August 12, 2024

Mr. Carl Chavez, CHMM
New Mexico Oil Conservation Division (Albuquerque Office)
Energy, Minerals and Natural Resources Department
5200 Oakland Avenue, NE
Albuquerque, NM 87113

RE: FFY 2024 3rd Quarter Injection Report for HF Sinclair Navajo Refining LLC UIC Wells WDW-1, WDW-2, WDW-3 and WDW-4

Dear Mr. Chavez,

Enclosed, please find the federal fiscal year 2024 (FFY 2024) third quarter (Q3) report for HF Sinclair Navajo Refining LLC (HFSNR) fluids injected into WDW-1, WDW-2, WDW-3 and WDW-4. This report has been prepared in accordance with Class I Non-Hazardous Waste Injection Well Discharge Permit UICI-8 (approved December 2017) and covers data collection efforts from April 1, 2024 through June 30, 2024. Condition 2.I of the permit requires reporting of the following four items:

Item #1: Physical, chemical and other relevant characteristics of injected fluids (per Condition 2.A)

One sampling event occurred during FFY 2024 Q3 on June 24, 2024. Table 1 presents results for this event; the corresponding lab report is given in Attachment A. For parameters identified as toxic contaminants in 40 CFR 261.24(b) (EPA Hazardous waste No. D004 through D043), all results were less than the Toxicity Characteristic Leaching Procedure (TCLP) regulatory level and do not exhibit the characteristic of toxicity. TCLP parameters were analyzed as total fractions; results were less than the corresponding reporting level (RL).

Item #2: Monthly average, maximum and minimum values for injection pressure, flow rate, injected volume, and annular pressure (per Condition 3.C)

A summary of monthly injection pressure, flow rate, injected volume, and annular pressure for FFY 2024 Q3 is given in Table 2. Statistics for injection pressure, flow rate and annular pressure for each month were calculated from continuous monitoring recorded on an hourly basis. For example, a month containing 31 days would have a total of 744 hourly data results, assuming no issues with signal communication. For injection flowrate, hourly readings reported as 0 gpm were deleted from the database (representative of either a signal communication issue or a well down for maintenance, testing, etc.). Totalized volume is not recorded hourly, therefore the monthly injected volume was calculated as the average monthly flow rate multiplied by the number of days in the corresponding month.

HFSNR disposed a total of 1,889,073 barrels of fluid into the four wells during FFY 2024 Q3. The total Q3 volume per well was:

- 521,625 barrels into WDW-1: 30-015-27592
- 62,492 barrels into WDW-2: 30-015-20894
- 375,981 barrels into WDW-3: 30-015-26575
- 928,975 barrels into WDW-4: 30-015-44677

In terms of Discharge Permit UICI-8 compliance, the hourly maximum injection pressures (occurring during FFY 2024 Q3) were within limits given in Condition 3.B as follows:

- WDW-1: max = 1,408 psi (limit = 1,585 psi)
- WDW-2: max = 1,400 psi (limit = 1,514 psi)
- WDW-3: max = 1,358 psi (limit = 1,530 psi)
- WDW-4: max = 494 psi (limit = 2,080 psi)

There were no significant losses as measured from the glycol expansion tanks Well Annulus Monitoring System (WAMS).

Item #3: Groundwater monitoring well Information from Condition 2.B

Discharge Permit UICI-8 Condition 2.B requires the installation of at least one downgradient monitoring well in the proximity of each injection well (WDW-1, 2, 3, and 4). Installation activities for monitoring wells at WDW-2, WDW-3, and WDW-4 were performed but no significant groundwater was encountered and the boreholes were plugged in accordance with the approved Work Plan. The final Hydrogeologic Investigation Report for activities at these three wells was submitted to NM OCD on April 16, 2024 and was approved by the agency on May 31, 2024. Discussions are on-going for access to WDW-1 with ConocoPhillips. Well installation (i.e., borehole depth to groundwater and water quality) at WDW-1 was evaluated by OCD and HFSNR as documented in May and June 2024 email correspondence. After access authorization and installation completion, future quarterly reports will include the required WDW-1 monitoring well data which will also be representative of WDW-2, WDW-3, and WDW-4.

Item #4: Continuous monitoring charts and information from Permit Condition 3.C

Discharge Permit UICI-8 Condition 3.C requires the use of a continuous monitoring device to measure and record hourly values of injection pressure, injection rate, totalized injection volume, and annular pressure. HFSNR uses a digital recording device that can log the results of the above parameters at a user defined-frequency (i.e., can be greater or less than a one-hour interval). This recording/logging system is known as the "PI Historian" system and does not use any pen/chart apparatus described in Condition 3.C. The logged hourly data have been processed graphically and are given for each well in Figures 1 to 3 (April 2024), Figures 4 to 6 (May 2024), and Figures 7 to 9 (June 2024). As mentioned in Item #2 above, "gaps" in charted data reflect periods where signal communication issues occurred or when hourly injection flow was reported as 0 gpm. Archived spreadsheets of the FFY 2024 Q3 data used to generate the graphs are available upon request.

Conclusions and Recommendations

From the observations presented in the Items #1, #2, #3, and #4 above, HFSNR concludes that the injection of fluids (i.e., treated wastewater) into UIC Wells WDW-1, WDW-2, WDW-3, and WDW-4 during FFY 2024 Q3 was in compliance with the requirements and limitations given in Discharge Permit UICI-8. Specifically, the injection concentrations did not exhibit toxicity as regulated in Discharge Permit Condition 2.A (per reference of 40 CFR 261.24(b)). Further, injection pressures did not exceed limitations given in Discharge Permit Condition 3.B for each well.

Other UIC Activities During FFY 2024 Q3 (April 1, 2024 – June 30, 2024):

1. In regard to the Groundwater Monitoring Wells per UICI-8 Discharge Permit Condition 2.B:
    a. WDW-1: Negotiation of access agreements with ConocoPhillips continued.
    b. WDW-1: Well installation (i.e., borehole depth to groundwater and water quality) at WDW-1 was evaluated by OCD and HFSNR as documented in May and June 2024 email correspondence.
    c. WDW-2, WDW-3, and WDW-4: The final Hydrogeologic Investigation Report for activities at these three wells was submitted to NM OCD on April 16, 2024 and was approved by the agency on May 31, 2024.

2. In regard to Mechanical Integrity Testing (MIT), Fall Off Testing (FOT), and Remedial Work for the injection wells:
    a. HFSNR performed MIT/FOT tests on May 12 to 16, 2024 at WDW-1. The final report for WDW-1 was uploaded to the OCD website on June 17, 2024 under Action ID# 354779.

Planned UIC Activities for FFY 2024 Q4 (July 1, 2024 – September 30, 2024):

1. Obtain access agreement from ConocoPhillips for the installation of an OCD-approved groundwater monitoring well at WDW-1. Conduct surveys for the WDW-4 ground surface elevation and the WDW-1 pad and easements for the ConocoPhillips agreement. Pursue subsequent OSE monitor well permit and plan schedule for contracted driller mobilization.

2. WDW-2, WDW-3, and WDW-4 well stimulations are being considered for Q4 of FFY 2024. Whether or not stimulations are warranted will be determined based on the results of 2024 reservoir testing.

3. WDW-3 MIT/FOT testing was conducted July 9 to 11, 2024 (Action ID# 353294)

4. WDW-2 and WDW-4 MIT/FOT tests are scheduled during August 20 to 22 (Action ID# 353292) and September 3 to 6, 2024 (Action ID# 353296), respectively.

This report is signed and certified in accordance with NMAC Section 20.6.2.5101.G. If there are any questions or comments, please contact Teresa Alba at 575-746-5391.

Respectfully,

Case Hinkins
Environmental Manager
HF Sinclair Navajo Refining LLC

TABLE 1. FFY 2024 Q3 CONCENTRATIONS OF WASTEWATER INJECTED INTO WELLS WDW-1, WDW-2, WDW-3, AND WDW-4
"<" = value less than the laboratory reporting level (RL)

Parameter	Units	UICI-8 Condition 2.A Regulatory Level	6/24/2024 Concentration
Alkalinity, bicarbonate	mg/L	--	310.0
Alkalinity, carbonate	mg/L	--	<2.0
Alkalinity, total	mg/L	--	310.0
Conductivity	uS/cm	--	6400
Cyanide (Reactivity)	mg/L	--	<0.25
Flashpoint (Ignitability)	deg F	--	>200
Oxidation Reduction Potential	mV	--	19 (b)
pH (Corrosivity)	su	--	7.5
Specific Gravity	su	--	1.0053
Sulfide (Reactivity)	mg/L	--	<150
Total Dissolved Solids	mg/L	--	4700
Total Suspended Solids	mg/L	--	300
Bromide	mg/L	--	<0.5
Chloride	mg/L	--	700
Fluoride	mg/L	--	48
Nitrate	mg/L	--	--
Nitrate + Nitrite	mg/L	--	<1.0
Nitrite	mg/L	--	--
Phosphorus, Ortho PO4	mg/L	--	<2.5
Sulfate	mg/L	--	2400
Calcium	mg/L	--	550
Magnesium	mg/L	--	160
Potassium	mg/L	--	150
Sodium	mg/L	--	740
Arsenic	mg/L	TCLP=5	<5
Barium	mg/L	TCLP=100	<100
Cadmium	mg/L	TCLP=1	<1
Chromium	mg/L	TCLP=5	<5
Lead	mg/L	TCLP=5	<5
Mercury	mg/L	TCLP=0.2	<0.02
Selenium	mg/L	TCLP=1	<1
Silver	mg/L	TCLP=5	<5
Chlordane	mg/L	TCLP=0.03	<0.03
1,1-Dichloroethene	mg/L	TCLP=0.7	<0.7
1,2-Dichloroethane	mg/L	TCLP=0.5	<0.5
1,4-Dichlorobenzene	mg/L	TCLP=7.5	<7.5
2,4,5-Trichlorophenol	mg/L	TCLP=400	<400
2,4,6-Trichlorophenol	mg/L	TCLP=2	<2
2,4-Dinitrotoluene	mg/L	TCLP=0.13	ND (a)
2-Butanone	mg/L	TCLP=200	<200
2-Methylphenol	mg/L	TCLP=200	<200
3+4-Methylphenol	mg/L	TCLP=200	<200
Benzene	mg/L	TCLP=0.5	<0.5
Carbon tetrachloride	mg/L	TCLP=0.5	<0.5
Chlorobenzene	mg/L	TCLP=100	<100
Chloroform	mg/L	TCLP=6	<6
Cresols	mg/L	TCLP=200	<200
Hexachlorobenzene	mg/L	TCLP=0.13	ND (a)
Hexachlorobutadiene	mg/L	TCLP=0.5	ND (a)
Hexachloroethane	mg/L	TCLP=3	<3
Nitrobenzene	mg/L	TCLP=2	<2
Pentachlorophenol	mg/L	TCLP=100	<100
Pyridine	mg/L	TCLP=5	<5
Tetrachloroethene	mg/L	TCLP=0.7	<0.7
Trichloroethene	mg/L	TCLP=0.5	<0.5
Vinyl chloride	mg/L	TCLP=0.2	<0.2

TCLP = Toxicity Characteristic Leaching Procedure with regulatory level given in 40 CFR 261.24(b)
(a) = parameter not detected, however lab error (overdiluted 8270 parameters) caused RL > TCLP
(b) = beginning FFY2024 Q3, ORP measured in the field with HFSNR instrumentation

TABLE 2. FFY 2024 THIRD QUARTER MONTHLY INJECTION PRESSURE, FLOW RATE, ANNULAR PRESSURE, AND VOLUME

Based on continuous monitors that record pressure and flow rate data on an hourly basis (per UICI-8 Condition 3.C)

Month	Injection Pressure			Injection Flowrate			Annular Pressure			Totalized Injected Volume	
	Average (psi)	Maximum (psi)	Minimum (psi)	Average (gpm)	Maximum (gpm)	Minimum (gpm)	Average (psi)	Maximum (psi)	Minimum (psi)	Monthly (barrels)	Cumulative (barrels)
30-015-27592 WDW-1											51,574,207
Apr-24	1,269	1,408	963	203	648	0.4	495	744	289	208,289	51,782,496
May-24	1,215	1,407	952	145	634	0.1	534	903	1	154,310	51,936,806
Jun-24	1,218	1,377	939	155	653	0.5	628	800	196	159,026	52,095,832
30-015-20894 WDW-2											31,972,097
Apr-24	1,187	1,350	958	25	70	1.2	1,130	1,511	327	25,993	31,998,090
May-24	1,213	1,375	953	19	230	0.003	600	1,237	256	20,114	32,018,204
Jun-24	1,214	1,400	670	16	48	0.0001	672	810	96	16,386	32,034,589
30-015-26575 WDW-3											24,773,724
Apr-24	1,232	1,348	972	118	138	78	764	920	572	121,261	24,894,986
May-24	1,247	1,358	968	122	141	81	719	999	515	129,433	25,024,418
Jun-24	1,225	1,324	1,046	122	140	89	724	860	563	125,287	25,149,705
30-015-44677 WDW-4											14,373,345
Apr-24	350	426	217	290	355	23	261	412	74	298,091	14,671,436
May-24	379	494	330	307	413	248	318	470	146	326,003	14,997,439
Jun-24	363	417	276	296	365	161	305	416	165	304,881	15,302,320

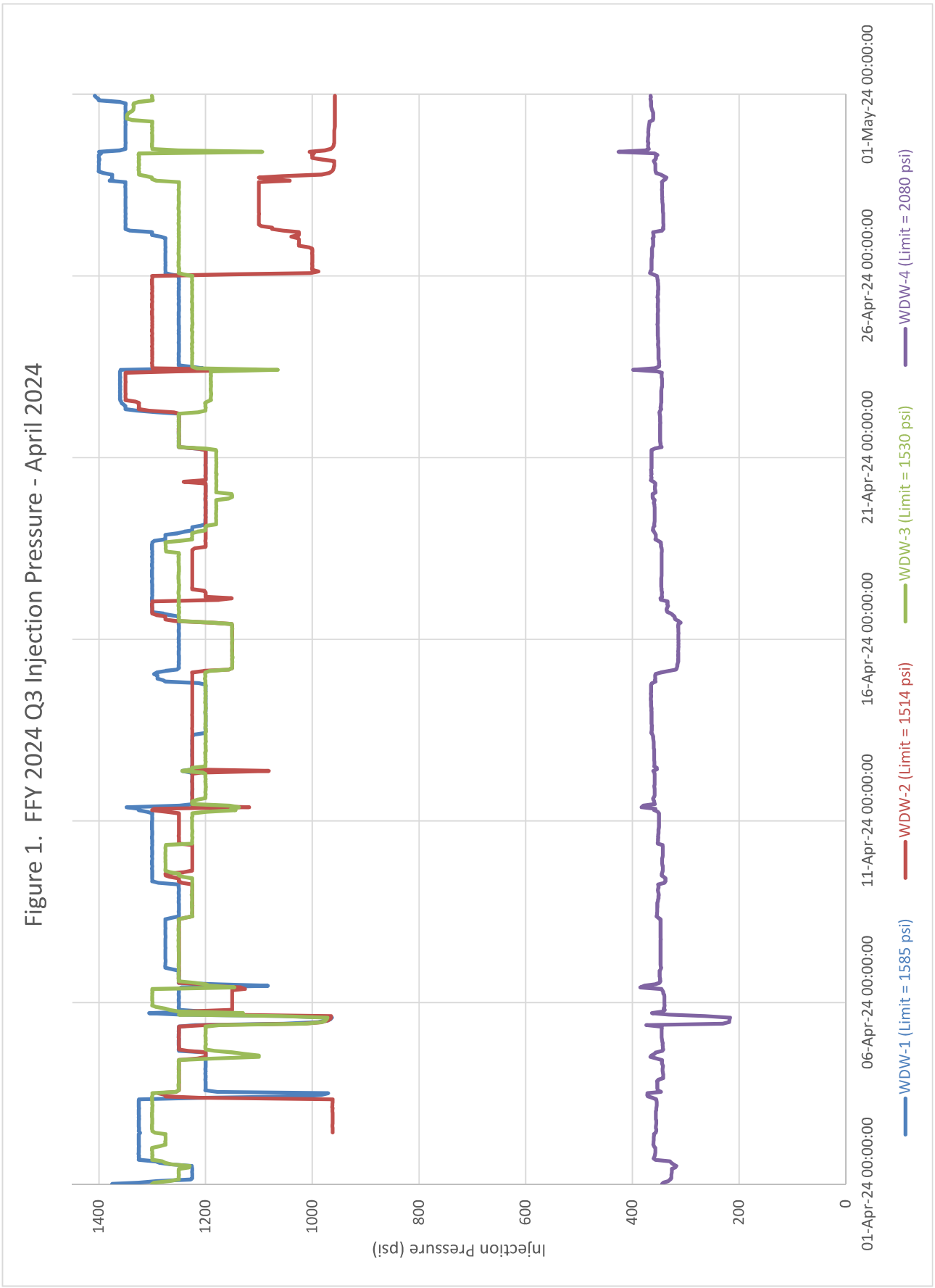
Figure 1. FFY 2024 Q3 Injection Pressure - April 2024
Injection Pressure (psi)
1400
1200
1000
800
600
400
200
0
01-Apr-24 00:00:00
06-Apr-24 00:00:00
11-Apr-24 00:00:00
16-Apr-24 00:00:00
21-Apr-24 00:00:00
26-Apr-24 00:00:00
01-May-24 00:00:00
WDW-1 (Limit = 1585 psi)
WDW-2 (Limit = 1514 psi)
WDW-3 (Limit = 1530 psi)
WDW-4 (Limit = 2080 psi)

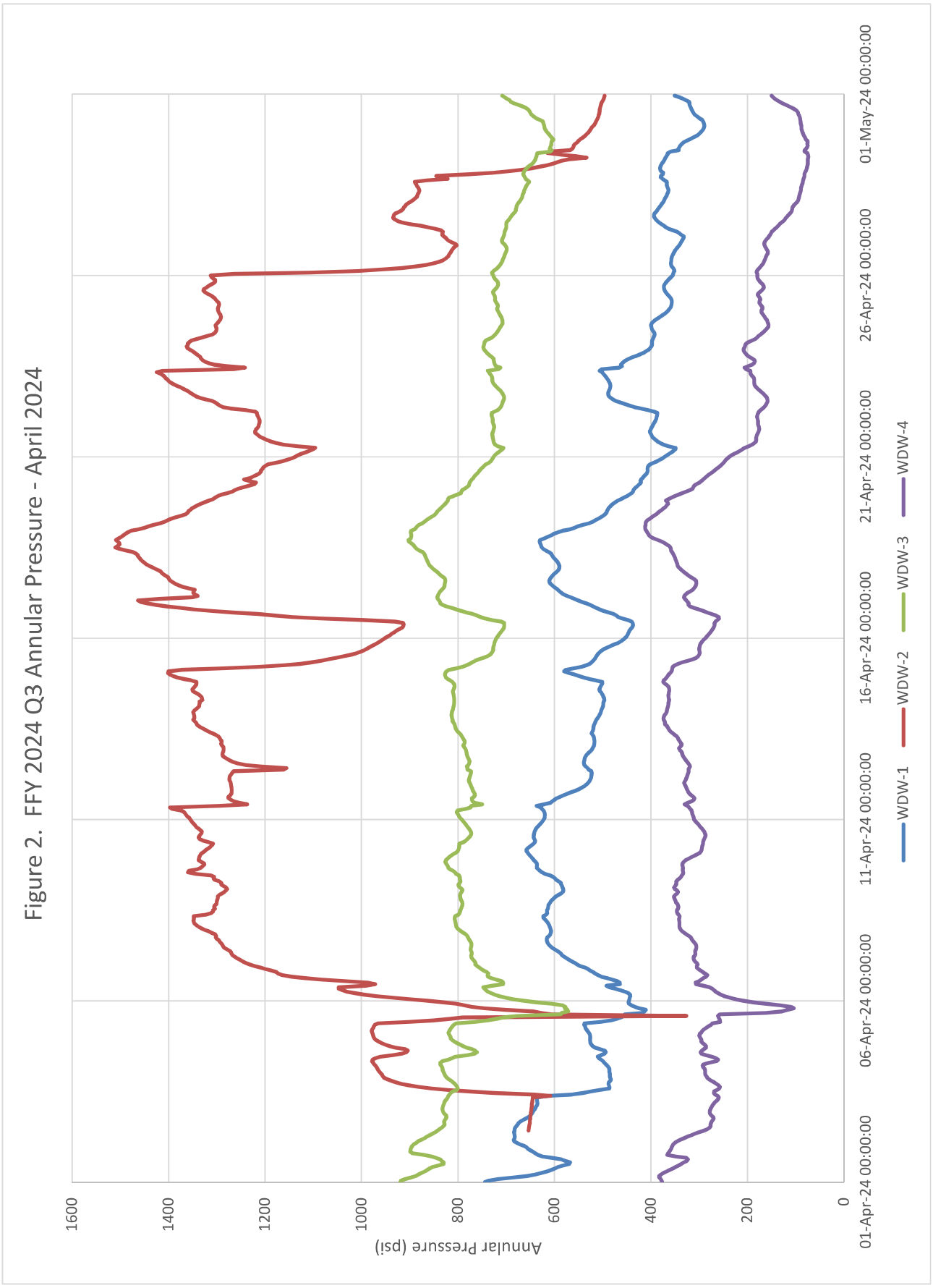
Figure 2. FFY 2024 Q3 Annular Pressure - April 2024
Annular Pressure (psi)
1600
1400
1200
1000
800
600
400
200
0
01-Apr-24 00:00:00
06-Apr-24 00:00:00
11-Apr-24 00:00:00
16-Apr-24 00:00:00
21-Apr-24 00:00:00
26-Apr-24 00:00:00
01-May-24 00:00:00
WDW-1
WDW-2
WDW-3
WDW-4

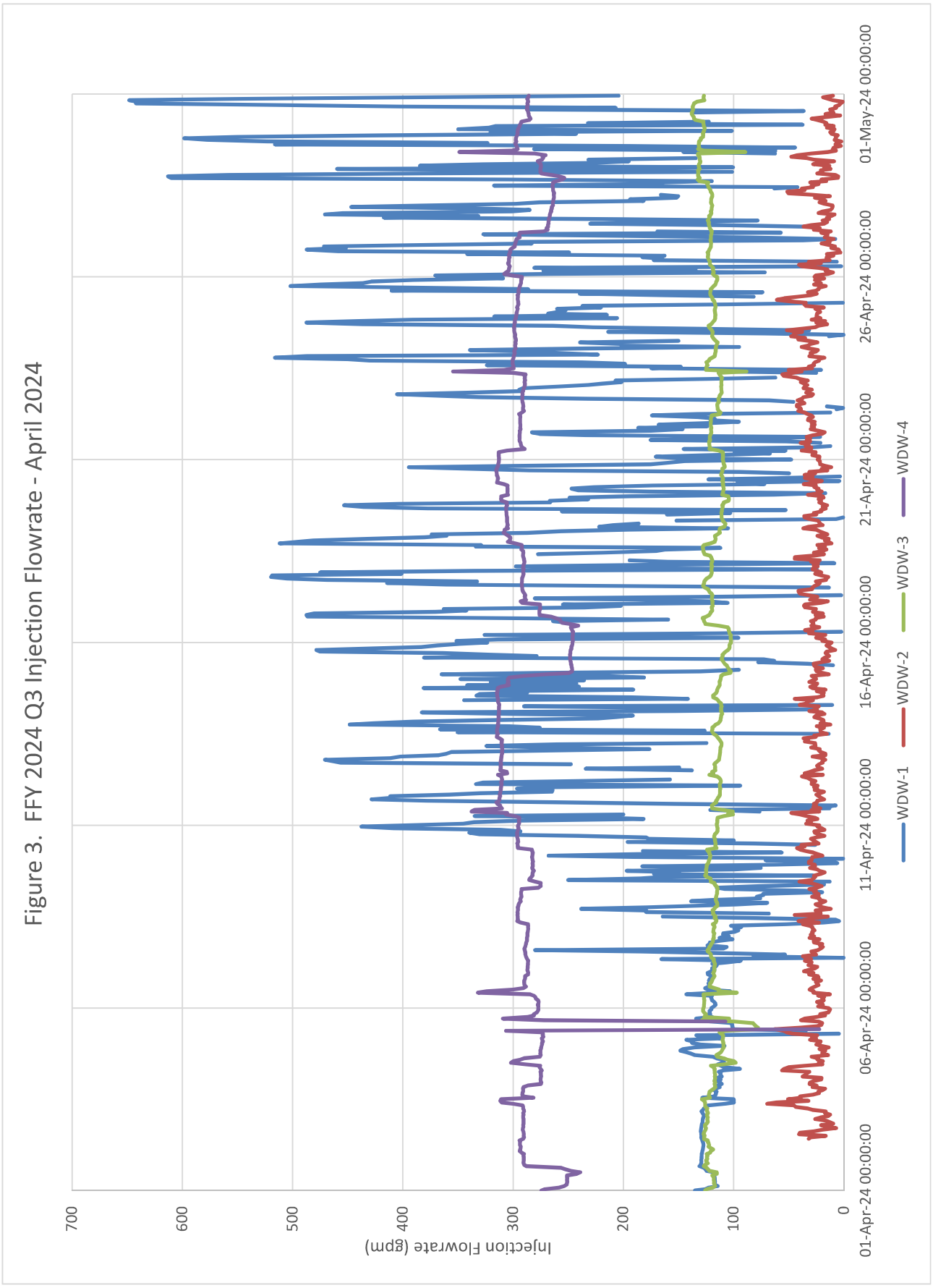
Figure 3. FFY 2024 Q3 Injection Flowrate - April 2024
Injection Flowrate (gpm)
0
100
200
300
400
500
600
700
01-Apr-24 00:00:00
06-Apr-24 00:00:00
11-Apr-24 00:00:00
16-Apr-24 00:00:00
21-Apr-24 00:00:00
26-Apr-24 00:00:00
01-May-24 00:00:00
WDW-1
WDW-2
WDW-3
WDW-4

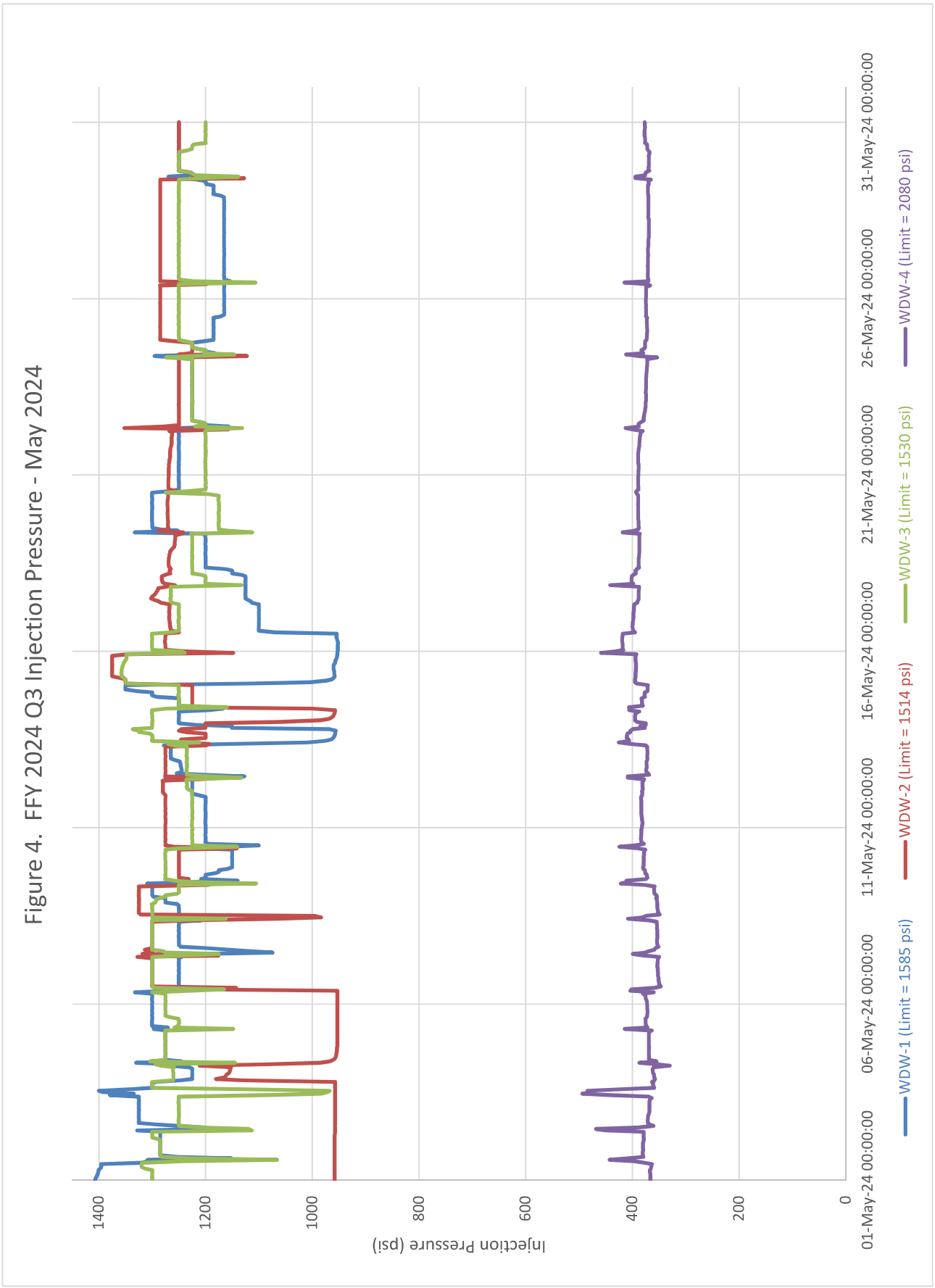
Figure 4. FFY 2024 Q3 Injection Pressure - May 2024
Injection Pressure (psi)
0
200
400
600
800
1000
1200
1400
01-May-24 00:00:00
06-May-24 00:00:00
11-May-24 00:00:00
16-May-24 00:00:00
21-May-24 00:00:00
26-May-24 00:00:00
31-May-24 00:00:00
WDW-1 (Limit = 1585 psi)
WDW-2 (Limit = 1514 psi)
WDW-3 (Limit = 1530 psi)
WDW-4 (Limit = 2080 psi)

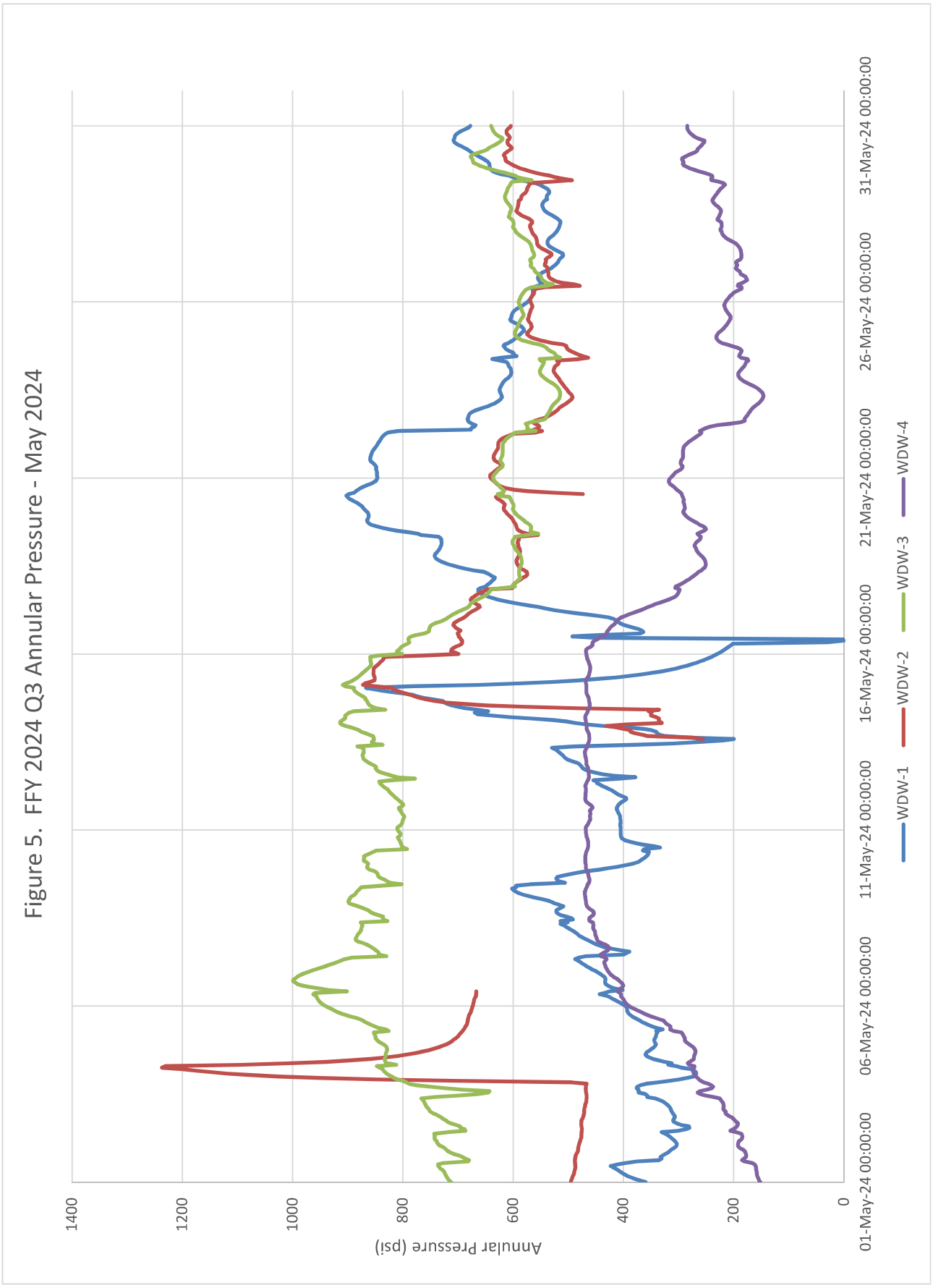
Figure 5. FFY 2024 Q3 Annular Pressure - May 2024
Annular Pressure (psi)
1400
1200
1000
800
600
400
200
0
01-May-24 00:00:00
06-May-24 00:00:00
11-May-24 00:00:00
16-May-24 00:00:00
21-May-24 00:00:00
26-May-24 00:00:00
31-May-24 00:00:00
WDW-1
WDW-2
WDW-3
WDW-4

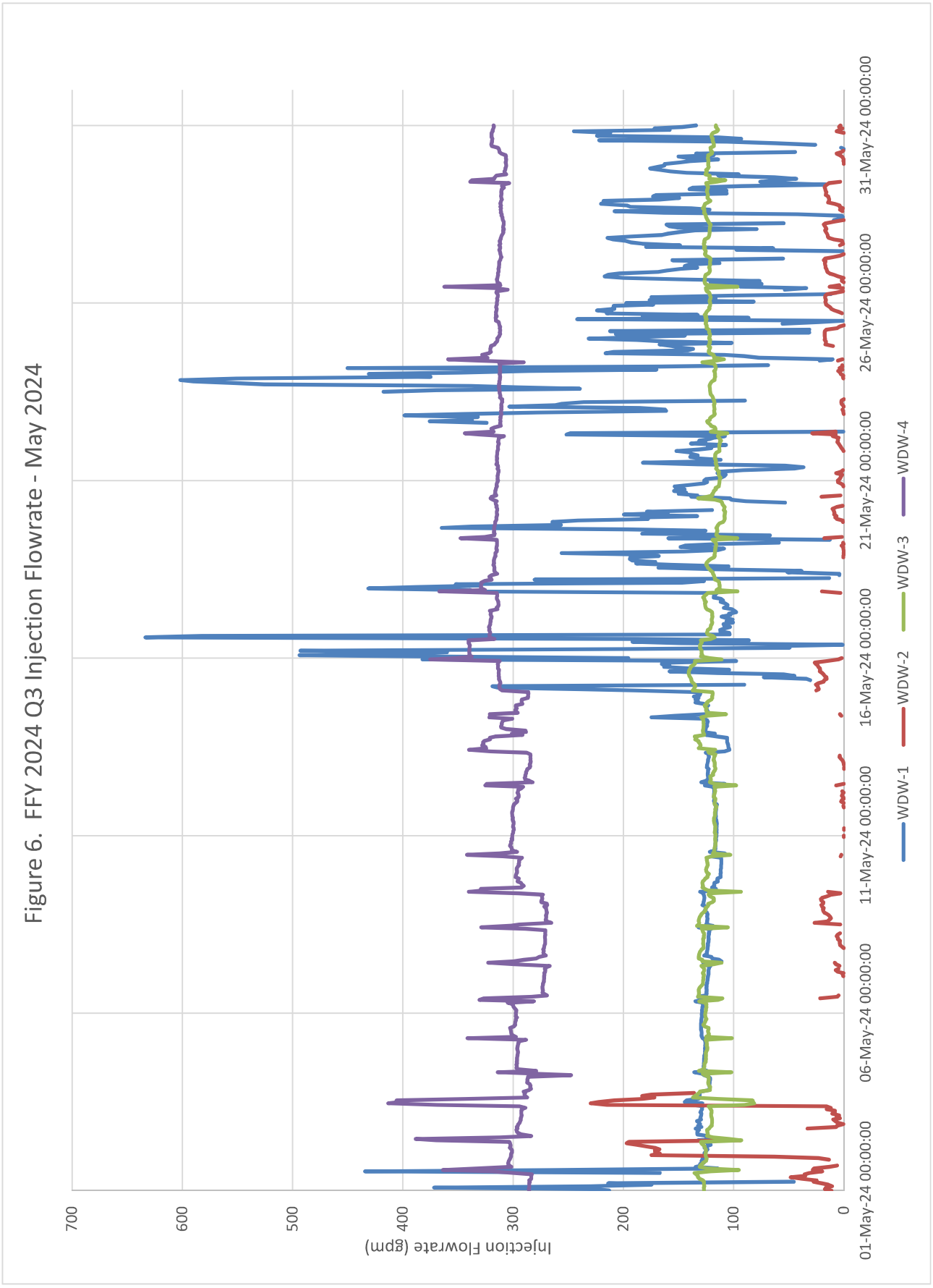
Figure 6. FFY 2024 Q3 Injection Flowrate - May 2024
Injection Flowrate (gpm)
0
100
200
300
400
500
600
700
01-May-24 00:00:00
06-May-24 00:00:00
11-May-24 00:00:00
16-May-24 00:00:00
21-May-24 00:00:00
26-May-24 00:00:00
31-May-24 00:00:00
WDW-1
WDW-2
WDW-3
WDW-4

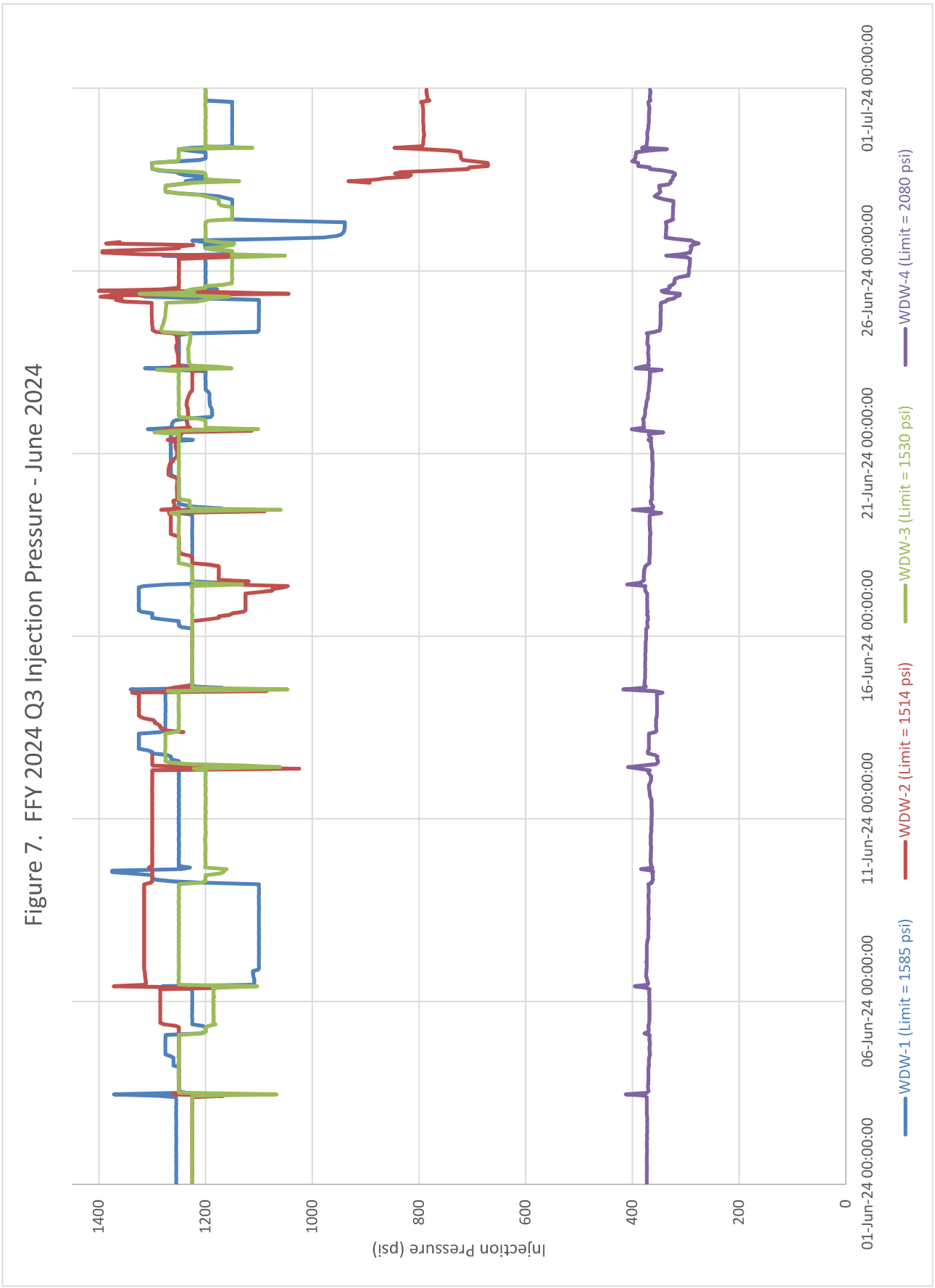
Figure 7. FFY 2024 Q3 Injection Pressure - June 2024
Injection Pressure (psi)
1400
1200
1000
800
600
400
200
0
01-Jun-24 00:00:00
06-Jun-24 00:00:00
11-Jun-24 00:00:00
16-Jun-24 00:00:00
21-Jun-24 00:00:00
26-Jun-24 00:00:00
01-Jul-24 00:00:00
WDW-1 (Limit = 1585 psi)
WDW-2 (Limit = 1514 psi)
WDW-3 (Limit = 1530 psi)
WDW-4 (Limit = 2080 psi)

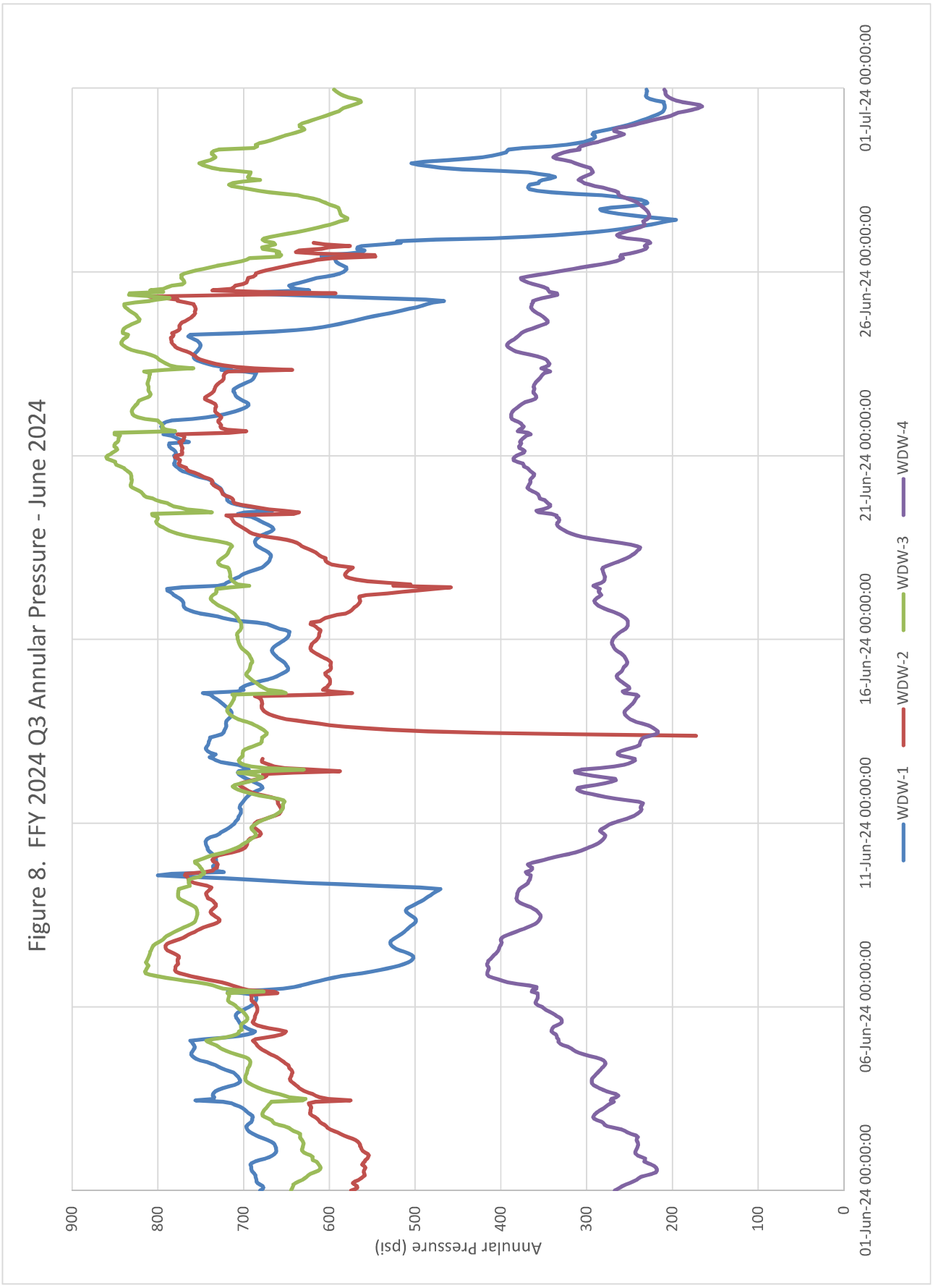
Figure 8. FFY 2024 Q3 Annular Pressure - June 2024
Annular Pressure (psi)
900
800
700
600
500
400
300
200
100
0
01-Jun-24 00:00:00
06-Jun-24 00:00:00
11-Jun-24 00:00:00
16-Jun-24 00:00:00
21-Jun-24 00:00:00
26-Jun-24 00:00:00
01-Jul-24 00:00:00
WDW-1
WDW-2
WDW-3
WDW-4

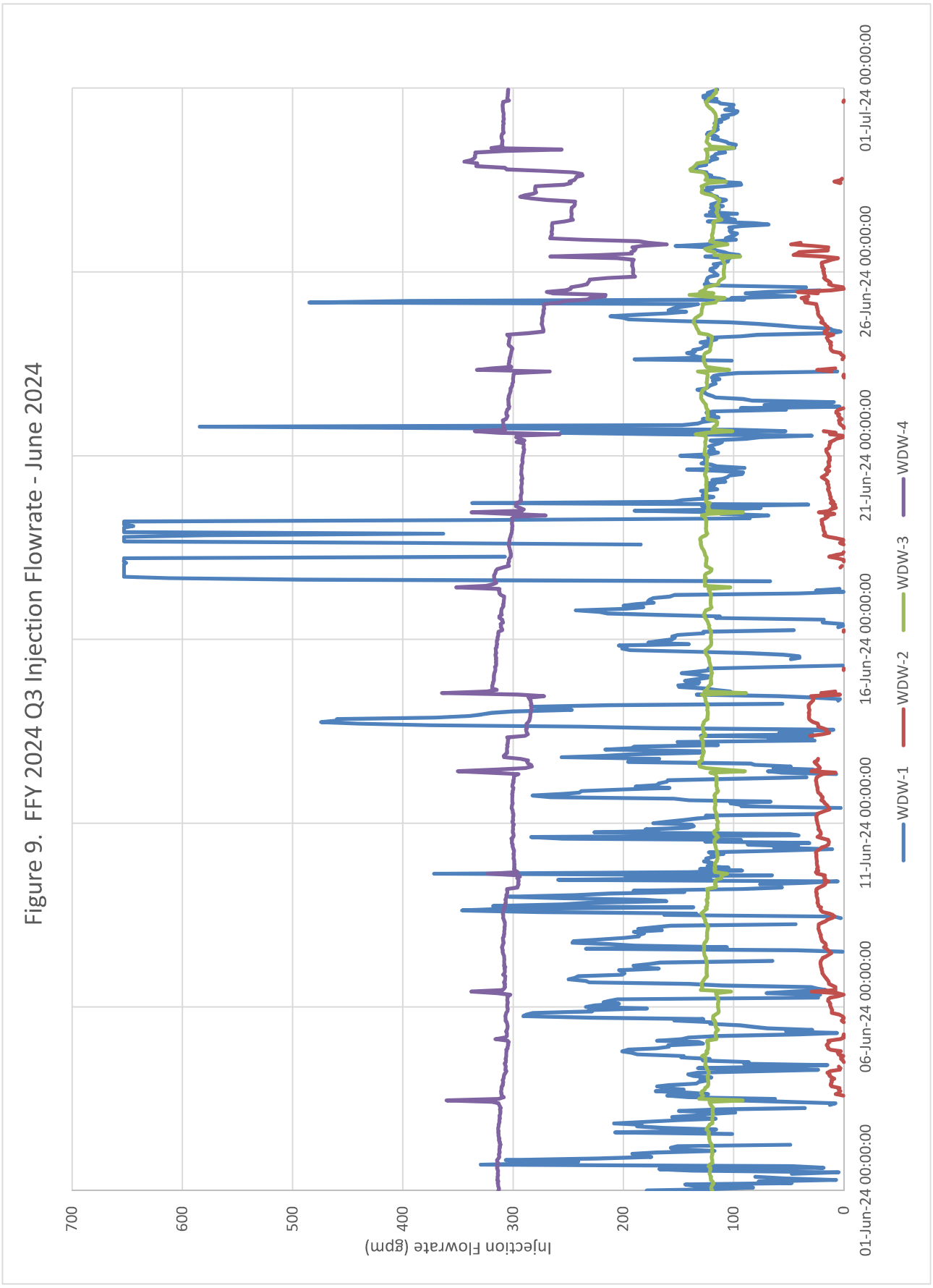
Figure 9. FFY 2024 Q3 Injection Flowrate - June 2024
Injection Flowrate (gpm)
0
100
200
300
400
500
600
700
01-Jun-24 00:00:00
06-Jun-24 00:00:00
11-Jun-24 00:00:00
16-Jun-24 00:00:00
21-Jun-24 00:00:00
26-Jun-24 00:00:00
01-Jul-24 00:00:00
WDW-1
WDW-2
WDW-3
WDW-4

ATTACHMENT A

Analytical Lab Report(s)

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Nat Paengpongsavanh
HF Sinclair Asphalt Navajo Refining LLC
PO BOX 159
Artesia, New Mexico 88211

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JOB DESCRIPTION

Quarterly WDW-1, 2, 3, & 4 Inj Well

JOB NUMBER

885-6904-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

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Revision 2

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Laboratory Job ID: 885-6904-1

Table of Contents

Definitions/Glossary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
S1-	Surrogate recovery exceeds control limits, low biased.

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1 **Eurofins Albuquerque**

Job Narrative
885-6904-1

REVISION

The report being provided is a revision of the original report sent on 8/1/2024. The report (revision 1) is being revised due to Narrative updated to inlude 4 sig fig result for specific gravity..

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 6/26/2024 7:50 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

Specific Gravity
The specific gravity result for sample WDW-1,2,3 &4 Effluent is 1.0053

Receipt Exceptions
The container count for the following samples did not match what was listed on the Chain-of-Custody (COC): WDW-1, 2, 3, & 4 Effluent (885-6904-1).
The laboratory received 16 total containers, while the COC lists 13 total containers.
we did not receive containers listed on COC:
125 H2SO4
125 HNO3
500 Zn Acetate/NaOH

We received containers not listed on COC:
500 H2SO4
500 H2SO4
250 clear plastic NaOH
1L plastic unpreserved
1L Amber glass unpreserved.

At login it was determined that we can:
utilize the 1L unp and pour off/preserve for ZnAce/NaOH
utilize the 1L unp and pour off/filter then preserve with HNO3
utilize the 1L unp and pour off 125ml to unp plastic for ORP since it is a subbed method.
Utilize a 500 H2SO4 in place of listed 125mL H2SO4

The method requirement for no headspace was not met. The following volatile samples were analyzed with headspace in the sample container(s): WDW-1, 2, 3, & 4 Effluent (885-6904-1). All three VOA contained headspace larger than 1/4".

TCLP parameters were requested for the sample in this report. Per the TCLP Method 1311, "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run". All TCLP compounds are reported as totals in this report, at the TCLP Limits, since the low solids content did not require filtration. The TCLP term is used in the method header; this is used to represent that the compounds listed are the specific TCLP compounds and that these compounds are reported at the TCLP regulatory limits.

Eurofins Albuquerque

Case Narrative

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1 (Continued) Eurofins Albuquerque

The cations were filtered using a 0.45um filter for the C/A balance determination.

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270C: The following samples were diluted due to the nature of the sample matrix: WDW-1, 2, 3, & 4 Effluent (885-6904-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Herbicides
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Pesticides
Method 8081B: The continuing calibration verification (CCV) associated with batch 885-8296 recovered above the upper control limit for Chlordane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: WDW-1, 2, 3, & 4 Effluent (885-6904-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_OF_48H_PREC: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: WDW-1, 2, 3, & 4 Effluent (885-6904-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6020A - Total Recoverable: The MS/MSD spikes used were from a recently expired stock. The spiked standards were confirmed with a second source stock standard.
WDW-1, 2, 3, & 4 Effluent (885-6904-1), (885-6904-X-1 MS) and (885-6904-X-1 MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method 2580B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: WDW-1, 2, 3, & 4 Effluent (885-6904-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Client Sample ID: WDW-1, 2, 3, & 4 Effluent

Date Collected: 06/24/24 12:10
Date Received: 06/26/24 07:50

Lab Sample ID: 885-6904-1

Matrix: Water

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		20	4.0	ug/L			07/05/24 20:38	20
1,2-Dichloroethane (EDC)	ND		20	6.0	ug/L			07/05/24 20:38	20
1,4-Dichlorobenzene	ND		20	2.1	ug/L			07/05/24 20:38	20
2-Butanone	ND		200	41	ug/L			07/05/24 20:38	20
Benzene	ND		20	4.5	ug/L			07/05/24 20:38	20
Carbon tetrachloride	ND		20	3.5	ug/L			07/05/24 20:38	20
Chlorobenzene	ND		20	9.2	ug/L			07/05/24 20:38	20
Chloroform	ND		20	5.0	ug/L			07/05/24 20:38	20
Tetrachloroethene (PCE)	ND		20	3.6	ug/L			07/05/24 20:38	20
Trichloroethene (TCE)	ND		20	4.1	ug/L			07/05/24 20:38	20
Vinyl chloride	ND		20	6.4	ug/L			07/05/24 20:38	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*07/05/24 20:38*	*20*
Toluene-d8 (Surr)	*96*		*70 - 130*		*07/05/24 20:38*	*20*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*07/05/24 20:38*	*20*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*07/05/24 20:38*	*20*

Method: SW846 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND	D	1000	510	ug/L		06/28/24 06:56	07/17/24 09:05	10
2,4,6-Trichlorophenol	ND	D	1000	430	ug/L		06/28/24 06:56	07/17/24 09:05	10
2,4-Dinitrotoluene	ND	D	500	500	ug/L		06/28/24 06:56	07/17/24 09:05	10
2-Methylphenol	ND	D	1000	470	ug/L		06/28/24 06:56	07/17/24 09:05	10
3 & 4 Methylphenol	ND	D	1000	490	ug/L		06/28/24 06:56	07/17/24 09:05	10
Cresols, Total	ND	D	1000	490	ug/L		06/28/24 06:56	07/17/24 09:05	10
Hexachlorobenzene	ND	D	2000	460	ug/L		06/28/24 06:56	07/17/24 09:05	10
Hexachlorobutadiene	ND	D	2000	1100	ug/L		06/28/24 06:56	07/17/24 09:05	10
Hexachloroethane	ND	D	2000	1100	ug/L		06/28/24 06:56	07/17/24 09:05	10
Nitrobenzene	ND	D	500	360	ug/L		06/28/24 06:56	07/17/24 09:05	10
Pentachlorophenol	ND	D	2000	1500	ug/L		06/28/24 06:56	07/17/24 09:05	10
Pyridine	ND	D	2000	260	ug/L		06/28/24 06:56	07/17/24 09:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5 (Surr)	*0*	*D S1-*	*15 - 130*	*06/28/24 06:56*	*07/17/24 09:05*	*10*
2-Fluorophenol (Surr)	*0*	*D S1-*	*15 - 130*	*06/28/24 06:56*	*07/17/24 09:05*	*10*
2,4,6-Tribromophenol (Surr)	*0*	*D S1-*	*15 - 130*	*06/28/24 06:56*	*07/17/24 09:05*	*10*
Nitrobenzene-d5 (Surr)	*0*	*D S1-*	*29 - 130*	*06/28/24 06:56*	*07/17/24 09:05*	*10*
2-Fluorobiphenyl (Surr)	*0*	*D S1-*	*20 - 130*	*06/28/24 06:56*	*07/17/24 09:05*	*10*
p-Terphenyl-d14 (Surr)	*0*	*D S1-*	*41 - 130*	*06/28/24 06:56*	*07/17/24 09:05*	*10*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane	ND		10	5.0	ug/L		06/28/24 13:02	07/12/24 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*78*		*53 - 130*	*06/28/24 13:02*	*07/12/24 12:05*	*1*
Tetrachloro-m-xylene	*71*		*18 - 130*	*06/28/24 13:02*	*07/12/24 12:05*	*1*

Client Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Client Sample ID: WDW-1, 2, 3, & 4 Effluent

Date Collected: 06/24/24 12:10
Date Received: 06/26/24 07:50

Lab Sample ID: 885-6904-1
Matrix: Water

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.50	mg/L			06/27/24 18:54	10
Chloride	**700**		50	25	mg/L			06/27/24 19:06	100
Nitrate Nitrite as N	**0.56**	**J**	1.0	0.11	mg/L			06/27/24 19:19	5
Sulfate	**2400**		50	25	mg/L			06/27/24 19:06	100
Fluoride	**48**		10	4.6	mg/L			06/27/24 19:06	100
Orthophosphate as P	ND	H	5.0	2.5	mg/L			06/27/24 18:54	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**550**		10	0.65	mg/L			07/08/24 12:03	10
Magnesium	**160**		10	0.24	mg/L			07/08/24 12:03	10
Potassium	**150**		10	1.2	mg/L			07/08/24 12:03	10
Sodium	**740**		10	2.3	mg/L			07/08/24 12:03	10

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.016**	**J**	0.020	0.010	mg/L		07/23/24 07:32	07/24/24 11:42	20
Barium	**0.073**		0.020	0.010	mg/L		07/23/24 07:32	07/24/24 11:42	20
Cadmium	ND		0.020	0.010	mg/L		07/23/24 07:32	07/24/24 11:42	20
Chromium	**0.025**		0.020	0.010	mg/L		07/23/24 07:32	07/24/24 11:42	20
Lead	ND		0.020	0.012	mg/L		07/23/24 07:32	07/24/24 11:42	20
Selenium	**0.024**		0.020	0.016	mg/L		07/23/24 07:32	07/29/24 15:09	20
Silver	ND		0.020	0.010	mg/L		07/23/24 07:32	07/31/24 11:11	20

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00023**		0.00020	0.00012	mg/L		07/09/24 16:34	07/11/24 10:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint (SW846 1010B)	**>200**		60	60	Degrees F			07/03/24 08:45	1
Total Dissolved Solids (SM 2540C)	**4700**		250	130	mg/L			06/27/24 14:07	1
Cyanide, Reactive (SW846 9014)	ND		0.25	0.25	mg/L		07/03/24 10:01	07/03/24 15:19	1
Sulfide, Reactive (SW846 9034)	ND		150	150	mg/L		07/03/24 10:03	07/03/24 14:37	1
Total Alkalinity as CaCO3 (SM 2320B)	**310**		20	20	mg/L			07/01/24 20:01	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**310**		20	20	mg/L			07/01/24 20:01	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		2.0	2.0	mg/L			07/01/24 20:01	1
Specific Conductance (SM 2510B)	**6400**		10	10	umhos/cm			07/08/24 13:58	1
Total Suspended Solids (SM 2540D)	**300**		20	20	mg/L			07/01/24 14:45	1
Specific Gravity (SM 2710F)	**1.0**				NONE			06/27/24 16:53	1
pH (SM 4500 H+ B)	**7.5**	**HF**	0.1	0.1	SU			07/01/24 20:01	1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	WDW-1, 2, 3, & 4 Effluent 885-6904-1											
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	740	32.19										
Potassium	150	3.84										
Calcium	550	27.45										
Magnesium	160	13.17										
Total Cations		76.64										
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2400	49.97										
Chloride	700	19.75										
Bicarbonate (CaCO3)	310	6.20	-									
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)	0.56	0.04			-							
Fluoride	48	2.53										
Bromide												
Total Anions		78.48										
Elect. Cond. (µMhos/cm)	6400											
CATION/ANION RATIO		0.98										
% Difference		1										
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	4700											
TDS (calculated)	4936											
Ratio meas TDS:calc TDS		1.0										
Ratio Meas. TDS:EC		0.73										
Ratio Calc. TDS:EC		0.77										
Ratio of anion sum:EC		1.2										
Ratio of cation sum:EC		1.2										

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS – 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

Action Limit Summary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Client Sample ID: WDW-1, 2, 3, & 4 Effluent Lab Sample ID: 885-6904-1

POTENTIAL STLC / TCLP / TTLC LIMITS EXCEEDANCE

STLC limits in boxes signify the result exceeds 10x STLC limit. TCLP limits in boxes signify the result exceeds 20x TCLP limit

Analyte	Result	Qualifier	Unit	TCLP Limit	RL	Method	Prep Type
1,1-Dichloroethene	ND		ug/L	700.0	20	8260B	Total/NA
1,2-Dichloroethane (EDC)	ND		ug/L	500.0	20	8260B	Total/NA
1,4-Dichlorobenzene	ND		ug/L	7500.0	20	8260B	Total/NA
2-Butanone	ND		ug/L	200000	200	8260B	Total/NA
Benzene	ND		ug/L	500.0	20	8260B	Total/NA
Carbon tetrachloride	ND		ug/L	500.0	20	8260B	Total/NA
Chlorobenzene	ND		ug/L	100000	20	8260B	Total/NA
Chloroform	ND		ug/L	6000	20	8260B	Total/NA
Tetrachloroethene (PCE)	ND		ug/L	700.0	20	8260B	Total/NA
Trichloroethene (TCE)	ND		ug/L	500.0	20	8260B	Total/NA
Vinyl chloride	ND		ug/L	200.0	20	8260B	Total/NA
2,4,5-Trichlorophenol	ND	D	ug/L	400000	1000	8270C	Total/NA
2,4,6-Trichlorophenol	ND	D	ug/L	2000	1000	8270C	Total/NA
2,4-Dinitrotoluene	ND	D	ug/L	130.00	500	8270C	Total/NA
2-Methylphenol	ND	D	ug/L	200000	1000	8270C	Total/NA
Hexachlorobenzene	ND	D	ug/L	130.00	2000	8270C	Total/NA
Hexachlorobutadiene	ND	D	ug/L	500.0	2000	8270C	Total/NA
Hexachloroethane	ND	D	ug/L	3000	2000	8270C	Total/NA
Nitrobenzene	ND	D	ug/L	2000	500	8270C	Total/NA
Pentachlorophenol	ND	D	ug/L	100000	2000	8270C	Total/NA
Pyridine	ND	D	ug/L	5000	2000	8270C	Total/NA
Chlordane	ND		ug/L	30.00	10	8081B	Total/NA
Arsenic	0.016	J	mg/L	5	0.020	6020A	Total Recoverable
Barium	0.073		mg/L	100	0.020	6020A	Total Recoverable
Cadmium	ND		mg/L	1	0.020	6020A	Total Recoverable
Chromium	0.025		mg/L	5	0.020	6020A	Total Recoverable
Lead	ND		mg/L	5	0.020	6020A	Total Recoverable
Selenium	0.024		mg/L	1	0.020	6020A	Total Recoverable
Silver	ND		mg/L	5	0.020	6020A	Total Recoverable
Mercury	0.00023		mg/L	0.2	0.00020	7470A	Total/NA

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 885-7920/26
Matrix: Water
Analysis Batch: 7920

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.10	0.020	ug/L			07/05/24 10:37	1
1,2-Dichloroethane (EDC)	ND		0.10	0.030	ug/L			07/05/24 10:37	1
1,4-Dichlorobenzene	ND		0.10	0.010	ug/L			07/05/24 10:37	1
2-Butanone	ND		1.0	0.20	ug/L			07/05/24 10:37	1
Benzene	ND		0.10	0.023	ug/L			07/05/24 10:37	1
Carbon tetrachloride	ND		0.10	0.018	ug/L			07/05/24 10:37	1
Chlorobenzene	ND		0.10	0.046	ug/L			07/05/24 10:37	1
Chloroform	ND		0.10	0.025	ug/L			07/05/24 10:37	1
Tetrachloroethene (PCE)	ND		0.10	0.018	ug/L			07/05/24 10:37	1
Trichloroethene (TCE)	ND		0.10	0.020	ug/L			07/05/24 10:37	1
Vinyl chloride	ND		0.10	0.032	ug/L			07/05/24 10:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*07/05/24 10:37*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*07/05/24 10:37*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/05/24 10:37*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*07/05/24 10:37*	*1*

Lab Sample ID: MB 885-7920/4
Matrix: Water
Analysis Batch: 7920

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.20	ug/L			07/05/24 10:37	1
1,2-Dichloroethane (EDC)	ND		1.0	0.30	ug/L			07/05/24 10:37	1
1,4-Dichlorobenzene	ND		1.0	0.10	ug/L			07/05/24 10:37	1
2-Butanone	ND		10	2.0	ug/L			07/05/24 10:37	1
Benzene	ND		1.0	0.23	ug/L			07/05/24 10:37	1
Carbon tetrachloride	ND		1.0	0.18	ug/L			07/05/24 10:37	1
Chlorobenzene	ND		1.0	0.46	ug/L			07/05/24 10:37	1
Chloroform	ND		1.0	0.25	ug/L			07/05/24 10:37	1
Tetrachloroethene (PCE)	ND		1.0	0.18	ug/L			07/05/24 10:37	1
Trichloroethene (TCE)	ND		1.0	0.20	ug/L			07/05/24 10:37	1
Vinyl chloride	ND		1.0	0.32	ug/L			07/05/24 10:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*07/05/24 10:37*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*07/05/24 10:37*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/05/24 10:37*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*07/05/24 10:37*	*1*

Lab Sample ID: LCS 885-7920/3
Matrix: Water
Analysis Batch: 7920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	20.1	20.7		ug/L		103	70 - 130
Benzene	20.1	20.7		ug/L		103	70 - 130

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 885-7920/3
Matrix: Water
Analysis Batch: 7920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.1	24.8		ug/L		124	70 - 130
Toluene	20.2	24.1		ug/L		119	70 - 130
Trichloroethene (TCE)	20.2	19.7		ug/L		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*
Toluene-d8 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*94*		*70 - 130*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 885-7616/1-A
Matrix: Water
Analysis Batch: 8296

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7616

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane	ND		1.0	0.50	ug/L		06/28/24 13:02	07/12/24 11:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*87*		*53 - 130*	*06/28/24 13:02*	*07/12/24 11:26*	*1*
Tetrachloro-m-xylene	*83*		*18 - 130*	*06/28/24 13:02*	*07/12/24 11:26*	*1*

Lab Sample ID: LCS 885-7616/2-A
Matrix: Water
Analysis Batch: 8296

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7616

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*85*		*53 - 130*
Tetrachloro-m-xylene	*73*		*18 - 130*

Lab Sample ID: LCSD 885-7616/3-A
Matrix: Water
Analysis Batch: 8296

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7616

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*87*		*53 - 130*
Tetrachloro-m-xylene	*77*		*18 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-7604/28
Matrix: Water
Analysis Batch: 7604

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.10	0.050	mg/L			06/27/24 08:03	1
Chloride	ND		0.50	0.25	mg/L			06/27/24 08:03	1

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 885-7604/28
Matrix: Water
Analysis Batch: 7604

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.50	0.25	mg/L			06/27/24 08:03	1
Fluoride	ND		0.10	0.046	mg/L			06/27/24 08:03	1

Lab Sample ID: LCS 885-7604/29
Matrix: Water
Analysis Batch: 7604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	2.50	2.46		mg/L		98	90 - 110
Chloride	5.00	4.87		mg/L		97	90 - 110
Sulfate	10.0	9.80		mg/L		98	90 - 110
Fluoride	0.500	0.523		mg/L		105	90 - 110

Lab Sample ID: MRL 885-7604/27
Matrix: Water
Analysis Batch: 7604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	0.100	0.119		mg/L		119	50 - 150
Chloride	0.500	0.561		mg/L		112	50 - 150
Sulfate	0.500	0.571		mg/L		114	50 - 150
Fluoride	0.100	0.124		mg/L		124	50 - 150

Lab Sample ID: MB 885-7605/28
Matrix: Water
Analysis Batch: 7605

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.20	0.022	mg/L			06/27/24 08:03	1

Lab Sample ID: MB 885-7605/86
Matrix: Water
Analysis Batch: 7605

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.20	0.022	mg/L			06/27/24 20:20	1

Lab Sample ID: LCS 885-7605/29
Matrix: Water
Analysis Batch: 7605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate	2.50	2.55		mg/L		102	90 - 110
Nitrite	1.00	0.978		mg/L		98	90 - 110

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-7605/87
Matrix: Water
Analysis Batch: 7605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate	2.50	2.56		mg/L		102	90 - 110
Nitrite	1.00	0.983		mg/L		98	90 - 110

Lab Sample ID: MRL 885-7605/27
Matrix: Water
Analysis Batch: 7605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate	0.100	0.111		mg/L		111	50 - 150
Nitrite	0.0999	0.105		mg/L		105	50 - 150

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 885-8038/16
Matrix: Water
Analysis Batch: 8038

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1.0	0.065	mg/L			07/08/24 10:34	1
Magnesium	ND		1.0	0.024	mg/L			07/08/24 10:34	1
Potassium	ND		1.0	0.12	mg/L			07/08/24 10:34	1
Sodium	ND		1.0	0.23	mg/L			07/08/24 10:34	1

Lab Sample ID: LCS 885-8038/18
Matrix: Water
Analysis Batch: 8038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	50.0	52.7		mg/L		105	85 - 115
Magnesium	50.0	51.6		mg/L		103	85 - 115
Potassium	50.0	51.3		mg/L		103	85 - 115
Sodium	50.0	51.8		mg/L		104	85 - 115

Lab Sample ID: LLCS 885-8038/17
Matrix: Water
Analysis Batch: 8038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	0.500	0.502	J	mg/L		100	50 - 150
Magnesium	0.500	0.489	J	mg/L		98	50 - 150
Potassium	0.500	0.525	J	mg/L		105	50 - 150
Sodium	0.500	0.360	J	mg/L		72	50 - 150

Lab Sample ID: MRL 885-8038/13
Matrix: Water
Analysis Batch: 8038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	0.500	0.538	J	mg/L		108	50 - 150
Magnesium	0.500	0.526	J	mg/L		105	50 - 150

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QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MRL 885-8038/13
Matrix: Water
Analysis Batch: 8038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	0.500	0.518	J	mg/L		104	50 - 150
Sodium	0.500	0.527	J	mg/L		105	50 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MRL 885-8383/14
Matrix: Water
Analysis Batch: 8383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00100	0.000955	J	mg/L		95	70 - 130
Barium	0.00100	0.00107		mg/L		107	70 - 130
Cadmium	0.00100	0.000903	J	mg/L		90	70 - 130
Chromium	0.00100	0.00117		mg/L		117	70 - 130
Lead	0.00100	0.00103		mg/L		103	70 - 130
Selenium	0.00100	0.000897	J	mg/L		90	70 - 130
Silver	0.00100	0.000537	J	mg/L		54	70 - 130

Lab Sample ID: MRL 885-9106/9
Matrix: Water
Analysis Batch: 9106

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00100	0.00116		mg/L		116	70 - 130
Barium	0.00100	0.00106		mg/L		106	70 - 130
Cadmium	0.00100	0.00104		mg/L		104	70 - 130
Chromium	0.00100	0.00101		mg/L		101	70 - 130
Lead	0.00100	0.00105		mg/L		105	70 - 130
Selenium	0.00100	0.000896	J	mg/L		90	70 - 130

Lab Sample ID: MRL 885-9391/9
Matrix: Water
Analysis Batch: 9391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00100	0.00111		mg/L		111	70 - 130
Barium	0.00100	0.00113		mg/L		113	70 - 130
Cadmium	0.00100	0.00115		mg/L		115	70 - 130
Chromium	0.00100	0.00112		mg/L		112	70 - 130
Lead	0.00100	0.00111		mg/L		111	70 - 130
Selenium	0.00100	0.00122		mg/L		122	70 - 130

Lab Sample ID: MRL 885-9534/8
Matrix: Water
Analysis Batch: 9534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Silver	0.00100	0.00114		mg/L		114	70 - 130

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 885-7776/1-A
Matrix: Water
Analysis Batch: 8383

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 7776

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0025	mg/L		07/02/24 11:18	07/12/24 11:34	5
Barium	ND		0.0050	0.0025	mg/L		07/02/24 11:18	07/12/24 11:34	5
Cadmium	ND		0.0050	0.0025	mg/L		07/02/24 11:18	07/12/24 11:34	5
Chromium	ND		0.0050	0.0025	mg/L		07/02/24 11:18	07/12/24 11:34	5
Lead	ND		0.0050	0.0030	mg/L		07/02/24 11:18	07/12/24 11:34	5
Selenium	ND		0.0050	0.0040	mg/L		07/02/24 11:18	07/12/24 11:34	5
Silver	ND		0.0050	0.0025	mg/L		07/02/24 11:18	07/12/24 11:34	5

Lab Sample ID: LCS 885-7776/5-A
Matrix: Water
Analysis Batch: 8383

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 7776

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.0500	0.0501		mg/L		100	80 - 120
Barium	0.0500	0.0474		mg/L		95	80 - 120
Cadmium	0.0500	0.0477		mg/L		95	80 - 120
Chromium	0.0500	0.0497		mg/L		99	80 - 120
Lead	0.0500	0.0532		mg/L		106	80 - 120
Selenium	0.0500	0.0483		mg/L		97	80 - 120
Silver	0.0250	0.0252		mg/L		101	80 - 120

Lab Sample ID: 885-6904-1 MS
Matrix: Water
Analysis Batch: 8383

Client Sample ID: WDW-1, 2, 3, & 4 Effluent
Prep Type: Total Recoverable
Prep Batch: 7776

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.071		0.0500	0.118		mg/L		94	75 - 125
Chromium	0.021		0.0500	0.0708		mg/L		99	75 - 125

Lab Sample ID: 885-6904-1 MSD
Matrix: Water
Analysis Batch: 8383

Client Sample ID: WDW-1, 2, 3, & 4 Effluent
Prep Type: Total Recoverable
Prep Batch: 7776

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.071		0.0500	0.117		mg/L		92	75 - 125	1	20
Chromium	0.021		0.0500	0.0699		mg/L		98	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 885-8087/1-A
Matrix: Water
Analysis Batch: 8266

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8087

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		07/09/24 16:34	07/11/24 09:15	1

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 885-8087/3-A
Matrix: Water
Analysis Batch: 8266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00488		mg/L		98	85 - 115

Lab Sample ID: LLCS 885-8087/2-A
Matrix: Water
Analysis Batch: 8266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8087

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.000150	0.000121	J	mg/L		81	50 - 150

Lab Sample ID: MRL 885-8089/9-A
Matrix: Water
Analysis Batch: 8266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8089

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.000150	0.000190	J	mg/L		127	50 - 150

Method: 1010B - Ignitability, Pensky-Martens Closed-Cup Method

Lab Sample ID: MB 400-676770/3
Matrix: Water
Analysis Batch: 676770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>200		60	60	Degrees F			07/03/24 08:45	1

Lab Sample ID: LCS 400-676770/1
Matrix: Water
Analysis Batch: 676770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Flashpoint	140	151		Degrees F		108	90 - 110

Lab Sample ID: LCSD 400-676770/2
Matrix: Water
Analysis Batch: 676770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Flashpoint	140	151		Degrees F		108	90 - 110	0	4

Lab Sample ID: 885-6904-1 DU
Matrix: Water
Analysis Batch: 676770

Client Sample ID: WDW-1, 2, 3, & 4 Effluent
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Flashpoint	>200		>200		Degrees F		NC	4

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 885-7512/1
Matrix: Water
Analysis Batch: 7512

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		50	25	mg/L			06/27/24 14:07	1

Lab Sample ID: LCS 885-7512/2
Matrix: Water
Analysis Batch: 7512

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1000		mg/L		100	80 - 120

Method: 9014 - Cyanide, Reactive

Lab Sample ID: MB 400-676767/1-A
Matrix: Water
Analysis Batch: 676912

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 676767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	ND		0.25	0.25	mg/L		07/03/24 10:01	07/03/24 15:17	1

Lab Sample ID: LCS 400-676767/2-A
Matrix: Water
Analysis Batch: 676912

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 676767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Reactive	1.00	0.480		mg/L		48	10 - 110

Lab Sample ID: 885-6904-1 DU
Matrix: Water
Analysis Batch: 676912

Client Sample ID: WDW-1, 2, 3, & 4 Effluent
Prep Type: Total/NA
Prep Batch: 676767

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Reactive	ND		ND		mg/L		NC	30

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 400-676768/1-A
Matrix: Water
Analysis Batch: 676834

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 676768

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		150	150	mg/L		07/03/24 10:03	07/03/24 14:37	1

Lab Sample ID: LCS 400-676768/2-A
Matrix: Water
Analysis Batch: 676834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 676768

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide, Reactive	996	490		mg/L		49	10 - 110

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: 9034 - Sulfide, Reactive (Continued)

Lab Sample ID: 885-6904-1 DU
Matrix: Water
Analysis Batch: 676834

Client Sample ID: WDW-1, 2, 3, & 4 Effluent
Prep Type: Total/NA
Prep Batch: 676768

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfide, Reactive	ND		ND		mg/L		NC	30

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 885-7761/2
Matrix: Water
Analysis Batch: 7761

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	ND		20	20	mg/L			07/01/24 12:18	1
Bicarbonate Alkalinity as CaCO3	ND		20	20	mg/L			07/01/24 12:18	1
Carbonate Alkalinity as CaCO3	ND		2.0	2.0	mg/L			07/01/24 12:18	1

Lab Sample ID: MB 885-7761/26
Matrix: Water
Analysis Batch: 7761

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	ND		20	20	mg/L			07/01/24 19:03	1
Bicarbonate Alkalinity as CaCO3	ND		20	20	mg/L			07/01/24 19:03	1
Carbonate Alkalinity as CaCO3	ND		2.0	2.0	mg/L			07/01/24 19:03	1

Lab Sample ID: LCS 885-7761/27
Matrix: Water
Analysis Batch: 7761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity as CaCO3	84.8	79.8		mg/L		94	90 - 110

Lab Sample ID: LCS 885-7761/3
Matrix: Water
Analysis Batch: 7761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity as CaCO3	84.8	79.6		mg/L		94	90 - 110

Lab Sample ID: MRL 885-7761/1
Matrix: Water
Analysis Batch: 7761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity as CaCO3	21.2	23.9		mg/L		113	50 - 150

QC Sample Results

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: LCS 885-8151/4
Matrix: Water
Analysis Batch: 8151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	99.8	104		umhos/cm		104	85 - 115

Lab Sample ID: MRL 885-8151/3
Matrix: Water
Analysis Batch: 8151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	9.61	ND		umhos/cm		97	50 - 150

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 885-7721/1
Matrix: Water
Analysis Batch: 7721

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			07/01/24 14:45	1

Lab Sample ID: LCSSRM 885-7721/2
Matrix: Water
Analysis Batch: 7721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	86.0		mg/L		86.0	77.1 - 110.0

Method: SM 2710F - Specific Gravity

Lab Sample ID: MB 885-7540/1
Matrix: Water
Analysis Batch: 7540

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	0.999				NONE			06/27/24 16:53	1

Lab Sample ID: 885-6904-1 DU
Matrix: Water
Analysis Batch: 7540

Client Sample ID: WDW-1, 2, 3, & 4 Effluent
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Gravity	1.0		1.01		NONE		0.2	20

QC Association Summary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

GC/MS VOA

Analysis Batch: 7920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	8260B	
MB 885-7920/26	Method Blank	Total/NA	Water	8260B	
MB 885-7920/4	Method Blank	Total/NA	Water	8260B	
LCS 885-7920/3	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 7570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	3510C	

Analysis Batch: 8534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	8270C	7570

GC Semi VOA

Prep Batch: 7616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	3510C	
MB 885-7616/1-A	Method Blank	Total/NA	Water	3510C	
LCS 885-7616/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 885-7616/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 8296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	8081B	7616
MB 885-7616/1-A	Method Blank	Total/NA	Water	8081B	7616
LCS 885-7616/2-A	Lab Control Sample	Total/NA	Water	8081B	7616
LCSD 885-7616/3-A	Lab Control Sample Dup	Total/NA	Water	8081B	7616

HPLC/IC

Analysis Batch: 7604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	300.0	
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	300.0	
MB 885-7604/28	Method Blank	Total/NA	Water	300.0	
LCS 885-7604/29	Lab Control Sample	Total/NA	Water	300.0	
MRL 885-7604/27	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 7605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	300.0	
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	300.0	
MB 885-7605/28	Method Blank	Total/NA	Water	300.0	
MB 885-7605/86	Method Blank	Total/NA	Water	300.0	
LCS 885-7605/29	Lab Control Sample	Total/NA	Water	300.0	
LCS 885-7605/87	Lab Control Sample	Total/NA	Water	300.0	
MRL 885-7605/27	Lab Control Sample	Total/NA	Water	300.0	

QC Association Summary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Metals

Filtration Batch: 7459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Dissolved	Water	Filtration	

Prep Batch: 7776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-7776/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 885-7776/5-A	Lab Control Sample	Total Recoverable	Water	3005A	
885-6904-1 MS	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	3005A	
885-6904-1 MSD	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	3005A	

Analysis Batch: 8038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Dissolved	Water	200.7 Rev 4.4	7459
MB 885-8038/16	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 885-8038/18	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LLCS 885-8038/17	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
MRL 885-8038/13	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	

Prep Batch: 8087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	7470A	
MB 885-8087/1-A	Method Blank	Total/NA	Water	7470A	
LCS 885-8087/3-A	Lab Control Sample	Total/NA	Water	7470A	
LLCS 885-8087/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 8089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 885-8089/9-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 8266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	7470A	8087
MB 885-8087/1-A	Method Blank	Total/NA	Water	7470A	8087
LCS 885-8087/3-A	Lab Control Sample	Total/NA	Water	7470A	8087
LLCS 885-8087/2-A	Lab Control Sample	Total/NA	Water	7470A	8087
MRL 885-8089/9-A	Lab Control Sample	Total/NA	Water	7470A	8089

Analysis Batch: 8383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-7776/1-A	Method Blank	Total Recoverable	Water	6020A	7776
LCS 885-7776/5-A	Lab Control Sample	Total Recoverable	Water	6020A	7776
MRL 885-8383/14	Lab Control Sample	Total/NA	Water	6020A	
885-6904-1 MS	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	6020A	7776
885-6904-1 MSD	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	6020A	7776

Prep Batch: 8950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	3005A	

Analysis Batch: 9106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	6020A	8950

QC Association Summary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Metals (Continued)

Analysis Batch: 9106 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 885-9106/9	Lab Control Sample	Total/NA	Water	6020A	

Analysis Batch: 9391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	6020A	8950
MRL 885-9391/9	Lab Control Sample	Total/NA	Water	6020A	

Analysis Batch: 9534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total Recoverable	Water	6020A	8950
MRL 885-9534/8	Lab Control Sample	Total/NA	Water	6020A	

General Chemistry

Analysis Batch: 7512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	2540C	
MB 885-7512/1	Method Blank	Total/NA	Water	2540C	
LCS 885-7512/2	Lab Control Sample	Total/NA	Water	2540C	

Analysis Batch: 7540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	SM 2710F	
MB 885-7540/1	Method Blank	Total/NA	Water	SM 2710F	
885-6904-1 DU	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	SM 2710F	

Analysis Batch: 7721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	SM 2540D	
MB 885-7721/1	Method Blank	Total/NA	Water	SM 2540D	
LCSSRM 885-7721/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 7761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	SM 2320B	
MB 885-7761/2	Method Blank	Total/NA	Water	SM 2320B	
MB 885-7761/26	Method Blank	Total/NA	Water	SM 2320B	
LCS 885-7761/27	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 885-7761/3	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 885-7761/1	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 7763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 8151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	SM 2510B	
LCS 885-8151/4	Lab Control Sample	Total/NA	Water	SM 2510B	
MRL 885-8151/3	Lab Control Sample	Total/NA	Water	SM 2510B	

QC Association Summary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

General Chemistry

Prep Batch: 676767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	7.3.3	
MB 400-676767/1-A	Method Blank	Total/NA	Water	7.3.3	
LCS 400-676767/2-A	Lab Control Sample	Total/NA	Water	7.3.3	
885-6904-1 DU	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	7.3.3	

Prep Batch: 676768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	7.3.4	
MB 400-676768/1-A	Method Blank	Total/NA	Water	7.3.4	
LCS 400-676768/2-A	Lab Control Sample	Total/NA	Water	7.3.4	
885-6904-1 DU	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	7.3.4	

Analysis Batch: 676770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	1010B	
MB 400-676770/3	Method Blank	Total/NA	Water	1010B	
LCS 400-676770/1	Lab Control Sample	Total/NA	Water	1010B	
LCSD 400-676770/2	Lab Control Sample Dup	Total/NA	Water	1010B	
885-6904-1 DU	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	1010B	

Analysis Batch: 676834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	9034	676768
MB 400-676768/1-A	Method Blank	Total/NA	Water	9034	676768
LCS 400-676768/2-A	Lab Control Sample	Total/NA	Water	9034	676768
885-6904-1 DU	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	9034	676768

Analysis Batch: 676912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6904-1	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	9014	676767
MB 400-676767/1-A	Method Blank	Total/NA	Water	9014	676767
LCS 400-676767/2-A	Lab Control Sample	Total/NA	Water	9014	676767
885-6904-1 DU	WDW-1, 2, 3, & 4 Effluent	Total/NA	Water	9014	676767

Lab Chronicle

Client: HF Sinclair Asphalt Navajo Refining LLC
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Job ID: 885-6904-1

Client Sample ID: WDW-1, 2, 3, & 4 Effluent

Date Collected: 06/24/24 12:10
Date Received: 06/26/24 07:50

Lab Sample ID: 885-6904-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		20	7920	CM	EET ALB	07/05/24 20:38
Total/NA	Prep	3510C			7570	JM	EET ALB	06/28/24 06:56
Total/NA	Analysis	8270C		10	8534	MB	EET ALB	07/17/24 09:05
Total/NA	Prep	3510C			7616	JM	EET ALB	06/28/24 13:02
Total/NA	Analysis	8081B		1	8296	MB	EET ALB	07/12/24 12:05
Total/NA	Analysis	300.0		10	7604	SS	EET ALB	06/27/24 18:54
Total/NA	Analysis	300.0		10	7605	SS	EET ALB	06/27/24 18:54
Total/NA	Analysis	300.0		100	7604	SS	EET ALB	06/27/24 19:06
Total/NA	Analysis	300.0		5	7605	SS	EET ALB	06/27/24 19:19
Dissolved	Filtration	Filtration			7459	NP	EET ALB	06/27/24 08:44
Dissolved	Analysis	200.7 Rev 4.4		10	8038	VP	EET ALB	07/08/24 12:03
Total Recoverable	Prep	3005A			8950	VP	EET ALB	07/23/24 07:32
Total Recoverable	Analysis	6020A		20	9106	BV	EET ALB	07/24/24 11:42
Total Recoverable	Prep	3005A			8950	VP	EET ALB	07/23/24 07:32
Total Recoverable	Analysis	6020A		20	9391	BV	EET ALB	07/29/24 15:09
Total Recoverable	Prep	3005A			8950	VP	EET ALB	07/23/24 07:32
Total Recoverable	Analysis	6020A		20	9534	BV	EET ALB	07/31/24 11:11
Total/NA	Prep	7470A			8087	TM	EET ALB	07/09/24 16:34
Total/NA	Analysis	7470A		1	8266	TM	EET ALB	07/11/24 10:03
Total/NA	Analysis	1010B		1	676770	AC	EET PEN	07/03/24 08:45
Total/NA	Analysis	2540C		1	7512	KB	EET ALB	06/27/24 14:07
Total/NA	Prep	7.3.3			676767	JP	EET PEN	07/03/24 10:01
Total/NA	Analysis	9014		1	676912	VB	EET PEN	07/03/24 15:19
Total/NA	Prep	7.3.4			676768	JP	EET PEN	07/03/24 10:03
Total/NA	Analysis	9034		1	676834	JP	EET PEN	07/03/24 14:37
Total/NA	Analysis	SM 2320B		1	7761	MA	EET ALB	07/01/24 20:01
Total/NA	Analysis	SM 2510B		1	8151	DL	EET ALB	07/08/24 13:58
Total/NA	Analysis	SM 2540D		1	7721	KS	EET ALB	07/01/24 14:45
Total/NA	Analysis	SM 2710F		1	7540	RC	EET ALB	06/27/24 16:53
Total/NA	Analysis	SM 4500 H+ B		1	7763	MA	EET ALB	07/01/24 20:01

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975
EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.7 Rev 4.4		Water	Calcium
200.7 Rev 4.4		Water	Magnesium
200.7 Rev 4.4		Water	Potassium
200.7 Rev 4.4		Water	Sodium
2540C		Water	Total Dissolved Solids
300.0		Water	Bromide
300.0		Water	Chloride
300.0		Water	Fluoride
300.0		Water	Nitrate Nitrite as N
300.0		Water	Orthophosphate as P
300.0		Water	Sulfate
6020A	3005A	Water	Arsenic
6020A	3005A	Water	Barium
6020A	3005A	Water	Cadmium
6020A	3005A	Water	Chromium
6020A	3005A	Water	Lead
6020A	3005A	Water	Selenium
6020A	3005A	Water	Silver
7470A	7470A	Water	Mercury
8081B	3510C	Water	Chlordane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,2-Dichloroethane (EDC)
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2-Butanone
8260B		Water	Benzene
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroform
8260B		Water	Tetrachloroethene (PCE)
8260B		Water	Trichloroethene (TCE)
8260B		Water	Vinyl chloride
8270C	3510C	Water	2,4,5-Trichlorophenol
8270C	3510C	Water	2,4,6-Trichlorophenol
8270C	3510C	Water	2,4-Dinitrotoluene
8270C	3510C	Water	2-Methylphenol
8270C	3510C	Water	3 & 4 Methylphenol
8270C	3510C	Water	Cresols, Total
8270C	3510C	Water	Hexachlorobenzene
8270C	3510C	Water	Hexachlorobutadiene
8270C	3510C	Water	Hexachloroethane
8270C	3510C	Water	Nitrobenzene
8270C	3510C	Water	Pentachlorophenol
8270C	3510C	Water	Pyridine
SM 2320B		Water	Bicarbonate Alkalinity as CaCO3
SM 2320B		Water	Carbonate Alkalinity as CaCO3

Accreditation/Certification Summary

Client: HF Sinclair Asphalt Navajo Refining LLC Job ID: 885-6904-1
Project/Site: Quarterly WDW-1, 2, 3, & 4 Inj Well

Laboratory: Eurofins Albuquerque (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 2320B		Water	Total Alkalinity as CaCO3
SM 2510B		Water	Specific Conductance
SM 2540D		Water	Total Suspended Solids
SM 2710F		Water	Specific Gravity
SM 4500 H+ B		Water	pH

Oregon	NELAP	NM100001	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8270C	3510C	Water	Cresols, Total
SM 2320B		Water	Bicarbonate Alkalinity as CaCO3
SM 2320B		Water	Carbonate Alkalinity as CaCO3
SM 2710F		Water	Specific Gravity

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-25
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-25
Florida	NELAP	E81010	06-30-25
Georgia	State	E81010(FL)	06-30-25
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-25
Louisiana (All)	NELAP	30976	06-30-25
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-25
Tennessee	State	TN02907	06-30-25
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-25
USDA	US Federal Programs	FLGNV23001	01-08-26
USDA	US Federal Programs	P330-21-00056	01-09-26
Virginia	NELAP	460166	06-14-25
West Virginia DEP	State	136	03-31-25

Chain-of-Custody Record

Client: Navajo Refining Co

Mailing Address: P O Box 159

Artesia, NM 88211-0159

Phone #: 575-748-3311

email or Fax#: 575-746-5451

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
Quarterly WDW-1, 2, 3 & 4 Inj Well

Project #:

Project Manager:
Nat Paengpongsavanh

Sampler:

On Ice: ☒ Yes ☐ No Yogi

# of Coolers: 1

Cooler Temp (including CF): 0.1 +0 = 0.1 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87
Tel. 505-345-3975 Fax 505-345-4107

885-6904 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	Specific Gravity, C/A Balance, ORP, pH, TSS	8260 TCLP Compounds	8270 TCLP Compounds	RCI	RCRA 8 Metals	8081 TCLP Compounds	8151 TCLP Compounds
6/24/2024	12 10	Liquid	WDW-1, 2, 3 & 4 Effluent	**	**	— 1	x						
6/24/2024	12 10	Liquid	WDW-1, 2, 3 & 4 Effluent	3-40ml VOA	HCL			x					
6/24/2024	12:10	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	none				x				
6/24/2024	12:10	Liquid	WDW-1, 2, 3 & 4 Effluent	***	***					x			
6/24/2024	12 10	Liquid	WDW-1, 2, 3 & 4 Effluent	1-250ml P	HNO3						x		
6/24/2024	12:10	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	none							x	
6/24/2024	12:10	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	none								x

Date	Time	Relinquished by	Received by	Via	Date	Time
6/25/24	10:20	Brady Hibbard				
6/25/24	1900			courier	6/25/24	7:30

Remarks: Dissolved Cations by EPA Method 200.7.
1-500ml unpreserved p, 1-125ml H2SO4 p, 1-125ml HNO3 p.*1-500ml unpreserved p, 1-500ml NaOH p, 1-500ml NaOH/ZnAcetate p

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque, NM 87109
Phone: 505-345-3975 Fax: 505-345-4107

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Freeman, Andy	Carrier Tracking No(s):	COC No: 885-1102.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: andy.freeman@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast L		Accreditations Required (See note): NELAP - Oregon; State - New Mexico		Job #: 885-6904-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 7/10/2024			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Quarterly WDW-1, 2, 3, & 4 Inj Well	Project #: 88501214			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: -

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1010B	9034_Reactive/7.3.4	9014_ReactiveCN/7.3.3	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
WDW-1, 2, 3, & 4 Effluent (885-6904-1)	6/24/24	12:10 Mountain		Water			X	X	X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/27/24 1450			6-28-24 817	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.8°C/IR11

Ver: 04/02/2024

ORIGIN ID:ABQA (505) 345-3975
ANNE THORNE
HALL ENVIRONMENTAL
4901 HAWKINS NE

ALBUQUERQUE, NM 87109
UNITED STATES US

SHIP DATE: 27JUN24
ACTWGT: 20.00 LB
CAD: 1717027/INET4730

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS PENSACOLA
3355 MCLEMORE DR

PENSACOLA FL 32514
(850) 474-1001 REF:
INV:
PO: DEPT:

2.6C
IR 11
TE

583J5/B21D/9AE3

FedEx Express

FedEx Ship Manager - Print Your Label(s)

FRI - 28 JUN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7771 0680 6480

XH PNSA

32514
FL-US BFM

2:54 PM

RT 574 1 10:30 A
FZ 6480 06.28

Login Sample Receipt Checklist

Client: HF Sinclair Asphalt Navajo Refining LLC Job Number: 885-6904-1

Login Number: 6904 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Proctor, Nancy

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Headspace larger than 1/4".

Login Sample Receipt Checklist

Client: HF Sinclair Asphalt Navajo Refining LLC Job Number: 885-6904-1

Login Number: 6904
List Number: 3
Creator: Vasquez, Julisa

List Source: Eurofins Midland
List Creation: 06/28/24 04:02 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: HF Sinclair Asphalt Navajo Refining LLC Job Number: 885-6904-1

Login Number: 6904
List Number: 2
Creator: Wilson, Lance

List Source: Eurofins Pensacola
List Creation: 06/28/24 12:47 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8°C IR11
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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

COMMENTS

Action 373085

COMMENTS

Operator: HF Sinclair Navajo Refining LLC ATTN: GENERAL COUNSEL Dallas, TX 75201	OGRID: 15694
	Action Number: 373085
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

COMMENTS

Created By	Comment	Comment Date
cchavez	UICI-8-1 WDW-1 FY2024 Q3 Quarterly Report (Note: All UICI-8 Quarterly Reports are filed in the WDW-1 Admin. Record)	3/27/2025

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Santa Fe, NM 87505

CONDITIONS

Action 373085

CONDITIONS

Operator: HF Sinclair Navajo Refining LLC ATTN: GENERAL COUNSEL Dallas, TX 75201	OGRID: 15694
	Action Number: 373085
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
cchavez	Conditions of Approval are: QA/QC Field Sampling: 1. Chain of Custody Seals must be placed on coolers containing lab samples after sample collection at site before delivery to lab; 2. Cooler Temperatures must not exceed 4 degrees Celsius up receipt by the Lab; 3. Proper sample containers and they must match Chain of Custody Forms; 4. Plenty of sample shall be present for lab analysis. 5. Environmental sampler(s) must sign Chain of Custody Forms and address lab comments received in lab reports so they do not reoccur. and 6. Some field parameters may be obtained in the field, i.e., pH, Specific Conductance, ORP, etc. to eliminate holding time comments received from lab. QA/QC Laboratory: 1. Confirm Eurofins Lab is NELAC compliant in Albuquerque Lab Location (If not, change to NELAC compliance lab; 2. Care not to "over dilute" lab samples prior to analysis (i.e., 8270C Sample); 3. Dilution Factor must not be excessive (i.e., 8260 sample DF of 200 seems excessive); and 4. Abide by Hold	3/27/2025