BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING AUGUST 05, 2021

CASE NO. 22089

TACO CAT 27-34 FED COM #11H WELLS

LEA COUNTY, NEW MEXICO

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

APPLICATION OF OXY USA INC. FOR A CLOSED LOOP GAS CAPTURE INJECTION PILOT PROJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22089

HEARING PACKAGE
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STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF OXY USA INC. FOR A CLOSED LOOP GAS CAPTURE INJECTION PILOT PROJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22089

APPLICATION

OXY USA Inc. ("OXY" or "Applicant") (OGRID No. 16696) through its undersigned attorneys, hereby files this application with the Oil Conservation Division for an order authorizing OXY to engage in a closed loop gas capture injection pilot project in the Bone Spring formation ("pilot project"). In support of this application, OXY states:

PROJECT OVERVIEW

1. OXY proposes to create a 320-acre, more or less, project area for this pilot project consisting of the W/2 W/2 of Sections 27 and 34, Township 22 South, Range 32 East, NMPM, Lea County, New Mexico. *See* **Exhibit A** at 7. The proposed project area is part of a larger area referred to as the Tanks area.

2. Within the proposed project area, OXY seeks authority to utilize the following producing well to occasionally inject produced gas into the Bone Spring formation [Red Tank; Bone Spring Pool (Pool Code 51683)]:

- The **Taco Cat 27-34 Federal Com #11H well** (API No. 30-025-44933), with a surface location 260 feet FNL and 855 feet FWL (Unit D) in Section 27, and a bottom hole location 20 feet FSL and 998 feet FWL (Unit M) in Section 34.

3. Injection along the horizontal portion of the wellbore will be at the following approximate total vertical depths:

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A
Submitted by: OXY USA INC.
Hearing Date: August 05, 2021
Case No. 22089

- The **Taco Cat 27-34 Federal Com #11H well**: between 9,339 feet and 9,517 feet.

4. A map depicting the pipeline that ties the well proposed for the pilot project into the gathering system and the affected compressor station is included in the attached ***Exhibit A*** at pages 7-8.

WELL DATA

5. Information on the well data, including well diagrams and well construction, casing, tubing, packers, cement, perforations, and other details the proposed injection well are included in the attached ***Exhibit A*** at pages 33-34.

6. The top of the Bone Spring formation in this area is at approximately 8,655 feet total vertical depth and extends down to the top of the Wolfcamp formation at approximately 11,830 feet total vertical depth. *See* ***Exhibit A*** at 80.

7. The current average surface pressures under normal operations for the proposed injection well is approximately 670 psi. *See* ***Exhibit A*** at 39. The maximum achievable surface pressure (MASP) for the well in the pilot project will be 1,200 psi. *Id.*

8. OXY plans to monitor injection and operational parameters for the pilot project using an automated supervisory control and data acquisition (SCADA) system with pre-set alarms and automatic shut-in safety valves that will prevent injection pressures from exceeding the MASP. *See* ***Exhibit A*** at 49-51.

9. The proposed maximum achievable surface pressure will not exert pressure at the top perforation in the wellbore of the injection well with a full fluid column of reservoir brine water in excess of 90% of the burst pressure for the production casing or production liner. *See* ***Exhibit A*** at 39. In addition, the proposed maximum achievable surface pressure will not exceed 0.14 psi per foot as measured at the top of the uppermost perforation in the injection well and will

not exert pressure at the topmost perforation in excess of 90% of the formation parting pressure. *See* ***Exhibit A*** at 39.

10. Cement bond logs[1] demonstrate the placement of cement in the well proposed for this pilot project and that there is a good and sufficient cement bond with the production casing and the tie-in of the production casing with the next prior casing in the well. *See* ***Exhibit A*** at 35-38.

11. The well proposed for injection in the pilot project has previously demonstrated mechanical integrity at a pressure of 9,800 psi for 30 minutes. *See* ***Exhibit A*** at 41. OXY will undertake new tests to demonstrate mechanical integrity for this well as a condition of approval prior to commencing injection operations.

GEOLOGY AND RESERVOIR

12. Data and a geologic analysis confirming that the Bone Spring formation is suitable for the proposed pilot project is included in ***Exhibit A*** at pages 80-86. A general characterization of the geology of the Bone Spring formation and its suitability for the proposed injection, including identification of confining layers and their ability to prevent vertical movement of the injected gas is included in the analysis. *Id.*

13. Zones that are productive of oil and gas are located in the overlying Avalon Sand interval of the Bone Spring formation and the Brushy Canyon formation, and in the deeper First Bone Spring Sand interval of the Bone Spring Formation. *See* ***Exhibit A*** at 80.

14. Reservoir modeling indicates anticipated horizontal movement of injected gas will be approximately 100 feet or less from the injection wellbore within the Bone Spring formation. *See* ***Exhibit A*** at 93.

[1] Electronic version of the cement bond logs will be submitted to the Division by email.

15. The proposed average injection rate is 1.8 MMSCFD with a maximum injection rate of 2.0 MMSCFD during injection. *See* ***Exhibit A*** at 39.

16. OXY has prepared calculations estimating the stimulated reservoir volume based on supporting empirical data and a reservoir model to evaluate potential effects on wells adjacent to the pilot project area. *See* ***Exhibit A*** at 88-97. OXY's analysis concludes that there will be no change in the oil recovery from its proposed injection well or from any of the offsetting wells. *See id.* at 95.

17. Similarly, OXY has prepared an analysis of the potential effects on the reservoir caused by the proposed injection, including consideration of commingling fluids. ***Exhibit A*** at 42-48 and 88-98. OXY's analysis concludes that there will be no adverse effect on the reservoir as a result of the injection. *Id.* at 98.

18. OXY has also prepared an analysis evaluating the expected gas storage capacity for the proposed injection well relative to the gas injection volumes for an injection scenario lasting twenty days. *See* Exhibit A at 96. The analysis confirms that whether the capacity is estimated based on the fracture volume gas equivalent or the total gas equivalent volumes produced from the proposed injection zone, the anticipated gas injection volumes will be well below the estimated volume capacity within the project area.

19. The source of gas for injection will be from OXY's wells producing in the Bone Spring and Wolfcamp formations within OXY's Taco Cat wells that are identified in the list of wells in ***Exhibit A*** at page 43. OXY's Taco Cat well is operated by OXY and OXY holds 100% of the working interest in the well.

20. OXY has prepared an analysis of the composition of the source gas for injection and a corrosion prevention plan. *See* ***Exhibit A*** at 42-48.

21. OXY has examined the available geologic and engineering data and found no evidence of open faults or other hydrologic connections between the injection zone and any underground source of drinking water. *See* ***Exhibit A*** at 86. OXY has also examined the available geologic and engineering data and determined that the total recoverable volume of hydrocarbons from the reservoir will not be adversely affected by the pilot project. *See* ***Exhibit A*** at 98.

AREA OF REVIEW

22. OXY has prepared maps depicting the location of the proposed injection well, the location and lateral of every well within a two-mile radius, leases within two miles, and the half-mile area of review. *See* ***Exhibit A*** at 53-54, 56.

23. A tabulation of data for wells that penetrate the proposed injection intervals or the confining layer within the area of review is included in ***Exhibit A*** at pages 58-59, along with well-bore schematics for wells that are plugged and abandoned or temporarily abandoned. *See* ***Exhibit A*** at 62-65.

OPERATIONS AND SAFETY

24. OXY will monitor the injection well's instantaneous rates and daily injection volumes, along with pressure in the well tubing, casing, and bradenheads using an automated supervisory control and data acquisition (SCADA) system. *See* ***Exhibit A*** at 49-51. The injection well will also include automated safety devices, including automatic shut-in valves among other operational safety measures. *Id.* at 40. OXY will also monitor and track various operational parameters at the pilot project's central tank battery and central gas lift compressor. *See* ***Exhibit A*** at 50-51.

25. A copy of this application will be provided by certified mail to the surface owner on which each injection well identified herein is located, and to each leasehold operator and other

affected persons within any tract wholly or partially contained within one-half mile of the completed interval of the wellbore for each of the proposed injection wells. A copy of the affected parties subject to notice is included in ***Exhibit A*** at pages 103-105, along with a map and list identifying each tract and affected persons given notice. *See* ***Exhibit A*** at 100-101.

26. Approval of this pilot project is in the best interests of conservation, the prevention of waste, and the protection of correlative rights.

WHEREFORE, OXY USA Inc. requests that this Application be set for hearing before an Examiner of the Oil Conservation Division on August 5, 2021, and that after notice and hearing this Application be approved.

Respectfully submitted,

HOLLAND & HART LLP

By:_ _____

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ATTORNEYS FOR OXY USA INC.

New Mexico Closed Loop Gas Capture (CLGC)
Oxy- Tanks

Exhibit A

Occidental

Overview
EXHIBIT A

General Project Description: Closed Loop Gas Capture Project
Oxy- Tanks

About the Tanks Area

There are 2 gas systems in the Tanks area. One system is the Avogato 30-31 State lease and the other is the Taco Cat 27-31 Federal Com lease.

Summary of Requested Relief

1. Authority to operate a closed loop gas capture project ("CLGC") consisting of four wells to prevent waste and reduce adverse impacts from temporary interruptions of gas pipeline capacity.
2. A 5-year duration of such authority, with renewal by administrative approval conditioned upon compliance with the stipulations contained in the initial Order and a successful MIT test.
3. An exception for the 100-foot packer setting depth requirement applied to vertical injection wells.

Overview

Oxy USA Inc. (Oxy) is proposing a Closed Loop Gas Capture (CLGC) project. On occasion, third-party gas purchasers reduce takeaway capacity and cause interruptions that result in flaring or shut in production. During these interruptions, Oxy will utilize CLGC wells to capture gas and reduce flaring.

During the previous 12 months, Oxy has experienced 39 interruptions where the third-party gas purchaser temporarily reduced takeaway capacity from this location, resulting in the flaring of at least 25 MMSCF of gas or the immediate shut-in of at least 800 BOE. Approval of this application will significantly reduce such flaring or shut-in production in the future.

Operations During Interruption	Operations During Interruption With CLGC System	Benefits
• Flare gas • Shut in production	• Store gas • Continue production • No additional surface disturbances	• Reduce greenhouse gas emissions • Improve economic recovery of mineral resources including gas that might have been flared • Utilize existing infrastructure

Proposed Operations

Oxy has an extensive high-pressure gas system in the Tanks area. It is used for gas lift operations, a type of artificial lift. Oxy plans to utilize the same system for gas storage operations. Very minimal equipment on surface will need to be installed prior to starting storage operations.

DCP is the third-party gas purchaser for the Tanks area. If an interruption occurs, Oxy will divert gas from the takeaway line back into the gas lift injection system. Gas will flow from the Central Gas Lift (CGL) Compressor Station through the flow meter, control valve, safety shutdown valve, wellhead and into the wellbore for storage. Gas will be injected down the casing/tubing annulus in these wells.

Simultaneously, the proposed CLGC well will be shut in by closing the electric choke upstream of the production flowline. After the interruption has ended, the electric choke will open and the CLGC well resumes production.

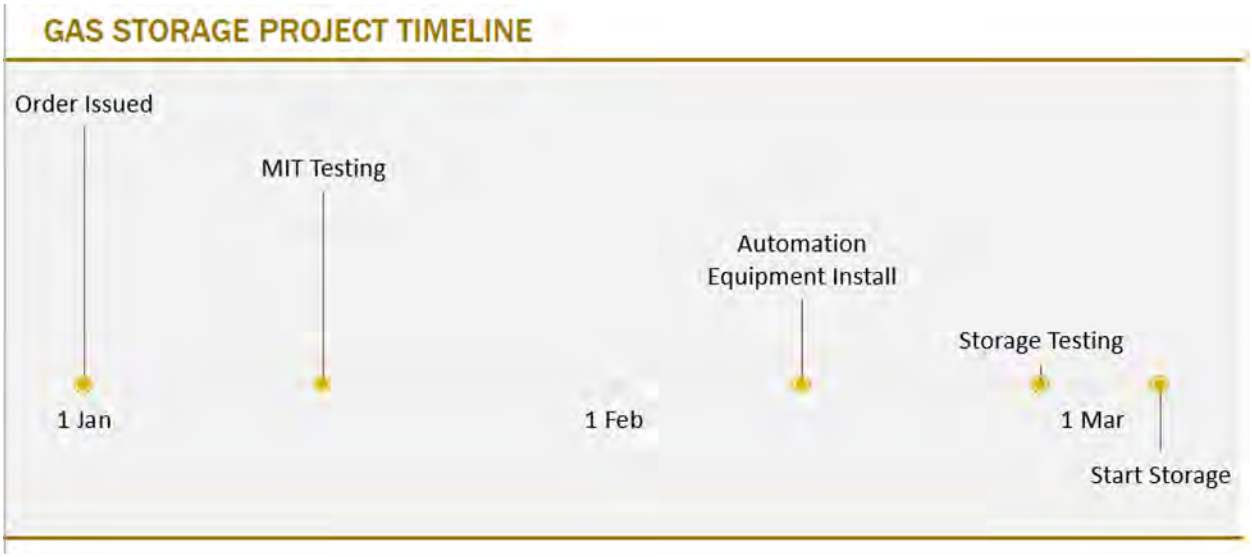
Wells

There are 4 wells proposed in this application.

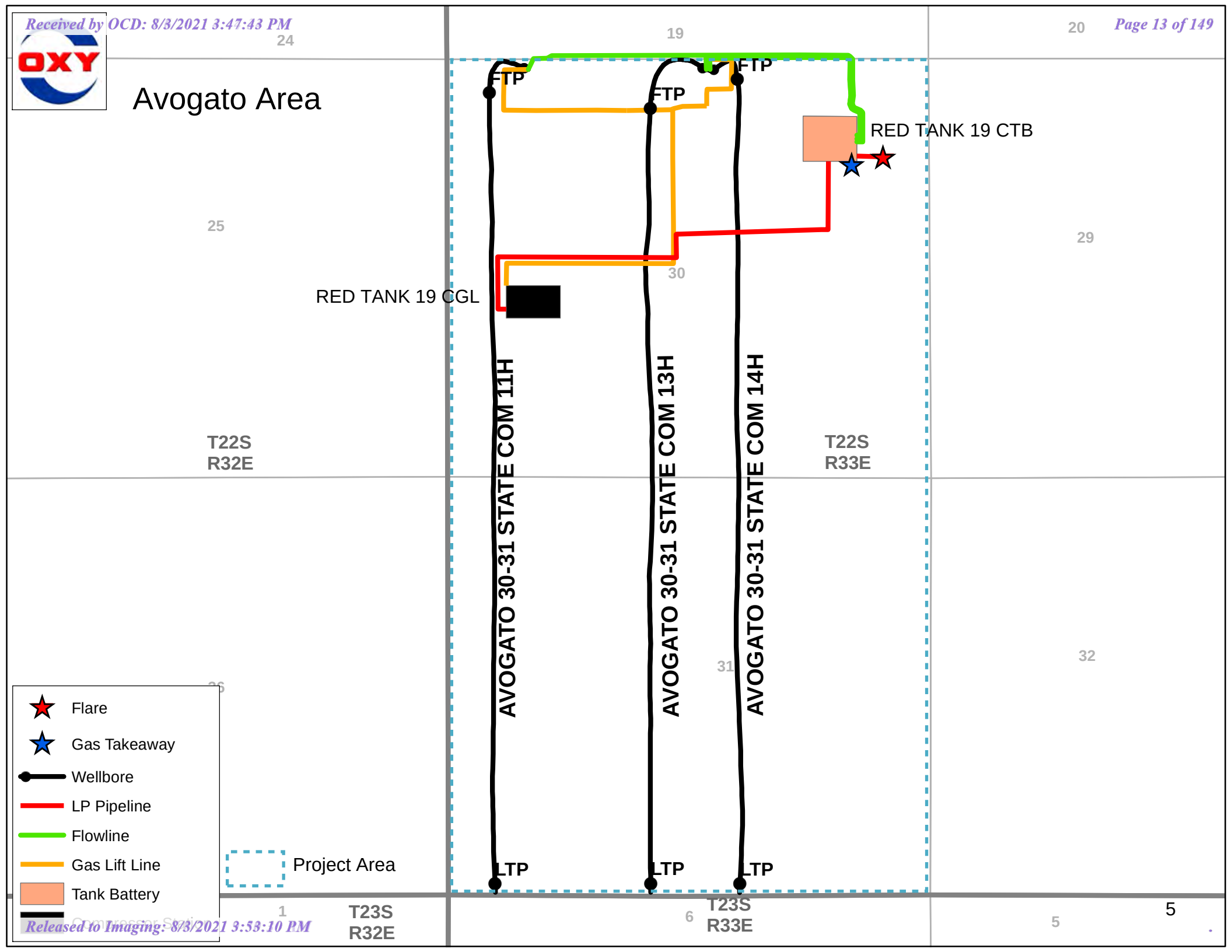
#	API 14	Well Name	Injection Down the…
1	30025459560000	AVOGATO-11H	Casing
2	30025459580000	AVOGATO-13H	Casing
3	30025459590000	AVOGATO-14H	Casing
4	30025449330000	TACO2734-11H	Casing

Timeline

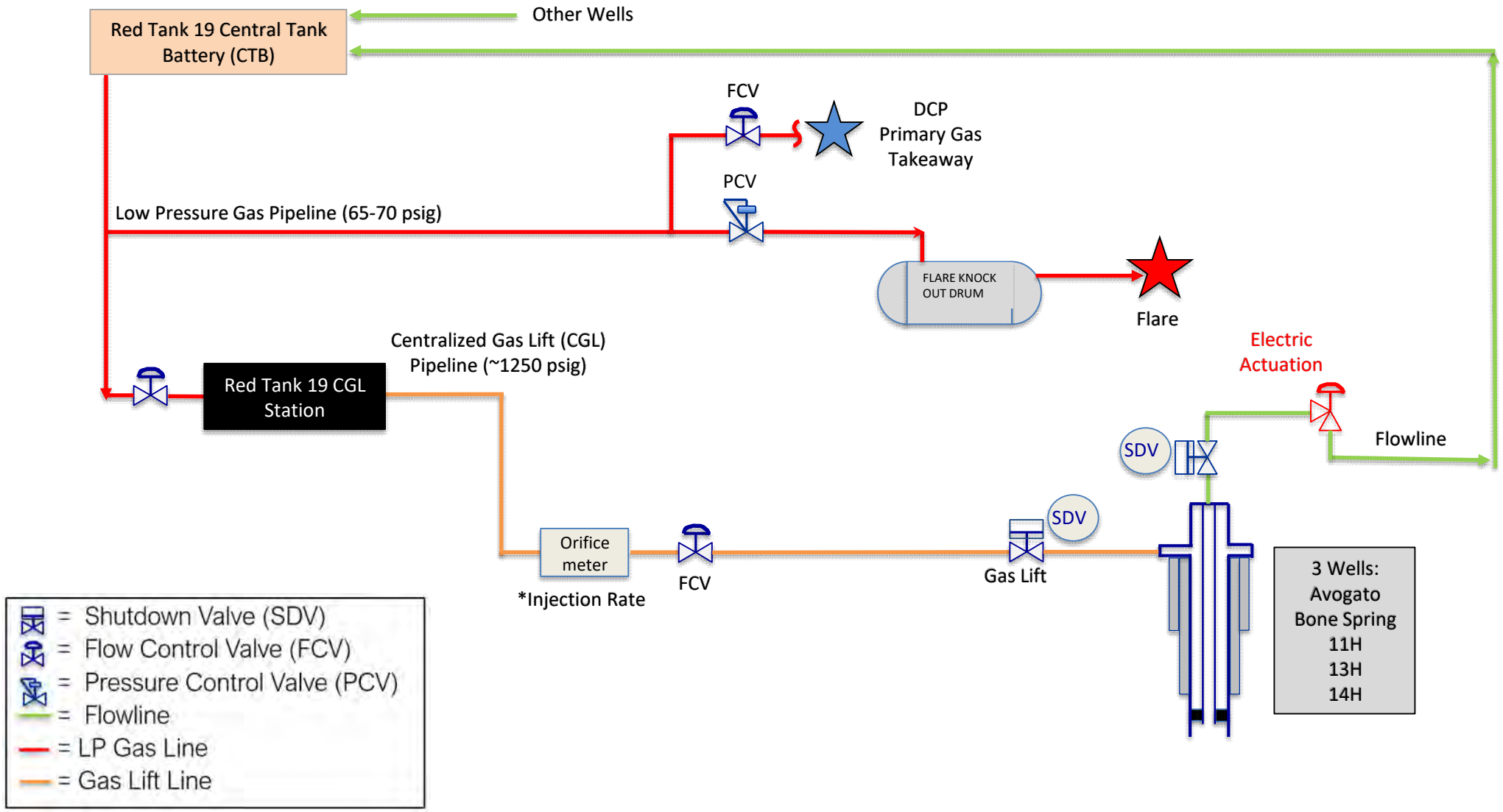
Since no new surface disturbances are required, this project can be implemented with minimal facility modifications. The timeline below assumes an order is issued on January 1 for illustration purposes.



Avogato Area



Avogato Gas Process Flow Diagram



Taco Cat Area

RED TANK 27/28
CTB/CGL

FTP

LTP

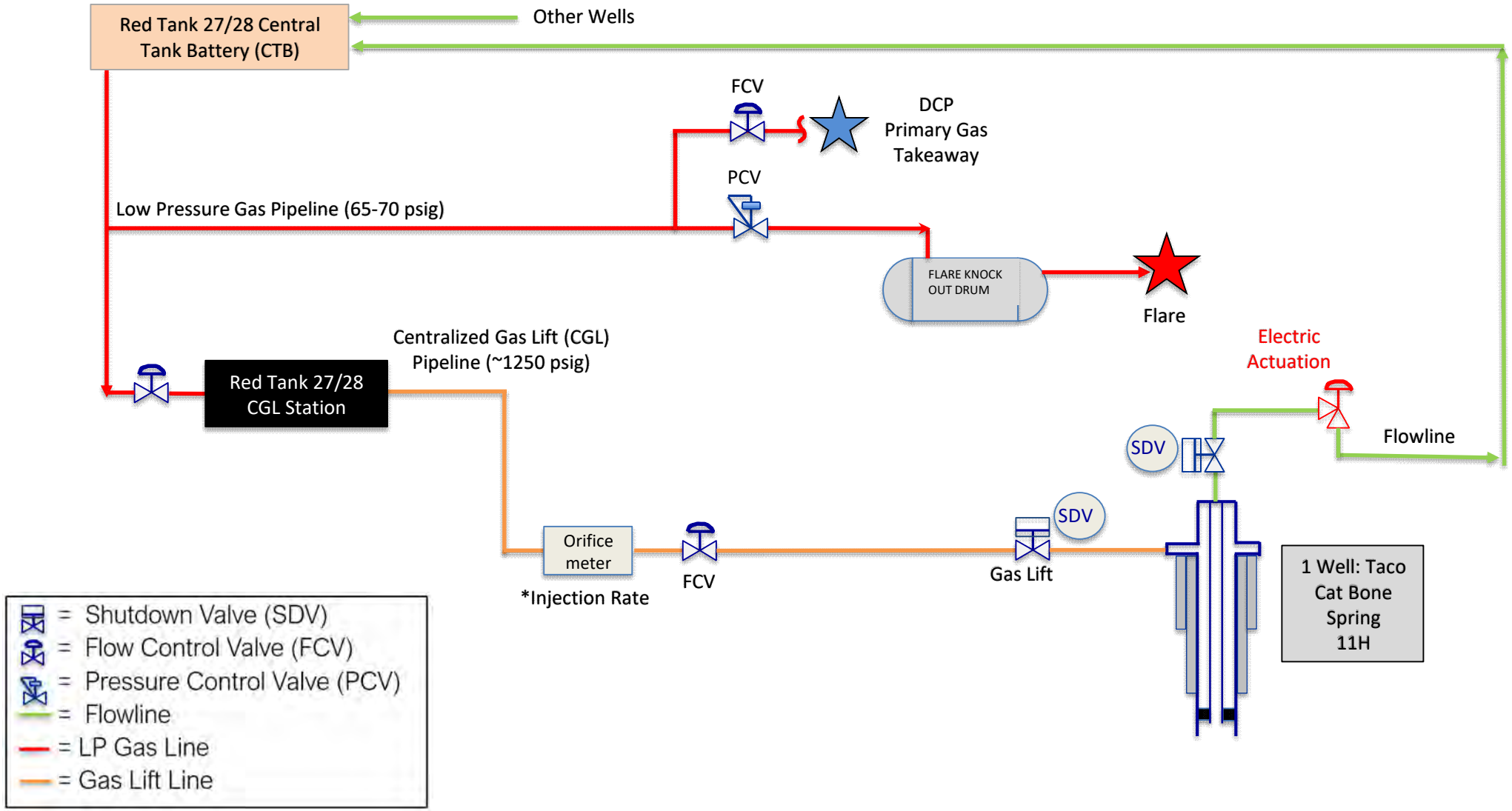
TACO CAT 27-34 FED COM 11H

T22S
R32E

21 22 23
29 28 27 26
32 33 34 35
3 2 7

Flare
Gas Takeaway
Wellbore
LP Pipeline
Gas Lift Line
Flowline
Tank Battery/Compressor Station
Project Area

Taco Cat Gas Process Flow Diagram



Injection Wellbores

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) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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Submit one copy to appropriate
District Office

☐ AMENDED REPORT
As-Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-45956	51687	RED TANK; BONE SPRING; EAST

Property Code	Property Name	Well Number
325625	AVOGATO 30_31 STATE COM	11H

OGRID No.	Operator Name	Elevation
16696	OXY USA, INC.	3706.1'

Surface Location

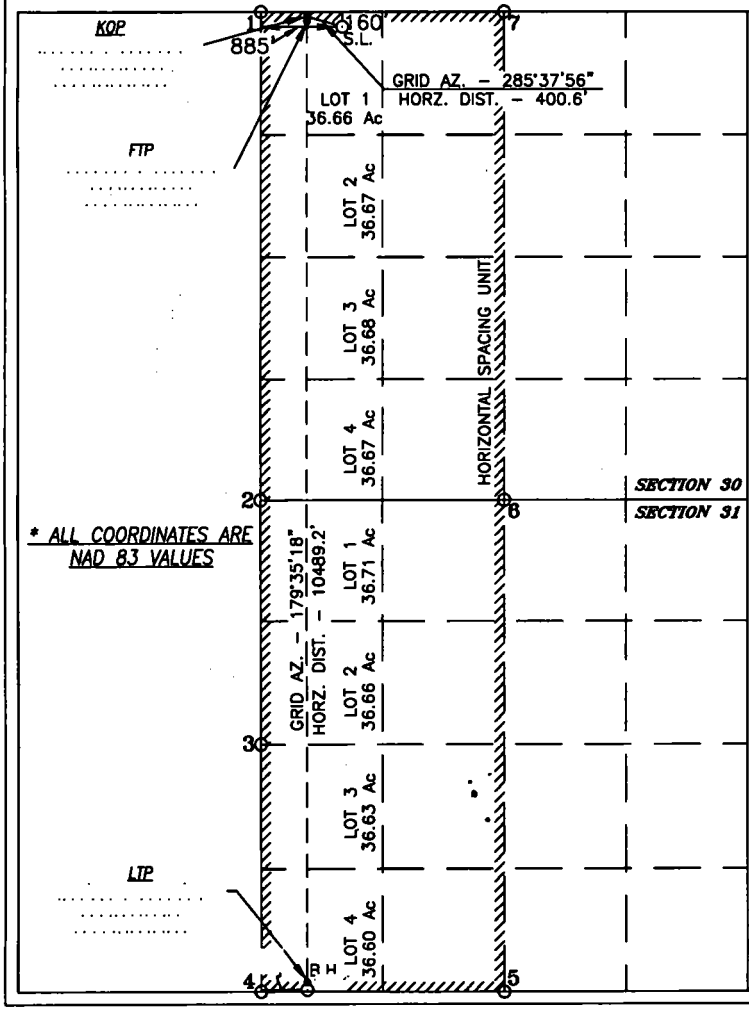
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	30	22-S	33-E		160	NORTH	885	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	31	22-S	33-E		50	SOUTH	600	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
613.28			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



SURFACE LOCATION
Y=498951.7 N
X=762521.6 E
LAT.=32.369653° N
LONG.=103.616928° W

POINT LEGEND	
1	Y=499107.0 N X=761636.4 E
2	Y=493826.6 N X=761673.4 E
3	Y=491187.3 N X=761692.5 E
4	Y=488547.8 N X=761711.3 E
5	Y=488562.6 N X=764238.7 E
6	Y=493844.2 N X=764203.2 E
7	Y=499120.5 N X=764165.7 E

BOTTOM HOLE LOCATION

OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

11/25/19
Signature Date

RONI MATHEW
Printed Name

RONI_MATHEW@OXY.COM
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MARCH 12, 2019
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

4/3/19
Certificate No. CHAD HARCROW 17777
W.O. # 19-470 DRAWN BY: AM

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1625 N. FRENCH DR., HOBBS, NM 88240
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Property Code	Property Name	Well Number
325625	AVOGATO 30_31 STATE COM	13H

OGRID No.	Operator Name	Elevation
16696	OXY USA, INC.	3691.5'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	30	22-S	33-E		160	NORTH	2375	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	31	22-S	33-E		17	SOUTH	2905	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
613.28			

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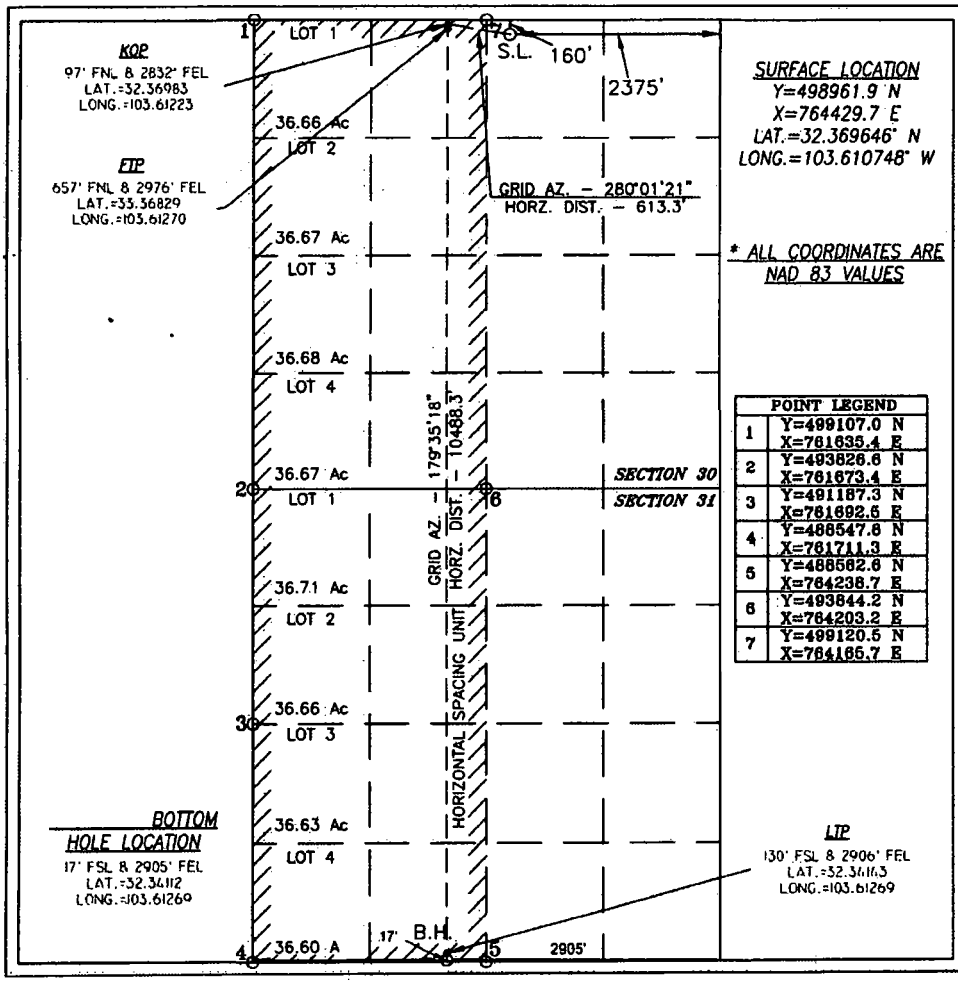

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I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

11/11/19
Signature Date

RONI MATHEW
Printed Name

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W.O. # 19-472 DRAWN BY: WN

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Property Code	Property Name	Well Number
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OGRID No.	Operator Name	Elevation
16696		3691.6'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	30	22-S	33-E		160	NORTH	2340	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	31	22-S	33-E			SOUTH		EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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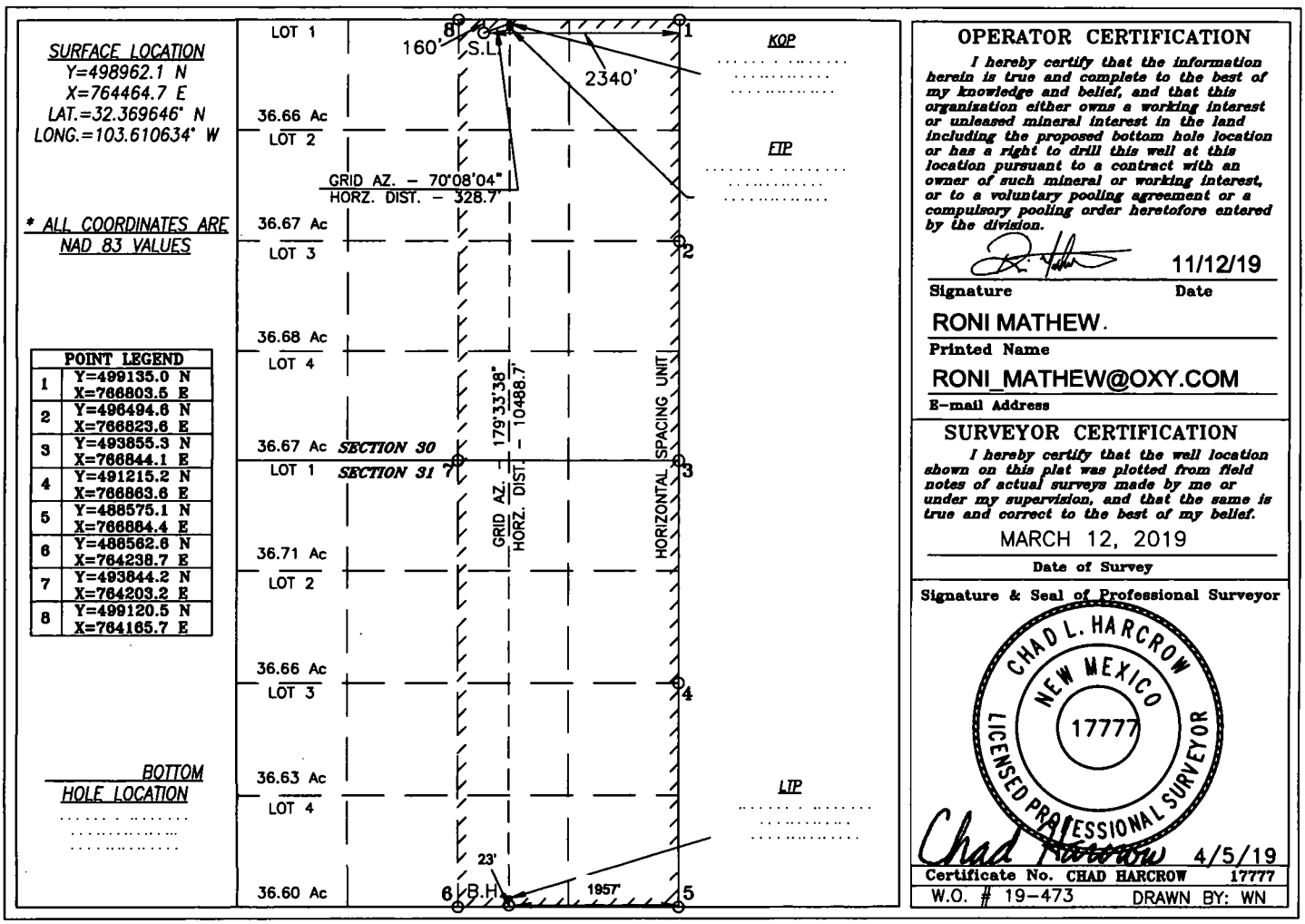

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11/12/19
Signature Date

RONI MATHEW.
Printed Name

RONI_MATHEW@OXY.COM
E-mail Address

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4/5/19
Certificate No. CHAD HARCROW 17777

W.O. # 19-473 DRAWN BY: WN

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JAN 29 2019

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1220 South St. Francis Dr.
Santa Fe, NM 87505

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Submit one copy to appropriate District Office

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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025- 44933	51683	Red Tank Bone Spring

Property Code	Property Name	Well Number
321612	TACO CAT "27-34" FEDERAL COM	11H

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	3635.8'

Surface Location

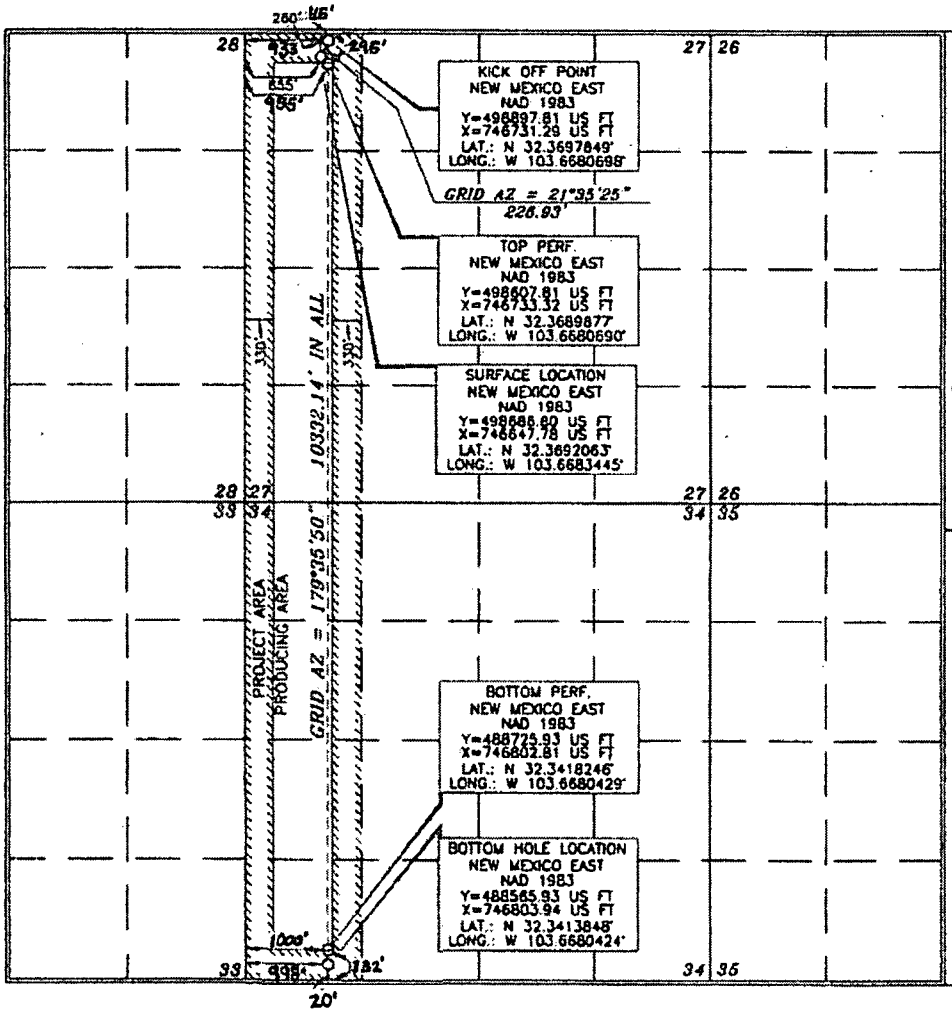
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	27	22 SOUTH	32 EAST, N.M.P.M.		260'	NORTH	855'	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	34	22 SOUTH	32 EAST, N.M.P.M.		20'	SOUTH	998'	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320	Y		FTP: 295' FNL 955' FWL LTP: 132' FSL 1000' FWL

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Leslie Reeves 1/28/19
Signature Date

LESLIE REEVES
Printed Name

LESLIE_REEVES@OXY.COM
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

TERRY J. ASEL
NEW MEXICO
15079
REGISTERED PROFESSIONAL LAND SURVEYOR

DECEMBER 26, 2018
Date of Survey

Signature and Seal of Professional Surveyor

Terry J. Asel 2/7/2019
Certificate Number 15079

WO# 171226WL-c (KA)

Side 1

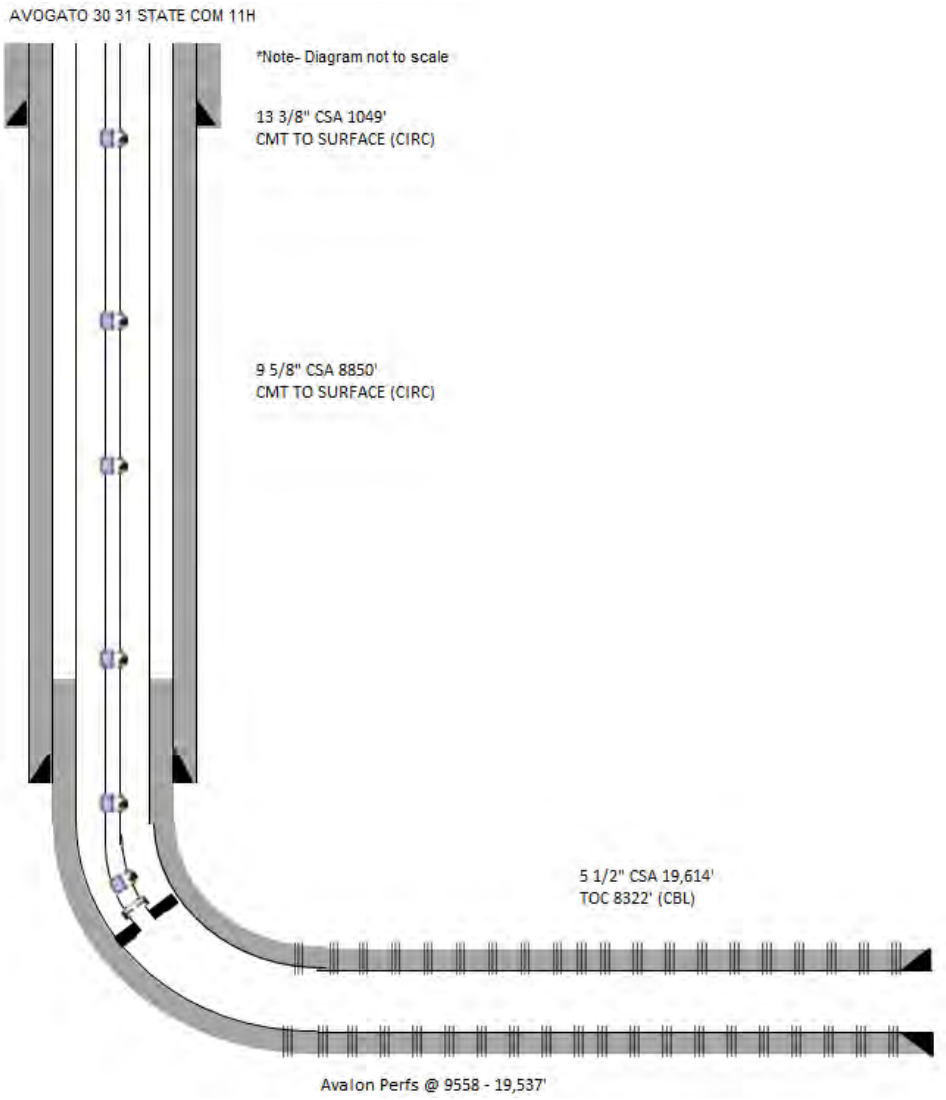
OPERATOR: OXY USA INC

WELL NAME & NUMBER: AVOGATO 30-31 COM 11H

WELL LOCATION: 160' FNL 885' FWL | D | 30 | 22S | 33E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 1340 sx. ***or*** _____ ft^3

Top of Cement: 0' Method Determined: CIRC

Intermediate Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 2149 sx. ***or*** _____ ft^3

Top of Cement: 0' Method Determined: CIRC

Production Casing

Hole Size: 8.5" Casing Size: 5.5"

Cemented with: 2150 sx. ***or*** _____ ft^3

Top of Cement: 8322' Method Determined: CBL

Total Depth: MD: 19645' / TVD: 9426'

Injection Interval

9558' MD/9322' TVD feet to 19537' MD/ 9432' TVD

(Perforated or Open Hole; indicate which)

Side 2

Tubing Size: 2.875" 6.5# L80 Lining Material: UNLINED

Type of Packer: 5.5" AS1-X PACKER

Packer Setting Depth: 9141' MD / 9092' TVD

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____Yes X_____No

   If no, for what purpose was the well originally drilled? PRODUCER- OIL

2. Name of the Injection Formation: AVALON

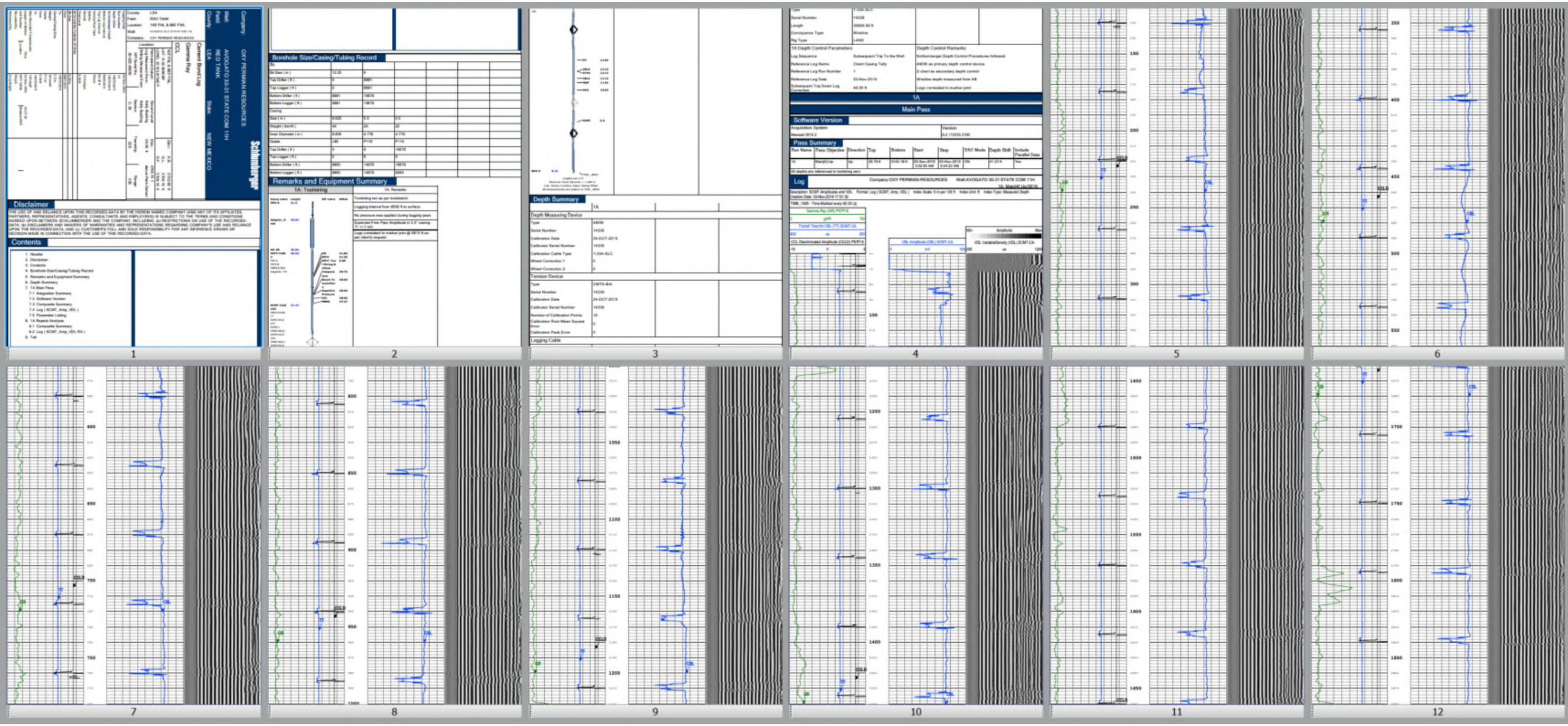
3. Name of Field or Pool (if applicable): Red Tank

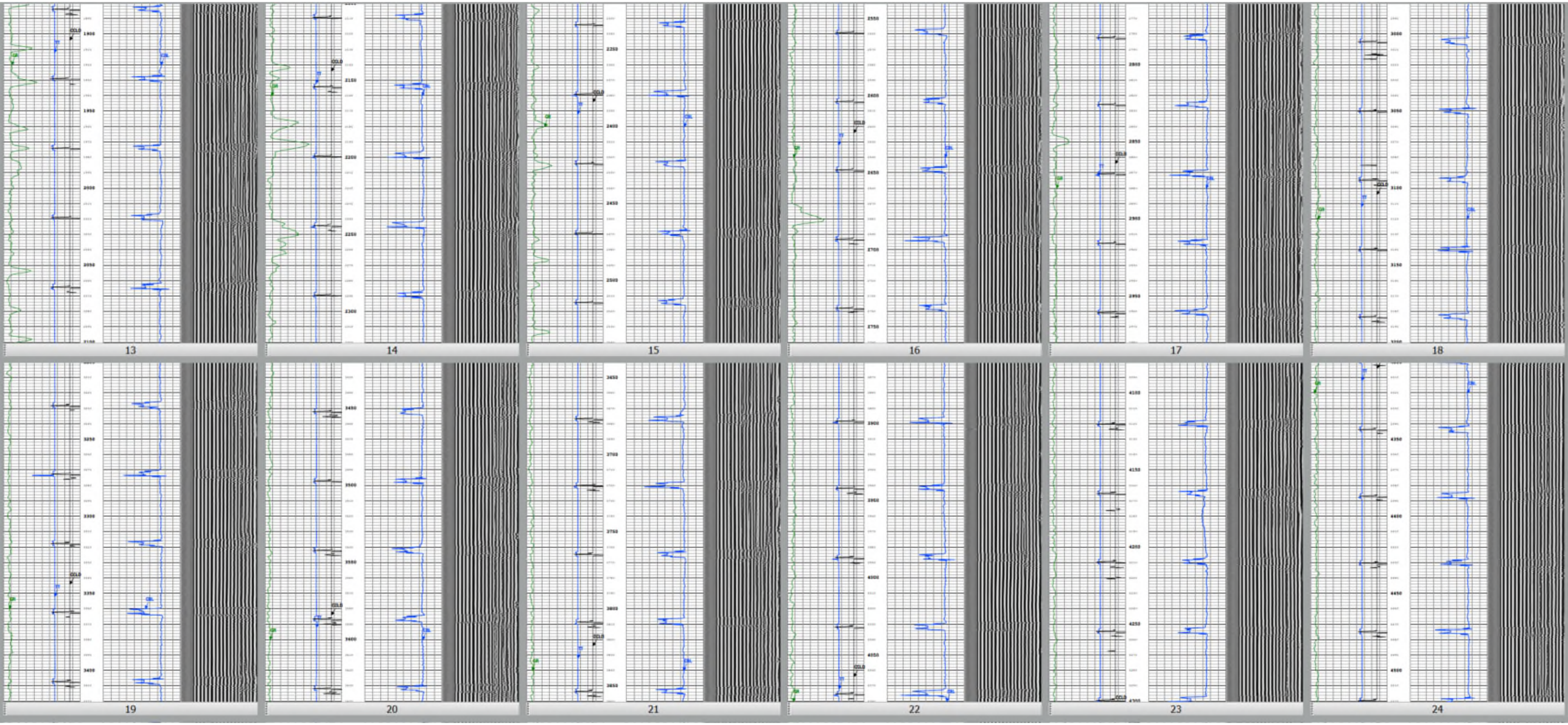
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. N/A

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: OVERLYING: BRUSHY CANYON

   UNDERLYING: 2ND BONE SPRING

Avogato 11H CBL

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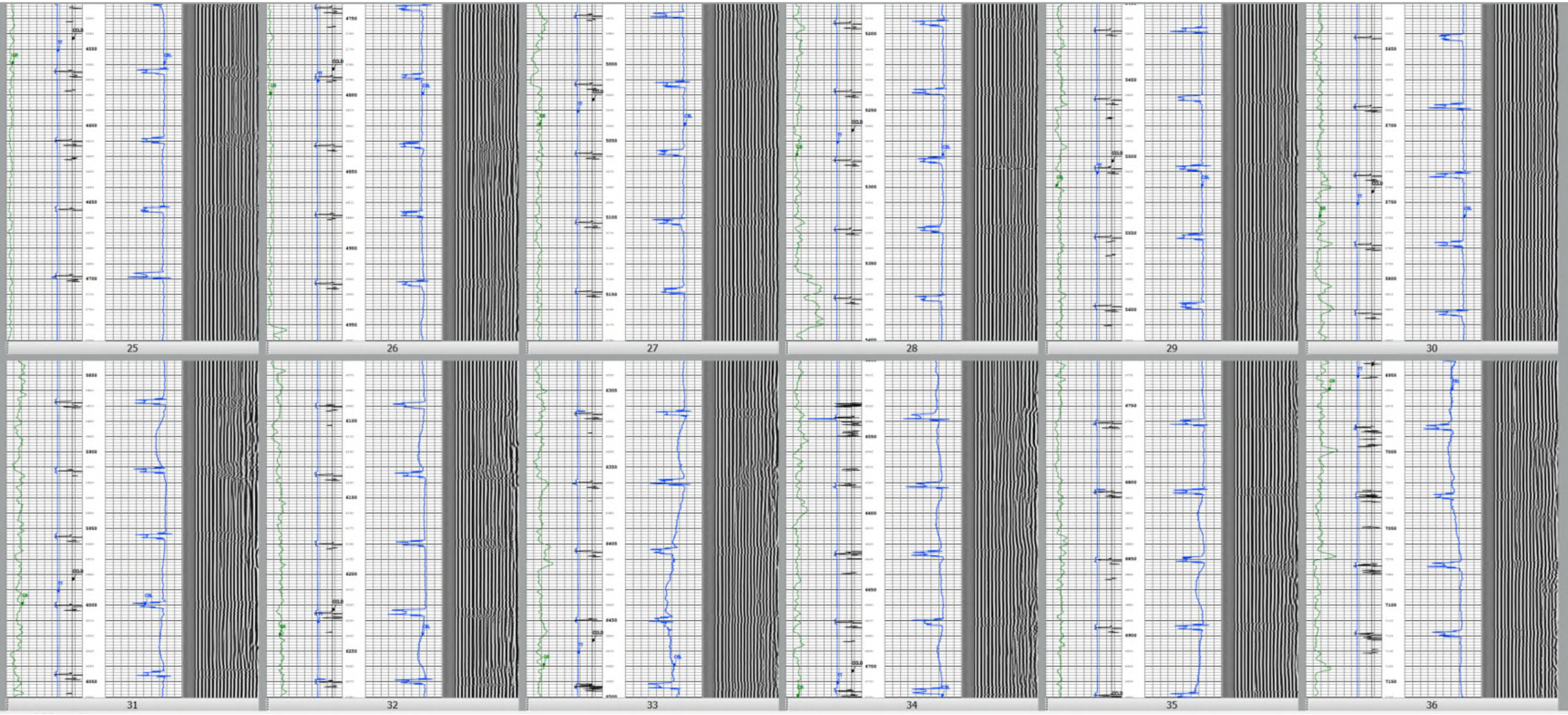
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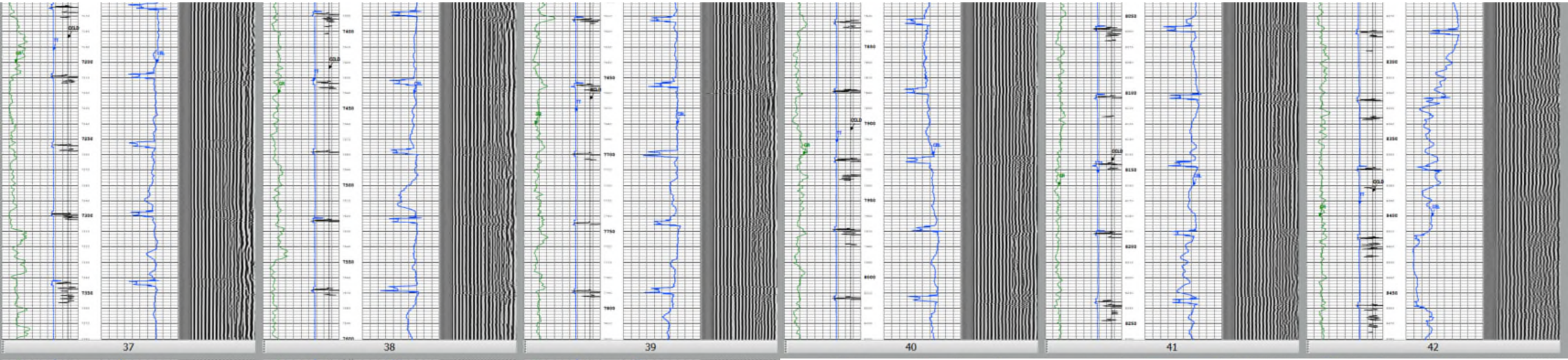
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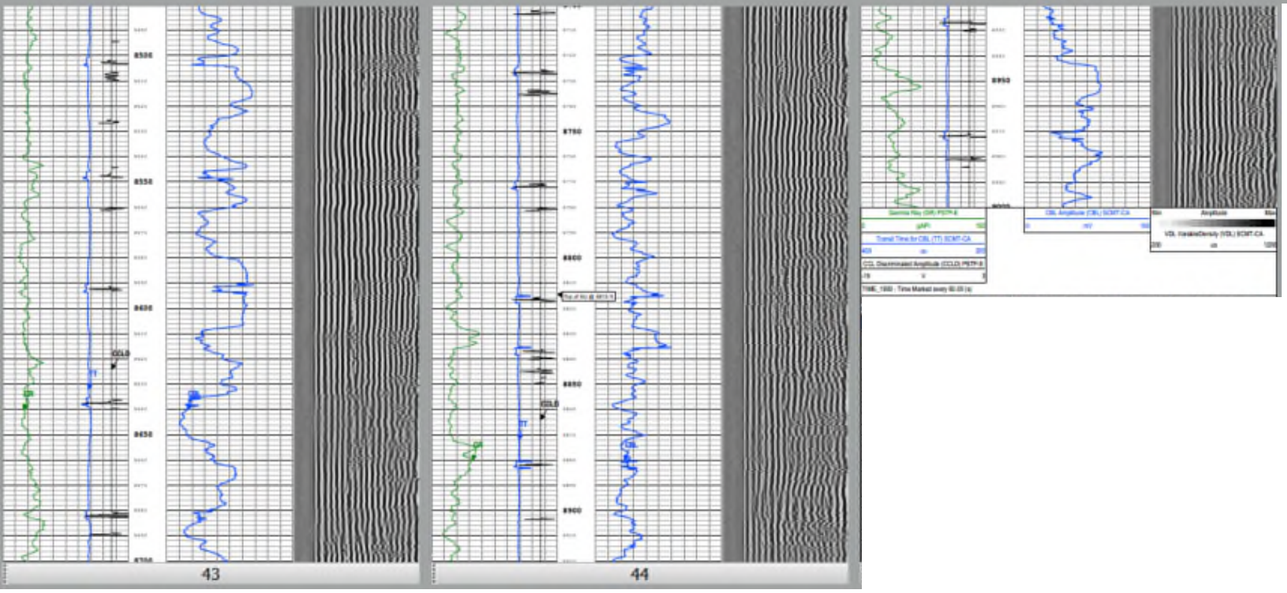
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Side 1

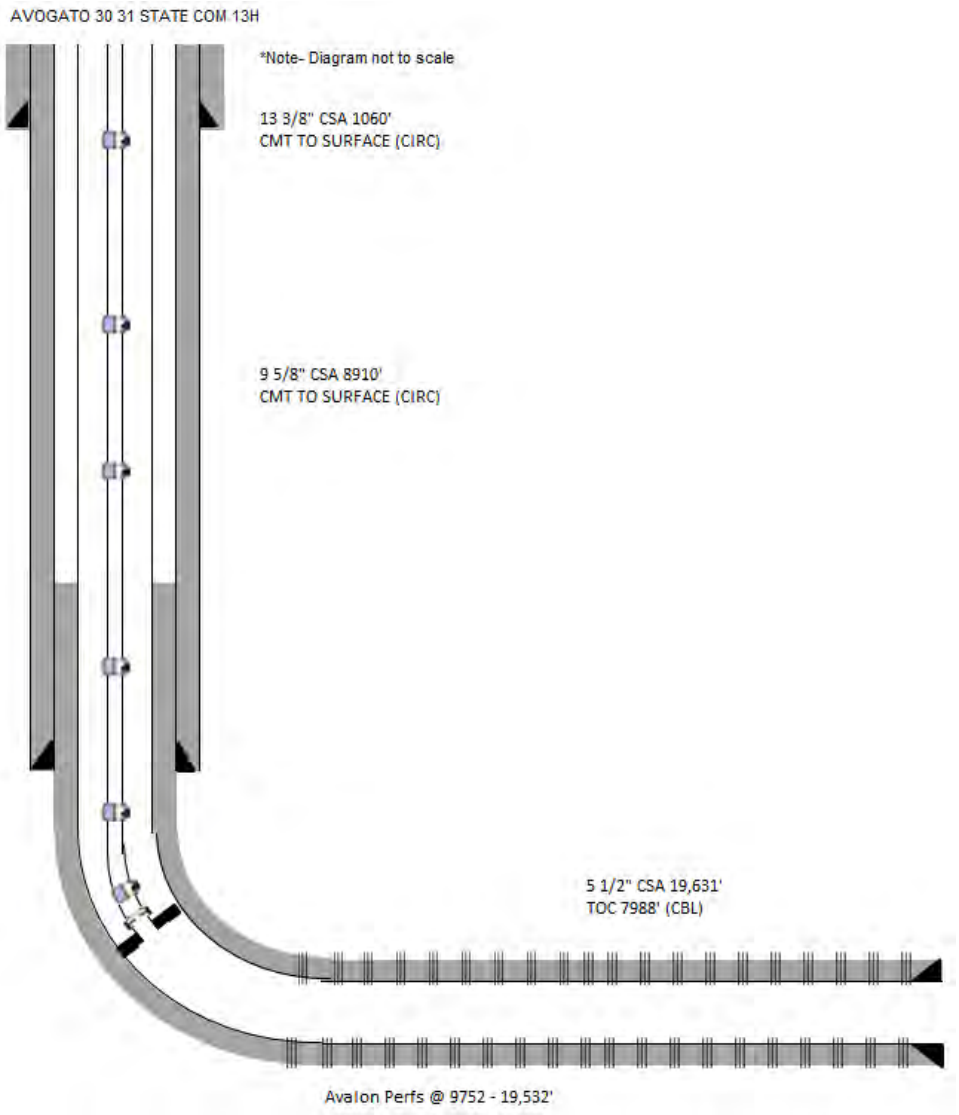
OPERATOR: OXY USA INC

WELL NAME & NUMBER: AVOGATO 30-31 COM 13H

WELL LOCATION: 160' FNL 2375' FEL | B | 30 | 22S | 33E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 1340 sx. ***or*** _____ ft^3

Top of Cement: 0' Method Determined: CIRC

Intermediate Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 1600 sx. ***or*** _____ ft^3

Top of Cement: 0' Method Determined: CIRC

Production Casing

Hole Size: 8.5" Casing Size: 5.5"

Cemented with: 2150 sx. ***or*** _____ ft^3

Top of Cement: 7988' Method Determined: CBL

Total Depth: MD: 19645' / TVD: 9397'

Injection Interval

9752' MD/ 9396' TVD feet to 19532' MD/ 9397' TVD

(Perforated or Open Hole; indicate which)

Side 2

Tubing Size: 2.875" 6.5# L80 Lining Material: UNLINED

Type of Packer: AS1-X 5.5"

Packer Setting Depth: 8970' MD / 8926' TVD

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____Yes X_____No

   If no, for what purpose was the well originally drilled? _____

   PRODUCER- OIL

2. Name of the Injection Formation: AVALON

3. Name of Field or Pool (if applicable): Red Tank

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____

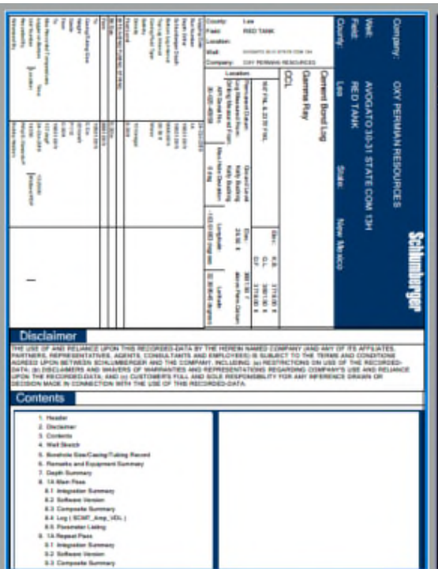
   N/A

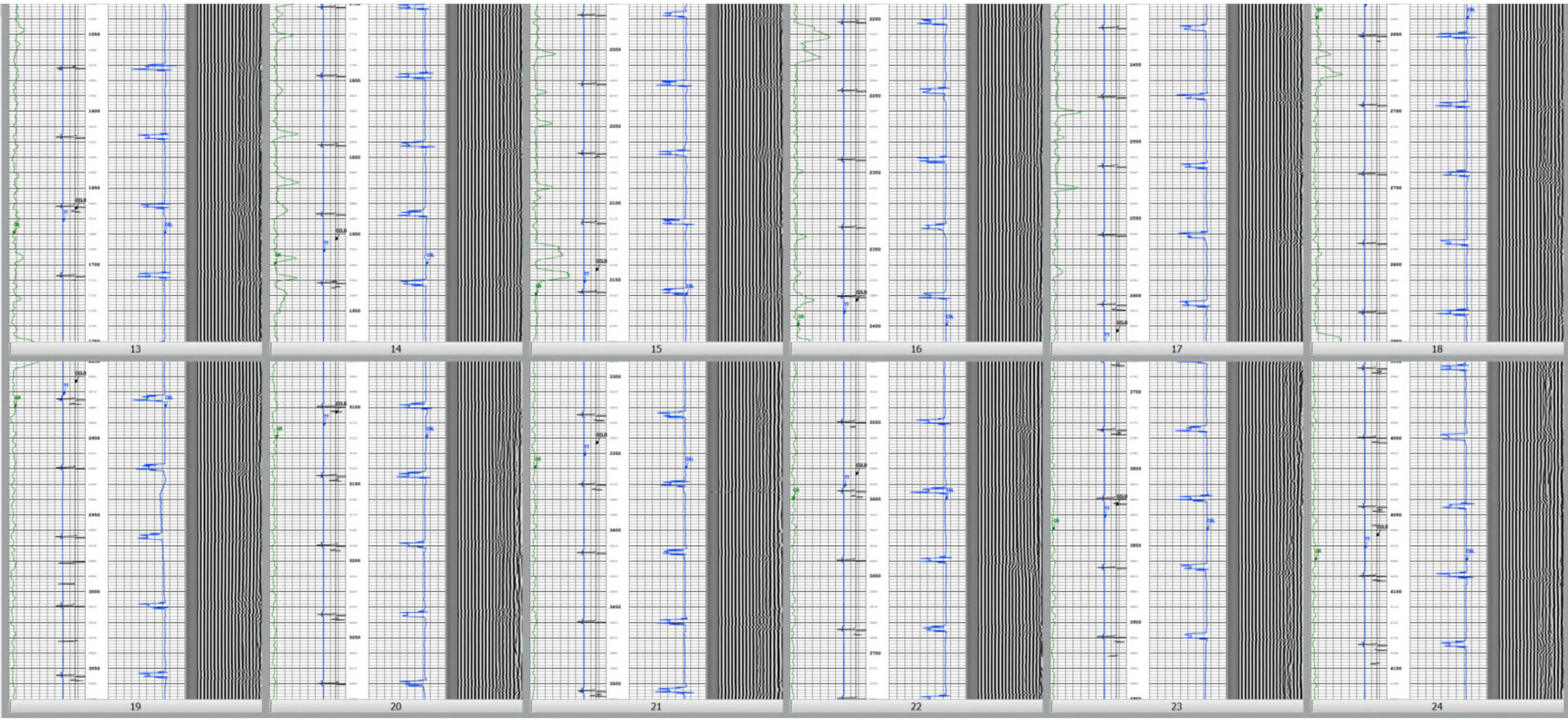
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____

   OVERLYING: BRUSHY CANYON

   UNDERLYING: 2ND BONE SPRING

Avogato 13H CBL

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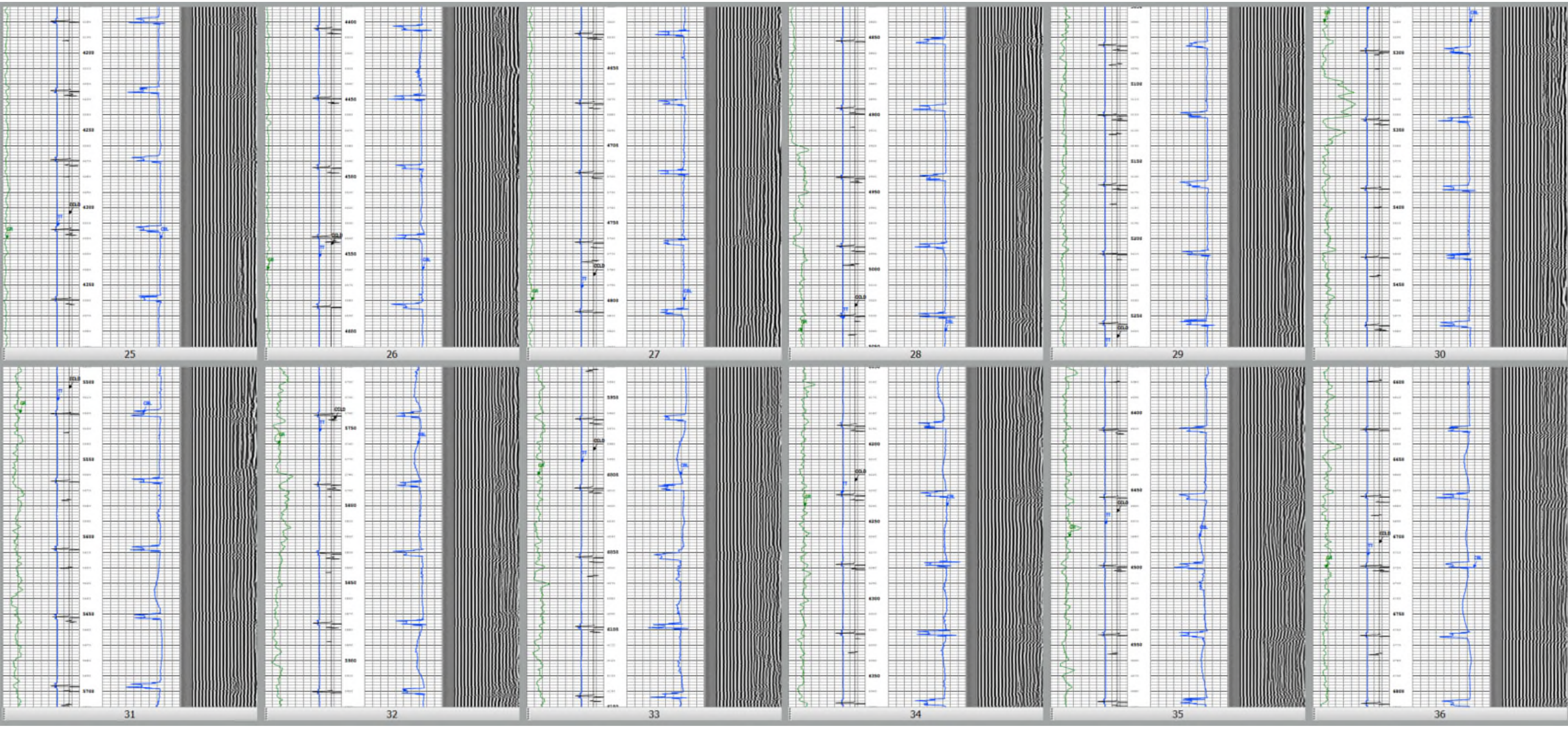
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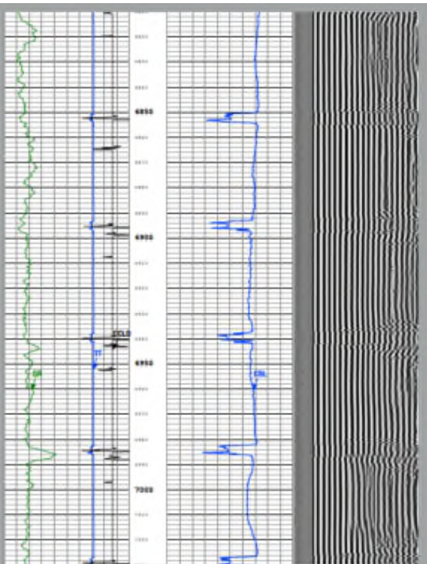
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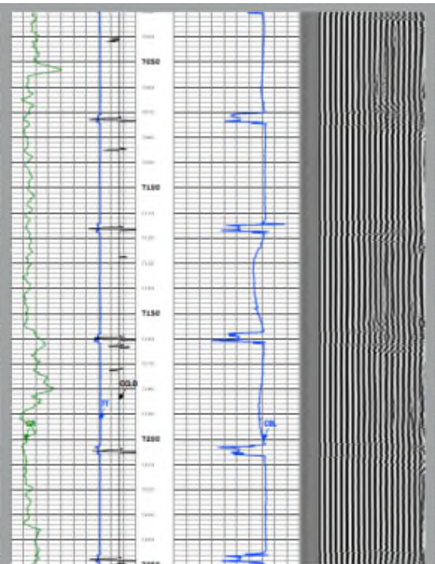
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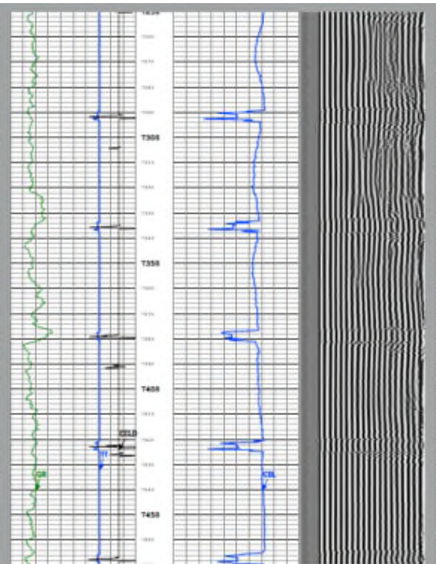
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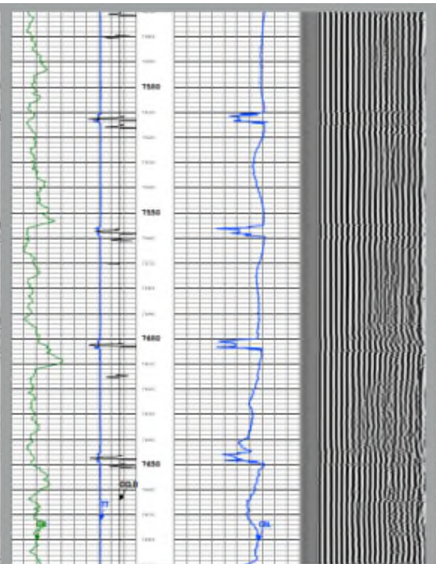
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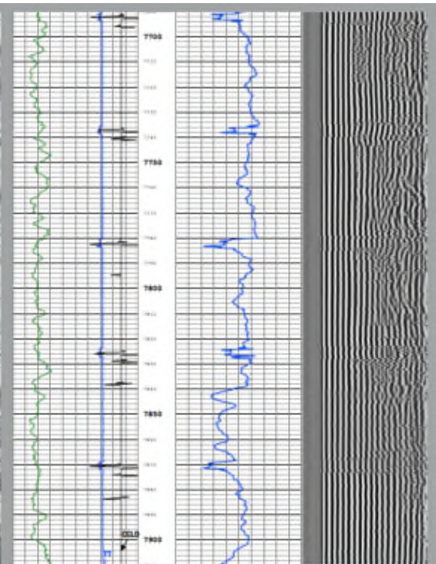
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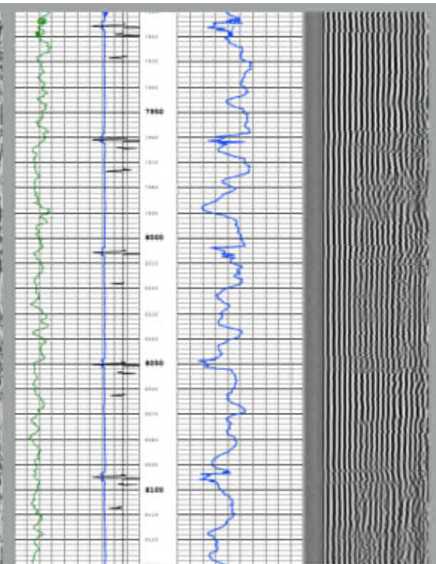
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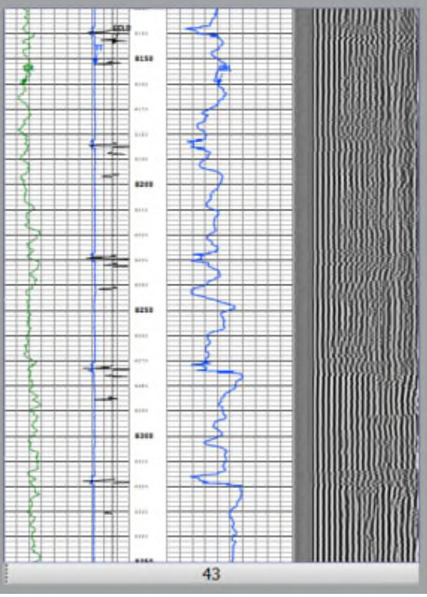
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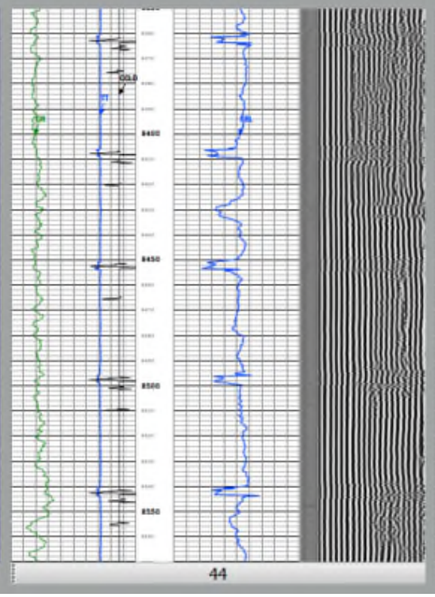
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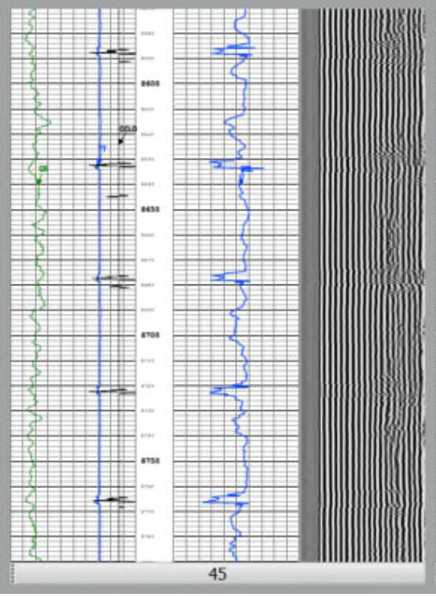
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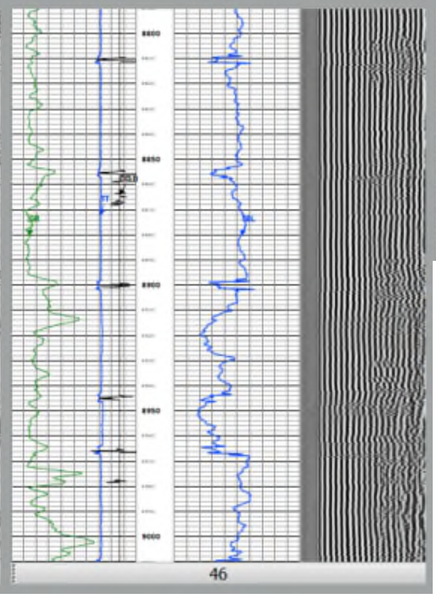
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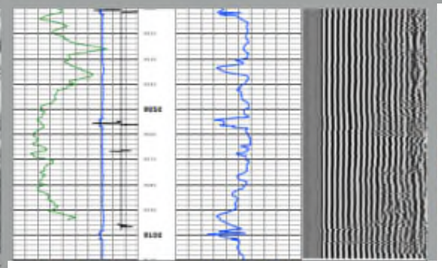


Side 1

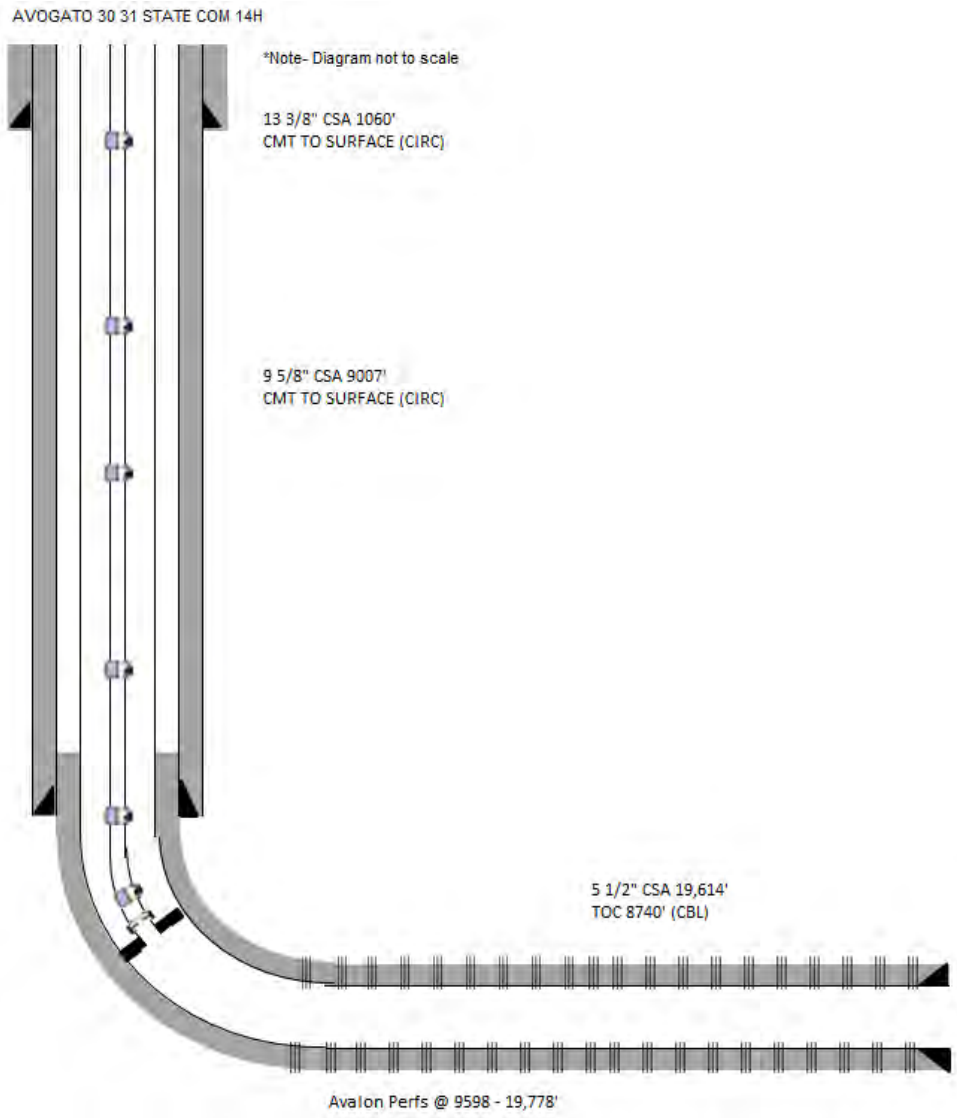
OPERATOR: OXY USA INC

WELL NAME & NUMBER: AVOGATO 30-31 COM 14H

WELL LOCATION: 160' FNL 2340' FEL | B | 30 | 22S | 33E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 1340 sx. ***or*** _____ ft^3

Top of Cement: 0' Method Determined: CIRC

Intermediate Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 2125 sx. ***or*** _____ ft^3

Top of Cement: 0' Method Determined: CIRC

Production Casing

Hole Size: 8.5" Casing Size: 5.5"

Cemented with: 2135 sx. ***or*** _____ ft^3

Top of Cement: 8740' Method Determined: CBL

Total Depth: MD: 19891' / TVD: 9532'

Injection Interval

9598' MD/ 9488' TVD feet to 19778' MD/ 9540' TVD Perforated

(Perforated or Open Hole; indicate which)

Side 2

Tubing Size: 2.875" 6.5# L80 Lining Material: UNLINED

Type of Packer: 5.5" AS1

Packer Setting Depth: 9090' MD / 9045' TVD

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____Yes X_____No

   If no, for what purpose was the well originally drilled? PRODUCER- OIL

2. Name of the Injection Formation: AVALON

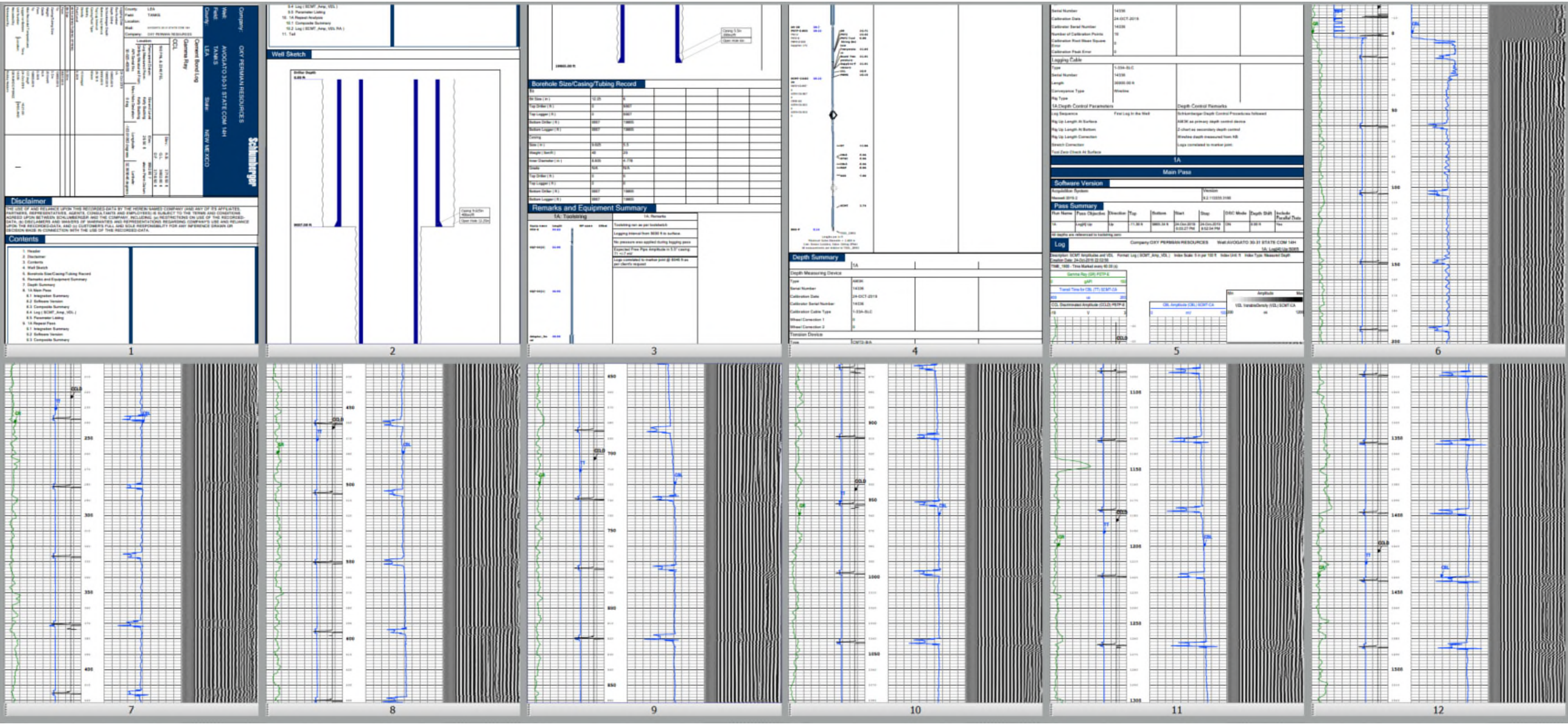
3. Name of Field or Pool (if applicable): Red Tank

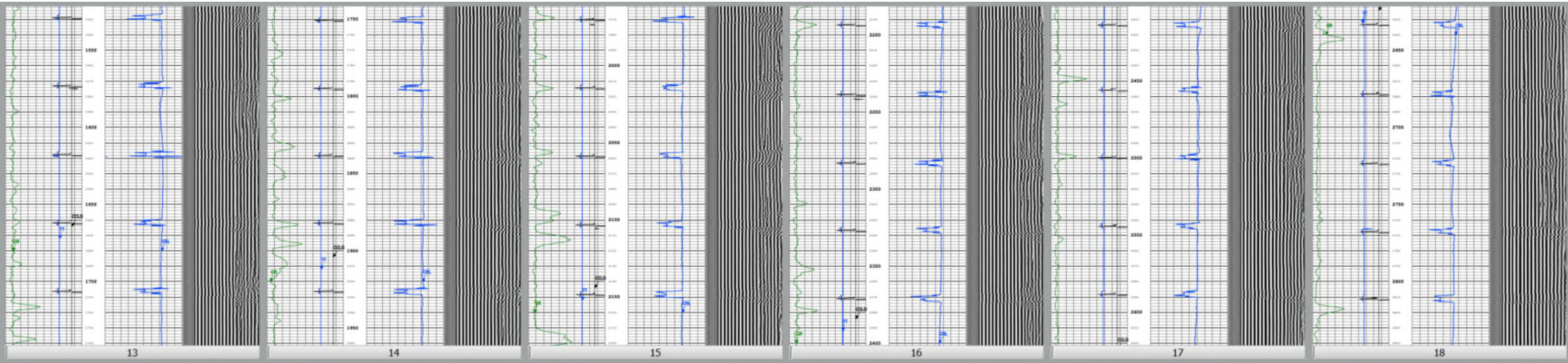
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. N/A

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: OVERLYING: BRUSHY CANYON

   UNDERLYING: 2ND BONE SPRING

Avogato 14H CBL

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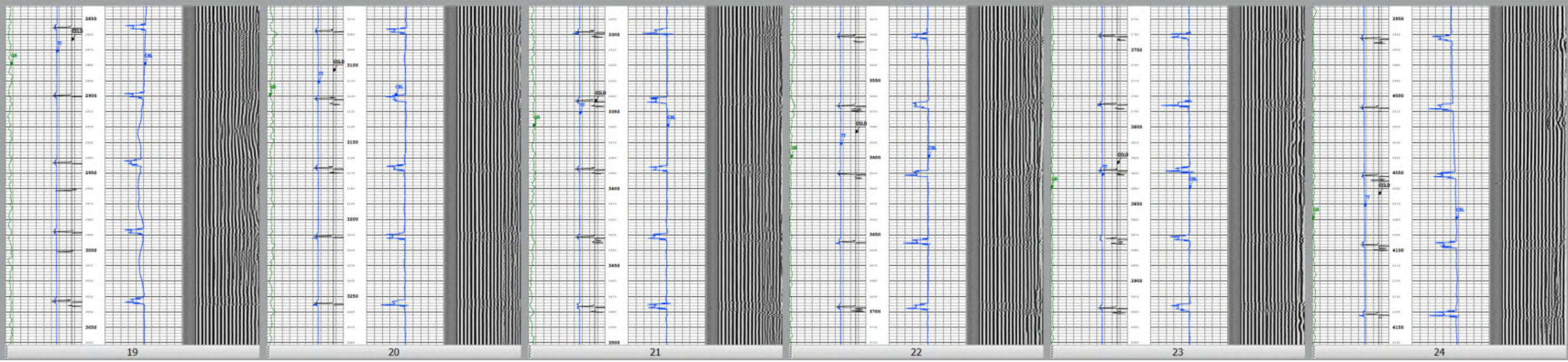
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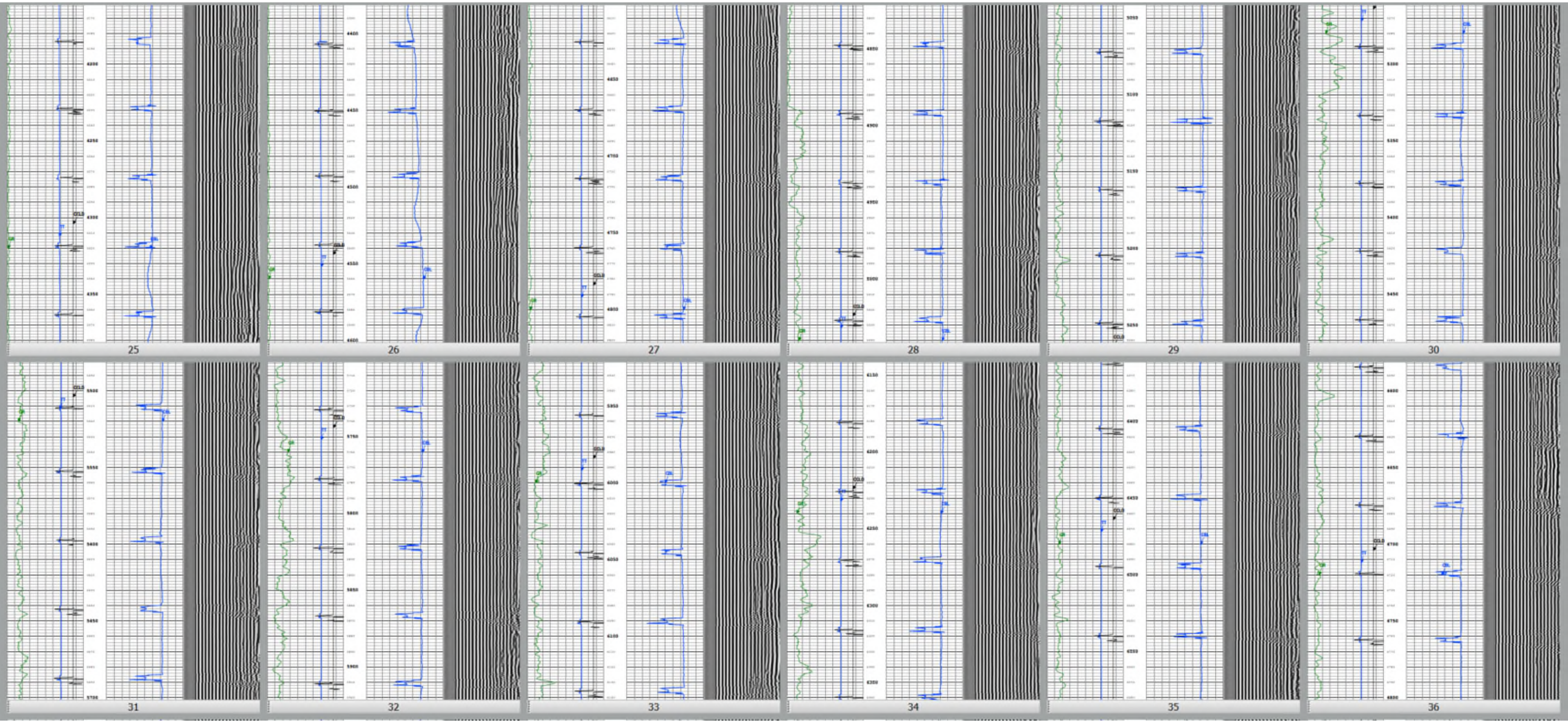
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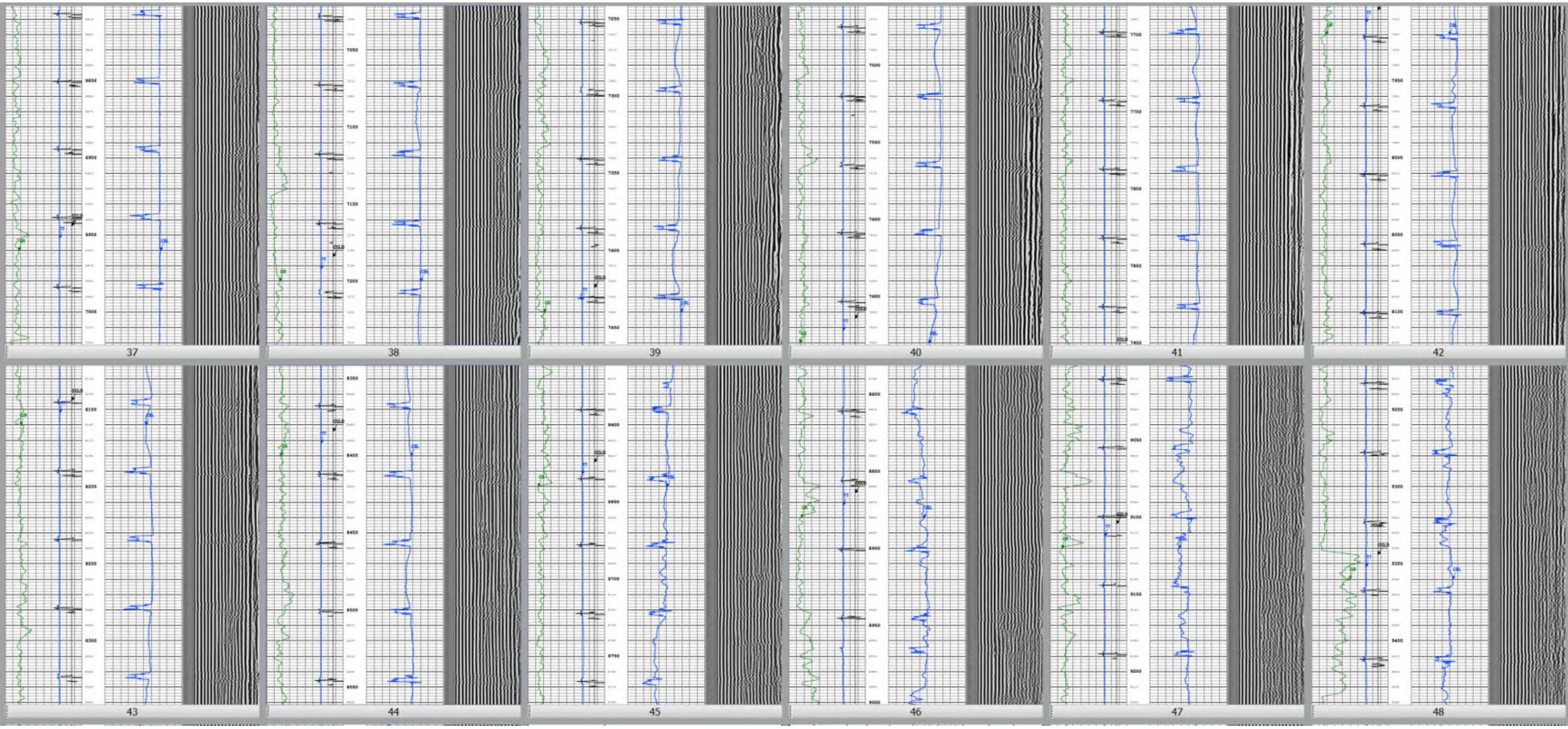
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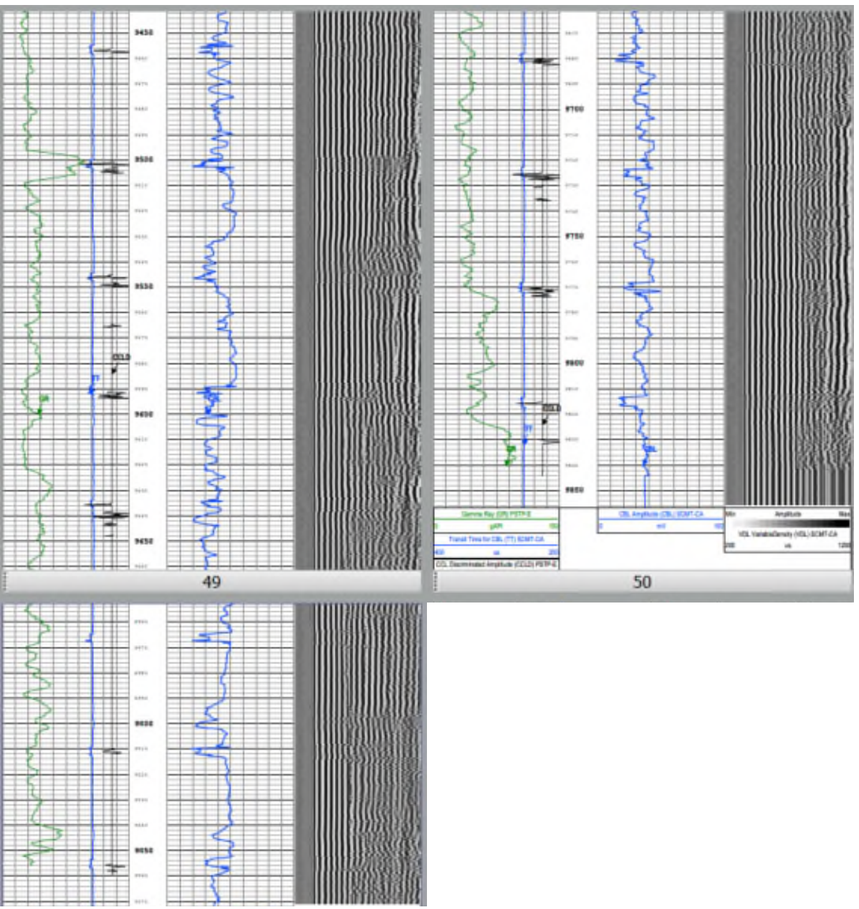
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Side 1

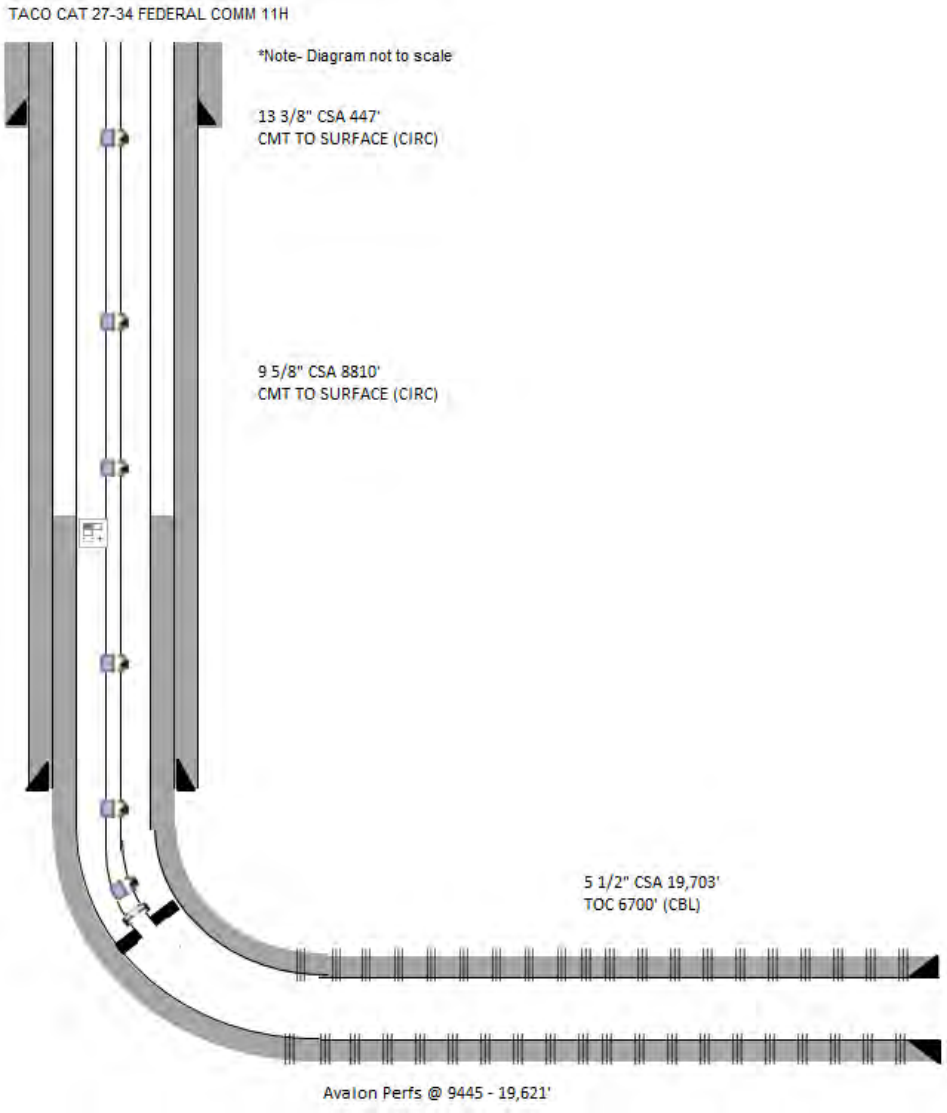
OPERATOR: OXY USA INC

WELL NAME & NUMBER: TACO CAT 27-34 FEDERAL COM 11H

WELL LOCATION: 260' FNL 855' FWL | D | 27 | 22S | 32E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 800 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 2225 sx. ***or*** _____ ft^3

Top of Cement: 204' Method Determined: Calc

Production Casing

Hole Size: 6.750" Casing Size: 5.5"

Cemented with: 705 sx. ***or*** _____ ft^3

Top of Cement: 6700' Method Determined: CBL

Total Depth: MD 19732' / TVD 9514'

Injection Interval

9445' MD/ 9339' TVD feet to 19621' MD / 9517" TVD Perforated

(Perforated or Open Hole; indicate which)

Side 2

Tubing Size: 2.875" 6.5# L80 Lining Material: UNLINED

Type of Packer: 10K AS1-X Packer 5.5"

Packer Setting Depth: 8790' MD / 87 66' TVD

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____Yes X_____No

   If no, for what purpose was the well originally drilled? _____

   PRODUCER- OIL

2. Name of the Injection Formation: Avalon

3. Name of Field or Pool (if applicable): _____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____

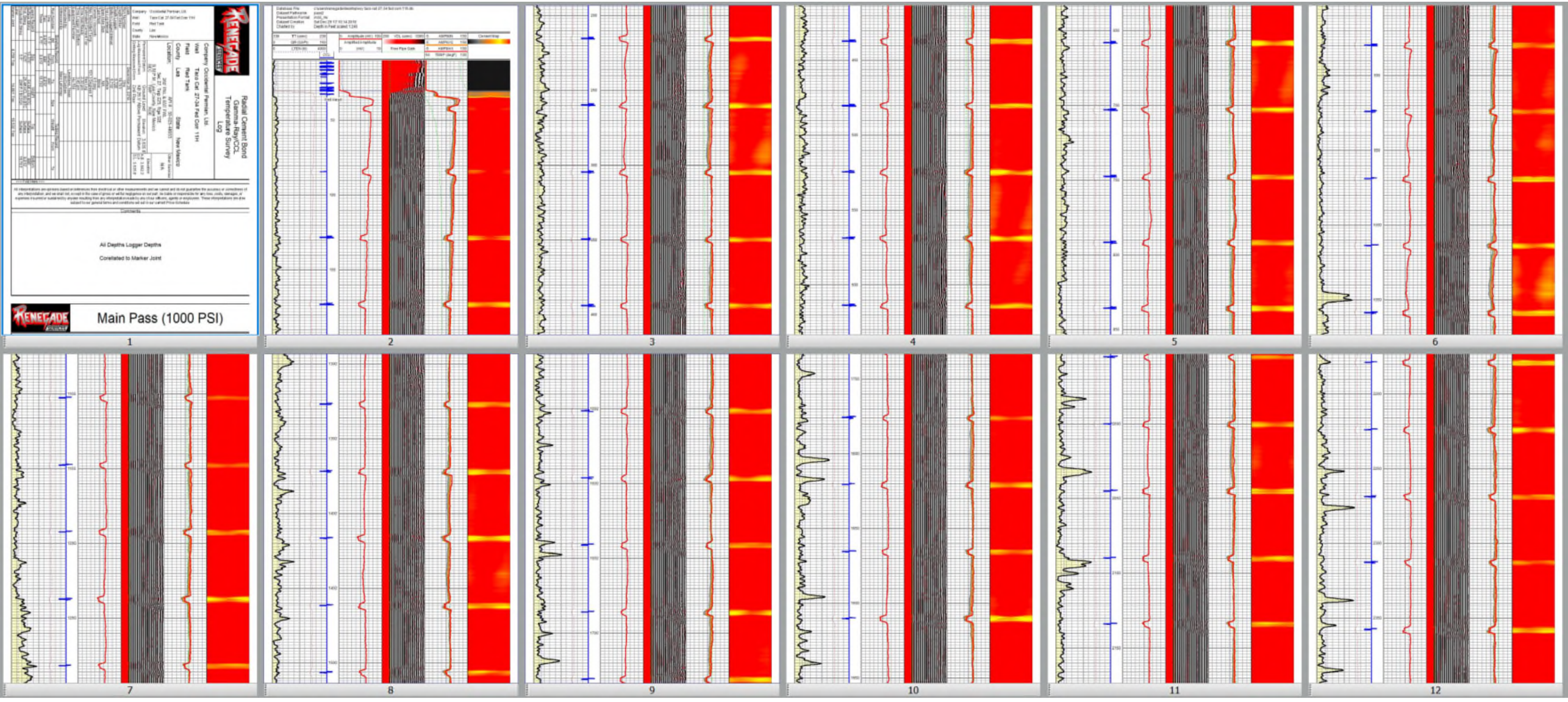
   NO

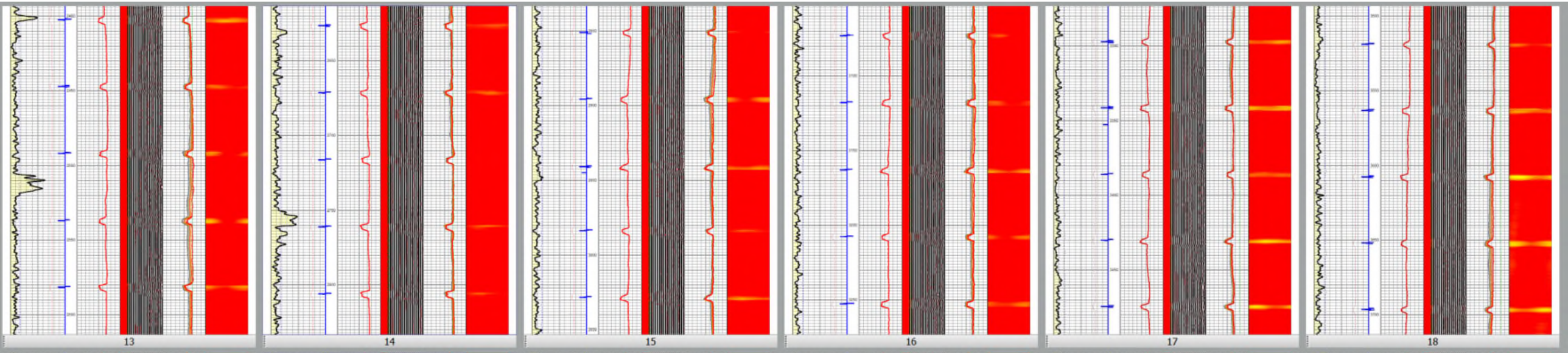
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____

   OVERLYING: BRUSHY CANYON FORMATION 6837'

   UNDERLYING: 2nd Bone Spring FORMATION

Taco Cat 11H CBL

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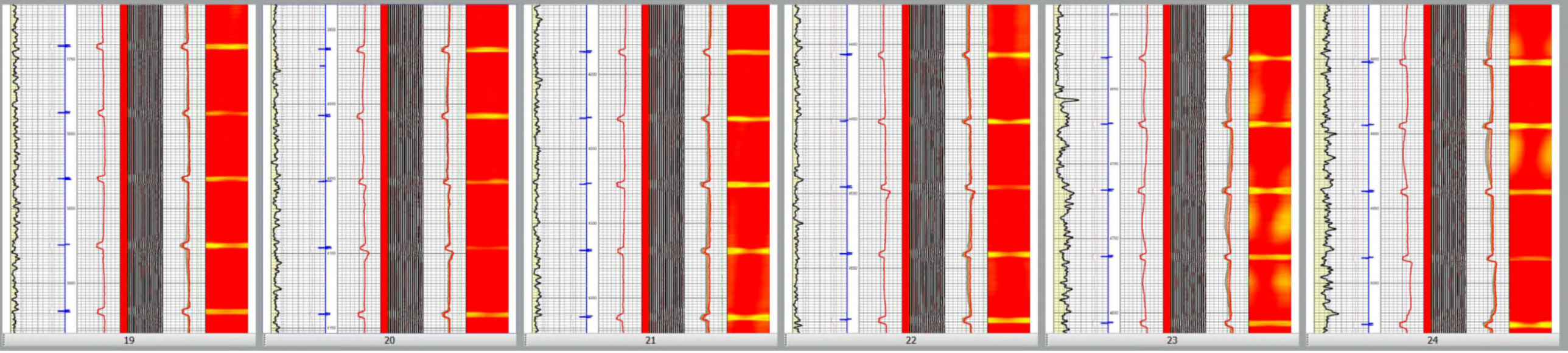
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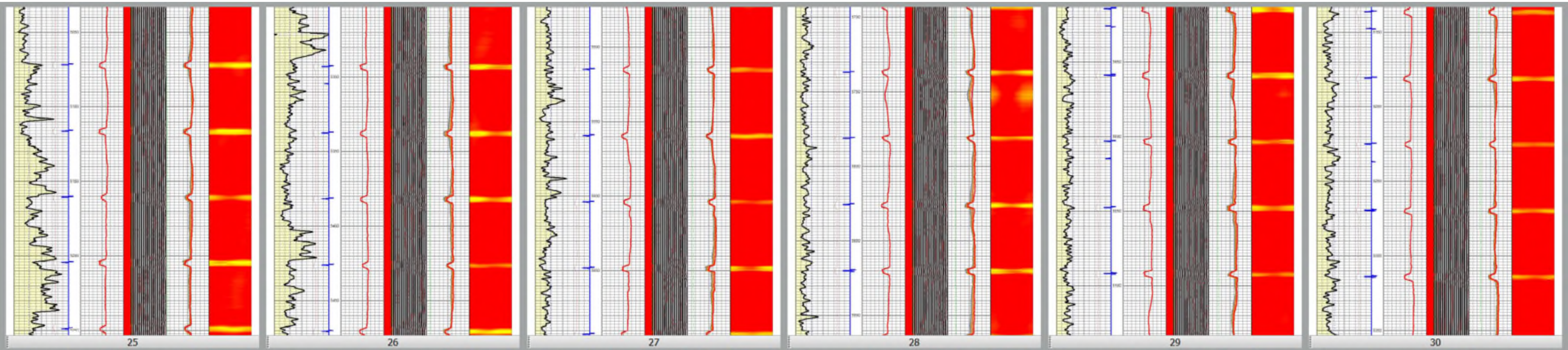
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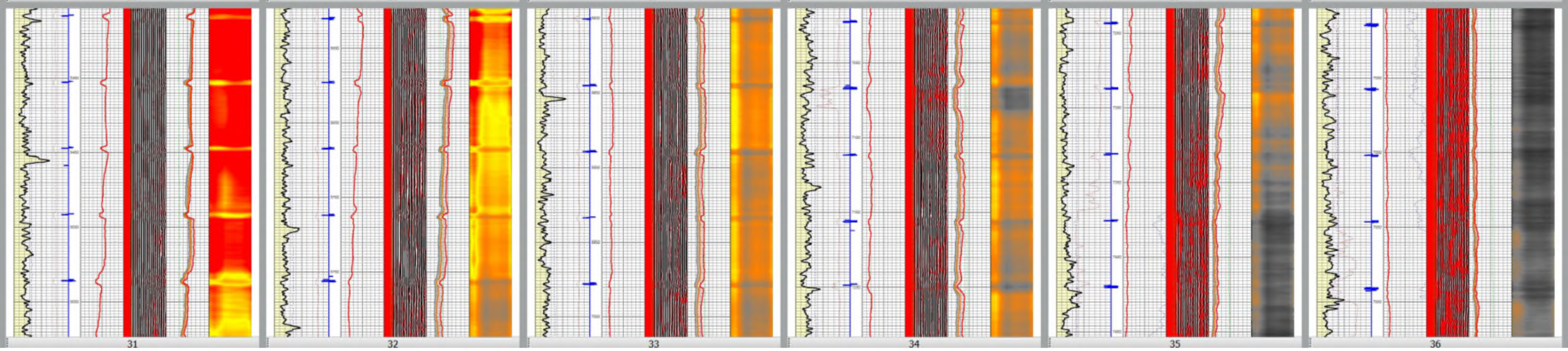
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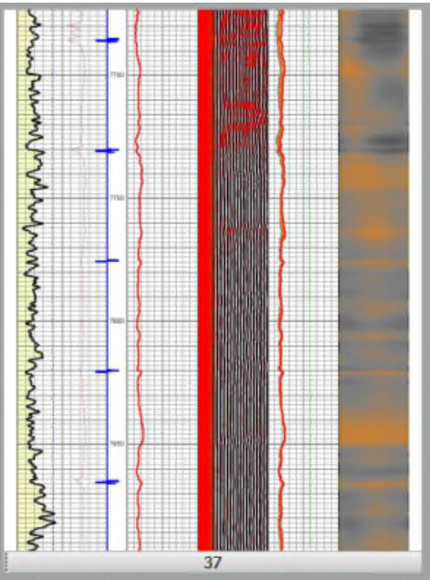
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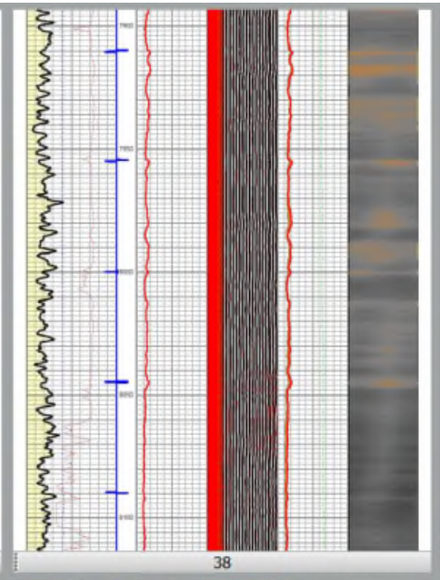
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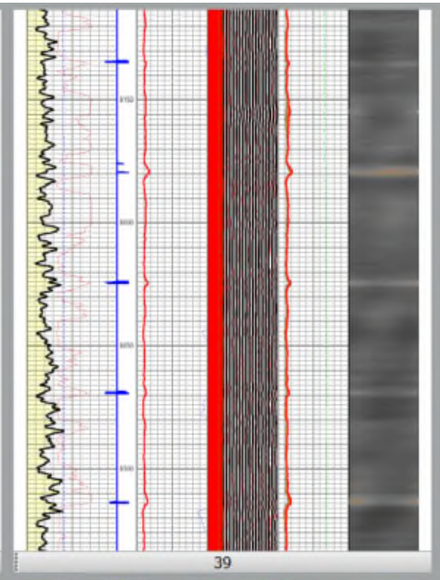
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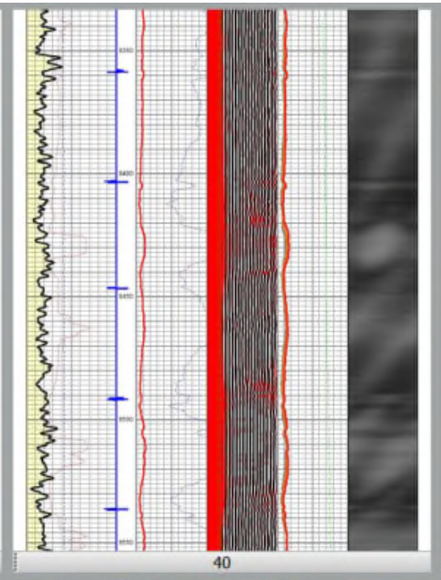
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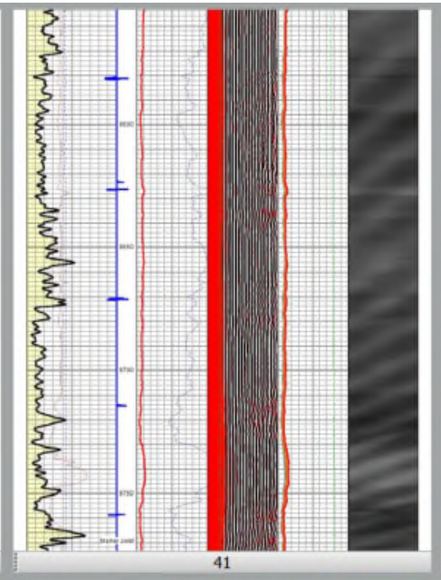
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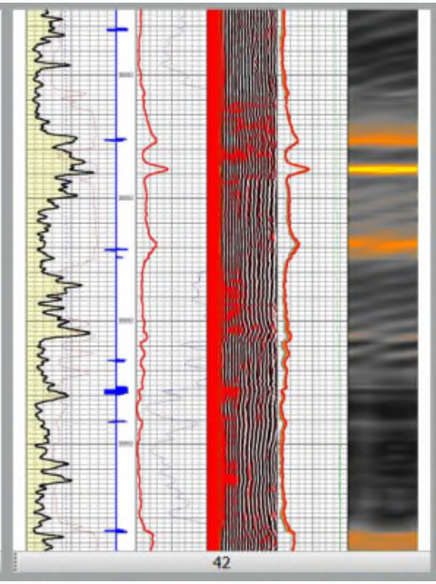
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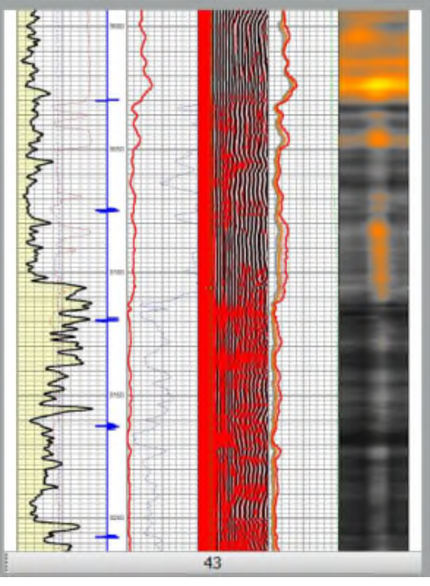
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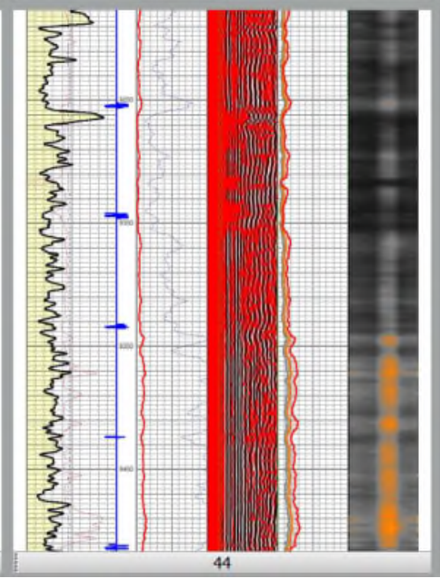
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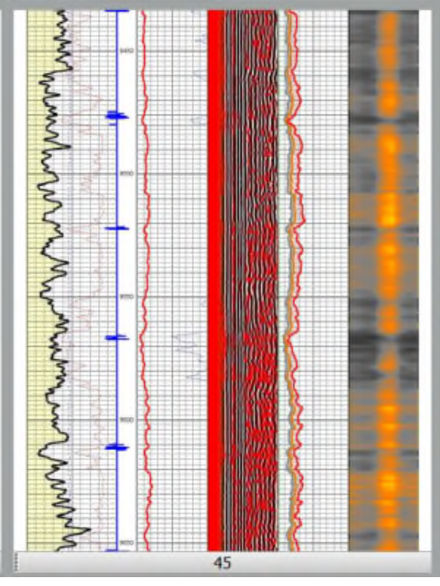
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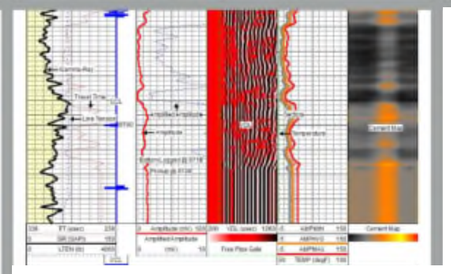
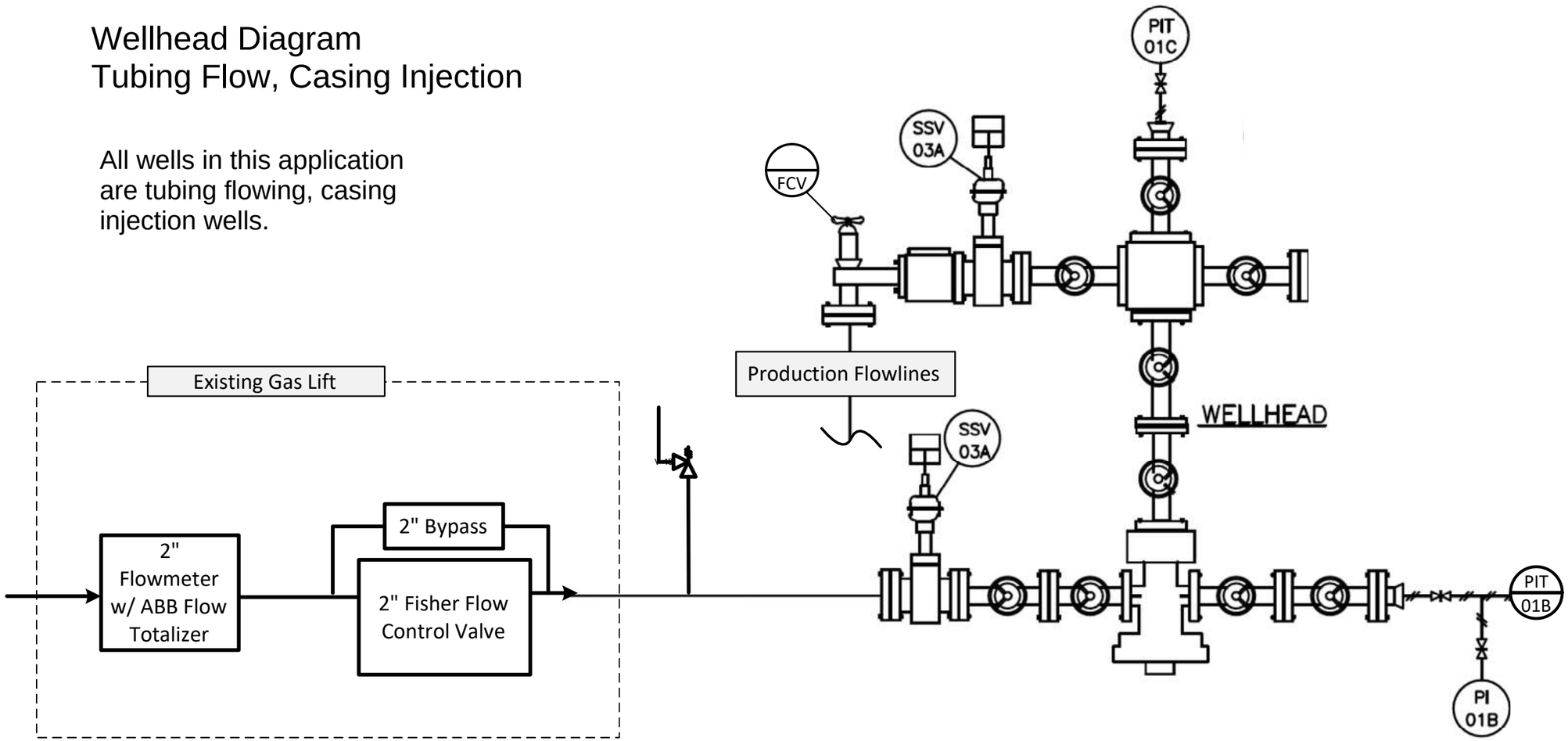


Max Allowable Surface Pressure (MASP) Table

	Column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Calculation									(1+6*7)/8						(1+12*13)/(12*14)
API10	Well Name	Proposed Max Allowable Surface Pressure (MASP) (PSI)	Current Average Surface Pressure (PSI)	Max Achievable Surface Pressure, Current Infrastructure (PSI)	Proposed Average Injection Rate (MMSCFD)	Proposed Max Injection Rate (MMSCFD)	Burst Calculation Depth (FT TVD)	Brine Pressure Gradient (PSI/FT)	Casing or Liner Burst (PSI)	MASP + Reservoir Brine Hydrostatic as a percentage of Casing or Liner Burst Pressure (%)	Top Perforation Depth (FT TVD)	MASP Gradient (PSI/FT)	Top Perforation Depth (FT TVD)	Gas Pressure Gradient (PSI/FT)	Formation Parting Pressure Gradient (PSI/FT)	MASP + Reservoir Gas Hydrostatic as a percentage of Formation Parting Pressure (%)
3002545956	Avogato 11H	1200	780	1200	1.8	2	9322	0.468	12640	44%	9322	0.129	9322	0.200	0.65	51%
3002545958	Avogato 13H	1200	540	1200	1.8	2	9396	0.468	12640	44%	9396	0.128	9396	0.200	0.65	50%
3002545959	Avogato 14H	1200	680	1200	1.8	2	9488	0.468	12640	45%	9488	0.126	9488	0.200	0.65	50%
3002544933	Taco Cat 11H	1200	670	1200	1.8	2	9339	0.468	12640	44%	9339	0.128	9339	0.200	0.65	51%

Wellhead Diagram
Tubing Flow, Casing Injection

All wells in this application are tubing flowing, casing injection wells.



KEY
SSV – Safety Shutdown Valve
PI – Pressure Indicator
PIT – Pressure Indicating Transmitter
FCV- Flow Control Valve

Mechanical Integrity Test (MIT) Summary Table

API10	Well Name	MIT #1				MIT #2		
		Date	Surface Pressure	Time	Notes	Date	Surface Pressure	Time
3002545956	Avogato 30 31 State Com #011H	11/3/2019	9800	30 min		12/5/2019	500	10 min
3002545958	Avogato 30 31 State Com #013H	10/24/2019	3000	15 min		12/2/2019	1000	15 min
3002545959	Avogato 30 31 State Com #014H	10/6/2019	1000	10 min	Only tested from surface to 2998' on the prod casing	11/20/2019	1000	unknown
3002544933	Taco Cat 27 34 Federal Com #011H	12/29/2018	1000	CBL		12/30/2018	9800	30 min

Gas Analysis and Operations

Avogato Gas Source Well

API10	Well Name
30-025-45928	AVOGATO 30 31 STATE COM 33H
30-025-45924	AVOGATO 30 31 STATE COM 21H
30-025-45925	AVOGATO 30 31 STATE COM 22H
30-025-45926	AVOGATO 30 31 STATE COM 23H
30-025-45927	AVOGATO 30 31 STATE COM 32H
30-025-45929	AVOGATO 30 31 STATE COM 31H
30-025-45930	AVOGATO 30 31 STATE COM 34H
30-025-45931	AVOGATO 30 31 STATE COM 35H
30-025-45956	AVOGATO 30 31 STATE COM 11H
30-025-45957	AVOGATO 30 31 STATE COM 12H
30-025-45958	AVOGATO 30 31 STATE COM 13H
30-025-45959	AVOGATO 30 31 STATE COM 14H
30-025-45960	AVOGATO 30 31 STATE COM 24H
30-025-45961	AVOGATO 30 31 STATE COM 25H
30-025-45923	AVOGATO 30 31 STATE COM 4H
30-025-45964	AVOGATO 30 31 STATE COM 74H

Taco Cat Gas Source Well

API10	Well Name
30-025-44933	TACO CAT 27 34 FEDERAL COM 11H
30-025-44934	TACO CAT 27 34 FEDERAL COM 21H
30-025-44935	TACO CAT 27 34 FEDERAL COM 31H

Tanks Gas Analysis Summary

- 2 separate gas systems in Tanks that sell gas to DCP.
  - Avogato
  - Taco Cat
- Avogato System
  - All producing wells flow to the Red Tank 19 Central Tank Battery (CTB).
  - Gas flows into the low-pressure gas pipeline to the Red Tank 19 Compressor Gas Lift Station (CGL).
- Taco Cat System
  - All producing wells flow to the Red Tank 27/28 Central Tank Battery (CTB).
  - Gas flows into the low-pressure gas pipeline to the Red Tank 27/28 Compressor Gas Lift Station (CGL).
- Gas analysis is provided for:
  - Red Tank 19 CGL
  - Gas Lift meter downstream of Red Tank 27/28 CGL
  - Avalon production

Red Tank 19 CGL Injection Gas Sample

Certificate of Analysis

Number: 6030-21030247-006A

Artesia Laboratory
200 E Main St.
Artesia, NM 88210
Phone 575-746-3481

Chandler Montgomery
Occidental Petroleum
1502 W Commerce Dr.
Carlsbad, NM 88220

Mar. 22, 2021

Field:	Red Tank	Sampled By:	Javier Lazo
Station Name:	Red Tank 19 CGL Check A	Sample Of:	Gas Spot
Station Number:	15697C	Sample Date:	03/19/2021 08:30
Station Location:	OXY	Sample Conditions:	667 psia, @ 102 °F Ambient: 39 °F
Sample Point:	Meter Run	Effective Date:	03/19/2021 08:30
Formation:	Monthly	Method:	GPA-2261M
County:	Eddy	Cylinder No:	1111-002595
Type of Sample: :	Spot-Cylinder	Instrument:	70104124 (Inficon GC-MicroFusion)
Heat Trace Used:	N/A	Last Inst. Cal.:	03/22/2021 0:00 AM
Sampling Method: :	Fill and Purge	Analyzed:	03/22/2021 13:58:20 by EJR
Sampling Company: :	SPL		

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Hydrogen Sulfide	0.000	0.000	0.000		GPM TOTAL C2+	5.934
Nitrogen	2.130	2.124	2.604		GPM TOTAL C3+	3.095
Methane	72.845	72.626	50.986		GPM TOTAL iC5+	0.631
Carbon Dioxide	4.485	4.472	8.613			
Ethane	10.666	10.634	13.993	2.839		
Propane	5.909	5.891	11.368	1.620		
Iso-butane	0.756	0.754	1.918	0.246		
n-Butane	1.905	1.899	4.830	0.598		
Iso-pentane	0.445	0.444	1.402	0.162		
n-Pentane	0.466	0.465	1.468	0.168		
Hexanes Plus	0.693	0.691	2.818	0.301		
	100.300	100.000	100.000	5.934		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.7918	3.2176
Calculated Molecular Weight	22.85	93.19
Compressibility Factor	0.9961	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	1229	5113
Water Sat. Gas Base BTU	1208	5024
Ideal, Gross HV - Dry at 14.65 psia	1224.4	5113.2
Ideal, Gross HV - Wet	1203.0	5023.7
Net BTU Dry Gas - real gas	1116	
Net BTU Wet Gas - real gas	1097	

Comments: H2S Field Content 2.5 ppm
Mcf/day 7126

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Gas Lift Meter Downstream of Red Tank 27/28 CGL

Volumetrics US Inc.
3001 N Cameron St, Victoria, TX-77901
Phone: 361-827-4024

Company:	OXY USA INC	**Work Order**	4000248705
Field/Location :	NMSW	**Sampled by:**	VOLUMETRICS/JA
Station Name :	TACO CCT 27-34FC 11GL	**Sample Type :**	SPOT-CYLINDER
Station Number :	16231I	**Sample Temperature (F):**	84
Sample Date:	3/12/21 2:37 PM	**Sample Pressure (PSIG):**	1243
Analysis Date:	3/15/21 7:10:09 AM	**Flow rate (MCF/Day):**	499.5
Instrument:	VARIAN CP 490 GC	**Ambient Temperature (F):**	79
Calibration/Verification Date:	3/15/2021	**Sampling method:**	FILL & EMPTY
Heat Trace used:	YES	**Cylinder Number:**	1137

NATURAL GAS ANALYSIS: GPA 2261

Components	Un-Normalized Mol%	Normalized Mol%	GPM 14.650	GPM 14.730	GPM 15.025
Hydrogen Sulfide	0.0000	0.0000			
Nitrogen	2.1539	2.2001			
Methane	71.2480	72.7773			
Carbon Dioxide	1.4295	1.4602			
Ethane	12.5308	12.7998	3.417	3.436	3.505
Propane	6.4693	6.6082	1.817	1.827	1.864
Isobutane	0.8184	0.8360	0.273	0.275	0.280
N-butane	1.9947	2.0375	0.641	0.645	0.658
Isopentane	0.3908	0.3992	0.146	0.147	0.149
N-Pentane	0.4155	0.4244	0.154	0.154	0.157
Hexanes Plus	0.4477	0.4573	0.199	0.200	0.204
Total	**97.8986**	**100.0000**			

Hexanes plus split (60%-30%-10%)

Physical Properties (Calculated)	14.650 psia	14.730 psia	15.025 psia
Total GPM Ethane+	6.647	6.684	6.817
Total GPM Iso-Pentane+	0.499	0.501	0.511
Compressibility (Z)	0.9961	0.9961	0.9960
Specific Gravity (Air=1) @ 60 °F	0.7757	0.7757	0.7758
Molecular Weight	22.387	22.387	22.387

Gross Heating Value	14.650 psia	14.730 psia	15.025 psia
Dry, Real (BTU/Ft^3)	1279.0	1286.0	1311.8
Wet, Real (BTU/Ft^3)	1256.7	1263.6	1289.0
Dry, Ideal (BTU/Ft^3)	1273.9	1280.9	1306.5
Wet, Ideal (BTU/Ft^3)	1251.8	1258.6	1283.8

Temperature base 60 °F

Comment:

Verified by

Mostaq Ahammad
Petroleum Chemist

Approved by

Deann Friend
Laboratory Manager

Avalon Produced Gas Sample

Certificate of Analysis

Number: 6030-20100053-001A

Artesia Laboratory
200 E Main St.
Artesia, NM 88210
Phone 575-746-3481

Chandler Montgomery
Occidental Petroleum
1502 W Commerce Dr.
Carlsbad, NM 88220

Oct. 09, 2020

Field:	Red Tank	Sampled By:	Chandler Montgomery
Station Name:	Avogato 30-31 State Com 11H	Sample Of:	Gas Spot
Station Number:	15601T	Sample Date:	10/08/2020 11:50
Sample Point:	N/A	Sample Conditions:	95.7 psig, @ 85.4 °F Ambient: 81 °F
Meter Number:	30-025-45956	Effective Date:	10/08/2020 11:50
County:	Lea	Method:	GPA-2261M
Type of Sample:	Spot-Cylinder	Cylinder No:	1111-002274
Heat Trace Used:	N/A	Instrument:	70104251 (Inficon GC-MicroFusion)
Sampling Method:	Fill and Purge	Last Inst. Cal.:	10/05/2020 0:00 AM
Sampling Company:	OXY	Analyzed:	10/09/2020 10:24:10 by KNF

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Hydrogen Sulfide	0.000	0.001	0.001		GPM TOTAL C2+	4.668
Nitrogen	4.524	4.542	5.489		GPM TOTAL C3+	2.378
Methane	70.019	70.304	48.658		GPM TOTAL iC5+	0.515
Carbon Dioxide	8.747	8.782	16.674			
Ethane	8.548	8.583	11.134	2.290		
Propane	4.557	4.575	8.703	1.258		
Iso-butane	0.554	0.556	1.394	0.182		
n-Butane	1.339	1.344	3.370	0.423		
Iso-pentane	0.383	0.385	1.198	0.140		
n-Pentane	0.386	0.388	1.208	0.140		
Hexanes Plus	0.538	0.540	2.171	0.235		
	99.595	100.000	100.000	4.668		

Calculated Physical Properties	**Total**	**C6+**
Relative Density Real Gas	0.8029	3.2176
Calculated Molecular Weight	23.18	93.19
Compressibility Factor	0.9965	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	1098	5113
Water Sat. Gas Base BTU	1079	5024
Ideal, Gross HV - Dry at 14.65 psia	1094.2	5113.2
Ideal, Gross HV - Wet	1075.1	5023.7
Net BTU Dry Gas - real gas	996	
Net BTU Wet Gas - real gas	979	

Comments: H2S Field Content 9 ppm
Mcf/day 3614

Jesus Escobedo

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Corrosion Prevention Plan

Existing Corrosion Prevention Plan

- Produced gas is processed through a gas dehydration unit to remove water.
- Corrosion inhibitor is added to the system downstream of the gas dehydration unit.
- Fluid samples are taken regularly and checked for Fe, Mn, and residual corrosion inhibitor in produced fluids.
- Continuously monitor and adjust the chemical treatment over the life of the well.

Oxy will continue the existing corrosion prevention plan in place for the gas lift system due to the similar nature of gas storage operations.

- Fluid samples will be taken prior to injection to establish a baseline for analysis.
- After a storage event, fluid samples will be taken to check for Fe, Mn, and residual corrosion inhibitor in the produced fluids.
- Continuously monitor and adjust the chemical treatment over the life of the project.

NM GAS STORAGE OPERATIONAL PLAN

Operational Plan

WELLSITE CLGC

Oxy USA Inc. (Oxy) will monitor the following items on each Closed Loop Gas Capture (CLGC) well via SCADA system:

- Injection flow rate and volume
  - Instantaneous Rate
  - Total Injected by Day (volume)
- Tubing Pressure
- Casing Pressure
- Bradenhead Pressures
- Safety devices
  - Pressure kills have an automated kill sequence that is initiated by SCADA system readings.
  - Injection pressure kills on production stream for injection
  - Relief Valves for both production and gas storage/injection streams to prevent overpressure (not monitored via SCADA other than pressure trend)
  - Control of injection rate and pressures via control valve at each well injection stream
  - Control of production stream via automated choke valves to ensure controlled production and prevent over pressurization of flowline

CENTRAL TANK BATTERY (CTB)

Oxy will monitor the following items at each CTB via SCADA system:

- Production Rates
  - Oil
  - Gas
  - Water
- Safety devices
  - Flares at CTBs
  - Injection pressure kills on production/gas storage stream for injection
  - Emergency Shutdown (ESD) of wells that are local and remote for automatic shut downs to safe the system
  - Control of injection rate and pressures via control valve at each well injection stream

CENTRAL GAS LIFT (CGL) COMPRESSOR(S)

Oxy will monitor the following items on each Central Gas Lift (CGL) Compressor Station via SCADA system:

- Safety devices
  - Discharge/injection pressure kills of each compressor and for the station
  - Relief Valves on 3rd stage of compressors, to prevent over pressurization (not monitored via SCADA other than pressure trend)
  - Station recycle valves (that recycle discharge pressure back to suction) if the pressure is getting too high for the compressor or station. (not all control valves are capable of

remote monitoring of valve position; but still monitored in some sense of the pressure trend for the station)

SUPERVISORY CONTROL AND DATA ACQUISTION (SCADA)

Oxy SCADA system consists of PLCs at each CTB, Wellsite, and Central Gas Lift compressor or station.

- The Programmable Logic Controller (PLCs) will take action immediately (within seconds or minutes) as programmed to automatically safe the system as required; for the system and certain device shut down(s).
- The High Alarms and High-High Alarms will be logged and registered in the SCADA system. Also the call center will take the High Alarm and make the physical phone call notification to the production techs to acknowledge the alarm & take action.

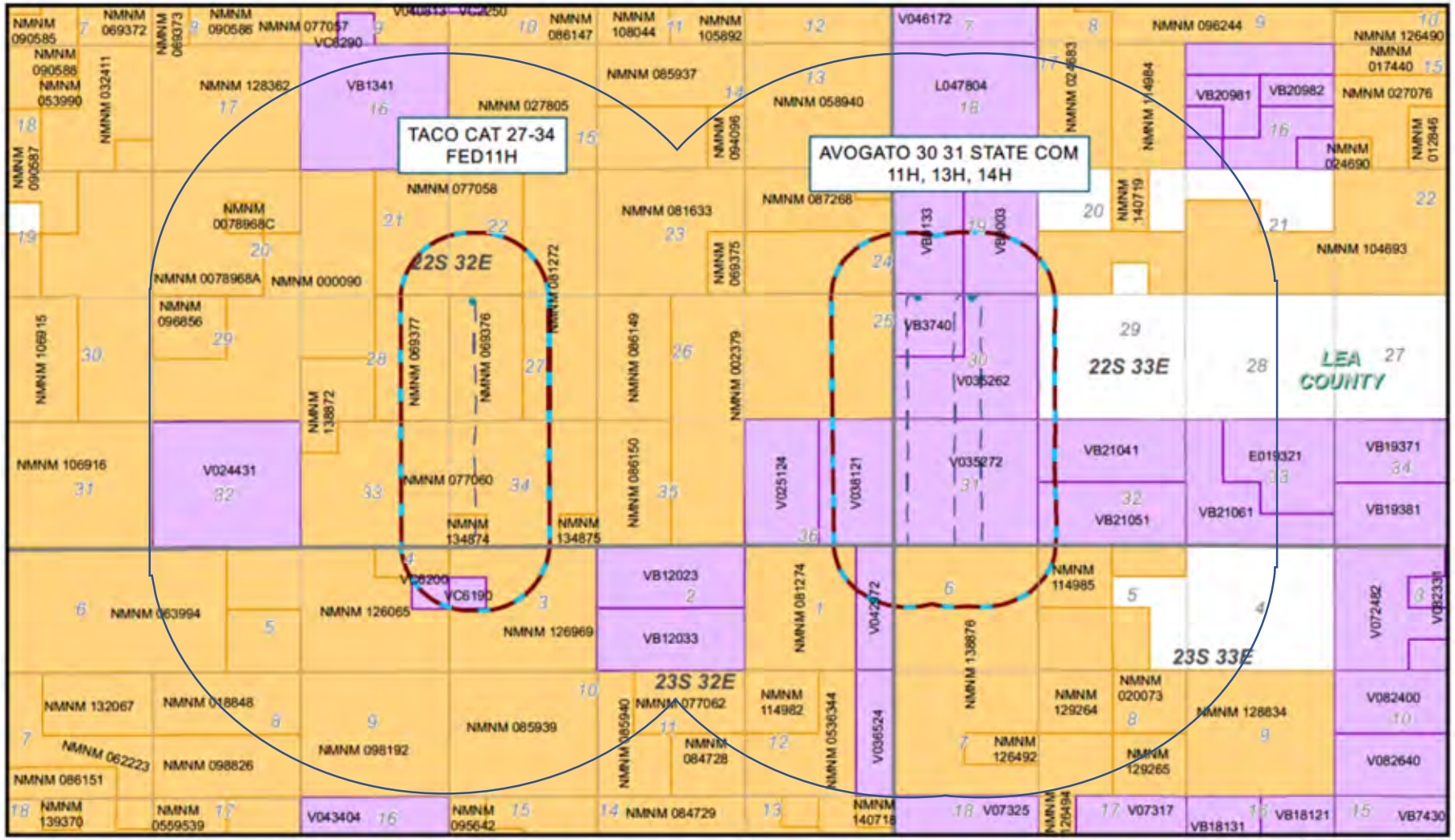
ENVIRONMENTAL/SPILL RESPONSE

Oxy will report and track any spill recordable or non-recordable via our CDR system

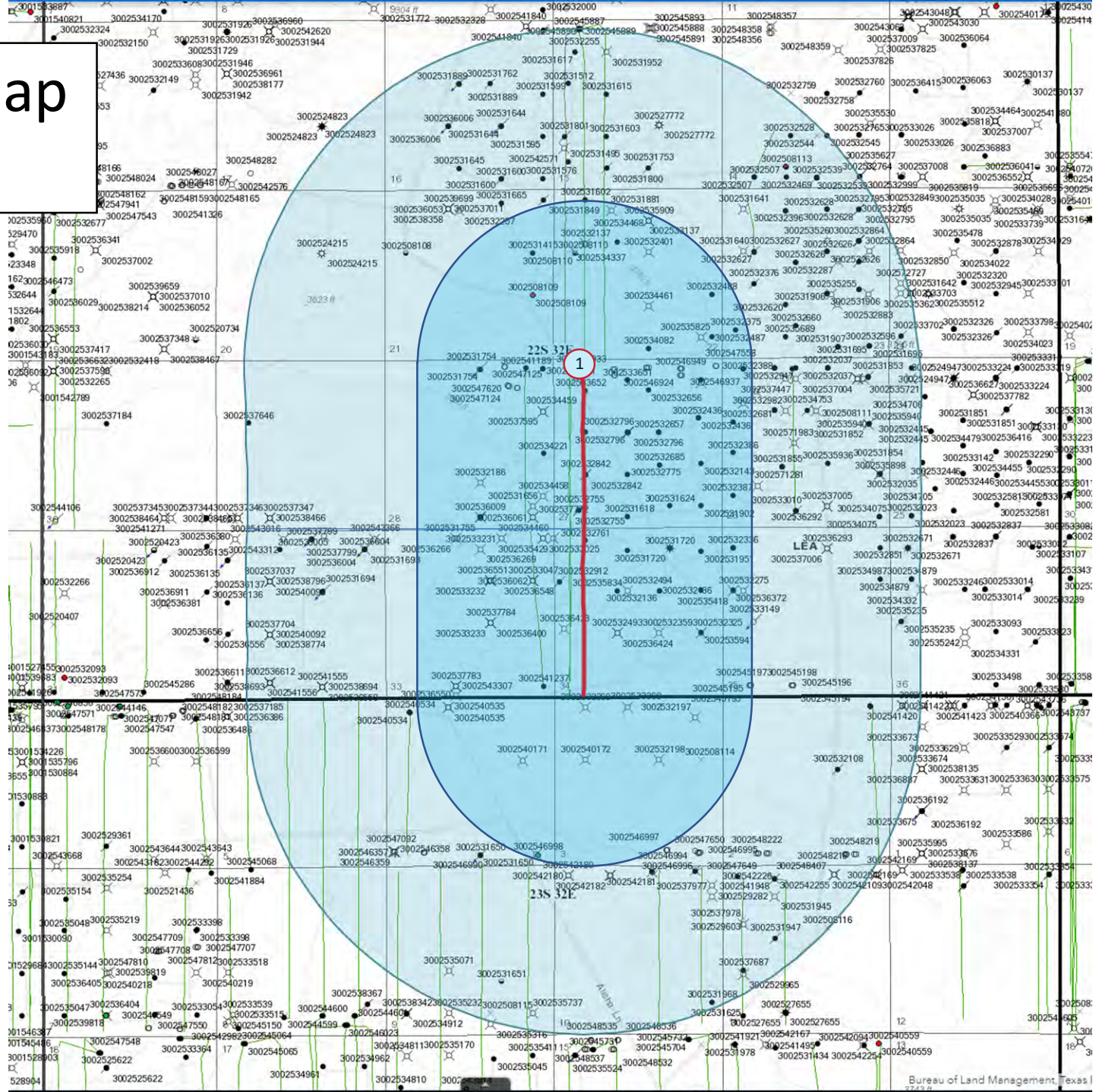
- Any spill or gas release will be reported by operations calling in to our Call Center to make the report of spill/release. The fluid type and release amount will be disclosed along with location details; and if it's a recordable or non-recordable spill.
- Liquids will be contained and isolated and vacuum trucks will be called in to recover the liquid and will also report the amount of liquid recovered on the same CDR spill form.
    - Additional reclamation will be coordinated to ensure proper recovery of contaminated soil and liquid.

Area of Review

NENM GAS LIFT NETWORK
LEA COUNTY, NEW MEXICO

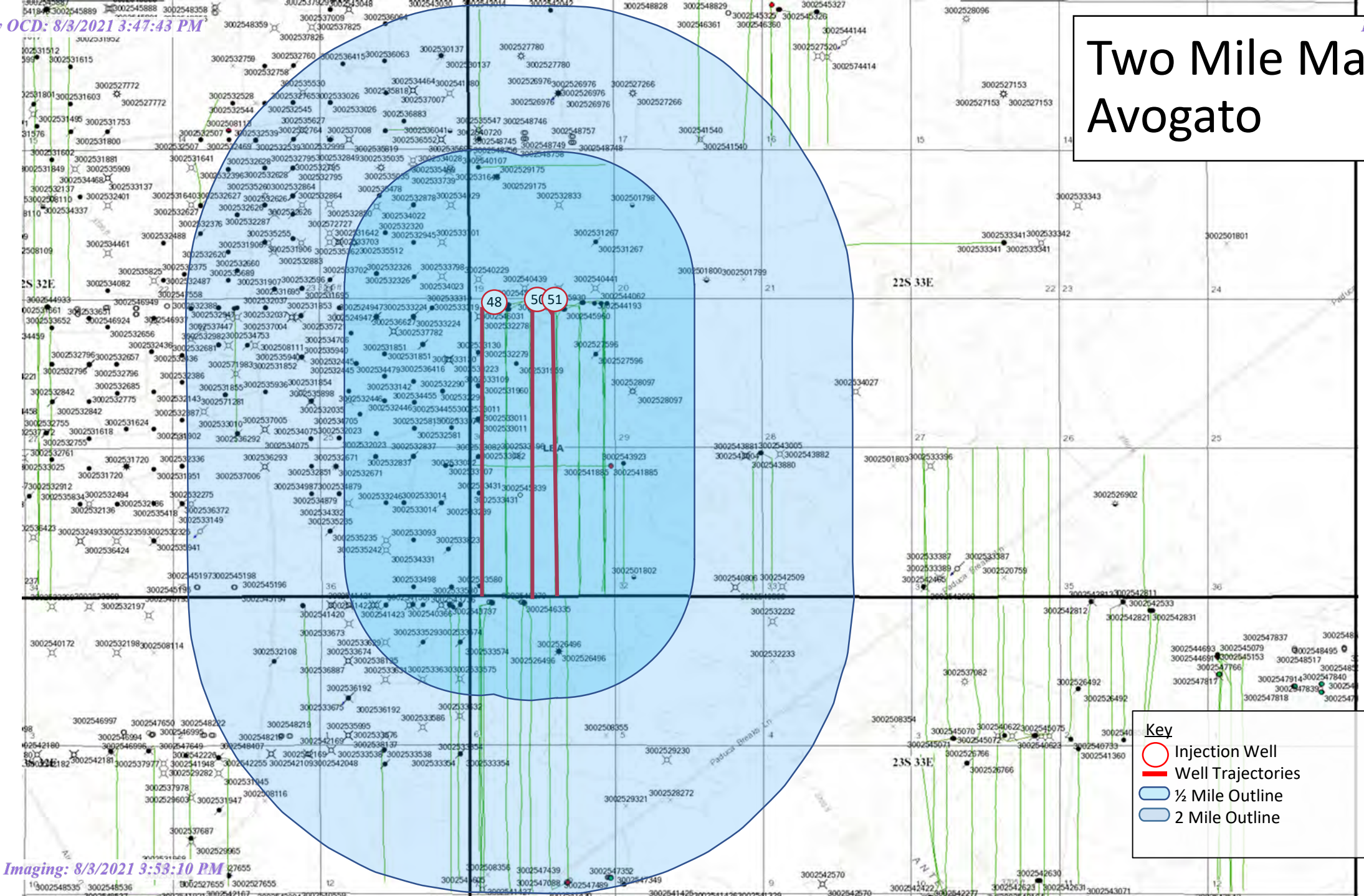


Two Mile Map
Taco Cat

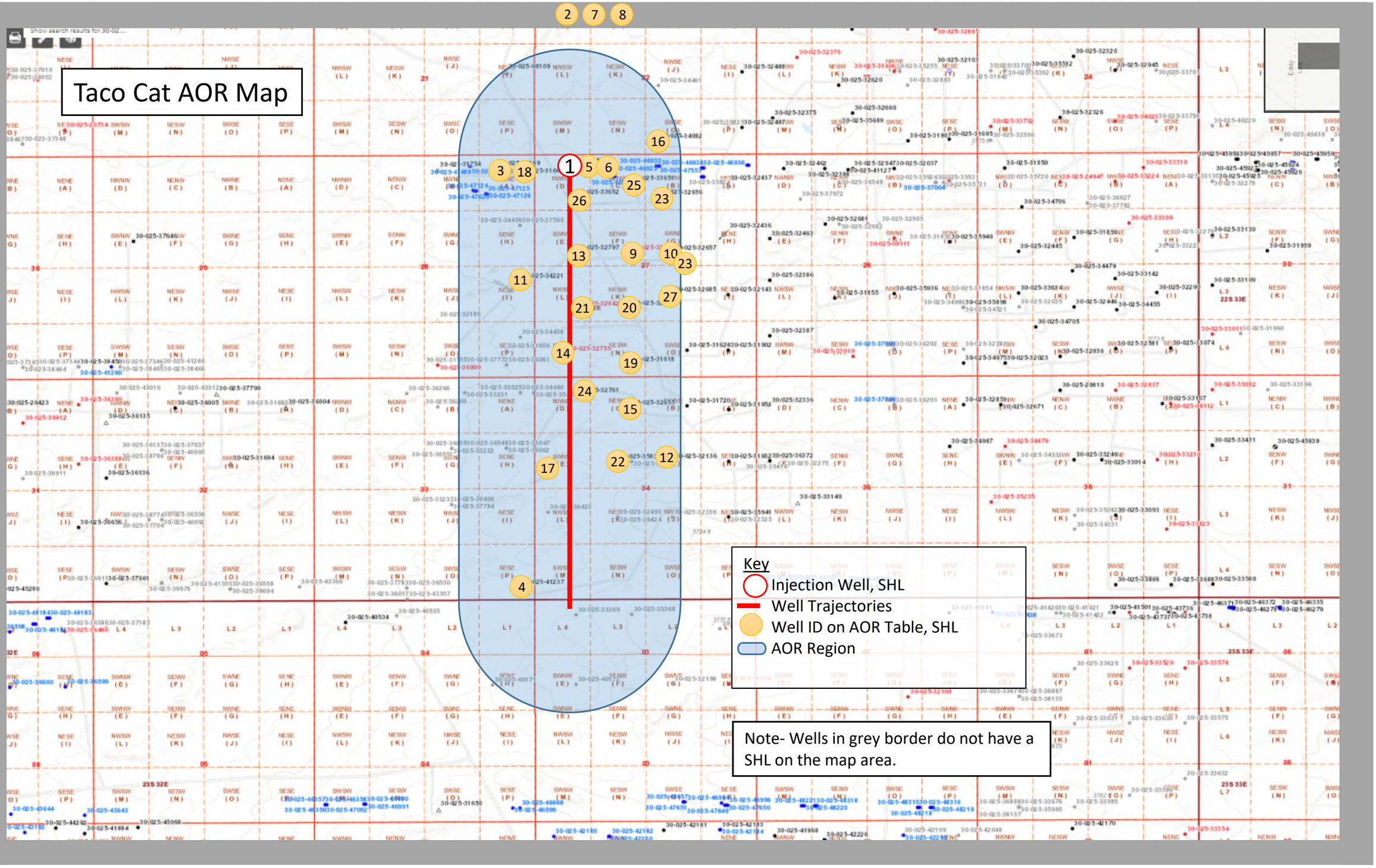


Key
- Injection Well
- Well Trajectories
- ½ mile Outline
- 2 Mile Outline

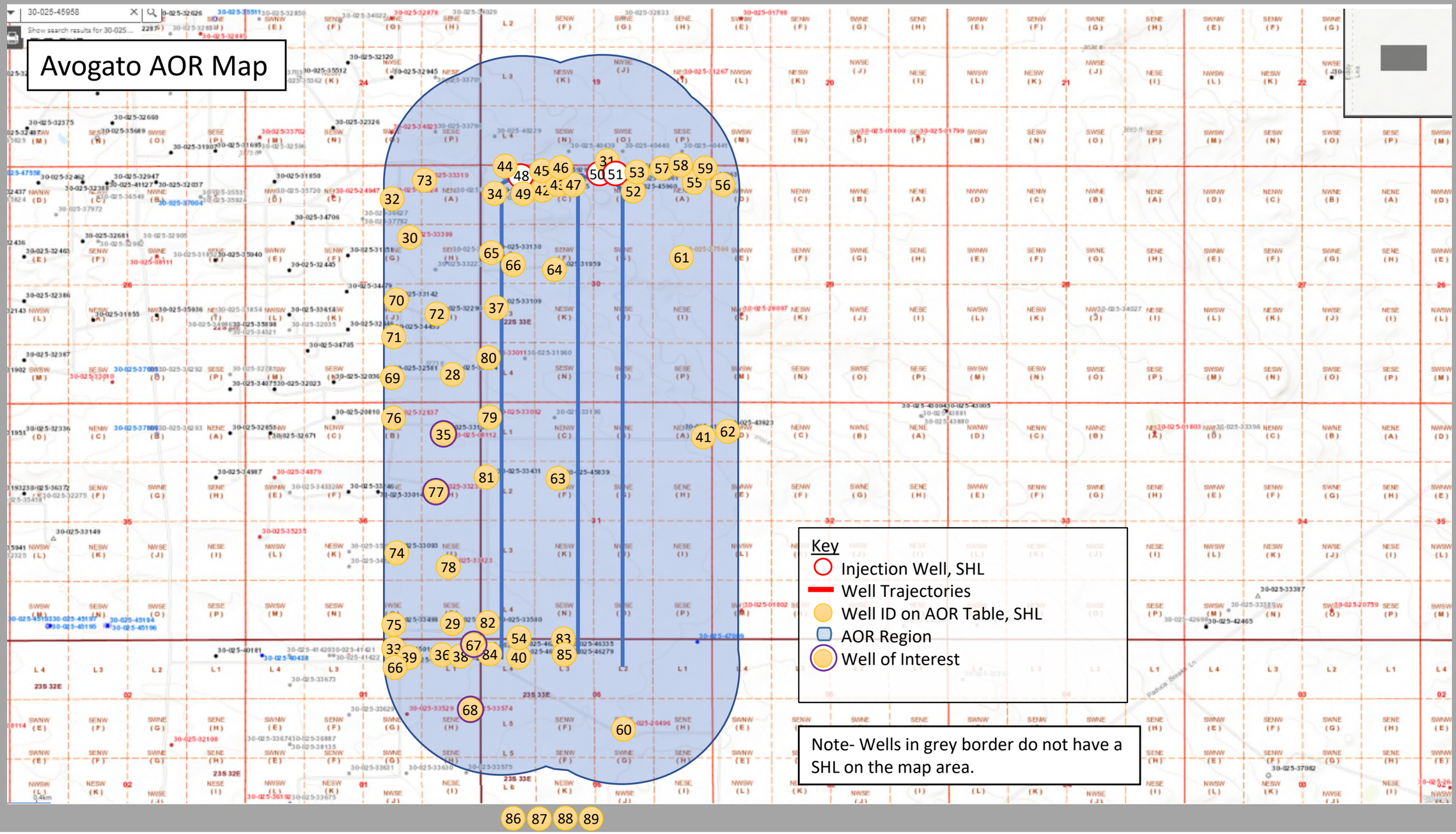
Two Mile Map
Avogato



Taco Cat AOR Map



Avogato AOR Map



Well ID	API NUMBER	Current Operator	LEASE NAME	WELL NUMBER	Well Type:	Status:	Footages N/S	N/S	Footages E/W	E/W	Surface Location Unit	Surface Location Section	Surface Location TShip	Surface Location Range	Spud:	True Vertical Depth [ft]	Measured Depth [ft]	HOLE SIZE [in]	CSG SIZE [in]	SET AT [ft]	SX CMT	CMT TO WELLFILE [ft]	HOW MEASURED	Current Completion [ft]	Comment	Current Producing Pool
1	30-025-44933	OXY USA INC	TACO CAT 27 34 FEDERAL COM	011H	Oil	Active	260	N	855	W	D	27	22S	32E	7/29/2018	9514	19732	17.5	13.375	867	800	0	Circ	9445-19621		[51683] RED TANK; BONE SPRING
																		9.875	7.625	8810	2225	204	Calc			
																		8.75	5.5	19703	705	5800	CBL			
2	30-025-45892	MARATHON OIL PERMIAN LLC	FRIZZLE FRY 15 WXY FEDERAL COM	007H	Oil	Active	274	N	852	W	D	15	22S	32E	8/13/2019	12111	22217	17.5	13.375	1074	920	0	Circ	12320-22126	Top of 5.5" liner 11794'	[98258] WC-025 S223203A; LWR WOLFCAMP (GAS)
																		12.25	9.625	8906	2050	0	Calc			
																		8.75	7	11794	890	0	Circ			
																		8.75	5.5	22196	3740	2179	Calc			
3	30-025-41189	OXY USA INC	RED TANK 28 FEDERAL	005H	Oil	Active	295	N	880	E	A	28	22S	32E	9/25/2014	8418	13270	14.75	1.75	927	690	0	Circ	8602-13122		[51689] RED TANK; DELAWARE, WEST
																		10.625	8.625	4650	1120	0	Circ			
																		7.875	5.5	13270	1590	0	Circ			
4	30-025-41237	OXY USA INC	RED TANK 33 FEDERAL	001H	Oil	Active	330	S	330	E	P	33	22S	32E	9/23/2014	8431	13014	14.75	11.75	1129	840	0	Circ	8690-12788		[51689] RED TANK; DELAWARE, WEST
																		10.625	8.625	4655	1110	0	Circ			
																		7.875	5.5	13004	1640	0	Circ			
5	30-025-44934	OXY USA INC	TACO CAT 27 34 FEDERAL COM	021H	Oil	Active	260	N	785	W	D	27	22S	32E	7/27/2018	10849	20904	17.5	13.375	858	1100	0	Circ	10699-20791		[51683] RED TANK; BONE SPRING
																		12.25	9.625	6484	1685	0	Circ			
																		8.5	5.5	20882	2335	0	Circ			
6	30-025-44935	OXY USA INC	TACO CAT 27 34 FEDERAL COM	031H	Oil	Active	260	N	820	W	D	27	22S	32E	7/25/2018	12205	22168	17.5	13.375	825	1140	0	Circ	11982-22029		[98286] WC-025 G-08 S223227D; UPPER WOLFCAM
																		12.25	9.625	8619	2265	0	Circ			
																		8.5	7.625	11075	155	6800	Calc			
																		6.75	5.5	22144	700	10500	Calc			
7	30-025-45887	MARATHON OIL PERMIAN LLC	FRIZZLE FRY 15 TB FEDERAL COM	001H	Oil	Active	273	N	792	W	D	15	22S	32E	8/15/2019	11967	21990	17.5	13.375	1061	940	0	Circ	12024-21908		[51683] RED TANK; BONE SPRING
																		12.25	9.625	8910	2050	2476	Calc			
																		8.75	5.5	21977	890	0	Circ			
8	30-025-45890	MARATHON OIL PERMIAN LLC	FRIZZLE FRY 15 WA FEDERAL COM	002H	Oil	Active	273	N	762	W	D	15	22S	32E	8/16/2019	12115	22467	17.5	13.375	1086	940	0	Circ	12606-22334	Top of 4.5" liner 11762'	[98166] WC-025 G-09 S233216K; UPR WOLFCAMP
																		12.25	9.625	8914	3240	0	Circ			
																		8.75	7	12527	1000	0	Circ			
																		6.125	4.5	22457	1005	11762	Circ			
9	30-025-32796	OXY USA INC	FEDERAL 27	004	Oil	PA	2310	N	2310	W	F	27	22S	32E	8/9/1996	8730	8730	14.75	10.75	805	780	0	Circ	N/A		N/A
																		9.875	7.625	4464	1230	0	Circ			
																		6.75	4.5	8730	1095	2800	Calc			
10	30-025-32657	OXY USA INC	PRIZE FEDERAL	007	Oil	Active	2310	N	1980	E	G	27	22S	32E	7/6/1996	8715	8715	14.75	10.75	830	780	0	Circ	8364-8416		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4490	1200	0	Circ			
																		6.75	4.5	8715	1080	3550	Calc			
11	30-025-34221	OXY USA INC	RED TANK 28 FEDERAL	006	Oil	Active	2310	S	330	E	I	28	22S	32E	8/23/1998	8700	8700	14.75	10.75	815	750	0	Circ	8300-8540		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4435	1050	0	Circ			
																		6.75	4.5	8700	995	4150	Calc			
12	30-025-32136	OXY USA INC	RED TANK 34 FEDERAL	004	Oil	Active	1980	N	1980	E	G	34	22S	32E	1/21/1994	8850	8850	17.5	13.375	764	1050	0	Circ	4800-4820; 8414-8442		[51689] RED TANK; DELAWARE, WEST
																		11	8.625	4750	1750	0	Circ			
																		7.875	5.5	8850	1240	2660	Calc			
13	30-025-32797	OXY USA INC	FEDERAL 27	005	Oil	Active	2310	N	990	W	E	27	22S	32E	11/11/1996	8714	8714	14.75	10.75	808	700	0	Circ	7188-7204; 7299-7310; 7638-7690; 8356-8378		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4450	1200	0	Circ			
																		6.75	4.5	8714	900	2990	Calc			
14	30-025-32755	OXY USA INC	FEDERAL 27	008	Oil	PA	580	S	790	W	M	27	22S	32E	6/9/1995	8732	8732	14.75	10.75	822	800	0	Circ	N/A		N/A
																		9.875	7.625	4250	1400	0	Circ			
																		6.75	4.5	8732	875	2030	Calc			
15	30-025-32655	OXY USA INC	RED TANK 34 FEDERAL	014	Oil	Active	710	N	2310	W	C	34	22S	32E	9/21/1994	8718	8718	17.5	13.375	800	950	0	Circ	8378-8412		[51689] RED TANK; DELAWARE, WEST
																		11	8.625	4511	1800	0	Circ			
																		7.875	5.5	8718	1420	2550	Calc			
16	30-025-34082	OXY USA INC	PRIZE FEDERAL	011	Oil	Active	330	S	2310	E	O	22	22S	32E	8/19/1997	8780	8780	14.75	10.75	802	800	0	Circ	7000-7168; 8360-8440		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4500	1550	0	Circ			
																		6.75	4.5	8780	1255	2250	Calc			
17	30-025-32912	OXY USA INC	RED TANK 34 FEDERAL	015	Oil	PA	1700	N	180	W	E	34	22S	32E	6/24/1995	8742	8742	14.75	10.75	818	700	0	Circ	N/A		N/A
																		9.875	7.625	4520	1400	0	Circ			
																		6.75	4.5	8742	900	3674	Calc			
18	30-025-31661	OXY USA INC	RED TANK 28 FEDERAL	001	Oil	Active	330	N	330	E	A	28	22S	32E	10/20/1992	8740	8740	17.5	13.375	817	850	0	Circ	7004-7218; 8373-8409		[51689] RED TANK; DELAWARE, WEST
																		11	8.625	4500	1800	0	Circ			
																		7.875	5.5	8740	1125	2900	Calc			
19	30-025-31618	OXY USA INC	FEDERAL 27	001	Oil	Active	330	S	2310	W	N	27	22S	32E	6/18/1992	8850	8850	17.5	13.375	850	1060	0	Circ	8330-8391		[51689] RED TANK; DELAWARE, WEST
																		11	8.625	4600	2158	0	Circ			
																		7.875	5.5	8850	2360	2360	Calc			
20	30-025-32775	OXY USA INC	FEDERAL 27	007	Oil	Active	1650	S	2310	W	K	27	22S	32E	7/8/1995	8734	8734	14.75	10.75	805	700	0	Circ	8370-8470		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4470	1400	0	Circ			
																		6.75	4.5	8734	980	1775	Calc			
21	30-025-32842	OXY USA INC	FEDERAL 27	006	Oil	PA	1650	S	990	W	L	27	22S	32E	10/11/1995	8700	8700	14.75	10.75	825	600	0	Circ	N/A		N/A
																		9.875	7.625	4440	1300	0	Circ			
																		6.75	4.5	8700	1000	2358	Calc			
22	30-025-35834	OXY USA INC	RED TANK 34 FEDERAL	012	Oil	Active	1980	N	1980	W	F	34	22S	32E	4/20/2002	8795	8795	14.75	10.75	1025	800	0	Circ	8420-8435		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4570	1404	0	Circ			
																		6.75	4.5	8795	985	0	Circ			
23	30-025-32656	OXY USA INC	PRIZE FEDERAL	006	Oil	Active	990	N	2310	E	B	27	22S	32E	1/27/1997	8756	8756	14.75	10.75	830	800	0	Circ	8346-8360		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4486	1450	0	Circ			
																		6.75	4.5	8756	780	3280	Calc			
24	30-025-32761	OXY USA INC	RED TANK 34 FEDERAL	013	Oil	Active	410	N	990	W	D	34	22S	32E	12/8/1994	8722	8722	17.5	13.375	812	950	0	Circ	8366-8392		[51689] RED TANK; DELAWARE, WEST
																		11	8.625	4475	1800	0	Circ			
																		7.875	5.5	8722	1210	3096	Calc			
25	30-025-33651	OXY USA INC	FEDERAL 27	003	Oil	Active	660	N	2310	W	C	27	22S	32E	12/27/1997	8800	8800	14.75	10.75	804	800	0	Circ	6987-7150		[51689] RED TANK; DELAWARE, WEST
																		9.875	7.625	4470	1500	0	Circ			
																		6.75	4.5	8800	1440	2594	Calc			

26	30-025-33652	OXY USA INC	FEDERAL 27	002	Oil	Active	990 N	990 W	D	27	22S	32E	6/8/1998	8653	8653	14.75	10.75	804	750	0 Circ	7184-7678		[51689] RED TANK; DELAWARE, WEST
																9.875	7.625	4460	1150	0 Circ			
																6.75	4.5	8653	1080	2650 Calc			
27	30-025-32685	OXY USA INC	PRIZE FEDERAL	008	Oil	Active	1980 S	1980 E	J	27	22S	32E	12/7/1995	8750	8750	14.75	10.75	803	550	0 Circ	8376-8400		[51689] RED TANK; DELAWARE, WEST
																9.875	7.625	4510	1275	0 Circ			
																6.75	4.5	8750	1050	3504 Calc			
28	30-025-33074	OXY USA INC	COVINGTON A FEDERAL	011	Oil	Active	660 S	660 E	P	25	22S	32E	10/28/1995	9010	9010	14.75	10.75	802	600	0 CIRC	8070-8084; 8552-8570		[51689] RED TANK; DELAWARE, WEST
																9.625	7.625	4720	1000	0 CIRC			
																6.75	4.5	9010	900	3110 CBL			
29	30-025-33688	EOG RESOURCES INC	MULE DEER 36 STATE	007	Oil	Active	330 S	660 E	P	36	22S	32E	12/10/1996	9100	9100	12.25	9.625	850	365	0 CIRC	8942-8989		[51683] RED TANK; BONE SPRING
																8.75	7	4600	965	0 CIRC			
																6.125	4.5	9100	1050	5865 CBL			
30	30-025-33399	OXY USA INC	COVINGTON A FEDERAL	014	Oil	PA	1650 N	1650 E	G	25	22S	32E	4/27/1996	8966	8966	14.75	10.75	800	800	0 CIRC	N/A		N/A
																9.875	7.625	4670	1150	0 CIRC			
																6.75	4.5	8966	1100	3202 CBL			
31	30-025-45928	OXY USA INC	AVOGATO 30 31 STATE COM	033H	Oil	Active	240 N	1420 W	C	30	22S	33E	6/24/2019	11991	22103	17.5	13.375	1050	1340	0 Circ	11819'-22000'		[51687] RED TANK; BONE SPRING, EAST
																12.25; 9.8	7.625	11336	4119	0 Circ			
																6.75	5.5	22103	831	11457' Calc			
32	30-025-33224	OXY USA INC	COVINGTON A FEDERAL	016	Oil	PA	660 N	1980 E	B	25	22S	32E	7/23/1996	8980	8980	14.75	10.75	830	780	0 CIRC	N/A		N/A
																9.625	7.625	4695	1125	0 CIRC			
																6.75	4.5	8980	490	5828 CALC			
33	30-025-33370	CIMAREX ENERGY CO.	THYME APY FEDERAL	001	Oil	PA	330 N	1650 E	B	1	23S	32E	4/9/1996	10250	10250	17.5	13.375	1165	750	0 CIRC	N/A		N/A
																12.25	8.625	4790	1175	0 CIRC			
																7.875	5.5	10250	1075	CALC			
34	30-025-45924	OXY USA INC	AVOGATO 30 31 STATE COM	021H	Oil	Active	420 N	1350 W	C	30	22S	33E	7/13/2019	10755	20863	17.5	13.375	1052	1340	0 Circ	10951'-20804'	5.5" Liner from 10106'-20875'	[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6425	1213	0 Circ			
																8.5	7	10106	2569	4900 Calc			
																8.5	5.5	20875	2569	4900 Calc			
35	30-025-33107	EOG RESOURCES INC	MULE DEER 36 STATE	004	Oil	Active	660 N	860 E	A	36	22S	32E	10/10/1995	9007	9007	17.5	13.375	853	750	0 CIRC	8848'-8871'; 8466'-8539'	Well of Interest. Delaware and Avalon Sand Perfs in commingled	[51683] RED TANK; BONE SPRING; [51689] RED TANK; DELAWARE, WEST
																12.25	8.625	4665	1600	0 CIRC			
																7.875	5.5	9001	1150	4850 CALC			
36	30-025-43738	CIMAREX ENERGY CO.	CORIANDER AOC 1-12 STATE	003H	Oil	Active	330 N	730 E	A	1	23S	32E	8/6/2018	9570	19431	17.5	13.375	1290	1525	0 CIRC	9682'-19335'	4.5" liner from 8037'-19431'	[17644] DIAMONDTAIL; BONE SPRING
																12.25	9.625	4975	1860	0 CIRC			
																8.75	7	12408	1325	1110 CALC			
																6	4.5	19431	715	1110 CALC			
37	30-025-33109	OXY USA INC	RED TANK 30 STATE	002	Oil	Active	2145 S	330 W	L	30	22S	33E	4/23/2000	9020	9020	14.75	10.75	825	775	0 CIRC	8862-8884		[51689] RED TANK; DELAWARE, WEST
																9.875	7.625	4720	1210	0 CIRC			
																6.75	4.5	9020	1050	3588 CALC			
38	30-025-43736	CIMAREX ENERGY CO.	CORIANDER AOC 1-12 STATE	001H	Oil	Active	390 N	590 E	A	1	23S	32E	8/1/2017	9557	19004	17.5	13.375	1295	302	0 CIRC	9470'-18976'		[17644] DIAMONDTAIL; BONE SPRING
																12.25	9.625	4982	1773	0 CIRC			
																8.75	5.5	19004	3859	2000 Calc			
39	30-025-41501	CIMAREX ENERGY CO.	THYME APY FEDERAL	009H	Oil	Active	330 N	2030 E	B	1	23S	32E	10/13/2017	9250	14027	17.5	13.375	1321	1460	0 CIRC	9450-14002		[51683] RED TANK; BONE SPRING
																12.25	9.625	4975	1745	0 CIRC			
																8.75	5.5	14030	2570	0 CIRC			
40	30-025-46278	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL	101H	Oil	Active	240 N	827 W	D	6	23S	33E	9/29/2019	9899	20004	17.5	13.375	1335	1140	0 CIRC	9965'-19842'		[96228] PRONGHORN; BONE SPRING
																12.25	9.625	8855	1574	5010 CALC			
																8.75	5.5	19989	3021	4056 CALC			
41	30-025-41885	OXY USA INC	RED TANK 31 STATE	005H	Oil	Active	660 N	150 E	A	31	22S	33E	7/9/2014	10750	15423	14.75	11.75	1215	960	0 CIRC	11056'-15276'		[51687] RED TANK; BONE SPRING, EAST
																10.625	8.625	4930	1160	0 CIRC			
																7.875	5.5	15423	1690	3920 CALC			
42	30-025-45925	OXY USA INC	AVOGATO 30 31 STATE COM	022H	Oil	Active	420 N	1385 W	C	30	22S	33E	7/10/2019	10891	21097	17.5	13.375	1050	1340	0 CIRC	10982'-21006'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6465	1207	0 CIRC			
																8.5	5.5	21073	2892	5900 CALC			
43	30-025-45926	OXY USA INC	AVOGATO 30 31 STATE COM	023H	Oil	Active	420 N	1420 W	C	30	22S	33E	7/8/2019	10769	20969	17.5	13.375	1050	1340	0 CIRC	10853'-20877'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6450	1210	0 CIRC			
																8.5	5.5	20956	2710	5950 CALC			
44	30-025-45927	OXY USA INC	AVOGATO 30 31 STATE COM	032H	Oil	Active	240 N	1385 W	C	30	22S	33E	6/30/2019	11948	22127	17.5	13.375	1052	1340	0 CIRC	11850'-22031'		[51683] RED TANK; BONE SPRING
																9.875	7.625	11162	4050	0 CIRC			
																6.75	5.5	22105	874	8243 CALC			
45	30-025-45929	OXY USA INC	AVOGATO 30 31 STATE COM	031H	Oil	Active	240 N	1350 W	C	30	22S	33E	7/3/2019	11948	22234	17.5	13.375	1055	1340	0 CIRC	11829'-22011'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6435	1207	0 CIRC			
																8.5	7.625	11332	627	6241 CALC			
																6.75	5.5	22206	826	25 CALC			
46	30-025-45930	OXY USA INC	AVOGATO 30 31 STATE COM	034H	Oil	Active	240 N	1820 E	B	30	22S	33E	6/20/2019	11886	22147	17.5	13.375	1050	1340	0 CIRC	11886'-22109'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6422	1620	0 CIRC			
																8.5	7.625	11265	255	5900 CALC			
																6.75	5.5	22122	795	5900 CALC			
47	30-025-45931	OXY USA INC	AVOGATO 30 31 STATE COM	035H	Oil	Active	240 N	1785 E	B	30	22S	33E	6/22/2019	12139	22280	17.5	13.375	1050	1340	0 CIRC	12117'-22118'		[98177] WC-025 G-09 S223332A; UPR WOLFCAMP
																12.25	7.625	11544	2819	673 CALC			
																6.75	5.5	22265	790	9185 CALC			
48	30-025-45956	OXY USA INC	AVOGATO 30 31 STATE COM	011H	Oil	Active	160 N	885 W	D	30	22S	33E	9/8/2019	9426	19645	17.5	13.375	1049	1340	0 CIRC	9558'-19537'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	8850	2149	0 CIRC			
																8.5	5.5	19614	2150	8322 CBL			
49	30-025-45957	OXY USA INC	AVOGATO 30 31 STATE COM	012H	Oil	Active	160 N	920 W	D	30	22S	33E	9/10/2019	9614	19873	17.5	13.375	1037	1340	0 CIRC	9578'-19759'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	8890	1670	0 CIRC			
																8.5	5.5	19846	2130	6777 CBL			
50	30-025-45958	OXY USA INC	AVOGATO 30 31 STATE COM	013H	Oil	Active	160 N	2375 E	B	30	22S	33E	8/23/2019	9397	19645	17.5	13.375	1060	1340	0 CIRC	9752'-19532'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	8910	1600	0 CIRC			
																8.5	5.5	19631	2150	8380 CBL			
51	30-025-45959	OXY USA INC	AVOGATO 30 31 STATE COM	014H	Oil	Active	160 N	2340 E	B	30	22S	33E	8/26/2019	9532	19891	17.5	13.375	1060	1340	0 CIRC	9598'-19778'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	9007	2125	0 CIRC			

														8.5	5.5	19865	2135	6435 CBL				
52	30-025-45960	OXY USA INC	AVOGATO 30 31 STATE COM	024H	Oil	Active	420 N	1820 E	B	30	22S	33E	7/16/2019	10961	21078	17.5	13.375	1054	1340	0 CIRC	10610'-20985'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6425	1165	0 CIRC			
																8.5	5.5	21051	2485	3170 CALC			
53	30-025-45961	OXY USA INC	AVOGATO 30 31 STATE COM	025H	Oil	Active	420 N	1785 E	B	30	22S	33E	7/18/2019	10785	20988	17.5	13.375	1052	1340	0 CIRC	10572'-20896'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6435	1165	0 CIRC			
																8.5	5.5	20988	2470	3316 CALC			
54	30-025-46372	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL	201H	Oil	Active	240 N	797 W	D	6	23S	33E	10/1/2019	12436	22484	17.5	13.375	1335	1345	0 Circ	12324'-22368'		[98177] WC-025 G-09 S223332A; UPR WOLFCAMP
																12.25	9.625	5035	1650	0 CIRC			
																8.75	7.625	12531	920	2700 CALC			
																6.75	5.5	22484	1435	0 CIRC			
55	30-025-44161	OXY USA INC	RED TANK 30 31 STATE COM	024Y	Oil	Active	200 N	270 E	A	30	22S	33E	11/21/2017	10863	20600	17.5	13.375	1090	1165	0 CIRC	11300'-20364'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6867	2385	0 CIRC			
																8.5	5.5	20590	2260	1865 CALC			
56	30-025-44193	OXY USA INC	RED TANK 30 31 STATE COM	014H	Oil	Active	200 N	710 E	A	30	22S	33E	8/1/2018	9407	19687	17.5	13.375	1072	1450	0 CIRC	9694'-19546'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	6776	3125	0 CIRC			
																8.5	5.5	19681	2012	0 CIRC			
57	30-025-45923	OXY USA INC	AVOGATO 30 31 STATE COM	004H	Oil	Active	160 N	1120 E	A	30	22S	33E	9/14/2019	10154	20295	17.5	13.375	1037	1340	0 CIRC	10357'-20138'		[51687] RED TANK; BONE SPRING, EAST
																12.25	7.625	9534	3594	0 CIRC			
																6.75	5.5	20625	922	9029 CALC			
58	30-025-45964	OXY USA INC	AVOGATO 30 31 STATE COM	074H	Oil	Active	160 N	1155 E	A	30	22S	33E	9/15/2019	11405	21667	17.5	13.375	1058	1340	0 CIRC	11772'-21527'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	7343	1447	0 CIRC			
																8.5	7.625	10562	472	6834 CALC			
																6.75	5.5	21610	858	10446 CALC			
59	30-025-44063	OXY USA INC	RED TANK 30 31 STATE COM	034H	Oil	Active	200 N	470 E	A	30	22S	33E	11/5/2017	11996	21675	17.5	13.375	1094	1100	0 Circ	12133'-21491'	5.5" Casing tie-back @ 0-11001'	[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	11130	2900	249 CALC			
																8.5	5.5	21665	1750	11001 CALC			
60	30-025-26496	LIME ROCK RESOURCES A, L.P.	PRONGHORN AHO FEDERAL	001	Oil	PA	1980 N	1980 E	G	6	23S	33E	9/30/1979	16160	16160	17.5	13.375	736	750	0 CIRC	N/A		N/A
																12.25	10.75	5026	1400	0 CIRC			
																9.5	7.625	12174	815	7091 CALC			
																6.5	5	15400	540	11676 CIRC			
61	30-025-27596	OXY USA INC	RED TANK 30 STATE	003	Oil	TA	1980 N	660 E	H	30	22S	33E	10/24/1981	15540	15450	17.5	13.375	711	750	0 CIRC	N/A		N/A
																12.25	10.75	4848	2050	1150 CALC			
																9.5	7.625	12150	1105	4300 CALC			
62	30-025-43923	EOG RESOURCES INC	FOGHORN 32 STATE COM	209H	Oil	Active	590 N	330 W	D	32	22S	33E	8/28/2017	9456	14259	17.5	13.375	1066	1028	0 CIRC	9626'-14147'		[51687] RED TANK; BONE SPRING, EAST
																12.25	9.625	4914	1380	0 CIRC			
																8.75	5.5	14247	2156 7300	CALC			
63	30-025-45839	OXY USA INC	AVOGATO 31 STATE	100	Monitor	Active	1702 N	1810 W	F	31	22S	33E	6/16/2019	13900	13900	17.5	13.375	1210	1560	0 CIRC	N/A	Monitor Well; No Perfs	N/A
																12.25	9.625	8825	3380	0 CIRC			
																8.5	4.5	13883	1097	7160 CALC			
64	30-025-31959	WAGNER OIL CO.	BIGHORN 30 STATE	002	Oil	Active	2310 N	1650 W	F	30	22S	33E	7/8/1993	10491	10491	17.5	13.375	500	600	0 CALC	8887-8906		[51687] RED TANK; BONE SPRING, EAST
																12.25	8.625	4800	2150	0 CALC			
																7.875	5.5	10490	1050	0 CALC			
65	30-025-33130	OXY USA INC	CALMON 30 STATE	001	Oil	Active	1930 N	330 W	E	30	22S	33E	11/27/1995	9000	9000	14.75	10.75	825	575	0 CIRC	8862-8898		[51689] RED TANK; DELAWARE, WEST
																9.875	7.625	4700	1160	0 CIRC			
																6.75	4.5	9000	920	4300 CALC			
66	30-025-43737	CIMAREX ENERGY CO.	CORIANDER AOC 1-12 STATE	002H	Oil	Active	330 N	710 E	A	1	23S	32E	8/26/2018	9747	19642	17.5	13.375	1295	1635	0 CIRC	9898-19590		[17644] DIAMONDTAIL; BONE SPRING
																12.25	9.625	4970	1865	0 CIRC			
																8.75	7	8100	3755	0 CIRC			
																8.5	5.5	19642	3755	0 CIRC			
67	30-025-33531	CIMAREX ENERGY CO.	CORIANDER AOC STATE	001	Oil	PA	330 N	330 E	A	1	23S	32E	35302	9121	9121	14.75	11.75	1150	700	0 CIRC	N/A	Well of interest. Delaware and Avalon Sand Perfs in communication	N/A
																11	8.625	4797	1150	0 CIRC			
																7.875	5.5	9121	925	2692 CALC			
68	30-025-33574	EOG Y RESOURCES, INC.	CORIANDER AOC STATE	002	Oil	PA	1650 N	330 E	H	1	23S	32E	35338	9170	9170	14.75	11.75	1153	700	0 CIRC	N/A	Well of interest. Delaware and Avalon Sand Perfs in communication	N/A
																11	8.625	4790	1250	0 CIRC			
																7.875	5.5	9170	1000	0 CALC			
69	30-025-32581	OXY USA INC	COVINGTON A FEDERAL	010	Oil	Active	660 S	1980 E	O	25	22S	32E	5/19/1995	8990	8990	17.5	13.375	811	900	0 CIRC	8526-8548; 8343-8374; 8058-8083; 7935-7942; 6998-7030; 5018-5028		[51689] RED TANK; DELAWARE, WEST
																11	8.625	4720	1800	0 CIRC			
																7.875	5.5	8990	1650	1500 CALC			
70	30-025-33142	OXY USA INC	COVINGTON A FEDERAL	013	Oil	Active	2310 S	1980 E	J	25	22S	32E	12/27/1995	9000	9000	14.75	10.75	804	600	0 CIRC	8536-8556; 8366-8386; 7930-7942; 7000-7018		[51689] RED TANK; DELAWARE, WEST
																9.625	7.625	4695	1300	0 CIRC			
																6.75	4.5	9000	915	2760 CALC			
71	30-025-34455	OXY USA INC	COVINGTON A FEDERAL	037	Oil	Active	1575 S	1950 E	J	25	22S	32E	9/16/1999	8960	8960	14.75	10.75	855	800	0 CIRC	8608-8628; 8104-8124; 7822-7936;		[51689] RED TANK; DELAWARE, WEST
																9.875	7.625	4710	1880	0 CIRC			
																6.75	4.5	8960	1105	3600 CALC			
72	30-025-32290	OXY USA INC	COVINGTON A FEDERAL	004	Oil	Active	1980 S	990 E	I	25	22S	32E	1/12/1996	9010	9010	14.75	10.75	790	600	0 CIRC	8536-8556; 8048-8067;		[51689] RED TANK; DELAWARE, WEST
																9.875	7.625	4700	1500	510 CALC			
																6.75	4.5	9010	615	2990 CALC			
73	30-025-33319	OXY USA INC	COVINGTON A FEDERAL	015	Oil	PA	330 N	1300 E	A	25	22S	32E	7/31/1997	9010	9010	14.75	10.75	831	800	0 CIRC	N/A		N/A
																9.625	7.625	4705	1600	0 CIRC			
																6.75	4.5	9010	1325	1800 CALC			
74	30-025-33093	EOG RESOURCES INC	MULE DEER 36 STATE	003	Oil	Active	1980 S	1980 E	J	36	22S	32E	9/22/1995	9000	9000	17.5	13.375	854	750	0 CALC	8889-8901		[51683] RED TANK; BONE SPRING
																12.25	8.625	4684	1600	0 CALC			
																7.875	5.5	9000	1390	0 CALC			

75	30-025-33498	EOG RESOURCES INC	MULE DEER 36 STATE	006	Oil	Active	330 S	1980 E	O	36 22S	32E	8/1/1996	9080	9080	17.5	13.375	867	750	0 CIRC	8922-8957	[51683] RED TANK; BONE SPRING
															12.25	8.625	4702	1400	0 CIRC		
															7.875	5.5	9080	1020	3821 CALC		
76	30-025-32837	EOG RESOURCES INC	MULE DEER 36 STATE	001	Oil	PA	330 N	1980 E	B	36 22S	32E	4/7/1995	9018	9018	17.5	13.375	855	800	0 CIRC	N/A	N/A
															12.25	8.625	4697	1450	0 CIRC		
															7.875	5.5	9018	1450	4800 CALC		
77	30-025-33239	EOG RESOURCES INC	MULE DEER 36 STATE	005	Oil	PA	1980 N	990 E	H	36 22S	32E	1/14/1996	9024	9024	17.5	13.375	857	750	0 CIRC	N/A	Well of Interest. Delaware and Avalon Sand Perfs in communication	N/A
															12.25	8.625	4666	1450	0 CIRC		
															7.875	5.5	9024	950	3300 CALC		
78	30-025-33823	EOG RESOURCES INC	MULE DEER 36 STATE	008	Oil	PA	1650 S	770 E	I	36 22S	32E	3/15/1997	9088	9088	12.25	9.625	1223	500	0 CIRC	N/A	N/A
															8.75	7	4704	1175	35 CALC		
															6.125	4.5	9088	310	6795 CALC		
79	30-025-33082	OXY USA INC	RED TANK 31 STATE	001	Oil	PA	330 N	330 W	D	31 22S	33E	9/23/1995	9010	9010	14.75	10.75	816	700	0 CIRC	N/A	N/A
															9.875	7.625	4740	970	0 CIRC		
															6.75	4.5	9010	780	3590 CALC		
80	30-025-33011	OXY USA INC	RED TANK 30 STATE	001	Oil	PA	990 S	330 W	M	30 22S	33E	7/19/1995	9020	9020	17.5	13.375	807	900	0 CIRC	N/A	N/A
															11	8.625	4710	1600	0 CIRC		
															7.875	5.5	9020	1030	3580 CALC		
81	30-025-33431	OXY USA INC	RED TANK 31 STATE	002	Oil	Active	1650 N	330 W	E	31 22S	33E	4/6/2000	9050	9050	14.75	10.75	822	770	0 CIRC		
															9.875	7.625	4730	1750	0 CIRC		
															6.75	4.5	9050	1050	3181 CALC		
82	30-025-33580	OXY USA INC	RED TANK 31 STATE	004	Oil	Active	330 S	330 W	M	31 22S	33E	9/30/1996	9100	9100	14.75	10.75	820	780	0 CIRC	8550-8566	[51689] RED TANK; DELAWARE, WEST
															9.875	7.625	4770	1150	0 CIRC		
															6.75	4.5	9100	775	3500 CALC		
83	30-025-46335	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL	122H	Oil	Active	240 N	1927 W	C	6 23S	33E	9/4/2019	11189	21224	17.5	13.375	1339	1520	0 CIRC	10963-21051	[96228] PRONGHORN; BONE SPRING
															12.25	9.625	5059	1369	0 CIRC		
															8.75	5.5	21200	4224	28 CALC		
84	30-025-46371	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL	121H	Oil	Active	270 N	827 W	D	6 23S	33E	9/27/2019	11164	21253	17.5	13.375	1339	1140	0 CIRC	11135-21109	[96228] PRONGHORN; BONE SPRING
															12.25	9.625	5063	1555	0 CIRC		
															8.75	5.5	21289	3838	2900 CALC		
85	30-025-46279	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL	102H	Oil	Active	270 N	1927 W	C	6 23S	33E	9/2/2019	9550	19750	17.5	13.375	1337	1515	0 CIRC	9591-19593	[96228] PRONGHORN; BONE SPRING
															12.25	9.625	5060	1369	0 CIRC		
															8.75	5.5	19740	3615	0 CIRC		
86	30-025-47350	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL COM	133H	Oil	Active	367 S	1730 E	O	7 23S	33E	9/25/2020	12009	22435	17.5	13.375	1394	1190	CALC	12386-22283	[96228] PRONGHORN; BONE SPRING
															9.875	7.625	11441	2610	CALC		
															6.75	5.5	22420	1090	CALC		
87	30-025-47351	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL COM	203H	Oil	Active	385 S	1706 E	O	7 23S	33E	9/23/2020	12213	22462	17.5	13.375	1389	1190	0 CIRC	12685-22188	[98177] WC-025 G-09 S223332A; UPR WOLFCAMP
															9.875	7.625	11505	2455	0 CIRC		
															6.75	5.5	22447	1299	1250 CALC		
88	30-025-47352	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL COM	204H	Oil	Active	546 S	155 E	P	7 23S	33E	11/5/2020	12220	22640	17.5	13.375	1385	1210	0 CIRC	12526-22488	[98177] WC-025 G-09 S223332A; UPR WOLFCAMP
															9.875	7.625	11759	2650	1320 CALC		
															6.75	5.5	22640	1170	0 CIRC		
89	30-025-47489	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL COM	134H	Oil	Active	546 S	185 E	P	7 23S	33E	11/9/2020	12000	22415	17.5	13.375	1385	1210	0 CIRC	12538-22256	[96228] PRONGHORN; BONE SPRING

WELL ID #9

Shaunik Bhatte
3/18/2021

Current Wellbore

Federal 27 004

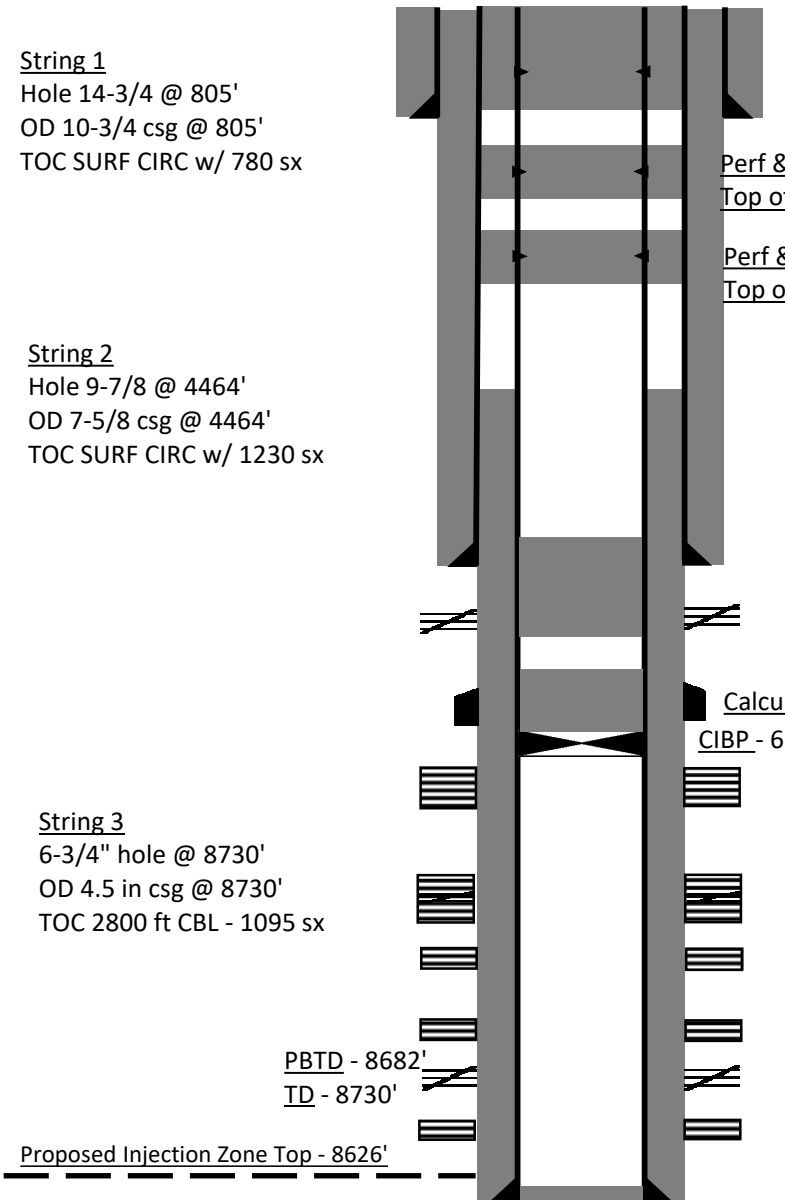
30-025-32796-0000

Sec 27 T22S R32E SENW 2310 FNL 2310 FWL
Lea County, NM

String 1
Hole 14-3/4 @ 805'
OD 10-3/4 csg @ 805'
TOC SURF CIRC w/ 780 sx

String 2
Hole 9-7/8 @ 4464'
OD 7-5/8 csg @ 4464'
TOC SURF CIRC w/ 1230 sx

String 3
6-3/4" hole @ 8730'
OD 4.5 in csg @ 8730'
TOC 2800 ft CBL - 1095 sx



Perf & Squeeze- 855' w/ 215 sx cmt
CIRC TO SURF

Perf & Squeeze- 1310' w/ 30 sx cmt
Top of Plug - 1131'

Perf & Squeeze- 2700' w/ 35 sx cmt
Top of Plug - 2511'

Cement plug top - 4329-4803' w/ 35 sx cmt
Perfs- 4730-4744' squeezed w/ 300 sx cmt

Calculated cement plug top - 5783' w/ 35 sx
CIBP - 6322'

Prod Zone
6372-6748'
7206-7220'
7262-7277' sqz w/ 250 sx cmt
7278-7287'
7412-7425'
7888-7899' sqz w/ 225 sx cmt
8377-8388'

PBTD - 8682'
TD - 8730'

Proposed Injection Zone Top - 8626'

WELL ID #14

Shaunik Bhatte
3/23/2021

Current Wellbore

Federal 27 008

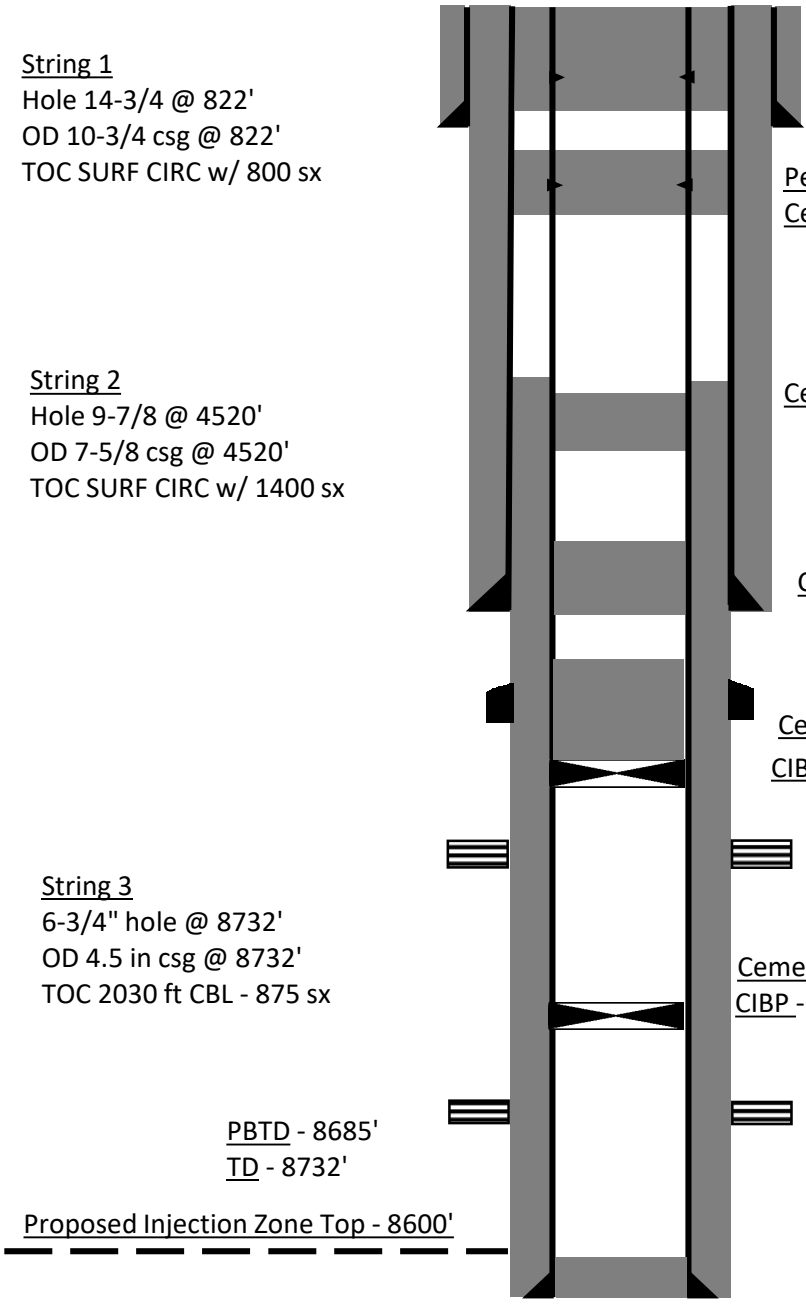
30-025-32755-0000

Sec 27 T22S R32E SWSW 580 FSL 790 FWL
Lea County, NM

String 1
Hole 14-3/4 @ 822'
OD 10-3/4 csg @ 822'
TOC SURF CIRC w/ 800 sx

String 2
Hole 9-7/8 @ 4520'
OD 7-5/8 csg @ 4520'
TOC SURF CIRC w/ 1400 sx

String 3
6-3/4" hole @ 8732'
OD 4.5 in csg @ 8732'
TOC 2030 ft CBL - 875 sx



Perf & Squeeze- 100' w/ 35 sx cmt
CIRC TO SURF

Perf & Squeeze- 1090' w/ 100 sx cmt
Cement plug top - 648'

Cement plug top - 2328-2771' 25 w/ sx cmt

Cement plug top - 4188-4590' w/ 30 sx cmt

Cement plug top - 6212' w/ 40 sx cmt
CIBP - 6806'

Cement plug top - 7924' w/ 25 sx
CIBP - 8303'

PBTD - 8685'
TD - 8732'

Proposed Injection Zone Top - 8600'

Prod Zone
6856-6874'
8353-8386'

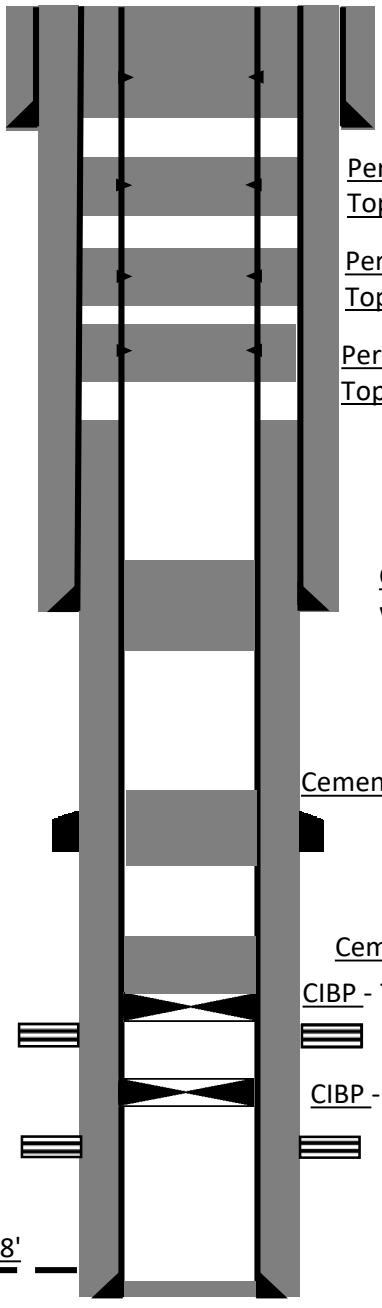
WELL ID #17

Shaunik Bhatte
3/24/2021

Current Wellbore

Red Tank 34 Federal 15

30-025-32912-0000
Sec 34 T22S R32E SWNW 1700 FNL 180 FWL
Lea County, NM



String 1
Hole 14-3/4 @ 818'
OD 10-3/4 csg @ 818'
TOC SURF CIRC w/ 700 sx

String 2
Hole 9-7/8 @ 4520'
OD 7-5/8 csg @ 4520'
TOC SURF CIRC w/ 1400 sx

String 3
6-3/4" hole @ 8742'
OD 4.5 in csg @ 8742'
TOC 3674 ft CBL - 900 sx

Perf & Squeeze- 60' w/ 50 sx cmt
CIRC TO SURF

Perf & Squeeze- 1090' w/ 140 sx cmt
Top of Plug - 190'

Perf & Squeeze- 2135' w/ 60 sx cmt
Top of Plug - 1963'

Perf & Squeeze- 3425' w/ 60 sx cmt
Top of Plug - 3273'

Cement plug top - 4249-4740'
w/ 30 sx cmt

Cement plug top - 6013-6495' w/ 25 sx cmt

Cement plug top - 6778' w/ 25 sx cmt

CIBP - 7150'

Prod Zone
7197-7210'
8376-8410'

CIBP - 8244'

PBTD - 8695'
TD - 8742'

Proposed Injection Zone Top - 8618'

WELL ID #21

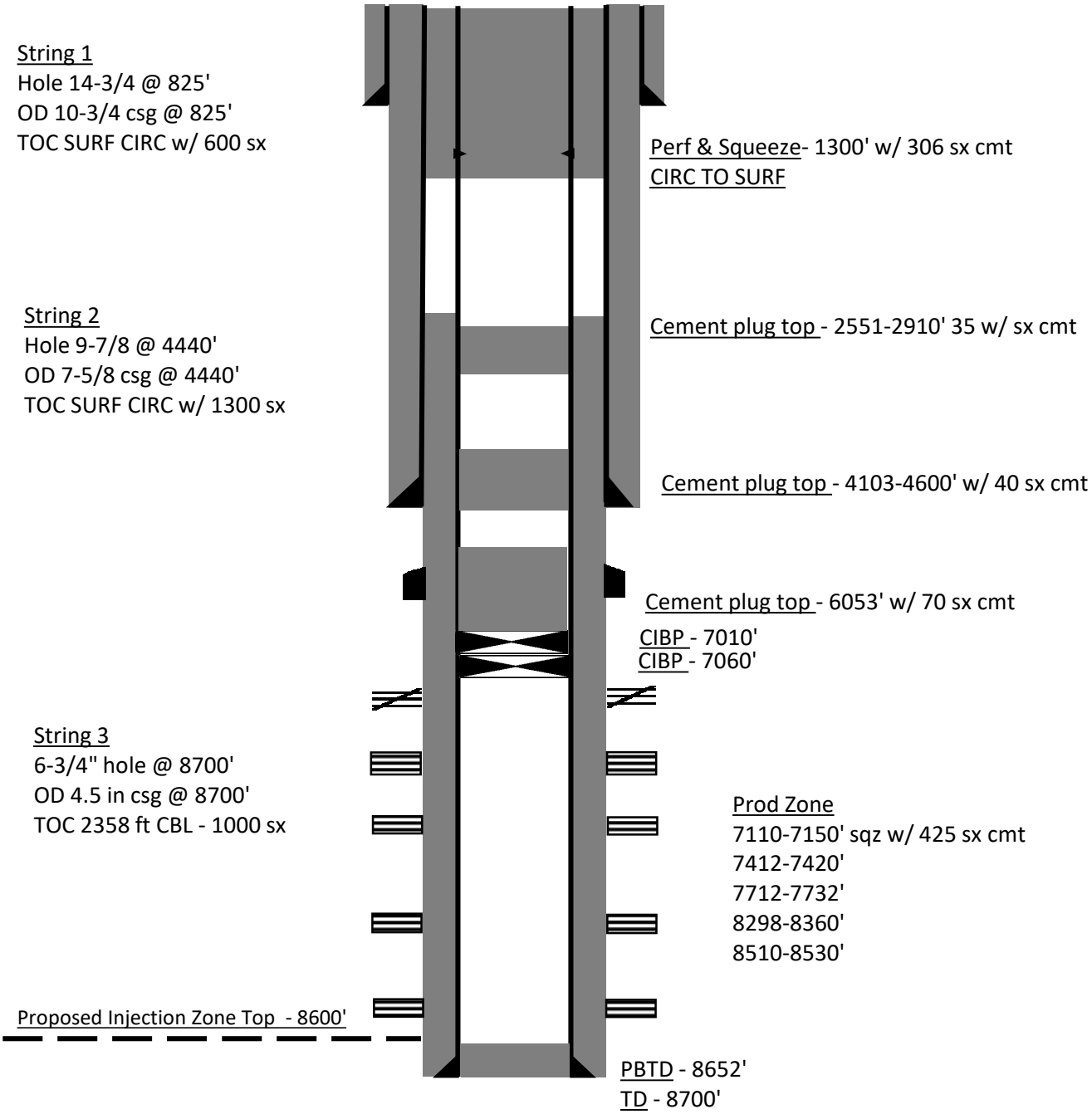
Shaunik Bhatte
3/23/2021

Current Wellbore

Federal 27 006

30-025-32842-0000

Sec 27 T22S R32E NWSW 1650 FSL 990 FWL
Lea County, NM



String 1
Hole 14-3/4 @ 825'
OD 10-3/4 csg @ 825'
TOC SURF CIRC w/ 600 sx

Perf & Squeeze- 1300' w/ 306 sx cmt
CIRC TO SURF

String 2
Hole 9-7/8 @ 4440'
OD 7-5/8 csg @ 4440'
TOC SURF CIRC w/ 1300 sx

Cement plug top - 2551-2910' 35 w/ sx cmt

Cement plug top - 4103-4600' w/ 40 sx cmt

Cement plug top - 6053' w/ 70 sx cmt

CIBP - 7010'
CIBP - 7060'

String 3
6-3/4" hole @ 8700'
OD 4.5 in csg @ 8700'
TOC 2358 ft CBL - 1000 sx

Prod Zone
7110-7150' sqz w/ 425 sx cmt
7412-7420'
7712-7732'
8298-8360'
8510-8530'

Proposed Injection Zone Top - 8600'

PBTD - 8652'
TD - 8700'

WELL ID #30

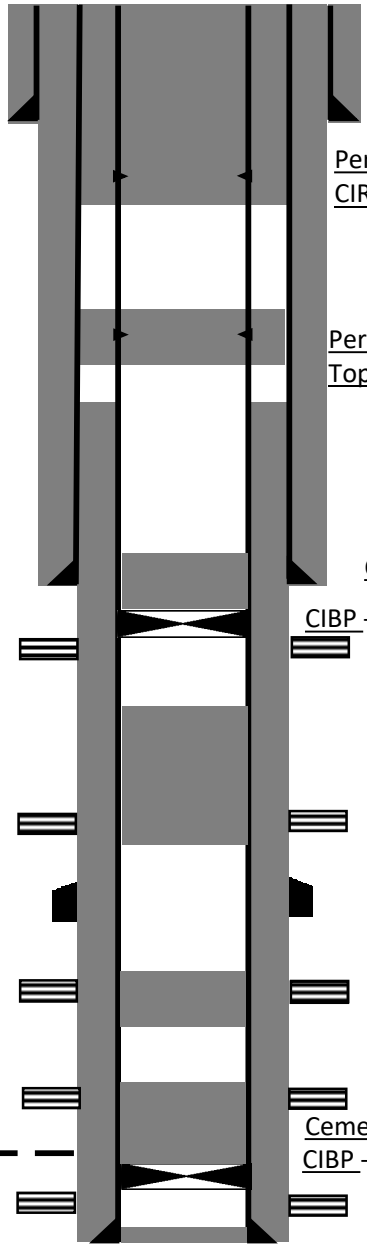
Shaunik Bhatte
3/24/2021

Current Wellbore

Covington A Federal 14

30-025-33399-0000

Sec 25 T22S R32E SWNE 1650 FNL 1650 FEL
Lea County, NM



String 1
Hole 14-3/4 @ 800'
OD 10-3/4 csg @ 800'
TOC SURF CIRC w/ 800 sx

Perf & Squeeze- 850' w/ 180 sx cmt
CIRC TO SURF

String 2
Hole 9-7/8 @ 4670'
OD 7-5/8 csg @ 4670'
TOC SURF CIRC w/ 1150 sx

Perf & Squeeze- 2760' w/ 40 sx cmt
Top of Plug - 2555'

Prod Zone
4950-5020'
6228-6366'
8046-8066'
8528-8548'
8836-8855'

Cement plug top - 4380' w/ 35 sx cmt
CIBP - 4900'

Cement plug - 5295-6380' w/ 35 sx cmt
(tagged high CTOC= 5851')

String 3
6-3/4" hole @ 8966'
OD 4.5 in csg @ 8966'
TOC 3202 ft CBL - 1100 sx

Cement plug top - 7911' w/ 25 sx cmt
Unknown bottom, tagged lower than expected

Proposed Injection Zone - 8700'

Cement plug top - 8496' w/ 25 sx cmt
CIBP - 8800'

PBTD - 8919'
TD - 8966'

Shaunik Bhatte
3/24/2021

Current Wellbore

Covington A Federal 16

30-025-33224-0000

Sec 25 T22S R32E SWNE 1650 FNL 1650 FEL
Lea County, NM

String 1
Hole 14-3/4 @ 830'
OD 10-3/4 csg @ 830'
TOC SURF CIRC w/ 780 sx

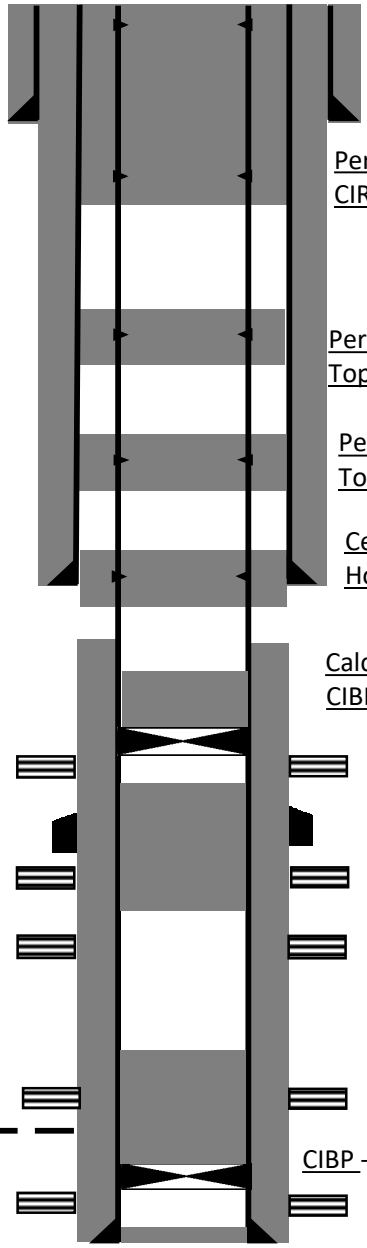
String 2
Hole 9-7/8 @ 4695'
OD 7-5/8 csg @ 4695'
TOC SURF CIRC w/ 1125 sx

Prod Zone
6304-6322'
6990-7014'
7338-7348'
7944-8086'
8647-8674'
8864-8888'

String 3
6-3/4" hole @ 8980'
OD 4.5 in csg @ 8980'
TOC 5828 ft CBL - 490 sx

Proposed Injection Zone Top - 8746'

PBTD - 8980'
TD - 8980'



Perf & Squeeze- 60' & 880' w/ 190 sx cmt
CIRC TO SURF

Perf & Squeeze- 2780' w/ 50 sx cmt
Top of Plug - 2590'

Perf & Squeeze- 5055' w/ 100 sx cmt
Top of Plug - 4603'

Cement plug - 5490' - 5670'
Holes - 5574-5602'

Calculated cement plug top - 5875' w/ 25 sx cmt
CIBP - 6254'

Cement plug - 6387'-6766' w/ 25 sx cmt

Cement plug top - 8285' w/ 25 sx cmt (tagged high CTOC= 8448')
CIBP - 8829'

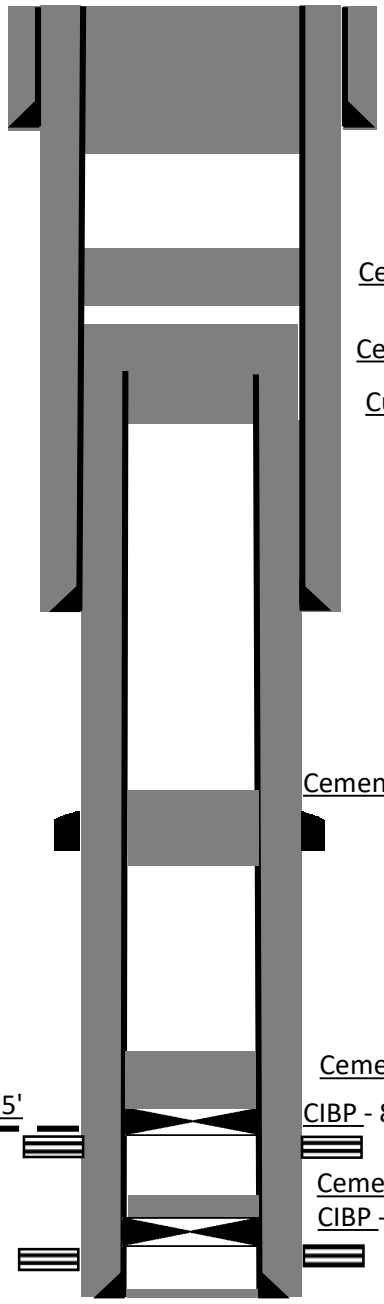
Well ID #39

Shaunik Bhatte
3/24/2021

Current Wellbore

Thyme APY Federal 1

30-025-33370-0000
Sec 1 T23S R32E NWNE 330' FNL 1650' FEL
Lea County, NM



String 1
Hole 14-3/4 @ 1165'
OD 11-3/4 csg @ 1165'
TOC SURF CIRC w/ 750 sx

String 2
Hole 11" @ 4790'
OD 8-5/8 csg @ 4790'
TOC SURF CIRC w/ 1175 sx

String 3
7-7/8" hole @ 10250'
OD 5-1/2 in csg @ 10250'
TOC 3000 ft CBL - 1075 sx

Cement plug top - Surf to circ w/ 25 sx cmt

Cement plug top - 1052-1345' w/ 90 sx cmt

Cement plug top - 2572-2760' w/ 45 sx cmt

Cut and Pull 5.5" Casing - 2700'

Cement plug top - 4624-5020' w/ 60 sx cmt

Cement plug on top w/ 25 sx cmt

Proposed Injection Zone Top - 8825'

CIBP - 8900'

Prod Zone
8966-9008' - Bone Spring perfs
10029-10071' - Bone Spring perfs

Cement plug top - 9915'

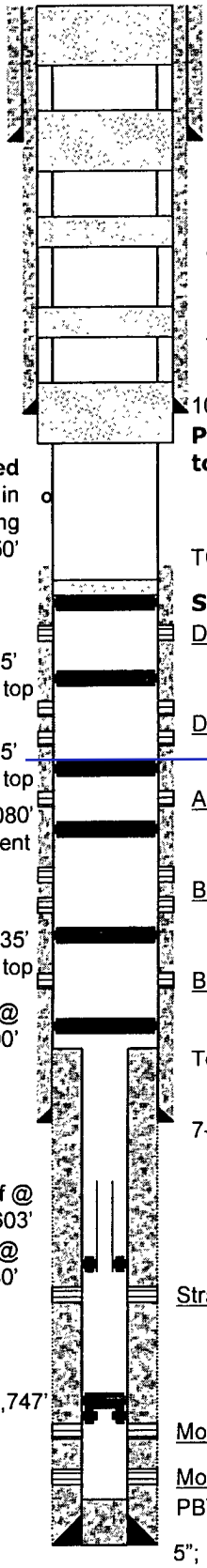
CIBP - 9950'

PBTD - 10162'
TD - 10250'

WELL ID #60

LIME ROCK RESOURCES

FINAL ABANDONMENT



Perforated at 150' and spotted cement from 150' back to surface

13-3/8", 54.5#, J-55, ST&C Casing @ 736'

Perforated at 786' and spot 40 sx plug from 786' to 662' (tagged top of plug)

Perforated at 1,460' and spot 40 sx plug from 1,460' to 1,280' (tagged top of plug)

Perforated at 3,191' and spot 50 sx plug from 3,191' to 3,038' (tagged top of plug)

10-3/4"; 40.5, 45.5 & 51#; J-55; LT&C Casing @ 5,026'

Perforated at 5,151' and pumped 75 sx plug from 5,151' to 4,757' (tagged top of plug)

Squeezed hole in casing 5,682-850'

TOC @ 7,901'

Set CIBP @ 8,101' and dumped 35' cement on top of plug

Delaware Perfs: 8,156-62' & 8,168-84' (42 – 0.41" DIA holes)

CIBP @ 8,540' w/ 35' cement on top

CIBP @ 8,940' w/ 35' cement on top

Delaware Perfs: 8,672-80' & 8,745-58 (46 – 0.41" DIA holes)

TOP OF PROPOSED INJ INTERVAL 8856'

RBP @ 9,080' w/ 35' cement on top

Avalon Perfs: 8,960-74' (30 – 0.42" DIA holes)

CIBP @ 10,215' w/ 35' cement on top

Bone Springs Perfs: 9,921-39' & 10,003-50'

CIBP @ 11,500'

Bone Springs Perfs: 10,572-53' (60 – 0.24" DIA holes)

Top of 5"; 17.9#; S-95; SFJ Liner @ 11,676'

7-5/8", 29 & 33.7#, S-955, LT&C Casing @ 12,174'

Tbg cut off @ 12'603'

Packer @ 13,760'

Strawn Perfs: 13,804-905.5' (13 – 0.41" DIA holes)

CIBP @ 14,747'

Morrow Perfs: 14,794-00' (24 – 0.50" DIA holes)

Morrow Perfs: 15,031-35' (10 - 0.25" DIA holes)

PBTD @ 15,191'

5"; 17.9#; S-95; SFJ Liner @ 15,400'

TD @ 16,160'

Formation	Top
Rustler	1,257'
Delaware Lime	4,980'
Delaware Sand	5,027

Lime Rock Resources
Pronghorn ABO Federal 1
Sec 6G-23S-33E
Lea County, NM

WELL ID #61

Shaunik Bhatte
3/24/2021

Current Wellbore

Red Tank 30 State 3

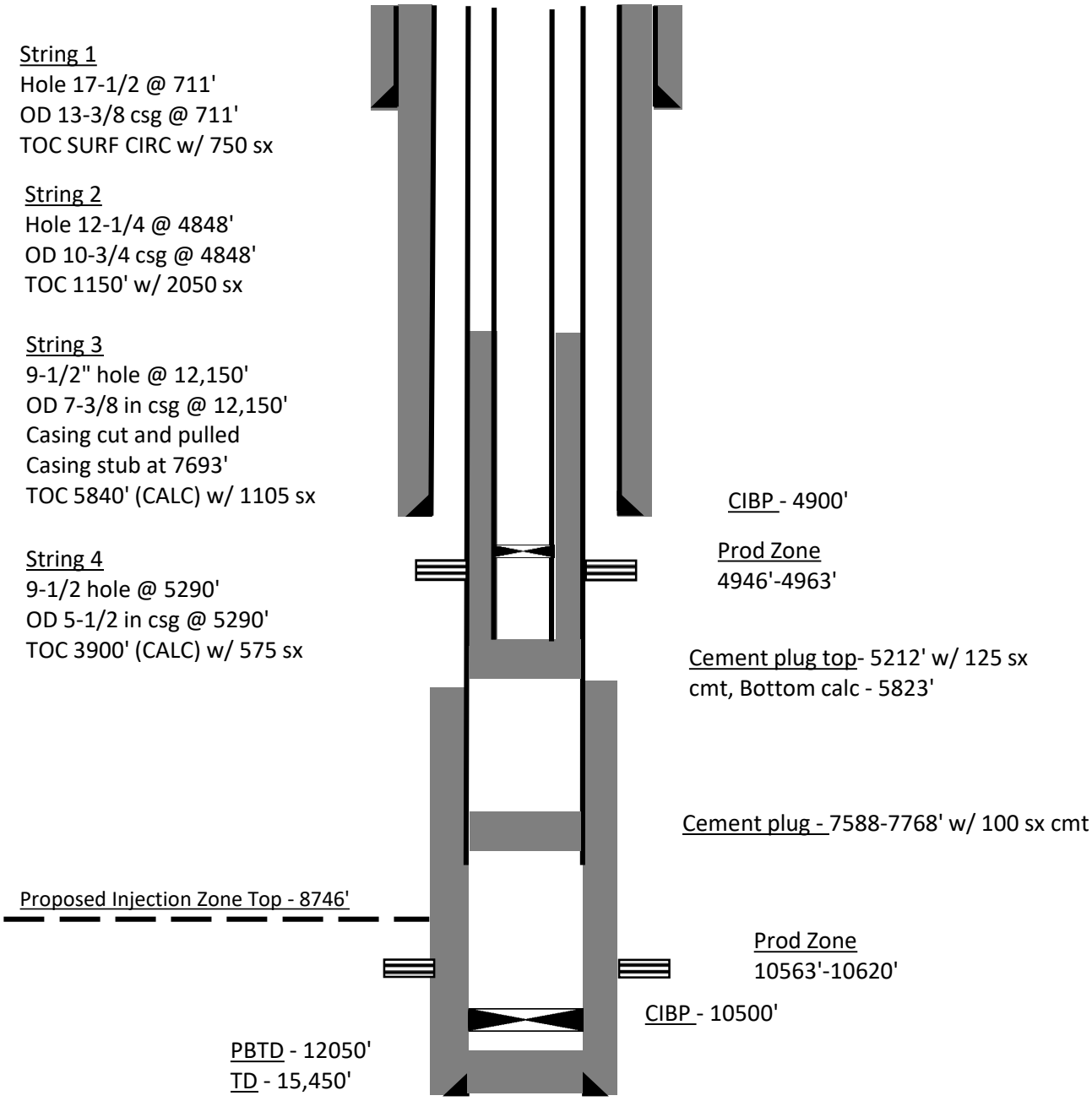
30-025-27596-0000
Sec 30 T22S R33E 19800 FNL 660 FEL
Lea County, NM

String 1
Hole 17-1/2 @ 711'
OD 13-3/8 csg @ 711'
TOC SURF CIRC w/ 750 sx

String 2
Hole 12-1/4 @ 4848'
OD 10-3/4 csg @ 4848'
TOC 1150' w/ 2050 sx

String 3
9-1/2" hole @ 12,150'
OD 7-3/8 in csg @ 12,150'
Casing cut and pulled
Casing stub at 7693'
TOC 5840' (CALC) w/ 1105 sx

String 4
9-1/2 hole @ 5290'
OD 5-1/2 in csg @ 5290'
TOC 3900' (CALC) w/ 575 sx



WELL ID #67

Shaunik Bhatte
5/4/2021

Current Wellbore

Coriander AOC State 001

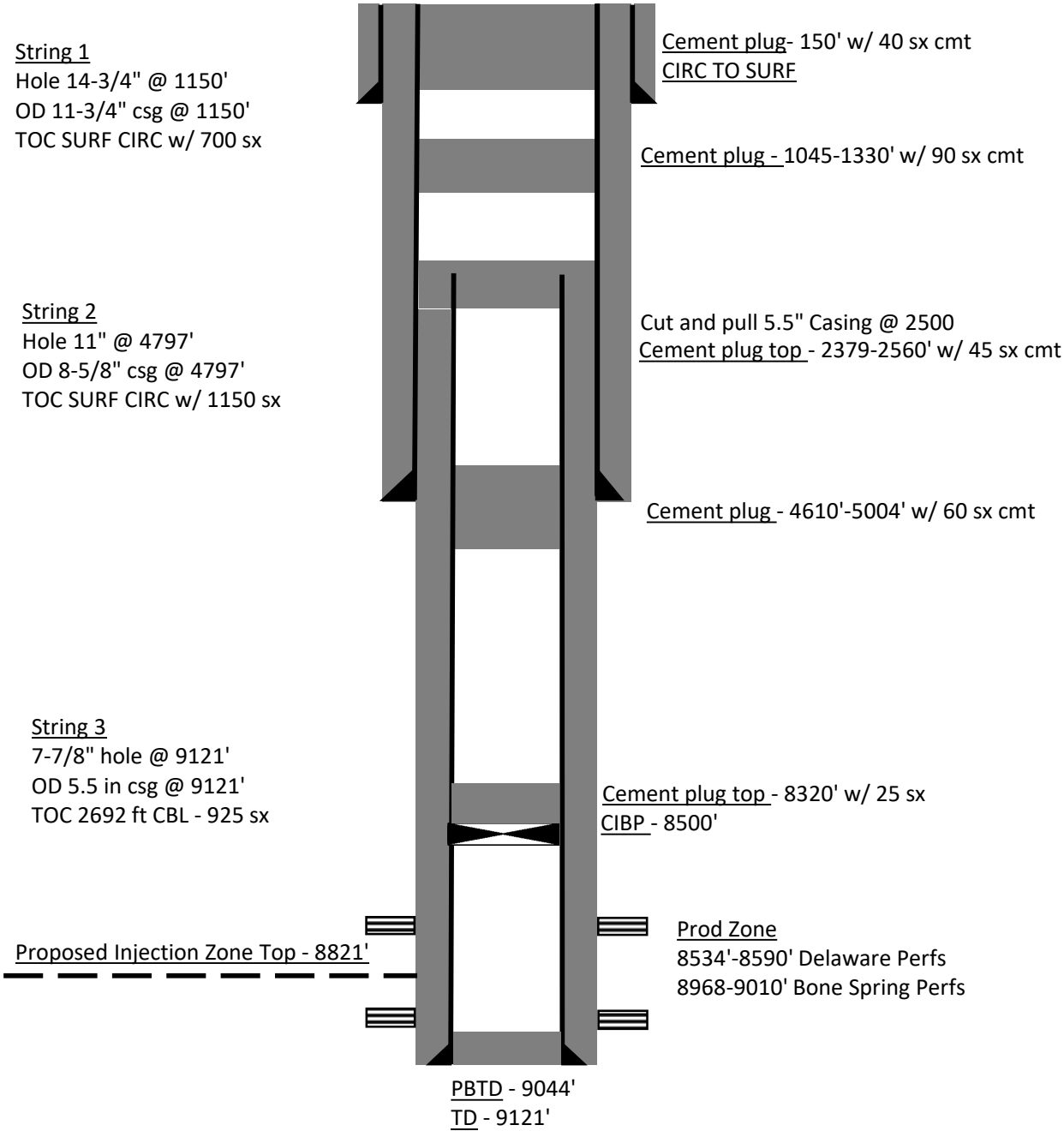
30-025-33531-0000

Sec 01 T23S R32E 330 FNL 330 FEL
Lea County, NM

String 1
Hole 14-3/4" @ 1150'
OD 11-3/4" csg @ 1150'
TOC SURF CIRC w/ 700 sx

String 2
Hole 11" @ 4797'
OD 8-5/8" csg @ 4797'
TOC SURF CIRC w/ 1150 sx

String 3
7-7/8" hole @ 9121'
OD 5.5 in csg @ 9121'
TOC 2692 ft CBL - 925 sx



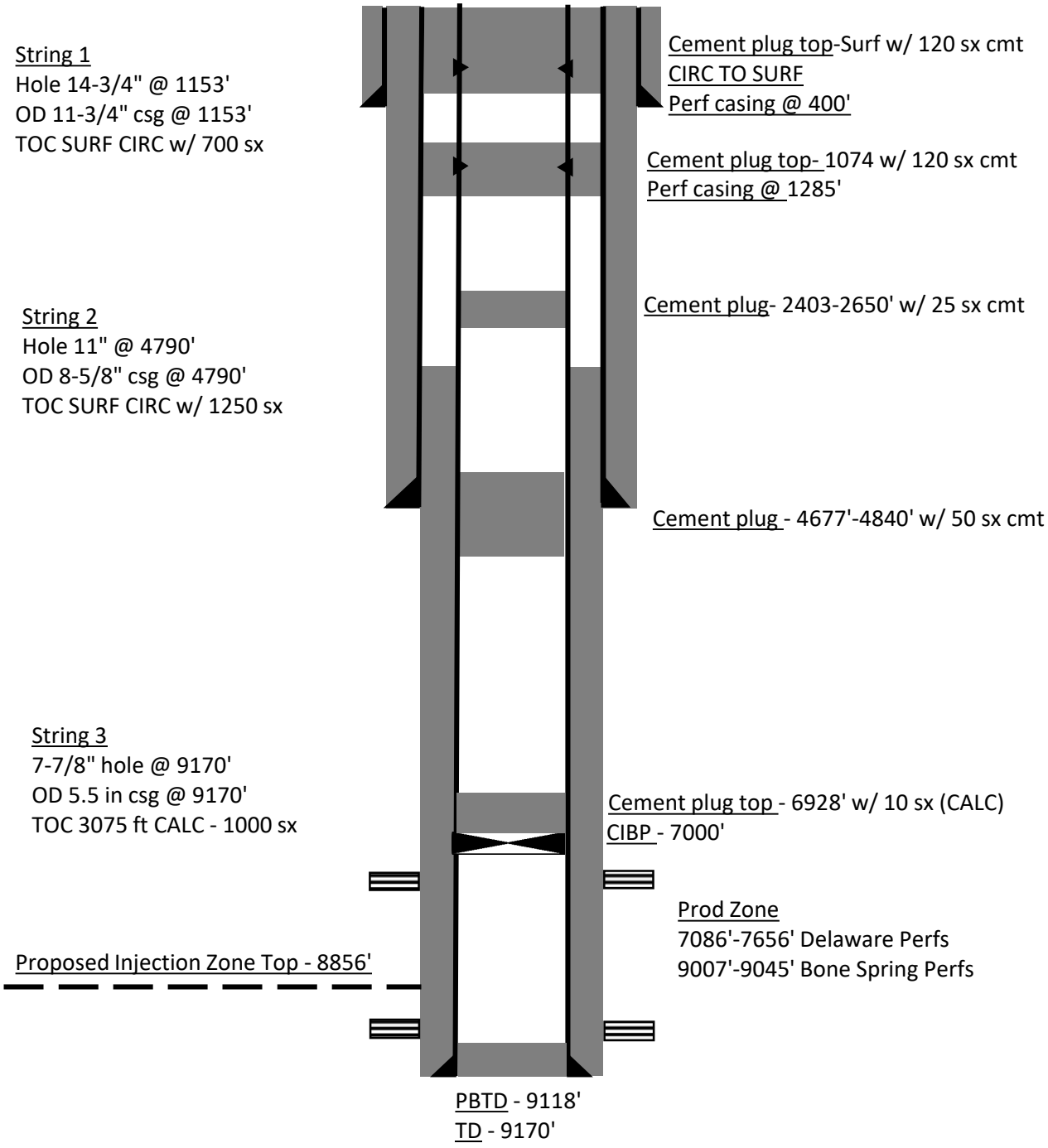
WELL ID #68

Shaunik Bhatte
5/4/2021

Current Wellbore

Coriander AOC State 002

30-025-33574-0000
Sec 01 T23S R32E 1650 FNL 330 FEL
Lea County, NM



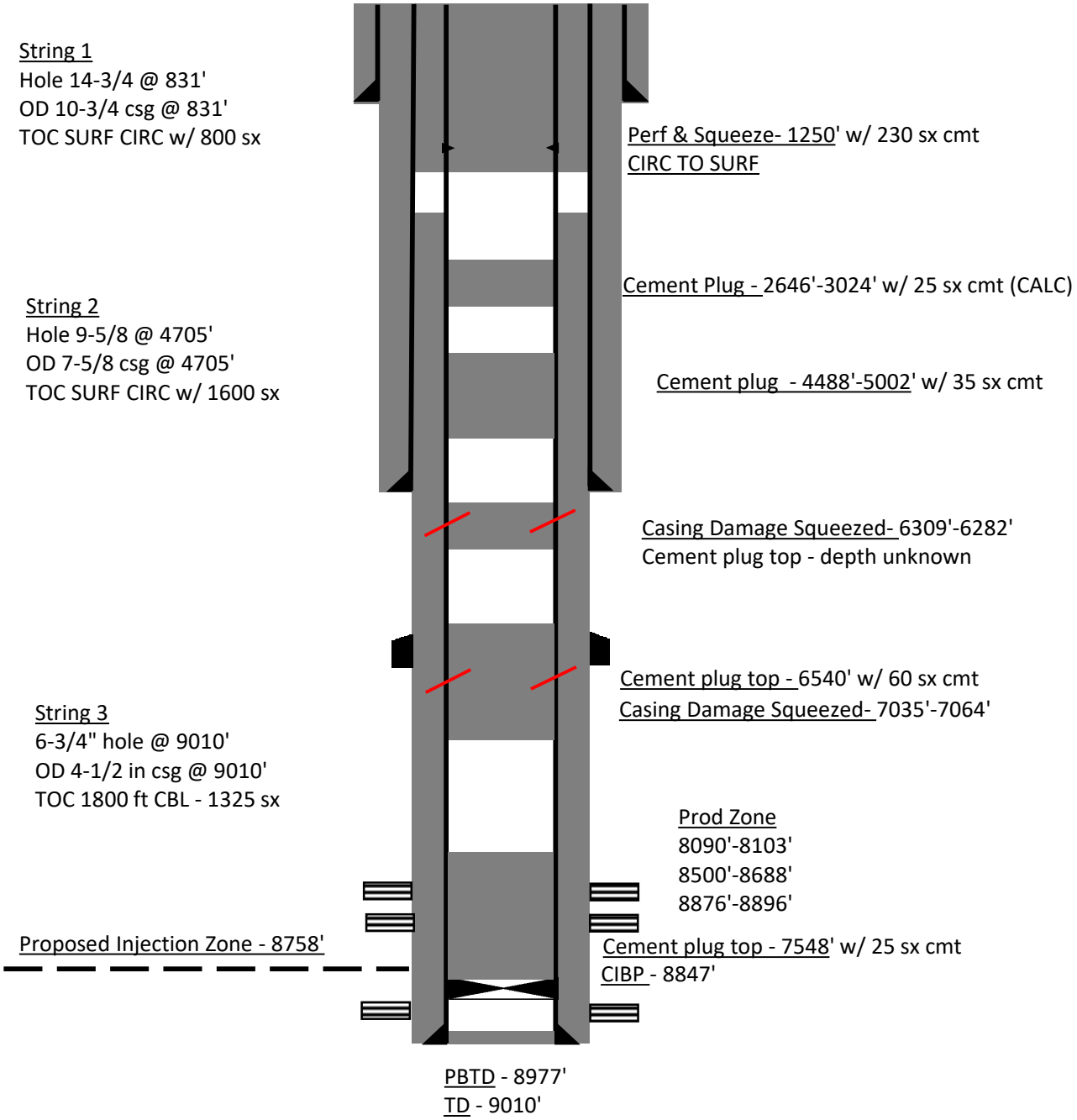
WELL ID #73

Shaunik Bhatte
5/5/2021

Current Wellbore

Covington A Federal 15

30-025-33319-0000
Sec 25 T22S R32E 330 FNL 1300 FEL
Lea County, NM



WELL ID #76

Shaunik Bhatte
5/5/2021

Current Wellbore

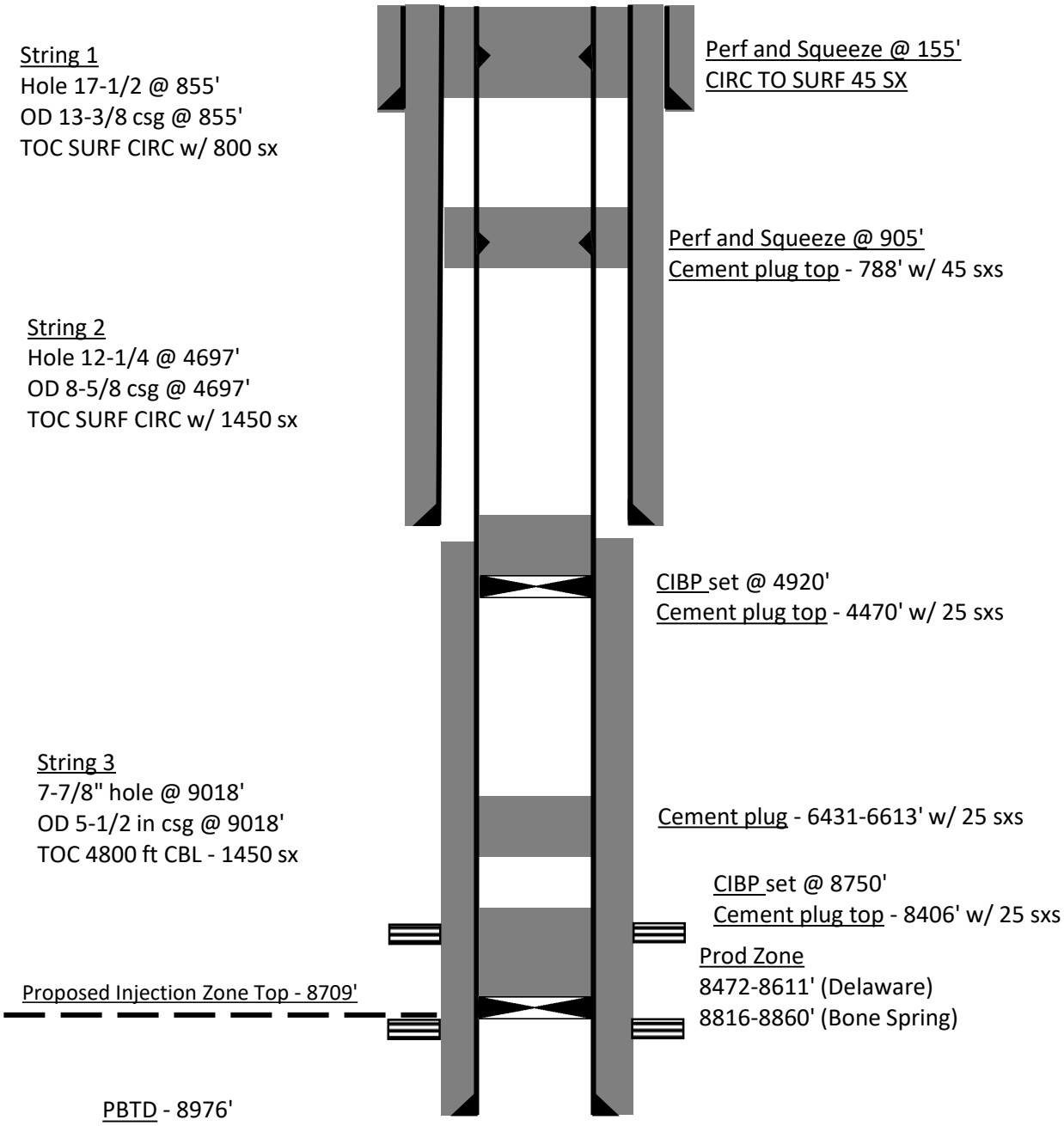
Mule Deer 36 State 1

30-025-32837-0000
Sec 36 T22S R32E 330 FNL 1980 FEL
Lea County, NM

String 1
Hole 17-1/2 @ 855'
OD 13-3/8 csg @ 855'
TOC SURF CIRC w/ 800 sx

String 2
Hole 12-1/4 @ 4697'
OD 8-5/8 csg @ 4697'
TOC SURF CIRC w/ 1450 sx

String 3
7-7/8" hole @ 9018'
OD 5-1/2 in csg @ 9018'
TOC 4800 ft CBL - 1450 sx



Perf and Squeeze @ 155'
CIRC TO SURF 45 SX

Perf and Squeeze @ 905'
Cement plug top - 788' w/ 45 sxs

CIBP set @ 4920'
Cement plug top - 4470' w/ 25 sxs

Cement plug - 6431-6613' w/ 25 sxs

CIBP set @ 8750'
Cement plug top - 8406' w/ 25 sxs

Prod Zone
8472-8611' (Delaware)
8816-8860' (Bone Spring)

Proposed Injection Zone Top - 8709'

PBTD - 8976'
TD - 9018'

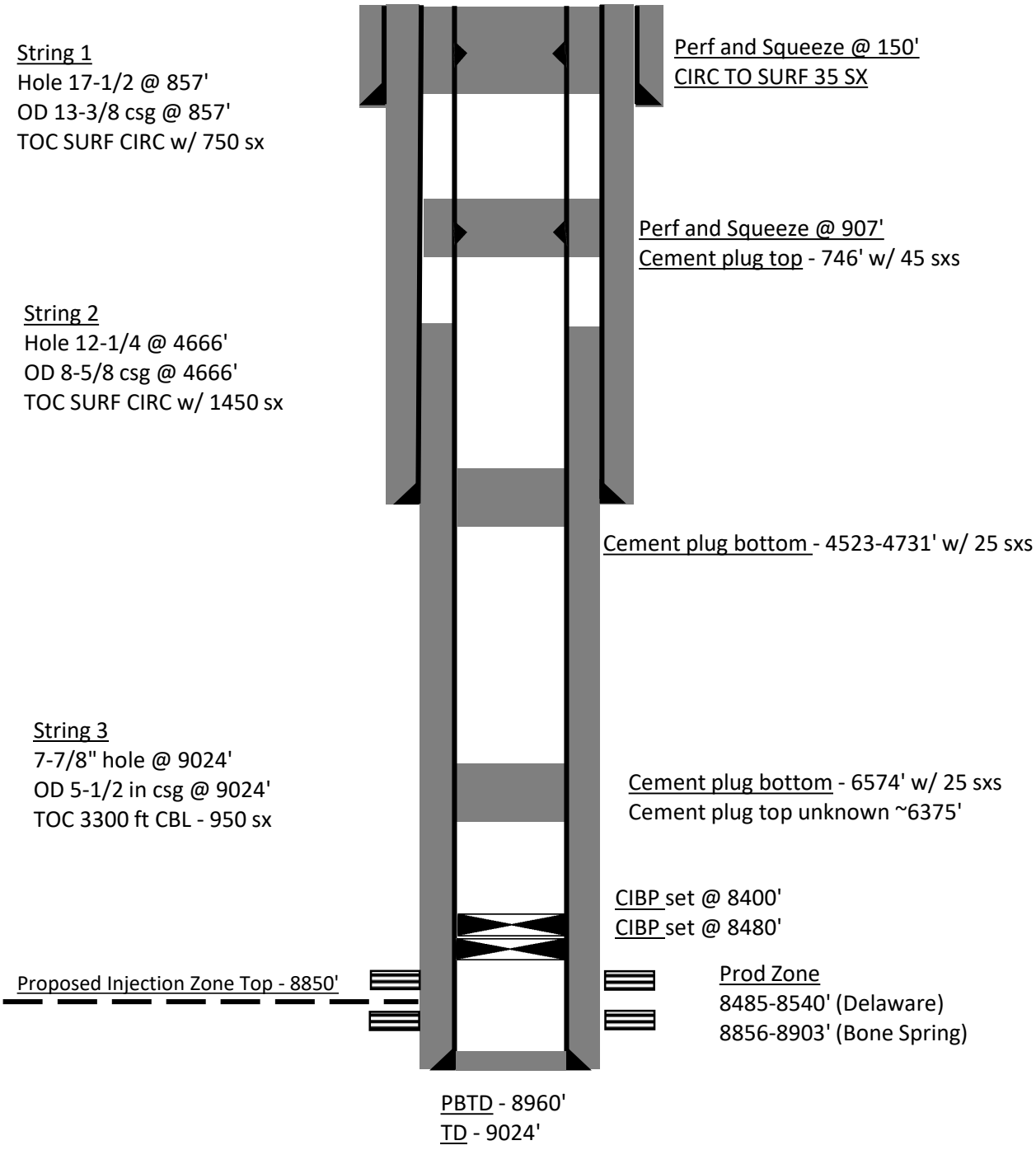
WELL ID #77

Shaunik Bhatte
5/5/2021

Current Wellbore

Mule Deer 36 State 5

30-025-33239-0000
Sec 36 T22S R32E 1980 FNL 990 FEL
Lea County, NM



Well ID #78

Shaunik Bhatte
5/5/2021

Current Wellbore

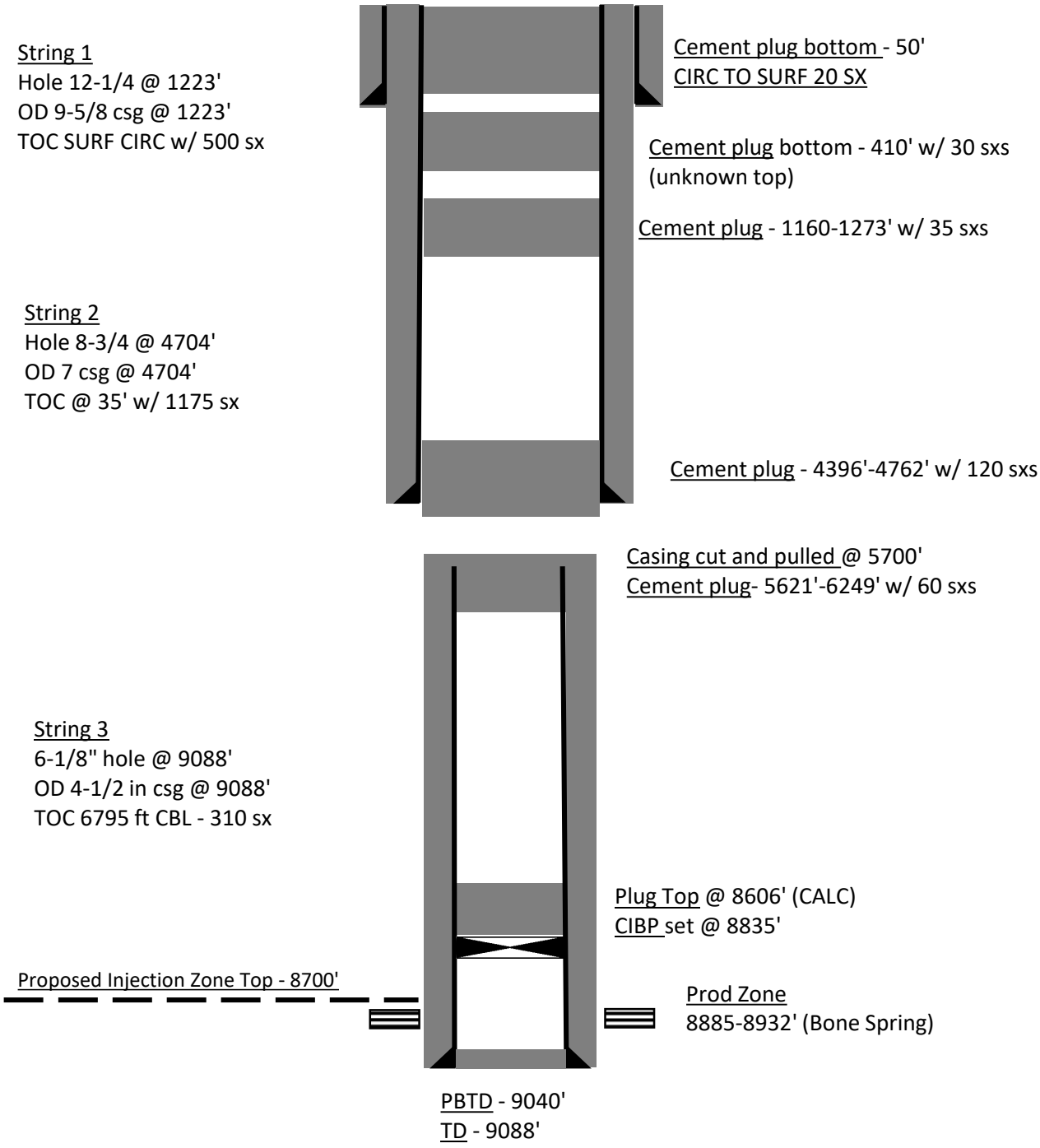
Mule Deer 36 State 8

30-025-33823-0000
Sec 36 T22S R32E 1650 FSL 770 FEL
Lea County, NM

String 1
Hole 12-1/4 @ 1223'
OD 9-5/8 csg @ 1223'
TOC SURF CIRC w/ 500 sx

String 2
Hole 8-3/4 @ 4704'
OD 7 csg @ 4704'
TOC @ 35' w/ 1175 sx

String 3
6-1/8" hole @ 9088'
OD 4-1/2 in csg @ 9088'
TOC 6795 ft CBL - 310 sx



WELL ID #79

Shaunik Bhatte
5/5/2021

Current Wellbore

Red Tank 31 State 1

30-025-33082-0000
Sec 31 T22S R33E 330 FNL 330 FWL
Lea County, NM

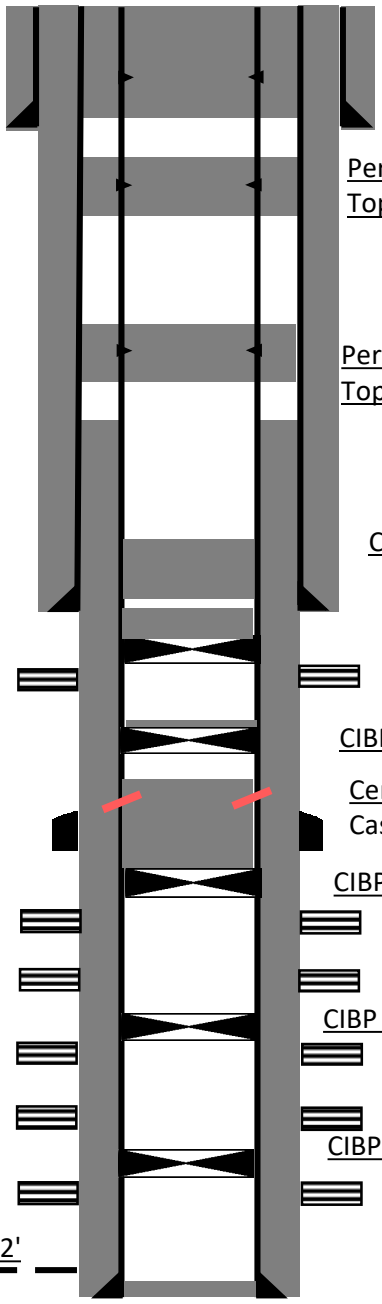
String 1
Hole 14-3/4 @ 816'
OD 10-3/4 csg @ 816'
TOC SURF CIRC w/ 700 sx

String 2
Hole 9-7/8 @ 4740'
OD 7-5/8 csg @ 4740'
TOC SURF CIRC w/ 970 sx

String 3
6-3/4" hole @ 9010'
OD 4.5 in csg @ 9010'
TOC 3590 ft CBL - 780 sx

PBTD - 8972'
TD - 9010'

Proposed Injection Zone Top - 8752'



Perf & Squeeze- 250' w/ 60 sx cmt
CIRC TO SURF

Perf & Squeeze- 866' w/ 30 sx cmt
Top of Plug - 730'

Perf & Squeeze- 2785' w/ 30 sx cmt
Top of Plug - 2668'

Cement plug - 4410-4804' w/ 25 sx (CALC)

CIBP - 5360'
Cement plug - 4982-5360' w/ 25 sx (CALC)

CIBP - 5610' w/ 10' cmt to 5600'

Cement plug - 6080-6738' w/ 45 sx cmt
Casing squeezed @ 6294'-6326' w/ 100 sx

CIBP - 6738'

CIBP - 8000'

CIBP - 8830'

Prod Zone
5410-5460'
6788-6796'
7046-7056'
8081-8095'
8614-8634'
8870-8914'

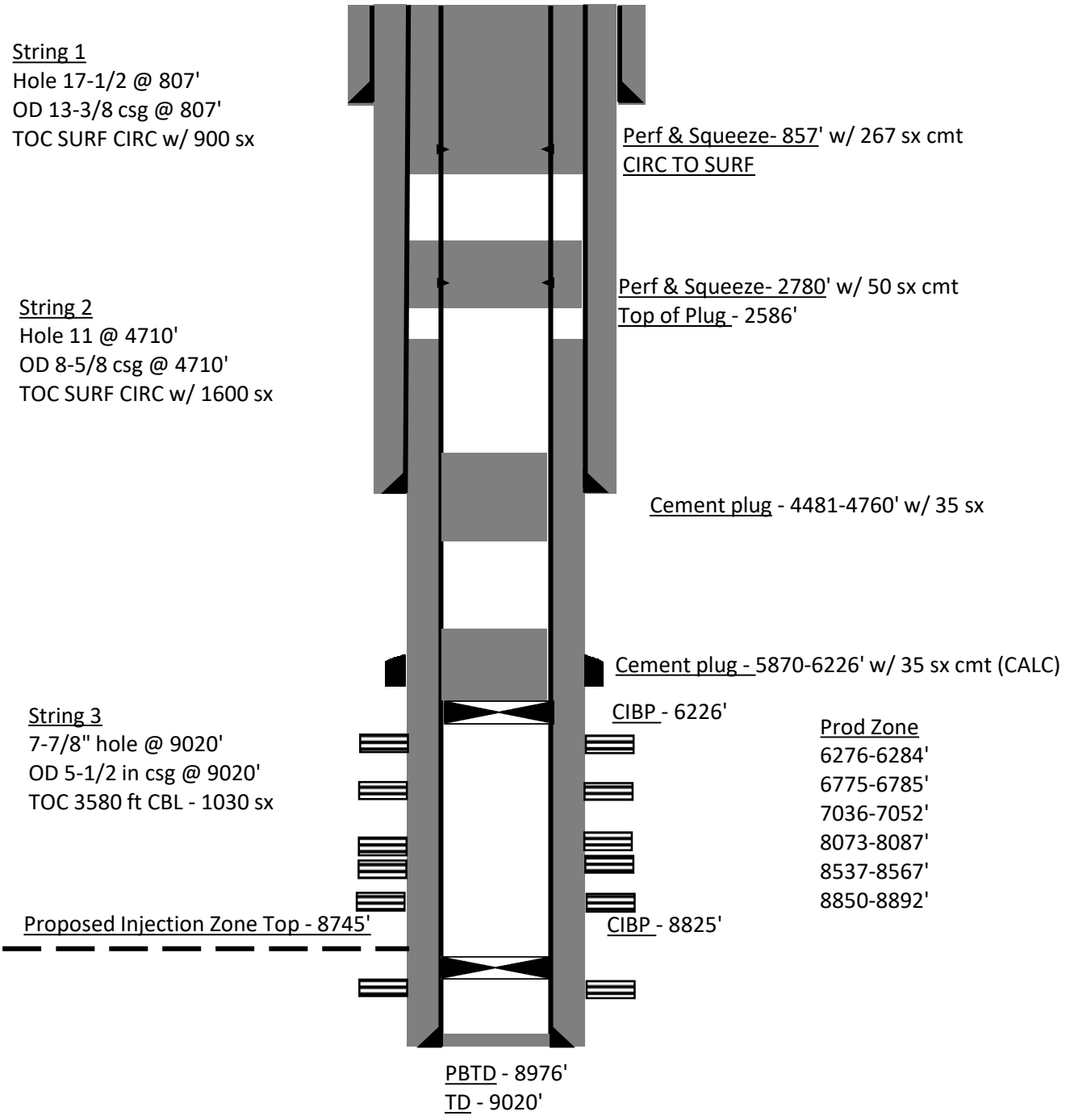
WELL ID #80

Shaunik Bhatte
5/5/2021

Current Wellbore

Red Tank 30 State 1

30-025-33011-0000
Sec 30 T22S R33E 990 FSL 330 FWL
Lea County, NM



String 1
Hole 17-1/2 @ 807'
OD 13-3/8 csg @ 807'
TOC SURF CIRC w/ 900 sx

Perf & Squeeze- 857' w/ 267 sx cmt
CIRC TO SURF

Perf & Squeeze- 2780' w/ 50 sx cmt
Top of Plug - 2586'

String 2
Hole 11 @ 4710'
OD 8-5/8 csg @ 4710'
TOC SURF CIRC w/ 1600 sx

Cement plug - 4481-4760' w/ 35 sx

Cement plug - 5870-6226' w/ 35 sx cmt (CALC)

CIBP - 6226'

String 3
7-7/8" hole @ 9020'
OD 5-1/2 in csg @ 9020'
TOC 3580 ft CBL - 1030 sx

Prod Zone
6276-6284'
6775-6785'
7036-7052'
8073-8087'
8537-8567'
8850-8892'

Proposed Injection Zone Top - 8745'

CIBP - 8825'

PBTD - 8976'
TD - 9020'

Geology

Tanks Type Log

Proposed Storage Zone

★ Avalon Shale

> Unconventional siliceous mudstone reservoir with natural permeability in the nano-darcy range

Adjacent Oil & Gas Zones

● Brushy Canyon

> Conventional very fine-grained sandstone with permeability in the millidarcy range

● Avalon Sand

> Conventional very fine-grained sandstone with permeability in the millidarcy range

● 1st Bone Spring Sand

> Conventional very fine-grained sandstone with permeability in the millidarcy range

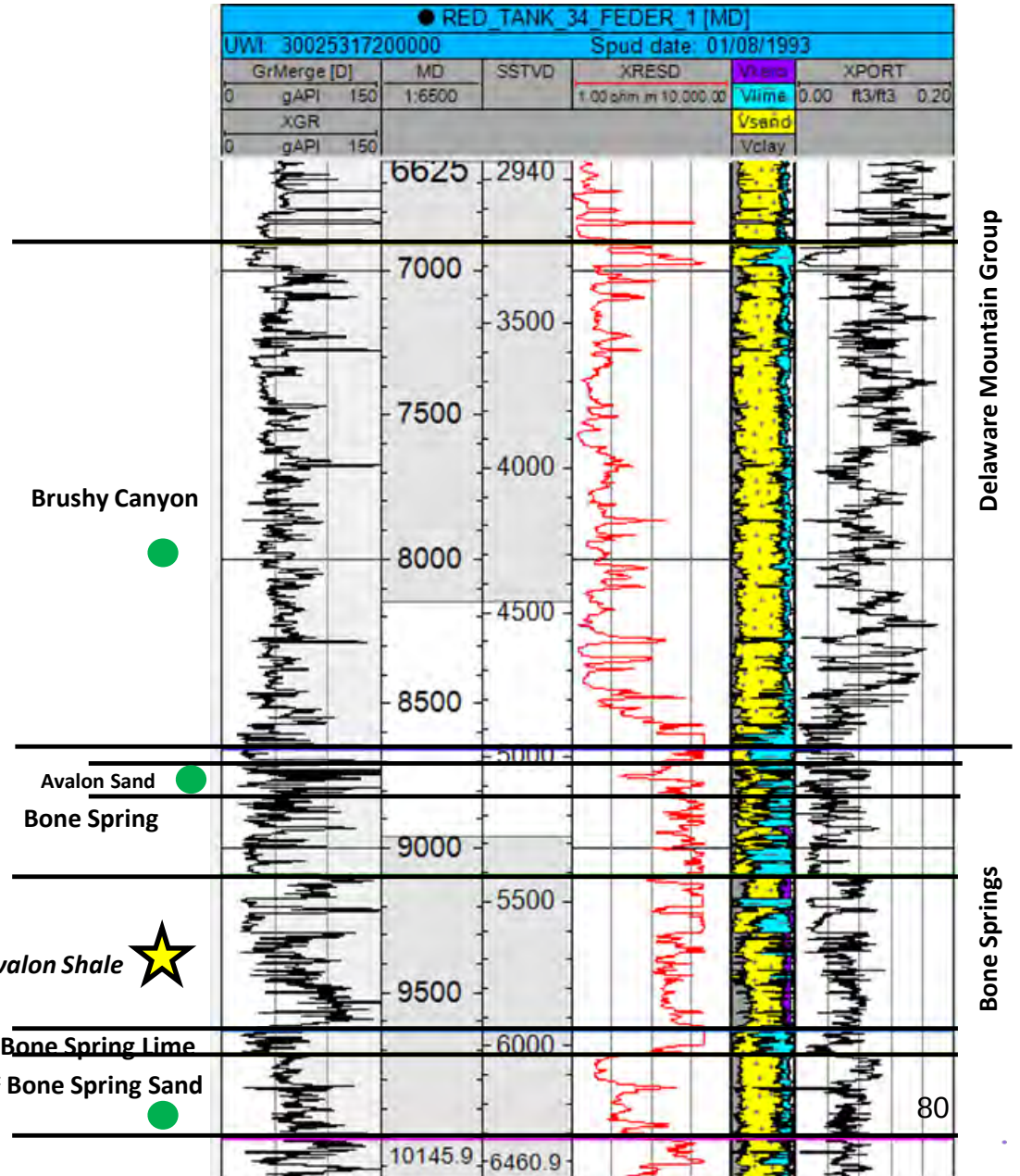
Confining Layers

- Bone Spring

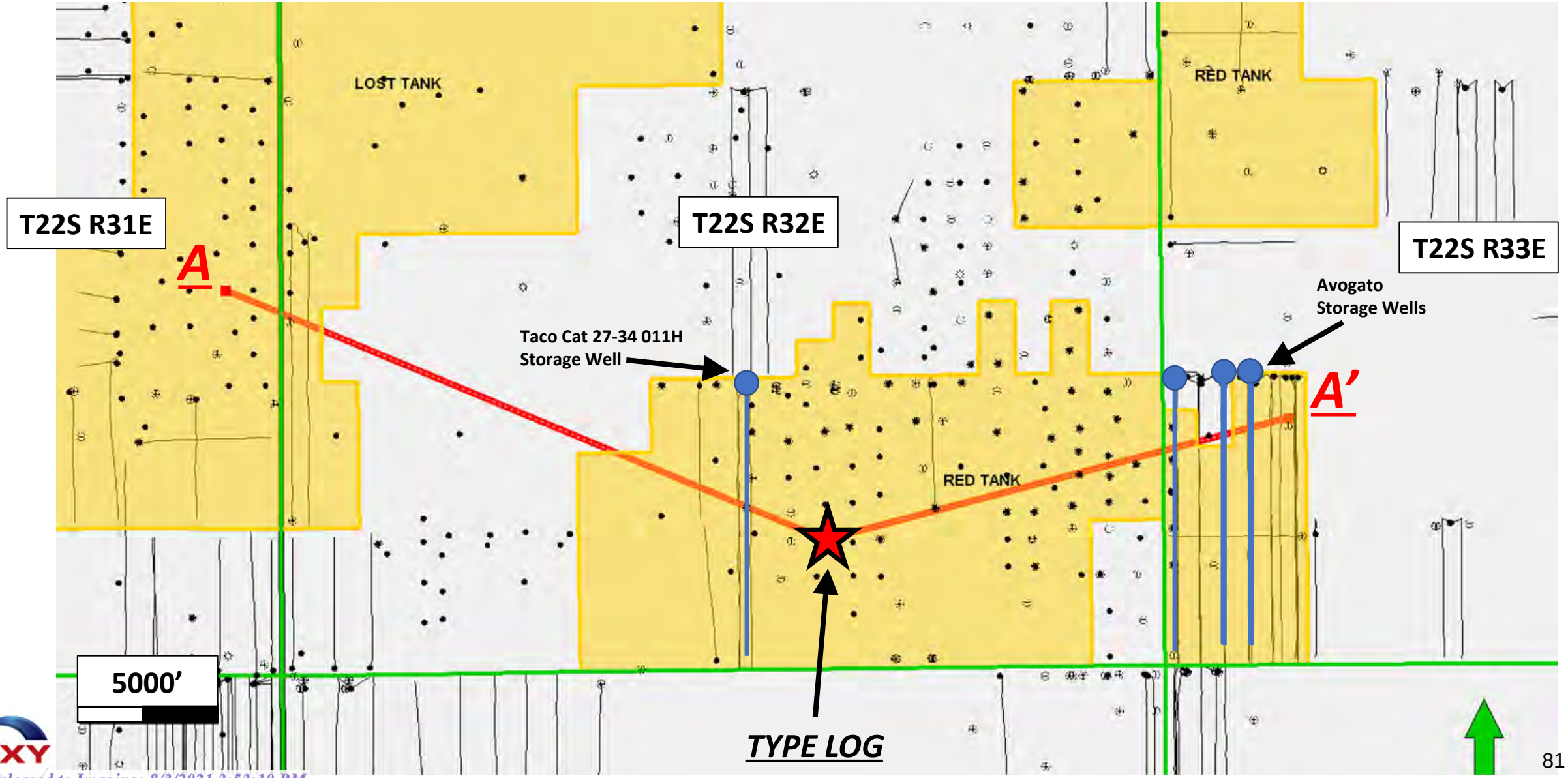
  > Approximately 250’ of impermeable limestone between Avalon Sand & Brushy Canyon and Avalon Shale

- 1st Bone Spring Lime

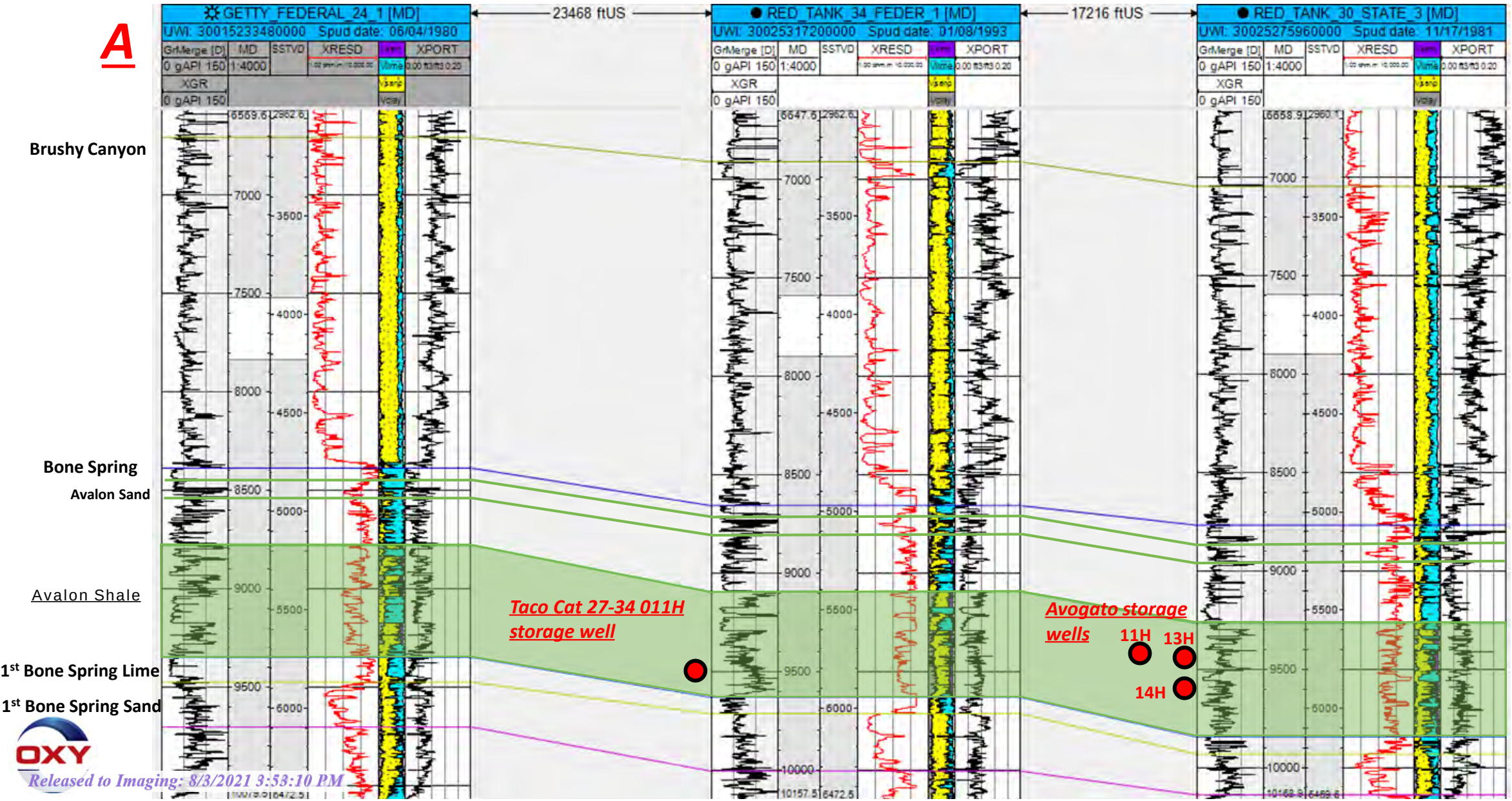
  > Approximately 100’ of impermeable limestone between Avalon Shale and 1st Bone Spring Sand



Tanks Cross-section Index Map

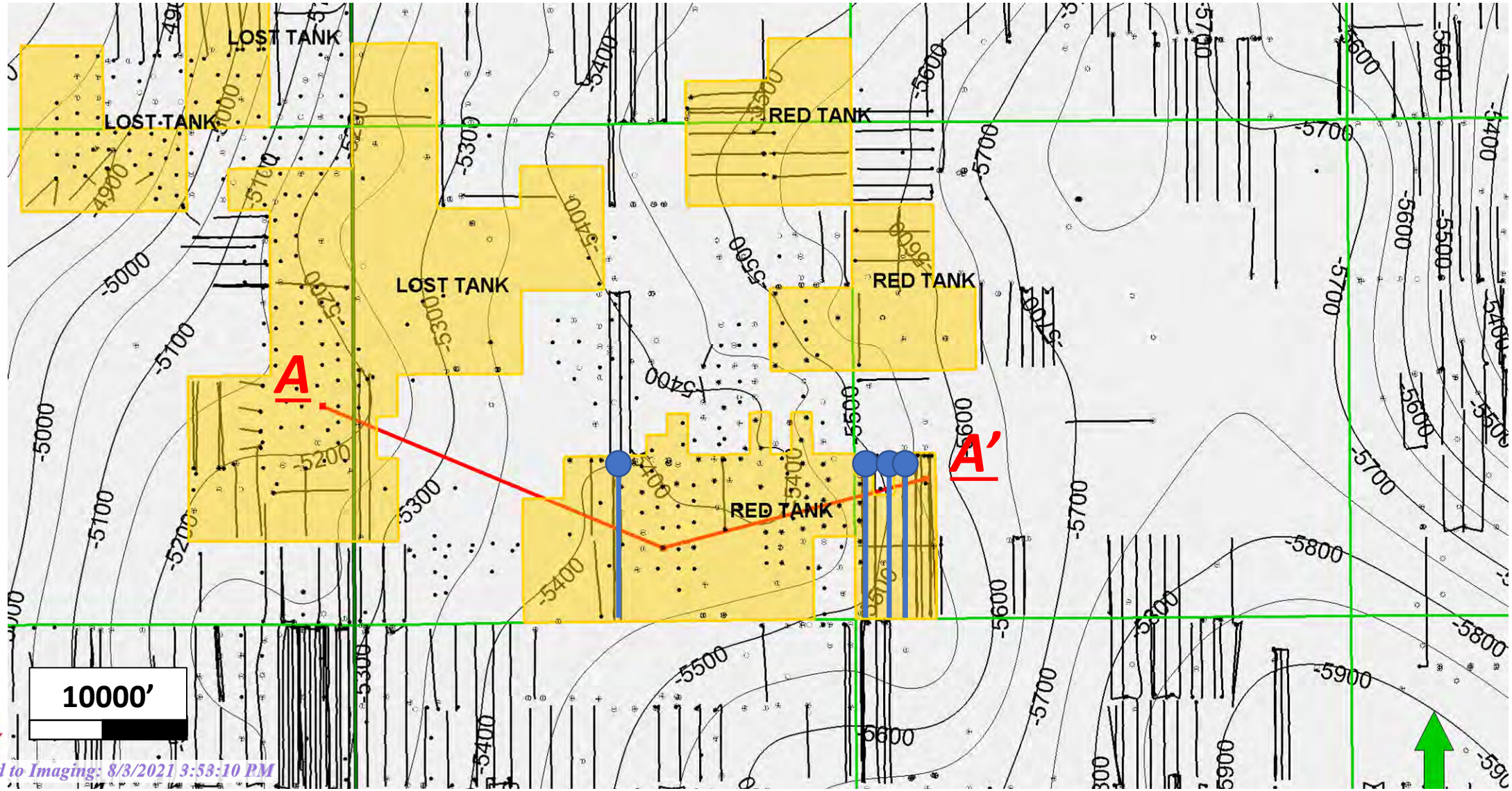


Tanks Cross-section



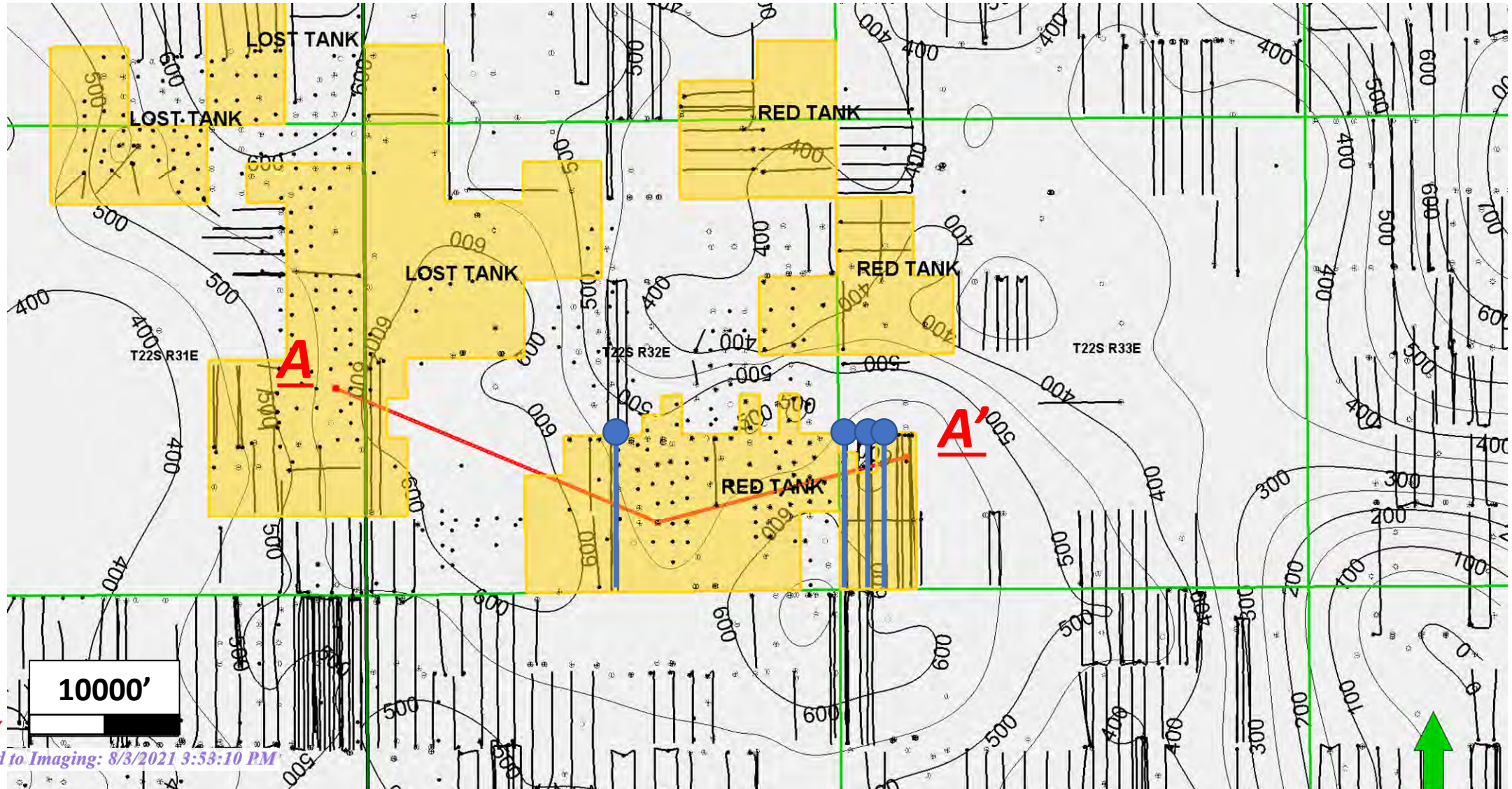
Tanks Structure Map: Top of Avalon

Consistent structural dip to east



Tanks Thickness Map

Northwest-southeast trending layer of Avalon 500-600’ in thickness



Geologic Information for Wells injecting into the Avalon member of the Bone Spring Formation

Four wells will be injecting into the Avalon member of the Bone Spring Formation. Two wells have an average TVD of approximately 9,400 ft. (Avogato 30-31 State Com 11H & 13H), one well has an average TVD of approximately 9,500 ft. (Taco Cat 27-34 Fed Com 11H), and one well has an average TVD of approximately 9,600 ft. (Avogato 30-31 State Com 14H). The four wells have lateral lengths of approximately 10,000ft. The Avalon Shale is a very fine-grained quartz-rich and brittle siltstone with alternating cycles of carbonate rich mudstones deposited by gravity flows. Core data and petrophysical analysis indicates a tight reservoir with an average porosity less than 10% and an average permeability in the nano-darcy range. The reservoir has a clay content of 18% on average including illite and smectite. Cements include Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present.

Low-permeability barriers to fluid flow exist within the Bone Spring Formation above and below the Avalon Shale. Above the Avalon Shale, the Bone Spring Formation consists of fine-grained siltstones, carbonate mudstone and dolomudstone that have very low permeabilities and an average thickness of 250 ft. Below the Avalon Shale is the 1st Bone Spring Lime, a low permeability ~ 100ft thick carbonate rich interval. Laterally the injection will be primarily contained by the reservoir volume that has been previously and partially depleted by the adjacent producing wells. The tight low-permeability reservoir and the production from the adjacent wells will be the primary constraints on the conformance of the injection to the project area and are expected to contain the injected gas.

Overlying the Bone Springs is the Delaware Mountain Group, which consists of connate-water bearing and hydrocarbon-bearing low permeability and porosity sands, with minor limestone and shale intervals and is approximately 3,900 ft. thick. Above that is the Castile Formation consisting of very low permeability anhydrite, gypsum, and calcite that acts as another 1,500 ft. thick barrier to upward movement of fluids. The Salado Formation overlies the Castile and consists of 1,000 ft. of impermeable salt. The top of the Salado is at 1,500 ft. TVD (depending on location within the field) and the deep aquifers found just above the Salado at the base of the Rustler are saline water. The top of Rustler Formation is at approximately 1000 ft. The Rustler top is a continuous anhydrite layer that acts as another permeability barrier creating a perched aquifer above it that is the lowest level where fresh water is known in the area, water wells drilled in the area typically have not reached this depth. Due to the thickness of multiple impermeable rock layers above the injection reservoir there is little possibility for migration upward into freshwater aquifers where they exist.

Locate freshwater wells within two miles:
An investigation of existing shallow water wells has not found any active freshwater wells within a two mile radius of these injectors.

Well List:
Avogato 30-31 State Com 11H (30025459560000)
Avogato 30-31 State Com 13H (30025459580000)
Avogato 30-31 State Com 14H (30025459590000)
Taco Cat 27-34 Fed Com 11H (30025449330000)

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

Peter Senior

6-30-2021

Peter Senior, Geologist — Date

Closed Loop Gas Capture (CLGC) Project

Affirmative Statement 1

The operator examined the available geologic and engineering data and found no evidence of open faults or other hydrologic connections between the disposal zone and any underground source of drinking water.

Peter Senior, Geologist — June 9, 2021
Date

Xueying Xie, Reservoir Engineer — 6/9/2021
Date

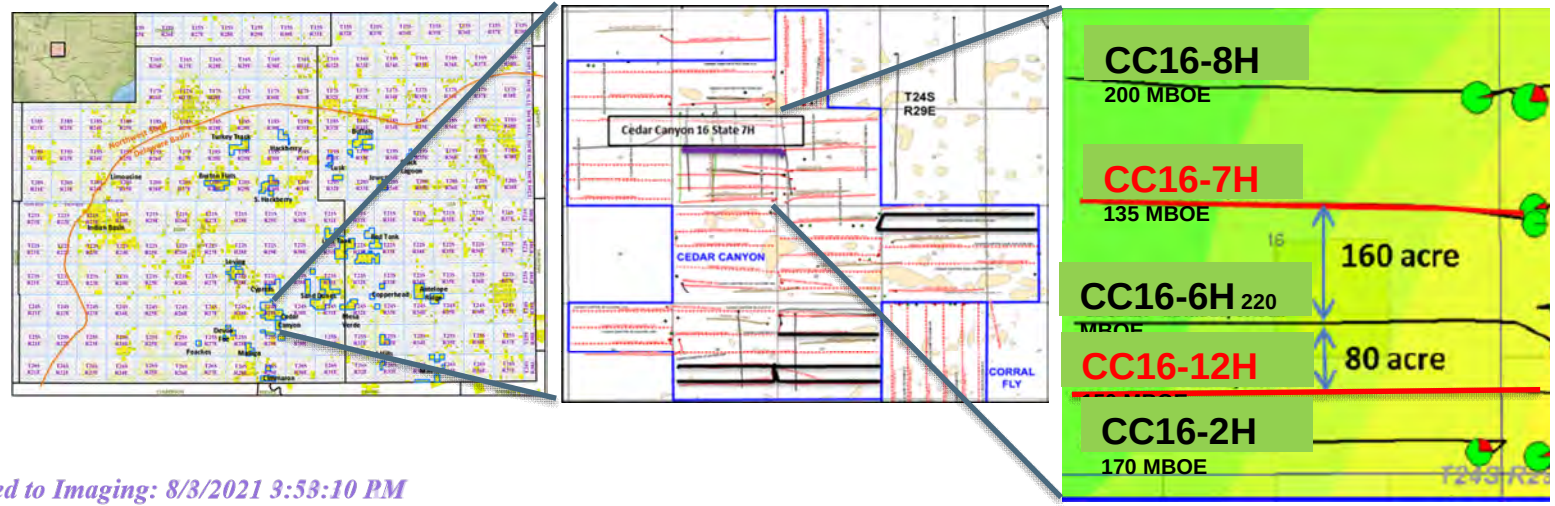
Reservoir Engineering

Project Overview – Avogato & Taco Cat

- Closed loop gas capture project (CLGC) IN Oxy's NM assets
- Produced gas injection into productive formation in NM (Avalon)
- Gas injection into horizontal wells of 10,000 ft lateral length
- Purpose of Modeling
  - >Review potential effects on wells adjacent to the CLGC area
  - >Quantify movement of the injected gas
  - >Utilize data from Cedar Canyon Huff and Puff Projects

Model Set-up

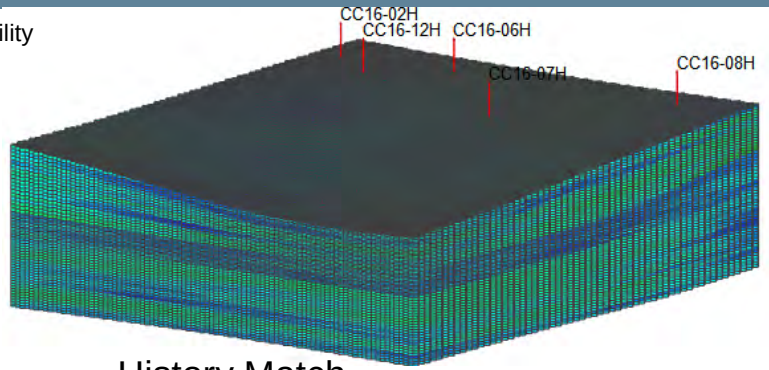
- Uses Cedar Canyon Sec 16 2nd BSS (as shown in layout below)
- Gas Injection pilot (EOR) was implemented in CC16-7H well in 2017
- Reservoir model is history matched for primary production and gas injection pilot
- Model is also tuned to capture injection gas breakthrough in offset wells that was observed during pilot period
- Gas injection pilot wells are 4 wells per section; model is adjusted to simulate the effect of closer wells (6 wps)



Cedar Canyon Section-16 Reservoir Model

Location:	Lea County,NM
Model Acreage:	640
Pay Horizon:	2nd Bone Springs Sand
Lithology:	Sandstone interbedded with Limestone
Trap Type:	Stratigraphic
Nominal Depth:	8400 ft
Gas Cap (at discovery):	No
Primary Drive Mechanism:	Solution Gas Drive

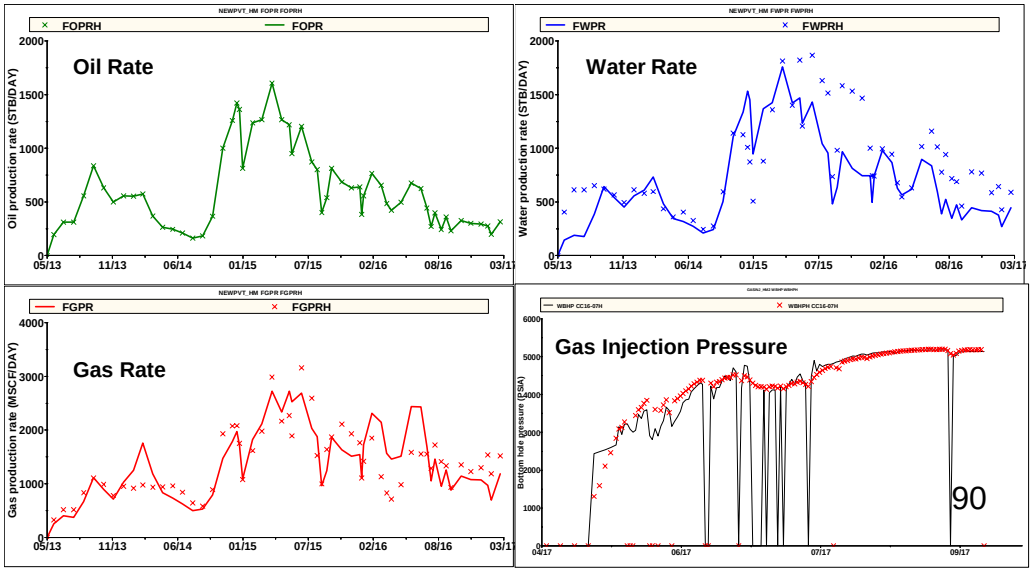
Structure & Permeability
1,177,400 Grids
56 Layers



Model Inputs

Gross Pay:	320 ft
Net Pay:	320 ft
Avg Porosity:	6.8%
Initial Sw:	50%
Permeability:	0.001md (matrix)
Initial Reservoir Pressure:	4500 psi
Reservoir Temperature:	150 F
Oil Gravity:	42 API
Boi:	1.63 RB/STB
Rsi:	1480 SCF/STB
Original Oil in Place:	28 MMSTB

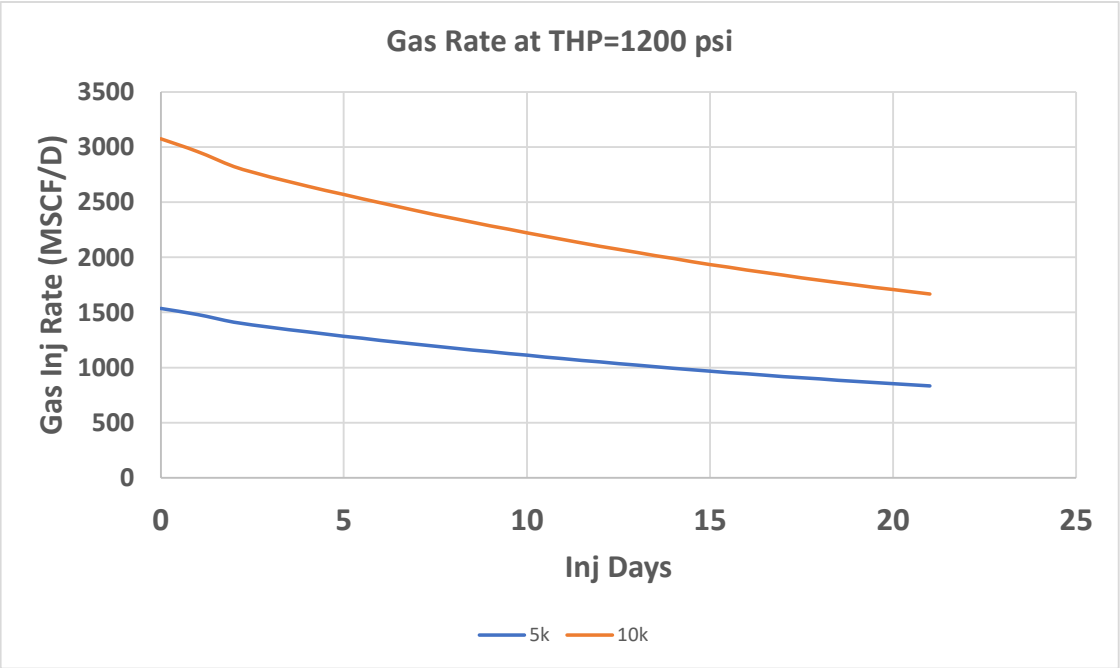
History Match



Gas Storage Simulation Process

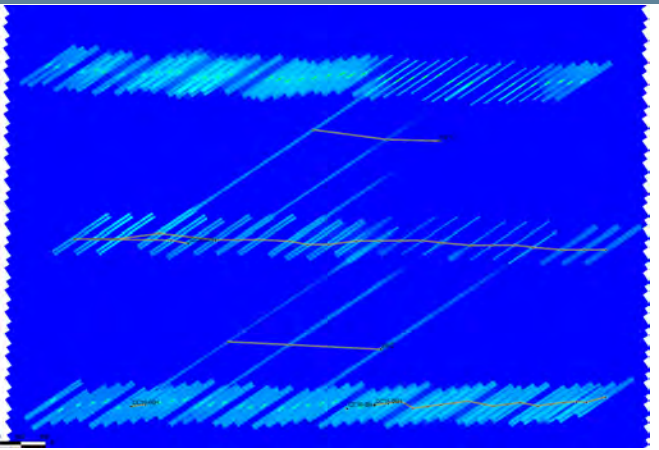
- Run primary production for all wells for additional period (post history match) – Base Case
- Inject gas in injection well at 2MMSCFPD for 7 days
- Produce the injection well post injection – Injection Case
- Observe the effect on oil, gas rate/recovery in injection well and offset wells by comparing Base and Injection cases

Gas injection rates

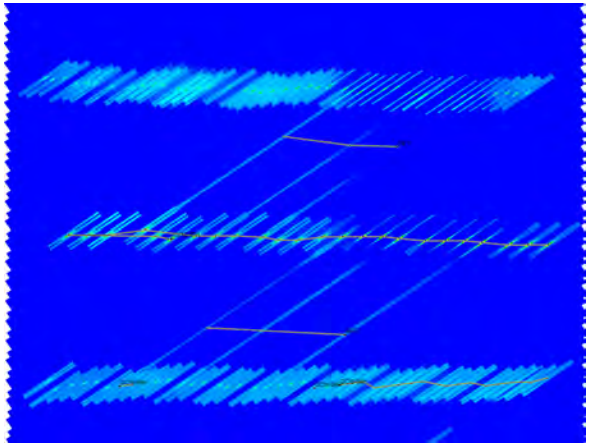


For a 10k well, 3 MMSCFPD is the max injection rate at THP of 1200 psi. Injection rate declines to about 50% of its initial value in 3 weeks. For long injection case a flat injection rate of 3MMSCFPD for 3 weeks is used as worst-case scenario.

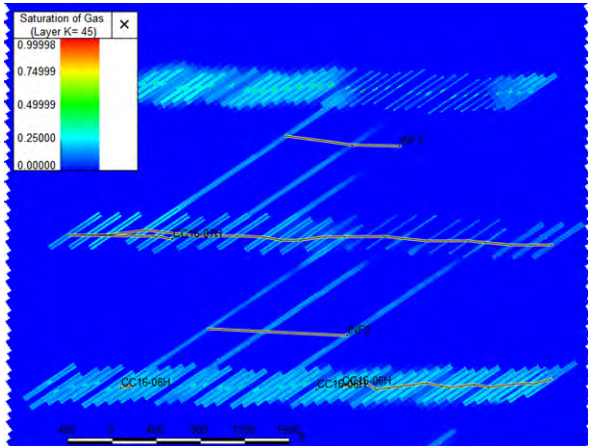
Gas Injection Profile



Before injection



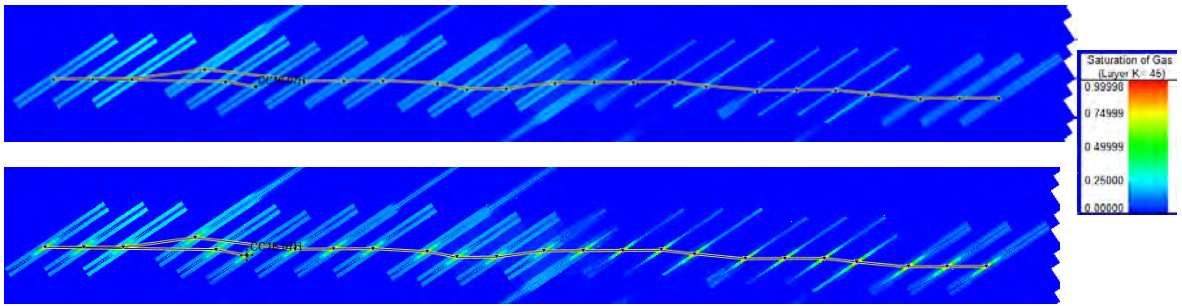
After 1 week of injection (3 MMSCFPD)



After 16 months production

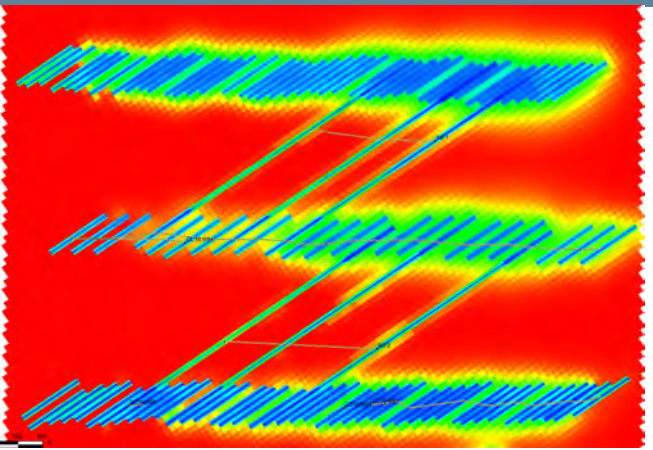
Before Injection CC16-7H Blow-up

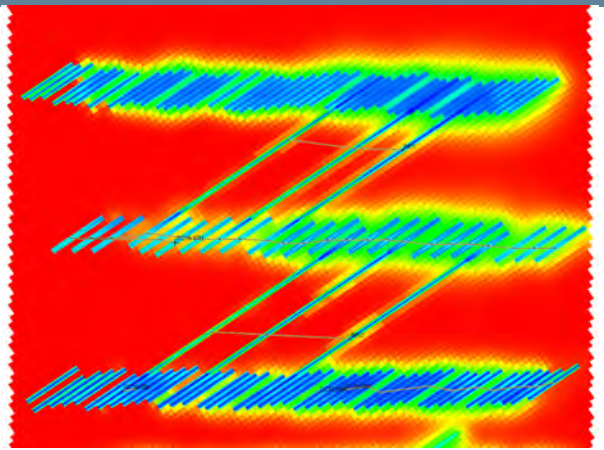
After Injection CC16-7H Blow-up

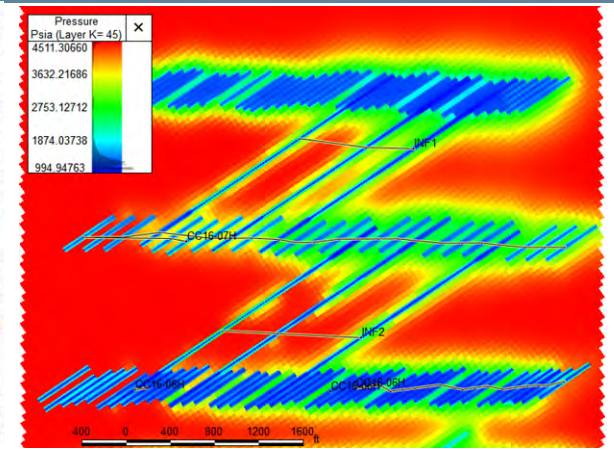


- Gas is stored within fractures.
- All injection cases indicate horizontal gas movement of 100 ft or less into the fractures.

Pressure Profile





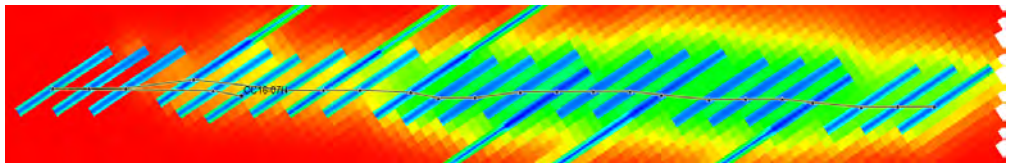


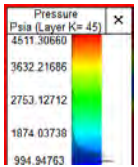
Before injection

After 1 week of injection (3 MMSCFPD)

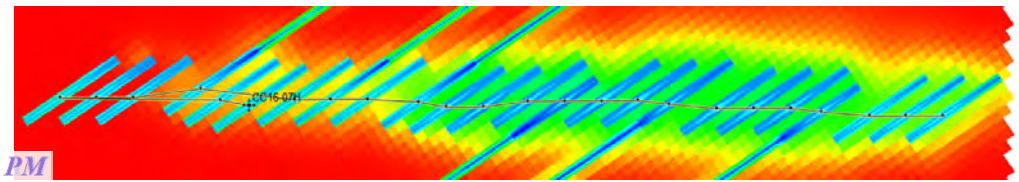
After 16 months production

Before Injection CC16-7H Blow-up





After Injection CC16-7H Blow-up



Summary of Cases

Case	Injection Description*	WPS	Oil recovery effect in injected well (MBO)	Oil recovery effect in offset wells (MBO)	Gas breakthrough in Offset well
1	Single Well	4	No change	No change	No
2	Single Well**	6	No change	No change	No
3	Single Well	8	No change	No change	No
4	Single Well (Multiple injection and production cycles)	6	No change	No change	No
5	Single well***	6	No change	No change	No
6	Multiple Adjacent Wells	4	No change	No change	No
7	Multiple Adjacent Wells	6	No change	No change	No
8	Multiple Adjacent Wells	8	No change	No change	No

**All injection at 2MMSCF/DAY for 7 days except cases 2 and 5*

***Injection at 3MMSCF/DAY for 7 days*

****Injection at constant surface pressure of 1200 psi for 21 days*

Gas Storage Capacities - Tanks

		Gas Storage Capacity with 1200 psi WHP Injection	
API	Well Name	Fracture volume gas equivalent, mmscf	Total prod gas equivalent, mmscf
30025459560000	AVOGATO 30-31 STATE COM 11H	326	1292
30025459580000	AVOGATO 30-31 STATE COM 13H	312	574
30025459590000	AVOGATO 30-31 STATE COM 14H	325	1265
30025449330000	TACO CAT 27 34 FEDERAL COM 11H	339	1377

- Gas storage capacity is high for each well
  - Even just stored gas in fractures, the capacity is over 200 mmscf
- The expected gas injection volume for each well during each event could be up to 60 mmscf, this is way below the storage capacity

Frac Height and SRV – Avogato & Taco Cat

- Frac height:
  - Avalon: Based on Tanks Avogato
    - XH= 340’
    - Xf = 350’
- SRV
  - SRV= 2*Xf*Xh*Well length

API 14	Well Name	SRV, ft^3
30025459560000	AVOGATO-11H	2,375,002,000
30025459580000	AVOGATO-13H	2,327,878,000
30025459590000	AVOGATO-14H	2,423,078,000
30025449330000	TACO2734-11H	2,421,888,000

Closed Loop Gas Capture (CLGC) Project

Affirmative Statement 2

The operator examined the available geologic and engineering data and determined 1) the total recoverable volume of hydrocarbons from the reservoir will not be adversely affected by the project and 2) the gas composition will not damage the reservoir.

Xueying Xie

6/9/2021

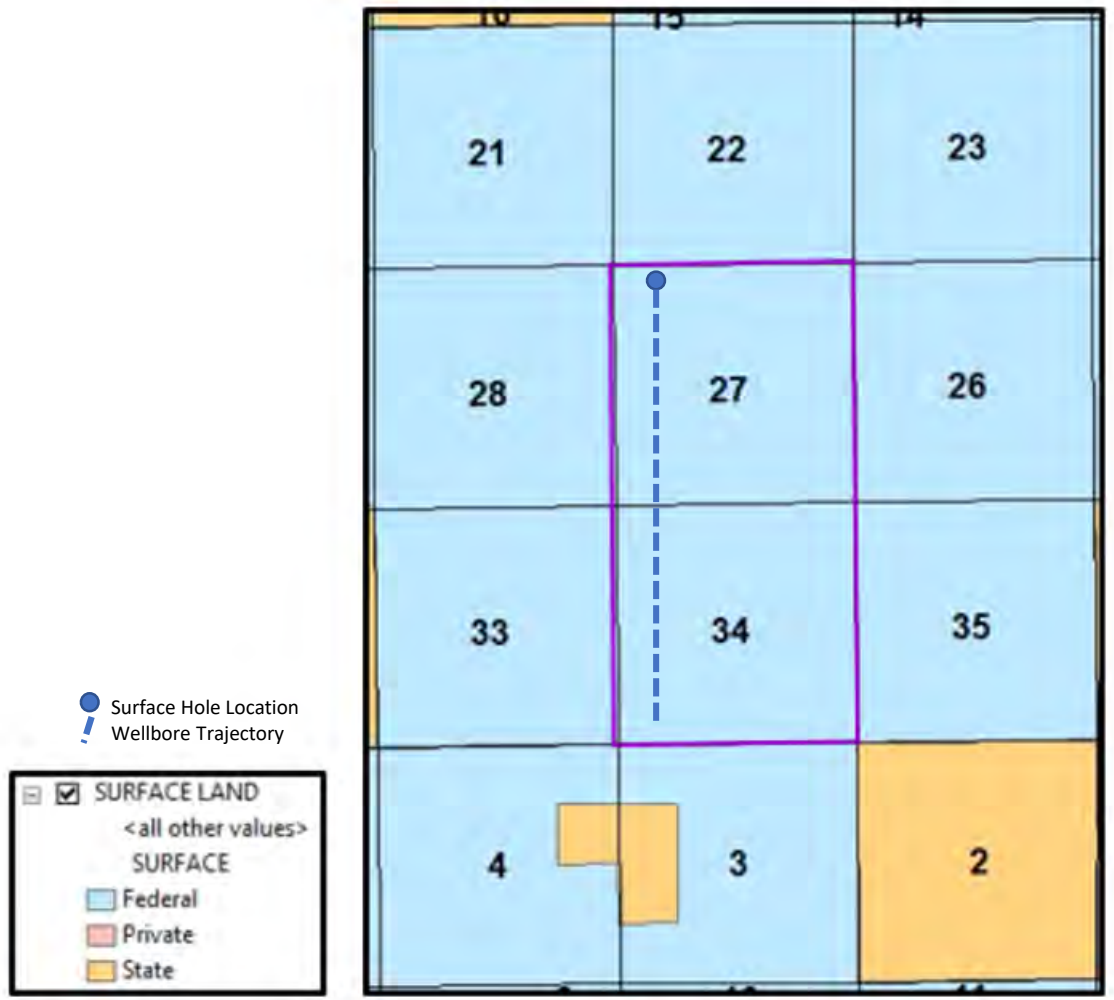
_____ _____

Xueying Xie, Reservoir Engineer Date

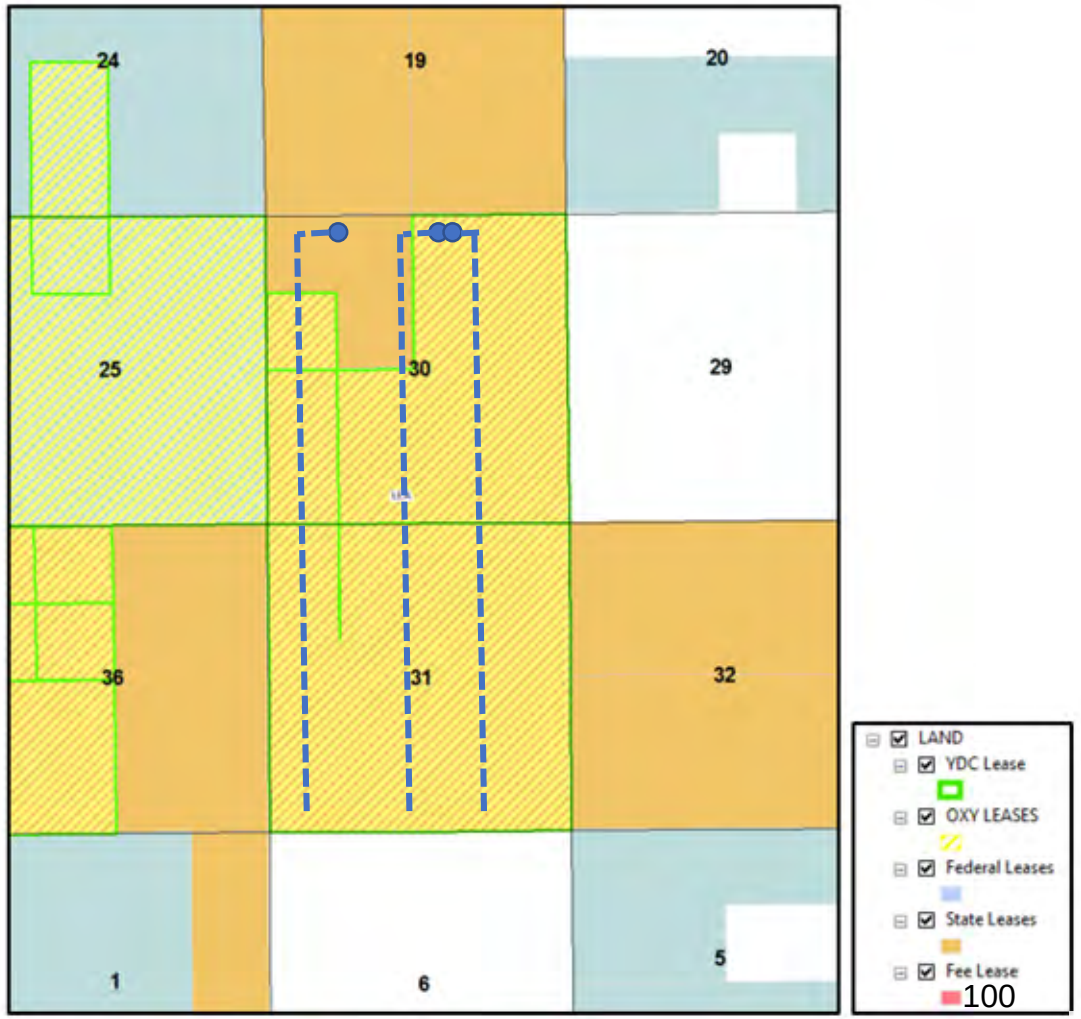
Notice

Surface Land Ownership

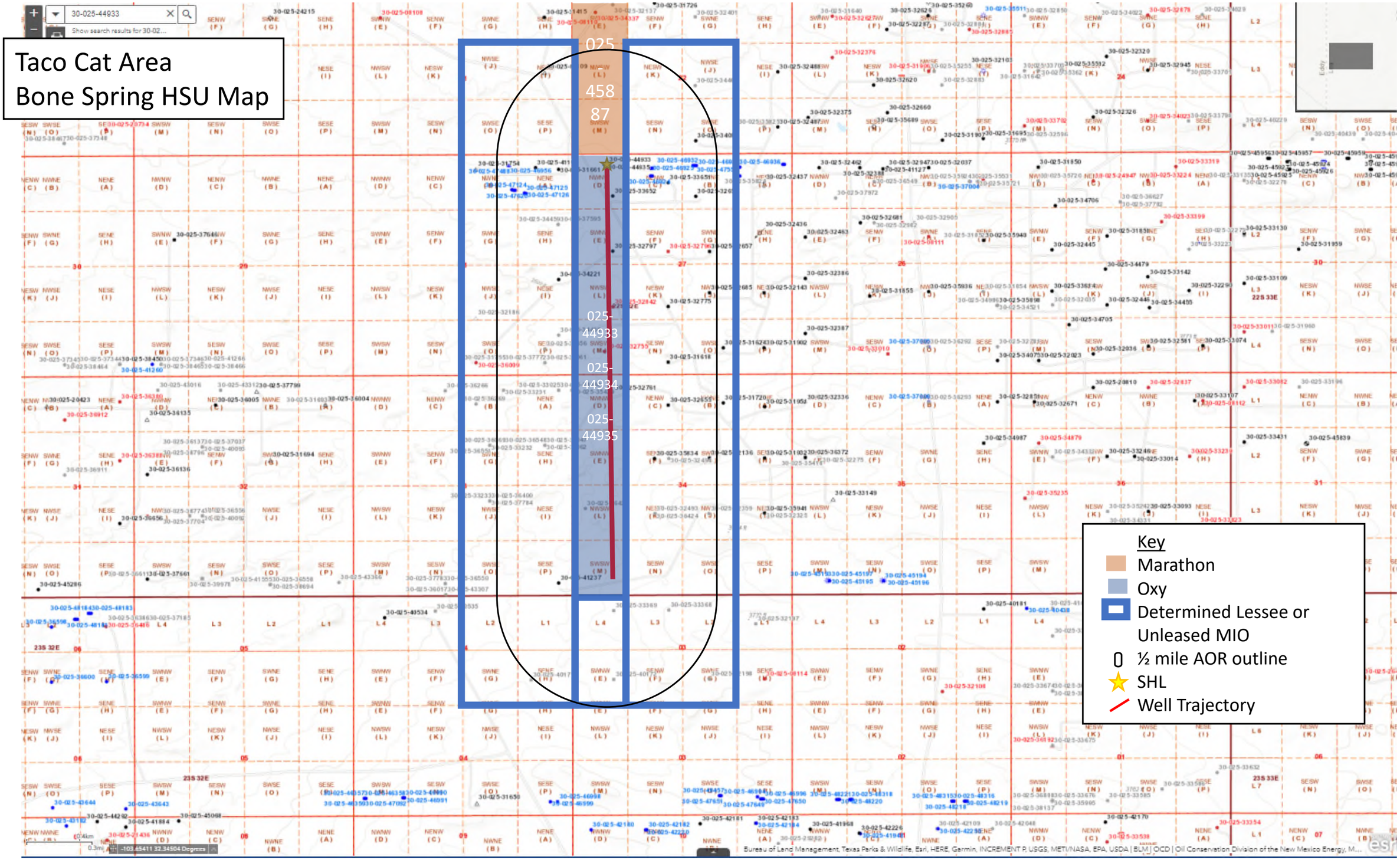
Taco Cat Area



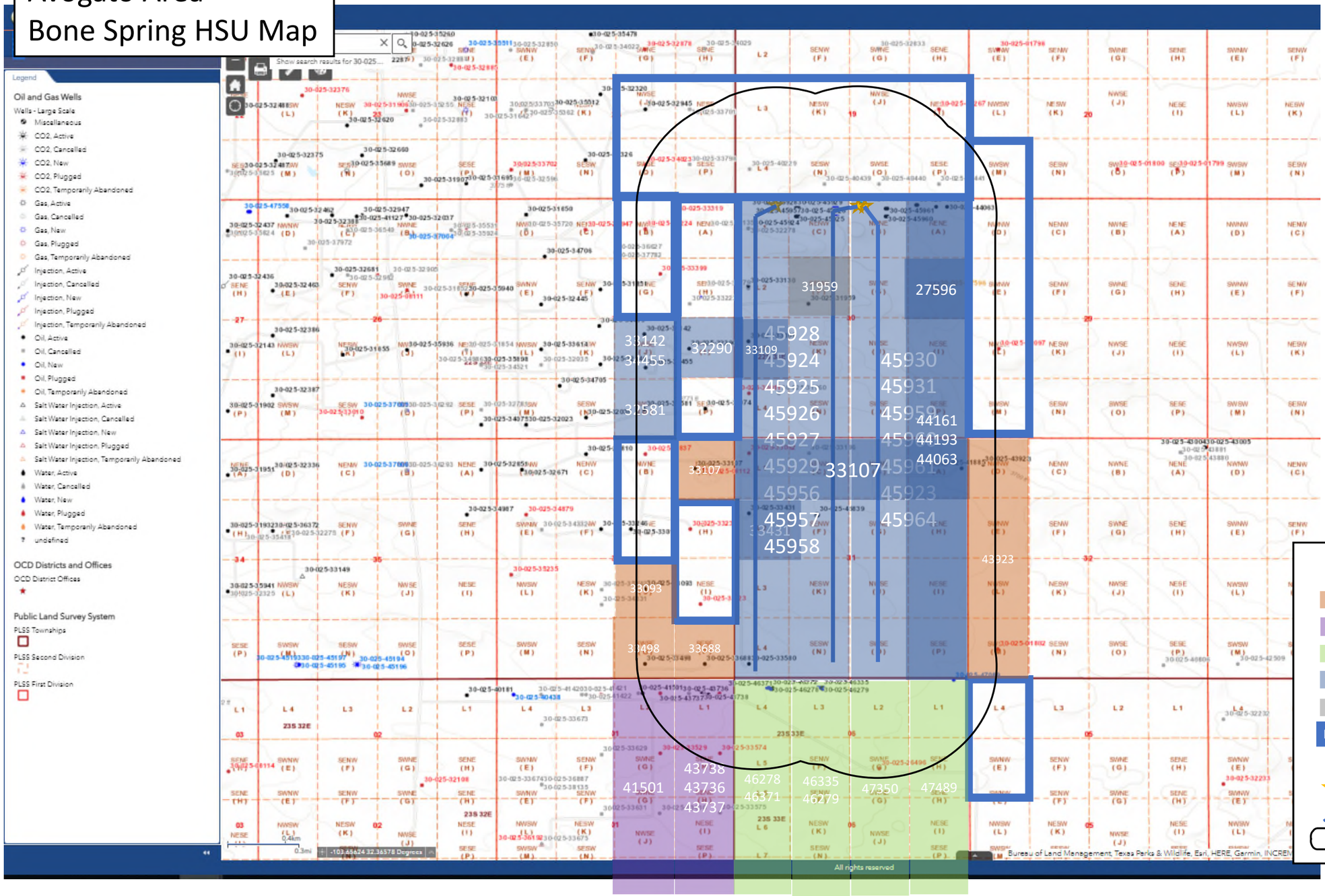
Avogato Area



Taco Cat Area
Bone Spring HSU Map



Avogato Area
Bone Spring HSU Map



Taco Cat Area Notice List

Name	Street	City	State	Zip Code	Merged
Surface Owners					
BLM	620 E. Greene St.	Carlsbad	NM	88220	BLM 620 E. Greene St. Carlsbad, NM 88220
Leasehold Operators					
CIMAREX ENERGY CO.	600 N. Marienfield St. Suite 600	Midland	TX	79701	CIMAREX ENERGY CO. 600 N. Marienfield St. Suite 600 Midland, TX 79701
Marathon Oil Permian LLC	5555 San Felipe St.	Houston	TX	77056	Marathon Oil Permian LLC 5555 San Felipe St. Houston, TX 77056
Affected Persons					
XTO Holdings LLC	P.O. Box 840780	Dallas	TX	75284	XTO Holdings LLC P.O. Box 840780 Dallas, TX 75284
Marathon Oil Permian LLC	5555 San Felipe St.	Houston	TX	77056	Marathon Oil Permian LLC 5555 San Felipe St. Houston, TX 77056
A.J. Losee	Box 1720	Artesia	NM	88211	A.J. Losee Box 1720 Artesia, NM 88211
Anne Ransome-Losee	3505 Calle Cuervo #218	Albuquerque	NM	87048	Anne Ransome-Losee 3505 Calle Cuervo #218 Albuquerque, NM 87048
Arthur Dow	324 Yucca Dr. NW	Albuquerque	NM	87105	Arthur Dow 324 Yucca Dr. NW Albuquerque, NM 87105
Black Mountain Operating LLC	500 Main St Ste 1200	Fort Worth	TX	76102	Black Mountain Operating LLC 500 Main St Ste 1200 Fort Worth, TX 76102
Bradley S. Bates	2400 N. Pecos St.	Midland	TX	79705	Bradley S. Bates 2400 N. Pecos St. Midland, TX 79705
Buckeye Energy Inc.	P.O. Box 3788	Midland	TX	79702	Buckeye Energy Inc. P.O. Box 3788 Midland, TX 79702
Burlington Resources Oil & Gas Co LP	P.O. Box 51810	Midland	TX	79710	Burlington Resources Oil & Gas Co LP P.O. Box 51810 Midland, TX 79710
C. W. Trainer	P.O. Box 3788	Midland	TX	79702	C. W. Trainer P.O. Box 3788 Midland, TX 79702
Carmine Scarcelli	2111 Wellington Ct.	Midland	TX	79705	Carmine Scarcelli 2111 Wellington Ct. Midland, TX 79705

Carrie A. Haydel	149 14th St.	New Orleans	LA	70124	Carrie A. Haydel 149 14th St. New Orleans, LA 70124
Chevron USA Inc.	1400 Smith St.	Houston	TX	77002	Chevron USA Inc. 1400 Smith St. Houston, TX 77002
Cimarex Energy Company of Colorado	600 N. Marienfield St. Suite 600	Midland	TX	79701	Cimarex Energy Company of Colorado 600 N. Marienfield St. Suite 600 Midland, TX 79701
Devon Energy Production Company LP	333 W. Sheridan Ave	Oklahoma City	OK	73102	Devon Energy Production Company LP 333 W. Sheridan Ave Oklahoma City, OK 73102
Diance C. Prince	816 Connectcut Ave NW	Washington	DC	20006	Diance C. Prince 816 Connectcut Ave NW Washington, DC 20006
Elizabeth Losee	328 Sierra Pl.	Albuquerque	NM	87108	Elizabeth Losee 328 Sierra Pl. Albuquerque, NM 87108
EOG Resources Inc.	P.O. Box 840321	Dallas	TX	75284	EOG Resources Inc. P.O. Box 840321 Dallas, TX 75284
Frederick Prince IV	816 Connectcut Ave NW	Washington	DC	20006	Frederick Prince IV 816 Connectcut Ave NW Washington, DC 20006
Highpoint Operating Corp.	216 16th St. Ste 1100	Denver	CO	80202	Highpoint Operating Corp. 216 16th St. Ste 1100 Denver, CO 80202
Jesus Salazar Family LP	2400 Rose NW	Albuquerque	NM	87104	Jesus Salazar Family LP 2400 Rose NW Albuquerque, NM 87104
John Blackburn	P.O. Box 340535	Austin	TX	78734	John Blackburn P.O. Box 340535 Austin, TX 78734
Kent H. Berger	203 W. Wall St. #612	Midland	TX	79701	Kent H. Berger 203 W. Wall St. #612 Midland, TX 79701
Lewis O. Campell	8111 Lamp Post Cir SE	Albuquerque	NM	87123	Lewis O. Campell 8111 Lamp Post Cir SE Albuquerque, NM 87123
Losee Investments	P.O. Box 1720	Artesia	NM	88211	Losee Investments P.O. Box 1720 Artesia, NM 88211
Lynn S. Charulk	2401 Stutz Pl.	Midland	TX	79705	Lynn S. Charulk 2401 Stutz Pl. Midland, TX 79705
Mackenroth Interests LLC	3601 N. I-40 Service Rd.	West Martairie	LA	70002	Mackenroth Interests LLC 3601 N. I-40 Service Rd. West Martairie, LA 70002

Mcnic O&G Properties	1360 Post Oak Blvd	Houston	TX	77056	Mcnic O&G Properties 1360 Post Oak Blvd Houston, TX 77056
PBEX Resources	223 W. Wall St. Ste 900	Midland	TX	79701	PBEX Resources 223 W. Wall St. Ste 900 Midland, TX 79701
Penwell Energy Inc.	600 N. Marienfield St. Suite 1100	Midland	TX	79701	Penwell Energy Inc. 600 N. Marienfield St. Suite 1100 Midland, TX 79701
PXP Producing LLC	717 Texas St Ste #2100	Houston	TX	77002	PXP Producing LLC 717 Texas St Ste #2100 Houston, TX 77002
Robert M. Dow Revocable Trust	5136 Lomas De Artisto Rd NW	Albuquerque	NM	87105	Robert M. Dow Revocable Trust 5136 Lomas De Artisto Rd NW Albuquerque, NM 87105
Sealy Hutchings Cavin Inc.	504 N Wyoming Ave	Roswell	NM	88201	Sealy Hutchings Cavin Inc. 504 N Wyoming Ave Roswell, NM 88201
South Highway 14 Bus Co	324 Yucca Dr. NW	Albuquerque	NM	87105	South Highway 14 Bus Co 324 Yucca Dr. NW Albuquerque, NM 87105
Southwest Royalties Inc	6 Desta Dr. Ste 3700	Midland	TX	79705	Southwest Royalties Inc 6 Desta Dr. Ste 3700 Midland, TX 79705
Strata Production Co	P.O Box 1030	Roswell	NM	88292	Strata Production Co P.O Box 1030 Roswell, NM 88292
The Gray Exploration Co	3601 N. I-40 Service Rd.	West Martairie	LA	70002	The Gray Exploration Co 3601 N. I-40 Service Rd. West Martairie, LA 70002
The Ninety-Six Corp	550 W. Texas #1225	Midland	TX	79701	The Ninety-Six Corp 550 W. Texas #1225 Midland, TX 79701
Trainer Partners LTD	P.O. Box 3788	Midland	TX	79702	Trainer Partners LTD P.O. Box 3788 Midland, TX 79702
XTO Energy Inc.	22777 Springwoods Village Pkwy	Spring	TX	77389	XTO Energy Inc. 22777 Springwoods Village Pkwy Spring, TX 77389
XTO Holdings LLC	22777 Springwoods Village Pkwy	Spring	TX	77389	XTO Holdings LLC 22777 Springwoods Village Pkwy Spring, TX 77389
XTO Holdings LLC	P.O. Box 840780	Dallas	TX	75284	XTO Holdings LLC P.O. Box 840780 Dallas, TX 75284
POGO PRODUCING CO.	P.O. Box 10340	Midland	TX	79702	POGO PRODUCING CO. P.O. Box 10340 Midland, TX 79702

Avogato Area Notice List

Name	Street	City	State	Zip Code	Merged
Surface Owners					
State Land Office	308 Old Santa Fe Trail	Santa Fe	NM	87501	State Land Office 308 Old Santa Fe Trail Santa Fe, NM 87501
Leasehold Operators					
CIMAREX ENERGY CO.	600 N. Marienfield St. Suite 600	Midland	TX	79701	CIMAREX ENERGY CO. 600 N. Marienfield St. Suite 600 Midland, TX 79701
EOG Resources Inc.	P.O. Box 2267	Midland	TX	79702	EOG Resources Inc. P.O. Box 2267 Midland, TX 79702
Matador Production Company	5400 LBJ Freeway Ste 1500	Dallas	TX	75240	Matador Production Company 5400 LBJ Freeway Ste 1500 Dallas, TX 75240
Wagner Oil Co	500 Commerce Suite 500	Fort Worth	TX	76102	Wagner Oil Co 500 Commerce Suite 500 Fort Worth, TX 76102
Affected Persons					
1 Timothy 6 LLC	P.O. Box 30598	Edmond	OK	73003	1 Timothy 6 LLC P.O. Box 30598 Edmond, OK 73003
2019 Permian Basin JV	P.O. Box 10	Folosom	LA	70437	2019 Permian Basin JV P.O. Box 10 Folosom, LA 70437
Accelerate Resources Operating LLC	5949 Sherry Ln.	Dallas	TX	75225	Accelerate Resources Operating LLC 5949 Sherry Ln. Dallas, TX 75225
C.D. Martin	P.O. Box 12	Midland	TX	79702	C.D. Martin P.O. Box 12 Midland, TX 79702
Cal-Mon Oil Company	200 N. Loraine St. Ste 1404	Midland	TX	79701	Cal-Mon Oil Company 200 N. Loraine St. Ste 1404 Midland, TX 79701
Campeche Petro LP	500 Commerce St. Ste 600	Fort Worth	TX	76102	Campeche Petro LP 500 Commerce St. Ste 600 Fort Worth, TX 76102
Cardinal Plastics	P.O. Box 935	Odessa	TX	79760	Cardinal Plastics P.O. Box 935 Odessa, TX 79760

Conrad E. Coffield	P.O. Box 8028	Santa Fe	NM	87504	Conrad E. Coffield P.O. Box 8028 Santa Fe, NM 87504
EOG Resources Inc.	P.O. Box 840321	Dallas	TX	75284	EOG Resources Inc. P.O. Box 840321 Dallas, TX 75284
Kastman Oil Company	P.O. Box 5930	Lubbock	TX	79408	Kastman Oil Company P.O. Box 5930 Lubbock, TX 79408
Lonsdale Resources LLC	2626 Cole Ave Ste 300	Dallas	TX	75204	Lonsdale Resources LLC 2626 Cole Ave Ste 300 Dallas, TX 75204
Maduro Oil & Gas LLC	3102 Maple Avenue Suite 400	Dallas	TX	75201	Maduro Oil & Gas LLC 3102 Maple Avenue Suite 400 Dallas, TX 75201
SDS Properties Inc.	P.O. Box 246	Roswell	NM	88202	SDS Properties Inc. P.O. Box 246 Roswell, NM 88202
Silverstone Resources Inc.	P.O. Box 41270	Reno	NV	89504	Silverstone Resources Inc. P.O. Box 41270 Reno, NV 89504
Tocor Investments Inc.	P.O. Box 293	Midland	TX	79702	Tocor Investments Inc. P.O. Box 293 Midland, TX 79702
A.J. Losee	Box 1720	Artesia	NM	88211	A.J. Losee Box 1720 Artesia, NM 88211
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Jesus Salazar Family LP	2400 Rose NW	Albuquerque	NM	87104	Jesus Salazar Family LP 2400 Rose NW Albuquerque, NM 87104
John Blackburn	P.O. Box 340535	Austin	TX	78734	John Blackburn P.O. Box 340535 Austin, TX 78734
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Trainer Partners LTD	P.O. Box 3788	Midland	TX	79702	Trainer Partners LTD P.O. Box 3788 Midland, TX 79702
LIME ROCK RESOURCES A, L.P.	1111 Bagby Street Suite 4600	Houston	TX	77002	LIME ROCK RESOURCES A, L.P. 1111 Bagby Street Suite 4600 Houston, TX 77002
POGO PRODUCING CO.	P.O. Box 10340	Midland	TX	79702	POGO PRODUCING CO. P.O. Box 10340 Midland, TX 79702
POGO PRODUCING COMPANY LLC	700 Milliam Suite 1300	Houston	TX	77002	POGO PRODUCING COMPANY LLC 700 Milliam Suite 1300 Houston, TX 77002

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF OXY USA INC. FOR A CLOSED LOOP GAS CAPTURE INJECTION PILOT PROJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22089

AFFIDAVIT OF STEPHEN JANACEK

I, Stephen Janacek, of lawful age and being first duly sworn, declare as follows:

1. My name is Stephen Janacek and I am employed by OXY USA Inc. ("OXY") as a petroleum engineer.

2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum engineering.

3. I am familiar with the application filed by OXY in this case, and the Division guidance and requirements regarding closed loop gas capture projects (CLGC Projects) such as this one. I also prepared exhibits in support of this application from pages 3-4, 7-8, 33-54, 56, 58-65, 99-109 in ***Exhibit A*** to OXY's application, and as **Exhibit A**.

4. In this case, Oxy seeks an order approving the proposed 320-acre, more or less, project area for this pilot project consisting of the W/2 W/2 of Sections 27 and 34, Township 22 South, Range 32 East, NMPM, Lea County, New Mexico. *See* ***Exhibit A***, attached to the application in this case, at 7. The proposed project area is part of a larger area referred to as the Tanks area. A locator map identifying the general location of OXY's proposed Taco Cat Injection Pilot Project is included in ***Exhibit A*** at page 7.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. B
Submitted by: OXY USA INC.
Hearing Date: August 05, 2021
Case No. 22089

5. OXY requests an initial project duration of five years to coincide with mechanical integrity tests every five years. OXY also requests the ability to administratively extend the project without the need for a hearing.

6. Within the proposed project area, OXY seeks authority to utilize the following producing well to occasionally inject produced gas into the Bone Spring formation [Red Tank; Bone Spring Pool (Pool Code 51683)]:

- The **Taco Cat 27-34 Federal Com #11H well** (API No. 30-025-44933), with a surface location 260 feet FNL and 855 feet FWL (Unit D) in Section 27, and a bottom hole location 20 feet FSL and 998 feet FWL (Unit M) in Section 34

7. Injection along the horizontal portion of the wellbore will be at the following approximate true vertical depths:

- The **Taco Cat 27-34 Federal Com #11H well**: between 9,339 feet and 9,517 feet.

8. A summary overview of the pilot project is located at pages 3-4 of ***Exhibit A***.

9. A process flow diagram of the closed loop gas capture system is in the Attached ***Exhibit A*** at page 8. This diagram reflects the current and proposed system to be used for gas storage. OXY will utilize the existing gas lift infrastructure so no changes are shown. During normal operations, produced fluids flow from the wells down the green flowline to the Red Tank 27/28 Central Tank Battery (CTB). The source wells, which consist of all wells connected to the CTB, produce from the Bone Spring and Wolfcamp formations. Oil, water, and gas are separated out and leave the central tank battery. Oil is sold through the Lease Automatic Custody Transfer (LACT) at the CTB, water is sent to a disposal well, and gas enters the red, Low Pressure Gas Pipeline. Gas can then be sold to the DCP Primary Gas Takeaway, flared, or flow to the Centralized Gas Lift (CGL) Stations for compression and re-injection as gas lift gas. After the

gas goes through the CGL Stations, the pressure increases to a maximum of 1250 psig in the orange Centralized Gas Lift (CGL) Pipeline. Then it flows back to the wells with gas lift systems. The flow of fluids is similar yet different during a gas storage event. A gas storage event is initiated when gas cannot be sold to DCP and the source wells are not shut-in. The major changes are to the DCP Primary Gas Takeaway (which ceases taking gas) and the CLGC well (which cease producing and becomes a CLGC well). Since gas cannot be sold, it will begin to build up in the Low-Pressure Gas Pipeline as wells continue to produce oil, water, and gas. Once the pressure in the Low-Pressure Gas Pipeline increases to a certain point, the CLGC well will be activated. The CLGC well is activated by closing the Shutdown Valve (SDV) at the wellhead. When the interruption ends and gas can once again be sold to DCP, the gas storage event ends. The Shutdown Valve opens and the CLGC well produces down the flowline to a dedicated separator at the CTB for measurement.

10. A map depicting the pipeline that ties the CLGC well for the pilot project into the gathering system and the affected compressor station is included in the attached ***Exhibit A*** at page 7. The colors and components of the system are the same as the process flow diagram in the attached ***Exhibit A*** at page 8 with some additional items. The black line represents the wellbore trajectory of the CLGC well. The First Take Point (FTP) and Last Take Point (LTP) are labeled on the well trajectory. The project area is outlined with a dashed, dark-blue line, which is based on the CLGC well's horizontal spacing unit as shown on the attached ***Exhibit A*** at pages 13. The gas source wells are not on this map.

11. Data for each CLGC well, including well diagrams and well construction, casing, tubing, packers, cement, perforations, and other details for each proposed injection well are

included in the attached ***Exhibit A*** at pages 33-34. The CGLC well has a gas lift system which injects down the casing and produces up the tubing with a packer in the hole.

12. When needed, OXY proposes to place a packer as deep as possible but no more than 100 feet above the top of the injection zone.

13. A cement bond log demonstrates the placement of cement in the CLGC well proposed in the CLGC project, and that there is a good and sufficient cement bond with the production casing and the tie-in of the production casing with the next prior casing in the well. *See* ***Exhibit A*** at 35-38.

14. The current average surface pressures under normal operations for the proposed injection well is approximately 670 psi. *See* ***Exhibit A*** at 39. The maximum achievable surface pressure (MASP) for the CLGC well will be 1,200 psi. *Id.*

15. Assuming a full fluid column of reservoir brine water, the proposed maximum allowable surface pressure will not exert pressure at the top perforation in the wellbore of the CLGC well in excess of 90% of the burst pressure for the production casing. *See* ***Exhibit A*** at 39. In addition, the proposed maximum allowable surface pressure will not exceed 0.14 psi per foot as measured at the top of the uppermost perforation in the CLGC well and will not exert pressure at the top-most perforation in excess of 90% of the formation parting pressure. *See* ***Exhibit A*** at 39.

16. OXY plans to monitor gas storage injection and operational parameters for the CLGC Project using an automated supervisory control and data acquisition (SCADA) system with pre-set alarms and automatic shut-in safety valves that will prevent injection pressures from exceeding the MASP. *See* Exhibit A at 40 and 50-51. The wellhead diagram for the CLGC well is found in ***Exhibit A*** at 40. Injection starts at the flowmeter where the injection rate is measured

and moves through the following components: first, the injection flow control valve which controls the injection pressure, the casing safety shutdown valve (SSV), which can open and close automatically, the casing-tubing annulus, the tubing, the tubing SSV, which can open and close automatically and is also closed when a CLGC well is activated, and finally another flow control valve (FCV), which controls flowline pressure. Pressure Indicating Transmitters (PITs) are located on the casing valve and tubing valves. PITs capture pressure data that is stored in the SCADA system and then used to automatically control the SSVs and FCVs.

17. The proposed average injection rate for the CLGC well is 1.8 MMSCFD with a maximum injection rate of 2.0 MMSCFD during injection. *See* ***Exhibit A*** at 39.

18. The well proposed for injection in the CLGC Project has previously demonstrated mechanical integrity. *See* ***Exhibit A*** at 41. OXY will undertake a new test to demonstrate mechanical integrity for the CLGC well proposed for this pilot project as a condition of approval prior to commencing injection operations.

19. The source of gas for injection will be from wells producing in the Bone Spring and Wolfcamp formations that are identified in the list of wells in ***Exhibit A*** at page 43.

20. OXY has prepared an analysis of the composition of the source gas for injection and a corrosion prevention plan. *See* ***Exhibit A*** at 42-48. ***Exhibit A*** at 42 is a summary of the gas analyses included in the application and the components in the system. All source wells flow to the single CTB. From there, gas can flow to the CGL station. Gas analyses have been provided for the CGL Station and the formation for gas injection. The gas analysis for the CGL Station is similar to the gas analysis for the zones for gas injection. H2S is not found in any of the gas analyses. CO2 is found in all the analyses at various amounts.

21. Since CO2 is already present in this system, OXY intends to continue with its existing Corrosion Prevention Plan in the CLGC well outlined at page 48 of ***Exhibit A***. In the existing Corrosion Prevention Plan, produced gas is processed through a gas dehydration unit to remove water. Then corrosion inhibitor is added to the system of each well downstream of the gas dehydration unit. Fluid samples are taken regularly and checked for iron, manganese, and residual corrosion inhibitor in the produced fluids. The process allows OXY to continuously monitor and adjust the chemical treatment over the life of the well to minimize corrosion. Additionally, fluid samples will be taken prior to gas injection to establish a baseline for analysis. After a CLGC event, fluid samples will be taken to check for iron, manganese, and residual corrosion inhibitor in the produced fluids in the CLGC well. OXY will continue to monitor and adjust the chemical treatment over the life of the project.

22. Using an automated supervisory control and data acquisition (SCADA) system, OXY will monitor a multitude of rates and pressures to allow for efficient and safe operation, proper allocation and reporting of volumes, and immediate response to unexpected events. *See* ***Exhibit A*** at 40 and 50-51. The CLGC well will also include automated safety devices, including automatic shut-in valves among other operational safety measures. OXY will also monitor and track various operational parameters at the pilot project's central tank battery and central gas lift compressor. *See* ***Exhibit A*** at 50-51.

23. OXY proposes a Data Collection Plan for the Taco Cat CLGC Project as seen in its Data Collection Plan, attached as **Exhibit B-1**, to collect and report data pertinent to CLGC operations. The plan is similar to the data collection process outlined in the Injection Order R-21747 but proposes some changes. Consistent with Order R-21747, the Data Collection Plan will apply to the wells listed in the table in the Exhibit. A gunbarrel view is not included with the

Data Collection Plan because there are no offset horizontal wells operated by OXY. In the OXY Data Collection Plan for Taco Cat, there are some changes to the reporting requirements. First, to lessen the administrative burden of these requirements, OXY will provide status updates every 12 months. Second, the recovery analysis will be required only if the change in production casing pressure or production volume is related to the CLGC event. These wells are on gas lift most of the time, and changes in casing pressure or production volumes are not unusual for artificially lifted wells. Third, if the CLGC well is being produced pursuant to an approved commingling permit, OXY will use best efforts to obtain the well production volumes at the frequency required, but measurements necessary for the proper allocation of volumes need to take precedent over these requirements. Lastly, OXY shall not be required to install additional facilities or measurement equipment to collect the data described. These changes create an achievable Data Collection Plan for Taco Cat. If a data collection plan is required as outlined in the Injection Order R-21747, additional well testing equipment will be required. If required, it will severely impact OXY's ability to pursue the CLGC Project due to the capital costs associated with installing the additional well testing equipment.

24. I also conducted an analysis of the half-mile area of review and two-mile area surrounding the CLGC well. A map depicting wells and their trajectories within the half-mile area of review and two-mile radius around the CLGC well is located at page 54 of ***Exhibit A***. A map identifying each surface tract by ownership type within the half-mile area of review and two-mile area surrounding the CLGC well is located at page 53 of ***Exhibit A***. Finally, a map depicting all wells identified with completed laterals all or partially within the half-mile area of review is located at page 56 of ***Exhibit A***. It assigns a well identification number to each well within the area of review that may be cross referenced in the following well data tabulation chart on pages 58-61 of

Exhibit A. The well data tabulation chart provides detailed information for identification, location, drilling, casing, cement, current completion, and current producing pool of each well.

25. Wellbore schematics for the seven wells that penetrate the proposed injection interval and have been plugged and abandoned are included at pages 62-68 in ***Exhibit A***. Review of the wellbore diagrams indicate adequate casing, cement, and cement plug placement to sufficiently contain gas within the injection interval.

26. To properly determine gas production the CLGC well, OXY will apply a Percentage Gas Allocation Method. *See* Gas Allocation, attached as **Exhibit B-2**. Per existing commingling permits,[1] gas sales are allocated by well test. For a period of time after a storage event, the Percentage Gas Allocation Method will be used to differentiate between native gas (owned by the owners of the CLGC well) and recovery of previously stored gas (owned by the owners of the source wells). This method is simple compared to individual GOR forecasting and decline curve analysis for the well. A similar method is in the proposed Unit Agreement for OXY's pending Cedar Canyon Section 23/24 EOR "Juno" Unit. The method allows for native gas production and associated payments to occur each month regardless of the injection gas volumes. I believe it is a fair and reasonable method for allocating gas production after a storage event. We met with the Bureau of Land Management on June 8, 2021 to present and discuss the method. They did not voice any objections to the method.

27. Working with OXY's in-house land department, I also prepared a list of affected parties required to receive notice of this application. The map on page 100 of ***Exhibit A*** reflects that the BLM is the surface owner with respect to the CLGC well. The map on page 101 depicts

[1] PLC-1334.

the area of review and identifies the designated operator for each tract that falls within the half-mile area of review for each of the wells within the Bone Spring formation.

28. Pages 103-105 of ***Exhibit A*** identify all each leasehold operators and other affected persons within any tract wholly or partially contained within one-half mile of the completed interval of the wellbore for each of the proposed injection wells entitled to notice in accordance with Division regulations, including the owner of the BLM as the surface owner where the CLGC well is located.

29. Parties entitled to notice were identified based on a determination of the title of lands and interests as recorded in the records of Lea County or from a review of New Mexico Oil Conservation Division and Bureau of Land Management operator records as of the time the application was filed or from OXY's internal records (division orders).

30. It is my opinion that OXY undertook a good faith effort to locate and identify the correct parties and valid addresses required for notice within the half-mile area of review. To the best of my knowledge the addresses used for notice purposes are valid and correct. There were no unlocatable parties for whom we were unable to locate a valid address.

31. I provided the law firm of Holland & Hart LLP a list of names and addresses of the affected parties identified on pages 103-105 for purposes of providing notice.

32. As reflected on **Exhibit B-3**, notice of this application was provided in accordance with 19.15.26.8(B)(2) NMAC. Notice was also published in the Hobbs Daily News.

33. **OXY Exhibits B-1** through **B-3** were either prepared by me or compiled under my direction and supervision.

FURTHER AFFIANT SAYETH NOT.

STEPHEN JANACEK

STATE OF TEXAS)
)
COUNTY OF Brazos)

SUBSCRIBED and SWORN to before me this 3rd day of August 2021 by Stephen Janacek.

NOTARY PUBLIC

My Commission Expires:
5/21/25

GRAHAM H. LITTLEFIELD
Notary Public, State of Texas
Comm. Expires 05-21-2025
Notary ID 133114333

PROPOSED DATA COLLECTION PLAN FOR TACO CAT CLGC PROJECT

CLGC Well Name	Completion Reservoir	Involved Well (West Side)	Involved Well (East Side)
Taco Cat 27-34 Federal Com 11H	Avalon	None	None

Since there are not involved offset wells to the east or west of the Taco Cat 27-34 Federal Comm 11H, no Gunbarrel View is submitted at the end of the proposed Data Collection Plan.

Applicant shall provide to the OCD Engineering Bureau at ocd.engineer@state.nm.us, project status updates every twelve (12) months after the approval of this Order and a summary report no later than three (3) months after the cessation of the pilot project or upon request from OCD. Status updates shall include a summary of the actions taken and problems and solutions identified and implemented. The summary report(s) shall include:

a. a summary of all project-related activity;

b. a review regarding any problems and solutions identified and implemented;

c. for each period of injection, a summary of the results, including for each CLGC Well in which injection occurred:

i. average and maximum injection flow rates;

ii. injection duration; and

iii. total injected volume.

d. for each period of injection, the following data graphed and tabulated with a resolution of at least: one (1) data point per hour beginning twenty-four (24) hours before the injection, four (4) data points per hour during the injection, and one (1) data point per hour ending twenty-four (24) hours after the injection:

i. for each CLGC well, the oil and gas production and injection flow rates and production casing pressure.

e. for each period of injection, a recovery profile for each CLGC Well which experienced a change in production casing pressure or production volume related to the injection during or immediately following the injection. The volume of recovered gas shall be determined by taking the difference between the gas production following the injection and baseline production. The baseline production shall be determined by using production history to plot a production curve that estimates what the production would have been had injection not occurred. The recovery profile shall include:

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. B1
Submitted by: OXY USA INC.
Hearing Date: August 05, 2021
Case No. 22089

i. a summary of the results, including the volume and percent of total production recovered and the duration of time required to achieve that recovery; and

ii. a tabulation of daily oil and gas production and baseline production totals; beginning a week before the injection and ending when either the gas production is near equal to its baseline production or Applicant conducts another period of injection on a CLGC Well.

f. If any of the CLGC wells are being produced pursuant to an approved commingling permit, Applicant will use best efforts to obtain the well production volumes at the frequency required in subparagraphs (d) or (e) above, but measurements necessary for proper allocation of volumes under the commingling permit shall take precedent over these requirements. Also, Applicant shall not be required to install additional facilities or measurement equipment to collect the data described above in subparagraphs (d) or (e) above.

Gas Production Percentage Allocation Method for CLGC- TC

- Simple compared to a GOR method.
- Similar method utilized in the proposed Unit Agreement for Cedar Canyon Sec 23/24 EOR "Juno" Unit.
- Native gas production and royalty payments occur each month regardless of storage gas volumes.
- Fair and reasonable method for allocating gas production after a storage event.
- BLM (met 6/8/21) did not voice any objections.

- Method
  - During a storage event, storage gas is metered. The cumulative metered volume equals the stored injection volume.
  - After a storage event, produced gas will be measured and allocated on a monthly basis between gas lift, native gas production and recovered storage injection volume.
  - Total wellhead volume less gas lift injection equals gross production.
  - Until 100% of storage injection volume is recovered, gross production will be apportioned as follows:
    - 70% return of storage injection volume and
    - 30% native gas production.
  - After all stored injection volume is recovered, all gross production will be treated as native gas.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. B2
Submitted by: OXY USA INC.
Hearing Date: August 05, 2021
Case No. 22089

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF OXY USA INC. FOR A CLOSED LOOP GAS CAPTURE INJECTION PILOT PROJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22089

AFFIDAVIT

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

Adam G. Rankin, attorney in fact and authorized representative of OXY USA Inc, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application has been provided under the notice letters and proof of receipts attached hereto.

Adam G. Rankin

SUBSCRIBED AND SWORN to before me this 3rd day of August, 2021 by Adam G. Rankin.

Notary Public

My Commission Expires:
Nov. 12, 2023

OFFICIAL SEAL
Carla Garcia
NOTARY PUBLIC - STATE OF NEW MEXICO
My Commission Expires: Nov. 12, 2023

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. B3
Submitted by: OXY USA INC.
Hearing Date: August 05, 2021
Case No. 22089

HOLLAND&HART LLP

Adam G. Rankin
Phone (505) 988-4421
agrankin@hollandhart.com

July 16, 2021

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED

TO: ALL AFFECTED PARTIES

Re: Application of OXY USA Inc. for Closed Loop Gas Capture Injection Pilot Project, Lea County, New Mexico.
Taco Cat 27-34 Fed Com #11H wells

Ladies & Gentlemen:

This letter is to advise you that OXY USA Inc. has filed the enclosed application with the New Mexico Oil Conservation Division.

During the COVID-19 Public Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. The hearing will be conducted on August 5, 2021 beginning at 8:15 a.m., until it is concluded. To participate in the electronic hearing, see the instructions posted on the OCD Hearings website: http://www.emnrd.state.nm.us/OCD/announcements.html.

You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date. Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business days in advance of a scheduled hearing. This statement must be filed online or in person at the Division's Santa Fe office and should include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter, please contact Stephen Janacek, at (713) 497-2417, or Stephen_Janacek@OXY.com.

Sincerely,

Adam G. Rankin
ATTORNEY FOR OXY USA INC.

OXY_Taco Cat CLGC injection project
Case No. 22089 Postal Delivery Report

TrackingNo	ToName	DeliveryAddress	City	State	Zip	USPS_Status
9402811898765804642011	BLM	620 E Greene St	Carlsbad	NM	88220-6292	Your item was delivered to an individual at the address at 12:48 pm on July 22, 2021 in CARLSBAD, NM 88220.
9402811898765804642455	Bradley S. Bates	2400 N Pecos St	Midland	TX	79705-7652	Your item has been delivered to an agent for final delivery in MIDLAND, TX 79705 on July 22, 2021 at 3:36 pm.
9402811898765804642462	Buckeye Energy Inc.	PO Box 3788	Midland	TX	79702-3788	Your item was delivered at 12:46 pm on July 26, 2021 in MIDLAND, TX 79701.
9402811898765804642424	Burlington Resources Oil & Gas Co LP	PO Box 51810	Midland	TX	79710-1810	Your item has been delivered to an agent for final delivery in MIDLAND, TX 79705 on July 30, 2021 at 6:44 pm.
9402811898765804642400	C. W. Trainer	PO Box 3788	Midland	TX	79702-3788	Your item was delivered at 1:37 pm on July 22, 2021 in MIDLAND, TX 79701.
9402811898765804642493	Carmine Scarcelli	2111 Wellington Ct	Midland	TX	79705-1700	Your item has been delivered to an agent for final delivery in MIDLAND, TX 79705 on July 22, 2021 at 1:54 pm.
9402811898765804642448	Carrie A. Haydel	149 14th St	New Orleans	LA	70124-1209	Your item was delivered in or at the mailbox at 7:16 pm on July 21, 2021 in NEW ORLEANS, LA 70124.
9402811898765804642486	Chevron U.S.A. Inc. attn Land Department	6301 Deauville	Midland	TX	79706-2964	Your item was delivered to an individual at the address at 12:12 pm on July 23, 2021 in MIDLAND, TX 79706.
9402811898765804642431	Chevron USA Inc.	1400 Smith St	Houston	TX	77002-7327	Your item was delivered at 1:30 pm on July 29, 2021 in HOUSTON, TX 77002.
9402811898765804642479	Cimarex Energy Company of Colorado	600 N Marienfeld St Ste 600	Midland	TX	79701-4405	Your item was delivered to an individual at the address at 9:59 am on July 22, 2021 in MIDLAND, TX 79701.
9402811898765804642516	Devon Energy Production Company LP	333 W Sheridan Ave	Oklahoma City	OK	73102-5010	Your item was delivered at 8:43 am on July 21, 2021 in OKLAHOMA CITY, OK 73102.
9402811898765804642059	CIMAREX ENERGY CO.	600 N Marienfeld St Ste 600	Midland	TX	79701-4405	Your item was delivered to an individual at the address at 8:23 am on July 21, 2021 in MIDLAND, TX 79701.
9402811898765804642554	Diance C. Prince	816 Connecticut Ave NW	Washington	DC	20006-2705	Your item departed our USPS facility in WASHINGTON DC DISTRIBUTION CENTER on August 1, 2021 at 7:13 am. The item is currently in transit to the destination.
9402811898765804642561	Elizabeth Losee	328 Sierra Pl NE	Albuquerque	NM	87108-1139	Your item was returned to the sender on July 29, 2021 at 3:01 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.
9402811898765804642509	EOG Resources Inc.	PO Box 840321	Dallas	TX	75284-0321	Your item was delivered at 7:18 pm on July 21, 2021 in DALLAS, TX 75266.
9402811898765804642592	Frederick Prince IV	816 Connecticut Ave NW	Washington	DC	20006-2705	Your item arrived at the Post Office at 8:44 am on July 31, 2021 in WASHINGTON, DC 20016.
9402811898765804642547	Highpoint Operating Corp.	216 16th St Ste 1100	Denver	CO	80202-5115	Your item was returned to the sender on July 29, 2021 at 3:01 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.
9402811898765804642585	Jesus Salazar Family LP	2400 Rose Ave NW	Albuquerque	NM	87104-1942	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.
9402811898765804642530	John Blackburn	PO Box 340535	Austin	TX	78734-0009	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.
9402811898765804642578	Kent H. Berger	203 W Wall St Ste 612	Midland	TX	79701-4555	Your item arrived at the SANTA FE, NM 87504 post office at 7:43 am on July 30, 2021 and is ready for pickup.
9402811898765804640215	Lewis O. Campell	8111 Lamp Post Cir SE	Albuquerque	NM	87123	Your item was forwarded to a different address at 1:22 pm on July 22, 2021 in ALBUQUERQUE, NM. This was because of forwarding instructions or because the address or ZIP Code on the label was incorrect.
9402811898765804640260	Losee Investments	PO Box 1720	Artesia	NM	88211-1720	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.

9402811898765804642066	Marathon Oil Permian LLC	5555 San Felipe St	Houston	TX	77056-2701	Your item was delivered to the front desk, reception area, or mail room at 2:06 pm on July 22, 2021 in HOUSTON, TX 77056.
9402811898765804640222	Lynn S. Charulk	2401 Stutz Pl	Midland	TX	79705-4931	Your item arrived at the Post Office at 1:19 am on August 2, 2021 in MIDLAND, TX 79711.
9402811898765804640208	Mackenroth Interests LLC	3601 N. I-40 Service Rd.	West Martairie	LA	70002	Your package will arrive later than expected, but is still on its way. It is currently in transit to the next facility.
9402811898765804640291	Mcnic O&G Properties	1360 Post Oak Blvd	Houston	TX	77056-3030	Your item arrived at the SANTA FE, NM 87504 post office at 7:22 am on July 31, 2021 and is ready for pickup.
9402811898765804640284	PBEX Resources	223 W Wall St Ste 900	Midland	TX	79701-4567	Your item was delivered to an individual at the address at 12:45 pm on July 23, 2021 in MIDLAND, TX 79701.
9402811898765804640239	Penwell Energy Inc.	600 N Marienfeld St Ste 1100	Midland	TX	79701-4395	Your item was delivered to an individual at the address at 4:05 pm on July 23, 2021 in MIDLAND, TX 79701.
9402811898765804640277	PXP Producing LLC	717 Texas St Ste 2100	Houston	TX	77002-2753	Your item arrived at the SANTA FE, NM 87504 post office at 9:10 am on July 31, 2021 and is ready for pickup.
9402811898765804640819	Robert M. Dow Revocable Trust	5136 Lomas De Atrisco Rd NW	Albuquerque	NM	87105-1569	Your item was delivered to an individual at the address at 11:19 am on July 29, 2021 in ALBUQUERQUE, NM 87105.
9402811898765804640857	Sealy Hutchings Cavin Inc.	504 N Wyoming Ave	Roswell	NM	88201-2169	Your item arrived at the SANTA FE, NM 87504 post office at 7:43 am on July 30, 2021 and is ready for pickup.
9402811898765804640864	South Highway 14 Bus Co	324 Yucca Dr NW	Albuquerque	NM	87105-1935	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.
9402811898765804640826	Southwest Royalties Inc	6 Desta Dr Ste 3700	Midland	TX	79705-5516	Your item was returned to the sender on July 29, 2021 at 3:01 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.
9402811898765804642028	XTO Holdings LLC	PO Box 840780	Dallas	TX	75284-0780	Your item was delivered at 7:04 pm on July 22, 2021 in DALLAS, TX 75260.
9402811898765804640802	State Land Office	308 Old Santa Fe Trail	Santa Fe	NM	87501	Your item was delivered at 7:30 am on July 21, 2021 in SANTA FE, NM 87501.
9402811898765804640895	Strata Production Co	PO Box 1030	Roswell	NM	88202-1030	Your item was delivered at 11:00 am on July 22, 2021 in ROSWELL, NM 88201.
9402811898765804640840	The Gray Exploration Co	3601 N. I-40 Service Rd.	West Martairie	LA	70002	Your package will arrive later than expected, but is still on its way. It is currently in transit to the next facility.
9402811898765804640888	The Ninety-Six Corp	550 W Texas Ave Unit 1225	Midland	TX	79701-4257	Your package will arrive later than expected, but is still on its way. It is currently in transit to the next facility.
9402811898765804640833	Trainer Partners LTD	PO Box 3788	Midland	TX	79702-3788	Your item was delivered at 12:46 pm on July 26, 2021 in MIDLAND, TX 79701.
9402811898765804640871	XTO Energy Inc.	22777 Springwoods Village Pkwy	Spring	TX	77389-1425	Your item has been delivered to an agent for final delivery in SPRING, TX 77389 on July 21, 2021 at 9:56 am.
9402811898765804640710	XTO Holdings LLC	22777 Springwoods Village Pkwy	Spring	TX	77389-1425	Your item has been delivered to an agent for final delivery in SPRING, TX 77389 on July 21, 2021 at 9:56 am.
9402811898765804640758	XTO Holdings LLC	PO Box 840780	Dallas	TX	75284-0780	Your item was delivered at 7:04 pm on July 22, 2021 in DALLAS, TX 75260.
9402811898765804640765	POGO PRODUCING CO.	PO Box 10340	Midland	TX	79702-7340	Your item was returned to the sender on July 29, 2021 at 3:01 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.
9402811898765804642004	Marathon Oil Permian LLC	5555 San Felipe St	Houston	TX	77056-2701	Your item was delivered to the front desk, reception area, or mail room at 2:06 pm on July 22, 2021 in HOUSTON, TX 77056.
9402811898765804642097	A.J. Losee	PO Box 1720	Artesia	NM	88211-1720	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.
9402811898765804642080	Anne Ransome-Losee	3505 Calle Cuervo NW Apt 218	Albuquerque	NM	87114-9212	Your item was returned to the sender on July 29, 2021 at 3:01 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.

9402811898765804642035	Arthur Dow	324 Yucca Dr NW	Albuquerque	NM	87105-1935	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.
9402811898765804642417	Black Mountain Operating LLC	500 Main St Ste 1200	Fort Worth	TX	76102-3926	Your item was forwarded to a different address at 10:02 am on July 30, 2021 in FORT WORTH, TX. This was because of forwarding instructions or because the address or ZIP Code on the label was incorrect.

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
July 25, 2021
and ending with the issue dated
July 25, 2021.

Publisher

Sworn and subscribed to before me this 25th day of July 2021.

Business Manager

My commission expires
January 29, 2023
(Seal)

OFFICIAL ~~SEAL~~
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-23

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE
July 25, 2021

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION SANTA FE, NEW MEXICO

The State of New Mexico, Energy Minerals and Natural Resources Department, Oil Conservation Division ("Division") hereby gives notice that the Division will hold public hearings before a hearing examiner on the following case. During the COVID-19 Public Health Emergency, state buildings are closed to the public and Division hearings will be conducted remotely. The public hearing for the following case will be electronic and conducted remotely. The hearing will be conducted on **Thursday, August 5, 2021, beginning at 8:15 a.m.** To participate in the electronic hearing, see the instructions posted below. The docket may be viewed at http://www.emnrd.state.nm.us/OCD/hearings.html or obtained from Marlene Salvidrez, at Marlene.Salvidrez@state.nm.us. Documents filed in the case may be viewed at http://ocdimage.emnrd.state.nm.us/imaging/CaseFileCriteria.aspx. If you are an individual with a disability who needs a reader, amplifier, qualified sign language interpreter, or other form of auxiliary aid or service to attend or participate in a hearing, contact Marlene Salvidrez at Marlene.Salvidrez@state.nm.us, or the New Mexico Relay Network at 1-800-659-1779, no later than **July 25, 2021.**

Persons may view and participate in the hearings through the following link:

https://nmemnrd.webex.com/nmemnrd/onstage/g.php?MTID=e12d56bf176d7f280e15d2923570bbb1c
Event number: 146 234 7684
Event password: u47kXsERRb4

Join by video: 1462347684@nmemnrd.webex.com
Numeric Password: 949758
You can also dial 173.243.2.68 and enter your meeting number

Join by audio: 1-844-992-4726 United States Toll Free
Access code: 146 234 7684

STATE OF NEW MEXICO TO:
All named parties and persons having any right, title, interest or claim in the following case and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To: All affected persons, including: Bureau of Land Management; Cimarex Energy Co.; Marathon Oil Permian LLC; XTO Holdings LLC; A.J. Losee, his or her heirs and devisees; Anne Ransome-Losee, her heirs and devisees; Arthur Dow, his heirs and devisees; Black Mountain Operating LLC; Bradley S. Bates, his heirs and devisees; Buckeye Energy Inc.; Burlington Resources Oil & Gas Co LP; C. W. Trainer, his or her heirs and devisees; Carmine Scarcelli, his heirs and devisees; Carrie A. Haydel, her heirs and devisees; Chevron USA Inc.; Cimarex Energy Company of Colorado; Devon Energy Production Company LP; Diance C. Prince, her heirs and devisees; Elizabeth Losee, her heirs and devisees; EOG Resources Inc.; Frederick Prince IV, his heirs and devisees; Highpoint Operating Corp.; Jesus Salazar Family LP; John Blackburn, his heirs and devisees; Kent H. Berger, his heirs and devisees; Lewis O. Campell, his heirs and devisees; Losee Investments; Lynn S. Charulk, her heirs and devisees; Mackenroth Interests LLC; Mcnic O&G Properties; PBEX Resources; Penwell Energy Inc.; PXP Producing LLC; Robert M. Dow Revocable Trust; Sealy Hutchings Cavin Inc.; South Highway 14 Bus Co; Southwest Royalties Inc; State Land Office; Strata Production Co; The Gray Exploration Co; The Ninety-Six Corp; Trainer Partners LTD; XTO Energy Inc.; XTO Holdings LLC; and Pogo Producing Co.

Case No. 22089: Application of OXY USA Inc. for Closed Loop Gas Capture Injection Pilot Project, Lea County, New Mexico. Applicant in the above-styled cause seeks an order authorizing it to engage in a closed loop gas capture injection pilot project ("pilot project") in the Bone Spring formation in the Red Tank; Bone Spring Pool (Pool Code 51683) within a 320-acre, more or less, project area for this pilot project consisting of the W/2 W/2 of Sections 27 and 34, Township 22 South, Range 32 East, NMPM, Lea County, New Mexico, by occasionally injecting into the **Taco Cat 27-34 Federal Com #11H well** (API No. 30-025-44933), with a surface location 260 feet FNL and 855 feet FWL (Unit D) in Section 27, and a bottom hole location 20 feet FSL and 998 feet FWL (Unit M) in Section 34. OXY seeks authority to utilize this producing well to occasionally inject produced gas into the Bone Spring formation at total vertical depths between approximately 9,339 feet and 9,517 feet along the horizontal portion of each wellbore at surface injection pressures of no more than 1,200 psi. The source of the produced gas will be the Bone Spring and Wolfcamp formations. The subject acreage is located approximately 30 miles northwest of Jal, New Mexico.
#36678

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF OXY USA INC. FOR A CLOSED LOOP GAS CAPTURE INJECTION PILOT PROJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22089

AFFIDAVIT OF PETER SENIOR

I, Peter Senior, of lawful age and being first duly sworn, declare as follows:

1. My name is Peter Senior. I work for OXY USA, Inc. ("OXY"), as a petroleum geologist.

2. I have not previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum geology. My relevant work experience and educational background are summarized the attached **Exhibit C-1**.

3. I am familiar with the application filed by OXY in this case for approval of a closed loop gas capture injection pilot project in the Bone Spring formation, and I have conducted a geologic study of the lands in the subject area that is in included in ***Exhibit A*** to OXY's application. My analysis and conclusions are summarized at pages 79-86 of the Exhibit.

4. A general characterization of the geology of the Bone Spring formation and its suitability for the proposed injection, including identification of confining layers and their ability to prevent vertical movement of the injected gas is included in my analysis. *See* ***Exhibit A*** at 80-86.

5. Page 80 of ***Exhibit A*** depicts a type log for the project area, showing the proposed injection zone, adjacent oil and gas zones, and confining layers. The proposed injection zone is the Avalon Shale, a sub-unit of the larger Bone Spring Formation. Adjacent oil and gas zones are the

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underlying First Bone Spring Sand, and overlying Avalon Sand and Brushy Canyon Formation. Confining layers that will prevent migration of injected gas into adjacent oil and gas zones are the underlying First Bone Spring Lime and overlying Bone Spring Formation.

6. Page 81 is a cross-section map depicting the location of three representative wells used to construct a cross-section across the pilot project area on the following page. The cross section on Page 82 indicates that the Avalon Shale dips to the east and maintains a consistent thickness across the project area. There is no evidence of faults, pinch-outs, or other potential pathways for out-of-zone migration indicated by the cross-sections.

7. Page 83 is a structure map on the top of the Avalon Shale that shows the structure gently dipping to the east. There is no evidence of faults, pinch-outs, or other potential pathways for out-of-zone migration indicated by the structure map.

8. Page 84 is a thickness map and reflects that the Avalon Shale maintains a consistent thickness across the pilot project area of between about 500-600 feet. There is no evidence of faults, pinch-outs, or other potential pathways for out-of-zone migration indicated by the thickness map.

9. In this proposed CLGC Project, the Taco Cat 27-34 Fed Com 11H will inject into the Avalon Shale at an average total vertical depth of approximately 9,500 feet across the length of the well's horizontal wellbore, which has a lateral length of approximately 10,000 feet. The proposed injection interval is an unconventional reservoir composed of very fine-grained quartz-rich and brittle siltstone. *See* ***Exhibit A*** at 85. Low-permeability barriers to fluid flow exist within the Bone Spring Formation above and below the Avalon Shale. Below the Avalon Shale is the First Bone Spring Lime, a low permeability, approximately 100-foot thick carbonate-rich interval which provides isolation from the underlying productive First Bone Spring Sand. Above the

Avalon Shale, the Bone Spring Formation consists of fine-grained siltstones, carbonate mudstone and dolomudstone that have very low permeabilities and an average thickness of 250 feet and provide isolation from the overlying productive Avalon Sand and Brushy Canyon Formation. Above the Brushy Canyon Formation are impermeable anhydrite, gypsum, and salt layers of the Castile, Salado, and Rustler Formations. Due to the thickness of multiple impermeable rock layers above the injection reservoir there is little possibility for migration upward into freshwater aquifers where they exist.

10. Laterally, the injection will be contained in the reservoir volume that has been previously and partially depleted by the CLGC wells. The low-permeability reservoir will be the primary constraint on movement of the injection gas and is expected to contain the injected gas within the pilot project area. *See* ***Exhibit A*** at 85.

11. My analysis concludes that the Bone Spring formation in this area is suitable for the proposed CLGC Project and that there are geologic barriers that will contain the proposed injection within the Bone Spring formation. *See* ***Exhibit A*** at 80-86.

12. I have examined the available geologic and engineering data and found no evidence of open faults or other hydrologic connections between the injection zone and any underground source of drinking water. *See* ***Exhibit A*** at 86.

13. In my opinion, the granting of OXY's application in this case is in the best interest of conservation, the prevention of waste, and protection of correlative rights.

FURTHER AFFIANT SAYETH NOT.

Peter Senior

Peter Senior

STATE OF TEXAS)
)
COUNTY OF HARRIS)

SUBSCRIBED and SWORN to before me this 27th day of JULY, 2021 by PETER SENIOR.

KIM HOFFMAN
My Notary ID # 132081423
Expires July 10, 2023

NOTARY PUBLIC KIM HOFFMAN

My Commission Expires:

JULY 10, 2023

Peter Senior

Education:

- Kansas State University
  - > B.S. Geology -2009
- University of Kansas
  - > M.S. Geology- 2012

Experience:

- Oxy, Inc- 2012-Present
  - > Production & Development Geologist in Texas (2012-2020)
  - > Production & Development Geologist in New Mexico (2020-Present)

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. C1
Submitted by: OXY USA INC.
Hearing Date: August 05, 2021
Case No. 22089

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF OXY USA INC. FOR A CLOSED LOOP GAS CAPTURE INJECTION PILOT PROJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22089

AFFIDAVIT OF XUEYING XIE

I, Xueying Xie, of lawful age and being first duly sworn, declares as follows:

1. My name is Xueying Xie and I am employed by Oxy USA Inc. ("OXY") as a reservoir engineer.

2. I have not previously testified before the New Mexico Oil Conservation Division as an expert witness. My relevant work experience and educational background are summarized in the curriculum vitae, attached as **Exhibit D-1**.

3. I am familiar with the application filed by OXY in this case and the Division guidance regarding closed loop gas capture injection (CLGC) projects such as this one. I have conducted an engineering study of the reservoir to evaluate the potential effects of the proposed temporary injection on the reservoir and future production. The conclusions I have drawn from my analysis are summarized in pages 86 to 98 in ***Exhibit A*** attached to OXY's application.

4. I have examined the available geologic and engineering data and found no evidence of open faults or other hydrologic connections between the injection zone and any underground source of drinking water. *See* ***Exhibit A*** at 86.

5. The CLGC project will inject produced gas into a horizontal well with 10,000 ft lateral and into the productive zone of the Bone Spring Avalon formation. We applied simulation modeling techniques to investigate gas movement in the injection zone and any potential impacts

on production performance of the CLGC well and direct offset wells (if drilled in the future, currently no direct offset wells). The model utilized data from our Cedar Canyon Section 16 Gas EOR Project ("CC 16 EOR Project") for verification. The CC 16 EOR Project began in 2017. It is located 21 miles away from the Taco Cat CLGC project area as shown on the maps on page 89. The bottom left box of page 90 shows the reservoir properties and conditions of the Bone Spring formation at the CC 16 EOR Project. In general, the Cedar Canyon and Taco Cat areas have very similar reservoir properties, except the Avalon Shale in Taco Cat has a permeability less than 0.001mD. The section, location, and well layout for the CC 16 EOR Project are shown on page 89. In this EOR project, Cedar Canyon 16-7H injected produced gas for five months in 2017 at a rate of 7 mmscf/d. After the five months of EOR gas injection, the final surface tubing head pressure was 4100 psi and bottom hole pressure was about 5000 psi. The simulation model incorporated both the primary production history of wells in the CC 16 EOR Project area and the EOR gas injection history with gas communication occurring between the EOR injection well and offset producing wells. During the first three months of EOR gas injection, there was no observed gas communication. However, after three months of EOR gas injection, there was gas communication in offset producers and the model was able to predict it. This gives us confidence in the ability of the model to predict impacts on offset wells resulting from CLGC operations.

6. The reservoir model is a full section model with five wells. The top right of page 90 shows the 3D model grid. It has 56 layers and over a million cells. The four plots in the bottom right show history match results of all five wells in the CC 16 EOR project area. The dots represent historical field data and the curves are modeling results. The first three plots show the primary production match from 2013 to 2017 for all five wells in the section. The green plot shows oil rate match, the blue plot shows water rate match, and the red plot shows gas rate

match. The bottom right plot shows gas injection bottom hole pressure match of EOR gas injection in 2017. The model shows a good match for all rates and pressure.

7. With the high EOR gas injection rates and injection pressures in the CC 16 EOR Project, the reservoir simulation model was created to capture the gas communication between injection wells and the offset producers. This modeling improved our understanding of the complexity of connected fractures based on actual field response. The model was used to simulate the effects of CLGC operations in the Taco Cat and other areas, since the reservoirs have similar properties. We believe the model should be able to predict communication caused by CLGC operations because it was "tuned" based on actual gas communication between wells. First, we created a base case for normal production without any gas injection. Then we ran numerous gas injection cases to simulate CLGC operations and compared those with the base case to determine the impact on well production rate and recovery in both CLGC well and offset wells. To further validate our injection rate assumptions, we integrated the reservoir model with a Prosper wellbore model to predict the injection rate at a wellhead injection pressure of 1200 psi. The results are shown on the plot of page 92. For a 10,000 ft lateral length well (representative of our proposed Taco Cat CLGC well), 3 mmscf/day is the predicted max injection rate. It declines to about 50% of the initial value after three weeks. Despite the injection rate decline over time, Oxy ran all cases in the model with flat injection rates to simulate worst-case scenarios. The results of these model runs are shown on page 95 and discussed more fully below.

8. Reservoir modeling indicates the horizontal movement of injected gas is anticipated to be approximately 100 feet or less from the CLGC wellbore within the Bone Spring formation. *See* ***Exhibit A*** at 93. This is illustrated by comparing gas

saturation pre-injection and post-injection. The top left plot on page 93 shows pre-injection gas saturation. The wellbores are depicted as east-west lines, and the numerous hydraulic fractures created in each wellbore are shown as NE-SW angled lines. The blue color shows no gas while the cyan color shows gas exists in the fractures. A warmer color indicates a higher gas saturation. The middle plot shows gas saturation after one week of injection. The gas injected into the middle well and the fractures near wellbore show a warmer color. The bottom plots have a magnified view of the CLGC well gas saturation for a clearer comparison. We can clearly see that the fractures near wellbore in the injection case have a warmer color than those of the pre-injection case. Additionally, further away from the CLGC wellbore, there is no gas saturation change in the factures even though there are connected fractures between wells. This is because the injected gas volume during CLGC operations is too small to move very far away from the CLGC wellbore. And even when we have fracture communication between wells, there is not very high conductivity for immediate gas communication as was observed in our CC 16 EOR project which had a much higher injection rate and pressure. The gas storage injection in Taco Cat will inject at a much lower rate (<3 mmscf/d) for a shorter period of time with much lower tubing head pressure (1200psi) compared with CC 16 EOR Project in 2017, so it is not unexpected that the model shows no gas communication. Finally, after a long period of production following a gas storage event, the gas saturation in the near wellbore of CLGC well is restored to pre-injection values as shown in the plot on the upper right of page 93. This is because the majority of injected gas has been recovered.

9. The pressure map plots of page 94 tell the same story as the gas saturation map plots. With gas injection, the pressure increases only in the fractures nearest the wellbore within 100 feet of the CLGC well.

10. We modeled all possible CLGC scenarios including different well spacing (from 4-8 Wells Per Section, or "WPS"), single well injection, multi-well injection, and a worst case with a higher injection rate and a longer injection period than historical upsets. The modeling results are summarized in the table on page 95 and in each case shows no impact. Taco Cat well is currently an isolated well with a future development plan of 5 WPS, and the model scenarios even tested narrower spacing of 8 WPS which still shows no impact. For the injection parameters, all possible scenarios— including the worst-case gas storage scenario—have much lower injection volumes and injection pressures compared to CC 16 EOR Project. In conclusion, the analysis indicates that there will be no change in the oil recovery from the proposed injection well or from any of the future offsetting wells because of CLGC operations. *See id.* at 95.

11. As a cross-check of the model results, I prepared an analysis of the expected gas storage capacity in the fracture network of the CLGC well relative to the gas injection volumes for the worst-case injection scenario lasting twenty days. *See* ***Exhibit A*** at 96. My analysis confirms that whether the capacity is estimated based on the fracture volume gas equivalent, or the total gas equivalent volumes produced from the proposed injection zone, the anticipated gas injection volumes will be considerably less than the estimated volume capacity for gas storage within the project area.

12. Fracture dimensions are predicted by a fracture model software package called Gohfer, which is based on reservoir geo-mechanical properties and actual well

hydraulic fracturing procedure history matching. The fracture dimensions for an Avalon well are shown at page 97. The bottom row of the table on the right shows Stimulated Reservoir Volume (SRV) for Taco Cat CLGC well, which is around 2.4 billion cubic feet.

13. In my analysis, examining the available geologic and engineering data, I have determined that the total recoverable volume of hydrocarbons from the reservoir will not be adversely affected by the pilot project and that the gas composition of the injected gas will not damage the reservoir. *See* ***Exhibit A*** at 98.

14. **OXY Exhibit D-1** and pages 86 through 98 of **Exhibit A** were either prepared by me or compiled under my direction and supervision.

FURTHER AFFIANT SAYETH NOT.

Xueying Xie

Xueying Xie

STATE OF TEXAS)
)
COUNTY OF HARRIS)

SUBSCRIBED and SWORN to before me this 22nd day of JULY, 2021, by XUEYING XIE.

KIM HOFFMAN
My Notary ID # 132081423
Expires July 10, 2023

NOTARY PUBLIC Kim Hoffman

My Commission Expires:

JULY 10, 2023

Xueying Xie

Rice University, Graduate 2005

- Chemical Engineering PhD

Shell, 2005 – 2016

- Reservoir Engineer for multiple geographic areas/reservoirs and drive mechanisms for a full value chain from exploration to development to production

Oxy, 2016 - Present

- Unconventional Technical Manager in New Mexico

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
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