UICI-8-2

EPA FALL-OFF TEST REPORT

(WDW-2)

2022

Petrotek

Technical Report

MECHANICAL INTEGRITY AND RESERVOIR TESTING

CLASS I NON-HAZARDOUS DEEPWELL CHUKKA WELL NO. 2

(OCD UIC Permit: UICI-008-2)
(API Number: 30-015-20894)

HollyFrontier Navajo Refining Company
Artesia, New Mexico

Section 12, Township 18S, Range 27E
1980 FNL, 660 FWL

July 2022

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HollyFrontier Navajo Refining Company
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EXECUTIVE SUMMARY

This report summarizes the successful mechanical integrity testing (MIT) and falloff testing activities performed on the Chukka WDW-2 at the HollyFrontier Navajo Refining Company (HFNR) facility at Artesia, New Mexico. The work was performed as a condition of the applicable UIC permit issued by the New Mexico Oil Conservation Division (OCD). Under contract, Petrotek Corporation (Petrotek) developed the MIT procedures, provided field supervision, completed pressure transient test analysis, and prepared the final report documenting the fieldwork on the Class I non-hazardous injection well.

The test procedures were submitted to the OCD headquarters and OCD District II on May 17, 2022, before field activities commenced. Attachment 1 presents the test notification and procedures submitted to OCD. Approvals were received from regulatory agency staff prior to commencement of activities. No OCD personnel were present to witness testing. MIT and reservoir testing activities were supervised by David Huffington (Petrotek).

The field activities consisted of an annulus pressure test (APT) and an injection falloff test on WDW-2. The well satisfactorily demonstrated mechanical integrity pursuant to the applicable UIC permit, guidelines and regulations. All MIT requirements were satisfied as a result of the work performed. Wellbore and reservoir properties were confirmed as similar to those determined from analysis of the previous testing conducted in the well.

1. FACILITY INFORMATION

a. **Name** - HollyFrontier Navajo Refining Company

b. **Location** - Highway 82 East, Artesia, New Mexico, 88211

c. **Operator's OIL AND Gas Remittance Identifier (GRD) Number** - 15694

2. WELL INFORMATION

a. **OCD UIC Permit number authorizing injection** - OCD UIC Permit: UICI-008-2

b. **Well classification** - Class I Non-hazardous

c. **Well name and number** - Chukka WDW-2

d. **API Number** - 30-015-20894

e. **Legal Location** - Section 12, Township 18S, Range 27E, 1980 FNL, 660 FWL

3. CURRENT WELLBORE SCHEMATIC

A wellbore schematic displaying the well configuration during testing is provided as Figure 1. A wellhead schematic is provided as Figure 2.

4. COPY OF AN ELECTRIC LOG ENCOMPASSING THE COMPLETED INTERVAL

A copy of the dual induction log run in 1973 during the initial completion of the well was submitted with the original permit and can be found online on the OCD website as part of the OCD well files for this well.

https://wwwapps.emnrd.nm.gov/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-015-20894&GISReferenceSource=ArcGISOnline

5. COPY OF RELEVANT PORTIONS OF ANY POROSITY LOG USED TO ESTIMATE FORMATION POROSITY

A copy of the neutron density log, encompassing the completed interval between 7,570 and 8,399, can be found online on the OCD website as part of the well files for this well. From these logs, it was determined that the injection reservoir thickness is approximately 175 feet with an average porosity of 10 percent. Consistent with the most recent test analysis previously submitted, these values were used for the analysis performed in this report.

6. PVT DATA OF THE FORMATION AND INJECTION FLUID

Fluid samples of connate brine from the injection interval were collected from WDW-1 (33,000 mg/L) and WDW-2 (20,000 mg/L) during recompletion as Class I UIC wells. WDW-1, 2 and 3 are completed in the same injection formation. The average density and total dissolved solids (TDS) of the fluids recovered from the two wells were 1.03 g/cc and 26,500 mg/l, respectively. The results of formation fluid analysis were provided in documents previously submitted to and approved by OCD. Available analyte values for WDWs 1, 2 and 3 are provided in Table 1. Note that formation fluid samples were collected from WDW-4, but the well was completed in a separate injection zone. As such, WDW-4 geology and formation fluid samples will be discussed separately in the testing report for that well.

TABLE 1
HFNR FORMATION FLUID SAMPLE ANALYSIS RESULTS

Chemical	Mewbourne Well (WDW-1)	Chukka Well (WDW-2)	Gaines Well (WDW-3)	Average
Date	7/31/1998	6/14/1999	9/8/2006	
Fluoride (mg/L)	2.6	9.7	ND	6.15
Chloride (mg/L)	19,000	15,000	10,447	14,816
NO_3-N (mg/L)	<10	<10	--	<10
SO_4 (mg/L)	2,200	2,000	1,908	2,036
$CaCO_3$ (mg/L)	1,000	1,210	--	1,105
Specific Gravity (unitless)	1.0340	1.0249	--	1.0295
TDS (mg/L)	33,000	20,000	--	26,500
Specific Conductance (uMHOs/cm)	52,000	43,000	--	47,500
Potassium (mg/L)	213.0	235.0	85.5	177.8
Magnesium (mg/L)	143	128	155	142
Calcium (mg/L)	390	609	393	464
Sodium (mg/L)	12,770	8,074	6,080	8,975
pH	8.10	7.20	--	7.65

Note: ND: Non-detect; -- indicates no analysis.

The formation viscosity, fluid compressibility, and total compressibility were estimated using the average brine salinity along with the recorded bottom hole pressure and temperature in conjunction with industry standard correlations. The correlations used are from the SPE textbook on Pressure Transient Testing which was published as part of the SPE Textbook Series as Volume 9. For the sake of brevity, only page, equation, and figure numbers from this volume are listed subsequently in this report as a reference for all correlations presented for the PVT data.

The percent solids for the fluid was approximated as 2.65%, based on the average 26,500 mg/l TDS brine concentration for the formation samples presented in Table 1. A bottom hole temperature of 127 °F has been used as representative of the formation for these correlations. This value was derived from the original temperature log, run in 1999 when the well was recompleted. This log is can be found online on the OCD site as part of the well files for this well.

Fluid viscosity was estimated using multiple equations developed by McCain that first are used to estimate fluid viscosity at atmospheric conditions (equations B-72, 73, and 74), which is then converted to viscosity at bottom hole conditions (equation B-75) by using a correction factor. These equations can be found on page 527. As a primary input for the correlation, pressure is required,. The original formation pressure has been estimated at a depth of 7,570 feet using the average formation fluid specific gravity based on the TDS values provided in Table 1. Using this method, a value of 3,364.7 psi has been estimated as the original pressure at the depth the gauges were set at for testing (7,570 feet BGL). At this pressure and a temperature of 127 °F, the following equations have been used to derive viscosity:

$$\mu_{w1} = AT^B \quad \text{(B-72)}$$

$$A = 109.574 - 8.40564 * S + 0.313314 * S^2 + 8.72213 * 10^{-3} * S^3 \quad \text{(B-73)}$$

$$B = -1.12166 + 2.63951 * 10^{-2} * S - 6.79461 * 10^{-4} * S^2 - 5.47119 * 10^{-5} * S^3 + 1.55586 * 10^{-6} * S^4 \quad \text{(B-74)}$$

$$\frac{\mu_w}{\mu_{w1}} = 0.9994 + 4.0295 * 10^{-5} * P + 3.1062 * 10^{-9} * P^2 \quad \text{(B-75)}$$

Where,

μ_{w1} is the viscosity of the formation fluid at atmospheric conditions
T_F is the bottom hole temperature in °F
S is the percent of solids
P is the bottom hole pressure in psi
μ_w is the viscosity of the brine at bottom hole conditions

Using these equations, a value of 0.56 centipoise is calculated for the formation fluid viscosity.

Formation Compressibility was estimated using equation L-89 provided on page 337. This equation was developed for limestone formations, consistent with the primary composition of the effective injection interval (see discussion in Section 11).

$$cf = \frac{a}{(1+bc\Phi)^{\frac{1}{b}}} \quad \text{(L-89)}$$

Where,

a = 0.8535
b = 1.075
c = 2.303 E06
Φ = 0.10

Based on this equation, a value of 8.20E-6 psi^{-1} is derived for formation compressibility.

Fluid compressibility was estimated using figures L-30 and L-31 on page 338. Based on a bottom hole temperature of 127 °F, a bottom hole pressure of 3,374 psi, and a solids weight of 2.65%. Using Figure L-31 to first estimate freshwater compressibility, a value of 2.86E-06 psi^{-1} is derived. Using Figure L-30, the coefficient of isothermal compressibility (ratio of brine compressibility over freshwater compressibility) was determined to be approximately 0.95. This results in a value of 2.70E-06 psi^{-1} for the formation fluid compressibility (c_w).

By combining the formation and formation fluid compressibility, the total system compressibility is determined. The total system compressibility (c_t) is approximately 10.9 E-06 psi^{-1}.

The specific gravity of the test fluid, based on the static gradient survey performed at the end of the test, was 1.001 (gradient of 0.4335 psi/ft) with a measured temperature during injection of 102.2 °F. Using Equations L-84 through L-87, the viscosity of the injected fluid at bottom hole conditions at the wellbore during injection is 0.71 cp. The compressibility of the injected fluid is (based on Figures L-30 and 31) is 2.88 E-06 psi^{-1}.

The values presented in this section have been utilized for analysis unless stated otherwise.

7. DAILY RATE HISTORY FOR A MINIMUM OF ONE MONTH PRECEDING THE FALLOFF TEST

The following table summarizes recent operational data acquired with HFNR well monitoring equipment.

TABLE 2
MAY AND JUNE INJECTION DATA

Date	Injection Pressure (psi)	Injection Rate (gpm)	Annulus Pressure (psi)
5/1/2022	1,015.2	319.5	1,074.3
5/2/2022	1,030.1	204.9	1,076.4
5/3/2022	1,054.2	278.6	1,085.8
5/4/2022	1,099.0	213.7	1,043.5
5/5/2022	1,135.8	305.8	995.3
5/6/2022	944.9	245.8	983.9
5/7/2022	920.9	164.4	997.3
5/8/2022	1,000.0	163.3	1,080.0
5/9/2022	1,039.0	227.5	1,128.8
5/10/2022	1,254.3	220.7	1,196.6
5/11/2022	1,137.4	163.3	875.8
5/12/2022	1,029.7	174.8	625.5
5/13/2022	1,154.8	245.1	704.2
5/14/2022	1,198.0	221.0	764.1
5/15/2022	1,152.9	167.2	748.8
5/16/2022	1,089.6	206.2	712.9
5/17/2022	1,167.6	206.0	773.9
5/18/2022	1,184.8	250.3	795.9
5/19/2022	1,119.3	177.3	745.1
5/20/2022	1,057.1	192.8	661.3
5/21/2022	1,136.6	237.9	746.6
5/22/2022	1,142.4	210.2	785.3
5/23/2022	1,100.0	246.0	791.1
5/24/2022	1,053.2	284.3	-
5/25/2022	1,047.3	255.6	-
5/26/2022	1,048.4	261.3	-
5/27/2022	1,040.3	221.6	-
5/28/2022	1,034.5	193.2	-
5/29/2022	1,043.7	237.9	-
5/30/2022	1,038.3	211.7	-
5/31/2022	1,047.9	258.7	-
6/1/2022	1,056.1	185.1	739.5
6/2/2022	1,029.0	261.3	618.2
6/3/2022	850.9	310.0	534.2
6/4/2022	882.2	279.2	558.1
6/5/2022	864.1	226.9	552.4
6/6/2022	892.7	257.1	569.9
6/7/2022	911.9	246.2	583.5
6/8/2022	1,055.6	223.3	682.5
6/9/2022	959.6	235.4	669.3

Date	Injection Pressure (psi)	Injection Rate (gpm)	Annulus Pressure (psi)
6/10/2022	1,182.3	240.0	809.2
6/11/2022	1,290.1	235.5	880.2
6/12/2022	1,127.8	157.5	844.6
6/13/2022	1,052.7	216.8	822.3
6/14/2022	1,080.2	243.7	791.9
6/15/2022	1,105.4	287.6	711.4
6/16/2022	1,142.9	234.2	791.2
6/17/2022	1,026.4	262.2	770.6
6/18/2022	1,025.1	227.9	787.2
6/19/2022	1,025.1	257.5	784.0
6/20/2022	1,040.3	303.1	760.2
6/21/2022	1,053.1	264.8	763.4
6/22/2022	1,067.5	260.3	784.6
6/23/2022	1,010.7	284.7	760.1
6/24/2022	1,002.9	159.6	694.1
6/25/2022	1,095.2	92.8	735.2
6/26/2022	1,014.6	84.3	674.0
6/27/2022	1,007.3	83.2	634.9

8. CUMULATIVE INJECTION INTO THE FORMATION FROM TEST WELL

At the time of shut-in for testing the cumulative volume of waste injected into this well since operations began, based on HFNR records, is 31,138,181 barrels (1,307,803,609 gallons).

9. PRESSURE GAUGES

a. **Describe the type of downhole surface pressure readout gauge used included manufacturer and type -** Two downhole pressure and temperature memory gauges were utilized for the falloff testing. The gauges were 1.25-inch Quartz pressure and temperature memory gauges manufactured by DataCan (Part No. 101696).

b. **List the full range, accuracy and resolution of the gauge(s) -** The memory gauges are designed to measure pressure to an accuracy of 0.03% of full scale and a resolution of 0.01% of full scale, and operate within a range of 14.7 to 10,000 psi.

c. **Provide the manufacturer's recommended frequency of calibration and a calibration certificate showing the date the gauge was last calibrated -** These gauges are recommended to be calibrated once per year. These gauges were last calibrated on 5/28/2021. The most recent calibration certificates are provided in Attachment 3. The bottom gauge (Serial Number - 224831) was utilized for analysis and hung at a test depth 7,557 feet BGL.

10. ONE-MILE ARE OF REVIEW (AOR)

A standard one-mile Area of Review (AOR) was evaluated for WDW-2 as part of the annual testing and reporting requirements. This evaluation was performed by Federal Abstract Company. The wells located within this one-mile AOR are listed in Attachment 6. This table includes a listing of operator, well name, API number, well type, well status, location, and date of abandonment or completion. A figure displaying the wells located in the AOR and the wells in the surrounding sections has been provided as Figure 13.

Based on OCD records no wells were plugged and abandoned within the AOR since the previous update. The Choate Davis 13 State #3 (30-015-48888) was spud on Feb 24, 2022 but has no operational information to date. This well targets the Wolfcamp and Cisco for the proposed injection interval.

TABLE 3
WELLS DRILLED WITHIN AOR DURING THE PAST YEAR

Operator	Well Name	API	Well Type	Surface Location	TVD (ft)	Lat Long	Date Spud
Redwood Operating	Choate Davis 13 State SWD #0003	30-015-48888	Injection	D-13-18S-27E	8,800	32.7528547 -104.2387836	2-24-2022

a. **Wells Located Within the One-mile AOR -** The wells located within the one-mile AOR are provided as Attachment 6. This table shows the operator, well name, API number, well type, well status, location, and date of abandonment or completion. The only changes to this AOR list are presented in Table 3 above.

b. **Status of Wells Within AOR -** In Attachment 6, SWD indicates Salt Water Disposal, P&A indicates Plugged and Abandoned, TA indicates Temporarily Abandoned, and AL indicates Abandoned Location.

c. **Provide details on any offset producers and injectors completed in the same injection interval -** HFNR operates three other Class I Injection wells, two of which are completed in the same interval, WDW-1 and WDW-3. Only WDW-3 is located within the 1-mile AOR of WDW-2. Based on public data, there are two additional wells, not operated by HFNR that are located within the AOR and inject into the same interval. These wells are the AAO Federal SWD No. 1, operated by Apache Corporation, and the Federal T SWD #1, operated by Limerock Resources. No offset producers exist in the injection interval within the AOR based on public data. Additional information is presented in Section 12 of this report.

11. GEOLOGY

a. Describe the geologic environment of the injection interval
b. Discuss the presence of geologic features, i.e., pinchouts, channels and faults, if applicable
c. Provide a portion of a relevant structure map, if necessary

The following discussion provides detailed responses to the requirements listed above. This discussion is primarily based on information presented in previous permit applications for this well.

The WDW-1, 2 and 3 wells are located in the northern part of the Delaware Basin. The injection interval for the three wells is composed of carbonates from the Permian-age Lower Wolfcamp Formation, Pennsylvanian-age Cisco Formation, and Pennsylvanian-age Canyon Formation. The Wolfcamp unconformably overlies the Cisco and Canyon Formations. Table 4, sourced from the 2019 MIT report, presents a summary of the logged formation depths for these formations in each of the wells. The geologic interpretations have been confirmed but not revised as part of this report.

TABLE 4
HFNR INJECTION FORMATION TOPS – WDW-1, 2 and 3

Formation	WDW-1 (KB = 3,693 ft AMSL)		WDW-2 (KB = 3,623 ft AMSL)		WDW-3 (KB = 3,625 ft AMSL)	
	MD, KB (ft)	AMSL, KB (ft)	MD, KB (ft)	AMSL, KB (ft)	MD, KB (ft)	AMSL, KB (ft)
Lower Wolfcamp	7,450	-3,757	7,270	-3,647	7,303	-3,678
Cisco	7,816	-4,123	7,645	-4,022	7,650	-4,025
Canyon	8,475	-4,782	8,390	-4,767	8,390	-4,765
Base of Injection Zone (Base of Canyon)	9,016	-5,323	8,894	-5,271	8,894	-5,269

The lower portion of the Wolfcamp Formation, referred to as the Lower Wolfcamp, is the uppermost unit in the injection interval. The top of the zone ranges from 7,303 – 7,450 feet KB in the referenced wells. A structure map of the top of the Lower Wolfcamp is provided in Figure 3. The Wolfcamp ranges from fine to medium-grained, limestones with interbedded shales (Meyer, 1966). The picks for the top of the Wolfcamp were made from log correlations. The Wolfcamp is overlain by the dense, dolomitic Abo Formation. The gross thickness of the Lower Wolfcamp is approximately 363 feet thick. According to porosity log data from the area, the Wolfcamp porosity is generally greater than 5%.

The Cisco Formation is described as consisting of limestone/dolomite with some interbedded shales and fine-grained sandstones (Lindsay et al., 2006). The top of the Cisco occurs at approximately 7,645 – 7,816 feet KB. A structure map of the top of the Cisco can be found in Figure 4. Coarse-grained dolomites have been noted to have interstitial to cavernous porosity (Lindsay et al., 2006). At the three HFNR wells, the Cisco Formation is a porous dolomite that ranges from gross thickness of 659 feet to 745 feet. The net thickness using a porosity cutoff of greater than 10% is approximately 100 feet in WDW-1, 32 feet in WDW-2, and 65 feet in WDW-3.

The Canyon Formation typically consists mostly of brown limestone with interbedded grey shales (Lindsay et al., 2006). The top of the Canyon occurs at approximately 8,400 KB. Some white sandstone and conglomerates have been noted at the base of the Canyon (Lindsay et al., 2006). Some dolomites have been noted to be present in the Canyon as well. Gross thickness of the Canyon Formation is approximately 504-541 feet in the three wells. The net thickness using a porosity cutoff greater than 5% is approximately 34 feet in WDW-1, 30 feet in WDW-2, and 10 feet in WDW-3. No intervals appear to have a porosity more than 10%, based on logs. A structure map is provided in Figure 5 which displays the top of the Strawn Formation, indicating the bottom of the Canyon.

12. OFFSET WELLS

HFNR operates three other Class I Injection wells locally, two of which are completed in the same interval, WDW-1 and WDW-3. Only WDW-3 is listed in Attachment 6 since WDW-1 is not within the 1-mile AOR surrounding WDW-2.

WDW-1 is approximately 10,900 feet to the northeast of WDW-2, while WDW-3 is approximately 3,100 feet to the northeast of WDW-2. These wells were injected into at a constant rate during the duration of testing, are at a significant distance from the test well, are completed in a relatively high permeability system, and are not considered to have had an unacceptable impact on the testing performed on WDW-2.

There are two additional wells, not operated by HFNR, that are within the AOR and inject into the same interval. These wells are the AAO Federal SWD No. 1 (API

No. 30-015-42549) operated by Apache Corporation, and the Federal T SWD #1 (30-015-26404) operated by Redwood Operating. In addition, the Choate Davis 13 State #3 (30-015-48888) was spud on Feb 24, 2022 but has no operational information to date. This well targets the Wolfcamp and Cisco for the injection interval.

a. **Identify the distance between the test well and any offset wells completed in the same injection interval -** WDW-3 is approximately 3,100 feet to the north-northeast, the AAO Federal SWD No. 1 is approximately 5,100 feet to the north-northeast, and the Federal T SWD #1 is approximately 3,800 feet to the east-northeast.

b. **Report the status of the offset wells during both the injection and shut-in portions of the test -** The offset HFNR wells were operated at a constant rate during testing. During April 2022, data from the state website indicated average injection rates of approximately 15 gpm for the AAO Federal SWD #1 and 310 gpm for the Federal T SWD #1.

c. **Describe the impact, if any, of the offset wells during both the injection and shut-in portions of the test –** Development of a useful test was not prevented by these offset injection wells, although the late-time test data is likely impacted by non-radial flow effects. Further discussion of possible late-time effects is included in Section 15 of this report.

13. CHRONOLOGICAL LISTING OF THE DAILY TESTING ACTIVITIES

a. **Date of the test -** Testing was performed from June 28 - 30, 2022.

b. **Time of the injection period -** Constant-rate injection occurred for approximately 48 hours before the falloff test began. This injection period exceeded the duration of the falloff.

c. **Type of injection fluid -** Filtered waste was utilized as the test injection fluid.

d. **Final injection pressure and temperature prior to shutting in the well -** Prior to shutting in the well, the bottom hole injection pressure was 4,206.4 psia (at 7,557 feet BGL) and the injection rate was 81.0 gpm (2,777.1 bpd) with a measured bottom hole temperature of 99.9 °F.

e. **Total shut-in time -** The well was shut-in for approximately 41 hours for testing.

f. **Final static pressure and temperature at the end of the falloff portion of the test -** At the conclusion of the test, the final bottom hole pressure was 4,023.4 psia and the final bottom hole temperature was 101.6 °F.

14. DESCRIBE THE LOCATION OF THE SHUT-IN VALVE USED TO CEASE FLOW TO THE WELL FOR THE SHUT-IN PORTION OF THE TEST

The well was shut-in using a wing valve located on the inlet side of the wellhead.

15. PRESSURE FALLOFF ANALYSIS

This section addresses requirements 15-20 of Section IX, Report Components, of the OCD falloff test guidelines.

The equations, parameters and calculations utilized to derive these values are detailed further below. Table 5 contains input values used to perform the specified calculations.

The raw digital data collected during the test is provided in Attachment 7. The contracted service company that supplied the gauges used for testing generated an injection falloff test summary report based on the data that was collected. This report is provided in Attachment 4.

a. **Radius of test investigation -** The radius of investigation for this test was determined to be 5,617 feet based on the average permeability derived from test analysis.

b. **Time to beginning of the infinite acting portion of the test -** The time at which the test began to transition to radial flow was approximately 10 hours after shut-in. This value was derived from both the diagnostic and semi-log plots.

c. **Slope(s) determined from the semi-log plot -** The slope for the likely radial period, as determined by the semi-log plot, 2.84 psi/cycle.

d. **Transmissibility (kh/μ) -** The transmissibility was determined to be 158,999 md-ft/cp.

e. **Permeability (k) -** The permeability was determined to be 509 md.

f. **Skin Factor (s) -** The skin factor was determined to be 64.4 units.

g. **Pressure drop due to skin (ΔP_{skin}) -** The pressure drop due to skin was determined to be 158.9 psi

h. **Flow efficiency -** The flow efficiency was determined to be 0.13.

i. **Flow capacity (kh) -** The flow capacity (permeability-thickness) was determined to be 89,039 md-ft.

j. **P_{1hr} -** The extrapolated 1-hr pressure was determined to be 4,028.6 psi.

TABLE 5
FALLOFF TEST ANALYSIS INPUT VALUES

Parameter	Value	Unit
Formation Thickness, h	175	feet
Porosity, Φ	10	percent
Viscosity, μ	0.56	centipoise
Formation Compressibility, c_f	8.20E-06	1/psi
Total Compressibility, c_t	10.90E-06	1/psi
Formation Volume Factor, B	1.00	bbl/stb
Wellbore Radius, r_w	0.3281	feet
Final Well Flowing Pressure, p_{wf}	4,206.4	psia
Final Injection Rate, q_{final}	2,777.1 81.0	bwpd (gpm)
Horner Straight Line Slope, m	2.84	psi/cycle

The average historical injection period used to account for total volume in the analysis was calculated by dividing the cumulative historical injection through 6/1/2020 (28,632,970 barrels) by the final injection rate (50.8 gpm). This resulted in a value of 394,919 hours. This value of 394,919 hours of injection at 50.8 gpm was used in conjunction with the injection data collected from 6/1/2020 through 6/28/2022. The total waste volume injected up to the time of shut-in utilized for calculations was 1,307,803,609 gallons (31,138,181 bbls).

To determine the mobility-thickness (transmissibility), the following equation was utilized. The resulting transmissibility was 158,999 md-ft/cp.

$$\frac{kh}{\mu} = 162.6\frac{q_{final}B}{m}$$

Where,

k is the permeability, in md
h is the formation thickness, in feet
μ is the viscosity of the formation fluid, in cp
q is the final flow rate, in bpd
B is the formation volume factor in RB/STB
m is the slope of the line assigned to the radial flow period on the semi-log plot, in psi/cycle

and 162.6 is a unit conversion constant

$$\frac{kh}{\mu} = Transmissibility = 162.6\frac{2{,}777.1 * 1.0}{2.84} = 158{,}999\frac{md-ft}{cp}$$

The transmissibility was then used to determine the permeability thickness. The resulting permeability-thickness was 89,039 md-ft.

$$kh = \left(\frac{kh}{\mu}\right)\mu = 158{,}999\left(\frac{md-ft}{cp}\right)0.56\ cp = 89{,}039\ md-ft$$

The permeability thickness was then used to determine the permeability of the reservoir. The resulting permeability was 509 md.

$$k = \frac{kh}{h} = \frac{89{,}039\ md-ft}{175\ ft} = 509\ md$$

In order to determine if the proper viscosity was utilized in the previous calculations, it must be determined if the pressure transient was traveling through reservoir fluids. This is done by determining the time it is expected to take the pressure transient to travel through the injected fluid. The first step of this is to determine the radius of waste emplaced by injection. The piston-like displacement radius was estimated to be 1,783 feet.

$$r_{waste} = \sqrt{\frac{0.13368 * V}{\pi h \Phi}}$$

Where,

r_{waste} is the distance to the waste front, in feet
V is the total volume of fluid injected into the well, in gallons
h is the formation thickness, in feet
Φ is the porosity, as a fraction
0.13368 is a conversion constant

$$r_{waste} = \sqrt{\frac{0.13368 * (1{,}307{,}803{,}609)}{\pi * 175 * 0.10}} = 1{,}783\ feet$$

Based on this radius, the time for a pressure transient to travel through this fluid can be calculated. The resulting time was 3.62 hours.

$$t_{waste} = 948\frac{\Phi \mu_{waste} c_t r_{waste}^2}{k}$$

Where,

t_{waste} is the time for a pressure transient to reach the waste front, in hours
Φ is the porosity, as a fraction
μ_{waste} is the viscosity of the waste, in cp

r_{waste} is the radius of the waste front, in feet
c_t is the total compressibility, in psi^{-1}
k is the permeability, in md
948 is a conversion constant

$$t_{waste} = 948\frac{0.10 * 0.56 * 10.90E-06 * (1{,}783)^2}{508.8} = 3.62\ hours$$

Based on this result, and the time it took for the transition to radial flow to start (~10 to 15 hours), it is known that the pressure transient was traveling through reservoir fluid during the middle-time flow period. This indicates that the appropriate viscosity was used for the evaluation.

The near wellbore damage, referred to as skin, can be calculated based on the results of the straight line, semi-log analysis as well. This is done by utilizing the following equation. The result of this calculation was 64.4 units.

$$s = 1.151\left(\frac{P_{wf} - P_{1hr}}{m} - log\left(\frac{k}{\Phi\mu c_t r_w^2}\right) + 3.23\right)$$

Where,

s is skin damage, in units
P_{wf} is the shut-in well pressure, in psi
P_{1hr} is the extrapolated pressure at a time of 1 hour, using the slope of the straight line from the semi-log analysis, in psi
m is the slope of the radial line, in psi/cycle
k is the permeability, in md
Φ is the porosity, as a fraction
μ is the viscosity, in cp
r_w is radius of the wellbore in feet
1.151 and 3.23 are constants

$$s = 1.151\left(\frac{4{,}206.4 - 4{,}028.6}{2.84} - log\left(\frac{508.8}{0.10 * 0.56 * 10.90E-06 * 0.3281^2}\right) + 3.23\right) = 64.4$$

The change in pressure, due to skin, in the wellbore can be calculated using the following equation. The result of this calculation was 158.9 psi of pressure due to skin.

$$\Delta P_{skin} = 0.869 * m * s$$

Where,

ΔP_{skin} is the change in pressure due to skin damage, in psi
m is slope of the radial line, in psi/cycle
s is skin, in units
0.869 is a conversion constant

$$\Delta P_{skin} = 0.869 * 2.84 * 64.4 = 158.9\ psi$$

The flow efficient (FE) can be determined using the following equation, provided within the OCD Guidelines (Section IX, 15, h). The result of this calculation was 0.13.

$$FE = \frac{P_{wf} - \Delta P_{skin} - P_{end\ of\ test}}{P_{wf} - P_{end\ of\ test}}$$

Where,

P_{wf} is the shut-in well pressure, in psi
ΔP_{skin} is the change in pressure due to skin damage, in psi
$P_{end\ of\ test}$ is the pressure at the end of the falloff test, in psi

$$FE = \frac{4{,}206.4 - 158.9 - 4{,}023.4}{4{,}206.4 - 4{,}023.4} = 0.13$$

The test radius of investigation (r_{inv}) can be determined using the following equation. The result of this calculation was 5,617 feet.

$$r_{inv} = 0.029\sqrt{\frac{kt}{\Phi \mu c_t}}$$

Where,

k is permeability, in md
t is time, in hours
Φ is porosity, as a fraction
μ is viscosity, in cp
c_t is total compressibility, in psi^{-1}
0.029 is a constant

$$r_{inv} = 0.029\sqrt{\frac{508.8 * 44}{0.1 * 0.56 * 10.90E-06}} = 5{,}617\ feet$$

Based on examination of the log-log diagnostic plot provided as Figure 9, early time data is dominated by changing wellbore storage. The change in storage trend in the falloff after approximately 7 minutes may be associated with a transition to vacuum. This event extended the early time period of the test Based on the model fit shown in Figure 9, the test data appears to be transitioning toward a radial flow period approximately 10-15 hours after shut-in. The test has also been analyzed using the analytical Horner semi-log method based on the reasonable assumption that a period of radial flow exists in the data. The derivative shows that offset heterogeneity, interference, and/or dual porosity effects may influence the data for the remainder of the test, with no clear indication of the late-time transition. Figure 10 shows the semi-log plot of the falloff with a straight line representing a possible radial flow period consistent with the deviation from storage shown on the log-log plot. The late-time tail at the end of the test is not accounted for in this analysis. The simulation analysis presented in Figure 9 generally supports the more simplistic graphical analysis that relies upon the semi-log slope. The character of the fall-off data and the derivative are similar to the patterns evident in previous testing of this well.

The following figures are provided:

- Figure 6 - Cartesian Plot of Pressure, Temperature and Rate vs. Time
- Figure 7 - Full Rate History Plot
- Figure 8 - Cartesian Plot of Pressure Falloff with Model Match
- Figure 9 - Log-log Derivative Plot with Model Match
- Figure 10 - Semi-log Horner Plot with Model Match
- Figure 11 - Daily Injection Rate History for Month Prior to Test Plot
- Figure 12 - Hall Plot

As specified by OCD requirements, a Hall Plot (Figure 12) generated from the data presented in Table 2 over the month leading up to the falloff test this year is presented. It is noted that this plot of a limited elapsed time of the Hall function is a simplistic presentation based on correcting average daily wellhead pressures to bottomhole conditions based on hydrostatic head and tubing friction loss. The plot has been made with this raw BHP rather than a pressure change (or dp) that would be generated by subtracting original reservoir pressure from the injection pressure value. Because this BHP value is used, the Hall plot slope is not proportional to other indicators, but qualitatively can yield insight to well conditions based on changing slopes. Further, consistent with the Hall method, it is assumed that the reservoir is homogenous and isotropic, that none of the average daily pressures are impacted by transient flow (relatively continuous, constant-rate injection took place), and that no offset wells are impacting pressure at this well during the time that the Hall function has been plotted (May and June of 2022). The slope of the data is fairly linear, and this linearity is consistent with no

significant changes in well condition taking place during this time period. The final few data points in Figure 12 exhibit a steeper slope, and the nature of this slope will need to be further analyzed as more data is acquired.

Table 6 shows all historical well test analysis results, including the results from the test this year. Attachment 5 presents a summary of the falloff test analysis.

TABLE 6
HISTORICAL AMBIENT RESERVOIR TESTING

Year	Fill Depth (feet)	Permeability (md)	Mobility-thickness (md-ft/cp)	Skin (units)	P* (psia)
2022	8,306	509	158,999	64.4	4,006.1
2021	8,304	493	154,200	336.9	3,951.0
2020	8,355	825	229,281	149.4	4,039.6
2019	8,375	466	143,138	77.7	4,138.6
2018	8,356	785	240,931	117.0	4,239.8
2017	8,356	829	254,457	83.9	4,216.1
2016	8,362	510	156,606	25.8	4,259.4
2014	8,773	1,080	320,328	38.6	4,285.2
2012	8,775	1,848	548,069	26.0	3,898.6
2011	8,335	1,451	430,405	29.4	3,697.3
2010	8,775	820	243,821	86.5	3,576.6
2009	8,775	856	253,821	39.7	3,445.9
2008	NA	1,091	265,300	155.0	3,393.5
2006	NA	2,184	707,629	81.6	3,393.6
2005	NA	2,496	808,946	23.5	3,348.0
2001	NA	2,211	716,551	54.1	3,236.4
1999	NA	4,712	1,527,060	59.7	2,844.5
Permit	NA	250	40,094	NA	NA

All raw data generated by the test will be kept on file by HFNR for a period not less than five years. The raw data has been provided as a part of this report, with additional files available upon OCD request.

16. INTERNAL MECHANICAL INTEGRITY

On June 30, the annulus was pressured to 660.9 psi to begin the mechanical integrity test. The well had been shut in for approximately 46 hours prior to the test, ensuring thermal equilibrium. A calibrated digital pressure gauge (Crystal XP2i, 5,000 psi, SN - 901241) supplied by Petrotek was installed on the annulus at the wellhead. The well and test gauge were then isolated from the rest of the system and annulus pressure was then monitored for a period of thirty minutes at 5-minute intervals. During the test the pressure decreased by 2.0 psi. Since a change of

10% (66.1 psi) of the test pressure is allowable, this test is within acceptable specifications.

Attachment 2 presents a copy of the gauge certification. Pressures were observed as follows during testing.

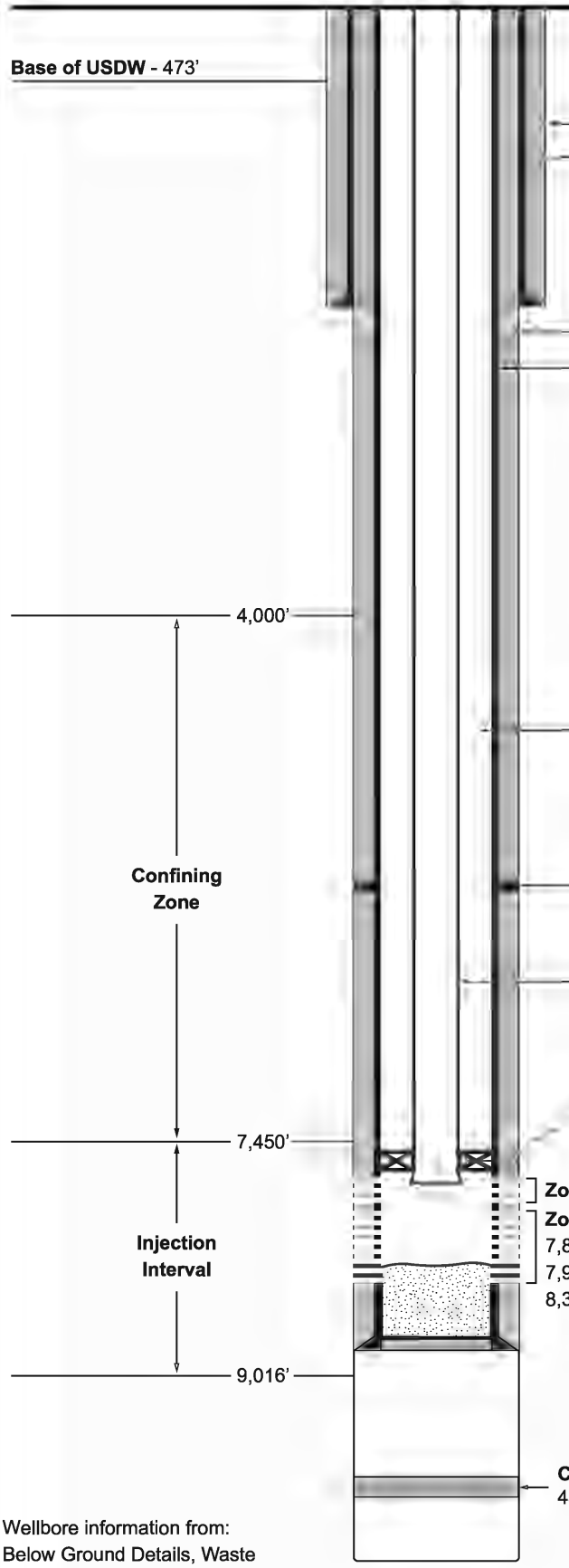
TABLE 7
ANNULUS PRESSURE TEST MEASUREMENTS

Time, Minutes	0	5	10	15	20	25	30
Pressure, Psi	660.9	658.9	658.7	658.8	658.9	658.9	658.9

FIGURES

OCD UIC Permit: UICI-008-2
Well API Number: 30-015-20894
Eddy County, New Mexico
Sec. 31, T17S-R27E
Lat. 32.763772° / Long. -104.238508° (NAD 83)

All depths referenced to Kelly Bushing (KB) elevation 13' above ground level.
Ground Level Elevation: +3,610' MSL



11" Hole

Surface Casing (0' - 1,955'): 8-5/8", 32 lb/ft, cemented to surface with 800 sacks of cement.

7-7/8" Hole

Protection Casing (0' - 8,869'): 5-1/2", 17 lb/ft, L-80, LT&C. Casing cemented in two stages.

First Stage: 575 sacks of modified Class "H" with 0.4% CFR-3, 5 lb/sk Gilsonite, 0.5% Halad-344, and 3 lb/sk salt. Mixed at 13.0 ppg. Opened DV tool at 5,785' and circulated 20 sacks to surface.

Second Stage: Lead Slurry: 300 sacks of Interfill "C" (35:65:6) mixed at 11.7 ppg. Tail Slurry: 695 sacks of modified Class "H" with 0.4% CFR-3, 5 lb/sk Gilsonite, 0.5% Halad-344 and 3 lb/sk salt, mixed at 13.0 ppg. Circulated 150 sacks to surface. Topped out with 10 yards of Redi-Mix.

Annulus Fluid: 8.7 lb/gal brine water mixed with UniChem Techni-Hib 370 corrosion inhibitor

DV Tool (5,785')

Injection Tubing (0' - 7,528'): 3-1/2", 9.2 lb/ft, J-55, smls, NUE 10rd.

Packer (7,528'): 5-1/2" x 2-7/8" Weatherford Completion Tools (Arrow) Model X-1 retrievable packer. Minimum I.D. = 2.4375". Wireline re-entry guide at bottom. To release, turn 1/4-turn to the right and pick up.

Zone 1 Perforations: 7,570'-7,620', 7,676'-7,736'

Zone 2 Perforations:
7,826'-7,834', 7,858'-7,880', 7,886'-7,904', 7,916'-7,936', 7,944'-7,964', 7,990'-8,042', 8,096'-8,116', 8,191'-8,201' 8,304'-8,319', 8,395'-8,399'

Cement Plug (9,675 - 9,775'): 45 sacks.

Top of Fill: 8,304' (Tagged 7/2021)
PBTD: 8,770'
TD: 10,372'

Wellbore information from: Below Ground Details, Waste Disposal Well No. 2, by Subsurface Technology, Figure 1, 2001.

NOT TO SCALE

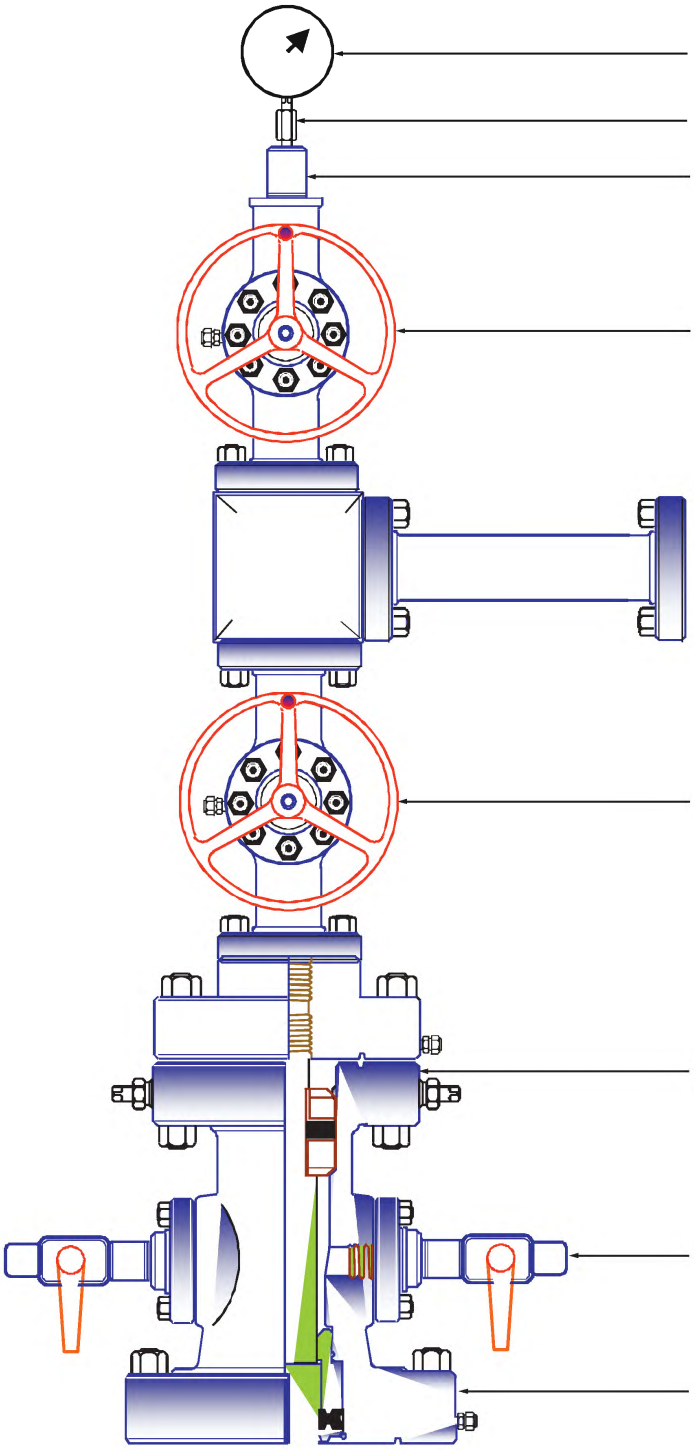
HOLLYFRONTIER

Figure 1
WDW No. 2,
Wellbore Schematic
2022 FOT/MIT Report

Scale: NTS	Date: July 2022	
Fig_01_HF_Artesia_2022_WDW_02.pdf	By: WEK	Checked: LW

Petrotek
5935 South Zang Street, Suite 200
Littleton, Colorado 80127 USA
303-290-9414
www.petrotek.com

OCD UIC Permit: UICI-008-2
Well API Number: 30-015-20894
Eddy County, New Mexico
Sec. 31, T17S-R27E
Lat. 32.763772° / Long. -104.238508° (NAD 83)



Well Head information partially
from: Well: Navajo Refining
WDW #2, by Subsurface Technology

NOT TO SCALE

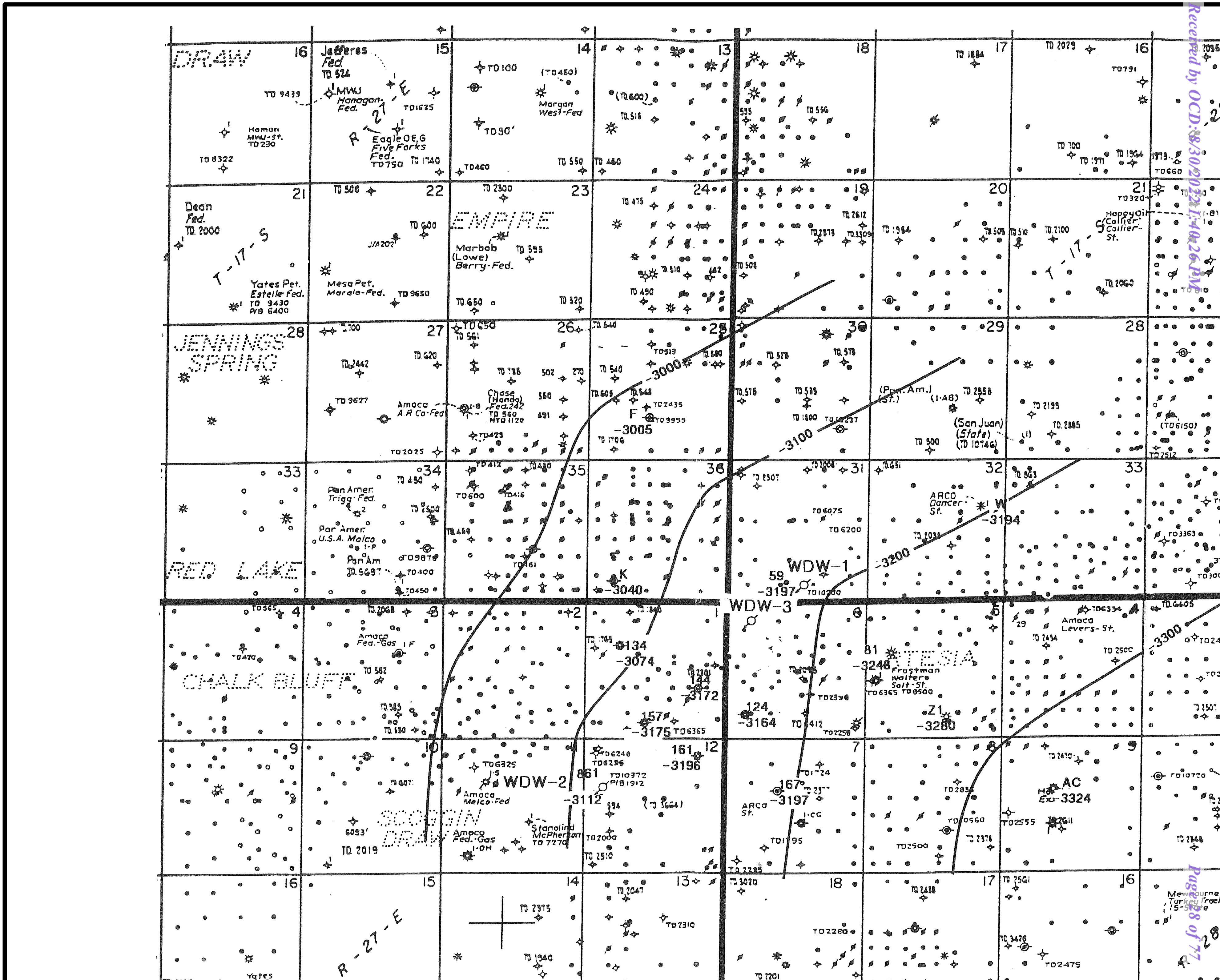
HOLLYFRONTIER

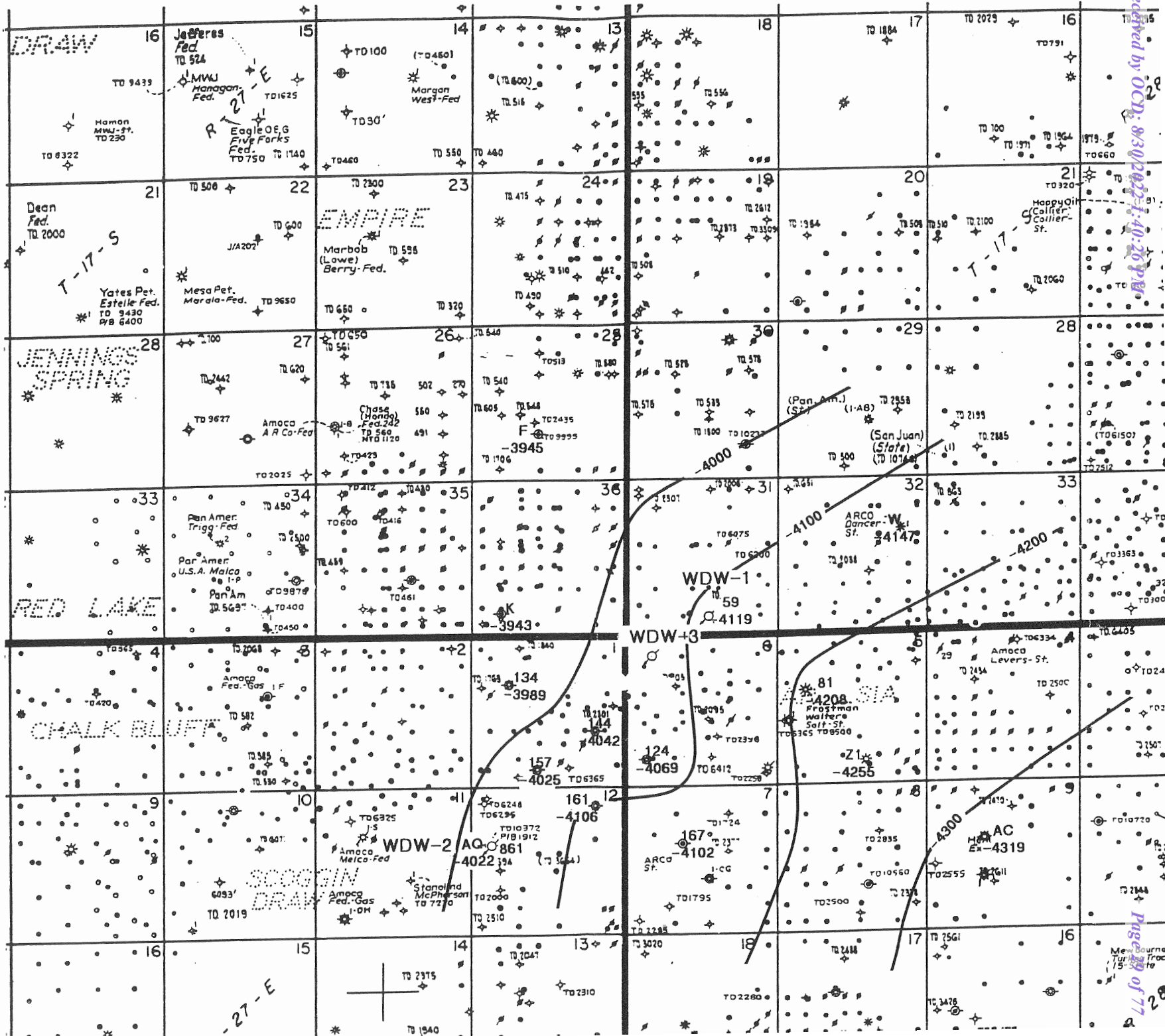
Figure 2
WDW No. 2,
Wellhead Schematic

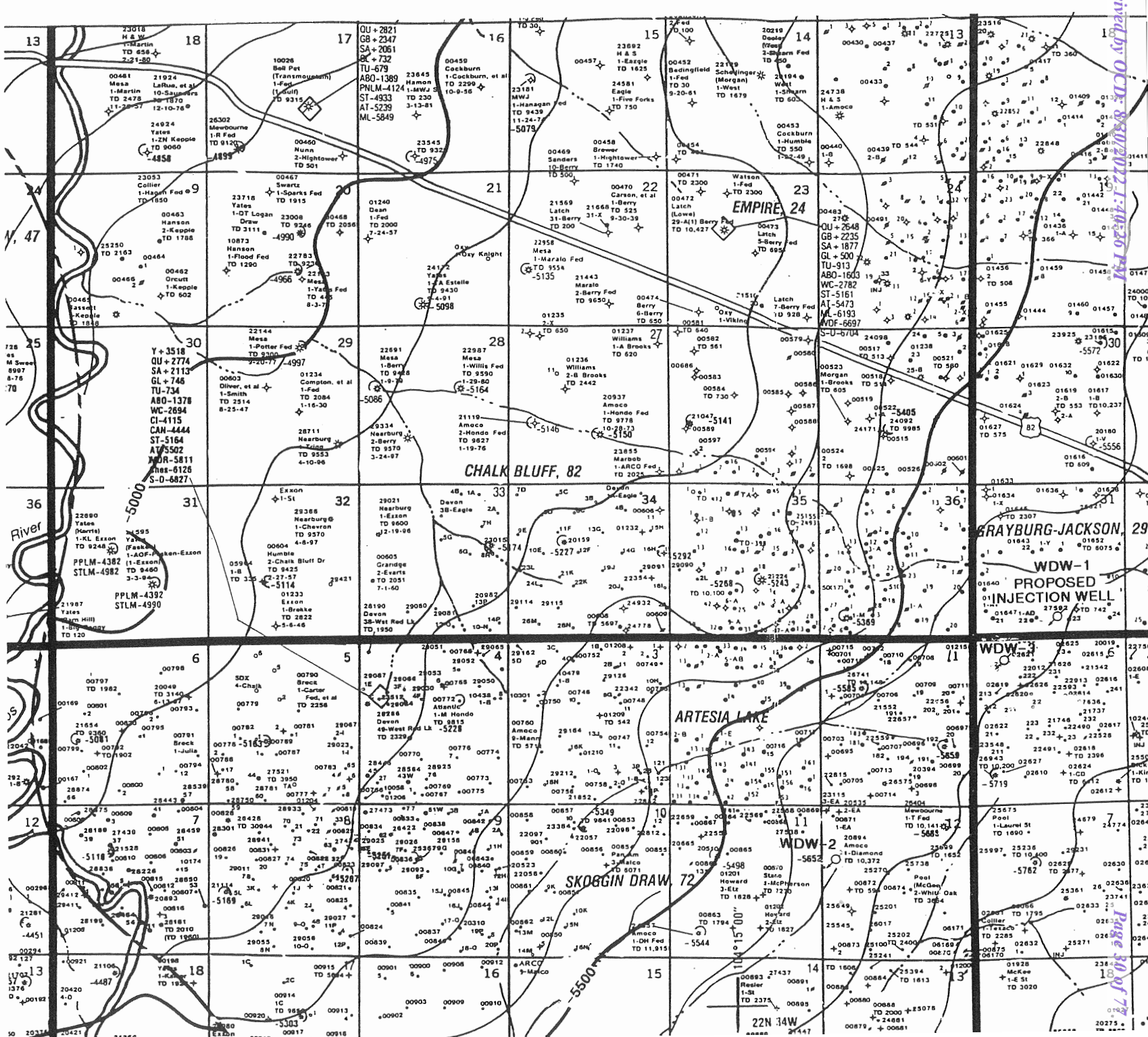
2022 FOT/MIT Report

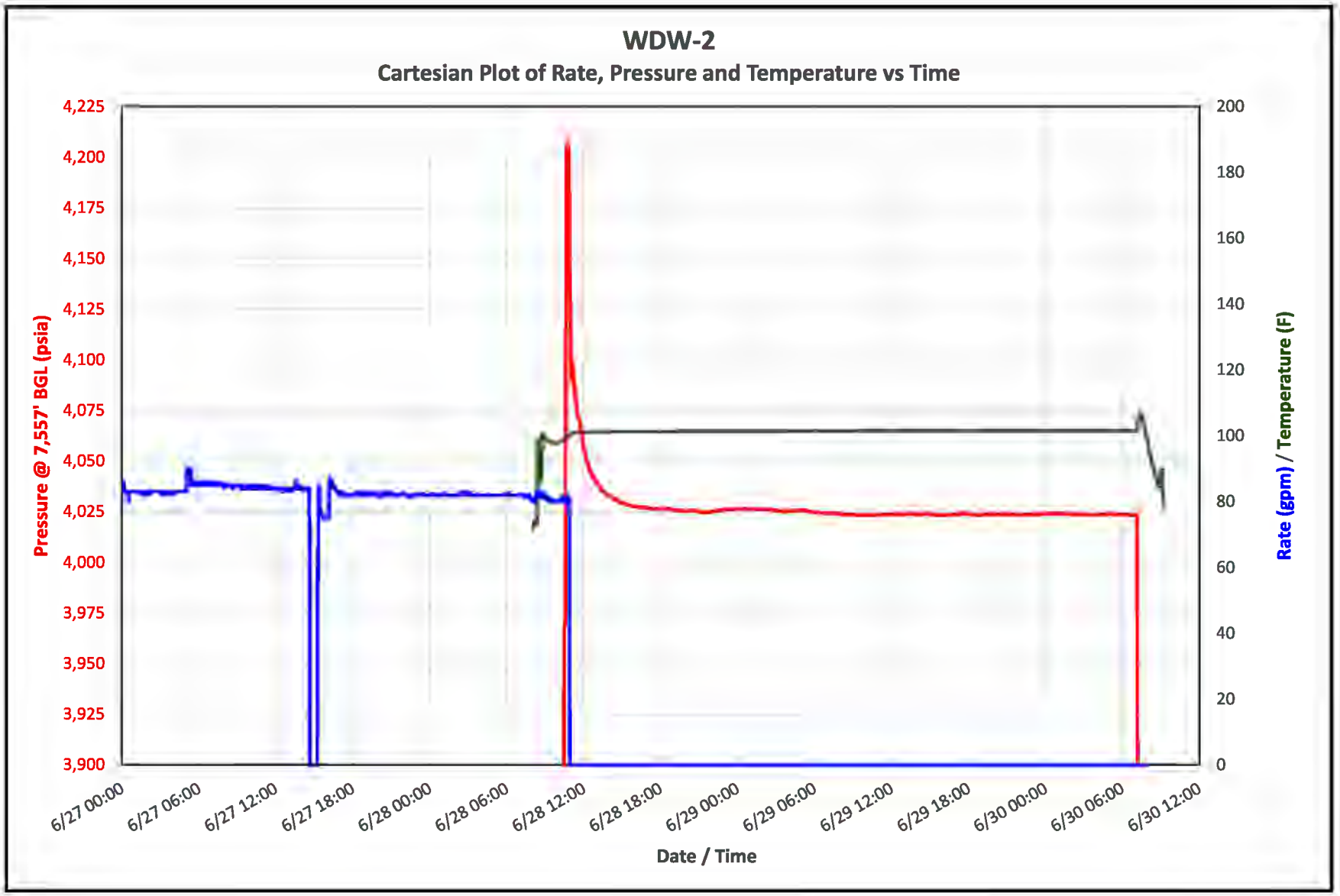
Scale: NTS	Date: July 2022	
Fig_02_HF_Artesia_2022_WDW_02.pdf	By: WEK	Checked: LW

Petrotek
5935 South Zang Street, Suite 200
Littleton, Colorado 80127 USA
303-290-9414
www.petrotek.com





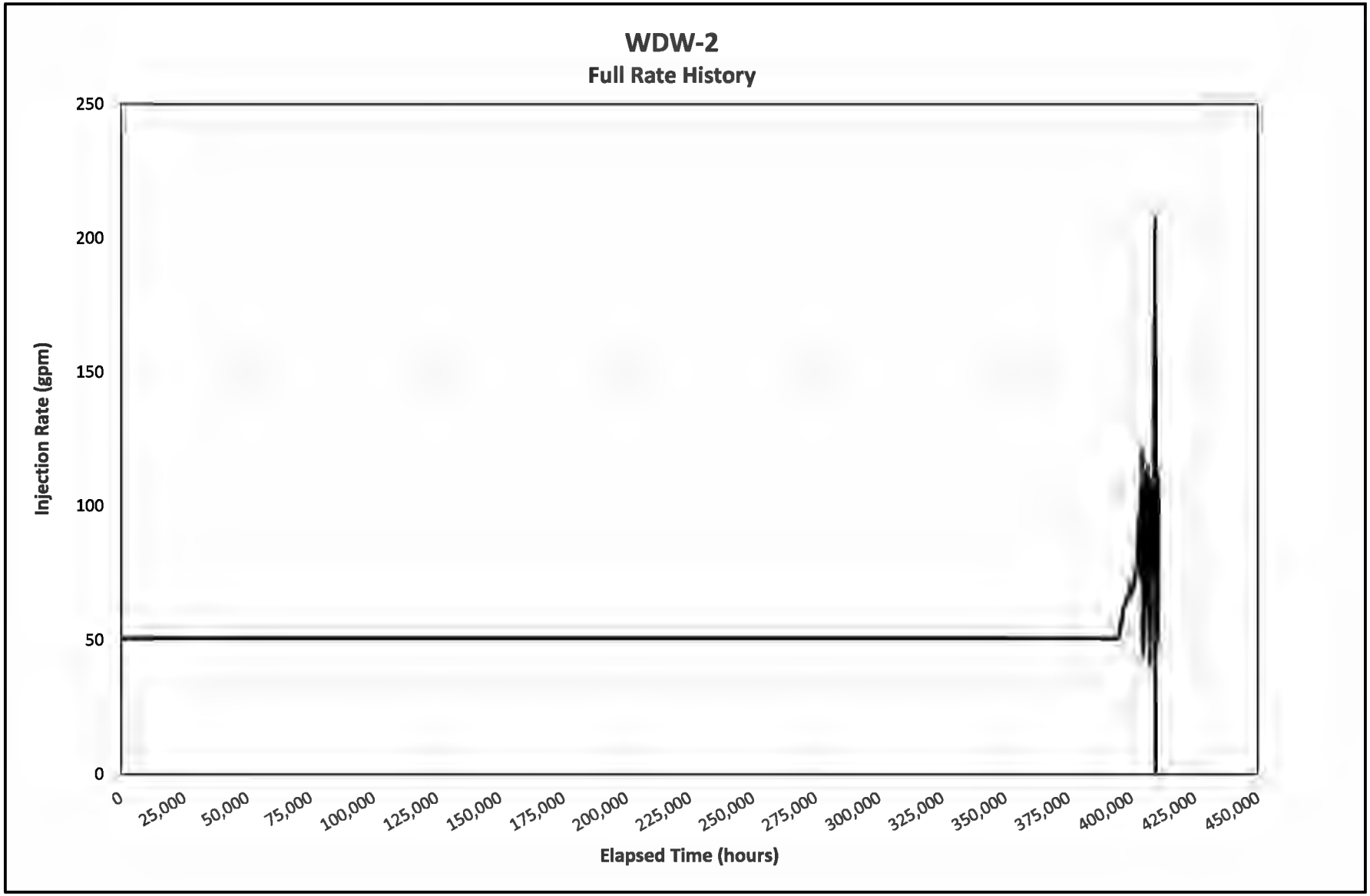




HOLLYFRONTIER

Figure 6
Cartesian Plot of Rate, Pressure and Temperature vs Time
2022 Well Testing

Petrotek



HOLLYFRONTIER

Figure 7
Full Rate History
2022 Well Testing

Petrotek

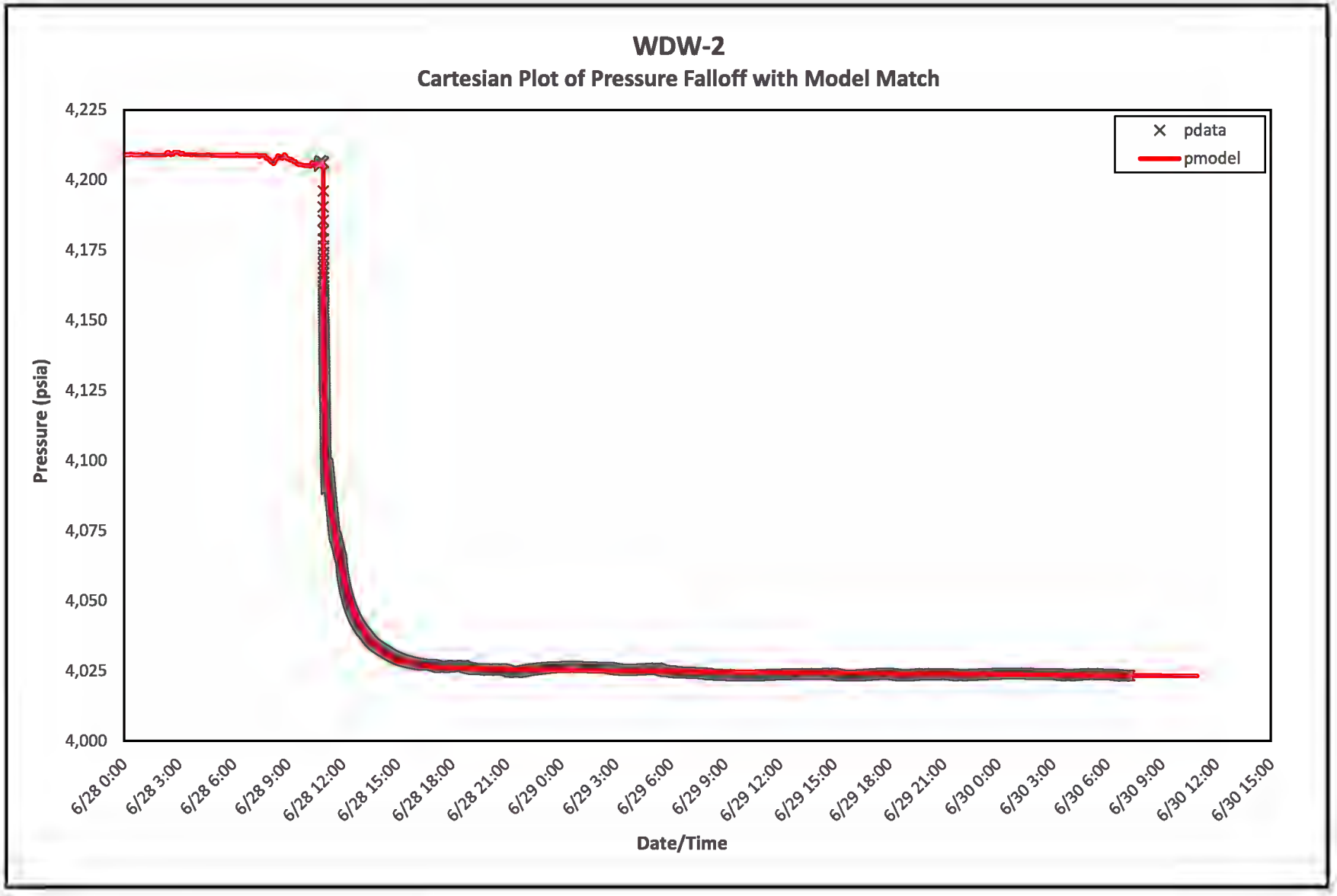


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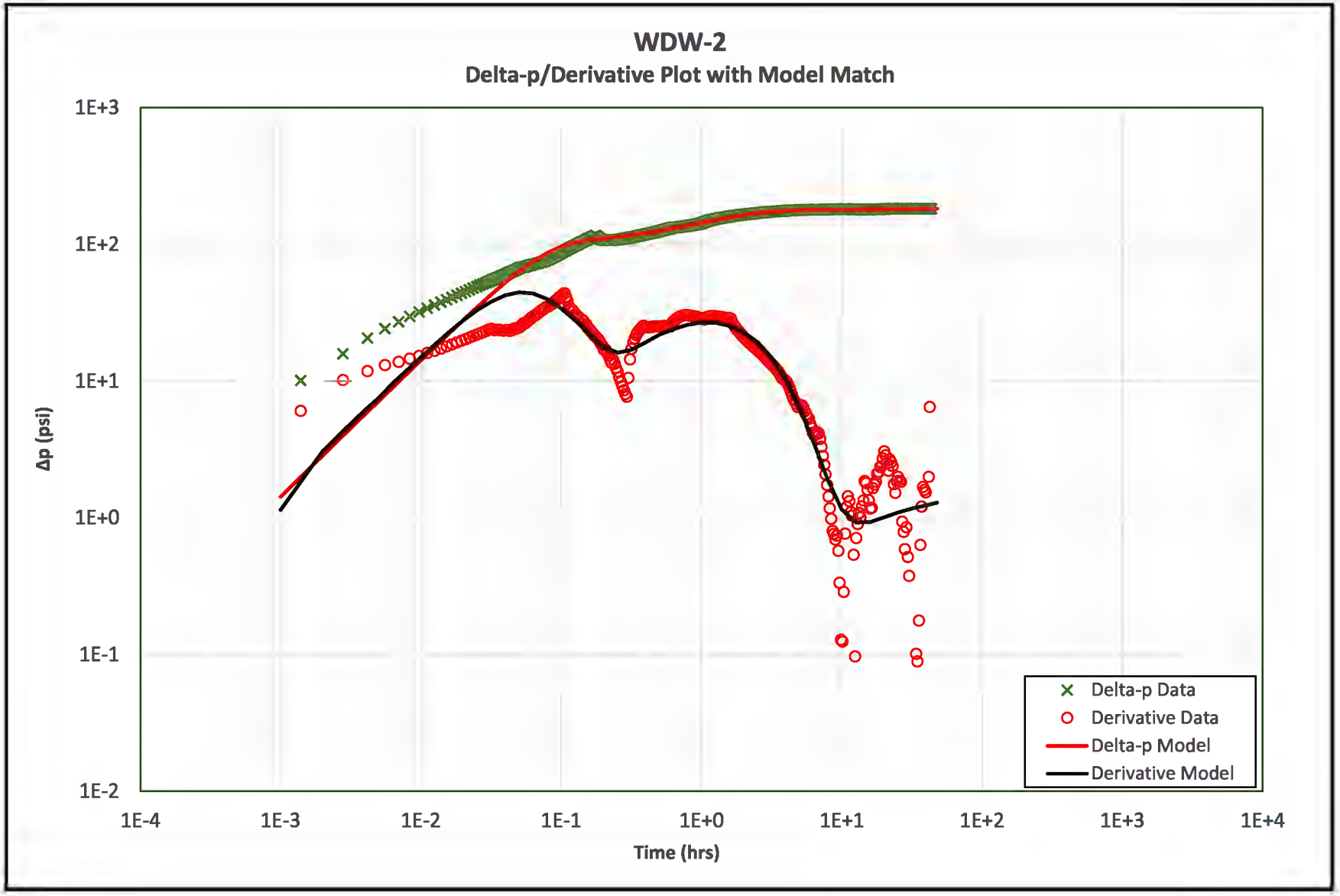
Figure 8
Cartesian Plot of Pressure Falloff with Model Match
2022 Well Testing

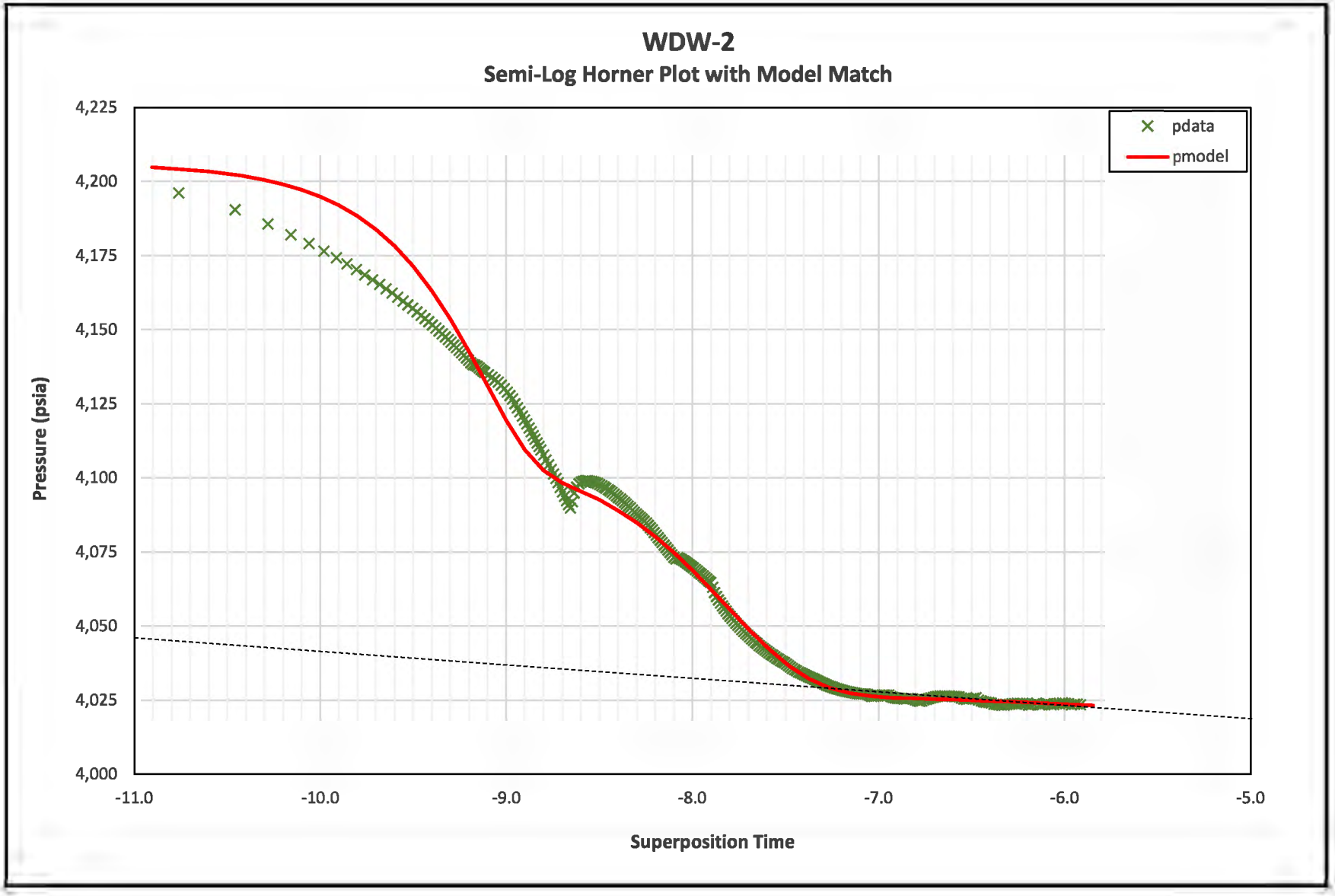
Petrotek



HOLLYFRONTIER

Figure 9
Delta-p/Derivative Plot with Model Match
2022 Well Testing

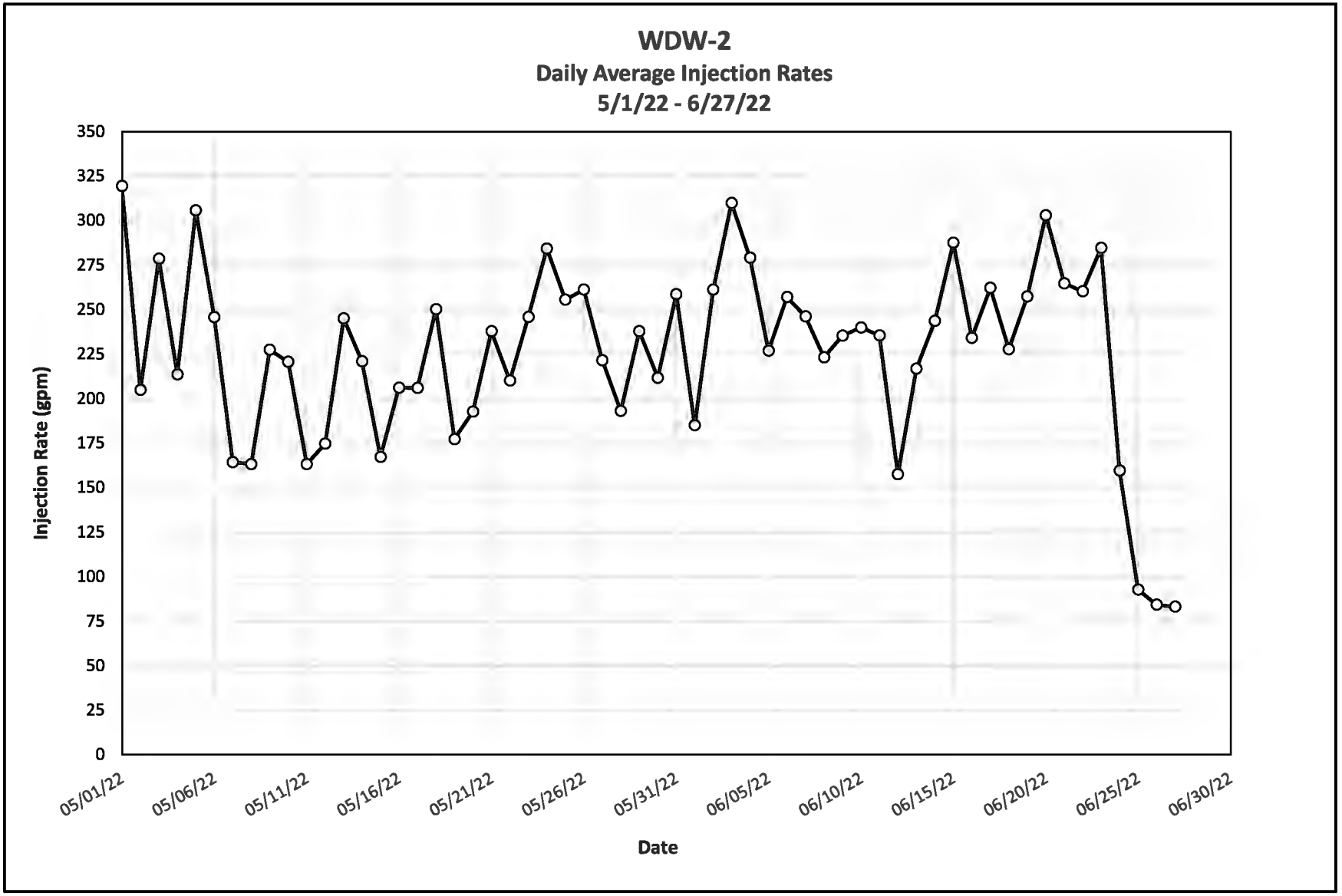
Petrotek



HOLLYFRONTIER

Figure 10
Semi-Log Horner Plot with Model Match
2022 Well Testing

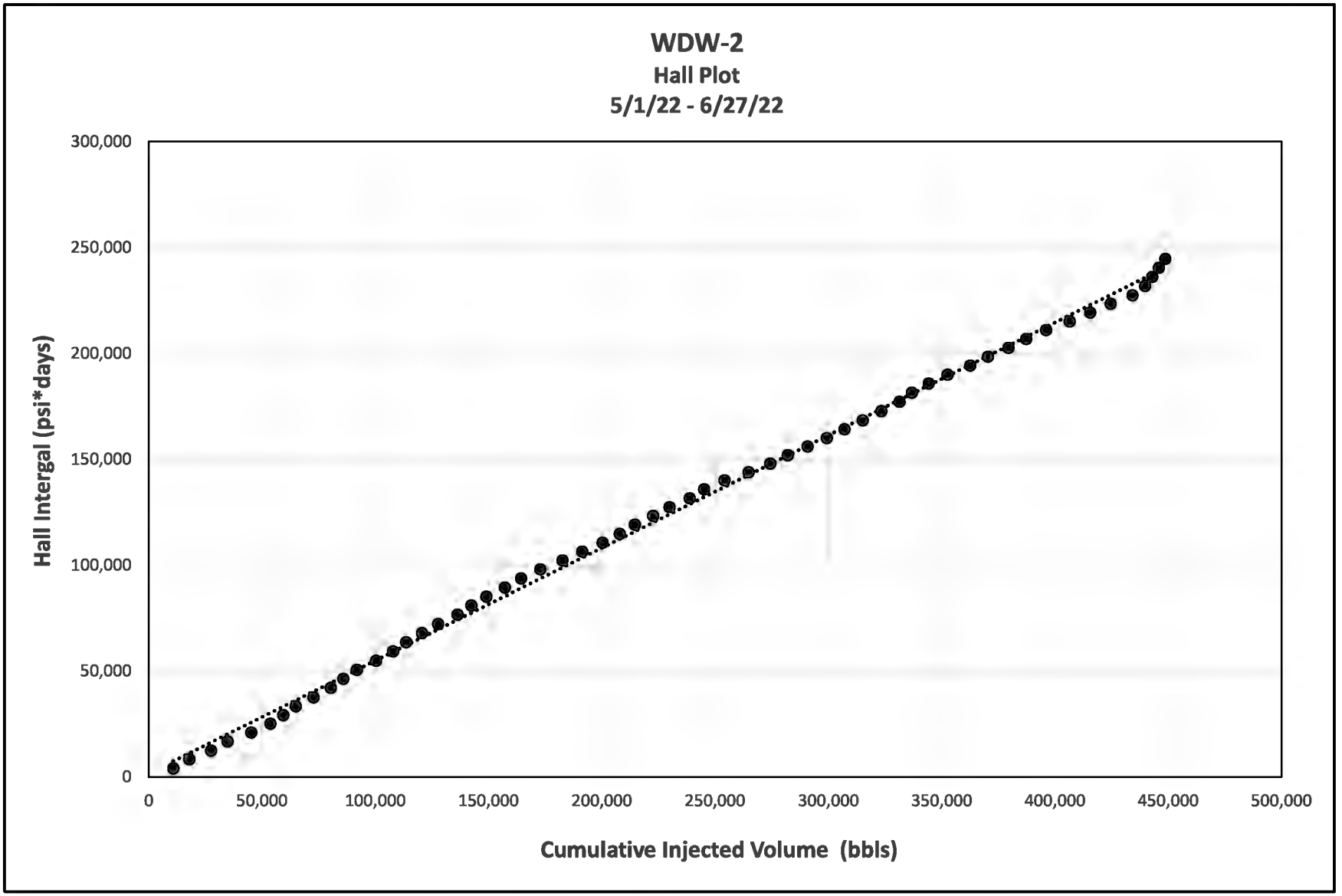
Petrotek



HOLLYFRONTIER

Figure 11
Daily Average Injection Rates
2022 Well Testing

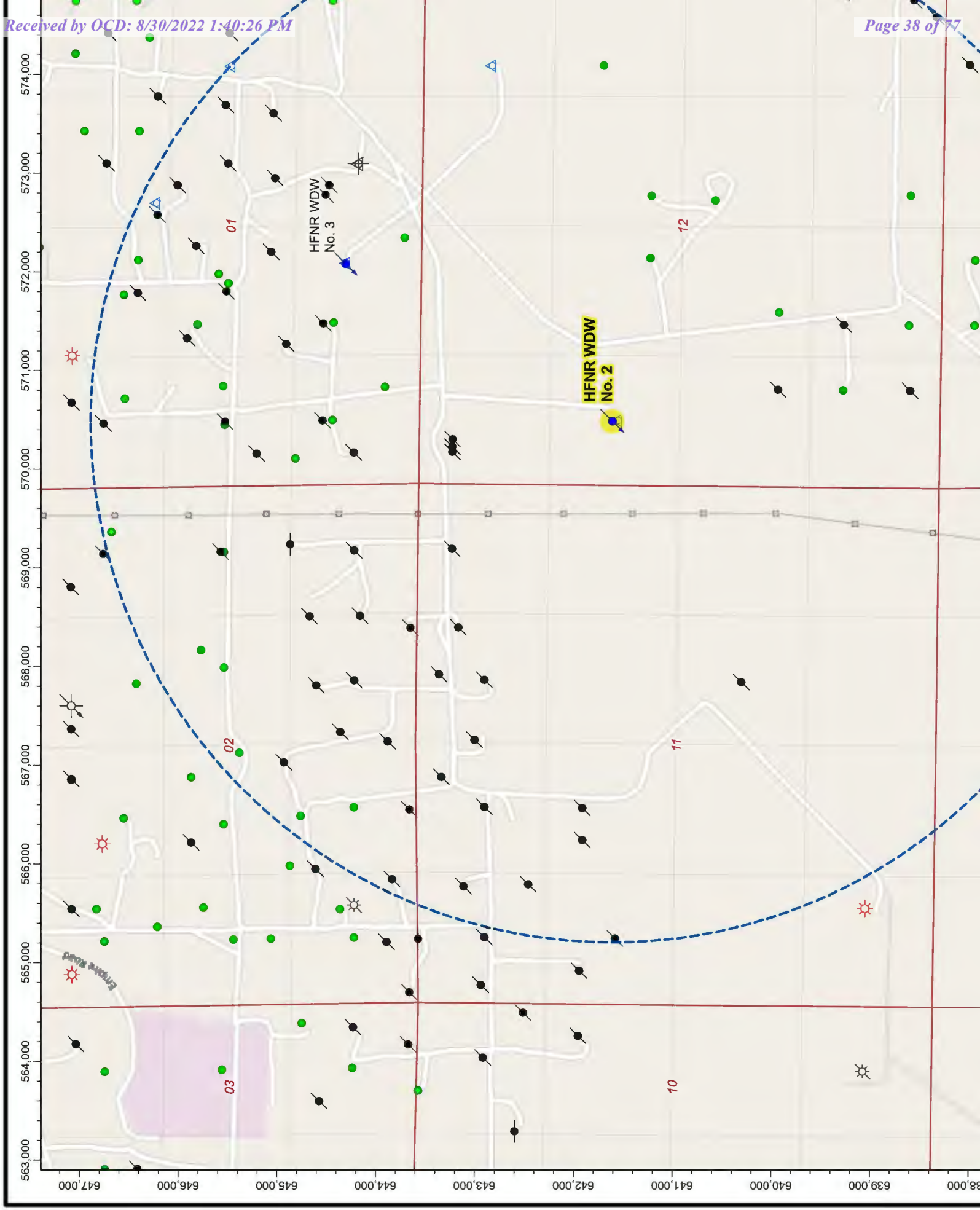
Petrotek



HOLLYFRONTIER

Figure 12
Hall Plot
2022 Well Testing

Petrotek


HFNR WDW No. 3
HFNR WDW No. 2
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ATTACHMENTS

Attachment 1
OCD Test Notification

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO.
30-015-20894

5. Indicate Type of Lease
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.
B-2071-28

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
CHUKKA WDW-2

1. Type of Well: Oil Well ☐ Gas Well ☒ Other: UIC INJECTION WELL

8. Well Number: WDW-2

2. Name of Operator
HF SINCLAIR NAVAJO REFINERY

9. OGRID Number: 15694

3. Address of Operator
P.O. BOX 159, ARTESIA, NM 88211-0159

10. Pool name or Wildcat
PENN 9681

4. Well Location
Unit Letter: E : 1980 feet from the NORTH line and 660 feet from the WEST line
Section: 12 Township: 18S Range : 27E NMPM County: EDDY

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3,678' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER: ☒ PRESSURE FALL OFF TEST / MIT				OTHER:			☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

June 5th: Sunday: Day 1, Start constant rate injection into WDW-2, Chukka as well as the other three (3) offset wells for at least 30 hours prior to shut-in of WDW-2 for Fall Off Testing. Target rate for WDW-2 is approximately 160 gpm. Wellhead pressure will not exceed 1,400 psig. Plant personnel will record rate, volume and pressure during the constant-rate injection to ensure steady flow. Samples of the injectate will be collected approximately every 10 hours and analyzed for pH and specific gravity.

June 6th: Monday: Day 2, Continue constant injection rate into all four wells.

June 7th: Tuesday: Day 3 While injection continues, will run dual downhole memory gauges to test depth making flowing gradient stops every 1,000 feet. Collect pressure data at test depth for at least 1 hour while injecting at a constant rate. Shut in WDW-2 and collect Fall Off Data for a minimum of 30 hours. WDW-1, WDW-2 and WDW-4 will continue a constant injection rate until the Downhole Memory Gauges are retrieved.

June 8th: Wednesday: Day 4: WDW-2 is shut in and fall off data is being collected with the Downhole Memory Gauges.

June9th: Thursday: Day5: After the minimum of 30 hours of data collection, the gauges will be removed from the well making 5-minute gradient stops every 1,000 feet. Note the top of fill will be tagged either with the gauges prior to pulling them from the well, or a second run with sinker bars will be made after the tools are removed (TBD). Conduct MIT for a minimum of 30 minutes prior to rigging down. Rig down wireline and return well to service.

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Lewis R Dade TITLE: ENV. SPEC DATE: 05/17/2022

Type or print name: LEWIS R. DADE E-mail address: Lewis.Dade@hollyfrontier.com PHONE: 575-746-5281

For State Use Only

APPROVED BY: TITLE DATE

Conditions of Approval (if any):

Attachment 2
Annulus Pressure Gauge Certification

Petrotek

JMC INSTRUMENTS INC.
9829 E. Easter Ave. • Centennial, CO 80112
303.794.8833 • Fax 303.730.1220
Toll Free 1.800.327.7257
www.jmcinstruments.com

CERTIFIED CALIBRATION

CUSTOMER PETROTEK ORDER NO. _____

ITEM Digital Gauge RANGE 0-5000PSIG ITEM NO. 5284

TRUE VALUE	INDICATED VALUE	
PSIG	INCREASING READINGS	DECREASING READINGS
0.00	0	0
500.00	499.4	499.5
1000.00	998.9	999.1
1500.00	1498.5	1498.8
2000.00	1998.2	1998.4
2500.00	2497.7	2498.0
3000.00	2997.4	2997.6
3500.00	3497.0	3497.2
4000.00	3996.7	3996.5
4500.00	4496.5	4495.8
5000.00	4994.9	4994.9

Tested On: Deadweight Tester S/N# 1GA4474

Traceable to National Institute of Standards and Technology certificate # 17-043

Tested By: Brian McLain Date 22 November 2021

Remarks:

Crystal/AMETEK XP2i		SN 901241
Accuracy is +/-	.25	% of Full Scale or Better
Test Conditions	65 °F; 617	mmHg Atm. Pressure

Attachment 3
Downhole Pressure Gauge Certification

Petrotek

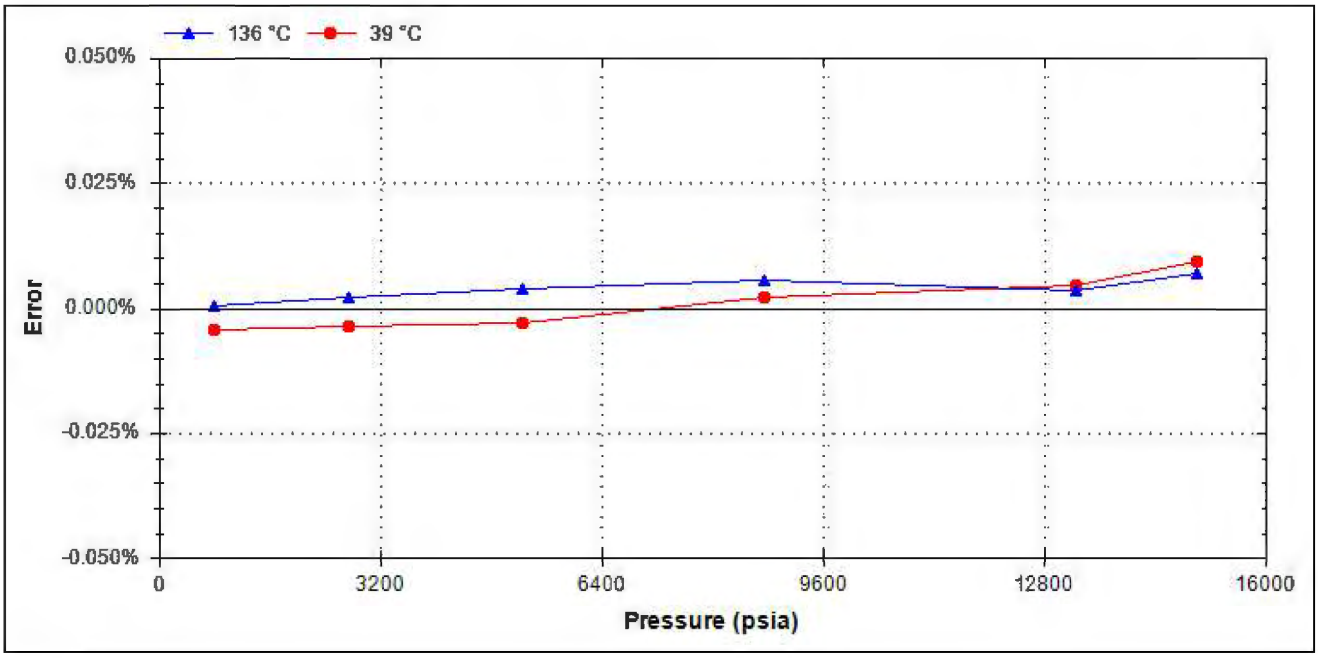
DataCan

"The Next Generation of Down Hole Tools"

Calibration Date:	28-May-21	**Calibration System:**	CALIBRATION03
Max Pressure Error:	0.010% F.S.	**Batch Number:**	20210104.143132
Max Temperature Error:	0.119 °C		
Part Number:	101696		
Serial Number:	224798		

1.25 OD Quartz DXB 2 Assembly			
Max Pressure		Max Temperature	
psi	kPa	°F	°C
16,000	110,316	351	177

Accuracy: As shown in the graph below, this DataCan Pressure gauge conforms to within +/- 0.030% F.S. of the pressure standard used in calibration, which is accurate to within +/- 0.01% of reading.



Working Standards

Sun Electronic Systems Environmental Chamber, Model: EC127, Serial: EC0020

DHI Instruments Pressure Controller, Model: PPCH-200M (30,000psi Reference), Serial: 1529

Traceability Statement

All working standards are traceable to nationally or internationally recognized standards.

Approved By:
DataCan Services Corp.

Calibrated By:
Angelo Pulido

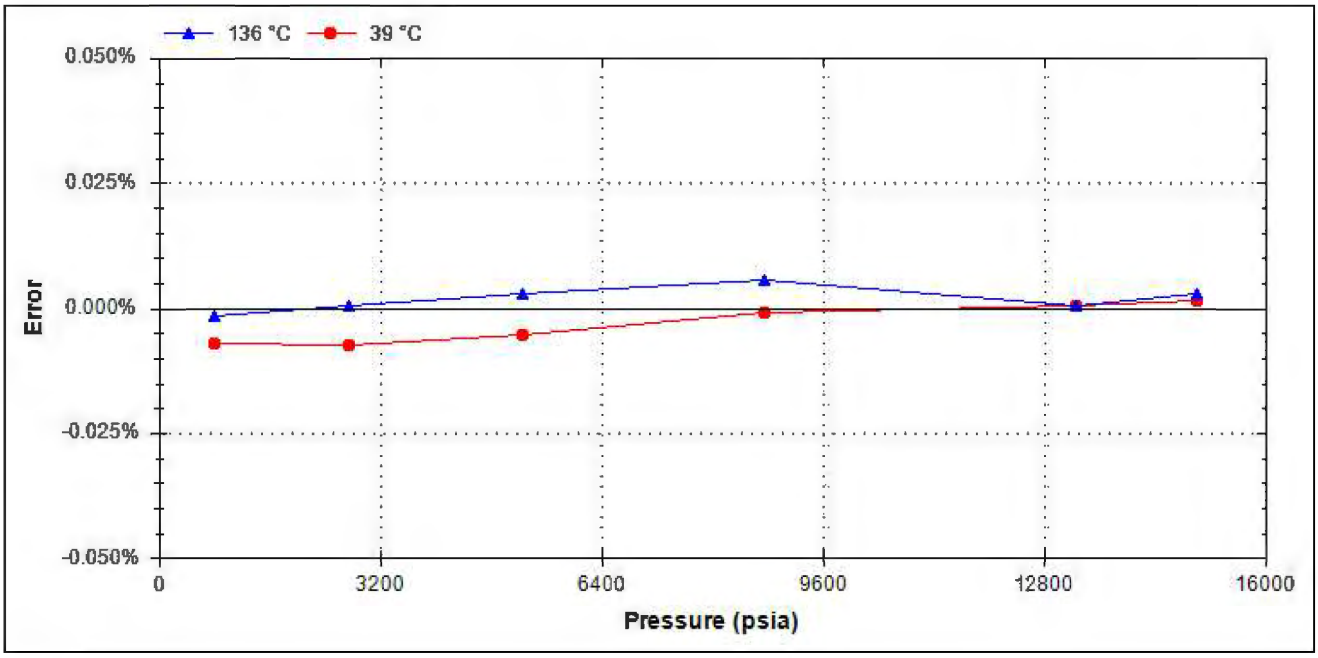
DataCan

"The Next Generation of Down Hole Tools"

Calibration Date:	28-May-21	**Calibration System:**	CALIBRATION03
Max Pressure Error:	0.010% F.S.	**Batch Number:**	20210104.143132
Max Temperature Error:	0.110 °C		
Part Number:	101696		
Serial Number:	224831		

1.25 OD Quartz DXB 2 Assembly			
Max Pressure		Max Temperature	
psi	kPa	°F	°C
16,000	110,316	351	177

Accuracy: As shown in the graph below, this DataCan Pressure gauge conforms to within +/- 0.030% F.S. of the pressure standard used in calibration, which is accurate to within +/- 0.01% of reading.



Working Standards

Sun Electronic Systems Environmental Chamber, Model: EC127, Serial: EC0020

DHI Instruments Pressure Controller, Model: PPCH-200M (30,000psi Reference), Serial: 1529

Traceability Statement

All working standards are traceable to nationally or internationally recognized standards.

Approved By:
DataCan Services Corp.

Calibrated By:
Angelo Pulido

Attachment 4
FESCO Injection Falloff Test Report

Petrotek

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

FLOWING GRADIENT SURVEY

Company:	Petrotek Corporation	Test Date:	06/28/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Location:	Eddy County, NM
Field:	Davonia	Status:	Injecting Water
Formation:	Unavailable		

Well Data:	Wellhead Connection: 3.5" EUE	Gauge Type:	Electronic
	Elevation: 13 ft above GL	Gauge SN:	DC-22479
	Tubing: 4.5" Set at 7528 ft (EOT)	Gauge Range:	15000 psi
	Casing: 5.5" Set at 8869 ft	Gauge OD:	1.2500"
	Perfs: 7570 - 7736; 7826 - 8399 ft (MD		
	Datum: 7985 ft (MD)		

Depth			Pressure					
MD ft	TVD ft	Delta Depth ft	WHP psia	BHT °F	Gauge Pressure psia	Delta Pressure psi	Pressure Gradient psi / ft	Comments
0	0	0	1015	95.81	1016.22	0.00	0.0000	
1000	1000	1000		99.55	1435.73	419.51	0.4195	
2000	2000	1000		98.68	1855.76	420.03	0.4200	
3000	3000	1000		98.04	2276.31	420.55	0.4206	
4000	4000	1000		97.77	2694.42	418.11	0.4181	
5000	5000	1000		97.86	3116.78	422.36	0.4224	
6000	6000	1000		98.33	3543.15	426.37	0.4264	
7000	7000	1000		99.33	3968.88	425.73	0.4257	
7557	7557	557		99.93	4206.23	237.35	0.4261	

BHT at Test Depth:	99.93	°F	Oil Level:	Flowing	Previous BHP: U/A
Extrapolated BHP at Datum:	4388.60	psia	Water Level:	Flowing	BHP Change: U/A
BHP Gradient at Datum :	0.4261	psi/ft	Csg Press:	N/A	

Remarks: MIRU slickline. RIH with electronic gauge making injecting gradient stops to 7557 ft. Continued injecting waste water into well for 13 minutes. SI well for 44.3 hr BHP Falloff Test.

Certified: FESCO, Ltd. - Midland, TX

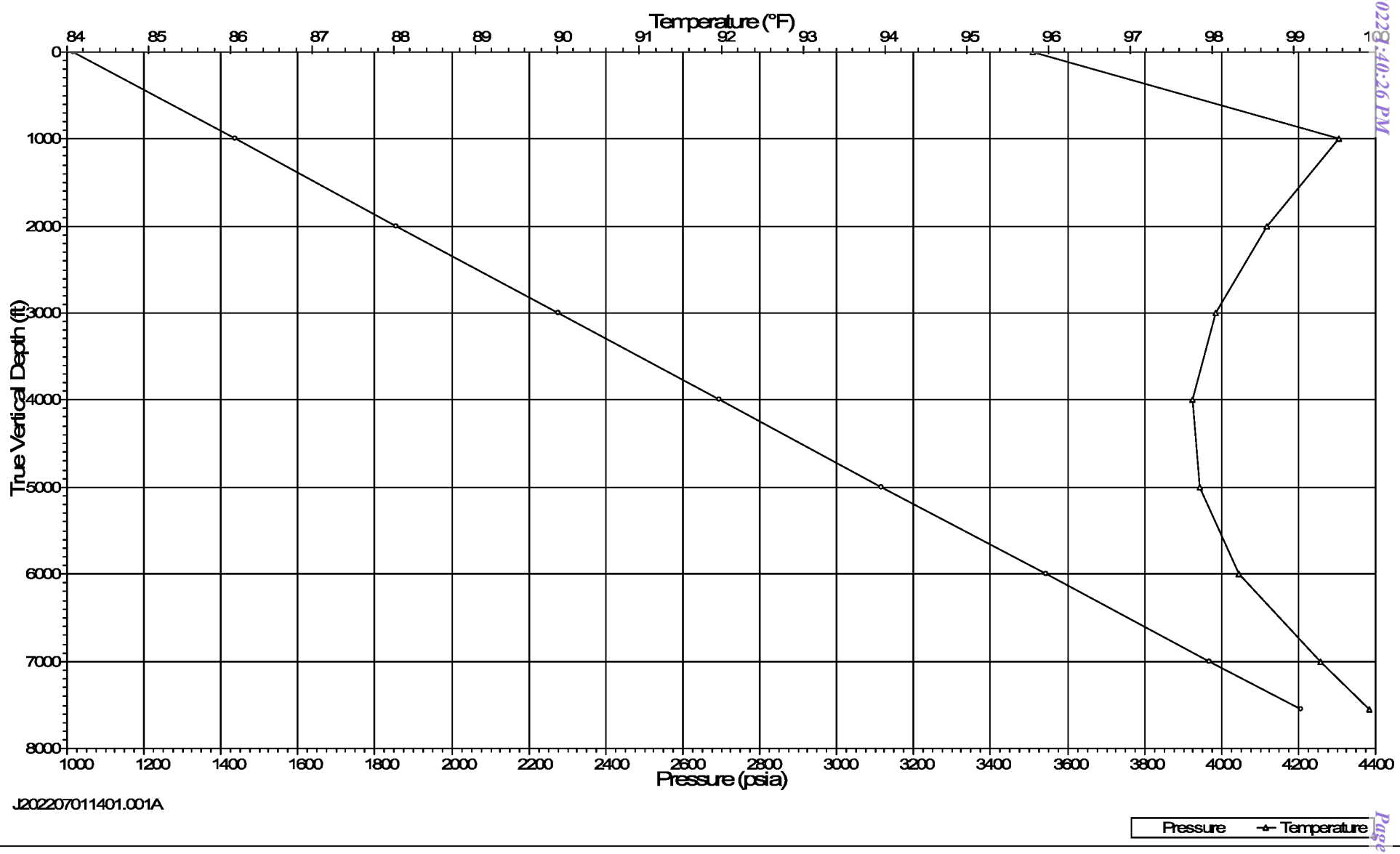
By: Michael Carnes
District Manager - (432) 332-3211

Petrotek Corporation

Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Test Date: 06/28/2022

Gauge Type: Electronic
Gauge Range: 15000 psi
Gauge SN: DC-22479

Flowing Gradient Plot



J202207011401.001A

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

STATIC GRADIENT SURVEY

Company:	Petrotek Corporation	Test Date:	06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Location:	Eddy County, NM
Field:	Davonia	Status:	SI for 44.3 hrs
Formation:	Unavailable		

Well Data:	Wellhead Connection: 3.5" EUE	Gauge Type:	Electronic
	Elevation: 13 ft above GL	Gauge SN:	DC-22479
	Tubing: 4.5" Set at 7528 ft (EOT)	Gauge Range:	15000 psi
	Casing: 5.5" Set at 8869 ft	Gauge OD:	1.2500"
	Perfs: 7570 - 7736; 7826 - 8399 ft (MD		
	Datum: 7985 ft (MD)		

Depth			Pressure					
MD ft	TVD ft	Delta Depth ft	WHP psia	BHT °F	Gauge Pressure psia	Delta Pressure psi	Pressure Gradient psi / ft	Comments
0	0	0	730	88.71	732.38	0.00	0.0000	Water level at surface.
1000	1000	1000		87.27	1171.24	438.86	0.4389	
2000	2000	1000		90.76	1605.30	434.06	0.4341	
3000	3000	1000		94.66	2039.64	434.34	0.4343	
4000	4000	1000		98.87	2474.39	434.75	0.4347	
5000	5000	1000		103.14	2909.28	434.89	0.4349	
6000	6000	1000		106.36	3344.06	434.78	0.4348	
7000	7000	1000		104.95	3779.40	435.34	0.4353	
7557	7557	557	730	101.62	4023.36	243.96	0.4380	POOH after 44.3-hr Falloff Test

BHT at Test Depth:	101.62 °F	Oil Level:	None	Previous BHP:	U/A
Extrapolated BHP at Datum:	4210.82 psia	Water Level:	Surface	BHP Change:	U/A
BHP Gradient at Datum :	0.4380 psi/ft	Csg Press:	N/A		

Remarks: POOH after 44.3 hr BHP Falloff Test making static gradient stops to surface. RDMO.

Certified: FESCO, Ltd. - Midland, TX

By: Michael Carnes
District Manager - (432) 332-3211

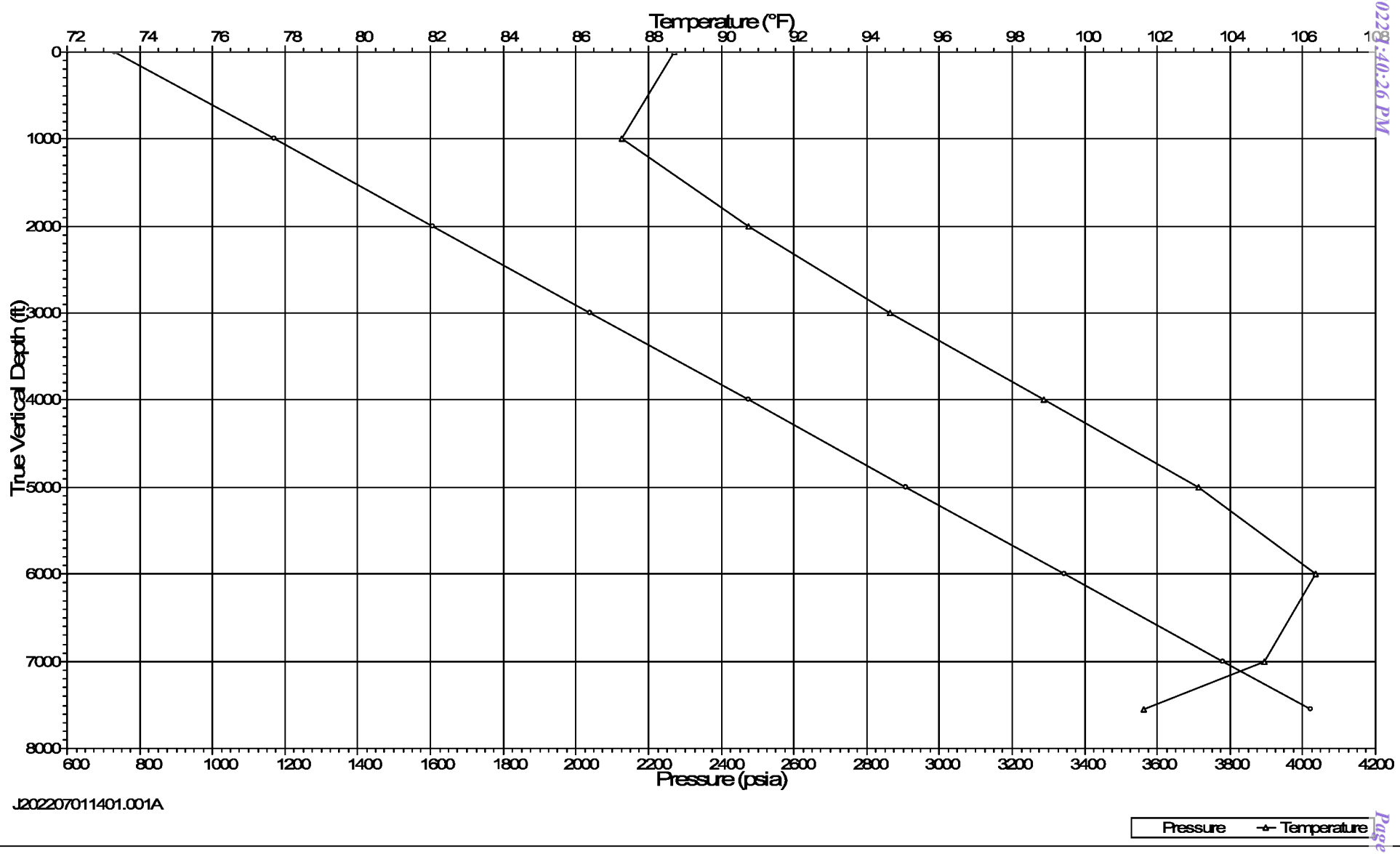
Job No.: J202207011401.001A Page 1

Petrotek Corporation

Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Test Date: 06/30/2022

Gauge Type: Electronic
Gauge Range: 15000 psi
Gauge SN: DC-22479

Static Gradient Plot



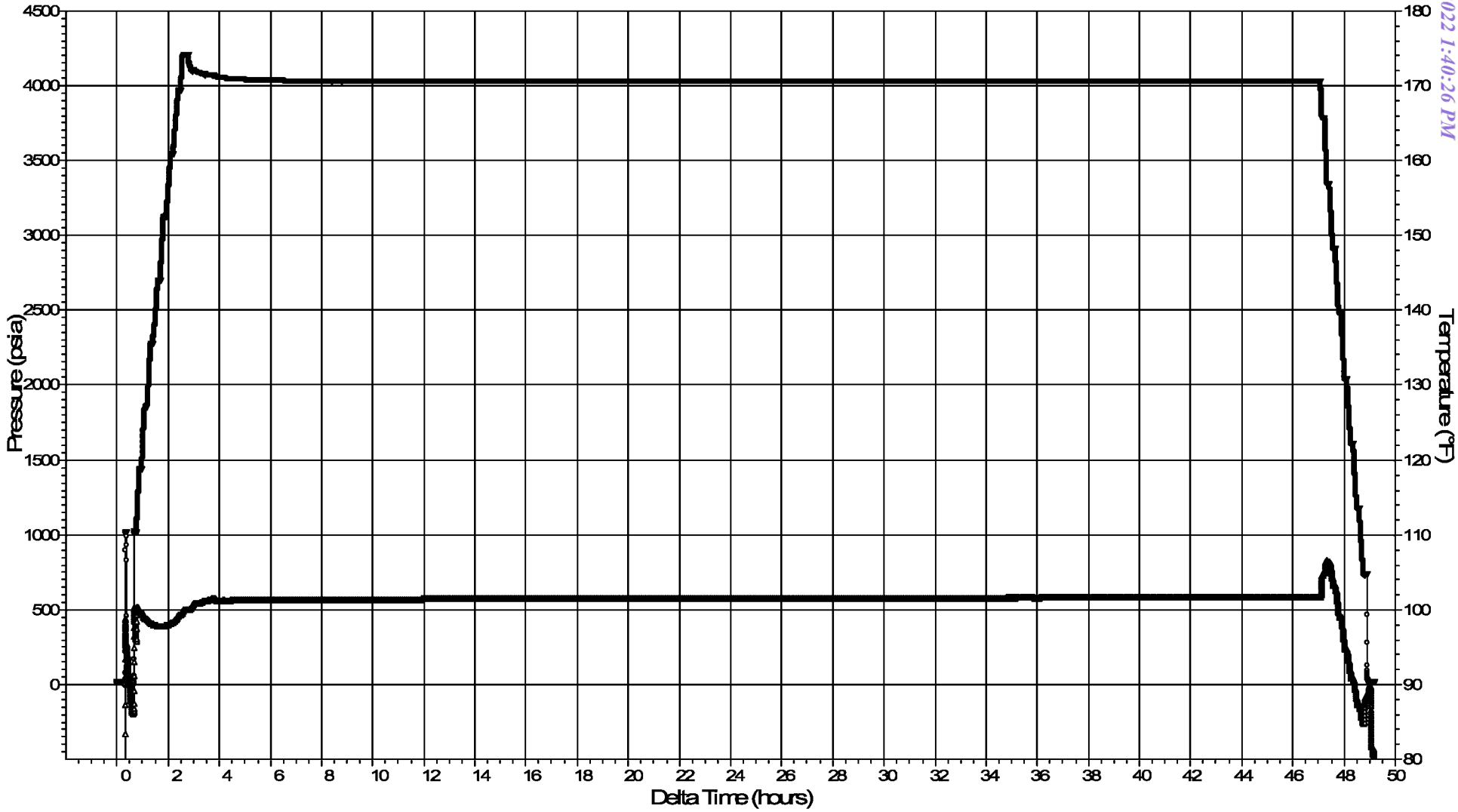
J202207011401.001A

Petrotek Corporation

Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Test Date: 06/28 - 06/30/2022

Gauge Type: Electronic
Gauge Range: 15000 psi
Gauge SN: DC-22479

Cartesian Plot



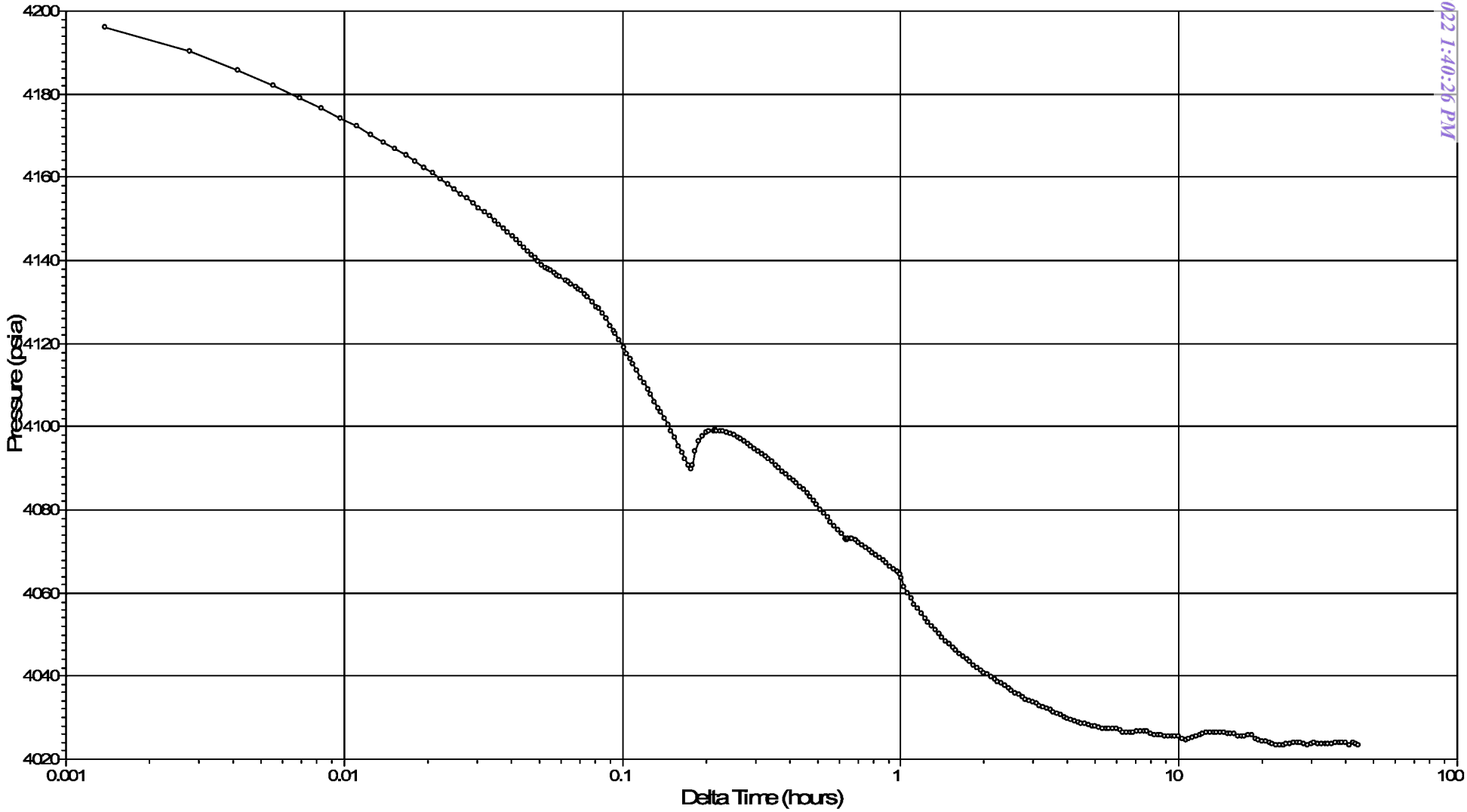
J202207011401.001A

Petrotek Corporation

Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Test Date: 06/28 - 06/30/2022

Gauge Type: Electronic
Gauge Range: 15000 psi
Gauge SN: DC-22479

Semilog Plot (Falloff Test)



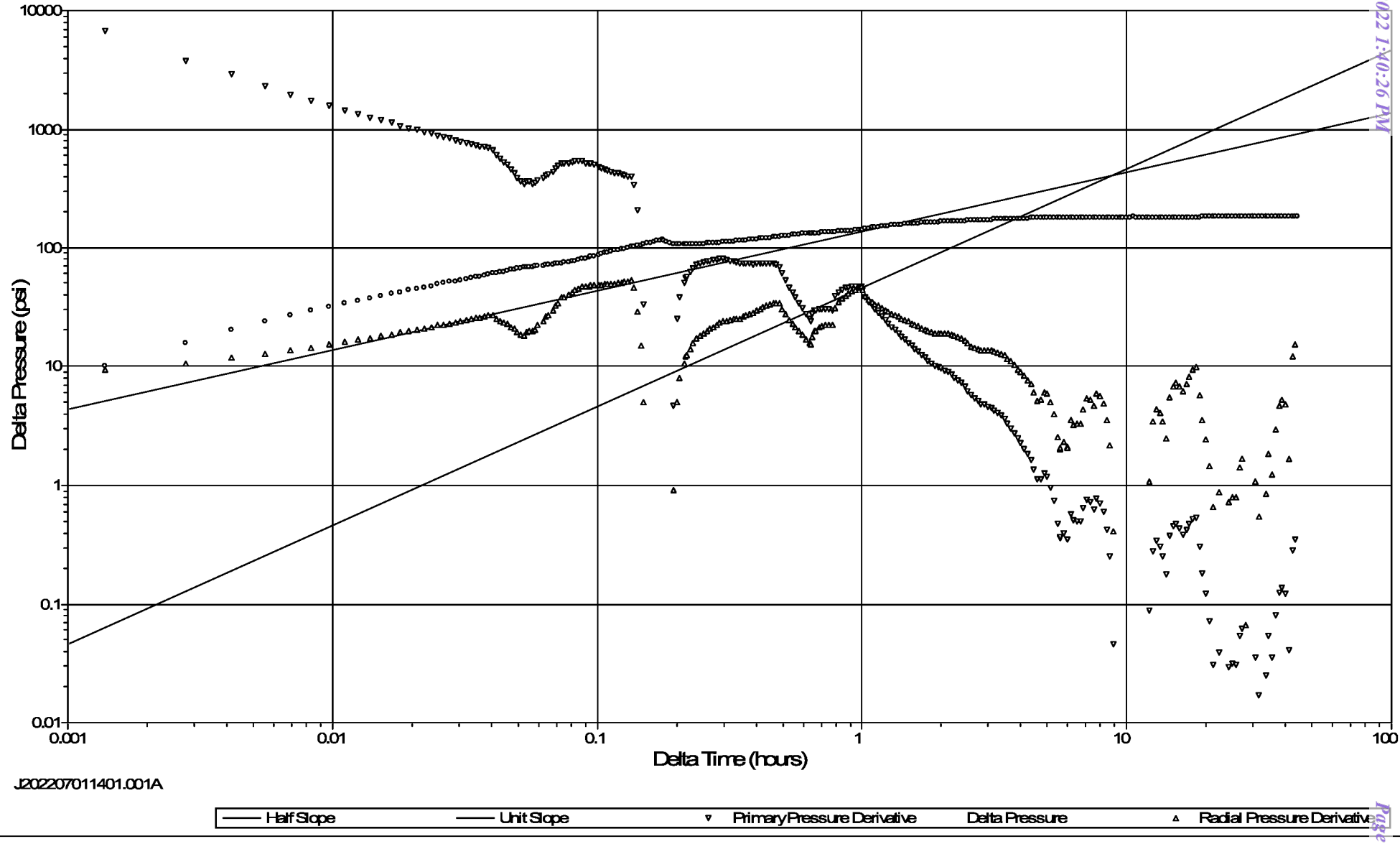
J202207011401.001A

Petrotek Corporation

Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Test Date: 06/28 - 06/30/2022

Gauge Type: Electronic
Gauge Range: 15000 psi
Gauge SN: DC-22479

Log Plot (Falloff Test)



FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	08:05:00	-2.79556		19.85		71.80	Powered up gauge.
06/28/22	08:10:04	-2.71111		19.26		74.16	
06/28/22	08:15:04	-2.62778		19.57		73.34	
06/28/22	08:20:04	-2.54444		19.30		73.14	
06/28/22	08:22:04	-2.51111		19.27		73.18	
06/28/22	08:23:04	-2.49444		3.27		73.25	
06/28/22	08:23:59	-2.47917		1012.34		98.28	Pressured up lubricator.
06/28/22	08:24:04	-2.47778		1016.18		98.62	
06/28/22	08:25:04	-2.46111		1016.63		96.95	
06/28/22	08:26:04	-2.44444		1014.60		95.47	
06/28/22	08:27:04	-2.42778		1014.33		94.37	
06/28/22	08:27:09	-2.42639		1014.49		94.31	O-Ring leak.
06/28/22	08:27:14	-2.42500		1014.53		94.24	Pressured down lubricator.
06/28/22	08:28:04	-2.41111		105.68		93.95	
06/28/22	08:29:04	-2.39444		37.95		93.93	
06/28/22	08:30:04	-2.37778		29.89		93.13	
06/28/22	08:31:04	-2.36111		29.00		91.60	
06/28/22	08:32:04	-2.34444		28.86		90.74	
06/28/22	08:33:04	-2.32778		27.66		90.49	
06/28/22	08:34:04	-2.31111		19.60		90.41	
06/28/22	08:35:04	-2.29444		15.89		89.88	
06/28/22	08:36:04	-2.27778		15.49		88.89	
06/28/22	08:37:04	-2.26111		15.16		88.42	
06/28/22	08:38:04	-2.24444		15.04		87.78	
06/28/22	08:39:04	-2.22778		14.08		87.65	
06/28/22	08:40:04	-2.21111		17.71		87.44	
06/28/22	08:41:04	-2.19444		14.58		86.11	
06/28/22	08:42:04	-2.17778		15.01		86.52	
06/28/22	08:43:04	-2.16111		15.18		86.43	
06/28/22	08:44:04	-2.14444		15.56		86.31	
06/28/22	08:45:04	-2.12778		167.40		98.52	
06/28/22	08:45:09	-2.12639		1021.07		99.25	Repressured lubricator.
06/28/22	08:46:04	-2.11111		1017.35		99.52	
06/28/22	08:47:04	-2.09444		1015.98		98.22	
06/28/22	08:48:04	-2.07778		1015.36		97.30	
06/28/22	08:49:04	-2.06111		1014.72		96.62	
06/28/22	08:50:04	-2.04444		1015.70		96.06	
06/28/22	08:50:29	-2.03750		1016.22		95.85	Casing Pressure = N/A.

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	08:50:34	-2.03611	1015	1016.22		95.81	RIH making injecting gradient stops.
06/28/22	08:51:04	-2.02778		1020.90		99.64	
06/28/22	08:52:04	-2.01111		1065.67		100.30	
06/28/22	08:52:44	-2.00000		1100.69		100.38	BHT began decreasing.
06/28/22	08:53:04	-1.99444		1119.94		100.36	
06/28/22	08:54:04	-1.97778		1178.36		100.28	
06/28/22	08:55:04	-1.96111		1239.02		100.14	
06/28/22	08:56:04	-1.94444		1299.54		99.97	
06/28/22	08:57:04	-1.92778		1360.06		99.81	
06/28/22	08:58:04	-1.91111		1422.32		99.65	
06/28/22	08:58:24	-1.90556		1435.45		99.61	Arrived at 1000 ft stop.
06/28/22	08:59:04	-1.89444		1435.50		99.58	
06/28/22	09:00:04	-1.87778		1435.85		99.57	
06/28/22	09:01:04	-1.86111		1435.52		99.56	
06/28/22	09:02:04	-1.84444		1435.57		99.56	
06/28/22	09:03:04	-1.82778		1435.32		99.55	
06/28/22	09:03:19	-1.82361		1435.73		99.55	Left 1000 ft stop.
06/28/22	09:04:04	-1.81111		1467.73		99.51	
06/28/22	09:05:04	-1.79444		1527.59		99.39	
06/28/22	09:06:04	-1.77778		1598.65		99.24	
06/28/22	09:07:04	-1.76111		1664.34		99.10	
06/28/22	09:08:04	-1.74444		1719.14		98.99	
06/28/22	09:09:04	-1.72778		1769.10		98.88	
06/28/22	09:10:04	-1.71111		1814.64		98.80	
06/28/22	09:11:04	-1.69444		1854.11		98.73	
06/28/22	09:11:09	-1.69306		1855.99		98.72	Arrived at 2000 ft stop.
06/28/22	09:12:04	-1.67778		1855.98		98.70	
06/28/22	09:13:04	-1.66111		1855.88		98.70	
06/28/22	09:14:04	-1.64444		1855.26		98.69	
06/28/22	09:15:04	-1.62778		1855.80		98.69	
06/28/22	09:16:04	-1.61111		1855.84		98.68	
06/28/22	09:16:24	-1.60556		1855.76		98.68	Left 2000 ft stop.
06/28/22	09:17:04	-1.59444		1876.83		98.66	
06/28/22	09:18:04	-1.57778		1916.70		98.59	
06/28/22	09:19:04	-1.56111		1966.68		98.50	
06/28/22	09:20:04	-1.54444		2018.37		98.41	
06/28/22	09:21:04	-1.52778		2073.01		98.33	
06/28/22	09:22:04	-1.51111		2131.36		98.24	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	09:23:04	-1.49444		2186.37		98.17	
06/28/22	09:24:04	-1.47778		2237.46		98.11	
06/28/22	09:24:59	-1.46250		2277.00		98.06	Arrived at 3000 ft stop.
06/28/22	09:25:04	-1.46111		2277.70		98.06	
06/28/22	09:26:04	-1.44444		2276.56		98.04	
06/28/22	09:27:04	-1.42778		2276.67		98.04	
06/28/22	09:28:04	-1.41111		2276.74		98.04	
06/28/22	09:29:04	-1.39444		2276.72		98.04	
06/28/22	09:30:04	-1.37778		2276.28		98.04	
06/28/22	09:30:09	-1.37639		2276.31		98.04	Left 3000 ft stop.
06/28/22	09:31:04	-1.36111		2308.81		98.02	
06/28/22	09:32:04	-1.34444		2338.40		97.98	
06/28/22	09:33:04	-1.32778		2362.67		97.96	
06/28/22	09:34:04	-1.31111		2389.89		97.94	
06/28/22	09:35:04	-1.29444		2416.72		97.92	
06/28/22	09:36:04	-1.27778		2449.54		97.89	
06/28/22	09:37:04	-1.26111		2490.06		97.87	
06/28/22	09:38:04	-1.24444		2531.78		97.84	
06/28/22	09:39:04	-1.22778		2573.85		97.82	
06/28/22	09:40:04	-1.21111		2620.14		97.80	
06/28/22	09:41:04	-1.19444		2668.34		97.79	
06/28/22	09:41:39	-1.18472		2694.47		97.78	Arrived at 4000 ft stop.
06/28/22	09:42:04	-1.17778		2694.85		97.78	
06/28/22	09:43:04	-1.16111		2694.74		97.78	
06/28/22	09:44:04	-1.14444		2694.57		97.77	
06/28/22	09:45:04	-1.12778		2694.47		97.77	
06/28/22	09:46:04	-1.11111		2694.58		97.77	
06/28/22	09:46:49	-1.09861		2694.42		97.77	Left 4000 ft stop.
06/28/22	09:47:04	-1.09444		2702.74		97.77	
06/28/22	09:48:04	-1.07778		2752.42		97.76	
06/28/22	09:49:04	-1.06111		2803.10		97.76	
06/28/22	09:50:04	-1.04444		2853.83		97.76	
06/28/22	09:50:14	-1.04167		2861.49		97.76	BHT resumed increasing.
06/28/22	09:51:04	-1.02778		2905.16		97.77	
06/28/22	09:52:04	-1.01111		2956.03		97.78	
06/28/22	09:53:04	-0.99444		3006.79		97.80	
06/28/22	09:54:04	-0.97778		3058.12		97.82	
06/28/22	09:55:04	-0.96111		3108.96		97.84	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	09:55:14	-0.95833		3117.34		97.85	Arrived at 5000 ft stop.
06/28/22	09:56:04	-0.94444		3117.35		97.86	
06/28/22	09:57:04	-0.92778		3116.81		97.86	
06/28/22	09:58:04	-0.91111		3117.07		97.86	
06/28/22	09:59:04	-0.89444		3117.28		97.86	
06/28/22	10:00:04	-0.87778		3117.10		97.86	
06/28/22	10:00:09	-0.87639		3116.78		97.86	Left 5000 ft stop.
06/28/22	10:01:04	-0.86111		3135.14		97.86	
06/28/22	10:02:04	-0.84444		3159.24		97.88	
06/28/22	10:03:04	-0.82778		3188.12		97.90	
06/28/22	10:04:04	-0.81111		3219.18		97.92	
06/28/22	10:05:04	-0.79444		3254.85		97.95	
06/28/22	10:06:04	-0.77778		3291.07		97.98	
06/28/22	10:07:04	-0.76111		3327.67		98.02	
06/28/22	10:08:04	-0.74444		3367.31		98.06	
06/28/22	10:09:04	-0.72778		3408.68		98.11	
06/28/22	10:10:04	-0.71111		3450.19		98.17	
06/28/22	10:11:04	-0.69444		3491.55		98.23	
06/28/22	10:12:04	-0.67778		3532.62		98.29	
06/28/22	10:12:19	-0.67361		3542.27		98.31	Arrived at 6000 ft stop.
06/28/22	10:13:04	-0.66111		3541.94		98.33	
06/28/22	10:14:04	-0.64444		3542.92		98.33	
06/28/22	10:15:04	-0.62778		3544.41		98.33	
06/28/22	10:16:04	-0.61111		3544.64		98.33	
06/28/22	10:17:04	-0.59444		3543.18		98.33	
06/28/22	10:17:24	-0.58889		3543.15		98.33	Left 6000 ft stop.
06/28/22	10:18:04	-0.57778		3564.66		98.35	
06/28/22	10:19:04	-0.56111		3598.45		98.41	
06/28/22	10:20:04	-0.54444		3632.60		98.48	
06/28/22	10:21:04	-0.52778		3667.17		98.55	
06/28/22	10:22:04	-0.51111		3701.48		98.62	
06/28/22	10:23:04	-0.49444		3735.84		98.70	
06/28/22	10:24:04	-0.47778		3770.14		98.77	
06/28/22	10:25:04	-0.46111		3804.09		98.85	
06/28/22	10:26:04	-0.44444		3838.33		98.93	
06/28/22	10:27:04	-0.42778		3872.66		99.01	
06/28/22	10:28:04	-0.41111		3906.81		99.11	
06/28/22	10:29:04	-0.39444		3941.14		99.20	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	10:29:54	-0.38056		3969.01		99.29	Arrived at 7000 ft stop.
06/28/22	10:30:04	-0.37778		3969.07		99.30	
06/28/22	10:31:04	-0.36111		3968.95		99.32	
06/28/22	10:32:04	-0.34444		3968.89		99.32	
06/28/22	10:33:04	-0.32778		3968.74		99.32	
06/28/22	10:34:04	-0.31111		3968.87		99.32	
06/28/22	10:34:59	-0.29583		3968.88		99.33	Left 7000 ft stop.
06/28/22	10:35:04	-0.29444		3969.02		99.33	
06/28/22	10:36:04	-0.27778		4013.83		99.41	
06/28/22	10:37:04	-0.26111		4062.36		99.53	
06/28/22	10:38:04	-0.24444		4110.50		99.67	
06/28/22	10:39:04	-0.22778		4158.73		99.79	
06/28/22	10:40:04	-0.21111		4200.40		99.90	
06/28/22	10:40:24	-0.20556	1015	4206.03		99.91	Gauge at TD=7557 ft (MD).
06/28/22	10:41:04	-0.19444		4205.31		99.92	
06/28/22	10:42:04	-0.17778		4205.84		99.93	
06/28/22	10:43:04	-0.16111		4206.66		99.93	
06/28/22	10:44:04	-0.14444		4206.78		99.93	
06/28/22	10:45:04	-0.12778		4206.08		99.93	
06/28/22	10:46:04	-0.11111		4205.80		99.93	
06/28/22	10:47:04	-0.09444		4206.37		99.93	
06/28/22	10:48:04	-0.07778		4206.51		99.93	
06/28/22	10:49:04	-0.06111		4206.49		99.93	
06/28/22	10:50:04	-0.04444		4206.52		99.93	
06/28/22	10:51:04	-0.02778		4206.48		99.93	
06/28/22	10:52:04	-0.01111		4206.46		99.93	
06/28/22	10:52:34	-0.00278		4206.45		99.93	Casing Pressure = N/A.
06/28/22	10:52:39	-0.00139		4206.44		99.93	Injection Rate = Unavailable.
06/28/22	10:52:44	0.00000		4206.23	0.00	99.93	Shut in well for 44.3-hr BHP Falloff Test.
06/28/22	10:52:49	0.00139		4196.11	-10.12	99.93	
06/28/22	10:52:54	0.00278		4190.38	-15.85	99.93	
06/28/22	10:52:59	0.00417		4185.60	-20.63	99.93	
06/28/22	10:53:04	0.00556		4181.98	-24.25	99.93	
06/28/22	10:53:09	0.00694		4179.00	-27.23	99.94	
06/28/22	10:53:14	0.00833		4176.45	-29.78	99.94	
06/28/22	10:53:19	0.00972		4174.20	-32.03	99.95	
06/28/22	10:53:24	0.01111		4172.14	-34.09	99.96	
06/28/22	10:53:29	0.01250		4170.24	-35.99	99.96	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company: Petrotek Corporation
Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Location: Eddy County, NM
Perfs: 7570 - 7736; 7826 - 8399 ft (MD)
Formation: Unavailable

Test Date: 06/28 - 06/30/2022
Gauge Depth: 7557 ft
Gauge Type: Electronic
Gauge SN: DC-22479
Gauge Range: 15000 psi
Gauge OD: 1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	10:53:34	0.01389		4168.45	-37.78	99.97	
06/28/22	10:53:39	0.01528		4166.78	-39.45	99.97	
06/28/22	10:53:44	0.01667		4165.23	-41.00	99.98	
06/28/22	10:53:49	0.01806		4163.73	-42.50	99.98	
06/28/22	10:53:54	0.01944		4162.31	-43.92	99.98	
06/28/22	10:53:59	0.02083		4160.94	-45.29	99.98	
06/28/22	10:54:04	0.02222		4159.62	-46.61	99.98	
06/28/22	10:54:09	0.02361		4158.36	-47.87	99.98	
06/28/22	10:54:14	0.02500		4157.15	-49.08	99.99	
06/28/22	10:54:19	0.02639		4155.96	-50.27	99.99	
06/28/22	10:54:24	0.02778		4154.81	-51.42	99.99	
06/28/22	10:54:29	0.02917		4153.69	-52.54	99.99	
06/28/22	10:54:34	0.03056		4152.61	-53.62	99.99	
06/28/22	10:54:39	0.03194		4151.55	-54.68	99.99	
06/28/22	10:54:44	0.03333		4150.52	-55.71	99.99	
06/28/22	10:54:49	0.03472		4149.51	-56.72	100.00	
06/28/22	10:54:54	0.03611		4148.53	-57.70	100.00	
06/28/22	10:54:59	0.03750		4147.56	-58.67	100.00	
06/28/22	10:55:04	0.03889		4146.62	-59.61	100.00	
06/28/22	10:55:09	0.04028		4145.69	-60.54	100.00	
06/28/22	10:55:14	0.04167		4144.78	-61.45	100.00	
06/28/22	10:55:19	0.04306		4143.89	-62.34	100.01	
06/28/22	10:55:24	0.04444		4143.01	-63.22	100.01	
06/28/22	10:55:29	0.04583		4142.15	-64.08	100.01	
06/28/22	10:55:34	0.04722		4141.30	-64.93	100.01	
06/28/22	10:55:39	0.04861		4140.46	-65.77	100.02	
06/28/22	10:55:44	0.05000		4139.64	-66.59	100.02	
06/28/22	10:55:49	0.05139		4138.81	-67.42	100.02	
06/28/22	10:55:54	0.05278		4138.22	-68.01	100.02	
06/28/22	10:55:59	0.05417		4138.01	-68.22	100.03	
06/28/22	10:56:04	0.05556		4137.59	-68.64	100.03	
06/28/22	10:56:09	0.05694		4137.01	-69.22	100.03	
06/28/22	10:56:14	0.05833		4136.48	-69.75	100.04	
06/28/22	10:56:19	0.05972		4135.96	-70.27	100.04	
06/28/22	10:56:29	0.06250		4135.16	-71.07	100.05	
06/28/22	10:56:34	0.06389		4134.75	-71.48	100.05	
06/28/22	10:56:39	0.06528		4134.34	-71.89	100.06	
06/28/22	10:56:49	0.06806		4133.54	-72.69	100.06	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	10:56:54	0.06944		4133.12	-73.11	100.07	
06/28/22	10:56:59	0.07083		4132.71	-73.52	100.07	
06/28/22	10:57:09	0.07361		4131.88	-74.35	100.08	
06/28/22	10:57:14	0.07500		4131.28	-74.95	100.09	
06/28/22	10:57:24	0.07778		4129.99	-76.24	100.10	
06/28/22	10:57:34	0.08056		4128.86	-77.37	100.11	
06/28/22	10:57:39	0.08194		4128.29	-77.94	100.11	
06/28/22	10:57:49	0.08472		4127.12	-79.11	100.12	
06/28/22	10:57:59	0.08750		4125.93	-80.30	100.13	
06/28/22	10:58:09	0.09028		4124.28	-81.95	100.14	
06/28/22	10:58:19	0.09306		4122.96	-83.27	100.16	
06/28/22	10:58:24	0.09444		4122.30	-83.93	100.16	
06/28/22	10:58:34	0.09722		4120.89	-85.34	100.17	
06/28/22	10:58:49	0.10139		4118.86	-87.37	100.19	
06/28/22	10:58:59	0.10417		4117.49	-88.74	100.21	
06/28/22	10:59:09	0.10694		4116.19	-90.04	100.22	
06/28/22	10:59:19	0.10972		4114.91	-91.32	100.24	
06/28/22	10:59:29	0.11250		4113.65	-92.58	100.25	
06/28/22	10:59:44	0.11667		4111.81	-94.42	100.27	
06/28/22	10:59:54	0.11944		4110.60	-95.63	100.28	
06/28/22	11:00:09	0.12361		4108.85	-97.38	100.30	
06/28/22	11:00:19	0.12639		4107.70	-98.53	100.32	
06/28/22	11:00:34	0.13056		4106.03	-100.20	100.34	
06/28/22	11:00:49	0.13472		4104.42	-101.81	100.36	
06/28/22	11:00:59	0.13750		4103.36	-102.87	100.38	
06/28/22	11:01:14	0.14167		4101.81	-104.42	100.40	
06/28/22	11:01:29	0.14583		4100.32	-105.91	100.43	
06/28/22	11:01:44	0.15000		4098.87	-107.36	100.46	
06/28/22	11:01:59	0.15417		4097.28	-108.95	100.48	
06/28/22	11:02:19	0.15972		4095.27	-110.96	100.52	
06/28/22	11:02:34	0.16389		4093.77	-112.46	100.55	
06/28/22	11:02:49	0.16806		4092.33	-113.90	100.58	
06/28/22	11:03:09	0.17361		4090.51	-115.72	100.61	
06/28/22	11:03:19	0.17639		4089.80	-116.43	100.63	SIBHP began increasing.
06/28/22	11:03:29	0.17917		4090.62	-115.61	100.64	
06/28/22	11:03:44	0.18333		4094.15	-112.08	100.67	
06/28/22	11:04:04	0.18889		4096.48	-109.75	100.68	
06/28/22	11:04:24	0.19444		4097.80	-108.43	100.68	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company: Petrotek Corporation
Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Location: Eddy County, NM
Perfs: 7570 - 7736; 7826 - 8399 ft (MD)
Formation: Unavailable

Test Date: 06/28 - 06/30/2022
Gauge Depth: 7557 ft
Gauge Type: Electronic
Gauge SN: DC-22479
Gauge Range: 15000 psi
Gauge OD: 1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	11:04:44	0.20000		4098.45	-107.78	100.69	
06/28/22	11:05:04	0.20556		4098.82	-107.41	100.69	
06/28/22	11:05:29	0.21250		4099.03	-107.20	100.70	
06/28/22	11:05:44	0.21667		4099.05	-107.18	100.71	SIBHP resumed decreasing.
06/28/22	11:05:49	0.21806		4099.03	-107.20	100.71	
06/28/22	11:06:14	0.22500		4098.90	-107.33	100.72	
06/28/22	11:06:34	0.23056		4098.75	-107.48	100.73	
06/28/22	11:06:59	0.23750		4098.49	-107.74	100.74	
06/28/22	11:07:24	0.24444		4098.19	-108.04	100.75	
06/28/22	11:07:49	0.25139		4097.82	-108.41	100.75	
06/28/22	11:08:19	0.25972		4097.34	-108.89	100.77	
06/28/22	11:08:44	0.26667		4096.91	-109.32	100.77	
06/28/22	11:09:14	0.27500		4096.39	-109.84	100.78	
06/28/22	11:09:39	0.28194		4095.93	-110.30	100.79	
06/28/22	11:10:09	0.29028		4095.38	-110.85	100.79	
06/28/22	11:10:39	0.29861		4094.74	-111.49	100.80	
06/28/22	11:11:14	0.30833		4094.01	-112.22	100.81	
06/28/22	11:11:44	0.31667		4093.48	-112.75	100.81	
06/28/22	11:12:19	0.32639		4092.85	-113.38	100.82	
06/28/22	11:12:54	0.33611		4092.17	-114.06	100.83	
06/28/22	11:13:29	0.34583		4091.49	-114.74	100.83	
06/28/22	11:14:04	0.35556		4090.81	-115.42	100.84	
06/28/22	11:14:39	0.36528		4090.13	-116.10	100.84	
06/28/22	11:15:19	0.37639		4089.27	-116.96	100.85	
06/28/22	11:15:59	0.38750		4088.44	-117.79	100.86	
06/28/22	11:16:39	0.39861		4087.72	-118.51	100.86	
06/28/22	11:17:24	0.41111		4086.97	-119.26	100.87	
06/28/22	11:18:04	0.42222		4086.33	-119.90	100.87	
06/28/22	11:18:49	0.43472		4085.61	-120.62	100.88	
06/28/22	11:19:34	0.44722		4084.88	-121.35	100.89	
06/28/22	11:20:24	0.46111		4083.93	-122.30	100.91	
06/28/22	11:21:09	0.47361		4083.03	-123.20	100.93	
06/28/22	11:21:59	0.48750		4082.04	-124.19	100.95	
06/28/22	11:22:49	0.50139		4081.08	-125.15	100.98	
06/28/22	11:23:44	0.51667		4079.99	-126.24	101.01	
06/28/22	11:24:39	0.53194		4079.00	-127.23	101.03	
06/28/22	11:25:34	0.54722		4078.03	-128.20	101.05	
06/28/22	11:26:29	0.56250		4077.10	-129.13	101.06	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company: Petrotek Corporation
Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Location: Eddy County, NM
Perfs: 7570 - 7736; 7826 - 8399 ft (MD)
Formation: Unavailable

Test Date: 06/28 - 06/30/2022
Gauge Depth: 7557 ft
Gauge Type: Electronic
Gauge SN: DC-22479
Gauge Range: 15000 psi
Gauge OD: 1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	11:27:29	0.57917		4076.09	-130.14	101.08	
06/28/22	11:28:29	0.59583		4075.12	-131.11	101.09	
06/28/22	11:29:34	0.61389		4074.08	-132.15	101.11	
06/28/22	11:30:39	0.63194		4073.09	-133.14	101.12	
06/28/22	11:31:14	0.64167		4072.56	-133.67	101.12	SIBHP began increasing.
06/28/22	11:31:44	0.65000		4073.00	-133.23	101.13	
06/28/22	11:32:34	0.66389		4073.03	-133.20	101.15	SIBHP resumed decreasing.
06/28/22	11:32:54	0.66944		4072.92	-133.31	101.15	
06/28/22	11:34:04	0.68889		4072.56	-133.67	101.18	
06/28/22	11:35:14	0.70833		4072.06	-134.17	101.21	
06/28/22	11:36:29	0.72917		4071.50	-134.73	101.23	
06/28/22	11:37:44	0.75000		4070.93	-135.30	101.25	
06/28/22	11:39:04	0.77222		4070.33	-135.90	101.28	
06/28/22	11:40:24	0.79444		4069.71	-136.52	101.31	
06/28/22	11:41:49	0.81806		4069.06	-137.17	101.34	
06/28/22	11:43:14	0.84167		4068.41	-137.82	101.36	
06/28/22	11:44:44	0.86667		4067.74	-138.49	101.39	
06/28/22	11:46:14	0.89167		4067.09	-139.14	101.42	
06/28/22	11:47:49	0.91806		4066.41	-139.82	101.45	
06/28/22	11:49:24	0.94444		4065.74	-140.49	101.48	
06/28/22	11:51:04	0.97222		4065.06	-141.17	101.50	
06/28/22	11:52:39	0.99861		4064.48	-141.75	101.53	SIBHP decreased sharply.
06/28/22	11:52:49	1.00139		4063.47	-142.76	101.53	
06/28/22	11:54:34	1.03056		4061.43	-144.80	101.48	
06/28/22	11:56:19	1.05972		4059.89	-146.34	101.34	
06/28/22	11:58:09	1.09028		4058.54	-147.69	101.28	
06/28/22	12:00:04	1.12222		4057.30	-148.93	101.22	
06/28/22	12:02:04	1.15556		4056.11	-150.12	101.15	
06/28/22	12:04:04	1.18889		4055.01	-151.22	101.13	
06/28/22	12:06:09	1.22361		4053.94	-152.29	101.16	
06/28/22	12:08:19	1.25972		4052.93	-153.30	101.19	
06/28/22	12:10:29	1.29583		4051.97	-154.26	101.21	
06/28/22	12:12:49	1.33472		4051.01	-155.22	101.23	
06/28/22	12:15:09	1.37361		4050.12	-156.11	101.24	
06/28/22	12:17:34	1.41389		4049.25	-156.98	101.23	
06/28/22	12:19:59	1.45417		4048.44	-157.79	101.23	
06/28/22	12:22:34	1.49722		4047.62	-158.61	101.22	
06/28/22	12:25:09	1.54028		4046.86	-159.37	101.22	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company: Petrotek Corporation
Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Location: Eddy County, NM
Perfs: 7570 - 7736; 7826 - 8399 ft (MD)
Formation: Unavailable

Test Date: 06/28 - 06/30/2022
Gauge Depth: 7557 ft
Gauge Type: Electronic
Gauge SN: DC-22479
Gauge Range: 15000 psi
Gauge OD: 1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	12:27:54	1.58611		4046.11	-160.12	101.23	
06/28/22	12:30:39	1.63194		4045.39	-160.84	101.24	
06/28/22	12:33:29	1.67917		4044.69	-161.54	101.24	
06/28/22	12:36:29	1.72917		4043.98	-162.25	101.25	
06/28/22	12:39:29	1.77917		4043.31	-162.92	101.26	
06/28/22	12:42:34	1.83056		4042.68	-163.55	101.27	
06/28/22	12:45:49	1.88472		4042.04	-164.19	101.28	
06/28/22	12:49:04	1.93889		4041.44	-164.79	101.29	
06/28/22	12:52:29	1.99583		4040.86	-165.37	101.30	
06/28/22	12:55:59	2.05417		4040.31	-165.92	101.30	
06/28/22	12:59:34	2.11389		4039.76	-166.47	101.31	
06/28/22	13:03:19	2.17639		4039.22	-167.01	101.31	
06/28/22	13:07:04	2.23889		4038.70	-167.53	101.31	
06/28/22	13:10:59	2.30417		4038.20	-168.03	101.31	
06/28/22	13:15:04	2.37222		4037.68	-168.55	101.32	
06/28/22	13:19:14	2.44167		4037.08	-169.15	101.32	
06/28/22	13:23:29	2.51250		4036.50	-169.73	101.31	
06/28/22	13:27:54	2.58611		4035.94	-170.29	101.31	
06/28/22	13:32:24	2.66111		4035.41	-170.82	101.31	
06/28/22	13:37:04	2.73889		4034.90	-171.33	101.31	
06/28/22	13:41:54	2.81944		4034.42	-171.81	101.31	
06/28/22	13:46:49	2.90139		4034.03	-172.20	101.32	
06/28/22	13:51:54	2.98611		4033.64	-172.59	101.32	
06/28/22	13:57:09	3.07361		4033.25	-172.98	101.32	
06/28/22	14:02:29	3.16250		4032.87	-173.36	101.32	
06/28/22	14:08:04	3.25556		4032.50	-173.73	101.32	
06/28/22	14:13:44	3.35000		4032.16	-174.07	101.32	
06/28/22	14:19:39	3.44861		4031.76	-174.47	101.33	
06/28/22	14:25:39	3.54861		4031.36	-174.87	101.33	
06/28/22	14:31:54	3.65278		4030.95	-175.28	101.33	
06/28/22	14:38:19	3.75972		4030.53	-175.70	101.33	
06/28/22	14:44:54	3.86944		4030.15	-176.08	101.33	
06/28/22	14:51:39	3.98194		4029.80	-176.43	101.33	
06/28/22	14:58:39	4.09861		4029.48	-176.75	101.34	
06/28/22	15:05:49	4.21806		4029.16	-177.07	101.34	
06/28/22	15:13:09	4.34028		4028.89	-177.34	101.34	
06/28/22	15:20:49	4.46806		4028.62	-177.61	101.35	
06/28/22	15:28:39	4.59861		4028.40	-177.83	101.35	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company: Petrotek Corporation
Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Location: Eddy County, NM
Perfs: 7570 - 7736; 7826 - 8399 ft (MD)
Formation: Unavailable

Test Date: 06/28 - 06/30/2022
Gauge Depth: 7557 ft
Gauge Type: Electronic
Gauge SN: DC-22479
Gauge Range: 15000 psi
Gauge OD: 1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/28/22	15:36:39	4.73194		4028.17	-178.06	101.36	
06/28/22	15:44:59	4.87083		4027.97	-178.26	101.36	
06/28/22	15:53:29	5.01250		4027.78	-178.45	101.36	
06/28/22	16:02:14	5.15833		4027.58	-178.65	101.36	
06/28/22	16:11:19	5.30972		4027.43	-178.80	101.37	
06/28/22	16:20:34	5.46389		4027.28	-178.95	101.37	
06/28/22	16:30:04	5.62222		4027.16	-179.07	101.37	SIBHP increased.
06/28/22	16:30:09	5.62361		4027.18	-179.05	101.37	
06/28/22	16:40:04	5.78889		4027.17	-179.06	101.38	
06/28/22	16:50:09	5.95694		4027.19	-179.04	101.38	
06/28/22	16:51:34	5.98056		4027.18	-179.05	101.38	SIBHP decreased.
06/28/22	17:00:39	6.13194		4026.92	-179.31	101.38	
06/28/22	17:11:19	6.30972		4026.51	-179.72	101.37	
06/28/22	17:22:24	6.49444		4026.36	-179.87	101.38	
06/28/22	17:33:49	6.68472		4026.42	-179.81	101.39	
06/28/22	17:45:29	6.87917		4026.54	-179.69	101.39	
06/28/22	17:57:34	7.08056		4026.76	-179.47	101.39	
06/28/22	18:09:59	7.28750		4026.79	-179.44	101.39	
06/28/22	18:22:44	7.50000		4026.72	-179.51	101.39	
06/28/22	18:35:49	7.71806		4026.79	-179.44	101.39	
06/28/22	18:49:24	7.94444		4026.14	-180.09	101.38	
06/28/22	19:03:19	8.17639		4025.81	-180.42	101.39	
06/28/22	19:17:39	8.41528		4025.65	-180.58	101.39	
06/28/22	19:32:19	8.65972		4025.70	-180.53	101.40	
06/28/22	19:47:34	8.91389		4025.52	-180.71	101.40	
06/28/22	20:03:09	9.17361		4025.49	-180.74	101.41	
06/28/22	20:19:14	9.44167		4025.54	-180.69	101.42	
06/28/22	20:35:44	9.71667		4025.62	-180.61	101.42	
06/28/22	20:52:49	10.00139		4025.36	-180.87	101.42	
06/28/22	21:10:19	10.29306		4024.80	-181.43	101.42	
06/28/22	21:28:19	10.59306		4024.65	-181.58	101.43	
06/28/22	21:46:54	10.90278		4024.86	-181.37	101.44	
06/28/22	22:05:59	11.22083		4025.27	-180.96	101.45	
06/28/22	22:25:39	11.54861		4025.56	-180.67	101.45	
06/28/22	22:45:54	11.88611		4025.83	-180.40	101.45	
06/28/22	23:06:44	12.23333		4026.09	-180.14	101.45	
06/28/22	23:28:09	12.59028		4026.26	-179.97	101.45	
06/28/22	23:50:09	12.95694		4026.38	-179.85	101.45	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/29/22	00:12:54	13.33611		4026.44	-179.79	101.45	
06/29/22	00:36:14	13.72500		4026.46	-179.77	101.45	
06/29/22	01:00:19	14.12639		4026.42	-179.81	101.45	
06/29/22	01:25:04	14.53889		4026.31	-179.92	101.45	
06/29/22	01:50:29	14.96250		4026.24	-179.99	101.46	
06/29/22	02:16:44	15.40000		4026.20	-180.03	101.46	
06/29/22	02:43:44	15.85000		4025.94	-180.29	101.46	
06/29/22	03:11:29	16.31250		4025.47	-180.76	101.47	
06/29/22	03:40:04	16.78889		4025.35	-180.88	101.47	
06/29/22	04:09:29	17.27917		4025.49	-180.74	101.49	
06/29/22	04:39:44	17.78333		4025.67	-180.56	101.49	
06/29/22	05:10:54	18.30278		4025.89	-180.34	101.50	
06/29/22	05:42:59	18.83750		4024.99	-181.24	101.50	
06/29/22	06:15:59	19.38750		4024.56	-181.67	101.50	
06/29/22	06:49:54	19.95278		4024.39	-181.84	101.51	
06/29/22	07:24:54	20.53611		4024.24	-181.99	101.52	
06/29/22	08:00:54	21.13611		4023.94	-182.29	101.53	
06/29/22	08:37:54	21.75278		4023.60	-182.63	101.54	
06/29/22	09:15:59	22.38750		4023.45	-182.78	101.54	
06/29/22	09:55:14	23.04167		4023.31	-182.92	101.55	
06/29/22	10:35:34	23.71389		4023.40	-182.83	101.55	
06/29/22	11:17:09	24.40694		4023.58	-182.65	101.55	
06/29/22	11:59:54	25.11944		4023.75	-182.48	101.55	
06/29/22	12:43:54	25.85278		4023.87	-182.36	101.55	
06/29/22	13:29:14	26.60833		4023.98	-182.25	101.55	
06/29/22	14:15:49	27.38472		4023.89	-182.34	101.55	
06/29/22	15:03:49	28.18472		4023.77	-182.46	101.55	
06/29/22	15:53:09	29.00694		4023.34	-182.89	101.56	
06/29/22	16:43:59	29.85417		4023.60	-182.63	101.57	
06/29/22	17:36:19	30.72639		4024.03	-182.20	101.57	
06/29/22	18:30:09	31.62361		4023.51	-182.72	101.57	
06/29/22	19:25:34	32.54722		4023.66	-182.57	101.58	
06/29/22	20:22:34	33.49722		4023.78	-182.45	101.58	
06/29/22	21:21:14	34.47500		4023.72	-182.51	101.58	
06/29/22	22:21:39	35.48194		4023.56	-182.67	101.59	
06/29/22	23:23:49	36.51806		4023.87	-182.36	101.59	
06/30/22	00:27:49	37.58472		4024.10	-182.13	101.59	
06/30/22	01:33:39	38.68194		4024.05	-182.18	101.59	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company: Petrotek Corporation
Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Location: Eddy County, NM
Perfs: 7570 - 7736; 7826 - 8399 ft (MD)
Formation: Unavailable

Test Date: 06/28 - 06/30/2022
Gauge Depth: 7557 ft
Gauge Type: Electronic
Gauge SN: DC-22479
Gauge Range: 15000 psi
Gauge OD: 1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/30/22	02:41:24	39.81111		4023.86	-182.37	101.60	
06/30/22	03:51:09	40.97361		4023.48	-182.75	101.61	
06/30/22	05:02:59	42.17083		4023.95	-182.28	101.61	
06/30/22	06:16:49	43.40139		4023.67	-182.56	101.61	
06/30/22	07:09:59	44.28750		4023.35	-182.88	101.62	Casing Pressure = N/A.
06/30/22	07:10:04	44.28889	730	4023.36	-182.87	101.62	POOH with gauge from 7557 ft.
06/30/22	07:10:14	44.29167		4020.95		101.62	BHT began increasing.
06/30/22	07:11:04	44.30556		3980.37		101.90	
06/30/22	07:12:04	44.32222		3922.39		102.65	
06/30/22	07:13:04	44.33889		3859.12		103.62	
06/30/22	07:14:04	44.35556		3794.27		104.52	
06/30/22	07:14:24	44.36111		3778.90		104.77	Arrived at 7000 ft stop.
06/30/22	07:15:04	44.37222		3779.28		104.91	
06/30/22	07:16:04	44.38889		3779.35		104.94	
06/30/22	07:17:04	44.40556		3779.36		104.95	
06/30/22	07:18:04	44.42222		3779.37		104.95	
06/30/22	07:19:04	44.43889		3779.39		104.95	
06/30/22	07:19:59	44.45417		3779.40		104.95	Left 7000 ft stop.
06/30/22	07:20:04	44.45556		3779.03		104.95	
06/30/22	07:21:04	44.47222		3712.43		105.44	
06/30/22	07:22:04	44.48889		3636.18		106.07	
06/30/22	07:23:04	44.50556		3559.47		106.39	
06/30/22	07:24:04	44.52222		3482.26		106.54	
06/30/22	07:24:44	44.53333		3430.64		106.59	BHT began decreasing.
06/30/22	07:25:04	44.53889		3404.86		106.57	
06/30/22	07:26:04	44.55556		3344.92		106.41	Arrived at 6000 ft stop.
06/30/22	07:27:04	44.57222		3344.04		106.36	
06/30/22	07:28:04	44.58889		3344.05		106.36	
06/30/22	07:29:04	44.60556		3344.05		106.36	
06/30/22	07:30:04	44.62222		3344.07		106.36	
06/30/22	07:31:04	44.63889		3344.06		106.36	
06/30/22	07:31:09	44.64028		3344.06		106.36	Left 6000 ft stop.
06/30/22	07:32:04	44.65556		3305.12		106.26	
06/30/22	07:33:04	44.67222		3254.53		106.01	
06/30/22	07:34:04	44.68889		3204.12		105.74	
06/30/22	07:35:04	44.70556		3152.70		105.41	
06/30/22	07:36:04	44.72222		3100.58		105.04	
06/30/22	07:37:04	44.73889		3048.53		104.62	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/30/22	07:38:04	44.75556		2996.38		104.18	
06/30/22	07:39:04	44.77222		2944.03		103.67	
06/30/22	07:39:54	44.78611		2909.54		103.26	Arrived at 5000 ft stop.
06/30/22	07:40:04	44.78889		2909.43		103.21	
06/30/22	07:41:04	44.80556		2909.29		103.15	
06/30/22	07:42:04	44.82222		2909.30		103.14	
06/30/22	07:43:04	44.83889		2909.28		103.14	
06/30/22	07:44:04	44.85556		2909.27		103.14	
06/30/22	07:44:54	44.86944		2909.28		103.14	Left 5000 ft stop.
06/30/22	07:45:04	44.87222		2906.23		103.14	
06/30/22	07:46:04	44.88889		2858.68		102.81	
06/30/22	07:47:04	44.90556		2810.41		102.38	
06/30/22	07:48:04	44.92222		2761.94		101.93	
06/30/22	07:49:04	44.93889		2711.85		101.44	
06/30/22	07:50:04	44.95556		2661.59		100.94	
06/30/22	07:51:04	44.97222		2611.54		100.43	
06/30/22	07:52:04	44.98889		2561.29		99.92	
06/30/22	07:53:04	45.00556		2510.78		99.41	
06/30/22	07:53:54	45.01944		2474.77		99.00	Arrived at 4000 ft stop.
06/30/22	07:54:04	45.02222		2474.62		98.94	
06/30/22	07:55:04	45.03889		2474.44		98.88	
06/30/22	07:56:04	45.05556		2474.42		98.87	
06/30/22	07:57:04	45.07222		2474.40		98.87	
06/30/22	07:58:04	45.08889		2474.42		98.87	
06/30/22	07:58:54	45.10278		2474.39		98.87	Left 4000 ft stop.
06/30/22	07:59:04	45.10556		2470.45		98.87	
06/30/22	08:00:04	45.12222		2420.96		98.50	
06/30/22	08:01:04	45.13889		2367.80		98.01	
06/30/22	08:02:04	45.15556		2314.02		97.49	
06/30/22	08:03:04	45.17222		2260.32		96.97	
06/30/22	08:04:04	45.18889		2204.86		96.43	
06/30/22	08:05:04	45.20556		2148.95		95.89	
06/30/22	08:06:04	45.22222		2092.67		95.35	
06/30/22	08:07:04	45.23889		2041.87		94.85	
06/30/22	08:07:09	45.24028		2040.03		94.81	Arrived at 3000 ft stop.
06/30/22	08:08:04	45.25556		2039.67		94.68	
06/30/22	08:09:04	45.27222		2039.65		94.67	
06/30/22	08:10:04	45.28889		2039.62		94.67	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company: Petrotek Corporation
Well: Navajo Refining Waste Disposal Well No. 2
Field: Davonia
Location: Eddy County, NM
Perfs: 7570 - 7736; 7826 - 8399 ft (MD)
Formation: Unavailable

Test Date: 06/28 - 06/30/2022
Gauge Depth: 7557 ft
Gauge Type: Electronic
Gauge SN: DC-22479
Gauge Range: 15000 psi
Gauge OD: 1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/30/22	08:11:04	45.30556		2039.62		94.67	
06/30/22	08:12:04	45.32222		2039.65		94.66	
06/30/22	08:12:14	45.32500		2039.64		94.66	Left 3000 ft stop.
06/30/22	08:13:04	45.33889		2008.31		94.50	
06/30/22	08:14:04	45.35556		1965.01		94.12	
06/30/22	08:15:04	45.37222		1921.07		93.73	
06/30/22	08:16:04	45.38889		1873.96		93.30	
06/30/22	08:17:04	45.40556		1826.48		92.88	
06/30/22	08:18:04	45.42222		1778.95		92.46	
06/30/22	08:19:04	45.43889		1731.39		92.02	
06/30/22	08:20:04	45.45556		1683.60		91.59	
06/30/22	08:21:04	45.47222		1635.77		91.18	
06/30/22	08:21:54	45.48611		1605.44		90.85	Arrived at 2000 ft stop.
06/30/22	08:22:04	45.48889		1605.36		90.82	
06/30/22	08:23:04	45.50556		1605.30		90.77	
06/30/22	08:24:04	45.52222		1605.28		90.76	
06/30/22	08:25:04	45.53889		1605.31		90.76	
06/30/22	08:26:04	45.55556		1605.31		90.76	
06/30/22	08:27:04	45.57222		1605.28		90.76	
06/30/22	08:27:19	45.57639		1605.30		90.76	Left 2000 ft stop.
06/30/22	08:28:04	45.58889		1572.63		90.62	
06/30/22	08:29:04	45.60556		1522.79		90.27	
06/30/22	08:30:04	45.62222		1472.62		89.88	
06/30/22	08:31:04	45.63889		1422.50		89.47	
06/30/22	08:32:04	45.65556		1372.41		89.06	
06/30/22	08:33:04	45.67222		1321.71		88.66	
06/30/22	08:34:04	45.68889		1270.87		88.24	
06/30/22	08:35:04	45.70556		1219.98		87.84	
06/30/22	08:36:04	45.72222		1173.44		87.41	
06/30/22	08:36:09	45.72361		1171.90		87.38	Arrived at 1000 ft stop.
06/30/22	08:37:04	45.73889		1171.24		87.29	
06/30/22	08:38:04	45.75556		1171.21		87.27	
06/30/22	08:39:04	45.77222		1171.21		87.27	
06/30/22	08:40:04	45.78889		1171.24		87.27	
06/30/22	08:41:04	45.80556		1171.23		87.27	
06/30/22	08:41:14	45.80833		1171.24		87.27	Left 1000 ft stop.
06/30/22	08:42:04	45.82222		1138.61		87.10	
06/30/22	08:43:04	45.83889		1095.33		86.79	

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

RESERVOIR PRESSURE FALLOFF TEST

Company:	Petrotek Corporation	Test Date:	06/28 - 06/30/2022
Well:	Navajo Refining Waste Disposal Well No. 2	Gauge Depth:	7557 ft
Field:	Davonia	Gauge Type:	Electronic
Location:	Eddy County, NM	Gauge SN:	DC-22479
Perfs:	7570 - 7736; 7826 - 8399 ft (MD)	Gauge Range:	15000 psi
Formation:	Unavailable	Gauge OD:	1.2500"

Test Date mm/dd/yy	Real Time hh:mm:ss	Delta Time hours	WHP psia	BHP psia	Delta BHP psi	Temp. °F	Comments
06/30/22	08:44:04	45.85556		1052.48		86.43	
06/30/22	08:45:04	45.87222		1009.23		86.08	
06/30/22	08:46:04	45.88889		965.67		85.72	
06/30/22	08:47:04	45.90556		922.30		85.36	
06/30/22	08:48:04	45.92222		878.68		85.08	
06/30/22	08:49:04	45.93889		834.73		84.99	
06/30/22	08:50:04	45.95556		791.40		84.85	
06/30/22	08:51:04	45.97222		756.54		84.79	
06/30/22	08:52:04	45.98889		734.76		84.75	
06/30/22	08:52:19	45.99306		725.86		85.37	Gauge at surface.
06/30/22	08:53:04	46.00556		731.67		87.76	
06/30/22	08:54:04	46.02222		732.04		87.97	
06/30/22	08:55:04	46.03889		732.07		88.12	
06/30/22	08:56:04	46.05556		732.06		88.24	
06/30/22	08:57:04	46.07222		732.17		88.37	
06/30/22	08:58:04	46.08889		732.14		88.48	
06/30/22	08:59:04	46.10556		732.64		88.59	
06/30/22	08:59:59	46.12083	730	732.38		88.71	Pressured down lubricator.
06/30/22	09:00:04	46.12222		466.11		88.73	
06/30/22	09:01:04	46.13889		31.58		88.83	
06/30/22	09:02:04	46.15556		21.10		89.34	
06/30/22	09:03:04	46.17222		19.62		89.52	
06/30/22	09:04:04	46.18889		14.99		89.58	
06/30/22	09:05:04	46.20556		12.44		89.56	
06/30/22	09:05:09	46.20694		12.40		89.57	Test completed.
06/30/22	09:10:04	46.28889		16.97		81.59	
06/30/22	09:15:04	46.37222		17.44		79.61	
06/30/22	09:17:09	46.40694		16.71		78.53	Powered down gauge.

Remarks: MIRU slickline. RIH with electronic gauge making injecting gradient stops to 7557 ft. Continued injecting waste water into well for 13 minutes. SI well for 44.3 hr BHP Falloff Test. POOH making static gradient stops to surface. RDMO.

Certified: FESCO, Ltd. - Midland, TX

By: Michael Carnes
District Manager - (432) 332-3211

Job No.: J202207011401.001A

Attachment 5
Falloff Test Summary

DW No. 2
Falloff Test Summary

Reservoir Properties

Net Pay (h)	175	ft
Porosity (Φ)	10.0	%
Formation Compressibility (c_f)	8.20E-06	psi^{-1}
Total Compressibility (c_t)	1.09E-05	psi^{-1}
Wellbore Radius (r_w)	0.328	ft

Fluid Properties

Viscosity (μ)	0.56	cp
Fluid Compressibility (c_f)	2.70E-06	psi^{-1}
Formation Volume Factor (B)	1.00	bbl/stb

Model Parameters

Wellbore Storage	Changing hegeman
Well Model	Vertical limited entry
Reservoir Model	Dual-porosity PSS
Boundary Model	Infinite

Analysis Results

Well & Wellbore

Initial Wellbore Storage	8.08E-02	bbl/psi
Final Wellbore Storage	7.70E-01	bbl/psi
D_t [changing storage]	2.78E-01	hr
Skin	64.4	

Reservoir & Boundary

Permeability (k)	509	md
Transmissibility	158,999	md-ft/cp
Radius of Investigation (r_i)	5,617	ft
Omega	9.00E-02	
Lambda	2.58E-08	

Attachment 6
AOR Well List

Petrotek

Operator Name	Well Name	API	Type	Status	Surface Location	Latitude	Longitude	Spud Date	Plug Date
APACHE CORPORATION	EMPIRE ABO UNIT #143	30-015-22609	Oil	Active	N-02-18S-27E	32.77244570	-104.25151820	11/26/1978	-
APACHE CORPORATION	EMPIRE ABO UNIT #014	30-015-00730	Oil	Active	N-02-18S-27E	32.77096180	-104.25122830	9/22/1958	-
APACHE CORPORATION	EMPIRE ABO UNIT #143A	30-015-22896	Oil	Active	K-02-18S-27E	32.77414700	-104.24942780	4/16/1979	-
APACHE CORPORATION	EMPIRE ABO UNIT #015	30-015-00716	Oil	Active	J-02-18S-27E	32.77458190	-104.24662020	2/11/1959	-
APACHE CORPORATION	SCBP STATE #001	30-015-32946	Oil	Active	J-02-18S-27E	32.77521510	-104.24604030	3/14/2005	-
APACHE CORPORATION	EMPIRE ABO UNIT #016	30-015-00717	Oil	Active	I-02-18S-27E	32.77457810	-104.24280550	3/30/1959	-
ROVER OPERATING, LLC	ARTESIA STATE UNIT #301	30-015-00895	Oil	Active	H-14-18S-27E	32.75013730	-104.24178310	2/8/1945	-
APACHE CORPORATION	AAO FEDERAL #030	30-015-42360	Oil	Active	M-01-18S-27E	32.77258680	-104.23971560	7/20/2014	-
APACHE CORPORATION	AAO FEDERAL #009	30-015-34387	Oil	Active	L-01-18S-27E	32.77455140	-104.23860930	11/7/2005	-
NAVAJO REFINING COMPANY, L.L.C.	WDW #002	30-015-20894	SWD	Active	E-12-18S-27E	32.76366420	-104.23848720	5/5/1999	-
APACHE CORPORATION	AAO FEDERAL #011	30-015-34555	Oil	Active	M-01-18S-27E	32.77155300	-104.23846440	2/15/2006	-
APACHE CORPORATION	AAO FEDERAL #020	30-015-42036	Oil	Active	E-01-18S-27E	32.77733610	-104.23774720	4/10/2014	-
ROVER OPERATING, LLC	ARTESIA STATE UNIT #802	30-015-25370	Oil	Active	D-13-18S-27E	32.75330350	-104.23767850	8/27/1985	-
APACHE CORPORATION	AAO FEDERAL #025	30-015-42361	Oil	Active	L-01-18S-27E	32.77458950	-104.23733520	6/23/2014	-
APACHE CORPORATION	AAO FEDERAL #029	30-015-42339	Oil	Active	M-01-18S-27E	32.77008440	-104.23736570	6/16/2014	-
ROVER OPERATING, LLC	ARTESIA STATE UNIT #801	30-015-00883	Oil	Active	D-13-18S-27E	32.75189590	-104.23750310	12/11/1944	-
HARLOW ENTERPRISES LLC	COMSTOCK FEDERAL #003	30-015-25545	Oil	Active	M-12-18S-27E	32.75733950	-104.23749540	5/19/1986	-
HARLOW ENTERPRISES LLC	COMSTOCK FEDERAL #001	30-015-25100	Oil	Active	N-12-18S-27E	32.75549700	-104.23536680	12/10/1984	-
LLJ VENTURES, LLC DBA MARKER OIL & GAS	ARTESIA STATE #001	30-015-25241	Oil	Active	C-13-18S-27E	32.75368120	-104.23537450	4/13/1985	-
APACHE CORPORATION	AAO FEDERAL #026	30-015-42338	Oil	Active	K-01-18S-27E	32.77530670	-104.23530580	6/10/2014	-
HARLOW ENTERPRISES LLC	COMSTOCK FEDERAL #002	30-015-25201	Oil	Active	K-12-18S-27E	32.75912090	-104.23493190	3/16/1985	-
APACHE CORPORATION	AAO FEDERAL #012	30-015-34998	Oil	Active	N-01-18S-27E	32.77151490	-104.23524480	8/13/2006	-
APACHE CORPORATION	AAO FEDERAL #006	30-015-34071	Oil	Active	F-01-18S-27E	32.77735520	-104.23432160	7/6/2005	-
APACHE CORPORATION	AAO FEDERAL #027	30-015-42359	Oil	Active	K-01-18S-27E	32.77444080	-104.23394780	7/3/2014	-
APACHE CORPORATION	AAO FEDERAL #010	30-015-34576	Oil	Active	K-01-18S-27E	32.77471160	-104.23363490	6/2/2006	-
NAVAJO REFINING COMPANY, L.L.C.	WDW #003	30-015-26575	SWD	Active	N-01-18S-27E	32.77121350	-104.23328400	12/22/1990	-
APACHE CORPORATION	AAO FEDERAL #019	30-015-42051	Oil	Active	F-01-18S-27E	32.77695470	-104.23318480	4/2/2014	-
BILL L MILLER	CHUKKA FEDERAL #001	30-015-25270	Oil	Active	F-12-18S-27E	32.76269150	-104.23313140	4/23/1985	-
APACHE CORPORATION	AAO FEDERAL #028	30-015-42358	Oil	Active	N-01-18S-27E	32.76953510	-104.23245240	7/12/2014	-
LLJ VENTURES, LLC DBA MARKER OIL & GAS	ARTESIA STATE #002	30-015-25394	Oil	Active	C-13-18S-27E	32.75365450	-104.23322300	9/28/1985	-
HARLOW ENTERPRISES LLC	COMSTOCK FEDERAL #007	30-015-00874	Oil	Active	J-12-18S-27E	32.76088330	-104.23123170	7/28/1948	-
HARLOW ENTERPRISES LLC	COMSTOCK FEDERAL #005	30-015-25202	Oil	Active	O-12-18S-27E	32.75543980	-104.23108670	4/19/1985	-
APACHE CORPORATION	AAO FEDERAL SWD #001	30-015-42549	SWD	Active	G-01-18S-27E	32.77649690	-104.23130040	10/24/2014	-
HARLOW ENTERPRISES LLC	COMSTOCK FEDERAL #009	30-015-25738	Oil	Active	G-12-18S-27E	32.76266480	-104.23107910	4/25/1987	-
HARLOW ENTERPRISES LLC	COMSTOCK FEDERAL #006	30-015-25099	Oil	Active	H-12-18S-27E	32.76399230	-104.22678380	8/18/1985	-
APACHE CORPORATION	EMPIRE ABO UNIT #020B	30-015-00699	Oil	Active	P-01-18S-27E	32.77152250	-104.22463230	11/16/1961	-
LLJ VENTURES, LLC DBA MARKER OIL & GAS	LAUREL STATE #003	30-015-31319	Oil	Active	E-07-18S-28E	32.76257710	-104.22249600	10/2/2000	-
Redwood Operating LLC	FEDERAL T SWD #001	30-015-26404	SWD	Active	A-12-18S-27E	32.76715090	-104.22678380	6/28/1990	-
Redwood Operating LLC	STATE H #002	30-015-35814	Oil	Active	H-02-18S-27E	32.77771000	-104.24214940	10/31/2007	-
Redwood Operating LLC	CHOATE DAVIS 13 STATE SWD #003	30-015-48888	Injection	New	D-13-18S-27E	32.75285470	-104.23878360	2/24/2022	-
APACHE CORPORATION	EMPIRE ABO UNIT #183	30-015-22096	Oil	Plugged (not released)	K-01-18S-27E	32.77558900	-104.23576350	6/23/1977	4/27/2021
APACHE CORPORATION	EMPIRE ABO UNIT #193	30-015-22657	Oil	Plugged (not released)	J-01-18S-27E	32.77585600	-104.23072050	9/29/1978	4/29/2021
APACHE CORPORATION	EMPIRE ABO UNIT #194	30-015-22658	Oil	Plugged (not released)	J-01-18S-27E	32.77313230	-104.23049160	10/18/1978	4/19/2021
APACHE CORPORATION	EMPIRE ABO UNIT #192	30-015-22560	Oil	Plugged (not released)	J-01-18S-27E	32.77451000	-104.22807000	5/30/1978	4/22/2021
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #131	30-015-00866	Oil	Plugged (site released)	E-11-18S-27E	32.76370620	-104.25556180	-	-
APACHE CORPORATION	EMPIRE ABO UNIT #133B	30-015-22833	Oil	Plugged (site released)	D-11-18S-27E	32.76791380	-104.25383760	5/23/1979	6/22/2017
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #132	30-015-21807	Oil	Plugged (site released)	M-02-18S-27E	32.76990510	-104.25360870	-	6/22/2009
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #131	30-015-22556	Oil	Plugged (site released)	D-11-18S-27E	32.76612470	-104.25377660	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	30-015-20510	Oil	Plugged (site released)	F-11-18S-27E	32.76461030	-104.25231930	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #014	30-015-00865	Oil	Plugged (site released)	F-11-18S-27E	32.76461030	-104.25125890	-	-
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #142	30-015-22608	Oil	Plugged (site released)	N-02-18S-27E	32.76942060	-104.25130460	-	9/9/2009
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #014	30-015-00864	Oil	Plugged (site released)	C-11-18S-27E	32.76733020	-104.25122070	-	-
APACHE CORPORATION	EMPIRE ABO UNIT #141B	30-015-22834	Oil	Plugged (site released)	C-11-18S-27E	32.76852420	-104.25022890	5/21/1979	6/22/2017
APACHE CORPORATION	EMPIRE ABO UNIT #152	30-015-21825	Oil	Plugged (site released)	O-02-18S-27E	32.77002330	-104.24905400	-	12/27/2011
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #152B	30-015-22569	Oil	Plugged (site released)	B-11-18S-27E	32.76760480	-104.24900820	-	10/2/2008
APACHE CORPORATION	EMPIRE ABO UNIT #141A	30-015-22051	Oil	Plugged (site released)	K-02-18S-27E	32.77291110	-104.24974820	-	12/21/2011
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #154	30-015-22669	Oil	Plugged (site released)	O-02-18S-27E	32.77134320	-104.24874110	-	6/30/2009
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #153B	30-015-22838	Oil	Plugged (site released)	B-11-18S-27E	32.76858900	-104.24684140	-	12/22/2008
APACHE CORPORATION	EMPIRE ABO UNIT #155	30-015-22885	Oil	Plugged (site released)	O-02-18S-27E	32.77199940	-104.24720760	3/30/1979	1/3/2012
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	30-015-00870	Oil	Plugged (site released)	J-11-18S-27E	32.76018140	-104.24712370	-	-
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #015C	30-015-00868	Oil	Plugged (site released)	B-11-18S-27E	32.76732640	-104.24703220	-	7/16/2004
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #015A	30-015-00731	Oil	Plugged (site released)	O-02-18S-27E	32.77095410	-104.24704740	-	2/12/2009
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #153	30-015-22013	Oil	Plugged (site released)	O-02-18S-27E	32.76938630	-104.24531560	-	10/30/2008
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #151B	30-015-22568	Oil	Plugged (site released)	B-11-18S-27E	32.76803970	-104.24530030	-	8/16/2006
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #156	30-015-22808	Oil	Plugged (site released)	O-02-18S-27E	32.77078630	-104.24492650	-	10/7/2009
APACHE CORPORATION	EMPIRE ABO UNIT #151	30-015-21544	Oil	Plugged (site released)	O-02-18S-27E	32.77219010	-104.24492650	-	1/6/2012
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	30-015-00726	Oil	Plugged (site released)	L-02-18S-27E	32.77467000	-104.24280000	-	-
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #016A	30-015-00722	Oil	Plugged (site released)	P-02-18S-27E	32.77095030	-104.24275210	-	2/23/2009
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #016C	30-015-00869	Oil	Plugged (site released)	A-11-18S-27E	32.76822660	-104.24270630	-	1/24/2007
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #003	30-015-00894	Oil	Plugged (site released)	P-14-18S-27E	32.75195310	-104.24179840	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	30-015-00891	Oil	Plugged (site released)	A-14-18S-27E	32.75195310	-104.24179840	-	-
APACHE CORPORATION	EMPIRE ABO UNIT #171	30-015-22815	Oil	Plugged (site released)	M-01-18S-27E	32.77096180	-104.23952480	5/22/1979	10/24/2019
RHONDA OPERATING CO	FEDERAL EA #001	30-015-00871	Oil	Plugged (site released)	D-12-18S-27E	32.76821140	-104.23950960	-	4/12/1994
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #002	30-015-20535	Oil	Plugged (site released)	D-12-18S-27E	32.76820760	-104.23909760	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #003	30-015-23115	Oil	Plugged (site released)	D-12-18S-27E	32.76821140	-104.23934170	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	30-015-00695	Oil	Plugged (site released)	L-01-18S-27E	32.77365490	-104.23957060	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #017	30-015-00704	Oil	Plugged (site released)	E-01-18S-27E	32.77791980	-104.23857120	-	-
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #017A	30-015-00703	Oil	Plugged (site released)	L-01-18S-27E	32.77454760	-104.23851010	-	3/19/2009
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #017B	30-015-00705	Oil	Plugged (site released)	M-01-18S-27E	32.77182770	-104.23847200	-	7/21/2004
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #008	30-015-25649	Oil	Plugged (site released)	L-12-18S-27E	32.75915530	-104.23747250	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	30-015-00880	Oil	Plugged (site released)	E-13-18S-27E	32.75008390	-104.23748780	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	30-015-00872	Oil	Plugged (site released)	L-12-18S-27E	32.75547030	-104.23751830	-	-
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #181	30-015-21554	Oil	Plugged (site released)	K-01-18S-27E	32.77283480	-104.23594670	-	4/17/2003
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #003	30-015-00884	Oil	Plugged (site released)	C-13-18S-27E	32.75186920	-104.23535920	-	-
EASTLAND OIL CO	COMSTOCK FEDERAL #010	30-015-26017	Oil	Plugged (site released)	N-12-18S-27E	32.75731280	-104.23534390	-	1/23/2003
BP AMERICA PRODUCTION COMPANY	EMPIRE ABO UNIT #018D	30-015-00713	Oil	Plugged (site released)	N-01-18S-27E	32.77180100	-104.23526760	-	9/27/2003
APACHE CORPORATION	EMPIRE ABO UNIT #018A	30-015-00706	Oil	Plugged (site released)	F-01-18S-27E	32.77696610	-104.23426060	4/24/1959	9/20/2019
APACHE CORPORATION	EMPIRE ABO UNIT #018B	30-015-00707	Oil	Plugged (site released)	K-01-18S-27E	32.77449800	-104.23421480	4/23/1959	6/7/2017
APACHE CORPORATION	EMPIRE ABO UNIT #182	30-015-21792	Oil	Plugged (site released)	K-01-18S-27E	32.77325440	-104.23292540	5/6/1976	4/14/2021
APACHE CORPORATION	EMPIRE ABO UNIT #184	30-015-22559	Oil	Plugged (site released)	K-01-18S-27E	32.77533340	-104.23271940	-	7/18/2013
APACHE CORPORATION	EMPIRE ABO UNIT #191	30-015-21552	Oil	Plugged (site released)	G-01-18S-27E	32.77641680	-104.23169710	-	7/23/2013
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #005	30-015-20388	Oil	Plugged (site released)	N-01-18S-27E	32.77173610	-104.23103330	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #019	30-015-20394	Oil	Plugged (site released)	O-01-18S-27E	32.77163310	-104.23071290	-	-
ARCO PERMIAN	EMPIRE ABO UNIT #191	30-015-00698	SWD	Plugged (site released)	O-01-18S-27E	32.77081680	-104.23000340	10/7/1959	12/8/1989
APACHE CORPORATION	EMPIRE ABO UNIT #191A	30-015-21873	Oil	Plugged (site released)	J-01-18S-27E	32.77317810	-104.22834780	8/27/1976	5/19/2017
APACHE CORPORATION	EMPIRE ABO UNIT #019Q	30-015-00696	Oil	Plugged (site released)	J-01-18S-27E	32.77444840	-104.23000340	-	7/12/2013
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #002	30-015-06137	Oil	Plugged (site released)	A-13-18S-27E	32.75378420	-104.22679140	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #005	30-015-00876	Oil	Plugged (site released)	P-12-18S-27E	32.75472640	-104.22519680	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #003	30-015-06171	Oil	Plugged (site released)	I-12-18S-27E	32.75737760	-104.22438810	-	-
PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #004	30-015-00875	Oil	Plugged (site released)	P-12-18S-27E	32.75535200	-104.22464750	-	-
APACHE CORPORATION	EMPIRE ABO UNIT #161	30-015-22914	Oil	Temporary Abandonment	I-02-18S-27E	32.77273560	-104.24255370	6/21/1979	-

Attachment 7
Digital Data

Petrotek

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 139501

COMMENTS

Operator: NAVAJO REFINING COMPANY, L.L.C. P.O. Box 159 Artesia, NM 88211	OGRID: 15694
	Action Number: 139501
	Action Type: [C-103] NOI General Sundry (C-103X)

COMMENTS

Created By	Comment	Comment Date
cchavez	WDW-2 Fall-Off Test 2022	10/19/2022

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CONDITIONS

Action 139501

CONDITIONS

Operator: NAVAJO REFINING COMPANY, L.L.C. P.O. Box 159 Artesia, NM 88211	OGRID: 15694
	Action Number: 139501
	Action Type: [C-103] NOI General Sundry (C-103X)

CONDITIONS

Created By	Condition	Condition Date
cchavez	The Conditions of Approval are as follows: 1) Tag and record well TD in advance of well workover, testing and logging. 2) Devise an approach similar to WDW-1 FOT to achieve a steady-state injection rate prior to FOT monitoring. 3) Conduct wellbore cleaning prior to FOT to help reduce excessive skin (~ 64) value/effect for type curve evaluation of dual porosity fracture system (apparent communication between fractures and rock matrix).	10/19/2022