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 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. 30-025-51865	
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name SALT CREEK AGI	
8. Well Number 3	
9. OGRID Number 331501	
10. Pool name or Wildcat AGI; Delaware	
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.) 1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> ACID GAS INJECTION 2. Name of Operator Northwind Midstream Partners, LLC 3. Address of Operator 825 Town and Country Ln; Bldg. 5, Suite 700 Houston, TX 77024 4. Well Location Unit Letter L : 2,329 feet from the SOUTH line and 278 feet from the WEST line Section 21 Township 26S Range 36E NMPM County LEA 11. Elevation (Show whether DR, RKB, RT, GR, etc.) 2,926' (GR)	

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

NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>
DOWNHOLE COMMINGLE <input type="checkbox"/>	P AND A <input type="checkbox"/>
CLOSED-LOOP SYSTEM <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>
OTHER: <input type="checkbox"/>	OTHER: Reservoir Evaluation <input checked="" type="checkbox"/>

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.

Pursuant to the requirements of NMOCC Order R-20913 (C), and NMOCD Recommended General Conditions of Approval, we are providing, as an attachment to this submittal, a reservoir evaluation report developed following the completion of well-construction activities for the Salt Creek AGI #3 well (API: 30-025-51865).

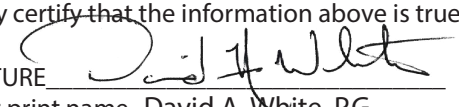
Spud Date:

September 12, 2023

Rig Release Date:

October 26, 2023

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

SIGNATURE  TITLE Consultant to Northwind DATE 11/30/2023  
 Type or print name David A. White, P.G. E-mail address: dwhite@geolex.com PHONE: 505-842-8000

**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_



# INJECTION RESERVOIR EVALUATION

## NORTHWIND MIDSTREAM PARTNERS, LLC

SALT CREEK AGI #3

API: 30-025-51865

Section 21

Township 26 South, Range 36 East

Prepared for:

Northwind Midstream Partners, LLC  
825 Town & Country Ln., Bldg. 5, Suite 700  
Houston, Texas 77024

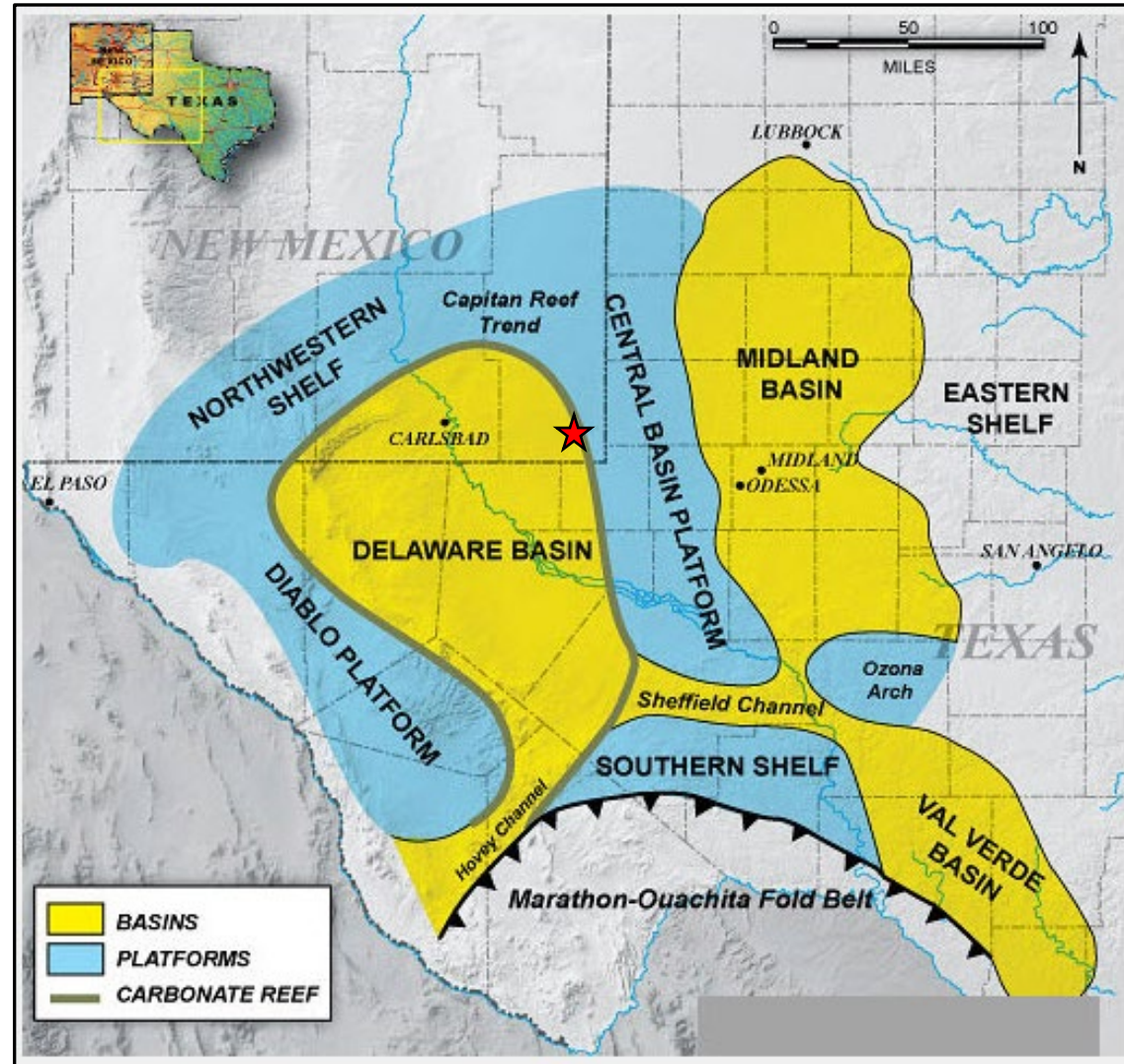
Prepared by:  
Geolex, Inc.®  
500 Marquette Ave NW, #1350  
Albuquerque, NM 87102  
(505)842-8000

# GEOLOGIC SETTING OF SALT CREEK AGI #3 (RED STAR)

The Salt Creek AGI #3 (API: 30-025-51865) is located in the Delaware Basin sub-province of the Permian Basin at the western edge of the Central Basin Platform, approximately 7.5 miles southwest of Jal, New Mexico.

Injection via the Salt Creek AGI #3 well is authorized for the interval of Delaware Mountain Group (DMG), including the Bell Canyon and Cherry Canyon formations.

Well construction operations were performed, and the Salt Creek AGI #3 was completed to inject, via casing perforations, from approximately 5,610 to 7000 ft.

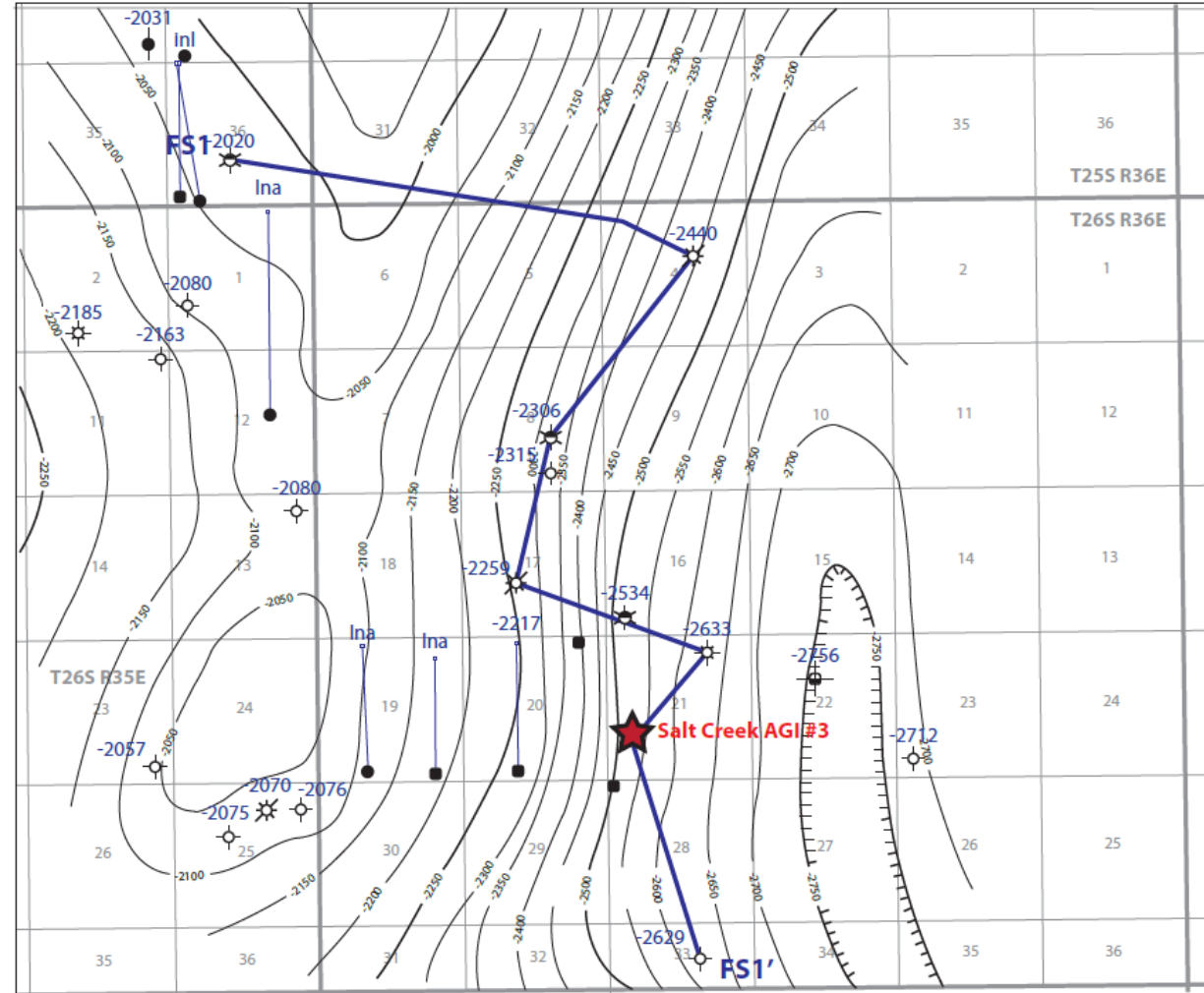


# GEOLOGIC STRUCTURE – TOP OF BELL CANYON

Geologic mapping of the project area shows the Bell Canyon Formation (Delaware Mountain Group) dips sharply into the basin margin trough at the toe of the Central Basin Platform

In close proximity to the platform, Delaware Mountain Group units transition vertically within the section to tight Capitan Reef fore-reef strata and grade to shelf facies to the east.

Geologic mapping indicates the Salt Creek AGI #3 is located on the northern crest of a significantly thick depositional fairway where DMG sands were deposited.



Structure contour map showing the top of the Bell Canyon Formation (top of approved injection interval)

# STRATIGRAPHY AND INJECTION ZONE CHARACTERISTICS

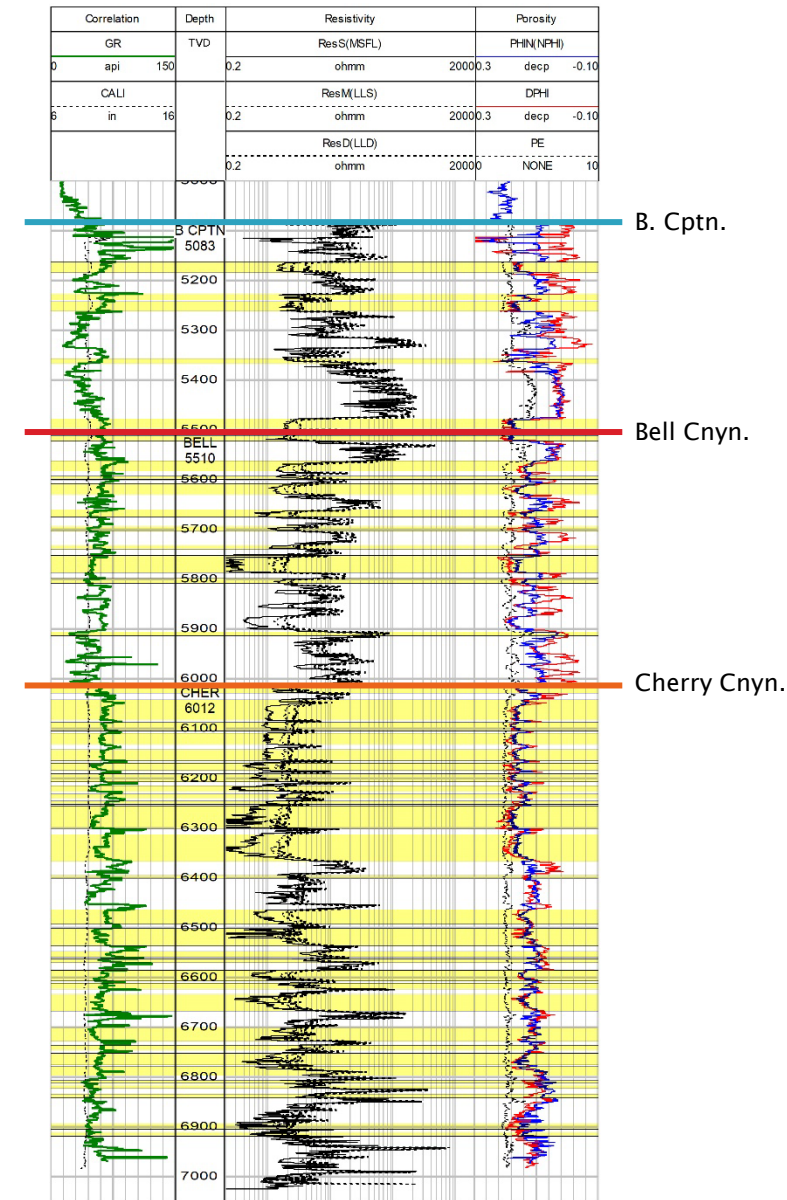
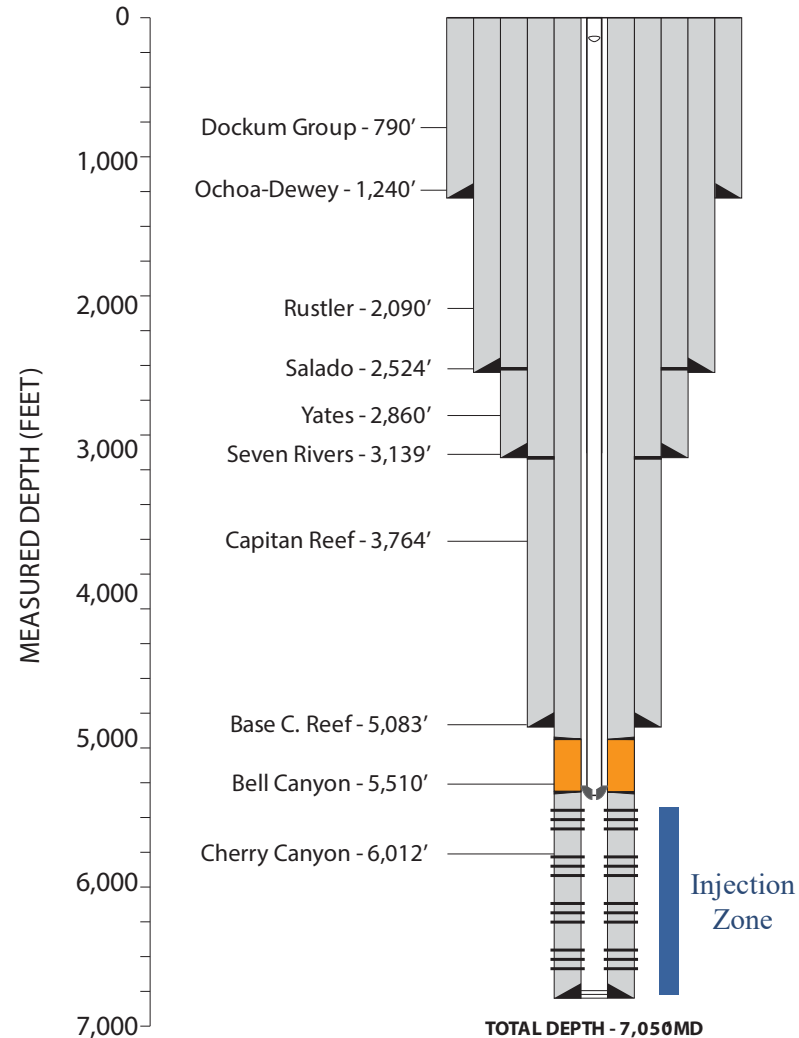
Formations encountered while drilling Salt Creek AGI #3 are shown in the following well schematic (see right).

Total thickness of the Bell Canyon and Cherry Canyon Formations (approx. 1,500' thick) agrees with results of initial geologic mapping

The AGI #3 well was completed to inject via an interval of perforated casing from 5,610 to 7,000 ft. (blue bar)

Open-hole logs demonstrate significant porosity development within the Bell Canyon and Cherry Canyon

The log excerpt (see right) highlights porosity of 8%, or greater. Porosity within the numerous sand packages generally range from 8 to 18%



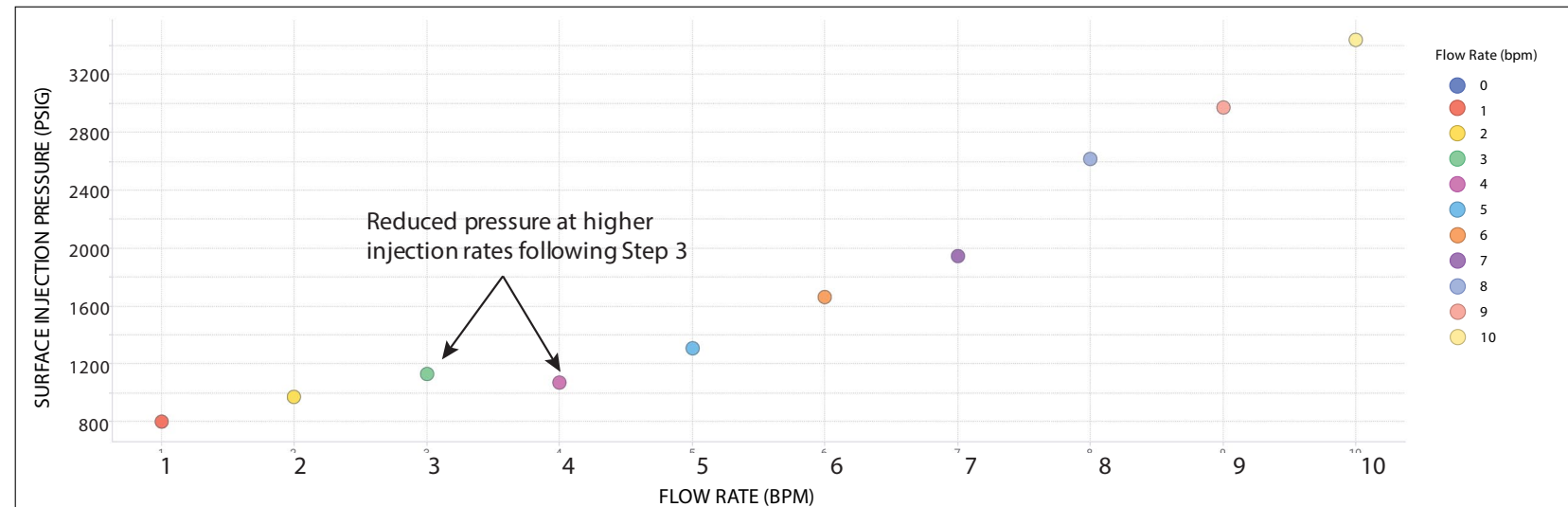
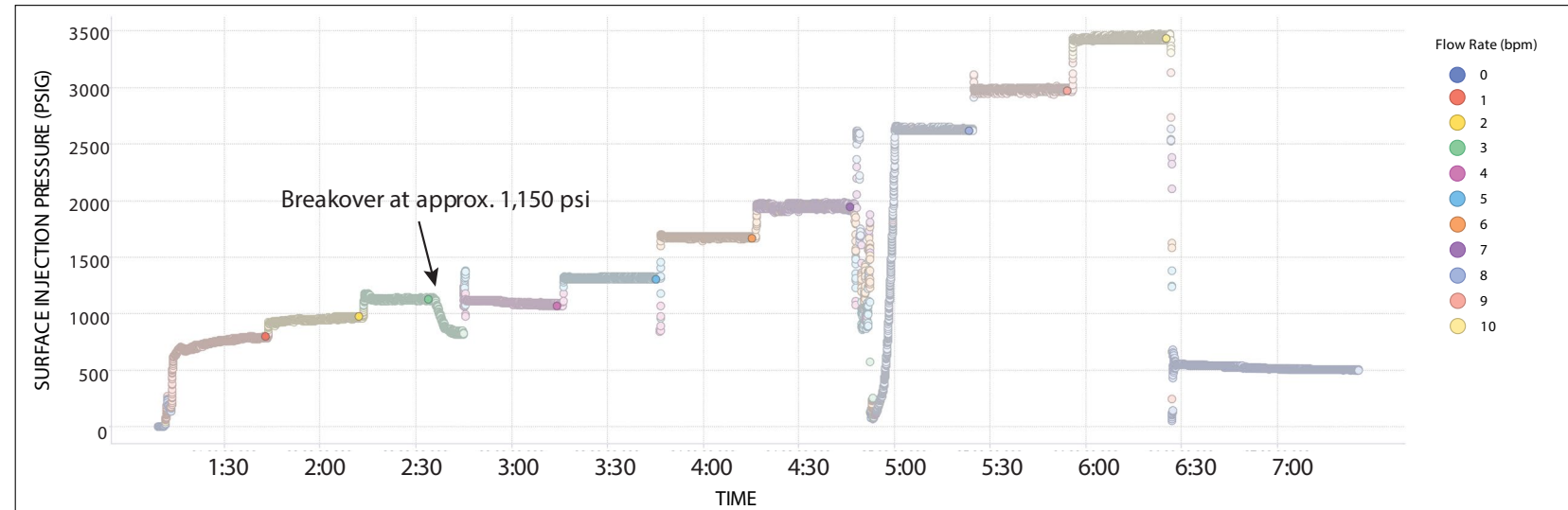
# RESERVOIR TESTING OPERATIONS (STEP RATE TESTING)

Step rate injection testing (SRT) was completed prior to injection zone stimulation activities (i.e., acidization) and contained a range of injection rates from 1-10 barrels per minute (bpm).

Fluid was injected into the interval of perforated production casing (from 5,610 to 7,000 ft.) within the Bell Canyon and Cherry Canyon formations.

Following SRT activities, injection pressure was re-established, and a 14-day pressure fall-off test was completed.

Injection test data exhibit an abrupt pressure decrease (approximately 300 psig) at 3 bpm and 1,150 psig, potentially indicating breakover of the formation.



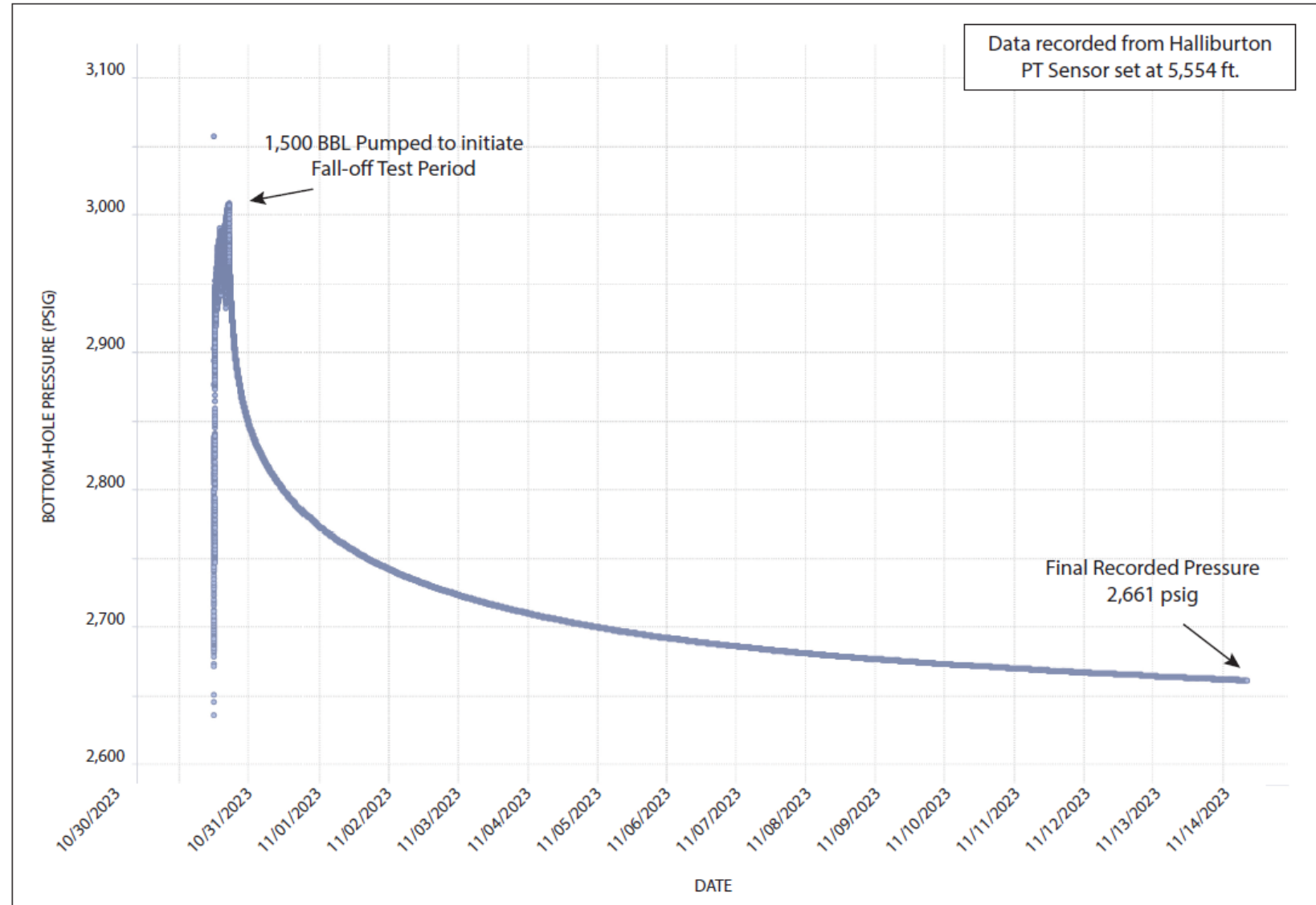
# RESERVOIR TESTING OPERATIONS (FALL OFF TESTING)

Reservoir pressure conditions, following drilling and testing activities are shown in the following bottom-hole pressure versus time crossplot.

Conditions were monitored for a 14-day observation period via a permanent down-hole pressure and temperature sensor installed above the permanent packer

Static reservoir pressure was recorded at a value of approximately 2,661 psig and static reservoir temperature was observed to be approximately 103.6 °F.

Conditions correspond to gradients of 0.48 psi/ft., and 0.6 F°/100 ft.



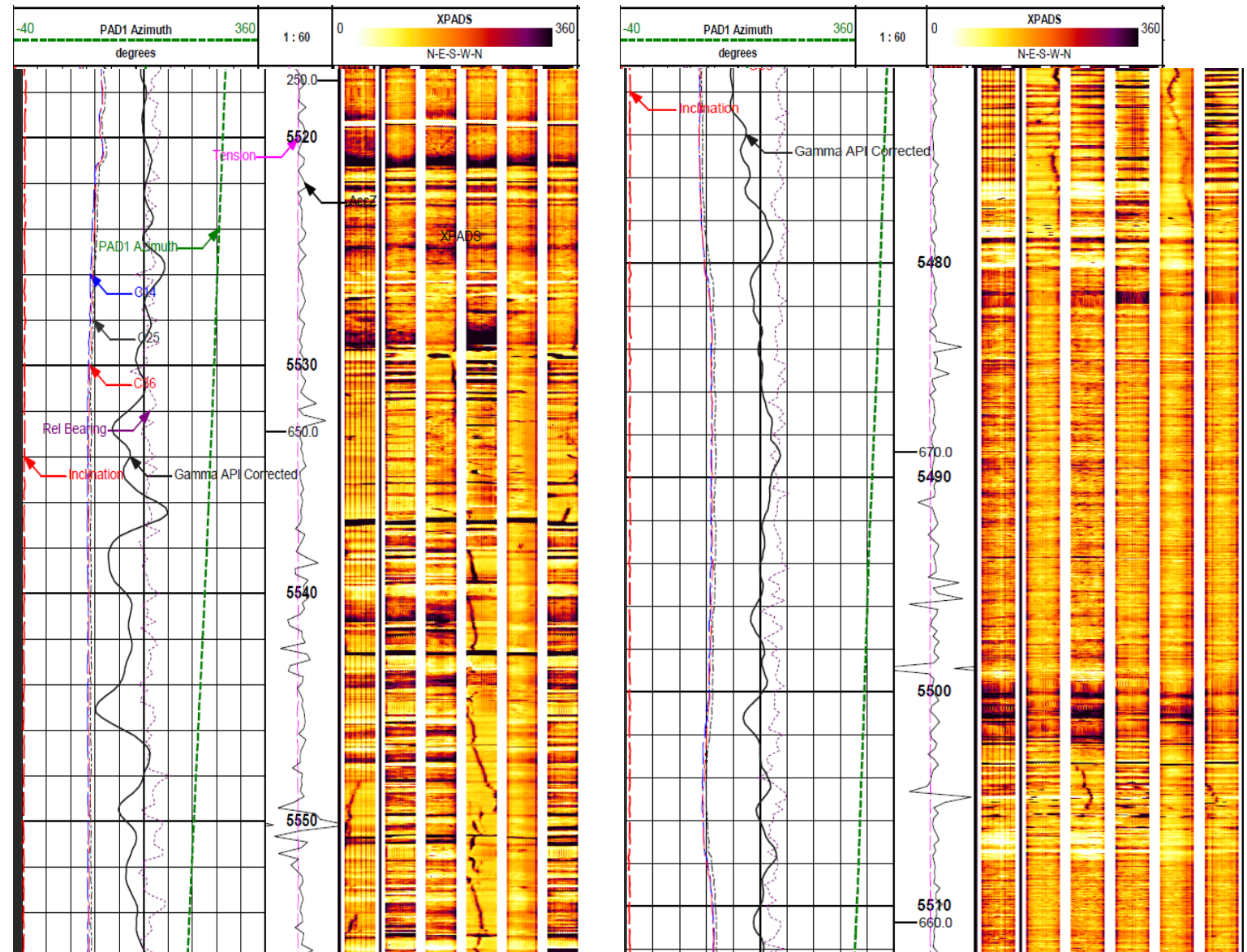
# RESERVOIR LOGGING OPERATIONS (XRMI)

## FORMATION IMAGE LOGS AND ANALYSIS

In addition to a standard logging program for the Delaware Mountain Group injection zone, the interval was logged utilizing XRMI (i.e., formation microimaging) tools, which can provide information regarding induced and natural fractures and can identify faults transecting the wellbore.

Fracturing within the interval (natural and induced) is minimal, predominantly induced, and limited to discreet intervals (vertically bound by lithology).

No evidence of faults transecting the wellbore have been identified in evaluation of the recorded XRMI logs, and no significant bedding offsets are observed.



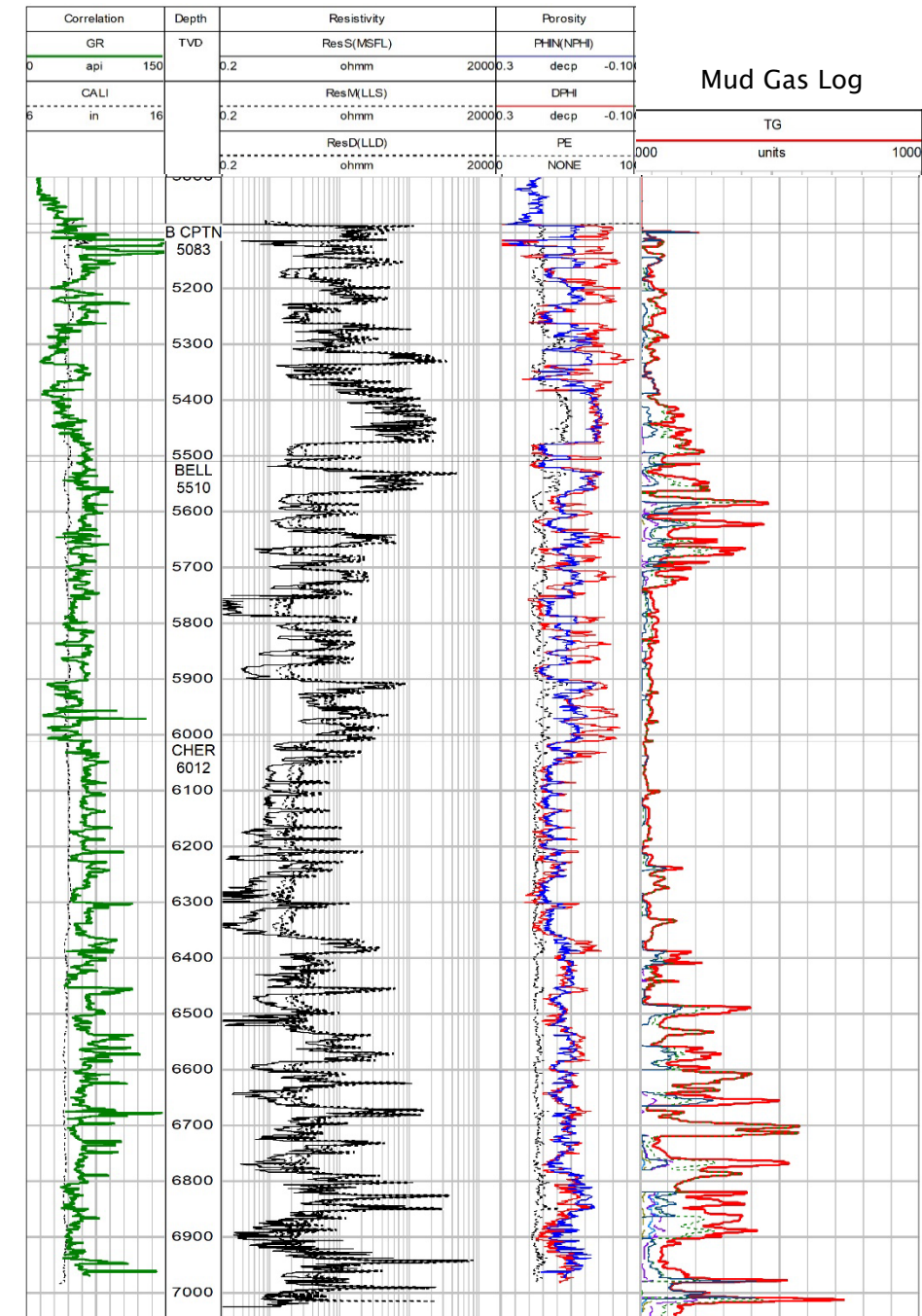
# SHOW OF NO HYDROCARBONS

## GAS DETECTION LOGS AND SAMPLE DESCRIPTION VIA MUDLOGGING

Gas detection logs, while drilling, do not indicate the presence of significant hydrocarbon accumulations.

Trace oil shows and minor gas detections are infrequent and are only observed while drilling within the upper 240 feet of the Bell Canyon geologic interval and the lower 500 feet of the Cherry Canyon interval (see right).

Gas shows (as indicated in mud logs) typically do not correlate with high-resistivity intervals, indicating that minor volumes of gas may be found within small pockets or natural fractures but are not consistent with commercially productive resources.



## CONCLUSIONS RELEVANT TO OVERALL RESERVOIR EVALUATION

Salt Creek AGI #3 was completed as a perforated injection interval into the Delaware Mountain Group Bell Canyon and Cherry Canyon formations. Post-drilling geological and geophysical evaluations were completed, and a step-rate injection test and fall-off test were completed, in order to perform a reservoir evaluation. The result confirm reservoir properties are adequate for acid gas injection of the anticipated acid gas injection volume (8 MMSCFD or 3,268 bpd).

Significant porosity development is observed within the approved injection interval (Bell Canyon and Cherry Canyon formations) and range from approximately 8 to 18%. Log analysis confirms prior geologic mapping interpretations, which estimate a total thickness of the Bell Canyon and Cherry Canyon of approximately 1,500 feet. The Capitan Reef strata are separated by a low-porosity interval (approximately 100 ft. in thickness) of fore-reef deposits as indicated by analysis of logs collected during Salt Creek AGI #1 (plugged and abandoned) drilling operations.

Initial seismic survey review (circa 2018) and structure mapping indicate that there are no shallow faults within the project area which may transect the AGI wellbore. The nearest potential fault structure was observed greater than three (3) miles to the northeast. Furthermore, XRFMI (wellbore imaging) logs recorded after drilling the open-hole section of the approved injection interval confirm that no faults are present which transect the Salt Creek AGI #3 borehole.

Gas detection logs collected while drilling the Salt Creek AGI #3 do not indicate the presence of significant hydrocarbon resources. While detections are observed, they are generally observed while drilling the upper 240 ft. of the Bell Canyon interval, and generally do not exhibit ranges consistent with commercially productive hydrocarbons.

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
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1000 Rio Brazos Rd., Aztec, NM 87410  
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1220 S. St Francis Dr., Santa Fe, NM 87505  
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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 294055

CONDITIONS

Operator: Northwind Midstream Partners LLC 825 Town and Country Ln Houston, TX 77024	OGRID: 331501
	Action Number: 294055
	Action Type: [C-103] Sub. General Sundry (C-103Z)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	12/29/2023