



Technical Report

MECHANICAL INTEGRITY TESTING

CLASS I NON-HAZARDOUS DEEPWELL WDW-4

(OCD UIC Permit: UICI-008-4)
(API Number: 30-015-44677)

HF Sinclair Navajo Refining, LLC
Artesia, New Mexico

Section 23, Township 17S, Range 27E
1217 FSL, 2443 FWL

September 2025

Petrotek Corporation
5935 South Zang Street, Suite 200
Littleton, Colorado 80127
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2025 MECHANICAL INTEGRITY TESTING
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HF Sinclair Navajo Refining, LLC
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**2025 MECHANICAL INTEGRITY TESTING
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**HF Sinclair Navajo Refining, LLC
Artesia, New Mexico**

Report prepared by:

Petrotek Corporation
Kenneth J. Cooper, P.E., New Mexico Reg. No. 14175
5935 South Zang Street, Suite 200
Littleton, Colorado 80127



Petrotek

Mechanical Integrity Testing Report; WDW-4
HF Sinclair Navajo Refining, LLC - Artesia, New Mexico – September 2025

EXECUTIVE SUMMARY

This report summarizes the successful mechanical integrity testing (MIT) activities performed on WDW-4 at the HF Sinclair Navajo Refining, LLC (HFSNR) 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 test procedures, provided field supervision and prepared the final report documenting the mechanical integrity testing conducted on the Class I non-hazardous injection well.

The test procedures were submitted to the OCD headquarters and OCD District II on July 14, 2025, before field activities commenced. Attachment 1 presents the test notification submitted to OCD. MIT activities were supervised by Cameron Kerr (Petrotek) on August 6, 2025.

Mechanical Integrity Testing Report; WDW-4
 HF Sinclair Navajo Refining, LLC - Artesia, New Mexico – September 2025

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** - OCD UIC Permit: UICI-008-4
- b. **Well classification** - Class I Non-hazardous
- c. **Well name and number** - WDW-4
- d. **API Number** - 30-015-44677
- e. **Legal Location** - Section 23, Township 17S, Range 27E, 1217 FSL, 2443 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. INTERNAL MECHANICAL INTEGRITY

On August 6, 2025, the WDW-4 annulus was pressurized to approximately 555 psi to begin the internal (Part I) test, as instructed by OCD staff. The well had been shut in for approximately 24 hours prior to the annulus test, allowing time for sufficient thermal equilibrium to be reached. A calibrated mechanical pressure gauge (Palmer-Wahl, 1,000 psi, SN – 2401128.001) 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 starting at approximately 1620, static annulus pressure was monitored for a period of thirty minutes at 5-minute intervals. During the Part I internal mechanical integrity test the pressure remained constant at 555 psi. Since a change of 10% (56 psi) of the starting test pressure is allowable, this test is within acceptable specifications.

Attachment 2 presents a copy of the test gauge certification. Pressures observed during the tubing-casing annulus test are shown in Table 1 and the witnessed pressure gauge chart record of the APT is presented as Attachment 3. An additional test was conducted on well casing components and Attachment 4 presents a copy of the witnessed bradenhead test report.

TABLE 1
WDW-4 ANNULUS PRESSURE TEST MEASUREMENTS

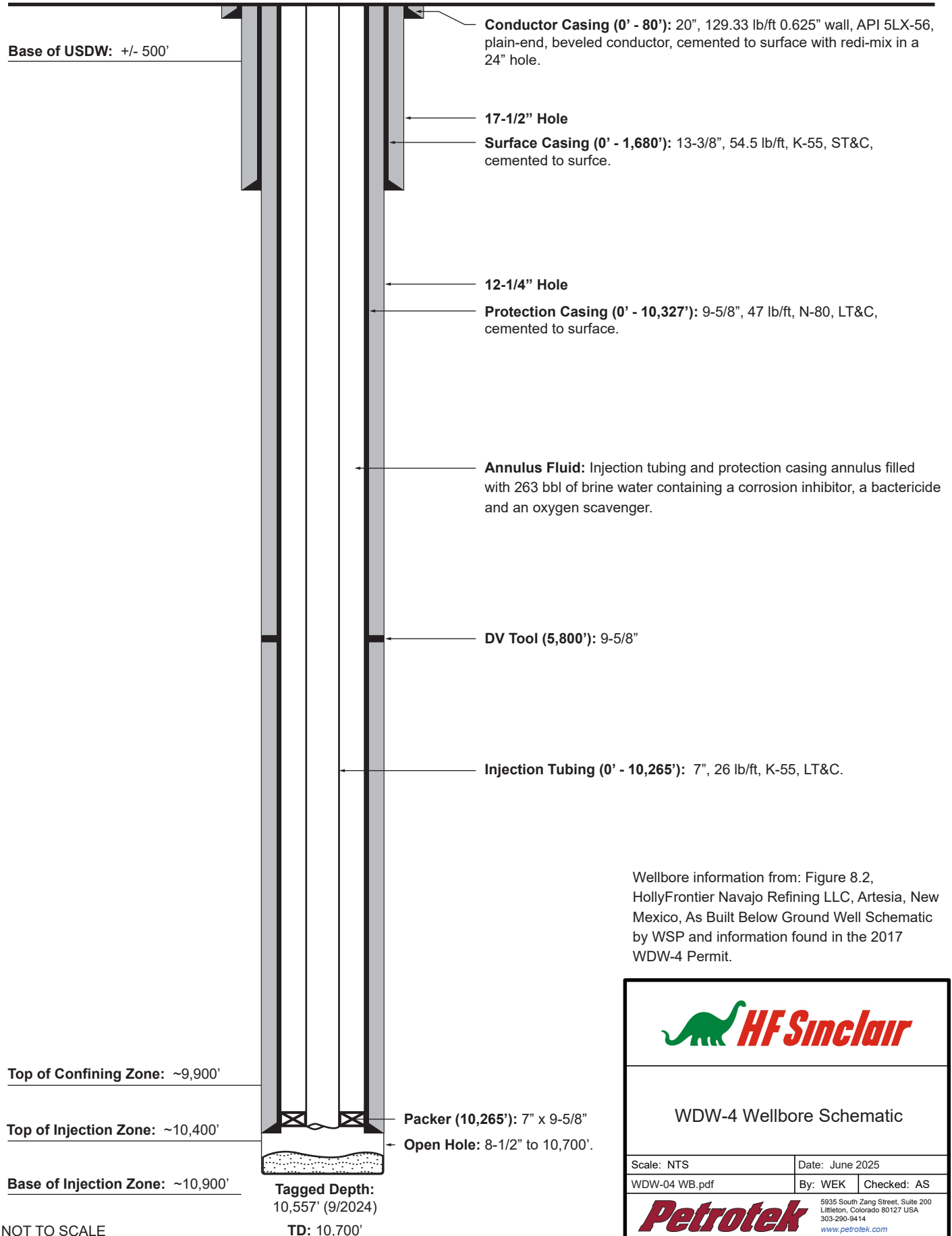
Time, minutes	0	5	10	15	20	25	30
Annulus Pressure, psi	555	555	555	555	555	555	555

FIGURES

Petrotek

OCD UIC Permit: UICI-008-4
 Well API Number: 30-015-44677
 Eddy County, New Mexico
 Sec. 23, T17S-R27E
 Lat. 32.816011° / Long. -104.249948° (NAD 83)

All depths referenced to Kelly Bushing (KB)
 elevation 20' above ground level.
 Ground Level Elevation: +3,488.4'

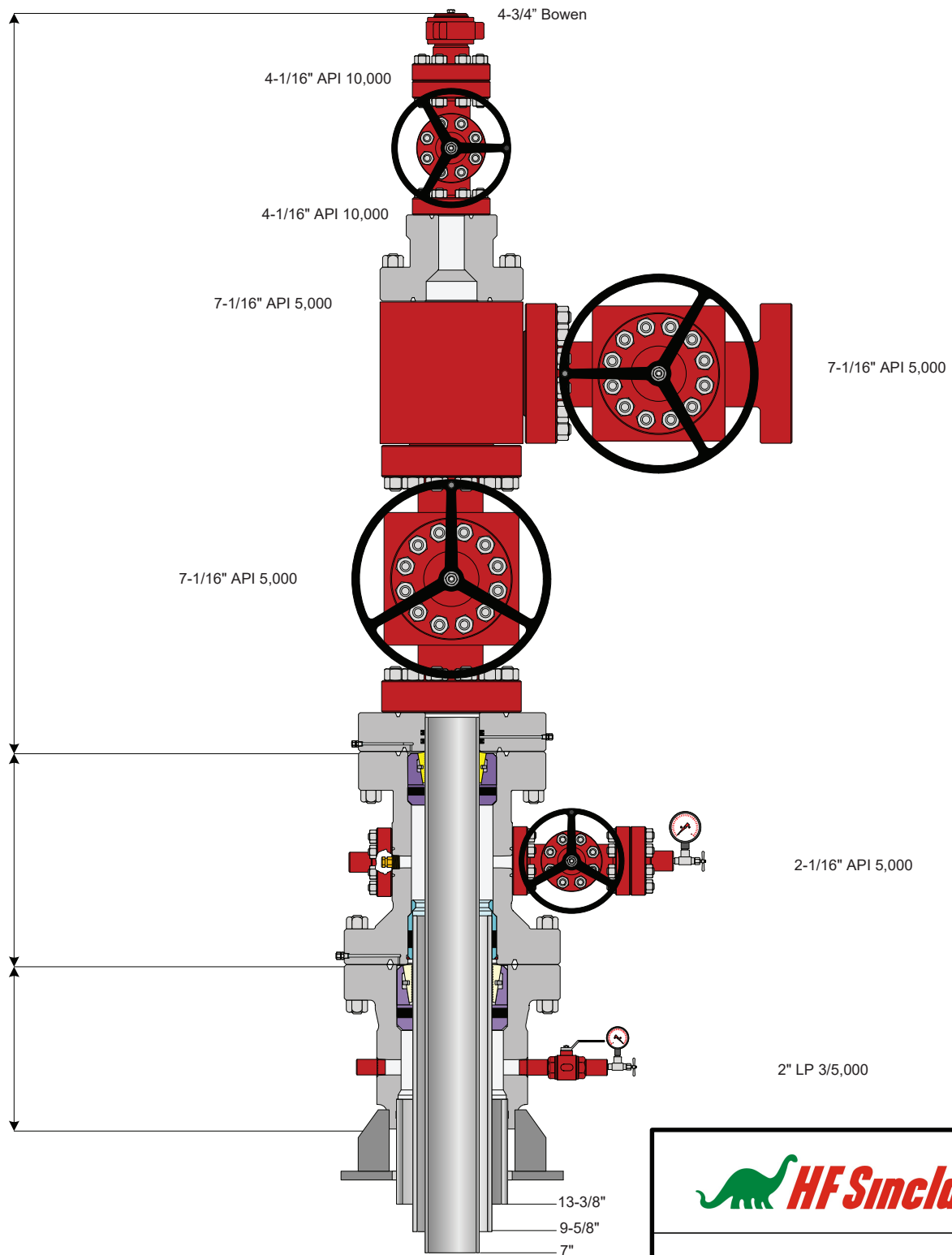


WDW-4 Wellbore Schematic



Scale: NTS	Date: June 2025
WDW-04 WB.pdf	By: WEK Checked: AS

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

OCD UIC Permit: UICI-008-4
Well API Number: 30-015-44677
Eddy County, New Mexico
Sec. 23, T17S-R27E
Lat. 32.816011° / Long. -104.249948° (NAD 83)



Wellhead information from:
Figure 8.3, Navajo Refining - HollyFrontier
by Weatherford.
NOT TO SCALE

		
WDW-4 Wellhead Schematic		
Scale: NTS	June 2025	
WDW-04 WH.pdf	By: WEK	Checked: AS
		
<small>5935 South Zang Street, Suite 200 Littleton, Colorado 80127 USA 303-290-9414 www.petrotek.com</small>		

ATTACHMENTS

Petrotek

Attachment 1 OCD Test Notification

Petrotek

From: Paengpongsavanh, Nat
Sent: Monday, August 4, 2025 4:35 PM
To: carlj.chavez@emnrd.nm.gov; Holder, Mike <Michael.Holder@HFSinclair.com>; Hinkins, Case <Case.Hinkins@HFSinclair.com>
Cc: Alba, Teresa <Teresa.Alba@HFSinclair.com>; Ken Schlieper <kschlieper@petrotek.com>; Wes Janes <wjanes@petrotek.com>; Ramirez, Lee <Lee.Ramirez@HFSinclair.com>; Paudel, Shreejaya <Shreejaya.Paudel@HFSinclair.com>; Duncan, Timothy <Timothy.Duncan@HFSinclair.com>
Subject: WDW-4 FOT (C-103 Form)- Action ID#491923

Dear Mr. Chavez,

The C-103 form for the Fall Off Test and MIT for WDW-4 has been submitted to the OCD Permitting Portal under the form [C-103] NOI General Sundry (C-103X) with the Action ID# 491923.

A previous C-103 form for WDW-4 was uploaded to the OCD portal on 7/14/25, but the test dates have been changed from July 20-21 to August 5-6. I attached the updated C-103 form.

If you have any questions, please contact me.

Regards,

Nat Paengpongsavanh

Environmental Specialist II

☎ 575.746.0681

📠 802.734.2175

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Artesia, NM 88210



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Attachment 2

APT Pressure Gauge Certification

Petrotek

PSS-COMPANIES



18460 CR 394 LA SALLE CO 80645 - Phone (303)-857-7986

CALIBRATION CERTIFICATE

CERTIFICATE NUMBER: CO

Details +/-: 1.0% ACCURACY

DATE CALIBRATED: 04/25/2025

DUE DATE: 04/25/2026

INDICATED PRESSURE RANGE: #0 – 1000 PSI

SERIAL NO: 2401128.001

MANUFACTURER: PALMER INSTRUMENTS/ 12" RECORDER

TYPE OF INSTRUMENT CALIBRATED: PRESSURE RECORDER

INSTRUMENT FINDINGS/STATUS: UNIT IS IN TOLERANCE/ INSTRUMENT MEETS OR EXCEEDS SPECIFICATIONS.

BASED ON INTERNATIONAL STANDARDS OF GRAVITY: (980.665 cm./sq.).

TYPE OF STANDARD USED TO CALIBRATE: REFINERY DEADWEIGHT TEST UNIT SPT.
(35225-3) SERIAL No. 5268: KESSLER CALIBRATION

ALL STANDARD DIRECTLY TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGIES TEST NO: (N.I.S.T.) 2.6/172490 & 6.6/139577.

CALCULATED USING MASS VALUES, AREA, AO, AND STATED GRAVITY.

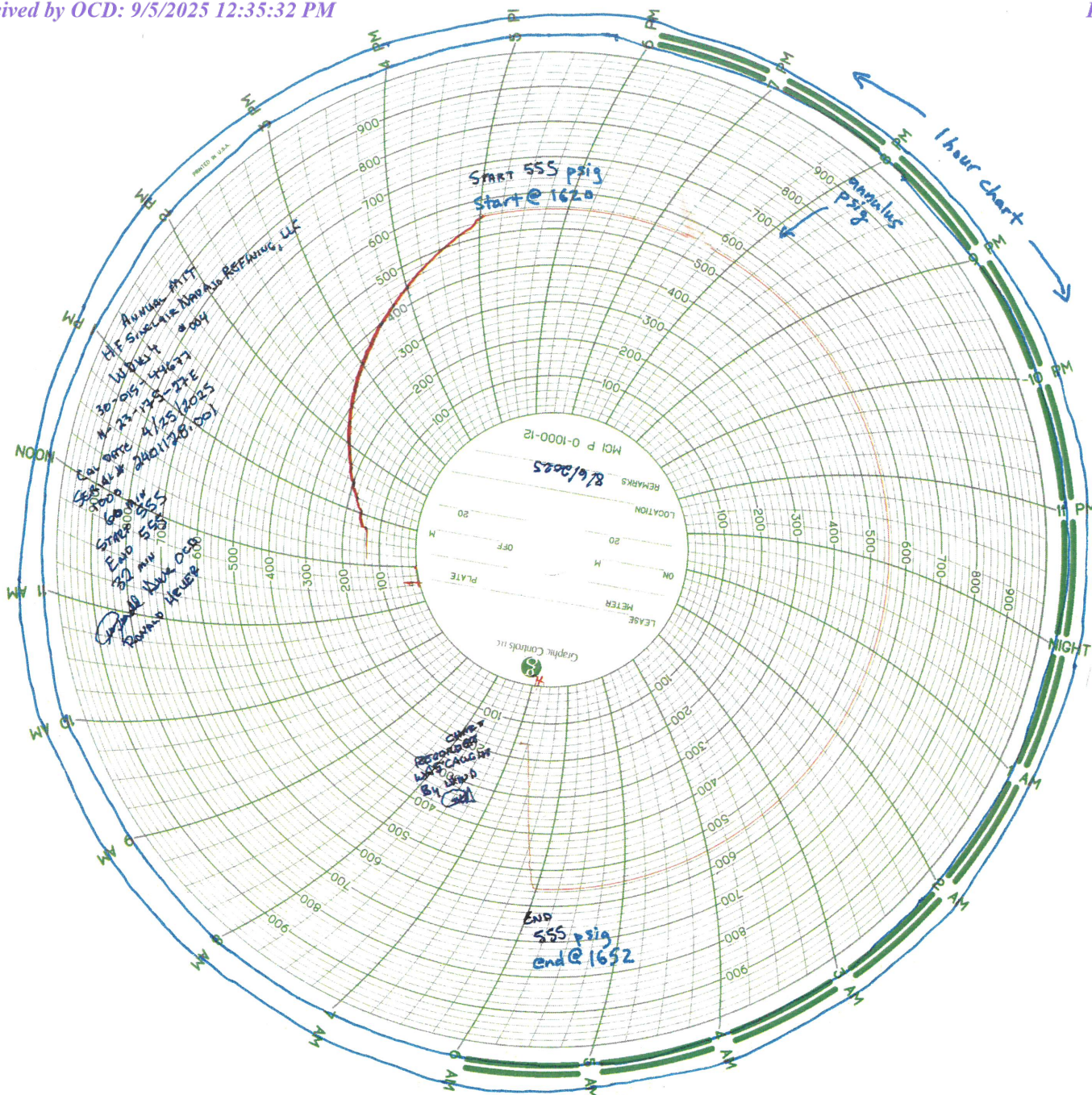
ROOM TEMPERATURE/HUMIDITY (AT TIME OF TEST): 66°F / 25%.

CALIBRATED BY: NICK BEDFORD

nick bedford

Attachment 3 APT Chart Record

Petrotek



Attachment 4 Bradenhead Test Report

Petrotek

Energy, Minerals and Natural Resources Department

Oil Conservation Division Hobbs District Office

BRADENHEAD TEST REPORT

Operator Name HP SINGLOR NAVAJO REFINING, LLC	API Number 30-015-44677
Property Name WDW 4	Well No. #004

1. Surface Location

U.I. - Lot N	Section 23	Township 17S	Range 27E	Feet from 1289	N/S Line S	Feet From 2470	E/W Line W	County Eddy
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Well Status


TA'D WELL YES	SHUT-IN NO	INJ NO	INJECTOR SWD	OIL PRODUCER YES	GAS NO	DATE 8/6/2025
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OBSERVED DATA

	(A)Surface	(B)Interm(1)	(C)Interm(2)	(D)Prod Casing	(E)Tubing
Pressure	371			178	750
Flow Characteristics					
Puff	Y/N	Y/N	Y/N	Y/N	CO2
Steady Flow	Y/N	Y/N	Y/N	Y/N	WTR X
Surges	Y/N	Y/N	Y/N	Y/N	GAS
Down to nothing	Y/N	Y/N	Y/N	Y/N	Type of Fluid
Gas or Oil	Y/N	Y/N	Y/N	Y/N	Injected for
Water	Y/N	Y/N	Y/N	Y/N	Waterhead of
					spools

Remarks - Please state for each string (A,B,C,D,E) pertinent information regarding bleed down or continuous build up if applies.

BHT - OK**SURFACE CASING TOOK ~ 3 MINUTES TO BLOW THROUGH NEEDLE VALVE**

Signature 	OIL CONSERVATION DIVISION
Printed name CAMERON KERR	Entered into RBDMS
Title PROJECT ENGINEER	Re-test
E-mail Address CKERR@PETROTEK.COM	
Date 8/6/25	Phone 303-913-6963
Witness Donald Hare	

INSTRUCTIONS ON BACK OF THIS FORM

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

COMMENTS

Action 503405

COMMENTS

Operator: HF Sinclair Navajo Refining LLC ATTN: GENERAL COUNSEL Dallas, TX 75201	OGRID: 15694
	Action Number: 503405
	Action Type: [C-103] Sub. General Sundry (C-103Z)

COMMENTS

Created By	Comment	Comment Date
cchavez	MIT and Bradenhead Tests were Completed and Witnessed by an OCD Inspector on 8/6/2025.	9/5/2025
cchavez	Tests passed.	9/5/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 503405

CONDITIONS

Operator: HF Sinclair Navajo Refining LLC ATTN: GENERAL COUNSEL Dallas, TX 75201	OGRID: 15694
	Action Number: 503405
	Action Type: [C-103] Sub. General Sundry (C-103Z)

CONDITIONS

Created By	Condition	Condition Date
cchavez	None	9/5/2025