	2038.76	2192.75	1.14	1.43	490.49	1.00
11/15/24 21:15	0.18	21.32	0.42	2038.46	2192.42	1.14	1.43	490.57	1.00
11/15/24 22:15	0.18	21.32	0.42	2038.49	2192.44	1.14	1.43	490.56	1.00
11/15/24 23:15	0.18	21.32	0.42	2038.20	2192.15	1.14	1.42	490.63	1.00
11/16/24 0:15	0.18	21.32	0.42	2038.40	2192.35	1.14	1.43	490.58	1.00
11/16/24 1:15	0.18	21.32	0.42	2038.56	2192.51	1.14	1.43	490.54	1.00
11/16/24 2:15	0.18	21.32	0.42	2038.90	2192.86	1.14	1.43	490.46	1.00
11/16/24 3:15	0.18	21.32	0.42	2038.38	2192.28	1.14	1.42	490.59	1.00
11/16/24 4:15	0.18	21.32	0.42	2038.31	2192.20	1.14	1.42	490.60	1.00
11/16/24 5:15	0.18	21.32	0.42	2038.59	2192.49	1.14	1.43	490.54	1.00
11/16/24 6:15	0.18	21.32	0.42	2037.84	2191.70	1.14	1.42	490.72	1.00
11/16/24 7:15	0.18	21.33	0.42	2038.74	2192.63	1.14	1.43	490.50	1.00
11/16/24 8:15	0.18	21.33	0.42	2037.84	2191.68	1.14	1.42	490.72	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/16/24 9:15	0.18	21.33	0.42	2038.39	2192.25	1.14	1.42	490.58	1.00
11/16/24 10:15	0.18	21.33	0.42	2038.16	2192.02	1.14	1.42	490.64	1.00
11/16/24 11:15	0.18	21.33	0.43	2038.23	2192.05	1.14	1.42	490.62	1.00
11/16/24 12:15	0.19	21.33	0.43	2038.81	2192.68	1.14	1.43	490.48	1.00
11/16/24 13:15	0.19	21.33	0.44	2038.34	2192.20	1.14	1.42	490.59	1.00
11/16/24 14:15	0.19	21.33	0.44	2038.23	2192.02	1.14	1.42	490.62	1.00
11/16/24 15:15	0.19	21.33	0.43	2038.14	2191.93	1.14	1.42	490.64	1.00
11/16/24 16:15	0.19	21.33	0.44	2037.94	2191.67	1.14	1.42	490.69	1.00
11/16/24 17:15	0.19	21.33	0.43	2037.42	2191.14	1.13	1.42	490.82	1.00
11/16/24 18:15	0.19	21.33	0.43	2037.35	2191.10	1.13	1.42	490.83	1.00
11/16/24 19:15	0.19	21.33	0.43	2037.49	2191.21	1.14	1.42	490.80	1.00
11/16/24 20:15	0.19	21.33	0.43	2037.38	2191.08	1.13	1.42	490.83	1.00
11/16/24 21:15	0.18	21.33	0.43	2037.32	2191.01	1.13	1.42	490.84	1.00
11/16/24 22:15	0.18	21.33	0.42	2037.52	2191.19	1.14	1.42	490.79	1.00
11/16/24 23:15	0.18	21.33	0.42	2037.49	2191.19	1.14	1.42	490.80	1.00
11/17/24 0:15	0.18	21.33	0.43	2037.38	2191.04	1.13	1.42	490.83	1.00
11/17/24 1:15	0.19	21.33	0.43	2037.76	2191.44	1.14	1.42	490.73	1.00
11/17/24 2:15	0.18	21.33	0.43	2037.72	2191.41	1.14	1.42	490.74	1.00
11/17/24 3:15	0.18	21.33	0.42	2037.24	2190.89	1.13	1.42	490.86	1.00
11/17/24 4:15	0.18	21.33	0.42	2037.48	2191.12	1.13	1.42	490.80	1.00
11/17/24 5:15	0.18	21.33	0.43	2037.54	2191.18	1.14	1.42	490.79	1.00
11/17/24 6:15	0.18	21.33	0.42	2037.53	2191.20	1.14	1.42	490.79	1.00
11/17/24 7:15	0.18	21.33	0.42	2037.77	2191.43	1.14	1.42	490.73	1.00
11/17/24 8:15	0.18	21.33	0.42	2037.77	2191.34	1.14	1.42	490.73	1.00
11/17/24 9:15	0.18	21.33	0.42	2037.74	2191.37	1.14	1.42	490.74	1.00
11/17/24 10:15	0.18	21.33	0.42	2037.65	2191.28	1.14	1.42	490.76	1.00
11/17/24 11:15	0.18	21.33	0.42	2037.85	2191.46	1.14	1.42	490.71	1.00
11/17/24 12:15	0.19	21.33	0.43	2037.59	2191.20	1.14	1.42	490.78	1.00
11/17/24 13:15	0.19	21.33	0.44	2037.39	2190.94	1.13	1.42	490.83	1.00
11/17/24 14:15	0.19	21.33	0.43	2037.46	2191.03	1.13	1.42	490.81	1.00
11/17/24 15:15	0.19	21.33	0.43	2037.49	2191.03	1.13	1.42	490.80	1.00
11/17/24 16:15	0.19	21.33	0.44	2037.49	2191.05	1.13	1.42	490.80	1.00
11/17/24 17:15	0.19	21.33	0.43	2037.39	2190.93	1.13	1.42	490.82	1.00
11/17/24 18:15	0.19	21.33	0.43	2037.70	2191.25	1.14	1.42	490.75	1.00
11/17/24 19:15	0.19	21.33	0.43	2037.77	2191.31	1.14	1.42	490.73	1.00
11/17/24 20:15	0.19	21.33	0.43	2037.69	2191.24	1.14	1.42	490.75	1.00
11/17/24 21:15	0.19	21.33	0.44	2037.28	2190.76	1.13	1.42	490.85	1.00
11/17/24 22:15	0.18	21.33	0.42	2036.97	2190.44	1.13	1.42	490.93	1.00
11/17/24 23:15	0.18	21.33	0.41	2036.47	2189.88	1.13	1.42	491.05	1.00
11/18/24 0:15	0.19	21.33	0.45	2036.85	2190.26	1.13	1.42	490.95	1.00
11/18/24 1:15	0.19	21.33	0.44	2036.83	2190.27	1.13	1.42	490.96	1.00
11/18/24 2:15	0.19	21.33	0.44	2036.88	2190.30	1.13	1.42	490.95	1.00
11/18/24 3:15	0.19	21.33	0.44	2037.04	2190.49	1.13	1.42	490.91	1.00
11/18/24 4:15	0.19	21.33	0.45	2037.12	2190.55	1.13	1.42	490.89	1.00
11/18/24 5:15	0.19	21.33	0.44	2037.05	2190.45	1.13	1.42	490.91	1.00
11/18/24 6:15	0.19	21.33	0.43	2037.22	2190.64	1.13	1.42	490.86	1.00
11/18/24 7:15	0.19	21.33	0.44	2037.21	2190.62	1.13	1.42	490.87	1.00
11/18/24 8:15	0.19	21.33	0.43	2037.19	2190.59	1.13	1.42	490.87	1.00
11/18/24 9:15	0.19	21.33	0.43	2037.10	2190.48	1.13	1.42	490.89	1.00
11/18/24 10:15	0.19	21.33	0.43	2037.03	2190.40	1.13	1.42	490.91	1.00
11/18/24 11:15	0.19	21.33	0.43	2036.85	2190.21	1.13	1.42	490.95	1.00
11/18/24 12:15	0.19	21.33	0.44	2037.12	2190.48	1.13	1.42	490.89	1.00
11/18/24 13:15	0.19	21.33	0.44	2036.72	2190.06	1.13	1.42	490.99	1.00
11/18/24 14:15	0.19	21.34	0.44	2036.46	2189.66	1.13	1.42	491.05	1.00
11/18/24 15:15	0.19	21.33	0.44	2036.09	2189.35	1.13	1.42	491.14	1.00
11/18/24 16:15	0.19	21.33	0.44	2036.11	2189.38	1.13	1.42	491.13	1.00
11/18/24 17:15	0.19	21.33	0.44	2035.81	2189.07	1.13	1.42	491.20	1.00
11/18/24 18:15	0.19	21.34	0.44	2036.25	2189.51	1.13	1.42	491.10	1.00
11/18/24 19:15	0.19	21.34	0.43	2036.37	2189.64	1.13	1.42	491.07	1.00
11/18/24 20:15	0.18	21.34	0.43	2036.50	2189.75	1.13	1.42	491.04	1.00
11/18/24 21:15	0.18	21.34	0.42	2036.27	2189.49	1.13	1.42	491.09	1.00
11/18/24 22:15	0.18	21.34	0.43	2036.15	2189.35	1.13	1.42	491.12	1.00
11/18/24 23:15	0.18	21.34	0.43	2036.21	2189.39	1.13	1.42	491.11	1.00
11/19/24 0:15	0.18	21.34	0.42	2036.59	2189.81	1.13	1.42	491.02	1.00
11/19/24 1:15	0.18	21.34	0.43	2036.24	2189.46	1.13	1.42	491.10	1.00
11/19/24 2:15	0.18	21.34	0.42	2036.08	2189.26	1.13	1.42	491.14	1.00
11/19/24 3:15	0.18	21.34	0.42	2035.59	2188.71	1.13	1.42	491.26	1.00
11/19/24 4:15	0.18	21.34	0.42	2035.80	2188.93	1.13	1.42	491.21	1.00
11/19/24 5:15	0.18	21.34	0.42	2035.23	2188.30	1.13	1.42	491.35	1.00
11/19/24 6:15	0.18	21.34	0.42	2035.08	2188.16	1.13	1.42	491.38	1.00
11/19/24 7:15	0.18	21.34	0.42	2035.27	2188.34	1.13	1.42	491.33	1.00
11/19/24 8:15	0.18	21.34	0.41	2035.16	2188.22	1.13	1.42	491.36	1.00
11/19/24 9:15	0.18	21.34	0.40	2035.32	2188.38	1.13	1.42	491.32	1.00
11/19/24 10:15	0.17	21.34	0.40	2035.17	2188.19	1.13	1.42	491.36	1.00
11/19/24 11:15	0.18	21.34	0.41	2034.73	2187.72	1.13	1.42	491.47	1.00
11/19/24 12:15	0.18	21.34	0.41	2035.42	2188.47	1.13	1.42	491.30	1.00
11/19/24 13:15	0.18	21.34	0.41	2035.24	2188.25	1.13	1.42	491.34	1.00
11/19/24 14:15	0.18	21.34	0.41	2034.94	2187.95	1.13	1.42	491.42	1.00
11/19/24 15:15	0.18	21.34	0.41	2035.29	2188.30	1.13	1.42	491.33	1.00
11/19/24 16:15	0.18	21.34	0.41	2035.25	2188.21	1.13	1.42	491.34	1.00
11/19/24 17:15	0.17	21.34	0.40	2035.38	2188.37	1.13	1.42	491.31	1.00
11/19/24 18:15	0.17	21.34	0.40	2035.41	2188.41	1.13	1.42	491.30	1.00
11/19/24 19:15	0.17	21.34	0.40	2035.09	2188.05	1.13	1.42	491.38	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/19/24 20:15	0.17	21.34	0.39	2034.85	2187.78	1.13	1.42	491.44	1.00
11/19/24 21:15	0.17	21.34	0.39	2035.09	2188.03	1.13	1.42	491.38	1.00
11/19/24 22:15	0.17	21.34	0.38	2034.90	2187.83	1.13	1.42	491.42	1.00
11/19/24 23:15	0.16	21.34	0.38	2034.82	2187.73	1.13	1.42	491.44	1.00
11/20/24 0:15	0.17	21.34	0.38	2035.09	2188.04	1.13	1.42	491.38	1.00
11/20/24 1:15	0.16	21.34	0.38	2034.71	2187.60	1.13	1.42	491.47	1.00
11/20/24 2:15	0.16	21.34	0.38	2035.09	2188.00	1.13	1.42	491.38	1.00
11/20/24 3:15	0.16	21.34	0.38	2035.49	2188.39	1.13	1.42	491.28	1.00
11/20/24 4:15	0.16	21.34	0.37	2035.38	2188.31	1.13	1.42	491.31	1.00
11/20/24 5:15	0.16	21.34	0.37	2034.97	2187.84	1.13	1.42	491.41	1.00
11/20/24 6:15	0.16	21.34	0.37	2035.17	2188.05	1.13	1.42	491.36	1.00
11/20/24 7:15	0.16	21.34	0.36	2035.29	2188.18	1.13	1.42	491.33	1.00
11/20/24 8:15	0.16	21.34	0.36	2035.36	2188.25	1.13	1.42	491.31	1.00
11/20/24 9:15	0.16	21.34	0.36	2035.34	2188.22	1.13	1.42	491.32	1.00
11/20/24 10:15	0.16	21.34	0.37	2035.36	2188.22	1.13	1.42	491.31	1.00
11/20/24 11:15	0.16	21.34	0.37	2034.90	2187.73	1.13	1.42	491.43	1.00
11/20/24 12:15	0.16	21.34	0.38	2034.85	2187.66	1.13	1.42	491.44	1.00
11/20/24 13:15	0.17	21.34	0.38	2034.77	2187.57	1.13	1.42	491.46	1.00
11/20/24 14:15	0.17	21.34	0.39	2034.56	2187.34	1.13	1.42	491.51	1.00
11/20/24 15:15	0.17	21.34	0.39	2035.18	2187.98	1.13	1.42	491.36	1.00
11/20/24 16:15	0.17	21.34	0.39	2034.97	2187.77	1.13	1.42	491.41	1.00
11/20/24 17:15	0.17	21.34	0.39	2034.69	2187.46	1.13	1.42	491.48	1.00
11/20/24 18:15	0.17	21.34	0.39	2034.66	2187.41	1.13	1.42	491.48	1.00
11/20/24 19:15	0.17	21.34	0.39	2034.33	2187.04	1.13	1.42	491.56	1.00
11/20/24 20:15	0.17	21.34	0.39	2034.62	2187.33	1.13	1.42	491.49	1.00
11/20/24 21:15	0.17	21.34	0.39	2034.80	2187.55	1.13	1.42	491.45	1.00
11/20/24 22:15	0.17	21.35	0.39	2034.65	2187.32	1.13	1.42	491.48	1.00
11/20/24 23:15	0.17	21.35	0.39	2034.93	2187.62	1.13	1.42	491.42	1.00
11/21/24 0:15	0.17	21.35	0.39	2035.19	2187.93	1.13	1.42	491.36	1.00
11/21/24 1:15	0.17	21.35	0.39	2034.65	2187.33	1.13	1.42	491.49	1.00
11/21/24 2:15	0.17	21.35	0.39	2035.17	2187.88	1.13	1.42	491.36	1.00
11/21/24 3:15	0.17	21.35	0.39	2034.53	2187.20	1.13	1.42	491.52	1.00
11/21/24 4:15	0.17	21.35	0.39	2034.90	2187.57	1.13	1.42	491.42	1.00
11/21/24 5:15	0.17	21.35	0.39	2034.82	2187.49	1.13	1.42	491.44	1.00
11/21/24 6:15	0.17	21.35	0.39	2034.97	2187.64	1.13	1.42	491.41	1.00
11/21/24 7:15	0.17	21.35	0.39	2034.86	2187.50	1.13	1.42	491.44	1.00
11/21/24 8:15	0.17	21.35	0.39	2034.84	2187.48	1.13	1.42	491.44	1.00
11/21/24 9:15	0.17	21.35	0.39	2034.74	2187.39	1.13	1.42	491.46	1.00
11/21/24 10:15	0.17	21.35	0.39	2034.91	2187.56	1.13	1.42	491.42	1.00
11/21/24 11:15	0.17	21.35	0.39	2035.04	2187.65	1.13	1.42	491.39	1.00
11/21/24 12:15	0.17	21.35	0.39	2034.79	2187.42	1.13	1.42	491.45	1.00
11/21/24 13:15	0.17	21.35	0.40	2035.05	2187.65	1.13	1.42	491.39	1.00
11/21/24 14:15	0.17	21.35	0.40	2035.11	2187.68	1.13	1.42	491.37	1.00
11/21/24 15:15	0.17	21.35	0.40	2035.27	2187.84	1.13	1.42	491.33	1.00
11/21/24 16:15	0.17	21.35	0.40	2035.57	2188.21	1.13	1.42	491.26	1.00
11/21/24 17:15	0.17	21.35	0.40	2035.92	2188.60	1.13	1.42	491.18	1.00
11/21/24 18:15	0.17	21.35	0.40	2035.61	2188.24	1.13	1.42	491.25	1.00
11/21/24 19:15	0.17	21.35	0.40	2035.77	2188.38	1.13	1.42	491.22	1.00
11/21/24 20:15	0.17	21.35	0.40	2035.61	2188.21	1.13	1.42	491.25	1.00
11/21/24 21:15	0.17	21.35	0.40	2035.73	2188.34	1.13	1.42	491.22	1.00
11/21/24 22:15	0.17	21.35	0.40	2035.72	2188.32	1.13	1.42	491.23	1.00
11/21/24 23:15	0.17	21.35	0.40	2035.83	2188.47	1.13	1.42	491.20	1.00
11/22/24 0:15	0.17	21.35	0.40	2036.17	2188.78	1.13	1.42	491.12	1.00
11/22/24 1:15	0.17	21.35	0.40	2035.94	2188.54	1.13	1.42	491.17	1.00
11/22/24 2:15	0.17	21.35	0.40	2035.61	2188.17	1.13	1.42	491.25	1.00
11/22/24 3:15	0.18	21.35	0.40	2035.57	2188.14	1.13	1.42	491.26	1.00
11/22/24 4:15	0.18	21.35	0.41	2035.58	2188.10	1.13	1.42	491.26	1.00
11/22/24 5:15	0.17	21.35	0.40	2035.56	2188.09	1.13	1.42	491.27	1.00
11/22/24 6:15	0.17	21.35	0.40	2035.86	2188.39	1.13	1.42	491.19	1.00
11/22/24 7:15	0.17	21.35	0.40	2035.53	2188.05	1.13	1.42	491.27	1.00
11/22/24 8:15	0.17	21.35	0.40	2035.45	2187.88	1.13	1.42	491.29	1.00
11/22/24 9:15	0.17	21.35	0.40	2035.64	2188.12	1.13	1.42	491.25	1.00
11/22/24 10:15	0.17	21.35	0.40	2035.55	2188.03	1.13	1.42	491.27	1.00
11/22/24 11:15	0.17	21.35	0.40	2035.75	2188.26	1.13	1.42	491.22	1.00
11/22/24 12:15	0.18	21.35	0.41	2035.63	2188.12	1.13	1.42	491.25	1.00
11/22/24 13:15	0.18	21.35	0.41	2035.62	2188.11	1.13	1.42	491.25	1.00
11/22/24 14:15	0.18	21.35	0.41	2035.44	2187.90	1.13	1.42	491.29	1.00
11/22/24 15:15	0.18	21.35	0.41	2035.48	2187.94	1.13	1.42	491.28	1.00
11/22/24 16:15	0.18	21.35	0.41	2035.11	2187.52	1.13	1.42	491.37	1.00
11/22/24 17:15	0.18	21.35	0.41	2034.93	2187.32	1.13	1.42	491.42	1.00
11/22/24 18:15	0.18	21.35	0.41	2035.19	2187.61	1.13	1.42	491.35	1.00
11/22/24 19:15	0.18	21.35	0.41	2035.24	2187.65	1.13	1.42	491.34	1.00
11/22/24 20:15	0.18	21.35	0.41	2035.45	2187.85	1.13	1.42	491.29	1.00
11/22/24 21:15	0.18	21.35	0.41	2035.65	2188.06	1.13	1.42	491.24	1.00
11/22/24 22:15	0.18	21.35	0.41	2035.72	2188.10	1.13	1.42	491.23	1.00
11/22/24 23:15	0.18	21.35	0.41	2035.68	2188.09	1.13	1.42	491.24	1.00
11/23/24 0:15	0.18	21.35	0.41	2035.15	2187.47	1.13	1.42	491.36	1.00
11/23/24 1:15	0.18	21.36	0.41	2035.07	2187.34	1.13	1.42	491.38	1.00
11/23/24 2:15	0.18	21.35	0.41	2035.03	2187.36	1.13	1.42	491.39	1.00
11/23/24 3:15	0.18	21.35	0.41	2034.71	2186.99	1.13	1.42	491.47	1.00
11/23/24 4:15	0.18	21.35	0.41	2035.08	2187.40	1.13	1.42	491.38	1.00
11/23/24 5:15	0.18	21.35	0.41	2034.84	2187.11	1.13	1.42	491.44	1.00
11/23/24 6:15	0.18	21.35	0.41	2034.44	2186.70	1.13	1.42	491.54	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/23/24 7:15	0.18	21.36	0.41	2034.48	2186.72	1.13	1.42	491.53	1.00
11/23/24 8:15	0.18	21.36	0.41	2034.80	2187.05	1.13	1.42	491.45	1.00
11/23/24 9:15	0.18	21.36	0.41	2034.78	2187.02	1.13	1.42	491.45	1.00
11/23/24 10:15	0.18	21.36	0.41	2034.40	2186.61	1.13	1.42	491.55	1.00
11/23/24 11:15	0.18	21.36	0.41	2034.47	2186.69	1.13	1.42	491.53	1.00
11/23/24 12:15	0.18	21.36	0.42	2034.86	2187.07	1.13	1.42	491.43	1.00
11/23/24 13:15	0.18	21.36	0.42	2034.84	2187.08	1.13	1.42	491.44	1.00
11/23/24 14:15	0.18	21.36	0.42	2034.69	2186.91	1.13	1.42	491.47	1.00
11/23/24 15:15	0.18	21.36	0.42	2034.98	2187.19	1.13	1.42	491.40	1.00
11/23/24 16:15	0.18	21.36	0.42	2035.16	2187.37	1.13	1.42	491.36	1.00
11/23/24 17:15	0.18	21.36	0.42	2034.89	2187.06	1.13	1.42	491.43	1.00
11/23/24 18:15	0.18	21.36	0.41	2034.94	2187.10	1.13	1.42	491.42	1.00
11/23/24 19:15	0.18	21.36	0.41	2034.85	2187.01	1.13	1.42	491.44	1.00
11/23/24 20:15	0.18	21.36	0.41	2034.52	2186.62	1.13	1.42	491.52	1.00
11/23/24 21:15	0.18	21.36	0.41	2034.73	2186.85	1.13	1.42	491.47	1.00
11/23/24 22:15	0.18	21.36	0.41	2034.61	2186.74	1.13	1.42	491.49	1.00
11/23/24 23:15	0.18	21.36	0.42	2034.73	2186.85	1.13	1.42	491.47	1.00
11/24/24 0:15	0.18	21.36	0.41	2035.00	2187.10	1.13	1.42	491.40	1.00
11/24/24 1:15	0.18	21.36	0.41	2034.51	2186.62	1.13	1.42	491.52	1.00
11/24/24 2:15	0.18	21.36	0.42	2034.25	2186.34	1.13	1.42	491.58	1.00
11/24/24 3:15	0.18	21.36	0.42	2034.46	2186.51	1.13	1.42	491.53	1.00
11/24/24 4:15	0.18	21.36	0.41	2034.61	2186.68	1.13	1.42	491.49	1.00
11/24/24 5:15	0.18	21.36	0.41	2034.55	2186.62	1.13	1.42	491.51	1.00
11/24/24 6:15	0.18	21.36	0.41	2034.07	2186.09	1.13	1.42	491.63	1.00
11/24/24 7:15	0.18	21.36	0.41	2034.31	2186.35	1.13	1.42	491.57	1.00
11/24/24 8:15	0.18	21.36	0.41	2034.13	2186.12	1.13	1.42	491.61	1.00
11/24/24 9:15	0.18	21.36	0.41	2034.00	2186.02	1.13	1.42	491.64	1.00
11/24/24 10:15	0.18	21.36	0.41	2033.78	2185.74	1.13	1.42	491.70	1.00
11/24/24 11:15	0.18	21.36	0.41	2034.18	2186.16	1.13	1.42	491.60	1.00
11/24/24 12:15	0.18	21.36	0.42	2033.81	2185.77	1.13	1.42	491.69	1.00
11/24/24 13:15	0.18	21.36	0.42	2034.05	2186.01	1.13	1.42	491.63	1.00
11/24/24 14:15	0.18	21.36	0.42	2033.70	2185.61	1.13	1.42	491.71	1.00
11/24/24 15:15	0.18	21.36	0.42	2033.57	2185.46	1.13	1.42	491.75	1.00
11/24/24 16:15	0.18	21.36	0.41	2033.34	2185.21	1.13	1.42	491.80	1.00
11/24/24 17:15	0.18	21.36	0.41	2033.83	2185.77	1.13	1.42	491.68	1.00
11/24/24 18:15	0.18	21.36	0.41	2033.99	2185.89	1.13	1.42	491.64	1.00
11/24/24 19:15	0.18	21.36	0.41	2033.64	2185.53	1.13	1.42	491.73	1.00
11/24/24 20:15	0.18	21.36	0.41	2033.64	2185.50	1.13	1.42	491.73	1.00
11/24/24 21:15	0.18	21.36	0.41	2033.57	2185.42	1.13	1.42	491.75	1.00
11/24/24 22:15	0.17	21.36	0.40	2033.62	2185.49	1.13	1.42	491.73	1.00
11/24/24 23:15	0.17	21.36	0.40	2033.55	2185.35	1.13	1.42	491.75	1.00
11/25/24 0:15	0.17	21.36	0.40	2033.25	2185.07	1.13	1.42	491.82	1.00
11/25/24 1:15	0.17	21.36	0.40	2032.91	2184.67	1.13	1.42	491.91	1.00
11/25/24 2:15	0.17	21.36	0.40	2032.68	2184.42	1.13	1.42	491.96	1.00
11/25/24 3:15	0.17	21.36	0.40	2032.62	2184.36	1.13	1.42	491.98	1.00
11/25/24 4:15	0.17	21.36	0.40	2032.61	2184.33	1.13	1.42	491.98	1.00
11/25/24 5:15	0.17	21.37	0.39	2032.74	2184.39	1.13	1.42	491.95	1.00
11/25/24 6:15	0.17	21.36	0.39	2032.61	2184.31	1.13	1.42	491.98	1.00
11/25/24 7:15	0.17	21.36	0.38	2032.43	2184.10	1.13	1.42	492.02	1.00
11/25/24 8:15	0.16	21.36	0.38	2032.64	2184.33	1.13	1.42	491.97	1.00
11/25/24 9:15	0.16	21.36	0.37	2032.19	2183.84	1.13	1.42	492.08	1.00
11/25/24 10:15	0.16	21.36	0.36	2032.45	2184.12	1.13	1.42	492.02	1.00
11/25/24 11:15	0.16	21.36	0.36	2032.37	2184.03	1.13	1.42	492.04	1.00
11/25/24 12:15	0.16	21.36	0.37	2032.07	2183.70	1.13	1.42	492.11	1.00
11/25/24 13:15	0.16	21.36	0.37	2032.43	2184.07	1.13	1.42	492.02	1.00
11/25/24 14:15	0.16	21.37	0.37	2032.62	2184.24	1.13	1.42	491.98	1.00
11/25/24 15:15	0.16	21.36	0.38	2032.39	2184.03	1.13	1.42	492.03	1.00
11/25/24 16:15	0.16	21.37	0.37	2032.47	2184.09	1.13	1.42	492.01	1.00
11/25/24 17:15	0.16	21.37	0.37	2032.37	2183.98	1.13	1.42	492.04	1.00
11/25/24 18:15	0.16	21.37	0.37	2032.52	2184.14	1.13	1.42	492.00	1.00
11/25/24 19:15	0.16	21.37	0.36	2033.33	2184.95	1.13	1.42	491.80	1.00
11/25/24 20:15	0.16	21.37	0.37	2033.26	2184.89	1.13	1.42	491.82	1.00
11/25/24 21:15	0.16	21.37	0.37	2033.27	2184.90	1.13	1.42	491.82	1.00
11/25/24 22:15	0.16	21.37	0.37	2033.19	2184.81	1.13	1.42	491.84	1.00
11/25/24 23:15	0.16	21.37	0.37	2033.34	2184.96	1.13	1.42	491.80	1.00
11/26/24 0:15	0.16	21.37	0.37	2033.49	2185.12	1.13	1.42	491.76	1.00
11/26/24 1:15	0.16	21.37	0.38	2033.57	2185.18	1.13	1.42	491.75	1.00
11/26/24 2:15	0.16	21.37	0.38	2033.79	2185.38	1.13	1.42	491.69	1.00
11/26/24 3:15	0.17	21.37	0.38	2033.87	2185.49	1.13	1.42	491.67	1.00
11/26/24 4:15	0.17	21.37	0.39	2033.98	2185.62	1.13	1.42	491.65	1.00
11/26/24 5:15	0.17	21.37	0.39	2033.90	2185.53	1.13	1.42	491.67	1.00
11/26/24 6:15	0.17	21.37	0.39	2033.59	2185.18	1.13	1.42	491.74	1.00
11/26/24 7:15	0.17	21.37	0.39	2033.61	2185.20	1.13	1.42	491.74	1.00
11/26/24 8:15	0.17	21.37	0.39	2033.64	2185.21	1.13	1.42	491.73	1.00
11/26/24 9:15	0.17	21.37	0.39	2034.05	2185.64	1.13	1.42	491.63	1.00
11/26/24 10:15	0.17	21.37	0.39	2033.97	2185.56	1.13	1.42	491.65	1.00
11/26/24 11:15	0.17	21.37	0.40	2034.03	2185.58	1.13	1.42	491.64	1.00
11/26/24 12:15	0.18	21.37	0.41	2034.04	2185.61	1.13	1.42	491.63	1.00
11/26/24 13:15	0.18	21.37	0.41	2034.00	2185.56	1.13	1.42	491.64	1.00
11/26/24 14:15	0.18	21.37	0.41	2034.23	2185.80	1.13	1.42	491.59	1.00
11/26/24 15:15	0.18	21.37	0.41	2033.93	2185.47	1.13	1.42	491.66	1.00
11/26/24 16:15	0.18	21.37	0.41	2034.11	2185.68	1.13	1.42	491.62	1.00
11/26/24 17:15	0.18	21.37	0.41	2034.02	2185.56	1.13	1.42	491.64	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/26/24 18:15	0.18	21.37	0.41	2034.05	2185.57	1.13	1.42	491.63	1.00
11/26/24 19:15	0.18	21.37	0.41	2034.01	2185.53	1.13	1.42	491.64	1.00
11/26/24 20:15	0.18	21.37	0.41	2034.19	2185.64	1.13	1.42	491.60	1.00
11/26/24 21:15	0.18	21.37	0.41	2033.99	2185.46	1.13	1.42	491.64	1.00
11/26/24 22:15	0.18	21.37	0.41	2033.72	2185.18	1.13	1.42	491.71	1.00
11/26/24 23:15	0.18	21.37	0.41	2034.01	2185.50	1.13	1.42	491.64	1.00
11/27/24 0:15	0.18	21.37	0.41	2033.95	2185.44	1.13	1.42	491.65	1.00
11/27/24 1:15	0.18	21.37	0.41	2033.72	2185.15	1.13	1.42	491.71	1.00
11/27/24 2:15	0.18	21.37	0.41	2034.12	2185.58	1.13	1.42	491.61	1.00
11/27/24 3:15	0.18	21.37	0.41	2033.49	2184.89	1.13	1.42	491.76	1.00
11/27/24 4:15	0.17	21.37	0.39	2033.39	2184.74	1.13	1.42	491.79	1.00
11/27/24 5:15	0.18	21.37	0.41	2033.54	2184.93	1.13	1.42	491.75	1.00
11/27/24 6:15	0.18	21.37	0.41	2033.22	2184.58	1.13	1.42	491.83	1.00
11/27/24 7:15	0.18	21.37	0.40	2033.28	2184.58	1.13	1.42	491.82	1.00
11/27/24 8:15	0.18	21.37	0.41	2032.93	2184.27	1.13	1.42	491.90	1.00
11/27/24 9:15	0.17	21.37	0.40	2033.10	2184.46	1.13	1.42	491.86	1.00
11/27/24 10:15	0.17	21.37	0.40	2032.84	2184.14	1.13	1.42	491.92	1.00
11/27/24 11:15	0.18	21.37	0.41	2032.79	2184.09	1.13	1.42	491.93	1.00
11/27/24 12:15	0.18	21.37	0.41	2032.92	2184.21	1.13	1.42	491.90	1.00
11/27/24 13:15	0.18	21.37	0.41	2032.52	2183.77	1.13	1.42	492.00	1.00
11/27/24 14:15	0.18	21.37	0.41	2032.86	2184.12	1.13	1.42	491.92	1.00
11/27/24 15:15	0.18	21.37	0.41	2032.46	2183.71	1.13	1.42	492.01	1.00
11/27/24 16:15	0.17	21.37	0.40	2031.21	2182.38	1.13	1.42	492.32	1.00
11/27/24 17:15	0.17	21.37	0.39	2030.79	2181.91	1.13	1.42	492.42	1.00
11/27/24 18:15	0.17	21.37	0.39	2030.67	2181.74	1.13	1.42	492.45	1.00
11/27/24 19:15	0.17	21.37	0.38	2030.28	2181.32	1.13	1.42	492.54	1.00
11/27/24 20:15	0.17	21.37	0.38	2030.66	2181.73	1.13	1.42	492.45	1.00
11/27/24 21:15	0.16	21.38	0.37	2030.62	2181.67	1.13	1.42	492.46	1.00
11/27/24 22:15	0.16	21.37	0.36	2030.17	2181.19	1.13	1.42	492.57	1.00
11/27/24 23:15	0.16	21.38	0.36	2030.38	2181.41	1.13	1.42	492.52	1.00
11/28/24 0:15	0.16	21.38	0.37	2030.56	2181.58	1.13	1.42	492.48	1.00
11/28/24 1:15	0.16	21.38	0.36	2030.36	2181.37	1.13	1.42	492.52	1.00
11/28/24 2:15	0.16	21.38	0.37	2030.44	2181.43	1.13	1.42	492.50	1.00
11/28/24 3:15	0.16	21.38	0.36	2030.61	2181.62	1.13	1.42	492.46	1.00
11/28/24 4:15	0.16	21.38	0.36	2030.53	2181.53	1.13	1.42	492.48	1.00
11/28/24 5:15	0.16	21.38	0.37	2030.67	2181.65	1.13	1.42	492.45	1.00
11/28/24 6:15	0.16	21.38	0.36	2030.61	2181.57	1.13	1.42	492.46	1.00
11/28/24 7:15	0.15	21.38	0.36	2030.56	2181.53	1.13	1.42	492.48	1.00
11/28/24 8:15	0.16	21.38	0.36	2029.97	2180.89	1.13	1.42	492.62	1.00
11/28/24 9:15	0.16	21.38	0.36	2030.13	2181.01	1.13	1.42	492.58	1.00
11/28/24 10:15	0.16	21.38	0.36	2030.09	2180.99	1.13	1.42	492.59	1.00
11/28/24 11:15	0.16	21.38	0.36	2029.96	2180.86	1.13	1.42	492.62	1.00
11/28/24 12:15	0.16	21.38	0.37	2030.26	2181.18	1.13	1.42	492.55	1.00
11/28/24 13:15	0.16	21.38	0.38	2029.82	2180.67	1.13	1.42	492.65	1.00
11/28/24 14:15	0.17	21.38	0.39	2029.88	2180.70	1.13	1.42	492.64	1.00
11/28/24 15:15	0.17	21.38	0.38	2029.48	2180.29	1.13	1.42	492.74	1.00
11/28/24 16:15	0.16	21.38	0.38	2029.97	2180.81	1.13	1.42	492.62	1.00
11/28/24 17:15	0.16	21.38	0.38	2029.38	2180.19	1.13	1.42	492.76	1.00
11/28/24 18:15	0.16	21.38	0.38	2029.41	2180.22	1.13	1.42	492.75	1.00
11/28/24 19:15	0.16	21.38	0.37	2029.42	2180.18	1.13	1.42	492.75	1.00
11/28/24 20:15	0.16	21.38	0.37	2029.24	2180.01	1.13	1.42	492.79	1.00
11/28/24 21:15	0.16	21.38	0.37	2029.48	2180.25	1.13	1.42	492.74	1.00
11/28/24 22:15	0.16	21.38	0.36	2029.65	2180.43	1.13	1.42	492.70	1.00
11/28/24 23:15	0.16	21.38	0.36	2029.61	2180.39	1.13	1.42	492.70	1.00
11/29/24 0:15	0.16	21.38	0.36	2029.61	2180.30	1.13	1.42	492.70	1.00
11/29/24 1:15	0.15	21.38	0.36	2029.44	2180.16	1.13	1.42	492.75	1.00
11/29/24 2:15	0.16	21.38	0.36	2029.10	2179.79	1.13	1.42	492.83	1.00
11/29/24 3:15	0.16	21.38	0.36	2029.12	2179.79	1.13	1.42	492.83	1.00
11/29/24 4:15	0.15	21.38	0.35	2029.65	2180.37	1.13	1.42	492.70	1.00
11/29/24 5:15	0.15	21.38	0.35	2029.79	2180.50	1.13	1.42	492.66	1.00
11/29/24 6:15	0.15	21.38	0.35	2029.93	2180.65	1.13	1.42	492.63	1.00
11/29/24 7:15	0.15	21.38	0.35	2029.62	2180.35	1.13	1.42	492.70	1.00
11/29/24 8:15	0.15	21.38	0.35	2029.55	2180.24	1.13	1.42	492.72	1.00
11/29/24 9:15	0.15	21.38	0.35	2029.66	2180.35	1.13	1.42	492.69	1.00
11/29/24 10:15	0.15	21.38	0.35	2029.70	2180.37	1.13	1.42	492.68	1.00
11/29/24 11:15	0.15	21.38	0.36	2029.44	2180.10	1.13	1.42	492.75	1.00
11/29/24 12:15	0.15	21.38	0.36	2029.21	2179.85	1.13	1.42	492.80	1.00
11/29/24 13:15	0.16	21.38	0.37	2029.17	2179.78	1.13	1.42	492.81	1.00
11/29/24 14:15	0.16	21.38	0.37	2029.34	2179.93	1.13	1.42	492.77	1.00
11/29/24 15:15	0.16	21.38	0.37	2029.07	2179.67	1.13	1.42	492.84	1.00
11/29/24 16:15	0.16	21.38	0.37	2029.10	2179.69	1.13	1.42	492.83	1.00
11/29/24 17:15	0.16	21.38	0.36	2028.68	2179.27	1.13	1.42	492.93	1.00
11/29/24 18:15	0.16	21.38	0.37	2028.94	2179.51	1.13	1.42	492.87	1.00
11/29/24 19:15	0.16	21.38	0.36	2029.14	2179.71	1.13	1.42	492.82	1.00
11/29/24 20:15	0.16	21.38	0.36	2028.99	2179.56	1.13	1.42	492.86	1.00
11/29/24 21:15	0.16	21.38	0.36	2029.19	2179.76	1.13	1.42	492.81	1.00
11/29/24 22:15	0.16	21.38	0.36	2028.86	2179.39	1.13	1.42	492.89	1.00
11/29/24 23:15	0.16	21.38	0.37	2029.27	2179.79	1.13	1.42	492.79	1.00
11/30/24 0:15	0.16	21.38	0.36	2028.65	2179.16	1.13	1.42	492.94	1.00
11/30/24 1:15	0.16	21.38	0.36	2028.76	2179.25	1.13	1.42	492.91	1.00
11/30/24 2:15	0.16	21.38	0.37	2028.49	2178.96	1.13	1.42	492.98	1.00
11/30/24 3:15	0.16	21.38	0.36	2029.01	2179.51	1.13	1.42	492.85	1.00
11/30/24 4:15	0.16	21.38	0.36	2028.82	2179.31	1.13	1.42	492.90	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
11/30/24 5:15	0.16	21.38	0.36	2028.55	2179.02	1.13	1.42	492.96	1.00
11/30/24 6:15	0.16	21.39	0.36	2028.18	2178.59	1.13	1.42	493.05	1.00
11/30/24 7:15	0.16	21.39	0.36	2028.02	2178.40	1.13	1.42	493.09	1.00
11/30/24 8:15	0.15	21.39	0.36	2028.32	2178.71	1.13	1.42	493.02	1.00
11/30/24 9:15	0.15	21.39	0.35	2028.09	2178.48	1.13	1.42	493.07	1.00
11/30/24 10:15	0.15	21.39	0.35	2027.97	2178.34	1.13	1.42	493.10	1.00
11/30/24 11:15	0.15	21.39	0.35	2028.01	2178.37	1.13	1.42	493.09	1.00
11/30/24 12:15	0.16	21.39	0.36	2028.17	2178.54	1.13	1.42	493.06	1.00
11/30/24 13:15	0.16	21.39	0.37	2028.11	2178.48	1.13	1.42	493.07	1.00
11/30/24 14:15	0.16	21.39	0.36	2027.64	2177.95	1.13	1.42	493.18	1.00
11/30/24 15:15	0.16	21.39	0.37	2027.78	2178.11	1.13	1.42	493.15	1.00
11/30/24 16:15	0.15	21.39	0.35	2027.48	2177.73	1.13	1.42	493.22	1.00
11/30/24 17:15	0.15	21.39	0.36	2027.49	2177.76	1.13	1.42	493.22	1.00
11/30/24 18:15	0.15	21.39	0.35	2026.97	2177.19	1.13	1.42	493.35	1.00
11/30/24 19:15	0.15	21.39	0.36	2026.57	2176.76	1.13	1.41	493.44	1.00
11/30/24 20:15	0.15	21.39	0.36	2026.59	2176.76	1.13	1.41	493.44	1.00
11/30/24 21:15	0.16	21.39	0.36	2026.73	2176.84	1.13	1.41	493.41	1.00
11/30/24 22:15	0.15	21.39	0.35	2026.69	2176.86	1.13	1.41	493.42	1.00
11/30/24 23:15	0.15	21.39	0.36	2026.81	2176.98	1.13	1.42	493.39	1.00
12/1/24 0:15	0.15	21.39	0.36	2026.33	2176.46	1.13	1.41	493.50	1.00
12/1/24 1:15	0.15	21.39	0.35	2026.50	2176.53	1.13	1.41	493.46	1.00
12/1/24 2:15	0.15	21.39	0.35	2026.08	2176.17	1.13	1.41	493.56	1.00
12/1/24 3:15	0.15	21.39	0.35	2025.49	2175.55	1.13	1.41	493.71	1.00
12/1/24 4:15	0.15	21.39	0.35	2025.57	2175.63	1.13	1.41	493.69	1.00
12/1/24 5:15	0.15	21.39	0.35	2022.18	2171.90	1.12	1.41	494.52	1.00
12/1/24 6:15	0.15	21.39	0.35	2006.86	2155.47	1.12	1.40	498.29	1.00
12/1/24 7:15	0.15	21.39	0.35	2008.11	2156.85	1.12	1.40	497.98	1.00
12/1/24 8:15	0.15	21.39	0.35	2007.97	2156.67	1.12	1.40	498.01	1.00
12/1/24 9:15	0.15	21.39	0.35	2007.75	2156.44	1.12	1.40	498.07	1.00
12/1/24 10:15	0.15	21.39	0.34	2007.84	2156.48	1.12	1.40	498.05	1.00
12/1/24 11:15	0.15	21.39	0.35	2007.35	2156.00	1.12	1.40	498.17	1.00
12/1/24 12:15	0.15	21.39	0.35	2007.06	2155.67	1.12	1.40	498.24	1.00
12/1/24 13:15	0.15	21.39	0.35	2006.31	2154.85	1.12	1.40	498.43	1.00
12/1/24 14:15	0.15	21.39	0.36	2005.93	2154.44	1.12	1.40	498.52	1.00
12/1/24 15:15	0.15	21.39	0.36	2006.11	2154.66	1.12	1.40	498.48	1.00
12/1/24 16:15	0.15	21.39	0.35	2005.65	2154.13	1.11	1.40	498.59	1.00
12/1/24 17:15	0.15	21.39	0.35	2005.16	2153.59	1.11	1.40	498.71	1.00
12/1/24 18:15	0.15	21.39	0.35	2004.87	2153.26	1.11	1.40	498.79	1.00
12/1/24 19:15	0.15	21.39	0.35	2004.84	2153.22	1.11	1.40	498.79	1.00
12/1/24 20:15	0.15	21.39	0.34	2004.37	2152.72	1.11	1.40	498.91	1.00
12/1/24 21:15	0.15	21.39	0.34	2003.95	2152.23	1.11	1.40	499.01	1.00
12/1/24 22:15	0.14	21.39	0.33	2004.27	2152.56	1.11	1.40	498.94	1.00
12/1/24 23:15	0.14	21.39	0.33	2003.89	2152.18	1.11	1.40	499.03	1.00
12/2/24 0:15	0.14	21.39	0.33	2003.38	2151.60	1.11	1.40	499.16	1.00
12/2/24 1:15	0.15	21.39	0.34	2003.13	2151.35	1.11	1.40	499.22	1.00
12/2/24 2:15	0.14	21.39	0.33	2002.97	2151.14	1.11	1.40	499.26	1.00
12/2/24 3:15	0.14	21.39	0.33	2002.69	2150.86	1.11	1.40	499.33	1.00
12/2/24 4:15	0.15	21.39	0.34	2002.35	2150.49	1.11	1.40	499.41	1.00
12/2/24 5:15	0.14	21.39	0.33	2002.67	2150.79	1.11	1.40	499.33	1.00
12/2/24 6:15	0.14	21.39	0.33	2002.60	2150.72	1.11	1.40	499.35	1.00
12/2/24 7:15	0.14	21.39	0.33	2002.61	2150.74	1.11	1.40	499.35	1.00
12/2/24 8:15	0.14	21.39	0.33	2002.62	2150.75	1.11	1.40	499.35	1.00
12/2/24 9:15	0.14	21.39	0.33	2002.94	2151.07	1.11	1.40	499.27	1.00
12/2/24 10:15	0.14	21.39	0.33	2002.79	2150.90	1.11	1.40	499.30	1.00
12/2/24 11:15	0.14	21.39	0.33	2002.88	2151.01	1.11	1.40	499.28	1.00
12/2/24 12:15	0.15	21.39	0.34	2002.87	2150.99	1.11	1.40	499.28	1.00
12/2/24 13:15	0.15	21.39	0.34	2002.84	2150.97	1.11	1.40	499.29	1.00
12/2/24 14:15	0.15	21.40	0.35	2003.03	2151.12	1.11	1.40	499.24	1.00
12/2/24 15:15	0.15	21.40	0.35	2002.79	2150.86	1.11	1.40	499.30	1.00
12/2/24 16:15	0.15	21.40	0.34	2002.39	2150.44	1.11	1.40	499.40	1.00
12/2/24 17:15	0.15	21.40	0.34	2002.37	2150.41	1.11	1.40	499.41	1.00
12/2/24 18:15	0.15	21.40	0.34	2002.59	2150.62	1.11	1.40	499.35	1.00
12/2/24 19:15	0.15	21.40	0.34	2002.41	2150.43	1.11	1.40	499.40	1.00
12/2/24 20:15	0.15	21.40	0.34	2002.01	2150.00	1.11	1.40	499.50	1.00
12/2/24 21:15	0.14	21.40	0.33	2002.14	2150.11	1.11	1.40	499.47	1.00
12/2/24 22:15	0.14	21.40	0.33	2002.09	2150.06	1.11	1.40	499.48	1.00
12/2/24 23:15	0.14	21.40	0.33	2001.79	2149.74	1.11	1.40	499.55	1.00
12/3/24 0:15	0.14	21.40	0.33	2002.19	2150.17	1.11	1.40	499.45	1.00
12/3/24 1:15	0.14	21.40	0.33	2002.36	2150.34	1.11	1.40	499.41	1.00
12/3/24 2:15	0.14	21.40	0.33	2002.04	2149.99	1.11	1.40	499.49	1.00
12/3/24 3:15	0.14	21.40	0.33	2002.03	2149.90	1.11	1.40	499.49	1.00
12/3/24 4:15	0.14	21.40	0.33	2001.64	2149.52	1.11	1.40	499.59	1.00
12/3/24 5:15	0.14	21.40	0.33	2001.76	2149.65	1.11	1.40	499.56	1.00
12/3/24 6:15	0.14	21.40	0.33	2001.50	2149.35	1.11	1.40	499.63	1.00
12/3/24 7:15	0.14	21.40	0.33	2001.14	2148.95	1.11	1.40	499.72	1.00
12/3/24 8:15	0.14	21.40	0.33	2000.88	2148.65	1.11	1.40	499.78	1.00
12/3/24 9:15	0.14	21.40	0.33	2000.73	2148.51	1.11	1.40	499.82	1.00
12/3/24 10:15	0.14	21.40	0.33	2000.23	2147.97	1.11	1.40	499.94	1.00
12/3/24 11:15	0.14	21.40	0.33	2000.21	2147.95	1.11	1.40	499.95	1.00
12/3/24 12:15	0.14	21.40	0.33	1999.77	2147.46	1.11	1.40	500.06	1.00
12/3/24 13:15	0.15	21.40	0.34	1999.44	2147.09	1.11	1.40	500.14	1.00
12/3/24 14:15	0.15	21.40	0.34	1999.48	2147.09	1.11	1.40	500.13	1.00
12/3/24 15:15	0.15	21.40	0.34	1999.19	2146.83	1.11	1.40	500.20	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/3/24 16:15	0.15	21.40	0.34	1998.87	2146.39	1.11	1.40	500.28	1.00
12/3/24 17:15	0.15	21.40	0.34	1998.82	2146.40	1.11	1.40	500.29	1.00
12/3/24 18:15	0.15	21.40	0.34	1998.14	2145.67	1.11	1.39	500.46	1.00
12/3/24 19:15	0.14	21.40	0.33	1998.10	2145.61	1.11	1.39	500.47	1.00
12/3/24 20:15	0.15	21.40	0.34	1997.76	2145.23	1.11	1.39	500.56	1.00
12/3/24 21:15	0.14	21.40	0.33	1997.63	2145.11	1.11	1.39	500.59	1.00
12/3/24 22:15	0.15	21.40	0.34	1997.50	2144.95	1.11	1.39	500.63	1.00
12/3/24 23:15	0.14	21.40	0.33	1997.56	2145.00	1.11	1.39	500.61	1.00
12/4/24 0:15	0.15	21.40	0.34	1996.95	2144.36	1.11	1.39	500.76	1.00
12/4/24 1:15	0.15	21.40	0.34	1996.96	2144.35	1.11	1.39	500.76	1.00
12/4/24 2:15	0.15	21.40	0.34	1997.06	2144.46	1.11	1.39	500.74	1.00
12/4/24 3:15	0.15	21.40	0.34	1997.09	2144.45	1.11	1.39	500.73	1.00
12/4/24 4:15	0.15	21.40	0.34	1997.03	2144.38	1.11	1.39	500.74	1.00
12/4/24 5:15	0.15	21.40	0.34	1996.76	2144.09	1.11	1.39	500.81	1.00
12/4/24 6:15	0.15	21.40	0.34	1996.73	2144.05	1.11	1.39	500.82	1.00
12/4/24 7:15	0.14	21.40	0.33	1996.50	2143.79	1.11	1.39	500.88	1.00
12/4/24 8:15	0.14	21.40	0.33	1996.24	2143.50	1.11	1.39	500.94	1.00
12/4/24 9:15	0.14	21.40	0.33	1996.33	2143.61	1.11	1.39	500.92	1.00
12/4/24 10:15	0.14	21.40	0.33	1996.57	2143.86	1.11	1.39	500.86	1.00
12/4/24 11:15	0.14	21.40	0.33	1996.60	2143.88	1.11	1.39	500.85	1.00
12/4/24 12:15	0.15	21.40	0.34	1996.68	2143.96	1.11	1.39	500.83	1.00
12/4/24 13:15	0.14	21.40	0.33	1996.76	2144.06	1.11	1.39	500.81	1.00
12/4/24 14:15	0.15	21.40	0.34	1996.51	2143.75	1.11	1.39	500.87	1.00
12/4/24 15:15	0.14	21.40	0.33	1996.34	2143.55	1.11	1.39	500.92	1.00
12/4/24 16:15	0.14	21.40	0.33	1996.45	2143.68	1.11	1.39	500.89	1.00
12/4/24 17:15	0.14	21.41	0.33	1995.99	2143.14	1.11	1.39	501.01	1.00
12/4/24 18:15	0.14	21.40	0.33	1996.11	2143.29	1.11	1.39	500.97	1.00
12/4/24 19:15	0.14	21.41	0.33	1996.37	2143.54	1.11	1.39	500.91	1.00
12/4/24 20:15	0.14	21.41	0.33	1996.16	2143.33	1.11	1.39	500.96	1.00
12/4/24 21:15	0.14	21.41	0.33	1996.02	2143.18	1.11	1.39	501.00	1.00
12/4/24 22:15	0.14	21.40	0.33	1996.18	2143.36	1.11	1.39	500.96	1.00
12/4/24 23:15	0.14	21.41	0.32	1996.14	2143.29	1.11	1.39	500.97	1.00
12/5/24 0:15	0.14	21.41	0.32	1996.12	2143.26	1.11	1.39	500.97	1.00
12/5/24 1:15	0.14	21.41	0.33	1996.26	2143.38	1.11	1.39	500.94	1.00
12/5/24 2:15	0.14	21.41	0.33	1996.16	2143.30	1.11	1.39	500.96	1.00
12/5/24 3:15	0.14	21.41	0.32	1997.61	2144.83	1.11	1.39	500.60	1.00
12/5/24 4:15	0.14	21.41	0.32	1997.56	2144.78	1.11	1.39	500.61	1.00
12/5/24 5:15	0.14	21.41	0.32	1997.38	2144.54	1.11	1.39	500.66	1.00
12/5/24 6:15	0.14	21.41	0.32	1997.31	2144.48	1.11	1.39	500.67	1.00
12/5/24 7:15	0.14	21.41	0.32	1997.16	2144.33	1.11	1.39	500.71	1.00
12/5/24 8:15	0.14	21.41	0.32	1997.05	2144.19	1.11	1.39	500.74	1.00
12/5/24 9:15	0.13	21.41	0.31	1996.91	2143.99	1.11	1.39	500.77	1.00
12/5/24 10:15	0.13	21.41	0.29	1997.48	2144.64	1.11	1.39	500.63	1.00
12/5/24 11:15	0.13	21.41	0.29	1997.52	2144.65	1.11	1.39	500.62	1.00
12/5/24 12:15	0.13	21.41	0.29	1997.90	2145.07	1.11	1.39	500.53	1.00
12/5/24 13:15	0.13	21.41	0.30	2060.85	2212.63	1.15	1.44	485.24	1.00
12/5/24 14:15	0.11	21.42	0.25	2054.09	2205.01	1.14	1.43	486.83	1.00
12/5/24 15:15	0.11	21.41	0.24	2053.98	2205.00	1.14	1.43	486.86	1.00
12/5/24 16:15	0.11	21.41	0.25	2053.67	2204.72	1.14	1.43	486.93	1.00
12/5/24 17:15	0.11	21.41	0.24	2053.83	2204.94	1.14	1.43	486.90	1.00
12/5/24 18:15	0.10	21.41	0.24	2053.21	2204.31	1.14	1.43	487.04	1.00
12/5/24 19:15	0.10	21.41	0.24	2053.20	2204.31	1.14	1.43	487.04	1.00
12/5/24 20:15	0.10	21.41	0.24	2052.87	2203.96	1.14	1.43	487.12	1.00
12/5/24 21:15	0.10	21.41	0.24	2052.73	2203.81	1.14	1.43	487.16	1.00
12/5/24 22:15	0.10	21.41	0.24	2052.38	2203.43	1.14	1.43	487.24	1.00
12/5/24 23:15	0.10	21.41	0.23	2052.42	2203.51	1.14	1.43	487.23	1.00
12/6/24 0:15	0.10	21.41	0.23	2051.91	2202.93	1.14	1.43	487.35	1.00
12/6/24 1:15	0.10	21.41	0.24	2051.87	2202.92	1.14	1.43	487.36	1.00
12/6/24 2:15	0.10	21.41	0.24	2051.67	2202.68	1.14	1.43	487.41	1.00
12/6/24 3:15	0.10	21.41	0.24	2051.03	2201.98	1.14	1.43	487.56	1.00
12/6/24 4:15	0.10	21.41	0.24	2050.47	2201.37	1.14	1.43	487.69	1.00
12/6/24 5:15	0.10	21.41	0.24	2050.16	2201.04	1.14	1.43	487.77	1.00
12/6/24 6:15	0.10	21.41	0.23	2049.57	2200.37	1.14	1.43	487.91	1.00
12/6/24 7:15	0.10	21.41	0.23	2049.88	2200.73	1.14	1.43	487.83	1.00
12/6/24 8:15	0.10	21.41	0.23	2049.90	2200.73	1.14	1.43	487.83	1.00
12/6/24 9:15	0.10	21.41	0.23	2049.75	2200.57	1.14	1.43	487.86	1.00
12/6/24 10:15	0.10	21.41	0.23	2049.77	2200.55	1.14	1.43	487.86	1.00
12/6/24 11:15	0.10	21.41	0.23	2049.61	2200.42	1.14	1.43	487.90	1.00
12/6/24 12:15	0.10	21.41	0.23	2049.12	2199.89	1.14	1.43	488.01	1.00
12/6/24 13:15	0.10	21.41	0.24	2048.86	2199.57	1.14	1.43	488.08	1.00
12/6/24 14:15	0.10	21.41	0.24	2048.43	2199.07	1.14	1.43	488.18	1.00
12/6/24 15:15	0.10	21.41	0.24	2048.24	2198.87	1.14	1.43	488.22	1.00
12/6/24 16:15	0.10	21.41	0.24	2047.99	2198.63	1.14	1.43	488.28	1.00
12/6/24 17:15	0.10	21.41	0.23	2048.38	2199.03	1.14	1.43	488.19	1.00
12/6/24 18:15	0.10	21.41	0.24	2048.11	2198.74	1.14	1.43	488.26	1.00
12/6/24 19:15	0.10	21.41	0.24	2048.15	2198.75	1.14	1.43	488.24	1.00
12/6/24 20:15	0.10	21.41	0.23	2047.85	2198.45	1.14	1.43	488.32	1.00
12/6/24 21:15	0.10	21.42	0.23	2047.77	2198.27	1.14	1.43	488.34	1.00
12/6/24 22:15	0.10	21.41	0.23	2047.54	2198.07	1.14	1.43	488.39	1.00
12/6/24 23:15	0.10	21.41	0.23	2046.98	2197.49	1.14	1.43	488.53	1.00
12/7/24 0:15	0.10	21.41	0.23	2047.27	2197.78	1.14	1.43	488.46	1.00
12/7/24 1:15	0.10	21.42	0.24	2047.25	2197.72	1.14	1.43	488.46	1.00
12/7/24 2:15	0.10	21.42	0.24	2047.03	2197.49	1.14	1.43	488.51	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/7/24 3:15	0.10	21.42	0.24	2047.21	2197.70	1.14	1.43	488.47	1.00
12/7/24 4:15	0.10	21.42	0.24	2047.08	2197.55	1.14	1.43	488.50	1.00
12/7/24 5:15	0.10	21.42	0.24	2047.26	2197.73	1.14	1.43	488.46	1.00
12/7/24 6:15	0.10	21.42	0.24	2047.03	2197.41	1.14	1.43	488.51	1.00
12/7/24 7:15	0.10	21.42	0.23	2047.30	2197.75	1.14	1.43	488.45	1.00
12/7/24 8:15	0.10	21.42	0.23	2047.38	2197.83	1.14	1.43	488.43	1.00
12/7/24 9:15	0.10	21.42	0.23	2047.49	2197.94	1.14	1.43	488.40	1.00
12/7/24 10:15	0.10	21.42	0.23	2047.69	2198.13	1.14	1.43	488.35	1.00
12/7/24 11:15	0.10	21.42	0.24	2047.53	2197.98	1.14	1.43	488.39	1.00
12/7/24 12:15	0.11	21.42	0.24	2047.56	2197.98	1.14	1.43	488.39	1.00
12/7/24 13:15	0.11	21.42	0.25	2047.42	2197.83	1.14	1.43	488.42	1.00
12/7/24 14:15	0.11	21.42	0.25	2047.05	2197.42	1.14	1.43	488.51	1.00
12/7/24 15:15	0.11	21.42	0.25	2047.33	2197.76	1.14	1.43	488.44	1.00
12/7/24 16:15	0.11	21.42	0.25	2047.44	2197.82	1.14	1.43	488.41	1.00
12/7/24 17:15	0.11	21.42	0.25	2047.20	2197.56	1.14	1.43	488.47	1.00
12/7/24 18:15	0.11	21.42	0.25	2047.03	2197.36	1.14	1.43	488.51	1.00
12/7/24 19:15	0.11	21.42	0.25	2047.63	2197.99	1.14	1.43	488.37	1.00
12/7/24 20:15	0.11	21.42	0.25	2047.21	2197.56	1.14	1.43	488.47	1.00
12/7/24 21:15	0.11	21.42	0.25	2046.83	2197.13	1.14	1.43	488.56	1.00
12/7/24 22:15	0.11	21.42	0.25	2047.14	2197.47	1.14	1.43	488.49	1.00
12/7/24 23:15	0.11	21.42	0.25	2047.34	2197.69	1.14	1.43	488.44	1.00
12/8/24 0:15	0.11	21.42	0.25	2046.98	2197.28	1.14	1.43	488.53	1.00
12/8/24 1:15	0.11	21.43	0.25	2046.81	2196.79	1.14	1.43	488.56	1.00
12/8/24 2:15	0.11	21.42	0.25	2046.55	2196.68	1.14	1.43	488.63	1.00
12/8/24 3:15	0.11	21.42	0.25	2046.46	2196.66	1.14	1.43	488.65	1.00
12/8/24 4:15	0.11	21.42	0.25	2046.31	2196.52	1.14	1.43	488.69	1.00
12/8/24 5:15	0.11	21.42	0.25	2046.23	2196.44	1.14	1.43	488.70	1.00
12/8/24 6:15	0.11	21.42	0.26	2046.06	2196.22	1.14	1.43	488.75	1.00
12/8/24 7:15	0.11	21.42	0.25	2046.20	2196.22	1.14	1.43	488.71	1.00
12/8/24 8:15	0.11	21.42	0.25	2045.88	2196.03	1.14	1.43	488.79	1.00
12/8/24 9:15	0.11	21.42	0.25	2045.91	2196.03	1.14	1.43	488.78	1.00
12/8/24 10:15	0.11	21.42	0.26	2045.64	2195.74	1.14	1.43	488.84	1.00
12/8/24 11:15	0.11	21.42	0.26	2045.50	2195.60	1.14	1.43	488.88	1.00
12/8/24 12:15	0.11	21.42	0.26	2045.62	2195.70	1.14	1.43	488.85	1.00
12/8/24 13:15	0.12	21.42	0.27	2045.67	2195.77	1.14	1.43	488.84	1.00
12/8/24 14:15	0.12	21.42	0.27	2045.58	2195.65	1.14	1.43	488.86	1.00
12/8/24 15:15	0.11	21.42	0.26	2045.39	2195.42	1.14	1.43	488.90	1.00
12/8/24 16:15	0.12	21.42	0.27	2045.17	2195.19	1.14	1.43	488.96	1.00
12/8/24 17:15	0.11	21.42	0.26	2045.18	2195.23	1.14	1.43	488.95	1.00
12/8/24 18:15	0.11	21.42	0.26	2044.79	2194.78	1.14	1.43	489.05	1.00
12/8/24 19:15	0.11	21.42	0.26	2044.36	2194.34	1.14	1.43	489.15	1.00
12/8/24 20:15	0.11	21.42	0.26	2044.53	2194.47	1.14	1.43	489.11	1.00
12/8/24 21:15	0.11	21.42	0.26	2044.26	2194.18	1.14	1.43	489.18	1.00
12/8/24 22:15	0.11	21.42	0.26	2044.20	2194.11	1.14	1.43	489.19	1.00
12/8/24 23:15	0.11	21.42	0.26	2044.53	2194.43	1.14	1.43	489.11	1.00
12/9/24 0:15	0.11	21.42	0.26	2044.19	2194.06	1.14	1.43	489.19	1.00
12/9/24 1:15	0.11	21.42	0.27	2043.35	2193.12	1.14	1.43	489.39	1.00
12/9/24 2:15	0.12	21.42	0.27	2043.34	2193.18	1.14	1.43	489.39	1.00
12/9/24 3:15	0.12	21.42	0.27	2041.21	2190.87	1.13	1.42	489.90	1.00
12/9/24 4:15	0.12	21.42	0.27	2040.79	2190.40	1.13	1.42	490.01	1.00
12/9/24 5:15	0.12	21.42	0.27	2040.47	2190.05	1.13	1.42	490.08	1.00
12/9/24 6:15	0.12	21.42	0.27	2040.03	2189.59	1.13	1.42	490.19	1.00
12/9/24 7:15	0.12	21.43	0.27	2040.08	2189.56	1.13	1.42	490.18	1.00
12/9/24 8:15	0.12	21.42	0.27	2040.29	2189.83	1.13	1.42	490.13	1.00
12/9/24 9:15	0.12	21.43	0.27	2040.40	2189.91	1.13	1.42	490.10	1.00
12/9/24 10:15	0.12	21.42	0.27	2040.24	2189.77	1.13	1.42	490.14	1.00
12/9/24 11:15	0.12	21.43	0.27	2039.89	2189.38	1.13	1.42	490.22	1.00
12/9/24 12:15	0.12	21.43	0.28	2039.72	2189.16	1.13	1.42	490.26	1.00
12/9/24 13:15	0.12	21.43	0.28	2039.40	2188.80	1.13	1.42	490.34	1.00
12/9/24 14:15	0.12	21.43	0.28	2039.62	2189.05	1.13	1.42	490.29	1.00
12/9/24 15:15	0.12	21.43	0.28	2040.73	2190.24	1.13	1.42	490.02	1.00
12/9/24 16:15	0.12	21.43	0.27	2040.48	2189.96	1.13	1.42	490.08	1.00
12/9/24 17:15	0.12	21.43	0.27	2040.51	2190.00	1.13	1.42	490.07	1.00
12/9/24 18:15	0.11	21.43	0.26	2040.40	2189.89	1.13	1.42	490.10	1.00
12/9/24 19:15	0.11	21.43	0.26	2040.41	2189.87	1.13	1.42	490.10	1.00
12/9/24 20:15	0.11	21.43	0.26	2040.60	2190.07	1.13	1.42	490.05	1.00
12/9/24 21:15	0.11	21.43	0.26	2040.16	2189.60	1.13	1.42	490.16	1.00
12/9/24 22:15	0.11	21.43	0.25	2040.19	2189.63	1.13	1.42	490.15	1.00
12/9/24 23:15	0.11	21.43	0.24	2039.54	2188.93	1.13	1.42	490.31	1.00
12/10/24 0:15	0.10	21.43	0.24	2039.43	2188.78	1.13	1.42	490.33	1.00
12/10/24 1:15	0.10	21.43	0.24	2040.14	2189.51	1.13	1.42	490.16	1.00
12/10/24 2:15	0.10	21.43	0.24	2040.26	2189.66	1.13	1.42	490.13	1.00
12/10/24 3:15	0.10	21.43	0.24	2040.24	2189.63	1.13	1.42	490.14	1.00
12/10/24 4:15	0.10	21.43	0.24	2040.34	2189.72	1.13	1.42	490.12	1.00
12/10/24 5:15	0.10	21.43	0.24	2040.19	2189.56	1.13	1.42	490.15	1.00
12/10/24 6:15	0.10	21.43	0.23	2040.20	2189.54	1.13	1.42	490.15	1.00
12/10/24 7:15	0.09	21.43	0.22	2040.20	2189.54	1.13	1.42	490.15	1.00
12/10/24 8:15	0.09	21.43	0.22	2040.14	2189.49	1.13	1.42	490.16	1.00
12/10/24 9:15	0.09	21.43	0.21	2040.14	2189.47	1.13	1.42	490.16	1.00
12/10/24 10:15	0.09	21.43	0.21	2040.35	2189.67	1.13	1.42	490.11	1.00
12/10/24 11:15	0.09	21.43	0.21	2040.28	2189.62	1.13	1.42	490.13	1.00
12/10/24 12:15	0.09	21.43	0.22	2040.23	2189.53	1.13	1.42	490.14	1.00
12/10/24 13:15	0.10	21.43	0.23	2040.19	2189.44	1.13	1.42	490.15	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/10/24 14:15	0.10	21.43	0.24	2040.50	2189.81	1.13	1.42	490.08	1.00
12/10/24 15:15	0.10	21.43	0.24	2040.92	2190.25	1.13	1.42	489.98	1.00
12/10/24 16:15	0.11	21.43	0.24	2040.76	2190.02	1.13	1.42	490.01	1.00
12/10/24 17:15	0.10	21.43	0.24	2041.20	2190.55	1.13	1.42	489.91	1.00
12/10/24 18:15	0.10	21.43	0.24	2041.15	2190.50	1.13	1.42	489.92	1.00
12/10/24 19:15	0.10	21.43	0.23	2041.04	2190.35	1.13	1.42	489.95	1.00
12/10/24 20:15	0.10	21.43	0.23	2040.71	2190.01	1.13	1.42	490.02	1.00
12/10/24 21:15	0.10	21.43	0.24	2041.21	2190.53	1.13	1.42	489.90	1.00
12/10/24 22:15	0.10	21.43	0.23	2041.04	2190.32	1.13	1.42	489.95	1.00
12/10/24 23:15	0.10	21.43	0.23	2041.24	2190.54	1.13	1.42	489.90	1.00
12/11/24 0:15	0.10	21.43	0.23	2040.51	2189.74	1.13	1.42	490.07	1.00
12/11/24 1:15	0.10	21.43	0.23	2041.19	2190.48	1.13	1.42	489.91	1.00
12/11/24 2:15	0.10	21.43	0.23	2041.47	2190.74	1.13	1.42	489.84	1.00
12/11/24 3:15	0.10	21.43	0.24	2041.34	2190.60	1.13	1.42	489.87	1.00
12/11/24 4:15	0.10	21.43	0.24	2041.05	2190.29	1.13	1.42	489.94	1.00
12/11/24 5:15	0.10	21.43	0.23	2041.53	2190.79	1.13	1.42	489.83	1.00
12/11/24 6:15	0.10	21.43	0.22	2041.33	2190.59	1.13	1.42	489.88	1.00
12/11/24 7:15	0.10	21.43	0.23	2041.49	2190.72	1.13	1.42	489.84	1.00
12/11/24 8:15	0.10	21.43	0.23	2041.41	2190.64	1.13	1.42	489.86	1.00
12/11/24 9:15	0.10	21.43	0.23	2041.34	2190.57	1.13	1.42	489.87	1.00
12/11/24 10:15	0.10	21.43	0.23	2041.72	2190.95	1.13	1.42	489.78	1.00
12/11/24 11:15	0.10	21.43	0.24	2041.78	2191.04	1.13	1.42	489.77	1.00
12/11/24 12:15	0.10	21.43	0.24	2041.68	2190.95	1.13	1.42	489.79	1.00
12/11/24 13:15	0.11	21.43	0.25	2042.00	2191.22	1.14	1.42	489.72	1.00
12/11/24 14:15	0.11	21.43	0.25	2041.77	2190.99	1.13	1.42	489.77	1.00
12/11/24 15:15	0.11	21.43	0.25	2041.72	2190.93	1.13	1.42	489.78	1.00
12/11/24 16:15	0.11	21.43	0.25	2042.13	2191.37	1.14	1.42	489.69	1.00
12/11/24 17:15	0.11	21.44	0.25	2042.07	2191.27	1.14	1.42	489.70	1.00
12/11/24 18:15	0.11	21.43	0.25	2041.68	2190.86	1.13	1.42	489.79	1.00
12/11/24 19:15	0.11	21.44	0.24	2041.93	2191.10	1.14	1.42	489.73	1.00
12/11/24 20:15	0.11	21.44	0.24	2041.86	2191.01	1.13	1.42	489.75	1.00
12/11/24 21:15	0.11	21.44	0.25	2041.91	2191.10	1.14	1.42	489.74	1.00
12/11/24 22:15	0.11	21.44	0.24	2041.73	2190.89	1.13	1.42	489.78	1.00
12/11/24 23:15	0.11	21.44	0.24	2041.92	2191.08	1.14	1.42	489.74	1.00
12/12/24 0:15	0.11	21.44	0.25	2041.72	2190.84	1.13	1.42	489.78	1.00
12/12/24 1:15	0.11	21.44	0.25	2041.91	2191.04	1.13	1.42	489.74	1.00
12/12/24 2:15	0.11	21.44	0.25	2041.69	2190.76	1.13	1.42	489.79	1.00
12/12/24 3:15	0.11	21.44	0.25	2041.70	2190.79	1.13	1.42	489.79	1.00
12/12/24 4:15	0.11	21.44	0.25	2042.06	2191.18	1.14	1.42	489.70	1.00
12/12/24 5:15	0.11	21.44	0.24	2041.74	2190.80	1.13	1.42	489.78	1.00
12/12/24 6:15	0.10	21.44	0.24	2041.83	2190.92	1.13	1.42	489.76	1.00
12/12/24 7:15	0.10	21.44	0.24	2041.87	2190.97	1.13	1.42	489.75	1.00
12/12/24 8:15	0.10	21.44	0.24	2041.92	2190.94	1.13	1.42	489.74	1.00
12/12/24 9:15	0.10	21.44	0.24	2042.17	2191.23	1.14	1.42	489.67	1.00
12/12/24 10:15	0.10	21.44	0.24	2042.34	2191.42	1.14	1.42	489.63	1.00
12/12/24 11:15	0.10	21.44	0.24	2041.73	2190.79	1.13	1.42	489.78	1.00
12/12/24 12:15	0.11	21.44	0.25	2042.19	2191.26	1.14	1.42	489.67	1.00
12/12/24 13:15	0.11	21.44	0.25	2042.49	2191.57	1.14	1.42	489.60	1.00
12/12/24 14:15	0.11	21.44	0.25	2042.03	2191.10	1.14	1.42	489.71	1.00
12/12/24 15:15	0.11	21.44	0.26	2042.01	2191.05	1.13	1.42	489.71	1.00
12/12/24 16:15	0.11	21.44	0.26	2042.03	2191.07	1.13	1.42	489.71	1.00
12/12/24 17:15	0.11	21.44	0.26	2042.11	2191.12	1.14	1.42	489.69	1.00
12/12/24 18:15	0.10	21.44	0.24	2042.06	2191.07	1.14	1.42	489.70	1.00
12/12/24 19:15	0.10	21.44	0.24	2041.64	2190.64	1.13	1.42	489.80	1.00
12/12/24 20:15	0.10	21.44	0.24	2041.51	2190.49	1.13	1.42	489.83	1.00
12/12/24 21:15	0.10	21.44	0.24	2041.73	2190.69	1.13	1.42	489.78	1.00
12/12/24 22:15	0.10	21.44	0.24	2041.72	2190.69	1.13	1.42	489.78	1.00
12/12/24 23:15	0.10	21.44	0.24	2041.46	2190.42	1.13	1.42	489.85	1.00
12/13/24 0:15	0.10	21.44	0.24	2041.26	2190.21	1.13	1.42	489.89	1.00
12/13/24 1:15	0.11	21.44	0.24	2041.37	2190.30	1.13	1.42	489.87	1.00
12/13/24 2:15	0.11	21.44	0.24	2041.45	2190.36	1.13	1.42	489.85	1.00
12/13/24 3:15	0.11	21.44	0.25	2041.59	2190.52	1.13	1.42	489.81	1.00
12/13/24 4:15	0.11	21.44	0.24	2041.37	2190.27	1.13	1.42	489.87	1.00
12/13/24 5:15	0.11	21.44	0.25	2041.16	2190.03	1.13	1.42	489.92	1.00
12/13/24 6:15	0.11	21.44	0.25	2041.37	2190.23	1.13	1.42	489.87	1.00
12/13/24 7:15	0.11	21.44	0.25	2041.19	2190.05	1.13	1.42	489.91	1.00
12/13/24 8:15	0.11	21.44	0.24	2040.97	2189.80	1.13	1.42	489.96	1.00
12/13/24 9:15	0.11	21.44	0.24	2040.81	2189.61	1.13	1.42	490.00	1.00
12/13/24 10:15	0.10	21.44	0.23	2040.55	2189.31	1.13	1.42	490.06	1.00
12/13/24 11:15	0.10	21.44	0.23	2040.60	2189.36	1.13	1.42	490.05	1.00
12/13/24 12:15	0.10	21.44	0.24	2040.07	2188.80	1.13	1.42	490.18	1.00
12/13/24 13:15	0.11	21.44	0.25	2040.23	2188.96	1.13	1.42	490.14	1.00
12/13/24 14:15	0.10	21.44	0.24	2040.01	2188.72	1.13	1.42	490.19	1.00
12/13/24 15:15	0.10	21.44	0.24	2039.93	2188.61	1.13	1.42	490.21	1.00
12/13/24 16:15	0.11	21.44	0.25	2040.14	2188.82	1.13	1.42	490.16	1.00
12/13/24 17:15	0.10	21.44	0.24	2039.54	2188.17	1.13	1.42	490.31	1.00
12/13/24 18:15	0.10	21.44	0.23	2039.82	2188.46	1.13	1.42	490.24	1.00
12/13/24 19:15	0.10	21.44	0.23	2039.90	2188.55	1.13	1.42	490.22	1.00
12/13/24 20:15	0.10	21.44	0.23	2039.45	2188.05	1.13	1.42	490.33	1.00
12/13/24 21:15	0.10	21.44	0.23	2039.27	2187.86	1.13	1.42	490.37	1.00
12/13/24 22:15	0.10	21.44	0.23	2039.37	2187.96	1.13	1.42	490.35	1.00
12/13/24 23:15	0.10	21.44	0.23	2039.35	2187.95	1.13	1.42	490.35	1.00
12/14/24 0:15	0.10	21.44	0.23	2039.27	2187.83	1.13	1.42	490.37	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/14/24 1:15	0.09	21.45	0.22	2039.27	2187.81	1.13	1.42	490.37	1.00
12/14/24 2:15	0.09	21.45	0.22	2039.16	2187.69	1.13	1.42	490.40	1.00
12/14/24 3:15	0.09	21.45	0.22	2039.16	2187.71	1.13	1.42	490.40	1.00
12/14/24 4:15	0.09	21.45	0.22	2039.03	2187.52	1.13	1.42	490.43	1.00
12/14/24 5:15	0.09	21.45	0.22	2038.89	2187.37	1.13	1.42	490.46	1.00
12/14/24 6:15	0.09	21.45	0.22	2038.80	2187.28	1.13	1.42	490.49	1.00
12/14/24 7:15	0.09	21.45	0.22	2036.64	2184.94	1.13	1.42	491.01	1.00
12/14/24 8:15	0.09	21.45	0.21	2036.22	2184.50	1.13	1.42	491.11	1.00
12/14/24 9:15	0.09	21.45	0.21	2036.19	2184.45	1.13	1.42	491.11	1.00
12/14/24 10:15	0.09	21.45	0.22	2036.20	2184.44	1.13	1.42	491.11	1.00
12/14/24 11:15	0.09	21.45	0.22	2036.44	2184.70	1.13	1.42	491.05	1.00
12/14/24 12:15	0.10	21.45	0.23	2036.03	2184.24	1.13	1.42	491.15	1.00
12/14/24 13:15	0.10	21.45	0.23	2035.84	2184.07	1.13	1.42	491.20	1.00
12/14/24 14:15	0.10	21.45	0.24	2035.99	2184.22	1.13	1.42	491.16	1.00
12/14/24 15:15	0.10	21.45	0.24	2035.75	2183.96	1.13	1.42	491.22	1.00
12/14/24 16:15	0.10	21.45	0.24	2035.91	2184.13	1.13	1.42	491.18	1.00
12/14/24 17:15	0.10	21.45	0.23	2035.62	2183.81	1.13	1.42	491.25	1.00
12/14/24 18:15	0.10	21.45	0.24	2035.67	2183.85	1.13	1.42	491.24	1.00
12/14/24 19:15	0.10	21.45	0.23	2035.27	2183.40	1.13	1.42	491.34	1.00
12/14/24 20:15	0.10	21.45	0.23	2035.64	2183.78	1.13	1.42	491.25	1.00
12/14/24 21:15	0.10	21.45	0.24	2035.11	2183.20	1.13	1.42	491.37	1.00
12/14/24 22:15	0.10	21.45	0.23	2035.17	2183.27	1.13	1.42	491.36	1.00
12/14/24 23:15	0.10	21.45	0.23	2034.96	2183.03	1.13	1.42	491.41	1.00
12/15/24 0:15	0.10	21.45	0.24	2034.95	2183.01	1.13	1.42	491.41	1.00
12/15/24 1:15	0.10	21.45	0.24	2034.87	2182.91	1.13	1.42	491.43	1.00
12/15/24 2:15	0.10	21.45	0.23	2034.36	2182.37	1.13	1.42	491.55	1.00
12/15/24 3:15	0.10	21.45	0.23	2034.09	2182.10	1.13	1.42	491.62	1.00
12/15/24 4:15	0.10	21.45	0.23	2033.98	2181.96	1.13	1.42	491.65	1.00
12/15/24 5:15	0.10	21.45	0.23	2033.87	2181.81	1.13	1.42	491.67	1.00
12/15/24 6:15	0.10	21.45	0.23	2033.74	2181.68	1.13	1.42	491.71	1.00
12/15/24 7:15	0.10	21.45	0.23	2033.67	2181.64	1.13	1.42	491.72	1.00
12/15/24 8:15	0.10	21.45	0.22	2033.95	2181.89	1.13	1.42	491.65	1.00
12/15/24 9:15	0.10	21.45	0.22	2033.40	2181.32	1.13	1.42	491.79	1.00
12/15/24 10:15	0.10	21.45	0.23	2033.52	2181.40	1.13	1.42	491.76	1.00
12/15/24 11:15	0.10	21.45	0.23	2032.67	2180.50	1.13	1.42	491.96	1.00
12/15/24 12:15	0.10	21.45	0.23	2032.75	2180.55	1.13	1.42	491.95	1.00
12/15/24 13:15	0.10	21.45	0.24	2032.65	2180.44	1.13	1.42	491.97	1.00
12/15/24 14:15	0.10	21.45	0.24	2032.69	2180.49	1.13	1.42	491.96	1.00
12/15/24 15:15	0.10	21.45	0.24	2032.43	2180.20	1.13	1.42	492.02	1.00
12/15/24 16:15	0.10	21.45	0.24	2032.42	2180.19	1.13	1.42	492.02	1.00
12/15/24 17:15	0.10	21.45	0.23	2032.46	2180.21	1.13	1.42	492.02	1.00
12/15/24 18:15	0.10	21.45	0.22	2032.33	2180.02	1.13	1.42	492.05	1.00
12/15/24 19:15	0.10	21.45	0.22	2032.36	2180.05	1.13	1.42	492.04	1.00
12/15/24 20:15	0.10	21.45	0.23	2031.96	2179.65	1.13	1.42	492.14	1.00
12/15/24 21:15	0.10	21.45	0.23	2032.20	2179.85	1.13	1.42	492.08	1.00
12/15/24 22:15	0.10	21.45	0.23	2031.71	2179.37	1.13	1.42	492.20	1.00
12/15/24 23:15	0.10	21.45	0.22	2031.83	2179.47	1.13	1.42	492.17	1.00
12/16/24 0:15	0.10	21.45	0.22	2031.53	2179.16	1.13	1.42	492.24	1.00
12/16/24 1:15	0.09	21.45	0.22	2031.40	2179.01	1.13	1.42	492.27	1.00
12/16/24 2:15	0.09	21.45	0.22	2031.17	2178.74	1.13	1.42	492.33	1.00
12/16/24 3:15	0.10	21.45	0.22	2031.29	2178.87	1.13	1.42	492.30	1.00
12/16/24 4:15	0.09	21.45	0.22	2030.90	2178.47	1.13	1.42	492.39	1.00
12/16/24 5:15	0.10	21.45	0.22	2030.93	2178.47	1.13	1.42	492.38	1.00
12/16/24 6:15	0.09	21.45	0.22	2030.33	2177.82	1.13	1.42	492.53	1.00
12/16/24 7:15	0.09	21.45	0.22	2030.81	2178.35	1.13	1.42	492.41	1.00
12/16/24 8:15	0.09	21.45	0.22	2030.59	2178.09	1.13	1.42	492.47	1.00
12/16/24 9:15	0.09	21.45	0.20	2030.46	2177.95	1.13	1.42	492.50	1.00
12/16/24 10:15	0.08	21.46	0.19	2030.28	2177.73	1.13	1.42	492.54	1.00
12/16/24 11:15	0.09	21.46	0.20	2030.33	2177.78	1.13	1.42	492.53	1.00
12/16/24 12:15	0.09	21.46	0.21	2030.14	2177.58	1.13	1.42	492.58	1.00
12/16/24 13:15	0.09	21.46	0.21	2030.25	2177.69	1.13	1.42	492.55	1.00
12/16/24 14:15	0.09	21.46	0.22	2036.61	2184.50	1.13	1.42	491.01	1.00
12/16/24 15:15	0.10	21.46	0.22	2036.43	2184.28	1.13	1.42	491.06	1.00
12/16/24 16:15	0.10	21.46	0.22	2036.47	2184.33	1.13	1.42	491.04	1.00
12/16/24 17:15	0.09	21.46	0.22	2036.34	2184.20	1.13	1.42	491.08	1.00
12/16/24 18:15	0.10	21.46	0.22	2036.39	2184.25	1.13	1.42	491.06	1.00
12/16/24 19:15	0.09	21.46	0.22	2036.26	2184.08	1.13	1.42	491.10	1.00
12/16/24 20:15	0.08	21.46	0.20	2036.75	2184.58	1.13	1.42	490.98	1.00
12/16/24 21:15	0.09	21.46	0.20	2036.58	2184.42	1.13	1.42	491.02	1.00
12/16/24 22:15	0.09	21.46	0.20	2036.77	2184.61	1.13	1.42	490.97	1.00
12/16/24 23:15	0.09	21.46	0.20	2036.43	2184.25	1.13	1.42	491.05	1.00
12/17/24 0:15	0.09	21.46	0.20	2036.30	2184.08	1.13	1.42	491.09	1.00
12/17/24 1:15	0.09	21.46	0.21	2035.99	2183.77	1.13	1.42	491.16	1.00
12/17/24 2:15	0.09	21.46	0.21	2036.01	2183.77	1.13	1.42	491.16	1.00
12/17/24 3:15	0.09	21.46	0.21	2036.11	2183.85	1.13	1.42	491.13	1.00
12/17/24 4:15	0.09	21.46	0.22	2035.73	2183.45	1.13	1.42	491.22	1.00
12/17/24 5:15	0.10	21.46	0.22	2035.88	2183.65	1.13	1.42	491.19	1.00
12/17/24 6:15	0.10	21.46	0.22	2035.64	2183.35	1.13	1.42	491.25	1.00
12/17/24 7:15	0.09	21.46	0.21	2035.36	2183.06	1.13	1.42	491.31	1.00
12/17/24 8:15	0.09	21.46	0.21	2035.07	2182.68	1.13	1.42	491.38	1.00
12/17/24 9:15	0.09	21.46	0.20	2035.23	2182.89	1.13	1.42	491.35	1.00
12/17/24 10:15	0.09	21.46	0.20	2034.81	2182.40	1.13	1.42	491.45	1.00
12/17/24 11:15	0.09	21.46	0.21	2034.90	2182.51	1.13	1.42	491.43	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/17/24 12:15	0.09	21.46	0.21	2034.63	2182.22	1.13	1.42	491.49	1.00
12/17/24 13:15	0.10	21.46	0.22	2034.36	2181.94	1.13	1.42	491.56	1.00
12/17/24 14:15	0.10	21.46	0.23	2034.38	2181.92	1.13	1.42	491.55	1.00
12/17/24 15:15	0.10	21.46	0.23	2033.74	2181.23	1.13	1.42	491.71	1.00
12/17/24 16:15	0.09	21.46	0.22	2033.72	2181.23	1.13	1.42	491.71	1.00
12/17/24 17:15	0.09	21.46	0.21	2033.81	2181.27	1.13	1.42	491.69	1.00
12/17/24 18:15	0.09	21.46	0.20	2033.44	2180.88	1.13	1.42	491.78	1.00
12/17/24 19:15	0.08	21.46	0.20	2033.22	2180.64	1.13	1.42	491.83	1.00
12/17/24 20:15	0.08	21.46	0.19	2033.52	2180.96	1.13	1.42	491.76	1.00
12/17/24 21:15	0.08	21.46	0.19	2033.53	2180.95	1.13	1.42	491.76	1.00
12/17/24 22:15	0.08	21.46	0.19	2033.75	2181.19	1.13	1.42	491.70	1.00
12/17/24 23:15	0.08	21.46	0.19	2033.77	2181.23	1.13	1.42	491.70	1.00
12/18/24 0:15	0.08	21.46	0.19	2033.29	2180.67	1.13	1.42	491.81	1.00
12/18/24 1:15	0.08	21.46	0.19	2033.31	2180.70	1.13	1.42	491.81	1.00
12/18/24 2:15	0.08	21.46	0.18	2033.13	2180.50	1.13	1.42	491.85	1.00
12/18/24 3:15	0.08	21.46	0.18	2033.05	2180.35	1.13	1.42	491.87	1.00
12/18/24 4:15	0.08	21.46	0.18	2032.97	2180.29	1.13	1.42	491.89	1.00
12/18/24 5:15	0.08	21.46	0.18	2032.73	2180.04	1.13	1.42	491.95	1.00
12/18/24 6:15	0.08	21.46	0.18	2032.78	2180.07	1.13	1.42	491.94	1.00
12/18/24 7:15	0.08	21.46	0.18	2032.40	2179.68	1.13	1.42	492.03	1.00
12/18/24 8:15	0.08	21.46	0.18	2032.42	2179.66	1.13	1.42	492.02	1.00
12/18/24 9:15	0.08	21.46	0.18	2032.46	2179.70	1.13	1.42	492.02	1.00
12/18/24 10:15	0.08	21.46	0.18	2032.60	2179.87	1.13	1.42	491.98	1.00
12/18/24 11:15	0.09	21.46	0.20	2032.47	2179.72	1.13	1.42	492.01	1.00
12/18/24 12:15	0.09	21.46	0.21	2031.87	2179.09	1.13	1.42	492.16	1.00
12/18/24 13:15	0.06	21.47	0.15	2025.29	2171.57	1.12	1.41	493.76	1.00
12/18/24 14:15	0.06	21.47	0.15	2024.64	2171.04	1.12	1.41	493.92	1.00
12/18/24 15:15	0.06	21.47	0.15	2023.97	2170.41	1.12	1.41	494.08	1.00
12/18/24 16:15	0.06	21.47	0.15	2023.81	2170.27	1.12	1.41	494.12	1.00
12/18/24 17:15	0.06	21.47	0.15	2023.34	2169.80	1.12	1.41	494.23	1.00
12/18/24 18:15	0.06	21.47	0.15	2022.82	2169.24	1.12	1.41	494.36	1.00
12/18/24 19:15	0.06	21.47	0.15	2022.17	2168.54	1.12	1.41	494.52	1.00
12/18/24 20:15	0.06	21.47	0.15	2022.16	2168.53	1.12	1.41	494.52	1.00
12/18/24 21:15	0.07	21.47	0.15	2021.98	2168.34	1.12	1.41	494.57	1.00
12/18/24 22:15	0.07	21.47	0.16	2021.30	2167.64	1.12	1.41	494.73	1.00
12/18/24 23:15	0.07	21.47	0.16	2021.14	2167.44	1.12	1.41	494.77	1.00
12/19/24 0:15	0.07	21.47	0.16	2021.27	2167.58	1.12	1.41	494.74	1.00
12/19/24 1:15	0.07	21.47	0.16	2021.69	2168.04	1.12	1.41	494.63	1.00
12/19/24 2:15	0.07	21.47	0.16	2020.84	2167.11	1.12	1.41	494.84	1.00
12/19/24 3:15	0.07	21.47	0.16	2020.71	2166.97	1.12	1.41	494.87	1.00
12/19/24 4:15	0.07	21.47	0.17	2020.46	2166.70	1.12	1.41	494.94	1.00
12/19/24 5:15	0.07	21.47	0.17	2020.45	2166.69	1.12	1.41	494.94	1.00
12/19/24 6:15	0.07	21.47	0.16	2019.98	2166.18	1.12	1.41	495.05	1.00
12/19/24 7:15	0.07	21.47	0.16	2019.39	2165.49	1.12	1.41	495.20	1.00
12/19/24 8:15	0.07	21.47	0.16	2020.02	2166.19	1.12	1.41	495.05	1.00
12/19/24 9:15	0.07	21.47	0.16	2019.89	2166.04	1.12	1.41	495.08	1.00
12/19/24 10:15	0.07	21.47	0.15	2017.61	2163.27	1.12	1.41	495.64	1.00
12/19/24 11:15	0.07	21.47	0.16	2017.63	2163.46	1.12	1.41	495.63	1.00
12/19/24 12:15	0.07	21.47	0.17	2017.70	2163.59	1.12	1.41	495.61	1.00
12/19/24 13:15	0.07	21.47	0.17	2017.24	2163.12	1.12	1.41	495.73	1.00
12/19/24 14:15	0.07	21.47	0.17	2017.21	2163.09	1.12	1.41	495.74	1.00
12/19/24 15:15	0.07	21.47	0.17	2016.58	2162.40	1.12	1.41	495.89	1.00
12/19/24 16:15	0.07	21.47	0.17	2016.33	2162.15	1.12	1.41	495.95	1.00
12/19/24 17:15	0.07	21.47	0.17	2016.27	2161.98	1.12	1.41	495.97	1.00
12/19/24 18:15	0.07	21.47	0.17	2016.30	2162.09	1.12	1.41	495.96	1.00
12/19/24 19:15	0.07	21.47	0.16	2016.53	2162.31	1.12	1.41	495.90	1.00
12/19/24 20:15	0.07	21.47	0.16	2016.57	2162.36	1.12	1.41	495.89	1.00
12/19/24 21:15	0.07	21.47	0.16	2016.51	2162.31	1.12	1.41	495.91	1.00
12/19/24 22:15	0.07	21.47	0.15	2016.37	2162.15	1.12	1.41	495.94	1.00
12/19/24 23:15	0.06	21.47	0.15	2016.64	2162.45	1.12	1.41	495.87	1.00
12/20/24 0:15	0.07	21.47	0.15	2016.28	2162.03	1.12	1.41	495.96	1.00
12/20/24 1:15	0.07	21.47	0.15	2016.66	2162.42	1.12	1.41	495.87	1.00
12/20/24 2:15	0.07	21.47	0.15	2016.27	2162.01	1.12	1.41	495.97	1.00
12/20/24 3:15	0.07	21.47	0.15	2016.17	2161.91	1.12	1.41	495.99	1.00
12/20/24 4:15	0.07	21.47	0.15	2016.18	2161.89	1.12	1.41	495.99	1.00
12/20/24 5:15	0.07	21.47	0.16	2016.11	2161.82	1.12	1.41	496.01	1.00
12/20/24 6:15	0.07	21.47	0.16	2016.28	2162.01	1.12	1.41	495.96	1.00
12/20/24 7:15	0.07	21.47	0.16	2016.37	2162.03	1.12	1.41	495.94	1.00
12/20/24 8:15	0.07	21.47	0.16	2015.71	2161.34	1.12	1.40	496.10	1.00
12/20/24 9:15	0.07	21.47	0.16	2016.00	2161.66	1.12	1.41	496.03	1.00
12/20/24 10:15	0.08	21.47	0.18	2015.58	2161.22	1.12	1.40	496.13	1.00
12/20/24 11:15	0.08	21.47	0.19	2015.55	2161.19	1.12	1.40	496.14	1.00
12/20/24 12:15	0.08	21.47	0.19	2016.27	2161.95	1.12	1.41	495.97	1.00
12/20/24 13:15	0.08	21.47	0.19	2016.39	2162.04	1.12	1.41	495.94	1.00
12/20/24 14:15	0.08	21.47	0.19	2015.83	2161.48	1.12	1.40	496.07	1.00
12/20/24 15:15	0.08	21.47	0.19	2016.00	2161.61	1.12	1.41	496.03	1.00
12/20/24 16:15	0.09	21.47	0.20	2015.51	2161.11	1.12	1.40	496.15	1.00
12/20/24 17:15	0.09	21.47	0.20	2015.60	2161.22	1.12	1.40	496.13	1.00
12/20/24 18:15	0.08	21.47	0.18	2015.50	2161.08	1.12	1.40	496.16	1.00
12/20/24 19:15	0.08	21.47	0.19	2015.40	2160.96	1.12	1.40	496.18	1.00
12/20/24 20:15	0.08	21.47	0.19	2015.38	2160.93	1.12	1.40	496.18	1.00
12/20/24 21:15	0.08	21.47	0.19	2015.15	2160.69	1.12	1.40	496.24	1.00
12/20/24 22:15	0.08	21.47	0.18	2014.95	2160.46	1.12	1.40	496.29	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/20/24 23:15	0.08	21.47	0.19	2015.18	2160.73	1.12	1.40	496.23	1.00
12/21/24 0:15	0.08	21.47	0.19	2014.65	2160.13	1.12	1.40	496.37	1.00
12/21/24 1:15	0.08	21.47	0.18	2015.13	2160.63	1.12	1.40	496.25	1.00
12/21/24 2:15	0.08	21.47	0.19	2014.81	2160.30	1.12	1.40	496.32	1.00
12/21/24 3:15	0.08	21.47	0.19	2014.99	2160.48	1.12	1.40	496.28	1.00
12/21/24 4:15	0.08	21.48	0.19	2014.88	2160.31	1.12	1.40	496.31	1.00
12/21/24 5:15	0.08	21.48	0.18	2015.33	2160.77	1.12	1.40	496.20	1.00
12/21/24 6:15	0.08	21.47	0.18	2015.50	2161.00	1.12	1.40	496.16	1.00
12/21/24 7:15	0.08	21.48	0.18	2014.94	2160.35	1.12	1.40	496.29	1.00
12/21/24 8:15	0.08	21.48	0.18	2014.96	2160.37	1.12	1.40	496.29	1.00
12/21/24 9:15	0.08	21.48	0.18	2015.28	2160.72	1.12	1.40	496.21	1.00
12/21/24 10:15	0.07	21.48	0.16	2014.92	2160.33	1.12	1.40	496.30	1.00
12/21/24 11:15	0.08	21.48	0.18	2014.62	2159.99	1.12	1.40	496.37	1.00
12/21/24 12:15	0.08	21.48	0.18	2014.94	2160.37	1.12	1.40	496.29	1.00
12/21/24 13:15	0.08	21.48	0.18	2015.10	2160.54	1.12	1.40	496.25	1.00
12/21/24 14:15	0.08	21.48	0.18	2015.46	2160.88	1.12	1.40	496.16	1.00
12/21/24 15:15	0.08	21.48	0.19	2015.23	2160.60	1.12	1.40	496.22	1.00
12/21/24 16:15	0.07	21.48	0.17	2015.02	2160.41	1.12	1.40	496.27	1.00
12/21/24 17:15	0.08	21.48	0.18	2015.44	2160.84	1.12	1.40	496.17	1.00
12/21/24 18:15	0.08	21.48	0.18	2015.09	2160.46	1.12	1.40	496.26	1.00
12/21/24 19:15	0.08	21.48	0.18	2014.92	2160.25	1.12	1.40	496.30	1.00
12/21/24 20:15	0.07	21.48	0.17	2014.92	2160.24	1.12	1.40	496.30	1.00
12/21/24 21:15	0.08	21.48	0.17	2015.03	2160.38	1.12	1.40	496.27	1.00
12/21/24 22:15	0.08	21.48	0.18	2014.89	2160.22	1.12	1.40	496.30	1.00
12/21/24 23:15	0.08	21.48	0.18	2014.73	2160.05	1.12	1.40	496.35	1.00
12/22/24 0:15	0.08	21.48	0.19	2015.37	2160.73	1.12	1.40	496.19	1.00
12/22/24 1:15	0.08	21.48	0.17	2015.28	2160.63	1.12	1.40	496.21	1.00
12/22/24 2:15	0.08	21.48	0.17	2015.24	2160.54	1.12	1.40	496.22	1.00
12/22/24 3:15	0.07	21.48	0.17	2015.32	2160.66	1.12	1.40	496.20	1.00
12/22/24 4:15	0.08	21.48	0.17	2015.45	2160.81	1.12	1.40	496.17	1.00
12/22/24 5:15	0.08	21.48	0.18	2015.33	2160.67	1.12	1.40	496.20	1.00
12/22/24 6:15	0.08	21.48	0.18	2015.04	2160.33	1.12	1.40	496.27	1.00
12/22/24 7:15	0.08	21.48	0.19	2015.19	2160.49	1.12	1.40	496.23	1.00
12/22/24 8:15	0.07	21.48	0.17	2015.21	2160.50	1.12	1.40	496.23	1.00
12/22/24 9:15	0.07	21.48	0.17	2015.01	2160.27	1.12	1.40	496.28	1.00
12/22/24 10:15	0.07	21.48	0.17	2015.31	2160.60	1.12	1.40	496.20	1.00
12/22/24 11:15	0.08	21.48	0.18	2014.73	2159.98	1.12	1.40	496.34	1.00
12/22/24 12:15	0.08	21.48	0.19	2014.93	2160.19	1.12	1.40	496.30	1.00
12/22/24 13:15	0.08	21.48	0.18	2014.58	2159.78	1.12	1.40	496.38	1.00
12/22/24 14:15	0.08	21.48	0.18	2014.16	2159.32	1.12	1.40	496.49	1.00
12/22/24 15:15	0.08	21.48	0.19	2014.45	2159.63	1.12	1.40	496.41	1.00
12/22/24 16:15	0.08	21.48	0.19	2014.80	2159.95	1.12	1.40	496.33	1.00
12/22/24 17:15	0.08	21.48	0.18	2015.01	2160.23	1.12	1.40	496.28	1.00
12/22/24 18:15	0.07	21.48	0.17	2014.75	2159.92	1.12	1.40	496.34	1.00
12/22/24 19:15	0.07	21.48	0.17	2015.20	2160.41	1.12	1.40	496.23	1.00
12/22/24 20:15	0.07	21.48	0.17	2014.80	2159.98	1.12	1.40	496.33	1.00
12/22/24 21:15	0.08	21.48	0.18	2014.60	2159.77	1.12	1.40	496.38	1.00
12/22/24 22:15	0.08	21.48	0.18	2014.47	2159.61	1.12	1.40	496.41	1.00
12/22/24 23:15	0.08	21.48	0.19	2014.46	2159.61	1.12	1.40	496.41	1.00
12/23/24 0:15	0.07	21.48	0.16	2014.19	2159.28	1.12	1.40	496.48	1.00
12/23/24 1:15	0.07	21.48	0.17	2014.09	2159.15	1.12	1.40	496.50	1.00
12/23/24 2:15	0.07	21.48	0.17	2013.94	2159.01	1.12	1.40	496.54	1.00
12/23/24 3:15	0.08	21.48	0.17	2013.86	2158.94	1.12	1.40	496.56	1.00
12/23/24 4:15	0.08	21.48	0.18	2014.20	2159.28	1.12	1.40	496.47	1.00
12/23/24 5:15	0.08	21.48	0.19	2014.40	2159.47	1.12	1.40	496.43	1.00
12/23/24 6:15	0.07	21.48	0.16	2014.42	2159.43	1.12	1.40	496.42	1.00
12/23/24 7:15	0.07	21.48	0.17	2013.74	2158.75	1.12	1.40	496.59	1.00
12/23/24 8:15	0.07	21.48	0.17	2014.15	2159.18	1.12	1.40	496.49	1.00
12/23/24 9:15	0.07	21.48	0.17	2013.61	2158.60	1.12	1.40	496.62	1.00
12/23/24 10:15	0.08	21.48	0.17	2013.79	2158.79	1.12	1.40	496.58	1.00
12/23/24 11:15	0.08	21.48	0.18	2013.60	2158.60	1.12	1.40	496.62	1.00
12/23/24 12:15	0.07	21.48	0.16	2013.65	2158.62	1.12	1.40	496.61	1.00
12/23/24 13:15	0.07	21.48	0.17	2013.57	2158.53	1.12	1.40	496.63	1.00
12/23/24 14:15	0.08	21.48	0.18	2013.86	2158.84	1.12	1.40	496.56	1.00
12/23/24 15:15	0.08	21.48	0.18	2014.18	2159.16	1.12	1.40	496.48	1.00
12/23/24 16:15	0.07	21.48	0.16	2013.95	2158.93	1.12	1.40	496.54	1.00
12/23/24 17:15	0.07	21.48	0.16	2014.28	2159.26	1.12	1.40	496.46	1.00
12/23/24 18:15	0.07	21.48	0.16	2013.73	2158.67	1.12	1.40	496.59	1.00
12/23/24 19:15	0.07	21.48	0.16	2014.00	2158.97	1.12	1.40	496.53	1.00
12/23/24 20:15	0.07	21.48	0.16	2014.12	2159.08	1.12	1.40	496.50	1.00
12/23/24 21:15	0.07	21.49	0.16	2014.07	2159.01	1.12	1.40	496.51	1.00
12/23/24 22:15	0.07	21.48	0.16	2013.77	2158.70	1.12	1.40	496.58	1.00
12/23/24 23:15	0.07	21.49	0.16	2014.23	2159.18	1.12	1.40	496.47	1.00
12/24/24 0:15	0.06	21.49	0.15	2014.19	2159.12	1.12	1.40	496.48	1.00
12/24/24 1:15	0.07	21.49	0.15	2014.16	2159.10	1.12	1.40	496.48	1.00
12/24/24 2:15	0.06	21.49	0.15	2014.02	2158.94	1.12	1.40	496.52	1.00
12/24/24 3:15	0.07	21.49	0.15	2014.28	2159.21	1.12	1.40	496.46	1.00
12/24/24 4:15	0.07	21.49	0.16	2014.08	2158.98	1.12	1.40	496.50	1.00
12/24/24 5:15	0.07	21.49	0.16	2013.94	2158.82	1.12	1.40	496.54	1.00
12/24/24 6:15	0.07	21.49	0.17	2014.16	2159.01	1.12	1.40	496.48	1.00
12/24/24 7:15	0.06	21.49	0.15	2014.27	2159.15	1.12	1.40	496.46	1.00
12/24/24 8:15	0.06	21.49	0.14	2014.16	2158.99	1.12	1.40	496.48	1.00
12/24/24 9:15	0.06	21.49	0.14	2014.14	2159.00	1.12	1.40	496.49	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/24/24 10:15	0.06	21.49	0.14	2014.24	2159.11	1.12	1.40	496.47	1.00
12/24/24 11:15	0.06	21.49	0.15	2014.45	2159.30	1.12	1.40	496.41	1.00
12/24/24 12:15	0.07	21.49	0.16	2014.27	2159.13	1.12	1.40	496.46	1.00
12/24/24 13:15	0.07	21.49	0.16	2014.55	2159.37	1.12	1.40	496.39	1.00
12/24/24 14:15	0.07	21.49	0.16	2014.52	2159.35	1.12	1.40	496.40	1.00
12/24/24 15:15	0.07	21.49	0.16	2014.30	2159.12	1.12	1.40	496.45	1.00
12/24/24 16:15	0.07	21.49	0.17	2014.18	2159.00	1.12	1.40	496.48	1.00
12/24/24 17:15	0.07	21.49	0.17	2014.52	2159.35	1.12	1.40	496.40	1.00
12/24/24 18:15	0.07	21.49	0.15	2014.70	2159.56	1.12	1.40	496.35	1.00
12/24/24 19:15	0.07	21.49	0.15	2014.32	2159.16	1.12	1.40	496.45	1.00
12/24/24 20:15	0.07	21.49	0.15	2013.90	2158.69	1.12	1.40	496.55	1.00
12/24/24 21:15	0.07	21.49	0.16	2014.06	2158.83	1.12	1.40	496.51	1.00
12/24/24 22:15	0.07	21.49	0.16	2014.38	2159.16	1.12	1.40	496.43	1.00
12/24/24 23:15	0.07	21.49	0.17	2014.38	2159.14	1.12	1.40	496.43	1.00
12/25/24 0:15	0.07	21.49	0.15	2014.17	2158.94	1.12	1.40	496.48	1.00
12/25/24 1:15	0.07	21.49	0.15	2014.53	2159.28	1.12	1.40	496.39	1.00
12/25/24 2:15	0.07	21.49	0.16	2014.31	2159.05	1.12	1.40	496.45	1.00
12/25/24 3:15	0.07	21.49	0.17	2014.35	2159.10	1.12	1.40	496.44	1.00
12/25/24 4:15	0.07	21.49	0.15	2014.45	2159.19	1.12	1.40	496.41	1.00
12/25/24 5:15	0.07	21.49	0.16	2014.19	2158.91	1.12	1.40	496.48	1.00
12/25/24 6:15	0.07	21.49	0.17	2013.74	2158.46	1.12	1.40	496.59	1.00
12/25/24 7:15	0.08	21.49	0.17	2013.75	2158.42	1.12	1.40	496.59	1.00
12/25/24 8:15	0.07	21.49	0.15	2013.13	2157.76	1.12	1.40	496.74	1.00
12/25/24 9:15	0.07	21.49	0.16	2013.25	2157.87	1.12	1.40	496.71	1.00
12/25/24 10:15	0.07	21.49	0.16	2013.51	2158.17	1.12	1.40	496.64	1.00
12/25/24 11:15	0.07	21.49	0.17	2012.90	2157.51	1.12	1.40	496.79	1.00
12/25/24 12:15	0.08	21.49	0.19	2012.61	2157.17	1.12	1.40	496.87	1.00
12/25/24 13:15	0.08	21.49	0.17	2012.69	2157.24	1.12	1.40	496.85	1.00
12/25/24 14:15	0.07	21.49	0.16	2012.34	2156.85	1.12	1.40	496.93	1.00
12/25/24 15:15	0.07	21.49	0.17	2012.11	2156.61	1.12	1.40	496.99	1.00
12/25/24 16:15	0.07	21.49	0.17	2012.10	2156.59	1.12	1.40	496.99	1.00
12/25/24 17:15	0.07	21.49	0.17	2011.91	2156.38	1.12	1.40	497.04	1.00
12/25/24 18:15	0.07	21.49	0.17	2012.21	2156.67	1.12	1.40	496.97	1.00
12/25/24 19:15	0.07	21.49	0.17	2012.02	2156.48	1.12	1.40	497.01	1.00
12/25/24 20:15	0.06	21.49	0.15	2011.99	2156.46	1.12	1.40	497.02	1.00
12/25/24 21:15	0.06	21.49	0.15	2011.56	2156.00	1.12	1.40	497.13	1.00
12/25/24 22:15	0.06	21.49	0.14	2011.30	2155.71	1.12	1.40	497.19	1.00
12/25/24 23:15	0.06	21.49	0.14	2011.36	2155.75	1.12	1.40	497.18	1.00
12/26/24 0:15	0.06	21.49	0.14	2011.19	2155.56	1.12	1.40	497.22	1.00
12/26/24 1:15	0.06	21.49	0.14	2010.93	2155.28	1.12	1.40	497.28	1.00
12/26/24 2:15	0.06	21.49	0.14	2010.98	2155.31	1.12	1.40	497.27	1.00
12/26/24 3:15	0.06	21.49	0.14	2010.45	2154.76	1.12	1.40	497.40	1.00
12/26/24 4:15	0.06	21.49	0.14	2010.74	2155.06	1.12	1.40	497.33	1.00
12/26/24 5:15	0.06	21.49	0.14	2010.52	2154.79	1.12	1.40	497.38	1.00
12/26/24 6:15	0.06	21.49	0.14	2010.65	2154.92	1.12	1.40	497.35	1.00
12/26/24 7:15	0.06	21.49	0.14	2010.43	2154.70	1.12	1.40	497.41	1.00
12/26/24 8:15	0.06	21.49	0.14	2010.41	2154.68	1.12	1.40	497.41	1.00
12/26/24 9:15	0.07	21.50	0.15	2010.56	2154.81	1.12	1.40	497.37	1.00
12/26/24 10:15	0.06	21.50	0.13	2010.27	2154.49	1.12	1.40	497.44	1.00
12/26/24 11:15	0.06	21.50	0.14	2009.98	2154.15	1.11	1.40	497.52	1.00
12/26/24 12:15	0.06	21.50	0.15	2010.08	2154.30	1.11	1.40	497.49	1.00
12/26/24 13:15	0.07	21.50	0.16	2010.02	2154.22	1.11	1.40	497.51	1.00
12/26/24 14:15	0.07	21.50	0.17	2009.74	2153.94	1.11	1.40	497.58	1.00
12/26/24 15:15	0.06	21.50	0.15	2009.15	2153.27	1.11	1.40	497.72	1.00
12/26/24 16:15	0.07	21.50	0.15	2009.53	2153.69	1.11	1.40	497.63	1.00
12/26/24 17:15	0.07	21.50	0.16	2009.14	2153.26	1.11	1.40	497.73	1.00
12/26/24 18:15	0.07	21.50	0.16	2009.50	2153.63	1.11	1.40	497.64	1.00
12/26/24 19:15	0.06	21.50	0.14	2009.40	2153.49	1.11	1.40	497.66	1.00
12/26/24 20:15	0.06	21.50	0.14	2008.87	2152.91	1.11	1.40	497.79	1.00
12/26/24 21:15	0.06	21.50	0.14	2008.79	2152.84	1.11	1.40	497.81	1.00
12/26/24 22:15	0.06	21.50	0.14	2008.33	2152.35	1.11	1.40	497.93	1.00
12/26/24 23:15	0.06	21.50	0.15	2008.17	2152.18	1.11	1.40	497.97	1.00
12/27/24 0:15	0.07	21.50	0.16	2008.11	2152.11	1.11	1.40	497.98	1.00
12/27/24 1:15	0.06	21.50	0.14	2007.89	2151.87	1.11	1.40	498.04	1.00
12/27/24 2:15	0.06	21.50	0.14	2008.00	2151.98	1.11	1.40	498.01	1.00
12/27/24 3:15	0.06	21.50	0.14	2007.79	2151.70	1.11	1.40	498.06	1.00
12/27/24 4:15	0.06	21.50	0.14	2007.48	2151.41	1.11	1.40	498.14	1.00
12/27/24 5:15	0.06	21.50	0.14	2007.08	2150.96	1.11	1.40	498.24	1.00
12/27/24 6:15	0.06	21.50	0.15	2006.84	2150.67	1.11	1.40	498.30	1.00
12/27/24 7:15	0.06	21.50	0.13	2006.92	2150.78	1.11	1.40	498.28	1.00
12/27/24 8:15	0.06	21.50	0.13	2006.47	2150.29	1.11	1.40	498.39	1.00
12/27/24 9:15	0.06	21.50	0.13	2006.18	2149.95	1.11	1.40	498.46	1.00
12/27/24 10:15	0.06	21.50	0.13	2006.55	2150.34	1.11	1.40	498.37	1.00
12/27/24 11:15	0.06	21.50	0.14	2005.92	2149.66	1.11	1.40	498.52	1.00
12/27/24 12:15	0.07	21.50	0.16	2005.99	2149.70	1.11	1.40	498.51	1.00
12/27/24 13:15	0.06	21.50	0.14	2005.35	2149.04	1.11	1.40	498.67	1.00
12/27/24 14:15	0.06	21.50	0.15	2004.83	2148.47	1.11	1.40	498.80	1.00
12/27/24 15:15	0.07	21.50	0.16	2004.14	2147.74	1.11	1.40	498.97	1.00
12/27/24 16:15	0.07	21.50	0.17	2004.27	2147.87	1.11	1.40	498.94	1.00
12/27/24 17:15	0.06	21.50	0.14	2003.71	2147.25	1.11	1.40	499.07	1.00
12/27/24 18:15	0.06	21.50	0.13	2003.85	2147.41	1.11	1.40	499.04	1.00
12/27/24 19:15	0.06	21.50	0.13	2003.47	2146.97	1.11	1.40	499.13	1.00
12/27/24 20:15	0.06	21.50	0.14	2003.06	2146.53	1.11	1.40	499.24	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/27/24 21:15	0.06	21.50	0.15	2002.78	2146.23	1.11	1.40	499.31	1.00
12/27/24 22:15	0.06	21.50	0.15	2002.77	2146.21	1.11	1.40	499.31	1.00
12/27/24 23:15	0.05	21.50	0.12	2002.39	2145.80	1.11	1.39	499.40	1.00
12/28/24 0:15	0.05	21.50	0.13	2002.34	2145.73	1.11	1.39	499.42	1.00
12/28/24 1:15	0.05	21.50	0.13	2002.15	2145.53	1.11	1.39	499.46	1.00
12/28/24 2:15	0.06	21.50	0.13	2002.01	2145.38	1.11	1.39	499.50	1.00
12/28/24 3:15	0.06	21.50	0.13	2001.61	2144.93	1.11	1.39	499.60	1.00
12/28/24 4:15	0.06	21.50	0.13	2001.49	2144.80	1.11	1.39	499.63	1.00
12/28/24 5:15	0.06	21.50	0.14	2001.22	2144.51	1.11	1.39	499.70	1.00
12/28/24 6:15	0.06	21.50	0.14	2001.12	2144.39	1.11	1.39	499.72	1.00
12/28/24 7:15	0.06	21.50	0.14	2000.95	2144.21	1.11	1.39	499.76	1.00
12/28/24 8:15	0.05	21.50	0.11	2000.65	2143.86	1.11	1.39	499.84	1.00
12/28/24 9:15	0.05	21.50	0.11	2000.78	2144.01	1.11	1.39	499.80	1.00
12/28/24 10:15	0.05	21.50	0.11	2001.07	2144.29	1.11	1.39	499.73	1.00
12/28/24 11:15	0.05	21.50	0.11	2001.00	2144.28	1.11	1.39	499.75	1.00
12/28/24 12:15	0.05	21.50	0.12	2000.27	2143.44	1.11	1.39	499.93	1.00
12/28/24 13:15	0.06	21.50	0.13	2000.16	2143.32	1.11	1.39	499.96	1.00
12/28/24 14:15	0.06	21.50	0.15	2000.29	2143.45	1.11	1.39	499.93	1.00
12/28/24 15:15	0.05	21.50	0.12	2000.43	2143.59	1.11	1.39	499.89	1.00
12/28/24 16:15	0.05	21.50	0.12	2000.59	2143.75	1.11	1.39	499.85	1.00
12/28/24 17:15	0.05	21.50	0.12	2000.55	2143.69	1.11	1.39	499.86	1.00
12/28/24 18:15	0.05	21.50	0.12	2000.63	2143.80	1.11	1.39	499.84	1.00
12/28/24 19:15	0.05	21.50	0.12	2000.73	2143.86	1.11	1.39	499.82	1.00
12/28/24 20:15	0.05	21.50	0.12	2000.26	2143.41	1.11	1.39	499.93	1.00
12/28/24 21:15	0.05	21.50	0.12	2000.26	2143.37	1.11	1.39	499.94	1.00
12/28/24 22:15	0.05	21.50	0.12	2000.66	2143.81	1.11	1.39	499.83	1.00
12/28/24 23:15	0.06	21.51	0.13	2000.97	2144.09	1.11	1.39	499.76	1.00
12/29/24 0:15	0.05	21.51	0.11	2000.88	2144.00	1.11	1.39	499.78	1.00
12/29/24 1:15	0.05	21.51	0.11	2001.02	2144.13	1.11	1.39	499.75	1.00
12/29/24 2:15	0.05	21.51	0.11	2000.88	2143.98	1.11	1.39	499.78	1.00
12/29/24 3:15	0.05	21.51	0.11	2001.25	2144.36	1.11	1.39	499.69	1.00
12/29/24 4:15	0.05	21.51	0.11	2001.16	2144.30	1.11	1.39	499.71	1.00
12/29/24 5:15	0.05	21.51	0.12	2000.92	2144.02	1.11	1.39	499.77	1.00
12/29/24 6:15	0.05	21.51	0.12	2000.98	2144.08	1.11	1.39	499.75	1.00
12/29/24 7:15	0.05	21.51	0.12	2001.23	2144.34	1.11	1.39	499.69	1.00
12/29/24 8:15	0.04	21.51	0.10	2001.06	2144.12	1.11	1.39	499.74	1.00
12/29/24 9:15	0.05	21.51	0.11	2001.37	2144.48	1.11	1.39	499.66	1.00
12/29/24 10:15	0.05	21.51	0.10	2001.12	2144.17	1.11	1.39	499.72	1.00
12/29/24 11:15	0.05	21.51	0.11	2000.60	2143.61	1.11	1.39	499.85	1.00
12/29/24 12:15	0.05	21.51	0.12	2000.63	2143.64	1.11	1.39	499.84	1.00
12/29/24 13:15	0.06	21.51	0.13	2000.65	2143.64	1.11	1.39	499.84	1.00
12/29/24 14:15	0.06	21.51	0.14	2000.12	2143.10	1.11	1.39	499.97	1.00
12/29/24 15:15	0.05	21.51	0.12	2000.44	2143.42	1.11	1.39	499.89	1.00
12/29/24 16:15	0.05	21.51	0.12	2000.18	2143.14	1.11	1.39	499.96	1.00
12/29/24 17:15	0.05	21.51	0.12	2000.13	2143.09	1.11	1.39	499.97	1.00
12/29/24 18:15	0.05	21.51	0.12	1999.70	2142.61	1.11	1.39	500.08	1.00
12/29/24 19:15	0.05	21.51	0.12	1999.47	2142.33	1.11	1.39	500.13	1.00
12/29/24 20:15	0.06	21.51	0.13	1999.53	2142.41	1.11	1.39	500.12	1.00
12/29/24 21:15	0.05	21.51	0.12	1999.27	2142.11	1.11	1.39	500.18	1.00
12/29/24 22:15	0.05	21.51	0.11	1996.86	2139.39	1.11	1.39	500.79	1.00
12/29/24 23:15	0.05	21.51	0.12	1996.29	2138.92	1.11	1.39	500.93	1.00
12/30/24 0:15	0.05	21.51	0.12	1995.94	2138.54	1.11	1.39	501.02	1.00
12/30/24 1:15	0.05	21.51	0.13	1995.42	2137.98	1.11	1.39	501.15	1.00
12/30/24 2:15	0.06	21.51	0.13	1995.12	2137.66	1.11	1.39	501.22	1.00
12/30/24 3:15	0.05	21.51	0.12	1995.05	2137.56	1.11	1.39	501.24	1.00
12/30/24 4:15	0.05	21.51	0.12	1994.78	2137.24	1.11	1.39	501.31	1.00
12/30/24 5:15	0.05	21.51	0.11	1994.70	2137.19	1.11	1.39	501.33	1.00
12/30/24 6:15	0.05	21.51	0.11	1994.53	2137.02	1.11	1.39	501.37	1.00
12/30/24 7:15	0.05	21.51	0.11	1994.53	2136.99	1.11	1.39	501.37	1.00
12/30/24 8:15	0.05	21.51	0.11	1994.37	2136.81	1.11	1.39	501.41	1.00
12/30/24 9:15	0.05	21.51	0.10	1994.37	2136.79	1.11	1.39	501.41	1.00
12/30/24 10:15	0.05	21.51	0.11	1994.22	2136.65	1.11	1.39	501.45	1.00
12/30/24 11:15	0.05	21.51	0.12	1994.28	2136.70	1.11	1.39	501.43	1.00
12/30/24 12:15	0.05	21.51	0.11	1994.08	2136.47	1.11	1.39	501.48	1.00
12/30/24 13:15	0.05	21.51	0.11	1993.66	2136.02	1.11	1.39	501.59	1.00
12/30/24 14:15	0.04	21.53	0.09	2049.55	2195.20	1.14	1.43	487.91	1.00
12/30/24 15:15	0.04	21.52	0.09	2048.83	2194.66	1.14	1.43	488.08	1.00
12/30/24 16:15	0.04	21.52	0.09	2048.98	2194.97	1.14	1.43	488.05	1.00
12/30/24 17:15	0.04	21.52	0.09	2048.81	2194.86	1.14	1.43	488.09	1.00
12/30/24 18:15	0.04	21.51	0.09	2048.82	2194.93	1.14	1.43	488.09	1.00
12/30/24 19:15	0.04	21.52	0.08	2048.86	2194.96	1.14	1.43	488.08	1.00
12/30/24 20:15	0.03	21.51	0.08	2048.54	2194.68	1.14	1.43	488.15	1.00
12/30/24 21:15	0.03	21.51	0.08	2048.10	2194.18	1.14	1.43	488.26	1.00
12/30/24 22:15	0.03	21.51	0.08	2048.62	2194.76	1.14	1.43	488.13	1.00
12/30/24 23:15	0.03	21.51	0.08	2048.41	2194.53	1.14	1.43	488.18	1.00
12/31/24 0:15	0.03	21.51	0.08	2048.42	2194.58	1.14	1.43	488.18	1.00
12/31/24 1:15	0.03	21.51	0.08	2048.42	2194.52	1.14	1.43	488.18	1.00
12/31/24 2:15	0.03	21.51	0.07	2048.63	2194.80	1.14	1.43	488.13	1.00
12/31/24 3:15	0.03	21.51	0.07	2048.68	2194.82	1.14	1.43	488.12	1.00
12/31/24 4:15	0.03	21.51	0.07	2048.79	2194.93	1.14	1.43	488.09	1.00
12/31/24 5:15	0.03	21.51	0.07	2048.41	2194.55	1.14	1.43	488.18	1.00
12/31/24 6:15	0.03	21.51	0.07	2048.13	2194.23	1.14	1.43	488.25	1.00
12/31/24 7:15	0.03	21.51	0.07	2048.26	2194.36	1.14	1.43	488.22	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
12/31/24 8:15	0.03	21.51	0.06	2048.07	2194.16	1.14	1.43	488.26	1.00
12/31/24 9:15	0.03	21.51	0.06	2048.26	2194.36	1.14	1.43	488.22	1.00
12/31/24 10:15	0.03	21.51	0.07	2048.17	2194.25	1.14	1.43	488.24	1.00
12/31/24 11:15	0.03	21.51	0.07	2048.21	2194.32	1.14	1.43	488.23	1.00
12/31/24 12:15	0.03	21.51	0.08	2048.01	2194.06	1.14	1.43	488.28	1.00
12/31/24 13:15	0.04	21.51	0.08	2048.10	2194.18	1.14	1.43	488.26	1.00
12/31/24 14:15	0.04	21.51	0.09	2048.05	2194.13	1.14	1.43	488.27	1.00
12/31/24 15:15	0.04	21.51	0.09	2048.26	2194.33	1.14	1.43	488.22	1.00
12/31/24 16:15	0.04	21.51	0.09	2048.31	2194.38	1.14	1.43	488.21	1.00
12/31/24 17:15	0.04	21.52	0.09	2048.81	2194.88	1.14	1.43	488.09	1.00
12/31/24 18:15	0.04	21.51	0.09	2049.20	2195.34	1.14	1.43	487.99	1.00
12/31/24 19:15	0.04	21.52	0.09	2049.00	2195.09	1.14	1.43	488.04	1.00
12/31/24 20:15	0.04	21.52	0.09	2048.88	2194.95	1.14	1.43	488.07	1.00
12/31/24 21:15	0.03	21.52	0.08	2048.93	2194.95	1.14	1.43	488.06	1.00
12/31/24 22:15	0.03	21.52	0.08	2049.11	2195.20	1.14	1.43	488.02	1.00
12/31/24 23:15	0.04	21.52	0.08	2049.20	2195.29	1.14	1.43	488.00	1.00
1/1/25 0:15	0.04	21.52	0.08	2049.22	2195.31	1.14	1.43	487.99	1.00
1/1/25 1:15	0.04	21.52	0.08	2049.20	2195.26	1.14	1.43	488.00	1.00
1/1/25 2:15	0.03	21.52	0.07	2049.52	2195.58	1.14	1.43	487.92	1.00
1/1/25 3:15	0.03	21.52	0.07	2049.03	2195.08	1.14	1.43	488.04	1.00
1/1/25 4:15	0.03	21.52	0.08	2049.19	2195.23	1.14	1.43	488.00	1.00
1/1/25 5:15	0.03	21.52	0.07	2049.24	2195.28	1.14	1.43	487.99	1.00
1/1/25 6:15	0.03	21.52	0.07	2049.69	2195.77	1.14	1.43	487.88	1.00
1/1/25 7:15	0.03	21.52	0.07	2049.78	2195.84	1.14	1.43	487.86	1.00
1/1/25 8:15	0.03	21.52	0.07	2049.65	2195.66	1.14	1.43	487.89	1.00
1/1/25 9:15	0.03	21.52	0.07	2049.59	2195.63	1.14	1.43	487.90	1.00
1/1/25 10:15	0.03	21.52	0.07	2049.41	2195.46	1.14	1.43	487.95	1.00
1/1/25 11:15	0.03	21.52	0.07	2049.57	2195.60	1.14	1.43	487.91	1.00
1/1/25 12:15	0.04	21.52	0.08	2049.74	2195.79	1.14	1.43	487.87	1.00
1/1/25 13:15	0.04	21.52	0.09	2049.90	2195.92	1.14	1.43	487.83	1.00
1/1/25 14:15	0.04	21.52	0.10	2049.68	2195.67	1.14	1.43	487.88	1.00
1/1/25 15:15	0.04	21.52	0.10	2049.51	2195.53	1.14	1.43	487.92	1.00
1/1/25 16:15	0.04	21.52	0.10	2049.29	2195.29	1.14	1.43	487.97	1.00
1/1/25 17:15	0.05	21.52	0.11	2049.63	2195.64	1.14	1.43	487.89	1.00
1/1/25 18:15	0.05	21.52	0.11	2049.32	2195.30	1.14	1.43	487.97	1.00
1/1/25 19:15	0.05	21.52	0.11	2049.38	2195.37	1.14	1.43	487.95	1.00
1/1/25 20:15	0.05	21.52	0.11	2049.78	2195.74	1.14	1.43	487.86	1.00
1/1/25 21:15	0.05	21.52	0.11	2049.57	2195.55	1.14	1.43	487.91	1.00
1/1/25 22:15	0.05	21.52	0.12	2049.46	2195.37	1.14	1.43	487.93	1.00
1/1/25 23:15	0.05	21.52	0.12	2049.49	2195.43	1.14	1.43	487.93	1.00
1/2/25 0:15	0.05	21.52	0.13	2049.71	2195.65	1.14	1.43	487.87	1.00
1/2/25 1:15	0.06	21.52	0.13	2049.63	2195.57	1.14	1.43	487.89	1.00
1/2/25 2:15	0.03	21.52	0.08	2049.31	2195.14	1.14	1.43	487.97	1.00
1/2/25 3:15	0.04	21.52	0.09	2049.34	2195.23	1.14	1.43	487.96	1.00
1/2/25 4:15	0.04	21.52	0.10	2049.31	2195.17	1.14	1.43	487.97	1.00
1/2/25 5:15	0.04	21.52	0.10	2049.20	2195.11	1.14	1.43	487.99	1.00
1/2/25 6:15	0.05	21.52	0.10	2049.21	2195.11	1.14	1.43	487.99	1.00
1/2/25 7:15	0.05	21.52	0.10	2049.54	2195.44	1.14	1.43	487.91	1.00
1/2/25 8:15	0.03	21.52	0.08	2049.59	2195.50	1.14	1.43	487.90	1.00
1/2/25 9:15	0.03	21.52	0.08	2049.41	2195.28	1.14	1.43	487.95	1.00
1/2/25 10:15	0.03	21.52	0.08	2049.60	2195.46	1.14	1.43	487.90	1.00
1/2/25 11:15	0.04	21.52	0.09	2049.40	2195.27	1.14	1.43	487.95	1.00
1/2/25 12:15	0.05	21.52	0.10	2049.16	2194.99	1.14	1.43	488.00	1.00
1/2/25 13:15	0.04	21.52	0.09	2049.19	2195.04	1.14	1.43	488.00	1.00
1/2/25 14:15	0.05	21.52	0.11	2049.13	2194.95	1.14	1.43	488.01	1.00
1/2/25 15:15	0.04	21.52	0.08	2049.64	2195.49	1.14	1.43	487.89	1.00
1/2/25 16:15	0.04	21.52	0.10	2049.49	2195.31	1.14	1.43	487.93	1.00
1/2/25 17:15	0.03	21.52	0.06	2049.33	2195.15	1.14	1.43	487.96	1.00
1/2/25 18:15	0.03	21.52	0.06	2049.46	2195.29	1.14	1.43	487.93	1.00
1/2/25 19:15	0.03	21.52	0.06	2049.34	2195.15	1.14	1.43	487.96	1.00
1/2/25 20:15	0.03	21.52	0.06	2049.52	2195.32	1.14	1.43	487.92	1.00
1/2/25 21:15	0.03	21.52	0.06	2049.61	2195.43	1.14	1.43	487.90	1.00
1/2/25 22:15	0.03	21.52	0.06	2049.75	2195.57	1.14	1.43	487.86	1.00
1/2/25 23:15	0.03	21.52	0.06	2050.01	2195.84	1.14	1.43	487.80	1.00
1/3/25 0:15	0.03	21.52	0.06	2049.60	2195.39	1.14	1.43	487.90	1.00
1/3/25 1:15	0.03	21.52	0.06	2049.51	2195.27	1.14	1.43	487.92	1.00
1/3/25 2:15	0.03	21.52	0.06	2049.56	2195.34	1.14	1.43	487.91	1.00
1/3/25 3:15	0.03	21.52	0.06	2049.37	2195.15	1.14	1.43	487.96	1.00
1/3/25 4:15	0.03	21.52	0.07	2049.77	2195.52	1.14	1.43	487.86	1.00
1/3/25 5:15	0.03	21.52	0.07	2049.46	2195.22	1.14	1.43	487.93	1.00
1/3/25 6:15	0.03	21.52	0.07	2049.21	2194.93	1.14	1.43	487.99	1.00
1/3/25 7:15	0.03	21.52	0.07	2049.50	2195.22	1.14	1.43	487.92	1.00
1/3/25 8:15	0.01	21.52	0.03	2049.99	2195.74	1.14	1.43	487.81	1.00
1/3/25 9:15	0.02	21.52	0.05	2050.02	2195.78	1.14	1.43	487.80	1.00
1/3/25 10:15	0.02	21.52	0.05	2049.91	2195.65	1.14	1.43	487.83	1.00
1/3/25 11:15	0.02	21.53	0.06	2049.93	2195.64	1.14	1.43	487.82	1.00
1/3/25 12:15	0.03	21.53	0.07	2049.85	2195.55	1.14	1.43	487.84	1.00
1/3/25 13:15	0.03	21.52	0.08	2049.92	2195.66	1.14	1.43	487.82	1.00
1/3/25 14:15	0.04	21.53	0.08	2050.19	2195.94	1.14	1.43	487.76	1.00
1/3/25 15:15	0.04	21.53	0.09	2050.10	2195.84	1.14	1.43	487.78	1.00
1/3/25 16:15	0.03	21.53	0.07	2049.86	2195.57	1.14	1.43	487.84	1.00
1/3/25 17:15	0.03	21.53	0.07	2050.07	2195.73	1.14	1.43	487.79	1.00
1/3/25 18:15	0.03	21.53	0.07	2050.23	2195.95	1.14	1.43	487.75	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/3/25 19:15	0.03	21.53	0.07	2050.14	2195.83	1.14	1.43	487.77	1.00
1/3/25 20:15	0.03	21.53	0.07	2049.95	2195.65	1.14	1.43	487.82	1.00
1/3/25 21:15	0.03	21.53	0.07	2049.78	2195.45	1.14	1.43	487.86	1.00
1/3/25 22:15	0.03	21.53	0.07	2049.75	2195.38	1.14	1.43	487.86	1.00
1/3/25 23:15	0.03	21.53	0.08	2049.53	2195.16	1.14	1.43	487.92	1.00
1/4/25 0:15	0.04	21.53	0.09	2049.35	2194.97	1.14	1.43	487.96	1.00
1/4/25 1:15	0.03	21.53	0.06	2049.60	2195.20	1.14	1.43	487.90	1.00
1/4/25 2:15	0.03	21.53	0.07	2049.95	2195.60	1.14	1.43	487.82	1.00
1/4/25 3:15	0.03	21.53	0.07	2049.68	2195.30	1.14	1.43	487.88	1.00
1/4/25 4:15	0.03	21.53	0.07	2049.81	2195.43	1.14	1.43	487.85	1.00
1/4/25 5:15	0.03	21.53	0.08	2049.57	2195.15	1.14	1.43	487.91	1.00
1/4/25 6:15	0.03	21.53	0.07	2049.58	2195.16	1.14	1.43	487.90	1.00
1/4/25 7:15	0.04	21.53	0.08	2049.97	2195.59	1.14	1.43	487.81	1.00
1/4/25 8:15	0.03	21.53	0.08	2050.07	2195.69	1.14	1.43	487.79	1.00
1/4/25 9:15	0.02	21.53	0.05	2049.99	2195.58	1.14	1.43	487.81	1.00
1/4/25 10:15	0.03	21.53	0.06	2050.16	2195.82	1.14	1.43	487.77	1.00
1/4/25 11:15	0.03	21.53	0.07	2049.74	2195.31	1.14	1.43	487.87	1.00
1/4/25 12:15	0.03	21.53	0.07	2049.78	2195.34	1.14	1.43	487.86	1.00
1/4/25 13:15	0.04	21.53	0.08	2049.94	2195.51	1.14	1.43	487.82	1.00
1/4/25 14:15	0.04	21.53	0.08	2049.60	2195.15	1.14	1.43	487.90	1.00
1/4/25 15:15	0.04	21.53	0.09	2049.66	2195.21	1.14	1.43	487.89	1.00
1/4/25 16:15	0.03	21.53	0.07	2049.85	2195.41	1.14	1.43	487.84	1.00
1/4/25 17:15	0.03	21.53	0.07	2049.57	2195.07	1.14	1.43	487.91	1.00
1/4/25 18:15	0.03	21.53	0.07	2049.76	2195.29	1.14	1.43	487.86	1.00
1/4/25 19:15	0.03	21.53	0.08	2049.68	2195.19	1.14	1.43	487.88	1.00
1/4/25 20:15	0.03	21.53	0.07	2049.44	2194.92	1.14	1.43	487.94	1.00
1/4/25 21:15	0.03	21.53	0.07	2049.84	2195.33	1.14	1.43	487.84	1.00
1/4/25 22:15	0.03	21.53	0.07	2049.80	2195.28	1.14	1.43	487.85	1.00
1/4/25 23:15	0.03	21.53	0.06	2049.71	2195.19	1.14	1.43	487.87	1.00
1/5/25 0:15	0.02	21.53	0.05	2049.76	2195.25	1.14	1.43	487.86	1.00
1/5/25 1:15	0.03	21.53	0.07	2049.64	2195.13	1.14	1.43	487.89	1.00
1/5/25 2:15	0.03	21.53	0.07	2049.75	2195.22	1.14	1.43	487.86	1.00
1/5/25 3:15	0.03	21.53	0.06	2049.91	2195.39	1.14	1.43	487.83	1.00
1/5/25 4:15	0.02	21.53	0.04	2049.72	2195.17	1.14	1.43	487.87	1.00
1/5/25 5:15	0.02	21.53	0.04	2050.13	2195.60	1.14	1.43	487.77	1.00
1/5/25 6:15	0.02	21.53	0.05	2049.97	2195.43	1.14	1.43	487.81	1.00
1/5/25 7:15	0.02	21.53	0.04	2049.93	2195.37	1.14	1.43	487.82	1.00
1/5/25 8:15	0.02	21.53	0.05	2049.47	2194.90	1.14	1.43	487.93	1.00
1/5/25 9:15	0.02	21.53	0.04	2049.65	2195.07	1.14	1.43	487.89	1.00
1/5/25 10:15	0.02	21.53	0.04	2049.88	2195.34	1.14	1.43	487.83	1.00
1/5/25 11:15	0.02	21.53	0.04	2049.92	2195.38	1.14	1.43	487.82	1.00
1/5/25 12:15	0.02	21.53	0.05	2050.02	2195.44	1.14	1.43	487.80	1.00
1/5/25 13:15	0.02	21.53	0.06	2050.09	2195.48	1.14	1.43	487.78	1.00
1/5/25 14:15	0.03	21.53	0.06	2049.77	2195.17	1.14	1.43	487.86	1.00
1/5/25 15:15	0.02	21.53	0.06	2050.05	2195.46	1.14	1.43	487.79	1.00
1/5/25 16:15	0.02	21.53	0.05	2050.27	2195.69	1.14	1.43	487.74	1.00
1/5/25 17:15	0.01	21.53	0.03	2050.39	2195.81	1.14	1.43	487.71	1.00
1/5/25 18:15	0.01	21.53	0.03	2050.38	2195.80	1.14	1.43	487.71	1.00
1/5/25 19:15	0.01	21.53	0.03	2050.23	2195.65	1.14	1.43	487.75	1.00
1/5/25 20:15	0.01	21.53	0.03	2050.11	2195.51	1.14	1.43	487.78	1.00
1/5/25 21:15	0.01	21.53	0.02	2050.15	2195.53	1.14	1.43	487.77	1.00
1/5/25 22:15	0.01	21.53	0.03	2050.33	2195.71	1.14	1.43	487.73	1.00
1/5/25 23:15	0.01	21.53	0.03	2050.22	2195.55	1.14	1.43	487.75	1.00
1/6/25 0:15	0.01	21.53	0.03	2050.06	2195.40	1.14	1.43	487.79	1.00
1/6/25 1:15	0.01	21.53	0.03	2050.32	2195.68	1.14	1.43	487.73	1.00
1/6/25 2:15	0.01	21.53	0.03	2050.31	2195.62	1.14	1.43	487.73	1.00
1/6/25 3:15	0.01	21.53	0.03	2050.46	2195.80	1.14	1.43	487.69	1.00
1/6/25 4:15	0.02	21.53	0.03	2050.52	2195.85	1.14	1.43	487.68	1.00
1/6/25 5:15	0.02	21.53	0.04	2050.34	2195.67	1.14	1.43	487.72	1.00
1/6/25 6:15	0.02	21.53	0.04	2050.45	2195.77	1.14	1.43	487.70	1.00
1/6/25 7:15	0.01	21.54	0.02	2050.59	2195.86	1.14	1.43	487.66	1.00
1/6/25 8:15	0.01	21.54	0.02	2050.89	2196.15	1.14	1.43	487.59	1.00
1/6/25 9:15	0.01	21.54	0.03	2050.78	2196.11	1.14	1.43	487.62	1.00
1/6/25 10:15	0.01	21.54	0.02	2050.67	2195.98	1.14	1.43	487.64	1.00
1/6/25 11:15	0.01	21.54	0.03	2050.65	2195.96	1.14	1.43	487.65	1.00
1/6/25 12:15	0.02	21.54	0.04	2050.36	2195.65	1.14	1.43	487.72	1.00
1/6/25 13:15	0.02	21.54	0.05	2050.62	2195.94	1.14	1.43	487.66	1.00
1/6/25 14:15	0.01	21.54	0.03	2050.63	2195.93	1.14	1.43	487.66	1.00
1/6/25 15:15	0.02	21.54	0.04	2051.27	2196.63	1.14	1.43	487.50	1.00
1/6/25 16:15	0.02	21.54	0.04	2050.94	2196.28	1.14	1.43	487.58	1.00
1/6/25 17:15	0.02	21.54	0.04	2051.00	2196.30	1.14	1.43	487.57	1.00
1/6/25 18:15	0.02	21.54	0.04	2050.79	2196.10	1.14	1.43	487.62	1.00
1/6/25 19:15	0.02	21.54	0.04	2050.84	2196.13	1.14	1.43	487.61	1.00
1/6/25 20:15	0.02	21.54	0.03	2051.14	2196.47	1.14	1.43	487.53	1.00
1/6/25 21:15	0.02	21.54	0.04	2051.15	2196.47	1.14	1.43	487.53	1.00
1/6/25 22:15	0.02	21.54	0.04	2051.16	2196.48	1.14	1.43	487.53	1.00
1/6/25 23:15	0.02	21.54	0.04	2051.14	2196.43	1.14	1.43	487.53	1.00
1/7/25 0:15	0.00	21.54	0.01	2051.40	2196.70	1.14	1.43	487.47	1.00
1/7/25 1:15	0.01	21.54	0.03	2050.66	2195.91	1.14	1.43	487.65	1.00
1/7/25 2:15	0.01	21.54	0.03	2050.85	2196.10	1.14	1.43	487.60	1.00
1/7/25 3:15	0.01	21.54	0.03	2050.99	2196.23	1.14	1.43	487.57	1.00
1/7/25 4:15	0.01	21.54	0.03	2050.64	2195.85	1.14	1.43	487.65	1.00
1/7/25 5:15	0.01	21.54	0.03	2050.68	2195.88	1.14	1.43	487.64	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/7/25 6:15	0.01	21.54	0.03	2050.73	2195.94	1.14	1.43	487.63	1.00
1/7/25 7:15	0.01	21.54	0.03	2050.90	2196.11	1.14	1.43	487.59	1.00
1/7/25 8:15	0.01	21.54	0.03	2051.02	2196.22	1.14	1.43	487.56	1.00
1/7/25 9:15	0.01	21.54	0.03	2050.47	2195.64	1.14	1.43	487.69	1.00
1/7/25 10:15	0.01	21.54	0.03	2050.56	2195.72	1.14	1.43	487.67	1.00
1/7/25 11:15	0.01	21.54	0.01	2050.67	2195.87	1.14	1.43	487.65	1.00
1/7/25 12:15	0.01	21.54	0.02	2050.57	2195.75	1.14	1.43	487.67	1.00
1/7/25 13:15	0.01	21.54	0.03	2050.94	2196.11	1.14	1.43	487.58	1.00
1/7/25 14:15	0.01	21.54	0.03	2050.89	2196.07	1.14	1.43	487.59	1.00
1/7/25 15:15	0.01	21.54	0.03	2051.05	2196.23	1.14	1.43	487.55	1.00
1/7/25 16:15	0.01	21.54	0.03	2050.99	2196.14	1.14	1.43	487.57	1.00
1/7/25 17:15	0.01	21.54	0.03	2050.86	2196.00	1.14	1.43	487.60	1.00
1/7/25 18:15	0.01	21.54	0.03	2050.95	2196.08	1.14	1.43	487.58	1.00
1/7/25 19:15	0.01	21.54	0.03	2051.16	2196.32	1.14	1.43	487.53	1.00
1/7/25 20:15	0.01	21.54	0.03	2051.15	2196.28	1.14	1.43	487.53	1.00
1/7/25 21:15	0.00	21.54	-0.01	2050.94	2196.05	1.14	1.43	487.58	1.00
1/7/25 22:15	0.00	21.54	0.00	2050.84	2195.96	1.14	1.43	487.61	1.00
1/7/25 23:15	0.00	21.54	0.00	2050.30	2195.36	1.14	1.43	487.73	1.00
1/8/25 0:15	0.00	21.54	0.00	2050.43	2195.51	1.14	1.43	487.70	1.00
1/8/25 1:15	0.00	21.54	0.01	2050.66	2195.74	1.14	1.43	487.65	1.00
1/8/25 2:15	0.00	21.54	0.01	2050.83	2195.90	1.14	1.43	487.61	1.00
1/8/25 3:15	0.01	21.54	0.01	2050.45	2195.51	1.14	1.43	487.70	1.00
1/8/25 4:15	0.01	21.54	0.02	2050.72	2195.78	1.14	1.43	487.63	1.00
1/8/25 5:15	0.01	21.54	0.02	2050.94	2196.01	1.14	1.43	487.58	1.00
1/8/25 6:15	0.01	21.54	0.03	2050.84	2195.88	1.14	1.43	487.61	1.00
1/8/25 7:15	0.00	21.54	0.00	2051.38	2196.47	1.14	1.43	487.48	1.00
1/8/25 8:15	0.00	21.54	0.00	2051.39	2196.47	1.14	1.43	487.47	1.00
1/8/25 9:15	0.00	21.54	0.00	2051.22	2196.28	1.14	1.43	487.52	1.00
1/8/25 10:15	0.00	21.54	0.00	2051.68	2196.80	1.14	1.43	487.41	1.00
1/8/25 11:15	0.00	21.54	0.01	2051.60	2196.69	1.14	1.43	487.42	1.00
1/8/25 12:15	0.01	21.54	0.02	2051.43	2196.52	1.14	1.43	487.46	1.00
1/8/25 13:15	0.02	21.54	0.04	2051.98	2197.06	1.14	1.43	487.33	1.00
1/8/25 14:15	0.00	21.54	0.00	2051.45	2196.50	1.14	1.43	487.46	1.00
1/8/25 15:15	0.01	21.54	0.02	2051.84	2196.92	1.14	1.43	487.37	1.00
1/8/25 16:15	0.01	21.54	0.02	2051.79	2196.86	1.14	1.43	487.38	1.00
1/8/25 17:15	0.01	21.54	0.03	2052.11	2197.18	1.14	1.43	487.30	1.00
1/8/25 18:15	0.02	21.54	0.04	2052.27	2197.35	1.14	1.43	487.27	1.00
1/8/25 19:15	0.02	21.54	0.05	2051.83	2196.90	1.14	1.43	487.37	1.00
1/8/25 20:15	0.01	21.54	0.02	2052.07	2197.10	1.14	1.43	487.31	1.00
1/8/25 21:15	0.01	21.54	0.02	2051.22	2196.19	1.14	1.43	487.52	1.00
1/8/25 22:15	0.01	21.54	0.03	2051.47	2196.49	1.14	1.43	487.45	1.00
1/8/25 23:15	0.02	21.54	0.04	2051.80	2196.80	1.14	1.43	487.38	1.00
1/9/25 0:15	0.02	21.54	0.05	2051.52	2196.53	1.14	1.43	487.44	1.00
1/9/25 1:15	0.01	21.54	0.03	2051.46	2196.45	1.14	1.43	487.46	1.00
1/9/25 2:15	0.01	21.54	0.03	2051.66	2196.65	1.14	1.43	487.41	1.00
1/9/25 3:15	0.02	21.54	0.04	2051.74	2196.74	1.14	1.43	487.39	1.00
1/9/25 4:15	0.02	21.54	0.05	2051.58	2196.59	1.14	1.43	487.43	1.00
1/9/25 5:15	0.02	21.54	0.06	2051.66	2196.62	1.14	1.43	487.41	1.00
1/9/25 6:15	0.01	21.55	0.03	2051.71	2196.65	1.14	1.43	487.40	1.00
1/9/25 7:15	0.01	21.54	0.03	2051.45	2196.40	1.14	1.43	487.46	1.00
1/9/25 8:15	0.01	21.54	0.03	2051.75	2196.71	1.14	1.43	487.39	1.00
1/9/25 9:15	0.01	21.54	0.03	2051.40	2196.34	1.14	1.43	487.47	1.00
1/9/25 10:15	0.01	21.55	0.03	2051.58	2196.51	1.14	1.43	487.43	1.00
1/9/25 11:15	0.01	21.55	0.03	2050.94	2195.84	1.14	1.43	487.58	1.00
1/9/25 12:15	0.02	21.55	0.04	2051.08	2195.98	1.14	1.43	487.55	1.00
1/9/25 13:15	0.02	21.55	0.05	2050.93	2195.79	1.14	1.43	487.58	1.00
1/9/25 14:15	0.01	21.55	0.03	2051.18	2196.08	1.14	1.43	487.53	1.00
1/9/25 15:15	0.01	21.55	0.02	2050.78	2195.64	1.14	1.43	487.62	1.00
1/9/25 16:15	0.01	21.55	0.02	2050.80	2195.66	1.14	1.43	487.61	1.00
1/9/25 17:15	0.01	21.55	0.02	2050.21	2195.00	1.14	1.43	487.75	1.00
1/9/25 18:15	0.01	21.55	0.02	2050.47	2195.31	1.14	1.43	487.69	1.00
1/9/25 19:15	0.01	21.55	0.02	2050.22	2194.99	1.14	1.43	487.75	1.00
1/9/25 20:15	0.01	21.55	0.01	2050.23	2195.01	1.14	1.43	487.75	1.00
1/9/25 21:15	0.01	21.55	0.01	2050.21	2194.98	1.14	1.43	487.76	1.00
1/9/25 22:15	0.01	21.55	0.01	2050.48	2195.26	1.14	1.43	487.69	1.00
1/9/25 23:15	0.01	21.55	0.02	2050.52	2195.33	1.14	1.43	487.68	1.00
1/10/25 0:15	0.00	21.55	0.00	2050.13	2194.87	1.14	1.43	487.77	1.00
1/10/25 1:15	0.00	21.55	0.00	2050.36	2195.10	1.14	1.43	487.72	1.00
1/10/25 2:15	0.00	21.55	0.00	2050.17	2194.93	1.14	1.43	487.76	1.00
1/10/25 3:15	0.00	21.55	0.00	2050.14	2194.88	1.14	1.43	487.77	1.00
1/10/25 4:15	0.00	21.55	0.00	2050.25	2195.00	1.14	1.43	487.74	1.00
1/10/25 5:15	0.00	21.55	0.01	2050.39	2195.15	1.14	1.43	487.71	1.00
1/10/25 6:15	0.01	21.55	0.01	2050.37	2195.11	1.14	1.43	487.72	1.00
1/10/25 7:15	0.01	21.55	0.02	2050.53	2195.28	1.14	1.43	487.68	1.00
1/10/25 8:15	0.01	21.55	0.03	2050.46	2195.20	1.14	1.43	487.70	1.00
1/10/25 9:15	0.00	21.55	0.00	2050.69	2195.44	1.14	1.43	487.64	1.00
1/10/25 10:15	0.00	21.55	0.00	2050.91	2195.68	1.14	1.43	487.59	1.00
1/10/25 11:15	0.00	21.55	0.00	2050.40	2195.11	1.14	1.43	487.71	1.00
1/10/25 12:15	0.01	21.55	0.02	2050.67	2195.38	1.14	1.43	487.65	1.00
1/10/25 13:15	0.02	21.55	0.04	2050.45	2195.14	1.14	1.43	487.70	1.00
1/10/25 14:15	0.00	21.55	0.01	2050.39	2195.07	1.14	1.43	487.71	1.00
1/10/25 15:15	0.01	21.55	0.02	2050.31	2194.99	1.14	1.43	487.73	1.00
1/10/25 16:15	0.01	21.55	0.03	2050.77	2195.43	1.14	1.43	487.62	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/10/25 17:15	0.02	21.55	0.04	2050.44	2195.12	1.14	1.43	487.70	1.00
1/10/25 18:15	0.00	21.55	0.00	2050.62	2195.30	1.14	1.43	487.66	1.00
1/10/25 19:15	0.00	21.55	0.01	2050.28	2194.94	1.14	1.43	487.74	1.00
1/10/25 20:15	0.01	21.55	0.02	2050.47	2195.12	1.14	1.43	487.69	1.00
1/10/25 21:15	0.01	21.55	0.03	2050.67	2195.34	1.14	1.43	487.65	1.00
1/10/25 22:15	0.02	21.55	0.04	2050.55	2195.22	1.14	1.43	487.67	1.00
1/10/25 23:15	0.01	21.55	0.02	2050.89	2195.57	1.14	1.43	487.59	1.00
1/11/25 0:15	0.01	21.55	0.02	2051.07	2195.75	1.14	1.43	487.55	1.00
1/11/25 1:15	0.01	21.55	0.03	2051.49	2196.19	1.14	1.43	487.45	1.00
1/11/25 2:15	0.02	21.55	0.05	2051.27	2195.93	1.14	1.43	487.50	1.00
1/11/25 3:15	0.01	21.55	0.02	2051.43	2196.09	1.14	1.43	487.46	1.00
1/11/25 4:15	0.01	21.55	0.03	2050.89	2195.55	1.14	1.43	487.59	1.00
1/11/25 5:15	0.02	21.55	0.04	2050.70	2195.30	1.14	1.43	487.64	1.00
1/11/25 6:15	0.02	21.55	0.06	2050.91	2195.54	1.14	1.43	487.59	1.00
1/11/25 7:15	0.01	21.55	0.02	2050.62	2195.22	1.14	1.43	487.66	1.00
1/11/25 8:15	0.01	21.55	0.02	2050.68	2195.28	1.14	1.43	487.64	1.00
1/11/25 9:15	0.01	21.55	0.03	2050.73	2195.32	1.14	1.43	487.63	1.00
1/11/25 10:15	0.02	21.55	0.04	2050.70	2195.31	1.14	1.43	487.64	1.00
1/11/25 11:15	0.02	21.55	0.05	2050.99	2195.57	1.14	1.43	487.57	1.00
1/11/25 12:15	0.01	21.55	0.02	2051.14	2195.73	1.14	1.43	487.53	1.00
1/11/25 13:15	0.02	21.55	0.04	2050.98	2195.55	1.14	1.43	487.57	1.00
1/11/25 14:15	0.03	21.55	0.06	2050.89	2195.43	1.14	1.43	487.59	1.00
1/11/25 15:15	0.01	21.55	0.02	2051.24	2195.83	1.14	1.43	487.51	1.00
1/11/25 16:15	0.01	21.55	0.02	2051.47	2196.09	1.14	1.43	487.46	1.00
1/11/25 17:15	0.01	21.55	0.03	2051.57	2196.18	1.14	1.43	487.43	1.00
1/11/25 18:15	0.01	21.55	0.03	2051.48	2196.07	1.14	1.43	487.45	1.00
1/11/25 19:15	0.02	21.55	0.04	2051.61	2196.21	1.14	1.43	487.42	1.00
1/11/25 20:15	0.02	21.55	0.04	2051.47	2196.07	1.14	1.43	487.45	1.00
1/11/25 21:15	0.00	21.55	0.01	2053.12	2197.82	1.14	1.43	487.06	1.00
1/11/25 22:15	0.00	21.55	0.00	2053.00	2197.69	1.14	1.43	487.09	1.00
1/11/25 23:15	0.00	21.55	0.01	2053.27	2197.97	1.14	1.43	487.03	1.00
1/12/25 0:15	0.00	21.55	0.00	2053.68	2198.40	1.14	1.43	486.93	1.00
1/12/25 1:15	0.00	21.55	0.01	2053.55	2198.26	1.14	1.43	486.96	1.00
1/12/25 2:15	0.00	21.55	0.01	2053.86	2198.59	1.14	1.43	486.89	1.00
1/12/25 3:15	0.01	21.55	0.02	2053.43	2198.12	1.14	1.43	486.99	1.00
1/12/25 4:15	0.01	21.55	0.02	2053.58	2198.28	1.14	1.43	486.96	1.00
1/12/25 5:15	-0.01	21.55	-0.01	2053.49	2198.19	1.14	1.43	486.98	1.00
1/12/25 6:15	0.00	21.55	-0.01	2053.80	2198.48	1.14	1.43	486.90	1.00
1/12/25 7:15	0.00	21.55	-0.01	2053.64	2198.31	1.14	1.43	486.94	1.00
1/12/25 8:15	0.00	21.55	-0.01	2053.35	2197.98	1.14	1.43	487.01	1.00
1/12/25 9:15	0.00	21.55	-0.01	2053.27	2197.92	1.14	1.43	487.03	1.00
1/12/25 10:15	0.00	21.55	-0.01	2053.42	2198.07	1.14	1.43	486.99	1.00
1/12/25 11:15	0.00	21.55	0.00	2052.78	2197.37	1.14	1.43	487.14	1.00
1/12/25 12:15	0.00	21.55	0.01	2053.06	2197.69	1.14	1.43	487.08	1.00
1/12/25 13:15	0.00	21.55	-0.01	2053.06	2197.67	1.14	1.43	487.08	1.00
1/12/25 14:15	0.00	21.55	0.01	2053.49	2198.12	1.14	1.43	486.98	1.00
1/12/25 15:15	0.00	21.56	0.01	2053.44	2198.04	1.14	1.43	486.99	1.00
1/12/25 16:15	0.01	21.56	0.02	2053.29	2197.89	1.14	1.43	487.02	1.00
1/12/25 17:15	0.01	21.56	0.02	2053.23	2197.82	1.14	1.43	487.04	1.00
1/12/25 18:15	-0.01	21.56	-0.02	2053.52	2198.11	1.14	1.43	486.97	1.00
1/12/25 19:15	-0.01	21.56	-0.02	2053.50	2198.11	1.14	1.43	486.97	1.00
1/12/25 20:15	-0.01	21.56	-0.01	2053.72	2198.33	1.14	1.43	486.92	1.00
1/12/25 21:15	0.00	21.56	-0.01	2053.89	2198.52	1.14	1.43	486.88	1.00
1/12/25 22:15	0.00	21.56	-0.01	2053.54	2198.14	1.14	1.43	486.96	1.00
1/12/25 23:15	0.00	21.56	0.00	2053.63	2198.22	1.14	1.43	486.94	1.00
1/13/25 0:15	0.00	21.56	0.01	2053.70	2198.27	1.14	1.43	486.93	1.00
1/13/25 1:15	0.01	21.56	0.02	2053.43	2197.99	1.14	1.43	486.99	1.00
1/13/25 2:15	0.01	21.56	0.02	2053.48	2198.02	1.14	1.43	486.98	1.00
1/13/25 3:15	0.00	21.56	-0.01	2053.73	2198.28	1.14	1.43	486.92	1.00
1/13/25 4:15	0.00	21.56	0.00	2053.30	2197.84	1.14	1.43	487.02	1.00
1/13/25 5:15	0.00	21.56	0.01	2053.60	2198.12	1.14	1.43	486.95	1.00
1/13/25 6:15	0.01	21.56	0.02	2053.41	2197.94	1.14	1.43	487.00	1.00
1/13/25 7:15	0.01	21.56	0.02	2053.11	2197.62	1.14	1.43	487.07	1.00
1/13/25 8:15	0.01	21.56	0.02	2053.19	2197.69	1.14	1.43	487.05	1.00
1/13/25 9:15	0.00	21.56	-0.01	2053.07	2197.55	1.14	1.43	487.08	1.00
1/13/25 10:15	0.00	21.56	-0.01	2052.83	2197.29	1.14	1.43	487.13	1.00
1/13/25 11:15	0.01	21.56	0.01	2053.13	2197.62	1.14	1.43	487.06	1.00
1/13/25 12:15	0.01	21.56	0.03	2053.02	2197.48	1.14	1.43	487.09	1.00
1/13/25 13:15	0.00	21.56	0.01	2052.87	2197.35	1.14	1.43	487.12	1.00
1/13/25 14:15	0.01	21.56	0.03	2053.12	2197.58	1.14	1.43	487.06	1.00
1/13/25 15:15	0.00	21.56	0.01	2053.35	2197.83	1.14	1.43	487.01	1.00
1/13/25 16:15	0.00	21.56	-0.01	2053.41	2197.86	1.14	1.43	487.00	1.00
1/13/25 17:15	0.00	21.56	0.00	2053.30	2197.75	1.14	1.43	487.02	1.00
1/13/25 18:15	0.01	21.56	0.01	2053.22	2197.63	1.14	1.43	487.04	1.00
1/13/25 19:15	0.01	21.56	0.02	2053.16	2197.57	1.14	1.43	487.06	1.00
1/13/25 20:15	0.01	21.56	0.02	2053.26	2197.70	1.14	1.43	487.03	1.00
1/13/25 21:15	0.01	21.56	0.02	2053.11	2197.54	1.14	1.43	487.07	1.00
1/13/25 22:15	-0.01	21.56	-0.02	2053.11	2197.50	1.14	1.43	487.07	1.00
1/13/25 23:15	-0.01	21.56	-0.01	2053.02	2197.41	1.14	1.43	487.09	1.00
1/14/25 0:15	0.00	21.56	0.00	2052.82	2197.19	1.14	1.43	487.14	1.00
1/14/25 1:15	0.00	21.56	0.01	2053.42	2197.85	1.14	1.43	486.99	1.00
1/14/25 2:15	0.01	21.56	0.01	2053.21	2197.61	1.14	1.43	487.04	1.00
1/14/25 3:15	-0.01	21.56	-0.03	2053.53	2197.97	1.14	1.43	486.97	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/14/25 4:15	0.00	21.56	0.01	2053.53	2197.93	1.14	1.43	486.97	1.00
1/14/25 5:15	0.01	21.56	0.02	2053.50	2197.91	1.14	1.43	486.97	1.00
1/14/25 6:15	-0.01	21.56	-0.02	2053.42	2197.80	1.14	1.43	486.99	1.00
1/14/25 7:15	-0.01	21.56	-0.01	2053.06	2197.42	1.14	1.43	487.08	1.00
1/14/25 8:15	0.00	21.56	0.00	2053.02	2197.39	1.14	1.43	487.09	1.00
1/14/25 9:15	0.00	21.56	0.00	2052.99	2197.36	1.14	1.43	487.09	1.00
1/14/25 10:15	0.00	21.56	0.00	2053.27	2197.62	1.14	1.43	487.03	1.00
1/14/25 11:15	0.01	21.56	0.01	2053.26	2197.61	1.14	1.43	487.03	1.00
1/14/25 12:15	-0.01	21.56	-0.02	2053.51	2197.88	1.14	1.43	486.97	1.00
1/14/25 13:15	0.00	21.56	0.00	2053.26	2197.62	1.14	1.43	487.03	1.00
1/14/25 14:15	0.00	21.56	0.01	2053.11	2197.43	1.14	1.43	487.07	1.00
1/14/25 15:15	0.00	21.56	-0.01	2053.06	2197.38	1.14	1.43	487.08	1.00
1/14/25 16:15	0.00	21.56	0.01	2052.85	2197.13	1.14	1.43	487.13	1.00
1/14/25 17:15	0.01	21.56	0.02	2052.94	2197.22	1.14	1.43	487.11	1.00
1/14/25 18:15	-0.01	21.56	-0.03	2052.79	2197.07	1.14	1.43	487.14	1.00
1/14/25 19:15	-0.01	21.56	-0.02	2052.96	2197.22	1.14	1.43	487.10	1.00
1/14/25 20:15	-0.01	21.56	-0.02	2052.85	2197.13	1.14	1.43	487.13	1.00
1/14/25 21:15	-0.01	21.56	-0.02	2052.67	2196.91	1.14	1.43	487.17	1.00
1/14/25 22:15	-0.01	21.56	-0.01	2052.85	2197.13	1.14	1.43	487.13	1.00
1/14/25 23:15	0.00	21.56	0.00	2053.06	2197.31	1.14	1.43	487.08	1.00
1/15/25 0:15	0.00	21.56	0.00	2052.97	2197.25	1.14	1.43	487.10	1.00
1/15/25 1:15	0.01	21.56	0.01	2052.59	2196.81	1.14	1.43	487.19	1.00
1/15/25 2:15	-0.01	21.56	-0.03	2053.15	2197.39	1.14	1.43	487.06	1.00
1/15/25 3:15	-0.01	21.56	-0.02	2052.82	2197.05	1.14	1.43	487.13	1.00
1/15/25 4:15	0.00	21.56	-0.01	2052.80	2197.00	1.14	1.43	487.14	1.00
1/15/25 5:15	-0.01	21.56	-0.01	2052.67	2196.88	1.14	1.43	487.17	1.00
1/15/25 6:15	0.00	21.56	-0.01	2052.92	2197.15	1.14	1.43	487.11	1.00
1/15/25 7:15	0.00	21.56	0.00	2053.08	2197.32	1.14	1.43	487.07	1.00
1/15/25 8:15	0.00	21.56	0.01	2053.26	2197.52	1.14	1.43	487.03	1.00
1/15/25 9:15	-0.02	21.56	-0.05	2053.03	2197.23	1.14	1.43	487.08	1.00
1/15/25 10:15	-0.02	21.56	-0.04	2052.92	2197.10	1.14	1.43	487.11	1.00
1/15/25 11:15	-0.02	21.56	-0.04	2052.86	2197.03	1.14	1.43	487.13	1.00
1/15/25 12:15	-0.01	21.56	-0.02	2052.95	2197.13	1.14	1.43	487.10	1.00
1/15/25 13:15	0.00	21.56	0.00	2053.24	2197.45	1.14	1.43	487.04	1.00
1/15/25 14:15	0.01	21.56	0.02	2052.72	2196.86	1.14	1.43	487.16	1.00
1/15/25 15:15	-0.03	21.58	-0.07	2068.70	2213.40	1.15	1.44	483.40	1.00
1/15/25 16:15	-0.03	21.57	-0.07	2068.27	2213.13	1.15	1.44	483.50	1.00
1/15/25 17:15	-0.03	21.57	-0.07	2068.24	2213.25	1.15	1.44	483.50	1.00
1/15/25 18:15	-0.03	21.57	-0.07	2067.79	2212.84	1.15	1.44	483.61	1.00
1/15/25 19:15	-0.03	21.57	-0.08	2068.03	2213.14	1.15	1.44	483.55	1.00
1/15/25 20:15	-0.03	21.57	-0.08	2067.68	2212.82	1.15	1.44	483.63	1.00
1/15/25 21:15	-0.03	21.57	-0.08	2067.69	2212.82	1.15	1.44	483.63	1.00
1/15/25 22:15	-0.03	21.57	-0.08	2066.90	2211.99	1.15	1.44	483.82	1.00
1/15/25 23:15	-0.03	21.57	-0.08	2067.24	2212.34	1.15	1.44	483.74	1.00
1/16/25 0:15	-0.03	21.57	-0.08	2067.30	2212.43	1.15	1.44	483.72	1.00
1/16/25 1:15	-0.03	21.57	-0.07	2067.42	2212.55	1.15	1.44	483.69	1.00
1/16/25 2:15	-0.03	21.57	-0.07	2067.36	2212.48	1.15	1.44	483.71	1.00
1/16/25 3:15	-0.03	21.57	-0.07	2066.94	2212.05	1.15	1.44	483.81	1.00
1/16/25 4:15	-0.03	21.57	-0.07	2067.04	2212.15	1.15	1.44	483.78	1.00
1/16/25 5:15	-0.03	21.57	-0.07	2066.99	2212.10	1.15	1.44	483.79	1.00
1/16/25 6:15	-0.03	21.57	-0.07	2066.92	2212.01	1.15	1.44	483.81	1.00
1/16/25 7:15	-0.03	21.57	-0.08	2067.23	2212.34	1.15	1.44	483.74	1.00
1/16/25 8:15	-0.03	21.57	-0.08	2067.03	2212.09	1.15	1.44	483.79	1.00
1/16/25 9:15	-0.03	21.57	-0.08	2066.90	2211.97	1.15	1.44	483.82	1.00
1/16/25 10:15	-0.03	21.57	-0.08	2066.73	2211.77	1.15	1.44	483.86	1.00
1/16/25 11:15	-0.03	21.57	-0.08	2066.36	2211.38	1.15	1.44	483.94	1.00
1/16/25 12:15	-0.03	21.57	-0.07	2066.37	2211.39	1.15	1.44	483.94	1.00
1/16/25 13:15	-0.03	21.57	-0.06	2066.27	2211.27	1.15	1.44	483.96	1.00
1/16/25 14:15	-0.03	21.57	-0.06	2065.36	2210.28	1.15	1.44	484.18	1.00
1/16/25 15:15	-0.03	21.57	-0.06	2065.51	2210.41	1.15	1.44	484.14	1.00
1/16/25 16:15	-0.03	21.57	-0.06	2065.04	2209.95	1.15	1.44	484.25	1.00
1/16/25 17:15	-0.03	21.57	-0.06	2065.40	2210.33	1.15	1.44	484.17	1.00
1/16/25 18:15	-0.03	21.57	-0.06	2065.39	2210.30	1.15	1.44	484.17	1.00
1/16/25 19:15	-0.03	21.57	-0.06	2065.54	2210.44	1.15	1.44	484.14	1.00
1/16/25 20:15	-0.03	21.57	-0.06	2065.37	2210.26	1.15	1.44	484.18	1.00
1/16/25 21:15	-0.03	21.57	-0.06	2064.79	2209.65	1.15	1.44	484.31	1.00
1/16/25 22:15	-0.02	21.57	-0.06	2064.56	2209.38	1.15	1.44	484.37	1.00
1/16/25 23:15	-0.02	21.57	-0.06	2064.33	2209.15	1.14	1.44	484.42	1.00
1/17/25 0:15	-0.02	21.57	-0.06	2064.25	2209.06	1.14	1.44	484.44	1.00
1/17/25 1:15	-0.02	21.57	-0.05	2064.10	2208.90	1.14	1.44	484.47	1.00
1/17/25 2:15	-0.03	21.57	-0.06	2064.11	2208.90	1.14	1.44	484.47	1.00
1/17/25 3:15	-0.02	21.57	-0.06	2065.93	2210.84	1.15	1.44	484.04	1.00
1/17/25 4:15	-0.02	21.57	-0.06	2065.87	2210.81	1.15	1.44	484.06	1.00
1/17/25 5:15	-0.03	21.57	-0.06	2065.33	2210.19	1.15	1.44	484.18	1.00
1/17/25 6:15	-0.02	21.57	-0.06	2065.34	2210.20	1.15	1.44	484.18	1.00
1/17/25 7:15	-0.03	21.57	-0.06	2065.20	2210.01	1.15	1.44	484.21	1.00
1/17/25 8:15	-0.03	21.57	-0.06	2064.98	2209.78	1.15	1.44	484.27	1.00
1/17/25 9:15	-0.02	21.57	-0.06	2064.93	2209.72	1.15	1.44	484.28	1.00
1/17/25 10:15	-0.03	21.57	-0.06	2065.12	2209.94	1.15	1.44	484.23	1.00
1/17/25 11:15	-0.02	21.57	-0.06	2064.61	2209.40	1.15	1.44	484.35	1.00
1/17/25 12:15	-0.02	21.57	-0.05	2064.51	2209.30	1.14	1.44	484.38	1.00
1/17/25 13:15	-0.03	21.57	-0.08	2064.40	2209.15	1.14	1.44	484.40	1.00
1/17/25 14:15	-0.03	21.57	-0.06	2064.49	2209.26	1.14	1.44	484.38	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/17/25 15:15	-0.03	21.57	-0.06	2064.36	2209.08	1.14	1.44	484.41	1.00
1/17/25 16:15	-0.03	21.57	-0.06	2064.48	2209.23	1.14	1.44	484.38	1.00
1/17/25 17:15	-0.03	21.57	-0.06	2064.36	2209.10	1.14	1.44	484.41	1.00
1/17/25 18:15	-0.03	21.57	-0.07	2063.86	2208.58	1.14	1.44	484.53	1.00
1/17/25 19:15	-0.03	21.57	-0.07	2064.19	2208.87	1.14	1.44	484.45	1.00
1/17/25 20:15	-0.03	21.57	-0.07	2064.05	2208.72	1.14	1.44	484.49	1.00
1/17/25 21:15	-0.03	21.57	-0.07	2064.13	2208.82	1.14	1.44	484.47	1.00
1/17/25 22:15	-0.03	21.57	-0.07	2063.81	2208.45	1.14	1.44	484.54	1.00
1/17/25 23:15	-0.03	21.57	-0.07	2064.03	2208.71	1.14	1.44	484.49	1.00
1/18/25 0:15	-0.03	21.57	-0.08	2063.77	2208.43	1.14	1.44	484.55	1.00
1/18/25 1:15	-0.03	21.57	-0.07	2064.05	2208.74	1.14	1.44	484.49	1.00
1/18/25 2:15	-0.03	21.57	-0.08	2063.54	2208.18	1.14	1.44	484.60	1.00
1/18/25 3:15	-0.03	21.57	-0.08	2063.52	2208.12	1.14	1.44	484.61	1.00
1/18/25 4:15	-0.03	21.57	-0.07	2063.37	2207.97	1.14	1.44	484.64	1.00
1/18/25 5:15	-0.03	21.57	-0.08	2060.83	2205.24	1.14	1.43	485.24	1.00
1/18/25 6:15	-0.04	21.57	-0.08	2060.59	2205.00	1.14	1.43	485.30	1.00
1/18/25 7:15	-0.04	21.57	-0.08	2060.22	2204.58	1.14	1.43	485.39	1.00
1/18/25 8:15	-0.04	21.57	-0.08	2059.78	2204.10	1.14	1.43	485.49	1.00
1/18/25 9:15	-0.04	21.57	-0.09	2059.75	2204.10	1.14	1.43	485.50	1.00
1/18/25 10:15	-0.04	21.57	-0.08	2059.98	2204.30	1.14	1.43	485.44	1.00
1/18/25 11:15	-0.04	21.57	-0.08	2059.80	2204.16	1.14	1.43	485.48	1.00
1/18/25 12:15	-0.03	21.57	-0.07	2059.62	2203.91	1.14	1.43	485.53	1.00
1/18/25 13:15	-0.03	21.57	-0.08	2059.63	2203.94	1.14	1.43	485.52	1.00
1/18/25 14:15	-0.03	21.57	-0.07	2059.62	2203.89	1.14	1.43	485.53	1.00
1/18/25 15:15	-0.03	21.57	-0.07	2060.13	2204.47	1.14	1.43	485.41	1.00
1/18/25 16:15	-0.03	21.57	-0.07	2060.01	2204.29	1.14	1.43	485.43	1.00
1/18/25 17:15	-0.03	21.57	-0.07	2059.54	2203.80	1.14	1.43	485.55	1.00
1/18/25 18:15	-0.03	21.57	-0.08	2059.24	2203.47	1.14	1.43	485.62	1.00
1/18/25 19:15	-0.05	21.57	-0.11	2059.42	2203.67	1.14	1.43	485.57	1.00
1/18/25 20:15	-0.05	21.57	-0.11	2059.63	2203.89	1.14	1.43	485.52	1.00
1/18/25 21:15	-0.05	21.57	-0.11	2059.36	2203.60	1.14	1.43	485.59	1.00
1/18/25 22:15	-0.05	21.57	-0.11	2059.55	2203.76	1.14	1.43	485.54	1.00
1/18/25 23:15	-0.05	21.57	-0.11	2059.77	2204.02	1.14	1.43	485.49	1.00
1/19/25 0:15	-0.05	21.57	-0.11	2060.01	2204.28	1.14	1.43	485.43	1.00
1/19/25 1:15	-0.05	21.57	-0.11	2059.83	2204.10	1.14	1.43	485.48	1.00
1/19/25 2:15	-0.05	21.57	-0.11	2059.57	2203.78	1.14	1.43	485.54	1.00
1/19/25 3:15	-0.05	21.57	-0.11	2059.62	2203.85	1.14	1.43	485.53	1.00
1/19/25 4:15	-0.05	21.57	-0.11	2059.29	2203.48	1.14	1.43	485.60	1.00
1/19/25 5:15	-0.04	21.57	-0.10	2059.00	2203.19	1.14	1.43	485.67	1.00
1/19/25 6:15	-0.04	21.57	-0.10	2059.20	2203.39	1.14	1.43	485.63	1.00
1/19/25 7:15	-0.04	21.57	-0.10	2059.01	2203.16	1.14	1.43	485.67	1.00
1/19/25 8:15	-0.04	21.57	-0.10	2059.48	2203.68	1.14	1.43	485.56	1.00
1/19/25 9:15	-0.04	21.57	-0.10	2059.28	2203.43	1.14	1.43	485.61	1.00
1/19/25 10:15	-0.04	21.57	-0.10	2059.13	2203.27	1.14	1.43	485.64	1.00
1/19/25 11:15	-0.04	21.57	-0.09	2059.31	2203.47	1.14	1.43	485.60	1.00
1/19/25 12:15	-0.04	21.58	-0.08	2059.34	2203.45	1.14	1.43	485.59	1.00
1/19/25 13:15	-0.04	21.58	-0.09	2059.35	2203.46	1.14	1.43	485.59	1.00
1/19/25 14:15	-0.03	21.57	-0.07	2059.17	2203.31	1.14	1.43	485.63	1.00
1/19/25 15:15	-0.03	21.58	-0.08	2059.03	2203.14	1.14	1.43	485.66	1.00
1/19/25 16:15	-0.03	21.58	-0.07	2058.92	2203.02	1.14	1.43	485.69	1.00
1/19/25 17:15	-0.03	21.58	-0.07	2058.78	2202.87	1.14	1.43	485.72	1.00
1/19/25 18:15	-0.03	21.58	-0.07	2058.81	2202.90	1.14	1.43	485.72	1.00
1/19/25 19:15	-0.03	21.58	-0.07	2059.17	2203.28	1.14	1.43	485.63	1.00
1/19/25 20:15	-0.03	21.58	-0.07	2058.96	2203.05	1.14	1.43	485.68	1.00
1/19/25 21:15	-0.03	21.58	-0.07	2058.83	2202.89	1.14	1.43	485.71	1.00
1/19/25 22:15	-0.04	21.58	-0.08	2058.53	2202.57	1.14	1.43	485.78	1.00
1/19/25 23:15	-0.04	21.58	-0.08	2058.17	2202.20	1.14	1.43	485.87	1.00
1/20/25 0:15	-0.04	21.58	-0.08	2057.98	2201.99	1.14	1.43	485.91	1.00
1/20/25 1:15	-0.04	21.58	-0.08	2058.58	2202.62	1.14	1.43	485.77	1.00
1/20/25 2:15	-0.04	21.58	-0.08	2058.44	2202.47	1.14	1.43	485.81	1.00
1/20/25 3:15	-0.04	21.58	-0.08	2058.23	2202.22	1.14	1.43	485.86	1.00
1/20/25 4:15	-0.03	21.58	-0.08	2058.01	2201.98	1.14	1.43	485.91	1.00
1/20/25 5:15	-0.04	21.58	-0.08	2058.17	2202.15	1.14	1.43	485.87	1.00
1/20/25 6:15	-0.04	21.58	-0.08	2058.28	2202.28	1.14	1.43	485.84	1.00
1/20/25 7:15	-0.04	21.58	-0.09	2057.83	2201.76	1.14	1.43	485.95	1.00
1/20/25 8:15	-0.04	21.58	-0.09	2057.53	2201.43	1.14	1.43	486.02	1.00
1/20/25 9:15	-0.04	21.58	-0.09	2057.94	2201.88	1.14	1.43	485.92	1.00
1/20/25 10:15	-0.04	21.58	-0.09	2057.46	2201.38	1.14	1.43	486.04	1.00
1/20/25 11:15	-0.04	21.58	-0.09	2057.53	2201.43	1.14	1.43	486.02	1.00
1/20/25 12:15	-0.05	21.58	-0.11	2057.68	2201.60	1.14	1.43	485.98	1.00
1/20/25 13:15	-0.04	21.58	-0.10	2057.49	2201.37	1.14	1.43	486.03	1.00
1/20/25 14:15	-0.04	21.58	-0.10	2057.82	2201.70	1.14	1.43	485.95	1.00
1/20/25 15:15	-0.04	21.58	-0.09	2057.82	2201.71	1.14	1.43	485.95	1.00
1/20/25 16:15	-0.04	21.58	-0.10	2058.03	2201.95	1.14	1.43	485.90	1.00
1/20/25 17:15	-0.04	21.58	-0.10	2057.82	2201.71	1.14	1.43	485.95	1.00
1/20/25 18:15	-0.05	21.58	-0.11	2058.03	2201.93	1.14	1.43	485.90	1.00
1/20/25 19:15	-0.05	21.58	-0.11	2057.67	2201.55	1.14	1.43	485.99	1.00
1/20/25 20:15	-0.05	21.58	-0.11	2058.15	2202.04	1.14	1.43	485.87	1.00
1/20/25 21:15	-0.05	21.58	-0.12	2057.78	2201.65	1.14	1.43	485.96	1.00
1/20/25 22:15	-0.05	21.58	-0.12	2058.34	2202.24	1.14	1.43	485.83	1.00
1/20/25 23:15	-0.05	21.58	-0.13	2058.24	2202.16	1.14	1.43	485.85	1.00
1/21/25 0:15	-0.05	21.58	-0.12	2058.17	2202.07	1.14	1.43	485.87	1.00
1/21/25 1:15	-0.05	21.58	-0.12	2058.08	2201.94	1.14	1.43	485.89	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/21/25 2:15	-0.05	21.58	-0.12	2058.09	2201.94	1.14	1.43	485.89	1.00
1/21/25 3:15	-0.05	21.58	-0.12	2058.34	2202.23	1.14	1.43	485.83	1.00
1/21/25 4:15	-0.05	21.58	-0.12	2058.09	2201.96	1.14	1.43	485.89	1.00
1/21/25 5:15	-0.05	21.58	-0.11	2058.06	2201.90	1.14	1.43	485.89	1.00
1/21/25 6:15	-0.05	21.58	-0.11	2058.02	2201.85	1.14	1.43	485.90	1.00
1/21/25 7:15	-0.05	21.58	-0.12	2057.93	2201.76	1.14	1.43	485.93	1.00
1/21/25 8:15	-0.05	21.58	-0.12	2057.92	2201.75	1.14	1.43	485.93	1.00
1/21/25 9:15	-0.05	21.58	-0.12	2058.17	2201.99	1.14	1.43	485.87	1.00
1/21/25 10:15	-0.05	21.58	-0.12	2058.08	2201.91	1.14	1.43	485.89	1.00
1/21/25 11:15	-0.05	21.58	-0.11	2058.37	2202.22	1.14	1.43	485.82	1.00
1/21/25 12:15	-0.05	21.58	-0.11	2058.17	2201.97	1.14	1.43	485.87	1.00
1/21/25 13:15	-0.05	21.58	-0.12	2057.96	2201.75	1.14	1.43	485.92	1.00
1/21/25 14:15	-0.05	21.58	-0.12	2057.94	2201.74	1.14	1.43	485.92	1.00
1/21/25 15:15	-0.05	21.58	-0.11	2057.91	2201.69	1.14	1.43	485.93	1.00
1/21/25 16:15	-0.05	21.58	-0.12	2058.25	2202.04	1.14	1.43	485.85	1.00
1/21/25 17:15	-0.05	21.58	-0.11	2058.81	2202.65	1.14	1.43	485.72	1.00
1/21/25 18:15	-0.05	21.58	-0.12	2058.62	2202.43	1.14	1.43	485.76	1.00
1/21/25 19:15	-0.05	21.58	-0.12	2058.33	2202.12	1.14	1.43	485.83	1.00
1/21/25 20:15	-0.06	21.58	-0.14	2058.32	2202.09	1.14	1.43	485.83	1.00
1/21/25 21:15	-0.06	21.58	-0.13	2058.50	2202.30	1.14	1.43	485.79	1.00
1/21/25 22:15	-0.05	21.58	-0.13	2058.29	2202.06	1.14	1.43	485.84	1.00
1/21/25 23:15	-0.05	21.58	-0.13	2058.32	2202.11	1.14	1.43	485.83	1.00
1/22/25 0:15	-0.05	21.58	-0.12	2058.00	2201.76	1.14	1.43	485.91	1.00
1/22/25 1:15	-0.06	21.58	-0.14	2058.22	2202.01	1.14	1.43	485.86	1.00
1/22/25 2:15	-0.06	21.58	-0.14	2058.28	2202.02	1.14	1.43	485.84	1.00
1/22/25 3:15	-0.06	21.58	-0.14	2058.37	2202.13	1.14	1.43	485.82	1.00
1/22/25 4:15	-0.06	21.58	-0.14	2058.50	2202.27	1.14	1.43	485.79	1.00
1/22/25 5:15	-0.06	21.58	-0.14	2058.06	2201.80	1.14	1.43	485.89	1.00
1/22/25 6:15	-0.06	21.58	-0.14	2058.30	2202.03	1.14	1.43	485.84	1.00
1/22/25 7:15	-0.06	21.58	-0.14	2058.15	2201.86	1.14	1.43	485.87	1.00
1/22/25 8:15	-0.06	21.58	-0.14	2057.72	2201.41	1.14	1.43	485.97	1.00
1/22/25 9:15	-0.07	21.58	-0.16	2057.67	2201.37	1.14	1.43	485.99	1.00
1/22/25 10:15	-0.07	21.58	-0.16	2057.65	2201.31	1.14	1.43	485.99	1.00
1/22/25 11:15	-0.07	21.58	-0.16	2057.76	2201.43	1.14	1.43	485.96	1.00
1/22/25 12:15	-0.07	21.58	-0.16	2057.92	2201.61	1.14	1.43	485.93	1.00
1/22/25 13:15	-0.06	21.58	-0.15	2057.65	2201.32	1.14	1.43	485.99	1.00
1/22/25 14:15	-0.06	21.58	-0.15	2057.87	2201.54	1.14	1.43	485.94	1.00
1/22/25 15:15	-0.06	21.58	-0.15	2058.08	2201.74	1.14	1.43	485.89	1.00
1/22/25 16:15	-0.07	21.58	-0.17	2057.88	2201.53	1.14	1.43	485.94	1.00
1/22/25 17:15	-0.07	21.58	-0.16	2057.68	2201.31	1.14	1.43	485.98	1.00
1/22/25 18:15	-0.07	21.58	-0.16	2057.64	2201.28	1.14	1.43	485.99	1.00
1/22/25 19:15	-0.07	21.58	-0.17	2058.15	2201.82	1.14	1.43	485.87	1.00
1/22/25 20:15	-0.07	21.58	-0.17	2058.03	2201.70	1.14	1.43	485.90	1.00
1/22/25 21:15	-0.07	21.58	-0.17	2057.99	2201.64	1.14	1.43	485.91	1.00
1/22/25 22:15	-0.07	21.58	-0.17	2058.01	2201.65	1.14	1.43	485.91	1.00
1/22/25 23:15	-0.07	21.58	-0.17	2057.75	2201.39	1.14	1.43	485.97	1.00
1/23/25 0:15	-0.07	21.58	-0.17	2057.61	2201.23	1.14	1.43	486.00	1.00
1/23/25 1:15	-0.07	21.58	-0.17	2057.63	2201.22	1.14	1.43	486.00	1.00
1/23/25 2:15	-0.07	21.58	-0.16	2057.47	2201.05	1.14	1.43	486.03	1.00
1/23/25 3:15	-0.07	21.58	-0.16	2056.95	2200.51	1.14	1.43	486.16	1.00
1/23/25 4:15	-0.07	21.58	-0.15	2057.12	2200.67	1.14	1.43	486.12	1.00
1/23/25 5:15	-0.06	21.58	-0.15	2057.02	2200.56	1.14	1.43	486.14	1.00
1/23/25 6:15	-0.07	21.58	-0.15	2057.45	2201.03	1.14	1.43	486.04	1.00
1/23/25 7:15	-0.07	21.59	-0.16	2057.26	2200.79	1.14	1.43	486.08	1.00
1/23/25 8:15	-0.07	21.59	-0.15	2057.66	2201.20	1.14	1.43	485.99	1.00
1/23/25 9:15	-0.07	21.59	-0.17	2057.43	2200.96	1.14	1.43	486.04	1.00
1/23/25 10:15	-0.07	21.59	-0.17	2057.53	2201.09	1.14	1.43	486.02	1.00
1/23/25 11:15	-0.07	21.59	-0.17	2057.86	2201.43	1.14	1.43	485.94	1.00
1/23/25 12:15	-0.07	21.59	-0.16	2058.11	2201.71	1.14	1.43	485.88	1.00
1/23/25 13:15	-0.07	21.59	-0.15	2058.21	2201.79	1.14	1.43	485.86	1.00
1/23/25 14:15	-0.06	21.59	-0.15	2058.03	2201.59	1.14	1.43	485.90	1.00
1/23/25 15:15	-0.06	21.59	-0.15	2058.47	2202.05	1.14	1.43	485.80	1.00
1/23/25 16:15	-0.06	21.59	-0.14	2058.38	2201.96	1.14	1.43	485.82	1.00
1/23/25 17:15	-0.06	21.59	-0.14	2058.62	2202.24	1.14	1.43	485.76	1.00
1/23/25 18:15	-0.07	21.59	-0.16	2058.41	2202.01	1.14	1.43	485.81	1.00
1/23/25 19:15	-0.07	21.59	-0.16	2058.17	2201.70	1.14	1.43	485.87	1.00
1/23/25 20:15	-0.07	21.59	-0.16	2057.83	2201.36	1.14	1.43	485.95	1.00
1/23/25 21:15	-0.07	21.59	-0.16	2058.23	2201.81	1.14	1.43	485.85	1.00
1/23/25 22:15	-0.07	21.59	-0.16	2057.90	2201.42	1.14	1.43	485.93	1.00
1/23/25 23:15	-0.07	21.59	-0.16	2058.21	2201.75	1.14	1.43	485.86	1.00
1/24/25 0:15	-0.06	21.59	-0.15	2058.12	2201.68	1.14	1.43	485.88	1.00
1/24/25 1:15	-0.06	21.59	-0.14	2058.31	2201.86	1.14	1.43	485.84	1.00
1/24/25 2:15	-0.06	21.59	-0.14	2058.39	2201.96	1.14	1.43	485.82	1.00
1/24/25 3:15	-0.06	21.59	-0.14	2058.02	2201.55	1.14	1.43	485.90	1.00
1/24/25 4:15	-0.06	21.59	-0.13	2058.17	2201.70	1.14	1.43	485.87	1.00
1/24/25 5:15	-0.06	21.59	-0.15	2057.85	2201.35	1.14	1.43	485.94	1.00
1/24/25 6:15	-0.06	21.59	-0.15	2058.12	2201.65	1.14	1.43	485.88	1.00
1/24/25 7:15	-0.06	21.59	-0.14	2058.22	2201.76	1.14	1.43	485.86	1.00
1/24/25 8:15	-0.06	21.59	-0.14	2057.63	2201.12	1.14	1.43	486.00	1.00
1/24/25 9:15	-0.06	21.59	-0.14	2057.63	2201.09	1.14	1.43	486.00	1.00
1/24/25 10:15	-0.06	21.59	-0.13	2057.76	2201.24	1.14	1.43	485.97	1.00
1/24/25 11:15	-0.06	21.59	-0.13	2057.59	2201.03	1.14	1.43	486.01	1.00
1/24/25 12:15	-0.06	21.59	-0.14	2057.40	2200.83	1.14	1.43	486.05	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/24/25 13:15	-0.06	21.59	-0.13	2057.56	2201.02	1.14	1.43	486.01	1.00
1/24/25 14:15	-0.06	21.59	-0.13	2056.96	2200.37	1.14	1.43	486.15	1.00
1/24/25 15:15	-0.05	21.59	-0.13	2057.17	2200.61	1.14	1.43	486.10	1.00
1/24/25 16:15	-0.06	21.59	-0.14	2056.96	2200.33	1.14	1.43	486.15	1.00
1/24/25 17:15	-0.06	21.59	-0.14	2056.93	2200.30	1.14	1.43	486.16	1.00
1/24/25 18:15	-0.06	21.59	-0.14	2056.50	2199.85	1.14	1.43	486.26	1.00
1/24/25 19:15	-0.06	21.59	-0.14	2056.62	2199.98	1.14	1.43	486.23	1.00
1/24/25 20:15	-0.06	21.59	-0.14	2055.95	2199.26	1.14	1.43	486.39	1.00
1/24/25 21:15	-0.06	21.59	-0.14	2056.29	2199.61	1.14	1.43	486.31	1.00
1/24/25 22:15	-0.06	21.59	-0.13	2056.30	2199.63	1.14	1.43	486.31	1.00
1/24/25 23:15	-0.06	21.59	-0.13	2056.09	2199.39	1.14	1.43	486.36	1.00
1/25/25 0:15	-0.06	21.59	-0.14	2055.89	2199.16	1.14	1.43	486.41	1.00
1/25/25 1:15	-0.06	21.59	-0.14	2055.86	2199.17	1.14	1.43	486.41	1.00
1/25/25 2:15	-0.06	21.59	-0.14	2055.66	2198.90	1.14	1.43	486.46	1.00
1/25/25 3:15	-0.06	21.59	-0.14	2055.66	2198.90	1.14	1.43	486.46	1.00
1/25/25 4:15	-0.06	21.59	-0.13	2055.23	2198.43	1.14	1.43	486.56	1.00
1/25/25 5:15	-0.06	21.59	-0.15	2055.35	2198.58	1.14	1.43	486.53	1.00
1/25/25 6:15	-0.06	21.59	-0.15	2055.14	2198.33	1.14	1.43	486.59	1.00
1/25/25 7:15	-0.07	21.59	-0.15	2055.58	2198.82	1.14	1.43	486.48	1.00
1/25/25 8:15	-0.07	21.59	-0.15	2055.40	2198.60	1.14	1.43	486.52	1.00
1/25/25 9:15	-0.07	21.59	-0.15	2055.58	2198.82	1.14	1.43	486.48	1.00
1/25/25 10:15	-0.07	21.59	-0.15	2055.53	2198.71	1.14	1.43	486.49	1.00
1/25/25 11:15	-0.07	21.59	-0.15	2055.54	2198.72	1.14	1.43	486.49	1.00
1/25/25 12:15	-0.07	21.59	-0.15	2055.81	2199.02	1.14	1.43	486.43	1.00
1/25/25 13:15	-0.06	21.59	-0.14	2055.59	2198.80	1.14	1.43	486.48	1.00
1/25/25 14:15	-0.06	21.59	-0.14	2055.31	2198.46	1.14	1.43	486.54	1.00
1/25/25 15:15	-0.07	21.59	-0.15	2055.23	2198.40	1.14	1.43	486.56	1.00
1/25/25 16:15	-0.07	21.59	-0.16	2055.35	2198.52	1.14	1.43	486.54	1.00
1/25/25 17:15	-0.07	21.59	-0.16	2055.22	2198.36	1.14	1.43	486.57	1.00
1/25/25 18:15	-0.07	21.59	-0.16	2055.25	2198.39	1.14	1.43	486.56	1.00
1/25/25 19:15	-0.07	21.59	-0.17	2055.11	2198.24	1.14	1.43	486.59	1.00
1/25/25 20:15	-0.07	21.59	-0.17	2055.03	2198.15	1.14	1.43	486.61	1.00
1/25/25 21:15	-0.07	21.59	-0.17	2054.91	2198.01	1.14	1.43	486.64	1.00
1/25/25 22:15	-0.07	21.59	-0.17	2054.74	2197.82	1.14	1.43	486.68	1.00
1/25/25 23:15	-0.07	21.59	-0.17	2054.71	2197.81	1.14	1.43	486.69	1.00
1/26/25 0:15	-0.07	21.59	-0.17	2054.84	2197.95	1.14	1.43	486.66	1.00
1/26/25 1:15	-0.07	21.59	-0.17	2055.23	2198.36	1.14	1.43	486.56	1.00
1/26/25 2:15	-0.07	21.59	-0.16	2055.17	2198.27	1.14	1.43	486.58	1.00
1/26/25 3:15	-0.07	21.59	-0.16	2054.61	2197.68	1.14	1.43	486.71	1.00
1/26/25 4:15	-0.07	21.59	-0.17	2054.68	2197.76	1.14	1.43	486.69	1.00
1/26/25 5:15	-0.07	21.59	-0.17	2054.95	2198.04	1.14	1.43	486.63	1.00
1/26/25 6:15	-0.07	21.59	-0.17	2054.82	2197.89	1.14	1.43	486.66	1.00
1/26/25 7:15	-0.07	21.59	-0.17	2054.75	2197.81	1.14	1.43	486.68	1.00
1/26/25 8:15	-0.07	21.59	-0.17	2054.75	2197.80	1.14	1.43	486.68	1.00
1/26/25 9:15	-0.07	21.59	-0.17	2054.99	2198.06	1.14	1.43	486.62	1.00
1/26/25 10:15	-0.07	21.59	-0.16	2054.84	2197.89	1.14	1.43	486.66	1.00
1/26/25 11:15	-0.07	21.59	-0.16	2054.97	2198.04	1.14	1.43	486.63	1.00
1/26/25 12:15	-0.07	21.59	-0.17	2054.52	2197.55	1.14	1.43	486.73	1.00
1/26/25 13:15	-0.07	21.59	-0.16	2055.02	2198.05	1.14	1.43	486.61	1.00
1/26/25 14:15	-0.07	21.59	-0.15	2054.59	2197.62	1.14	1.43	486.72	1.00
1/26/25 15:15	-0.06	21.59	-0.15	2054.81	2197.83	1.14	1.43	486.66	1.00
1/26/25 16:15	-0.07	21.59	-0.16	2054.68	2197.67	1.14	1.43	486.69	1.00
1/26/25 17:15	-0.07	21.59	-0.16	2054.56	2197.56	1.14	1.43	486.72	1.00
1/26/25 18:15	-0.07	21.59	-0.16	2054.35	2197.35	1.14	1.43	486.77	1.00
1/26/25 19:15	-0.07	21.59	-0.16	2054.29	2197.26	1.14	1.43	486.79	1.00
1/26/25 20:15	-0.07	21.59	-0.16	2054.56	2197.56	1.14	1.43	486.72	1.00
1/26/25 21:15	-0.07	21.59	-0.16	2054.73	2197.75	1.14	1.43	486.68	1.00
1/26/25 22:15	-0.07	21.59	-0.16	2054.33	2197.29	1.14	1.43	486.78	1.00
1/26/25 23:15	-0.07	21.59	-0.16	2054.15	2197.08	1.14	1.43	486.82	1.00
1/27/25 0:15	-0.07	21.59	-0.16	2054.13	2197.07	1.14	1.43	486.82	1.00
1/27/25 1:15	-0.07	21.59	-0.17	2053.77	2196.68	1.14	1.43	486.91	1.00
1/27/25 2:15	-0.07	21.59	-0.17	2053.46	2196.33	1.14	1.43	486.98	1.00
1/27/25 3:15	-0.07	21.59	-0.17	2053.54	2196.43	1.14	1.43	486.97	1.00
1/27/25 4:15	-0.07	21.59	-0.17	2053.25	2196.14	1.14	1.43	487.03	1.00
1/27/25 5:15	-0.07	21.59	-0.17	2053.27	2196.13	1.14	1.43	487.03	1.00
1/27/25 6:15	-0.07	21.59	-0.16	2052.91	2195.75	1.14	1.43	487.11	1.00
1/27/25 7:15	-0.07	21.59	-0.17	2052.57	2195.38	1.14	1.43	487.19	1.00
1/27/25 8:15	-0.07	21.59	-0.16	2052.28	2195.08	1.14	1.43	487.26	1.00
1/27/25 9:15	-0.08	21.59	-0.18	2052.40	2195.18	1.14	1.43	487.23	1.00
1/27/25 10:15	-0.08	21.59	-0.18	2052.40	2195.18	1.14	1.43	487.23	1.00
1/27/25 11:15	-0.07	21.60	-0.17	2052.47	2195.20	1.14	1.43	487.22	1.00
1/27/25 12:15	-0.07	21.60	-0.17	2052.33	2195.08	1.14	1.43	487.25	1.00
1/27/25 13:15	-0.07	21.59	-0.15	2053.65	2196.50	1.14	1.43	486.94	1.00
1/27/25 14:15	-0.07	21.60	-0.16	2054.01	2196.87	1.14	1.43	486.85	1.00
1/27/25 15:15	-0.07	21.60	-0.15	2053.98	2196.83	1.14	1.43	486.86	1.00
1/27/25 16:15	-0.06	21.60	-0.15	2053.58	2196.43	1.14	1.43	486.95	1.00
1/27/25 17:15	-0.07	21.60	-0.17	2053.45	2196.28	1.14	1.43	486.99	1.00
1/27/25 18:15	-0.07	21.60	-0.16	2052.86	2195.65	1.14	1.43	487.13	1.00
1/27/25 19:15	-0.07	21.60	-0.17	2052.88	2195.65	1.14	1.43	487.12	1.00
1/27/25 20:15	-0.07	21.60	-0.17	2053.16	2195.95	1.14	1.43	487.05	1.00
1/27/25 21:15	-0.07	21.60	-0.17	2052.88	2195.64	1.14	1.43	487.12	1.00
1/27/25 22:15	-0.07	21.60	-0.16	2053.03	2195.82	1.14	1.43	487.08	1.00
1/27/25 23:15	-0.07	21.60	-0.16	2052.94	2195.72	1.14	1.43	487.11	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/28/25 0:15	-0.07	21.60	-0.17	2052.92	2195.69	1.14	1.43	487.11	1.00
1/28/25 1:15	-0.08	21.60	-0.17	2053.25	2196.03	1.14	1.43	487.03	1.00
1/28/25 2:15	-0.07	21.60	-0.17	2052.60	2195.32	1.14	1.43	487.19	1.00
1/28/25 3:15	-0.07	21.60	-0.17	2052.78	2195.52	1.14	1.43	487.14	1.00
1/28/25 4:15	-0.07	21.60	-0.16	2053.04	2195.80	1.14	1.43	487.08	1.00
1/28/25 5:15	-0.07	21.60	-0.16	2052.99	2195.74	1.14	1.43	487.09	1.00
1/28/25 6:15	-0.07	21.60	-0.16	2052.68	2195.38	1.14	1.43	487.17	1.00
1/28/25 7:15	-0.08	21.60	-0.18	2052.84	2195.55	1.14	1.43	487.13	1.00
1/28/25 8:15	-0.08	21.60	-0.18	2053.00	2195.73	1.14	1.43	487.09	1.00
1/28/25 9:15	-0.08	21.60	-0.18	2052.75	2195.45	1.14	1.43	487.15	1.00
1/28/25 10:15	-0.08	21.60	-0.18	2052.50	2195.17	1.14	1.43	487.21	1.00
1/28/25 11:15	-0.08	21.60	-0.18	2052.36	2195.03	1.14	1.43	487.25	1.00
1/28/25 12:15	-0.07	21.60	-0.17	2052.49	2195.16	1.14	1.43	487.21	1.00
1/28/25 13:15	-0.07	21.60	-0.16	2052.27	2194.91	1.14	1.43	487.26	1.00
1/28/25 14:15	-0.07	21.60	-0.17	2052.25	2194.90	1.14	1.43	487.27	1.00
1/28/25 15:15	-0.07	21.60	-0.17	2052.62	2195.29	1.14	1.43	487.18	1.00
1/28/25 16:15	-0.07	21.60	-0.17	2052.49	2195.17	1.14	1.43	487.21	1.00
1/28/25 17:15	-0.07	21.60	-0.16	2051.99	2194.59	1.14	1.43	487.33	1.00
1/28/25 18:15	-0.07	21.60	-0.16	2052.15	2194.78	1.14	1.43	487.29	1.00
1/28/25 19:15	-0.08	21.60	-0.18	2052.08	2194.71	1.14	1.43	487.31	1.00
1/28/25 20:15	-0.08	21.60	-0.18	2052.60	2195.25	1.14	1.43	487.19	1.00
1/28/25 21:15	-0.08	21.60	-0.18	2052.42	2195.07	1.14	1.43	487.23	1.00
1/28/25 22:15	-0.08	21.60	-0.18	2052.85	2195.52	1.14	1.43	487.13	1.00
1/28/25 23:15	-0.08	21.60	-0.18	2052.24	2194.85	1.14	1.43	487.27	1.00
1/29/25 0:15	-0.07	21.60	-0.17	2052.21	2194.84	1.14	1.43	487.28	1.00
1/29/25 1:15	-0.07	21.60	-0.17	2052.05	2194.64	1.14	1.43	487.32	1.00
1/29/25 2:15	-0.07	21.60	-0.16	2051.86	2194.45	1.14	1.43	487.36	1.00
1/29/25 3:15	-0.08	21.60	-0.18	2051.58	2194.15	1.14	1.43	487.43	1.00
1/29/25 4:15	-0.08	21.60	-0.18	2051.39	2193.93	1.14	1.43	487.47	1.00
1/29/25 5:15	-0.08	21.60	-0.18	2051.59	2194.14	1.14	1.43	487.43	1.00
1/29/25 6:15	-0.08	21.60	-0.18	2051.74	2194.28	1.14	1.43	487.39	1.00
1/29/25 7:15	-0.08	21.60	-0.18	2051.51	2194.01	1.14	1.43	487.45	1.00
1/29/25 8:15	-0.07	21.60	-0.17	2051.32	2193.83	1.14	1.43	487.49	1.00
1/29/25 9:15	-0.08	21.60	-0.17	2051.48	2194.00	1.14	1.43	487.45	1.00
1/29/25 10:15	-0.08	21.60	-0.18	2051.68	2194.22	1.14	1.43	487.41	1.00
1/29/25 11:15	-0.09	21.61	-0.20	2060.70	2203.26	1.14	1.43	485.27	1.00
1/29/25 12:15	-0.08	21.61	-0.19	2059.66	2202.37	1.14	1.43	485.52	1.00
1/29/25 13:15	-0.09	21.61	-0.20	2059.34	2202.13	1.14	1.43	485.59	1.00
1/29/25 14:15	-0.08	21.60	-0.19	2059.12	2201.96	1.14	1.43	485.64	1.00
1/29/25 15:15	-0.08	21.60	-0.19	2058.51	2201.35	1.14	1.43	485.79	1.00
1/29/25 16:15	-0.08	21.60	-0.20	2058.33	2201.19	1.14	1.43	485.83	1.00
1/29/25 17:15	-0.09	21.60	-0.21	2058.43	2201.32	1.14	1.43	485.81	1.00
1/29/25 18:15	-0.09	21.60	-0.20	2058.14	2201.02	1.14	1.43	485.88	1.00
1/29/25 19:15	-0.09	21.60	-0.21	2057.81	2200.68	1.14	1.43	485.95	1.00
1/29/25 20:15	-0.09	21.60	-0.21	2057.59	2200.44	1.14	1.43	486.01	1.00
1/29/25 21:15	-0.09	21.60	-0.20	2057.09	2199.93	1.14	1.43	486.12	1.00
1/29/25 22:15	-0.09	21.60	-0.21	2056.70	2199.50	1.14	1.43	486.22	1.00
1/29/25 23:15	-0.09	21.60	-0.21	2056.98	2199.77	1.14	1.43	486.15	1.00
1/30/25 0:15	-0.09	21.60	-0.21	2056.98	2199.80	1.14	1.43	486.15	1.00
1/30/25 1:15	-0.09	21.60	-0.21	2056.93	2199.73	1.14	1.43	486.16	1.00
1/30/25 2:15	-0.09	21.60	-0.21	2056.53	2199.30	1.14	1.43	486.26	1.00
1/30/25 3:15	-0.09	21.60	-0.20	2056.71	2199.51	1.14	1.43	486.21	1.00
1/30/25 4:15	-0.09	21.60	-0.20	2056.73	2199.52	1.14	1.43	486.21	1.00
1/30/25 5:15	-0.09	21.60	-0.21	2056.59	2199.38	1.14	1.43	486.24	1.00
1/30/25 6:15	-0.09	21.60	-0.21	2056.23	2198.97	1.14	1.43	486.33	1.00
1/30/25 7:15	-0.09	21.60	-0.21	2056.94	2199.74	1.14	1.43	486.16	1.00
1/30/25 8:15	-0.09	21.60	-0.21	2056.28	2199.04	1.14	1.43	486.32	1.00
1/30/25 9:15	-0.09	21.60	-0.21	2056.12	2198.86	1.14	1.43	486.35	1.00
1/30/25 10:15	-0.09	21.60	-0.21	2055.84	2198.56	1.14	1.43	486.42	1.00
1/30/25 11:15	-0.09	21.60	-0.21	2055.96	2198.67	1.14	1.43	486.39	1.00
1/30/25 12:15	-0.09	21.60	-0.20	2055.65	2198.34	1.14	1.43	486.47	1.00
1/30/25 13:15	-0.09	21.60	-0.20	2055.60	2198.28	1.14	1.43	486.48	1.00
1/30/25 14:15	-0.10	21.60	-0.22	2055.68	2198.37	1.14	1.43	486.46	1.00
1/30/25 15:15	-0.09	21.60	-0.20	2055.55	2198.22	1.14	1.43	486.49	1.00
1/30/25 16:15	-0.09	21.60	-0.21	2055.10	2197.72	1.14	1.43	486.59	1.00
1/30/25 17:15	-0.10	21.60	-0.23	2055.19	2197.85	1.14	1.43	486.57	1.00
1/30/25 18:15	-0.09	21.60	-0.22	2056.77	2199.52	1.14	1.43	486.20	1.00
1/30/25 19:15	-0.09	21.60	-0.22	2056.55	2199.30	1.14	1.43	486.25	1.00
1/30/25 20:15	-0.10	21.60	-0.22	2056.68	2199.40	1.14	1.43	486.22	1.00
1/30/25 21:15	-0.10	21.60	-0.23	2056.64	2199.36	1.14	1.43	486.23	1.00
1/30/25 22:15	-0.10	21.60	-0.23	2057.08	2199.84	1.14	1.43	486.13	1.00
1/30/25 23:15	-0.10	21.60	-0.23	2056.60	2199.26	1.14	1.43	486.24	1.00
1/31/25 0:15	-0.10	21.60	-0.23	2056.35	2199.05	1.14	1.43	486.30	1.00
1/31/25 1:15	-0.10	21.60	-0.23	2056.42	2199.13	1.14	1.43	486.28	1.00
1/31/25 2:15	-0.10	21.60	-0.23	2056.67	2199.41	1.14	1.43	486.22	1.00
1/31/25 3:15	-0.10	21.60	-0.23	2056.78	2199.51	1.14	1.43	486.20	1.00
1/31/25 4:15	-0.10	21.60	-0.23	2056.97	2199.70	1.14	1.43	486.15	1.00
1/31/25 5:15	-0.10	21.60	-0.23	2056.51	2199.22	1.14	1.43	486.26	1.00
1/31/25 6:15	-0.10	21.60	-0.23	2056.22	2198.92	1.14	1.43	486.33	1.00
1/31/25 7:15	-0.10	21.60	-0.24	2056.25	2198.92	1.14	1.43	486.32	1.00
1/31/25 8:15	-0.10	21.60	-0.24	2056.52	2199.22	1.14	1.43	486.26	1.00
1/31/25 9:15	-0.10	21.60	-0.23	2056.40	2199.10	1.14	1.43	486.29	1.00
1/31/25 10:15	-0.09	21.60	-0.21	2056.38	2199.05	1.14	1.43	486.29	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
1/31/25 11:15	-0.09	21.60	-0.20	2056.51	2199.22	1.14	1.43	486.26	1.00
1/31/25 12:15	-0.08	21.60	-0.19	2056.90	2199.61	1.14	1.43	486.17	1.00
1/31/25 13:15	-0.08	21.60	-0.18	2056.95	2199.67	1.14	1.43	486.16	1.00
1/31/25 14:15	-0.08	21.60	-0.18	2056.77	2199.49	1.14	1.43	486.20	1.00
1/31/25 15:15	-0.08	21.60	-0.19	2056.73	2199.43	1.14	1.43	486.21	1.00
1/31/25 16:15	-0.09	21.60	-0.20	2056.73	2199.41	1.14	1.43	486.21	1.00
1/31/25 17:15	-0.09	21.60	-0.21	2056.82	2199.54	1.14	1.43	486.19	1.00
1/31/25 18:15	-0.09	21.60	-0.21	2057.17	2199.89	1.14	1.43	486.10	1.00
1/31/25 19:15	-0.09	21.60	-0.22	2057.00	2199.70	1.14	1.43	486.14	1.00
1/31/25 20:15	-0.10	21.60	-0.22	2057.23	2199.92	1.14	1.43	486.09	1.00
1/31/25 21:15	-0.10	21.60	-0.22	2057.26	2199.94	1.14	1.43	486.08	1.00
1/31/25 22:15	-0.10	21.60	-0.23	2057.49	2200.19	1.14	1.43	486.03	1.00
1/31/25 23:15	-0.10	21.61	-0.23	2057.51	2200.15	1.14	1.43	486.02	1.00
2/1/25 0:15	-0.10	21.61	-0.23	2057.40	2200.05	1.14	1.43	486.05	1.00
2/1/25 1:15	-0.10	21.60	-0.23	2057.55	2200.25	1.14	1.43	486.02	1.00
2/1/25 2:15	-0.10	21.61	-0.23	2057.64	2200.32	1.14	1.43	485.99	1.00
2/1/25 3:15	-0.10	21.60	-0.23	2057.62	2200.32	1.14	1.43	486.00	1.00
2/1/25 4:15	-0.10	21.60	-0.23	2057.49	2200.19	1.14	1.43	486.03	1.00
2/1/25 5:15	-0.10	21.61	-0.22	2057.84	2200.45	1.14	1.43	485.95	1.00
2/1/25 6:15	-0.10	21.61	-0.23	2057.81	2200.50	1.14	1.43	485.95	1.00
2/1/25 7:15	-0.10	21.61	-0.23	2057.96	2200.66	1.14	1.43	485.92	1.00
2/1/25 8:15	-0.10	21.60	-0.23	2058.00	2200.72	1.14	1.43	485.91	1.00
2/1/25 9:15	-0.10	21.60	-0.23	2057.84	2200.54	1.14	1.43	485.95	1.00
2/1/25 10:15	-0.10	21.60	-0.23	2057.74	2200.47	1.14	1.43	485.97	1.00
2/1/25 11:15	-0.10	21.60	-0.23	2057.86	2200.57	1.14	1.43	485.94	1.00
2/1/25 12:15	-0.10	21.61	-0.22	2057.95	2200.64	1.14	1.43	485.92	1.00
2/1/25 13:15	-0.09	21.61	-0.22	2057.23	2199.88	1.14	1.43	486.09	1.00
2/1/25 14:15	-0.09	21.60	-0.22	2057.56	2200.26	1.14	1.43	486.01	1.00
2/1/25 15:15	-0.09	21.61	-0.22	2057.22	2199.83	1.14	1.43	486.09	1.00
2/1/25 16:15	-0.09	21.61	-0.22	2057.10	2199.71	1.14	1.43	486.12	1.00
2/1/25 17:15	-0.09	21.61	-0.22	2057.09	2199.72	1.14	1.43	486.12	1.00
2/1/25 18:15	-0.10	21.61	-0.22	2057.31	2199.91	1.14	1.43	486.07	1.00
2/1/25 19:15	-0.10	21.61	-0.22	2057.15	2199.79	1.14	1.43	486.11	1.00
2/1/25 20:15	-0.10	21.61	-0.23	2057.28	2199.92	1.14	1.43	486.08	1.00
2/1/25 21:15	-0.10	21.61	-0.23	2057.15	2199.75	1.14	1.43	486.11	1.00
2/1/25 22:15	-0.10	21.61	-0.23	2056.56	2199.11	1.14	1.43	486.25	1.00
2/1/25 23:15	-0.10	21.61	-0.23	2056.44	2198.98	1.14	1.43	486.28	1.00
2/2/25 0:15	-0.10	21.61	-0.24	2056.11	2198.63	1.14	1.43	486.36	1.00
2/2/25 1:15	-0.10	21.61	-0.24	2056.59	2199.16	1.14	1.43	486.24	1.00
2/2/25 2:15	-0.10	21.61	-0.23	2056.29	2198.82	1.14	1.43	486.31	1.00
2/2/25 3:15	-0.10	21.61	-0.23	2056.40	2198.93	1.14	1.43	486.29	1.00
2/2/25 4:15	-0.10	21.61	-0.23	2056.45	2198.98	1.14	1.43	486.28	1.00
2/2/25 5:15	-0.10	21.61	-0.24	2056.26	2198.78	1.14	1.43	486.32	1.00
2/2/25 6:15	-0.10	21.61	-0.24	2055.99	2198.49	1.14	1.43	486.38	1.00
2/2/25 7:15	-0.10	21.61	-0.24	2056.06	2198.56	1.14	1.43	486.37	1.00
2/2/25 8:15	-0.10	21.61	-0.24	2055.85	2198.33	1.14	1.43	486.42	1.00
2/2/25 9:15	-0.10	21.61	-0.24	2055.81	2198.30	1.14	1.43	486.43	1.00
2/2/25 10:15	-0.10	21.61	-0.24	2056.06	2198.58	1.14	1.43	486.37	1.00
2/2/25 11:15	-0.10	21.61	-0.24	2056.60	2199.15	1.14	1.43	486.24	1.00
2/2/25 12:15	-0.10	21.61	-0.23	2056.38	2198.89	1.14	1.43	486.29	1.00
2/2/25 13:15	-0.10	21.61	-0.23	2056.20	2198.70	1.14	1.43	486.33	1.00
2/2/25 14:15	-0.10	21.61	-0.23	2055.79	2198.24	1.14	1.43	486.43	1.00
2/2/25 15:15	-0.10	21.61	-0.23	2056.20	2198.70	1.14	1.43	486.33	1.00
2/2/25 16:15	-0.10	21.61	-0.23	2055.87	2198.34	1.14	1.43	486.41	1.00
2/2/25 17:15	-0.10	21.61	-0.23	2056.30	2198.82	1.14	1.43	486.31	1.00
2/2/25 18:15	-0.10	21.61	-0.23	2056.16	2198.61	1.14	1.43	486.34	1.00
2/2/25 19:15	-0.10	21.61	-0.24	2055.73	2198.14	1.14	1.43	486.44	1.00
2/2/25 20:15	-0.10	21.61	-0.24	2055.88	2198.32	1.14	1.43	486.41	1.00
2/2/25 21:15	-0.10	21.61	-0.24	2055.55	2197.96	1.14	1.43	486.49	1.00
2/2/25 22:15	-0.10	21.61	-0.24	2055.98	2198.43	1.14	1.43	486.39	1.00
2/2/25 23:15	-0.10	21.61	-0.24	2056.21	2198.66	1.14	1.43	486.33	1.00
2/3/25 0:15	-0.10	21.61	-0.24	2055.77	2198.20	1.14	1.43	486.44	1.00
2/3/25 1:15	-0.10	21.61	-0.24	2055.23	2197.59	1.14	1.43	486.56	1.00
2/3/25 2:15	-0.11	21.61	-0.24	2055.22	2197.63	1.14	1.43	486.57	1.00
2/3/25 3:15	-0.10	21.61	-0.24	2054.69	2197.04	1.14	1.43	486.69	1.00
2/3/25 4:15	-0.11	21.61	-0.24	2055.10	2197.43	1.14	1.43	486.59	1.00
2/3/25 5:15	-0.10	21.61	-0.24	2055.18	2197.52	1.14	1.43	486.58	1.00
2/3/25 6:15	-0.11	21.61	-0.24	2055.52	2197.88	1.14	1.43	486.49	1.00
2/3/25 7:15	-0.11	21.61	-0.25	2055.36	2197.73	1.14	1.43	486.53	1.00
2/3/25 8:15	-0.11	21.61	-0.25	2055.14	2197.48	1.14	1.43	486.59	1.00
2/3/25 9:15	-0.11	21.61	-0.25	2055.25	2197.59	1.14	1.43	486.56	1.00
2/3/25 10:15	-0.11	21.61	-0.25	2054.81	2197.11	1.14	1.43	486.66	1.00
2/3/25 11:15	-0.11	21.61	-0.25	2054.81	2197.14	1.14	1.43	486.66	1.00
2/3/25 12:15	-0.11	21.61	-0.24	2054.87	2197.20	1.14	1.43	486.65	1.00
2/3/25 13:15	-0.10	21.61	-0.24	2054.76	2197.07	1.14	1.43	486.67	1.00
2/3/25 14:15	-0.10	21.61	-0.24	2054.34	2196.61	1.14	1.43	486.77	1.00
2/3/25 15:15	-0.10	21.61	-0.24	2054.35	2196.62	1.14	1.43	486.77	1.00
2/3/25 16:15	-0.10	21.61	-0.24	2054.50	2196.77	1.14	1.43	486.74	1.00
2/3/25 17:15	-0.10	21.61	-0.24	2054.76	2197.03	1.14	1.43	486.67	1.00
2/3/25 18:15	-0.10	21.61	-0.24	2054.90	2197.18	1.14	1.43	486.64	1.00
2/3/25 19:15	-0.11	21.61	-0.25	2054.63	2196.89	1.14	1.43	486.71	1.00
2/3/25 20:15	-0.11	21.61	-0.25	2054.63	2196.89	1.14	1.43	486.70	1.00
2/3/25 21:15	-0.11	21.61	-0.25	2054.55	2196.81	1.14	1.43	486.72	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/3/25 22:15	-0.11	21.61	-0.25	2054.41	2196.62	1.14	1.43	486.76	1.00
2/3/25 23:15	-0.11	21.61	-0.25	2054.30	2196.53	1.14	1.43	486.78	1.00
2/4/25 0:15	-0.11	21.61	-0.25	2053.73	2195.94	1.14	1.43	486.92	1.00
2/4/25 1:15	-0.11	21.61	-0.25	2054.16	2196.34	1.14	1.43	486.82	1.00
2/4/25 2:15	-0.11	21.61	-0.25	2053.84	2196.01	1.14	1.43	486.89	1.00
2/4/25 3:15	-0.11	21.61	-0.25	2053.60	2195.79	1.14	1.43	486.95	1.00
2/4/25 4:15	-0.11	21.61	-0.25	2053.46	2195.62	1.14	1.43	486.98	1.00
2/4/25 5:15	-0.11	21.61	-0.25	2053.47	2195.63	1.14	1.43	486.98	1.00
2/4/25 6:15	-0.11	21.61	-0.25	2053.11	2195.24	1.14	1.43	487.07	1.00
2/4/25 7:15	-0.11	21.61	-0.25	2052.91	2195.02	1.14	1.43	487.11	1.00
2/4/25 8:15	-0.11	21.61	-0.25	2052.89	2194.99	1.14	1.43	487.12	1.00
2/4/25 9:15	-0.11	21.61	-0.26	2053.22	2195.35	1.14	1.43	487.04	1.00
2/4/25 10:15	-0.11	21.61	-0.26	2053.25	2195.37	1.14	1.43	487.03	1.00
2/4/25 11:15	-0.11	21.61	-0.25	2053.16	2195.30	1.14	1.43	487.05	1.00
2/4/25 12:15	-0.11	21.61	-0.25	2053.01	2195.11	1.14	1.43	487.09	1.00
2/4/25 13:15	-0.11	21.61	-0.24	2053.19	2195.29	1.14	1.43	487.05	1.00
2/4/25 14:15	-0.11	21.61	-0.24	2053.26	2195.36	1.14	1.43	487.03	1.00
2/4/25 15:15	-0.11	21.61	-0.24	2053.09	2195.16	1.14	1.43	487.07	1.00
2/4/25 16:15	-0.11	21.61	-0.25	2053.17	2195.25	1.14	1.43	487.05	1.00
2/4/25 17:15	-0.11	21.61	-0.25	2052.78	2194.86	1.14	1.43	487.14	1.00
2/4/25 18:15	-0.11	21.61	-0.25	2052.64	2194.70	1.14	1.43	487.18	1.00
2/4/25 19:15	-0.11	21.61	-0.25	2052.30	2194.32	1.14	1.43	487.26	1.00
2/4/25 20:15	-0.11	21.61	-0.26	2052.27	2194.32	1.14	1.43	487.27	1.00
2/4/25 21:15	-0.11	21.61	-0.26	2052.27	2194.31	1.14	1.43	487.27	1.00
2/4/25 22:15	-0.11	21.61	-0.26	2051.62	2193.60	1.14	1.43	487.42	1.00
2/4/25 23:15	-0.11	21.61	-0.26	2052.15	2194.16	1.14	1.43	487.29	1.00
2/5/25 0:15	-0.11	21.61	-0.26	2052.07	2194.08	1.14	1.43	487.31	1.00
2/5/25 1:15	-0.11	21.61	-0.26	2051.87	2193.85	1.14	1.43	487.36	1.00
2/5/25 2:15	-0.11	21.61	-0.26	2052.01	2194.02	1.14	1.43	487.33	1.00
2/5/25 3:15	-0.11	21.61	-0.25	2052.05	2194.03	1.14	1.43	487.32	1.00
2/5/25 4:15	-0.11	21.61	-0.26	2051.84	2193.80	1.14	1.43	487.37	1.00
2/5/25 5:15	-0.11	21.61	-0.26	2051.77	2193.73	1.14	1.43	487.38	1.00
2/5/25 6:15	-0.11	21.61	-0.26	2051.44	2193.39	1.14	1.43	487.46	1.00
2/5/25 7:15	-0.11	21.61	-0.26	2051.42	2193.39	1.14	1.43	487.47	1.00
2/5/25 8:15	-0.11	21.61	-0.26	2051.19	2193.12	1.14	1.43	487.52	1.00
2/5/25 9:15	-0.11	21.61	-0.26	2050.96	2192.85	1.14	1.43	487.58	1.00
2/5/25 10:15	-0.11	21.61	-0.26	2051.14	2193.04	1.14	1.43	487.53	1.00
2/5/25 11:15	-0.11	21.61	-0.26	2051.15	2193.06	1.14	1.43	487.53	1.00
2/5/25 12:15	-0.11	21.61	-0.25	2050.97	2192.83	1.14	1.43	487.57	1.00
2/5/25 13:15	-0.11	21.61	-0.25	2050.80	2192.66	1.14	1.43	487.61	1.00
2/5/25 14:15	-0.11	21.61	-0.24	2050.82	2192.70	1.14	1.43	487.61	1.00
2/5/25 15:15	-0.10	21.61	-0.24	2050.64	2192.51	1.14	1.43	487.65	1.00
2/5/25 16:15	-0.11	21.61	-0.25	2050.92	2192.80	1.14	1.43	487.59	1.00
2/5/25 17:15	-0.11	21.61	-0.25	2050.25	2192.09	1.14	1.42	487.75	1.00
2/5/25 18:15	-0.11	21.61	-0.26	2049.80	2191.61	1.14	1.42	487.85	1.00
2/5/25 19:15	-0.11	21.61	-0.26	2049.67	2191.45	1.14	1.42	487.88	1.00
2/5/25 20:15	-0.11	21.61	-0.26	2049.95	2191.76	1.14	1.42	487.82	1.00
2/5/25 21:15	-0.11	21.61	-0.26	2049.45	2191.23	1.14	1.42	487.93	1.00
2/5/25 22:15	-0.12	21.61	-0.27	2049.71	2191.48	1.14	1.42	487.87	1.00
2/5/25 23:15	-0.12	21.61	-0.27	2049.72	2191.49	1.14	1.42	487.87	1.00
2/6/25 0:15	-0.12	21.61	-0.27	2049.91	2191.69	1.14	1.42	487.83	1.00
2/6/25 1:15	-0.12	21.61	-0.27	2049.85	2191.58	1.14	1.42	487.84	1.00
2/6/25 2:15	-0.12	21.61	-0.27	2049.46	2191.19	1.14	1.42	487.93	1.00
2/6/25 3:15	-0.12	21.61	-0.27	2049.51	2191.25	1.14	1.42	487.92	1.00
2/6/25 4:15	-0.12	21.61	-0.27	2048.77	2190.42	1.13	1.42	488.10	1.00
2/6/25 5:15	-0.12	21.61	-0.27	2049.02	2190.69	1.13	1.42	488.04	1.00
2/6/25 6:15	-0.12	21.61	-0.27	2049.15	2190.86	1.13	1.42	488.01	1.00
2/6/25 7:15	-0.12	21.61	-0.27	2049.19	2190.90	1.13	1.42	488.00	1.00
2/6/25 8:15	-0.12	21.61	-0.28	2048.99	2190.69	1.13	1.42	488.05	1.00
2/6/25 9:15	-0.12	21.61	-0.28	2049.39	2191.11	1.14	1.42	487.95	1.00
2/6/25 10:15	-0.12	21.61	-0.28	2048.93	2190.60	1.13	1.42	488.06	1.00
2/6/25 11:15	-0.12	21.61	-0.28	2048.53	2190.15	1.13	1.42	488.15	1.00
2/6/25 12:15	-0.12	21.61	-0.27	2048.80	2190.46	1.13	1.42	488.09	1.00
2/6/25 13:15	-0.11	21.61	-0.27	2048.49	2190.13	1.13	1.42	488.16	1.00
2/6/25 14:15	-0.11	21.61	-0.26	2048.06	2189.66	1.13	1.42	488.27	1.00
2/6/25 15:15	-0.11	21.62	-0.26	2048.60	2190.20	1.13	1.42	488.14	1.00
2/6/25 16:15	-0.11	21.61	-0.26	2048.24	2189.87	1.13	1.42	488.22	1.00
2/6/25 17:15	-0.11	21.61	-0.27	2048.62	2190.26	1.13	1.42	488.13	1.00
2/6/25 18:15	-0.12	21.61	-0.27	2047.99	2189.59	1.13	1.42	488.28	1.00
2/6/25 19:15	-0.12	21.61	-0.27	2048.01	2189.62	1.13	1.42	488.28	1.00
2/6/25 20:15	-0.12	21.61	-0.28	2048.19	2189.82	1.13	1.42	488.24	1.00
2/6/25 21:15	-0.12	21.61	-0.28	2048.51	2190.15	1.13	1.42	488.16	1.00
2/6/25 22:15	-0.12	21.61	-0.28	2047.59	2189.18	1.13	1.42	488.38	1.00
2/6/25 23:15	-0.12	21.61	-0.28	2047.38	2188.97	1.13	1.42	488.43	1.00
2/7/25 0:15	-0.12	21.61	-0.28	2047.28	2188.82	1.13	1.42	488.45	1.00
2/7/25 1:15	-0.12	21.61	-0.28	2046.91	2188.40	1.13	1.42	488.54	1.00
2/7/25 2:15	-0.12	21.61	-0.28	2046.51	2188.00	1.13	1.42	488.64	1.00
2/7/25 3:15	-0.12	21.61	-0.28	2046.71	2188.20	1.13	1.42	488.59	1.00
2/7/25 4:15	-0.12	21.62	-0.28	2046.59	2188.05	1.13	1.42	488.62	1.00
2/7/25 5:15	-0.12	21.61	-0.28	2046.35	2187.81	1.13	1.42	488.67	1.00
2/7/25 6:15	-0.12	21.62	-0.28	2046.04	2187.47	1.13	1.42	488.75	1.00
2/7/25 7:15	-0.12	21.62	-0.28	2045.82	2187.22	1.13	1.42	488.80	1.00
2/7/25 8:15	-0.12	21.61	-0.28	2045.38	2186.78	1.13	1.42	488.91	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/7/25 9:15	-0.12	21.62	-0.28	2044.82	2186.15	1.13	1.42	489.04	1.00
2/7/25 10:15	-0.12	21.61	-0.28	2045.41	2186.79	1.13	1.42	488.90	1.00
2/7/25 11:15	-0.12	21.62	-0.28	2045.55	2186.94	1.13	1.42	488.87	1.00
2/7/25 12:15	-0.12	21.62	-0.27	2045.39	2186.76	1.13	1.42	488.90	1.00
2/7/25 13:15	-0.12	21.62	-0.28	2044.94	2186.28	1.13	1.42	489.01	1.00
2/7/25 14:15	-0.12	21.62	-0.27	2045.01	2186.32	1.13	1.42	488.99	1.00
2/7/25 15:15	-0.12	21.62	-0.27	2044.75	2186.05	1.13	1.42	489.06	1.00
2/7/25 16:15	-0.12	21.62	-0.27	2044.84	2186.15	1.13	1.42	489.04	1.00
2/7/25 17:15	-0.12	21.62	-0.28	2044.92	2186.25	1.13	1.42	489.02	1.00
2/7/25 18:15	-0.12	21.62	-0.28	2044.96	2186.29	1.13	1.42	489.01	1.00
2/7/25 19:15	-0.12	21.62	-0.28	2044.47	2185.77	1.13	1.42	489.12	1.00
2/7/25 20:15	-0.12	21.62	-0.28	2044.44	2185.72	1.13	1.42	489.13	1.00
2/7/25 21:15	-0.12	21.62	-0.28	2044.41	2185.69	1.13	1.42	489.14	1.00
2/7/25 22:15	-0.12	21.62	-0.28	2044.28	2185.54	1.13	1.42	489.17	1.00
2/7/25 23:15	-0.12	21.62	-0.28	2044.16	2185.40	1.13	1.42	489.20	1.00
2/8/25 0:15	-0.12	21.62	-0.28	2044.09	2185.33	1.13	1.42	489.22	1.00
2/8/25 1:15	-0.12	21.62	-0.28	2043.64	2184.86	1.13	1.42	489.32	1.00
2/8/25 2:15	-0.12	21.62	-0.28	2043.43	2184.61	1.13	1.42	489.37	1.00
2/8/25 3:15	-0.12	21.62	-0.28	2043.04	2184.21	1.13	1.42	489.47	1.00
2/8/25 4:15	-0.12	21.62	-0.29	2042.73	2183.87	1.13	1.42	489.54	1.00
2/8/25 5:15	-0.12	21.62	-0.28	2042.50	2183.64	1.13	1.42	489.60	1.00
2/8/25 6:15	-0.12	21.62	-0.29	2042.93	2184.08	1.13	1.42	489.49	1.00
2/8/25 7:15	-0.12	21.62	-0.29	2042.59	2183.69	1.13	1.42	489.57	1.00
2/8/25 8:15	-0.12	21.62	-0.29	2042.25	2183.33	1.13	1.42	489.66	1.00
2/8/25 9:15	-0.13	21.62	-0.29	2042.12	2183.18	1.13	1.42	489.69	1.00
2/8/25 10:15	-0.12	21.62	-0.29	2041.94	2182.99	1.13	1.42	489.73	1.00
2/8/25 11:15	-0.12	21.62	-0.29	2042.18	2183.26	1.13	1.42	489.67	1.00
2/8/25 12:15	-0.12	21.62	-0.28	2041.87	2182.92	1.13	1.42	489.75	1.00
2/8/25 13:15	-0.12	21.62	-0.28	2041.58	2182.61	1.13	1.42	489.82	1.00
2/8/25 14:15	-0.12	21.62	-0.28	2041.69	2182.72	1.13	1.42	489.79	1.00
2/8/25 15:15	-0.12	21.62	-0.28	2041.49	2182.50	1.13	1.42	489.84	1.00
2/8/25 16:15	-0.12	21.62	-0.28	2041.41	2182.42	1.13	1.42	489.86	1.00
2/8/25 17:15	-0.12	21.62	-0.28	2041.47	2182.50	1.13	1.42	489.84	1.00
2/8/25 18:15	-0.12	21.62	-0.28	2041.24	2182.21	1.13	1.42	489.90	1.00
2/8/25 19:15	-0.12	21.62	-0.29	2041.31	2182.30	1.13	1.42	489.88	1.00
2/8/25 20:15	-0.13	21.62	-0.29	2041.44	2182.45	1.13	1.42	489.85	1.00
2/8/25 21:15	-0.13	21.62	-0.29	2041.28	2182.30	1.13	1.42	489.89	1.00
2/8/25 22:15	-0.13	21.62	-0.30	2041.17	2182.13	1.13	1.42	489.91	1.00
2/8/25 23:15	-0.13	21.62	-0.30	2041.15	2182.13	1.13	1.42	489.92	1.00
2/9/25 0:15	-0.13	21.62	-0.30	2040.94	2181.89	1.13	1.42	489.97	1.00
2/9/25 1:15	-0.13	21.62	-0.30	2041.08	2182.06	1.13	1.42	489.94	1.00
2/9/25 2:15	-0.13	21.62	-0.30	2041.13	2182.09	1.13	1.42	489.93	1.00
2/9/25 3:15	-0.13	21.62	-0.30	2040.47	2181.40	1.13	1.42	490.08	1.00
2/9/25 4:15	-0.14	21.62	-0.31	2040.56	2181.45	1.13	1.42	490.06	1.00
2/9/25 5:15	-0.13	21.62	-0.30	2039.89	2180.74	1.13	1.42	490.22	1.00
2/9/25 6:15	-0.13	21.62	-0.31	2039.81	2180.68	1.13	1.42	490.24	1.00
2/9/25 7:15	-0.13	21.62	-0.30	2040.20	2181.10	1.13	1.42	490.15	1.00
2/9/25 8:15	-0.13	21.62	-0.30	2039.87	2180.75	1.13	1.42	490.23	1.00
2/9/25 9:15	-0.13	21.62	-0.30	2040.19	2181.08	1.13	1.42	490.15	1.00
2/9/25 10:15	-0.13	21.62	-0.30	2040.20	2181.09	1.13	1.42	490.15	1.00
2/9/25 11:15	-0.13	21.62	-0.31	2040.19	2181.07	1.13	1.42	490.15	1.00
2/9/25 12:15	-0.13	21.62	-0.30	2039.46	2180.30	1.13	1.42	490.33	1.00
2/9/25 13:15	-0.13	21.62	-0.30	2039.53	2180.33	1.13	1.42	490.31	1.00
2/9/25 14:15	-0.13	21.62	-0.29	2039.14	2179.95	1.13	1.42	490.40	1.00
2/9/25 15:15	-0.13	21.62	-0.29	2039.27	2180.08	1.13	1.42	490.37	1.00
2/9/25 16:15	-0.13	21.62	-0.29	2039.56	2180.39	1.13	1.42	490.30	1.00
2/9/25 17:15	-0.13	21.62	-0.30	2039.44	2180.23	1.13	1.42	490.33	1.00
2/9/25 18:15	-0.13	21.62	-0.30	2039.48	2180.28	1.13	1.42	490.32	1.00
2/9/25 19:15	-0.13	21.62	-0.30	2039.72	2180.54	1.13	1.42	490.26	1.00
2/9/25 20:15	-0.13	21.62	-0.30	2039.52	2180.35	1.13	1.42	490.31	1.00
2/9/25 21:15	-0.13	21.62	-0.31	2039.80	2180.61	1.13	1.42	490.24	1.00
2/9/25 22:15	-0.13	21.62	-0.31	2039.75	2180.58	1.13	1.42	490.25	1.00
2/9/25 23:15	-0.13	21.62	-0.31	2039.84	2180.63	1.13	1.42	490.24	1.00
2/10/25 0:15	-0.13	21.62	-0.30	2039.44	2180.21	1.13	1.42	490.33	1.00
2/10/25 1:15	-0.13	21.62	-0.30	2039.50	2180.27	1.13	1.42	490.32	1.00
2/10/25 2:15	-0.13	21.62	-0.30	2038.74	2179.47	1.13	1.42	490.50	1.00
2/10/25 3:15	-0.13	21.62	-0.30	2038.58	2179.31	1.13	1.42	490.54	1.00
2/10/25 4:15	-0.13	21.62	-0.30	2038.68	2179.41	1.13	1.42	490.51	1.00
2/10/25 5:15	-0.13	21.62	-0.30	2038.98	2179.74	1.13	1.42	490.44	1.00
2/10/25 6:15	-0.13	21.62	-0.30	2039.20	2179.97	1.13	1.42	490.39	1.00
2/10/25 7:15	-0.13	21.62	-0.30	2038.79	2179.52	1.13	1.42	490.49	1.00
2/10/25 8:15	-0.13	21.62	-0.30	2038.18	2178.86	1.13	1.42	490.63	1.00
2/10/25 9:15	-0.13	21.62	-0.31	2037.98	2178.65	1.13	1.42	490.68	1.00
2/10/25 10:15	-0.13	21.62	-0.30	2038.23	2178.93	1.13	1.42	490.62	1.00
2/10/25 11:15	-0.13	21.62	-0.31	2038.08	2178.73	1.13	1.42	490.66	1.00
2/10/25 12:15	-0.13	21.62	-0.30	2038.29	2178.96	1.13	1.42	490.61	1.00
2/10/25 13:15	-0.13	21.62	-0.29	2038.49	2179.18	1.13	1.42	490.56	1.00
2/10/25 14:15	-0.13	21.62	-0.30	2038.59	2179.29	1.13	1.42	490.53	1.00
2/10/25 15:15	-0.13	21.62	-0.30	2038.69	2179.38	1.13	1.42	490.51	1.00
2/10/25 16:15	-0.13	21.62	-0.29	2038.56	2179.25	1.13	1.42	490.54	1.00
2/10/25 17:15	-0.13	21.62	-0.30	2037.71	2178.35	1.13	1.42	490.75	1.00
2/10/25 18:15	-0.13	21.62	-0.29	2037.95	2178.59	1.13	1.42	490.69	1.00
2/10/25 19:15	-0.13	21.62	-0.30	2037.72	2178.35	1.13	1.42	490.74	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/10/25 20:15	-0.13	21.62	-0.30	2037.99	2178.62	1.13	1.42	490.68	1.00
2/10/25 21:15	-0.13	21.62	-0.30	2037.96	2178.57	1.13	1.42	490.69	1.00
2/10/25 22:15	-0.13	21.62	-0.29	2038.18	2178.86	1.13	1.42	490.63	1.00
2/10/25 23:15	-0.13	21.62	-0.30	2038.10	2178.73	1.13	1.42	490.65	1.00
2/11/25 0:15	-0.13	21.62	-0.30	2037.88	2178.51	1.13	1.42	490.71	1.00
2/11/25 1:15	-0.13	21.62	-0.30	2038.05	2178.66	1.13	1.42	490.67	1.00
2/11/25 2:15	-0.13	21.62	-0.30	2038.55	2179.23	1.13	1.42	490.55	1.00
2/11/25 3:15	-0.13	21.62	-0.30	2038.37	2179.01	1.13	1.42	490.59	1.00
2/11/25 4:15	-0.13	21.62	-0.30	2038.14	2178.79	1.13	1.42	490.64	1.00
2/11/25 5:15	-0.13	21.62	-0.30	2038.37	2178.99	1.13	1.42	490.59	1.00
2/11/25 6:15	-0.13	21.62	-0.31	2038.03	2178.64	1.13	1.42	490.67	1.00
2/11/25 7:15	-0.13	21.62	-0.31	2038.31	2178.97	1.13	1.42	490.60	1.00
2/11/25 8:15	-0.13	21.62	-0.31	2044.96	2186.06	1.13	1.42	489.01	1.00
2/11/25 9:15	-0.14	21.62	-0.31	2045.25	2186.36	1.13	1.42	488.94	1.00
2/11/25 10:15	-0.13	21.62	-0.31	2045.18	2186.30	1.13	1.42	488.95	1.00
2/11/25 11:15	-0.13	21.62	-0.30	2044.78	2185.88	1.13	1.42	489.05	1.00
2/11/25 12:15	-0.13	21.62	-0.30	2045.23	2186.34	1.13	1.42	488.94	1.00
2/11/25 13:15	-0.13	21.62	-0.29	2044.87	2185.96	1.13	1.42	489.03	1.00
2/11/25 14:15	-0.13	21.62	-0.31	2044.65	2185.70	1.13	1.42	489.08	1.00
2/11/25 15:15	-0.13	21.62	-0.30	2044.59	2185.65	1.13	1.42	489.10	1.00
2/11/25 16:15	-0.13	21.62	-0.30	2044.72	2185.78	1.13	1.42	489.07	1.00
2/11/25 17:15	-0.13	21.62	-0.30	2044.43	2185.44	1.13	1.42	489.13	1.00
2/11/25 18:15	-0.13	21.62	-0.30	2044.39	2185.44	1.13	1.42	489.14	1.00
2/11/25 19:15	-0.13	21.62	-0.30	2044.22	2185.23	1.13	1.42	489.18	1.00
2/11/25 20:15	-0.13	21.62	-0.30	2044.20	2185.16	1.13	1.42	489.19	1.00
2/11/25 21:15	-0.13	21.62	-0.30	2043.68	2184.65	1.13	1.42	489.31	1.00
2/11/25 22:15	-0.13	21.62	-0.30	2043.58	2184.52	1.13	1.42	489.34	1.00
2/11/25 23:15	-0.13	21.62	-0.30	2043.39	2184.33	1.13	1.42	489.38	1.00
2/12/25 0:15	-0.13	21.62	-0.30	2043.30	2184.21	1.13	1.42	489.40	1.00
2/12/25 1:15	-0.13	21.62	-0.30	2043.76	2184.75	1.13	1.42	489.30	1.00
2/12/25 2:15	-0.13	21.62	-0.30	2043.95	2184.91	1.13	1.42	489.25	1.00
2/12/25 3:15	-0.14	21.62	-0.32	2043.68	2184.62	1.13	1.42	489.31	1.00
2/12/25 4:15	-0.13	21.62	-0.31	2043.61	2184.55	1.13	1.42	489.33	1.00
2/12/25 5:15	-0.13	21.62	-0.31	2043.28	2184.20	1.13	1.42	489.41	1.00
2/12/25 6:15	-0.14	21.62	-0.31	2043.18	2184.08	1.13	1.42	489.43	1.00
2/12/25 7:15	-0.14	21.62	-0.32	2043.32	2184.23	1.13	1.42	489.40	1.00
2/12/25 8:15	-0.14	21.62	-0.32	2043.26	2184.17	1.13	1.42	489.41	1.00
2/12/25 9:15	-0.14	21.62	-0.32	2043.05	2183.95	1.13	1.42	489.46	1.00
2/12/25 10:15	-0.14	21.62	-0.32	2042.91	2183.79	1.13	1.42	489.50	1.00
2/12/25 11:15	-0.14	21.62	-0.32	2042.91	2183.78	1.13	1.42	489.50	1.00
2/12/25 12:15	-0.14	21.62	-0.32	2042.56	2183.44	1.13	1.42	489.58	1.00
2/12/25 13:15	-0.14	21.62	-0.31	2042.00	2182.84	1.13	1.42	489.72	1.00
2/12/25 14:15	-0.14	21.62	-0.31	2042.16	2182.96	1.13	1.42	489.68	1.00
2/12/25 15:15	-0.14	21.62	-0.31	2042.21	2183.05	1.13	1.42	489.66	1.00
2/12/25 16:15	-0.14	21.62	-0.32	2042.22	2183.04	1.13	1.42	489.66	1.00
2/12/25 17:15	-0.13	21.62	-0.31	2042.00	2182.81	1.13	1.42	489.72	1.00
2/12/25 18:15	-0.14	21.62	-0.32	2041.92	2182.72	1.13	1.42	489.74	1.00
2/12/25 19:15	-0.14	21.62	-0.33	2041.49	2182.27	1.13	1.42	489.84	1.00
2/12/25 20:15	-0.14	21.62	-0.33	2041.64	2182.42	1.13	1.42	489.80	1.00
2/12/25 21:15	-0.14	21.62	-0.33	2041.65	2182.41	1.13	1.42	489.80	1.00
2/12/25 22:15	-0.14	21.62	-0.33	2041.15	2181.89	1.13	1.42	489.92	1.00
2/12/25 23:15	-0.15	21.62	-0.34	2041.01	2181.73	1.13	1.42	489.95	1.00
2/13/25 0:15	-0.15	21.62	-0.35	2041.30	2182.06	1.13	1.42	489.88	1.00
2/13/25 1:15	-0.15	21.62	-0.35	2041.11	2181.85	1.13	1.42	489.93	1.00
2/13/25 2:15	-0.15	21.62	-0.35	2041.03	2181.77	1.13	1.42	489.95	1.00
2/13/25 3:15	-0.15	21.62	-0.34	2040.90	2181.63	1.13	1.42	489.98	1.00
2/13/25 4:15	-0.15	21.62	-0.34	2041.11	2181.83	1.13	1.42	489.93	1.00
2/13/25 5:15	-0.15	21.62	-0.35	2040.67	2181.38	1.13	1.42	490.03	1.00
2/13/25 6:15	-0.15	21.62	-0.34	2040.61	2181.31	1.13	1.42	490.05	1.00
2/13/25 7:15	-0.15	21.62	-0.35	2040.72	2181.42	1.13	1.42	490.02	1.00
2/13/25 8:15	-0.15	21.62	-0.36	2040.79	2181.48	1.13	1.42	490.01	1.00
2/13/25 9:15	-0.15	21.62	-0.35	2040.57	2181.26	1.13	1.42	490.06	1.00
2/13/25 10:15	-0.15	21.62	-0.35	2040.98	2181.68	1.13	1.42	489.96	1.00
2/13/25 11:15	-0.15	21.62	-0.35	2040.67	2181.36	1.13	1.42	490.03	1.00
2/13/25 12:15	-0.15	21.62	-0.35	2040.92	2181.63	1.13	1.42	489.97	1.00
2/13/25 13:15	-0.15	21.62	-0.34	2040.58	2181.26	1.13	1.42	490.06	1.00
2/13/25 14:15	-0.15	21.62	-0.34	2040.19	2180.81	1.13	1.42	490.15	1.00
2/13/25 15:15	-0.14	21.62	-0.32	2040.33	2180.99	1.13	1.42	490.12	1.00
2/13/25 16:15	-0.14	21.62	-0.32	2040.34	2181.02	1.13	1.42	490.11	1.00
2/13/25 17:15	-0.14	21.62	-0.32	2040.27	2180.94	1.13	1.42	490.13	1.00
2/13/25 18:15	-0.14	21.62	-0.31	2040.14	2180.78	1.13	1.42	490.16	1.00
2/13/25 19:15	-0.14	21.62	-0.32	2039.91	2180.53	1.13	1.42	490.22	1.00
2/13/25 20:15	-0.14	21.62	-0.32	2040.25	2180.88	1.13	1.42	490.14	1.00
2/13/25 21:15	-0.14	21.62	-0.32	2040.24	2180.88	1.13	1.42	490.14	1.00
2/13/25 22:15	-0.14	21.62	-0.33	2040.25	2180.89	1.13	1.42	490.14	1.00
2/13/25 23:15	-0.14	21.62	-0.33	2040.27	2180.90	1.13	1.42	490.13	1.00
2/14/25 0:15	-0.14	21.62	-0.33	2040.52	2181.17	1.13	1.42	490.07	1.00
2/14/25 1:15	-0.14	21.62	-0.32	2040.12	2180.75	1.13	1.42	490.17	1.00
2/14/25 2:15	-0.14	21.62	-0.33	2040.06	2180.66	1.13	1.42	490.18	1.00
2/14/25 3:15	-0.14	21.62	-0.32	2039.99	2180.61	1.13	1.42	490.20	1.00
2/14/25 4:15	-0.14	21.62	-0.32	2040.18	2180.79	1.13	1.42	490.15	1.00
2/14/25 5:15	-0.14	21.62	-0.33	2039.68	2180.27	1.13	1.42	490.27	1.00
2/14/25 6:15	-0.14	21.62	-0.33	2039.49	2180.06	1.13	1.42	490.32	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/14/25 7:15	-0.14	21.62	-0.33	2039.24	2179.80	1.13	1.42	490.38	1.00
2/14/25 8:15	-0.15	21.62	-0.34	2039.42	2179.98	1.13	1.42	490.34	1.00
2/14/25 9:15	-0.15	21.62	-0.34	2039.11	2179.63	1.13	1.42	490.41	1.00
2/14/25 10:15	-0.14	21.62	-0.33	2039.02	2179.56	1.13	1.42	490.43	1.00
2/14/25 11:15	-0.14	21.62	-0.33	2038.59	2179.10	1.13	1.42	490.54	1.00
2/14/25 12:15	-0.14	21.62	-0.33	2038.79	2179.27	1.13	1.42	490.49	1.00
2/14/25 13:15	-0.14	21.62	-0.32	2038.48	2178.97	1.13	1.42	490.56	1.00
2/14/25 14:15	-0.14	21.62	-0.32	2038.36	2178.83	1.13	1.42	490.59	1.00
2/14/25 15:15	-0.14	21.62	-0.32	2038.12	2178.56	1.13	1.42	490.65	1.00
2/14/25 16:15	-0.14	21.62	-0.32	2037.98	2178.45	1.13	1.42	490.68	1.00
2/14/25 17:15	-0.14	21.63	-0.32	2038.30	2178.75	1.13	1.42	490.61	1.00
2/14/25 18:15	-0.14	21.62	-0.32	2038.47	2178.94	1.13	1.42	490.56	1.00
2/14/25 19:15	-0.14	21.62	-0.33	2038.05	2178.51	1.13	1.42	490.67	1.00
2/14/25 20:15	-0.14	21.62	-0.33	2038.26	2178.71	1.13	1.42	490.62	1.00
2/14/25 21:15	-0.14	21.62	-0.33	2037.66	2178.08	1.13	1.42	490.76	1.00
2/14/25 22:15	-0.14	21.63	-0.33	2037.39	2177.76	1.13	1.42	490.82	1.00
2/14/25 23:15	-0.14	21.63	-0.33	2036.54	2176.86	1.13	1.41	491.03	1.00
2/15/25 0:15	-0.14	21.63	-0.33	2036.71	2177.03	1.13	1.42	490.99	1.00
2/15/25 1:15	-0.14	21.62	-0.33	2036.53	2176.87	1.13	1.41	491.03	1.00
2/15/25 2:15	-0.14	21.62	-0.33	2036.69	2177.04	1.13	1.42	490.99	1.00
2/15/25 3:15	-0.14	21.63	-0.33	2036.38	2176.68	1.13	1.41	491.07	1.00
2/15/25 4:15	-0.15	21.62	-0.34	2036.26	2176.58	1.13	1.41	491.10	1.00
2/15/25 5:15	-0.15	21.62	-0.34	2036.22	2176.54	1.13	1.41	491.11	1.00
2/15/25 6:15	-0.15	21.63	-0.34	2036.20	2176.49	1.13	1.41	491.11	1.00
2/15/25 7:15	-0.15	21.62	-0.34	2036.47	2176.79	1.13	1.41	491.05	1.00
2/15/25 8:15	-0.15	21.63	-0.34	2036.25	2176.55	1.13	1.41	491.10	1.00
2/15/25 9:15	-0.15	21.63	-0.34	2036.04	2176.32	1.13	1.41	491.15	1.00
2/15/25 10:15	-0.15	21.63	-0.35	2035.88	2176.16	1.13	1.41	491.19	1.00
2/15/25 11:15	-0.15	21.63	-0.35	2036.10	2176.39	1.13	1.41	491.13	1.00
2/15/25 12:15	-0.15	21.62	-0.34	2035.93	2176.22	1.13	1.41	491.18	1.00
2/15/25 13:15	-0.15	21.63	-0.34	2035.90	2176.18	1.13	1.41	491.18	1.00
2/15/25 14:15	-0.15	21.63	-0.34	2035.91	2176.16	1.13	1.41	491.18	1.00
2/15/25 15:15	-0.15	21.63	-0.34	2035.93	2176.18	1.13	1.41	491.18	1.00
2/15/25 16:15	-0.15	21.63	-0.34	2036.04	2176.29	1.13	1.41	491.15	1.00
2/15/25 17:15	-0.15	21.63	-0.34	2035.52	2175.72	1.13	1.41	491.28	1.00
2/15/25 18:15	-0.15	21.63	-0.35	2035.42	2175.63	1.13	1.41	491.30	1.00
2/15/25 19:15	-0.15	21.63	-0.35	2035.77	2176.01	1.13	1.41	491.21	1.00
2/15/25 20:15	-0.15	21.63	-0.35	2035.02	2175.21	1.13	1.41	491.40	1.00
2/15/25 21:15	-0.15	21.63	-0.35	2034.49	2174.63	1.13	1.41	491.52	1.00
2/15/25 22:15	-0.15	21.63	-0.36	2034.60	2174.76	1.13	1.41	491.50	1.00
2/15/25 23:15	-0.15	21.63	-0.36	2034.58	2174.73	1.13	1.41	491.50	1.00
2/16/25 0:15	-0.15	21.63	-0.36	2034.10	2174.20	1.13	1.41	491.62	1.00
2/16/25 1:15	-0.16	21.63	-0.36	2033.80	2173.90	1.13	1.41	491.69	1.00
2/16/25 2:15	-0.16	21.63	-0.36	2033.35	2173.41	1.13	1.41	491.80	1.00
2/16/25 3:15	-0.16	21.63	-0.36	2033.52	2173.61	1.13	1.41	491.76	1.00
2/16/25 4:15	-0.16	21.63	-0.36	2033.46	2173.51	1.13	1.41	491.77	1.00
2/16/25 5:15	-0.16	21.63	-0.36	2033.53	2173.58	1.13	1.41	491.76	1.00
2/16/25 6:15	-0.16	21.63	-0.37	2033.42	2173.48	1.13	1.41	491.78	1.00
2/16/25 7:15	-0.16	21.63	-0.37	2033.15	2173.20	1.13	1.41	491.85	1.00
2/16/25 8:15	-0.16	21.63	-0.37	2033.15	2173.22	1.13	1.41	491.85	1.00
2/16/25 9:15	-0.16	21.63	-0.37	2033.15	2173.20	1.13	1.41	491.85	1.00
2/16/25 10:15	-0.16	21.63	-0.37	2033.47	2173.52	1.13	1.41	491.77	1.00
2/16/25 11:15	-0.16	21.63	-0.36	2033.68	2173.75	1.13	1.41	491.72	1.00
2/16/25 12:15	-0.16	21.63	-0.36	2033.24	2173.28	1.13	1.41	491.83	1.00
2/16/25 13:15	-0.15	21.63	-0.36	2032.77	2172.79	1.13	1.41	491.94	1.00
2/16/25 14:15	-0.15	21.63	-0.35	2032.28	2172.24	1.12	1.41	492.06	1.00
2/16/25 15:15	-0.15	21.63	-0.35	2032.28	2172.26	1.12	1.41	492.06	1.00
2/16/25 16:15	-0.15	21.63	-0.34	2032.42	2172.42	1.12	1.41	492.02	1.00
2/16/25 17:15	-0.15	21.63	-0.35	2032.03	2171.98	1.12	1.41	492.12	1.00
2/16/25 18:15	-0.15	21.63	-0.35	2032.06	2172.01	1.12	1.41	492.11	1.00
2/16/25 19:15	-0.15	21.63	-0.35	2031.75	2171.67	1.12	1.41	492.19	1.00
2/16/25 20:15	-0.16	21.63	-0.36	2031.37	2171.23	1.12	1.41	492.28	1.00
2/16/25 21:15	-0.15	21.63	-0.35	2031.43	2171.33	1.12	1.41	492.26	1.00
2/16/25 22:15	-0.16	21.63	-0.36	2031.08	2170.97	1.12	1.41	492.35	1.00
2/16/25 23:15	-0.16	21.63	-0.36	2030.96	2170.81	1.12	1.41	492.38	1.00
2/17/25 0:15	-0.16	21.63	-0.36	2030.58	2170.42	1.12	1.41	492.47	1.00
2/17/25 1:15	-0.15	21.63	-0.36	2030.30	2170.11	1.12	1.41	492.54	1.00
2/17/25 2:15	-0.15	21.63	-0.35	2029.86	2169.64	1.12	1.41	492.65	1.00
2/17/25 3:15	-0.15	21.63	-0.35	2029.51	2169.28	1.12	1.41	492.73	1.00
2/17/25 4:15	-0.15	21.63	-0.35	2029.44	2169.19	1.12	1.41	492.75	1.00
2/17/25 5:15	-0.15	21.63	-0.36	2028.93	2168.63	1.12	1.41	492.87	1.00
2/17/25 6:15	-0.15	21.63	-0.35	2028.83	2168.51	1.12	1.41	492.90	1.00
2/17/25 7:15	-0.15	21.63	-0.35	2028.51	2168.19	1.12	1.41	492.97	1.00
2/17/25 8:15	-0.15	21.63	-0.36	2028.07	2167.72	1.12	1.41	493.08	1.00
2/17/25 9:15	-0.15	21.63	-0.35	2027.66	2167.28	1.12	1.41	493.18	1.00
2/17/25 10:15	-0.15	21.63	-0.35	2027.36	2166.94	1.12	1.41	493.25	1.00
2/17/25 11:15	-0.15	21.63	-0.35	2026.76	2166.30	1.12	1.41	493.40	1.00
2/17/25 12:15	-0.15	21.63	-0.35	2025.91	2165.41	1.12	1.41	493.61	1.00
2/17/25 13:15	-0.15	21.63	-0.34	2025.50	2164.95	1.12	1.41	493.71	1.00
2/17/25 14:15	-0.15	21.63	-0.35	2024.84	2164.25	1.12	1.41	493.87	1.00
2/17/25 15:15	-0.15	21.63	-0.35	2024.05	2163.39	1.12	1.41	494.06	1.00
2/17/25 16:15	-0.15	21.63	-0.35	2023.54	2162.87	1.12	1.41	494.18	1.00
2/17/25 17:15	-0.15	21.63	-0.35	2022.99	2162.29	1.12	1.41	494.32	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/17/25 18:15	-0.15	21.63	-0.36	2022.84	2162.13	1.12	1.41	494.35	1.00
2/17/25 19:15	-0.16	21.63	-0.36	2022.46	2161.71	1.12	1.41	494.45	1.00
2/17/25 20:15	-0.16	21.63	-0.36	2021.91	2161.11	1.12	1.40	494.58	1.00
2/17/25 21:15	-0.15	21.63	-0.36	2021.82	2161.00	1.12	1.40	494.60	1.00
2/17/25 22:15	-0.16	21.63	-0.36	2021.26	2160.41	1.12	1.40	494.74	1.00
2/17/25 23:15	-0.16	21.63	-0.36	2020.56	2159.68	1.12	1.40	494.91	1.00
2/18/25 0:15	-0.16	21.63	-0.36	2019.89	2158.93	1.12	1.40	495.08	1.00
2/18/25 1:15	-0.16	21.63	-0.36	2019.11	2158.11	1.12	1.40	495.27	1.00
2/18/25 2:15	-0.16	21.63	-0.36	2018.69	2157.68	1.12	1.40	495.37	1.00
2/18/25 3:15	-0.15	21.63	-0.36	2018.27	2157.21	1.12	1.40	495.47	1.00
2/18/25 4:15	-0.16	21.63	-0.36	2018.03	2156.95	1.12	1.40	495.53	1.00
2/18/25 5:15	-0.16	21.63	-0.37	2017.57	2156.45	1.12	1.40	495.65	1.00
2/18/25 6:15	-0.16	21.63	-0.38	2017.30	2156.16	1.12	1.40	495.71	1.00
2/18/25 7:15	-0.16	21.63	-0.38	2017.13	2155.99	1.12	1.40	495.75	1.00
2/18/25 8:15	-0.17	21.63	-0.39	2016.80	2155.64	1.12	1.40	495.84	1.00
2/18/25 9:15	-0.16	21.63	-0.38	2016.76	2155.59	1.12	1.40	495.85	1.00
2/18/25 10:15	-0.17	21.63	-0.38	2016.16	2154.95	1.12	1.40	495.99	1.00
2/18/25 11:15	-0.16	21.63	-0.38	2015.70	2154.46	1.12	1.40	496.11	1.00
2/18/25 12:15	-0.16	21.63	-0.38	2015.29	2154.00	1.11	1.40	496.21	1.00
2/18/25 13:15	-0.16	21.63	-0.38	2014.97	2153.67	1.11	1.40	496.29	1.00
2/18/25 14:15	-0.16	21.63	-0.37	2014.21	2152.86	1.11	1.40	496.47	1.00
2/18/25 15:15	-0.16	21.63	-0.37	2014.40	2153.06	1.11	1.40	496.43	1.00
2/18/25 16:15	-0.16	21.63	-0.37	2013.52	2152.12	1.11	1.40	496.64	1.00
2/18/25 17:15	-0.16	21.63	-0.37	2013.55	2152.15	1.11	1.40	496.64	1.00
2/18/25 18:15	-0.16	21.63	-0.37	2013.22	2151.82	1.11	1.40	496.72	1.00
2/18/25 19:15	-0.16	21.63	-0.38	2012.87	2151.43	1.11	1.40	496.80	1.00
2/18/25 20:15	-0.17	21.63	-0.38	2013.15	2151.73	1.11	1.40	496.73	1.00
2/18/25 21:15	-0.17	21.63	-0.38	2012.89	2151.44	1.11	1.40	496.80	1.00
2/18/25 22:15	-0.17	21.63	-0.39	2012.67	2151.21	1.11	1.40	496.85	1.00
2/18/25 23:15	-0.17	21.63	-0.39	2012.65	2151.18	1.11	1.40	496.86	1.00
2/19/25 0:15	-0.17	21.63	-0.39	2012.59	2151.13	1.11	1.40	496.87	1.00
2/19/25 1:15	-0.17	21.63	-0.39	2012.16	2150.66	1.11	1.40	496.98	1.00
2/19/25 2:15	-0.17	21.63	-0.39	2009.39	2147.71	1.11	1.40	497.66	1.00
2/19/25 3:15	-0.17	21.63	-0.39	2009.81	2148.14	1.11	1.40	497.56	1.00
2/19/25 4:15	-0.17	21.63	-0.39	2009.85	2148.18	1.11	1.40	497.55	1.00
2/19/25 5:15	-0.17	21.63	-0.40	2009.52	2147.85	1.11	1.40	497.63	1.00
2/19/25 6:15	-0.17	21.63	-0.40	2009.44	2147.75	1.11	1.40	497.65	1.00
2/19/25 7:15	-0.17	21.63	-0.40	2009.10	2147.37	1.11	1.40	497.74	1.00
2/19/25 8:15	-0.17	21.63	-0.40	2009.25	2147.54	1.11	1.40	497.70	1.00
2/19/25 9:15	-0.18	21.63	-0.41	2009.00	2147.27	1.11	1.40	497.76	1.00
2/19/25 10:15	-0.17	21.63	-0.40	2009.18	2147.44	1.11	1.40	497.72	1.00
2/19/25 11:15	-0.19	21.63	-0.44	2082.27	2225.32	1.15	1.45	480.24	1.00
2/19/25 12:15	-0.19	21.63	-0.43	2081.03	2224.09	1.15	1.45	480.53	1.00
2/19/25 13:15	-0.19	21.63	-0.43	2080.21	2223.25	1.15	1.45	480.72	1.00
2/19/25 14:15	-0.18	21.63	-0.43	2080.11	2223.19	1.15	1.45	480.74	1.00
2/19/25 15:15	-0.18	21.63	-0.42	2080.25	2223.35	1.15	1.45	480.71	1.00
2/19/25 16:15	-0.18	21.63	-0.42	2079.84	2222.92	1.15	1.44	480.81	1.00
2/19/25 17:15	-0.18	21.63	-0.42	2079.58	2222.66	1.15	1.44	480.87	1.00
2/19/25 18:15	-0.18	21.63	-0.42	2079.18	2222.25	1.15	1.44	480.96	1.00
2/19/25 19:15	-0.18	21.63	-0.43	2078.92	2221.96	1.15	1.44	481.02	1.00
2/19/25 20:15	-0.18	21.63	-0.43	2078.97	2222.02	1.15	1.44	481.01	1.00
2/19/25 21:15	-0.19	21.63	-0.43	2078.81	2221.85	1.15	1.44	481.04	1.00
2/19/25 22:15	-0.19	21.63	-0.43	2078.49	2221.52	1.15	1.44	481.12	1.00
2/19/25 23:15	-0.19	21.63	-0.43	2078.41	2221.43	1.15	1.44	481.14	1.00
2/20/25 0:15	-0.19	21.63	-0.43	2077.94	2220.93	1.15	1.44	481.25	1.00
2/20/25 1:15	-0.19	21.63	-0.43	2077.79	2220.76	1.15	1.44	481.28	1.00
2/20/25 2:15	-0.19	21.63	-0.43	2077.08	2220.00	1.15	1.44	481.45	1.00
2/20/25 3:15	-0.19	21.63	-0.43	2076.60	2219.44	1.15	1.44	481.56	1.00
2/20/25 4:15	-0.19	21.63	-0.43	2076.29	2219.16	1.15	1.44	481.63	1.00
2/20/25 5:15	-0.19	21.63	-0.43	2076.14	2219.00	1.15	1.44	481.66	1.00
2/20/25 6:15	-0.19	21.63	-0.43	2075.33	2218.13	1.15	1.44	481.85	1.00
2/20/25 7:15	-0.19	21.63	-0.43	2075.40	2218.19	1.15	1.44	481.84	1.00
2/20/25 8:15	-0.19	21.63	-0.44	2074.80	2217.55	1.15	1.44	481.97	1.00
2/20/25 9:15	-0.19	21.63	-0.44	2074.53	2217.28	1.15	1.44	482.04	1.00
2/20/25 10:15	-0.19	21.63	-0.43	2074.21	2216.90	1.15	1.44	482.11	1.00
2/20/25 11:15	-0.19	21.63	-0.44	2073.84	2216.50	1.15	1.44	482.20	1.00
2/20/25 12:15	-0.19	21.63	-0.43	2073.04	2215.65	1.15	1.44	482.38	1.00
2/20/25 13:15	-0.18	21.63	-0.41	2072.78	2215.38	1.15	1.44	482.44	1.00
2/20/25 14:15	-0.17	21.63	-0.40	2073.23	2215.89	1.15	1.44	482.34	1.00
2/20/25 15:15	-0.17	21.63	-0.38	2073.81	2216.52	1.15	1.44	482.21	1.00
2/20/25 16:15	-0.16	21.63	-0.38	2073.33	2216.01	1.15	1.44	482.32	1.00
2/20/25 17:15	-0.16	21.63	-0.37	2073.71	2216.40	1.15	1.44	482.23	1.00
2/20/25 18:15	-0.16	21.63	-0.37	2073.16	2215.81	1.15	1.44	482.35	1.00
2/20/25 19:15	-0.16	21.63	-0.37	2072.72	2215.31	1.15	1.44	482.46	1.00
2/20/25 20:15	-0.16	21.63	-0.37	2072.53	2215.13	1.15	1.44	482.50	1.00
2/20/25 21:15	-0.16	21.63	-0.36	2072.06	2214.64	1.15	1.44	482.61	1.00
2/20/25 22:15	-0.16	21.63	-0.37	2071.41	2213.91	1.15	1.44	482.76	1.00
2/20/25 23:15	-0.16	21.63	-0.36	2071.35	2213.89	1.15	1.44	482.78	1.00
2/21/25 0:15	-0.16	21.63	-0.36	2071.31	2213.84	1.15	1.44	482.79	1.00
2/21/25 1:15	-0.16	21.63	-0.36	2070.90	2213.39	1.15	1.44	482.88	1.00
2/21/25 2:15	-0.16	21.63	-0.36	2071.05	2213.56	1.15	1.44	482.85	1.00
2/21/25 3:15	-0.15	21.63	-0.36	2071.11	2213.61	1.15	1.44	482.83	1.00
2/21/25 4:15	-0.16	21.63	-0.36	2070.77	2213.22	1.15	1.44	482.91	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/21/25 5:15	-0.16	21.63	-0.36	2070.79	2213.28	1.15	1.44	482.91	1.00
2/21/25 6:15	-0.16	21.63	-0.36	2070.65	2213.12	1.15	1.44	482.94	1.00
2/21/25 7:15	-0.16	21.63	-0.37	2070.22	2212.65	1.15	1.44	483.04	1.00
2/21/25 8:15	-0.16	21.63	-0.37	2070.42	2212.87	1.15	1.44	482.99	1.00
2/21/25 9:15	-0.16	21.63	-0.37	2069.95	2212.38	1.15	1.44	483.10	1.00
2/21/25 10:15	-0.16	21.63	-0.36	2070.31	2212.76	1.15	1.44	483.02	1.00
2/21/25 11:15	-0.16	21.63	-0.36	2072.25	2214.83	1.15	1.44	482.57	1.00
2/21/25 12:15	-0.15	21.63	-0.36	2071.78	2214.30	1.15	1.44	482.68	1.00
2/21/25 13:15	-0.15	21.63	-0.36	2071.94	2214.51	1.15	1.44	482.64	1.00
2/21/25 14:15	-0.15	21.63	-0.35	2071.84	2214.39	1.15	1.44	482.66	1.00
2/21/25 15:15	-0.15	21.63	-0.35	2072.06	2214.61	1.15	1.44	482.61	1.00
2/21/25 16:15	-0.15	21.63	-0.35	2071.48	2214.00	1.15	1.44	482.75	1.00
2/21/25 17:15	-0.15	21.63	-0.35	2071.26	2213.74	1.15	1.44	482.80	1.00
2/21/25 18:15	-0.15	21.63	-0.36	2071.51	2214.02	1.15	1.44	482.74	1.00
2/21/25 19:15	-0.16	21.63	-0.36	2070.82	2213.30	1.15	1.44	482.90	1.00
2/21/25 20:15	-0.16	21.63	-0.36	2070.87	2213.34	1.15	1.44	482.89	1.00
2/21/25 21:15	-0.16	21.63	-0.36	2070.56	2212.96	1.15	1.44	482.96	1.00
2/21/25 22:15	-0.16	21.63	-0.36	2070.23	2212.64	1.15	1.44	483.04	1.00
2/21/25 23:15	-0.16	21.63	-0.36	2070.00	2212.41	1.15	1.44	483.09	1.00
2/22/25 0:15	-0.16	21.63	-0.36	2069.65	2212.04	1.15	1.44	483.17	1.00
2/22/25 1:15	-0.16	21.63	-0.36	2069.44	2211.82	1.15	1.44	483.22	1.00
2/22/25 2:15	-0.16	21.63	-0.36	2069.24	2211.53	1.15	1.44	483.27	1.00
2/22/25 3:15	-0.16	21.63	-0.36	2068.69	2211.00	1.15	1.44	483.40	1.00
2/22/25 4:15	-0.16	21.63	-0.36	2068.26	2210.55	1.15	1.44	483.50	1.00
2/22/25 5:15	-0.16	21.63	-0.36	2068.09	2210.38	1.15	1.44	483.54	1.00
2/22/25 6:15	-0.16	21.63	-0.36	2067.88	2210.14	1.15	1.44	483.59	1.00
2/22/25 7:15	-0.16	21.63	-0.36	2067.91	2210.17	1.15	1.44	483.58	1.00
2/22/25 8:15	-0.16	21.63	-0.36	2067.49	2209.71	1.15	1.44	483.68	1.00
2/22/25 9:15	-0.16	21.63	-0.36	2067.11	2209.33	1.15	1.44	483.77	1.00
2/22/25 10:15	-0.16	21.63	-0.36	2067.15	2209.37	1.15	1.44	483.76	1.00
2/22/25 11:15	-0.16	21.63	-0.36	2067.12	2209.34	1.15	1.44	483.77	1.00
2/22/25 12:15	-0.15	21.63	-0.35	2066.87	2209.08	1.14	1.44	483.82	1.00
2/22/25 13:15	-0.15	21.63	-0.35	2066.51	2208.70	1.14	1.44	483.91	1.00
2/22/25 14:15	-0.15	21.63	-0.35	2066.56	2208.74	1.14	1.44	483.90	1.00
2/22/25 15:15	-0.15	21.63	-0.35	2065.95	2208.07	1.14	1.44	484.04	1.00
2/22/25 16:15	-0.15	21.63	-0.35	2065.50	2207.57	1.14	1.43	484.15	1.00
2/22/25 17:15	-0.15	21.63	-0.36	2065.14	2207.18	1.14	1.43	484.23	1.00
2/22/25 18:15	-0.15	21.63	-0.36	2065.34	2207.41	1.14	1.43	484.18	1.00
2/22/25 19:15	-0.15	21.63	-0.36	2064.81	2206.88	1.14	1.43	484.31	1.00
2/22/25 20:15	-0.15	21.63	-0.36	2064.63	2206.67	1.14	1.43	484.35	1.00
2/22/25 21:15	-0.15	21.63	-0.36	2064.61	2206.62	1.14	1.43	484.35	1.00
2/22/25 22:15	-0.16	21.63	-0.36	2063.79	2205.77	1.14	1.43	484.55	1.00
2/22/25 23:15	-0.16	21.63	-0.36	2063.70	2205.67	1.14	1.43	484.57	1.00
2/23/25 0:15	-0.15	21.63	-0.36	2063.57	2205.54	1.14	1.43	484.60	1.00
2/23/25 1:15	-0.15	21.63	-0.36	2064.02	2206.01	1.14	1.43	484.49	1.00
2/23/25 2:15	-0.15	21.63	-0.36	2063.68	2205.64	1.14	1.43	484.57	1.00
2/23/25 3:15	-0.15	21.63	-0.36	2063.68	2205.66	1.14	1.43	484.57	1.00
2/23/25 4:15	-0.15	21.63	-0.36	2063.33	2205.27	1.14	1.43	484.65	1.00
2/23/25 5:15	-0.15	21.63	-0.35	2063.66	2205.63	1.14	1.43	484.58	1.00
2/23/25 6:15	-0.15	21.63	-0.36	2063.12	2205.02	1.14	1.43	484.70	1.00
2/23/25 7:15	-0.16	21.63	-0.36	2062.85	2204.77	1.14	1.43	484.77	1.00
2/23/25 8:15	-0.16	21.63	-0.36	2062.77	2204.68	1.14	1.43	484.78	1.00
2/23/25 9:15	-0.15	21.63	-0.36	2062.52	2204.42	1.14	1.43	484.84	1.00
2/23/25 10:15	-0.16	21.63	-0.36	2062.51	2204.40	1.14	1.43	484.85	1.00
2/23/25 11:15	-0.15	21.63	-0.35	2062.34	2204.22	1.14	1.43	484.89	1.00
2/23/25 12:15	-0.15	21.63	-0.35	2062.09	2203.95	1.14	1.43	484.94	1.00
2/23/25 13:15	-0.15	21.63	-0.35	2061.50	2203.32	1.14	1.43	485.08	1.00
2/23/25 14:15	-0.15	21.63	-0.35	2061.76	2203.59	1.14	1.43	485.02	1.00
2/23/25 15:15	-0.15	21.63	-0.35	2061.32	2203.12	1.14	1.43	485.13	1.00
2/23/25 16:15	-0.15	21.63	-0.35	2060.79	2202.56	1.14	1.43	485.25	1.00
2/23/25 17:15	-0.15	21.63	-0.35	2060.98	2202.78	1.14	1.43	485.21	1.00
2/23/25 18:15	-0.15	21.63	-0.35	2060.46	2202.21	1.14	1.43	485.33	1.00
2/23/25 19:15	-0.15	21.63	-0.36	2060.57	2202.31	1.14	1.43	485.30	1.00
2/23/25 20:15	-0.15	21.63	-0.36	2060.31	2202.03	1.14	1.43	485.37	1.00
2/23/25 21:15	-0.16	21.63	-0.36	2060.74	2202.51	1.14	1.43	485.26	1.00
2/23/25 22:15	-0.16	21.63	-0.36	2060.20	2201.93	1.14	1.43	485.39	1.00
2/23/25 23:15	-0.16	21.63	-0.36	2060.12	2201.84	1.14	1.43	485.41	1.00
2/24/25 0:15	-0.16	21.63	-0.36	2060.30	2202.02	1.14	1.43	485.37	1.00
2/24/25 1:15	-0.16	21.63	-0.36	2059.44	2201.13	1.14	1.43	485.57	1.00
2/24/25 2:15	-0.16	21.63	-0.36	2058.93	2200.57	1.14	1.43	485.69	1.00
2/24/25 3:15	-0.16	21.63	-0.36	2058.40	2199.97	1.14	1.43	485.81	1.00
2/24/25 4:15	-0.16	21.63	-0.36	2058.40	2199.98	1.14	1.43	485.82	1.00
2/24/25 5:15	-0.16	21.63	-0.36	2058.35	2199.94	1.14	1.43	485.83	1.00
2/24/25 6:15	-0.16	21.63	-0.36	2058.66	2200.28	1.14	1.43	485.75	1.00
2/24/25 7:15	-0.15	21.63	-0.36	2058.20	2199.80	1.14	1.43	485.86	1.00
2/24/25 8:15	-0.16	21.63	-0.36	2058.27	2199.87	1.14	1.43	485.85	1.00
2/24/25 9:15	-0.16	21.63	-0.36	2057.91	2199.47	1.14	1.43	485.93	1.00
2/24/25 10:15	-0.15	21.63	-0.36	2057.89	2199.46	1.14	1.43	485.94	1.00
2/24/25 11:15	-0.15	21.63	-0.36	2062.07	2203.94	1.14	1.43	484.95	1.00
2/24/25 12:15	-0.15	21.63	-0.35	2062.28	2204.15	1.14	1.43	484.90	1.00
2/24/25 13:15	-0.15	21.63	-0.35	2061.84	2203.68	1.14	1.43	485.00	1.00
2/24/25 14:15	-0.15	21.63	-0.35	2061.65	2203.47	1.14	1.43	485.05	1.00
2/24/25 15:15	-0.15	21.63	-0.35	2061.60	2203.43	1.14	1.43	485.06	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/24/25 16:15	-0.15	21.63	-0.35	2061.29	2203.09	1.14	1.43	485.13	1.00
2/24/25 17:15	-0.15	21.63	-0.35	2061.35	2203.14	1.14	1.43	485.12	1.00
2/24/25 18:15	-0.15	21.63	-0.35	2060.98	2202.74	1.14	1.43	485.21	1.00
2/24/25 19:15	-0.15	21.63	-0.35	2061.26	2203.06	1.14	1.43	485.14	1.00
2/24/25 20:15	-0.15	21.63	-0.36	2061.41	2203.20	1.14	1.43	485.11	1.00
2/24/25 21:15	-0.16	21.63	-0.36	2061.37	2203.16	1.14	1.43	485.11	1.00
2/24/25 22:15	-0.16	21.63	-0.36	2061.31	2203.10	1.14	1.43	485.13	1.00
2/24/25 23:15	-0.16	21.63	-0.36	2068.39	2210.67	1.15	1.44	483.47	1.00
2/25/25 0:15	-0.16	21.63	-0.36	2068.19	2210.43	1.15	1.44	483.51	1.00
2/25/25 1:15	-0.16	21.63	-0.36	2068.08	2210.33	1.15	1.44	483.54	1.00
2/25/25 2:15	-0.16	21.63	-0.36	2067.98	2210.23	1.15	1.44	483.56	1.00
2/25/25 3:15	-0.15	21.63	-0.36	2068.30	2210.59	1.15	1.44	483.49	1.00
2/25/25 4:15	-0.15	21.63	-0.36	2067.93	2210.16	1.15	1.44	483.58	1.00
2/25/25 5:15	-0.16	21.63	-0.36	2068.09	2210.34	1.15	1.44	483.54	1.00
2/25/25 6:15	-0.16	21.63	-0.36	2068.07	2210.31	1.15	1.44	483.54	1.00
2/25/25 7:15	-0.16	21.63	-0.36	2068.58	2210.85	1.15	1.44	483.42	1.00
2/25/25 8:15	-0.16	21.63	-0.36	2068.94	2211.24	1.15	1.44	483.34	1.00
2/25/25 9:15	-0.16	21.63	-0.36	2068.49	2210.78	1.15	1.44	483.45	1.00
2/25/25 10:15	-0.16	21.63	-0.37	2068.13	2210.38	1.15	1.44	483.53	1.00
2/25/25 11:15	-0.16	21.63	-0.37	2067.86	2210.10	1.15	1.44	483.59	1.00
2/25/25 12:15	-0.17	21.63	-0.38	2067.56	2209.76	1.15	1.44	483.66	1.00
2/25/25 13:15	-0.17	21.63	-0.38	2067.28	2209.42	1.15	1.44	483.73	1.00
2/25/25 14:15	-0.17	21.63	-0.39	2067.22	2209.40	1.15	1.44	483.74	1.00
2/25/25 15:15	-0.17	21.63	-0.39	2067.24	2209.42	1.15	1.44	483.74	1.00
2/25/25 16:15	-0.17	21.63	-0.39	2067.45	2209.64	1.15	1.44	483.69	1.00
2/25/25 17:15	-0.17	21.63	-0.40	2067.41	2209.62	1.15	1.44	483.70	1.00
2/25/25 18:15	-0.17	21.63	-0.40	2067.38	2209.58	1.15	1.44	483.70	1.00
2/25/25 19:15	-0.17	21.63	-0.40	2067.11	2209.29	1.15	1.44	483.77	1.00
2/25/25 20:15	-0.18	21.63	-0.40	2066.47	2208.60	1.14	1.44	483.92	1.00
2/25/25 21:15	-0.17	21.63	-0.40	2066.41	2208.53	1.14	1.44	483.93	1.00
2/25/25 22:15	-0.18	21.63	-0.41	2065.87	2207.97	1.14	1.44	484.06	1.00
2/25/25 23:15	-0.18	21.63	-0.41	2065.88	2207.97	1.14	1.44	484.05	1.00
2/26/25 0:15	-0.17	21.63	-0.40	2065.81	2207.89	1.14	1.44	484.07	1.00
2/26/25 1:15	-0.18	21.63	-0.40	2065.62	2207.69	1.14	1.44	484.12	1.00
2/26/25 2:15	-0.17	21.63	-0.40	2065.50	2207.54	1.14	1.43	484.15	1.00
2/26/25 3:15	-0.17	21.63	-0.40	2065.35	2207.40	1.14	1.43	484.18	1.00
2/26/25 4:15	-0.17	21.63	-0.40	2065.33	2207.37	1.14	1.43	484.19	1.00
2/26/25 5:15	-0.17	21.63	-0.40	2064.83	2206.85	1.14	1.43	484.30	1.00
2/26/25 6:15	-0.18	21.63	-0.40	2064.79	2206.79	1.14	1.43	484.31	1.00
2/26/25 7:15	-0.18	21.63	-0.41	2064.72	2206.72	1.14	1.43	484.33	1.00
2/26/25 8:15	-0.18	21.63	-0.42	2063.70	2205.61	1.14	1.43	484.57	1.00
2/26/25 9:15	-0.19	21.63	-0.43	2063.68	2205.58	1.14	1.43	484.57	1.00
2/26/25 10:15	-0.18	21.63	-0.42	2064.34	2206.29	1.14	1.43	484.42	1.00
2/26/25 11:15	-0.18	21.63	-0.42	2064.75	2206.76	1.14	1.43	484.32	1.00
2/26/25 12:15	-0.18	21.63	-0.42	2064.41	2206.37	1.14	1.43	484.40	1.00
2/26/25 13:15	-0.18	21.63	-0.40	2064.24	2206.17	1.14	1.43	484.44	1.00
2/26/25 14:15	-0.17	21.63	-0.40	2063.69	2205.60	1.14	1.43	484.57	1.00
2/26/25 15:15	-0.17	21.63	-0.39	2063.87	2205.79	1.14	1.43	484.53	1.00
2/26/25 16:15	-0.17	21.63	-0.40	2064.17	2206.13	1.14	1.43	484.46	1.00
2/26/25 17:15	-0.17	21.63	-0.40	2064.07	2206.00	1.14	1.43	484.48	1.00
2/26/25 18:15	-0.17	21.63	-0.40	2063.83	2205.75	1.14	1.43	484.54	1.00
2/26/25 19:15	-0.18	21.63	-0.41	2063.80	2205.70	1.14	1.43	484.54	1.00
2/26/25 20:15	-0.17	21.63	-0.40	2063.79	2205.71	1.14	1.43	484.54	1.00
2/26/25 21:15	-0.17	21.63	-0.39	2064.10	2206.04	1.14	1.43	484.47	1.00
2/26/25 22:15	-0.17	21.63	-0.39	2063.85	2205.80	1.14	1.43	484.53	1.00
2/26/25 23:15	-0.17	21.63	-0.39	2063.70	2205.61	1.14	1.43	484.57	1.00
2/27/25 0:15	-0.17	21.63	-0.39	2063.84	2205.76	1.14	1.43	484.53	1.00
2/27/25 1:15	-0.17	21.63	-0.40	2063.96	2205.90	1.14	1.43	484.51	1.00
2/27/25 2:15	-0.17	21.63	-0.39	2063.68	2205.58	1.14	1.43	484.57	1.00
2/27/25 3:15	-0.17	21.63	-0.39	2063.53	2205.44	1.14	1.43	484.61	1.00
2/27/25 4:15	-0.17	21.63	-0.38	2063.37	2205.29	1.14	1.43	484.64	1.00
2/27/25 5:15	-0.17	21.63	-0.39	2063.14	2205.02	1.14	1.43	484.70	1.00
2/27/25 6:15	-0.17	21.63	-0.39	2063.07	2204.92	1.14	1.43	484.72	1.00
2/27/25 7:15	-0.17	21.63	-0.39	2062.66	2204.49	1.14	1.43	484.81	1.00
2/27/25 8:15	-0.17	21.63	-0.39	2062.70	2204.54	1.14	1.43	484.80	1.00
2/27/25 9:15	-0.17	21.63	-0.39	2062.56	2204.40	1.14	1.43	484.83	1.00
2/27/25 10:15	-0.17	21.63	-0.38	2062.31	2204.12	1.14	1.43	484.89	1.00
2/27/25 11:15	-0.16	21.63	-0.37	2062.60	2204.43	1.14	1.43	484.83	1.00
2/27/25 12:15	-0.16	21.63	-0.37	2062.14	2203.95	1.14	1.43	484.93	1.00
2/27/25 13:15	-0.15	21.63	-0.35	2061.94	2203.73	1.14	1.43	484.98	1.00
2/27/25 14:15	-0.15	21.63	-0.34	2062.25	2204.04	1.14	1.43	484.91	1.00
2/27/25 15:15	-0.15	21.63	-0.34	2062.26	2204.06	1.14	1.43	484.90	1.00
2/27/25 16:15	-0.14	21.63	-0.33	2061.80	2203.57	1.14	1.43	485.01	1.00
2/27/25 17:15	-0.14	21.63	-0.32	2062.00	2203.81	1.14	1.43	484.97	1.00
2/27/25 18:15	-0.14	21.63	-0.33	2062.29	2204.11	1.14	1.43	484.90	1.00
2/27/25 19:15	-0.14	21.63	-0.33	2061.73	2203.50	1.14	1.43	485.03	1.00
2/27/25 20:15	-0.14	21.63	-0.33	2061.75	2203.54	1.14	1.43	485.02	1.00
2/27/25 21:15	-0.14	21.63	-0.32	2061.68	2203.47	1.14	1.43	485.04	1.00
2/27/25 22:15	-0.14	21.63	-0.32	2061.45	2203.20	1.14	1.43	485.10	1.00
2/27/25 23:15	-0.14	21.63	-0.32	2061.36	2203.10	1.14	1.43	485.12	1.00
2/28/25 0:15	-0.13	21.63	-0.31	2060.98	2202.71	1.14	1.43	485.21	1.00
2/28/25 1:15	-0.13	21.63	-0.31	2060.89	2202.61	1.14	1.43	485.23	1.00
2/28/25 2:15	-0.13	21.63	-0.31	2060.89	2202.60	1.14	1.43	485.23	1.00

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Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
2/28/25 3:15	-0.13	21.63	-0.30	2061.11	2202.85	1.14	1.43	485.18	1.00
2/28/25 4:15	-0.13	21.63	-0.29	2060.81	2202.54	1.14	1.43	485.25	1.00
2/28/25 5:15	-0.16	21.63	-0.36	2060.55	2202.23	1.14	1.43	485.31	1.00
2/28/25 6:15	-0.15	21.63	-0.36	2060.37	2202.06	1.14	1.43	485.35	1.00
2/28/25 7:15	-0.15	21.63	-0.35	2059.96	2201.64	1.14	1.43	485.45	1.00
2/28/25 8:15	-0.15	21.63	-0.35	2060.37	2202.07	1.14	1.43	485.35	1.00
2/28/25 9:15	-0.15	21.63	-0.34	2059.81	2201.47	1.14	1.43	485.48	1.00
2/28/25 10:15	-0.15	21.63	-0.34	2059.79	2201.44	1.14	1.43	485.49	1.00
2/28/25 11:15	-0.14	21.63	-0.33	2060.14	2201.77	1.14	1.43	485.40	1.00
2/28/25 12:15	-0.16	21.63	-0.37	2059.52	2201.15	1.14	1.43	485.55	1.00
2/28/25 13:15	-0.15	21.63	-0.35	2059.18	2200.77	1.14	1.43	485.63	1.00
2/28/25 14:15	-0.14	21.63	-0.33	2058.75	2200.32	1.14	1.43	485.73	1.00
2/28/25 15:15	-0.14	21.63	-0.32	2058.27	2199.81	1.14	1.43	485.84	1.00
2/28/25 16:15	-0.14	21.63	-0.31	2058.44	2200.00	1.14	1.43	485.81	1.00
2/28/25 17:15	-0.16	21.63	-0.36	2058.19	2199.71	1.14	1.43	485.86	1.00
2/28/25 18:15	-0.15	21.63	-0.36	2057.93	2199.42	1.14	1.43	485.93	1.00
2/28/25 19:15	-0.15	21.63	-0.35	2058.16	2199.71	1.14	1.43	485.87	1.00
2/28/25 20:15	-0.15	21.63	-0.36	2058.75	2200.33	1.14	1.43	485.73	1.00
2/28/25 21:15	-0.15	21.63	-0.35	2058.44	2199.98	1.14	1.43	485.80	1.00
2/28/25 22:15	-0.15	21.63	-0.35	2057.98	2199.51	1.14	1.43	485.91	1.00
2/28/25 23:15	-0.15	21.63	-0.34	2057.86	2199.36	1.14	1.43	485.94	1.00
3/1/25 0:15	-0.15	21.63	-0.34	2057.50	2198.98	1.14	1.43	486.03	1.00
3/1/25 1:15	-0.15	21.63	-0.34	2057.07	2198.55	1.14	1.43	486.13	1.00
3/1/25 2:15	-0.15	21.63	-0.34	2057.47	2198.95	1.14	1.43	486.03	1.00
3/1/25 3:15	-0.14	21.63	-0.33	2057.10	2198.57	1.14	1.43	486.12	1.00
3/1/25 4:15	-0.17	21.63	-0.39	2056.97	2198.42	1.14	1.43	486.15	1.00
3/1/25 5:15	-0.17	21.63	-0.38	2057.07	2198.51	1.14	1.43	486.13	1.00
3/1/25 6:15	-0.17	21.63	-0.39	2056.65	2198.08	1.14	1.43	486.23	1.00
3/1/25 7:15	-0.17	21.63	-0.39	2056.76	2198.18	1.14	1.43	486.20	1.00
3/1/25 8:15	-0.17	21.63	-0.38	2056.41	2197.83	1.14	1.43	486.28	1.00
3/1/25 9:15	-0.17	21.63	-0.39	2056.23	2197.63	1.14	1.43	486.33	1.00
3/1/25 10:15	-0.17	21.63	-0.39	2056.01	2197.40	1.14	1.43	486.38	1.00
3/1/25 11:15	-0.17	21.63	-0.39	2055.82	2197.20	1.14	1.43	486.42	1.00
3/1/25 12:15	-0.17	21.63	-0.39	2055.62	2196.98	1.14	1.43	486.47	1.00
3/1/25 13:15	-0.17	21.63	-0.39	2055.70	2197.04	1.14	1.43	486.45	1.00
3/1/25 14:15	-0.16	21.63	-0.37	2055.28	2196.63	1.14	1.43	486.55	1.00
3/1/25 15:15	-0.16	21.63	-0.38	2055.58	2196.96	1.14	1.43	486.48	1.00
3/1/25 16:15	-0.16	21.63	-0.37	2055.24	2196.58	1.14	1.43	486.56	1.00
3/1/25 17:15	-0.16	21.63	-0.38	2055.03	2196.36	1.14	1.43	486.61	1.00
3/1/25 18:15	-0.16	21.63	-0.37	2054.72	2196.03	1.14	1.43	486.68	1.00
3/1/25 19:15	-0.16	21.63	-0.38	2054.84	2196.14	1.14	1.43	486.66	1.00
3/1/25 20:15	-0.17	21.63	-0.38	2054.73	2196.02	1.14	1.43	486.68	1.00
3/1/25 21:15	-0.16	21.63	-0.38	2054.58	2195.88	1.14	1.43	486.72	1.00
3/1/25 22:15	-0.16	21.63	-0.38	2054.29	2195.55	1.14	1.43	486.79	1.00
3/1/25 23:15	-0.17	21.63	-0.39	2048.94	2189.85	1.13	1.42	488.06	1.00
3/2/25 0:15	-0.16	21.63	-0.38	2048.29	2189.16	1.13	1.42	488.21	1.00
3/2/25 1:15	-0.17	21.63	-0.38	2047.57	2188.39	1.13	1.42	488.38	1.00
3/2/25 2:15	-0.17	21.63	-0.38	2047.10	2187.91	1.13	1.42	488.50	1.00
3/2/25 3:15	-0.17	21.63	-0.38	2046.66	2187.39	1.13	1.42	488.60	1.00
3/2/25 4:15	-0.17	21.63	-0.38	2045.96	2186.67	1.13	1.42	488.77	1.00
3/2/25 5:15	-0.17	21.63	-0.38	2044.76	2185.39	1.13	1.42	489.06	1.00
3/2/25 6:15	-0.17	21.63	-0.39	2044.56	2185.16	1.13	1.42	489.10	1.00
3/2/25 7:15	-0.17	21.63	-0.39	2043.48	2183.99	1.13	1.42	489.36	1.00
3/2/25 8:15	-0.17	21.63	-0.40	2042.76	2183.23	1.13	1.42	489.53	1.00
3/2/25 9:15	-0.17	21.63	-0.39	2042.27	2182.70	1.13	1.42	489.65	1.00
3/2/25 10:15	-0.17	21.63	-0.39	2041.48	2181.85	1.13	1.42	489.84	1.00
3/2/25 11:15	-0.17	21.63	-0.39	2041.38	2181.76	1.13	1.42	489.86	1.00
3/2/25 12:15	-0.17	21.63	-0.40	2040.68	2181.02	1.13	1.42	490.03	1.00
3/2/25 13:15	-0.17	21.63	-0.39	2040.03	2180.35	1.13	1.42	490.19	1.00
3/2/25 14:15	-0.17	21.63	-0.39	2039.34	2179.61	1.13	1.42	490.35	1.00
3/2/25 15:15	-0.17	21.63	-0.39	2038.30	2178.47	1.13	1.42	490.60	1.00
3/2/25 16:15	-0.17	21.63	-0.39	2037.72	2177.85	1.13	1.42	490.74	1.00
3/2/25 17:15	-0.17	21.63	-0.39	2037.23	2177.34	1.13	1.42	490.86	1.00
3/2/25 18:15	-0.17	21.63	-0.39	2036.72	2176.78	1.13	1.41	490.99	1.00
3/2/25 19:15	-0.17	21.63	-0.39	2036.36	2176.40	1.13	1.41	491.07	1.00
3/2/25 20:15	-0.17	21.63	-0.40	2035.83	2175.84	1.13	1.41	491.20	1.00
3/2/25 21:15	-0.17	21.63	-0.40	2035.34	2175.32	1.13	1.41	491.32	1.00
3/2/25 22:15	-0.17	21.63	-0.40	2034.73	2174.67	1.13	1.41	491.47	1.00
3/2/25 23:15	-0.17	21.63	-0.40	2033.91	2173.78	1.13	1.41	491.66	1.00
3/3/25 0:15	-0.17	21.63	-0.39	2033.43	2173.31	1.13	1.41	491.78	1.00
3/3/25 1:15	-0.17	21.63	-0.39	2032.85	2172.67	1.13	1.41	491.92	1.00
3/3/25 2:15	-0.17	21.63	-0.39	2032.57	2172.36	1.12	1.41	491.99	1.00
3/3/25 3:15	-0.17	21.63	-0.39	2029.88	2169.44	1.12	1.41	492.64	1.00
3/3/25 4:15	-0.17	21.63	-0.40	2029.03	2168.55	1.12	1.41	492.85	1.00
3/3/25 5:15	-0.17	21.63	-0.39	2028.24	2167.73	1.12	1.41	493.04	1.00
3/3/25 6:15	-0.17	21.63	-0.39	2027.71	2167.18	1.12	1.41	493.17	1.00
3/3/25 7:15	-0.17	21.63	-0.40	2027.66	2167.09	1.12	1.41	493.18	1.00
3/3/25 8:15	-0.17	21.63	-0.40	2026.89	2166.31	1.12	1.41	493.37	1.00
3/3/25 9:15	-0.17	21.63	-0.40	2026.66	2166.03	1.12	1.41	493.42	1.00
3/3/25 10:15	-0.17	21.63	-0.40	2026.06	2165.39	1.12	1.41	493.57	1.00
3/3/25 11:15	-0.17	21.63	-0.39	2025.90	2165.22	1.12	1.41	493.61	1.00
3/3/25 12:15	-0.17	21.63	-0.39	2025.24	2164.54	1.12	1.41	493.77	1.00
3/3/25 13:15	-0.17	21.63	-0.39	2024.69	2163.96	1.12	1.41	493.90	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/3/25 14:15	-0.17	21.63	-0.39	2023.87	2163.06	1.12	1.41	494.10	1.00
3/3/25 15:15	-0.17	21.63	-0.39	2023.43	2162.60	1.12	1.41	494.21	1.00
3/3/25 16:15	-0.17	21.63	-0.40	2022.97	2162.09	1.12	1.41	494.32	1.00
3/3/25 17:15	-0.17	21.63	-0.40	2022.68	2161.80	1.12	1.41	494.39	1.00
3/3/25 18:15	-0.17	21.63	-0.40	2022.93	2162.08	1.12	1.41	494.33	1.00
3/3/25 19:15	-0.17	21.63	-0.40	2022.39	2161.49	1.12	1.40	494.46	1.00
3/3/25 20:15	-0.17	21.63	-0.40	2022.25	2161.33	1.12	1.40	494.50	1.00
3/3/25 21:15	-0.18	21.63	-0.41	2021.92	2160.97	1.12	1.40	494.58	1.00
3/3/25 22:15	-0.18	21.63	-0.41	2021.44	2160.48	1.12	1.40	494.70	1.00
3/3/25 23:15	-0.18	21.63	-0.41	2021.10	2160.11	1.12	1.40	494.78	1.00
3/4/25 0:15	-0.18	21.63	-0.41	2020.92	2159.91	1.12	1.40	494.82	1.00
3/4/25 1:15	-0.17	21.63	-0.40	2022.23	2161.29	1.12	1.40	494.50	1.00
3/4/25 2:15	-0.18	21.63	-0.41	2021.58	2160.63	1.12	1.40	494.66	1.00
3/4/25 3:15	-0.18	21.63	-0.41	2020.65	2159.65	1.12	1.40	494.89	1.00
3/4/25 4:15	-0.17	21.63	-0.40	2020.72	2159.70	1.12	1.40	494.87	1.00
3/4/25 5:15	-0.17	21.63	-0.40	2020.33	2159.29	1.12	1.40	494.97	1.00
3/4/25 6:15	-0.17	21.63	-0.40	2020.02	2158.94	1.12	1.40	495.05	1.00
3/4/25 7:15	-0.18	21.63	-0.40	2019.39	2158.28	1.12	1.40	495.20	1.00
3/4/25 8:15	-0.18	21.63	-0.41	2018.99	2157.84	1.12	1.40	495.30	1.00
3/4/25 9:15	-0.18	21.63	-0.41	2018.88	2157.75	1.12	1.40	495.32	1.00
3/4/25 10:15	-0.18	21.63	-0.41	2018.96	2157.82	1.12	1.40	495.31	1.00
3/4/25 11:15	-0.18	21.63	-0.42	2018.39	2157.23	1.12	1.40	495.44	1.00
3/4/25 12:15	-0.18	21.63	-0.42	2018.32	2157.15	1.12	1.40	495.46	1.00
3/4/25 13:15	-0.19	21.63	-0.43	2018.27	2157.12	1.12	1.40	495.47	1.00
3/4/25 14:15	-0.19	21.63	-0.44	2018.61	2157.45	1.12	1.40	495.39	1.00
3/4/25 15:15	-0.19	21.63	-0.45	2018.74	2157.61	1.12	1.40	495.36	1.00
3/4/25 16:15	-0.19	21.63	-0.45	2018.47	2157.29	1.12	1.40	495.43	1.00
3/4/25 17:15	-0.20	21.63	-0.46	2017.84	2156.64	1.12	1.40	495.58	1.00
3/4/25 18:15	-0.20	21.63	-0.46	2017.53	2156.30	1.12	1.40	495.65	1.00
3/4/25 19:15	-0.20	21.63	-0.47	2017.66	2156.43	1.12	1.40	495.62	1.00
3/4/25 20:15	-0.20	21.63	-0.47	2017.50	2156.29	1.12	1.40	495.66	1.00
3/4/25 21:15	-0.21	21.63	-0.47	2017.68	2156.48	1.12	1.40	495.62	1.00
3/4/25 22:15	-0.21	21.63	-0.48	2017.63	2156.41	1.12	1.40	495.63	1.00
3/4/25 23:15	-0.21	21.63	-0.48	2017.55	2156.34	1.12	1.40	495.65	1.00
3/5/25 0:15	-0.21	21.63	-0.48	2017.49	2156.26	1.12	1.40	495.67	1.00
3/5/25 1:15	-0.21	21.63	-0.48	2017.33	2156.09	1.12	1.40	495.71	1.00
3/5/25 2:15	-0.21	21.63	-0.48	2017.09	2155.83	1.12	1.40	495.76	1.00
3/5/25 3:15	-0.21	21.63	-0.48	2017.36	2156.13	1.12	1.40	495.70	1.00
3/5/25 4:15	-0.21	21.63	-0.48	2016.71	2155.44	1.12	1.40	495.86	1.00
3/5/25 5:15	-0.21	21.63	-0.48	2016.61	2155.32	1.12	1.40	495.88	1.00
3/5/25 6:15	-0.21	21.63	-0.48	2016.75	2155.46	1.12	1.40	495.85	1.00
3/5/25 7:15	-0.21	21.63	-0.49	2016.84	2155.57	1.12	1.40	495.83	1.00
3/5/25 8:15	-0.21	21.63	-0.48	2016.43	2155.14	1.12	1.40	495.93	1.00
3/5/25 9:15	-0.21	21.63	-0.49	2016.31	2155.01	1.12	1.40	495.95	1.00
3/5/25 10:15	-0.21	21.63	-0.49	2016.23	2154.90	1.12	1.40	495.98	1.00
3/5/25 11:15	-0.21	21.63	-0.49	2016.08	2154.74	1.12	1.40	496.01	1.00
3/5/25 12:15	-0.21	21.63	-0.48	2016.36	2155.05	1.12	1.40	495.94	1.00
3/5/25 13:15	-0.20	21.63	-0.47	2015.72	2154.35	1.12	1.40	496.10	1.00
3/5/25 14:15	-0.21	21.63	-0.47	2015.48	2154.09	1.11	1.40	496.16	1.00
3/5/25 15:15	-0.20	21.63	-0.47	2015.36	2154.00	1.11	1.40	496.19	1.00
3/5/25 16:15	-0.20	21.63	-0.46	2015.65	2154.28	1.12	1.40	496.12	1.00
3/5/25 17:15	-0.20	21.63	-0.46	2015.04	2153.64	1.11	1.40	496.27	1.00
3/5/25 18:15	-0.20	21.63	-0.47	2014.58	2153.16	1.11	1.40	496.38	1.00
3/5/25 19:15	-0.20	21.63	-0.47	2014.44	2152.99	1.11	1.40	496.42	1.00
3/5/25 20:15	-0.20	21.63	-0.47	2014.98	2153.58	1.11	1.40	496.28	1.00
3/5/25 21:15	-0.20	21.63	-0.47	2014.61	2153.20	1.11	1.40	496.37	1.00
3/5/25 22:15	-0.20	21.63	-0.47	2014.64	2153.23	1.11	1.40	496.37	1.00
3/5/25 23:15	-0.21	21.63	-0.48	2017.81	2156.63	1.12	1.40	495.59	1.00
3/6/25 0:15	-0.20	21.63	-0.47	2033.09	2172.93	1.13	1.41	491.86	1.00
3/6/25 1:15	-0.20	21.63	-0.47	2033.12	2172.96	1.13	1.41	491.86	1.00
3/6/25 2:15	-0.20	21.63	-0.46	2032.33	2172.13	1.12	1.41	492.05	1.00
3/6/25 3:15	-0.20	21.63	-0.47	2031.90	2171.65	1.12	1.41	492.15	1.00
3/6/25 4:15	-0.20	21.63	-0.46	2032.47	2172.26	1.12	1.41	492.01	1.00
3/6/25 5:15	-0.20	21.63	-0.47	2031.69	2171.42	1.12	1.41	492.20	1.00
3/6/25 6:15	-0.20	21.63	-0.47	2031.60	2171.35	1.12	1.41	492.22	1.00
3/6/25 7:15	-0.20	21.63	-0.47	2032.21	2172.00	1.12	1.41	492.08	1.00
3/6/25 8:15	-0.20	21.63	-0.46	2079.94	2223.00	1.15	1.44	480.78	1.00
3/6/25 9:15	-0.20	21.63	-0.47	2080.03	2223.10	1.15	1.45	480.76	1.00
3/6/25 10:15	-0.20	21.63	-0.47	2080.28	2223.35	1.15	1.45	480.71	1.00
3/6/25 11:15	-0.20	21.63	-0.46	2080.44	2223.53	1.15	1.45	480.67	1.00
3/6/25 12:15	-0.20	21.63	-0.46	2080.11	2223.21	1.15	1.45	480.74	1.00
3/6/25 13:15	-0.20	21.63	-0.46	2080.11	2223.23	1.15	1.45	480.74	1.00
3/6/25 14:15	-0.20	21.63	-0.46	2079.72	2222.76	1.15	1.44	480.83	1.00
3/6/25 15:15	-0.20	21.63	-0.46	2079.83	2222.88	1.15	1.44	480.81	1.00
3/6/25 16:15	-0.20	21.63	-0.46	2080.16	2223.24	1.15	1.45	480.73	1.00
3/6/25 17:15	-0.20	21.63	-0.47	2079.64	2222.67	1.15	1.44	480.85	1.00
3/6/25 18:15	-0.20	21.63	-0.47	2079.74	2222.79	1.15	1.44	480.83	1.00
3/6/25 19:15	-0.20	21.63	-0.47	2079.87	2222.93	1.15	1.44	480.80	1.00
3/6/25 20:15	-0.21	21.63	-0.47	2079.45	2222.49	1.15	1.44	480.90	1.00
3/6/25 21:15	-0.21	21.63	-0.47	2079.56	2222.60	1.15	1.44	480.87	1.00
3/6/25 22:15	-0.21	21.63	-0.48	2079.30	2222.33	1.15	1.44	480.93	1.00
3/6/25 23:15	-0.21	21.63	-0.47	2079.23	2222.25	1.15	1.44	480.95	1.00
3/7/25 0:15	-0.21	21.63	-0.47	2079.03	2222.04	1.15	1.44	480.99	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/7/25 1:15	-0.21	21.63	-0.47	2078.96	2221.97	1.15	1.44	481.01	1.00
3/7/25 2:15	-0.21	21.63	-0.47	2078.67	2221.65	1.15	1.44	481.08	1.00
3/7/25 3:15	-0.21	21.63	-0.48	2078.68	2221.67	1.15	1.44	481.07	1.00
3/7/25 4:15	-0.21	21.63	-0.48	2078.28	2221.26	1.15	1.44	481.17	1.00
3/7/25 5:15	-0.21	21.63	-0.48	2078.07	2221.02	1.15	1.44	481.22	1.00
3/7/25 6:15	-0.21	21.63	-0.48	2078.13	2221.08	1.15	1.44	481.20	1.00
3/7/25 7:15	-0.21	21.63	-0.48	2078.17	2221.14	1.15	1.44	481.19	1.00
3/7/25 8:15	-0.21	21.63	-0.49	2078.06	2221.01	1.15	1.44	481.22	1.00
3/7/25 9:15	-0.21	21.63	-0.49	2078.01	2220.96	1.15	1.44	481.23	1.00
3/7/25 10:15	-0.21	21.63	-0.49	2077.74	2220.68	1.15	1.44	481.29	1.00
3/7/25 11:15	-0.21	21.63	-0.48	2077.64	2220.56	1.15	1.44	481.32	1.00
3/7/25 12:15	-0.21	21.63	-0.48	2077.43	2220.33	1.15	1.44	481.36	1.00
3/7/25 13:15	-0.21	21.63	-0.48	2077.29	2220.17	1.15	1.44	481.40	1.00
3/7/25 14:15	-0.21	21.63	-0.48	2077.33	2220.23	1.15	1.44	481.39	1.00
3/7/25 15:15	-0.21	21.63	-0.48	2077.01	2219.87	1.15	1.44	481.46	1.00
3/7/25 16:15	-0.20	21.63	-0.47	2077.14	2220.04	1.15	1.44	481.43	1.00
3/7/25 17:15	-0.21	21.63	-0.48	2076.80	2219.67	1.15	1.44	481.51	1.00
3/7/25 18:15	-0.21	21.63	-0.48	2076.59	2219.45	1.15	1.44	481.56	1.00
3/7/25 19:15	-0.21	21.63	-0.48	2076.67	2219.51	1.15	1.44	481.54	1.00
3/7/25 20:15	-0.21	21.63	-0.48	2076.66	2219.50	1.15	1.44	481.54	1.00
3/7/25 21:15	-0.21	21.63	-0.49	2076.05	2218.85	1.15	1.44	481.69	1.00
3/7/25 22:15	-0.21	21.63	-0.49	2076.00	2218.82	1.15	1.44	481.70	1.00
3/7/25 23:15	-0.21	21.63	-0.49	2076.30	2219.14	1.15	1.44	481.63	1.00
3/8/25 0:15	-0.22	21.63	-0.50	2076.00	2218.81	1.15	1.44	481.70	1.00
3/8/25 1:15	-0.21	21.63	-0.49	2075.73	2218.53	1.15	1.44	481.76	1.00
3/8/25 2:15	-0.21	21.63	-0.49	2076.64	2219.50	1.15	1.44	481.55	1.00
3/8/25 3:15	-0.21	21.63	-0.49	2075.87	2218.67	1.15	1.44	481.73	1.00
3/8/25 4:15	-0.21	21.63	-0.49	2075.99	2218.80	1.15	1.44	481.70	1.00
3/8/25 5:15	-0.21	21.63	-0.50	2075.78	2218.56	1.15	1.44	481.75	1.00
3/8/25 6:15	-0.21	21.63	-0.49	2075.70	2218.51	1.15	1.44	481.77	1.00
3/8/25 7:15	-0.22	21.63	-0.50	2075.43	2218.21	1.15	1.44	481.83	1.00
3/8/25 8:15	-0.22	21.63	-0.50	2075.44	2218.24	1.15	1.44	481.82	1.00
3/8/25 9:15	-0.22	21.63	-0.50	2075.43	2218.21	1.15	1.44	481.83	1.00
3/8/25 10:15	-0.21	21.63	-0.50	2074.87	2217.61	1.15	1.44	481.96	1.00
3/8/25 11:15	-0.22	21.63	-0.50	2074.74	2217.48	1.15	1.44	481.99	1.00
3/8/25 12:15	-0.21	21.63	-0.49	2074.49	2217.21	1.15	1.44	482.05	1.00
3/8/25 13:15	-0.22	21.63	-0.50	2073.23	2215.87	1.15	1.44	482.34	1.00
3/8/25 14:15	-0.21	21.63	-0.50	2073.00	2215.59	1.15	1.44	482.39	1.00
3/8/25 15:15	-0.22	21.63	-0.50	2072.79	2215.40	1.15	1.44	482.44	1.00
3/8/25 16:15	-0.22	21.63	-0.50	2072.78	2215.38	1.15	1.44	482.44	1.00
3/8/25 17:15	-0.22	21.63	-0.51	2072.41	2214.99	1.15	1.44	482.53	1.00
3/8/25 18:15	-0.22	21.63	-0.51	2072.61	2215.22	1.15	1.44	482.48	1.00
3/8/25 19:15	-0.22	21.63	-0.51	2072.34	2214.90	1.15	1.44	482.55	1.00
3/8/25 20:15	-0.22	21.63	-0.51	2072.62	2215.21	1.15	1.44	482.48	1.00
3/8/25 21:15	-0.22	21.63	-0.51	2072.43	2215.03	1.15	1.44	482.52	1.00
3/8/25 22:15	-0.22	21.63	-0.51	2072.57	2215.16	1.15	1.44	482.49	1.00
3/8/25 23:15	-0.22	21.63	-0.51	2072.37	2214.96	1.15	1.44	482.54	1.00
3/9/25 0:15	-0.22	21.63	-0.51	2072.22	2214.79	1.15	1.44	482.57	1.00
3/9/25 1:15	-0.22	21.63	-0.51	2072.08	2214.66	1.15	1.44	482.61	1.00
3/9/25 2:15	-0.22	21.63	-0.51	2072.25	2214.83	1.15	1.44	482.57	1.00
3/9/25 3:15	-0.22	21.63	-0.51	2071.03	2213.51	1.15	1.44	482.85	1.00
3/9/25 4:15	-0.22	21.63	-0.51	2071.41	2213.92	1.15	1.44	482.76	1.00
3/9/25 5:15	-0.22	21.63	-0.51	2071.22	2213.73	1.15	1.44	482.81	1.00
3/9/25 6:15	-0.22	21.63	-0.51	2070.88	2213.37	1.15	1.44	482.89	1.00
3/9/25 7:15	-0.22	21.63	-0.51	2071.12	2213.65	1.15	1.44	482.83	1.00
3/9/25 8:15	-0.22	21.63	-0.52	2070.72	2213.20	1.15	1.44	482.92	1.00
3/9/25 9:15	-0.22	21.63	-0.52	2070.72	2213.19	1.15	1.44	482.92	1.00
3/9/25 10:15	-0.22	21.63	-0.51	2070.42	2212.88	1.15	1.44	482.99	1.00
3/9/25 11:15	-0.22	21.63	-0.51	2070.27	2212.73	1.15	1.44	483.03	1.00
3/9/25 12:15	-0.22	21.63	-0.51	2069.89	2212.28	1.15	1.44	483.12	1.00
3/9/25 13:15	-0.22	21.63	-0.51	2069.82	2212.23	1.15	1.44	483.13	1.00
3/9/25 14:15	-0.22	21.63	-0.51	2069.16	2211.54	1.15	1.44	483.29	1.00
3/9/25 15:15	-0.22	21.63	-0.51	2068.99	2211.35	1.15	1.44	483.33	1.00
3/9/25 16:15	-0.22	21.63	-0.50	2068.75	2211.10	1.15	1.44	483.38	1.00
3/9/25 17:15	-0.22	21.63	-0.50	2068.50	2210.84	1.15	1.44	483.44	1.00
3/9/25 18:15	-0.22	21.63	-0.50	2068.43	2210.78	1.15	1.44	483.46	1.00
3/9/25 19:15	-0.22	21.63	-0.51	2067.77	2210.05	1.15	1.44	483.61	1.00
3/9/25 20:15	-0.22	21.63	-0.51	2067.90	2210.18	1.15	1.44	483.58	1.00
3/9/25 21:15	-0.22	21.63	-0.50	2067.76	2210.05	1.15	1.44	483.62	1.00
3/9/25 22:15	-0.22	21.63	-0.51	2067.18	2209.42	1.15	1.44	483.75	1.00
3/9/25 23:15	-0.22	21.63	-0.51	2067.36	2209.61	1.15	1.44	483.71	1.00
3/10/25 0:15	-0.22	21.63	-0.51	2076.00	2218.86	1.15	1.44	481.69	1.00
3/10/25 1:15	-0.22	21.63	-0.50	2075.81	2218.66	1.15	1.44	481.74	1.00
3/10/25 2:15	-0.22	21.63	-0.51	2075.93	2218.79	1.15	1.44	481.71	1.00
3/10/25 3:15	-0.22	21.63	-0.50	2076.33	2219.21	1.15	1.44	481.62	1.00
3/10/25 4:15	-0.22	21.63	-0.51	2076.56	2219.46	1.15	1.44	481.57	1.00
3/10/25 5:15	-0.22	21.63	-0.50	2076.13	2218.97	1.15	1.44	481.67	1.00
3/10/25 6:15	-0.22	21.63	-0.51	2076.12	2218.98	1.15	1.44	481.67	1.00
3/10/25 7:15	-0.22	21.63	-0.51	2075.99	2218.86	1.15	1.44	481.70	1.00
3/10/25 8:15	-0.22	21.63	-0.51	2075.94	2218.78	1.15	1.44	481.71	1.00
3/10/25 9:15	-0.22	21.63	-0.51	2076.30	2219.20	1.15	1.44	481.62	1.00
3/10/25 10:15	-0.22	21.63	-0.50	2075.93	2218.79	1.15	1.44	481.71	1.00
3/10/25 11:15	-0.22	21.63	-0.51	2075.85	2218.71	1.15	1.44	481.73	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/10/25 12:15	-0.22	21.63	-0.51	2075.54	2218.38	1.15	1.44	481.80	1.00
3/10/25 13:15	-0.22	21.63	-0.50	2075.18	2217.98	1.15	1.44	481.89	1.00
3/10/25 14:15	-0.21	21.63	-0.49	2075.30	2218.11	1.15	1.44	481.86	1.00
3/10/25 15:15	-0.22	21.63	-0.51	2075.09	2217.89	1.15	1.44	481.91	1.00
3/10/25 16:15	-0.21	21.63	-0.50	2065.77	2207.94	1.14	1.44	484.08	1.00
3/10/25 17:15	-0.21	21.63	-0.49	2065.67	2207.81	1.14	1.44	484.11	1.00
3/10/25 18:15	-0.21	21.63	-0.49	2065.74	2207.86	1.14	1.44	484.09	1.00
3/10/25 19:15	-0.21	21.63	-0.49	2065.63	2207.79	1.14	1.44	484.11	1.00
3/10/25 20:15	-0.22	21.63	-0.50	2064.96	2207.05	1.14	1.43	484.27	1.00
3/10/25 21:15	-0.22	21.63	-0.50	2065.05	2207.15	1.14	1.43	484.25	1.00
3/10/25 22:15	-0.22	21.63	-0.50	2064.05	2206.10	1.14	1.43	484.48	1.00
3/10/25 23:15	-0.22	21.63	-0.51	2063.88	2205.93	1.14	1.43	484.53	1.00
3/11/25 0:15	-0.22	21.63	-0.50	2063.73	2205.77	1.14	1.43	484.56	1.00
3/11/25 1:15	-0.22	21.63	-0.50	2063.60	2205.64	1.14	1.43	484.59	1.00
3/11/25 2:15	-0.22	21.63	-0.50	2063.06	2205.03	1.14	1.43	484.72	1.00
3/11/25 3:15	-0.22	21.63	-0.50	2063.20	2205.21	1.14	1.43	484.68	1.00
3/11/25 4:15	-0.22	21.63	-0.50	2062.74	2204.73	1.14	1.43	484.79	1.00
3/11/25 5:15	-0.22	21.63	-0.50	2063.02	2204.98	1.14	1.43	484.73	1.00
3/11/25 6:15	-0.22	21.63	-0.50	2062.72	2204.70	1.14	1.43	484.80	1.00
3/11/25 7:15	-0.22	21.63	-0.51	2062.83	2204.81	1.14	1.43	484.77	1.00
3/11/25 8:15	-0.22	21.63	-0.51	2062.67	2204.63	1.14	1.43	484.81	1.00
3/11/25 9:15	-0.22	21.63	-0.51	2062.50	2204.44	1.14	1.43	484.85	1.00
3/11/25 10:15	-0.22	21.63	-0.51	2062.23	2204.17	1.14	1.43	484.91	1.00
3/11/25 11:15	-0.22	21.63	-0.51	2062.14	2204.06	1.14	1.43	484.93	1.00
3/11/25 12:15	-0.22	21.63	-0.50	2062.19	2204.13	1.14	1.43	484.92	1.00
3/11/25 13:15	-0.22	21.63	-0.50	2061.50	2203.39	1.14	1.43	485.08	1.00
3/11/25 14:15	-0.22	21.63	-0.50	2061.60	2203.50	1.14	1.43	485.06	1.00
3/11/25 15:15	-0.22	21.63	-0.50	2061.38	2203.27	1.14	1.43	485.11	1.00
3/11/25 16:15	-0.22	21.63	-0.50	2061.10	2202.96	1.14	1.43	485.18	1.00
3/11/25 17:15	-0.22	21.63	-0.51	2061.26	2203.13	1.14	1.43	485.14	1.00
3/11/25 18:15	-0.22	21.63	-0.51	2061.40	2203.26	1.14	1.43	485.11	1.00
3/11/25 19:15	-0.22	21.63	-0.51	2061.41	2203.30	1.14	1.43	485.10	1.00
3/11/25 20:15	-0.22	21.63	-0.51	2061.19	2203.05	1.14	1.43	485.16	1.00
3/11/25 21:15	-0.22	21.63	-0.51	2061.04	2202.90	1.14	1.43	485.19	1.00
3/11/25 22:15	-0.22	21.63	-0.51	2060.77	2202.62	1.14	1.43	485.25	1.00
3/11/25 23:15	-0.22	21.63	-0.51	2080.72	2223.94	1.15	1.45	480.60	1.00
3/12/25 0:15	-0.22	21.63	-0.52	2080.21	2223.38	1.15	1.45	480.72	1.00
3/12/25 1:15	-0.23	21.63	-0.52	2080.32	2223.54	1.15	1.45	480.69	1.00
3/12/25 2:15	-0.22	21.63	-0.51	2080.56	2223.76	1.15	1.45	480.64	1.00
3/12/25 3:15	-0.22	21.63	-0.51	2080.38	2223.60	1.15	1.45	480.68	1.00
3/12/25 4:15	-0.22	21.63	-0.51	2080.35	2223.56	1.15	1.45	480.69	1.00
3/12/25 5:15	-0.22	21.63	-0.51	2080.58	2223.81	1.15	1.45	480.64	1.00
3/12/25 6:15	-0.22	21.63	-0.51	2080.56	2223.79	1.15	1.45	480.64	1.00
3/12/25 7:15	-0.22	21.63	-0.51	2080.25	2223.46	1.15	1.45	480.71	1.00
3/12/25 8:15	-0.22	21.63	-0.52	2079.82	2222.97	1.15	1.44	480.81	1.00
3/12/25 9:15	-0.23	21.63	-0.53	2079.62	2222.80	1.15	1.44	480.86	1.00
3/12/25 10:15	-0.23	21.63	-0.52	2078.93	2222.05	1.15	1.44	481.02	1.00
3/12/25 11:15	-0.22	21.63	-0.52	2078.81	2221.90	1.15	1.44	481.05	1.00
3/12/25 12:15	-0.23	21.63	-0.52	2078.78	2221.88	1.15	1.44	481.05	1.00
3/12/25 13:15	-0.23	21.63	-0.52	2078.55	2221.66	1.15	1.44	481.11	1.00
3/12/25 14:15	-0.22	21.63	-0.52	2078.43	2221.52	1.15	1.44	481.13	1.00
3/12/25 15:15	-0.22	21.63	-0.52	2078.23	2221.29	1.15	1.44	481.18	1.00
3/12/25 16:15	-0.22	21.63	-0.51	2077.93	2220.99	1.15	1.44	481.25	1.00
3/12/25 17:15	-0.22	21.63	-0.52	2077.55	2220.57	1.15	1.44	481.34	1.00
3/12/25 18:15	-0.22	21.63	-0.52	2077.64	2220.67	1.15	1.44	481.31	1.00
3/12/25 19:15	-0.22	21.63	-0.52	2077.63	2220.66	1.15	1.44	481.32	1.00
3/12/25 20:15	-0.23	21.63	-0.52	2077.61	2220.65	1.15	1.44	481.32	1.00
3/12/25 21:15	-0.23	21.63	-0.53	2077.54	2220.59	1.15	1.44	481.34	1.00
3/12/25 22:15	-0.23	21.63	-0.52	2077.39	2220.41	1.15	1.44	481.37	1.00
3/12/25 23:15	-0.23	21.63	-0.53	2077.15	2220.16	1.15	1.44	481.43	1.00
3/13/25 0:15	-0.23	21.63	-0.53	2076.84	2219.84	1.15	1.44	481.50	1.00
3/13/25 1:15	-0.23	21.63	-0.54	2076.68	2219.66	1.15	1.44	481.54	1.00
3/13/25 2:15	-0.22	21.63	-0.52	2076.87	2219.86	1.15	1.44	481.49	1.00
3/13/25 3:15	-0.22	21.63	-0.52	2076.51	2219.48	1.15	1.44	481.58	1.00
3/13/25 4:15	-0.22	21.63	-0.52	2076.27	2219.23	1.15	1.44	481.63	1.00
3/13/25 5:15	-0.23	21.63	-0.52	2075.95	2218.87	1.15	1.44	481.71	1.00
3/13/25 6:15	-0.23	21.63	-0.52	2075.78	2218.71	1.15	1.44	481.75	1.00
3/13/25 7:15	-0.23	21.63	-0.52	2075.76	2218.70	1.15	1.44	481.75	1.00
3/13/25 8:15	-0.23	21.63	-0.52	2075.46	2218.39	1.15	1.44	481.82	1.00
3/13/25 9:15	-0.23	21.63	-0.52	2075.34	2218.23	1.15	1.44	481.85	1.00
3/13/25 10:15	-0.23	21.63	-0.52	2075.18	2218.08	1.15	1.44	481.89	1.00
3/13/25 11:15	-0.22	21.63	-0.52	2075.18	2218.07	1.15	1.44	481.89	1.00
3/13/25 12:15	-0.23	21.63	-0.52	2074.99	2217.88	1.15	1.44	481.93	1.00
3/13/25 13:15	-0.22	21.63	-0.51	2074.78	2217.64	1.15	1.44	481.98	1.00
3/13/25 14:15	-0.22	21.63	-0.51	2074.69	2217.54	1.15	1.44	482.00	1.00
3/13/25 15:15	-0.22	21.63	-0.52	2074.50	2217.35	1.15	1.44	482.04	1.00
3/13/25 16:15	-0.22	21.63	-0.51	2073.77	2216.57	1.15	1.44	482.21	1.00
3/13/25 17:15	-0.22	21.63	-0.51	2074.04	2216.86	1.15	1.44	482.15	1.00
3/13/25 18:15	-0.22	21.63	-0.51	2074.24	2217.04	1.15	1.44	482.10	1.00
3/13/25 19:15	-0.22	21.63	-0.51	2073.92	2216.74	1.15	1.44	482.18	1.00
3/13/25 20:15	-0.22	21.63	-0.51	2073.78	2216.62	1.15	1.44	482.21	1.00
3/13/25 21:15	-0.22	21.63	-0.51	2073.93	2216.76	1.15	1.44	482.18	1.00
3/13/25 22:15	-0.23	21.63	-0.53	2074.11	2216.95	1.15	1.44	482.14	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/13/25 23:15	-0.22	21.63	-0.51	2073.69	2216.51	1.15	1.44	482.23	1.00
3/14/25 0:15	-0.22	21.63	-0.51	2073.75	2216.57	1.15	1.44	482.22	1.00
3/14/25 1:15	-0.22	21.63	-0.51	2073.60	2216.40	1.15	1.44	482.25	1.00
3/14/25 2:15	-0.22	21.63	-0.51	2073.59	2216.41	1.15	1.44	482.26	1.00
3/14/25 3:15	-0.22	21.63	-0.52	2073.26	2216.05	1.15	1.44	482.33	1.00
3/14/25 4:15	-0.23	21.63	-0.53	2073.49	2216.30	1.15	1.44	482.28	1.00
3/14/25 5:15	-0.23	21.63	-0.53	2073.73	2216.54	1.15	1.44	482.22	1.00
3/14/25 6:15	-0.23	21.63	-0.53	2073.13	2215.89	1.15	1.44	482.36	1.00
3/14/25 7:15	-0.23	21.63	-0.53	2072.81	2215.57	1.15	1.44	482.44	1.00
3/14/25 8:15	-0.23	21.63	-0.53	2072.54	2215.28	1.15	1.44	482.50	1.00
3/14/25 9:15	-0.23	21.63	-0.53	2072.56	2215.32	1.15	1.44	482.50	1.00
3/14/25 10:15	-0.23	21.63	-0.53	2072.48	2215.23	1.15	1.44	482.51	1.00
3/14/25 11:15	-0.23	21.63	-0.53	2072.60	2215.34	1.15	1.44	482.49	1.00
3/14/25 12:15	-0.23	21.63	-0.53	2072.46	2215.20	1.15	1.44	482.52	1.00
3/14/25 13:15	-0.23	21.63	-0.52	2072.09	2214.80	1.15	1.44	482.61	1.00
3/14/25 14:15	-0.22	21.63	-0.51	2071.70	2214.41	1.15	1.44	482.69	1.00
3/14/25 15:15	-0.22	21.63	-0.51	2071.37	2214.04	1.15	1.44	482.77	1.00
3/14/25 16:15	-0.22	21.63	-0.51	2071.53	2214.21	1.15	1.44	482.74	1.00
3/14/25 17:15	-0.22	21.63	-0.51	2071.07	2213.73	1.15	1.44	482.84	1.00
3/14/25 18:15	-0.22	21.63	-0.51	2071.35	2214.03	1.15	1.44	482.78	1.00
3/14/25 19:15	-0.22	21.63	-0.51	2070.80	2213.43	1.15	1.44	482.91	1.00
3/14/25 20:15	-0.22	21.63	-0.51	2071.10	2213.74	1.15	1.44	482.84	1.00
3/14/25 21:15	-0.23	21.63	-0.52	2070.97	2213.62	1.15	1.44	482.87	1.00
3/14/25 22:15	-0.23	21.63	-0.52	2070.51	2213.13	1.15	1.44	482.97	1.00
3/14/25 23:15	-0.22	21.63	-0.51	2069.95	2212.54	1.15	1.44	483.10	1.00
3/15/25 0:15	-0.22	21.63	-0.51	2070.28	2212.89	1.15	1.44	483.03	1.00
3/15/25 1:15	-0.23	21.63	-0.52	2069.86	2212.47	1.15	1.44	483.12	1.00
3/15/25 2:15	-0.22	21.63	-0.52	2070.13	2212.75	1.15	1.44	483.06	1.00
3/15/25 3:15	-0.22	21.63	-0.51	2069.87	2212.47	1.15	1.44	483.12	1.00
3/15/25 4:15	-0.22	21.63	-0.52	2069.90	2212.52	1.15	1.44	483.11	1.00
3/15/25 5:15	-0.22	21.63	-0.52	2069.77	2212.36	1.15	1.44	483.15	1.00
3/15/25 6:15	-0.22	21.63	-0.51	2069.88	2212.50	1.15	1.44	483.12	1.00
3/15/25 7:15	-0.22	21.63	-0.51	2069.49	2212.07	1.15	1.44	483.21	1.00
3/15/25 8:15	-0.22	21.63	-0.52	2068.90	2211.43	1.15	1.44	483.35	1.00
3/15/25 9:15	-0.22	21.63	-0.51	2069.05	2211.60	1.15	1.44	483.31	1.00
3/15/25 10:15	-0.22	21.63	-0.51	2069.19	2211.73	1.15	1.44	483.28	1.00
3/15/25 11:15	-0.22	21.63	-0.51	2069.24	2211.80	1.15	1.44	483.27	1.00
3/15/25 12:15	-0.22	21.63	-0.51	2068.82	2211.35	1.15	1.44	483.37	1.00
3/15/25 13:15	-0.22	21.63	-0.51	2068.72	2211.24	1.15	1.44	483.39	1.00
3/15/25 14:15	-0.22	21.62	-0.51	2068.38	2210.91	1.15	1.44	483.47	1.00
3/15/25 15:15	-0.22	21.63	-0.50	2068.31	2210.81	1.15	1.44	483.49	1.00
3/15/25 16:15	-0.21	21.63	-0.50	2068.46	2210.97	1.15	1.44	483.45	1.00
3/15/25 17:15	-0.22	21.63	-0.50	2068.34	2210.84	1.15	1.44	483.48	1.00
3/15/25 18:15	-0.22	21.63	-0.51	2067.46	2209.91	1.15	1.44	483.68	1.00
3/15/25 19:15	-0.22	21.63	-0.51	2068.19	2210.68	1.15	1.44	483.52	1.00
3/15/25 20:15	-0.22	21.63	-0.51	2067.53	2209.98	1.15	1.44	483.67	1.00
3/15/25 21:15	-0.22	21.63	-0.51	2067.58	2210.04	1.15	1.44	483.66	1.00
3/15/25 22:15	-0.22	21.62	-0.51	2067.77	2210.26	1.15	1.44	483.61	1.00
3/15/25 23:15	-0.22	21.63	-0.51	2067.39	2209.84	1.15	1.44	483.70	1.00
3/16/25 0:15	-0.22	21.63	-0.51	2067.38	2209.83	1.15	1.44	483.70	1.00
3/16/25 1:15	-0.22	21.62	-0.51	2067.20	2209.66	1.15	1.44	483.75	1.00
3/16/25 2:15	-0.22	21.63	-0.51	2067.08	2209.50	1.15	1.44	483.77	1.00
3/16/25 3:15	-0.23	21.62	-0.54	2066.99	2209.43	1.15	1.44	483.80	1.00
3/16/25 4:15	-0.24	21.63	-0.54	2067.20	2209.63	1.15	1.44	483.75	1.00
3/16/25 5:15	-0.24	21.62	-0.54	2067.12	2209.59	1.15	1.44	483.76	1.00
3/16/25 6:15	-0.23	21.62	-0.54	2066.97	2209.42	1.15	1.44	483.80	1.00
3/16/25 7:15	-0.24	21.62	-0.54	2066.78	2209.21	1.14	1.44	483.84	1.00
3/16/25 8:15	-0.24	21.62	-0.55	2066.80	2209.24	1.14	1.44	483.84	1.00
3/16/25 9:15	-0.24	21.62	-0.55	2066.95	2209.38	1.15	1.44	483.81	1.00
3/16/25 10:15	-0.24	21.62	-0.55	2066.68	2209.11	1.14	1.44	483.87	1.00
3/16/25 11:15	-0.24	21.62	-0.55	2066.34	2208.77	1.14	1.44	483.95	1.00
3/16/25 12:15	-0.23	21.62	-0.54	2066.11	2208.52	1.14	1.44	484.00	1.00
3/16/25 13:15	-0.23	21.62	-0.54	2066.19	2208.60	1.14	1.44	483.98	1.00
3/16/25 14:15	-0.23	21.62	-0.53	2065.67	2208.03	1.14	1.44	484.11	1.00
3/16/25 15:15	-0.23	21.62	-0.52	2065.20	2207.55	1.14	1.43	484.22	1.00
3/16/25 16:15	-0.23	21.62	-0.52	2065.62	2207.98	1.14	1.44	484.12	1.00
3/16/25 17:15	-0.22	21.62	-0.52	2064.94	2207.27	1.14	1.43	484.28	1.00
3/16/25 18:15	-0.23	21.62	-0.52	2064.95	2207.28	1.14	1.43	484.27	1.00
3/16/25 19:15	-0.23	21.62	-0.52	2064.55	2206.84	1.14	1.43	484.37	1.00
3/16/25 20:15	-0.23	21.62	-0.52	2064.31	2206.57	1.14	1.43	484.42	1.00
3/16/25 21:15	-0.23	21.62	-0.52	2065.01	2207.35	1.14	1.43	484.26	1.00
3/16/25 22:15	-0.23	21.62	-0.52	2064.95	2207.29	1.14	1.43	484.27	1.00
3/16/25 23:15	-0.23	21.62	-0.52	2064.92	2207.27	1.14	1.43	484.28	1.00
3/17/25 0:15	-0.22	21.62	-0.52	2065.21	2207.56	1.14	1.43	484.21	1.00
3/17/25 1:15	-0.24	21.62	-0.56	2064.88	2207.20	1.14	1.43	484.29	1.00
3/17/25 2:15	-0.24	21.62	-0.55	2064.61	2206.92	1.14	1.43	484.35	1.00
3/17/25 3:15	-0.23	21.62	-0.54	2064.28	2206.58	1.14	1.43	484.43	1.00
3/17/25 4:15	-0.23	21.62	-0.54	2063.85	2206.11	1.14	1.43	484.53	1.00
3/17/25 5:15	-0.23	21.62	-0.54	2063.34	2205.58	1.14	1.43	484.65	1.00
3/17/25 6:15	-0.23	21.62	-0.54	2063.57	2205.81	1.14	1.43	484.60	1.00
3/17/25 7:15	-0.23	21.62	-0.54	2063.17	2205.39	1.14	1.43	484.69	1.00
3/17/25 8:15	-0.23	21.62	-0.54	2063.00	2205.24	1.14	1.43	484.73	1.00
3/17/25 9:15	-0.23	21.62	-0.54	2063.47	2205.71	1.14	1.43	484.62	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/17/25 10:15	-0.23	21.62	-0.54	2063.40	2205.66	1.14	1.43	484.64	1.00
3/17/25 11:15	-0.22	21.62	-0.51	2063.08	2205.34	1.14	1.43	484.71	1.00
3/17/25 12:15	-0.22	21.62	-0.50	2062.78	2204.98	1.14	1.43	484.78	1.00
3/17/25 13:15	-0.22	21.62	-0.51	2062.53	2204.72	1.14	1.43	484.84	1.00
3/17/25 14:15	-0.21	21.62	-0.50	2062.53	2204.71	1.14	1.43	484.84	1.00
3/17/25 15:15	-0.21	21.62	-0.50	2062.26	2204.43	1.14	1.43	484.91	1.00
3/17/25 16:15	-0.23	21.62	-0.54	2062.53	2204.71	1.14	1.43	484.84	1.00
3/17/25 17:15	-0.22	21.62	-0.51	2062.63	2204.83	1.14	1.43	484.82	1.00
3/17/25 18:15	-0.22	21.62	-0.50	2062.11	2204.27	1.14	1.43	484.94	1.00
3/17/25 19:15	-0.22	21.62	-0.50	2062.57	2204.77	1.14	1.43	484.83	1.00
3/17/25 20:15	-0.21	21.62	-0.49	2061.73	2203.88	1.14	1.43	485.03	1.00
3/17/25 21:15	-0.22	21.62	-0.50	2062.10	2204.27	1.14	1.43	484.94	1.00
3/17/25 22:15	-0.23	21.62	-0.54	2061.50	2203.62	1.14	1.43	485.08	1.00
3/17/25 23:15	-0.23	21.62	-0.54	2061.46	2203.59	1.14	1.43	485.09	1.00
3/18/25 0:15	-0.23	21.62	-0.53	2061.47	2203.62	1.14	1.43	485.09	1.00
3/18/25 1:15	-0.23	21.62	-0.53	2061.05	2203.16	1.14	1.43	485.19	1.00
3/18/25 2:15	-0.22	21.62	-0.52	2061.70	2203.87	1.14	1.43	485.04	1.00
3/18/25 3:15	-0.22	21.62	-0.52	2061.71	2203.86	1.14	1.43	485.04	1.00
3/18/25 4:15	-0.22	21.62	-0.51	2061.51	2203.65	1.14	1.43	485.08	1.00
3/18/25 5:15	-0.22	21.62	-0.51	2061.57	2203.74	1.14	1.43	485.07	1.00
3/18/25 6:15	-0.22	21.62	-0.51	2061.59	2203.74	1.14	1.43	485.06	1.00
3/18/25 7:15	-0.22	21.62	-0.50	2061.38	2203.54	1.14	1.43	485.11	1.00
3/18/25 8:15	-0.22	21.62	-0.50	2060.67	2202.77	1.14	1.43	485.28	1.00
3/18/25 9:15	-0.22	21.62	-0.50	2059.89	2201.94	1.14	1.43	485.46	1.00
3/18/25 10:15	-0.24	21.62	-0.54	2060.15	2202.21	1.14	1.43	485.40	1.00
3/18/25 11:15	-0.23	21.62	-0.54	2060.25	2202.34	1.14	1.43	485.38	1.00
3/18/25 12:15	-0.23	21.62	-0.53	2060.32	2202.42	1.14	1.43	485.36	1.00
3/18/25 13:15	-0.23	21.62	-0.53	2060.00	2202.06	1.14	1.43	485.44	1.00
3/18/25 14:15	-0.23	21.62	-0.53	2059.84	2201.90	1.14	1.43	485.47	1.00
3/18/25 15:15	-0.23	21.62	-0.52	2060.08	2202.15	1.14	1.43	485.42	1.00
3/18/25 16:15	-0.24	21.62	-0.54	2060.43	2202.53	1.14	1.43	485.34	1.00
3/18/25 17:15	-0.24	21.62	-0.55	2060.17	2202.26	1.14	1.43	485.40	1.00
3/18/25 18:15	-0.24	21.62	-0.55	2060.36	2202.46	1.14	1.43	485.35	1.00
3/18/25 19:15	-0.24	21.62	-0.56	2060.22	2202.32	1.14	1.43	485.38	1.00
3/18/25 20:15	-0.24	21.62	-0.56	2060.01	2202.11	1.14	1.43	485.43	1.00
3/18/25 21:15	-0.25	21.62	-0.57	2059.89	2201.96	1.14	1.43	485.46	1.00
3/18/25 22:15	-0.25	21.62	-0.57	2059.67	2201.73	1.14	1.43	485.51	1.00
3/18/25 23:15	-0.25	21.62	-0.57	2059.50	2201.55	1.14	1.43	485.56	1.00
3/19/25 0:15	-0.25	21.62	-0.57	2059.38	2201.43	1.14	1.43	485.58	1.00
3/19/25 1:15	-0.25	21.62	-0.57	2059.59	2201.64	1.14	1.43	485.53	1.00
3/19/25 2:15	-0.25	21.62	-0.57	2059.39	2201.44	1.14	1.43	485.58	1.00
3/19/25 3:15	-0.25	21.62	-0.57	2059.19	2201.21	1.14	1.43	485.63	1.00
3/19/25 4:15	-0.25	21.62	-0.57	2059.02	2201.05	1.14	1.43	485.67	1.00
3/19/25 5:15	-0.25	21.62	-0.57	2059.12	2201.13	1.14	1.43	485.64	1.00
3/19/25 6:15	-0.25	21.62	-0.57	2059.08	2201.09	1.14	1.43	485.65	1.00
3/19/25 7:15	-0.25	21.62	-0.58	2058.90	2200.92	1.14	1.43	485.70	1.00
3/19/25 8:15	-0.25	21.62	-0.58	2058.46	2200.46	1.14	1.43	485.80	1.00
3/19/25 9:15	-0.25	21.62	-0.58	2058.18	2200.15	1.14	1.43	485.87	1.00
3/19/25 10:15	-0.24	21.62	-0.57	2057.97	2199.92	1.14	1.43	485.92	1.00
3/19/25 11:15	-0.25	21.62	-0.58	2057.60	2199.53	1.14	1.43	486.00	1.00
3/19/25 12:15	-0.25	21.62	-0.57	2057.65	2199.60	1.14	1.43	485.99	1.00
3/19/25 13:15	-0.25	21.62	-0.58	2057.34	2199.27	1.14	1.43	486.06	1.00
3/19/25 14:15	-0.25	21.62	-0.58	2057.09	2199.00	1.14	1.43	486.12	1.00
3/19/25 15:15	-0.25	21.62	-0.57	2057.04	2198.94	1.14	1.43	486.14	1.00
3/19/25 16:15	-0.25	21.62	-0.57	2057.12	2199.04	1.14	1.43	486.12	1.00
3/19/25 17:15	-0.25	21.62	-0.57	2056.50	2198.39	1.14	1.43	486.26	1.00
3/19/25 18:15	-0.25	21.62	-0.57	2056.46	2198.33	1.14	1.43	486.27	1.00
3/19/25 19:15	-0.25	21.62	-0.58	2056.70	2198.59	1.14	1.43	486.22	1.00
3/19/25 20:15	-0.25	21.62	-0.58	2056.32	2198.21	1.14	1.43	486.31	1.00
3/19/25 21:15	-0.25	21.62	-0.59	2055.91	2197.78	1.14	1.43	486.40	1.00
3/19/25 22:15	-0.25	21.62	-0.58	2055.50	2197.32	1.14	1.43	486.50	1.00
3/19/25 23:15	-0.25	21.62	-0.58	2055.66	2197.51	1.14	1.43	486.46	1.00
3/20/25 0:15	-0.25	21.62	-0.58	2055.57	2197.40	1.14	1.43	486.48	1.00
3/20/25 1:15	-0.25	21.62	-0.58	2055.99	2197.87	1.14	1.43	486.38	1.00
3/20/25 2:15	-0.25	21.62	-0.59	2055.89	2197.77	1.14	1.43	486.41	1.00
3/20/25 3:15	-0.25	21.62	-0.58	2055.69	2197.52	1.14	1.43	486.45	1.00
3/20/25 4:15	-0.25	21.62	-0.58	2055.46	2197.31	1.14	1.43	486.51	1.00
3/20/25 5:15	-0.25	21.62	-0.57	2054.95	2196.77	1.14	1.43	486.63	1.00
3/20/25 6:15	-0.25	21.62	-0.58	2054.79	2196.59	1.14	1.43	486.67	1.00
3/20/25 7:15	-0.25	21.62	-0.58	2054.67	2196.47	1.14	1.43	486.70	1.00
3/20/25 8:15	-0.25	21.62	-0.58	2054.29	2196.05	1.14	1.43	486.79	1.00
3/20/25 9:15	-0.25	21.62	-0.58	2054.37	2196.15	1.14	1.43	486.77	1.00
3/20/25 10:15	-0.25	21.62	-0.58	2053.90	2195.65	1.14	1.43	486.88	1.00
3/20/25 11:15	-0.25	21.62	-0.57	2053.84	2195.59	1.14	1.43	486.89	1.00
3/20/25 12:15	-0.24	21.62	-0.56	2053.63	2195.36	1.14	1.43	486.94	1.00
3/20/25 13:15	-0.24	21.62	-0.56	2053.68	2195.44	1.14	1.43	486.93	1.00
3/20/25 14:15	-0.24	21.62	-0.56	2053.11	2194.82	1.14	1.43	487.07	1.00
3/20/25 15:15	-0.24	21.62	-0.55	2052.69	2194.37	1.14	1.43	487.17	1.00
3/20/25 16:15	-0.24	21.62	-0.55	2052.55	2194.20	1.14	1.43	487.20	1.00
3/20/25 17:15	-0.24	21.62	-0.55	2052.44	2194.09	1.14	1.43	487.23	1.00
3/20/25 18:15	-0.24	21.62	-0.55	2052.45	2194.10	1.14	1.43	487.22	1.00
3/20/25 19:15	-0.24	21.62	-0.56	2051.92	2193.56	1.14	1.43	487.35	1.00
3/20/25 20:15	-0.24	21.62	-0.56	2051.52	2193.11	1.14	1.43	487.44	1.00

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Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/20/25 21:15	-0.24	21.62	-0.56	2051.30	2192.90	1.14	1.43	487.50	1.00
3/20/25 22:15	-0.24	21.62	-0.56	2050.92	2192.49	1.14	1.43	487.59	1.00
3/20/25 23:15	-0.24	21.62	-0.55	2050.12	2191.63	1.14	1.42	487.78	1.00
3/21/25 0:15	-0.24	21.62	-0.55	2050.33	2191.84	1.14	1.42	487.73	1.00
3/21/25 1:15	-0.24	21.62	-0.55	2049.94	2191.45	1.14	1.42	487.82	1.00
3/21/25 2:15	-0.24	21.62	-0.55	2049.89	2191.37	1.14	1.42	487.83	1.00
3/21/25 3:15	-0.24	21.62	-0.56	2049.67	2191.14	1.14	1.42	487.88	1.00
3/21/25 4:15	-0.24	21.62	-0.55	2049.50	2190.98	1.14	1.42	487.92	1.00
3/21/25 5:15	-0.24	21.62	-0.56	2049.34	2190.81	1.13	1.42	487.96	1.00
3/21/25 6:15	-0.24	21.62	-0.56	2048.68	2190.10	1.13	1.42	488.12	1.00
3/21/25 7:15	-0.24	21.62	-0.57	2048.76	2190.19	1.13	1.42	488.10	1.00
3/21/25 8:15	-0.25	21.62	-0.57	2048.35	2189.78	1.13	1.42	488.20	1.00
3/21/25 9:15	-0.25	21.62	-0.57	2048.25	2189.66	1.13	1.42	488.22	1.00
3/21/25 10:15	-0.25	21.62	-0.57	2048.05	2189.44	1.13	1.42	488.27	1.00
3/21/25 11:15	-0.25	21.62	-0.57	2047.37	2188.74	1.13	1.42	488.43	1.00
3/21/25 12:15	-0.25	21.62	-0.57	2046.94	2188.27	1.13	1.42	488.53	1.00
3/21/25 13:15	-0.24	21.62	-0.56	2046.39	2187.67	1.13	1.42	488.67	1.00
3/21/25 14:15	-0.24	21.62	-0.56	2045.95	2187.22	1.13	1.42	488.77	1.00
3/21/25 15:15	-0.24	21.62	-0.56	2045.77	2186.99	1.13	1.42	488.81	1.00
3/21/25 16:15	-0.24	21.62	-0.56	2045.80	2187.06	1.13	1.42	488.81	1.00
3/21/25 17:15	-0.24	21.62	-0.56	2045.22	2186.45	1.13	1.42	488.95	1.00
3/21/25 18:15	-0.24	21.62	-0.56	2044.88	2186.09	1.13	1.42	489.03	1.00
3/21/25 19:15	-0.24	21.62	-0.56	2044.47	2185.65	1.13	1.42	489.13	1.00
3/21/25 20:15	-0.25	21.62	-0.57	2044.13	2185.28	1.13	1.42	489.21	1.00
3/21/25 21:15	-0.25	21.62	-0.57	2044.11	2185.26	1.13	1.42	489.21	1.00
3/21/25 22:15	-0.25	21.62	-0.57	2043.78	2184.91	1.13	1.42	489.29	1.00
3/21/25 23:15	-0.25	21.62	-0.57	2043.48	2184.57	1.13	1.42	489.36	1.00
3/22/25 0:15	-0.25	21.62	-0.57	2042.80	2183.86	1.13	1.42	489.52	1.00
3/22/25 1:15	-0.25	21.62	-0.57	2042.37	2183.43	1.13	1.42	489.63	1.00
3/22/25 2:15	-0.25	21.62	-0.57	2041.80	2182.81	1.13	1.42	489.76	1.00
3/22/25 3:15	-0.25	21.62	-0.57	2041.41	2182.41	1.13	1.42	489.86	1.00
3/22/25 4:15	-0.24	21.62	-0.57	2040.97	2181.92	1.13	1.42	489.96	1.00
3/22/25 5:15	-0.25	21.62	-0.57	2040.07	2180.97	1.13	1.42	490.18	1.00
3/22/25 6:15	-0.25	21.62	-0.57	2039.85	2180.72	1.13	1.42	490.23	1.00
3/22/25 7:15	-0.25	21.62	-0.58	2039.28	2180.12	1.13	1.42	490.37	1.00
3/22/25 8:15	-0.25	21.62	-0.58	2039.03	2179.85	1.13	1.42	490.43	1.00
3/22/25 9:15	-0.25	21.62	-0.58	2038.56	2179.35	1.13	1.42	490.54	1.00
3/22/25 10:15	-0.25	21.62	-0.58	2037.89	2178.64	1.13	1.42	490.70	1.00
3/22/25 11:15	-0.25	21.62	-0.57	2037.57	2178.30	1.13	1.42	490.78	1.00
3/22/25 12:15	-0.25	21.62	-0.57	2036.57	2177.24	1.13	1.42	491.02	1.00
3/22/25 13:15	-0.24	21.62	-0.57	2036.05	2176.66	1.13	1.41	491.15	1.00
3/22/25 14:15	-0.25	21.62	-0.58	2035.61	2176.22	1.13	1.41	491.25	1.00
3/22/25 15:15	-0.24	21.62	-0.56	2035.31	2175.88	1.13	1.41	491.33	1.00
3/22/25 16:15	-0.24	21.62	-0.57	2034.85	2175.43	1.13	1.41	491.44	1.00
3/22/25 17:15	-0.24	21.62	-0.56	2034.60	2175.15	1.13	1.41	491.50	1.00
3/22/25 18:15	-0.24	21.62	-0.56	2034.14	2174.65	1.13	1.41	491.61	1.00
3/22/25 19:15	-0.25	21.62	-0.57	2033.86	2174.36	1.13	1.41	491.68	1.00
3/22/25 20:15	-0.25	21.62	-0.57	2033.31	2173.79	1.13	1.41	491.81	1.00
3/22/25 21:15	-0.25	21.62	-0.57	2033.08	2173.52	1.13	1.41	491.87	1.00
3/22/25 22:15	-0.25	21.62	-0.57	2032.75	2173.19	1.13	1.41	491.94	1.00
3/22/25 23:15	-0.25	21.62	-0.58	2032.55	2172.96	1.13	1.41	491.99	1.00
3/23/25 0:15	-0.25	21.62	-0.58	2032.01	2172.42	1.12	1.41	492.12	1.00
3/23/25 1:15	-0.25	21.62	-0.58	2031.73	2172.10	1.12	1.41	492.19	1.00
3/23/25 2:15	-0.25	21.62	-0.58	2031.37	2171.70	1.12	1.41	492.28	1.00
3/23/25 3:15	-0.25	21.62	-0.58	2031.28	2171.62	1.12	1.41	492.30	1.00
3/23/25 4:15	-0.25	21.62	-0.58	2030.94	2171.26	1.12	1.41	492.38	1.00
3/23/25 5:15	-0.25	21.62	-0.58	2030.73	2171.07	1.12	1.41	492.43	1.00
3/23/25 6:15	-0.26	21.62	-0.59	2030.32	2170.60	1.12	1.41	492.53	1.00
3/23/25 7:15	-0.26	21.62	-0.59	2030.36	2170.65	1.12	1.41	492.52	1.00
3/23/25 8:15	-0.26	21.62	-0.59	2030.24	2170.53	1.12	1.41	492.55	1.00
3/23/25 9:15	-0.26	21.62	-0.59	2028.15	2168.29	1.12	1.41	493.06	1.00
3/23/25 10:15	-0.26	21.62	-0.59	2027.82	2167.92	1.12	1.41	493.14	1.00
3/23/25 11:15	-0.25	21.62	-0.59	2027.33	2167.42	1.12	1.41	493.26	1.00
3/23/25 12:15	-0.25	21.62	-0.58	2027.14	2167.20	1.12	1.41	493.31	1.00
3/23/25 13:15	-0.25	21.62	-0.58	2027.50	2167.60	1.12	1.41	493.22	1.00
3/23/25 14:15	-0.25	21.62	-0.58	2026.32	2166.32	1.12	1.41	493.51	1.00
3/23/25 15:15	-0.25	21.62	-0.58	2026.32	2166.35	1.12	1.41	493.51	1.00
3/23/25 16:15	-0.25	21.62	-0.58	2025.75	2165.74	1.12	1.41	493.64	1.00
3/23/25 17:15	-0.25	21.62	-0.59	2025.41	2165.38	1.12	1.41	493.73	1.00
3/23/25 18:15	-0.26	21.62	-0.59	2025.31	2165.27	1.12	1.41	493.75	1.00
3/23/25 19:15	-0.26	21.62	-0.59	2025.35	2165.30	1.12	1.41	493.74	1.00
3/23/25 20:15	-0.26	21.62	-0.59	2024.92	2164.87	1.12	1.41	493.85	1.00
3/23/25 21:15	-0.26	21.62	-0.59	2024.91	2164.88	1.12	1.41	493.85	1.00
3/23/25 22:15	-0.26	21.62	-0.59	2024.52	2164.44	1.12	1.41	493.95	1.00
3/23/25 23:15	-0.26	21.62	-0.59	2024.32	2164.22	1.12	1.41	493.99	1.00
3/24/25 0:15	-0.26	21.62	-0.59	2024.19	2164.10	1.12	1.41	494.02	1.00
3/24/25 1:15	-0.26	21.62	-0.59	2023.86	2163.76	1.12	1.41	494.10	1.00
3/24/25 2:15	-0.26	21.61	-0.59	2023.76	2163.65	1.12	1.41	494.13	1.00
3/24/25 3:15	-0.25	21.62	-0.59	2023.32	2163.17	1.12	1.41	494.24	1.00
3/24/25 4:15	-0.26	21.62	-0.59	2022.84	2162.66	1.12	1.41	494.36	1.00
3/24/25 5:15	-0.26	21.61	-0.59	2022.69	2162.52	1.12	1.41	494.39	1.00
3/24/25 6:15	-0.26	21.61	-0.60	2022.29	2162.08	1.12	1.41	494.49	1.00
3/24/25 7:15	-0.26	21.61	-0.59	2021.85	2161.63	1.12	1.41	494.60	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/24/25 8:15	-0.26	21.61	-0.59	2021.76	2161.52	1.12	1.40	494.62	1.00
3/24/25 9:15	-0.26	21.61	-0.59	2021.50	2161.23	1.12	1.40	494.68	1.00
3/24/25 10:15	-0.26	21.61	-0.59	2021.34	2161.08	1.12	1.40	494.72	1.00
3/24/25 11:15	-0.25	21.61	-0.59	2021.11	2160.82	1.12	1.40	494.78	1.00
3/24/25 12:15	-0.25	21.61	-0.59	2020.83	2160.53	1.12	1.40	494.85	1.00
3/24/25 13:15	-0.25	21.61	-0.58	2020.68	2160.39	1.12	1.40	494.88	1.00
3/24/25 14:15	-0.25	21.61	-0.58	2020.37	2160.07	1.12	1.40	494.96	1.00
3/24/25 15:15	-0.25	21.61	-0.58	2020.24	2159.92	1.12	1.40	494.99	1.00
3/24/25 16:15	-0.25	21.61	-0.58	2020.05	2159.72	1.12	1.40	495.04	1.00
3/24/25 17:15	-0.25	21.61	-0.58	2019.89	2159.56	1.12	1.40	495.08	1.00
3/24/25 18:15	-0.25	21.61	-0.58	2020.65	2160.39	1.12	1.40	494.89	1.00
3/24/25 19:15	-0.25	21.61	-0.58	2020.68	2160.39	1.12	1.40	494.88	1.00
3/24/25 20:15	-0.25	21.61	-0.59	2020.36	2160.04	1.12	1.40	494.96	1.00
3/24/25 21:15	-0.26	21.61	-0.59	2019.98	2159.66	1.12	1.40	495.05	1.00
3/24/25 22:15	-0.26	21.61	-0.59	2019.72	2159.39	1.12	1.40	495.12	1.00
3/24/25 23:15	-0.26	21.61	-0.60	2019.60	2159.25	1.12	1.40	495.15	1.00
3/25/25 0:15	-0.26	21.61	-0.60	2019.46	2159.09	1.12	1.40	495.18	1.00
3/25/25 1:15	-0.26	21.61	-0.60	2019.25	2158.88	1.12	1.40	495.23	1.00
3/25/25 2:15	-0.26	21.61	-0.59	2019.25	2158.90	1.12	1.40	495.23	1.00
3/25/25 3:15	-0.26	21.61	-0.60	2018.73	2158.33	1.12	1.40	495.36	1.00
3/25/25 4:15	-0.26	21.61	-0.60	2018.66	2158.25	1.12	1.40	495.38	1.00
3/25/25 5:15	-0.26	21.61	-0.60	2018.84	2158.44	1.12	1.40	495.33	1.00
3/25/25 6:15	-0.26	21.61	-0.60	2018.49	2158.09	1.12	1.40	495.42	1.00
3/25/25 7:15	-0.26	21.61	-0.60	2018.43	2158.01	1.12	1.40	495.43	1.00
3/25/25 8:15	-0.26	21.61	-0.60	2018.15	2157.74	1.12	1.40	495.50	1.00
3/25/25 9:15	-0.26	21.61	-0.60	2017.60	2157.15	1.12	1.40	495.64	1.00
3/25/25 10:15	-0.26	21.61	-0.60	2017.65	2157.18	1.12	1.40	495.63	1.00
3/25/25 11:15	-0.26	21.61	-0.60	2017.48	2157.01	1.12	1.40	495.67	1.00
3/25/25 12:15	-0.26	21.61	-0.59	2016.99	2156.51	1.12	1.40	495.79	1.00
3/25/25 13:15	-0.26	21.61	-0.59	2017.49	2157.04	1.12	1.40	495.67	1.00
3/25/25 14:15	-0.26	21.61	-0.59	2017.00	2156.54	1.12	1.40	495.78	1.00
3/25/25 15:15	-0.25	21.61	-0.59	2016.85	2156.39	1.12	1.40	495.82	1.00
3/25/25 16:15	-0.25	21.61	-0.59	2016.72	2156.19	1.12	1.40	495.86	1.00
3/25/25 17:15	-0.25	21.61	-0.59	2016.68	2156.17	1.12	1.40	495.86	1.00
3/25/25 18:15	-0.26	21.61	-0.59	2016.48	2155.96	1.12	1.40	495.91	1.00
3/25/25 19:15	-0.26	21.61	-0.59	2016.33	2155.80	1.12	1.40	495.95	1.00
3/25/25 20:15	-0.26	21.61	-0.60	2016.29	2155.78	1.12	1.40	495.96	1.00
3/25/25 21:15	-0.26	21.61	-0.60	2016.33	2155.81	1.12	1.40	495.95	1.00
3/25/25 22:15	-0.26	21.61	-0.60	2016.26	2155.75	1.12	1.40	495.97	1.00
3/25/25 23:15	-0.26	21.61	-0.60	2016.04	2155.50	1.12	1.40	496.02	1.00
3/26/25 0:15	-0.26	21.61	-0.60	2016.18	2155.66	1.12	1.40	495.99	1.00
3/26/25 1:15	-0.26	21.61	-0.60	2016.00	2155.47	1.12	1.40	496.03	1.00
3/26/25 2:15	-0.26	21.61	-0.60	2016.03	2155.50	1.12	1.40	496.02	1.00
3/26/25 3:15	-0.26	21.61	-0.60	2015.61	2155.07	1.12	1.40	496.13	1.00
3/26/25 4:15	-0.26	21.61	-0.60	2015.31	2154.75	1.12	1.40	496.20	1.00
3/26/25 5:15	-0.26	21.61	-0.60	2015.67	2155.13	1.12	1.40	496.11	1.00
3/26/25 6:15	-0.26	21.61	-0.60	2015.98	2155.46	1.12	1.40	496.04	1.00
3/26/25 7:15	-0.26	21.61	-0.60	2015.95	2155.43	1.12	1.40	496.04	1.00
3/26/25 8:15	-0.26	21.61	-0.61	2015.81	2155.30	1.12	1.40	496.08	1.00
3/26/25 9:15	-0.26	21.61	-0.61	2015.87	2155.36	1.12	1.40	496.06	1.00
3/26/25 10:15	-0.26	21.61	-0.60	2015.95	2155.45	1.12	1.40	496.04	1.00
3/26/25 11:15	-0.26	21.61	-0.60	2015.55	2155.01	1.12	1.40	496.14	1.00
3/26/25 12:15	-0.26	21.61	-0.60	2015.39	2154.87	1.12	1.40	496.18	1.00
3/26/25 13:15	-0.26	21.61	-0.60	2015.51	2154.99	1.12	1.40	496.15	1.00
3/26/25 14:15	-0.26	21.61	-0.60	2015.19	2154.64	1.12	1.40	496.23	1.00
3/26/25 15:15	-0.25	21.61	-0.59	2014.79	2154.22	1.11	1.40	496.33	1.00
3/26/25 16:15	-0.26	21.61	-0.59	2014.51	2153.93	1.11	1.40	496.40	1.00
3/26/25 17:15	-0.26	21.61	-0.59	2014.25	2153.64	1.11	1.40	496.46	1.00
3/26/25 18:15	-0.26	21.61	-0.59	2014.72	2154.17	1.11	1.40	496.35	1.00
3/26/25 19:15	-0.26	21.61	-0.59	2014.71	2154.15	1.11	1.40	496.35	1.00
3/26/25 20:15	-0.26	21.61	-0.60	2014.36	2153.77	1.11	1.40	496.44	1.00
3/26/25 21:15	-0.26	21.61	-0.60	2014.18	2153.60	1.11	1.40	496.48	1.00
3/26/25 22:15	-0.26	21.61	-0.60	2014.12	2153.54	1.11	1.40	496.49	1.00
3/26/25 23:15	-0.26	21.61	-0.60	2013.77	2153.16	1.11	1.40	496.58	1.00
3/27/25 0:15	-0.26	21.61	-0.60	2013.65	2153.04	1.11	1.40	496.61	1.00
3/27/25 1:15	-0.26	21.61	-0.61	2013.68	2153.06	1.11	1.40	496.60	1.00
3/27/25 2:15	-0.26	21.61	-0.60	2013.75	2153.15	1.11	1.40	496.59	1.00
3/27/25 3:15	-0.26	21.61	-0.60	2013.47	2152.84	1.11	1.40	496.66	1.00
3/27/25 4:15	-0.26	21.61	-0.60	2014.11	2153.52	1.11	1.40	496.50	1.00
3/27/25 5:15	-0.26	21.61	-0.60	2013.84	2153.25	1.11	1.40	496.56	1.00
3/27/25 6:15	-0.26	21.61	-0.61	2033.27	2174.03	1.13	1.41	491.82	1.00
3/27/25 7:15	-0.26	21.61	-0.61	2033.33	2174.09	1.13	1.41	491.80	1.00
3/27/25 8:15	-0.26	21.61	-0.61	2032.92	2173.65	1.13	1.41	491.90	1.00
3/27/25 9:15	-0.28	21.61	-0.64	2084.97	2229.20	1.16	1.45	479.62	1.00
3/27/25 10:15	-0.28	21.61	-0.64	2083.37	2227.55	1.15	1.45	479.99	1.00
3/27/25 11:15	-0.28	21.61	-0.64	2082.25	2226.37	1.15	1.45	480.25	1.00
3/27/25 12:15	-0.27	21.61	-0.63	2081.67	2225.76	1.15	1.45	480.38	1.00
3/27/25 13:15	-0.27	21.61	-0.62	2081.41	2225.52	1.15	1.45	480.44	1.00
3/27/25 14:15	-0.27	21.61	-0.62	2081.32	2225.42	1.15	1.45	480.47	1.00
3/27/25 15:15	-0.27	21.61	-0.62	2081.01	2225.10	1.15	1.45	480.54	1.00
3/27/25 16:15	-0.27	21.61	-0.61	2080.56	2224.62	1.15	1.45	480.64	1.00
3/27/25 17:15	-0.27	21.61	-0.61	2080.20	2224.24	1.15	1.45	480.72	1.00
3/27/25 18:15	-0.27	21.61	-0.62	2079.85	2223.89	1.15	1.45	480.80	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/27/25 19:15	-0.27	21.61	-0.61	2079.40	2223.40	1.15	1.45	480.91	1.00
3/27/25 20:15	-0.27	21.61	-0.62	2079.14	2223.12	1.15	1.45	480.97	1.00
3/27/25 21:15	-0.27	21.61	-0.62	2078.56	2222.51	1.15	1.44	481.10	1.00
3/27/25 22:15	-0.27	21.61	-0.62	2078.61	2222.57	1.15	1.44	481.09	1.00
3/27/25 23:15	-0.27	21.61	-0.62	2078.27	2222.21	1.15	1.44	481.17	1.00
3/28/25 0:15	-0.27	21.61	-0.61	2077.81	2221.72	1.15	1.44	481.28	1.00
3/28/25 1:15	-0.26	21.61	-0.61	2077.57	2221.46	1.15	1.44	481.33	1.00
3/28/25 2:15	-0.26	21.61	-0.61	2077.42	2221.34	1.15	1.44	481.37	1.00
3/28/25 3:15	-0.26	21.61	-0.61	2077.60	2221.50	1.15	1.44	481.32	1.00
3/28/25 4:15	-0.26	21.61	-0.61	2077.20	2221.07	1.15	1.44	481.42	1.00
3/28/25 5:15	-0.26	21.61	-0.61	2076.89	2220.76	1.15	1.44	481.49	1.00
3/28/25 6:15	-0.26	21.61	-0.61	2076.41	2220.25	1.15	1.44	481.60	1.00
3/28/25 7:15	-0.26	21.61	-0.60	2076.51	2220.36	1.15	1.44	481.58	1.00
3/28/25 8:15	-0.26	21.61	-0.61	2076.37	2220.19	1.15	1.44	481.61	1.00
3/28/25 9:15	-0.26	21.61	-0.60	2076.17	2219.99	1.15	1.44	481.66	1.00
3/28/25 10:15	-0.26	21.61	-0.60	2075.97	2219.77	1.15	1.44	481.70	1.00
3/28/25 11:15	-0.26	21.61	-0.59	2075.66	2219.45	1.15	1.44	481.78	1.00
3/28/25 12:15	-0.25	21.61	-0.58	2075.63	2219.41	1.15	1.44	481.78	1.00
3/28/25 13:15	-0.25	21.61	-0.58	2075.44	2219.21	1.15	1.44	481.83	1.00
3/28/25 14:15	-0.25	21.61	-0.57	2075.34	2219.13	1.15	1.44	481.85	1.00
3/28/25 15:15	-0.24	21.61	-0.56	2074.89	2218.65	1.15	1.44	481.95	1.00
3/28/25 16:15	-0.24	21.61	-0.56	2076.64	2220.50	1.15	1.44	481.55	1.00
3/28/25 17:15	-0.24	21.61	-0.56	2076.20	2220.06	1.15	1.44	481.65	1.00
3/28/25 18:15	-0.24	21.61	-0.56	2075.80	2219.65	1.15	1.44	481.74	1.00
3/28/25 19:15	-0.24	21.61	-0.56	2075.63	2219.44	1.15	1.44	481.78	1.00
3/28/25 20:15	-0.24	21.61	-0.56	2075.94	2219.78	1.15	1.44	481.71	1.00
3/28/25 21:15	-0.25	21.61	-0.57	2075.38	2219.21	1.15	1.44	481.84	1.00
3/28/25 22:15	-0.25	21.61	-0.57	2074.72	2218.48	1.15	1.44	481.99	1.00
3/28/25 23:15	-0.24	21.61	-0.56	2074.44	2218.18	1.15	1.44	482.06	1.00
3/29/25 0:15	-0.24	21.61	-0.56	2074.02	2217.74	1.15	1.44	482.16	1.00
3/29/25 1:15	-0.24	21.61	-0.56	2073.89	2217.62	1.15	1.44	482.18	1.00
3/29/25 2:15	-0.24	21.61	-0.56	2073.34	2217.03	1.15	1.44	482.31	1.00
3/29/25 3:15	-0.24	21.61	-0.56	2073.38	2217.07	1.15	1.44	482.30	1.00
3/29/25 4:15	-0.24	21.61	-0.55	2073.31	2216.99	1.15	1.44	482.32	1.00
3/29/25 5:15	-0.24	21.61	-0.56	2073.20	2216.88	1.15	1.44	482.35	1.00
3/29/25 6:15	-0.24	21.61	-0.55	2073.13	2216.82	1.15	1.44	482.36	1.00
3/29/25 7:15	-0.24	21.61	-0.56	2072.92	2216.57	1.15	1.44	482.41	1.00
3/29/25 8:15	-0.24	21.61	-0.55	2073.12	2216.80	1.15	1.44	482.36	1.00
3/29/25 9:15	-0.24	21.61	-0.56	2071.82	2215.41	1.15	1.44	482.67	1.00
3/29/25 10:15	-0.24	21.61	-0.56	2075.42	2219.26	1.15	1.44	481.83	1.00
3/29/25 11:15	-0.24	21.61	-0.55	2075.66	2219.54	1.15	1.44	481.77	1.00
3/29/25 12:15	-0.23	21.61	-0.54	2075.27	2219.13	1.15	1.44	481.87	1.00
3/29/25 13:15	-0.23	21.61	-0.54	2075.33	2219.18	1.15	1.44	481.85	1.00
3/29/25 14:15	-0.23	21.61	-0.53	2075.65	2219.55	1.15	1.44	481.78	1.00
3/29/25 15:15	-0.22	21.61	-0.51	2075.72	2219.60	1.15	1.44	481.76	1.00
3/29/25 16:15	-0.22	21.61	-0.50	2075.46	2219.33	1.15	1.44	481.82	1.00
3/29/25 17:15	-0.22	21.60	-0.51	2076.89	2220.92	1.15	1.44	481.49	1.00
3/29/25 18:15	-0.22	21.61	-0.51	2076.94	2220.93	1.15	1.44	481.48	1.00
3/29/25 19:15	-0.22	21.61	-0.51	2076.76	2220.72	1.15	1.44	481.52	1.00
3/29/25 20:15	-0.22	21.61	-0.51	2076.68	2220.67	1.15	1.44	481.54	1.00
3/29/25 21:15	-0.23	21.61	-0.54	2076.90	2220.91	1.15	1.44	481.49	1.00
3/29/25 22:15	-0.23	21.61	-0.54	2076.51	2220.47	1.15	1.44	481.58	1.00
3/29/25 23:15	-0.23	21.60	-0.54	2076.31	2220.30	1.15	1.44	481.62	1.00
3/30/25 0:15	-0.23	21.61	-0.54	2076.45	2220.43	1.15	1.44	481.59	1.00
3/30/25 1:15	-0.23	21.61	-0.54	2075.88	2219.81	1.15	1.44	481.72	1.00
3/30/25 2:15	-0.23	21.60	-0.54	2075.82	2219.76	1.15	1.44	481.74	1.00
3/30/25 3:15	-0.23	21.61	-0.54	2075.93	2219.88	1.15	1.44	481.71	1.00
3/30/25 4:15	-0.23	21.60	-0.54	2076.08	2220.04	1.15	1.44	481.68	1.00
3/30/25 5:15	-0.23	21.61	-0.54	2075.85	2219.78	1.15	1.44	481.73	1.00
3/30/25 6:15	-0.23	21.60	-0.54	2075.79	2219.75	1.15	1.44	481.74	1.00
3/30/25 7:15	-0.24	21.60	-0.55	2075.85	2219.80	1.15	1.44	481.73	1.00
3/30/25 8:15	-0.24	21.60	-0.55	2075.92	2219.87	1.15	1.44	481.72	1.00
3/30/25 9:15	-0.24	21.60	-0.55	2075.99	2219.96	1.15	1.44	481.70	1.00
3/30/25 10:15	-0.24	21.60	-0.54	2075.64	2219.58	1.15	1.44	481.78	1.00
3/30/25 11:15	-0.23	21.60	-0.53	2075.82	2219.79	1.15	1.44	481.74	1.00
3/30/25 12:15	-0.22	21.60	-0.52	2075.35	2219.29	1.15	1.44	481.85	1.00
3/30/25 13:15	-0.22	21.60	-0.50	2075.03	2218.94	1.15	1.44	481.92	1.00
3/30/25 14:15	-0.21	21.60	-0.48	2075.05	2218.97	1.15	1.44	481.92	1.00
3/30/25 15:15	-0.21	21.60	-0.48	2074.92	2218.82	1.15	1.44	481.95	1.00
3/30/25 16:15	-0.22	21.60	-0.50	2074.54	2218.45	1.15	1.44	482.03	1.00
3/30/25 17:15	-0.22	21.60	-0.51	2074.60	2218.49	1.15	1.44	482.02	1.00
3/30/25 18:15	-0.22	21.60	-0.50	2074.77	2218.68	1.15	1.44	481.98	1.00
3/30/25 19:15	-0.22	21.60	-0.51	2074.22	2218.11	1.15	1.44	482.11	1.00
3/30/25 20:15	-0.23	21.60	-0.52	2074.58	2218.47	1.15	1.44	482.03	1.00
3/30/25 21:15	-0.23	21.60	-0.52	2074.70	2218.62	1.15	1.44	482.00	1.00
3/30/25 22:15	-0.23	21.60	-0.53	2074.45	2218.36	1.15	1.44	482.05	1.00
3/30/25 23:15	-0.23	21.60	-0.53	2074.35	2218.25	1.15	1.44	482.08	1.00
3/31/25 0:15	-0.23	21.60	-0.54	2074.20	2218.09	1.15	1.44	482.11	1.00
3/31/25 1:15	-0.23	21.60	-0.54	2074.24	2218.13	1.15	1.44	482.10	1.00
3/31/25 2:15	-0.23	21.60	-0.53	2074.80	2218.72	1.15	1.44	481.97	1.00
3/31/25 3:15	-0.23	21.60	-0.53	2074.90	2218.82	1.15	1.44	481.95	1.00
3/31/25 4:15	-0.23	21.60	-0.54	2074.60	2218.52	1.15	1.44	482.02	1.00
3/31/25 5:15	-0.23	21.60	-0.53	2074.63	2218.58	1.15	1.44	482.01	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
3/31/25 6:15	-0.23	21.60	-0.53	2074.48	2218.40	1.15	1.44	482.05	1.00
3/31/25 7:15	-0.24	21.60	-0.55	2074.79	2218.75	1.15	1.44	481.98	1.00
3/31/25 8:15	-0.24	21.60	-0.55	2074.12	2218.04	1.15	1.44	482.13	1.00
3/31/25 9:15	-0.23	21.60	-0.54	2074.28	2218.24	1.15	1.44	482.09	1.00
3/31/25 10:15	-0.23	21.60	-0.53	2074.16	2218.08	1.15	1.44	482.12	1.00
3/31/25 11:15	-0.22	21.60	-0.52	2074.17	2218.10	1.15	1.44	482.12	1.00
3/31/25 12:15	-0.22	21.60	-0.51	2073.51	2217.38	1.15	1.44	482.27	1.00
3/31/25 13:15	-0.21	21.60	-0.50	2073.86	2217.77	1.15	1.44	482.19	1.00
3/31/25 14:15	-0.24	21.60	-0.56	2072.87	2216.74	1.15	1.44	482.42	1.00
3/31/25 15:15	-0.25	21.60	-0.57	2072.81	2216.66	1.15	1.44	482.44	1.00
3/31/25 16:15	-0.25	21.60	-0.58	2072.83	2216.70	1.15	1.44	482.43	1.00
3/31/25 17:15	-0.26	21.60	-0.59	2072.74	2216.58	1.15	1.44	482.45	1.00
3/31/25 18:15	-0.26	21.60	-0.60	2072.57	2216.43	1.15	1.44	482.49	1.00
3/31/25 19:15	-0.25	21.60	-0.57	2072.67	2216.53	1.15	1.44	482.47	1.00
3/31/25 20:15	-0.25	21.60	-0.57	2072.18	2216.02	1.15	1.44	482.58	1.00
3/31/25 21:15	-0.25	21.60	-0.57	2072.11	2215.94	1.15	1.44	482.60	1.00
3/31/25 22:15	-0.25	21.60	-0.58	2072.39	2216.23	1.15	1.44	482.54	1.00
3/31/25 23:15	-0.25	21.60	-0.59	2072.00	2215.81	1.15	1.44	482.63	1.00
4/1/25 0:15	-0.25	21.60	-0.58	2071.75	2215.56	1.15	1.44	482.68	1.00
4/1/25 1:15	-0.24	21.60	-0.56	2072.04	2215.88	1.15	1.44	482.62	1.00
4/1/25 2:15	-0.25	21.60	-0.57	2071.94	2215.76	1.15	1.44	482.64	1.00
4/1/25 3:15	-0.25	21.60	-0.57	2071.86	2215.68	1.15	1.44	482.66	1.00
4/1/25 4:15	-0.24	21.60	-0.56	2071.74	2215.57	1.15	1.44	482.69	1.00
4/1/25 5:15	-0.24	21.60	-0.55	2071.22	2214.99	1.15	1.44	482.81	1.00
4/1/25 6:15	-0.24	21.60	-0.55	2071.31	2215.08	1.15	1.44	482.79	1.00
4/1/25 7:15	-0.24	21.60	-0.56	2071.17	2214.94	1.15	1.44	482.82	1.00
4/1/25 8:15	-0.24	21.60	-0.57	2071.02	2214.82	1.15	1.44	482.85	1.00
4/1/25 9:15	-0.24	21.60	-0.55	2070.89	2214.66	1.15	1.44	482.88	1.00
4/1/25 10:15	-0.24	21.60	-0.56	2070.29	2214.03	1.15	1.44	483.02	1.00
4/1/25 11:15	-0.25	21.60	-0.57	2070.48	2214.22	1.15	1.44	482.98	1.00
4/1/25 12:15	-0.24	21.60	-0.56	2070.68	2214.45	1.15	1.44	482.93	1.00
4/1/25 13:15	-0.25	21.60	-0.57	2069.72	2213.44	1.15	1.44	483.16	1.00
4/1/25 14:15	-0.24	21.60	-0.56	2069.52	2213.25	1.15	1.44	483.20	1.00
4/1/25 15:15	-0.24	21.60	-0.55	2069.24	2212.96	1.15	1.44	483.27	1.00
4/1/25 16:15	-0.24	21.60	-0.56	2069.18	2212.86	1.15	1.44	483.28	1.00
4/1/25 17:15	-0.24	21.60	-0.56	2068.89	2212.57	1.15	1.44	483.35	1.00
4/1/25 18:15	-0.24	21.60	-0.57	2069.07	2212.77	1.15	1.44	483.31	1.00
4/1/25 19:15	-0.24	21.60	-0.56	2069.29	2212.99	1.15	1.44	483.26	1.00
4/1/25 20:15	-0.24	21.60	-0.55	2069.04	2212.71	1.15	1.44	483.32	1.00
4/1/25 21:15	-0.25	21.60	-0.57	2068.99	2212.69	1.15	1.44	483.33	1.00
4/1/25 22:15	-0.25	21.60	-0.57	2068.85	2212.54	1.15	1.44	483.36	1.00
4/1/25 23:15	-0.26	21.60	-0.59	2068.78	2212.46	1.15	1.44	483.38	1.00
4/2/25 0:15	-0.26	21.60	-0.60	2068.73	2212.42	1.15	1.44	483.39	1.00
4/2/25 1:15	-0.26	21.60	-0.60	2068.55	2212.23	1.15	1.44	483.43	1.00
4/2/25 2:15	-0.26	21.60	-0.60	2068.48	2212.15	1.15	1.44	483.45	1.00
4/2/25 3:15	-0.26	21.60	-0.60	2068.73	2212.43	1.15	1.44	483.39	1.00
4/2/25 4:15	-0.26	21.60	-0.59	2068.43	2212.09	1.15	1.44	483.46	1.00
4/2/25 5:15	-0.26	21.60	-0.59	2067.92	2211.58	1.15	1.44	483.58	1.00
4/2/25 6:15	-0.25	21.60	-0.59	2067.90	2211.54	1.15	1.44	483.58	1.00
4/2/25 7:15	-0.26	21.60	-0.59	2067.84	2211.49	1.15	1.44	483.60	1.00
4/2/25 8:15	-0.26	21.60	-0.59	2067.69	2211.33	1.15	1.44	483.63	1.00
4/2/25 9:15	-0.25	21.60	-0.59	2067.68	2211.33	1.15	1.44	483.63	1.00
4/2/25 10:15	-0.28	21.60	-0.65	2058.23	2201.01	1.14	1.43	485.86	1.00
4/2/25 11:15	-0.28	21.60	-0.64	2056.47	2199.20	1.14	1.43	486.27	1.00
4/2/25 12:15	-0.28	21.60	-0.64	2055.41	2198.12	1.14	1.43	486.52	1.00
4/2/25 13:15	-0.27	21.60	-0.63	2054.25	2196.91	1.14	1.43	486.80	1.00
4/2/25 14:15	-0.27	21.60	-0.63	2055.02	2197.76	1.14	1.43	486.61	1.00
4/2/25 15:15	-0.27	21.60	-0.62	2054.52	2197.25	1.14	1.43	486.73	1.00
4/2/25 16:15	-0.27	21.60	-0.62	2054.04	2196.73	1.14	1.43	486.84	1.00
4/2/25 17:15	-0.27	21.60	-0.62	2053.05	2195.69	1.14	1.43	487.08	1.00
4/2/25 18:15	-0.27	21.60	-0.62	2052.82	2195.47	1.14	1.43	487.14	1.00
4/2/25 19:15	-0.27	21.60	-0.63	2052.38	2194.99	1.14	1.43	487.24	1.00
4/2/25 20:15	-0.27	21.60	-0.63	2051.63	2194.17	1.14	1.43	487.42	1.00
4/2/25 21:15	-0.28	21.60	-0.64	2051.62	2194.20	1.14	1.43	487.42	1.00
4/2/25 22:15	-0.28	21.60	-0.64	2050.46	2192.95	1.14	1.43	487.70	1.00
4/2/25 23:15	-0.28	21.60	-0.64	2050.14	2192.62	1.14	1.43	487.77	1.00
4/3/25 0:15	-0.28	21.60	-0.64	2049.86	2192.32	1.14	1.43	487.84	1.00
4/3/25 1:15	-0.28	21.60	-0.64	2049.50	2191.94	1.14	1.42	487.92	1.00
4/3/25 2:15	-0.27	21.60	-0.63	2048.94	2191.36	1.14	1.42	488.06	1.00
4/3/25 3:15	-0.27	21.60	-0.63	2048.66	2191.06	1.14	1.42	488.12	1.00
4/3/25 4:15	-0.27	21.60	-0.62	2048.64	2191.02	1.14	1.42	488.13	1.00
4/3/25 5:15	-0.27	21.60	-0.63	2048.43	2190.80	1.13	1.42	488.18	1.00
4/3/25 6:15	-0.27	21.60	-0.63	2048.02	2190.36	1.13	1.42	488.28	1.00
4/3/25 7:15	-0.27	21.60	-0.63	2047.75	2190.11	1.13	1.42	488.34	1.00
4/3/25 8:15	-0.28	21.60	-0.64	2047.62	2189.95	1.13	1.42	488.37	1.00
4/3/25 9:15	-0.28	21.60	-0.64	2047.36	2189.69	1.13	1.42	488.43	1.00
4/3/25 10:15	-0.28	21.60	-0.64	2046.94	2189.24	1.13	1.42	488.53	1.00
4/3/25 11:15	-0.27	21.60	-0.63	2047.05	2189.36	1.13	1.42	488.51	1.00
4/3/25 12:15	-0.27	21.60	-0.62	2046.72	2189.02	1.13	1.42	488.59	1.00
4/3/25 13:15	-0.27	21.60	-0.62	2046.77	2189.08	1.13	1.42	488.58	1.00
4/3/25 14:15	-0.27	21.60	-0.61	2044.40	2186.53	1.13	1.42	489.14	1.00
4/3/25 15:15	-0.26	21.60	-0.61	2043.98	2186.09	1.13	1.42	489.24	1.00
4/3/25 16:15	-0.26	21.60	-0.61	2043.78	2185.88	1.13	1.42	489.29	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/3/25 17:15	-0.26	21.60	-0.61	2043.13	2185.18	1.13	1.42	489.45	1.00
4/3/25 18:15	-0.27	21.60	-0.62	2043.13	2185.18	1.13	1.42	489.44	1.00
4/3/25 19:15	-0.27	21.60	-0.62	2042.70	2184.76	1.13	1.42	489.55	1.00
4/3/25 20:15	-0.27	21.60	-0.62	2042.91	2184.95	1.13	1.42	489.50	1.00
4/3/25 21:15	-0.27	21.60	-0.63	2042.85	2184.92	1.13	1.42	489.51	1.00
4/3/25 22:15	-0.27	21.60	-0.62	2042.59	2184.63	1.13	1.42	489.57	1.00
4/3/25 23:15	-0.26	21.60	-0.61	2042.29	2184.33	1.13	1.42	489.65	1.00
4/4/25 0:15	-0.27	21.60	-0.62	2041.90	2183.92	1.13	1.42	489.74	1.00
4/4/25 1:15	-0.26	21.60	-0.61	2041.86	2183.87	1.13	1.42	489.75	1.00
4/4/25 2:15	-0.27	21.60	-0.63	2041.17	2183.13	1.13	1.42	489.92	1.00
4/4/25 3:15	-0.27	21.60	-0.62	2041.36	2183.34	1.13	1.42	489.87	1.00
4/4/25 4:15	-0.27	21.60	-0.62	2041.15	2183.10	1.13	1.42	489.92	1.00
4/4/25 5:15	-0.27	21.60	-0.62	2041.01	2182.98	1.13	1.42	489.95	1.00
4/4/25 6:15	-0.27	21.59	-0.63	2040.76	2182.72	1.13	1.42	490.01	1.00
4/4/25 7:15	-0.27	21.60	-0.62	2040.39	2182.31	1.13	1.42	490.10	1.00
4/4/25 8:15	-0.27	21.59	-0.62	2040.70	2182.67	1.13	1.42	490.03	1.00
4/4/25 9:15	-0.27	21.60	-0.62	2040.50	2182.44	1.13	1.42	490.07	1.00
4/4/25 10:15	-0.27	21.59	-0.63	2040.03	2181.95	1.13	1.42	490.19	1.00
4/4/25 11:15	-0.29	21.59	-0.66	2041.33	2183.34	1.13	1.42	489.88	1.00
4/4/25 12:15	-0.28	21.60	-0.65	2040.64	2182.58	1.13	1.42	490.04	1.00
4/4/25 13:15	-0.28	21.59	-0.65	2040.54	2182.50	1.13	1.42	490.07	1.00
4/4/25 14:15	-0.28	21.59	-0.65	2040.54	2182.50	1.13	1.42	490.07	1.00
4/4/25 15:15	-0.28	21.59	-0.65	2040.41	2182.35	1.13	1.42	490.10	1.00
4/4/25 16:15	-0.28	21.59	-0.65	2040.52	2182.47	1.13	1.42	490.07	1.00
4/4/25 17:15	-0.28	21.59	-0.65	2040.39	2182.35	1.13	1.42	490.10	1.00
4/4/25 18:15	-0.28	21.59	-0.65	2039.69	2181.61	1.13	1.42	490.27	1.00
4/4/25 19:15	-0.30	21.59	-0.69	2039.56	2181.46	1.13	1.42	490.30	1.00
4/4/25 20:15	-0.32	21.59	-0.74	2039.23	2181.11	1.13	1.42	490.38	1.00
4/4/25 21:15	-0.31	21.59	-0.73	2039.35	2181.26	1.13	1.42	490.35	1.00
4/4/25 22:15	-0.32	21.59	-0.73	2038.83	2180.70	1.13	1.42	490.48	1.00
4/4/25 23:15	-0.31	21.59	-0.72	2039.35	2181.26	1.13	1.42	490.35	1.00
4/5/25 0:15	-0.32	21.59	-0.75	2039.12	2181.03	1.13	1.42	490.41	1.00
4/5/25 1:15	-0.28	21.59	-0.65	2038.69	2180.57	1.13	1.42	490.51	1.00
4/5/25 2:15	-0.28	21.59	-0.65	2038.39	2180.26	1.13	1.42	490.58	1.00
4/5/25 3:15	-0.28	21.59	-0.64	2038.35	2180.21	1.13	1.42	490.59	1.00
4/5/25 4:15	-0.28	21.59	-0.64	2038.22	2180.06	1.13	1.42	490.62	1.00
4/5/25 5:15	-0.28	21.59	-0.64	2037.92	2179.75	1.13	1.42	490.70	1.00
4/5/25 6:15	-0.28	21.59	-0.64	2038.26	2180.14	1.13	1.42	490.61	1.00
4/5/25 7:15	-0.28	21.59	-0.64	2037.67	2179.49	1.13	1.42	490.76	1.00
4/5/25 8:15	-0.29	21.59	-0.67	2037.36	2179.17	1.13	1.42	490.83	1.00
4/5/25 9:15	-0.32	21.59	-0.73	2037.65	2179.47	1.13	1.42	490.76	1.00
4/5/25 10:15	-0.30	21.59	-0.70	2037.54	2179.39	1.13	1.42	490.79	1.00
4/5/25 11:15	-0.29	21.59	-0.68	2037.37	2179.20	1.13	1.42	490.83	1.00
4/5/25 12:15	-0.27	21.59	-0.63	2037.06	2178.86	1.13	1.42	490.90	1.00
4/5/25 13:15	-0.28	21.59	-0.64	2036.59	2178.37	1.13	1.42	491.02	1.00
4/5/25 14:15	-0.31	21.59	-0.71	2036.78	2178.58	1.13	1.42	490.97	1.00
4/5/25 15:15	-0.28	21.59	-0.65	2036.91	2178.72	1.13	1.42	490.94	1.00
4/5/25 16:15	-0.25	21.59	-0.58	2036.65	2178.45	1.13	1.42	491.00	1.00
4/5/25 17:15	-0.26	21.59	-0.60	2036.70	2178.49	1.13	1.42	490.99	1.00
4/5/25 18:15	-0.25	21.59	-0.57	2036.68	2178.47	1.13	1.42	491.00	1.00
4/5/25 19:15	-0.19	21.59	-0.45	2036.39	2178.19	1.13	1.42	491.06	1.00
4/5/25 20:15	-0.19	21.59	-0.44	2036.90	2178.72	1.13	1.42	490.94	1.00
4/5/25 21:15	-0.20	21.59	-0.46	2037.06	2178.90	1.13	1.42	490.90	1.00
4/5/25 22:15	-0.21	21.59	-0.49	2038.13	2180.04	1.13	1.42	490.65	1.00
4/5/25 23:15	-0.22	21.59	-0.52	2038.30	2180.25	1.13	1.42	490.61	1.00
4/6/25 0:15	-0.24	21.59	-0.57	2037.86	2179.77	1.13	1.42	490.71	1.00
4/6/25 1:15	-0.26	21.59	-0.60	2037.44	2179.31	1.13	1.42	490.81	1.00
4/6/25 2:15	-0.27	21.59	-0.63	2037.12	2178.96	1.13	1.42	490.89	1.00
4/6/25 3:15	-0.28	21.59	-0.65	2036.72	2178.55	1.13	1.42	490.99	1.00
4/6/25 4:15	-0.29	21.59	-0.67	2036.54	2178.36	1.13	1.42	491.03	1.00
4/6/25 5:15	-0.28	21.59	-0.65	2035.53	2177.30	1.13	1.42	491.27	1.00
4/6/25 6:15	-0.29	21.59	-0.67	2035.53	2177.30	1.13	1.42	491.27	1.00
4/6/25 7:15	-0.30	21.59	-0.69	2034.97	2176.68	1.13	1.41	491.41	1.00
4/6/25 8:15	-0.30	21.59	-0.69	2034.91	2176.65	1.13	1.41	491.42	1.00
4/6/25 9:15	-0.29	21.59	-0.68	2035.17	2176.92	1.13	1.41	491.36	1.00
4/6/25 10:15	-0.29	21.59	-0.68	2035.05	2176.79	1.13	1.41	491.39	1.00
4/6/25 11:15	-0.29	21.59	-0.67	2034.97	2176.72	1.13	1.41	491.41	1.00
4/6/25 12:15	-0.29	21.59	-0.67	2034.40	2176.12	1.13	1.41	491.54	1.00
4/6/25 13:15	-0.29	21.59	-0.67	2033.95	2175.63	1.13	1.41	491.65	1.00
4/6/25 14:15	-0.29	21.59	-0.66	2033.73	2175.42	1.13	1.41	491.71	1.00
4/6/25 15:15	-0.29	21.59	-0.66	2033.51	2175.17	1.13	1.41	491.76	1.00
4/6/25 16:15	-0.29	21.59	-0.66	2033.45	2175.10	1.13	1.41	491.78	1.00
4/6/25 17:15	-0.28	21.59	-0.65	2033.11	2174.72	1.13	1.41	491.86	1.00
4/6/25 18:15	-0.28	21.59	-0.65	2033.06	2174.70	1.13	1.41	491.87	1.00
4/6/25 19:15	-0.28	21.59	-0.65	2032.57	2174.18	1.13	1.41	491.99	1.00
4/6/25 20:15	-0.28	21.59	-0.66	2032.53	2174.14	1.13	1.41	492.00	1.00
4/6/25 21:15	-0.28	21.59	-0.66	2032.18	2173.80	1.13	1.41	492.08	1.00
4/6/25 22:15	-0.28	21.59	-0.65	2031.90	2173.46	1.13	1.41	492.15	1.00
4/6/25 23:15	-0.28	21.59	-0.65	2031.72	2173.30	1.13	1.41	492.19	1.00
4/7/25 0:15	-0.28	21.59	-0.65	2031.64	2173.21	1.13	1.41	492.21	1.00
4/7/25 1:15	-0.28	21.59	-0.65	2031.11	2172.66	1.13	1.41	492.34	1.00
4/7/25 2:15	-0.28	21.59	-0.64	2030.81	2172.33	1.12	1.41	492.42	1.00
4/7/25 3:15	-0.28	21.59	-0.64	2030.20	2171.70	1.12	1.41	492.56	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/7/25 4:15	-0.28	21.59	-0.64	2030.30	2171.82	1.12	1.41	492.54	1.00
4/7/25 5:15	-0.28	21.59	-0.64	2030.19	2171.69	1.12	1.41	492.57	1.00
4/7/25 6:15	-0.28	21.59	-0.64	2030.47	2171.99	1.12	1.41	492.50	1.00
4/7/25 7:15	-0.28	21.59	-0.65	2030.44	2171.95	1.12	1.41	492.50	1.00
4/7/25 8:15	-0.28	21.59	-0.65	2030.91	2172.43	1.12	1.41	492.39	1.00
4/7/25 9:15	-0.28	21.59	-0.65	2030.84	2172.38	1.12	1.41	492.41	1.00
4/7/25 10:15	-0.28	21.59	-0.65	2030.53	2172.07	1.12	1.41	492.48	1.00
4/7/25 11:15	-0.28	21.59	-0.64	2030.31	2171.83	1.12	1.41	492.53	1.00
4/7/25 12:15	-0.28	21.59	-0.64	2030.26	2171.78	1.12	1.41	492.55	1.00
4/7/25 13:15	-0.28	21.59	-0.64	2029.77	2171.28	1.12	1.41	492.67	1.00
4/7/25 14:15	-0.28	21.59	-0.64	2029.98	2171.52	1.12	1.41	492.62	1.00
4/7/25 15:15	-0.28	21.59	-0.64	2029.45	2170.91	1.12	1.41	492.74	1.00
4/7/25 16:15	-0.28	21.59	-0.64	2029.27	2170.76	1.12	1.41	492.79	1.00
4/7/25 17:15	-0.28	21.59	-0.64	2029.06	2170.53	1.12	1.41	492.84	1.00
4/7/25 18:15	-0.28	21.59	-0.64	2028.76	2170.21	1.12	1.41	492.91	1.00
4/7/25 19:15	-0.28	21.59	-0.65	2028.56	2169.99	1.12	1.41	492.96	1.00
4/7/25 20:15	-0.28	21.59	-0.65	2028.55	2169.98	1.12	1.41	492.96	1.00
4/7/25 21:15	-0.29	21.59	-0.66	2027.78	2169.16	1.12	1.41	493.15	1.00
4/7/25 22:15	-0.29	21.59	-0.66	2027.77	2169.18	1.12	1.41	493.15	1.00
4/7/25 23:15	-0.29	21.59	-0.67	2027.57	2168.95	1.12	1.41	493.20	1.00
4/8/25 0:15	-0.29	21.59	-0.67	2027.76	2169.17	1.12	1.41	493.16	1.00
4/8/25 1:15	-0.29	21.59	-0.67	2027.47	2168.87	1.12	1.41	493.23	1.00
4/8/25 2:15	-0.29	21.59	-0.68	2027.38	2168.76	1.12	1.41	493.25	1.00
4/8/25 3:15	-0.30	21.59	-0.68	2027.42	2168.82	1.12	1.41	493.24	1.00
4/8/25 4:15	-0.30	21.59	-0.69	2027.21	2168.59	1.12	1.41	493.29	1.00
4/8/25 5:15	-0.30	21.59	-0.69	2027.10	2168.48	1.12	1.41	493.32	1.00
4/8/25 6:15	-0.29	21.59	-0.68	2027.47	2168.87	1.12	1.41	493.23	1.00
4/8/25 7:15	-0.29	21.59	-0.67	2027.12	2168.47	1.12	1.41	493.31	1.00
4/8/25 8:15	-0.29	21.59	-0.67	2027.35	2168.78	1.12	1.41	493.25	1.00
4/8/25 9:15	-0.29	21.59	-0.68	2027.40	2168.81	1.12	1.41	493.24	1.00
4/8/25 10:15	-0.29	21.59	-0.67	2027.28	2168.69	1.12	1.41	493.27	1.00
4/8/25 11:15	-0.29	21.59	-0.66	2033.53	2175.39	1.13	1.41	491.75	1.00
4/8/25 12:15	-0.29	21.59	-0.67	2033.09	2174.88	1.13	1.41	491.86	1.00
4/8/25 13:15	-0.28	21.59	-0.66	2033.29	2175.15	1.13	1.41	491.81	1.00
4/8/25 14:15	-0.28	21.59	-0.65	2032.84	2174.65	1.13	1.41	491.92	1.00
4/8/25 15:15	-0.28	21.59	-0.64	2032.93	2174.77	1.13	1.41	491.90	1.00
4/8/25 16:15	-0.28	21.59	-0.64	2032.39	2174.18	1.13	1.41	492.03	1.00
4/8/25 17:15	-0.27	21.59	-0.63	2032.23	2173.99	1.13	1.41	492.07	1.00
4/8/25 18:15	-0.27	21.59	-0.63	2031.48	2173.21	1.13	1.41	492.25	1.00
4/8/25 19:15	-0.27	21.59	-0.63	2031.28	2173.01	1.13	1.41	492.30	1.00
4/8/25 20:15	-0.27	21.58	-0.63	2031.44	2173.20	1.13	1.41	492.26	1.00
4/8/25 21:15	-0.27	21.58	-0.63	2030.89	2172.61	1.12	1.41	492.40	1.00
4/8/25 22:15	-0.27	21.58	-0.63	2031.01	2172.74	1.13	1.41	492.37	1.00
4/8/25 23:15	-0.27	21.58	-0.63	2031.08	2172.82	1.13	1.41	492.35	1.00
4/9/25 0:15	-0.27	21.58	-0.63	2030.90	2172.64	1.13	1.41	492.39	1.00
4/9/25 1:15	-0.27	21.58	-0.63	2030.52	2172.23	1.12	1.41	492.49	1.00
4/9/25 2:15	-0.28	21.58	-0.65	2030.38	2172.10	1.12	1.41	492.52	1.00
4/9/25 3:15	-0.28	21.58	-0.64	2029.97	2171.65	1.12	1.41	492.62	1.00
4/9/25 4:15	-0.28	21.58	-0.64	2029.68	2171.33	1.12	1.41	492.69	1.00
4/9/25 5:15	-0.28	21.58	-0.64	2029.44	2171.10	1.12	1.41	492.75	1.00
4/9/25 6:15	-0.28	21.58	-0.64	2029.23	2170.88	1.12	1.41	492.80	1.00
4/9/25 7:15	-0.28	21.58	-0.64	2029.11	2170.75	1.12	1.41	492.83	1.00
4/9/25 8:15	-0.28	21.58	-0.64	2028.85	2170.47	1.12	1.41	492.89	1.00
4/9/25 9:15	-0.28	21.58	-0.64	2028.39	2169.99	1.12	1.41	493.00	1.00
4/9/25 10:15	-0.28	21.58	-0.64	2028.56	2170.18	1.12	1.41	492.96	1.00
4/9/25 11:15	-0.28	21.58	-0.64	2028.59	2170.21	1.12	1.41	492.95	1.00
4/9/25 12:15	-0.27	21.58	-0.63	2028.38	2169.99	1.12	1.41	493.00	1.00
4/9/25 13:15	-0.27	21.58	-0.63	2028.21	2169.82	1.12	1.41	493.04	1.00
4/9/25 14:15	-0.27	21.58	-0.63	2027.14	2168.67	1.12	1.41	493.31	1.00
4/9/25 15:15	-0.27	21.58	-0.63	2027.11	2168.63	1.12	1.41	493.31	1.00
4/9/25 16:15	-0.27	21.58	-0.63	2026.91	2168.44	1.12	1.41	493.36	1.00
4/9/25 17:15	-0.27	21.58	-0.63	2026.38	2167.87	1.12	1.41	493.49	1.00
4/9/25 18:15	-0.27	21.58	-0.63	2026.52	2168.01	1.12	1.41	493.46	1.00
4/9/25 19:15	-0.27	21.58	-0.63	2025.87	2167.35	1.12	1.41	493.61	1.00
4/9/25 20:15	-0.27	21.58	-0.63	2025.88	2167.34	1.12	1.41	493.61	1.00
4/9/25 21:15	-0.28	21.58	-0.64	2025.37	2166.79	1.12	1.41	493.74	1.00
4/9/25 22:15	-0.28	21.58	-0.64	2024.99	2166.39	1.12	1.41	493.83	1.00
4/9/25 23:15	-0.28	21.58	-0.64	2024.57	2165.96	1.12	1.41	493.93	1.00
4/10/25 0:15	-0.28	21.58	-0.64	2014.44	2155.13	1.12	1.40	496.42	1.00
4/10/25 1:15	-0.28	21.58	-0.64	2014.10	2154.76	1.12	1.40	496.50	1.00
4/10/25 2:15	-0.28	21.58	-0.64	2013.63	2154.24	1.11	1.40	496.62	1.00
4/10/25 3:15	-0.27	21.58	-0.63	2013.36	2154.00	1.11	1.40	496.68	1.00
4/10/25 4:15	-0.28	21.58	-0.64	2012.98	2153.59	1.11	1.40	496.77	1.00
4/10/25 5:15	-0.28	21.58	-0.65	2012.43	2153.00	1.11	1.40	496.91	1.00
4/10/25 6:15	-0.28	21.58	-0.65	2011.36	2151.85	1.11	1.40	497.18	1.00
4/10/25 7:15	-0.28	21.58	-0.65	2010.50	2150.93	1.11	1.40	497.39	1.00
4/10/25 8:15	-0.28	21.58	-0.65	2009.95	2150.34	1.11	1.40	497.53	1.00
4/10/25 9:15	-0.28	21.58	-0.64	2009.60	2150.00	1.11	1.40	497.61	1.00
4/10/25 10:15	-0.28	21.58	-0.65	2009.48	2149.88	1.11	1.40	497.64	1.00
4/10/25 11:15	-0.28	21.58	-0.64	2009.05	2149.43	1.11	1.40	497.75	1.00
4/10/25 12:15	-0.28	21.58	-0.64	2008.38	2148.70	1.11	1.40	497.91	1.00
4/10/25 13:15	-0.28	21.58	-0.64	2008.20	2148.51	1.11	1.40	497.96	1.00
4/10/25 14:15	-0.28	21.58	-0.64	2007.98	2148.27	1.11	1.40	498.01	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/10/25 15:15	-0.28	21.58	-0.64	2007.37	2147.62	1.11	1.40	498.16	1.00
4/10/25 16:15	-0.28	21.58	-0.64	2006.88	2147.11	1.11	1.40	498.29	1.00
4/10/25 17:15	-0.28	21.58	-0.64	2006.69	2146.92	1.11	1.40	498.33	1.00
4/10/25 18:15	-0.27	21.58	-0.63	2005.58	2145.72	1.11	1.39	498.61	1.00
4/10/25 19:15	-0.27	21.58	-0.63	2005.47	2145.63	1.11	1.39	498.64	1.00
4/10/25 20:15	-0.28	21.58	-0.64	2005.01	2145.12	1.11	1.39	498.75	1.00
4/10/25 21:15	-0.28	21.58	-0.64	2004.79	2144.91	1.11	1.39	498.80	1.00
4/10/25 22:15	-0.27	21.58	-0.63	2003.99	2144.05	1.11	1.39	499.00	1.00
4/10/25 23:15	-0.27	21.58	-0.63	2004.29	2144.38	1.11	1.39	498.93	1.00
4/11/25 0:15	-0.27	21.58	-0.63	2003.71	2143.76	1.11	1.39	499.08	1.00
4/11/25 1:15	-0.28	21.58	-0.65	2003.56	2143.60	1.11	1.39	499.11	1.00
4/11/25 2:15	-0.28	21.58	-0.64	2003.73	2143.79	1.11	1.39	499.07	1.00
4/11/25 3:15	-0.28	21.58	-0.64	2002.83	2142.84	1.11	1.39	499.29	1.00
4/11/25 4:15	-0.28	21.58	-0.64	2003.15	2143.18	1.11	1.39	499.21	1.00
4/11/25 5:15	-0.28	21.58	-0.64	2002.71	2142.71	1.11	1.39	499.32	1.00
4/11/25 6:15	-0.28	21.58	-0.65	2002.33	2142.31	1.11	1.39	499.42	1.00
4/11/25 7:15	-0.28	21.58	-0.64	2001.66	2141.59	1.11	1.39	499.58	1.00
4/11/25 8:15	-0.28	21.58	-0.64	2001.17	2141.07	1.11	1.39	499.71	1.00
4/11/25 9:15	-0.28	21.58	-0.65	2000.55	2140.42	1.11	1.39	499.86	1.00
4/11/25 10:15	-0.29	21.58	-0.66	1999.97	2139.80	1.11	1.39	500.01	1.00
4/11/25 11:15	-0.29	21.58	-0.67	2000.71	2140.62	1.11	1.39	499.82	1.00
4/11/25 12:15	-0.30	21.58	-0.69	1999.78	2139.59	1.11	1.39	500.05	1.00
4/11/25 13:15	-0.30	21.58	-0.68	1999.53	2139.35	1.11	1.39	500.12	1.00
4/11/25 14:15	-0.29	21.58	-0.68	1998.59	2138.33	1.11	1.39	500.35	1.00
4/11/25 15:15	-0.30	21.58	-0.70	1997.95	2137.65	1.11	1.39	500.51	1.00
4/11/25 16:15	-0.31	21.58	-0.71	1997.28	2136.96	1.11	1.39	500.68	1.00
4/11/25 17:15	-0.31	21.58	-0.71	1996.51	2136.14	1.11	1.39	500.87	1.00
4/11/25 18:15	-0.31	21.58	-0.71	1995.87	2135.44	1.10	1.39	501.03	1.00
4/11/25 19:15	-0.31	21.58	-0.71	1995.30	2134.85	1.10	1.39	501.18	1.00
4/11/25 20:15	-0.31	21.58	-0.71	1994.80	2134.32	1.10	1.39	501.30	1.00
4/11/25 21:15	-0.31	21.58	-0.71	1994.40	2133.90	1.10	1.39	501.40	1.00
4/11/25 22:15	-0.31	21.58	-0.71	1994.91	2134.45	1.10	1.39	501.27	1.00
4/11/25 23:15	-0.31	21.58	-0.71	1994.13	2133.58	1.10	1.39	501.47	1.00
4/12/25 0:15	-0.31	21.58	-0.71	1993.74	2133.21	1.10	1.39	501.57	1.00
4/12/25 1:15	-0.31	21.58	-0.71	1994.95	2134.49	1.10	1.39	501.27	1.00
4/12/25 2:15	-0.31	21.58	-0.71	1994.79	2134.34	1.10	1.39	501.31	1.00
4/12/25 3:15	-0.31	21.58	-0.71	1993.90	2133.39	1.10	1.39	501.53	1.00
4/12/25 4:15	-0.31	21.58	-0.70	1994.03	2133.53	1.10	1.39	501.50	1.00
4/12/25 5:15	-0.31	21.58	-0.71	1993.15	2132.57	1.10	1.39	501.72	1.00
4/12/25 6:15	-0.31	21.58	-0.72	1992.84	2132.26	1.10	1.39	501.80	1.00
4/12/25 7:15	-0.31	21.58	-0.72	1992.08	2131.46	1.10	1.39	501.99	1.00
4/12/25 8:15	-0.31	21.58	-0.72	1991.22	2130.54	1.10	1.38	502.20	1.00
4/12/25 9:15	-0.32	21.58	-0.73	1990.41	2129.66	1.10	1.38	502.41	1.00
4/12/25 10:15	-0.31	21.58	-0.72	1989.47	2128.66	1.10	1.38	502.65	1.00
4/12/25 11:15	-0.31	21.58	-0.72	1988.55	2127.70	1.10	1.38	502.88	1.00
4/12/25 12:15	-0.31	21.58	-0.72	1987.09	2126.14	1.10	1.38	503.25	1.00
4/12/25 13:15	-0.31	21.58	-0.71	1986.66	2125.67	1.10	1.38	503.36	1.00
4/12/25 14:15	-0.31	21.58	-0.72	1985.44	2124.38	1.10	1.38	503.67	1.00
4/12/25 15:15	-0.31	21.58	-0.71	1984.64	2123.53	1.10	1.38	503.87	1.00
4/12/25 16:15	-0.31	21.58	-0.72	1984.09	2122.94	1.10	1.38	504.01	1.00
4/12/25 17:15	-0.31	21.58	-0.71	1983.33	2122.13	1.10	1.38	504.20	1.00
4/12/25 18:15	-0.31	21.58	-0.71	1982.65	2121.41	1.10	1.38	504.38	1.00
4/12/25 19:15	-0.31	21.58	-0.71	1982.24	2120.98	1.10	1.38	504.48	1.00
4/12/25 20:15	-0.31	21.57	-0.72	1981.91	2120.65	1.10	1.38	504.56	1.00
4/12/25 21:15	-0.31	21.58	-0.72	1981.45	2120.14	1.10	1.38	504.68	1.00
4/12/25 22:15	-0.31	21.58	-0.72	1981.13	2119.80	1.10	1.38	504.76	1.00
4/12/25 23:15	-0.31	21.57	-0.72	1980.65	2119.30	1.10	1.38	504.88	1.00
4/13/25 0:15	-0.31	21.58	-0.72	1980.35	2118.97	1.10	1.38	504.96	1.00
4/13/25 1:15	-0.31	21.57	-0.72	1979.80	2118.39	1.10	1.38	505.10	1.00
4/13/25 2:15	-0.31	21.57	-0.72	2024.41	2166.13	1.12	1.41	493.97	1.00
4/13/25 3:15	-0.31	21.57	-0.72	2024.25	2165.97	1.12	1.41	494.01	1.00
4/13/25 4:15	-0.31	21.57	-0.72	2023.36	2165.01	1.12	1.41	494.23	1.00
4/13/25 5:15	-0.31	21.57	-0.72	2022.89	2164.51	1.12	1.41	494.34	1.00
4/13/25 6:15	-0.31	21.57	-0.72	2022.54	2164.13	1.12	1.41	494.43	1.00
4/13/25 7:15	-0.31	21.57	-0.72	2021.97	2163.54	1.12	1.41	494.57	1.00
4/13/25 8:15	-0.32	21.57	-0.73	2021.59	2163.12	1.12	1.41	494.66	1.00
4/13/25 9:15	-0.31	21.57	-0.72	2020.94	2162.43	1.12	1.41	494.82	1.00
4/13/25 10:15	-0.31	21.57	-0.72	2020.91	2162.44	1.12	1.41	494.83	1.00
4/13/25 11:15	-0.31	21.57	-0.73	2020.21	2161.67	1.12	1.41	495.00	1.00
4/13/25 12:15	-0.31	21.57	-0.72	2020.03	2161.48	1.12	1.40	495.04	1.00
4/13/25 13:15	-0.31	21.57	-0.72	2019.20	2160.61	1.12	1.40	495.25	1.00
4/13/25 14:15	-0.31	21.57	-0.72	2018.52	2159.86	1.12	1.40	495.41	1.00
4/13/25 15:15	-0.31	21.57	-0.71	2017.97	2159.29	1.12	1.40	495.55	1.00
4/13/25 16:15	-0.31	21.57	-0.72	2017.07	2158.33	1.12	1.40	495.77	1.00
4/13/25 17:15	-0.31	21.57	-0.71	2016.30	2157.49	1.12	1.40	495.96	1.00
4/13/25 18:15	-0.31	21.57	-0.72	2015.95	2157.14	1.12	1.40	496.04	1.00
4/13/25 19:15	-0.31	21.57	-0.72	2015.53	2156.71	1.12	1.40	496.15	1.00
4/13/25 20:15	-0.31	21.57	-0.72	2015.38	2156.55	1.12	1.40	496.18	1.00
4/13/25 21:15	-0.31	21.57	-0.73	2014.53	2155.63	1.12	1.40	496.39	1.00
4/13/25 22:15	-0.31	21.57	-0.72	2014.27	2155.37	1.12	1.40	496.46	1.00
4/13/25 23:15	-0.32	21.57	-0.73	2013.34	2154.37	1.12	1.40	496.69	1.00
4/14/25 0:15	-0.32	21.57	-0.73	2012.85	2153.87	1.11	1.40	496.81	1.00
4/14/25 1:15	-0.31	21.57	-0.73	2012.95	2153.95	1.11	1.40	496.78	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/14/25 2:15	-0.31	21.57	-0.73	2012.55	2153.55	1.11	1.40	496.88	1.00
4/14/25 3:15	-0.32	21.57	-0.73	2012.43	2153.42	1.11	1.40	496.91	1.00
4/14/25 4:15	-0.32	21.57	-0.73	2011.50	2152.44	1.11	1.40	497.14	1.00
4/14/25 5:15	-0.32	21.57	-0.73	2009.17	2149.91	1.11	1.40	497.72	1.00
4/14/25 6:15	-0.32	21.57	-0.75	2009.02	2149.80	1.11	1.40	497.75	1.00
4/14/25 7:15	-0.32	21.57	-0.75	2008.52	2149.28	1.11	1.40	497.88	1.00
4/14/25 8:15	-0.32	21.57	-0.74	2008.63	2149.39	1.11	1.40	497.85	1.00
4/14/25 9:15	-0.32	21.57	-0.75	2007.96	2148.67	1.11	1.40	498.02	1.00
4/14/25 10:15	-0.33	21.57	-0.75	2008.18	2148.91	1.11	1.40	497.96	1.00
4/14/25 11:15	-0.33	21.57	-0.76	2008.16	2148.91	1.11	1.40	497.97	1.00
4/14/25 12:15	-0.33	21.57	-0.75	2008.01	2148.72	1.11	1.40	498.01	1.00
4/14/25 13:15	-0.33	21.57	-0.75	2007.83	2148.55	1.11	1.40	498.05	1.00
4/14/25 14:15	-0.33	21.57	-0.76	2007.19	2147.84	1.11	1.40	498.21	1.00
4/14/25 15:15	-0.33	21.57	-0.76	2008.19	2148.91	1.11	1.40	497.96	1.00
4/14/25 16:15	-0.33	21.57	-0.76	2007.19	2147.86	1.11	1.40	498.21	1.00
4/14/25 17:15	-0.33	21.57	-0.77	2007.15	2147.82	1.11	1.40	498.22	1.00
4/14/25 18:15	-0.34	21.57	-0.77	2006.83	2147.48	1.11	1.40	498.30	1.00
4/14/25 19:15	-0.33	21.57	-0.77	2006.38	2147.02	1.11	1.40	498.41	1.00
4/14/25 20:15	-0.33	21.57	-0.77	2006.45	2147.07	1.11	1.40	498.39	1.00
4/14/25 21:15	-0.33	21.57	-0.77	2006.41	2147.07	1.11	1.40	498.40	1.00
4/14/25 22:15	-0.34	21.57	-0.77	2006.31	2146.96	1.11	1.40	498.43	1.00
4/14/25 23:15	-0.33	21.57	-0.77	2005.58	2146.17	1.11	1.40	498.61	1.00
4/15/25 0:15	-0.34	21.57	-0.78	2005.55	2146.16	1.11	1.40	498.62	1.00
4/15/25 1:15	-0.34	21.57	-0.78	2005.59	2146.20	1.11	1.40	498.61	1.00
4/15/25 2:15	-0.33	21.57	-0.77	2005.62	2146.24	1.11	1.40	498.60	1.00
4/15/25 3:15	-0.33	21.57	-0.77	2005.51	2146.14	1.11	1.39	498.63	1.00
4/15/25 4:15	-0.33	21.57	-0.77	2005.49	2146.10	1.11	1.39	498.63	1.00
4/15/25 5:15	-0.33	21.57	-0.77	2005.10	2145.70	1.11	1.39	498.73	1.00
4/15/25 6:15	-0.33	21.57	-0.77	2004.72	2145.29	1.11	1.39	498.82	1.00
4/15/25 7:15	-0.34	21.57	-0.78	2005.30	2145.90	1.11	1.39	498.68	1.00
4/15/25 8:15	-0.34	21.57	-0.78	2004.95	2145.54	1.11	1.39	498.77	1.00
4/15/25 9:15	-0.34	21.57	-0.77	2005.25	2145.88	1.11	1.39	498.69	1.00
4/15/25 10:15	-0.33	21.57	-0.77	2004.67	2145.24	1.11	1.39	498.84	1.00
4/15/25 11:15	-0.33	21.57	-0.77	2004.43	2145.01	1.11	1.39	498.90	1.00
4/15/25 12:15	-0.33	21.57	-0.77	2004.30	2144.86	1.11	1.39	498.93	1.00
4/15/25 13:15	-0.33	21.57	-0.76	2004.06	2144.62	1.11	1.39	498.99	1.00
4/15/25 14:15	-0.32	21.57	-0.75	2003.82	2144.39	1.11	1.39	499.05	1.00
4/15/25 15:15	-0.33	21.57	-0.75	2003.59	2144.13	1.11	1.39	499.11	1.00
4/15/25 16:15	-0.32	21.57	-0.74	2003.61	2144.16	1.11	1.39	499.10	1.00
4/15/25 17:15	-0.32	21.57	-0.75	2003.55	2144.10	1.11	1.39	499.12	1.00
4/15/25 18:15	-0.32	21.57	-0.74	2003.22	2143.73	1.11	1.39	499.20	1.00
4/15/25 19:15	-0.32	21.57	-0.74	2002.92	2143.42	1.11	1.39	499.27	1.00
4/15/25 20:15	-0.32	21.57	-0.74	2003.09	2143.61	1.11	1.39	499.23	1.00
4/15/25 21:15	-0.33	21.57	-0.75	2003.15	2143.67	1.11	1.39	499.21	1.00
4/15/25 22:15	-0.32	21.57	-0.75	2002.99	2143.53	1.11	1.39	499.25	1.00
4/15/25 23:15	-0.33	21.57	-0.76	2002.87	2143.39	1.11	1.39	499.28	1.00
4/16/25 0:15	-0.32	21.57	-0.75	2002.83	2143.36	1.11	1.39	499.29	1.00
4/16/25 1:15	-0.32	21.57	-0.75	2002.80	2143.33	1.11	1.39	499.30	1.00
4/16/25 2:15	-0.32	21.57	-0.74	2003.00	2143.54	1.11	1.39	499.25	1.00
4/16/25 3:15	-0.32	21.57	-0.75	2022.05	2163.94	1.12	1.41	494.55	1.00
4/16/25 4:15	-0.32	21.57	-0.74	2022.54	2164.49	1.12	1.41	494.43	1.00
4/16/25 5:15	-0.32	21.57	-0.74	2060.24	2204.82	1.14	1.43	485.38	1.00
4/16/25 6:15	-0.32	21.57	-0.74	2060.38	2204.97	1.14	1.43	485.35	1.00
4/16/25 7:15	-0.33	21.57	-0.75	2060.09	2204.68	1.14	1.43	485.41	1.00
4/16/25 8:15	-0.32	21.57	-0.75	2059.70	2204.25	1.14	1.43	485.51	1.00
4/16/25 9:15	-0.32	21.57	-0.74	2059.77	2204.33	1.14	1.43	485.49	1.00
4/16/25 10:15	-0.32	21.57	-0.75	2059.96	2204.55	1.14	1.43	485.45	1.00
4/16/25 11:15	-0.32	21.57	-0.74	2059.52	2204.08	1.14	1.43	485.55	1.00
4/16/25 12:15	-0.32	21.57	-0.74	2059.42	2203.98	1.14	1.43	485.57	1.00
4/16/25 13:15	-0.32	21.57	-0.73	2059.28	2203.84	1.14	1.43	485.61	1.00
4/16/25 14:15	-0.32	21.57	-0.74	2059.21	2203.78	1.14	1.43	485.62	1.00
4/16/25 15:15	-0.32	21.57	-0.73	2059.21	2203.76	1.14	1.43	485.62	1.00
4/16/25 16:15	-0.32	21.57	-0.73	2058.53	2203.03	1.14	1.43	485.78	1.00
4/16/25 17:15	-0.32	21.57	-0.74	2058.53	2203.06	1.14	1.43	485.78	1.00
4/16/25 18:15	-0.32	21.57	-0.74	2058.10	2202.59	1.14	1.43	485.88	1.00
4/16/25 19:15	-0.32	21.57	-0.73	2057.11	2201.52	1.14	1.43	486.12	1.00
4/16/25 20:15	-0.32	21.56	-0.74	2057.32	2201.78	1.14	1.43	486.07	1.00
4/16/25 21:15	-0.32	21.56	-0.74	2057.32	2201.79	1.14	1.43	486.07	1.00
4/16/25 22:15	-0.32	21.57	-0.75	2057.35	2201.81	1.14	1.43	486.06	1.00
4/16/25 23:15	-0.32	21.57	-0.75	2057.09	2201.51	1.14	1.43	486.12	1.00
4/17/25 0:15	-0.32	21.56	-0.75	2056.54	2200.98	1.14	1.43	486.25	1.00
4/17/25 1:15	-0.32	21.56	-0.75	2056.58	2201.00	1.14	1.43	486.24	1.00
4/17/25 2:15	-0.32	21.56	-0.74	2056.41	2200.83	1.14	1.43	486.28	1.00
4/17/25 3:15	-0.32	21.56	-0.75	2055.96	2200.36	1.14	1.43	486.39	1.00
4/17/25 4:15	-0.32	21.56	-0.75	2055.83	2200.21	1.14	1.43	486.42	1.00
4/17/25 5:15	-0.33	21.56	-0.75	2055.78	2200.15	1.14	1.43	486.43	1.00
4/17/25 6:15	-0.32	21.56	-0.75	2055.61	2199.98	1.14	1.43	486.47	1.00
4/17/25 7:15	-0.32	21.56	-0.75	2054.02	2198.27	1.14	1.43	486.85	1.00
4/17/25 8:15	-0.32	21.56	-0.74	2055.20	2199.57	1.14	1.43	486.57	1.00
4/17/25 9:15	-0.32	21.56	-0.74	2055.05	2199.41	1.14	1.43	486.61	1.00
4/17/25 10:15	-0.32	21.56	-0.73	2054.93	2199.25	1.14	1.43	486.64	1.00
4/17/25 11:15	-0.32	21.56	-0.74	2054.45	2198.79	1.14	1.43	486.75	1.00
4/17/25 12:15	-0.32	21.56	-0.74	2054.22	2198.53	1.14	1.43	486.80	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/17/25 13:15	-0.32	21.56	-0.74	2053.88	2198.18	1.14	1.43	486.88	1.00
4/17/25 14:15	-0.32	21.56	-0.73	2053.91	2198.18	1.14	1.43	486.88	1.00
4/17/25 15:15	-0.32	21.56	-0.74	2053.73	2198.03	1.14	1.43	486.92	1.00
4/17/25 16:15	-0.32	21.56	-0.74	2053.40	2197.68	1.14	1.43	487.00	1.00
4/17/25 17:15	-0.32	21.56	-0.73	2053.41	2197.69	1.14	1.43	486.99	1.00
4/17/25 18:15	-0.32	21.56	-0.73	2052.96	2197.21	1.14	1.43	487.10	1.00
4/17/25 19:15	-0.32	21.56	-0.74	2052.12	2196.31	1.14	1.43	487.30	1.00
4/17/25 20:15	-0.32	21.56	-0.74	2052.01	2196.20	1.14	1.43	487.33	1.00
4/17/25 21:15	-0.32	21.56	-0.74	2051.91	2196.10	1.14	1.43	487.35	1.00
4/17/25 22:15	-0.32	21.56	-0.75	2051.58	2195.77	1.14	1.43	487.43	1.00
4/17/25 23:15	-0.33	21.56	-0.75	2051.68	2195.85	1.14	1.43	487.41	1.00
4/18/25 0:15	-0.32	21.56	-0.74	2051.07	2195.23	1.14	1.43	487.55	1.00
4/18/25 1:15	-0.32	21.56	-0.75	2050.39	2194.51	1.14	1.43	487.71	1.00
4/18/25 2:15	-0.33	21.56	-0.75	2050.62	2194.73	1.14	1.43	487.66	1.00
4/18/25 3:15	-0.33	21.56	-0.77	2050.37	2194.47	1.14	1.43	487.72	1.00
4/18/25 4:15	-0.33	21.56	-0.76	2050.52	2194.64	1.14	1.43	487.68	1.00
4/18/25 5:15	-0.33	21.56	-0.76	2050.02	2194.12	1.14	1.43	487.80	1.00
4/18/25 6:15	-0.33	21.56	-0.76	2049.83	2193.92	1.14	1.43	487.85	1.00
4/18/25 7:15	-0.33	21.56	-0.76	2049.22	2193.28	1.14	1.43	487.99	1.00
4/18/25 8:15	-0.33	21.56	-0.76	2049.12	2193.17	1.14	1.43	488.01	1.00
4/18/25 9:15	-0.33	21.56	-0.76	2049.30	2193.36	1.14	1.43	487.97	1.00
4/18/25 10:15	-0.33	21.56	-0.75	2049.10	2193.16	1.14	1.43	488.02	1.00
4/18/25 11:15	-0.33	21.56	-0.76	2048.90	2192.93	1.14	1.43	488.07	1.00
4/18/25 12:15	-0.32	21.56	-0.75	2048.78	2192.82	1.14	1.43	488.10	1.00
4/18/25 13:15	-0.32	21.56	-0.75	2048.77	2192.82	1.14	1.43	488.10	1.00
4/18/25 14:15	-0.32	21.56	-0.75	2048.71	2192.75	1.14	1.43	488.11	1.00
4/18/25 15:15	-0.32	21.56	-0.75	2048.24	2192.25	1.14	1.42	488.22	1.00
4/18/25 16:15	-0.32	21.56	-0.75	2047.98	2191.96	1.14	1.42	488.29	1.00
4/18/25 17:15	-0.32	21.56	-0.75	2047.85	2191.84	1.14	1.42	488.32	1.00
4/18/25 18:15	-0.33	21.56	-0.77	2047.18	2191.15	1.14	1.42	488.48	1.00
4/18/25 19:15	-0.33	21.56	-0.76	2046.91	2190.86	1.13	1.42	488.54	1.00
4/18/25 20:15	-0.33	21.56	-0.76	2046.52	2190.44	1.13	1.42	488.63	1.00
4/18/25 21:15	-0.33	21.56	-0.77	2046.96	2190.94	1.13	1.42	488.53	1.00
4/18/25 22:15	-0.33	21.56	-0.77	2046.82	2190.79	1.13	1.42	488.56	1.00
4/18/25 23:15	-0.33	21.56	-0.77	2046.53	2190.47	1.13	1.42	488.63	1.00
4/19/25 0:15	-0.33	21.56	-0.77	2046.26	2190.17	1.13	1.42	488.70	1.00
4/19/25 1:15	-0.33	21.56	-0.76	2046.89	2190.87	1.13	1.42	488.55	1.00
4/19/25 2:15	-0.33	21.56	-0.77	2046.70	2190.66	1.13	1.42	488.59	1.00
4/19/25 3:15	-0.33	21.56	-0.77	2046.62	2190.59	1.13	1.42	488.61	1.00
4/19/25 4:15	-0.34	21.56	-0.78	2045.71	2189.61	1.13	1.42	488.83	1.00
4/19/25 5:15	-0.34	21.56	-0.77	2045.92	2189.86	1.13	1.42	488.78	1.00
4/19/25 6:15	-0.34	21.56	-0.78	2045.43	2189.33	1.13	1.42	488.89	1.00
4/19/25 7:15	-0.34	21.56	-0.79	2045.46	2189.37	1.13	1.42	488.89	1.00
4/19/25 8:15	-0.34	21.56	-0.78	2045.66	2189.57	1.13	1.42	488.84	1.00
4/19/25 9:15	-0.34	21.56	-0.78	2045.10	2188.99	1.13	1.42	488.97	1.00
4/19/25 10:15	-0.34	21.56	-0.79	2044.98	2188.88	1.13	1.42	489.00	1.00
4/19/25 11:15	-0.34	21.56	-0.78	2044.62	2188.49	1.13	1.42	489.09	1.00
4/19/25 12:15	-0.34	21.56	-0.78	2044.78	2188.66	1.13	1.42	489.05	1.00
4/19/25 13:15	-0.33	21.56	-0.77	2044.61	2188.47	1.13	1.42	489.09	1.00
4/19/25 14:15	-0.33	21.56	-0.76	2044.40	2188.28	1.13	1.42	489.14	1.00
4/19/25 15:15	-0.33	21.56	-0.77	2044.24	2188.09	1.13	1.42	489.18	1.00
4/19/25 16:15	-0.33	21.56	-0.76	2044.12	2187.95	1.13	1.42	489.21	1.00
4/19/25 17:15	-0.33	21.56	-0.77	2043.58	2187.40	1.13	1.42	489.34	1.00
4/19/25 18:15	-0.34	21.56	-0.77	2043.63	2187.46	1.13	1.42	489.33	1.00
4/19/25 19:15	-0.34	21.56	-0.78	2043.36	2187.17	1.13	1.42	489.39	1.00
4/19/25 20:15	-0.34	21.56	-0.79	2043.15	2186.97	1.13	1.42	489.44	1.00
4/19/25 21:15	-0.34	21.56	-0.78	2043.14	2186.96	1.13	1.42	489.44	1.00
4/19/25 22:15	-0.34	21.56	-0.78	2042.41	2186.20	1.13	1.42	489.62	1.00
4/19/25 23:15	-0.34	21.56	-0.78	2042.19	2185.95	1.13	1.42	489.67	1.00
4/20/25 0:15	-0.34	21.56	-0.78	2042.54	2186.34	1.13	1.42	489.59	1.00
4/20/25 1:15	-0.34	21.56	-0.78	2042.13	2185.89	1.13	1.42	489.69	1.00
4/20/25 2:15	-0.34	21.56	-0.78	2042.14	2185.91	1.13	1.42	489.68	1.00
4/20/25 3:15	-0.34	21.56	-0.78	2042.05	2185.83	1.13	1.42	489.70	1.00
4/20/25 4:15	-0.34	21.56	-0.78	2042.42	2186.23	1.13	1.42	489.61	1.00
4/20/25 5:15	-0.34	21.56	-0.79	2042.06	2185.83	1.13	1.42	489.70	1.00
4/20/25 6:15	-0.34	21.56	-0.79	2042.14	2185.93	1.13	1.42	489.68	1.00
4/20/25 7:15	-0.34	21.56	-0.79	2041.81	2185.57	1.13	1.42	489.76	1.00
4/20/25 8:15	-0.34	21.56	-0.78	2041.72	2185.48	1.13	1.42	489.78	1.00
4/20/25 9:15	-0.34	21.56	-0.78	2041.10	2184.82	1.13	1.42	489.93	1.00
4/20/25 10:15	-0.34	21.56	-0.79	2040.93	2184.66	1.13	1.42	489.97	1.00
4/20/25 11:15	-0.34	21.56	-0.79	2040.96	2184.70	1.13	1.42	489.97	1.00
4/20/25 12:15	-0.34	21.55	-0.78	2040.41	2184.12	1.13	1.42	490.10	1.00
4/20/25 13:15	-0.34	21.55	-0.78	2040.22	2183.93	1.13	1.42	490.14	1.00
4/20/25 14:15	-0.33	21.56	-0.77	2040.22	2183.90	1.13	1.42	490.14	1.00
4/20/25 15:15	-0.34	21.55	-0.78	2039.92	2183.61	1.13	1.42	490.22	1.00
4/20/25 16:15	-0.33	21.55	-0.77	2039.46	2183.12	1.13	1.42	490.33	1.00
4/20/25 17:15	-0.33	21.56	-0.77	2038.76	2182.36	1.13	1.42	490.49	1.00
4/20/25 18:15	-0.34	21.55	-0.78	2039.09	2182.73	1.13	1.42	490.41	1.00
4/20/25 19:15	-0.34	21.55	-0.78	2038.91	2182.52	1.13	1.42	490.46	1.00
4/20/25 20:15	-0.34	21.55	-0.78	2038.64	2182.26	1.13	1.42	490.52	1.00
4/20/25 21:15	-0.34	21.55	-0.79	2038.46	2182.07	1.13	1.42	490.57	1.00
4/20/25 22:15	-0.34	21.55	-0.79	2038.40	2182.01	1.13	1.42	490.58	1.00
4/20/25 23:15	-0.34	21.55	-0.79	2038.40	2182.02	1.13	1.42	490.58	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/21/25 0:15	-0.34	21.55	-0.78	2038.40	2182.01	1.13	1.42	490.58	1.00
4/21/25 1:15	-0.34	21.55	-0.79	2038.57	2182.20	1.13	1.42	490.54	1.00
4/21/25 2:15	-0.34	21.55	-0.78	2038.00	2181.60	1.13	1.42	490.68	1.00
4/21/25 3:15	-0.34	21.55	-0.79	2037.84	2181.43	1.13	1.42	490.72	1.00
4/21/25 4:15	-0.34	21.55	-0.79	2037.63	2181.21	1.13	1.42	490.77	1.00
4/21/25 5:15	-0.34	21.55	-0.79	2037.66	2181.24	1.13	1.42	490.76	1.00
4/21/25 6:15	-0.34	21.55	-0.79	2037.52	2181.09	1.13	1.42	490.79	1.00
4/21/25 7:15	-0.34	21.55	-0.79	2037.01	2180.57	1.13	1.42	490.92	1.00
4/21/25 8:15	-0.34	21.55	-0.79	2037.06	2180.62	1.13	1.42	490.90	1.00
4/21/25 9:15	-0.34	21.55	-0.79	2036.52	2180.05	1.13	1.42	491.03	1.00
4/21/25 10:15	-0.34	21.55	-0.78	2036.24	2179.75	1.13	1.42	491.10	1.00
4/21/25 11:15	-0.34	21.55	-0.80	2036.01	2179.51	1.13	1.42	491.16	1.00
4/21/25 12:15	-0.34	21.55	-0.78	2035.83	2179.34	1.13	1.42	491.20	1.00
4/21/25 13:15	-0.34	21.55	-0.79	2035.90	2179.41	1.13	1.42	491.18	1.00
4/21/25 14:15	-0.34	21.55	-0.78	2036.06	2179.58	1.13	1.42	491.14	1.00
4/21/25 15:15	-0.34	21.55	-0.78	2035.67	2179.17	1.13	1.42	491.24	1.00
4/21/25 16:15	-0.34	21.55	-0.78	2035.18	2178.66	1.13	1.42	491.36	1.00
4/21/25 17:15	-0.34	21.55	-0.78	2034.55	2177.98	1.13	1.42	491.51	1.00
4/21/25 18:15	-0.34	21.55	-0.78	2034.29	2177.73	1.13	1.42	491.57	1.00
4/21/25 19:15	-0.34	21.55	-0.78	2033.80	2177.18	1.13	1.42	491.69	1.00
4/21/25 20:15	-0.34	21.55	-0.78	2033.70	2177.10	1.13	1.42	491.72	1.00
4/21/25 21:15	-0.34	21.55	-0.80	2032.81	2176.14	1.13	1.41	491.93	1.00
4/21/25 22:15	-0.34	21.55	-0.79	2032.39	2175.69	1.13	1.41	492.03	1.00
4/21/25 23:15	-0.34	21.55	-0.79	2032.03	2175.33	1.13	1.41	492.12	1.00
4/22/25 0:15	-0.34	21.55	-0.79	2031.86	2175.14	1.13	1.41	492.16	1.00
4/22/25 1:15	-0.34	21.55	-0.79	2031.93	2175.21	1.13	1.41	492.14	1.00
4/22/25 2:15	-0.34	21.55	-0.79	2031.39	2174.65	1.13	1.41	492.27	1.00
4/22/25 3:15	-0.34	21.55	-0.80	2031.09	2174.33	1.13	1.41	492.35	1.00
4/22/25 4:15	-0.34	21.55	-0.79	2030.45	2173.64	1.13	1.41	492.50	1.00
4/22/25 5:15	-0.35	21.55	-0.80	2030.04	2173.24	1.13	1.41	492.60	1.00
4/22/25 6:15	-0.35	21.55	-0.80	2029.38	2172.51	1.12	1.41	492.76	1.00
4/22/25 7:15	-0.35	21.55	-0.80	2028.89	2171.98	1.12	1.41	492.88	1.00
4/22/25 8:15	-0.34	21.55	-0.79	2028.43	2171.50	1.12	1.41	492.99	1.00
4/22/25 9:15	-0.35	21.55	-0.80	2027.88	2170.91	1.12	1.41	493.13	1.00
4/22/25 10:15	-0.35	21.55	-0.80	2027.58	2170.62	1.12	1.41	493.20	1.00
4/22/25 11:15	-0.34	21.55	-0.79	2026.71	2169.67	1.12	1.41	493.41	1.00
4/22/25 12:15	-0.34	21.55	-0.78	2026.42	2169.38	1.12	1.41	493.48	1.00
4/22/25 13:15	-0.33	21.55	-0.77	2025.91	2168.85	1.12	1.41	493.60	1.00
4/22/25 14:15	-0.33	21.55	-0.75	2025.12	2168.00	1.12	1.41	493.80	1.00
4/22/25 15:15	-0.32	21.55	-0.75	2024.26	2167.09	1.12	1.41	494.01	1.00
4/22/25 16:15	-0.32	21.55	-0.74	2023.27	2166.03	1.12	1.41	494.25	1.00
4/22/25 17:15	-0.32	21.55	-0.74	2022.46	2165.16	1.12	1.41	494.45	1.00
4/22/25 18:15	-0.32	21.55	-0.73	2021.64	2164.30	1.12	1.41	494.65	1.00
4/22/25 19:15	-0.32	21.55	-0.73	2020.91	2163.53	1.12	1.41	494.83	1.00
4/22/25 20:15	-0.32	21.55	-0.73	2020.16	2162.71	1.12	1.41	495.01	1.00
4/22/25 21:15	-0.32	21.55	-0.73	2020.04	2162.59	1.12	1.41	495.04	1.00
4/22/25 22:15	-0.32	21.55	-0.73	2019.70	2162.25	1.12	1.41	495.12	1.00
4/22/25 23:15	-0.31	21.55	-0.73	2019.13	2161.61	1.12	1.41	495.26	1.00
4/23/25 0:15	-0.31	21.55	-0.72	2018.66	2161.13	1.12	1.40	495.38	1.00
4/23/25 1:15	-0.31	21.55	-0.72	2018.49	2160.97	1.12	1.40	495.42	1.00
4/23/25 2:15	-0.31	21.55	-0.72	2018.06	2160.49	1.12	1.40	495.53	1.00
4/23/25 3:15	-0.31	21.55	-0.72	2017.39	2159.81	1.12	1.40	495.69	1.00
4/23/25 4:15	-0.31	21.55	-0.72	2016.31	2158.65	1.12	1.40	495.95	1.00
4/23/25 5:15	-0.31	21.55	-0.71	2016.44	2158.80	1.12	1.40	495.92	1.00
4/23/25 6:15	-0.31	21.55	-0.72	2015.32	2157.60	1.12	1.40	496.20	1.00
4/23/25 7:15	-0.31	21.55	-0.72	2015.32	2157.58	1.12	1.40	496.20	1.00
4/23/25 8:15	-0.31	21.55	-0.73	2014.45	2156.69	1.12	1.40	496.41	1.00
4/23/25 9:15	-0.31	21.55	-0.72	2013.72	2155.89	1.12	1.40	496.59	1.00
4/23/25 10:15	-0.31	21.55	-0.71	2013.80	2155.99	1.12	1.40	496.57	1.00
4/23/25 11:15	-0.31	21.55	-0.71	2013.32	2155.47	1.12	1.40	496.69	1.00
4/23/25 12:15	-0.31	21.55	-0.71	2013.02	2155.18	1.12	1.40	496.77	1.00
4/23/25 13:15	-0.31	21.55	-0.71	2012.23	2154.33	1.12	1.40	496.96	1.00
4/23/25 14:15	-0.31	21.55	-0.71	2011.12	2153.16	1.11	1.40	497.24	1.00
4/23/25 15:15	-0.30	21.55	-0.70	2008.85	2150.71	1.11	1.40	497.80	1.00
4/23/25 16:15	-0.30	21.55	-0.70	2008.14	2149.96	1.11	1.40	497.97	1.00
4/23/25 17:15	-0.30	21.55	-0.70	2007.75	2149.53	1.11	1.40	498.07	1.00
4/23/25 18:15	-0.31	21.55	-0.70	2007.53	2149.32	1.11	1.40	498.13	1.00
4/23/25 19:15	-0.30	21.55	-0.70	2006.84	2148.61	1.11	1.40	498.30	1.00
4/23/25 20:15	-0.31	21.55	-0.71	2006.73	2148.47	1.11	1.40	498.32	1.00
4/23/25 21:15	-0.31	21.55	-0.71	2006.38	2148.10	1.11	1.40	498.41	1.00
4/23/25 22:15	-0.31	21.55	-0.71	2005.96	2147.65	1.11	1.40	498.52	1.00
4/23/25 23:15	-0.30	21.55	-0.70	2005.80	2147.49	1.11	1.40	498.55	1.00
4/24/25 0:15	-0.31	21.55	-0.70	2005.58	2147.26	1.11	1.40	498.61	1.00
4/24/25 1:15	-0.30	21.55	-0.70	2005.08	2146.74	1.11	1.40	498.73	1.00
4/24/25 2:15	-0.30	21.55	-0.70	2004.50	2146.12	1.11	1.39	498.88	1.00
4/24/25 3:15	-0.30	21.55	-0.70	2004.46	2146.07	1.11	1.39	498.89	1.00
4/24/25 4:15	-0.30	21.54	-0.70	2004.09	2145.71	1.11	1.39	498.98	1.00
4/24/25 5:15	-0.30	21.54	-0.70	2004.05	2145.66	1.11	1.39	498.99	1.00
4/24/25 6:15	-0.31	21.54	-0.72	2003.76	2145.34	1.11	1.39	499.06	1.00
4/24/25 7:15	-0.31	21.54	-0.71	2003.33	2144.89	1.11	1.39	499.17	1.00
4/24/25 8:15	-0.31	21.54	-0.71	2003.52	2145.13	1.11	1.39	499.12	1.00
4/24/25 9:15	-0.31	21.54	-0.71	2003.14	2144.68	1.11	1.39	499.22	1.00
4/24/25 10:15	-0.31	21.54	-0.71	2002.92	2144.47	1.11	1.39	499.27	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/24/25 11:15	-0.30	21.54	-0.70	2003.03	2144.60	1.11	1.39	499.24	1.00
4/24/25 12:15	-0.30	21.54	-0.70	2002.81	2144.37	1.11	1.39	499.30	1.00
4/24/25 13:15	-0.30	21.54	-0.70	2002.90	2144.46	1.11	1.39	499.28	1.00
4/24/25 14:15	-0.30	21.54	-0.69	2002.76	2144.31	1.11	1.39	499.31	1.00
4/24/25 15:15	-0.31	21.54	-0.70	2001.89	2143.40	1.11	1.39	499.53	1.00
4/24/25 16:15	-0.31	21.54	-0.70	2001.89	2143.41	1.11	1.39	499.53	1.00
4/24/25 17:15	-0.31	21.54	-0.71	2001.51	2143.01	1.11	1.39	499.62	1.00
4/24/25 18:15	-0.31	21.54	-0.71	2002.81	2144.40	1.11	1.39	499.30	1.00
4/24/25 19:15	-0.31	21.54	-0.71	2002.30	2143.85	1.11	1.39	499.43	1.00
4/24/25 20:15	-0.31	21.54	-0.71	2002.24	2143.81	1.11	1.39	499.44	1.00
4/24/25 21:15	-0.31	21.54	-0.72	2002.12	2143.68	1.11	1.39	499.47	1.00
4/24/25 22:15	-0.31	21.54	-0.71	2001.99	2143.52	1.11	1.39	499.50	1.00
4/24/25 23:15	-0.31	21.54	-0.71	2001.20	2142.71	1.11	1.39	499.70	1.00
4/25/25 0:15	-0.31	21.54	-0.71	2001.20	2142.70	1.11	1.39	499.70	1.00
4/25/25 1:15	-0.31	21.54	-0.71	2000.60	2142.06	1.11	1.39	499.85	1.00
4/25/25 2:15	-0.31	21.54	-0.71	2000.37	2141.82	1.11	1.39	499.91	1.00
4/25/25 3:15	-0.31	21.54	-0.71	1999.63	2141.04	1.11	1.39	500.09	1.00
4/25/25 4:15	-0.31	21.54	-0.71	1999.76	2141.20	1.11	1.39	500.06	1.00
4/25/25 5:15	-0.31	21.54	-0.71	1999.70	2141.13	1.11	1.39	500.07	1.00
4/25/25 6:15	-0.31	21.54	-0.71	2000.22	2141.67	1.11	1.39	499.95	1.00
4/25/25 7:15	-0.31	21.54	-0.72	2000.22	2141.67	1.11	1.39	499.94	1.00
4/25/25 8:15	-0.31	21.54	-0.72	2000.04	2141.51	1.11	1.39	499.99	1.00
4/25/25 9:15	-0.31	21.54	-0.72	1998.99	2140.37	1.11	1.39	500.25	1.00
4/25/25 10:15	-0.31	21.54	-0.72	1998.79	2140.18	1.11	1.39	500.30	1.00
4/25/25 11:15	-0.31	21.54	-0.72	1998.00	2139.36	1.11	1.39	500.50	1.00
4/25/25 12:15	-0.31	21.54	-0.71	1998.48	2139.86	1.11	1.39	500.38	1.00
4/25/25 13:15	-0.31	21.54	-0.71	1998.33	2139.69	1.11	1.39	500.42	1.00
4/25/25 14:15	-0.31	21.54	-0.71	1997.39	2138.69	1.11	1.39	500.65	1.00
4/25/25 15:15	-0.30	21.54	-0.70	1997.56	2138.90	1.11	1.39	500.61	1.00
4/25/25 16:15	-0.31	21.54	-0.71	1997.42	2138.76	1.11	1.39	500.65	1.00
4/25/25 17:15	-0.30	21.54	-0.70	1997.64	2139.00	1.11	1.39	500.59	1.00
4/25/25 18:15	-0.31	21.54	-0.71	1997.31	2138.61	1.11	1.39	500.67	1.00
4/25/25 19:15	-0.31	21.54	-0.71	1997.40	2138.75	1.11	1.39	500.65	1.00
4/25/25 20:15	-0.31	21.54	-0.71	1997.61	2138.99	1.11	1.39	500.60	1.00
4/25/25 21:15	-0.31	21.54	-0.72	1997.73	2139.10	1.11	1.39	500.57	1.00
4/25/25 22:15	-0.31	21.54	-0.72	1997.90	2139.30	1.11	1.39	500.52	1.00
4/25/25 23:15	-0.31	21.54	-0.71	1997.89	2139.28	1.11	1.39	500.53	1.00
4/26/25 0:15	-0.31	21.54	-0.71	1997.96	2139.38	1.11	1.39	500.51	1.00
4/26/25 1:15	-0.31	21.54	-0.71	1998.06	2139.50	1.11	1.39	500.49	1.00
4/26/25 2:15	-0.31	21.54	-0.70	1998.13	2139.58	1.11	1.39	500.47	1.00
4/26/25 3:15	-0.31	21.54	-0.71	1997.98	2139.41	1.11	1.39	500.51	1.00
4/26/25 4:15	-0.31	21.54	-0.71	1998.16	2139.61	1.11	1.39	500.46	1.00
4/26/25 5:15	-0.31	21.54	-0.71	1998.31	2139.78	1.11	1.39	500.42	1.00
4/26/25 6:15	-0.31	21.54	-0.72	1998.30	2139.76	1.11	1.39	500.43	1.00
4/26/25 7:15	-0.31	21.54	-0.72	1998.63	2140.12	1.11	1.39	500.34	1.00
4/26/25 8:15	-0.31	21.54	-0.72	1998.84	2140.36	1.11	1.39	500.29	1.00
4/26/25 9:15	-0.31	21.54	-0.72	1999.37	2140.94	1.11	1.39	500.16	1.00
4/26/25 10:15	-0.31	21.54	-0.71	1999.15	2140.71	1.11	1.39	500.21	1.00
4/26/25 11:15	-0.31	21.54	-0.72	1999.00	2140.52	1.11	1.39	500.25	1.00
4/26/25 12:15	-0.31	21.54	-0.71	2017.66	2160.52	1.12	1.40	495.62	1.00
4/26/25 13:15	-0.31	21.54	-0.72	2017.63	2160.48	1.12	1.40	495.63	1.00
4/26/25 14:15	-0.31	21.54	-0.71	2018.24	2161.17	1.12	1.40	495.48	1.00
4/26/25 15:15	-0.31	21.54	-0.71	2018.31	2161.24	1.12	1.40	495.46	1.00
4/26/25 16:15	-0.31	21.54	-0.71	2060.75	2206.71	1.14	1.43	485.26	1.00
4/26/25 17:15	-0.31	21.54	-0.71	2059.99	2205.87	1.14	1.43	485.44	1.00
4/26/25 18:15	-0.31	21.54	-0.72	2059.44	2205.30	1.14	1.43	485.57	1.00
4/26/25 19:15	-0.31	21.54	-0.71	2059.61	2205.49	1.14	1.43	485.53	1.00
4/26/25 20:15	-0.31	21.54	-0.72	2059.85	2205.76	1.14	1.43	485.47	1.00
4/26/25 21:15	-0.31	21.54	-0.73	2059.76	2205.67	1.14	1.43	485.49	1.00
4/26/25 22:15	-0.31	21.54	-0.72	2059.18	2205.04	1.14	1.43	485.63	1.00
4/26/25 23:15	-0.31	21.54	-0.72	2059.19	2205.06	1.14	1.43	485.63	1.00
4/27/25 0:15	-0.32	21.54	-0.73	2059.52	2205.44	1.14	1.43	485.55	1.00
4/27/25 1:15	-0.31	21.54	-0.72	2059.38	2205.26	1.14	1.43	485.58	1.00
4/27/25 2:15	-0.31	21.54	-0.71	2059.11	2205.00	1.14	1.43	485.65	1.00
4/27/25 3:15	-0.31	21.54	-0.72	2059.24	2205.15	1.14	1.43	485.62	1.00
4/27/25 4:15	-0.31	21.54	-0.72	2059.22	2205.14	1.14	1.43	485.62	1.00
4/27/25 5:15	-0.31	21.54	-0.71	2059.49	2205.42	1.14	1.43	485.56	1.00
4/27/25 6:15	-0.31	21.54	-0.72	2059.50	2205.44	1.14	1.43	485.55	1.00
4/27/25 7:15	-0.31	21.54	-0.72	2060.00	2205.98	1.14	1.43	485.44	1.00
4/27/25 8:15	-0.31	21.53	-0.72	2060.03	2206.04	1.14	1.43	485.43	1.00
4/27/25 9:15	-0.31	21.53	-0.72	2059.95	2205.96	1.14	1.43	485.45	1.00
4/27/25 10:15	-0.31	21.54	-0.71	2059.79	2205.77	1.14	1.43	485.49	1.00
4/27/25 11:15	-0.31	21.53	-0.71	2059.77	2205.77	1.14	1.43	485.49	1.00
4/27/25 12:15	-0.31	21.53	-0.71	2060.06	2206.08	1.14	1.43	485.42	1.00
4/27/25 13:15	-0.31	21.53	-0.70	2059.99	2205.99	1.14	1.43	485.44	1.00
4/27/25 14:15	-0.31	21.53	-0.71	2059.69	2205.68	1.14	1.43	485.51	1.00
4/27/25 15:15	-0.31	21.53	-0.71	2059.64	2205.61	1.14	1.43	485.52	1.00
4/27/25 16:15	-0.30	21.53	-0.70	2058.85	2204.80	1.14	1.43	485.71	1.00
4/27/25 17:15	-0.30	21.53	-0.70	2059.00	2204.94	1.14	1.43	485.67	1.00
4/27/25 18:15	-0.30	21.53	-0.70	2059.05	2205.04	1.14	1.43	485.66	1.00
4/27/25 19:15	-0.31	21.53	-0.71	2059.19	2205.19	1.14	1.43	485.63	1.00
4/27/25 20:15	-0.31	21.53	-0.71	2059.23	2205.22	1.14	1.43	485.62	1.00
4/27/25 21:15	-0.31	21.53	-0.72	2059.17	2205.17	1.14	1.43	485.63	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
4/27/25 22:15	-0.31	21.53	-0.72	2059.25	2205.25	1.14	1.43	485.61	1.00
4/27/25 23:15	-0.31	21.53	-0.72	2059.39	2205.42	1.14	1.43	485.58	1.00
4/28/25 0:15	-0.31	21.53	-0.72	2058.50	2204.46	1.14	1.43	485.79	1.00
4/28/25 1:15	-0.31	21.53	-0.72	2058.68	2204.67	1.14	1.43	485.75	1.00
4/28/25 2:15	-0.31	21.53	-0.71	2058.63	2204.60	1.14	1.43	485.76	1.00
4/28/25 3:15	-0.31	21.53	-0.73	2058.87	2204.87	1.14	1.43	485.70	1.00
4/28/25 4:15	-0.31	21.53	-0.73	2058.40	2204.38	1.14	1.43	485.81	1.00
4/28/25 5:15	-0.31	21.53	-0.72	2058.82	2204.85	1.14	1.43	485.71	1.00
4/28/25 6:15	-0.31	21.53	-0.72	2058.45	2204.47	1.14	1.43	485.80	1.00
4/28/25 7:15	-0.31	21.53	-0.72	2058.11	2204.09	1.14	1.43	485.88	1.00
4/28/25 8:15	-0.31	21.53	-0.73	2058.14	2204.14	1.14	1.43	485.87	1.00
4/28/25 9:15	-0.31	21.53	-0.73	2058.12	2204.13	1.14	1.43	485.88	1.00
4/28/25 10:15	-0.31	21.53	-0.73	2058.07	2204.07	1.14	1.43	485.89	1.00
4/28/25 11:15	-0.31	21.53	-0.72	2057.99	2204.00	1.14	1.43	485.91	1.00
4/28/25 12:15	-0.31	21.53	-0.71	2057.52	2203.50	1.14	1.43	486.02	1.00
4/28/25 13:15	-0.30	21.53	-0.70	2057.46	2203.43	1.14	1.43	486.04	1.00
4/28/25 14:15	-0.31	21.53	-0.71	2057.20	2203.17	1.14	1.43	486.10	1.00
4/28/25 15:15	-0.31	21.53	-0.71	2057.19	2203.15	1.14	1.43	486.10	1.00
4/28/25 16:15	-0.31	21.53	-0.71	2056.82	2202.77	1.14	1.43	486.19	1.00
4/28/25 17:15	-0.30	21.53	-0.70	2056.82	2202.78	1.14	1.43	486.19	1.00
4/28/25 18:15	-0.31	21.53	-0.73	2056.76	2202.72	1.14	1.43	486.20	1.00
4/28/25 19:15	-0.31	21.53	-0.72	2056.63	2202.58	1.14	1.43	486.23	1.00
4/28/25 20:15	-0.32	21.53	-0.73	2056.40	2202.33	1.14	1.43	486.29	1.00
4/28/25 21:15	-0.32	21.53	-0.73	2056.29	2202.24	1.14	1.43	486.31	1.00
4/28/25 22:15	-0.32	21.53	-0.74	2056.56	2202.53	1.14	1.43	486.25	1.00
4/28/25 23:15	-0.32	21.53	-0.74	2056.27	2202.22	1.14	1.43	486.32	1.00
4/29/25 0:15	-0.32	21.53	-0.74	2055.37	2201.25	1.14	1.43	486.53	1.00
4/29/25 1:15	-0.32	21.53	-0.74	2055.46	2201.35	1.14	1.43	486.51	1.00
4/29/25 2:15	-0.32	21.53	-0.73	2055.22	2201.11	1.14	1.43	486.57	1.00
4/29/25 3:15	-0.32	21.53	-0.73	2055.18	2201.08	1.14	1.43	486.57	1.00
4/29/25 4:15	-0.32	21.53	-0.73	2055.65	2201.58	1.14	1.43	486.46	1.00
4/29/25 5:15	-0.32	21.53	-0.74	2055.40	2201.32	1.14	1.43	486.52	1.00
4/29/25 6:15	-0.32	21.53	-0.74	2055.35	2201.29	1.14	1.43	486.54	1.00
4/29/25 7:15	-0.32	21.53	-0.74	2053.70	2199.50	1.14	1.43	486.93	1.00
4/29/25 8:15	-0.32	21.53	-0.73	2053.35	2199.14	1.14	1.43	487.01	1.00
4/29/25 9:15	-0.31	21.53	-0.72	2053.60	2199.42	1.14	1.43	486.95	1.00
4/29/25 10:15	-0.32	21.53	-0.73	2053.12	2198.90	1.14	1.43	487.06	1.00
4/29/25 11:15	-0.32	21.53	-0.73	2053.11	2198.90	1.14	1.43	487.07	1.00
4/29/25 12:15	-0.31	21.53	-0.72	2052.68	2198.45	1.14	1.43	487.17	1.00
4/29/25 13:15	-0.31	21.53	-0.72	2052.81	2198.60	1.14	1.43	487.14	1.00
4/29/25 14:15	-0.31	21.53	-0.72	2052.31	2198.07	1.14	1.43	487.26	1.00
4/29/25 15:15	-0.31	21.53	-0.71	2051.96	2197.70	1.14	1.43	487.34	1.00
4/29/25 16:15	-0.31	21.53	-0.73	2051.95	2197.67	1.14	1.43	487.34	1.00
4/29/25 17:15	-0.31	21.53	-0.71	2051.86	2197.62	1.14	1.43	487.36	1.00
4/29/25 18:15	-0.31	21.53	-0.73	2051.67	2197.41	1.14	1.43	487.41	1.00
4/29/25 19:15	-0.31	21.53	-0.72	2051.21	2196.92	1.14	1.43	487.52	1.00
4/29/25 20:15	-0.32	21.53	-0.73	2051.23	2196.94	1.14	1.43	487.51	1.00
4/29/25 21:15	-0.32	21.53	-0.73	2051.17	2196.89	1.14	1.43	487.53	1.00
4/29/25 22:15	-0.32	21.53	-0.73	2051.33	2197.05	1.14	1.43	487.49	1.00
4/29/25 23:15	-0.31	21.53	-0.72	2051.32	2197.06	1.14	1.43	487.49	1.00
4/30/25 0:15	-0.31	21.53	-0.72	2051.48	2197.26	1.14	1.43	487.45	1.00
4/30/25 1:15	-0.31	21.53	-0.72	2050.84	2196.56	1.14	1.43	487.61	1.00
4/30/25 2:15	-0.31	21.53	-0.71	2050.70	2196.41	1.14	1.43	487.64	1.00
4/30/25 3:15	-0.31	21.53	-0.72	2050.89	2196.61	1.14	1.43	487.59	1.00
4/30/25 4:15	-0.31	21.53	-0.72	2050.35	2196.04	1.14	1.43	487.72	1.00
4/30/25 5:15	-0.31	21.53	-0.72	2050.58	2196.30	1.14	1.43	487.67	1.00
4/30/25 6:15	-0.31	21.53	-0.73	2050.82	2196.56	1.14	1.43	487.61	1.00
4/30/25 7:15	-0.31	21.53	-0.72	2050.40	2196.12	1.14	1.43	487.71	1.00
4/30/25 8:15	-0.31	21.53	-0.72	2049.62	2195.30	1.14	1.43	487.89	1.00
4/30/25 9:15	-0.32	21.53	-0.73	2049.27	2194.91	1.14	1.43	487.98	1.00
4/30/25 10:15	-0.32	21.53	-0.74	2048.98	2194.62	1.14	1.43	488.05	1.00
4/30/25 11:15	-0.32	21.53	-0.75	2048.34	2193.95	1.14	1.43	488.20	1.00
4/30/25 12:15	-0.33	21.53	-0.76	2048.35	2193.95	1.14	1.43	488.20	1.00
4/30/25 13:15	-0.33	21.53	-0.77	2048.20	2193.78	1.14	1.43	488.23	1.00
4/30/25 14:15	-0.33	21.53	-0.76	2047.22	2192.75	1.14	1.43	488.47	1.00
4/30/25 15:15	-0.33	21.53	-0.77	2047.03	2192.56	1.14	1.43	488.51	1.00
4/30/25 16:15	-0.34	21.52	-0.78	2046.69	2192.20	1.14	1.42	488.59	1.00
4/30/25 17:15	-0.34	21.52	-0.78	2046.31	2191.81	1.14	1.42	488.68	1.00
4/30/25 18:15	-0.34	21.52	-0.79	2046.10	2191.59	1.14	1.42	488.74	1.00
4/30/25 19:15	-0.34	21.52	-0.79	2046.42	2191.93	1.14	1.42	488.66	1.00
4/30/25 20:15	-0.34	21.52	-0.79	2046.50	2192.02	1.14	1.42	488.64	1.00
4/30/25 21:15	-0.34	21.52	-0.79	2046.13	2191.62	1.14	1.42	488.73	1.00
4/30/25 22:15	-0.35	21.52	-0.80	2045.89	2191.38	1.14	1.42	488.79	1.00
4/30/25 23:15	-0.34	21.52	-0.79	2045.61	2191.08	1.14	1.42	488.85	1.00
5/1/25 0:15	-0.34	21.52	-0.79	2045.39	2190.86	1.13	1.42	488.91	1.00
5/1/25 1:15	-0.34	21.52	-0.79	2045.06	2190.51	1.13	1.42	488.98	1.00
5/1/25 2:15	-0.34	21.52	-0.79	2044.57	2190.00	1.13	1.42	489.10	1.00
5/1/25 3:15	-0.34	21.52	-0.79	2044.31	2189.69	1.13	1.42	489.16	1.00
5/1/25 4:15	-0.34	21.52	-0.79	2044.33	2189.73	1.13	1.42	489.16	1.00
5/1/25 5:15	-0.34	21.52	-0.78	2043.95	2189.35	1.13	1.42	489.25	1.00
5/1/25 6:15	-0.35	21.52	-0.80	2044.14	2189.54	1.13	1.42	489.20	1.00
5/1/25 7:15	-0.35	21.52	-0.80	2044.04	2189.44	1.13	1.42	489.23	1.00
5/1/25 8:15	-0.35	21.52	-0.80	2044.06	2189.48	1.13	1.42	489.22	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/1/25 9:15	-0.34	21.52	-0.79	2043.94	2189.35	1.13	1.42	489.25	1.00
5/1/25 10:15	-0.34	21.52	-0.79	2043.48	2188.87	1.13	1.42	489.36	1.00
5/1/25 11:15	-0.34	21.52	-0.79	2043.17	2188.54	1.13	1.42	489.44	1.00
5/1/25 12:15	-0.34	21.52	-0.79	2043.09	2188.46	1.13	1.42	489.46	1.00
5/1/25 13:15	-0.34	21.52	-0.78	2042.72	2188.07	1.13	1.42	489.54	1.00
5/1/25 14:15	-0.34	21.52	-0.78	2042.50	2187.82	1.13	1.42	489.60	1.00
5/1/25 15:15	-0.34	21.52	-0.78	2042.01	2187.33	1.13	1.42	489.71	1.00
5/1/25 16:15	-0.34	21.52	-0.78	2041.42	2186.68	1.13	1.42	489.86	1.00
5/1/25 17:15	-0.34	21.52	-0.78	2041.19	2186.45	1.13	1.42	489.91	1.00
5/1/25 18:15	-0.34	21.52	-0.77	2041.37	2186.65	1.13	1.42	489.87	1.00
5/1/25 19:15	-0.34	21.52	-0.78	2040.49	2185.72	1.13	1.42	490.08	1.00
5/1/25 20:15	-0.34	21.52	-0.78	2040.17	2185.38	1.13	1.42	490.15	1.00
5/1/25 21:15	-0.34	21.52	-0.78	2039.76	2184.95	1.13	1.42	490.25	1.00
5/1/25 22:15	-0.34	21.52	-0.79	2039.51	2184.68	1.13	1.42	490.31	1.00
5/1/25 23:15	-0.34	21.52	-0.79	2039.52	2184.69	1.13	1.42	490.31	1.00
5/2/25 0:15	-0.34	21.52	-0.79	2039.06	2184.20	1.13	1.42	490.42	1.00
5/2/25 1:15	-0.34	21.52	-0.79	2038.62	2183.75	1.13	1.42	490.53	1.00
5/2/25 2:15	-0.34	21.52	-0.79	2038.50	2183.62	1.13	1.42	490.56	1.00
5/2/25 3:15	-0.34	21.52	-0.79	2037.98	2183.07	1.13	1.42	490.68	1.00
5/2/25 4:15	-0.34	21.52	-0.79	2037.43	2182.48	1.13	1.42	490.81	1.00
5/2/25 5:15	-0.35	21.52	-0.80	2037.38	2182.42	1.13	1.42	490.83	1.00
5/2/25 6:15	-0.34	21.52	-0.79	2037.13	2182.17	1.13	1.42	490.89	1.00
5/2/25 7:15	-0.35	21.52	-0.80	2036.79	2181.82	1.13	1.42	490.97	1.00
5/2/25 8:15	-0.34	21.52	-0.79	2036.86	2181.90	1.13	1.42	490.95	1.00
5/2/25 9:15	-0.35	21.52	-0.80	2036.60	2181.63	1.13	1.42	491.01	1.00
5/2/25 10:15	-0.35	21.52	-0.80	2036.69	2181.71	1.13	1.42	490.99	1.00
5/2/25 11:15	-0.35	21.52	-0.80	2036.38	2181.41	1.13	1.42	491.07	1.00
5/2/25 12:15	-0.34	21.52	-0.79	2035.85	2180.84	1.13	1.42	491.20	1.00
5/2/25 13:15	-0.35	21.52	-0.80	2036.38	2181.42	1.13	1.42	491.07	1.00
5/2/25 14:15	-0.34	21.52	-0.79	2036.21	2181.23	1.13	1.42	491.11	1.00
5/2/25 15:15	-0.34	21.52	-0.78	2035.46	2180.43	1.13	1.42	491.29	1.00
5/2/25 16:15	-0.34	21.52	-0.79	2034.79	2179.71	1.13	1.42	491.45	1.00
5/2/25 17:15	-0.34	21.52	-0.79	2034.70	2179.62	1.13	1.42	491.47	1.00
5/2/25 18:15	-0.34	21.52	-0.79	2034.22	2179.13	1.13	1.42	491.59	1.00
5/2/25 19:15	-0.34	21.52	-0.79	2033.61	2178.47	1.13	1.42	491.74	1.00
5/2/25 20:15	-0.34	21.52	-0.79	2033.36	2178.21	1.13	1.42	491.80	1.00
5/2/25 21:15	-0.34	21.52	-0.79	2033.38	2178.24	1.13	1.42	491.79	1.00
5/2/25 22:15	-0.35	21.52	-0.80	2033.15	2177.99	1.13	1.42	491.85	1.00
5/2/25 23:15	-0.35	21.52	-0.80	2033.04	2177.88	1.13	1.42	491.88	1.00
5/3/25 0:15	-0.35	21.52	-0.80	2033.09	2177.93	1.13	1.42	491.86	1.00
5/3/25 1:15	-0.34	21.52	-0.79	2032.26	2177.06	1.13	1.42	492.06	1.00
5/3/25 2:15	-0.34	21.52	-0.80	2031.91	2176.68	1.13	1.41	492.15	1.00
5/3/25 3:15	-0.35	21.52	-0.80	2031.93	2176.74	1.13	1.41	492.14	1.00
5/3/25 4:15	-0.35	21.52	-0.80	2031.59	2176.38	1.13	1.41	492.23	1.00
5/3/25 5:15	-0.34	21.52	-0.79	2031.90	2176.71	1.13	1.41	492.15	1.00
5/3/25 6:15	-0.34	21.52	-0.79	2031.71	2176.53	1.13	1.41	492.20	1.00
5/3/25 7:15	-0.34	21.52	-0.79	2030.83	2175.56	1.13	1.41	492.41	1.00
5/3/25 8:15	-0.35	21.52	-0.80	2031.02	2175.79	1.13	1.41	492.36	1.00
5/3/25 9:15	-0.35	21.52	-0.80	2030.52	2175.26	1.13	1.41	492.48	1.00
5/3/25 10:15	-0.34	21.52	-0.79	2029.81	2174.50	1.13	1.41	492.66	1.00
5/3/25 11:15	-0.34	21.52	-0.79	2030.04	2174.74	1.13	1.41	492.60	1.00
5/3/25 12:15	-0.34	21.52	-0.79	2029.73	2174.44	1.13	1.41	492.68	1.00
5/3/25 13:15	-0.34	21.52	-0.79	2028.84	2173.47	1.13	1.41	492.89	1.00
5/3/25 14:15	-0.34	21.52	-0.78	2027.40	2171.93	1.12	1.41	493.24	1.00
5/3/25 15:15	-0.34	21.52	-0.78	2026.72	2171.21	1.12	1.41	493.41	1.00
5/3/25 16:15	-0.34	21.52	-0.78	2026.71	2171.21	1.12	1.41	493.41	1.00
5/3/25 17:15	-0.34	21.52	-0.79	2025.99	2170.44	1.12	1.41	493.59	1.00
5/3/25 18:15	-0.34	21.52	-0.79	2026.13	2170.60	1.12	1.41	493.55	1.00
5/3/25 19:15	-0.34	21.52	-0.78	2026.53	2171.03	1.12	1.41	493.45	1.00
5/3/25 20:15	-0.34	21.52	-0.79	2026.89	2171.42	1.12	1.41	493.37	1.00
5/3/25 21:15	-0.34	21.52	-0.80	2026.39	2170.87	1.12	1.41	493.49	1.00
5/3/25 22:15	-0.34	21.51	-0.79	2025.95	2170.45	1.12	1.41	493.60	1.00
5/3/25 23:15	-0.34	21.51	-0.78	2025.67	2170.15	1.12	1.41	493.66	1.00
5/4/25 0:15	-0.34	21.51	-0.78	2024.88	2169.29	1.12	1.41	493.86	1.00
5/4/25 1:15	-0.35	21.51	-0.80	2025.54	2170.01	1.12	1.41	493.69	1.00
5/4/25 2:15	-0.34	21.51	-0.78	2025.21	2169.65	1.12	1.41	493.78	1.00
5/4/25 3:15	-0.34	21.51	-0.78	2024.89	2169.31	1.12	1.41	493.85	1.00
5/4/25 4:15	-0.34	21.51	-0.78	2024.31	2168.71	1.12	1.41	493.99	1.00
5/4/25 5:15	-0.34	21.51	-0.78	2024.11	2168.50	1.12	1.41	494.04	1.00
5/4/25 6:15	-0.34	21.51	-0.78	2023.67	2168.04	1.12	1.41	494.15	1.00
5/4/25 7:15	-0.34	21.51	-0.78	2023.11	2167.45	1.12	1.41	494.29	1.00
5/4/25 8:15	-0.33	21.51	-0.77	2022.93	2167.25	1.12	1.41	494.33	1.00
5/4/25 9:15	-0.34	21.51	-0.79	2022.80	2167.12	1.12	1.41	494.36	1.00
5/4/25 10:15	-0.34	21.51	-0.77	2022.34	2166.65	1.12	1.41	494.48	1.00
5/4/25 11:15	-0.34	21.51	-0.78	2021.91	2166.16	1.12	1.41	494.58	1.00
5/4/25 12:15	-0.34	21.51	-0.78	2021.57	2165.83	1.12	1.41	494.66	1.00
5/4/25 13:15	-0.34	21.51	-0.79	2021.07	2165.30	1.12	1.41	494.79	1.00
5/4/25 14:15	-0.34	21.51	-0.78	2019.93	2164.06	1.12	1.41	495.07	1.00
5/4/25 15:15	-0.34	21.51	-0.79	2019.28	2163.39	1.12	1.41	495.23	1.00
5/4/25 16:15	-0.33	21.51	-0.77	2019.08	2163.20	1.12	1.41	495.27	1.00
5/4/25 17:15	-0.34	21.51	-0.77	2018.77	2162.86	1.12	1.41	495.35	1.00
5/4/25 18:15	-0.33	21.51	-0.77	2018.62	2162.70	1.12	1.41	495.39	1.00
5/4/25 19:15	-0.34	21.51	-0.79	2018.36	2162.43	1.12	1.41	495.45	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/4/25 20:15	-0.34	21.51	-0.79	2018.17	2162.24	1.12	1.41	495.50	1.00
5/4/25 21:15	-0.34	21.51	-0.78	2017.85	2161.91	1.12	1.41	495.58	1.00
5/4/25 22:15	-0.36	21.51	-0.83	2018.04	2162.09	1.12	1.41	495.53	1.00
5/4/25 23:15	-0.39	21.51	-0.91	2017.45	2161.47	1.12	1.40	495.68	1.00
5/5/25 0:15	-0.42	21.51	-0.96	2017.49	2161.49	1.12	1.40	495.67	1.00
5/5/25 1:15	-0.34	21.51	-0.78	2017.04	2161.03	1.12	1.40	495.78	1.00
5/5/25 2:15	-0.33	21.51	-0.77	2016.93	2160.92	1.12	1.40	495.80	1.00
5/5/25 3:15	-0.34	21.51	-0.77	2016.29	2160.26	1.12	1.40	495.96	1.00
5/5/25 4:15	-0.34	21.51	-0.78	2015.89	2159.85	1.12	1.40	496.06	1.00
5/5/25 5:15	-0.33	21.51	-0.77	2016.01	2159.95	1.12	1.40	496.03	1.00
5/5/25 6:15	-0.34	21.51	-0.78	2015.66	2159.60	1.12	1.40	496.12	1.00
5/5/25 7:15	-0.34	21.51	-0.79	2015.38	2159.28	1.12	1.40	496.18	1.00
5/5/25 8:15	-0.34	21.51	-0.78	2014.42	2158.27	1.12	1.40	496.42	1.00
5/5/25 9:15	-0.34	21.51	-0.79	2014.32	2158.18	1.12	1.40	496.45	1.00
5/5/25 10:15	-0.34	21.51	-0.78	2014.02	2157.85	1.12	1.40	496.52	1.00
5/5/25 11:15	-0.34	21.51	-0.78	2013.98	2157.81	1.12	1.40	496.53	1.00
5/5/25 12:15	-0.34	21.51	-0.79	2013.28	2157.07	1.12	1.40	496.70	1.00
5/5/25 13:15	-0.34	21.51	-0.78	2012.82	2156.60	1.12	1.40	496.82	1.00
5/5/25 14:15	-0.33	21.51	-0.77	2012.40	2156.14	1.12	1.40	496.92	1.00
5/5/25 15:15	-0.32	21.51	-0.75	2012.24	2155.96	1.12	1.40	496.96	1.00
5/5/25 16:15	-0.32	21.51	-0.74	2012.09	2155.84	1.12	1.40	497.00	1.00
5/5/25 17:15	-0.32	21.51	-0.74	2011.53	2155.22	1.12	1.40	497.14	1.00
5/5/25 18:15	-0.32	21.51	-0.75	2011.66	2155.40	1.12	1.40	497.10	1.00
5/5/25 19:15	-0.32	21.51	-0.73	2011.15	2154.83	1.12	1.40	497.23	1.00
5/5/25 20:15	-0.32	21.51	-0.74	2010.52	2154.18	1.11	1.40	497.38	1.00
5/5/25 21:15	-0.32	21.51	-0.73	2010.36	2154.02	1.11	1.40	497.42	1.00
5/5/25 22:15	-0.32	21.51	-0.73	2009.86	2153.47	1.11	1.40	497.55	1.00
5/5/25 23:15	-0.32	21.51	-0.73	2010.06	2153.70	1.11	1.40	497.50	1.00
5/6/25 0:15	-0.33	21.51	-0.76	2010.40	2154.07	1.11	1.40	497.41	1.00
5/6/25 1:15	-0.27	21.51	-0.62	2010.47	2154.16	1.11	1.40	497.40	1.00
5/6/25 2:15	-0.30	21.51	-0.69	2010.28	2153.97	1.11	1.40	497.44	1.00
5/6/25 3:15	-0.31	21.51	-0.72	2010.02	2153.68	1.11	1.40	497.51	1.00
5/6/25 4:15	-0.32	21.51	-0.74	2009.76	2153.42	1.11	1.40	497.57	1.00
5/6/25 5:15	-0.31	21.51	-0.73	2009.68	2153.32	1.11	1.40	497.59	1.00
5/6/25 6:15	-0.31	21.51	-0.73	2009.65	2153.29	1.11	1.40	497.60	1.00
5/6/25 7:15	-0.32	21.51	-0.73	2008.85	2152.47	1.11	1.40	497.80	1.00
5/6/25 8:15	-0.31	21.51	-0.72	2008.98	2152.61	1.11	1.40	497.77	1.00
5/6/25 9:15	-0.31	21.51	-0.72	2008.12	2151.69	1.11	1.40	497.98	1.00
5/6/25 10:15	-0.32	21.51	-0.73	2007.60	2151.12	1.11	1.40	498.11	1.00
5/6/25 11:15	-0.31	21.51	-0.72	2007.09	2150.59	1.11	1.40	498.23	1.00
5/6/25 12:15	-0.31	21.51	-0.71	2006.32	2149.77	1.11	1.40	498.43	1.00
5/6/25 13:15	-0.31	21.51	-0.71	2006.07	2149.50	1.11	1.40	498.49	1.00
5/6/25 14:15	-0.32	21.51	-0.73	2005.55	2148.96	1.11	1.40	498.62	1.00
5/6/25 15:15	-0.31	21.51	-0.72	2004.92	2148.30	1.11	1.40	498.77	1.00
5/6/25 16:15	-0.31	21.51	-0.71	2004.56	2147.91	1.11	1.40	498.86	1.00
5/6/25 17:15	-0.31	21.51	-0.71	2003.88	2147.18	1.11	1.40	499.03	1.00
5/6/25 18:15	-0.31	21.51	-0.71	2003.95	2147.29	1.11	1.40	499.01	1.00
5/6/25 19:15	-0.32	21.51	-0.73	2003.58	2146.88	1.11	1.40	499.11	1.00
5/6/25 20:15	-0.32	21.51	-0.73	2003.36	2146.64	1.11	1.40	499.16	1.00
5/6/25 21:15	-0.32	21.50	-0.73	2003.25	2146.54	1.11	1.40	499.19	1.00
5/6/25 22:15	-0.32	21.50	-0.73	2002.72	2145.99	1.11	1.39	499.32	1.00
5/6/25 23:15	-0.32	21.50	-0.73	2002.82	2146.09	1.11	1.39	499.30	1.00
5/7/25 0:15	-0.31	21.50	-0.73	2002.19	2145.41	1.11	1.39	499.45	1.00
5/7/25 1:15	-0.32	21.50	-0.75	2002.06	2145.28	1.11	1.39	499.49	1.00
5/7/25 2:15	-0.32	21.50	-0.73	2001.70	2144.90	1.11	1.39	499.58	1.00
5/7/25 3:15	-0.32	21.50	-0.73	2001.46	2144.67	1.11	1.39	499.63	1.00
5/7/25 4:15	-0.32	21.50	-0.73	2001.13	2144.32	1.11	1.39	499.72	1.00
5/7/25 5:15	-0.32	21.50	-0.74	2000.84	2144.01	1.11	1.39	499.79	1.00
5/7/25 6:15	-0.32	21.50	-0.74	2000.57	2143.73	1.11	1.39	499.86	1.00
5/7/25 7:15	-0.32	21.50	-0.74	2000.38	2143.53	1.11	1.39	499.91	1.00
5/7/25 8:15	-0.32	21.50	-0.75	2000.33	2143.48	1.11	1.39	499.92	1.00
5/7/25 9:15	-0.32	21.50	-0.74	1999.83	2142.96	1.11	1.39	500.04	1.00
5/7/25 10:15	-0.33	21.50	-0.75	1999.19	2142.25	1.11	1.39	500.20	1.00
5/7/25 11:15	-0.33	21.50	-0.76	1999.01	2142.08	1.11	1.39	500.25	1.00
5/7/25 12:15	-0.33	21.50	-0.76	1998.35	2141.38	1.11	1.39	500.41	1.00
5/7/25 13:15	-0.34	21.50	-0.78	1997.66	2140.66	1.11	1.39	500.59	1.00
5/7/25 14:15	-0.33	21.50	-0.77	1997.47	2140.45	1.11	1.39	500.63	1.00
5/7/25 15:15	-0.34	21.50	-0.78	1997.11	2140.06	1.11	1.39	500.72	1.00
5/7/25 16:15	-0.34	21.50	-0.78	1996.19	2139.08	1.11	1.39	500.95	1.00
5/7/25 17:15	-0.34	21.50	-0.78	1996.03	2138.92	1.11	1.39	500.99	1.00
5/7/25 18:15	-0.34	21.50	-0.78	1995.36	2138.22	1.11	1.39	501.16	1.00
5/7/25 19:15	-0.34	21.50	-0.79	1995.18	2138.03	1.11	1.39	501.21	1.00
5/7/25 20:15	-0.35	21.50	-0.80	1994.78	2137.61	1.11	1.39	501.31	1.00
5/7/25 21:15	-0.35	21.50	-0.80	1994.38	2137.20	1.11	1.39	501.41	1.00
5/7/25 22:15	-0.35	21.50	-0.81	1994.00	2136.77	1.11	1.39	501.51	1.00
5/7/25 23:15	-0.35	21.50	-0.80	1992.03	2134.68	1.10	1.39	502.00	1.00
5/8/25 0:15	-0.35	21.50	-0.80	1991.25	2133.84	1.10	1.39	502.20	1.00
5/8/25 1:15	-0.35	21.50	-0.80	1990.63	2133.18	1.10	1.39	502.35	1.00
5/8/25 2:15	-0.35	21.50	-0.81	1990.67	2133.22	1.10	1.39	502.34	1.00
5/8/25 3:15	-0.35	21.50	-0.81	1990.50	2133.05	1.10	1.39	502.39	1.00
5/8/25 4:15	-0.35	21.50	-0.80	1990.10	2132.67	1.10	1.39	502.49	1.00
5/8/25 5:15	-0.35	21.50	-0.80	1989.99	2132.52	1.10	1.39	502.52	1.00
5/8/25 6:15	-0.35	21.50	-0.80	1990.13	2132.68	1.10	1.39	502.48	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/8/25 7:15	-0.35	21.50	-0.81	1990.06	2132.60	1.10	1.39	502.50	1.00
5/8/25 8:15	-0.35	21.50	-0.80	1989.65	2132.17	1.10	1.39	502.60	1.00
5/8/25 9:15	-0.35	21.50	-0.80	1989.41	2131.92	1.10	1.39	502.66	1.00
5/8/25 10:15	-0.35	21.50	-0.81	1988.87	2131.35	1.10	1.39	502.80	1.00
5/8/25 11:15	-0.35	21.50	-0.80	1988.41	2130.88	1.10	1.39	502.91	1.00
5/8/25 12:15	-0.34	21.50	-0.79	1987.91	2130.33	1.10	1.38	503.04	1.00
5/8/25 13:15	-0.34	21.50	-0.79	1987.78	2130.19	1.10	1.38	503.07	1.00
5/8/25 14:15	-0.35	21.50	-0.80	1987.72	2130.13	1.10	1.38	503.09	1.00
5/8/25 15:15	-0.35	21.50	-0.80	1987.06	2129.44	1.10	1.38	503.26	1.00
5/8/25 16:15	-0.34	21.50	-0.79	1986.88	2129.26	1.10	1.38	503.30	1.00
5/8/25 17:15	-0.34	21.50	-0.79	1986.55	2128.90	1.10	1.38	503.38	1.00
5/8/25 18:15	-0.34	21.50	-0.79	1986.60	2129.00	1.10	1.38	503.37	1.00
5/8/25 19:15	-0.34	21.50	-0.79	1986.15	2128.50	1.10	1.38	503.49	1.00
5/8/25 20:15	-0.36	21.50	-0.82	1986.32	2128.67	1.10	1.38	503.44	1.00
5/8/25 21:15	-0.36	21.50	-0.82	1986.19	2128.56	1.10	1.38	503.48	1.00
5/8/25 22:15	-0.35	21.50	-0.81	1986.09	2128.44	1.10	1.38	503.50	1.00
5/8/25 23:15	-0.35	21.50	-0.81	1985.59	2127.91	1.10	1.38	503.63	1.00
5/9/25 0:15	-0.35	21.50	-0.82	1985.91	2128.27	1.10	1.38	503.55	1.00
5/9/25 1:15	-0.35	21.50	-0.81	1985.36	2127.70	1.10	1.38	503.69	1.00
5/9/25 2:15	-0.35	21.50	-0.80	1985.23	2127.53	1.10	1.38	503.72	1.00
5/9/25 3:15	-0.35	21.50	-0.80	1984.76	2127.04	1.10	1.38	503.84	1.00
5/9/25 4:15	-0.34	21.50	-0.80	1984.73	2127.02	1.10	1.38	503.85	1.00
5/9/25 5:15	-0.35	21.50	-0.81	1984.15	2126.39	1.10	1.38	503.99	1.00
5/9/25 6:15	-0.35	21.50	-0.80	1984.29	2126.53	1.10	1.38	503.96	1.00
5/9/25 7:15	-0.35	21.50	-0.81	1983.95	2126.21	1.10	1.38	504.05	1.00
5/9/25 8:15	-0.35	21.50	-0.80	1983.85	2126.11	1.10	1.38	504.07	1.00
5/9/25 9:15	-0.35	21.50	-0.81	1983.41	2125.63	1.10	1.38	504.18	1.00
5/9/25 10:15	-0.35	21.50	-0.81	1982.92	2125.12	1.10	1.38	504.31	1.00
5/9/25 11:15	-0.35	21.50	-0.80	1982.95	2125.16	1.10	1.38	504.30	1.00
5/9/25 12:15	-0.35	21.50	-0.80	1983.05	2125.28	1.10	1.38	504.27	1.00
5/9/25 13:15	-0.35	21.50	-0.80	1983.03	2125.27	1.10	1.38	504.28	1.00
5/9/25 14:15	-0.42	21.50	-0.96	1982.50	2124.70	1.10	1.38	504.41	1.00
5/9/25 15:15	-0.36	21.50	-0.82	1982.45	2124.66	1.10	1.38	504.43	1.00
5/9/25 16:15	-0.35	21.50	-0.80	1982.15	2124.33	1.10	1.38	504.50	1.00
5/9/25 17:15	-0.37	21.50	-0.85	1982.15	2124.34	1.10	1.38	504.50	1.00
5/9/25 18:15	-0.34	21.49	-0.79	1981.75	2123.93	1.10	1.38	504.61	1.00
5/9/25 19:15	-0.35	21.50	-0.80	1982.90	2125.14	1.10	1.38	504.31	1.00
5/9/25 20:15	-0.35	21.50	-0.80	1982.68	2124.92	1.10	1.38	504.37	1.00
5/9/25 21:15	-0.35	21.50	-0.80	1982.41	2124.64	1.10	1.38	504.44	1.00
5/9/25 22:15	-0.35	21.50	-0.81	1981.70	2123.89	1.10	1.38	504.62	1.00
5/9/25 23:15	-0.35	21.49	-0.80	1981.61	2123.82	1.10	1.38	504.64	1.00
5/10/25 0:15	-0.35	21.49	-0.81	1981.13	2123.30	1.10	1.38	504.76	1.00
5/10/25 1:15	-0.35	21.49	-0.80	1981.24	2123.42	1.10	1.38	504.73	1.00
5/10/25 2:15	-0.35	21.49	-0.80	1980.82	2122.96	1.10	1.38	504.84	1.00
5/10/25 3:15	-0.34	21.49	-0.80	1980.81	2122.96	1.10	1.38	504.84	1.00
5/10/25 4:15	-0.35	21.49	-0.81	1980.50	2122.63	1.10	1.38	504.92	1.00
5/10/25 5:15	-0.35	21.49	-0.81	1980.50	2122.63	1.10	1.38	504.92	1.00
5/10/25 6:15	-0.35	21.49	-0.81	1980.33	2122.45	1.10	1.38	504.97	1.00
5/10/25 7:15	-0.35	21.49	-0.80	1980.37	2122.50	1.10	1.38	504.96	1.00
5/10/25 8:15	-0.35	21.49	-0.80	1979.57	2121.66	1.10	1.38	505.16	1.00
5/10/25 9:15	-0.35	21.49	-0.82	1979.47	2121.56	1.10	1.38	505.19	1.00
5/10/25 10:15	-0.35	21.49	-0.82	1979.55	2121.65	1.10	1.38	505.17	1.00
5/10/25 11:15	-0.35	21.49	-0.81	1979.10	2121.18	1.10	1.38	505.28	1.00
5/10/25 12:15	-0.35	21.49	-0.80	1978.85	2120.91	1.10	1.38	505.34	1.00
5/10/25 13:15	-0.34	21.49	-0.80	1978.74	2120.81	1.10	1.38	505.37	1.00
5/10/25 14:15	-0.35	21.49	-0.80	1978.04	2120.05	1.10	1.38	505.55	1.00
5/10/25 15:15	-0.34	21.49	-0.79	1978.18	2120.23	1.10	1.38	505.51	1.00
5/10/25 16:15	-0.34	21.49	-0.79	1978.55	2120.62	1.10	1.38	505.42	1.00
5/10/25 17:15	-0.34	21.49	-0.80	1978.21	2120.26	1.10	1.38	505.51	1.00
5/10/25 18:15	-0.34	21.49	-0.79	1977.60	2119.60	1.10	1.38	505.66	1.00
5/10/25 19:15	-0.34	21.49	-0.80	1977.29	2119.27	1.10	1.38	505.74	1.00
5/10/25 20:15	-0.34	21.49	-0.80	1977.35	2119.36	1.10	1.38	505.73	1.00
5/10/25 21:15	-0.34	21.49	-0.79	1977.28	2119.29	1.10	1.38	505.75	1.00
5/10/25 22:15	-0.34	21.49	-0.79	1977.16	2119.16	1.10	1.38	505.78	1.00
5/10/25 23:15	-0.35	21.49	-0.80	1976.86	2118.82	1.10	1.38	505.85	1.00
5/11/25 0:15	-0.35	21.49	-0.80	1977.10	2119.11	1.10	1.38	505.79	1.00
5/11/25 1:15	-0.34	21.49	-0.80	1976.86	2118.85	1.10	1.38	505.85	1.00
5/11/25 2:15	-0.34	21.49	-0.79	1976.62	2118.60	1.10	1.38	505.91	1.00
5/11/25 3:15	-0.34	21.49	-0.80	1976.31	2118.29	1.10	1.38	505.99	1.00
5/11/25 4:15	-0.35	21.49	-0.81	1976.07	2118.03	1.10	1.38	506.06	1.00
5/11/25 5:15	-0.35	21.49	-0.80	1975.78	2117.74	1.10	1.38	506.13	1.00
5/11/25 6:15	-0.35	21.49	-0.80	1975.56	2117.48	1.09	1.38	506.19	1.00
5/11/25 7:15	-0.35	21.49	-0.80	1975.45	2117.39	1.09	1.38	506.21	1.00
5/11/25 8:15	-0.34	21.49	-0.79	1975.34	2117.26	1.09	1.38	506.24	1.00
5/11/25 9:15	-0.35	21.49	-0.81	1974.93	2116.85	1.09	1.38	506.35	1.00
5/11/25 10:15	-0.35	21.49	-0.80	1971.43	2113.09	1.09	1.37	507.25	1.00
5/11/25 11:15	-0.34	21.49	-0.79	1971.09	2112.73	1.09	1.37	507.33	1.00
5/11/25 12:15	-0.34	21.49	-0.79	1971.14	2112.80	1.09	1.37	507.32	1.00
5/11/25 13:15	-0.34	21.49	-0.79	1970.64	2112.27	1.09	1.37	507.45	1.00
5/11/25 14:15	-0.34	21.49	-0.79	1970.31	2111.93	1.09	1.37	507.53	1.00
5/11/25 15:15	-0.34	21.49	-0.78	1969.41	2110.95	1.09	1.37	507.77	1.00
5/11/25 16:15	-0.34	21.49	-0.78	1968.93	2110.47	1.09	1.37	507.89	1.00
5/11/25 17:15	-0.34	21.49	-0.78	1968.61	2110.11	1.09	1.37	507.97	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/11/25 18:15	-0.34	21.49	-0.78	1968.45	2109.94	1.09	1.37	508.02	1.00
5/11/25 19:15	-0.34	21.49	-0.78	1967.80	2109.26	1.09	1.37	508.18	1.00
5/11/25 20:15	-0.34	21.49	-0.78	1967.48	2108.93	1.09	1.37	508.26	1.00
5/11/25 21:15	-0.34	21.49	-0.79	1966.86	2108.29	1.09	1.37	508.42	1.00
5/11/25 22:15	-0.34	21.49	-0.78	1966.71	2108.11	1.09	1.37	508.46	1.00
5/11/25 23:15	-0.34	21.49	-0.79	1966.78	2108.22	1.09	1.37	508.45	1.00
5/12/25 0:15	-0.34	21.49	-0.79	1966.37	2107.78	1.09	1.37	508.55	1.00
5/12/25 1:15	-0.34	21.49	-0.78	1965.70	2107.05	1.09	1.37	508.73	1.00
5/12/25 2:15	-0.34	21.49	-0.78	1965.45	2106.78	1.09	1.37	508.79	1.00
5/12/25 3:15	-0.34	21.49	-0.78	1965.19	2106.51	1.09	1.37	508.86	1.00
5/12/25 4:15	-0.34	21.49	-0.79	1964.61	2105.92	1.09	1.37	509.01	1.00
5/12/25 5:15	-0.34	21.49	-0.79	1964.17	2105.45	1.09	1.37	509.12	1.00
5/12/25 6:15	-0.34	21.49	-0.79	1964.18	2105.46	1.09	1.37	509.12	1.00
5/12/25 7:15	-0.34	21.49	-0.79	1964.05	2105.32	1.09	1.37	509.15	1.00
5/12/25 8:15	-0.34	21.49	-0.79	1963.83	2105.10	1.09	1.37	509.21	1.00
5/12/25 9:15	-0.34	21.49	-0.78	1963.41	2104.66	1.09	1.37	509.32	1.00
5/12/25 10:15	-0.34	21.49	-0.78	1982.52	2125.14	1.10	1.38	504.41	1.00
5/12/25 11:15	-0.34	21.49	-0.79	1982.70	2125.33	1.10	1.38	504.36	1.00
5/12/25 12:15	-0.34	21.49	-0.78	1982.86	2125.51	1.10	1.38	504.32	1.00
5/12/25 13:15	-0.34	21.49	-0.79	1981.98	2124.60	1.10	1.38	504.55	1.00
5/12/25 14:15	-0.34	21.49	-0.78	2018.80	2164.06	1.12	1.41	495.34	1.00
5/12/25 15:15	-0.34	21.49	-0.78	2018.53	2163.79	1.12	1.41	495.41	1.00
5/12/25 16:15	-0.33	21.49	-0.77	2017.85	2163.05	1.12	1.41	495.58	1.00
5/12/25 17:15	-0.33	21.49	-0.77	2017.11	2162.28	1.12	1.41	495.76	1.00
5/12/25 18:15	-0.33	21.48	-0.76	2017.08	2162.25	1.12	1.41	495.77	1.00
5/12/25 19:15	-0.34	21.49	-0.78	2017.04	2162.20	1.12	1.41	495.77	1.00
5/12/25 20:15	-0.34	21.49	-0.79	2016.86	2162.01	1.12	1.41	495.82	1.00
5/12/25 21:15	-0.34	21.48	-0.79	2016.19	2161.31	1.12	1.40	495.99	1.00
5/12/25 22:15	-0.35	21.48	-0.81	2016.53	2161.66	1.12	1.41	495.90	1.00
5/12/25 23:15	-0.35	21.48	-0.82	2015.94	2161.04	1.12	1.40	496.05	1.00
5/13/25 0:15	-0.35	21.48	-0.82	2015.28	2160.34	1.12	1.40	496.21	1.00
5/13/25 1:15	-0.35	21.48	-0.81	2015.32	2160.41	1.12	1.40	496.20	1.00
5/13/25 2:15	-0.35	21.48	-0.81	2015.00	2160.06	1.12	1.40	496.28	1.00
5/13/25 3:15	-0.36	21.48	-0.83	2014.53	2159.57	1.12	1.40	496.39	1.00
5/13/25 4:15	-0.36	21.48	-0.82	2013.87	2158.87	1.12	1.40	496.56	1.00
5/13/25 5:15	-0.36	21.48	-0.82	2013.36	2158.32	1.12	1.40	496.68	1.00
5/13/25 6:15	-0.36	21.48	-0.84	2013.21	2158.18	1.12	1.40	496.72	1.00
5/13/25 7:15	-0.35	21.48	-0.82	2013.05	2158.01	1.12	1.40	496.76	1.00
5/13/25 8:15	-0.35	21.48	-0.81	2012.79	2157.73	1.12	1.40	496.82	1.00
5/13/25 9:15	-0.35	21.48	-0.81	2012.36	2157.28	1.12	1.40	496.93	1.00
5/13/25 10:15	-0.35	21.48	-0.81	2011.91	2156.82	1.12	1.40	497.04	1.00
5/13/25 11:15	-0.35	21.48	-0.81	2011.94	2156.85	1.12	1.40	497.03	1.00
5/13/25 12:15	-0.36	21.48	-0.83	2012.10	2157.04	1.12	1.40	496.99	1.00
5/13/25 13:15	-0.35	21.48	-0.81	2011.27	2156.17	1.12	1.40	497.20	1.00
5/13/25 14:15	-0.35	21.48	-0.81	2011.26	2156.13	1.12	1.40	497.20	1.00
5/13/25 15:15	-0.35	21.48	-0.81	2011.01	2155.89	1.12	1.40	497.26	1.00
5/13/25 16:15	-0.35	21.48	-0.80	2010.21	2155.02	1.12	1.40	497.46	1.00
5/13/25 17:15	-0.34	21.48	-0.79	2009.82	2154.63	1.12	1.40	497.56	1.00
5/13/25 18:15	-0.34	21.48	-0.78	2010.58	2155.45	1.12	1.40	497.37	1.00
5/13/25 19:15	-0.34	21.48	-0.77	2010.47	2155.32	1.12	1.40	497.40	1.00
5/13/25 20:15	-0.33	21.48	-0.76	2010.07	2154.91	1.12	1.40	497.49	1.00
5/13/25 21:15	-0.33	21.48	-0.76	2009.74	2154.56	1.12	1.40	497.58	1.00
5/13/25 22:15	-0.33	21.48	-0.77	2009.83	2154.67	1.12	1.40	497.55	1.00
5/13/25 23:15	-0.33	21.48	-0.76	2009.93	2154.79	1.12	1.40	497.53	1.00
5/14/25 0:15	-0.32	21.48	-0.75	2009.70	2154.54	1.12	1.40	497.59	1.00
5/14/25 1:15	-0.32	21.48	-0.74	2009.18	2153.99	1.11	1.40	497.71	1.00
5/14/25 2:15	-0.32	21.48	-0.74	2008.85	2153.64	1.11	1.40	497.80	1.00
5/14/25 3:15	-0.32	21.48	-0.74	2008.57	2153.36	1.11	1.40	497.87	1.00
5/14/25 4:15	-0.32	21.48	-0.74	2008.16	2152.91	1.11	1.40	497.97	1.00
5/14/25 5:15	-0.32	21.48	-0.75	2009.00	2153.83	1.11	1.40	497.76	1.00
5/14/25 6:15	-0.32	21.48	-0.74	2008.94	2153.77	1.11	1.40	497.77	1.00
5/14/25 7:15	-0.32	21.48	-0.74	2008.70	2153.52	1.11	1.40	497.83	1.00
5/14/25 8:15	-0.32	21.48	-0.74	2008.64	2153.46	1.11	1.40	497.85	1.00
5/14/25 9:15	-0.32	21.48	-0.73	2008.33	2153.14	1.11	1.40	497.93	1.00
5/14/25 10:15	-0.31	21.48	-0.73	2008.41	2153.23	1.11	1.40	497.91	1.00
5/14/25 11:15	-0.31	21.48	-0.72	2007.85	2152.63	1.11	1.40	498.05	1.00
5/14/25 12:15	-0.31	21.48	-0.71	2007.41	2152.17	1.11	1.40	498.15	1.00
5/14/25 13:15	-0.32	21.48	-0.74	2007.12	2151.88	1.11	1.40	498.23	1.00
5/14/25 14:15	-0.31	21.48	-0.72	2006.78	2151.53	1.11	1.40	498.31	1.00
5/14/25 15:15	-0.31	21.48	-0.71	2006.57	2151.30	1.11	1.40	498.36	1.00
5/14/25 16:15	-0.31	21.48	-0.71	2005.39	2150.06	1.11	1.40	498.66	1.00
5/14/25 17:15	-0.32	21.48	-0.73	2005.33	2149.97	1.11	1.40	498.67	1.00
5/14/25 18:15	-0.31	21.48	-0.72	2004.22	2148.80	1.11	1.40	498.95	1.00
5/14/25 19:15	-0.31	21.48	-0.72	2004.36	2148.92	1.11	1.40	498.91	1.00
5/14/25 20:15	-0.31	21.48	-0.72	2003.91	2148.50	1.11	1.40	499.02	1.00
5/14/25 21:15	-0.31	21.48	-0.72	2003.71	2148.28	1.11	1.40	499.08	1.00
5/14/25 22:15	-0.32	21.48	-0.74	2003.42	2147.97	1.11	1.40	499.15	1.00
5/14/25 23:15	-0.32	21.48	-0.73	2003.19	2147.72	1.11	1.40	499.20	1.00
5/15/25 0:15	-0.32	21.48	-0.73	2002.73	2147.25	1.11	1.40	499.32	1.00
5/15/25 1:15	-0.32	21.48	-0.73	2002.43	2146.93	1.11	1.40	499.39	1.00
5/15/25 2:15	-0.31	21.48	-0.73	2002.36	2146.85	1.11	1.40	499.41	1.00
5/15/25 3:15	-0.32	21.48	-0.73	2002.00	2146.50	1.11	1.40	499.50	1.00
5/15/25 4:15	-0.31	21.48	-0.73	2001.74	2146.22	1.11	1.40	499.56	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/15/25 5:15	-0.32	21.48	-0.74	2001.44	2145.90	1.11	1.39	499.64	1.00
5/15/25 6:15	-0.32	21.48	-0.74	2001.25	2145.68	1.11	1.39	499.69	1.00
5/15/25 7:15	-0.32	21.48	-0.73	2001.09	2145.53	1.11	1.39	499.73	1.00
5/15/25 8:15	-0.32	21.47	-0.75	2001.02	2145.48	1.11	1.39	499.75	1.00
5/15/25 9:15	-0.32	21.48	-0.74	2000.22	2144.60	1.11	1.39	499.95	1.00
5/15/25 10:15	-0.32	21.47	-0.73	2000.30	2144.70	1.11	1.39	499.93	1.00
5/15/25 11:15	-0.32	21.47	-0.73	2000.43	2144.85	1.11	1.39	499.89	1.00
5/15/25 12:15	-0.31	21.47	-0.72	1999.67	2144.02	1.11	1.39	500.08	1.00
5/15/25 13:15	-0.31	21.47	-0.72	1999.65	2144.02	1.11	1.39	500.09	1.00
5/15/25 14:15	-0.31	21.47	-0.71	1999.91	2144.31	1.11	1.39	500.02	1.00
5/15/25 15:15	-0.31	21.47	-0.71	1999.37	2143.73	1.11	1.39	500.16	1.00
5/15/25 16:15	-0.30	21.47	-0.70	1999.48	2143.86	1.11	1.39	500.13	1.00
5/15/25 17:15	-0.31	21.47	-0.71	1999.20	2143.56	1.11	1.39	500.20	1.00
5/15/25 18:15	-0.31	21.47	-0.72	1998.86	2143.21	1.11	1.39	500.28	1.00
5/15/25 19:15	-0.31	21.47	-0.72	1999.30	2143.69	1.11	1.39	500.18	1.00
5/15/25 20:15	-0.31	21.47	-0.72	1999.61	2144.04	1.11	1.39	500.10	1.00
5/15/25 21:15	-0.31	21.47	-0.72	1999.27	2143.70	1.11	1.39	500.18	1.00
5/15/25 22:15	-0.31	21.47	-0.72	1999.57	2144.04	1.11	1.39	500.11	1.00
5/15/25 23:15	-0.31	21.47	-0.72	2000.15	2144.64	1.11	1.39	499.96	1.00
5/16/25 0:15	-0.31	21.47	-0.72	2000.45	2144.98	1.11	1.39	499.89	1.00
5/16/25 1:15	-0.31	21.47	-0.72	1999.90	2144.38	1.11	1.39	500.03	1.00
5/16/25 2:15	-0.32	21.47	-0.73	1999.92	2144.44	1.11	1.39	500.02	1.00
5/16/25 3:15	-0.32	21.47	-0.73	1999.36	2143.83	1.11	1.39	500.16	1.00
5/16/25 4:15	-0.32	21.47	-0.73	1999.35	2143.82	1.11	1.39	500.16	1.00
5/16/25 5:15	-0.31	21.47	-0.73	1999.13	2143.61	1.11	1.39	500.22	1.00
5/16/25 6:15	-0.31	21.47	-0.72	1999.32	2143.80	1.11	1.39	500.17	1.00
5/16/25 7:15	-0.31	21.47	-0.72	1999.08	2143.54	1.11	1.39	500.23	1.00
5/16/25 8:15	-0.32	21.47	-0.73	1998.37	2142.79	1.11	1.39	500.41	1.00
5/16/25 9:15	-0.32	21.47	-0.73	1998.90	2143.39	1.11	1.39	500.28	1.00
5/16/25 10:15	-0.31	21.47	-0.72	1998.50	2142.96	1.11	1.39	500.37	1.00
5/16/25 11:15	-0.31	21.47	-0.72	1998.30	2142.77	1.11	1.39	500.42	1.00
5/16/25 12:15	-0.31	21.47	-0.73	1997.90	2142.31	1.11	1.39	500.53	1.00
5/16/25 13:15	-0.31	21.47	-0.71	1997.75	2142.19	1.11	1.39	500.56	1.00
5/16/25 14:15	-0.31	21.47	-0.73	1997.17	2141.55	1.11	1.39	500.71	1.00
5/16/25 15:15	-0.31	21.47	-0.71	1996.42	2140.79	1.11	1.39	500.90	1.00
5/16/25 16:15	-0.31	21.47	-0.71	1996.62	2140.98	1.11	1.39	500.85	1.00
5/16/25 17:15	-0.31	21.47	-0.72	1997.01	2141.44	1.11	1.39	500.75	1.00
5/16/25 18:15	-0.31	21.47	-0.71	1996.61	2141.00	1.11	1.39	500.85	1.00
5/16/25 19:15	-0.31	21.47	-0.71	1996.64	2141.06	1.11	1.39	500.84	1.00
5/16/25 20:15	-0.31	21.47	-0.71	1996.35	2140.73	1.11	1.39	500.91	1.00
5/16/25 21:15	-0.32	21.47	-0.73	1996.03	2140.39	1.11	1.39	500.99	1.00
5/16/25 22:15	-0.32	21.47	-0.73	1996.05	2140.42	1.11	1.39	500.99	1.00
5/16/25 23:15	-0.32	21.47	-0.73	1995.79	2140.17	1.11	1.39	501.05	1.00
5/17/25 0:15	-0.31	21.47	-0.73	1994.99	2139.30	1.11	1.39	501.26	1.00
5/17/25 1:15	-0.31	21.47	-0.72	1995.01	2139.35	1.11	1.39	501.25	1.00
5/17/25 2:15	-0.31	21.47	-0.72	1994.42	2138.71	1.11	1.39	501.40	1.00
5/17/25 3:15	-0.32	21.47	-0.73	1994.56	2138.86	1.11	1.39	501.36	1.00
5/17/25 4:15	-0.31	21.47	-0.72	1994.40	2138.71	1.11	1.39	501.40	1.00
5/17/25 5:15	-0.31	21.47	-0.72	1994.68	2139.02	1.11	1.39	501.33	1.00
5/17/25 6:15	-0.31	21.47	-0.72	1994.09	2138.38	1.11	1.39	501.48	1.00
5/17/25 7:15	-0.31	21.47	-0.72	1994.22	2138.54	1.11	1.39	501.45	1.00
5/17/25 8:15	-0.31	21.47	-0.72	1994.31	2138.65	1.11	1.39	501.43	1.00
5/17/25 9:15	-0.31	21.47	-0.73	1993.75	2138.04	1.11	1.39	501.57	1.00
5/17/25 10:15	-0.31	21.47	-0.72	1994.10	2138.43	1.11	1.39	501.48	1.00
5/17/25 11:15	-0.32	21.47	-0.74	1994.27	2138.62	1.11	1.39	501.44	1.00
5/17/25 12:15	-0.31	21.47	-0.71	1994.03	2138.36	1.11	1.39	501.50	1.00
5/17/25 13:15	-0.31	21.47	-0.72	1994.04	2138.39	1.11	1.39	501.49	1.00
5/17/25 14:15	-0.31	21.47	-0.71	1993.86	2138.18	1.11	1.39	501.54	1.00
5/17/25 15:15	-0.30	21.47	-0.70	1993.80	2138.15	1.11	1.39	501.56	1.00
5/17/25 16:15	-0.31	21.47	-0.71	1993.72	2138.07	1.11	1.39	501.57	1.00
5/17/25 17:15	-0.31	21.47	-0.71	1993.48	2137.80	1.11	1.39	501.64	1.00
5/17/25 18:15	-0.31	21.46	-0.72	1993.16	2137.48	1.11	1.39	501.72	1.00
5/17/25 19:15	-0.31	21.46	-0.71	1993.40	2137.75	1.11	1.39	501.65	1.00
5/17/25 20:15	-0.31	21.46	-0.72	1993.73	2138.10	1.11	1.39	501.57	1.00
5/17/25 21:15	-0.31	21.46	-0.72	1993.71	2138.11	1.11	1.39	501.58	1.00
5/17/25 22:15	-0.31	21.46	-0.72	1993.91	2138.32	1.11	1.39	501.53	1.00
5/17/25 23:15	-0.31	21.46	-0.71	1993.81	2138.22	1.11	1.39	501.55	1.00
5/18/25 0:15	-0.31	21.46	-0.72	1993.28	2137.66	1.11	1.39	501.69	1.00
5/18/25 1:15	-0.31	21.46	-0.71	1993.87	2138.30	1.11	1.39	501.54	1.00
5/18/25 2:15	-0.31	21.46	-0.71	1994.67	2139.16	1.11	1.39	501.34	1.00
5/18/25 3:15	-0.31	21.46	-0.72	1994.65	2139.13	1.11	1.39	501.34	1.00
5/18/25 4:15	-0.31	21.46	-0.72	1994.51	2139.00	1.11	1.39	501.38	1.00
5/18/25 5:15	-0.31	21.46	-0.73	1994.46	2138.94	1.11	1.39	501.39	1.00
5/18/25 6:15	-0.31	21.46	-0.72	1994.23	2138.72	1.11	1.39	501.45	1.00
5/18/25 7:15	-0.31	21.46	-0.72	1993.99	2138.48	1.11	1.39	501.51	1.00
5/18/25 8:15	-0.31	21.46	-0.72	1993.94	2138.40	1.11	1.39	501.52	1.00
5/18/25 9:15	-0.31	21.46	-0.73	1994.41	2138.95	1.11	1.39	501.40	1.00
5/18/25 10:15	-0.31	21.46	-0.71	2042.57	2190.58	1.13	1.42	489.58	1.00
5/18/25 11:15	-0.31	21.46	-0.71	2041.95	2189.95	1.13	1.42	489.73	1.00
5/18/25 12:15	-0.30	21.46	-0.70	2041.89	2189.87	1.13	1.42	489.74	1.00
5/18/25 13:15	-0.31	21.46	-0.71	2041.47	2189.44	1.13	1.42	489.84	1.00
5/18/25 14:15	-0.31	21.46	-0.71	2041.54	2189.52	1.13	1.42	489.83	1.00
5/18/25 15:15	-0.31	21.46	-0.70	2041.40	2189.39	1.13	1.42	489.86	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/18/25 16:15	-0.30	21.46	-0.70	2041.31	2189.28	1.13	1.42	489.88	1.00
5/18/25 17:15	-0.31	21.46	-0.72	2040.95	2188.92	1.13	1.42	489.97	1.00
5/18/25 18:15	-0.31	21.46	-0.71	2041.13	2189.09	1.13	1.42	489.93	1.00
5/18/25 19:15	-0.31	21.46	-0.72	2040.66	2188.62	1.13	1.42	490.04	1.00
5/18/25 20:15	-0.31	21.46	-0.72	2040.69	2188.66	1.13	1.42	490.03	1.00
5/18/25 21:15	-0.31	21.46	-0.72	2040.70	2188.67	1.13	1.42	490.03	1.00
5/18/25 22:15	-0.31	21.46	-0.72	2040.44	2188.40	1.13	1.42	490.09	1.00
5/18/25 23:15	-0.31	21.46	-0.72	2040.69	2188.69	1.13	1.42	490.03	1.00
5/19/25 0:15	-0.31	21.46	-0.72	2040.44	2188.40	1.13	1.42	490.09	1.00
5/19/25 1:15	-0.31	21.46	-0.72	2040.69	2188.70	1.13	1.42	490.03	1.00
5/19/25 2:15	-0.31	21.46	-0.72	2040.46	2188.46	1.13	1.42	490.09	1.00
5/19/25 3:15	-0.31	21.46	-0.72	2040.38	2188.38	1.13	1.42	490.11	1.00
5/19/25 4:15	-0.31	21.46	-0.72	2040.02	2188.02	1.13	1.42	490.19	1.00
5/19/25 5:15	-0.31	21.46	-0.72	2039.55	2187.51	1.13	1.42	490.30	1.00
5/19/25 6:15	-0.32	21.46	-0.74	2039.17	2187.11	1.13	1.42	490.40	1.00
5/19/25 7:15	-0.32	21.46	-0.73	2039.34	2187.31	1.13	1.42	490.36	1.00
5/19/25 8:15	-0.32	21.46	-0.73	2038.76	2186.66	1.13	1.42	490.50	1.00
5/19/25 9:15	-0.31	21.46	-0.72	2038.45	2186.35	1.13	1.42	490.57	1.00
5/19/25 10:15	-0.31	21.46	-0.72	2038.84	2186.78	1.13	1.42	490.48	1.00
5/19/25 11:15	-0.31	21.46	-0.71	2038.50	2186.43	1.13	1.42	490.56	1.00
5/19/25 12:15	-0.31	21.46	-0.72	2038.34	2186.25	1.13	1.42	490.60	1.00
5/19/25 13:15	-0.31	21.46	-0.72	2038.22	2186.13	1.13	1.42	490.62	1.00
5/19/25 14:15	-0.31	21.46	-0.71	2037.96	2185.90	1.13	1.42	490.69	1.00
5/19/25 15:15	-0.31	21.46	-0.72	2037.97	2185.88	1.13	1.42	490.68	1.00
5/19/25 16:15	-0.31	21.46	-0.71	2038.02	2185.94	1.13	1.42	490.67	1.00
5/19/25 17:15	-0.30	21.46	-0.70	2037.90	2185.83	1.13	1.42	490.70	1.00
5/19/25 18:15	-0.31	21.46	-0.72	2037.26	2185.17	1.13	1.42	490.86	1.00
5/19/25 19:15	-0.31	21.46	-0.73	2037.20	2185.11	1.13	1.42	490.87	1.00
5/19/25 20:15	-0.32	21.46	-0.73	2037.12	2185.01	1.13	1.42	490.89	1.00
5/19/25 21:15	-0.32	21.46	-0.74	2037.18	2185.10	1.13	1.42	490.87	1.00
5/19/25 22:15	-0.32	21.46	-0.74	2036.66	2184.54	1.13	1.42	491.00	1.00
5/19/25 23:15	-0.32	21.46	-0.75	2036.40	2184.27	1.13	1.42	491.06	1.00
5/20/25 0:15	-0.32	21.46	-0.74	2036.27	2184.14	1.13	1.42	491.09	1.00
5/20/25 1:15	-0.32	21.46	-0.74	2036.30	2184.17	1.13	1.42	491.09	1.00
5/20/25 2:15	-0.32	21.45	-0.74	2036.63	2184.56	1.13	1.42	491.01	1.00
5/20/25 3:15	-0.32	21.45	-0.73	2036.49	2184.39	1.13	1.42	491.04	1.00
5/20/25 4:15	-0.32	21.45	-0.73	2036.24	2184.15	1.13	1.42	491.10	1.00
5/20/25 5:15	-0.32	21.45	-0.73	2036.29	2184.22	1.13	1.42	491.09	1.00
5/20/25 6:15	-0.32	21.45	-0.73	2036.16	2184.06	1.13	1.42	491.12	1.00
5/20/25 7:15	-0.33	21.45	-0.76	2035.94	2183.84	1.13	1.42	491.17	1.00
5/20/25 8:15	-0.32	21.45	-0.74	2036.63	2184.58	1.13	1.42	491.01	1.00
5/20/25 9:15	-0.32	21.45	-0.73	2036.11	2184.06	1.13	1.42	491.13	1.00
5/20/25 10:15	-0.32	21.45	-0.74	2035.58	2183.48	1.13	1.42	491.26	1.00
5/20/25 11:15	-0.32	21.45	-0.73	2035.32	2183.21	1.13	1.42	491.32	1.00
5/20/25 12:15	-0.31	21.45	-0.73	2035.38	2183.28	1.13	1.42	491.31	1.00
5/20/25 13:15	-0.31	21.45	-0.73	2035.33	2183.26	1.13	1.42	491.32	1.00
5/20/25 14:15	-0.32	21.45	-0.73	2035.11	2183.02	1.13	1.42	491.37	1.00
5/20/25 15:15	-0.31	21.45	-0.72	2035.53	2183.49	1.13	1.42	491.27	1.00
5/20/25 16:15	-0.31	21.45	-0.72	2035.37	2183.32	1.13	1.42	491.31	1.00
5/20/25 17:15	-0.32	21.45	-0.73	2034.82	2182.73	1.13	1.42	491.44	1.00
5/20/25 18:15	-0.31	21.45	-0.72	2034.48	2182.37	1.13	1.42	491.53	1.00
5/20/25 19:15	-0.31	21.45	-0.72	2034.90	2182.86	1.13	1.42	491.42	1.00
5/20/25 20:15	-0.31	21.45	-0.72	2034.50	2182.43	1.13	1.42	491.52	1.00
5/20/25 21:15	-0.31	21.45	-0.72	2034.47	2182.39	1.13	1.42	491.53	1.00
5/20/25 22:15	-0.32	21.45	-0.74	2034.18	2182.12	1.13	1.42	491.60	1.00
5/20/25 23:15	-0.32	21.45	-0.73	2034.05	2181.97	1.13	1.42	491.63	1.00
5/21/25 0:15	-0.32	21.45	-0.73	2033.36	2181.24	1.13	1.42	491.80	1.00
5/21/25 1:15	-0.32	21.45	-0.73	2033.26	2181.14	1.13	1.42	491.82	1.00
5/21/25 2:15	-0.31	21.45	-0.72	2032.86	2180.73	1.13	1.42	491.92	1.00
5/21/25 3:15	-0.31	21.45	-0.72	2032.86	2180.73	1.13	1.42	491.92	1.00
5/21/25 4:15	-0.32	21.45	-0.73	2032.61	2180.46	1.13	1.42	491.98	1.00
5/21/25 5:15	-0.32	21.45	-0.74	2032.94	2180.82	1.13	1.42	491.90	1.00
5/21/25 6:15	-0.32	21.45	-0.74	2032.95	2180.84	1.13	1.42	491.90	1.00
5/21/25 7:15	-0.32	21.45	-0.74	2033.07	2180.98	1.13	1.42	491.87	1.00
5/21/25 8:15	-0.32	21.45	-0.74	2032.37	2180.27	1.13	1.42	492.04	1.00
5/21/25 9:15	-0.32	21.45	-0.73	2032.39	2180.30	1.13	1.42	492.03	1.00
5/21/25 10:15	-0.32	21.45	-0.74	2032.12	2179.99	1.13	1.42	492.10	1.00
5/21/25 11:15	-0.32	21.45	-0.74	2032.15	2180.04	1.13	1.42	492.09	1.00
5/21/25 12:15	-0.32	21.45	-0.73	2032.03	2179.92	1.13	1.42	492.12	1.00
5/21/25 13:15	-0.31	21.45	-0.72	2031.82	2179.72	1.13	1.42	492.17	1.00
5/21/25 14:15	-0.31	21.45	-0.72	2031.88	2179.80	1.13	1.42	492.16	1.00
5/21/25 15:15	-0.31	21.45	-0.72	2031.67	2179.57	1.13	1.42	492.21	1.00
5/21/25 16:15	-0.31	21.45	-0.72	2031.67	2179.56	1.13	1.42	492.21	1.00
5/21/25 17:15	-0.31	21.45	-0.71	2031.26	2179.16	1.13	1.42	492.30	1.00
5/21/25 18:15	-0.32	21.45	-0.73	2031.45	2179.36	1.13	1.42	492.26	1.00
5/21/25 19:15	-0.31	21.45	-0.72	2031.27	2179.16	1.13	1.42	492.30	1.00
5/21/25 20:15	-0.31	21.45	-0.73	2031.01	2178.89	1.13	1.42	492.37	1.00
5/21/25 21:15	-0.31	21.45	-0.72	2031.03	2178.93	1.13	1.42	492.36	1.00
5/21/25 22:15	-0.31	21.45	-0.72	2030.83	2178.71	1.13	1.42	492.41	1.00
5/21/25 23:15	-0.31	21.45	-0.72	2030.93	2178.83	1.13	1.42	492.38	1.00
5/22/25 0:15	-0.31	21.45	-0.72	2030.61	2178.49	1.13	1.42	492.46	1.00
5/22/25 1:15	-0.31	21.45	-0.73	2030.78	2178.68	1.13	1.42	492.42	1.00
5/22/25 2:15	-0.32	21.45	-0.74	2030.16	2178.05	1.13	1.42	492.57	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/22/25 3:15	-0.32	21.45	-0.73	2030.12	2178.01	1.13	1.42	492.58	1.00
5/22/25 4:15	-0.31	21.44	-0.73	2029.99	2177.89	1.13	1.42	492.61	1.00
5/22/25 5:15	-0.32	21.44	-0.74	2029.95	2177.83	1.13	1.42	492.62	1.00
5/22/25 6:15	-0.32	21.44	-0.74	2029.93	2177.85	1.13	1.42	492.63	1.00
5/22/25 7:15	-0.32	21.44	-0.73	2029.54	2177.44	1.13	1.42	492.72	1.00
5/22/25 8:15	-0.32	21.44	-0.73	2029.75	2177.66	1.13	1.42	492.67	1.00
5/22/25 9:15	-0.32	21.44	-0.73	2029.25	2177.15	1.13	1.42	492.79	1.00
5/22/25 10:15	-0.33	21.44	-0.77	2063.82	2214.22	1.15	1.44	484.54	1.00
5/22/25 11:15	-0.34	21.45	-0.78	2063.62	2213.88	1.15	1.44	484.58	1.00
5/22/25 12:15	-0.34	21.45	-0.78	2064.24	2214.45	1.15	1.44	484.44	1.00
5/22/25 13:15	-0.34	21.45	-0.78	2063.87	2214.04	1.15	1.44	484.53	1.00
5/22/25 14:15	-0.34	21.45	-0.78	2063.95	2214.15	1.15	1.44	484.51	1.00
5/22/25 15:15	-0.34	21.45	-0.77	2064.54	2214.76	1.15	1.44	484.37	1.00
5/22/25 16:15	-0.33	21.45	-0.77	2064.52	2214.78	1.15	1.44	484.37	1.00
5/22/25 17:15	-0.33	21.45	-0.77	2064.61	2214.89	1.15	1.44	484.35	1.00
5/22/25 18:15	-0.33	21.45	-0.77	2064.39	2214.67	1.15	1.44	484.40	1.00
5/22/25 19:15	-0.33	21.45	-0.77	2063.94	2214.21	1.15	1.44	484.51	1.00
5/22/25 20:15	-0.33	21.45	-0.77	2064.00	2214.29	1.15	1.44	484.50	1.00
5/22/25 21:15	-0.33	21.45	-0.77	2063.99	2214.29	1.15	1.44	484.50	1.00
5/22/25 22:15	-0.34	21.45	-0.79	2063.87	2214.17	1.15	1.44	484.53	1.00
5/22/25 23:15	-0.35	21.45	-0.81	2064.16	2214.52	1.15	1.44	484.46	1.00
5/23/25 0:15	-0.35	21.44	-0.80	2064.27	2214.66	1.15	1.44	484.43	1.00
5/23/25 1:15	-0.34	21.44	-0.80	2063.99	2214.36	1.15	1.44	484.50	1.00
5/23/25 2:15	-0.34	21.44	-0.80	2064.15	2214.57	1.15	1.44	484.46	1.00
5/23/25 3:15	-0.34	21.44	-0.80	2064.31	2214.76	1.15	1.44	484.42	1.00
5/23/25 4:15	-0.34	21.44	-0.79	2064.26	2214.71	1.15	1.44	484.44	1.00
5/23/25 5:15	-0.34	21.44	-0.79	2064.31	2214.80	1.15	1.44	484.42	1.00
5/23/25 6:15	-0.34	21.44	-0.79	2064.15	2214.61	1.15	1.44	484.46	1.00
5/23/25 7:15	-0.34	21.44	-0.79	2064.10	2214.58	1.15	1.44	484.47	1.00
5/23/25 8:15	-0.34	21.44	-0.78	2063.89	2214.33	1.15	1.44	484.52	1.00
5/23/25 9:15	-0.34	21.44	-0.77	2063.89	2214.36	1.15	1.44	484.52	1.00
5/23/25 10:15	-0.35	21.44	-0.80	2064.08	2214.60	1.15	1.44	484.48	1.00
5/23/25 11:15	-0.34	21.44	-0.79	2063.95	2214.47	1.15	1.44	484.51	1.00
5/23/25 12:15	-0.34	21.44	-0.79	2064.17	2214.73	1.15	1.44	484.46	1.00
5/23/25 13:15	-0.34	21.44	-0.78	2063.89	2214.45	1.15	1.44	484.52	1.00
5/23/25 14:15	-0.33	21.44	-0.76	2063.98	2214.54	1.15	1.44	484.50	1.00
5/23/25 15:15	-0.34	21.44	-0.78	2063.90	2214.47	1.15	1.44	484.52	1.00
5/23/25 16:15	-0.34	21.44	-0.78	2064.06	2214.65	1.15	1.44	484.48	1.00
5/23/25 17:15	-0.33	21.44	-0.77	2063.68	2214.29	1.15	1.44	484.57	1.00
5/23/25 18:15	-0.33	21.44	-0.76	2063.47	2214.09	1.15	1.44	484.62	1.00
5/23/25 19:15	-0.34	21.44	-0.77	2063.30	2213.90	1.15	1.44	484.66	1.00
5/23/25 20:15	-0.34	21.44	-0.79	2063.46	2214.10	1.15	1.44	484.62	1.00
5/23/25 21:15	-0.34	21.44	-0.79	2063.37	2214.00	1.15	1.44	484.64	1.00
5/23/25 22:15	-0.34	21.44	-0.79	2062.96	2213.61	1.15	1.44	484.74	1.00
5/23/25 23:15	-0.34	21.44	-0.79	2063.30	2213.96	1.15	1.44	484.66	1.00
5/24/25 0:15	-0.34	21.44	-0.78	2063.06	2213.72	1.15	1.44	484.72	1.00
5/24/25 1:15	-0.34	21.44	-0.78	2062.70	2213.34	1.15	1.44	484.80	1.00
5/24/25 2:15	-0.33	21.44	-0.77	2062.66	2213.31	1.15	1.44	484.81	1.00
5/24/25 3:15	-0.34	21.44	-0.78	2062.86	2213.57	1.15	1.44	484.76	1.00
5/24/25 4:15	-0.36	21.44	-0.83	2062.56	2213.23	1.15	1.44	484.83	1.00
5/24/25 5:15	-0.35	21.44	-0.82	2062.29	2212.92	1.15	1.44	484.90	1.00
5/24/25 6:15	-0.35	21.44	-0.82	2061.60	2212.20	1.15	1.44	485.06	1.00
5/24/25 7:15	-0.35	21.44	-0.81	2061.77	2212.41	1.15	1.44	485.02	1.00
5/24/25 8:15	-0.35	21.44	-0.81	2061.68	2212.31	1.15	1.44	485.04	1.00
5/24/25 9:15	-0.35	21.43	-0.80	2061.73	2212.40	1.15	1.44	485.03	1.00
5/24/25 10:15	-0.34	21.44	-0.80	2061.41	2212.02	1.15	1.44	485.11	1.00
5/24/25 11:15	-0.34	21.43	-0.79	2061.12	2211.78	1.15	1.44	485.17	1.00
5/24/25 12:15	-0.34	21.43	-0.78	2061.05	2211.72	1.15	1.44	485.19	1.00
5/24/25 13:15	-0.34	21.43	-0.78	2060.93	2211.54	1.15	1.44	485.22	1.00
5/24/25 14:15	-0.34	21.43	-0.78	2060.90	2211.56	1.15	1.44	485.23	1.00
5/24/25 15:15	-0.34	21.43	-0.77	2060.31	2210.94	1.15	1.44	485.36	1.00
5/24/25 16:15	-0.34	21.43	-0.78	2060.43	2211.06	1.15	1.44	485.34	1.00
5/24/25 17:15	-0.34	21.43	-0.79	2059.82	2210.43	1.15	1.44	485.48	1.00
5/24/25 18:15	-0.34	21.43	-0.78	2059.08	2209.64	1.15	1.44	485.65	1.00
5/24/25 19:15	-0.34	21.43	-0.79	2059.59	2210.23	1.15	1.44	485.53	1.00
5/24/25 20:15	-0.34	21.43	-0.79	2059.83	2210.53	1.15	1.44	485.48	1.00
5/24/25 21:15	-0.34	21.43	-0.79	2059.04	2209.64	1.15	1.44	485.66	1.00
5/24/25 22:15	-0.34	21.43	-0.79	2059.46	2210.09	1.15	1.44	485.56	1.00
5/24/25 23:15	-0.34	21.43	-0.79	2058.72	2209.30	1.14	1.44	485.74	1.00
5/25/25 0:15	-0.34	21.43	-0.78	2059.06	2209.71	1.15	1.44	485.66	1.00
5/25/25 1:15	-0.34	21.43	-0.78	2058.64	2209.21	1.14	1.44	485.76	1.00
5/25/25 2:15	-0.34	21.43	-0.78	2058.62	2209.24	1.14	1.44	485.76	1.00
5/25/25 3:15	-0.34	21.43	-0.78	2058.40	2209.01	1.14	1.44	485.81	1.00
5/25/25 4:15	-0.35	21.43	-0.80	2058.36	2208.99	1.14	1.44	485.82	1.00
5/25/25 5:15	-0.35	21.43	-0.80	2058.39	2209.00	1.14	1.44	485.82	1.00
5/25/25 6:15	-0.35	21.43	-0.80	2058.71	2209.37	1.14	1.44	485.74	1.00
5/25/25 7:15	-0.34	21.43	-0.80	2058.46	2209.10	1.14	1.44	485.80	1.00
5/25/25 8:15	-0.34	21.43	-0.79	2058.44	2209.11	1.14	1.44	485.80	1.00
5/25/25 9:15	-0.34	21.43	-0.80	2058.55	2209.18	1.14	1.44	485.78	1.00
5/25/25 10:15	-0.34	21.43	-0.78	2058.09	2208.71	1.14	1.44	485.89	1.00
5/25/25 11:15	-0.34	21.43	-0.78	2058.35	2209.00	1.14	1.44	485.83	1.00
5/25/25 12:15	-0.33	21.43	-0.77	2058.06	2208.69	1.14	1.44	485.90	1.00
5/25/25 13:15	-0.34	21.43	-0.80	2057.80	2208.47	1.14	1.44	485.96	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/25/25 14:15	-0.34	21.43	-0.78	2057.72	2208.41	1.14	1.44	485.97	1.00
5/25/25 15:15	-0.34	21.43	-0.77	2057.66	2208.33	1.14	1.44	485.99	1.00
5/25/25 16:15	-0.33	21.43	-0.76	2057.69	2208.37	1.14	1.44	485.98	1.00
5/25/25 17:15	-0.33	21.43	-0.76	2057.55	2208.21	1.14	1.44	486.01	1.00
5/25/25 18:15	-0.32	21.43	-0.75	2057.69	2208.36	1.14	1.44	485.98	1.00
5/25/25 19:15	-0.34	21.43	-0.79	2057.44	2208.13	1.14	1.44	486.04	1.00
5/25/25 20:15	-0.34	21.43	-0.78	2057.85	2208.57	1.14	1.44	485.94	1.00
5/25/25 21:15	-0.34	21.43	-0.78	2058.00	2208.72	1.14	1.44	485.91	1.00
5/25/25 22:15	-0.34	21.43	-0.78	2058.10	2208.84	1.14	1.44	485.89	1.00
5/25/25 23:15	-0.34	21.43	-0.77	2057.88	2208.61	1.14	1.44	485.94	1.00
5/26/25 0:15	-0.34	21.43	-0.78	2057.67	2208.41	1.14	1.44	485.99	1.00
5/26/25 1:15	-0.34	21.43	-0.78	2057.96	2208.72	1.14	1.44	485.92	1.00
5/26/25 2:15	-0.33	21.43	-0.77	2058.08	2208.86	1.14	1.44	485.89	1.00
5/26/25 3:15	-0.33	21.43	-0.76	2057.49	2208.25	1.14	1.44	486.03	1.00
5/26/25 4:15	-0.33	21.43	-0.76	2057.83	2208.61	1.14	1.44	485.95	1.00
5/26/25 5:15	-0.33	21.43	-0.76	2057.52	2208.28	1.14	1.44	486.02	1.00
5/26/25 6:15	-0.33	21.43	-0.75	2057.31	2208.07	1.14	1.44	486.07	1.00
5/26/25 7:15	-0.34	21.43	-0.79	2057.15	2207.86	1.14	1.44	486.11	1.00
5/26/25 8:15	-0.34	21.42	-0.79	2056.45	2207.17	1.14	1.43	486.28	1.00
5/26/25 9:15	-0.34	21.43	-0.79	2057.48	2208.26	1.14	1.44	486.03	1.00
5/26/25 10:15	-0.34	21.43	-0.77	2057.80	2208.59	1.14	1.44	485.96	1.00
5/26/25 11:15	-0.33	21.42	-0.76	2057.91	2208.74	1.14	1.44	485.93	1.00
5/26/25 12:15	-0.32	21.42	-0.75	2057.61	2208.44	1.14	1.44	486.00	1.00
5/26/25 13:15	-0.34	21.42	-0.78	2057.58	2208.40	1.14	1.44	486.01	1.00
5/26/25 14:15	-0.33	21.42	-0.76	2057.74	2208.58	1.14	1.44	485.97	1.00
5/26/25 15:15	-0.32	21.42	-0.74	2058.10	2208.95	1.14	1.44	485.89	1.00
5/26/25 16:15	-0.33	21.42	-0.76	2057.58	2208.49	1.14	1.44	486.01	1.00
5/26/25 17:15	-0.32	21.42	-0.75	2057.33	2208.21	1.14	1.44	486.07	1.00
5/26/25 18:15	-0.32	21.42	-0.74	2057.48	2208.36	1.14	1.44	486.03	1.00
5/26/25 19:15	-0.32	21.42	-0.74	2057.80	2208.69	1.14	1.44	485.96	1.00
5/26/25 20:15	-0.33	21.42	-0.77	2058.03	2208.94	1.14	1.44	485.90	1.00
5/26/25 21:15	-0.33	21.42	-0.76	2058.10	2209.03	1.14	1.44	485.89	1.00
5/26/25 22:15	-0.33	21.42	-0.77	2057.95	2208.88	1.14	1.44	485.92	1.00
5/26/25 23:15	-0.33	21.42	-0.77	2057.80	2208.70	1.14	1.44	485.96	1.00
5/27/25 0:15	-0.33	21.42	-0.77	2058.22	2209.22	1.14	1.44	485.86	1.00
5/27/25 1:15	-0.33	21.42	-0.76	2057.95	2208.96	1.14	1.44	485.92	1.00
5/27/25 2:15	-0.33	21.42	-0.76	2058.05	2209.05	1.14	1.44	485.90	1.00
5/27/25 3:15	-0.32	21.42	-0.75	2057.94	2208.91	1.14	1.44	485.92	1.00
5/27/25 4:15	-0.32	21.42	-0.75	2057.88	2208.89	1.14	1.44	485.94	1.00
5/27/25 5:15	-0.32	21.42	-0.75	2058.37	2209.40	1.14	1.44	485.82	1.00
5/27/25 6:15	-0.32	21.42	-0.75	2058.02	2209.03	1.14	1.44	485.90	1.00
5/27/25 7:15	-0.32	21.42	-0.75	2058.28	2209.31	1.14	1.44	485.84	1.00
5/27/25 8:15	-0.33	21.42	-0.77	2058.35	2209.39	1.14	1.44	485.83	1.00
5/27/25 9:15	-0.33	21.42	-0.77	2057.68	2208.64	1.14	1.44	485.99	1.00
5/27/25 10:15	-0.33	21.42	-0.77	2057.88	2208.89	1.14	1.44	485.94	1.00
5/27/25 11:15	-0.33	21.42	-0.76	2058.11	2209.15	1.14	1.44	485.88	1.00
5/27/25 12:15	-0.33	21.42	-0.75	2057.95	2209.03	1.14	1.44	485.92	1.00
5/27/25 13:15	-0.32	21.42	-0.74	2057.93	2208.97	1.14	1.44	485.92	1.00
5/27/25 14:15	-0.33	21.42	-0.77	2058.00	2209.06	1.14	1.44	485.91	1.00
5/27/25 15:15	-0.33	21.42	-0.75	2057.69	2208.78	1.14	1.44	485.98	1.00
5/27/25 16:15	-0.32	21.42	-0.74	2057.96	2209.03	1.14	1.44	485.92	1.00
5/27/25 17:15	-0.33	21.42	-0.77	2057.53	2208.55	1.14	1.44	486.02	1.00
5/27/25 18:15	-0.33	21.42	-0.77	2057.47	2208.53	1.14	1.44	486.03	1.00
5/27/25 19:15	-0.33	21.42	-0.76	2057.90	2208.98	1.14	1.44	485.93	1.00
5/27/25 20:15	-0.32	21.42	-0.75	2058.06	2209.16	1.14	1.44	485.89	1.00
5/27/25 21:15	-0.33	21.42	-0.75	2057.86	2208.95	1.14	1.44	485.94	1.00
5/27/25 22:15	-0.32	21.42	-0.73	2058.13	2209.27	1.14	1.44	485.88	1.00
5/27/25 23:15	-0.34	21.42	-0.77	2057.86	2208.99	1.14	1.44	485.94	1.00
5/28/25 0:15	-0.33	21.42	-0.76	2058.60	2209.79	1.15	1.44	485.77	1.00
5/28/25 1:15	-0.33	21.42	-0.76	2058.61	2209.76	1.15	1.44	485.77	1.00
5/28/25 2:15	-0.33	21.42	-0.76	2058.42	2209.59	1.15	1.44	485.81	1.00
5/28/25 3:15	-0.33	21.42	-0.75	2058.42	2209.61	1.15	1.44	485.81	1.00
5/28/25 4:15	-0.33	21.42	-0.75	2058.60	2209.80	1.15	1.44	485.77	1.00
5/28/25 5:15	-0.32	21.42	-0.74	2058.43	2209.64	1.15	1.44	485.81	1.00
5/28/25 6:15	-0.33	21.42	-0.77	2058.57	2209.79	1.15	1.44	485.78	1.00
5/28/25 7:15	-0.35	21.42	-0.81	2058.77	2210.02	1.15	1.44	485.73	1.00
5/28/25 8:15	-0.35	21.42	-0.80	2058.24	2209.41	1.14	1.44	485.85	1.00
5/28/25 9:15	-0.35	21.42	-0.80	2058.28	2209.51	1.15	1.44	485.84	1.00
5/28/25 10:15	-0.35	21.42	-0.80	2058.46	2209.67	1.15	1.44	485.80	1.00
5/28/25 11:15	-0.36	21.42	-0.82	2058.10	2209.32	1.14	1.44	485.88	1.00
5/28/25 12:15	-0.35	21.42	-0.80	2058.53	2209.79	1.15	1.44	485.78	1.00
5/28/25 13:15	-0.35	21.42	-0.80	2058.19	2209.43	1.14	1.44	485.86	1.00
5/28/25 14:15	-0.35	21.42	-0.80	2058.12	2209.32	1.14	1.44	485.88	1.00
5/28/25 15:15	-0.34	21.42	-0.79	2057.97	2209.20	1.14	1.44	485.92	1.00
5/28/25 16:15	-0.34	21.42	-0.80	2058.04	2209.31	1.14	1.44	485.90	1.00
5/28/25 17:15	-0.35	21.42	-0.80	2058.25	2209.50	1.15	1.44	485.85	1.00
5/28/25 18:15	-0.35	21.41	-0.80	2058.24	2209.54	1.15	1.44	485.85	1.00
5/28/25 19:15	-0.35	21.42	-0.80	2058.20	2209.48	1.15	1.44	485.86	1.00
5/28/25 20:15	-0.35	21.42	-0.80	2058.28	2209.55	1.15	1.44	485.84	1.00
5/28/25 21:15	-0.35	21.41	-0.80	2058.18	2209.48	1.15	1.44	485.87	1.00
5/28/25 22:15	-0.35	21.42	-0.80	2058.73	2210.05	1.15	1.44	485.74	1.00
5/28/25 23:15	-0.35	21.41	-0.80	2058.30	2209.61	1.15	1.44	485.84	1.00
5/29/25 0:15	-0.35	21.41	-0.80	2058.39	2209.74	1.15	1.44	485.82	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
5/29/25 1:15	-0.35	21.41	-0.80	2058.36	2209.68	1.15	1.44	485.82	1.00
5/29/25 2:15	-0.35	21.41	-0.80	2058.54	2209.87	1.15	1.44	485.78	1.00
5/29/25 3:15	-0.35	21.41	-0.80	2058.47	2209.79	1.15	1.44	485.80	1.00
5/29/25 4:15	-0.35	21.41	-0.80	2058.65	2210.05	1.15	1.44	485.76	1.00
5/29/25 5:15	-0.34	21.41	-0.80	2058.36	2209.71	1.15	1.44	485.82	1.00
5/29/25 6:15	-0.35	21.41	-0.80	2058.47	2209.82	1.15	1.44	485.80	1.00
5/29/25 7:15	-0.35	21.41	-0.81	2057.79	2209.13	1.14	1.44	485.96	1.00
5/29/25 8:15	-0.35	21.41	-0.82	2057.83	2209.14	1.14	1.44	485.95	1.00
5/29/25 9:15	-0.35	21.41	-0.81	2057.74	2209.02	1.14	1.44	485.97	1.00
5/29/25 10:15	-0.35	21.41	-0.81	2057.80	2209.12	1.14	1.44	485.96	1.00
5/29/25 11:15	-0.35	21.41	-0.80	2057.73	2209.07	1.14	1.44	485.97	1.00
5/29/25 12:15	-0.35	21.41	-0.80	2058.18	2209.52	1.15	1.44	485.87	1.00
5/29/25 13:15	-0.35	21.41	-0.80	2058.14	2209.55	1.15	1.44	485.87	1.00
5/29/25 14:15	-0.35	21.41	-0.81	2058.66	2210.09	1.15	1.44	485.75	1.00
5/29/25 15:15	-0.35	21.41	-0.80	2058.65	2210.08	1.15	1.44	485.75	1.00
5/29/25 16:15	-0.35	21.41	-0.80	2059.00	2210.41	1.15	1.44	485.67	1.00
5/29/25 17:15	-0.35	21.41	-0.80	2058.69	2210.12	1.15	1.44	485.75	1.00
5/29/25 18:15	-0.35	21.41	-0.80	2058.62	2210.07	1.15	1.44	485.76	1.00
5/29/25 19:15	-0.35	21.41	-0.80	2058.84	2210.37	1.15	1.44	485.71	1.00
5/29/25 20:15	-0.35	21.41	-0.80	2058.71	2210.21	1.15	1.44	485.74	1.00
5/29/25 21:15	-0.35	21.41	-0.80	2058.60	2210.11	1.15	1.44	485.77	1.00
5/29/25 22:15	-0.35	21.41	-0.82	2058.50	2209.97	1.15	1.44	485.79	1.00
5/29/25 23:15	-0.35	21.41	-0.82	2058.26	2209.74	1.15	1.44	485.85	1.00
5/30/25 0:15	-0.35	21.41	-0.82	2057.74	2209.15	1.14	1.44	485.97	1.00
5/30/25 1:15	-0.35	21.41	-0.82	2058.49	2209.95	1.15	1.44	485.79	1.00
5/30/25 2:15	-0.35	21.41	-0.81	2057.82	2209.27	1.14	1.44	485.95	1.00
5/30/25 3:15	-0.35	21.41	-0.81	2057.79	2209.21	1.14	1.44	485.96	1.00
5/30/25 4:15	-0.35	21.41	-0.80	2058.01	2209.51	1.15	1.44	485.91	1.00
5/30/25 5:15	-0.35	21.41	-0.80	2057.93	2209.38	1.14	1.44	485.93	1.00
5/30/25 6:15	-0.35	21.41	-0.81	2058.15	2209.65	1.15	1.44	485.87	1.00
5/30/25 7:15	-0.35	21.41	-0.81	2058.01	2209.46	1.15	1.44	485.91	1.00
5/30/25 8:15	-0.35	21.41	-0.82	2057.75	2209.24	1.14	1.44	485.97	1.00
5/30/25 9:15	-0.35	21.41	-0.81	2057.92	2209.43	1.15	1.44	485.93	1.00
5/30/25 10:15	-0.35	21.41	-0.81	2057.62	2209.07	1.14	1.44	486.00	1.00
5/30/25 11:15	-0.35	21.41	-0.80	2057.81	2209.37	1.14	1.44	485.95	1.00
5/30/25 12:15	-0.35	21.41	-0.80	2057.68	2209.21	1.14	1.44	485.98	1.00
5/30/25 13:15	-0.35	21.41	-0.81	2057.57	2209.06	1.14	1.44	486.01	1.00
5/30/25 14:15	-0.35	21.41	-0.80	2057.73	2209.23	1.14	1.44	485.97	1.00
5/30/25 15:15	-0.34	21.41	-0.80	2057.60	2209.09	1.14	1.44	486.00	1.00
5/30/25 16:15	-0.34	21.41	-0.79	2057.89	2209.39	1.14	1.44	485.93	1.00
5/30/25 17:15	-0.34	21.41	-0.79	2057.82	2209.30	1.14	1.44	485.95	1.00
5/30/25 18:15	-0.34	21.41	-0.79	2057.80	2209.34	1.14	1.44	485.96	1.00
5/30/25 19:15	-0.34	21.41	-0.79	2057.70	2209.25	1.14	1.44	485.98	1.00
5/30/25 20:15	-0.34	21.41	-0.79	2057.68	2209.27	1.14	1.44	485.98	1.00
5/30/25 21:15	-0.34	21.41	-0.80	2057.62	2209.16	1.14	1.44	486.00	1.00
5/30/25 22:15	-0.35	21.41	-0.80	2057.93	2209.54	1.15	1.44	485.92	1.00
5/30/25 23:15	-0.35	21.41	-0.80	2057.60	2209.16	1.14	1.44	486.00	1.00
5/31/25 0:15	-0.35	21.41	-0.80	2057.82	2209.44	1.15	1.44	485.95	1.00
5/31/25 1:15	-0.35	21.41	-0.81	2057.59	2209.19	1.14	1.44	486.00	1.00
5/31/25 2:15	-0.35	21.41	-0.81	2057.89	2209.49	1.15	1.44	485.93	1.00
5/31/25 3:15	-0.35	21.41	-0.80	2057.82	2209.47	1.15	1.44	485.95	1.00
5/31/25 4:15	-0.35	21.41	-0.80	2057.60	2209.20	1.14	1.44	486.00	1.00
5/31/25 5:15	-0.35	21.41	-0.81	2057.84	2209.47	1.15	1.44	485.95	1.00
5/31/25 6:15	-0.35	21.41	-0.81	2057.70	2209.35	1.14	1.44	485.98	1.00
5/31/25 7:15	-0.35	21.41	-0.81	2057.49	2209.12	1.14	1.44	486.03	1.00
5/31/25 8:15	-0.35	21.41	-0.80	2057.48	2209.10	1.14	1.44	486.03	1.00
5/31/25 9:15	-0.35	21.41	-0.81	2057.25	2208.87	1.14	1.44	486.09	1.00
5/31/25 10:15	-0.35	21.41	-0.80	2057.25	2208.85	1.14	1.44	486.09	1.00
5/31/25 11:15	-0.35	21.41	-0.80	2057.35	2209.00	1.14	1.44	486.06	1.00
5/31/25 12:15	-0.35	21.41	-0.80	2057.74	2209.39	1.14	1.44	485.97	1.00
5/31/25 13:15	-0.35	21.41	-0.80	2057.82	2209.45	1.15	1.44	485.95	1.00
5/31/25 14:15	-0.34	21.41	-0.80	2057.47	2209.14	1.14	1.44	486.03	1.00
5/31/25 15:15	-0.34	21.41	-0.79	2057.30	2208.94	1.14	1.44	486.07	1.00
5/31/25 16:15	-0.34	21.41	-0.79	2057.70	2209.39	1.14	1.44	485.98	1.00
5/31/25 17:15	-0.34	21.40	-0.79	2057.41	2209.10	1.14	1.44	486.05	1.00
5/31/25 18:15	-0.34	21.41	-0.79	2057.65	2209.32	1.14	1.44	485.99	1.00
5/31/25 19:15	-0.34	21.41	-0.79	2057.07	2208.69	1.14	1.44	486.13	1.00
5/31/25 20:15	-0.34	21.41	-0.79	2057.69	2209.37	1.14	1.44	485.98	1.00
5/31/25 21:15	-0.34	21.40	-0.79	2057.54	2209.24	1.14	1.44	486.02	1.00
5/31/25 22:15	-0.34	21.40	-0.80	2057.63	2209.38	1.14	1.44	486.00	1.00
5/31/25 23:15	-0.34	21.40	-0.79	2057.59	2209.32	1.14	1.44	486.01	1.00
6/1/25 0:15	-0.35	21.40	-0.81	2057.71	2209.46	1.15	1.44	485.98	1.00
6/1/25 1:15	-0.35	21.40	-0.80	2057.58	2209.34	1.14	1.44	486.01	1.00
6/1/25 2:15	-0.34	21.40	-0.80	2057.61	2209.35	1.14	1.44	486.00	1.00
6/1/25 3:15	-0.34	21.40	-0.80	2057.50	2209.28	1.14	1.44	486.03	1.00
6/1/25 4:15	-0.34	21.40	-0.79	2056.98	2208.69	1.14	1.44	486.15	1.00
6/1/25 5:15	-0.34	21.40	-0.79	2057.32	2209.06	1.14	1.44	486.07	1.00
6/1/25 6:15	-0.35	21.40	-0.80	2056.99	2208.74	1.14	1.44	486.15	1.00
6/1/25 7:15	-0.34	21.40	-0.79	2056.89	2208.59	1.14	1.44	486.17	1.00
6/1/25 8:15	-0.34	21.40	-0.79	2057.08	2208.82	1.14	1.44	486.13	1.00
6/1/25 9:15	-0.34	21.40	-0.79	2057.26	2209.03	1.14	1.44	486.08	1.00
6/1/25 10:15	-0.34	21.40	-0.79	2056.90	2208.62	1.14	1.44	486.17	1.00
6/1/25 11:15	-0.34	21.40	-0.78	2056.89	2208.65	1.14	1.44	486.17	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/1/25 12:15	-0.34	21.40	-0.79	2057.40	2209.20	1.14	1.44	486.05	1.00
6/1/25 13:15	-0.34	21.40	-0.78	2057.31	2209.11	1.14	1.44	486.07	1.00
6/1/25 14:15	-0.34	21.40	-0.79	2057.07	2208.84	1.14	1.44	486.13	1.00
6/1/25 15:15	-0.34	21.40	-0.79	2057.31	2209.11	1.14	1.44	486.07	1.00
6/1/25 16:15	-0.35	21.40	-0.80	2056.99	2208.77	1.14	1.44	486.15	1.00
6/1/25 17:15	-0.34	21.40	-0.79	2056.89	2208.66	1.14	1.44	486.17	1.00
6/1/25 18:15	-0.34	21.40	-0.79	2056.79	2208.53	1.14	1.44	486.19	1.00
6/1/25 19:15	-0.34	21.40	-0.79	2056.85	2208.65	1.14	1.44	486.18	1.00
6/1/25 20:15	-0.34	21.40	-0.79	2056.80	2208.63	1.14	1.44	486.19	1.00
6/1/25 21:15	-0.34	21.40	-0.79	2057.00	2208.85	1.14	1.44	486.15	1.00
6/1/25 22:15	-0.34	21.40	-0.79	2056.92	2208.74	1.14	1.44	486.16	1.00
6/1/25 23:15	-0.35	21.40	-0.80	2056.93	2208.76	1.14	1.44	486.16	1.00
6/2/25 0:15	-0.34	21.40	-0.80	2056.38	2208.18	1.14	1.44	486.29	1.00
6/2/25 1:15	-0.34	21.40	-0.79	2056.45	2208.29	1.14	1.44	486.28	1.00
6/2/25 2:15	-0.34	21.40	-0.79	2056.81	2208.70	1.14	1.44	486.19	1.00
6/2/25 3:15	-0.34	21.40	-0.79	2056.98	2208.81	1.14	1.44	486.15	1.00
6/2/25 4:15	-0.34	21.40	-0.79	2057.25	2209.11	1.14	1.44	486.09	1.00
6/2/25 5:15	-0.34	21.40	-0.79	2056.77	2208.63	1.14	1.44	486.20	1.00
6/2/25 6:15	-0.34	21.40	-0.79	2056.77	2208.62	1.14	1.44	486.20	1.00
6/2/25 7:15	-0.34	21.40	-0.79	2056.71	2208.65	1.14	1.44	486.21	1.00
6/2/25 8:15	-0.34	21.40	-0.79	2056.68	2208.56	1.14	1.44	486.22	1.00
6/2/25 9:15	-0.34	21.40	-0.79	2056.88	2208.78	1.14	1.44	486.17	1.00
6/2/25 10:15	-0.34	21.40	-0.78	2057.05	2208.98	1.14	1.44	486.13	1.00
6/2/25 11:15	-0.34	21.40	-0.78	2052.05	2203.58	1.14	1.43	487.32	1.00
6/2/25 12:15	-0.33	21.40	-0.76	2052.54	2204.17	1.14	1.43	487.20	1.00
6/2/25 13:15	-0.33	21.40	-0.77	2052.60	2204.26	1.14	1.43	487.19	1.00
6/2/25 14:15	-0.33	21.40	-0.76	2053.09	2204.73	1.14	1.43	487.07	1.00
6/2/25 15:15	-0.33	21.40	-0.75	2053.05	2204.74	1.14	1.43	487.08	1.00
6/2/25 16:15	-0.32	21.40	-0.74	2053.42	2205.14	1.14	1.43	486.99	1.00
6/2/25 17:15	-0.32	21.40	-0.74	2053.30	2205.00	1.14	1.43	487.02	1.00
6/2/25 18:15	-0.32	21.40	-0.74	2053.03	2204.67	1.14	1.43	487.08	1.00
6/2/25 19:15	-0.32	21.40	-0.74	2053.09	2204.82	1.14	1.43	487.07	1.00
6/2/25 20:15	-0.32	21.40	-0.74	2053.25	2204.96	1.14	1.43	487.03	1.00
6/2/25 21:15	-0.32	21.40	-0.74	2053.02	2204.73	1.14	1.43	487.09	1.00
6/2/25 22:15	-0.32	21.40	-0.74	2053.41	2205.07	1.14	1.43	486.99	1.00
6/2/25 23:15	-0.32	21.40	-0.73	2053.44	2205.24	1.14	1.43	486.99	1.00
6/3/25 0:15	-0.32	21.40	-0.73	2053.83	2205.68	1.14	1.43	486.89	1.00
6/3/25 1:15	-0.32	21.40	-0.73	2051.82	2203.50	1.14	1.43	487.37	1.00
6/3/25 2:15	-0.31	21.40	-0.73	2052.08	2203.76	1.14	1.43	487.31	1.00
6/3/25 3:15	-0.32	21.40	-0.73	2052.13	2203.85	1.14	1.43	487.30	1.00
6/3/25 4:15	-0.32	21.40	-0.73	2052.39	2204.11	1.14	1.43	487.24	1.00
6/3/25 5:15	-0.31	21.40	-0.73	2052.18	2203.92	1.14	1.43	487.29	1.00
6/3/25 6:15	-0.31	21.40	-0.73	2052.15	2203.89	1.14	1.43	487.29	1.00
6/3/25 7:15	-0.32	21.40	-0.73	2052.32	2204.03	1.14	1.43	487.25	1.00
6/3/25 8:15	-0.32	21.40	-0.73	2052.50	2204.22	1.14	1.43	487.21	1.00
6/3/25 9:15	-0.32	21.39	-0.74	2052.42	2204.21	1.14	1.43	487.23	1.00
6/3/25 10:15	-0.32	21.40	-0.75	2052.40	2204.17	1.14	1.43	487.23	1.00
6/3/25 11:15	-0.33	21.40	-0.76	2052.67	2204.45	1.14	1.43	487.17	1.00
6/3/25 12:15	-0.34	21.40	-0.79	2052.44	2204.14	1.14	1.43	487.22	1.00
6/3/25 13:15	-0.42	21.41	-0.96	2010.97	2159.19	1.12	1.40	497.27	1.00
6/3/25 14:15	-0.37	21.41	-0.86	2009.67	2157.63	1.12	1.40	497.59	1.00
6/3/25 15:15	-0.37	21.41	-0.85	2009.27	2157.09	1.12	1.40	497.69	1.00
6/3/25 16:15	-0.37	21.41	-0.85	2009.33	2157.12	1.12	1.40	497.68	1.00
6/3/25 17:15	-0.36	21.41	-0.84	2009.01	2156.74	1.12	1.40	497.76	1.00
6/3/25 18:15	-0.36	21.41	-0.84	2009.27	2157.01	1.12	1.40	497.69	1.00
6/3/25 19:15	-0.36	21.41	-0.84	2009.26	2156.97	1.12	1.40	497.70	1.00
6/3/25 20:15	-0.36	21.42	-0.84	2009.16	2156.84	1.12	1.40	497.72	1.00
6/3/25 21:15	-0.36	21.42	-0.84	2009.04	2156.71	1.12	1.40	497.75	1.00
6/3/25 22:15	-0.37	21.42	-0.85	2009.29	2156.97	1.12	1.40	497.69	1.00
6/3/25 23:15	-0.36	21.42	-0.84	2008.91	2156.55	1.12	1.40	497.78	1.00
6/4/25 0:15	-0.37	21.42	-0.84	2009.24	2156.93	1.12	1.40	497.70	1.00
6/4/25 1:15	-0.37	21.42	-0.85	2008.86	2156.52	1.12	1.40	497.79	1.00
6/4/25 2:15	-0.37	21.41	-0.85	2008.64	2156.30	1.12	1.40	497.85	1.00
6/4/25 3:15	-0.37	21.41	-0.85	2009.06	2156.77	1.12	1.40	497.75	1.00
6/4/25 4:15	-0.37	21.41	-0.85	2008.67	2156.35	1.12	1.40	497.84	1.00
6/4/25 5:15	-0.37	21.41	-0.85	2008.79	2156.51	1.12	1.40	497.81	1.00
6/4/25 6:15	-0.37	21.41	-0.85	2009.20	2156.96	1.12	1.40	497.71	1.00
6/4/25 7:15	-0.37	21.41	-0.85	2009.27	2157.09	1.12	1.40	497.69	1.00
6/4/25 8:15	-0.37	21.41	-0.85	2008.90	2156.74	1.12	1.40	497.79	1.00
6/4/25 9:15	-0.37	21.41	-0.85	2008.76	2156.64	1.12	1.40	497.82	1.00
6/4/25 10:15	-0.37	21.41	-0.85	2008.54	2156.47	1.12	1.40	497.87	1.00
6/4/25 11:15	-0.37	21.41	-0.85	2008.48	2156.40	1.12	1.40	497.89	1.00
6/4/25 12:15	-0.36	21.41	-0.84	2008.36	2156.26	1.12	1.40	497.92	1.00
6/4/25 13:15	-0.36	21.41	-0.84	2008.04	2155.98	1.12	1.40	498.00	1.00
6/4/25 14:15	-0.36	21.41	-0.83	2007.77	2155.75	1.12	1.40	498.06	1.00
6/4/25 15:15	-0.36	21.41	-0.83	2007.83	2155.82	1.12	1.40	498.05	1.00
6/4/25 16:15	-0.36	21.40	-0.83	2007.47	2155.49	1.12	1.40	498.14	1.00
6/4/25 17:15	-0.36	21.40	-0.83	2006.57	2154.53	1.12	1.40	498.36	1.00
6/4/25 18:15	-0.36	21.41	-0.82	2006.44	2154.35	1.11	1.40	498.40	1.00
6/4/25 19:15	-0.36	21.40	-0.83	2006.13	2154.06	1.11	1.40	498.47	1.00
6/4/25 20:15	-0.36	21.40	-0.83	2006.09	2154.04	1.11	1.40	498.48	1.00
6/4/25 21:15	-0.36	21.40	-0.83	2006.07	2154.02	1.11	1.40	498.49	1.00
6/4/25 22:15	-0.36	21.41	-0.83	2005.88	2153.76	1.11	1.40	498.54	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/4/25 23:15	-0.36	21.40	-0.83	2005.85	2153.78	1.11	1.40	498.54	1.00
6/5/25 0:15	-0.36	21.40	-0.83	2005.84	2153.76	1.11	1.40	498.55	1.00
6/5/25 1:15	-0.36	21.40	-0.83	2005.83	2153.81	1.11	1.40	498.55	1.00
6/5/25 2:15	-0.36	21.40	-0.83	2005.44	2153.36	1.11	1.40	498.64	1.00
6/5/25 3:15	-0.36	21.40	-0.83	2005.50	2153.43	1.11	1.40	498.63	1.00
6/5/25 4:15	-0.36	21.40	-0.83	2005.45	2153.38	1.11	1.40	498.64	1.00
6/5/25 5:15	-0.36	21.40	-0.83	2005.14	2153.08	1.11	1.40	498.72	1.00
6/5/25 6:15	-0.36	21.40	-0.83	2004.98	2152.89	1.11	1.40	498.76	1.00
6/5/25 7:15	-0.36	21.40	-0.83	2005.19	2153.16	1.11	1.40	498.71	1.00
6/5/25 8:15	-0.36	21.40	-0.83	2004.97	2152.95	1.11	1.40	498.76	1.00
6/5/25 9:15	-0.36	21.40	-0.83	2004.79	2152.72	1.11	1.40	498.80	1.00
6/5/25 10:15	-0.36	21.40	-0.83	2005.00	2152.94	1.11	1.40	498.75	1.00
6/5/25 11:15	-0.36	21.40	-0.82	2005.12	2153.09	1.11	1.40	498.72	1.00
6/5/25 12:15	-0.35	21.40	-0.80	2005.10	2153.05	1.11	1.40	498.73	1.00
6/5/25 13:15	-0.34	21.40	-0.79	2005.00	2152.99	1.11	1.40	498.75	1.00
6/5/25 14:15	-0.34	21.40	-0.79	2004.43	2152.37	1.11	1.40	498.90	1.00
6/5/25 15:15	-0.34	21.40	-0.79	2004.56	2152.48	1.11	1.40	498.86	1.00
6/5/25 16:15	-0.34	21.40	-0.78	2004.21	2152.13	1.11	1.40	498.95	1.00
6/5/25 17:15	-0.34	21.40	-0.79	2004.35	2152.30	1.11	1.40	498.91	1.00
6/5/25 18:15	-0.34	21.40	-0.79	2004.04	2151.97	1.11	1.40	498.99	1.00
6/5/25 19:15	-0.34	21.40	-0.79	2004.09	2152.03	1.11	1.40	498.98	1.00
6/5/25 20:15	-0.34	21.40	-0.80	2004.08	2152.02	1.11	1.40	498.98	1.00
6/5/25 21:15	-0.34	21.40	-0.80	2004.25	2152.22	1.11	1.40	498.94	1.00
6/5/25 22:15	-0.34	21.40	-0.80	2003.97	2151.94	1.11	1.40	499.01	1.00
6/5/25 23:15	-0.35	21.40	-0.80	2003.80	2151.78	1.11	1.40	499.05	1.00
6/6/25 0:15	-0.34	21.40	-0.79	2004.26	2152.28	1.11	1.40	498.94	1.00
6/6/25 1:15	-0.34	21.40	-0.79	2004.13	2152.12	1.11	1.40	498.97	1.00
6/6/25 2:15	-0.34	21.40	-0.79	2004.03	2152.02	1.11	1.40	499.00	1.00
6/6/25 3:15	-0.34	21.40	-0.79	2003.88	2151.95	1.11	1.40	499.03	1.00
6/6/25 4:15	-0.34	21.40	-0.79	2003.77	2151.79	1.11	1.40	499.06	1.00
6/6/25 5:15	-0.34	21.40	-0.79	2003.53	2151.55	1.11	1.40	499.12	1.00
6/6/25 6:15	-0.34	21.40	-0.79	2003.60	2151.57	1.11	1.40	499.10	1.00
6/6/25 7:15	-0.35	21.40	-0.80	2003.14	2151.12	1.11	1.40	499.22	1.00
6/6/25 8:15	-0.34	21.40	-0.79	2003.48	2151.49	1.11	1.40	499.13	1.00
6/6/25 9:15	-0.34	21.40	-0.79	2003.53	2151.54	1.11	1.40	499.12	1.00
6/6/25 10:15	-0.34	21.40	-0.79	2003.15	2151.19	1.11	1.40	499.21	1.00
6/6/25 11:15	-0.34	21.40	-0.79	2003.13	2151.15	1.11	1.40	499.22	1.00
6/6/25 12:15	-0.34	21.40	-0.79	2002.93	2150.94	1.11	1.40	499.27	1.00
6/6/25 13:15	-0.34	21.40	-0.78	2002.85	2150.88	1.11	1.40	499.29	1.00
6/6/25 14:15	-0.34	21.40	-0.78	2002.89	2150.94	1.11	1.40	499.28	1.00
6/6/25 15:15	-0.34	21.40	-0.78	2002.76	2150.84	1.11	1.40	499.31	1.00
6/6/25 16:15	-0.34	21.40	-0.78	2002.80	2150.90	1.11	1.40	499.30	1.00
6/6/25 17:15	-0.33	21.40	-0.77	2002.76	2150.80	1.11	1.40	499.31	1.00
6/6/25 18:15	-0.33	21.40	-0.77	2002.89	2150.98	1.11	1.40	499.28	1.00
6/6/25 19:15	-0.33	21.39	-0.77	2002.93	2151.06	1.11	1.40	499.27	1.00
6/6/25 20:15	-0.34	21.39	-0.77	2002.30	2150.43	1.11	1.40	499.42	1.00
6/6/25 21:15	-0.34	21.39	-0.78	2002.36	2150.47	1.11	1.40	499.41	1.00
6/6/25 22:15	-0.34	21.39	-0.78	2002.36	2150.53	1.11	1.40	499.41	1.00
6/6/25 23:15	-0.33	21.39	-0.77	2002.40	2150.56	1.11	1.40	499.40	1.00
6/7/25 0:15	-0.33	21.39	-0.77	2002.14	2150.33	1.11	1.40	499.47	1.00
6/7/25 1:15	-0.33	21.39	-0.76	2000.41	2148.48	1.11	1.40	499.90	1.00
6/7/25 2:15	-0.33	21.39	-0.76	2000.35	2148.39	1.11	1.40	499.91	1.00
6/7/25 3:15	-0.33	21.39	-0.76	2000.35	2148.40	1.11	1.40	499.91	1.00
6/7/25 4:15	-0.33	21.39	-0.76	2000.48	2148.55	1.11	1.40	499.88	1.00
6/7/25 5:15	-0.33	21.39	-0.77	2000.30	2148.47	1.11	1.40	499.92	1.00
6/7/25 6:15	-0.33	21.39	-0.77	1999.99	2148.20	1.11	1.40	500.00	1.00
6/7/25 7:15	-0.33	21.39	-0.76	2000.04	2148.32	1.11	1.40	499.99	1.00
6/7/25 8:15	-0.33	21.39	-0.77	1999.59	2147.80	1.11	1.40	500.10	1.00
6/7/25 9:15	-0.33	21.39	-0.76	1999.26	2147.49	1.11	1.40	500.18	1.00
6/7/25 10:15	-0.33	21.39	-0.75	1998.23	2146.40	1.11	1.40	500.44	1.00
6/7/25 11:15	-0.33	21.38	-0.76	1998.08	2146.30	1.11	1.40	500.48	1.00
6/7/25 12:15	-0.33	21.38	-0.76	1997.69	2145.92	1.11	1.39	500.58	1.00
6/7/25 13:15	-0.32	21.38	-0.74	1997.71	2145.98	1.11	1.39	500.57	1.00
6/7/25 14:15	-0.32	21.38	-0.74	1997.65	2145.94	1.11	1.39	500.59	1.00
6/7/25 15:15	-0.32	21.38	-0.74	1997.73	2145.96	1.11	1.39	500.57	1.00
6/7/25 16:15	-0.32	21.38	-0.73	1997.26	2145.56	1.11	1.39	500.69	1.00
6/7/25 17:15	-0.31	21.38	-0.72	1997.50	2145.81	1.11	1.39	500.63	1.00
6/7/25 18:15	-0.31	21.38	-0.72	1997.64	2145.99	1.11	1.39	500.59	1.00
6/7/25 19:15	-0.31	21.38	-0.73	1997.42	2145.75	1.11	1.39	500.65	1.00
6/7/25 20:15	-0.31	21.38	-0.72	1997.35	2145.67	1.11	1.39	500.66	1.00
6/7/25 21:15	-0.31	21.38	-0.73	1997.52	2145.83	1.11	1.39	500.62	1.00
6/7/25 22:15	-0.32	21.38	-0.73	1997.57	2145.86	1.11	1.39	500.61	1.00
6/7/25 23:15	-0.31	21.38	-0.72	1997.77	2146.10	1.11	1.39	500.56	1.00
6/8/25 0:15	-0.31	21.38	-0.72	1997.73	2146.06	1.11	1.39	500.57	1.00
6/8/25 1:15	-0.31	21.38	-0.71	1997.89	2146.24	1.11	1.40	500.53	1.00
6/8/25 2:15	-0.31	21.38	-0.71	1997.63	2146.00	1.11	1.39	500.59	1.00
6/8/25 3:15	-0.31	21.38	-0.71	1997.68	2146.07	1.11	1.39	500.58	1.00
6/8/25 4:15	-0.30	21.38	-0.70	1997.37	2145.71	1.11	1.39	500.66	1.00
6/8/25 5:15	-0.30	21.38	-0.70	1997.89	2146.30	1.11	1.40	500.53	1.00
6/8/25 6:15	-0.30	21.38	-0.70	1997.82	2146.23	1.11	1.40	500.55	1.00
6/8/25 7:15	-0.30	21.38	-0.70	1998.16	2146.56	1.11	1.40	500.46	1.00
6/8/25 8:15	-0.30	21.38	-0.70	1998.30	2146.78	1.11	1.40	500.43	1.00
6/8/25 9:15	-0.30	21.38	-0.69	1998.18	2146.64	1.11	1.40	500.46	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/8/25 10:15	-0.30	21.38	-0.69	1998.38	2146.85	1.11	1.40	500.40	1.00
6/8/25 11:15	-0.30	21.38	-0.68	1998.75	2147.22	1.11	1.40	500.31	1.00
6/8/25 12:15	-0.30	21.38	-0.68	1998.36	2146.86	1.11	1.40	500.41	1.00
6/8/25 13:15	-0.29	21.38	-0.67	1998.13	2146.60	1.11	1.40	500.47	1.00
6/8/25 14:15	-0.33	21.38	-0.77	1998.21	2146.71	1.11	1.40	500.45	1.00
6/8/25 15:15	-0.32	21.38	-0.74	1998.16	2146.65	1.11	1.40	500.46	1.00
6/8/25 16:15	-0.32	21.38	-0.73	1998.07	2146.58	1.11	1.40	500.48	1.00
6/8/25 17:15	-0.31	21.38	-0.72	1998.56	2147.07	1.11	1.40	500.36	1.00
6/8/25 18:15	-0.31	21.38	-0.71	1998.44	2146.97	1.11	1.40	500.39	1.00
6/8/25 19:15	-0.31	21.38	-0.71	1998.19	2146.69	1.11	1.40	500.45	1.00
6/8/25 20:15	-0.33	21.38	-0.77	1998.31	2146.83	1.11	1.40	500.42	1.00
6/8/25 21:15	-0.33	21.38	-0.76	1998.50	2147.08	1.11	1.40	500.38	1.00
6/8/25 22:15	-0.33	21.38	-0.76	1998.44	2147.00	1.11	1.40	500.39	1.00
6/8/25 23:15	-0.33	21.38	-0.76	1998.57	2147.16	1.11	1.40	500.36	1.00
6/9/25 0:15	-0.33	21.38	-0.76	1998.49	2147.08	1.11	1.40	500.38	1.00
6/9/25 1:15	-0.33	21.38	-0.77	1998.70	2147.29	1.11	1.40	500.32	1.00
6/9/25 2:15	-0.33	21.38	-0.77	1998.52	2147.10	1.11	1.40	500.37	1.00
6/9/25 3:15	-0.34	21.38	-0.78	1998.39	2146.97	1.11	1.40	500.40	1.00
6/9/25 4:15	-0.33	21.38	-0.77	1998.60	2147.16	1.11	1.40	500.35	1.00
6/9/25 5:15	-0.34	21.38	-0.77	1998.44	2147.00	1.11	1.40	500.39	1.00
6/9/25 6:15	-0.34	21.38	-0.78	1998.52	2147.11	1.11	1.40	500.37	1.00
6/9/25 7:15	-0.33	21.38	-0.77	1998.34	2146.95	1.11	1.40	500.41	1.00
6/9/25 8:15	-0.33	21.38	-0.77	1998.96	2147.61	1.11	1.40	500.26	1.00
6/9/25 9:15	-0.33	21.38	-0.76	1998.53	2147.14	1.11	1.40	500.37	1.00
6/9/25 10:15	-0.33	21.38	-0.76	1998.51	2147.07	1.11	1.40	500.37	1.00
6/9/25 11:15	-0.33	21.38	-0.76	1998.90	2147.51	1.11	1.40	500.27	1.00
6/9/25 12:15	-0.33	21.38	-0.76	1998.76	2147.40	1.11	1.40	500.31	1.00
6/9/25 13:15	-0.32	21.38	-0.75	1998.92	2147.58	1.11	1.40	500.27	1.00
6/9/25 14:15	-0.32	21.38	-0.74	1998.78	2147.45	1.11	1.40	500.30	1.00
6/9/25 15:15	-0.32	21.37	-0.74	1998.94	2147.64	1.11	1.40	500.27	1.00
6/9/25 16:15	-0.32	21.37	-0.73	1998.94	2147.64	1.11	1.40	500.27	1.00
6/9/25 17:15	-0.32	21.38	-0.73	1999.24	2147.93	1.11	1.40	500.19	1.00
6/9/25 18:15	-0.33	21.38	-0.75	1999.26	2147.96	1.11	1.40	500.18	1.00
6/9/25 19:15	-0.32	21.38	-0.75	1999.11	2147.81	1.11	1.40	500.22	1.00
6/9/25 20:15	-0.32	21.37	-0.75	1998.96	2147.68	1.11	1.40	500.26	1.00
6/9/25 21:15	-0.33	21.37	-0.76	1998.69	2147.38	1.11	1.40	500.33	1.00
6/9/25 22:15	-0.33	21.37	-0.76	1998.72	2147.44	1.11	1.40	500.32	1.00
6/9/25 23:15	-0.33	21.37	-0.75	1999.27	2148.01	1.11	1.40	500.18	1.00
6/10/25 0:15	-0.33	21.37	-0.76	1999.34	2148.09	1.11	1.40	500.17	1.00
6/10/25 1:15	-0.33	21.37	-0.76	1999.26	2148.05	1.11	1.40	500.18	1.00
6/10/25 2:15	-0.34	21.37	-0.77	1999.46	2148.25	1.11	1.40	500.13	1.00
6/10/25 3:15	-0.33	21.37	-0.77	1999.39	2148.16	1.11	1.40	500.15	1.00
6/10/25 4:15	-0.33	21.37	-0.77	1999.26	2148.08	1.11	1.40	500.18	1.00
6/10/25 5:15	-0.33	21.37	-0.77	1999.43	2148.20	1.11	1.40	500.14	1.00
6/10/25 6:15	-0.33	21.37	-0.77	1998.94	2147.70	1.11	1.40	500.27	1.00
6/10/25 7:15	-0.33	21.37	-0.77	1998.99	2147.75	1.11	1.40	500.25	1.00
6/10/25 8:15	-0.33	21.37	-0.76	1999.03	2147.81	1.11	1.40	500.24	1.00
6/10/25 9:15	-0.33	21.37	-0.76	1998.92	2147.67	1.11	1.40	500.27	1.00
6/10/25 10:15	-0.33	21.37	-0.76	1998.45	2147.21	1.11	1.40	500.39	1.00
6/10/25 11:15	-0.33	21.37	-0.76	1999.15	2147.96	1.11	1.40	500.21	1.00
6/10/25 12:15	-0.32	21.37	-0.75	1998.96	2147.77	1.11	1.40	500.26	1.00
6/10/25 13:15	-0.32	21.37	-0.75	1999.03	2147.84	1.11	1.40	500.24	1.00
6/10/25 14:15	-0.32	21.37	-0.74	1998.77	2147.56	1.11	1.40	500.31	1.00
6/10/25 15:15	-0.33	21.37	-0.76	1998.88	2147.72	1.11	1.40	500.28	1.00
6/10/25 16:15	-0.33	21.37	-0.76	1998.71	2147.53	1.11	1.40	500.32	1.00
6/10/25 17:15	-0.33	21.37	-0.76	1998.81	2147.64	1.11	1.40	500.30	1.00
6/10/25 18:15	-0.33	21.37	-0.76	1998.92	2147.76	1.11	1.40	500.27	1.00
6/10/25 19:15	-0.33	21.37	-0.76	1998.87	2147.66	1.11	1.40	500.28	1.00
6/10/25 20:15	-0.33	21.37	-0.76	1998.90	2147.71	1.11	1.40	500.27	1.00
6/10/25 21:15	-0.33	21.37	-0.75	1998.92	2147.73	1.11	1.40	500.27	1.00
6/10/25 22:15	-0.32	21.37	-0.75	1998.89	2147.72	1.11	1.40	500.28	1.00
6/10/25 23:15	-0.32	21.37	-0.74	1998.84	2147.71	1.11	1.40	500.29	1.00
6/11/25 0:15	-0.32	21.37	-0.75	1998.78	2147.67	1.11	1.40	500.30	1.00
6/11/25 1:15	-0.32	21.37	-0.74	1998.36	2147.23	1.11	1.40	500.41	1.00
6/11/25 2:15	-0.33	21.37	-0.77	1998.49	2147.31	1.11	1.40	500.38	1.00
6/11/25 3:15	-0.33	21.37	-0.77	1998.62	2147.48	1.11	1.40	500.34	1.00
6/11/25 4:15	-0.33	21.37	-0.76	1998.98	2147.86	1.11	1.40	500.26	1.00
6/11/25 5:15	-0.33	21.37	-0.76	1998.63	2147.52	1.11	1.40	500.34	1.00
6/11/25 6:15	-0.33	21.37	-0.76	1998.92	2147.80	1.11	1.40	500.27	1.00
6/11/25 7:15	-0.33	21.37	-0.76	1998.53	2147.40	1.11	1.40	500.37	1.00
6/11/25 8:15	-0.33	21.37	-0.75	1998.48	2147.37	1.11	1.40	500.38	1.00
6/11/25 9:15	-0.32	21.37	-0.75	1998.64	2147.52	1.11	1.40	500.34	1.00
6/11/25 10:15	-0.32	21.37	-0.75	1998.85	2147.74	1.11	1.40	500.29	1.00
6/11/25 11:15	-0.32	21.37	-0.74	1998.58	2147.47	1.11	1.40	500.36	1.00
6/11/25 12:15	-0.32	21.37	-0.74	1998.33	2147.21	1.11	1.40	500.42	1.00
6/11/25 13:15	-0.33	21.37	-0.76	1998.36	2147.27	1.11	1.40	500.41	1.00
6/11/25 14:15	-0.33	21.37	-0.76	1998.52	2147.44	1.11	1.40	500.37	1.00
6/11/25 15:15	-0.32	21.37	-0.75	1998.60	2147.53	1.11	1.40	500.35	1.00
6/11/25 16:15	-0.32	21.37	-0.74	1998.48	2147.43	1.11	1.40	500.38	1.00
6/11/25 17:15	-0.32	21.37	-0.74	1998.55	2147.50	1.11	1.40	500.36	1.00
6/11/25 18:15	-0.32	21.37	-0.74	1998.70	2147.65	1.11	1.40	500.32	1.00
6/11/25 19:15	-0.32	21.37	-0.74	1998.76	2147.70	1.11	1.40	500.31	1.00
6/11/25 20:15	-0.32	21.37	-0.74	1998.55	2147.49	1.11	1.40	500.36	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/11/25 21:15	-0.32	21.37	-0.73	1998.69	2147.69	1.11	1.40	500.33	1.00
6/11/25 22:15	-0.32	21.37	-0.73	1998.58	2147.53	1.11	1.40	500.36	1.00
6/11/25 23:15	-0.32	21.37	-0.75	1998.64	2147.60	1.11	1.40	500.34	1.00
6/12/25 0:15	-0.32	21.37	-0.74	1998.53	2147.49	1.11	1.40	500.37	1.00
6/12/25 1:15	-0.32	21.37	-0.74	1998.70	2147.67	1.11	1.40	500.32	1.00
6/12/25 2:15	-0.32	21.37	-0.74	1998.08	2147.00	1.11	1.40	500.48	1.00
6/12/25 3:15	-0.32	21.37	-0.73	1998.40	2147.34	1.11	1.40	500.40	1.00
6/12/25 4:15	-0.32	21.37	-0.73	1998.13	2147.07	1.11	1.40	500.47	1.00
6/12/25 5:15	-0.32	21.37	-0.73	1998.15	2147.15	1.11	1.40	500.46	1.00
6/12/25 6:15	-0.33	21.37	-0.76	1998.17	2147.17	1.11	1.40	500.46	1.00
6/12/25 7:15	-0.33	21.37	-0.76	1998.11	2147.10	1.11	1.40	500.47	1.00
6/12/25 8:15	-0.33	21.37	-0.76	1998.58	2147.58	1.11	1.40	500.36	1.00
6/12/25 9:15	-0.33	21.37	-0.75	1998.48	2147.50	1.11	1.40	500.38	1.00
6/12/25 10:15	-0.32	21.37	-0.75	1998.54	2147.59	1.11	1.40	500.36	1.00
6/12/25 11:15	-0.32	21.37	-0.75	1998.33	2147.33	1.11	1.40	500.42	1.00
6/12/25 12:15	-0.32	21.37	-0.74	1998.33	2147.31	1.11	1.40	500.42	1.00
6/12/25 13:15	-0.32	21.37	-0.74	1998.20	2147.27	1.11	1.40	500.45	1.00
6/12/25 14:15	-0.32	21.37	-0.74	1998.33	2147.38	1.11	1.40	500.42	1.00
6/12/25 15:15	-0.32	21.37	-0.74	1998.47	2147.53	1.11	1.40	500.38	1.00
6/12/25 16:15	-0.32	21.37	-0.74	1998.40	2147.43	1.11	1.40	500.40	1.00
6/12/25 17:15	-0.32	21.37	-0.73	1998.63	2147.67	1.11	1.40	500.34	1.00
6/12/25 18:15	-0.31	21.37	-0.72	1998.31	2147.37	1.11	1.40	500.42	1.00
6/12/25 19:15	-0.32	21.37	-0.75	1998.71	2147.78	1.11	1.40	500.32	1.00
6/12/25 20:15	-0.33	21.37	-0.75	1998.62	2147.67	1.11	1.40	500.34	1.00
6/12/25 21:15	-0.32	21.37	-0.74	1998.67	2147.76	1.11	1.40	500.33	1.00
6/12/25 22:15	-0.32	21.37	-0.74	1998.41	2147.49	1.11	1.40	500.40	1.00
6/12/25 23:15	-0.32	21.36	-0.74	1998.38	2147.53	1.11	1.40	500.41	1.00
6/13/25 0:15	-0.33	21.36	-0.76	1998.39	2147.51	1.11	1.40	500.40	1.00
6/13/25 1:15	-0.32	21.37	-0.75	1998.25	2147.29	1.11	1.40	500.44	1.00
6/13/25 2:15	-0.34	21.37	-0.77	1997.97	2147.02	1.11	1.40	500.51	1.00
6/13/25 3:15	-0.33	21.36	-0.75	1998.01	2147.09	1.11	1.40	500.50	1.00
6/13/25 4:15	-0.33	21.37	-0.75	1998.35	2147.43	1.11	1.40	500.41	1.00
6/13/25 5:15	-0.33	21.36	-0.76	1998.27	2147.38	1.11	1.40	500.43	1.00
6/13/25 6:15	-0.33	21.36	-0.75	1998.29	2147.40	1.11	1.40	500.43	1.00
6/13/25 7:15	-0.33	21.36	-0.76	1998.59	2147.75	1.11	1.40	500.35	1.00
6/13/25 8:15	-0.33	21.36	-0.75	1998.49	2147.65	1.11	1.40	500.38	1.00
6/13/25 9:15	-0.32	21.36	-0.75	1998.34	2147.49	1.11	1.40	500.41	1.00
6/13/25 10:15	-0.32	21.36	-0.75	1997.88	2146.99	1.11	1.40	500.53	1.00
6/13/25 11:15	-0.32	21.36	-0.74	1998.35	2147.50	1.11	1.40	500.41	1.00
6/13/25 12:15	-0.32	21.36	-0.74	1998.32	2147.45	1.11	1.40	500.42	1.00
6/13/25 13:15	-0.32	21.36	-0.73	1997.97	2147.12	1.11	1.40	500.51	1.00
6/13/25 14:15	-0.32	21.36	-0.73	1998.24	2147.43	1.11	1.40	500.44	1.00
6/13/25 15:15	-0.31	21.36	-0.72	1998.28	2147.47	1.11	1.40	500.43	1.00
6/13/25 16:15	-0.32	21.36	-0.75	1998.07	2147.23	1.11	1.40	500.48	1.00
6/13/25 17:15	-0.31	21.36	-0.72	1997.80	2146.97	1.11	1.40	500.55	1.00
6/13/25 18:15	-0.31	21.36	-0.71	1997.87	2147.04	1.11	1.40	500.53	1.00
6/13/25 19:15	-0.31	21.36	-0.71	1998.34	2147.54	1.11	1.40	500.42	1.00
6/13/25 20:15	-0.31	21.36	-0.72	1998.14	2147.31	1.11	1.40	500.47	1.00
6/13/25 21:15	-0.32	21.36	-0.73	1997.85	2147.04	1.11	1.40	500.54	1.00
6/13/25 22:15	-0.32	21.36	-0.73	1998.25	2147.49	1.11	1.40	500.44	1.00
6/13/25 23:15	-0.31	21.36	-0.73	1997.87	2147.10	1.11	1.40	500.53	1.00
6/14/25 0:15	-0.32	21.36	-0.73	1997.94	2147.15	1.11	1.40	500.52	1.00
6/14/25 1:15	-0.31	21.36	-0.72	1997.77	2146.95	1.11	1.40	500.56	1.00
6/14/25 2:15	-0.31	21.36	-0.72	1998.23	2147.42	1.11	1.40	500.44	1.00
6/14/25 3:15	-0.32	21.36	-0.74	1998.11	2147.36	1.11	1.40	500.47	1.00
6/14/25 4:15	-0.32	21.36	-0.75	1998.42	2147.67	1.11	1.40	500.40	1.00
6/14/25 5:15	-0.32	21.36	-0.74	1998.26	2147.53	1.11	1.40	500.43	1.00
6/14/25 6:15	-0.32	21.36	-0.74	1998.43	2147.71	1.11	1.40	500.39	1.00
6/14/25 7:15	-0.32	21.36	-0.74	1998.23	2147.49	1.11	1.40	500.44	1.00
6/14/25 8:15	-0.32	21.36	-0.73	1998.66	2147.93	1.11	1.40	500.33	1.00
6/14/25 9:15	-0.32	21.36	-0.73	1998.83	2148.13	1.11	1.40	500.29	1.00
6/14/25 10:15	-0.31	21.36	-0.73	1998.14	2147.43	1.11	1.40	500.46	1.00
6/14/25 11:15	-0.31	21.36	-0.73	1998.16	2147.46	1.11	1.40	500.46	1.00
6/14/25 12:15	-0.32	21.36	-0.74	1997.98	2147.21	1.11	1.40	500.50	1.00
6/14/25 13:15	-0.32	21.36	-0.73	1998.09	2147.37	1.11	1.40	500.48	1.00
6/14/25 14:15	-0.31	21.36	-0.72	1998.15	2147.44	1.11	1.40	500.46	1.00
6/14/25 15:15	-0.31	21.36	-0.72	1997.96	2147.27	1.11	1.40	500.51	1.00
6/14/25 16:15	-0.32	21.36	-0.73	1998.09	2147.38	1.11	1.40	500.48	1.00
6/14/25 17:15	-0.32	21.36	-0.74	1998.36	2147.69	1.11	1.40	500.41	1.00
6/14/25 18:15	-0.32	21.36	-0.73	1997.98	2147.29	1.11	1.40	500.51	1.00
6/14/25 19:15	-0.31	21.36	-0.73	1998.17	2147.47	1.11	1.40	500.46	1.00
6/14/25 20:15	-0.31	21.36	-0.73	1997.78	2147.00	1.11	1.40	500.56	1.00
6/14/25 21:15	-0.31	21.36	-0.73	1997.47	2146.73	1.11	1.40	500.63	1.00
6/14/25 22:15	-0.31	21.36	-0.73	1997.36	2146.59	1.11	1.40	500.66	1.00
6/14/25 23:15	-0.32	21.36	-0.74	1997.23	2146.51	1.11	1.40	500.69	1.00
6/15/25 0:15	-0.32	21.36	-0.74	1997.58	2146.89	1.11	1.40	500.61	1.00
6/15/25 1:15	-0.32	21.36	-0.74	1997.26	2146.55	1.11	1.40	500.69	1.00
6/15/25 2:15	-0.32	21.36	-0.74	1998.06	2147.44	1.11	1.40	500.49	1.00
6/15/25 3:15	-0.32	21.36	-0.74	1997.91	2147.26	1.11	1.40	500.52	1.00
6/15/25 4:15	-0.32	21.36	-0.74	1997.91	2147.29	1.11	1.40	500.52	1.00
6/15/25 5:15	-0.32	21.36	-0.74	1998.18	2147.56	1.11	1.40	500.45	1.00
6/15/25 6:15	-0.32	21.36	-0.74	1998.01	2147.35	1.11	1.40	500.50	1.00
6/15/25 7:15	-0.32	21.36	-0.74	1997.89	2147.29	1.11	1.40	500.53	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/15/25 8:15	-0.32	21.36	-0.73	1998.03	2147.38	1.11	1.40	500.49	1.00
6/15/25 9:15	-0.32	21.36	-0.73	1998.13	2147.49	1.11	1.40	500.47	1.00
6/15/25 10:15	-0.31	21.36	-0.73	1998.26	2147.65	1.11	1.40	500.43	1.00
6/15/25 11:15	-0.32	21.36	-0.74	1998.15	2147.55	1.11	1.40	500.46	1.00
6/15/25 12:15	-0.32	21.36	-0.73	1998.44	2147.85	1.11	1.40	500.39	1.00
6/15/25 13:15	-0.32	21.36	-0.74	1998.16	2147.55	1.11	1.40	500.46	1.00
6/15/25 14:15	-0.32	21.36	-0.73	1997.71	2147.10	1.11	1.40	500.57	1.00
6/15/25 15:15	-0.33	21.36	-0.75	1997.48	2146.82	1.11	1.40	500.63	1.00
6/15/25 16:15	-0.33	21.36	-0.75	1997.73	2147.14	1.11	1.40	500.57	1.00
6/15/25 17:15	-0.32	21.36	-0.73	1997.52	2146.93	1.11	1.40	500.62	1.00
6/15/25 18:15	-0.32	21.36	-0.73	1997.29	2146.69	1.11	1.40	500.68	1.00
6/15/25 19:15	-0.32	21.36	-0.73	1997.19	2146.56	1.11	1.40	500.70	1.00
6/15/25 20:15	-0.32	21.36	-0.74	1997.80	2147.25	1.11	1.40	500.55	1.00
6/15/25 21:15	-0.33	21.36	-0.75	1997.62	2147.07	1.11	1.40	500.59	1.00
6/15/25 22:15	-0.32	21.36	-0.75	1997.68	2147.10	1.11	1.40	500.58	1.00
6/15/25 23:15	-0.33	21.36	-0.75	1997.71	2147.13	1.11	1.40	500.57	1.00
6/16/25 0:15	-0.32	21.36	-0.74	1997.68	2147.08	1.11	1.40	500.58	1.00
6/16/25 1:15	-0.32	21.36	-0.74	1997.54	2146.92	1.11	1.40	500.62	1.00
6/16/25 2:15	-0.32	21.36	-0.74	1997.61	2147.02	1.11	1.40	500.60	1.00
6/16/25 3:15	-0.32	21.36	-0.73	1997.43	2146.84	1.11	1.40	500.64	1.00
6/16/25 4:15	-0.32	21.36	-0.73	1997.56	2147.01	1.11	1.40	500.61	1.00
6/16/25 5:15	-0.32	21.36	-0.73	1997.19	2146.62	1.11	1.40	500.70	1.00
6/16/25 6:15	-0.32	21.35	-0.74	1997.26	2146.73	1.11	1.40	500.69	1.00
6/16/25 7:15	-0.32	21.36	-0.73	1997.71	2147.16	1.11	1.40	500.57	1.00
6/16/25 8:15	-0.32	21.36	-0.73	1997.60	2147.08	1.11	1.40	500.60	1.00
6/16/25 9:15	-0.32	21.36	-0.74	1997.20	2146.60	1.11	1.40	500.70	1.00
6/16/25 10:15	-0.32	21.36	-0.74	1997.02	2146.44	1.11	1.40	500.75	1.00
6/16/25 11:15	-0.32	21.36	-0.73	1997.34	2146.79	1.11	1.40	500.67	1.00
6/16/25 12:15	-0.31	21.36	-0.73	1997.74	2147.22	1.11	1.40	500.57	1.00
6/16/25 13:15	-0.32	21.35	-0.73	1997.61	2147.09	1.11	1.40	500.60	1.00
6/16/25 14:15	-0.31	21.36	-0.72	1997.35	2146.76	1.11	1.40	500.66	1.00
6/16/25 15:15	-0.31	21.35	-0.72	1997.20	2146.68	1.11	1.40	500.70	1.00
6/16/25 16:15	-0.31	21.35	-0.71	1997.21	2146.73	1.11	1.40	500.70	1.00
6/16/25 17:15	-0.32	21.35	-0.73	1997.60	2147.09	1.11	1.40	500.60	1.00
6/16/25 18:15	-0.31	21.35	-0.72	1997.49	2146.98	1.11	1.40	500.63	1.00
6/16/25 19:15	-0.31	21.35	-0.72	1997.50	2147.00	1.11	1.40	500.63	1.00
6/16/25 20:15	-0.31	21.35	-0.72	1997.73	2147.26	1.11	1.40	500.57	1.00
6/16/25 21:15	-0.31	21.35	-0.72	1997.57	2147.10	1.11	1.40	500.61	1.00
6/16/25 22:15	-0.32	21.35	-0.73	1997.70	2147.25	1.11	1.40	500.58	1.00
6/16/25 23:15	-0.32	21.35	-0.73	1997.61	2147.15	1.11	1.40	500.60	1.00
6/17/25 0:15	-0.31	21.35	-0.73	1997.37	2146.88	1.11	1.40	500.66	1.00
6/17/25 1:15	-0.31	21.35	-0.72	1997.63	2147.21	1.11	1.40	500.59	1.00
6/17/25 2:15	-0.31	21.35	-0.72	1997.27	2146.78	1.11	1.40	500.68	1.00
6/17/25 3:15	-0.31	21.35	-0.72	1997.65	2147.21	1.11	1.40	500.59	1.00
6/17/25 4:15	-0.31	21.35	-0.72	1997.46	2147.02	1.11	1.40	500.64	1.00
6/17/25 5:15	-0.32	21.35	-0.74	1997.67	2147.25	1.11	1.40	500.58	1.00
6/17/25 6:15	-0.32	21.35	-0.73	1997.46	2147.02	1.11	1.40	500.64	1.00
6/17/25 7:15	-0.32	21.35	-0.73	1997.52	2147.12	1.11	1.40	500.62	1.00
6/17/25 8:15	-0.32	21.35	-0.73	1997.62	2147.23	1.11	1.40	500.60	1.00
6/17/25 9:15	-0.31	21.35	-0.72	1997.31	2146.89	1.11	1.40	500.67	1.00
6/17/25 10:15	-0.31	21.35	-0.72	1997.11	2146.65	1.11	1.40	500.72	1.00
6/17/25 11:15	-0.31	21.35	-0.72	1997.30	2146.88	1.11	1.40	500.68	1.00
6/17/25 12:15	-0.32	21.35	-0.73	1997.44	2147.07	1.11	1.40	500.64	1.00
6/17/25 13:15	-0.32	21.35	-0.73	1997.58	2147.22	1.11	1.40	500.61	1.00
6/17/25 14:15	-0.31	21.35	-0.72	1997.67	2147.31	1.11	1.40	500.58	1.00
6/17/25 15:15	-0.31	21.35	-0.72	1997.41	2147.05	1.11	1.40	500.65	1.00
6/17/25 16:15	-0.31	21.35	-0.72	1997.64	2147.26	1.11	1.40	500.59	1.00
6/17/25 17:15	-0.31	21.35	-0.72	1997.31	2146.93	1.11	1.40	500.67	1.00
6/17/25 18:15	-0.31	21.35	-0.72	1997.23	2146.89	1.11	1.40	500.69	1.00
6/17/25 19:15	-0.31	21.35	-0.72	1997.38	2147.02	1.11	1.40	500.66	1.00
6/17/25 20:15	-0.31	21.35	-0.72	1997.32	2146.97	1.11	1.40	500.67	1.00
6/17/25 21:15	-0.31	21.35	-0.72	1997.34	2147.00	1.11	1.40	500.67	1.00
6/17/25 22:15	-0.31	21.35	-0.72	1997.28	2146.91	1.11	1.40	500.68	1.00
6/17/25 23:15	-0.31	21.35	-0.72	1997.49	2147.18	1.11	1.40	500.63	1.00
6/18/25 0:15	-0.31	21.35	-0.72	1997.27	2146.92	1.11	1.40	500.68	1.00
6/18/25 1:15	-0.31	21.35	-0.72	1997.06	2146.72	1.11	1.40	500.74	1.00
6/18/25 2:15	-0.32	21.35	-0.73	1996.89	2146.56	1.11	1.40	500.78	1.00
6/18/25 3:15	-0.32	21.35	-0.73	1996.94	2146.60	1.11	1.40	500.77	1.00
6/18/25 4:15	-0.32	21.35	-0.73	1997.23	2146.87	1.11	1.40	500.69	1.00
6/18/25 5:15	-0.32	21.35	-0.73	1996.63	2146.28	1.11	1.40	500.84	1.00
6/18/25 6:15	-0.32	21.35	-0.73	1996.54	2146.14	1.11	1.39	500.87	1.00
6/18/25 7:15	-0.32	21.35	-0.73	1996.90	2146.55	1.11	1.40	500.78	1.00
6/18/25 8:15	-0.33	21.35	-0.75	1996.76	2146.40	1.11	1.40	500.81	1.00
6/18/25 9:15	-0.32	21.35	-0.75	1996.51	2146.15	1.11	1.39	500.87	1.00
6/18/25 10:15	-0.32	21.35	-0.74	1997.20	2146.87	1.11	1.40	500.70	1.00
6/18/25 11:15	-0.32	21.35	-0.74	1997.24	2146.91	1.11	1.40	500.69	1.00
6/18/25 12:15	-0.32	21.35	-0.74	1997.07	2146.74	1.11	1.40	500.73	1.00
6/18/25 13:15	-0.32	21.35	-0.73	1996.65	2146.30	1.11	1.40	500.84	1.00
6/18/25 14:15	-0.31	21.35	-0.73	1997.19	2146.88	1.11	1.40	500.70	1.00
6/18/25 15:15	-0.32	21.35	-0.74	1997.10	2146.86	1.11	1.40	500.73	1.00
6/18/25 16:15	-0.32	21.35	-0.73	1996.95	2146.67	1.11	1.40	500.76	1.00
6/18/25 17:15	-0.32	21.35	-0.73	1996.97	2146.74	1.11	1.40	500.76	1.00
6/18/25 18:15	-0.31	21.35	-0.73	1996.87	2146.60	1.11	1.40	500.78	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/18/25 19:15	-0.32	21.35	-0.73	1996.78	2146.53	1.11	1.40	500.81	1.00
6/18/25 20:15	-0.32	21.35	-0.73	1996.84	2146.58	1.11	1.40	500.79	1.00
6/18/25 21:15	-0.32	21.35	-0.73	1996.61	2146.33	1.11	1.40	500.85	1.00
6/18/25 22:15	-0.32	21.35	-0.73	1996.68	2146.41	1.11	1.40	500.83	1.00
6/18/25 23:15	-0.32	21.35	-0.73	1996.85	2146.59	1.11	1.40	500.79	1.00
6/19/25 0:15	-0.32	21.35	-0.73	1996.67	2146.36	1.11	1.40	500.83	1.00
6/19/25 1:15	-0.31	21.35	-0.73	1996.86	2146.58	1.11	1.40	500.79	1.00
6/19/25 2:15	-0.31	21.35	-0.72	1996.76	2146.47	1.11	1.40	500.81	1.00
6/19/25 3:15	-0.32	21.35	-0.74	1996.91	2146.65	1.11	1.40	500.77	1.00
6/19/25 4:15	-0.32	21.35	-0.74	1996.83	2146.55	1.11	1.40	500.79	1.00
6/19/25 5:15	-0.32	21.35	-0.74	1996.96	2146.72	1.11	1.40	500.76	1.00
6/19/25 6:15	-0.32	21.35	-0.74	1996.48	2146.26	1.11	1.40	500.88	1.00
6/19/25 7:15	-0.32	21.35	-0.74	1996.86	2146.66	1.11	1.40	500.79	1.00
6/19/25 8:15	-0.32	21.35	-0.74	1996.75	2146.51	1.11	1.40	500.81	1.00
6/19/25 9:15	-0.32	21.35	-0.74	1996.79	2146.54	1.11	1.40	500.80	1.00
6/19/25 10:15	-0.32	21.35	-0.73	1996.85	2146.60	1.11	1.40	500.79	1.00
6/19/25 11:15	-0.32	21.35	-0.73	1996.90	2146.70	1.11	1.40	500.78	1.00
6/19/25 12:15	-0.32	21.35	-0.73	1996.66	2146.43	1.11	1.40	500.84	1.00
6/19/25 13:15	-0.31	21.35	-0.73	1996.43	2146.20	1.11	1.40	500.89	1.00
6/19/25 14:15	-0.31	21.35	-0.71	1996.76	2146.59	1.11	1.40	500.81	1.00
6/19/25 15:15	-0.31	21.35	-0.72	1996.76	2146.58	1.11	1.40	500.81	1.00
6/19/25 16:15	-0.31	21.35	-0.72	1996.59	2146.38	1.11	1.40	500.85	1.00
6/19/25 17:15	-0.31	21.35	-0.71	1996.88	2146.68	1.11	1.40	500.78	1.00
6/19/25 18:15	-0.31	21.35	-0.73	1996.94	2146.72	1.11	1.40	500.77	1.00
6/19/25 19:15	-0.31	21.35	-0.72	1996.94	2146.78	1.11	1.40	500.77	1.00
6/19/25 20:15	-0.31	21.35	-0.72	1996.80	2146.63	1.11	1.40	500.80	1.00
6/19/25 21:15	-0.31	21.34	-0.72	1997.17	2147.07	1.11	1.40	500.71	1.00
6/19/25 22:15	-0.31	21.35	-0.72	1996.76	2146.58	1.11	1.40	500.81	1.00
6/19/25 23:15	-0.31	21.35	-0.72	1996.62	2146.43	1.11	1.40	500.85	1.00
6/20/25 0:15	-0.32	21.35	-0.73	1996.60	2146.41	1.11	1.40	500.85	1.00
6/20/25 1:15	-0.31	21.35	-0.72	1996.67	2146.48	1.11	1.40	500.83	1.00
6/20/25 2:15	-0.31	21.34	-0.71	1996.63	2146.49	1.11	1.40	500.84	1.00
6/20/25 3:15	-0.31	21.35	-0.72	1996.80	2146.66	1.11	1.40	500.80	1.00
6/20/25 4:15	-0.31	21.34	-0.72	1996.39	2146.22	1.11	1.40	500.90	1.00
6/20/25 5:15	-0.31	21.35	-0.72	1996.72	2146.57	1.11	1.40	500.82	1.00
6/20/25 6:15	-0.31	21.34	-0.72	1996.79	2146.68	1.11	1.40	500.80	1.00
6/20/25 7:15	-0.31	21.34	-0.72	1996.65	2146.56	1.11	1.40	500.84	1.00
6/20/25 8:15	-0.31	21.34	-0.72	1996.79	2146.68	1.11	1.40	500.80	1.00
6/20/25 9:15	-0.31	21.34	-0.72	1996.80	2146.69	1.11	1.40	500.80	1.00
6/20/25 10:15	-0.31	21.34	-0.72	1996.68	2146.55	1.11	1.40	500.83	1.00
6/20/25 11:15	-0.31	21.34	-0.71	1996.76	2146.68	1.11	1.40	500.81	1.00
6/20/25 12:15	-0.31	21.34	-0.71	1997.00	2146.98	1.11	1.40	500.75	1.00
6/20/25 13:15	-0.31	21.34	-0.71	1997.14	2147.14	1.11	1.40	500.71	1.00
6/20/25 14:15	-0.31	21.34	-0.71	1997.11	2147.05	1.11	1.40	500.72	1.00
6/20/25 15:15	-0.31	21.34	-0.71	1997.00	2146.96	1.11	1.40	500.75	1.00
6/20/25 16:15	-0.31	21.34	-0.71	1996.84	2146.81	1.11	1.40	500.79	1.00
6/20/25 17:15	-0.30	21.34	-0.70	1996.64	2146.62	1.11	1.40	500.84	1.00
6/20/25 18:15	-0.31	21.34	-0.71	1997.00	2146.97	1.11	1.40	500.75	1.00
6/20/25 19:15	-0.31	21.34	-0.71	1996.81	2146.78	1.11	1.40	500.80	1.00
6/20/25 20:15	-0.31	21.34	-0.71	1997.11	2147.09	1.11	1.40	500.72	1.00
6/20/25 21:15	-0.31	21.34	-0.71	1996.60	2146.55	1.11	1.40	500.85	1.00
6/20/25 22:15	-0.31	21.34	-0.72	1996.55	2146.53	1.11	1.40	500.87	1.00
6/20/25 23:15	-0.31	21.34	-0.71	1996.71	2146.68	1.11	1.40	500.82	1.00
6/21/25 0:15	-0.31	21.34	-0.72	1996.82	2146.82	1.11	1.40	500.80	1.00
6/21/25 1:15	-0.31	21.34	-0.71	1996.65	2146.60	1.11	1.40	500.84	1.00
6/21/25 2:15	-0.31	21.34	-0.71	1996.34	2146.27	1.11	1.40	500.92	1.00
6/21/25 3:15	-0.31	21.34	-0.71	1996.42	2146.37	1.11	1.40	500.90	1.00
6/21/25 4:15	-0.31	21.34	-0.71	1996.28	2146.27	1.11	1.40	500.93	1.00
6/21/25 5:15	-0.31	21.34	-0.71	1996.64	2146.63	1.11	1.40	500.84	1.00
6/21/25 6:15	-0.31	21.34	-0.71	1996.83	2146.81	1.11	1.40	500.79	1.00
6/21/25 7:15	-0.31	21.34	-0.71	1996.71	2146.69	1.11	1.40	500.82	1.00
6/21/25 8:15	-0.31	21.34	-0.72	1996.81	2146.81	1.11	1.40	500.80	1.00
6/21/25 9:15	-0.31	21.34	-0.71	1996.93	2146.96	1.11	1.40	500.77	1.00
6/21/25 10:15	-0.31	21.34	-0.71	1996.67	2146.67	1.11	1.40	500.83	1.00
6/21/25 11:15	-0.30	21.34	-0.70	1996.79	2146.82	1.11	1.40	500.80	1.00
6/21/25 12:15	-0.31	21.34	-0.71	1996.40	2146.47	1.11	1.40	500.90	1.00
6/21/25 13:15	-0.30	21.34	-0.70	1996.70	2146.73	1.11	1.40	500.83	1.00
6/21/25 14:15	-0.31	21.34	-0.71	1996.91	2146.90	1.11	1.40	500.77	1.00
6/21/25 15:15	-0.31	21.34	-0.71	1996.34	2146.36	1.11	1.40	500.92	1.00
6/21/25 16:15	-0.30	21.34	-0.70	1996.62	2146.67	1.11	1.40	500.85	1.00
6/21/25 17:15	-0.30	21.34	-0.70	1996.61	2146.62	1.11	1.40	500.85	1.00
6/21/25 18:15	-0.31	21.34	-0.71	1996.60	2146.64	1.11	1.40	500.85	1.00
6/21/25 19:15	-0.31	21.34	-0.71	1996.60	2146.63	1.11	1.40	500.85	1.00
6/21/25 20:15	-0.31	21.34	-0.71	1996.58	2146.66	1.11	1.40	500.86	1.00
6/21/25 21:15	-0.31	21.34	-0.71	1996.30	2146.28	1.11	1.40	500.93	1.00
6/21/25 22:15	-0.31	21.34	-0.72	1996.25	2146.27	1.11	1.40	500.94	1.00
6/21/25 23:15	-0.31	21.34	-0.71	1996.54	2146.60	1.11	1.40	500.87	1.00
6/22/25 0:15	-0.31	21.34	-0.71	1996.10	2146.15	1.11	1.39	500.98	1.00
6/22/25 1:15	-0.31	21.34	-0.71	1996.05	2146.05	1.11	1.39	500.99	1.00
6/22/25 2:15	-0.31	21.34	-0.72	1996.36	2146.46	1.11	1.40	500.91	1.00
6/22/25 3:15	-0.31	21.34	-0.71	1996.44	2146.55	1.11	1.40	500.89	1.00
6/22/25 4:15	-0.31	21.34	-0.71	1996.18	2146.25	1.11	1.40	500.96	1.00
6/22/25 5:15	-0.31	21.34	-0.71	1996.41	2146.51	1.11	1.40	500.90	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/22/25 6:15	-0.31	21.34	-0.71	1996.37	2146.45	1.11	1.40	500.91	1.00
6/22/25 7:15	-0.31	21.34	-0.72	1996.39	2146.49	1.11	1.40	500.90	1.00
6/22/25 8:15	-0.31	21.34	-0.72	1996.47	2146.56	1.11	1.40	500.88	1.00
6/22/25 9:15	-0.31	21.34	-0.71	1996.18	2146.27	1.11	1.40	500.96	1.00
6/22/25 10:15	-0.31	21.34	-0.71	1996.05	2146.12	1.11	1.39	500.99	1.00
6/22/25 11:15	-0.31	21.34	-0.71	1996.16	2146.27	1.11	1.40	500.96	1.00
6/22/25 12:15	-0.31	21.34	-0.71	1996.24	2146.40	1.11	1.40	500.94	1.00
6/22/25 13:15	-0.31	21.34	-0.71	1996.55	2146.71	1.11	1.40	500.86	1.00
6/22/25 14:15	-0.30	21.34	-0.70	1996.47	2146.61	1.11	1.40	500.88	1.00
6/22/25 15:15	-0.31	21.34	-0.71	1996.51	2146.70	1.11	1.40	500.87	1.00
6/22/25 16:15	-0.30	21.34	-0.70	1996.31	2146.46	1.11	1.40	500.92	1.00
6/22/25 17:15	-0.30	21.34	-0.70	1996.41	2146.53	1.11	1.40	500.90	1.00
6/22/25 18:15	-0.30	21.34	-0.69	1996.61	2146.78	1.11	1.40	500.85	1.00
6/22/25 19:15	-0.31	21.34	-0.71	1996.27	2146.45	1.11	1.40	500.93	1.00
6/22/25 20:15	-0.31	21.34	-0.71	1996.30	2146.45	1.11	1.40	500.93	1.00
6/22/25 21:15	-0.31	21.34	-0.72	1996.31	2146.49	1.11	1.40	500.92	1.00
6/22/25 22:15	-0.31	21.34	-0.72	1996.30	2146.48	1.11	1.40	500.93	1.00
6/22/25 23:15	-0.31	21.34	-0.72	1996.01	2146.15	1.11	1.39	501.00	1.00
6/23/25 0:15	-0.31	21.34	-0.72	1996.25	2146.39	1.11	1.40	500.94	1.00
6/23/25 1:15	-0.31	21.34	-0.72	1996.05	2146.20	1.11	1.40	500.99	1.00
6/23/25 2:15	-0.31	21.34	-0.71	1996.11	2146.24	1.11	1.40	500.97	1.00
6/23/25 3:15	-0.31	21.34	-0.72	1996.12	2146.26	1.11	1.40	500.97	1.00
6/23/25 4:15	-0.31	21.34	-0.72	1996.47	2146.68	1.11	1.40	500.89	1.00
6/23/25 5:15	-0.31	21.34	-0.72	1996.41	2146.59	1.11	1.40	500.90	1.00
6/23/25 6:15	-0.31	21.34	-0.72	1996.24	2146.39	1.11	1.40	500.94	1.00
6/23/25 7:15	-0.31	21.34	-0.72	1996.59	2146.82	1.11	1.40	500.85	1.00
6/23/25 8:15	-0.31	21.34	-0.71	1996.43	2146.65	1.11	1.40	500.89	1.00
6/23/25 9:15	-0.31	21.34	-0.72	1996.67	2146.92	1.11	1.40	500.83	1.00
6/23/25 10:15	-0.31	21.34	-0.72	1996.39	2146.59	1.11	1.40	500.91	1.00
6/23/25 11:15	-0.31	21.34	-0.72	1996.39	2146.56	1.11	1.40	500.90	1.00
6/23/25 12:15	-0.31	21.34	-0.71	1996.37	2146.60	1.11	1.40	500.91	1.00
6/23/25 13:15	-0.30	21.34	-0.70	1996.32	2146.54	1.11	1.40	500.92	1.00
6/23/25 14:15	-0.31	21.34	-0.71	1996.40	2146.63	1.11	1.40	500.90	1.00
6/23/25 15:15	-0.30	21.34	-0.70	1996.30	2146.54	1.11	1.40	500.93	1.00
6/23/25 16:15	-0.30	21.33	-0.70	1996.23	2146.49	1.11	1.40	500.95	1.00
6/23/25 17:15	-0.31	21.33	-0.71	1996.32	2146.59	1.11	1.40	500.92	1.00
6/23/25 18:15	-0.31	21.34	-0.72	1996.33	2146.56	1.11	1.40	500.92	1.00
6/23/25 19:15	-0.31	21.34	-0.72	1996.13	2146.36	1.11	1.40	500.97	1.00
6/23/25 20:15	-0.25	21.33	-0.58	1996.01	2146.25	1.11	1.40	501.00	1.00
6/23/25 21:15	-0.31	21.33	-0.72	1995.96	2146.21	1.11	1.40	501.01	1.00
6/23/25 22:15	-0.31	21.34	-0.71	1995.92	2146.14	1.11	1.39	501.02	1.00
6/23/25 23:15	-0.31	21.34	-0.71	1995.98	2146.20	1.11	1.40	501.01	1.00
6/24/25 0:15	-0.31	21.33	-0.71	1995.98	2146.26	1.11	1.40	501.01	1.00
6/24/25 1:15	-0.31	21.33	-0.71	1995.90	2146.17	1.11	1.40	501.03	1.00
6/24/25 2:15	-0.31	21.33	-0.71	1995.96	2146.24	1.11	1.40	501.01	1.00
6/24/25 3:15	-0.31	21.33	-0.71	1995.92	2146.22	1.11	1.40	501.02	1.00
6/24/25 4:15	-0.31	21.33	-0.72	1995.66	2145.94	1.11	1.39	501.09	1.00
6/24/25 5:15	-0.31	21.33	-0.72	1995.81	2146.12	1.11	1.39	501.05	1.00
6/24/25 6:15	-0.31	21.33	-0.71	1995.63	2145.88	1.11	1.39	501.09	1.00
6/24/25 7:15	-0.31	21.33	-0.72	1996.19	2146.50	1.11	1.40	500.95	1.00
6/24/25 8:15	-0.31	21.33	-0.72	1996.03	2146.35	1.11	1.40	500.99	1.00
6/24/25 9:15	-0.31	21.33	-0.72	1996.08	2146.42	1.11	1.40	500.98	1.00
6/24/25 10:15	-0.31	21.33	-0.71	1996.07	2146.39	1.11	1.40	500.99	1.00
6/24/25 11:15	-0.31	21.33	-0.72	1996.22	2146.57	1.11	1.40	500.95	1.00
6/24/25 12:15	-0.32	21.33	-0.75	1996.07	2146.41	1.11	1.40	500.98	1.00
6/24/25 13:15	-0.32	21.33	-0.75	1996.05	2146.36	1.11	1.40	500.99	1.00
6/24/25 14:15	-0.43	21.33	-1.00	1996.02	2146.36	1.11	1.40	501.00	1.00
6/24/25 15:15	-0.31	21.33	-0.71	1996.12	2146.48	1.11	1.40	500.97	1.00
6/24/25 16:15	-0.30	21.33	-0.70	1996.30	2146.69	1.11	1.40	500.93	1.00
6/24/25 17:15	-0.30	21.33	-0.70	1996.36	2146.77	1.11	1.40	500.91	1.00
6/24/25 18:15	-0.30	21.33	-0.70	1996.43	2146.81	1.11	1.40	500.89	1.00
6/24/25 19:15	-0.30	21.33	-0.70	1996.28	2146.62	1.11	1.40	500.93	1.00
6/24/25 20:15	-0.31	21.33	-0.72	1996.09	2146.45	1.11	1.40	500.98	1.00
6/24/25 21:15	-0.31	21.33	-0.72	1996.05	2146.40	1.11	1.40	500.99	1.00
6/24/25 22:15	-0.31	21.33	-0.72	1996.12	2146.51	1.11	1.40	500.97	1.00
6/24/25 23:15	-0.31	21.33	-0.72	1996.05	2146.42	1.11	1.40	500.99	1.00
6/25/25 0:15	-0.31	21.33	-0.72	1996.02	2146.40	1.11	1.40	501.00	1.00
6/25/25 1:15	-0.31	21.33	-0.73	1996.03	2146.40	1.11	1.40	500.99	1.00
6/25/25 2:15	-0.32	21.33	-0.74	1996.24	2146.62	1.11	1.40	500.94	1.00
6/25/25 3:15	-0.32	21.33	-0.75	1996.00	2146.35	1.11	1.40	501.00	1.00
6/25/25 4:15	-0.33	21.33	-0.75	1995.91	2146.32	1.11	1.40	501.02	1.00
6/25/25 5:15	-0.31	21.33	-0.71	1995.96	2146.35	1.11	1.40	501.01	1.00
6/25/25 6:15	-0.31	21.33	-0.72	1996.10	2146.48	1.11	1.40	500.98	1.00
6/25/25 7:15	-0.32	21.33	-0.73	1995.93	2146.29	1.11	1.40	501.02	1.00
6/25/25 8:15	-0.34	21.33	-0.78	1996.28	2146.71	1.11	1.40	500.93	1.00
6/25/25 9:15	-0.29	21.33	-0.67	1996.28	2146.75	1.11	1.40	500.93	1.00
6/25/25 10:15	-0.33	21.33	-0.77	1996.46	2146.92	1.11	1.40	500.89	1.00
6/25/25 11:15	-0.43	21.33	-1.00	1996.16	2146.60	1.11	1.40	500.96	1.00
6/25/25 12:15	-0.28	21.33	-0.65	1995.90	2146.38	1.11	1.40	501.03	1.00
6/25/25 13:15	-0.28	21.33	-0.66	1995.70	2146.14	1.11	1.39	501.08	1.00
6/25/25 14:15	-0.28	21.33	-0.65	1995.81	2146.26	1.11	1.40	501.05	1.00
6/25/25 15:15	-0.28	21.33	-0.65	1995.81	2146.27	1.11	1.40	501.05	1.00
6/25/25 16:15	-0.28	21.33	-0.64	1995.50	2145.93	1.11	1.39	501.13	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/25/25 17:15	-0.28	21.33	-0.64	1995.68	2146.21	1.11	1.40	501.08	1.00
6/25/25 18:15	-0.28	21.33	-0.65	1995.75	2146.23	1.11	1.40	501.06	1.00
6/25/25 19:15	-0.28	21.33	-0.64	1995.81	2146.29	1.11	1.40	501.05	1.00
6/25/25 20:15	-0.28	21.33	-0.64	1995.90	2146.43	1.11	1.40	501.03	1.00
6/25/25 21:15	-0.27	21.33	-0.63	1995.45	2145.94	1.11	1.39	501.14	1.00
6/25/25 22:15	-0.28	21.33	-0.64	1995.72	2146.25	1.11	1.40	501.07	1.00
6/25/25 23:15	-0.28	21.33	-0.64	1995.83	2146.37	1.11	1.40	501.05	1.00
6/26/25 0:15	-0.27	21.33	-0.63	1995.31	2145.80	1.11	1.39	501.18	1.00
6/26/25 1:15	-0.28	21.33	-0.64	1995.57	2146.07	1.11	1.39	501.11	1.00
6/26/25 2:15	-0.28	21.33	-0.64	1995.59	2146.14	1.11	1.39	501.10	1.00
6/26/25 3:15	-0.27	21.33	-0.63	1995.77	2146.30	1.11	1.40	501.06	1.00
6/26/25 4:15	-0.28	21.33	-0.65	1995.43	2145.98	1.11	1.39	501.15	1.00
6/26/25 5:15	-0.28	21.33	-0.64	1995.92	2146.49	1.11	1.40	501.02	1.00
6/26/25 6:15	-0.28	21.33	-0.64	1995.52	2146.09	1.11	1.39	501.12	1.00
6/26/25 7:15	-0.27	21.33	-0.63	1995.74	2146.30	1.11	1.40	501.07	1.00
6/26/25 8:15	-0.27	21.33	-0.63	1995.50	2146.06	1.11	1.39	501.13	1.00
6/26/25 9:15	-0.28	21.33	-0.64	1995.66	2146.22	1.11	1.40	501.09	1.00
6/26/25 10:15	-0.28	21.33	-0.64	1995.39	2145.96	1.11	1.39	501.15	1.00
6/26/25 11:15	-0.27	21.33	-0.63	1995.81	2146.38	1.11	1.40	501.05	1.00
6/26/25 12:15	-0.27	21.33	-0.62	1995.54	2146.14	1.11	1.39	501.12	1.00
6/26/25 13:15	-0.27	21.33	-0.63	1996.00	2146.62	1.11	1.40	501.00	1.00
6/26/25 14:15	-0.27	21.33	-0.63	1995.66	2146.25	1.11	1.40	501.09	1.00
6/26/25 15:15	-0.27	21.33	-0.63	1995.63	2146.21	1.11	1.40	501.09	1.00
6/26/25 16:15	-0.27	21.33	-0.62	1995.72	2146.34	1.11	1.40	501.07	1.00
6/26/25 17:15	-0.27	21.33	-0.62	1995.69	2146.28	1.11	1.40	501.08	1.00
6/26/25 18:15	-0.27	21.33	-0.63	1995.83	2146.44	1.11	1.40	501.04	1.00
6/26/25 19:15	-0.27	21.33	-0.62	1995.36	2145.95	1.11	1.39	501.16	1.00
6/26/25 20:15	-0.27	21.33	-0.62	1995.89	2146.52	1.11	1.40	501.03	1.00
6/26/25 21:15	-0.27	21.33	-0.63	1995.72	2146.35	1.11	1.40	501.07	1.00
6/26/25 22:15	-0.28	21.33	-0.64	1995.58	2146.22	1.11	1.40	501.11	1.00
6/26/25 23:15	-0.27	21.32	-0.63	1995.71	2146.38	1.11	1.40	501.07	1.00
6/27/25 0:15	-0.27	21.32	-0.63	1995.51	2146.17	1.11	1.40	501.12	1.00
6/27/25 1:15	-0.27	21.32	-0.62	1995.43	2146.07	1.11	1.39	501.14	1.00
6/27/25 2:15	-0.27	21.33	-0.63	1995.30	2145.93	1.11	1.39	501.18	1.00
6/27/25 3:15	-0.27	21.33	-0.63	1995.49	2146.13	1.11	1.39	501.13	1.00
6/27/25 4:15	-0.27	21.32	-0.62	1995.54	2146.22	1.11	1.40	501.12	1.00
6/27/25 5:15	-0.27	21.32	-0.62	1995.62	2146.33	1.11	1.40	501.10	1.00
6/27/25 6:15	-0.27	21.32	-0.63	1995.58	2146.29	1.11	1.40	501.11	1.00
6/27/25 7:15	-0.27	21.32	-0.63	1995.17	2145.83	1.11	1.39	501.21	1.00
6/27/25 8:15	-0.27	21.32	-0.63	1995.50	2146.21	1.11	1.40	501.13	1.00
6/27/25 9:15	-0.27	21.32	-0.63	1995.42	2146.12	1.11	1.39	501.15	1.00
6/27/25 10:15	-0.27	21.32	-0.63	1995.50	2146.20	1.11	1.40	501.13	1.00
6/27/25 11:15	-0.27	21.32	-0.63	1995.63	2146.32	1.11	1.40	501.10	1.00
6/27/25 12:15	-0.27	21.32	-0.63	1995.61	2146.31	1.11	1.40	501.10	1.00
6/27/25 13:15	-0.27	21.32	-0.63	1995.38	2146.05	1.11	1.39	501.16	1.00
6/27/25 14:15	-0.27	21.32	-0.62	1995.30	2145.95	1.11	1.39	501.18	1.00
6/27/25 15:15	-0.27	21.32	-0.63	1995.38	2146.06	1.11	1.39	501.16	1.00
6/27/25 16:15	-0.27	21.32	-0.62	1995.20	2145.90	1.11	1.39	501.20	1.00
6/27/25 17:15	-0.27	21.32	-0.62	1995.48	2146.17	1.11	1.40	501.13	1.00
6/27/25 18:15	-0.27	21.32	-0.62	1995.42	2146.15	1.11	1.39	501.15	1.00
6/27/25 19:15	-0.27	21.32	-0.62	1995.76	2146.46	1.11	1.40	501.06	1.00
6/27/25 20:15	-0.27	21.32	-0.62	1995.29	2146.01	1.11	1.39	501.18	1.00
6/27/25 21:15	-0.27	21.32	-0.62	1995.23	2145.95	1.11	1.39	501.19	1.00
6/27/25 22:15	-0.27	21.32	-0.63	1995.21	2145.92	1.11	1.39	501.20	1.00
6/27/25 23:15	-0.27	21.32	-0.63	1995.08	2145.83	1.11	1.39	501.23	1.00
6/28/25 0:15	-0.27	21.32	-0.62	1995.31	2145.99	1.11	1.39	501.18	1.00
6/28/25 1:15	-0.27	21.32	-0.62	1995.12	2145.85	1.11	1.39	501.22	1.00
6/28/25 2:15	-0.27	21.32	-0.62	1994.96	2145.66	1.11	1.39	501.26	1.00
6/28/25 3:15	-0.27	21.32	-0.62	1995.30	2146.06	1.11	1.39	501.18	1.00
6/28/25 4:15	-0.27	21.32	-0.62	1995.30	2146.01	1.11	1.39	501.18	1.00
6/28/25 5:15	-0.27	21.32	-0.61	1994.85	2145.53	1.11	1.39	501.29	1.00
6/28/25 6:15	-0.27	21.32	-0.63	1995.00	2145.76	1.11	1.39	501.25	1.00
6/28/25 7:15	-0.27	21.32	-0.62	1994.81	2145.56	1.11	1.39	501.30	1.00
6/28/25 8:15	-0.27	21.32	-0.62	1995.08	2145.83	1.11	1.39	501.23	1.00
6/28/25 9:15	-0.27	21.32	-0.62	1994.95	2145.66	1.11	1.39	501.27	1.00
6/28/25 10:15	-0.27	21.32	-0.62	1995.12	2145.88	1.11	1.39	501.22	1.00
6/28/25 11:15	-0.27	21.32	-0.62	1994.93	2145.70	1.11	1.39	501.27	1.00
6/28/25 12:15	-0.27	21.32	-0.61	1995.02	2145.76	1.11	1.39	501.25	1.00
6/28/25 13:15	-0.27	21.32	-0.62	1994.84	2145.58	1.11	1.39	501.29	1.00
6/28/25 14:15	-0.26	21.32	-0.61	1994.73	2145.46	1.11	1.39	501.32	1.00
6/28/25 15:15	-0.27	21.32	-0.62	1995.07	2145.85	1.11	1.39	501.24	1.00
6/28/25 16:15	-0.26	21.32	-0.61	1994.89	2145.66	1.11	1.39	501.28	1.00
6/28/25 17:15	-0.26	21.32	-0.61	1995.01	2145.82	1.11	1.39	501.25	1.00
6/28/25 18:15	-0.27	21.32	-0.62	1995.14	2145.94	1.11	1.39	501.22	1.00
6/28/25 19:15	-0.26	21.32	-0.61	1995.07	2145.91	1.11	1.39	501.24	1.00
6/28/25 20:15	-0.27	21.32	-0.61	1995.20	2146.00	1.11	1.39	501.20	1.00
6/28/25 21:15	-0.27	21.32	-0.61	1995.16	2145.97	1.11	1.39	501.21	1.00
6/28/25 22:15	-0.27	21.32	-0.62	1995.22	2146.05	1.11	1.39	501.20	1.00
6/28/25 23:15	-0.27	21.32	-0.62	1995.27	2146.08	1.11	1.39	501.19	1.00
6/29/25 0:15	-0.27	21.32	-0.62	1995.37	2146.23	1.11	1.40	501.16	1.00
6/29/25 1:15	-0.26	21.32	-0.61	1995.25	2146.07	1.11	1.39	501.19	1.00
6/29/25 2:15	-0.27	21.32	-0.62	1995.45	2146.32	1.11	1.40	501.14	1.00
6/29/25 3:15	-0.27	21.32	-0.63	1995.12	2145.92	1.11	1.39	501.22	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
6/29/25 4:15	-0.27	21.32	-0.62	1995.04	2145.85	1.11	1.39	501.24	1.00
6/29/25 5:15	-0.27	21.32	-0.62	1995.13	2145.97	1.11	1.39	501.22	1.00
6/29/25 6:15	-0.27	21.32	-0.61	1994.85	2145.70	1.11	1.39	501.29	1.00
6/29/25 7:15	-0.27	21.32	-0.63	1995.06	2145.94	1.11	1.39	501.24	1.00
6/29/25 8:15	-0.27	21.32	-0.63	1994.91	2145.76	1.11	1.39	501.28	1.00
6/29/25 9:15	-0.27	21.32	-0.62	1994.74	2145.57	1.11	1.39	501.32	1.00
6/29/25 10:15	-0.26	21.32	-0.61	1994.86	2145.69	1.11	1.39	501.29	1.00
6/29/25 11:15	-0.27	21.32	-0.62	1994.94	2145.77	1.11	1.39	501.27	1.00
6/29/25 12:15	-0.27	21.32	-0.62	1995.10	2146.02	1.11	1.39	501.23	1.00
6/29/25 13:15	-0.26	21.32	-0.61	1995.15	2146.03	1.11	1.39	501.21	1.00
6/29/25 14:15	-0.27	21.32	-0.62	1994.90	2145.77	1.11	1.39	501.28	1.00
6/29/25 15:15	-0.26	21.32	-0.61	1995.09	2146.00	1.11	1.39	501.23	1.00
6/29/25 16:15	-0.26	21.32	-0.60	1995.22	2146.16	1.11	1.40	501.20	1.00
6/29/25 17:15	-0.27	21.32	-0.61	1994.87	2145.70	1.11	1.39	501.29	1.00
6/29/25 18:15	-0.26	21.32	-0.61	1994.85	2145.75	1.11	1.39	501.29	1.00
6/29/25 19:15	-0.26	21.32	-0.61	1994.64	2145.54	1.11	1.39	501.34	1.00
6/29/25 20:15	-0.26	21.32	-0.60	1994.65	2145.56	1.11	1.39	501.34	1.00
6/29/25 21:15	-0.27	21.32	-0.62	1995.00	2145.87	1.11	1.39	501.25	1.00
6/29/25 22:15	-0.27	21.32	-0.62	1994.75	2145.68	1.11	1.39	501.31	1.00
6/29/25 23:15	-0.27	21.32	-0.63	1995.20	2146.14	1.11	1.39	501.20	1.00
6/30/25 0:15	-0.27	21.32	-0.62	1994.73	2145.61	1.11	1.39	501.32	1.00
6/30/25 1:15	-0.27	21.32	-0.62	1994.71	2145.63	1.11	1.39	501.33	1.00
6/30/25 2:15	-0.27	21.32	-0.62	1994.78	2145.68	1.11	1.39	501.31	1.00
6/30/25 3:15	-0.27	21.32	-0.62	1994.49	2145.36	1.11	1.39	501.38	1.00
6/30/25 4:15	-0.26	21.32	-0.61	1994.74	2145.65	1.11	1.39	501.32	1.00
6/30/25 5:15	-0.27	21.32	-0.62	1994.71	2145.67	1.11	1.39	501.32	1.00
6/30/25 6:15	-0.27	21.32	-0.62	1995.02	2145.93	1.11	1.39	501.25	1.00
6/30/25 7:15	-0.27	21.32	-0.63	1994.65	2145.57	1.11	1.39	501.34	1.00
6/30/25 8:15	-0.27	21.32	-0.63	1994.78	2145.72	1.11	1.39	501.31	1.00
6/30/25 9:15	-0.27	21.32	-0.63	1994.76	2145.71	1.11	1.39	501.31	1.00
6/30/25 10:15	-0.28	21.32	-0.65	1994.42	2145.28	1.11	1.39	501.40	1.00
6/30/25 11:15	-0.28	21.32	-0.65	1994.32	2145.17	1.11	1.39	501.42	1.00
6/30/25 12:15	-0.28	21.32	-0.65	1994.30	2145.13	1.11	1.39	501.43	1.00
6/30/25 13:15	-0.29	21.32	-0.67	1994.16	2145.00	1.11	1.39	501.47	1.00
6/30/25 14:15	-0.28	21.32	-0.65	1994.28	2145.16	1.11	1.39	501.43	1.00
6/30/25 15:15	-0.28	21.32	-0.65	1994.74	2145.66	1.11	1.39	501.32	1.00
6/30/25 16:15	-0.28	21.32	-0.66	1994.76	2145.70	1.11	1.39	501.31	1.00
6/30/25 17:15	-0.28	21.32	-0.65	1994.81	2145.78	1.11	1.39	501.30	1.00
6/30/25 18:15	-0.29	21.32	-0.67	1994.63	2145.59	1.11	1.39	501.35	1.00
6/30/25 19:15	-0.29	21.32	-0.67	1994.64	2145.58	1.11	1.39	501.34	1.00
6/30/25 20:15	-0.29	21.32	-0.67	1994.74	2145.67	1.11	1.39	501.32	1.00
6/30/25 21:15	-0.29	21.32	-0.67	1994.46	2145.40	1.11	1.39	501.39	1.00
6/30/25 22:15	-0.29	21.32	-0.67	1994.72	2145.68	1.11	1.39	501.32	1.00
6/30/25 23:15	-0.29	21.32	-0.67	1994.71	2145.64	1.11	1.39	501.33	1.00
7/1/25 0:15	-0.29	21.32	-0.67	1994.20	2145.12	1.11	1.39	501.45	1.00
7/1/25 1:15	-0.29	21.32	-0.68	1994.48	2145.42	1.11	1.39	501.38	1.00
7/1/25 2:15	-0.29	21.32	-0.68	1994.39	2145.34	1.11	1.39	501.41	1.00
7/1/25 3:15	-0.30	21.32	-0.68	1994.04	2144.95	1.11	1.39	501.49	1.00
7/1/25 4:15	-0.29	21.32	-0.68	1994.62	2145.56	1.11	1.39	501.35	1.00
7/1/25 5:15	-0.29	21.32	-0.67	1994.20	2145.10	1.11	1.39	501.45	1.00
7/1/25 6:15	-0.29	21.32	-0.67	1994.30	2145.21	1.11	1.39	501.43	1.00
7/1/25 7:15	-0.30	21.32	-0.69	1994.43	2145.37	1.11	1.39	501.40	1.00
7/1/25 8:15	-0.30	21.32	-0.69	1994.27	2145.20	1.11	1.39	501.44	1.00
7/1/25 9:15	-0.30	21.32	-0.68	1994.49	2145.49	1.11	1.39	501.38	1.00
7/1/25 10:15	-0.29	21.32	-0.67	1994.18	2145.14	1.11	1.39	501.46	1.00
7/1/25 11:15	-0.29	21.32	-0.67	1994.14	2145.04	1.11	1.39	501.47	1.00
7/1/25 12:15	-0.29	21.32	-0.67	1994.10	2145.05	1.11	1.39	501.48	1.00
7/1/25 13:15	-0.29	21.32	-0.66	1994.31	2145.24	1.11	1.39	501.43	1.00
7/1/25 14:15	-0.29	21.32	-0.67	1994.34	2145.28	1.11	1.39	501.42	1.00
7/1/25 15:15	-0.29	21.32	-0.67	1994.12	2145.06	1.11	1.39	501.48	1.00
7/1/25 16:15	-0.29	21.32	-0.67	1994.28	2145.26	1.11	1.39	501.43	1.00
7/1/25 17:15	-0.29	21.32	-0.67	1994.17	2145.15	1.11	1.39	501.46	1.00
7/1/25 18:15	-0.29	21.31	-0.66	1994.22	2145.23	1.11	1.39	501.45	1.00
7/1/25 19:15	-0.29	21.32	-0.67	1994.13	2145.10	1.11	1.39	501.47	1.00
7/1/25 20:15	-0.29	21.31	-0.67	1994.36	2145.40	1.11	1.39	501.41	1.00
7/1/25 21:15	-0.29	21.31	-0.67	1994.38	2145.39	1.11	1.39	501.41	1.00
7/1/25 22:15	-0.29	21.31	-0.66	1993.91	2144.88	1.11	1.39	501.53	1.00
7/1/25 23:15	-0.29	21.31	-0.68	1994.02	2145.00	1.11	1.39	501.50	1.00
7/2/25 0:15	-0.29	21.31	-0.67	1994.06	2145.05	1.11	1.39	501.49	1.00
7/2/25 1:15	-0.29	21.31	-0.66	1993.58	2144.53	1.11	1.39	501.61	1.00
7/2/25 2:15	-0.29	21.31	-0.67	1993.64	2144.61	1.11	1.39	501.60	1.00
7/2/25 3:15	-0.29	21.32	-0.66	1994.28	2145.27	1.11	1.39	501.43	1.00
7/2/25 4:15	-0.28	21.31	-0.66	1993.92	2144.90	1.11	1.39	501.52	1.00
7/2/25 5:15	-0.29	21.31	-0.67	1993.84	2144.81	1.11	1.39	501.54	1.00
7/2/25 6:15	-0.29	21.31	-0.66	1994.08	2145.08	1.11	1.39	501.48	1.00
7/2/25 7:15	-0.28	21.31	-0.65	1993.88	2144.88	1.11	1.39	501.53	1.00
7/2/25 8:15	-0.28	21.31	-0.65	1994.14	2145.16	1.11	1.39	501.47	1.00
7/2/25 9:15	-0.29	21.31	-0.67	1994.01	2145.03	1.11	1.39	501.50	1.00
7/2/25 10:15	-0.29	21.31	-0.66	1993.91	2144.94	1.11	1.39	501.53	1.00
7/2/25 11:15	-0.28	21.31	-0.65	1993.75	2144.76	1.11	1.39	501.57	1.00
7/2/25 12:15	-0.29	21.31	-0.66	1993.52	2144.51	1.11	1.39	501.63	1.00
7/2/25 13:15	-0.28	21.31	-0.65	1993.69	2144.71	1.11	1.39	501.58	1.00
7/2/25 14:15	-0.28	21.31	-0.66	1993.92	2144.93	1.11	1.39	501.53	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/2/25 15:15	-0.28	21.31	-0.65	1993.62	2144.63	1.11	1.39	501.60	1.00
7/2/25 16:15	-0.28	21.31	-0.66	1994.02	2145.09	1.11	1.39	501.50	1.00
7/2/25 17:15	-0.28	21.31	-0.65	1994.32	2145.36	1.11	1.39	501.42	1.00
7/2/25 18:15	-0.29	21.31	-0.66	1994.50	2145.61	1.11	1.39	501.38	1.00
7/2/25 19:15	-0.28	21.31	-0.66	1994.17	2145.26	1.11	1.39	501.46	1.00
7/2/25 20:15	-0.28	21.31	-0.66	1994.17	2145.22	1.11	1.39	501.46	1.00
7/2/25 21:15	-0.28	21.31	-0.66	1994.06	2145.13	1.11	1.39	501.49	1.00
7/2/25 22:15	-0.28	21.31	-0.65	1994.09	2145.17	1.11	1.39	501.48	1.00
7/2/25 23:15	-0.29	21.31	-0.67	1993.85	2144.94	1.11	1.39	501.54	1.00
7/3/25 0:15	-0.28	21.31	-0.66	1994.41	2145.50	1.11	1.39	501.40	1.00
7/3/25 1:15	-0.28	21.31	-0.65	1994.45	2145.59	1.11	1.39	501.39	1.00
7/3/25 2:15	-0.28	21.31	-0.65	1994.23	2145.31	1.11	1.39	501.45	1.00
7/3/25 3:15	-0.28	21.31	-0.64	1994.13	2145.22	1.11	1.39	501.47	1.00
7/3/25 4:15	-0.27	21.31	-0.63	1994.57	2145.68	1.11	1.39	501.36	1.00
7/3/25 5:15	-0.28	21.31	-0.65	1994.33	2145.43	1.11	1.39	501.42	1.00
7/3/25 6:15	-0.28	21.31	-0.65	1994.25	2145.34	1.11	1.39	501.44	1.00
7/3/25 7:15	-0.28	21.31	-0.65	1994.36	2145.52	1.11	1.39	501.41	1.00
7/3/25 8:15	-0.28	21.31	-0.65	1994.40	2145.55	1.11	1.39	501.41	1.00
7/3/25 9:15	-0.28	21.31	-0.65	1994.24	2145.33	1.11	1.39	501.44	1.00
7/3/25 10:15	-0.28	21.31	-0.64	1994.68	2145.84	1.11	1.39	501.33	1.00
7/3/25 11:15	-0.29	21.31	-0.66	1994.37	2145.47	1.11	1.39	501.41	1.00
7/3/25 12:15	-0.28	21.31	-0.65	1994.42	2145.59	1.11	1.39	501.40	1.00
7/3/25 13:15	-0.28	21.31	-0.64	1994.37	2145.49	1.11	1.39	501.41	1.00
7/3/25 14:15	-0.28	21.31	-0.64	1994.27	2145.45	1.11	1.39	501.44	1.00
7/3/25 15:15	-0.28	21.31	-0.64	1994.49	2145.64	1.11	1.39	501.38	1.00
7/3/25 16:15	-0.28	21.31	-0.65	1994.61	2145.77	1.11	1.39	501.35	1.00
7/3/25 17:15	-0.28	21.31	-0.64	1994.26	2145.39	1.11	1.39	501.44	1.00
7/3/25 18:15	-0.27	21.31	-0.63	1994.09	2145.21	1.11	1.39	501.48	1.00
7/3/25 19:15	-0.28	21.31	-0.65	1994.16	2145.32	1.11	1.39	501.46	1.00
7/3/25 20:15	-0.28	21.31	-0.64	1993.91	2145.09	1.11	1.39	501.53	1.00
7/3/25 21:15	-0.28	21.31	-0.65	1994.03	2145.17	1.11	1.39	501.50	1.00
7/3/25 22:15	-0.28	21.31	-0.65	1994.03	2145.18	1.11	1.39	501.50	1.00
7/3/25 23:15	-0.28	21.31	-0.64	1994.20	2145.33	1.11	1.39	501.45	1.00
7/4/25 0:15	-0.28	21.31	-0.66	1993.97	2145.12	1.11	1.39	501.51	1.00
7/4/25 1:15	-0.28	21.31	-0.64	1994.12	2145.30	1.11	1.39	501.47	1.00
7/4/25 2:15	-0.28	21.31	-0.64	1994.07	2145.24	1.11	1.39	501.49	1.00
7/4/25 3:15	-0.28	21.31	-0.65	1993.86	2145.01	1.11	1.39	501.54	1.00
7/4/25 4:15	-0.28	21.31	-0.64	1994.20	2145.40	1.11	1.39	501.45	1.00
7/4/25 5:15	-0.28	21.31	-0.64	1994.03	2145.24	1.11	1.39	501.50	1.00
7/4/25 6:15	-0.28	21.31	-0.64	1994.05	2145.27	1.11	1.39	501.49	1.00
7/4/25 7:15	-0.28	21.31	-0.64	1994.22	2145.44	1.11	1.39	501.45	1.00
7/4/25 8:15	-0.28	21.31	-0.66	1994.23	2145.39	1.11	1.39	501.45	1.00
7/4/25 9:15	-0.28	21.31	-0.65	1994.01	2145.19	1.11	1.39	501.50	1.00
7/4/25 10:15	-0.28	21.31	-0.64	1994.13	2145.31	1.11	1.39	501.47	1.00
7/4/25 11:15	-0.28	21.31	-0.64	1994.12	2145.34	1.11	1.39	501.47	1.00
7/4/25 12:15	-0.28	21.31	-0.64	1994.10	2145.30	1.11	1.39	501.48	1.00
7/4/25 13:15	-0.27	21.31	-0.63	1994.20	2145.37	1.11	1.39	501.46	1.00
7/4/25 14:15	-0.28	21.31	-0.64	1994.10	2145.34	1.11	1.39	501.48	1.00
7/4/25 15:15	-0.27	21.31	-0.63	1994.42	2145.65	1.11	1.39	501.40	1.00
7/4/25 16:15	-0.27	21.31	-0.63	1993.80	2145.03	1.11	1.39	501.55	1.00
7/4/25 17:15	-0.27	21.31	-0.63	1993.92	2145.13	1.11	1.39	501.52	1.00
7/4/25 18:15	-0.27	21.31	-0.63	1993.83	2145.04	1.11	1.39	501.55	1.00
7/4/25 19:15	-0.28	21.31	-0.64	1993.88	2145.16	1.11	1.39	501.54	1.00
7/4/25 20:15	-0.28	21.31	-0.64	1994.10	2145.31	1.11	1.39	501.48	1.00
7/4/25 21:15	-0.28	21.31	-0.64	1993.69	2144.87	1.11	1.39	501.58	1.00
7/4/25 22:15	-0.28	21.31	-0.64	1993.98	2145.26	1.11	1.39	501.51	1.00
7/4/25 23:15	-0.27	21.31	-0.64	1993.95	2145.19	1.11	1.39	501.52	1.00
7/5/25 0:15	-0.28	21.31	-0.64	1993.58	2144.82	1.11	1.39	501.61	1.00
7/5/25 1:15	-0.27	21.31	-0.63	1993.68	2144.94	1.11	1.39	501.59	1.00
7/5/25 2:15	-0.27	21.31	-0.63	1993.79	2145.00	1.11	1.39	501.56	1.00
7/5/25 3:15	-0.28	21.31	-0.65	1993.80	2145.05	1.11	1.39	501.56	1.00
7/5/25 4:15	-0.28	21.31	-0.64	1993.81	2145.04	1.11	1.39	501.55	1.00
7/5/25 5:15	-0.28	21.31	-0.64	1993.61	2144.84	1.11	1.39	501.60	1.00
7/5/25 6:15	-0.28	21.31	-0.64	1993.85	2145.06	1.11	1.39	501.54	1.00
7/5/25 7:15	-0.27	21.31	-0.63	1993.77	2145.02	1.11	1.39	501.56	1.00
7/5/25 8:15	-0.27	21.31	-0.63	1993.60	2144.87	1.11	1.39	501.61	1.00
7/5/25 9:15	-0.28	21.31	-0.65	1993.59	2144.86	1.11	1.39	501.61	1.00
7/5/25 10:15	-0.28	21.31	-0.64	1993.78	2145.05	1.11	1.39	501.56	1.00
7/5/25 11:15	-0.28	21.31	-0.64	1993.65	2144.87	1.11	1.39	501.59	1.00
7/5/25 12:15	-0.27	21.31	-0.63	1993.54	2144.80	1.11	1.39	501.62	1.00
7/5/25 13:15	-0.27	21.31	-0.63	1993.58	2144.82	1.11	1.39	501.61	1.00
7/5/25 14:15	-0.27	21.31	-0.63	1993.76	2145.03	1.11	1.39	501.57	1.00
7/5/25 15:15	-0.27	21.31	-0.62	1993.80	2145.06	1.11	1.39	501.55	1.00
7/5/25 16:15	-0.27	21.31	-0.63	1992.20	2143.40	1.11	1.39	501.96	1.00
7/5/25 17:15	-0.27	21.31	-0.62	1992.41	2143.57	1.11	1.39	501.91	1.00
7/5/25 18:15	-0.27	21.31	-0.63	1992.32	2143.48	1.11	1.39	501.93	1.00
7/5/25 19:15	-0.27	21.31	-0.62	1992.23	2143.44	1.11	1.39	501.95	1.00
7/5/25 20:15	-0.27	21.31	-0.62	1992.26	2143.43	1.11	1.39	501.94	1.00
7/5/25 21:15	-0.27	21.31	-0.63	1992.35	2143.54	1.11	1.39	501.92	1.00
7/5/25 22:15	-0.27	21.31	-0.63	1992.12	2143.32	1.11	1.39	501.98	1.00
7/5/25 23:15	-0.27	21.31	-0.63	1992.44	2143.66	1.11	1.39	501.90	1.00
7/6/25 0:15	-0.28	21.31	-0.64	1992.20	2143.39	1.11	1.39	501.96	1.00
7/6/25 1:15	-0.27	21.31	-0.63	1992.13	2143.34	1.11	1.39	501.97	1.00

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Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/6/25 2:15	-0.27	21.31	-0.63	1992.34	2143.55	1.11	1.39	501.92	1.00
7/6/25 3:15	-0.27	21.31	-0.63	1992.64	2143.91	1.11	1.39	501.85	1.00
7/6/25 4:15	-0.28	21.31	-0.64	1992.49	2143.73	1.11	1.39	501.88	1.00
7/6/25 5:15	-0.27	21.31	-0.63	1992.55	2143.79	1.11	1.39	501.87	1.00
7/6/25 6:15	-0.28	21.31	-0.64	1992.26	2143.52	1.11	1.39	501.94	1.00
7/6/25 7:15	-0.27	21.31	-0.63	1992.32	2143.55	1.11	1.39	501.93	1.00
7/6/25 8:15	-0.27	21.31	-0.63	1992.58	2143.87	1.11	1.39	501.86	1.00
7/6/25 9:15	-0.28	21.31	-0.64	1992.39	2143.67	1.11	1.39	501.91	1.00
7/6/25 10:15	-0.28	21.31	-0.64	1992.22	2143.46	1.11	1.39	501.95	1.00
7/6/25 11:15	-0.27	21.31	-0.63	1992.70	2143.97	1.11	1.39	501.83	1.00
7/6/25 12:15	-0.27	21.31	-0.62	1992.59	2143.86	1.11	1.39	501.86	1.00
7/6/25 13:15	-0.27	21.31	-0.62	1992.49	2143.77	1.11	1.39	501.89	1.00
7/6/25 14:15	-0.26	21.31	-0.61	1992.51	2143.80	1.11	1.39	501.88	1.00
7/6/25 15:15	-0.27	21.30	-0.62	1992.46	2143.77	1.11	1.39	501.89	1.00
7/6/25 16:15	-0.26	21.31	-0.61	1992.41	2143.69	1.11	1.39	501.90	1.00
7/6/25 17:15	-0.27	21.30	-0.62	1992.40	2143.70	1.11	1.39	501.91	1.00
7/6/25 18:15	-0.27	21.31	-0.61	1992.31	2143.57	1.11	1.39	501.93	1.00
7/6/25 19:15	-0.26	21.31	-0.61	1992.53	2143.80	1.11	1.39	501.88	1.00
7/6/25 20:15	-0.26	21.31	-0.61	1992.47	2143.75	1.11	1.39	501.89	1.00
7/6/25 21:15	-0.27	21.31	-0.62	1992.45	2143.72	1.11	1.39	501.89	1.00
7/6/25 22:15	-0.28	21.30	-0.64	1992.30	2143.59	1.11	1.39	501.93	1.00
7/6/25 23:15	-0.27	21.31	-0.63	1992.70	2144.01	1.11	1.39	501.83	1.00
7/7/25 0:15	-0.27	21.30	-0.62	1992.34	2143.64	1.11	1.39	501.92	1.00
7/7/25 1:15	-0.27	21.30	-0.61	1992.56	2143.91	1.11	1.39	501.87	1.00
7/7/25 2:15	-0.26	21.30	-0.61	1992.35	2143.65	1.11	1.39	501.92	1.00
7/7/25 3:15	-0.27	21.31	-0.62	1992.66	2143.95	1.11	1.39	501.84	1.00
7/7/25 4:15	-0.26	21.31	-0.61	1992.24	2143.50	1.11	1.39	501.95	1.00
7/7/25 5:15	-0.26	21.31	-0.61	1992.70	2144.00	1.11	1.39	501.83	1.00
7/7/25 6:15	-0.27	21.30	-0.61	1992.77	2144.10	1.11	1.39	501.81	1.00
7/7/25 7:15	-0.27	21.30	-0.62	1992.95	2144.31	1.11	1.39	501.77	1.00
7/7/25 8:15	-0.27	21.30	-0.62	1992.63	2143.95	1.11	1.39	501.85	1.00
7/7/25 9:15	-0.27	21.30	-0.62	1992.67	2144.03	1.11	1.39	501.84	1.00
7/7/25 10:15	-0.27	21.30	-0.62	1992.84	2144.20	1.11	1.39	501.80	1.00
7/7/25 11:15	-0.27	21.30	-0.61	1992.57	2143.93	1.11	1.39	501.86	1.00
7/7/25 12:15	-0.27	21.30	-0.61	1992.74	2144.10	1.11	1.39	501.82	1.00
7/7/25 13:15	-0.26	21.30	-0.61	1992.77	2144.14	1.11	1.39	501.81	1.00
7/7/25 14:15	-0.26	21.30	-0.61	1993.04	2144.47	1.11	1.39	501.74	1.00
7/7/25 15:15	-0.26	21.30	-0.60	1992.69	2144.04	1.11	1.39	501.83	1.00
7/7/25 16:15	-0.26	21.30	-0.61	1992.88	2144.29	1.11	1.39	501.79	1.00
7/7/25 17:15	-0.26	21.30	-0.61	1992.82	2144.19	1.11	1.39	501.80	1.00
7/7/25 18:15	-0.27	21.30	-0.62	1992.89	2144.33	1.11	1.39	501.78	1.00
7/7/25 19:15	-0.27	21.30	-0.62	1992.99	2144.40	1.11	1.39	501.76	1.00
7/7/25 20:15	-0.27	21.30	-0.62	1992.94	2144.36	1.11	1.39	501.77	1.00
7/7/25 21:15	-0.27	21.30	-0.62	1993.07	2144.52	1.11	1.39	501.74	1.00
7/7/25 22:15	-0.27	21.30	-0.62	1993.03	2144.46	1.11	1.39	501.75	1.00
7/7/25 23:15	-0.27	21.30	-0.63	1992.93	2144.33	1.11	1.39	501.77	1.00
7/8/25 0:15	-0.27	21.30	-0.63	1992.81	2144.20	1.11	1.39	501.80	1.00
7/8/25 1:15	-0.26	21.30	-0.60	1992.69	2144.11	1.11	1.39	501.83	1.00
7/8/25 2:15	-0.27	21.30	-0.61	1992.90	2144.37	1.11	1.39	501.78	1.00
7/8/25 3:15	-0.27	21.30	-0.62	1992.75	2144.17	1.11	1.39	501.82	1.00
7/8/25 4:15	-0.26	21.30	-0.61	1993.25	2144.73	1.11	1.39	501.69	1.00
7/8/25 5:15	-0.26	21.30	-0.61	1992.82	2144.24	1.11	1.39	501.80	1.00
7/8/25 6:15	-0.27	21.30	-0.62	1992.76	2144.21	1.11	1.39	501.82	1.00
7/8/25 7:15	-0.27	21.30	-0.62	1993.11	2144.56	1.11	1.39	501.73	1.00
7/8/25 8:15	-0.27	21.30	-0.61	1992.58	2144.03	1.11	1.39	501.86	1.00
7/8/25 9:15	-0.27	21.30	-0.61	1993.11	2144.58	1.11	1.39	501.73	1.00
7/8/25 10:15	-0.26	21.30	-0.61	1992.73	2144.21	1.11	1.39	501.82	1.00
7/8/25 11:15	-0.27	21.30	-0.62	1993.08	2144.55	1.11	1.39	501.74	1.00
7/8/25 12:15	-0.26	21.30	-0.61	1993.13	2144.59	1.11	1.39	501.72	1.00
7/8/25 13:15	-0.26	21.30	-0.60	1992.93	2144.38	1.11	1.39	501.77	1.00
7/8/25 14:15	-0.26	21.30	-0.60	1992.89	2144.37	1.11	1.39	501.78	1.00
7/8/25 15:15	-0.26	21.30	-0.59	1993.04	2144.53	1.11	1.39	501.75	1.00
7/8/25 16:15	-0.26	21.30	-0.60	1992.97	2144.48	1.11	1.39	501.76	1.00
7/8/25 17:15	-0.26	21.30	-0.59	1992.87	2144.35	1.11	1.39	501.79	1.00
7/8/25 18:15	-0.26	21.30	-0.61	1993.15	2144.66	1.11	1.39	501.72	1.00
7/8/25 19:15	-0.26	21.30	-0.61	1992.81	2144.29	1.11	1.39	501.80	1.00
7/8/25 20:15	-0.26	21.30	-0.60	1992.92	2144.43	1.11	1.39	501.78	1.00
7/8/25 21:15	-0.26	21.30	-0.60	1992.61	2144.12	1.11	1.39	501.85	1.00
7/8/25 22:15	-0.26	21.30	-0.60	1992.78	2144.29	1.11	1.39	501.81	1.00
7/8/25 23:15	-0.26	21.30	-0.60	1992.52	2143.99	1.11	1.39	501.88	1.00
7/9/25 0:15	-0.26	21.30	-0.60	1993.04	2144.58	1.11	1.39	501.75	1.00
7/9/25 1:15	-0.26	21.30	-0.60	1992.81	2144.31	1.11	1.39	501.80	1.00
7/9/25 2:15	-0.26	21.30	-0.60	1993.25	2144.81	1.11	1.39	501.69	1.00
7/9/25 3:15	-0.26	21.30	-0.59	1992.81	2144.33	1.11	1.39	501.80	1.00
7/9/25 4:15	-0.26	21.30	-0.60	1992.77	2144.28	1.11	1.39	501.81	1.00
7/9/25 5:15	-0.26	21.30	-0.60	1992.81	2144.32	1.11	1.39	501.80	1.00
7/9/25 6:15	-0.27	21.30	-0.61	1992.80	2144.31	1.11	1.39	501.81	1.00
7/9/25 7:15	-0.26	21.30	-0.61	1993.11	2144.64	1.11	1.39	501.73	1.00
7/9/25 8:15	-0.26	21.30	-0.61	1992.82	2144.33	1.11	1.39	501.80	1.00
7/9/25 9:15	-0.26	21.30	-0.60	1992.98	2144.53	1.11	1.39	501.76	1.00
7/9/25 10:15	-0.26	21.30	-0.61	1992.86	2144.41	1.11	1.39	501.79	1.00
7/9/25 11:15	-0.26	21.30	-0.59	1993.02	2144.57	1.11	1.39	501.75	1.00
7/9/25 12:15	-0.26	21.30	-0.61	1992.82	2144.37	1.11	1.39	501.80	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/9/25 13:15	-0.25	21.30	-0.59	1993.21	2144.78	1.11	1.39	501.70	1.00
7/9/25 14:15	-0.26	21.30	-0.60	1992.84	2144.42	1.11	1.39	501.80	1.00
7/9/25 15:15	-0.25	21.30	-0.59	1993.06	2144.60	1.11	1.39	501.74	1.00
7/9/25 16:15	-0.25	21.30	-0.58	1993.19	2144.79	1.11	1.39	501.71	1.00
7/9/25 17:15	-0.25	21.30	-0.58	1993.00	2144.55	1.11	1.39	501.76	1.00
7/9/25 18:15	-0.25	21.30	-0.58	1993.01	2144.60	1.11	1.39	501.75	1.00
7/9/25 19:15	-0.26	21.30	-0.59	1992.98	2144.55	1.11	1.39	501.76	1.00
7/9/25 20:15	-0.25	21.30	-0.59	1993.21	2144.84	1.11	1.39	501.70	1.00
7/9/25 21:15	-0.25	21.30	-0.59	1992.74	2144.34	1.11	1.39	501.82	1.00
7/9/25 22:15	-0.25	21.30	-0.58	1992.71	2144.29	1.11	1.39	501.83	1.00
7/9/25 23:15	-0.26	21.30	-0.59	1992.76	2144.35	1.11	1.39	501.82	1.00
7/10/25 0:15	-0.25	21.30	-0.59	1992.81	2144.38	1.11	1.39	501.80	1.00
7/10/25 1:15	-0.25	21.30	-0.58	1992.74	2144.33	1.11	1.39	501.82	1.00
7/10/25 2:15	-0.25	21.30	-0.59	1992.69	2144.26	1.11	1.39	501.84	1.00
7/10/25 3:15	-0.25	21.30	-0.58	1992.21	2143.77	1.11	1.39	501.95	1.00
7/10/25 4:15	-0.25	21.30	-0.57	1992.60	2144.18	1.11	1.39	501.86	1.00
7/10/25 5:15	-0.25	21.30	-0.58	1992.83	2144.41	1.11	1.39	501.80	1.00
7/10/25 6:15	-0.25	21.30	-0.58	1992.85	2144.43	1.11	1.39	501.79	1.00
7/10/25 7:15	-0.25	21.30	-0.58	1992.85	2144.43	1.11	1.39	501.79	1.00
7/10/25 8:15	-0.25	21.30	-0.58	1992.73	2144.31	1.11	1.39	501.82	1.00
7/10/25 9:15	-0.25	21.30	-0.59	1992.67	2144.25	1.11	1.39	501.84	1.00
7/10/25 10:15	-0.25	21.30	-0.58	1993.16	2144.78	1.11	1.39	501.71	1.00
7/10/25 11:15	-0.25	21.30	-0.59	1992.92	2144.54	1.11	1.39	501.78	1.00
7/10/25 12:15	-0.25	21.30	-0.58	1992.63	2144.27	1.11	1.39	501.85	1.00
7/10/25 13:15	-0.25	21.30	-0.58	1992.77	2144.37	1.11	1.39	501.81	1.00
7/10/25 14:15	-0.25	21.30	-0.57	1993.01	2144.58	1.11	1.39	501.75	1.00
7/10/25 15:15	-0.25	21.30	-0.58	1992.96	2144.60	1.11	1.39	501.77	1.00
7/10/25 16:15	-0.25	21.30	-0.57	1992.90	2144.51	1.11	1.39	501.78	1.00
7/10/25 17:15	-0.24	21.30	-0.56	1993.08	2144.75	1.11	1.39	501.74	1.00
7/10/25 18:15	-0.25	21.30	-0.57	1992.86	2144.47	1.11	1.39	501.79	1.00
7/10/25 19:15	-0.25	21.30	-0.57	1993.18	2144.84	1.11	1.39	501.71	1.00
7/10/25 20:15	-0.25	21.30	-0.57	1993.19	2144.84	1.11	1.39	501.71	1.00
7/10/25 21:15	-0.25	21.30	-0.58	1993.08	2144.74	1.11	1.39	501.74	1.00
7/10/25 22:15	-0.25	21.30	-0.57	1993.12	2144.79	1.11	1.39	501.73	1.00
7/10/25 23:15	-0.25	21.30	-0.57	1993.24	2144.89	1.11	1.39	501.70	1.00
7/11/25 0:15	-0.25	21.30	-0.57	1993.02	2144.64	1.11	1.39	501.75	1.00
7/11/25 1:15	-0.26	21.30	-0.59	1993.32	2145.00	1.11	1.39	501.68	1.00
7/11/25 2:15	-0.25	21.30	-0.58	1993.11	2144.75	1.11	1.39	501.73	1.00
7/11/25 3:15	-0.24	21.30	-0.56	1993.13	2144.79	1.11	1.39	501.72	1.00
7/11/25 4:15	-0.25	21.30	-0.57	1993.24	2144.92	1.11	1.39	501.69	1.00
7/11/25 5:15	-0.25	21.30	-0.58	1993.27	2144.96	1.11	1.39	501.69	1.00
7/11/25 6:15	-0.25	21.30	-0.57	1992.78	2144.46	1.11	1.39	501.81	1.00
7/11/25 7:15	-0.25	21.30	-0.57	1993.32	2145.02	1.11	1.39	501.68	1.00
7/11/25 8:15	-0.25	21.30	-0.58	1993.11	2144.80	1.11	1.39	501.73	1.00
7/11/25 9:15	-0.25	21.30	-0.57	1993.26	2144.94	1.11	1.39	501.69	1.00
7/11/25 10:15	-0.25	21.30	-0.57	1993.20	2144.93	1.11	1.39	501.71	1.00
7/11/25 11:15	-0.25	21.30	-0.57	1993.15	2144.84	1.11	1.39	501.72	1.00
7/11/25 12:15	-0.24	21.30	-0.56	1993.12	2144.83	1.11	1.39	501.73	1.00
7/11/25 13:15	-0.24	21.30	-0.56	1993.19	2144.88	1.11	1.39	501.71	1.00
7/11/25 14:15	-0.24	21.30	-0.55	1993.16	2144.85	1.11	1.39	501.72	1.00
7/11/25 15:15	-0.24	21.30	-0.56	1993.13	2144.85	1.11	1.39	501.72	1.00
7/11/25 16:15	-0.24	21.30	-0.56	1993.19	2144.92	1.11	1.39	501.71	1.00
7/11/25 17:15	-0.24	21.30	-0.56	1992.91	2144.62	1.11	1.39	501.78	1.00
7/11/25 18:15	-0.24	21.30	-0.55	1993.20	2144.92	1.11	1.39	501.71	1.00
7/11/25 19:15	-0.24	21.30	-0.55	1993.31	2145.07	1.11	1.39	501.68	1.00
7/11/25 20:15	-0.24	21.30	-0.57	1992.89	2144.62	1.11	1.39	501.78	1.00
7/11/25 21:15	-0.24	21.30	-0.56	1993.22	2144.99	1.11	1.39	501.70	1.00
7/11/25 22:15	-0.25	21.30	-0.57	1993.16	2144.86	1.11	1.39	501.72	1.00
7/11/25 23:15	-0.24	21.30	-0.57	1993.28	2145.00	1.11	1.39	501.69	1.00
7/12/25 0:15	-0.24	21.30	-0.56	1993.12	2144.85	1.11	1.39	501.73	1.00
7/12/25 1:15	-0.24	21.30	-0.56	1993.01	2144.78	1.11	1.39	501.75	1.00
7/12/25 2:15	-0.24	21.30	-0.56	1993.37	2145.11	1.11	1.39	501.66	1.00
7/12/25 3:15	-0.24	21.30	-0.55	1993.12	2144.87	1.11	1.39	501.73	1.00
7/12/25 4:15	-0.24	21.30	-0.56	1992.98	2144.69	1.11	1.39	501.76	1.00
7/12/25 5:15	-0.23	21.30	-0.54	1992.96	2144.71	1.11	1.39	501.77	1.00
7/12/25 6:15	-0.21	21.29	-0.49	1993.45	2145.26	1.11	1.39	501.64	1.00
7/12/25 7:15	-0.25	21.30	-0.58	1993.01	2144.77	1.11	1.39	501.75	1.00
7/12/25 8:15	-0.26	21.29	-0.60	1993.09	2144.89	1.11	1.39	501.73	1.00
7/12/25 9:15	-0.34	21.30	-0.79	1992.99	2144.73	1.11	1.39	501.76	1.00
7/12/25 10:15	-0.25	21.30	-0.57	1993.11	2144.86	1.11	1.39	501.73	1.00
7/12/25 11:15	-0.25	21.30	-0.57	1993.16	2144.92	1.11	1.39	501.72	1.00
7/12/25 12:15	-0.25	21.29	-0.57	1992.90	2144.67	1.11	1.39	501.78	1.00
7/12/25 13:15	-0.24	21.29	-0.56	1993.21	2145.04	1.11	1.39	501.70	1.00
7/12/25 14:15	-0.24	21.30	-0.57	1993.00	2144.73	1.11	1.39	501.76	1.00
7/12/25 15:15	-0.24	21.29	-0.55	1993.08	2144.90	1.11	1.39	501.74	1.00
7/12/25 16:15	-0.24	21.29	-0.55	1992.75	2144.54	1.11	1.39	501.82	1.00
7/12/25 17:15	-0.24	21.29	-0.55	1992.98	2144.78	1.11	1.39	501.76	1.00
7/12/25 18:15	-0.24	21.29	-0.55	1993.08	2144.87	1.11	1.39	501.74	1.00
7/12/25 19:15	-0.24	21.30	-0.55	1993.10	2144.88	1.11	1.39	501.73	1.00
7/12/25 20:15	-0.24	21.29	-0.55	1993.02	2144.80	1.11	1.39	501.75	1.00
7/12/25 21:15	-0.24	21.30	-0.55	1993.08	2144.85	1.11	1.39	501.74	1.00
7/12/25 22:15	-0.24	21.29	-0.55	1993.13	2144.98	1.11	1.39	501.72	1.00
7/12/25 23:15	-0.24	21.29	-0.55	1992.86	2144.66	1.11	1.39	501.79	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/13/25 0:15	-0.24	21.29	-0.55	1992.79	2144.55	1.11	1.39	501.81	1.00
7/13/25 1:15	-0.24	21.29	-0.55	1993.08	2144.90	1.11	1.39	501.74	1.00
7/13/25 2:15	-0.24	21.29	-0.55	1992.76	2144.55	1.11	1.39	501.82	1.00
7/13/25 3:15	-0.24	21.29	-0.55	1992.93	2144.71	1.11	1.39	501.77	1.00
7/13/25 4:15	-0.23	21.29	-0.54	1992.81	2144.59	1.11	1.39	501.80	1.00
7/13/25 5:15	-0.24	21.29	-0.55	1992.75	2144.53	1.11	1.39	501.82	1.00
7/13/25 6:15	-0.24	21.29	-0.55	1992.73	2144.52	1.11	1.39	501.82	1.00
7/13/25 7:15	-0.24	21.29	-0.55	1992.89	2144.72	1.11	1.39	501.78	1.00
7/13/25 8:15	-0.24	21.29	-0.55	1992.77	2144.57	1.11	1.39	501.82	1.00
7/13/25 9:15	-0.24	21.29	-0.54	1992.63	2144.40	1.11	1.39	501.85	1.00
7/13/25 10:15	-0.24	21.29	-0.55	1992.59	2144.42	1.11	1.39	501.86	1.00
7/13/25 11:15	-0.24	21.29	-0.55	1992.47	2144.27	1.11	1.39	501.89	1.00
7/13/25 12:15	-0.23	21.29	-0.54	1992.49	2144.27	1.11	1.39	501.89	1.00
7/13/25 13:15	-0.24	21.29	-0.54	1992.60	2144.38	1.11	1.39	501.86	1.00
7/13/25 14:15	-0.23	21.29	-0.54	1992.59	2144.42	1.11	1.39	501.86	1.00
7/13/25 15:15	-0.24	21.29	-0.54	1992.79	2144.66	1.11	1.39	501.81	1.00
7/13/25 16:15	-0.23	21.29	-0.54	1992.87	2144.69	1.11	1.39	501.79	1.00
7/13/25 17:15	-0.23	21.29	-0.54	1992.85	2144.67	1.11	1.39	501.79	1.00
7/13/25 18:15	-0.23	21.29	-0.53	1992.71	2144.51	1.11	1.39	501.83	1.00
7/13/25 19:15	-0.23	21.29	-0.53	1992.73	2144.54	1.11	1.39	501.83	1.00
7/13/25 20:15	-0.23	21.29	-0.53	1992.52	2144.37	1.11	1.39	501.88	1.00
7/13/25 21:15	-0.23	21.29	-0.54	1992.71	2144.56	1.11	1.39	501.83	1.00
7/13/25 22:15	-0.23	21.29	-0.54	1992.50	2144.33	1.11	1.39	501.88	1.00
7/13/25 23:15	-0.24	21.29	-0.55	1992.59	2144.42	1.11	1.39	501.86	1.00
7/14/25 0:15	-0.24	21.29	-0.55	1992.73	2144.56	1.11	1.39	501.82	1.00
7/14/25 1:15	-0.24	21.29	-0.54	1992.28	2144.09	1.11	1.39	501.94	1.00
7/14/25 2:15	-0.23	21.29	-0.54	1992.77	2144.63	1.11	1.39	501.81	1.00
7/14/25 3:15	-0.24	21.29	-0.57	1992.73	2144.57	1.11	1.39	501.83	1.00
7/14/25 4:15	-0.23	21.29	-0.53	1992.93	2144.77	1.11	1.39	501.77	1.00
7/14/25 5:15	-0.23	21.29	-0.53	1992.67	2144.57	1.11	1.39	501.84	1.00
7/14/25 6:15	-0.23	21.29	-0.53	1992.52	2144.35	1.11	1.39	501.88	1.00
7/14/25 7:15	-0.23	21.29	-0.54	1992.47	2144.34	1.11	1.39	501.89	1.00
7/14/25 8:15	-0.23	21.29	-0.54	1992.80	2144.66	1.11	1.39	501.81	1.00
7/14/25 9:15	-0.23	21.29	-0.53	1992.89	2144.77	1.11	1.39	501.78	1.00
7/14/25 10:15	-0.23	21.29	-0.54	1992.75	2144.66	1.11	1.39	501.82	1.00
7/14/25 11:15	-0.23	21.29	-0.53	1992.48	2144.38	1.11	1.39	501.89	1.00
7/14/25 12:15	-0.23	21.29	-0.52	1992.74	2144.61	1.11	1.39	501.82	1.00
7/14/25 13:15	-0.23	21.29	-0.53	1992.59	2144.45	1.11	1.39	501.86	1.00
7/14/25 14:15	-0.23	21.29	-0.52	1992.57	2144.44	1.11	1.39	501.86	1.00
7/14/25 15:15	-0.23	21.29	-0.52	1992.48	2144.38	1.11	1.39	501.89	1.00
7/14/25 16:15	-0.22	21.29	-0.51	1992.65	2144.52	1.11	1.39	501.85	1.00
7/14/25 17:15	-0.23	21.29	-0.54	1992.57	2144.47	1.11	1.39	501.86	1.00
7/14/25 18:15	-0.23	21.29	-0.53	1992.52	2144.40	1.11	1.39	501.88	1.00
7/14/25 19:15	-0.23	21.29	-0.52	1992.55	2144.44	1.11	1.39	501.87	1.00
7/14/25 20:15	-0.22	21.29	-0.52	1992.84	2144.79	1.11	1.39	501.80	1.00
7/14/25 21:15	-0.23	21.29	-0.53	1992.40	2144.29	1.11	1.39	501.91	1.00
7/14/25 22:15	-0.23	21.29	-0.53	1992.56	2144.48	1.11	1.39	501.87	1.00
7/14/25 23:15	-0.23	21.29	-0.53	1992.62	2144.52	1.11	1.39	501.85	1.00
7/15/25 0:15	-0.23	21.29	-0.53	1992.74	2144.63	1.11	1.39	501.82	1.00
7/15/25 1:15	-0.23	21.29	-0.52	1992.64	2144.55	1.11	1.39	501.85	1.00
7/15/25 2:15	-0.23	21.29	-0.53	1992.41	2144.29	1.11	1.39	501.91	1.00
7/15/25 3:15	-0.22	21.29	-0.52	1992.80	2144.74	1.11	1.39	501.81	1.00
7/15/25 4:15	-0.22	21.29	-0.51	1992.64	2144.54	1.11	1.39	501.85	1.00
7/15/25 5:15	-0.23	21.29	-0.53	1992.73	2144.69	1.11	1.39	501.82	1.00
7/15/25 6:15	-0.23	21.29	-0.53	1992.82	2144.77	1.11	1.39	501.80	1.00
7/15/25 7:15	-0.22	21.29	-0.52	1992.67	2144.59	1.11	1.39	501.84	1.00
7/15/25 8:15	-0.22	21.29	-0.52	1992.85	2144.78	1.11	1.39	501.79	1.00
7/15/25 9:15	-0.23	21.29	-0.52	1992.70	2144.64	1.11	1.39	501.83	1.00
7/15/25 10:15	-0.23	21.29	-0.52	1992.79	2144.72	1.11	1.39	501.81	1.00
7/15/25 11:15	-0.22	21.29	-0.51	1992.78	2144.75	1.11	1.39	501.81	1.00
7/15/25 12:15	-0.22	21.29	-0.52	1992.61	2144.56	1.11	1.39	501.85	1.00
7/15/25 13:15	-0.22	21.29	-0.51	1992.79	2144.76	1.11	1.39	501.81	1.00
7/15/25 14:15	-0.22	21.29	-0.52	1992.41	2144.32	1.11	1.39	501.90	1.00
7/15/25 15:15	-0.22	21.29	-0.51	1992.73	2144.65	1.11	1.39	501.83	1.00
7/15/25 16:15	-0.22	21.29	-0.51	1992.47	2144.42	1.11	1.39	501.89	1.00
7/15/25 17:15	-0.22	21.29	-0.51	1992.23	2144.15	1.11	1.39	501.95	1.00
7/15/25 18:15	-0.22	21.29	-0.51	1992.31	2144.24	1.11	1.39	501.93	1.00
7/15/25 19:15	-0.22	21.29	-0.51	1992.36	2144.32	1.11	1.39	501.92	1.00
7/15/25 20:15	-0.22	21.29	-0.50	1992.45	2144.41	1.11	1.39	501.90	1.00
7/15/25 21:15	-0.22	21.29	-0.51	1992.28	2144.21	1.11	1.39	501.94	1.00
7/15/25 22:15	-0.22	21.29	-0.51	1992.46	2144.45	1.11	1.39	501.89	1.00
7/15/25 23:15	-0.23	21.29	-0.52	1992.65	2144.62	1.11	1.39	501.84	1.00
7/16/25 0:15	-0.22	21.29	-0.51	1992.86	2144.84	1.11	1.39	501.79	1.00
7/16/25 1:15	-0.22	21.29	-0.50	1992.95	2144.90	1.11	1.39	501.77	1.00
7/16/25 2:15	-0.22	21.29	-0.51	1992.77	2144.73	1.11	1.39	501.81	1.00
7/16/25 3:15	-0.22	21.29	-0.51	1992.67	2144.72	1.11	1.39	501.84	1.00
7/16/25 4:15	-0.22	21.29	-0.51	1992.56	2144.56	1.11	1.39	501.87	1.00
7/16/25 5:15	-0.22	21.29	-0.50	1992.45	2144.43	1.11	1.39	501.90	1.00
7/16/25 6:15	-0.22	21.29	-0.52	1992.61	2144.59	1.11	1.39	501.85	1.00
7/16/25 7:15	-0.22	21.29	-0.51	1992.35	2144.29	1.11	1.39	501.92	1.00
7/16/25 8:15	-0.22	21.29	-0.51	1992.42	2144.39	1.11	1.39	501.90	1.00
7/16/25 9:15	-0.22	21.29	-0.50	1992.53	2144.54	1.11	1.39	501.88	1.00
7/16/25 10:15	-0.22	21.29	-0.51	1992.63	2144.68	1.11	1.39	501.85	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/16/25 11:15	-0.22	21.29	-0.51	1992.40	2144.38	1.11	1.39	501.91	1.00
7/16/25 12:15	-0.21	21.29	-0.50	1992.48	2144.47	1.11	1.39	501.89	1.00
7/16/25 13:15	-0.22	21.29	-0.50	1992.45	2144.47	1.11	1.39	501.89	1.00
7/16/25 14:15	-0.21	21.29	-0.49	1992.08	2144.07	1.11	1.39	501.99	1.00
7/16/25 15:15	-0.22	21.29	-0.50	1992.61	2144.63	1.11	1.39	501.85	1.00
7/16/25 16:15	-0.21	21.29	-0.49	1992.50	2144.49	1.11	1.39	501.88	1.00
7/16/25 17:15	-0.21	21.29	-0.49	1992.47	2144.47	1.11	1.39	501.89	1.00
7/16/25 18:15	-0.22	21.29	-0.50	1992.38	2144.41	1.11	1.39	501.91	1.00
7/16/25 19:15	-0.22	21.29	-0.50	1992.42	2144.46	1.11	1.39	501.90	1.00
7/16/25 20:15	-0.22	21.29	-0.50	1992.48	2144.50	1.11	1.39	501.89	1.00
7/16/25 21:15	-0.22	21.29	-0.50	1992.55	2144.56	1.11	1.39	501.87	1.00
7/16/25 22:15	-0.22	21.29	-0.51	1992.55	2144.57	1.11	1.39	501.87	1.00
7/16/25 23:15	-0.22	21.29	-0.50	1992.48	2144.49	1.11	1.39	501.89	1.00
7/17/25 0:15	-0.21	21.29	-0.49	1992.31	2144.32	1.11	1.39	501.93	1.00
7/17/25 1:15	-0.22	21.29	-0.50	1992.37	2144.39	1.11	1.39	501.91	1.00
7/17/25 2:15	-0.22	21.29	-0.50	1992.52	2144.53	1.11	1.39	501.88	1.00
7/17/25 3:15	-0.21	21.29	-0.50	1992.40	2144.42	1.11	1.39	501.91	1.00
7/17/25 4:15	-0.21	21.29	-0.49	1992.58	2144.60	1.11	1.39	501.86	1.00
7/17/25 5:15	-0.22	21.29	-0.50	1992.48	2144.53	1.11	1.39	501.89	1.00
7/17/25 6:15	-0.22	21.29	-0.51	1992.62	2144.63	1.11	1.39	501.85	1.00
7/17/25 7:15	-0.22	21.29	-0.52	1992.46	2144.52	1.11	1.39	501.89	1.00
7/17/25 8:15	-0.22	21.29	-0.52	1992.41	2144.44	1.11	1.39	501.90	1.00
7/17/25 9:15	-0.22	21.29	-0.51	1992.42	2144.49	1.11	1.39	501.90	1.00
7/17/25 10:15	-0.22	21.29	-0.51	1992.43	2144.47	1.11	1.39	501.90	1.00
7/17/25 11:15	-0.22	21.29	-0.50	1993.04	2145.15	1.11	1.39	501.75	1.00
7/17/25 12:15	-0.21	21.29	-0.49	1992.73	2144.83	1.11	1.39	501.82	1.00
7/17/25 13:15	-0.22	21.29	-0.50	1992.72	2144.80	1.11	1.39	501.83	1.00
7/17/25 14:15	-0.21	21.29	-0.49	1992.63	2144.72	1.11	1.39	501.85	1.00
7/17/25 15:15	-0.22	21.29	-0.51	1992.67	2144.77	1.11	1.39	501.84	1.00
7/17/25 16:15	-0.21	21.29	-0.49	1992.60	2144.66	1.11	1.39	501.86	1.00
7/17/25 17:15	-0.21	21.29	-0.49	1992.62	2144.67	1.11	1.39	501.85	1.00
7/17/25 18:15	-0.21	21.29	-0.48	1992.61	2144.71	1.11	1.39	501.85	1.00
7/17/25 19:15	-0.22	21.29	-0.50	1992.61	2144.70	1.11	1.39	501.86	1.00
7/17/25 20:15	-0.21	21.29	-0.50	1992.86	2144.93	1.11	1.39	501.79	1.00
7/17/25 21:15	-0.21	21.29	-0.50	1992.48	2144.57	1.11	1.39	501.89	1.00
7/17/25 22:15	-0.21	21.29	-0.50	1992.66	2144.79	1.11	1.39	501.84	1.00
7/17/25 23:15	-0.21	21.29	-0.49	1992.43	2144.54	1.11	1.39	501.90	1.00
7/18/25 0:15	-0.21	21.29	-0.49	1992.77	2144.88	1.11	1.39	501.81	1.00
7/18/25 1:15	-0.21	21.29	-0.48	1992.35	2144.42	1.11	1.39	501.92	1.00
7/18/25 2:15	-0.21	21.29	-0.49	1992.86	2144.97	1.11	1.39	501.79	1.00
7/18/25 3:15	-0.21	21.29	-0.48	1992.59	2144.68	1.11	1.39	501.86	1.00
7/18/25 4:15	-0.21	21.29	-0.48	1992.81	2144.90	1.11	1.39	501.80	1.00
7/18/25 5:15	-0.21	21.29	-0.48	1992.58	2144.65	1.11	1.39	501.86	1.00
7/18/25 6:15	-0.21	21.29	-0.48	1992.66	2144.80	1.11	1.39	501.84	1.00
7/18/25 7:15	-0.21	21.29	-0.48	1992.48	2144.57	1.11	1.39	501.89	1.00
7/18/25 8:15	-0.21	21.29	-0.50	1992.60	2144.67	1.11	1.39	501.86	1.00
7/18/25 9:15	-0.21	21.29	-0.49	1992.65	2144.72	1.11	1.39	501.84	1.00
7/18/25 10:15	-0.21	21.29	-0.48	1992.73	2144.84	1.11	1.39	501.83	1.00
7/18/25 11:15	-0.21	21.29	-0.47	1992.72	2144.84	1.11	1.39	501.83	1.00
7/18/25 12:15	-0.21	21.29	-0.48	1992.65	2144.76	1.11	1.39	501.84	1.00
7/18/25 13:15	-0.20	21.29	-0.47	1992.52	2144.63	1.11	1.39	501.88	1.00
7/18/25 14:15	-0.21	21.29	-0.48	1992.47	2144.59	1.11	1.39	501.89	1.00
7/18/25 15:15	-0.20	21.29	-0.47	1992.67	2144.84	1.11	1.39	501.84	1.00
7/18/25 16:15	-0.21	21.29	-0.48	1992.70	2144.82	1.11	1.39	501.83	1.00
7/18/25 17:15	-0.20	21.29	-0.47	1992.53	2144.67	1.11	1.39	501.87	1.00
7/18/25 18:15	-0.20	21.29	-0.47	1992.55	2144.68	1.11	1.39	501.87	1.00
7/18/25 19:15	-0.20	21.29	-0.46	1992.36	2144.45	1.11	1.39	501.92	1.00
7/18/25 20:15	-0.21	21.29	-0.49	1992.23	2144.36	1.11	1.39	501.95	1.00
7/18/25 21:15	-0.21	21.29	-0.48	1992.52	2144.67	1.11	1.39	501.88	1.00
7/18/25 22:15	-0.21	21.28	-0.48	1992.45	2144.63	1.11	1.39	501.89	1.00
7/18/25 23:15	-0.21	21.29	-0.48	1992.56	2144.68	1.11	1.39	501.87	1.00
7/19/25 0:15	-0.20	21.29	-0.47	1992.68	2144.82	1.11	1.39	501.84	1.00
7/19/25 1:15	-0.20	21.29	-0.47	1992.43	2144.60	1.11	1.39	501.90	1.00
7/19/25 2:15	-0.21	21.29	-0.47	1992.60	2144.75	1.11	1.39	501.86	1.00
7/19/25 3:15	-0.20	21.29	-0.47	1992.69	2144.84	1.11	1.39	501.83	1.00
7/19/25 4:15	-0.20	21.29	-0.47	1992.44	2144.60	1.11	1.39	501.90	1.00
7/19/25 5:15	-0.20	21.28	-0.47	1992.55	2144.75	1.11	1.39	501.87	1.00
7/19/25 6:15	-0.21	21.29	-0.49	1992.54	2144.71	1.11	1.39	501.87	1.00
7/19/25 7:15	-0.21	21.28	-0.48	1992.33	2144.50	1.11	1.39	501.92	1.00
7/19/25 8:15	-0.20	21.28	-0.47	1992.51	2144.69	1.11	1.39	501.88	1.00
7/19/25 9:15	-0.20	21.28	-0.47	1992.37	2144.54	1.11	1.39	501.92	1.00
7/19/25 10:15	-0.20	21.29	-0.46	1992.60	2144.75	1.11	1.39	501.86	1.00
7/19/25 11:15	-0.21	21.28	-0.47	1992.59	2144.79	1.11	1.39	501.86	1.00
7/19/25 12:15	-0.20	21.28	-0.46	1992.46	2144.64	1.11	1.39	501.89	1.00
7/19/25 13:15	-0.20	21.28	-0.45	1992.69	2144.89	1.11	1.39	501.83	1.00
7/19/25 14:15	-0.20	21.28	-0.46	1992.57	2144.77	1.11	1.39	501.87	1.00
7/19/25 15:15	-0.20	21.28	-0.46	1992.63	2144.82	1.11	1.39	501.85	1.00
7/19/25 16:15	-0.20	21.29	-0.45	1992.46	2144.60	1.11	1.39	501.89	1.00
7/19/25 17:15	-0.20	21.29	-0.46	1992.56	2144.74	1.11	1.39	501.87	1.00
7/19/25 18:15	-0.20	21.29	-0.46	1992.50	2144.68	1.11	1.39	501.88	1.00
7/19/25 19:15	-0.19	21.28	-0.45	1992.53	2144.72	1.11	1.39	501.87	1.00
7/19/25 20:15	-0.19	21.29	-0.45	1992.31	2144.47	1.11	1.39	501.93	1.00
7/19/25 21:15	-0.21	21.29	-0.50	1992.39	2144.55	1.11	1.39	501.91	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/19/25 22:15	-0.20	21.29	-0.47	1992.30	2144.45	1.11	1.39	501.93	1.00
7/19/25 23:15	-0.20	21.28	-0.47	1992.42	2144.64	1.11	1.39	501.90	1.00
7/20/25 0:15	-0.20	21.28	-0.46	1992.36	2144.55	1.11	1.39	501.92	1.00
7/20/25 1:15	-0.20	21.28	-0.46	1992.58	2144.77	1.11	1.39	501.86	1.00
7/20/25 2:15	-0.19	21.28	-0.45	1992.69	2144.91	1.11	1.39	501.83	1.00
7/20/25 3:15	-0.20	21.28	-0.47	1992.29	2144.47	1.11	1.39	501.94	1.00
7/20/25 4:15	-0.20	21.28	-0.46	1992.29	2144.47	1.11	1.39	501.93	1.00
7/20/25 5:15	-0.20	21.28	-0.46	1992.87	2145.11	1.11	1.39	501.79	1.00
7/20/25 6:15	-0.20	21.28	-0.45	1992.51	2144.73	1.11	1.39	501.88	1.00
7/20/25 7:15	-0.20	21.28	-0.45	1992.40	2144.62	1.11	1.39	501.91	1.00
7/20/25 8:15	-0.19	21.28	-0.45	1992.36	2144.55	1.11	1.39	501.92	1.00
7/20/25 9:15	-0.19	21.28	-0.44	1992.49	2144.70	1.11	1.39	501.88	1.00
7/20/25 10:15	-0.20	21.28	-0.46	1992.41	2144.65	1.11	1.39	501.90	1.00
7/20/25 11:15	-0.19	21.28	-0.45	1992.58	2144.84	1.11	1.39	501.86	1.00
7/20/25 12:15	-0.19	21.28	-0.44	1992.73	2145.03	1.11	1.39	501.82	1.00
7/20/25 13:15	-0.19	21.28	-0.44	1992.52	2144.77	1.11	1.39	501.88	1.00
7/20/25 14:15	-0.19	21.28	-0.43	1992.73	2145.01	1.11	1.39	501.82	1.00
7/20/25 15:15	-0.19	21.28	-0.44	1992.61	2144.85	1.11	1.39	501.85	1.00
7/20/25 16:15	-0.19	21.28	-0.43	1992.63	2144.87	1.11	1.39	501.85	1.00
7/20/25 17:15	-0.20	21.28	-0.45	1992.67	2144.91	1.11	1.39	501.84	1.00
7/20/25 18:15	-0.19	21.28	-0.45	1992.54	2144.80	1.11	1.39	501.87	1.00
7/20/25 19:15	-0.19	21.28	-0.44	1992.60	2144.86	1.11	1.39	501.86	1.00
7/20/25 20:15	-0.19	21.28	-0.44	1992.60	2144.87	1.11	1.39	501.86	1.00
7/20/25 21:15	-0.19	21.28	-0.44	1992.46	2144.72	1.11	1.39	501.89	1.00
7/20/25 22:15	-0.19	21.28	-0.44	1992.71	2144.93	1.11	1.39	501.83	1.00
7/20/25 23:15	-0.19	21.28	-0.44	1992.50	2144.76	1.11	1.39	501.88	1.00
7/21/25 0:15	-0.19	21.28	-0.44	1992.80	2145.07	1.11	1.39	501.81	1.00
7/21/25 1:15	-0.19	21.28	-0.43	1992.74	2144.97	1.11	1.39	501.82	1.00
7/21/25 2:15	-0.20	21.28	-0.45	1992.42	2144.71	1.11	1.39	501.90	1.00
7/21/25 3:15	-0.19	21.28	-0.44	1992.46	2144.72	1.11	1.39	501.89	1.00
7/21/25 4:15	-0.19	21.28	-0.44	1992.52	2144.82	1.11	1.39	501.88	1.00
7/21/25 5:15	-0.19	21.28	-0.44	1992.79	2145.08	1.11	1.39	501.81	1.00
7/21/25 6:15	-0.19	21.28	-0.44	1992.31	2144.56	1.11	1.39	501.93	1.00
7/21/25 7:15	-0.19	21.28	-0.43	1992.45	2144.69	1.11	1.39	501.89	1.00
7/21/25 8:15	-0.19	21.28	-0.45	1992.65	2144.91	1.11	1.39	501.84	1.00
7/21/25 9:15	-0.19	21.28	-0.44	1992.79	2145.05	1.11	1.39	501.81	1.00
7/21/25 10:15	-0.19	21.28	-0.44	1992.39	2144.67	1.11	1.39	501.91	1.00
7/21/25 11:15	-0.19	21.28	-0.43	1992.60	2144.87	1.11	1.39	501.86	1.00
7/21/25 12:15	-0.19	21.28	-0.44	1992.59	2144.89	1.11	1.39	501.86	1.00
7/21/25 13:15	-0.18	21.28	-0.43	1992.46	2144.74	1.11	1.39	501.89	1.00
7/21/25 14:15	-0.18	21.28	-0.42	1992.54	2144.81	1.11	1.39	501.87	1.00
7/21/25 15:15	-0.18	21.28	-0.43	1992.41	2144.69	1.11	1.39	501.91	1.00
7/21/25 16:15	-0.18	21.28	-0.42	1992.60	2144.89	1.11	1.39	501.86	1.00
7/21/25 17:15	-0.19	21.28	-0.43	1992.83	2145.13	1.11	1.39	501.80	1.00
7/21/25 18:15	-0.18	21.28	-0.43	1992.37	2144.63	1.11	1.39	501.92	1.00
7/21/25 19:15	-0.19	21.28	-0.43	1992.75	2145.07	1.11	1.39	501.82	1.00
7/21/25 20:15	-0.20	21.28	-0.46	1992.61	2144.90	1.11	1.39	501.85	1.00
7/21/25 21:15	-0.20	21.28	-0.45	1992.73	2145.05	1.11	1.39	501.82	1.00
7/21/25 22:15	-0.20	21.28	-0.45	1992.85	2145.15	1.11	1.39	501.79	1.00
7/21/25 23:15	-0.19	21.28	-0.45	1992.75	2145.10	1.11	1.39	501.82	1.00
7/22/25 0:15	-0.20	21.28	-0.46	1992.51	2144.85	1.11	1.39	501.88	1.00
7/22/25 1:15	-0.20	21.28	-0.46	1992.86	2145.22	1.11	1.39	501.79	1.00
7/22/25 2:15	-0.21	21.28	-0.48	1992.43	2144.74	1.11	1.39	501.90	1.00
7/22/25 3:15	-0.20	21.28	-0.47	1992.67	2144.97	1.11	1.39	501.84	1.00
7/22/25 4:15	-0.20	21.28	-0.46	1992.44	2144.73	1.11	1.39	501.90	1.00
7/22/25 5:15	-0.21	21.28	-0.48	1992.82	2145.17	1.11	1.39	501.80	1.00
7/22/25 6:15	-0.21	21.28	-0.48	1992.58	2144.87	1.11	1.39	501.86	1.00
7/22/25 7:15	-0.21	21.28	-0.48	1992.63	2144.88	1.11	1.39	501.85	1.00
7/22/25 8:15	-0.21	21.28	-0.48	1992.59	2144.93	1.11	1.39	501.86	1.00
7/22/25 9:15	-0.21	21.28	-0.47	1992.69	2145.01	1.11	1.39	501.84	1.00
7/22/25 10:15	-0.21	21.28	-0.49	1992.54	2144.82	1.11	1.39	501.87	1.00
7/22/25 11:15	-0.21	21.28	-0.48	1992.48	2144.79	1.11	1.39	501.89	1.00
7/22/25 12:15	-0.21	21.28	-0.47	1992.85	2145.16	1.11	1.39	501.79	1.00
7/22/25 13:15	-0.21	21.28	-0.49	1992.98	2145.34	1.11	1.39	501.76	1.00
7/22/25 14:15	-0.21	21.28	-0.48	1992.78	2145.10	1.11	1.39	501.81	1.00
7/22/25 15:15	-0.21	21.28	-0.48	1992.76	2145.08	1.11	1.39	501.82	1.00
7/22/25 16:15	-0.21	21.28	-0.49	1992.84	2145.16	1.11	1.39	501.80	1.00
7/22/25 17:15	-0.21	21.28	-0.49	1992.94	2145.31	1.11	1.39	501.77	1.00
7/22/25 18:15	-0.21	21.28	-0.48	1992.81	2145.16	1.11	1.39	501.80	1.00
7/22/25 19:15	-0.21	21.28	-0.48	1992.82	2145.16	1.11	1.39	501.80	1.00
7/22/25 20:15	-0.21	21.28	-0.48	1992.95	2145.31	1.11	1.39	501.77	1.00
7/22/25 21:15	-0.16	21.28	-0.38	1992.59	2144.90	1.11	1.39	501.86	1.00
7/22/25 22:15	-0.24	21.28	-0.55	1992.71	2145.04	1.11	1.39	501.83	1.00
7/22/25 23:15	-0.26	21.28	-0.60	1992.78	2145.11	1.11	1.39	501.81	1.00
7/23/25 0:15	-0.21	21.28	-0.50	1992.78	2145.12	1.11	1.39	501.81	1.00
7/23/25 1:15	-0.21	21.28	-0.49	1992.66	2144.97	1.11	1.39	501.84	1.00
7/23/25 2:15	-0.21	21.28	-0.48	1992.94	2145.28	1.11	1.39	501.77	1.00
7/23/25 3:15	-0.20	21.28	-0.47	1993.00	2145.36	1.11	1.39	501.75	1.00
7/23/25 4:15	-0.20	21.28	-0.46	1992.82	2145.16	1.11	1.39	501.80	1.00
7/23/25 5:15	-0.20	21.28	-0.45	1992.93	2145.27	1.11	1.39	501.77	1.00
7/23/25 6:15	-0.20	21.28	-0.45	1992.79	2145.17	1.11	1.39	501.81	1.00
7/23/25 7:15	-0.20	21.28	-0.45	1992.71	2145.03	1.11	1.39	501.83	1.00
7/23/25 8:15	-0.19	21.28	-0.45	1992.94	2145.34	1.11	1.39	501.77	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/23/25 9:15	-0.19	21.28	-0.45	1992.77	2145.12	1.11	1.39	501.82	1.00
7/23/25 10:15	-0.19	21.28	-0.44	1992.87	2145.21	1.11	1.39	501.79	1.00
7/23/25 11:15	-0.19	21.28	-0.44	1992.94	2145.27	1.11	1.39	501.77	1.00
7/23/25 12:15	-0.20	21.28	-0.46	1992.65	2145.01	1.11	1.39	501.84	1.00
7/23/25 13:15	-0.19	21.28	-0.44	1992.56	2144.89	1.11	1.39	501.87	1.00
7/23/25 14:15	-0.18	21.28	-0.43	1992.66	2145.01	1.11	1.39	501.84	1.00
7/23/25 15:15	-0.18	21.28	-0.42	1992.45	2144.80	1.11	1.39	501.89	1.00
7/23/25 16:15	-0.19	21.28	-0.43	1992.77	2145.16	1.11	1.39	501.81	1.00
7/23/25 17:15	-0.18	21.28	-0.43	1992.82	2145.22	1.11	1.39	501.80	1.00
7/23/25 18:15	-0.18	21.28	-0.42	1992.66	2145.03	1.11	1.39	501.84	1.00
7/23/25 19:15	-0.18	21.28	-0.42	1992.47	2144.84	1.11	1.39	501.89	1.00
7/23/25 20:15	-0.19	21.28	-0.44	1992.69	2145.07	1.11	1.39	501.83	1.00
7/23/25 21:15	-0.19	21.28	-0.44	1992.39	2144.75	1.11	1.39	501.91	1.00
7/23/25 22:15	-0.19	21.28	-0.44	1992.56	2144.94	1.11	1.39	501.87	1.00
7/23/25 23:15	-0.19	21.28	-0.44	1992.49	2144.86	1.11	1.39	501.88	1.00
7/24/25 0:15	-0.19	21.28	-0.44	1992.71	2145.08	1.11	1.39	501.83	1.00
7/24/25 1:15	-0.18	21.28	-0.42	1992.48	2144.85	1.11	1.39	501.89	1.00
7/24/25 2:15	-0.18	21.28	-0.42	1992.42	2144.79	1.11	1.39	501.90	1.00
7/24/25 3:15	-0.18	21.28	-0.43	1992.49	2144.88	1.11	1.39	501.88	1.00
7/24/25 4:15	-0.18	21.28	-0.42	1992.44	2144.79	1.11	1.39	501.90	1.00
7/24/25 5:15	-0.18	21.28	-0.42	1992.74	2145.12	1.11	1.39	501.82	1.00
7/24/25 6:15	-0.18	21.28	-0.42	1992.44	2144.86	1.11	1.39	501.90	1.00
7/24/25 7:15	-0.18	21.28	-0.42	1992.64	2145.05	1.11	1.39	501.85	1.00
7/24/25 8:15	-0.19	21.28	-0.43	1992.58	2144.97	1.11	1.39	501.86	1.00
7/24/25 9:15	-0.18	21.28	-0.43	1992.62	2145.01	1.11	1.39	501.85	1.00
7/24/25 10:15	-0.18	21.28	-0.43	1992.43	2144.86	1.11	1.39	501.90	1.00
7/24/25 11:15	-0.18	21.28	-0.42	1992.66	2145.08	1.11	1.39	501.84	1.00
7/24/25 12:15	-0.18	21.28	-0.41	1992.27	2144.64	1.11	1.39	501.94	1.00
7/24/25 13:15	-0.18	21.28	-0.42	1992.47	2144.89	1.11	1.39	501.89	1.00
7/24/25 14:15	-0.18	21.28	-0.41	1992.73	2145.17	1.11	1.39	501.82	1.00
7/24/25 15:15	-0.17	21.28	-0.40	1992.58	2144.98	1.11	1.39	501.86	1.00
7/24/25 16:15	-0.18	21.28	-0.41	1992.72	2145.12	1.11	1.39	501.83	1.00
7/24/25 17:15	-0.18	21.28	-0.42	1992.36	2144.73	1.11	1.39	501.92	1.00
7/24/25 18:15	-0.18	21.28	-0.41	1992.46	2144.89	1.11	1.39	501.89	1.00
7/24/25 19:15	-0.17	21.28	-0.40	1992.54	2144.95	1.11	1.39	501.87	1.00
7/24/25 20:15	-0.18	21.28	-0.40	1992.20	2144.59	1.11	1.39	501.96	1.00
7/24/25 21:15	-0.17	21.28	-0.40	1992.49	2144.86	1.11	1.39	501.88	1.00
7/24/25 22:15	-0.18	21.28	-0.41	1992.40	2144.81	1.11	1.39	501.91	1.00
7/24/25 23:15	-0.18	21.28	-0.41	1992.36	2144.79	1.11	1.39	501.92	1.00
7/25/25 0:15	-0.18	21.28	-0.41	1992.76	2145.18	1.11	1.39	501.82	1.00
7/25/25 1:15	-0.17	21.28	-0.40	1992.54	2144.96	1.11	1.39	501.87	1.00
7/25/25 2:15	-0.18	21.28	-0.42	1992.57	2145.02	1.11	1.39	501.86	1.00
7/25/25 3:15	-0.18	21.28	-0.41	1992.47	2144.93	1.11	1.39	501.89	1.00
7/25/25 4:15	-0.17	21.28	-0.40	1992.52	2144.96	1.11	1.39	501.88	1.00
7/25/25 5:15	-0.17	21.28	-0.40	1992.46	2144.90	1.11	1.39	501.89	1.00
7/25/25 6:15	-0.17	21.28	-0.40	1992.23	2144.61	1.11	1.39	501.95	1.00
7/25/25 7:15	-0.18	21.28	-0.42	1992.16	2144.55	1.11	1.39	501.97	1.00
7/25/25 8:15	-0.18	21.28	-0.41	1992.33	2144.77	1.11	1.39	501.93	1.00
7/25/25 9:15	-0.17	21.28	-0.40	1992.61	2145.04	1.11	1.39	501.85	1.00
7/25/25 10:15	-0.17	21.28	-0.40	1992.69	2145.18	1.11	1.39	501.83	1.00
7/25/25 11:15	-0.17	21.28	-0.39	1992.63	2145.13	1.11	1.39	501.85	1.00
7/25/25 12:15	-0.18	21.28	-0.41	1992.43	2144.87	1.11	1.39	501.90	1.00
7/25/25 13:15	-0.17	21.28	-0.40	1992.46	2144.88	1.11	1.39	501.89	1.00
7/25/25 14:15	-0.17	21.28	-0.39	1992.62	2145.09	1.11	1.39	501.85	1.00
7/25/25 15:15	-0.17	21.28	-0.39	1992.43	2144.91	1.11	1.39	501.90	1.00
7/25/25 16:15	-0.17	21.28	-0.38	1992.47	2144.93	1.11	1.39	501.89	1.00
7/25/25 17:15	-0.17	21.28	-0.40	1992.56	2145.02	1.11	1.39	501.87	1.00
7/25/25 18:15	-0.17	21.28	-0.39	1992.58	2145.02	1.11	1.39	501.86	1.00
7/25/25 19:15	-0.17	21.28	-0.39	1992.68	2145.15	1.11	1.39	501.84	1.00
7/25/25 20:15	-0.17	21.28	-0.39	1992.63	2145.11	1.11	1.39	501.85	1.00
7/25/25 21:15	-0.17	21.28	-0.38	1992.68	2145.15	1.11	1.39	501.84	1.00
7/25/25 22:15	-0.16	21.28	-0.38	1992.45	2144.90	1.11	1.39	501.89	1.00
7/25/25 23:15	-0.18	21.28	-0.41	1992.13	2144.57	1.11	1.39	501.97	1.00
7/26/25 0:15	-0.17	21.28	-0.40	1992.67	2145.14	1.11	1.39	501.84	1.00
7/26/25 1:15	-0.17	21.28	-0.40	1992.42	2144.89	1.11	1.39	501.90	1.00
7/26/25 2:15	-0.17	21.28	-0.39	1992.49	2144.97	1.11	1.39	501.88	1.00
7/26/25 3:15	-0.17	21.28	-0.39	1992.40	2144.85	1.11	1.39	501.91	1.00
7/26/25 4:15	-0.16	21.28	-0.38	1992.37	2144.83	1.11	1.39	501.91	1.00
7/26/25 5:15	-0.16	21.28	-0.38	1992.56	2145.00	1.11	1.39	501.87	1.00
7/26/25 6:15	-0.16	21.28	-0.38	1992.45	2144.93	1.11	1.39	501.89	1.00
7/26/25 7:15	-0.17	21.28	-0.39	1992.72	2145.22	1.11	1.39	501.83	1.00
7/26/25 8:15	-0.17	21.28	-0.39	1992.17	2144.65	1.11	1.39	501.97	1.00
7/26/25 9:15	-0.17	21.28	-0.39	1992.40	2144.86	1.11	1.39	501.91	1.00
7/26/25 10:15	-0.16	21.28	-0.38	1992.55	2145.03	1.11	1.39	501.87	1.00
7/26/25 11:15	-0.16	21.28	-0.38	1992.56	2145.03	1.11	1.39	501.87	1.00
7/26/25 12:15	-0.17	21.28	-0.39	1992.43	2144.88	1.11	1.39	501.90	1.00
7/26/25 13:15	-0.16	21.28	-0.37	1992.54	2145.06	1.11	1.39	501.87	1.00
7/26/25 14:15	-0.17	21.28	-0.38	1992.48	2144.95	1.11	1.39	501.89	1.00
7/26/25 15:15	-0.16	21.28	-0.37	1992.48	2144.97	1.11	1.39	501.89	1.00
7/26/25 16:15	-0.16	21.28	-0.36	1992.45	2144.92	1.11	1.39	501.89	1.00
7/26/25 17:15	-0.17	21.28	-0.39	1992.50	2144.97	1.11	1.39	501.88	1.00
7/26/25 18:15	-0.17	21.28	-0.38	1992.46	2144.96	1.11	1.39	501.89	1.00
7/26/25 19:15	-0.17	21.28	-0.38	1992.36	2144.85	1.11	1.39	501.92	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/26/25 20:15	-0.16	21.28	-0.38	1992.67	2145.16	1.11	1.39	501.84	1.00
7/26/25 21:15	-0.17	21.28	-0.38	1992.59	2145.11	1.11	1.39	501.86	1.00
7/26/25 22:15	-0.16	21.28	-0.38	1992.67	2145.17	1.11	1.39	501.84	1.00
7/26/25 23:15	-0.16	21.28	-0.38	1992.50	2145.01	1.11	1.39	501.88	1.00
7/27/25 0:15	-0.16	21.28	-0.37	1992.41	2144.92	1.11	1.39	501.90	1.00
7/27/25 1:15	-0.17	21.28	-0.39	1992.62	2145.12	1.11	1.39	501.85	1.00
7/27/25 2:15	-0.16	21.28	-0.37	1992.51	2145.00	1.11	1.39	501.88	1.00
7/27/25 3:15	-0.16	21.28	-0.37	1992.31	2144.78	1.11	1.39	501.93	1.00
7/27/25 4:15	-0.16	21.28	-0.37	1992.65	2145.18	1.11	1.39	501.84	1.00
7/27/25 5:15	-0.16	21.28	-0.36	1992.42	2144.92	1.11	1.39	501.90	1.00
7/27/25 6:15	-0.16	21.28	-0.38	1992.18	2144.68	1.11	1.39	501.96	1.00
7/27/25 7:15	-0.16	21.28	-0.38	1992.15	2144.64	1.11	1.39	501.97	1.00
7/27/25 8:15	-0.16	21.28	-0.38	1992.52	2145.01	1.11	1.39	501.88	1.00
7/27/25 9:15	-0.16	21.28	-0.37	1992.36	2144.86	1.11	1.39	501.92	1.00
7/27/25 10:15	-0.16	21.28	-0.37	1992.26	2144.78	1.11	1.39	501.94	1.00
7/27/25 11:15	-0.16	21.28	-0.36	1992.22	2144.73	1.11	1.39	501.95	1.00
7/27/25 12:15	-0.16	21.28	-0.38	1992.44	2144.97	1.11	1.39	501.90	1.00
7/27/25 13:15	-0.16	21.28	-0.37	1992.54	2145.08	1.11	1.39	501.87	1.00
7/27/25 14:15	-0.15	21.28	-0.36	1992.40	2144.93	1.11	1.39	501.91	1.00
7/27/25 15:15	-0.16	21.28	-0.37	1992.38	2144.91	1.11	1.39	501.91	1.00
7/27/25 16:15	-0.16	21.28	-0.36	1992.46	2145.02	1.11	1.39	501.89	1.00
7/27/25 17:15	-0.15	21.28	-0.35	1992.57	2145.07	1.11	1.39	501.86	1.00
7/27/25 18:15	-0.16	21.28	-0.37	1992.48	2145.04	1.11	1.39	501.89	1.00
7/27/25 19:15	-0.16	21.28	-0.37	1992.55	2145.07	1.11	1.39	501.87	1.00
7/27/25 20:15	-0.16	21.28	-0.38	1992.47	2145.01	1.11	1.39	501.89	1.00
7/27/25 21:15	-0.16	21.28	-0.38	1992.44	2145.00	1.11	1.39	501.90	1.00
7/27/25 22:15	-0.16	21.28	-0.38	1992.60	2145.16	1.11	1.39	501.86	1.00
7/27/25 23:15	-0.16	21.28	-0.38	1992.61	2145.17	1.11	1.39	501.86	1.00
7/28/25 0:15	-0.16	21.28	-0.37	1992.50	2145.04	1.11	1.39	501.88	1.00
7/28/25 1:15	-0.15	21.28	-0.36	1992.68	2145.22	1.11	1.39	501.84	1.00
7/28/25 2:15	-0.16	21.28	-0.37	1992.62	2145.21	1.11	1.39	501.85	1.00
7/28/25 3:15	-0.16	21.28	-0.37	1992.66	2145.22	1.11	1.39	501.84	1.00
7/28/25 4:15	-0.15	21.28	-0.36	1992.53	2145.06	1.11	1.39	501.88	1.00
7/28/25 5:15	-0.15	21.28	-0.36	1992.47	2144.99	1.11	1.39	501.89	1.00
7/28/25 6:15	-0.15	21.28	-0.36	1992.66	2145.23	1.11	1.39	501.84	1.00
7/28/25 7:15	-0.15	21.28	-0.36	1992.56	2145.13	1.11	1.39	501.87	1.00
7/28/25 8:15	-0.15	21.28	-0.35	1992.58	2145.15	1.11	1.39	501.86	1.00
7/28/25 9:15	-0.16	21.28	-0.37	1992.57	2145.11	1.11	1.39	501.87	1.00
7/28/25 10:15	-0.16	21.28	-0.36	1992.70	2145.28	1.11	1.39	501.83	1.00
7/28/25 11:15	-0.15	21.28	-0.36	1992.83	2145.40	1.11	1.39	501.80	1.00
7/28/25 12:15	-0.15	21.28	-0.34	1992.95	2145.56	1.11	1.39	501.77	1.00
7/28/25 13:15	-0.16	21.28	-0.37	1992.49	2145.05	1.11	1.39	501.88	1.00
7/28/25 14:15	-0.15	21.28	-0.36	1992.74	2145.29	1.11	1.39	501.82	1.00
7/28/25 15:15	-0.15	21.28	-0.34	1992.64	2145.22	1.11	1.39	501.85	1.00
7/28/25 16:15	-0.16	21.28	-0.37	1992.63	2145.24	1.11	1.39	501.85	1.00
7/28/25 17:15	-0.16	21.28	-0.36	1992.67	2145.26	1.11	1.39	501.84	1.00
7/28/25 18:15	-0.16	21.28	-0.36	1992.69	2145.26	1.11	1.39	501.83	1.00
7/28/25 19:15	-0.15	21.28	-0.35	1992.62	2145.20	1.11	1.39	501.85	1.00
7/28/25 20:15	-0.15	21.28	-0.36	1992.77	2145.32	1.11	1.39	501.81	1.00
7/28/25 21:15	-0.15	21.28	-0.36	1992.54	2145.11	1.11	1.39	501.87	1.00
7/28/25 22:15	-0.15	21.28	-0.36	1992.86	2145.44	1.11	1.39	501.79	1.00
7/28/25 23:15	-0.16	21.28	-0.36	1992.53	2145.10	1.11	1.39	501.87	1.00
7/29/25 0:15	-0.15	21.28	-0.35	1992.63	2145.20	1.11	1.39	501.85	1.00
7/29/25 1:15	-0.15	21.28	-0.35	1992.81	2145.40	1.11	1.39	501.80	1.00
7/29/25 2:15	-0.16	21.28	-0.37	1992.72	2145.31	1.11	1.39	501.83	1.00
7/29/25 3:15	-0.15	21.28	-0.36	1992.63	2145.17	1.11	1.39	501.85	1.00
7/29/25 4:15	-0.15	21.28	-0.35	1992.70	2145.30	1.11	1.39	501.83	1.00
7/29/25 5:15	-0.15	21.28	-0.35	1992.40	2144.98	1.11	1.39	501.91	1.00
7/29/25 6:15	-0.15	21.28	-0.35	1992.61	2145.18	1.11	1.39	501.85	1.00
7/29/25 7:15	-0.15	21.28	-0.34	1992.69	2145.29	1.11	1.39	501.83	1.00
7/29/25 8:15	-0.15	21.28	-0.34	1992.72	2145.31	1.11	1.39	501.83	1.00
7/29/25 9:15	-0.15	21.28	-0.35	1992.64	2145.21	1.11	1.39	501.85	1.00
7/29/25 10:15	-0.15	21.28	-0.35	1992.90	2145.52	1.11	1.39	501.78	1.00
7/29/25 11:15	-0.15	21.28	-0.34	1992.75	2145.38	1.11	1.39	501.82	1.00
7/29/25 12:15	-0.14	21.28	-0.33	1992.71	2145.27	1.11	1.39	501.83	1.00
7/29/25 13:15	-0.15	21.28	-0.34	1992.56	2145.13	1.11	1.39	501.87	1.00
7/29/25 14:15	-0.14	21.28	-0.33	1992.47	2145.06	1.11	1.39	501.89	1.00
7/29/25 15:15	-0.15	21.28	-0.34	1992.55	2145.16	1.11	1.39	501.87	1.00
7/29/25 16:15	-0.15	21.28	-0.34	1992.39	2144.97	1.11	1.39	501.91	1.00
7/29/25 17:15	-0.14	21.28	-0.32	1992.60	2145.22	1.11	1.39	501.86	1.00
7/29/25 18:15	-0.15	21.28	-0.35	1992.59	2145.17	1.11	1.39	501.86	1.00
7/29/25 19:15	-0.15	21.28	-0.34	1992.80	2145.43	1.11	1.39	501.81	1.00
7/29/25 20:15	-0.15	21.28	-0.34	1992.70	2145.29	1.11	1.39	501.83	1.00
7/29/25 21:15	-0.15	21.28	-0.34	1992.50	2145.05	1.11	1.39	501.88	1.00
7/29/25 22:15	-0.14	21.27	-0.33	1992.53	2145.15	1.11	1.39	501.88	1.00
7/29/25 23:15	-0.14	21.28	-0.33	1992.72	2145.31	1.11	1.39	501.83	1.00
7/30/25 0:15	-0.14	21.28	-0.32	1992.45	2145.01	1.11	1.39	501.90	1.00
7/30/25 1:15	-0.15	21.28	-0.34	1992.55	2145.15	1.11	1.39	501.87	1.00
7/30/25 2:15	-0.14	21.28	-0.33	1992.71	2145.28	1.11	1.39	501.83	1.00
7/30/25 3:15	-0.14	21.28	-0.32	1992.49	2145.07	1.11	1.39	501.88	1.00
7/30/25 4:15	-0.14	21.28	-0.32	1992.47	2145.04	1.11	1.39	501.89	1.00
7/30/25 5:15	-0.14	21.28	-0.32	1992.59	2145.19	1.11	1.39	501.86	1.00
7/30/25 6:15	-0.15	21.27	-0.34	1992.32	2144.94	1.11	1.39	501.93	1.00

Table E4: PMW-8 Water Quality and Environmental Monitoring Data

Northern Treatment System
Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Date and Time	Pressure (psi)	Temperature (°C)	Depth (ft)	Actual Conductivity (µS/cm)	Specific Conductivity (µS/cm)	Salinity (PSU)	Total Dissolved Solids (ppt)	Resistivity (ohm-cm)	Density (g/cm³)
7/30/25 7:15	-0.15	21.28	-0.34	1992.40	2145.00	1.11	1.39	501.91	1.00
7/30/25 8:15	-0.15	21.28	-0.34	1992.50	2145.11	1.11	1.39	501.88	1.00
7/30/25 9:15	-0.14	21.28	-0.33	1992.31	2144.91	1.11	1.39	501.93	1.00
7/30/25 10:15	-0.14	21.28	-0.32	1992.24	2144.84	1.11	1.39	501.95	1.00
7/30/25 11:15	-0.14	21.28	-0.31	1991.98	2144.52	1.11	1.39	502.01	1.00
7/30/25 12:15	-0.14	21.28	-0.32	1992.21	2144.75	1.11	1.39	501.96	1.00
7/30/25 13:15	-0.13	21.28	-0.31	1992.55	2145.15	1.11	1.39	501.87	1.00
7/30/25 14:15	-0.14	21.28	-0.33	1992.25	2144.80	1.11	1.39	501.94	1.00
7/30/25 15:15	-0.14	21.28	-0.32	1992.51	2145.09	1.11	1.39	501.88	1.00
7/30/25 16:15	-0.14	21.28	-0.32	1992.41	2145.02	1.11	1.39	501.90	1.00
7/30/25 17:15	-0.14	21.28	-0.33	1992.35	2144.94	1.11	1.39	501.92	1.00
7/30/25 18:15	-0.14	21.28	-0.32	1992.01	2144.59	1.11	1.39	502.00	1.00
7/30/25 19:15	-0.14	21.28	-0.32	1992.08	2144.65	1.11	1.39	501.99	1.00
7/30/25 20:15	-0.14	21.28	-0.33	1992.37	2144.97	1.11	1.39	501.92	1.00
7/30/25 21:15	-0.14	21.28	-0.32	1992.33	2144.93	1.11	1.39	501.92	1.00
7/30/25 22:15	-0.14	21.28	-0.32	1992.43	2145.03	1.11	1.39	501.90	1.00
7/30/25 23:15	-0.14	21.28	-0.32	1992.15	2144.72	1.11	1.39	501.97	1.00
7/31/25 0:15	-0.13	21.27	-0.31	1991.98	2144.59	1.11	1.39	502.01	1.00
7/31/25 1:15	-0.13	21.28	-0.31	1992.16	2144.72	1.11	1.39	501.97	1.00
7/31/25 2:15	-0.14	21.27	-0.32	1992.31	2144.92	1.11	1.39	501.93	1.00
7/31/25 3:15	-0.14	21.28	-0.32	1992.40	2145.00	1.11	1.39	501.91	1.00
7/31/25 4:15	-0.14	21.27	-0.32	1992.30	2144.91	1.11	1.39	501.93	1.00
7/31/25 5:15	-0.14	21.27	-0.32	1992.18	2144.82	1.11	1.39	501.96	1.00
7/31/25 6:15	-0.14	21.27	-0.32	1992.25	2144.87	1.11	1.39	501.95	1.00
7/31/25 7:15	-0.14	21.28	-0.31	1992.29	2144.87	1.11	1.39	501.94	1.00
7/31/25 8:15	-0.13	21.27	-0.31	1992.49	2145.12	1.11	1.39	501.88	1.00
7/31/25 9:15	-0.14	21.28	-0.33	1992.30	2144.90	1.11	1.39	501.93	1.00
7/31/25 10:15	-0.14	21.27	-0.32	1992.24	2144.85	1.11	1.39	501.95	1.00
7/31/25 11:15	-0.14	21.27	-0.32	1992.23	2144.86	1.11	1.39	501.95	1.00
7/31/25 12:15	-0.13	21.27	-0.30	1992.15	2144.76	1.11	1.39	501.97	1.00
7/31/25 13:15	-0.14	21.28	-0.31	1992.22	2144.81	1.11	1.39	501.95	1.00
7/31/25 14:15	-0.13	21.28	-0.30	1992.20	2144.77	1.11	1.39	501.96	1.00
7/31/25 15:15	-0.13	21.28	-0.29	1992.28	2144.87	1.11	1.39	501.94	1.00
7/31/25 16:15	-0.13	21.27	-0.30	1992.52	2145.14	1.11	1.39	501.88	1.00
7/31/25 17:15	-0.13	21.28	-0.29	1992.55	2145.16	1.11	1.39	501.87	1.00
7/31/25 18:15	-0.13	21.28	-0.31	1992.53	2145.14	1.11	1.39	501.87	1.00
7/31/25 19:15	-0.13	21.27	-0.30	1992.39	2145.02	1.11	1.39	501.91	1.00
7/31/25 20:15	-0.13	21.28	-0.30	1992.37	2144.97	1.11	1.39	501.91	1.00
7/31/25 21:15	-0.13	21.27	-0.30	1992.47	2145.08	1.11	1.39	501.89	1.00
7/31/25 22:15	-0.13	21.28	-0.30	1992.56	2145.17	1.11	1.39	501.87	1.00
7/31/25 23:15	-0.13	21.27	-0.30	1992.68	2145.32	1.11	1.39	501.84	1.00

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Attachment E List of Acronyms

Groundwater Reinjection Pilot Test - Status Report IV
HF Sinclair Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

°C - degrees Celsius
ft - feet
g/cm^3 - grams per cubic centimeter
ohm-cm - ohm-centimeters
ppt - parts per trillion
psi - pounds per square inch
PSU - practical salinity units
µS/cm - microsiemens per centimeter

Attachment F: System Operation Summary Data

Attachment F

Table F1 - Southern System Operation Summary Data

HFSNR Groundwater Reinjection Pilot Test

Date	Cumulative Weight Injected (lbs)	Cumulative Volume Injected (gal)	Cumulative PSH Removal (gal)
5/7/2024	0	0	0
5/9/2024	0	0	0
6/11/2024	0	0	0
6/12/2024	0	0	0
6/14/2024	0	0	0
6/19/2024	0	5142	0
6/27/2024	0	5142	0
7/1/2024	0	5142	0
7/17/2024	0	5142	0
8/9/2024	0	5142	12
8/14/2024	284	5490	12
8/16/2024	284	5490	12
8/19/2024	284	5490	12
8/21/2024	284	5490	12
8/22/2024	284	5490	12
8/23/2024	355	10436	12
8/26/2024	426	13920	12
8/27/2024	426	14650	27
8/28/2024	426	15620	27
8/29/2024	426	16570	27
8/30/2024	426	17380	27
9/3/2024	426	19356	27
9/4/2024	426	19356	277
9/10/2024	426	20767	277
9/18/2024	426	27201	277
9/19/2024	426	27984	277
9/20/2024	436	28869	277
9/23/2024	479	31643	350
9/24/2024	500	32615	350
9/25/2024	522	33560	350
9/26/2024	532	34348	350
9/27/2024	554	35155	350
10/3/2024	607	40035	350
10/4/2024	617	40773	385
10/7/2024	649	43328	385
10/8/2024	660	44075	385
10/16/2024	660	44075	426
10/17/2024	710	51640	426
10/23/2024	866	53835	457
10/31/2024	876	57039	457
11/7/2024	876	57124	489
11/12/2024	1004	62040	489
11/14/2024	1078	63973	489
11/15/2024	1078	63973	489
11/19/2024	1150	63973	489
11/27/2024	1150	63973	489
12/10/2024	1237	64400	489
12/18/2024	1237	64541	489
12/26/2024	1237	64541	489
12/30/2024	1237	64541	489
1/7/2025	1237	64541	489
1/15/2025	1237	64541	489
1/22/2025	1237	64541	489
1/30/2025	1237	64542	489
1/31/2025	1237	64542	489
2/4/2025	1237	64542	489
2/5/2025	1237	64542	489
2/10/2025	1237	64542	489
2/11/2025	1237	64542	489
1/0/1900	1237	64542	489
2/13/2025	1237	65607	784
2/18/2025	1237	65925	784
2/20/2025	1237	65925	784
2/24/2025	1237	65984	884
3/5/2025	1279	66079	884
3/10/2025	1321	66090	884
3/18/2025	1321	66090	943
3/26/2025	1321	66094	943
4/1/2025	1362	66119	1030

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Attachment F
Table F1 - Southern System Operation Summary Data
HFSNR Groundwater Reinjection Pilot Test

Date	Cumulative Weight Injected (lbs)	Cumulative Volume Injected (gal)	Cumulative PSH Removal (gal)
4/9/2025	1404	68436	1078
4/14/2025	1404	68436	1078
4/15/2025	1404	68436	1078
4/16/2025	1404	68436	1078
4/23/2025	1404	68436	1078
4/30/2025	1404	68436	1078
5/7/2025	1404	68436	1078
5/8/2025	1404	68436	1078
5/15/2025	1404	68436	1078
5/22/2025	1404	68436	1078
5/29/2025	1404	68436	1078
6/3/2025	1404	68436	1078
6/9/2025	1404	68436	1078
6/16/2025	1404	68436	1078
6/23/2025	1404	68436	1078
6/30/2025	1404	68436	1078
7/7/2025	1404	68436	1078
7/14/2025	1404	68436	1078
7/22/2025	1488	68630	1158
7/28/2025	1571	78278	1158

Attachment F

Table F2 - Northern System Operation Summary Data

HFSNR Groundwater Reinjection Pilot Test

Date	Cumulative Weight Injected (lbs)	Cumulative Volume Injected (gal)	Cumulative PSH Removal (gal)
5/7/2024	0	0	0
5/9/2024	0	0	0
5/13/2024	0	0	0
6/3/2024	0	0	0
6/11/2024	0	0	0
6/12/2024	0	0	0
6/14/2024	0	0	0
6/19/2024	0	0	0
6/20/2024	67	0	0
6/21/2024	67	0	0
6/24/2024	2400	5461	0
6/25/2024	2533	8854	0
6/27/2024	2533	9795	0
7/1/2024	2533	9918	0
7/2/2024	2533	10409	0
7/3/2024	2533	14085	0
7/6/2024	2533	14085	0
7/9/2024	2533	14085	0
7/18/2024	4800	14086	0
1/0/1900	4800	14086	0
8/9/2024	4800	14086	188
8/13/2024	4800	14086	188
8/14/2024	4800	23774	188
8/19/2024	4800	23774	370
8/23/2024	5303	34385	370
8/26/2024	5403	37023	370
8/27/2024	5403	37023	370
9/3/2024	5504	68243	370
9/4/2024	5504	68243	600
9/10/2024	5504	79676	600
9/18/2024	5504	95087	600
9/19/2024	5504	95699	600
9/20/2024	5519	96182	600
9/23/2024	5534	98126	600
9/24/2024	5534	98696	600
9/25/2024	5554	100081	600
9/26/2024	5604	100519	600
9/27/2024	5705	100885	600
10/3/2024	6157	103245	630
10/4/2024	6308	103605	714
10/7/2024	6590	104774	714
10/8/2024	6610	105650	714
10/16/2024	6610	105650	849
10/17/2024	7515	109315	849
10/23/2024	7783	110765	849
10/31/2024	8589	114295	849
11/7/2024	9396	114986	1001
11/12/2024	10202	115111	1001
11/14/2024	10202	115262	1001
11/15/2024	10202	115262	1001
11/19/2024	10202	115262	1001
11/2/2024	10202	115262	1001
11/27/2024	10550	116733	1001
12/5/2024	11015	116950	1001
12/10/2024	11247	135956	1177
12/17/2024	11247	135956	1177
12/18/2024	11596	139594	1177
12/26/2024	12119	147048	1177
12/30/2024	12293	147048	1177
1/7/2025	12699	153047	1427
1/15/2025	13106	155056	1427
1/21/2025	13454	165427	1427
1/22/2025	13454	165507	1427
1/23/2025	13454	165507	1668
1/29/2025	13454	176010	1668
1/31/2025	13454	176010	1668
2/6/2025	13970	184446	1918
2/10/2025	13970	184446	1918
2/14/2025	14228	188860	1918

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Attachment F
Table F2 - Northern System Operation Summary Data
HFSNR Groundwater Reinjection Pilot Test

Date	Cumulative Weight Injected (lbs)	Cumulative Volume Injected (gal)	Cumulative PSH Removal (gal)
2/19/2025	14657	198286	1918
2/20/2025	14657	198286	1918
2/25/2025	14829	234803	2115
3/6/2025	14915	237723	2115
3/11/2025	15258	257468	2365
3/19/2025	15859	280368	2615
3/27/2025	16375	373696	2865
4/2/2025	16718	379922	3049
4/10/2025	16718	386296	3304
4/15/2025	16718	386296	3304
4/16/2025	16718	391521	3444
4/24/2025	16718	393038	3694
4/30/2025	16718	398353	3944
5/7/2025	17052	404554	4194
5/8/2025	17052	405440	4194
5/12/2025	17302	408983	4434
5/13/2025	17302	409869	4434
5/22/2025	18135	417841	4434
5/29/2025	18552	424042	4491
6/3/2025	18885	428471	4711
6/9/2025	19302	433786	4936
6/16/2025	19802	439987	5161
6/23/2025	20302	446188	5381
6/30/2025	20718	452389	5616
7/7/2025	21218	458590	5846
7/14/2025	21718	464791	6051
7/22/2025	22218	471877	6291
7/29/2025	22373	478078	6431

Note: From 4/24/25 to 7/29/25, total volume injected was estimated due to totalizer failure

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Attachment F Acronyms
HFSNR Groundwater Reinjection Pilot Test

gal - gallons
lbs - pounds
PSH - phase-separated hydrocarbon

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: HF Sinclair Navajo Refining LLC ATTN: GENERAL COUNSEL Dallas, TX 75201	OGRID: 15694
	Action Number: 538970
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	None	1/8/2026