

**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. _____

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 1,280-acre, more or less, project area for this pilot project consisting of all of Sections 30 and 31, Township 22 South, Range 33 East, NMPM, Lea County, New Mexico. See **Exhibit A** at 5. 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 wells to occasionally inject produced gas into the Bone Spring formation [Red Tank; Bone Spring, East Pool (Pool Code 51687)]:

- The **Avogato 30_31 State Com #11H well** (API No. 30-025-45956), with a surface location 160 feet FNL and 885 feet FWL (Lot 1) in Section 30, and a bottom hole location 50 feet FSL and 600 feet FWL (Lot 4) in Section 31.

- The **Avogato 30_31 State Com #13H well** (API No. 30-025-45958), with a surface location 160 feet FNL and 2375 feet FEL (Unit B) in Section 30, and a bottom hole location 17 feet FSL and 2905 feet FEL (Unit N) in Section 31.
 - The **Avogato 30_31 State Com #14H well** (API No. 30-025-45959), with a surface location 160 feet FNL and 2340 feet FEL (Unit B) in Section 30, and a bottom hole location 23 feet FSL and 1957 feet FEL (Unit O) in Section 31.
3. Injection along the horizontal portion of the wellbores will be at the following approximate total vertical depths:
- The **Avogato 30_31 State Com #11H well**: between 9,332 feet and 9,432 feet.
 - The **Avogato 30_31 State Com #13H well**: between 9,396 feet and 9,397 feet.
 - The **Avogato 30_31 State Com #14H well**: between 9,488 feet and 9,540 feet.
4. A map depicting the pipeline that ties the wells proposed for the pilot project into the gathering system and the affected compressor station is included in the attached **Exhibit A** at pages 5-6.

WELL DATA

5. Information on the well data, 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 10-12, 14-15, 20-21 and 26-27.
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 wells range from approximately 540 psi to 780 psi. *See Exhibit A* at 39. The maximum achievable surface pressure (MASP) for the wells 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 any 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 any 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 logs¹ for each of the injection wells demonstrate the placement of cement in the wells 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 each well. *See Exhibit A* at 16-19, 22-25, 28-32, respectively.

11. The wells proposed for injection in the pilot project have previously demonstrated mechanical integrity. *See Exhibit A* at 41. OXY will undertake new tests to demonstrate mechanical integrity for each of the wells proposed for this pilot project as a condition of approval prior to commencing injection operations.

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

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 each injection wellbore within the Bone Spring formation. *See Exhibit A* at 93.

15. The proposed average injection rate for each well 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 88-98. OXY's analysis concludes that there will be no change in the oil recovery from each of its proposed injection wells or from any of the offsetting wells. *See id.* at 95, 98.

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 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 Avogato wells producing in the Bone Spring and Wolfcamp formations that are identified in the list of wells in *Exhibit A* at page 43. Each of OXY's proposed injection wells are operated by OXY and OXY holds 100% of the working interest in the wells.

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, 55, 57.

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 59-61, along with well-

bore schematics for wells that are plugged and abandoned or temporarily abandoned. See *Exhibit A* at 66-78.

OPERATIONS AND SAFETY

24. OXY will monitor each 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. Each 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 compressors. 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 106-109, along with a map and list identifying each tract and affected persons given notice. See *Exhibit A* at 100-102.

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
<ul style="list-style-type: none"> • Flare gas • Shut in production 	<ul style="list-style-type: none"> • Store gas • Continue production • No additional surface disturbances 	<ul style="list-style-type: none"> • 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.

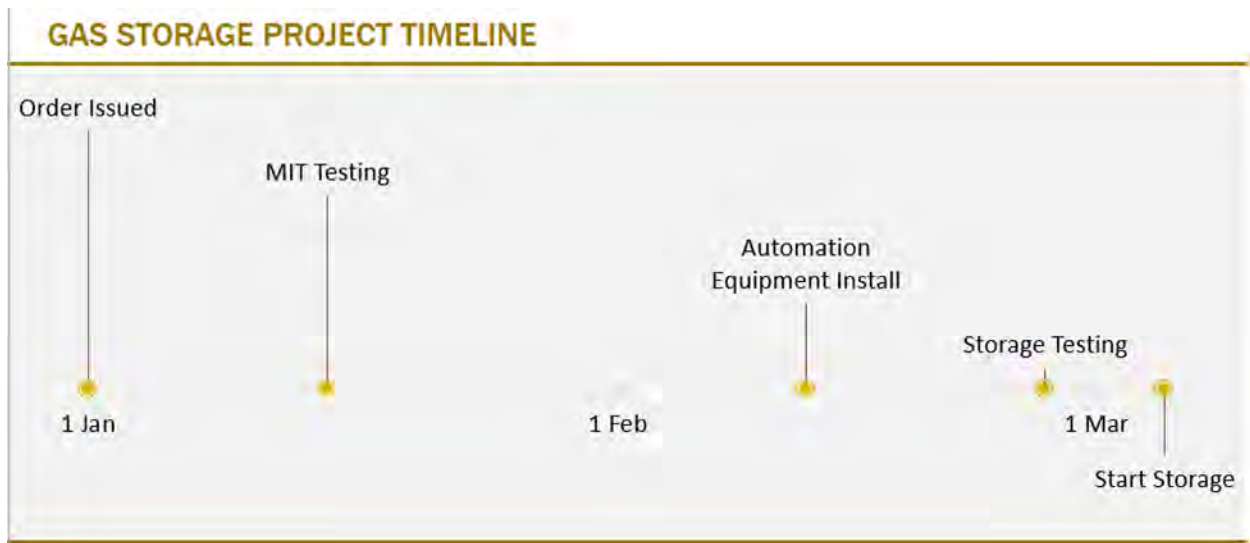
Wells

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

25

19

29

RED TANK 19 CGL

RED TANK 19 CTB

T22S
R32E

T22S
R33E

30

31

32

AVOGATO 30-31 STATE COM 11H

AVOGATO 30-31 STATE COM 13H

AVOGATO 30-31 STATE COM 14H

23

- Flare
- Gas Takeaway
- Wellbore
- LP Pipeline
- Flowline
- Gas Lift Line
- Tank Battery
- Compressor Station

Project Area

1 T23S
R32E

6 T23S
R33E

5

5

LTP

LTP

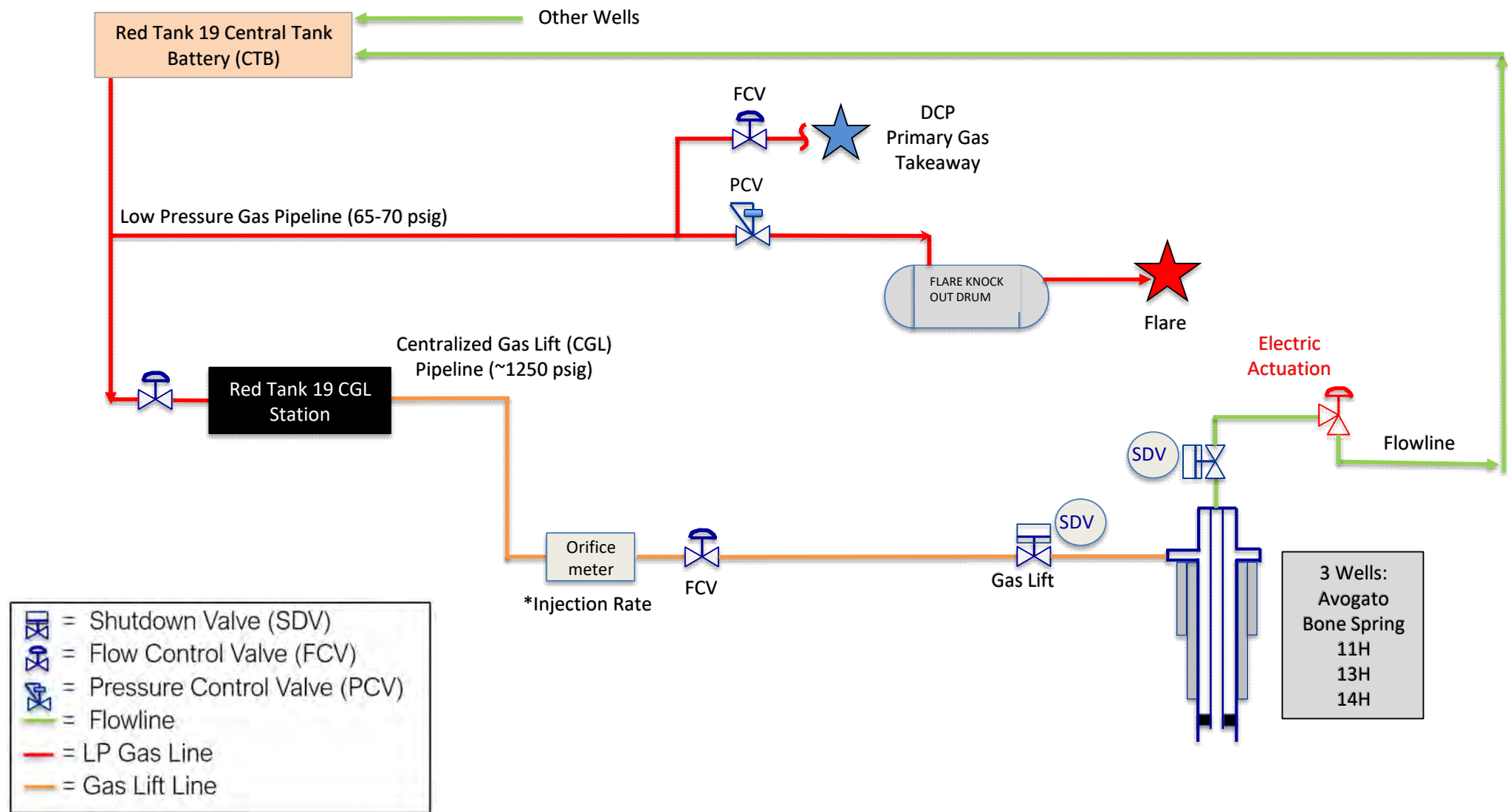
LTP

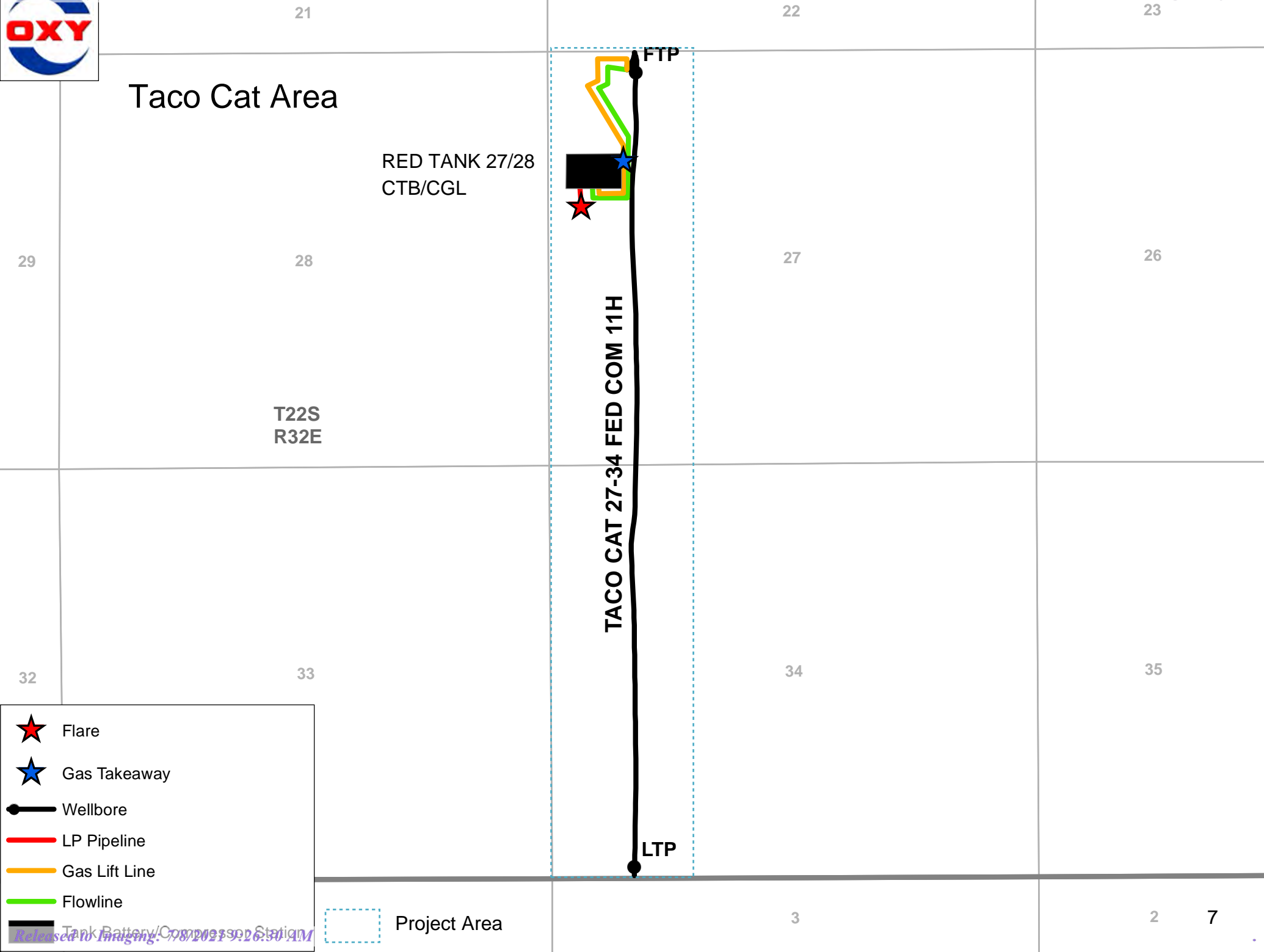
FTP

FTP








FTP

Avogato Gas Process Flow Diagram



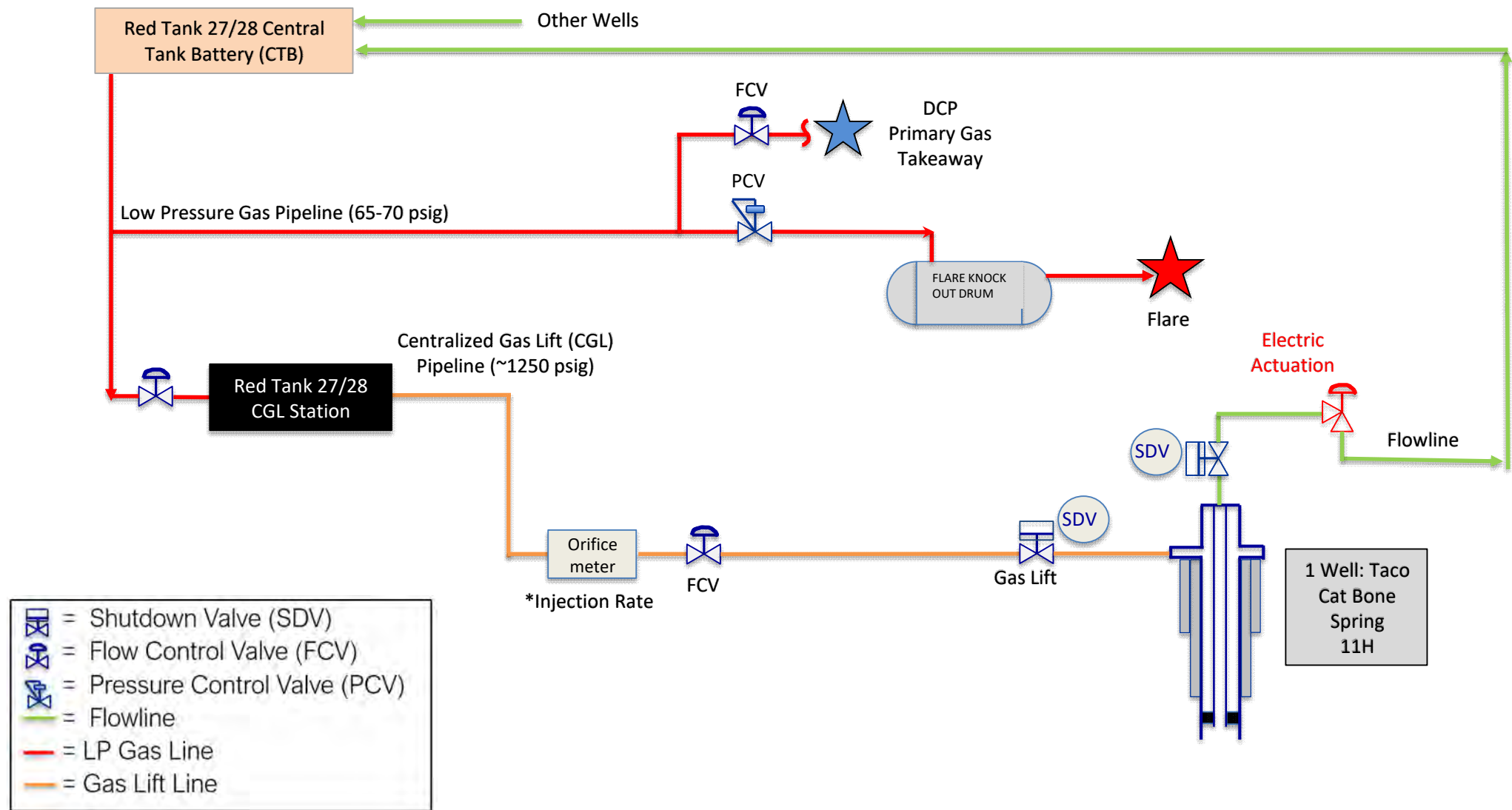


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-  Flare
-  Gas Takeaway
-  Wellbore
-  LP Pipeline
-  Gas Lift Line
-  Flowline
-  Tank Battery/Compressor Station

 Project Area

Taco Cat Gas Process Flow Diagram



Injection Wellbores

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 233-0161 Fax: (575) 233-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-0720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6170 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87508
Phone: (505) 478-3460 Fax: (505) 478-3462

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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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-45956	Pool Code 51687	Pool Name RED TANK; BONE SPRING; EAST
Property Code 325625	Property Name AVOGATO 30_31 STATE COM	Well Number 11H
OGRID No. 16696	Operator Name OXY USA, INC.	Elevation 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 613.28	Joint or Infill	Consolidation Code	Order No.
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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

*** ALL COORDINATES ARE NAD 83 VALUES**

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.

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

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=781835.4 E
2	Y=493826.6 N X=781873.4 E
3	Y=491187.3 N X=761892.5 E
4	Y=488547.8 N X=781711.3 E
5	Y=488562.6 N X=784238.7 E
6	Y=493844.2 N X=764203.2 E
7	Y=499120.5 N X=764165.7 E

BOTTOM HOLE LOCATION

DISTRICT I
1625 N. VERMONT DR., HOBBS, NM 88240
Phone: (575) 583-0181 Fax: (575) 583-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 746-1253 Fax: (575) 746-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-0178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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Santa Fe, New Mexico 87505

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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-45958	Pool Code 51683 51687	Pool Name RED TANK; BONE SPRING, <i>RAY</i>
Property Code 325625	Property Name AVOGATO 30_31 STATE COM	Well Number 13H
OGRID No. 16696	Operator Name OXY USA, INC.	Elevation 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			

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

KOP
97' FNL & 2832' FEL
LAT. = 32.36983
LONG. = 103.61223

EIP
657' FNL & 2976' FEL
LAT. = 33.56829
LONG. = 103.61270

BOTTOM HOLE LOCATION
17' FSL & 2905' FEL
LAT. = 32.34112
LONG. = 103.61269

SURFACE LOCATION
Y=498961.9 N
X=764429.7 E
LAT.=32.369646° N
LONG.=103.610748° W

*** ALL COORDINATES ARE
NAD 83 VALUES**

POINT LEGEND	
1	Y=499107.0 N X=761835.4 E
2	Y=493826.8 N X=761873.4 E
3	Y=491187.3 N X=761892.6 E
4	Y=488547.8 N X=761711.3 E
5	Y=488562.8 N X=764238.7 E
6	Y=493844.2 N X=764203.2 E
7	Y=499120.5 N X=764166.7 E

LIP
130' FSL & 2906' FEL
LAT. = 32.34115
LONG. = 103.61269

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.

[Signature] 11/11/19
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]
Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 4/5/19
Certificate No. CHAD HARCROW 17777
W.O. # 19-472 DRAWN BY: WN

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DISTRICT I
 1626 N. FRANCE 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) 748-0720

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
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 Santa Fe, New Mexico 87505

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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-45959	Pool Code 51683 <i>51687</i>	Pool Name RED TANK; BONE SPRING; EAST
Property Code 325625	Property Name AVOGATO 30_31 STATE COM	Well Number 14H
OGRID No. 16696	Operator Name	Elevation 3691.6'

Surface Location

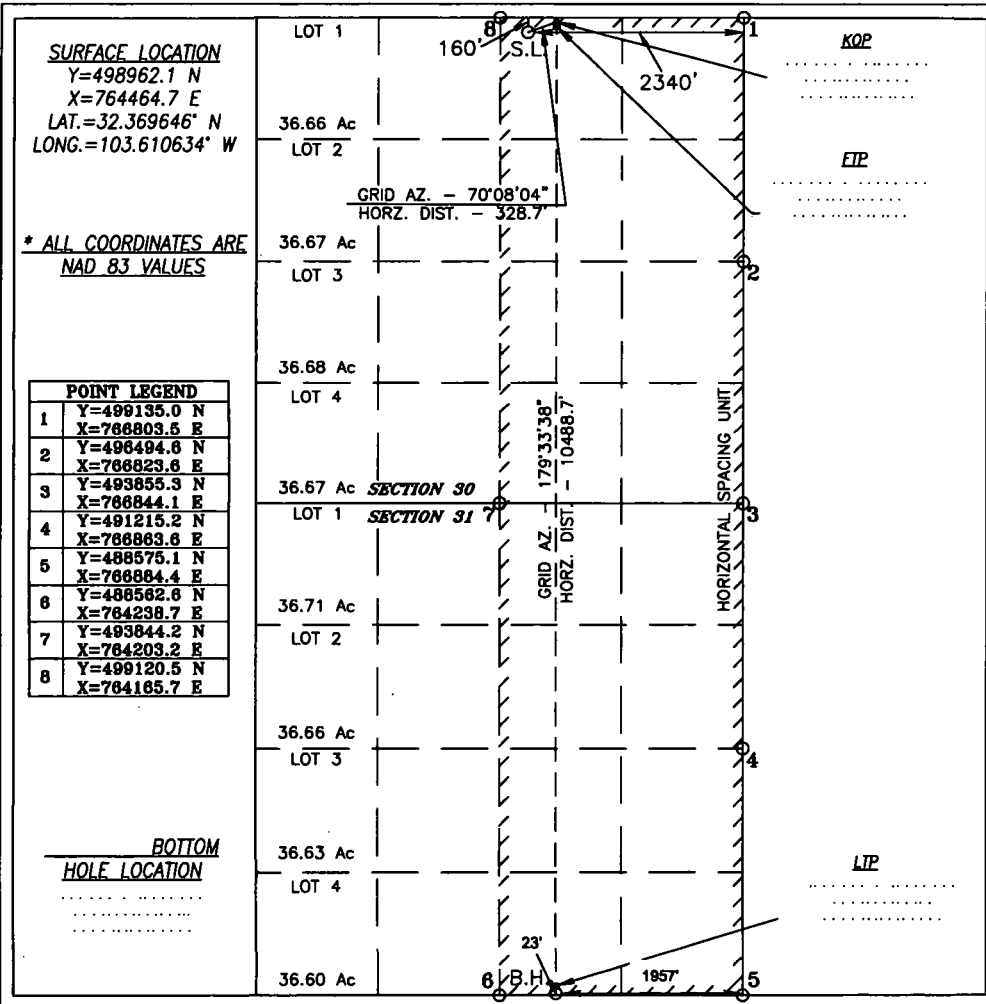
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	30	22-S	33-E		160	NORTH	2340	EAST	LEA

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
0	31	22-S	33-E		..	SOUTH	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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 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.

Roni Mathew 11/12/19
 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
 LICENSED PROFESSIONAL SURVEYOR
 17777

Chad Harcrow 4/5/19
 Certificate No. CHAD HARCROW 17777
 W.O. # 19-473 DRAWN BY: WN

HOBBS OCD

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District I
1625 N. Francis Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0770
District II
817 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rue Francais Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87503
Phone: (505) 476-3450 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-44933	Pool Code 51683	Pool Name Red Tank Bone Springs
Property Code 321612	Property Name TACO CAT "27-34" FEDERAL COM	Well Number 11H
OGRID No. 16696	Operator Name OXY USA INC.	Elevation 3635.8'

Surface Location

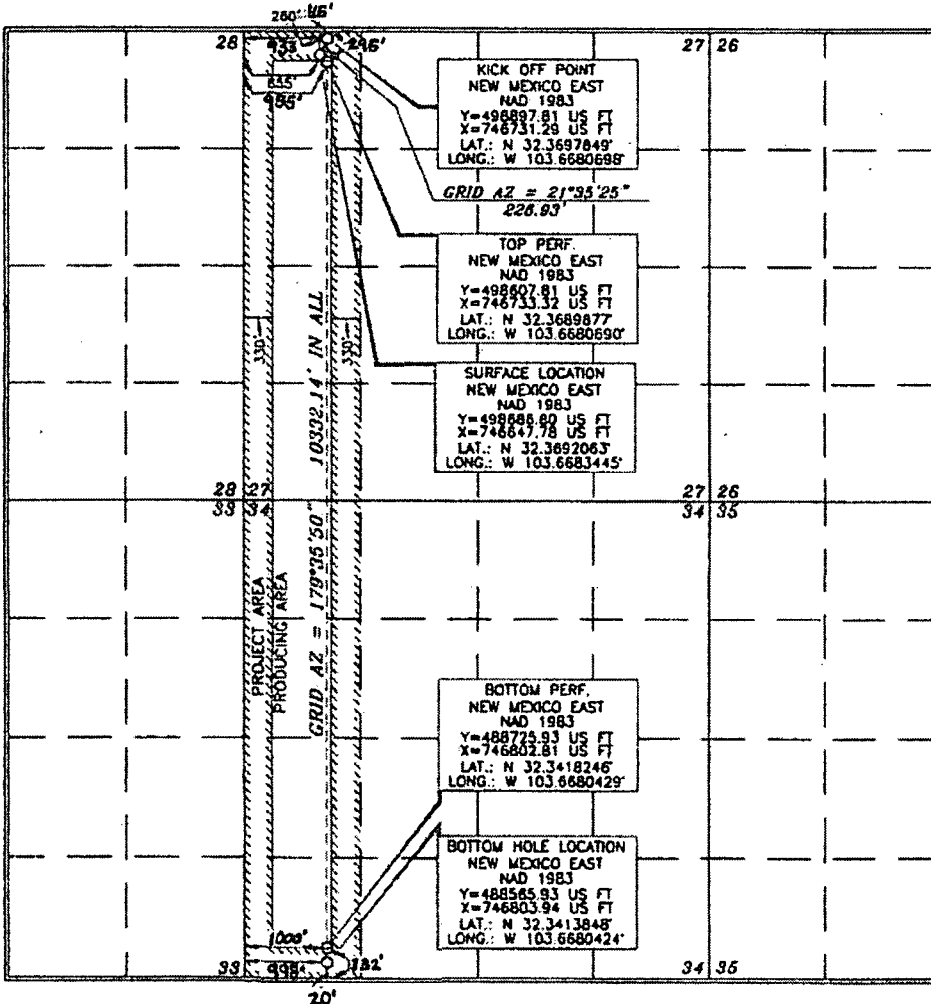
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
D	27	22 SOUTH	32 EAST, N.M.P.M.		260'	NORTH	855'	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	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 320	Joint or Infill Y	Consolidation Code	Order No. FTP: 295' FNL 955' FNL LTP: 132' FSL 1000' FNL
-------------------------------	-----------------------------	--------------------	--

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 selected 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
Print Name
LESLIE-REEVES@OXY.COM
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was derived 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. ASH
15079
DECEMBER 26, 2012
Date of Survey
Signature and Seal
Professional Surveyor

Terry J. Ash 2/7/2018
Certificate Number 15079

WOF 171226HL--L (XA)

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 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

Schlumberger
Company: OXY PERMIAN RESOURCES
Well Name: AVOGATO 11H/1 STATE COM 11H
Well ID: 40101
Client: OXY PERMIAN RESOURCES
Log Name: AVOGATO 11H/1 STATE COM 11H
Log Date: 03 NOV 2019
Log Time: 09:22 AM
Log Type: 1.00A SLC
Log Status: OK

Log Parameters:
 Log Name: AVOGATO 11H/1 STATE COM 11H
 Log Date: 03 NOV 2019
 Log Time: 09:22 AM
 Log Type: 1.00A SLC
 Log Status: OK

Log Summary:
 Log Name: AVOGATO 11H/1 STATE COM 11H
 Log Date: 03 NOV 2019
 Log Time: 09:22 AM
 Log Type: 1.00A SLC
 Log Status: OK

Log Details:
 Log Name: AVOGATO 11H/1 STATE COM 11H
 Log Date: 03 NOV 2019
 Log Time: 09:22 AM
 Log Type: 1.00A SLC
 Log Status: OK

Log History:
 Log Name: AVOGATO 11H/1 STATE COM 11H
 Log Date: 03 NOV 2019
 Log Time: 09:22 AM
 Log Type: 1.00A SLC
 Log Status: OK

Log Footer:
 Log Name: AVOGATO 11H/1 STATE COM 11H
 Log Date: 03 NOV 2019
 Log Time: 09:22 AM
 Log Type: 1.00A SLC
 Log Status: OK

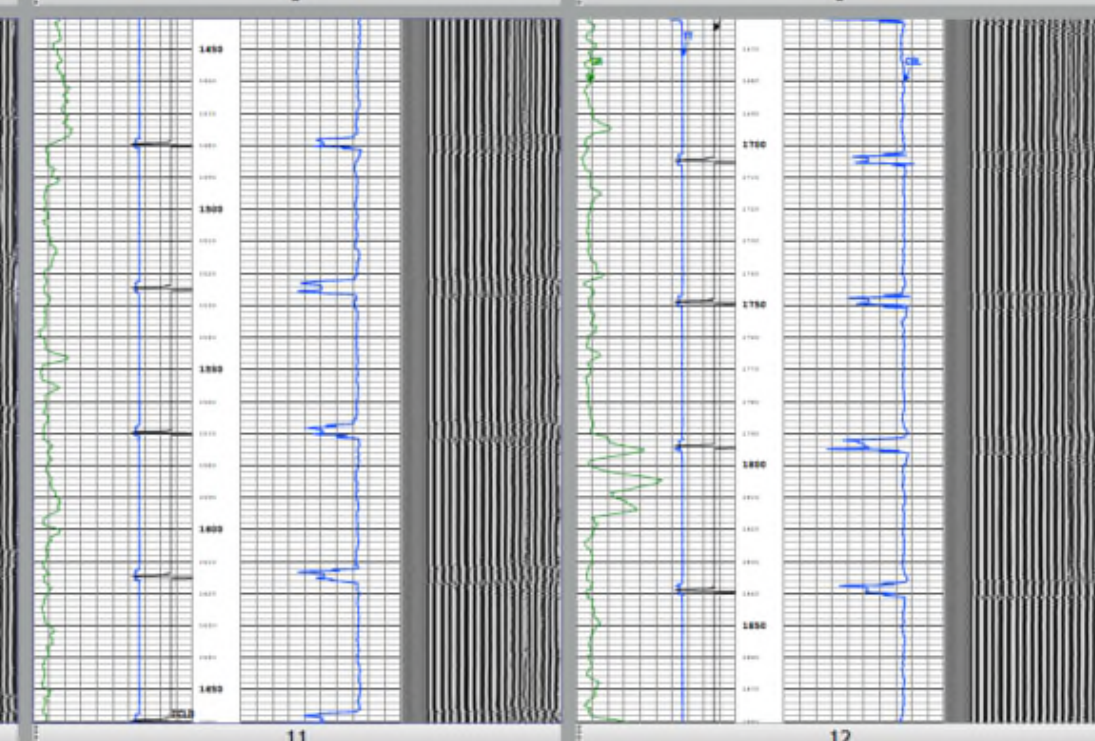
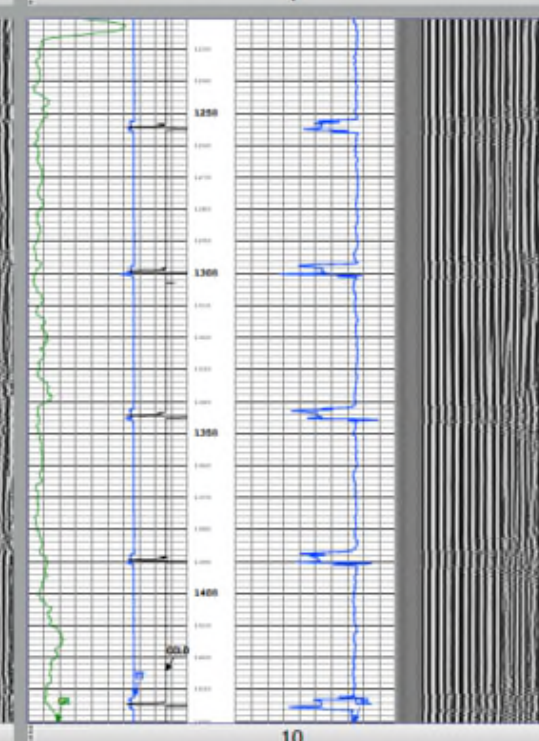
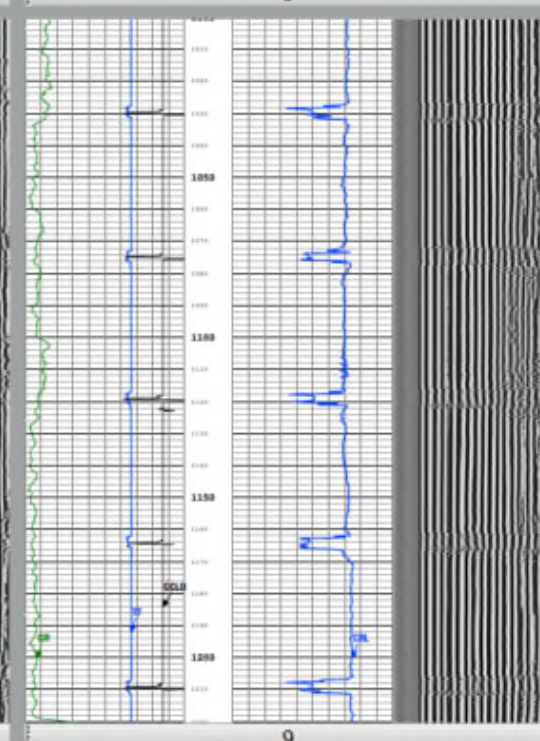
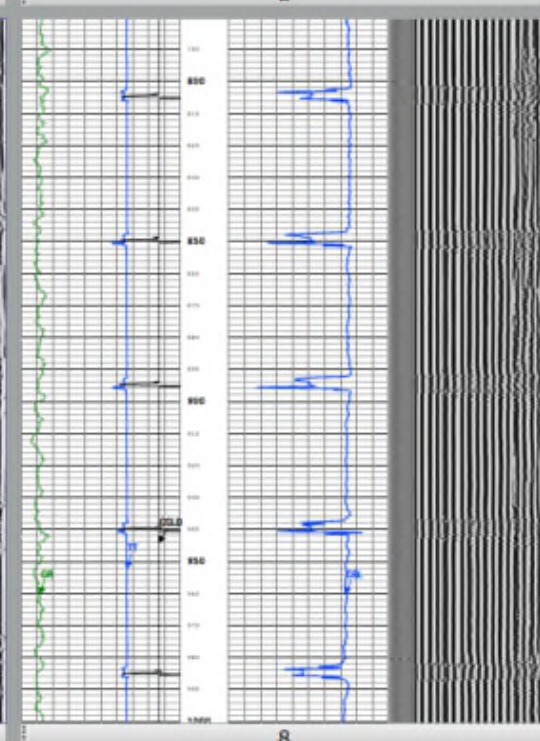
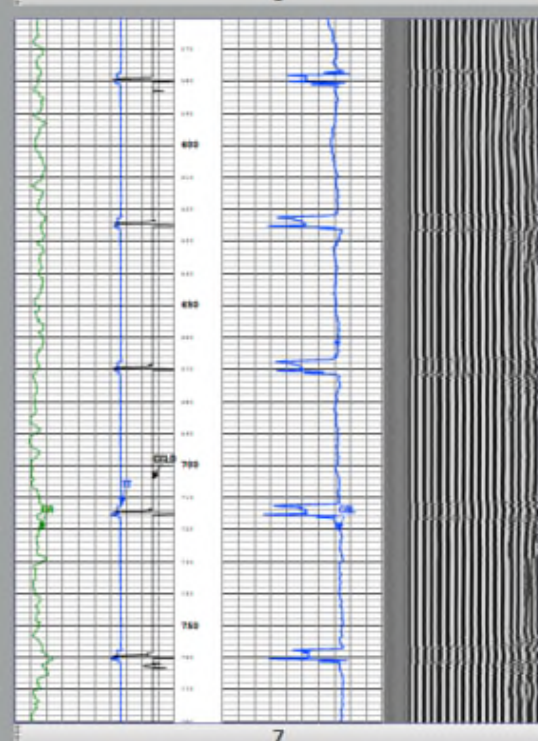
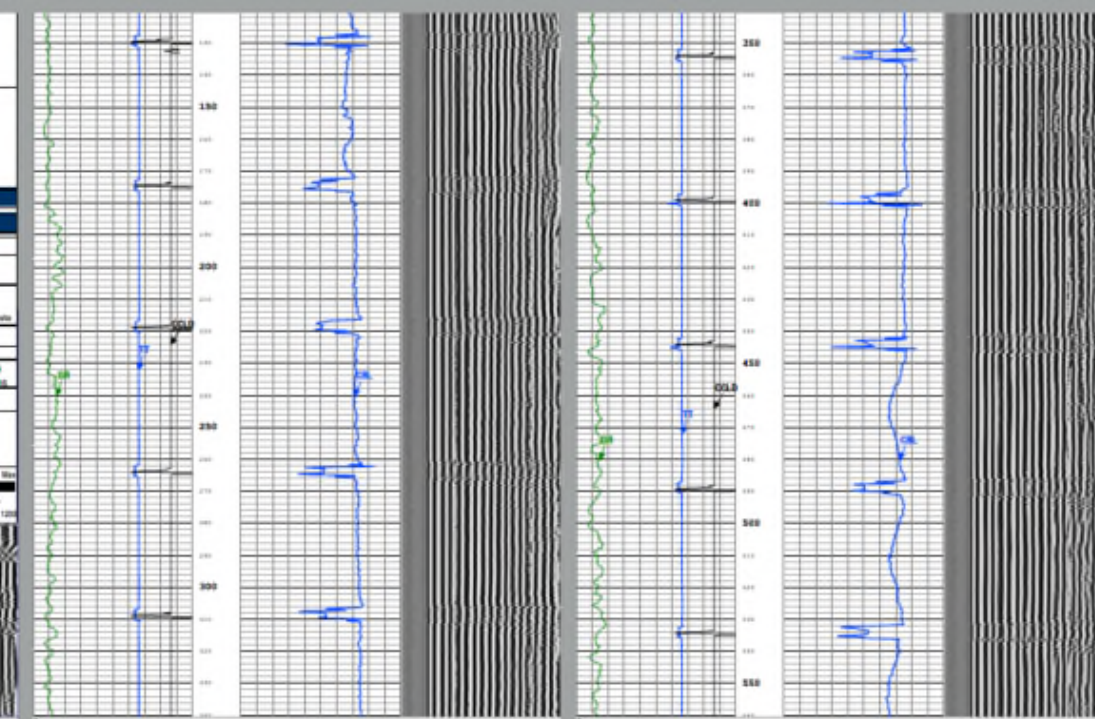
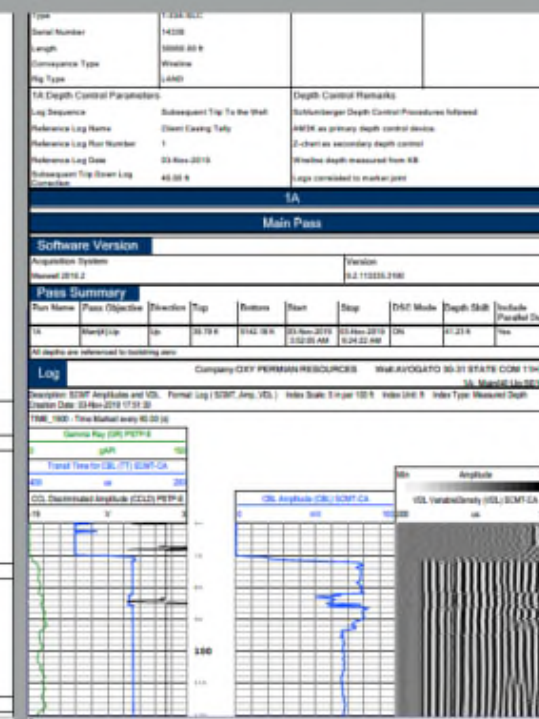
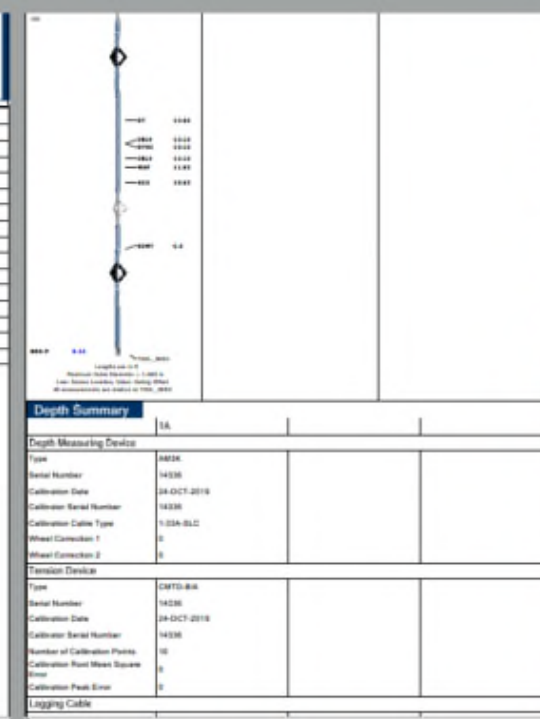
Borehole Size/Casing/Tubing Record

Log	Log Name	Log Date	Log Time	Log Type	Log Status
1	AVOGATO 11H/1 STATE COM 11H	03 NOV 2019	09:22 AM	1.00A SLC	OK

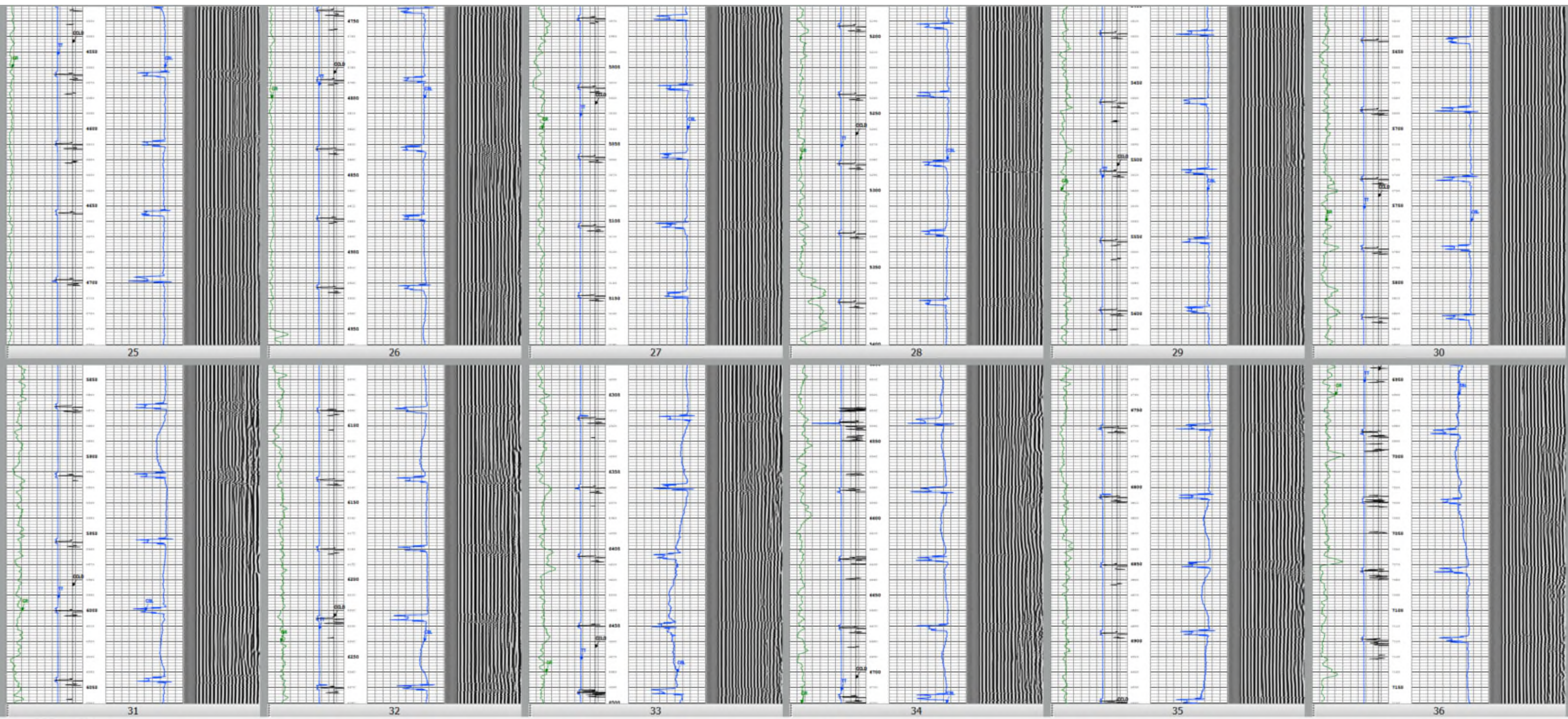
Remarks and Equipment Summary

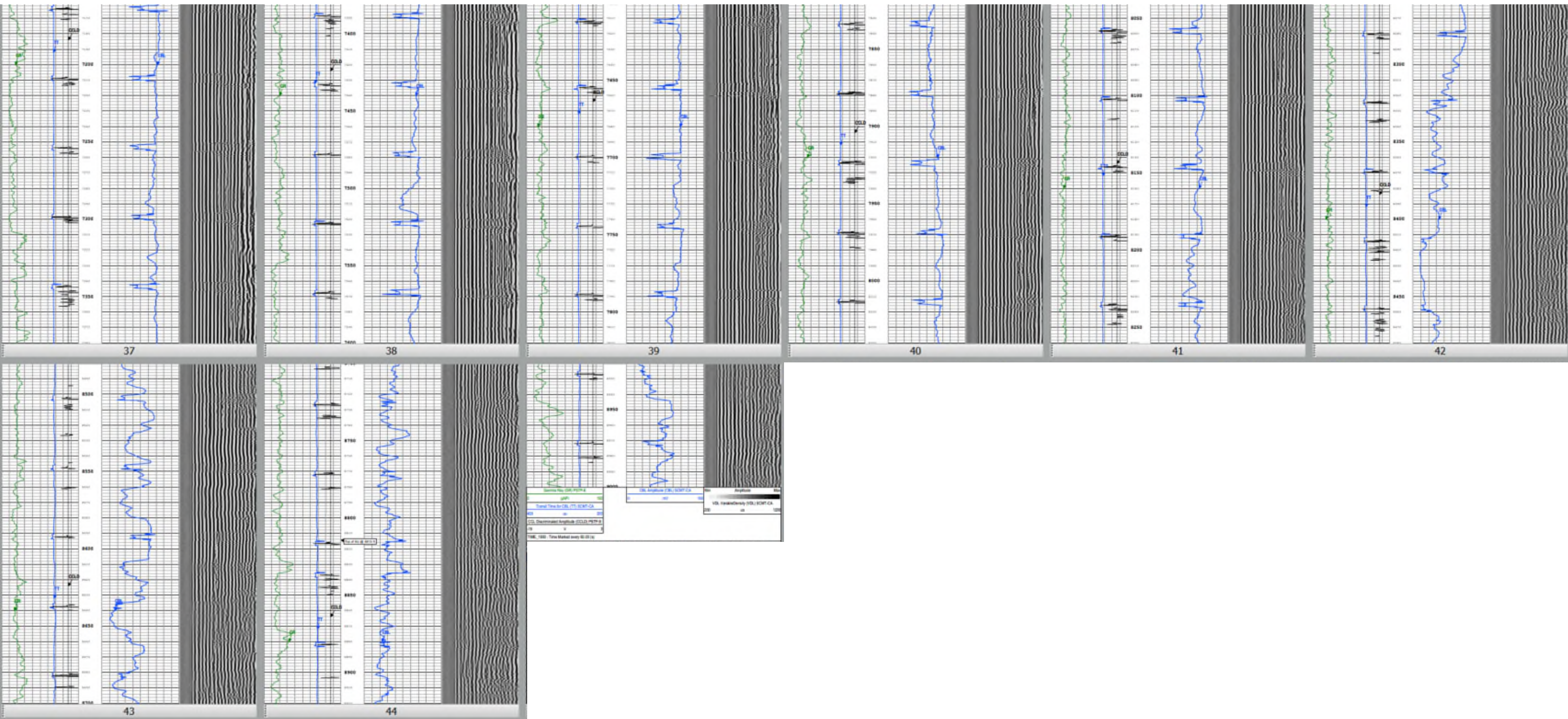
1A. Toolstring

Toolstring: 1.00A SLC
 Logging Interval: From 8000 ft to surface
 No pressure was applied during logging pass
 Expanded Free Pipe Amplitude in 0.1" casing
 Log compressed to marker point @ 8075 ft as per client's request









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

Company: DRY PERMAN RESOURCES
Well: AVOGATO 13H STATE COM OH
Field: FIELD MARK
County: Stark
State: New Mexico

Log (Log) (SCMT) (Amplitude) (VCL)
 10. 1A Repeat Pass
 10.1 Composite Summary
 10.2 Log (Log) (SCMT) (Amplitude) (VCL) (RA)
 11. Tail

Well Sketch

Borehole Size/Casing/Tubing Record

Log	Log	Log	Log
Well (ft)	10.00	0	
Top Casing (ft)	0	0001	
Top Liner (ft)	0	0001	
Bottom Casing (ft)	0001	0001	
Bottom Liner (ft)	0001	0001	

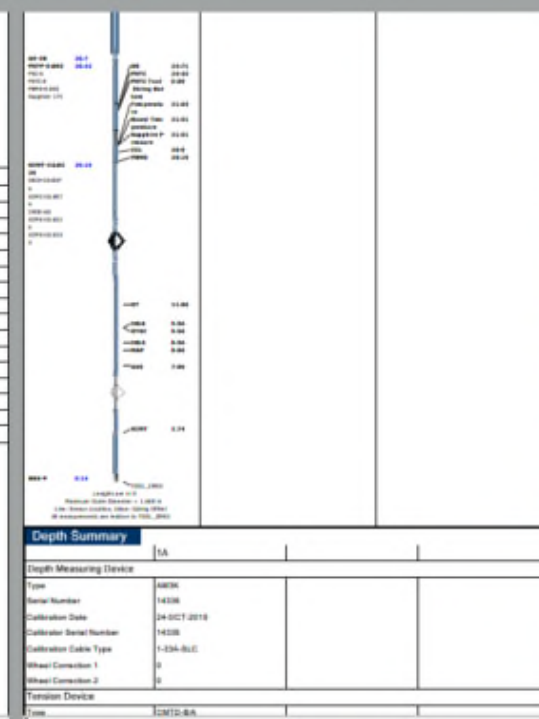
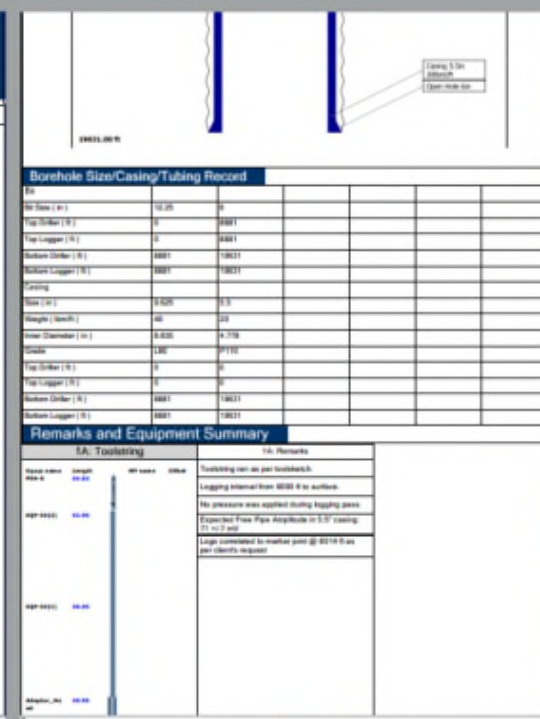
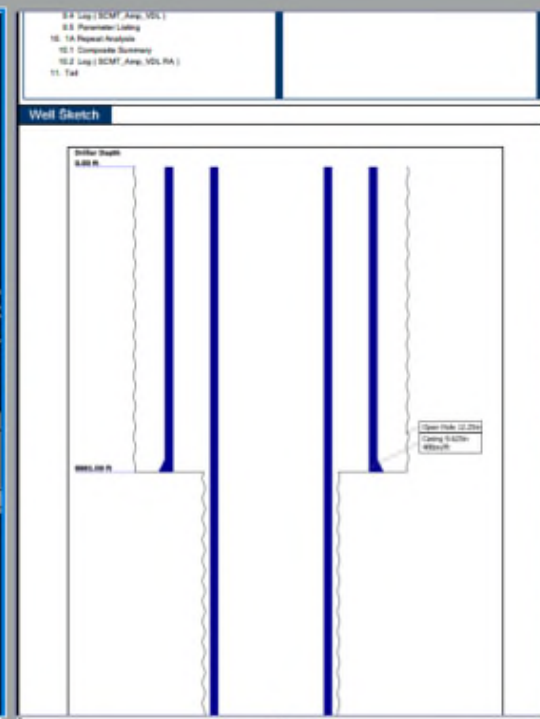
Remarks and Equipment Summary

1A. Toolstring

Toolstring run as per toolstring.
 Logging interval from 0001 ft to surface.
 No pressure was applied during logging pass.
 Expected True Pipe Amplitude in 5.0" casing: 21.00 dB
 Log computed to marker point @ 0010 ft as per clients request.

Depth Summary

Depth Measuring Device	Type	Serial Number	Calibration Date	Calibration Serial Number	Calibration Code Type	Wheel Correction 1	Wheel Correction 2	Transition Device
1A	14336	14336	24-OCT-2019	14336	1-1334-BL2	0	0	ICMT-04



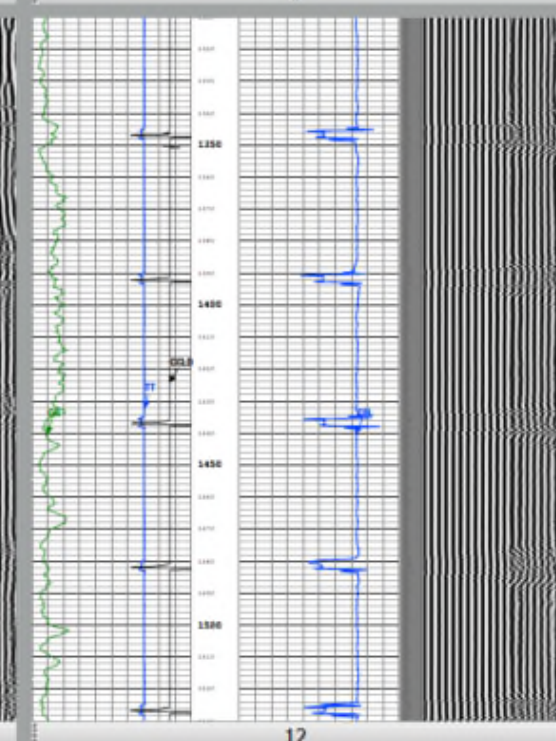
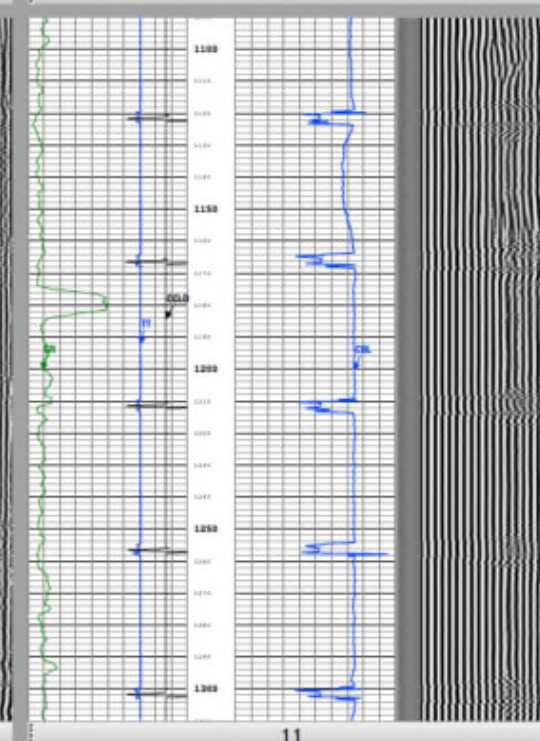
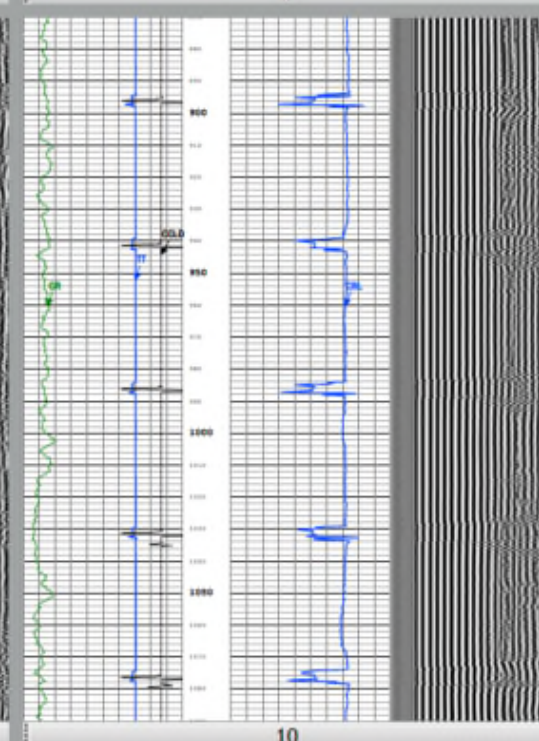
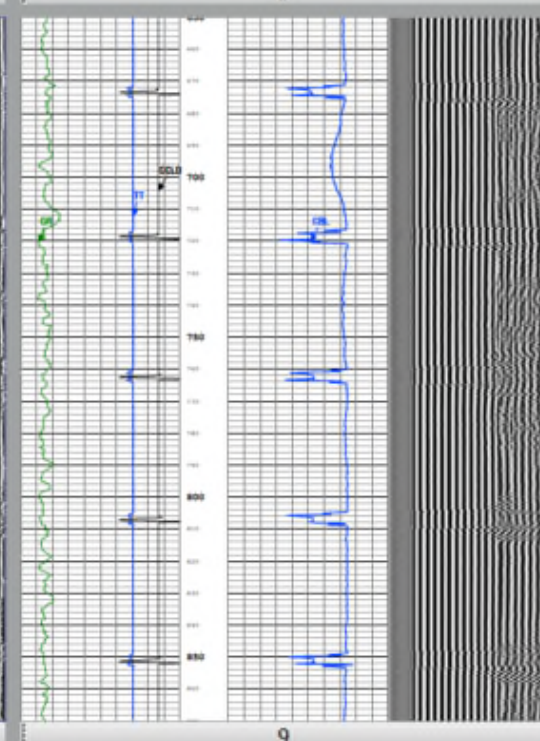
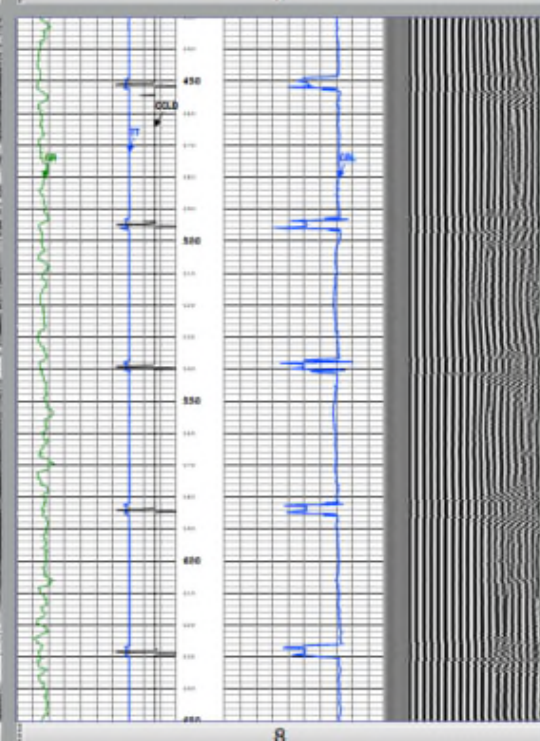
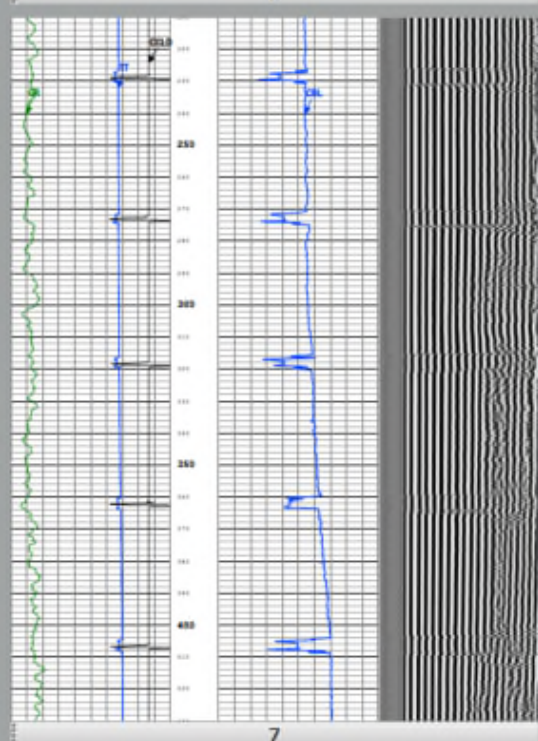
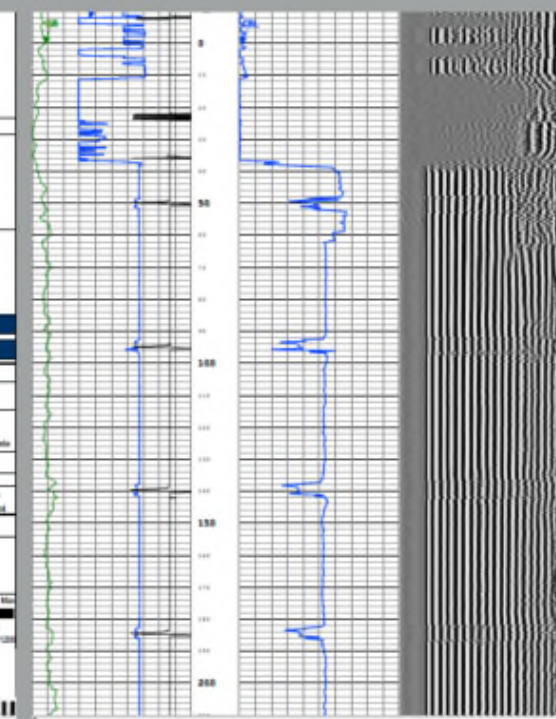
Log

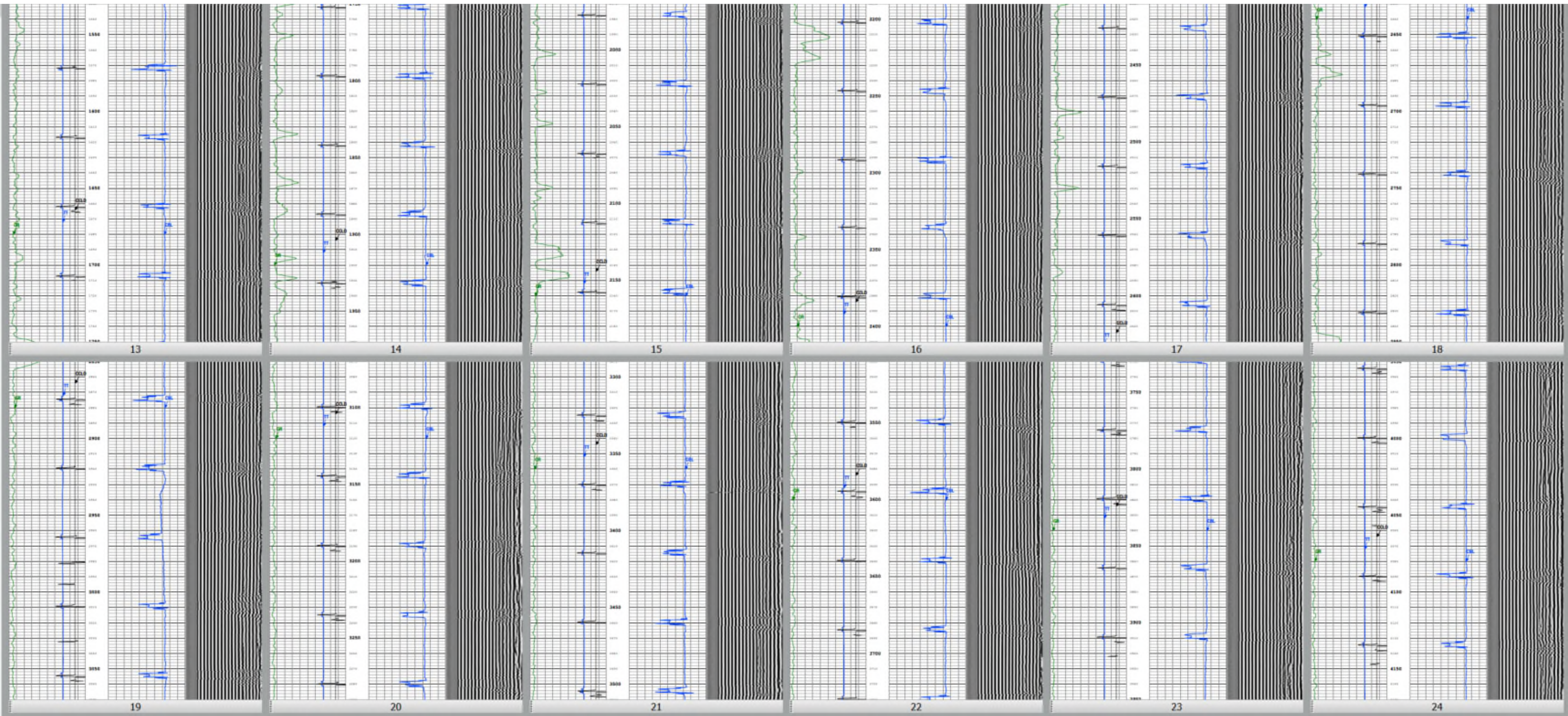
Pass Summary

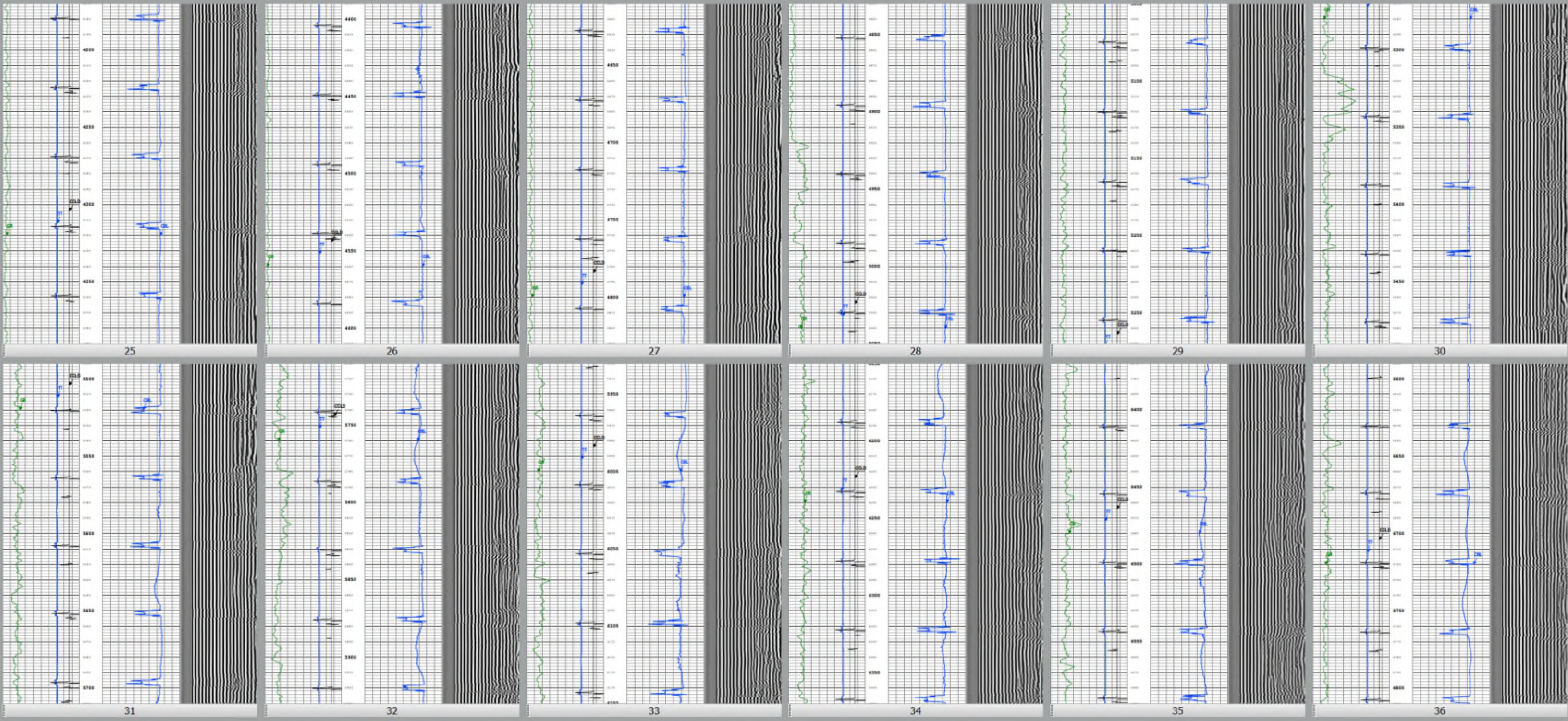
Pass Name	Pass Sequence	Description	Top	Bottom	Start	Stop	ASIC Mode	Depth Shift	Include Parallel Data
1A	1	Log	0.00 ft	0100.00 ft	24-Oct-2019 4:10:00 PM	24-Oct-2019 4:10:00 PM	0	0.00 ft	Yes

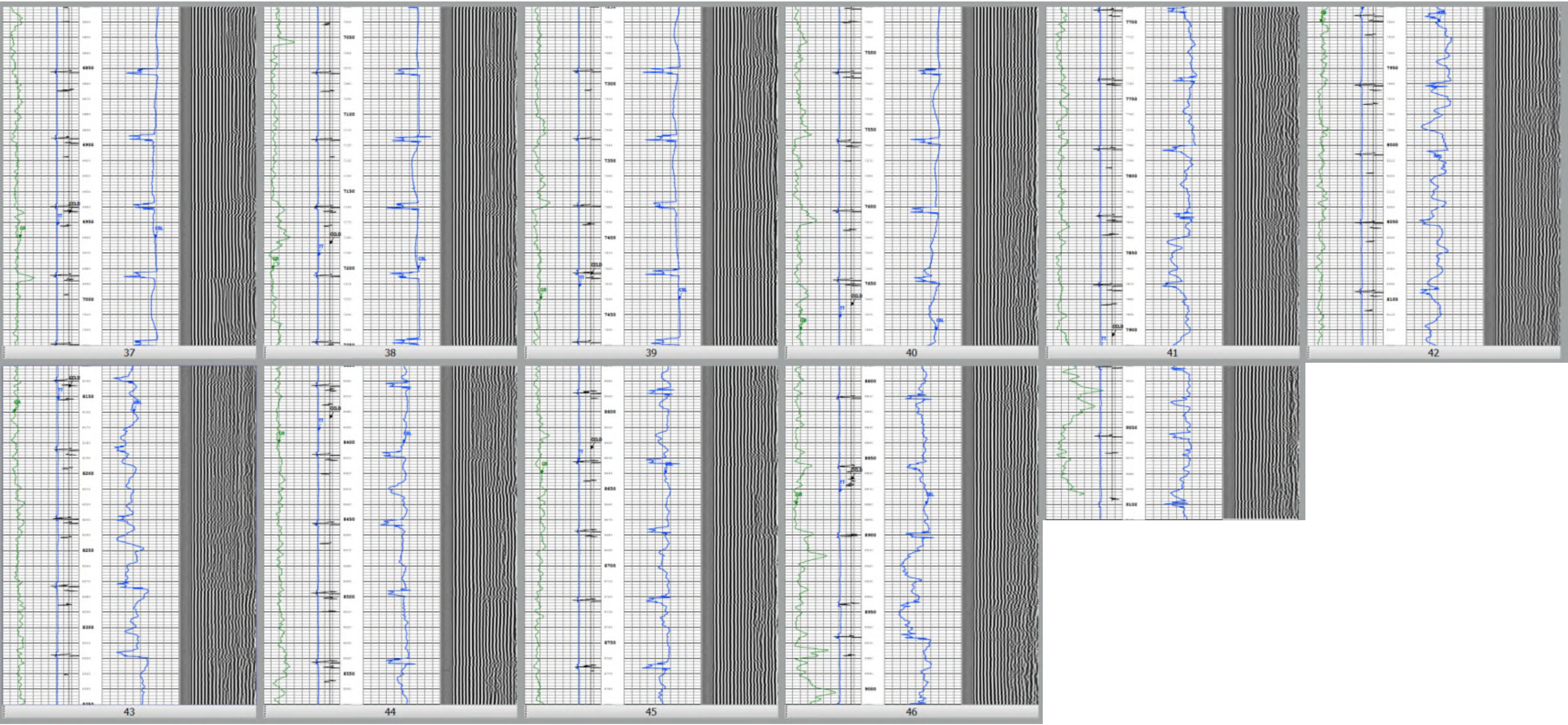
Log

Description: SCMT Amplitude and VCL. Format: Log (SCMT) (Amplitude) (VCL). Index Scale: 5 in per 100 ft. Index Unit: ft. Index Type: Measured Depth. Channel Date: 24-Oct-2019 16:42:12.









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

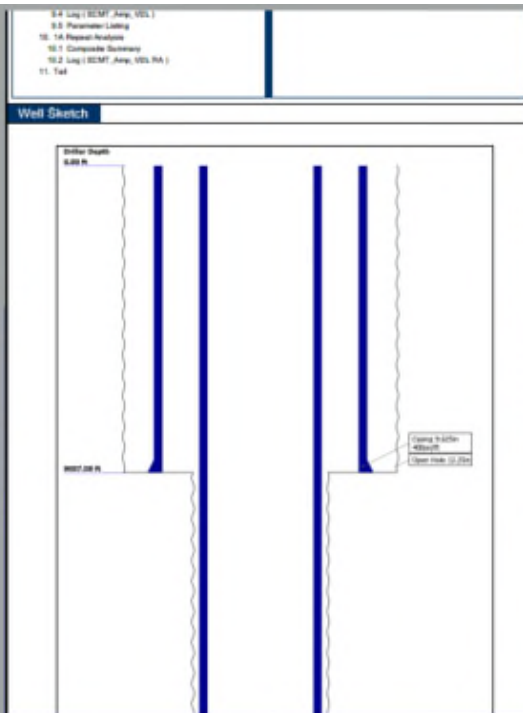
Avogato 14H CBL

Company: OXY PERMANENT RESOURCES
Well: AVOGATO 30-31 STATE COM 14H
Field: TAMAS
County: LEA
State: NEW MEXICO
Current Run Log
Current Run Log
Current Run Log

Disclaimer:
 THE USE OF AND RELIANCE UPON THIS RECORDED DATA BY THE USER-NAMED COMPANY AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVE, AGENTS, CONSULTANTS AND EMPLOYEES IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH IN THE AGREEMENT BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING ANY RESTRICTIONS ON USE OF THE RECORDED DATA, IN DISBURSMENTS AND SHARINGS OF INFORMATION AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED DATA, AND TO CUSTOMER FULL AND SOLE RESPONSIBILITY FOR ANY ERRORS OR OMISSIONS MADE IN CONNECTION WITH THE USE OF THIS RECORDED DATA.

Contents:

1. Header
2. Disclaimer
3. Contents
4. Well Sketch
5. Borehole Size/Casing/Tubing Record
6. Remarks and Equipment Summary
7. Depth Summary
8. 1A Main Pass
9. 1A Integration Summary
10. Software Version
11. Composite Summary
12. Log (SCMT, Amp, VCL)
13. Passer Log
14. Repeat Pass
15. Integration Summary
16. Composite Summary



Borehole Size/Casing/Tubing Record

Log	Top (ft)	Bottom (ft)	Length (ft)	Outer Diameter (in)	Inner Diameter (in)	Weight (lb/ft)	Material
3.4	0	1000	1000	4.5	3.5	100	Steel
3.5	1000	1500	500	4.5	3.5	100	Steel
10.1	1500	2000	500	4.5	3.5	100	Steel
10.2	2000	2500	500	4.5	3.5	100	Steel

Remarks and Equipment Summary

Logging Interval: 1000 to 2500 ft in surface.
 No pressure was applied during logging pass.
 Expanded Free Pipe Amplitude to 5.0" casing (11.4" ID).
 Log corrected to master pass @ 2048 ft as per depth required.

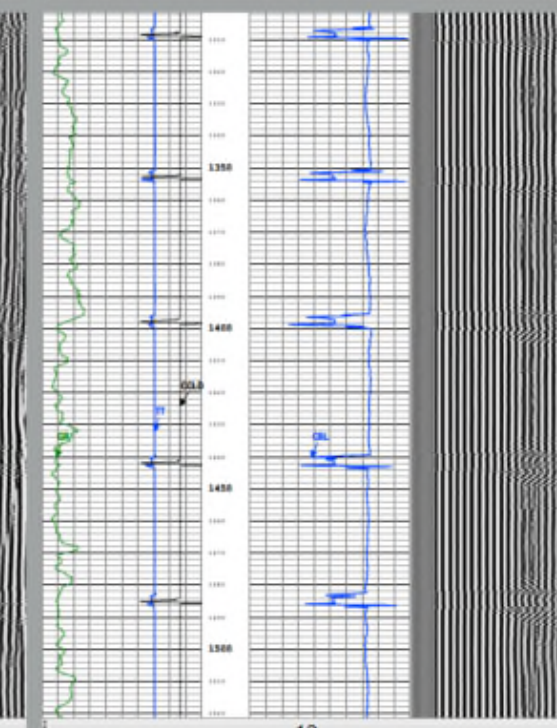
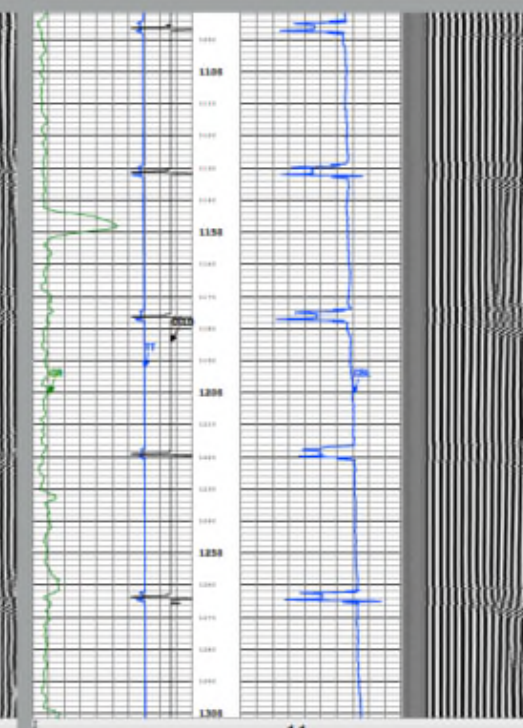
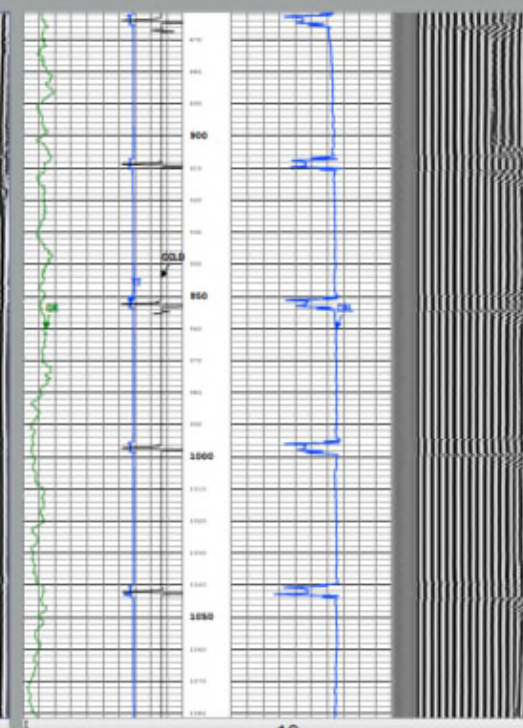
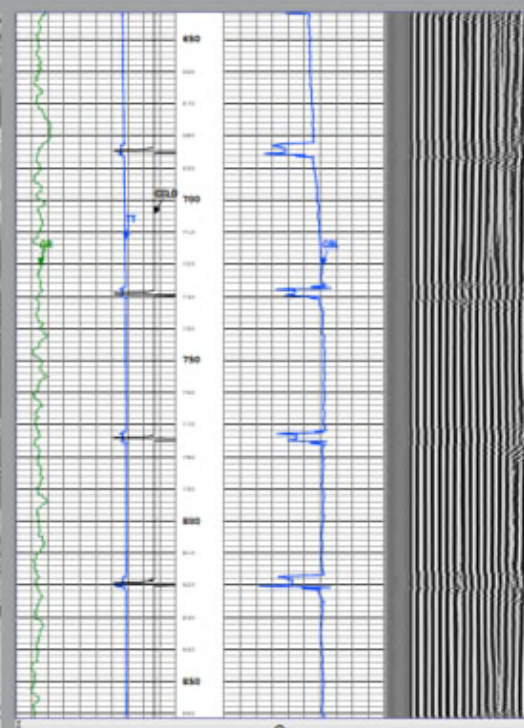
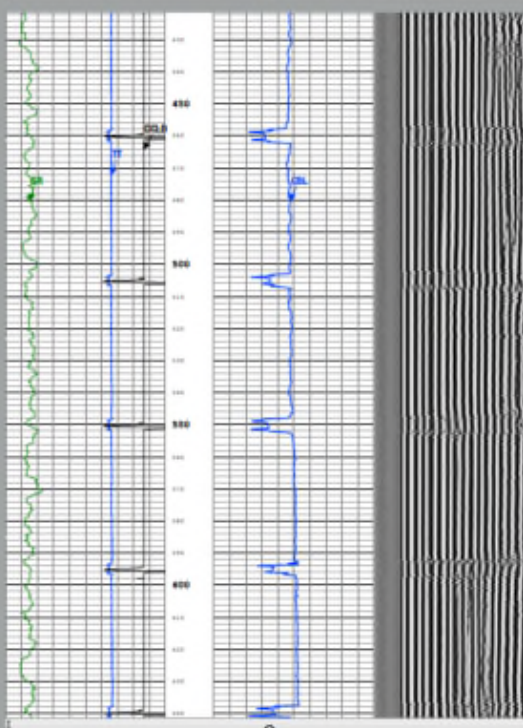
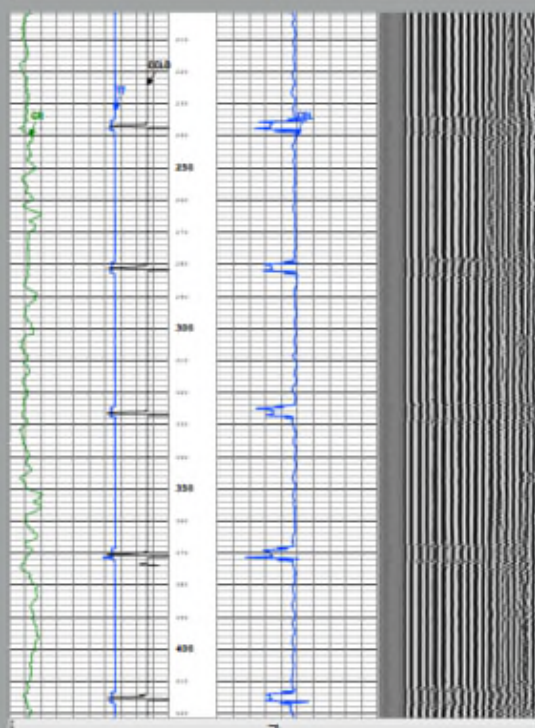
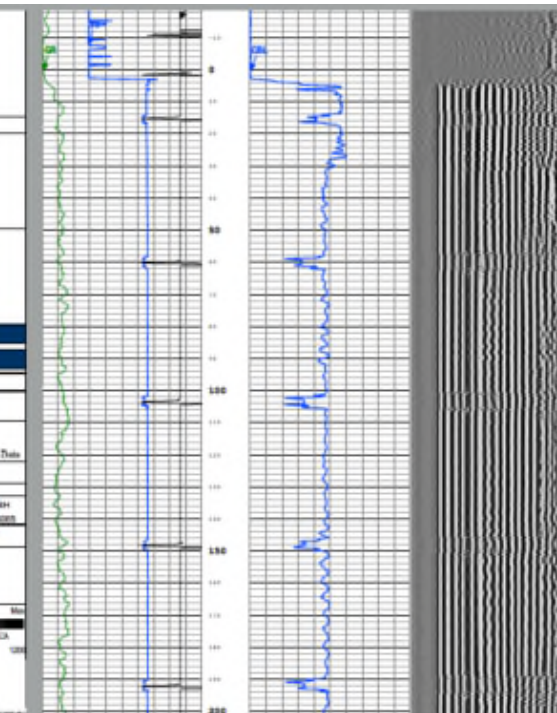
Depth Summary

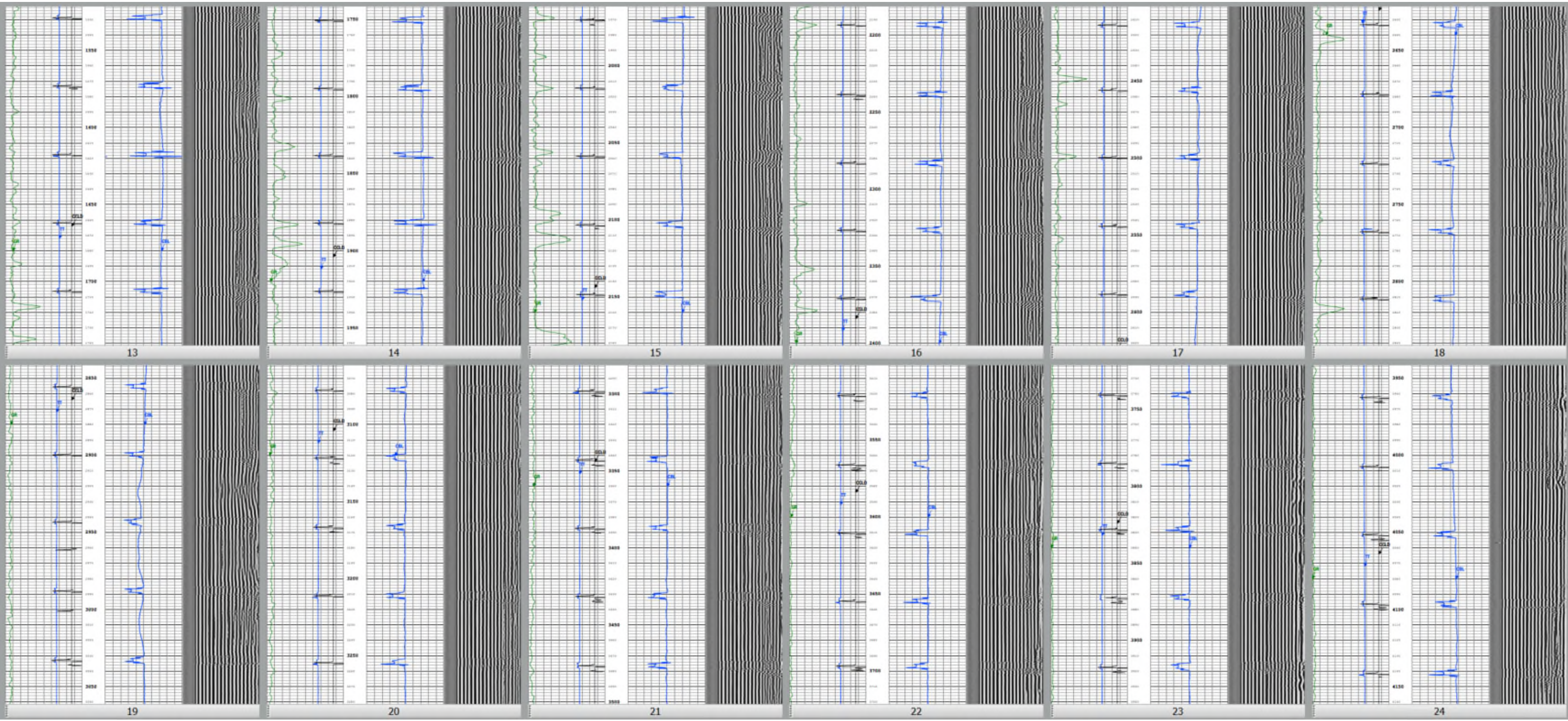
Device	Serial Number	Calibration Date	Calibration Serial Number	Calibration Cable Type	Offset Correction 1	Offset Correction 2
SCMT	14336	24-OCT-2018	14336	1.034-BL2	0	0

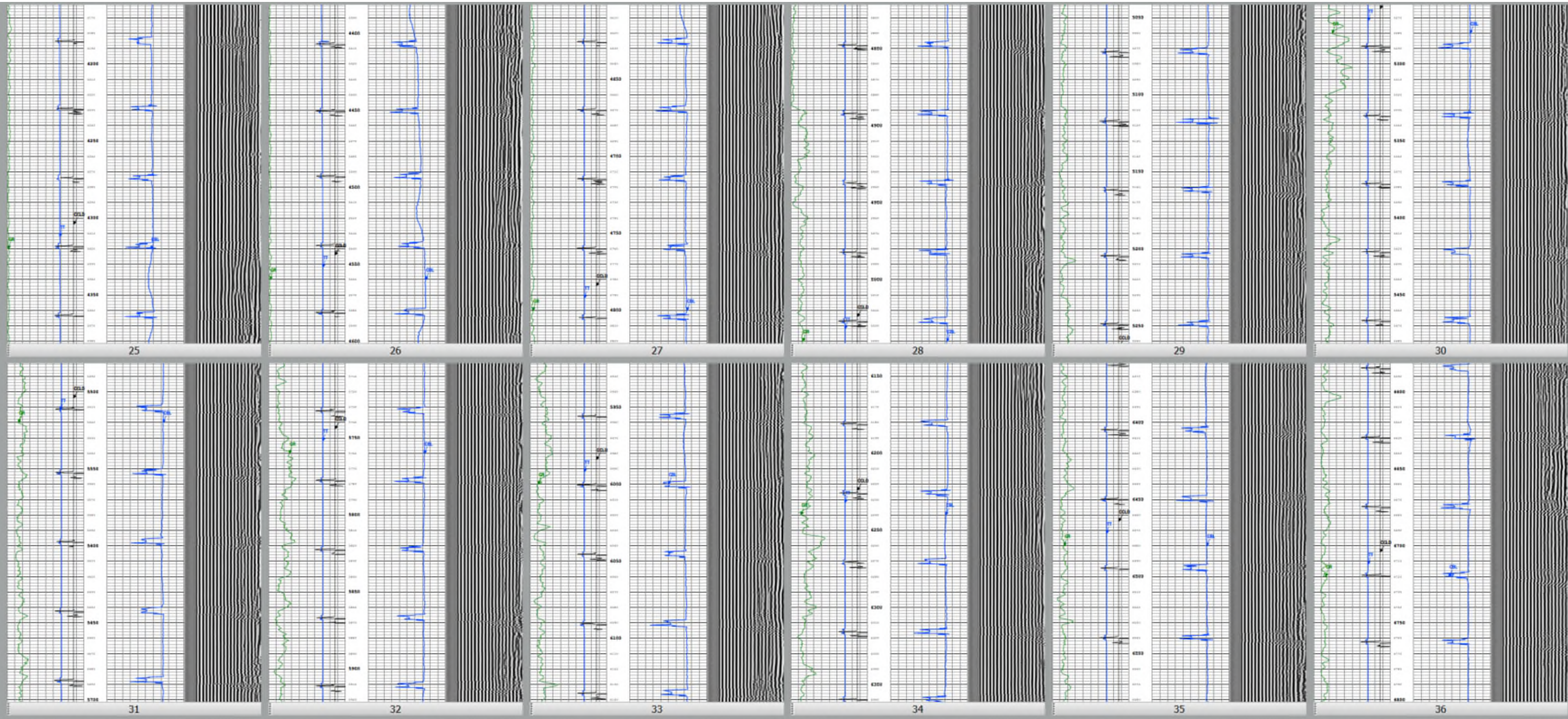
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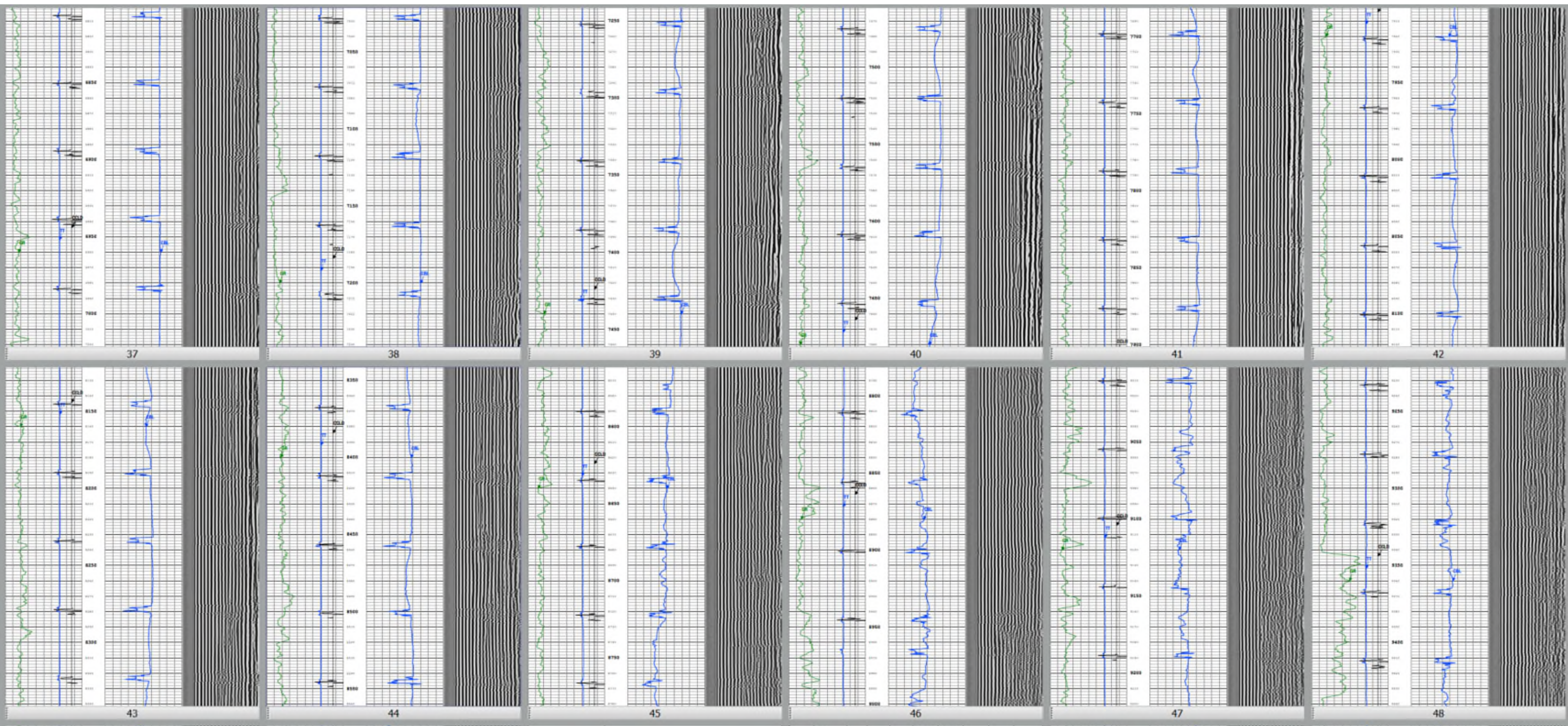
Company: OXY PERMANENT RESOURCES
 Well: AVOGATO 30-31 STATE COM 14H
 Log Type: Main Pass

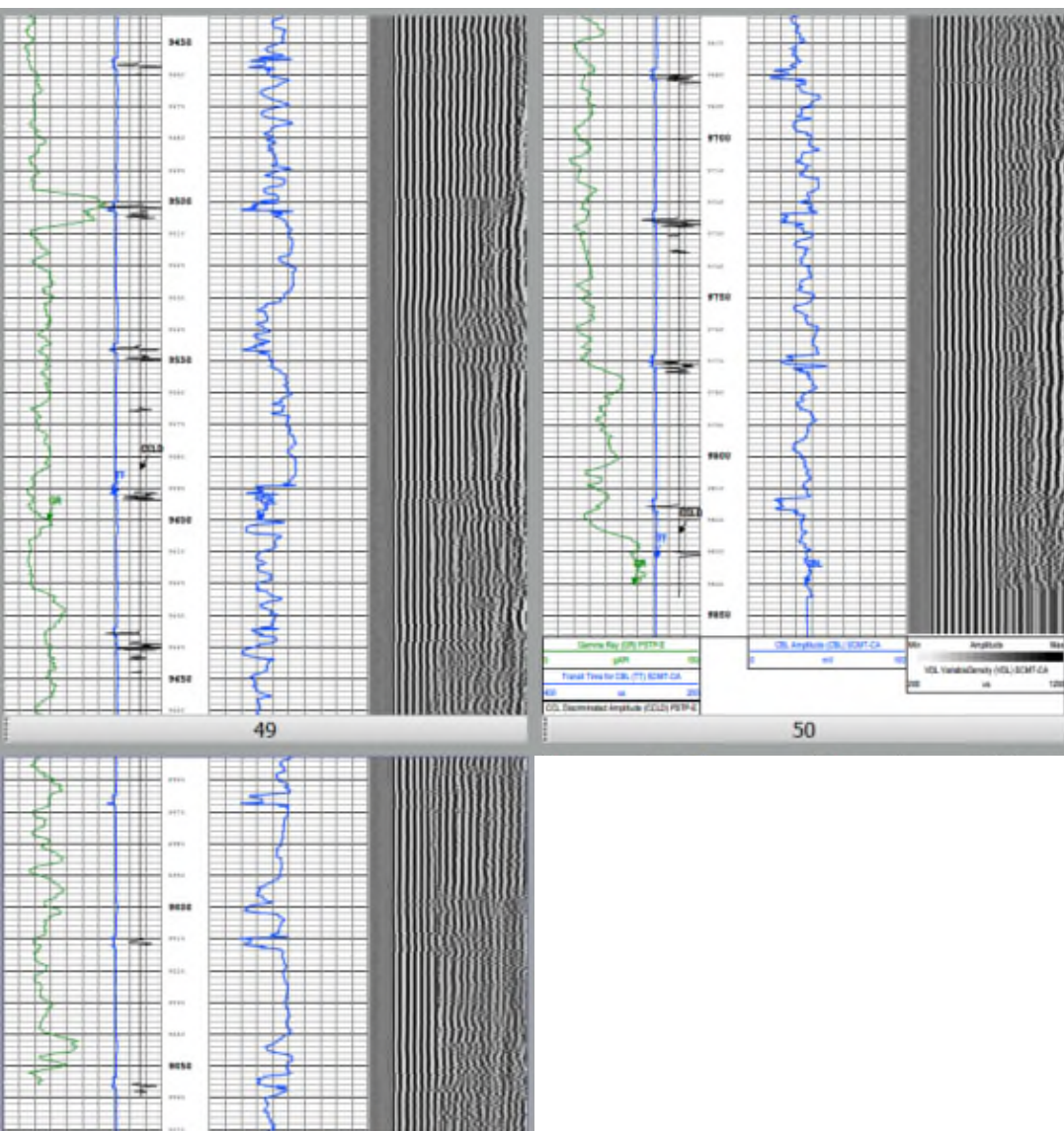
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	OSC Mode	Depth Shift	Include Parallel Tube
1A	1A	IN	11.30.0	2400.0	24-Oct-2018 8:02:27 PM	24-Oct-2018 8:02:27 PM	CA	0.00	Yes











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 / 8766' 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

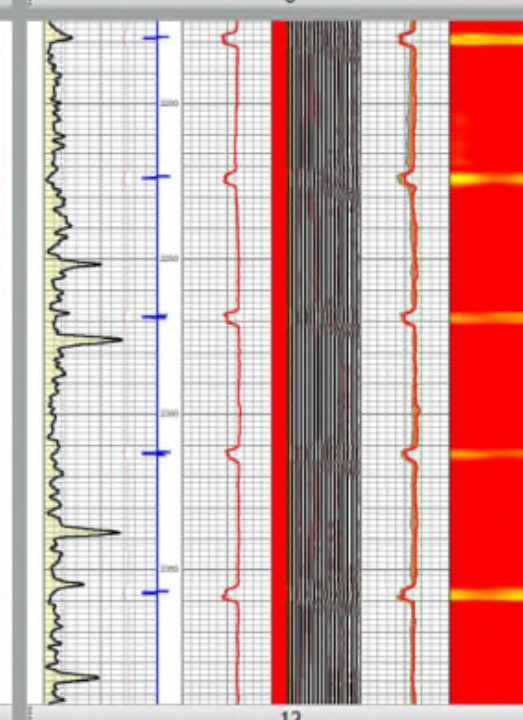
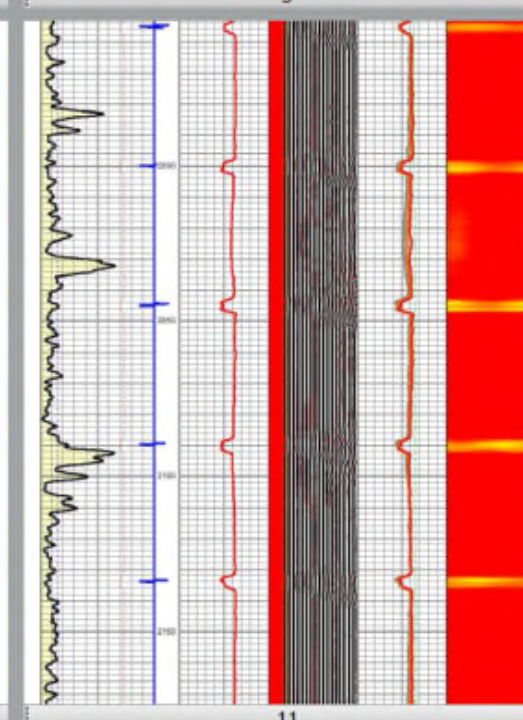
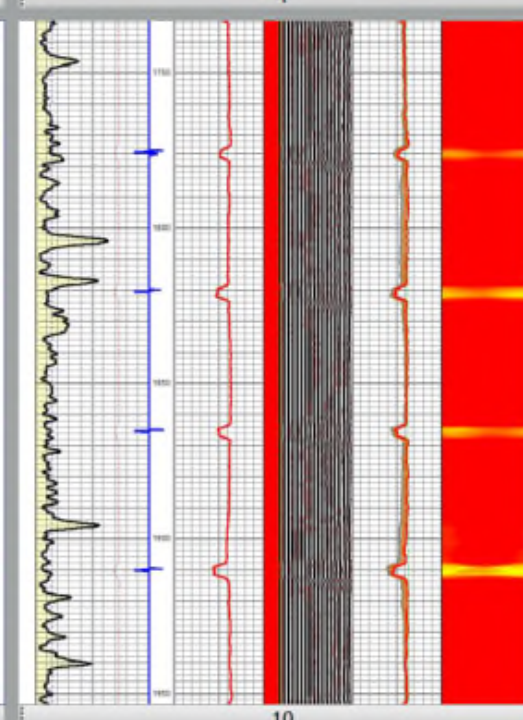
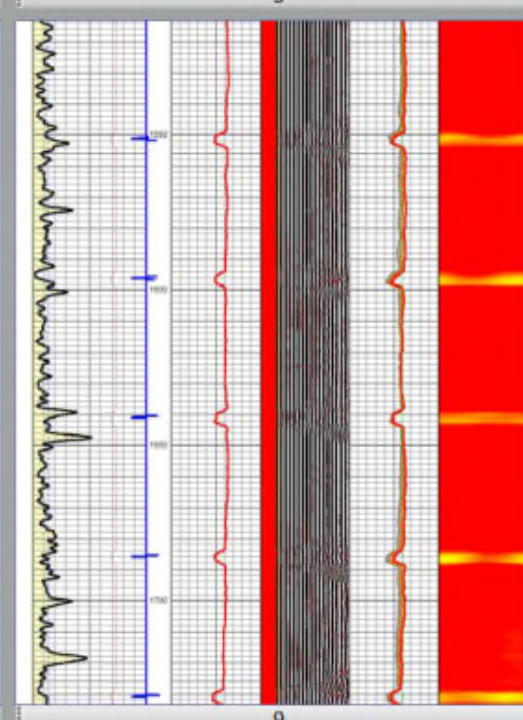
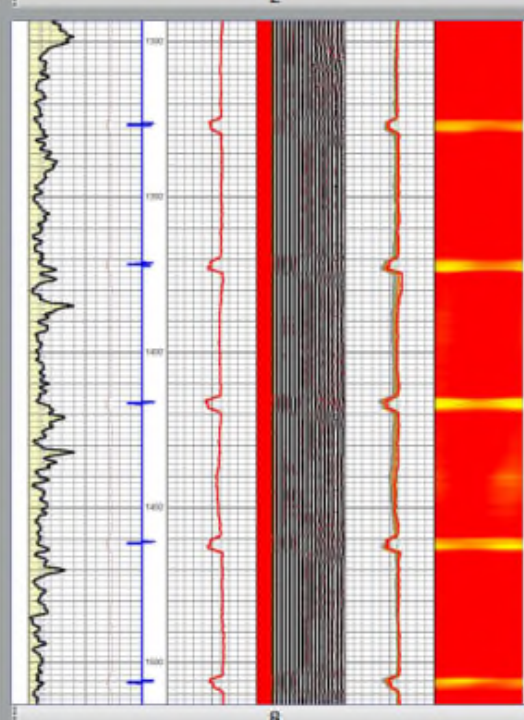
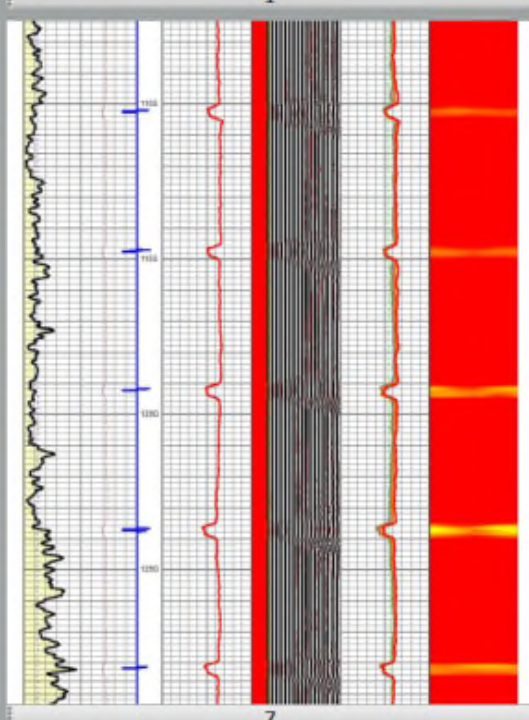
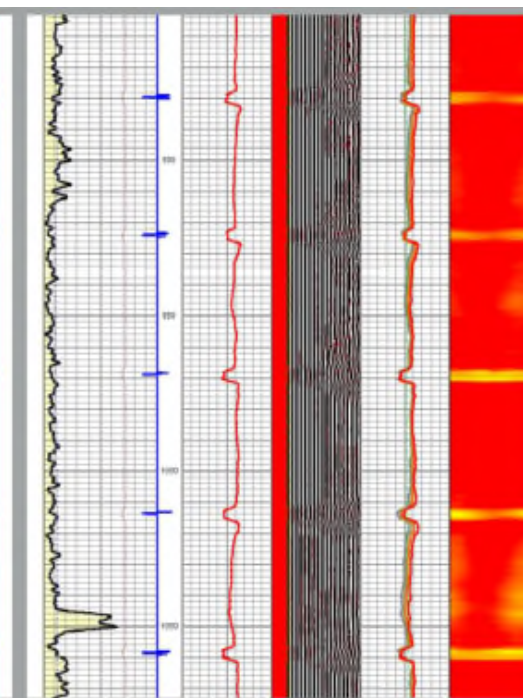
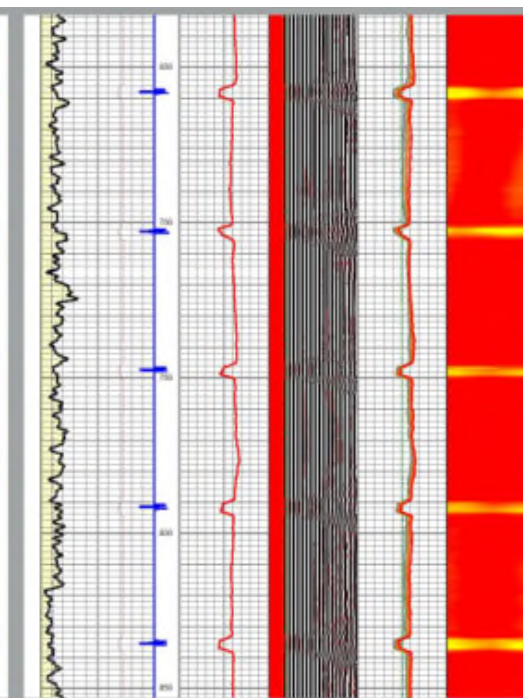
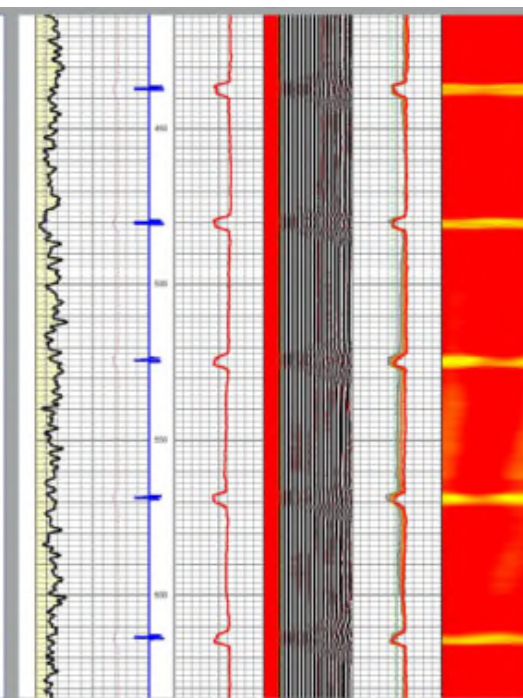
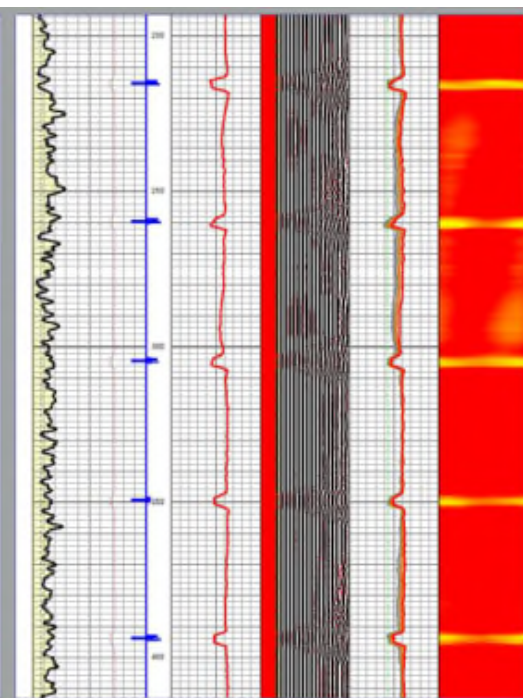
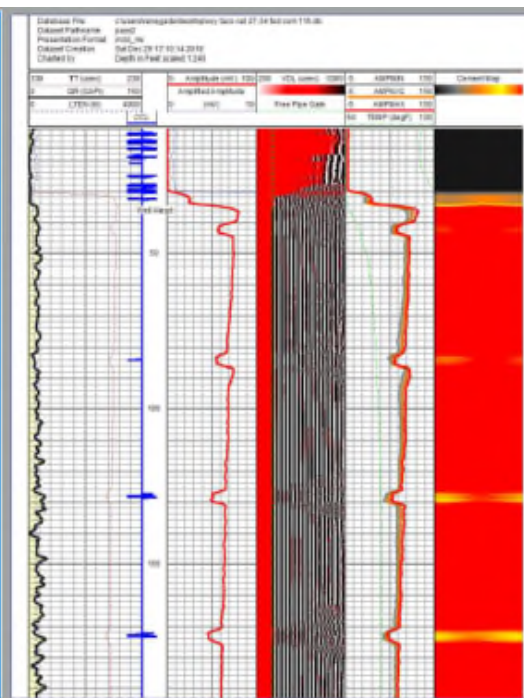
RENEGADE
Log

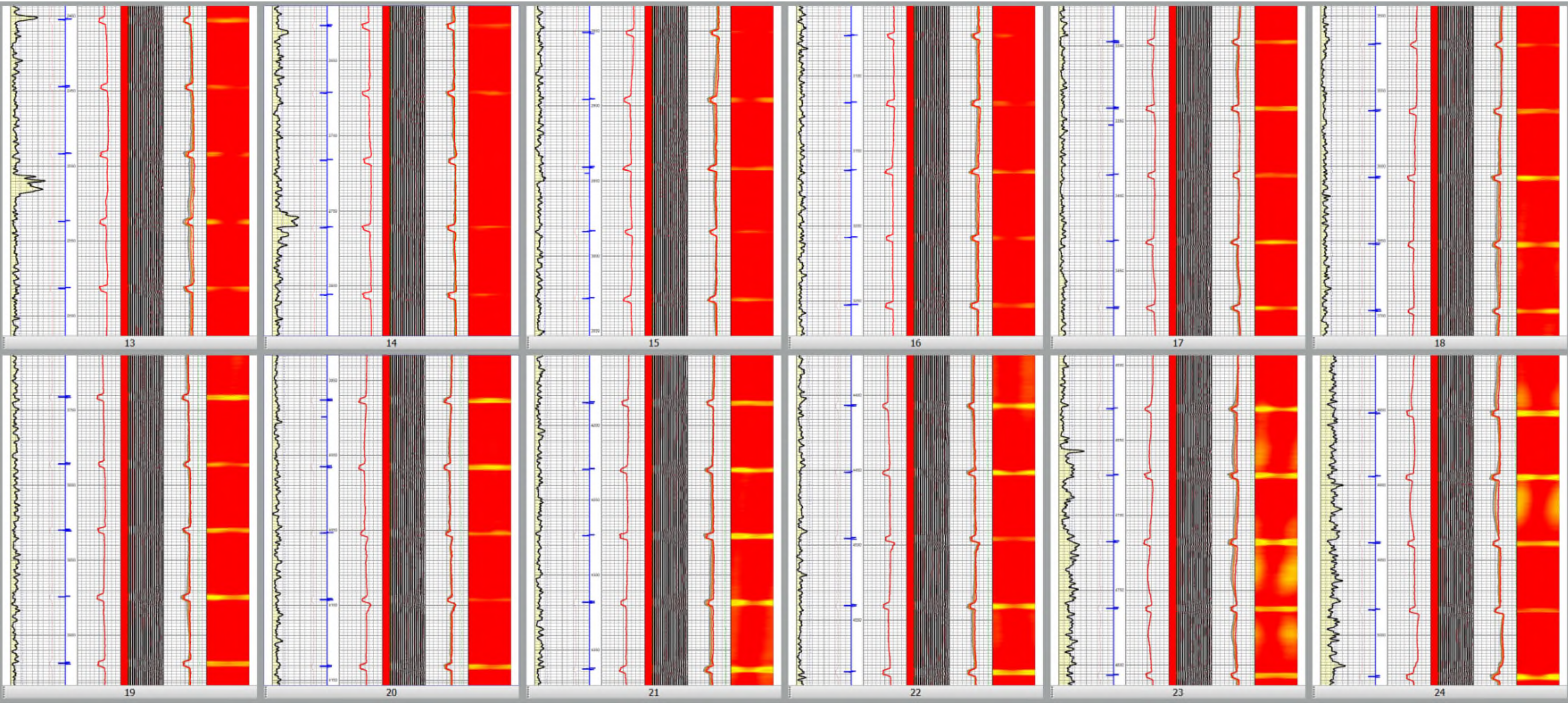
Radial Cement Bond
Gamma-Ray/CCL
Temperature Survey

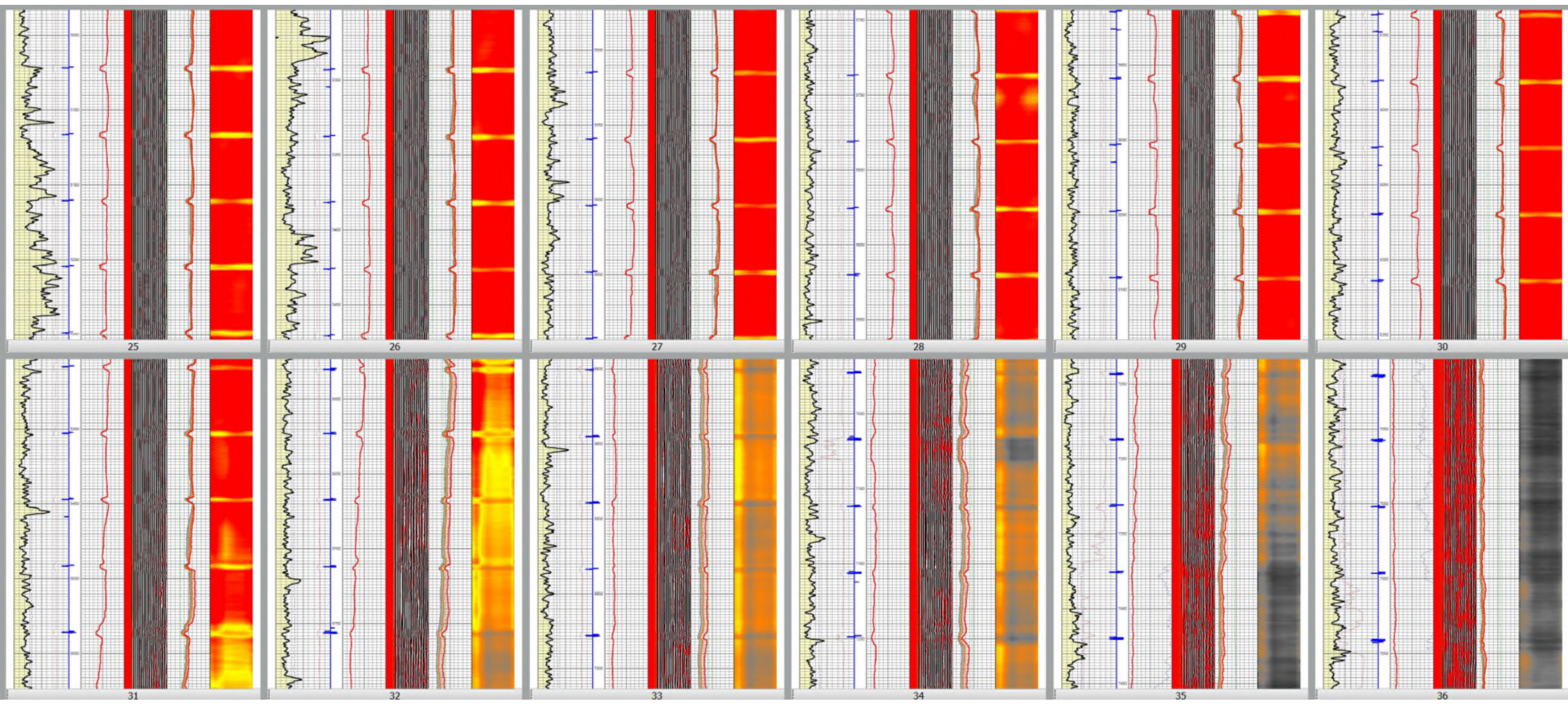
Company Occidental Petroleum, Ltd.
Well Taco Cat 27.34 Pst Cbr 11H
Field Taco Cat
County Kern
State New Mexico

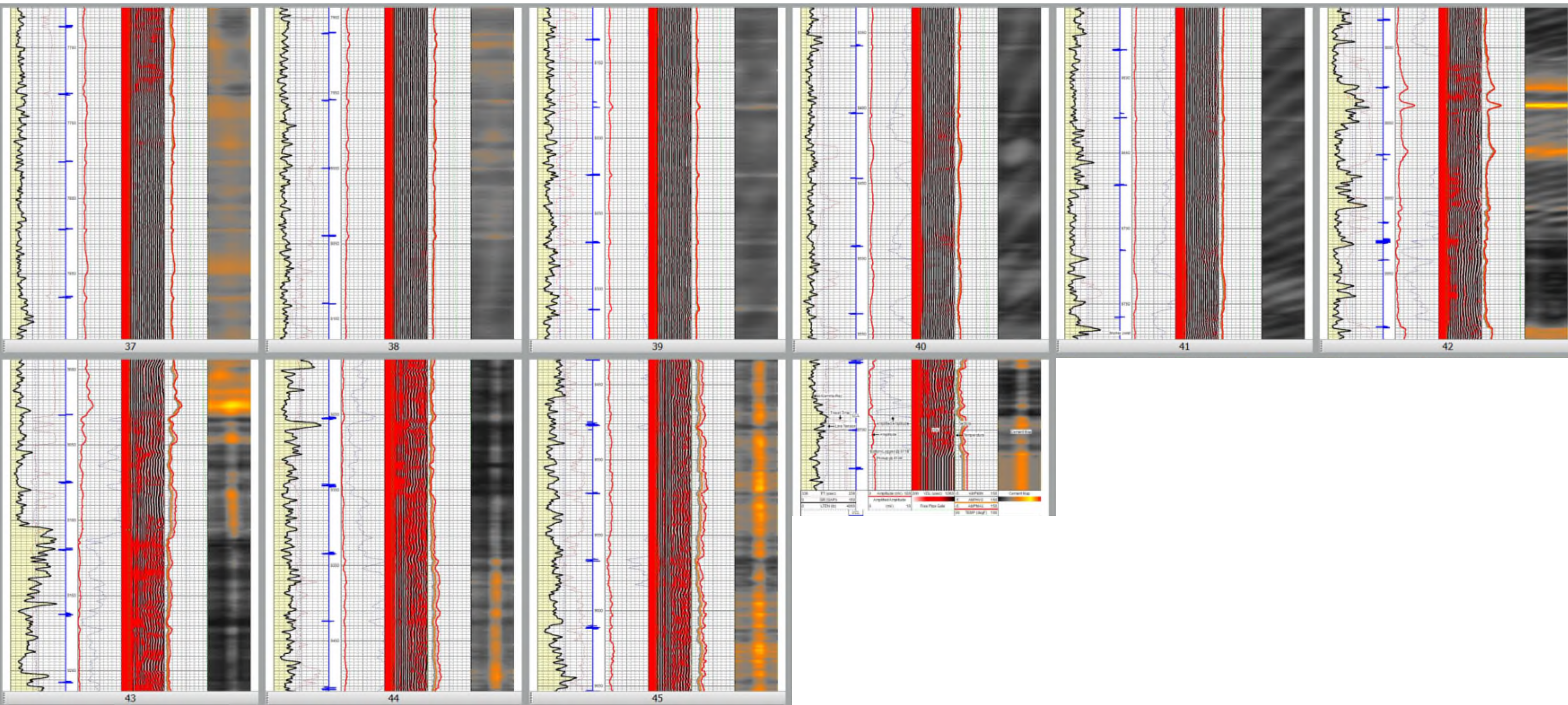
Log Date 07/07/2021 10:03:00
Log Time 10:03:00
Log Depth 27.34 Pst Cbr 11H
Log Type Main Pass (1000 PSI)

All Depths Logger Depths
Correlated to Marker Joint







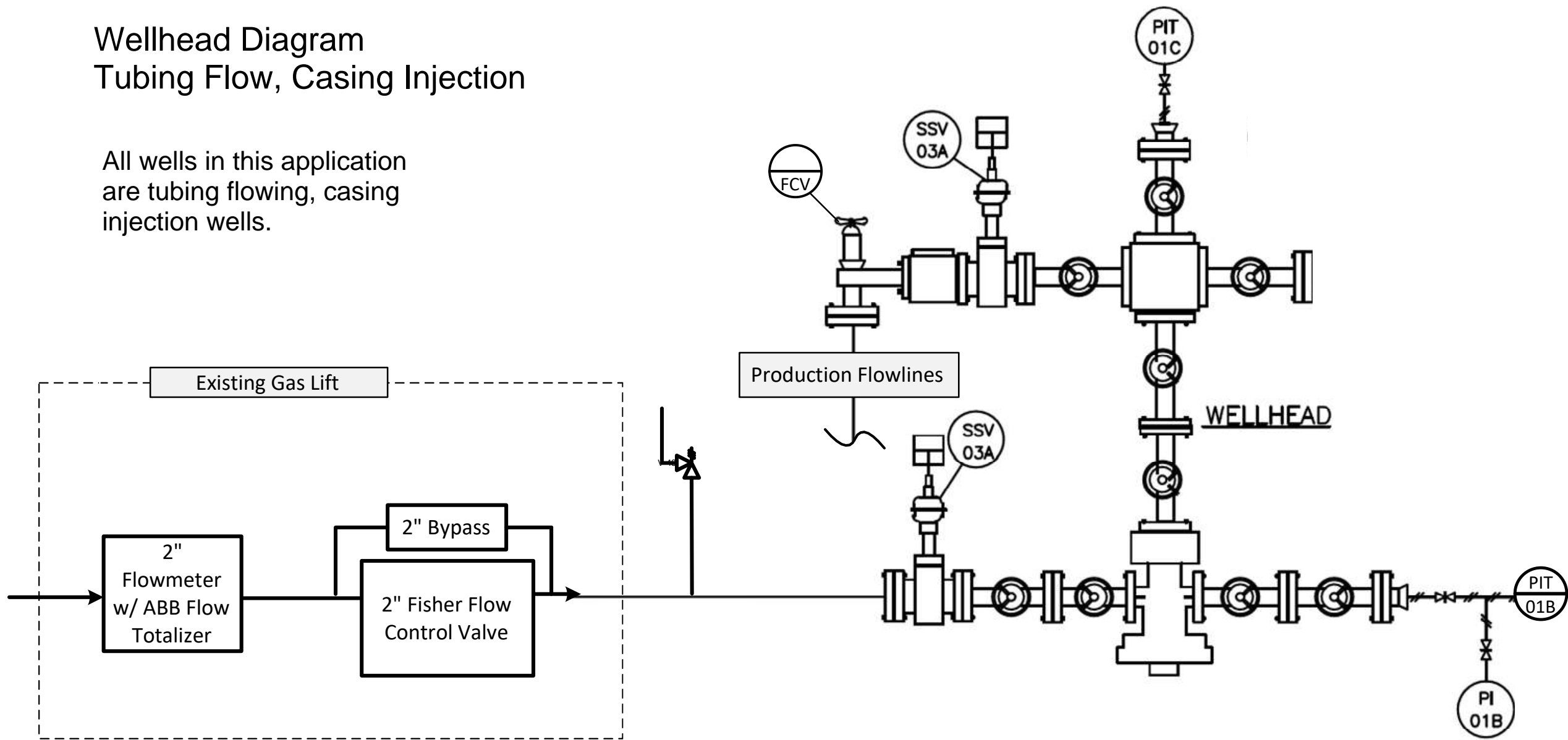


Max Allowable Surface Pressure (MASP) Table

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



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 EJ R
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		
	<u>100.300</u>	<u>100.000</u>	<u>100.000</u>	<u>5.934</u>		

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
Field/Location : NMSW
Station Name : TACO CCT 27-34FC 11GL
Station Number : 16231I
Sample Date: 3/12/21 2:37 PM
Analysis Date: 3/15/21 7:10:09 AM
Instrument: VARIAN CP 490 GC
Calibration/Verification Date: 3/15/2021
Heat Trace used: YES

Work Order 4000248705
Sampled by: VOLUMETRICS/JA
Sample Type : SPOT-CYLINDER
Sample Temperature (F): 84
Sample Pressure (PSIG): 1243
Flow rate (MCF/Day): 499.5
Ambient Temperature (F): 79
Sampling method: FILL & EMPTY
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

Deann Friend
 Laboratory Manager



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
Station Name: Avogato 30-31 State Com 11H
Station Number: 15601T
Sample Point: N/A
Meter Number: 30-025-45956
County: Lea
Type of Sample: Spot-Cylinder
Heat Trace Used: N/A
Sampling Method: Fill and Purge
Sampling Company: OXY

Sampled By: Chandler Montgomery
Sample Of: Gas Spot
Sample Date: 10/08/2020 11:50
Sample Conditions: 95.7 psig, @ 85.4 °F Ambient: 81 °F
Effective Date: 10/08/2020 11:50
Method: GPA-2261M
Cylinder No: 1111-002274
Instrument: 70104251 (Inficon GC-MicroFusion)
Last Inst. Cal.: 10/05/2020 0:00 AM
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

Carly Peterson

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 ACQUISITION (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

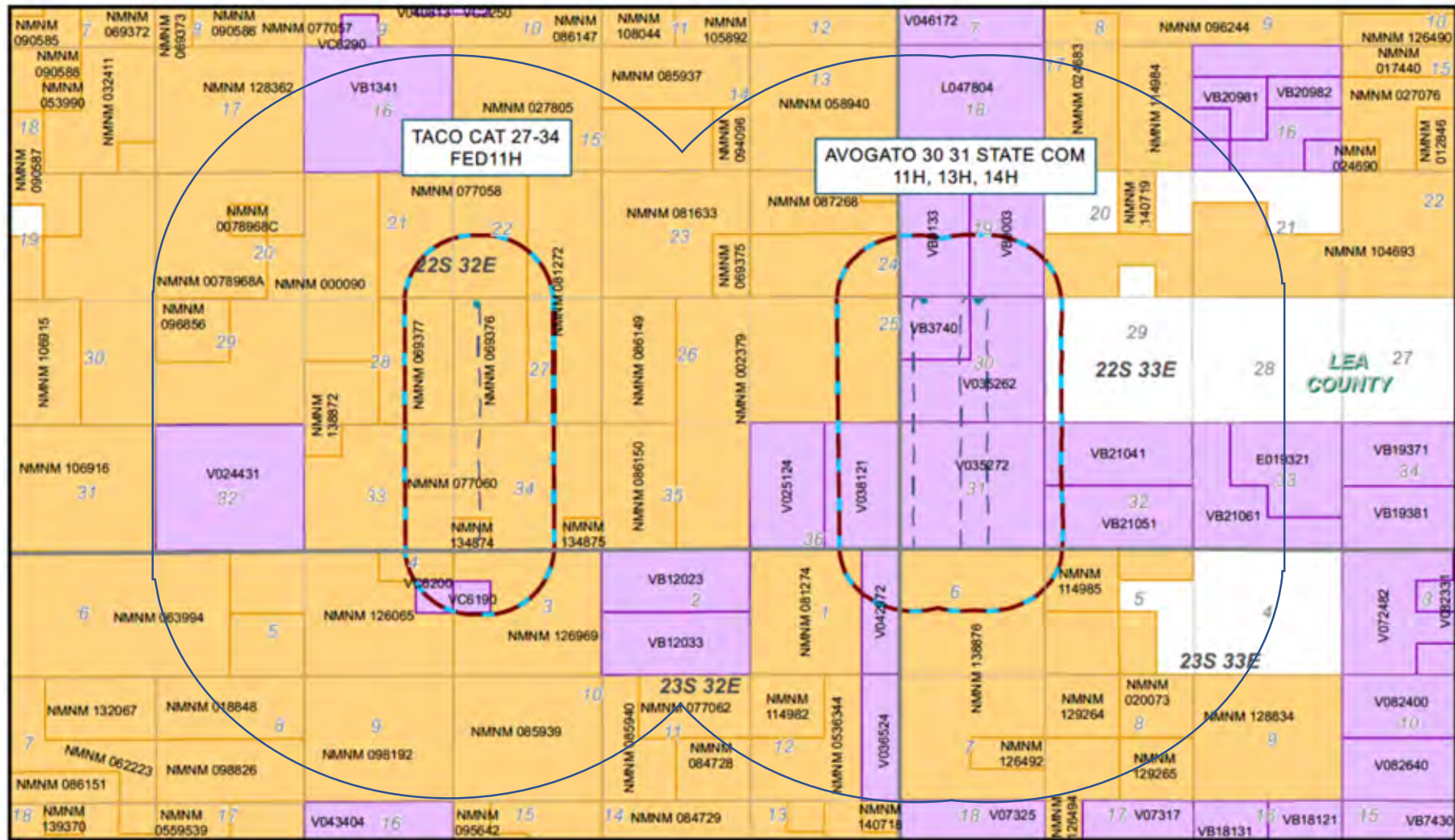
Oxy will report and track any spill recordable or non-recordable via our CDR system

- 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



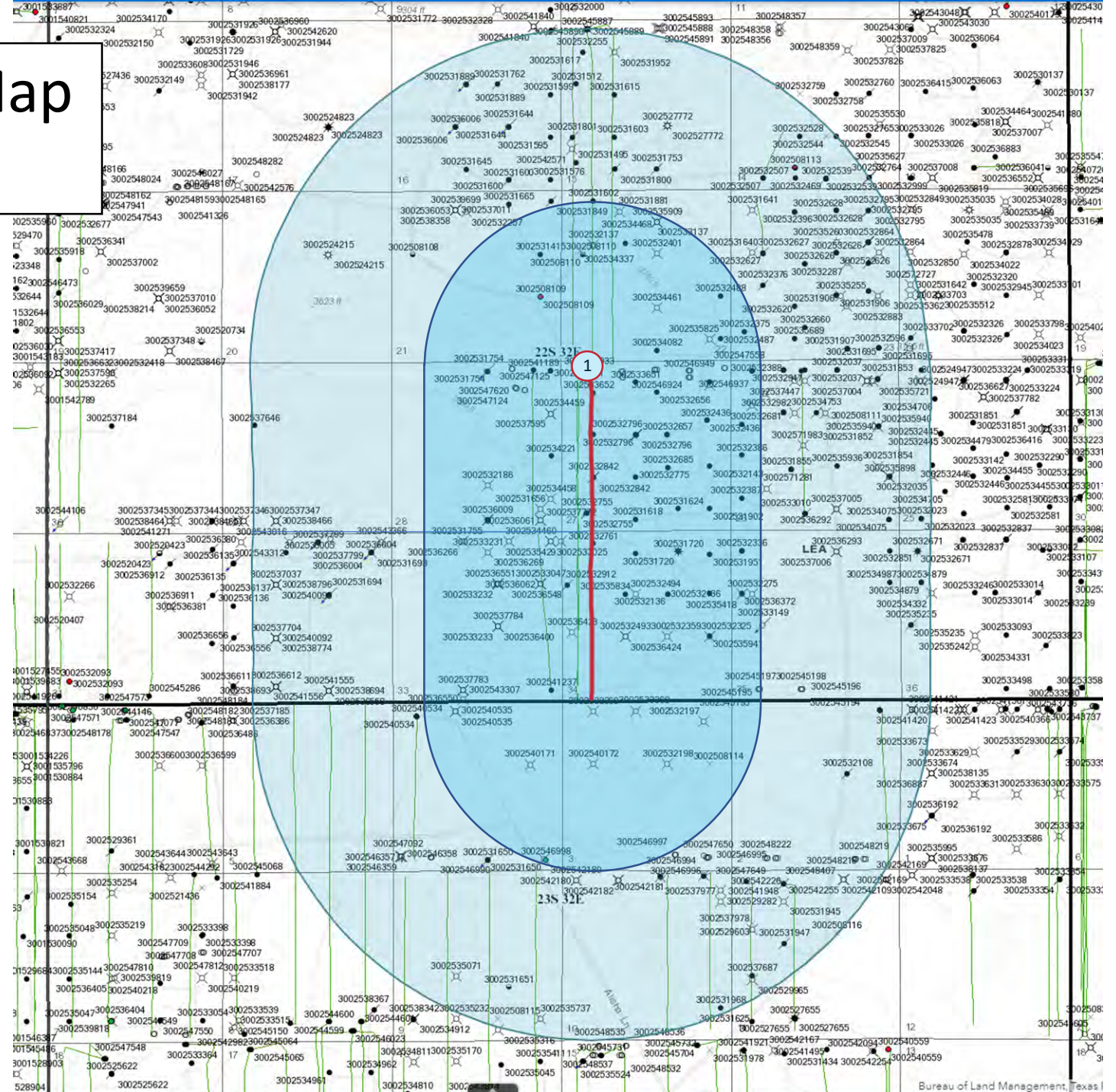
NENM GAS LIFT NETWORK LEA COUNTY, NEW MEXICO



- County
- 1/2 mile AOR
- Surface Hole Location
- More Trajectory
- 2 Mile Outline
- Lease Owner Type: Federal
- State



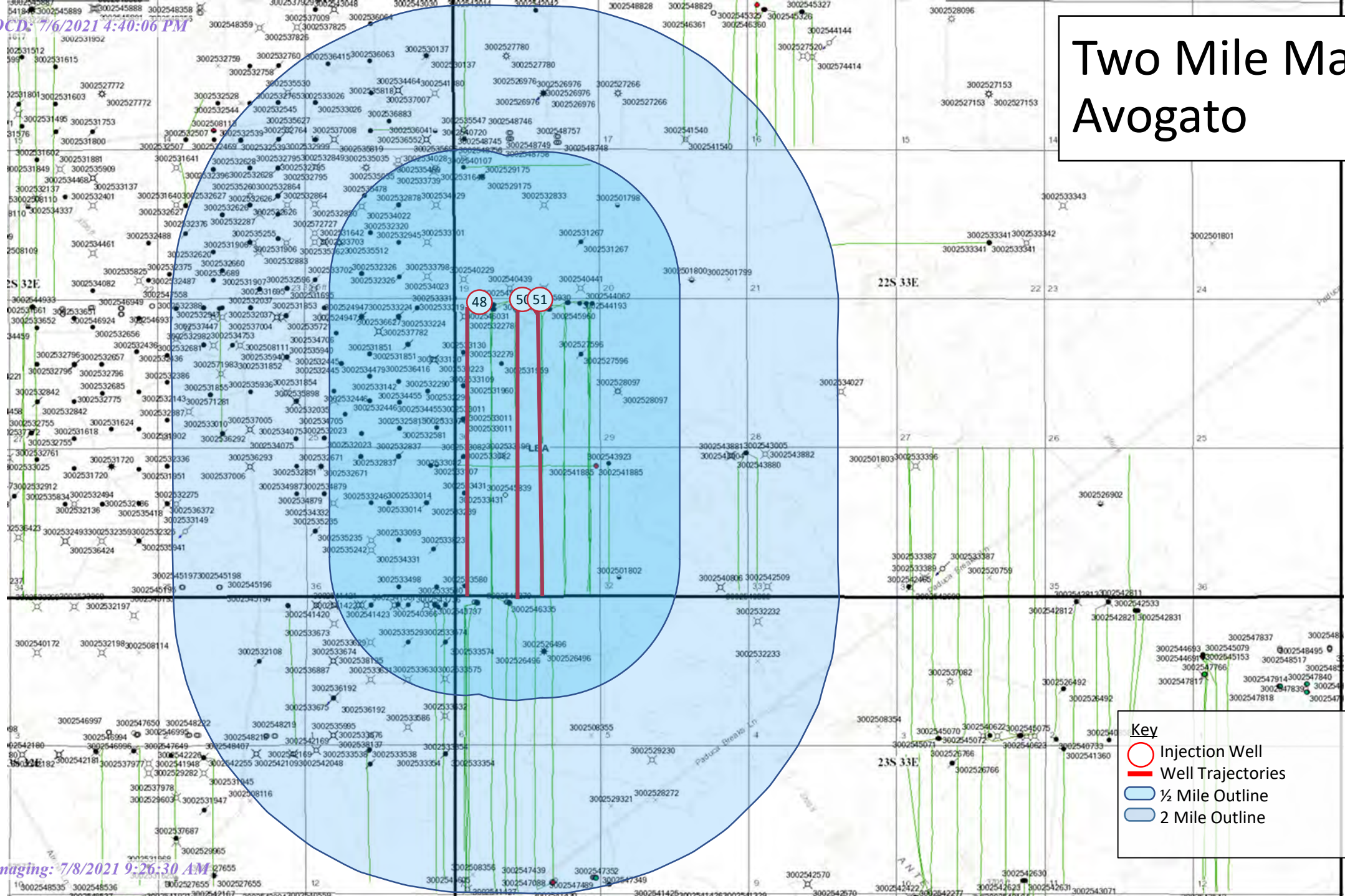
Two Mile Map Taco Cat



Key

- Injection Well
- Well Trajectories
- 1/2 mile Outline
- 2 Mile Outline

Two Mile Map Avogato

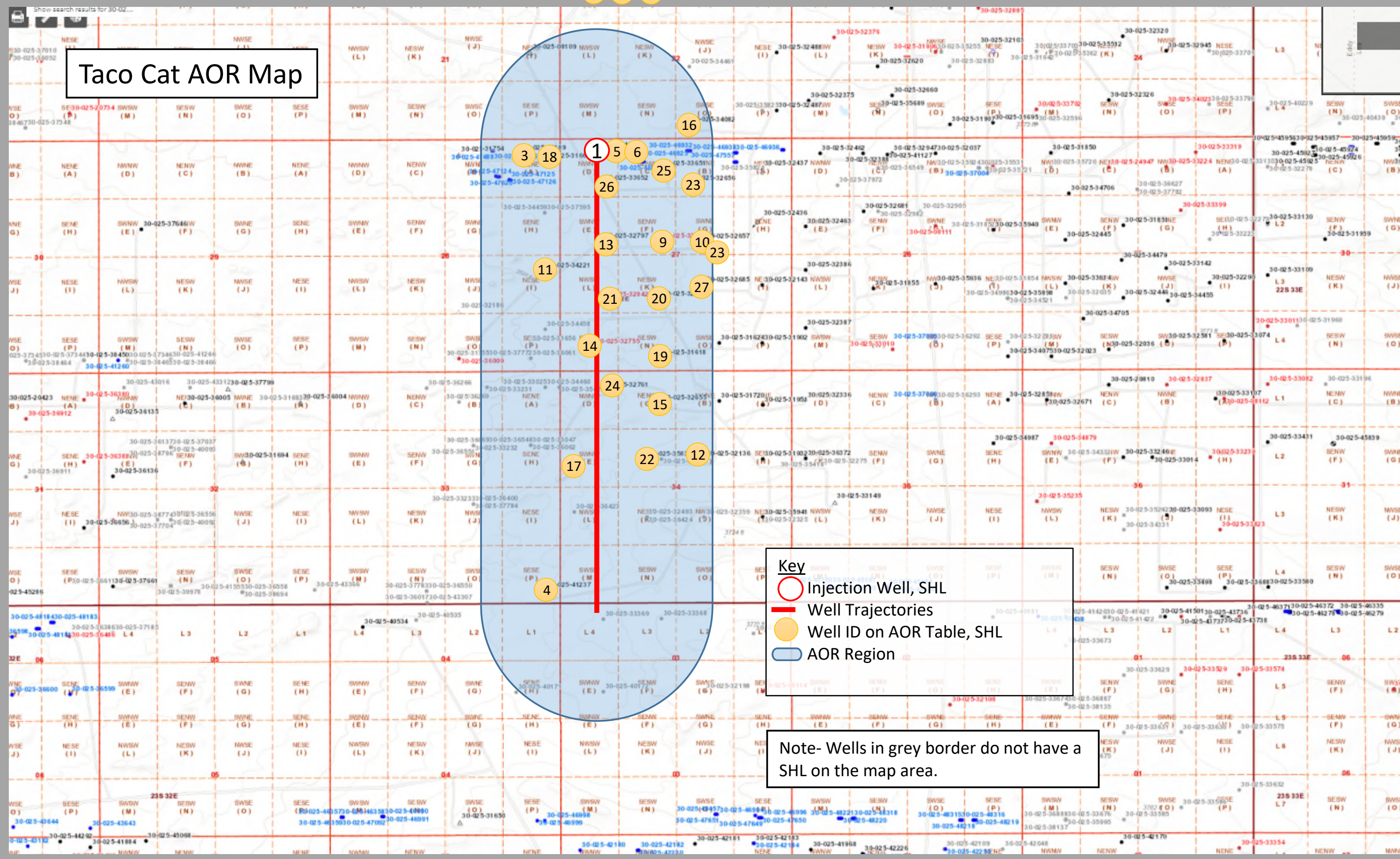


Key

- Injection Well
- Well Trajectories
- 1/2 Mile Outline
- 2 Mile Outline

2 7 8

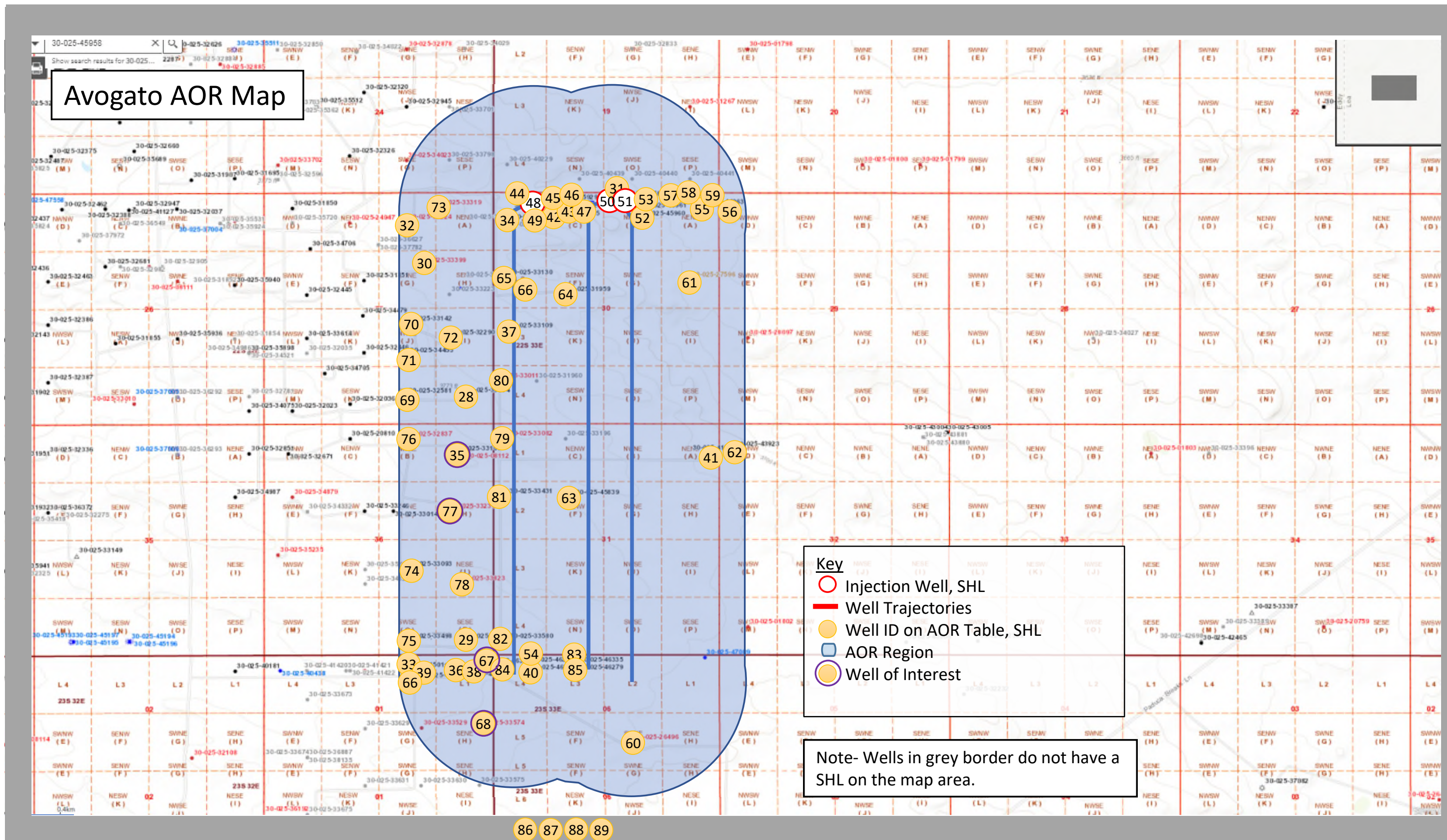
Taco Cat AOR Map



Key

- Injection Well, SHL
- Well Trajectories
- Well ID on AOR Table, SHL
- AOR Region

Note- Wells in grey border do not have a SHL on the map area.



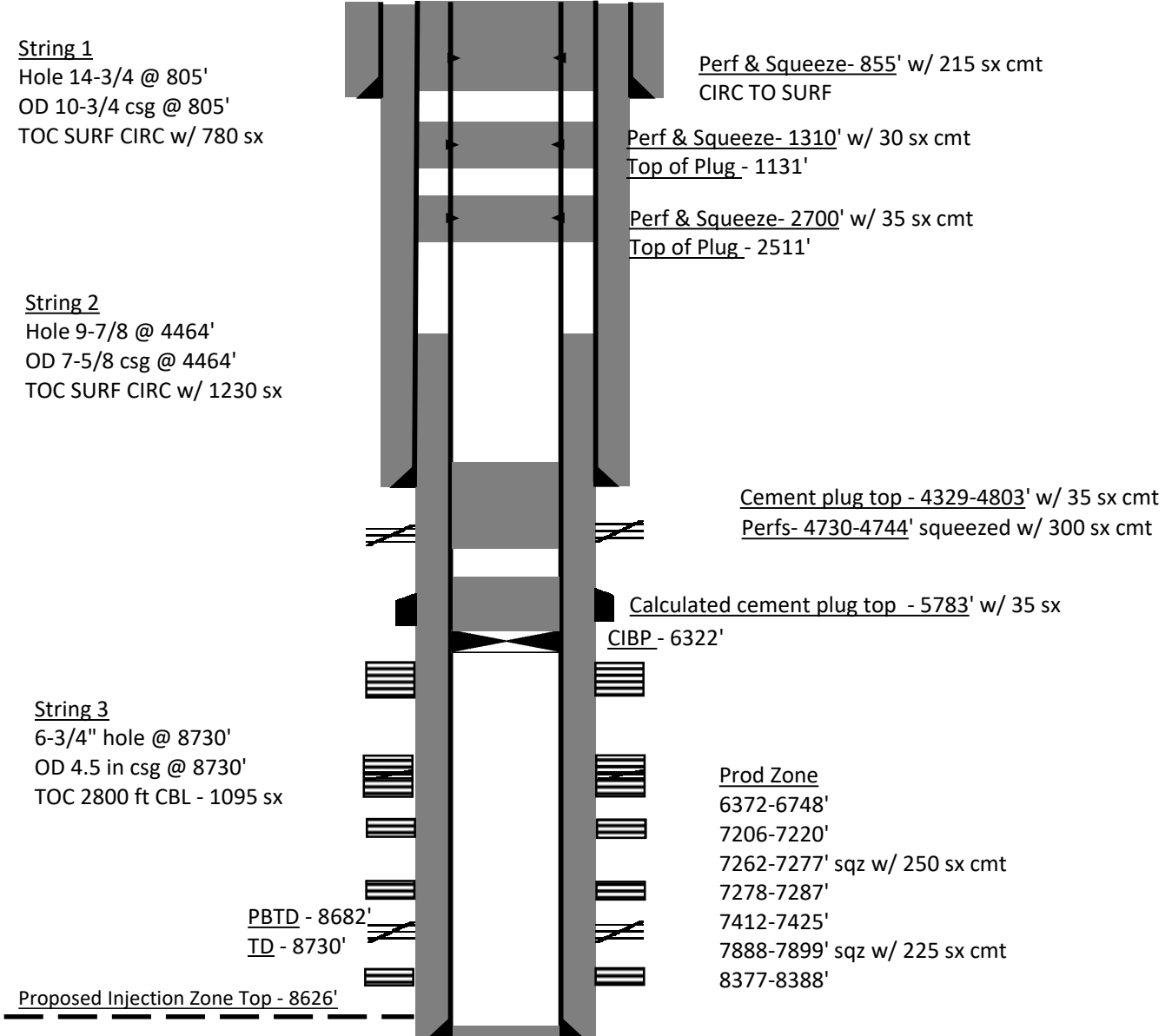
52	30-025-45960	OXY USA INC	AVOGATO 30 31 STATE COM	024H	Oil	Active	420 N	1820 E	B	30 22S	33E	7/16/2019	10961	21078	8.5	5.5	19865	2135	6435 CBL	17.5	13.375	1054	1340	0 CIRC	10610'-20985'	[51687] RED TANK; BONE SPRING, EAST	
															12.25	9.625	6425	1165	0 CIRC	12.25	9.625	6425	1165	0 CIRC			
															8.5	5.5	21051	2485	3170 CALC	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	8.5	5.5	21051	2485	3170 CALC	17.5	13.375	1052	1340	0 CIRC	10572'-20896'	[51687] RED TANK; BONE SPRING, EAST	
															12.25	9.625	6435	1165	0 CIRC	12.25	9.625	6435	1165	0 CIRC			
															8.5	5.5	20988	2470	3316 CALC	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	12.25	9.625	5035	1650	0 CIRC	12324'-22368'	[98177] WC-025 G-09 S223332A; UPR WOLFCAMP	
															8.75	7.625	12531	920	2700 CALC	8.75	7.625	12531	920	2700 CALC			
															6.75	5.5	22484	1435	0 CIRC	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	12.25	9.625	6867	2385	0 CIRC	11300'-20364'	[51687] RED TANK; BONE SPRING, EAST	
															8.5	5.5	20590	2260	1865 CALC	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	12.25	9.625	6776	3125	0 CIRC	9694'-19546'	[51687] RED TANK; BONE SPRING, EAST	
															8.5	5.5	19681	2012	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	12.25	9.625	9534	3594	0 CIRC	10357'-20138'	[51687] RED TANK; BONE SPRING, EAST	
															6.75	5.5	20625	922	9029 CALC	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	12.25	9.625	7343	1447	0 CIRC	11772'-21527'	[51687] RED TANK; BONE SPRING, EAST	
															8.5	7.625	10562	472	6834 CALC	8.5	7.625	10562	472	6834 CALC			
															6.75	5.5	21610	858	10446 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	12.25	9.625	11130	2900	249 CALC	12133'-21491'	5.5" Casing tie-back @ 0-11001'	[51687] RED TANK; BONE SPRING, EAST
															8.5	5.5	21665	1750	11001 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	12.25	10.75	5026	1400	0 CIRC	N/A	N/A	
															9.5	7.625	12174	815	7091 CALC	9.5	7.625	12174	815	7091 CALC			
															6.5	5	15400	540	11676 CIRC	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	12.25	10.75	4848	2050	1150 CALC	N/A	N/A	
															9.5	7.625	12150	1105	4300 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	12.25	9.625	4914	1380	0 CIRC	9626'-14147'	[51687] RED TANK; BONE SPRING, EAST	
															8.75	5.5	14247	2156 7300	CALC	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	12.25	9.625	8825	3380	0 CIRC	N/A	Monitor Well; No Perfs	N/A
															8.5	4.5	13883	1097	7160 CALC	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	12.25	8.625	4800	2150	0 CALC	8887-8906	[51687] RED TANK; BONE SPRING, EAST	
															7.875	5.5	10490	1050	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	9.875	7.625	4700	1160	0 CIRC	8862-8898	[51689] RED TANK; DELAWARE, WEST	
															6.75	4.5	9000	920	4300 CALC	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	12.25	9.625	4970	1865	0 CIRC	9898-19590	[17644] DIAMONDTAIL; BONE SPRING	
															8.75	7	8100	3755	0 CIRC	8.75	7	8100	3755	0 CIRC			
															8.5	5.5	19642	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	11	8.625	4797	1150	0 CIRC	N/A	Well of interest. Delaware and Avalon Sand Perfs in communication	N/A
															7.875	5.5	9121	925	2692 CALC	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	11	8.625	4790	1250	0 CIRC	N/A	Well of interest. Delaware and Avalon Sand Perfs in communication	N/A
															7.875	5.5	9170	1000	0 CALC	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	11	8.625	4720	1800	0 CIRC	8526-8548; 8343-8374; 8058-8083; 7935-7942; 6998-7030; 5018-5028	[51689] RED TANK; DELAWARE, WEST	
															7.875	5.5	8990	1650	1500 CALC	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	9.625	7.625	4695	1300	0 CIRC	8536-8556; 8366-8386; 7930-7942; 7000-7018	[51689] RED TANK; DELAWARE, WEST	
															6.75	4.5	9000	915	2760 CALC	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	9.875	7.625	4710	1880	0 CIRC	8608-8628; 8104-8124; 7822-7936;	[51689] RED TANK; DELAWARE, WEST	
															6.75	4.5	8960	1105	3600 CALC	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	9.875	7.625	4700	1500	510 CALC	8536-8556; 8048-8067;	[51689] RED TANK; DELAWARE, WEST	
															6.75	4.5	9010	615	2990 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	9.625	7.625	4705	1600	0 CIRC	N/A	N/A	
															6.75	4.5	9010	1325	1800 CALC	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</																	

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

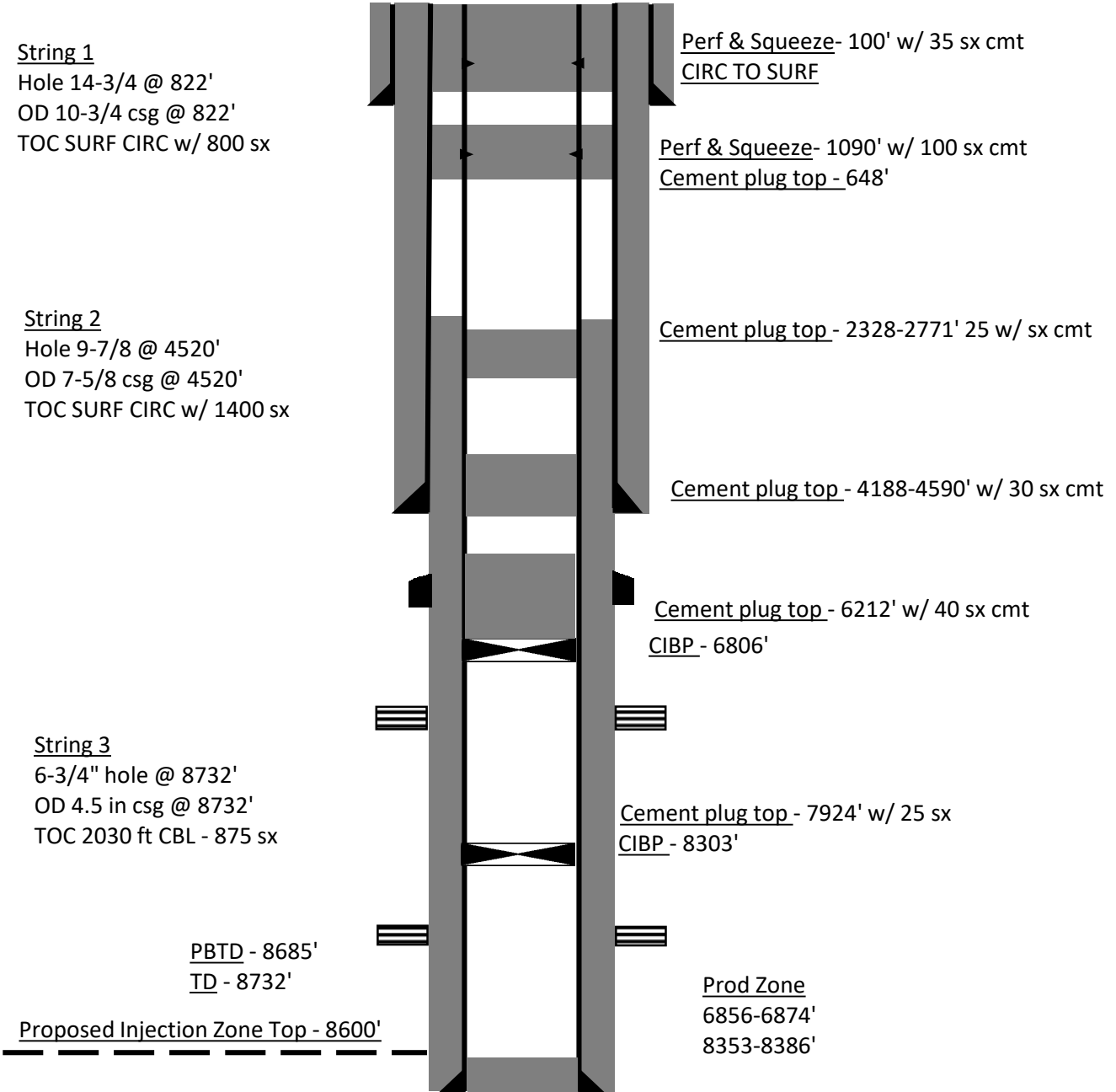
Current Wellbore
Federal 27 004
30-025-32796-0000
Sec 27 T22S R32E SENW 2310 FNL 2310 FWL
Lea County, NM



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



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

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'

String 2

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

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

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

String 3

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

Cement plug top - 6778' w/ 25 sx cmt

CIBP - 7150'

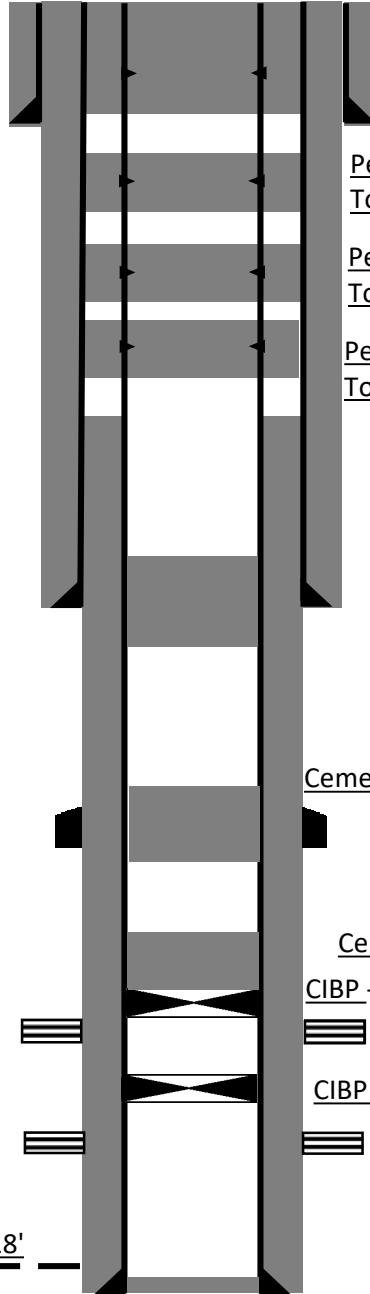
Prod Zone
7197-7210'
8376-8410'

CIBP - 8244'

PBTD - 8695'

TD - 8742'

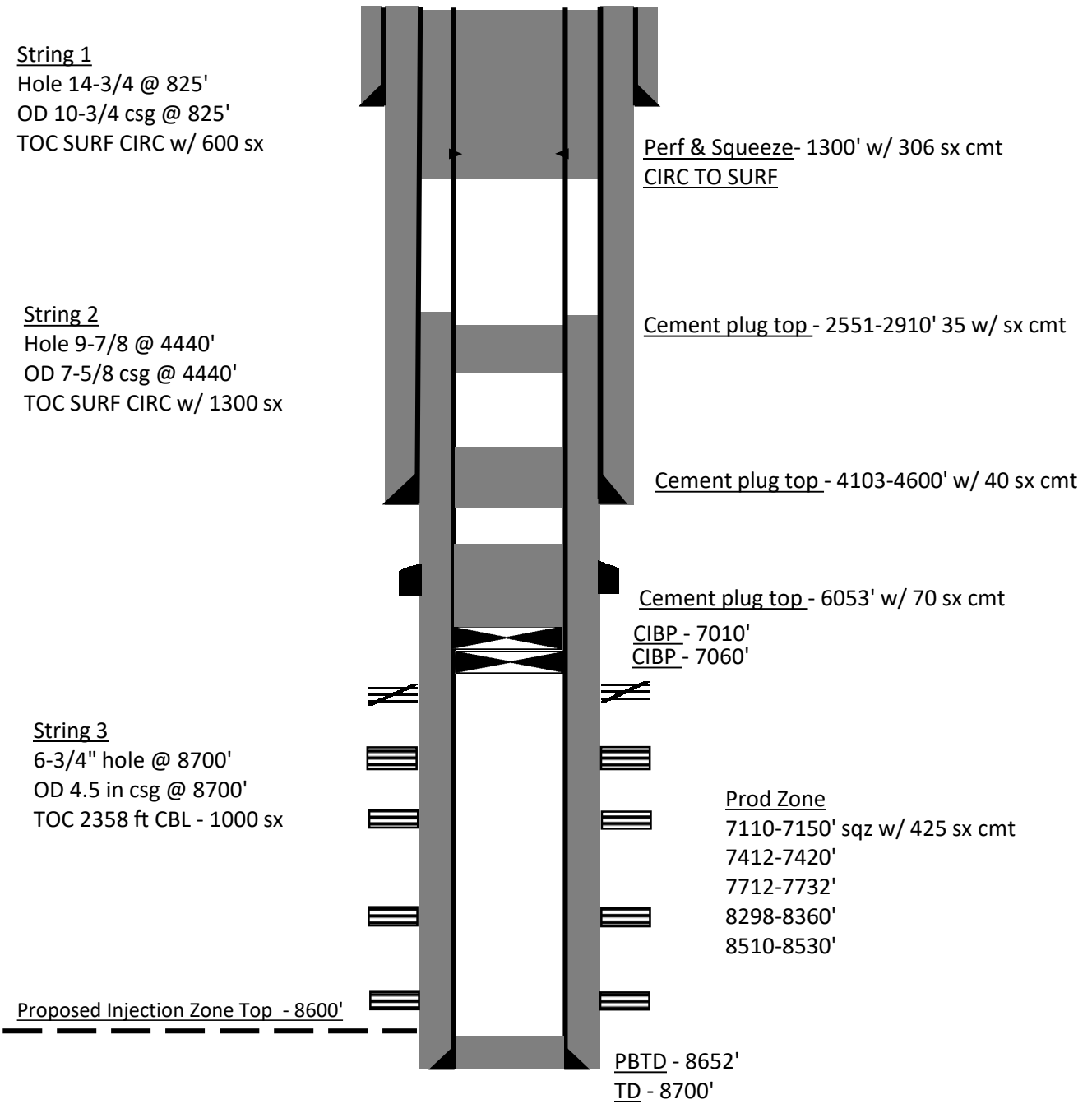
Proposed Injection Zone Top - 8618'



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



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

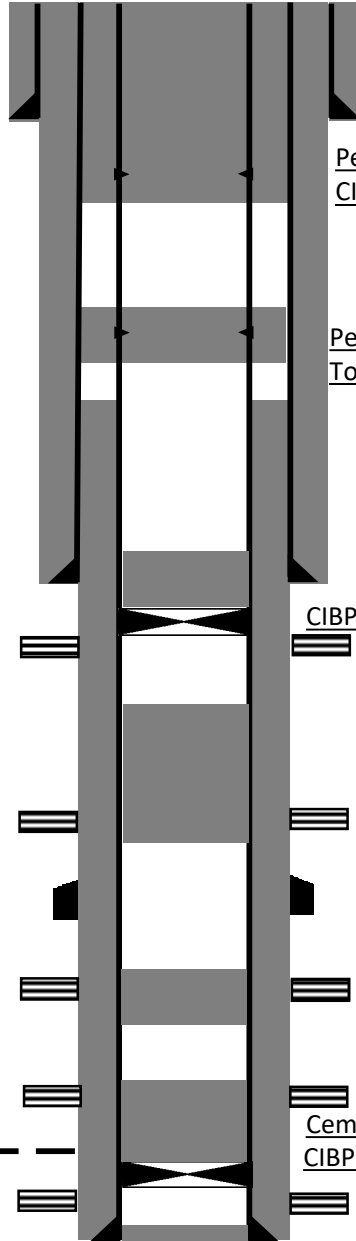
6-3/4" hole @ 8966'
OD 4.5 in csg @ 8966'
TOC 3202 ft CBL - 1100 sx

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

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

String 2

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

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'

Prod Zone

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

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

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

String 3

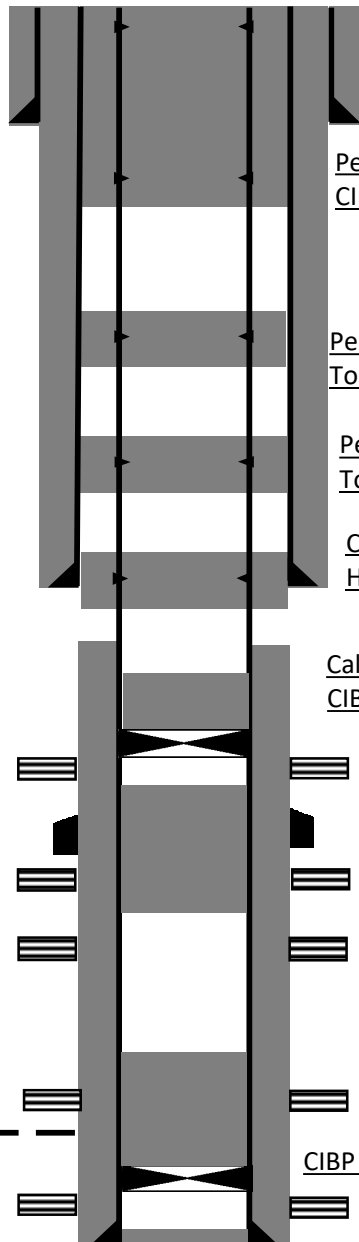
6-3/4" hole @ 8980'
OD 4.5 in csg @ 8980'
TOC 5828 ft CBL - 490 sx

Proposed Injection Zone Top - 8746'

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

CIBP - 8829'

PBTD - 8980'
TD - 8980'



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

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

String 2

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

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'

String 3

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

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

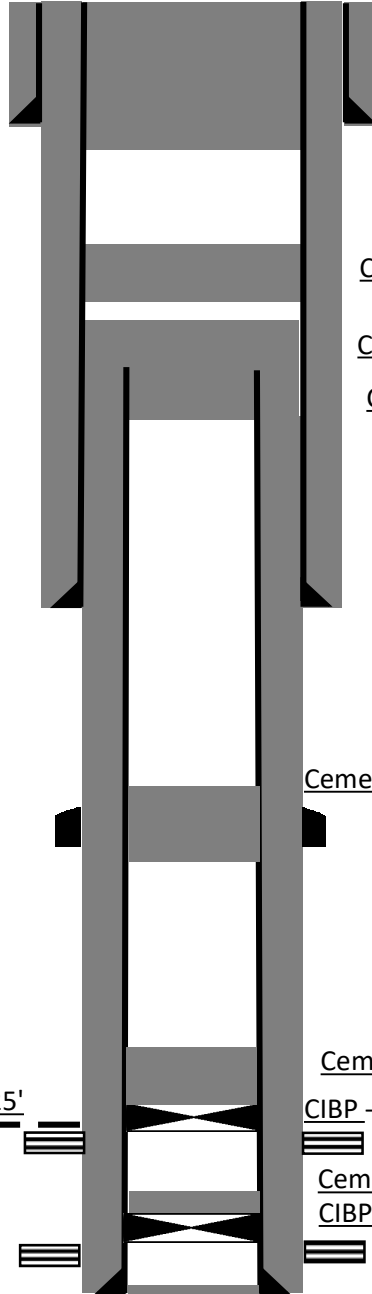
8966-9008' - Bone Spring perfs
10029-10071' - Bone Spring perfs

Cement plug top - 9915'

CIBP - 9950'

PBTD - 10162'

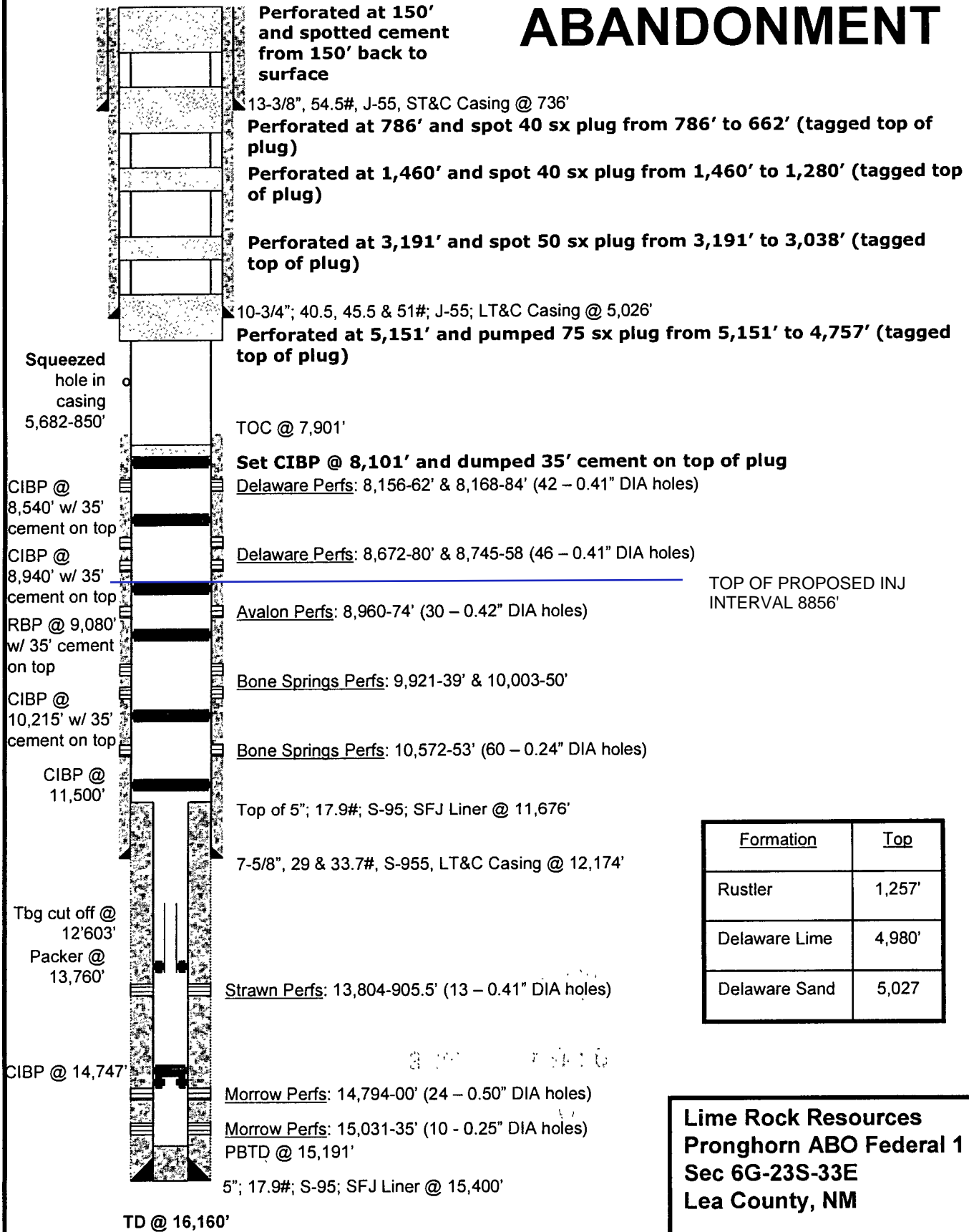
TD - 10250'



WELL ID #60



FINAL ABANDONMENT



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

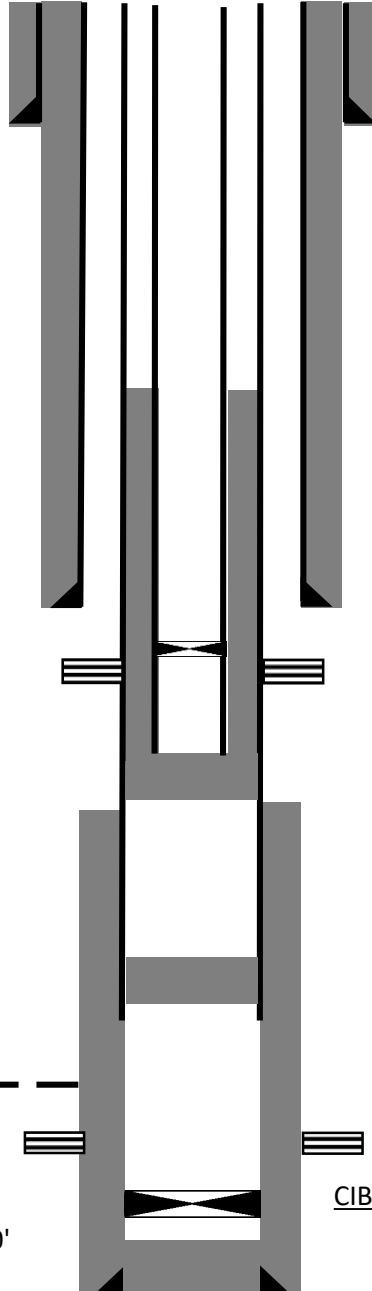
Hole 12-1/4 @ 4848'
OD 10-3/4 csg @ 4848'
TOC 1150' w/ 2050 sx

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



CIBP - 4900'

Prod Zone
4946'-4963'

Cement plug top- 5212' w/ 125 sx
cmt, Bottom calc - 5823'

Cement plug - 7588-7768' w/ 100 sx cmt

Proposed Injection Zone Top - 8746'

Prod Zone
10563'-10620'

CIBP - 10500'

PBTD - 12050'
TD - 15,450'

WELL ID #67

Shaunik Bhatte

5/4/2021

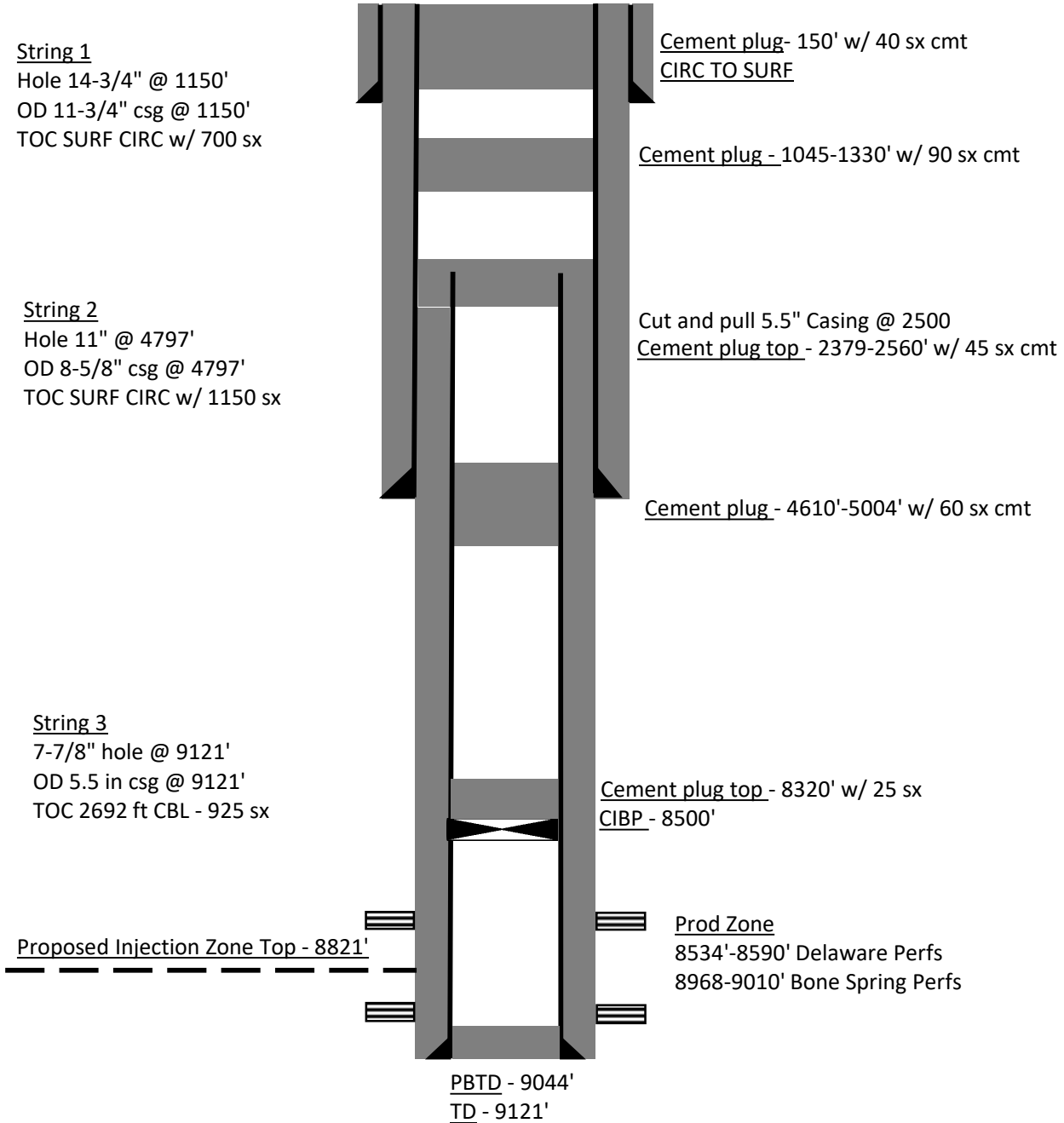
Current Wellbore

Coriander AOC State 001

30-025-33531-0000

Sec 01 T23S R32E 330 FNL 330 FEL

Lea County, NM



WELL ID #68

Shaunik Bhatte

5/4/2021

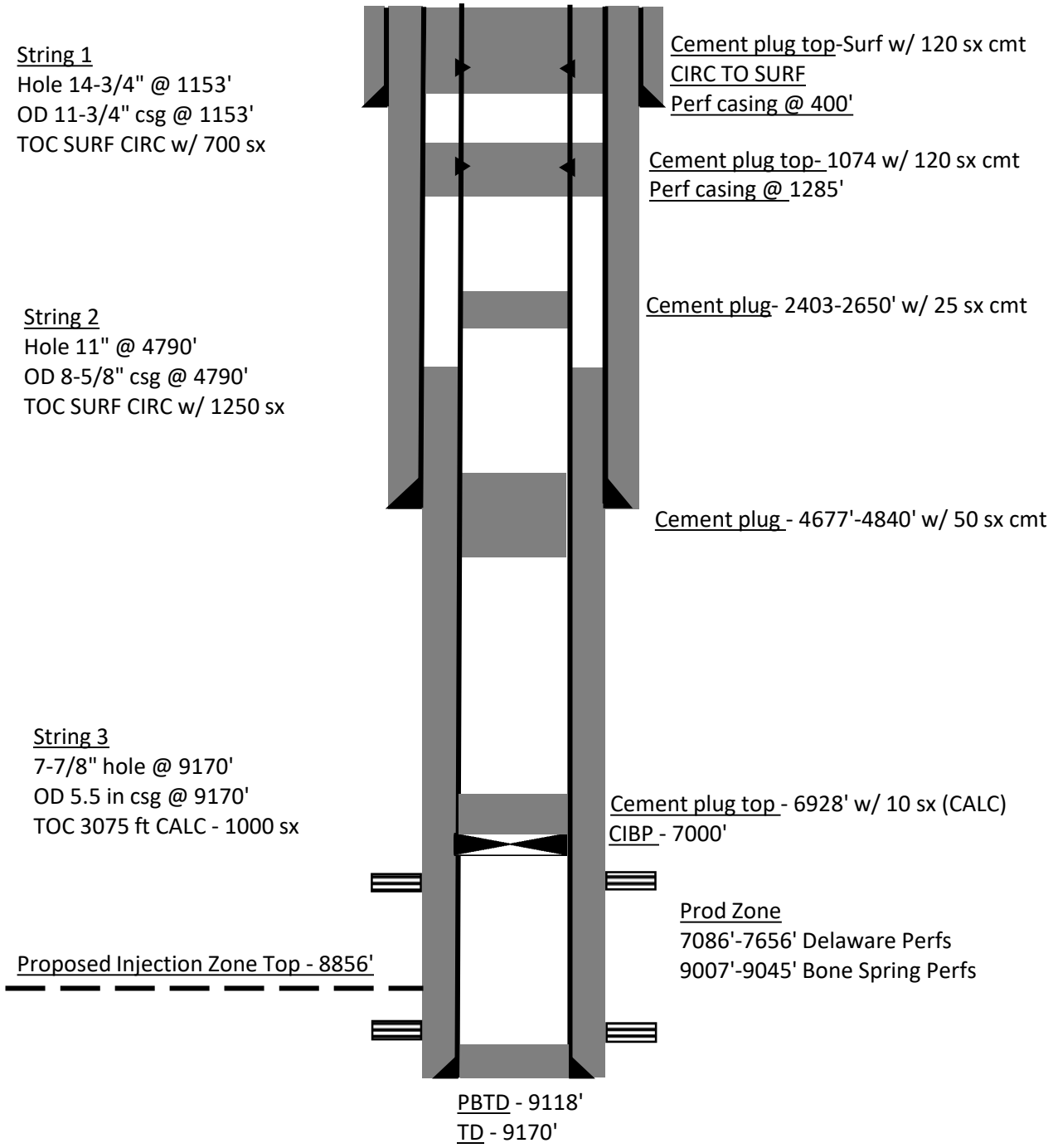
Current Wellbore

Coriander AOC State 002

30-025-33574-0000

Sec 01 T23S R32E 1650 FNL 330 FEL

Lea County, NM



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

String 1

Hole 14-3/4 @ 831'
OD 10-3/4 csg @ 831'
TOC SURF CIRC w/ 800 sx

Perf & Squeeze- 1250' w/ 230 sx cmt
CIRC TO SURE

String 2

Hole 9-5/8 @ 4705'
OD 7-5/8 csg @ 4705'
TOC SURF CIRC w/ 1600 sx

Cement Plug - 2646'-3024' w/ 25 sx cmt (CALC)

Cement plug - 4488'-5002' w/ 35 sx cmt

Casing Damage Squeezed- 6309'-6282'
Cement plug top - depth unknown

String 3

6-3/4" hole @ 9010'
OD 4-1/2 in csg @ 9010'
TOC 1800 ft CBL - 1325 sx

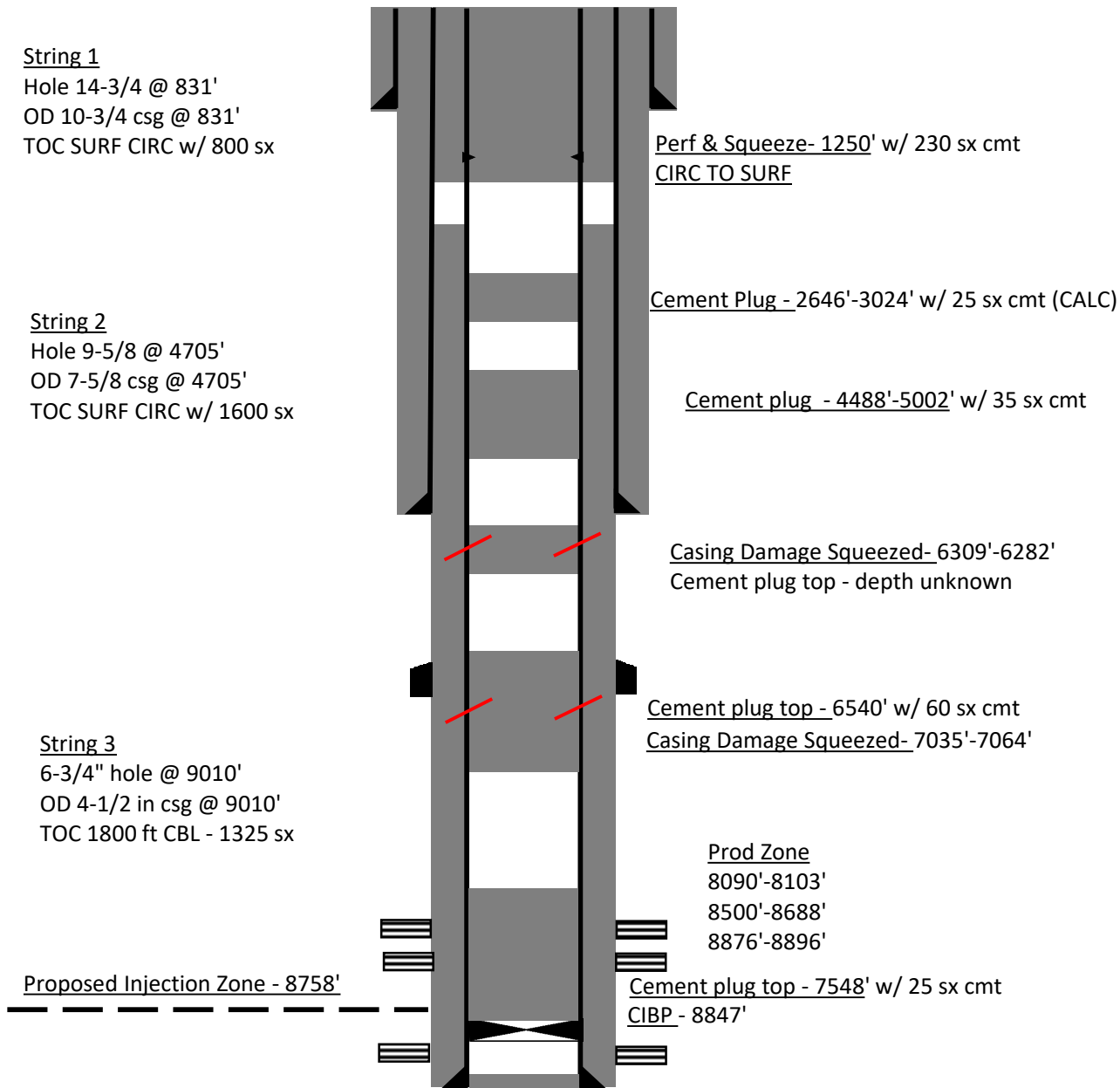
Cement plug top - 6540' w/ 60 sx cmt
Casing Damage Squeezed- 7035'-7064'

Prod Zone
8090'-8103'
8500'-8688'
8876'-8896'

Proposed Injection Zone - 8758'

Cement plug top - 7548' w/ 25 sx cmt
CIBP - 8847'

PBTD - 8977'
TD - 9010'



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

Perf and Squeeze @ 155'
CIRC TO SURF 45 SX

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

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

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

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

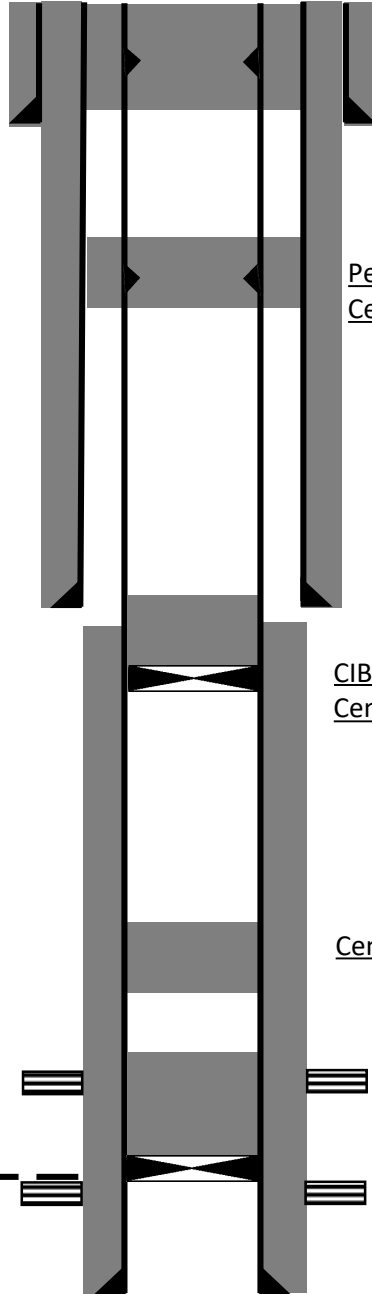
Cement plug - 6431-6613' w/ 25 sxs

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

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

Proposed Injection Zone Top - 8709'

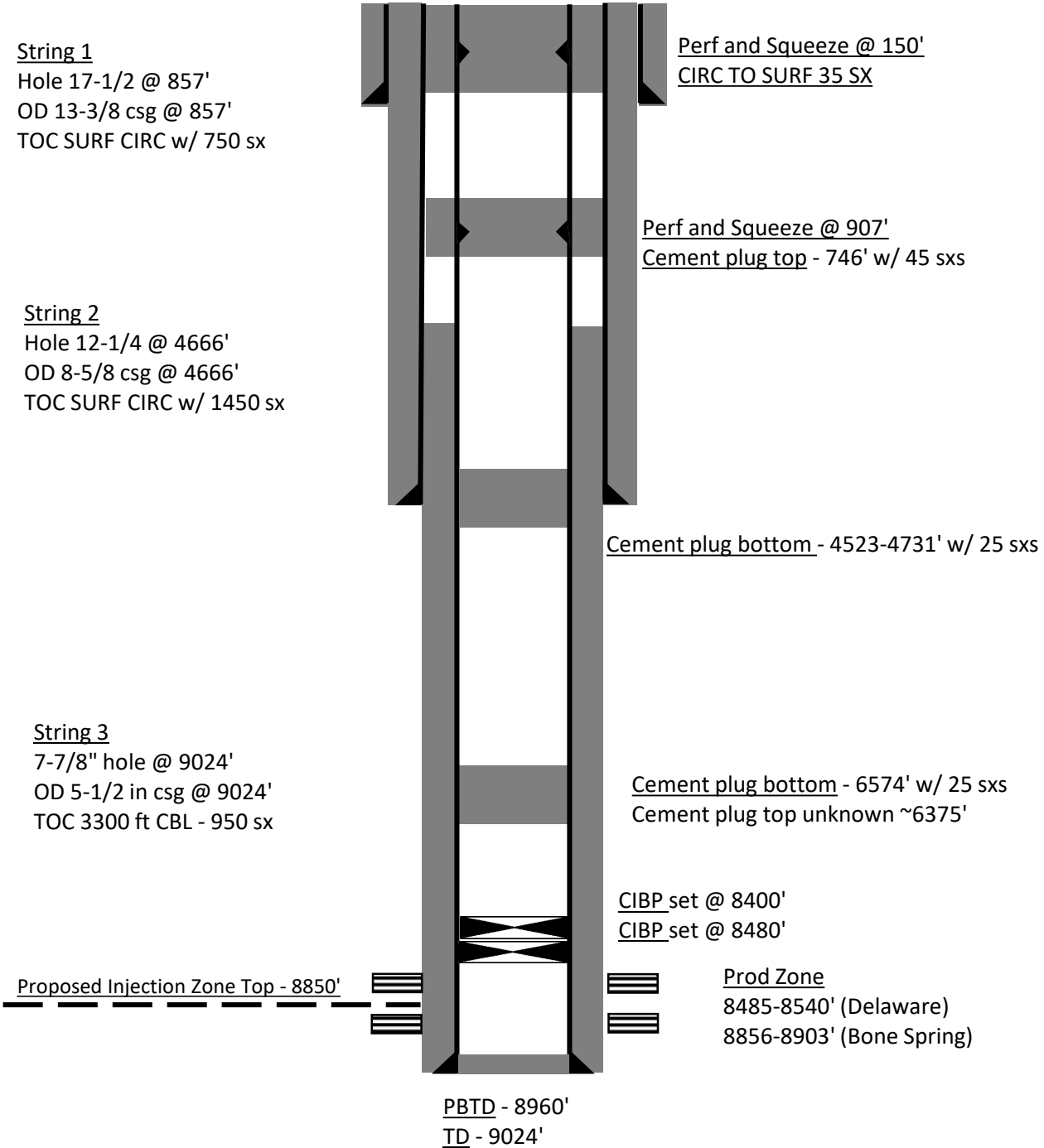
PBTD - 8976'
ID - 9018'



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

Cement plug bottom - 50'
CIRC TO SURF 20 SX

Cement plug bottom - 410' w/ 30 sxs
(unknown top)

Cement plug - 1160-1273' w/ 35 sxs

String 2

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

Cement plug - 4396'-4762' w/ 120 sxs

String 3

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

Casing cut and pulled @ 5700'
Cement plug- 5621'-6249' w/ 60 sxs

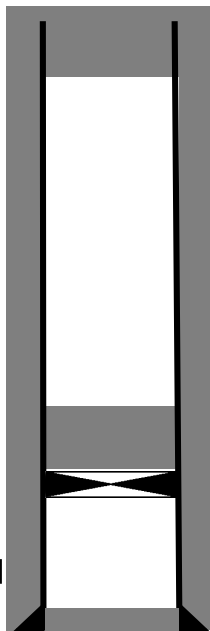
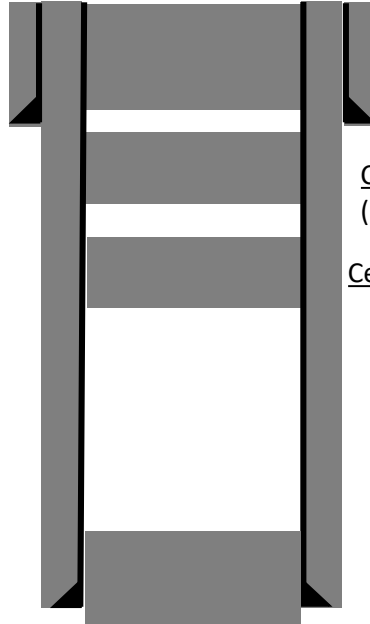
Plug Top @ 8606' (CALC)
CIBP set @ 8835'

Proposed Injection Zone Top - 8700'

Prod Zone
8885-8932' (Bone Spring)

PBTD - 9040'

TD - 9088'



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

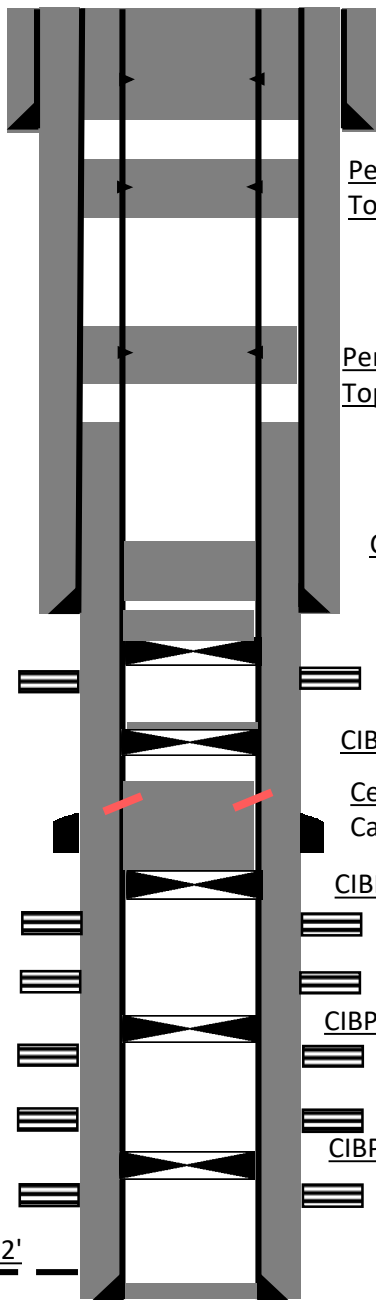
String 1
 Hole 14-3/4 @ 816'
 OD 10-3/4 csg @ 816'
 TOC SURF CIRC w/ 700 sx

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

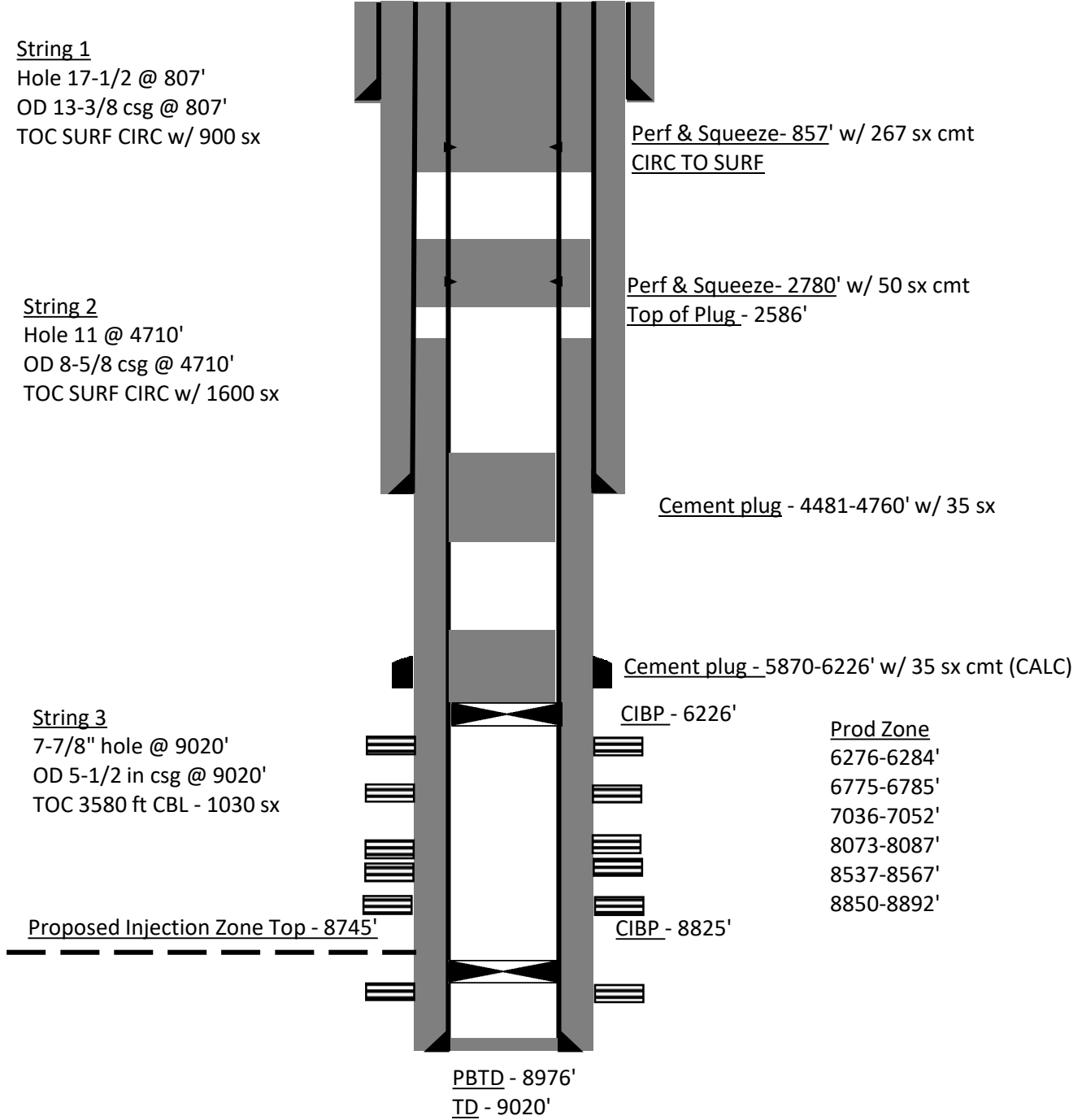
Current Wellbore

Red Tank 30 State 1

30-025-33011-0000

Sec 30 T22S R33E 990 FSL 330 FWL

Lea County, NM



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

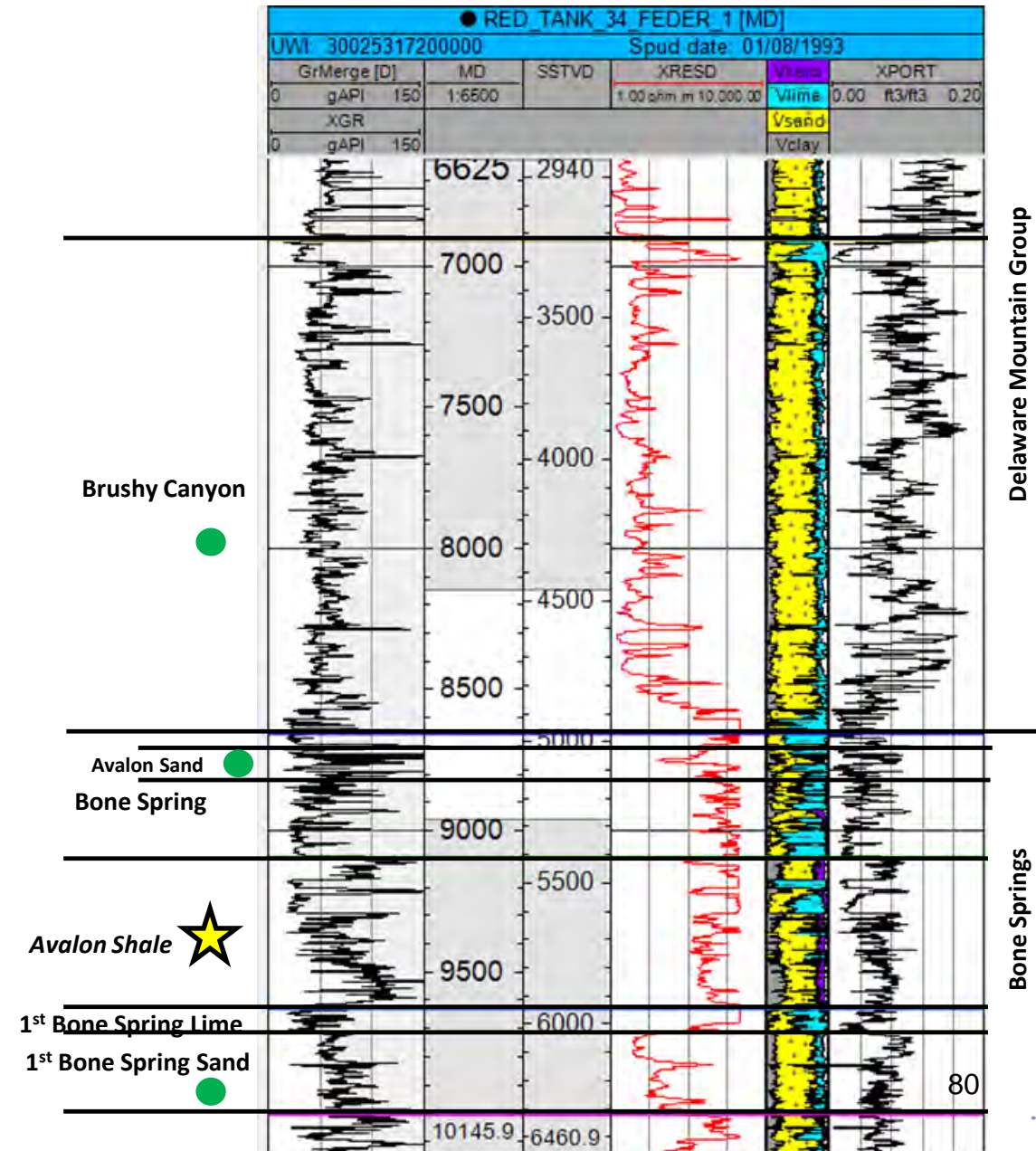
Confining Layers

● Bone Spring

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

● 1st Bone Spring Lime

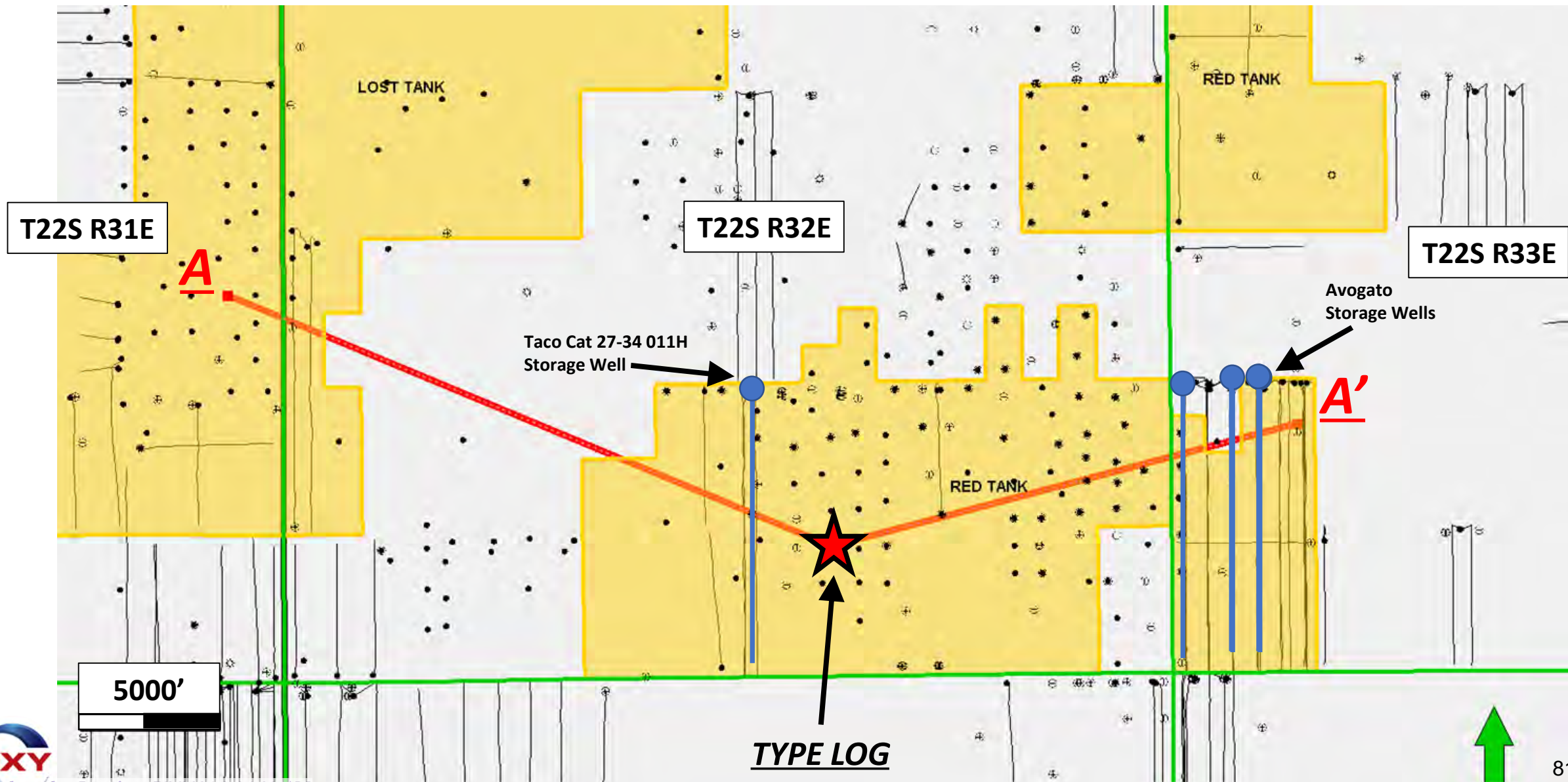
> Approximately 100' of impermeable limestone between Avalon Shale and 1st Bone Spring Sand



Delaware Mountain Group

Bone Springs

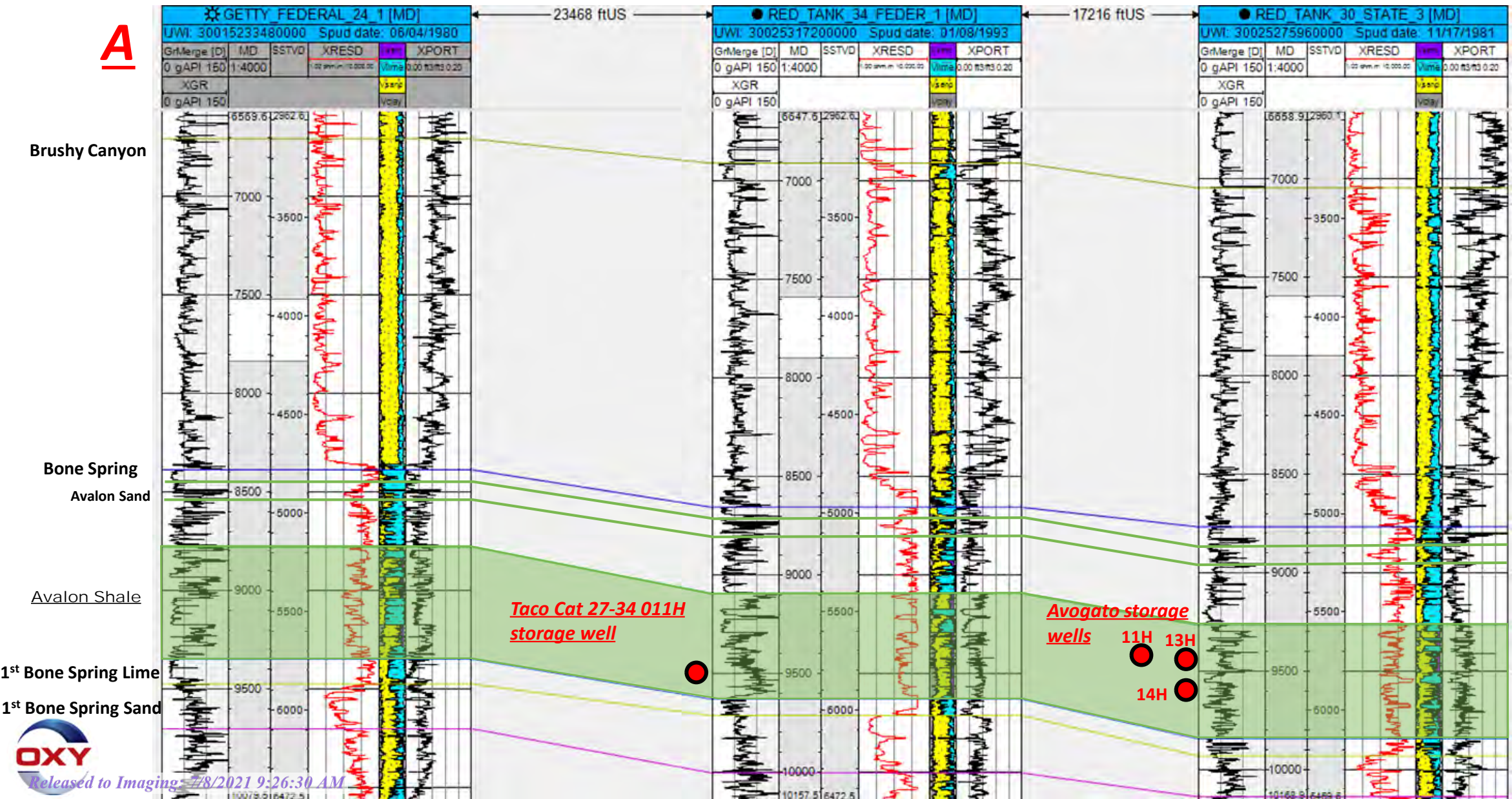
Tanks Cross-section Index Map



Tanks Cross-section

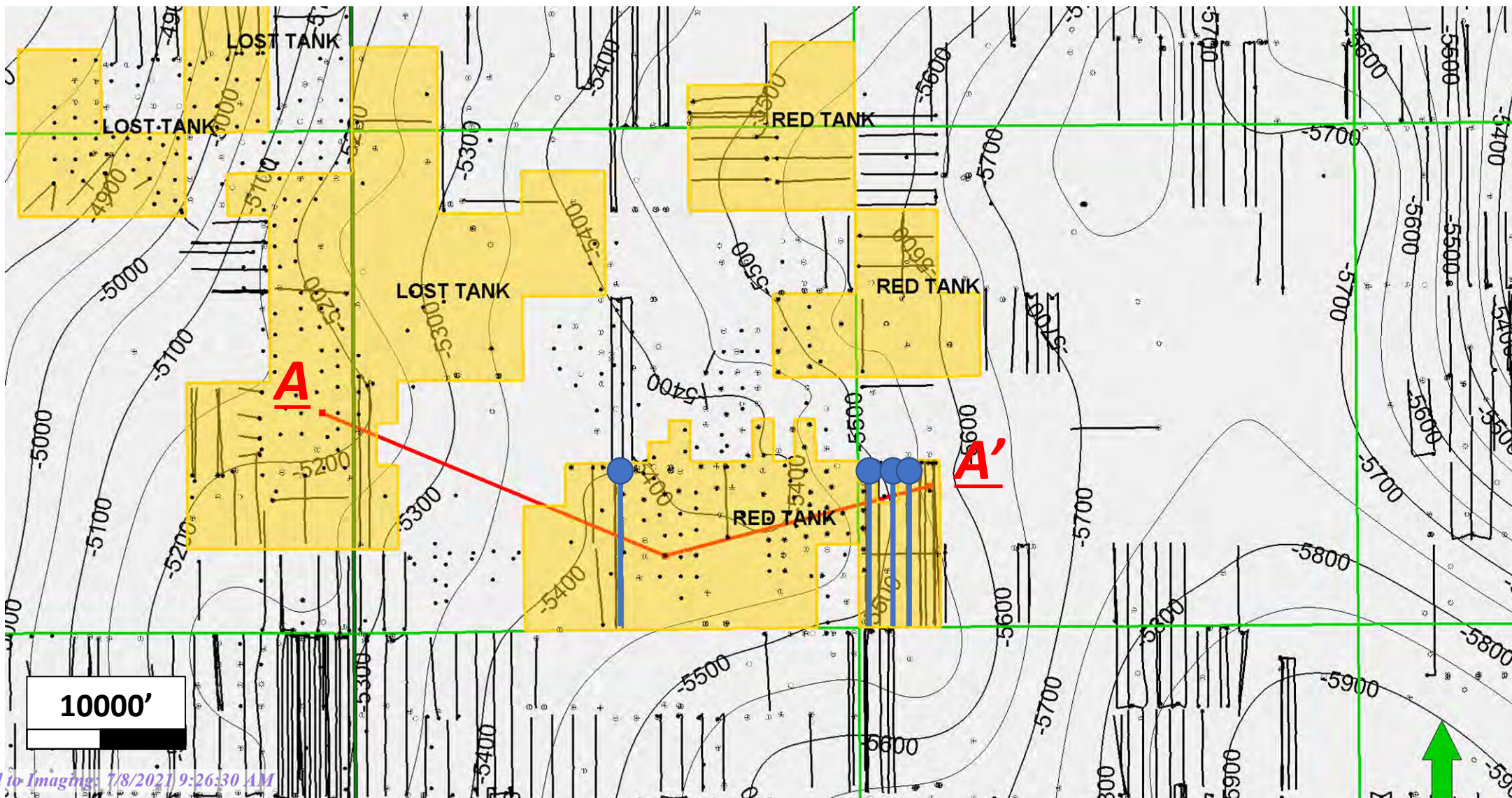
A

A'



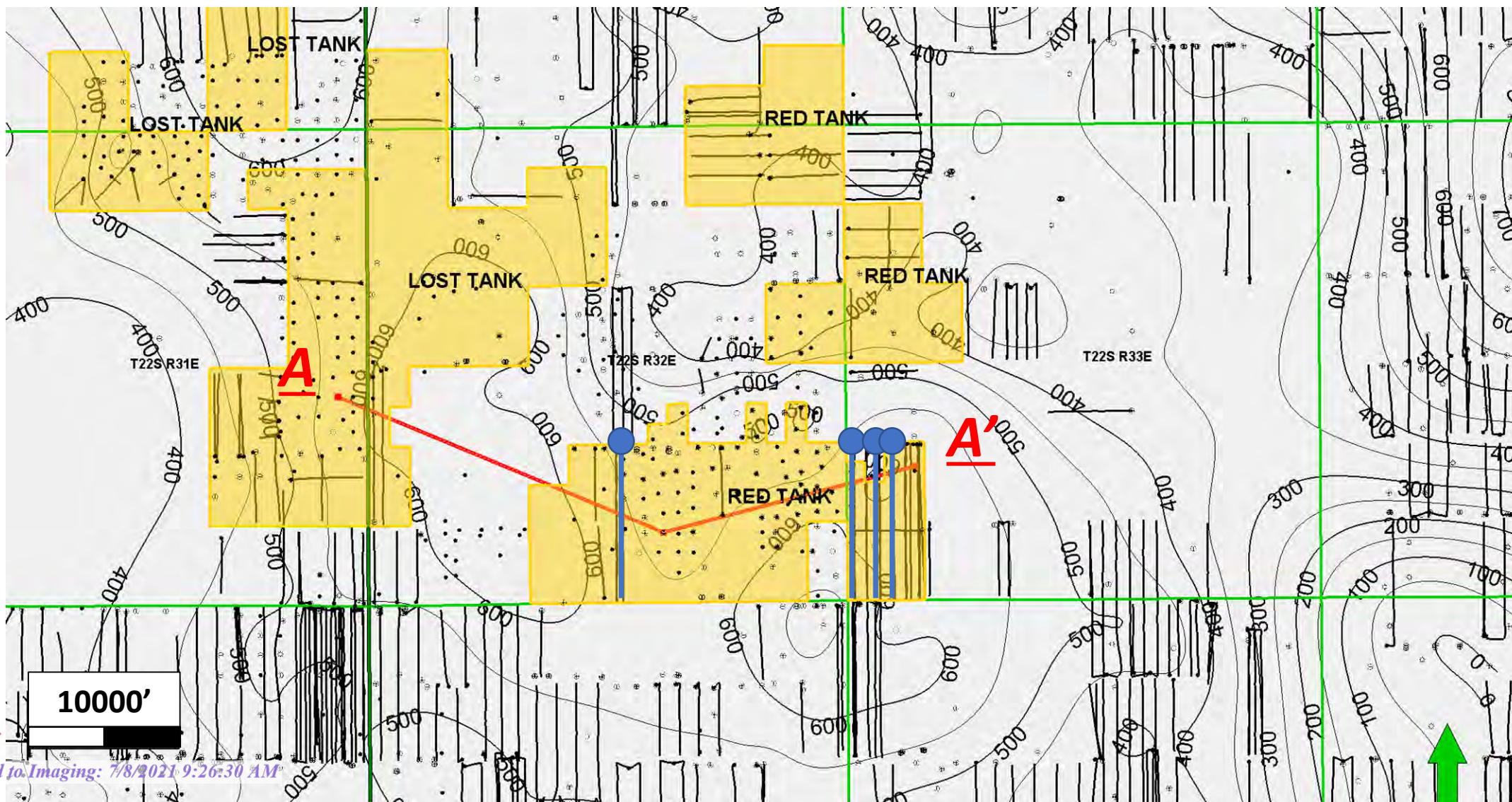
Tanks Structure Map: Top of Avalon

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, Geologist


6-30-2021

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

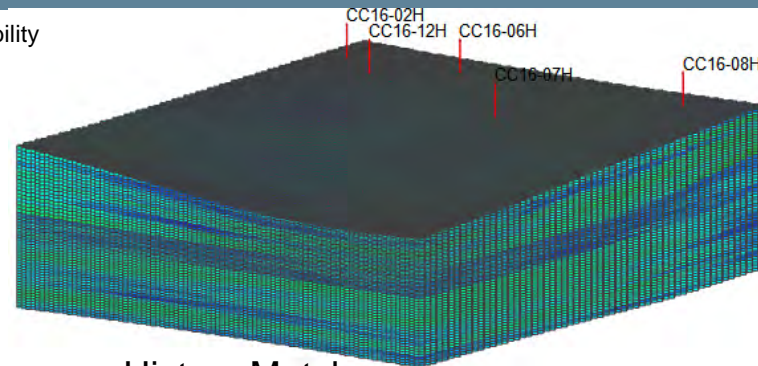
Project Overview – Avogato & Taco Cat

- 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

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

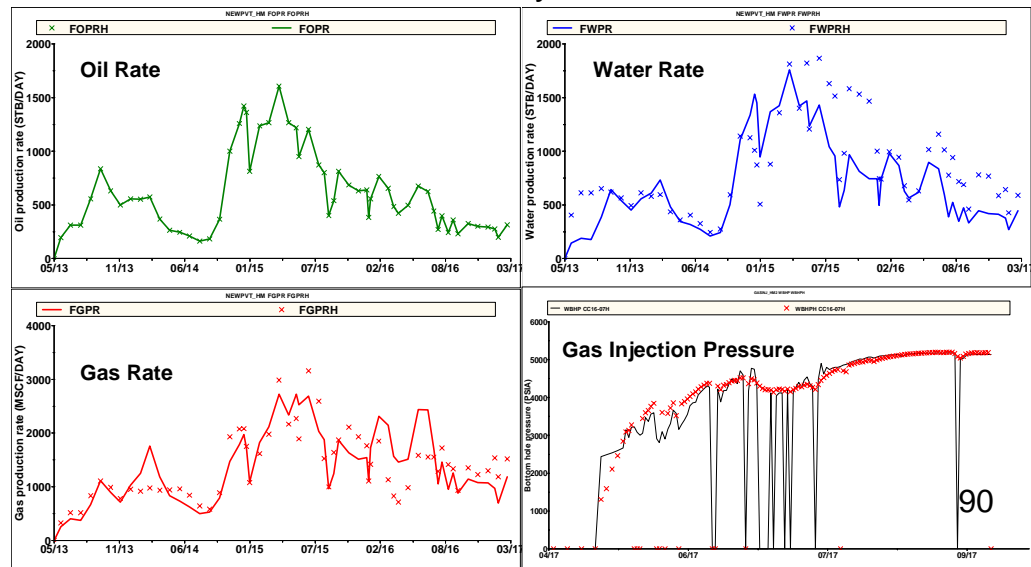
Structure & Permeability
 1,177,400 Grids
 56 Layers



History Match

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

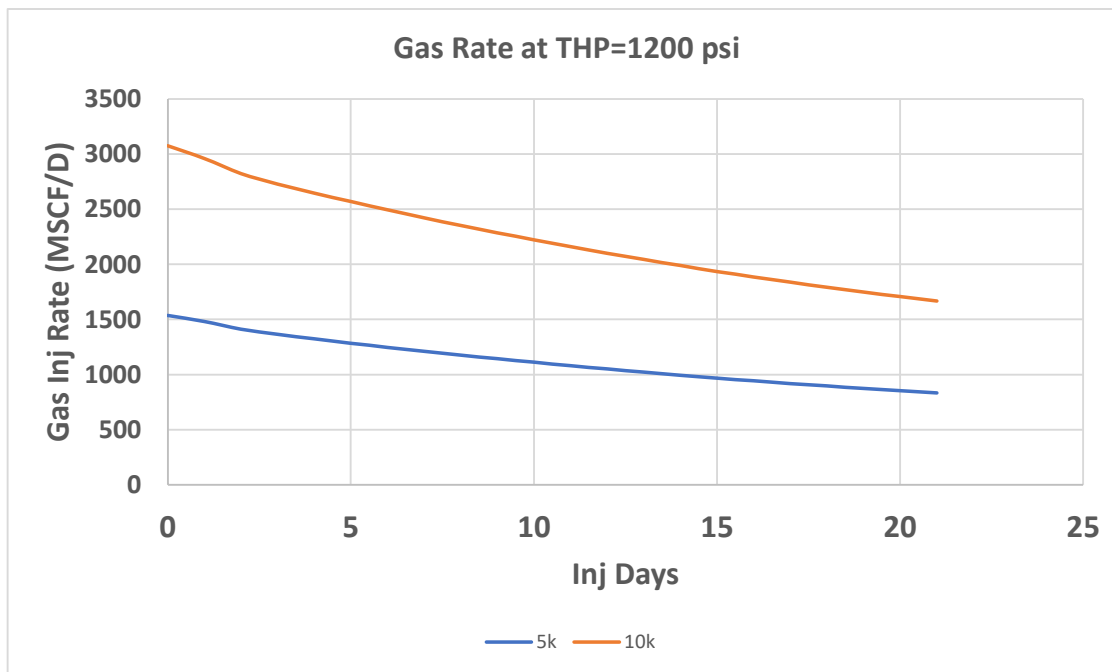
Model Inputs



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

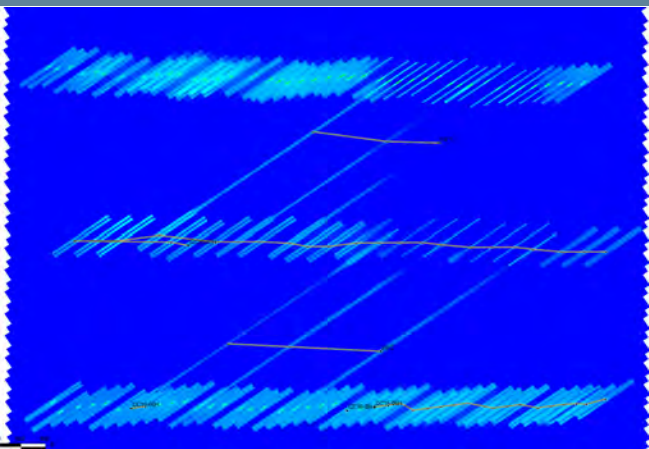
Gas injection rates



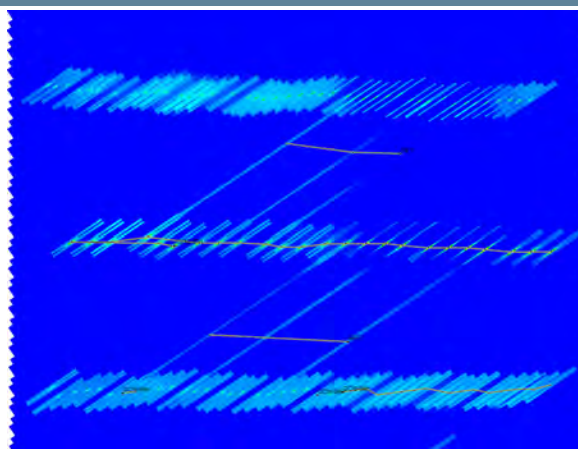
For a 10k well, 3 MMSCFPD is the max injection rate at THP of 1200 psi. Injection rate declines to about 50% of its initial value in 3 weeks. For long injection case a flat injection rate of 3MMSCFPD for 3 weeks is used as worst-case scenario.



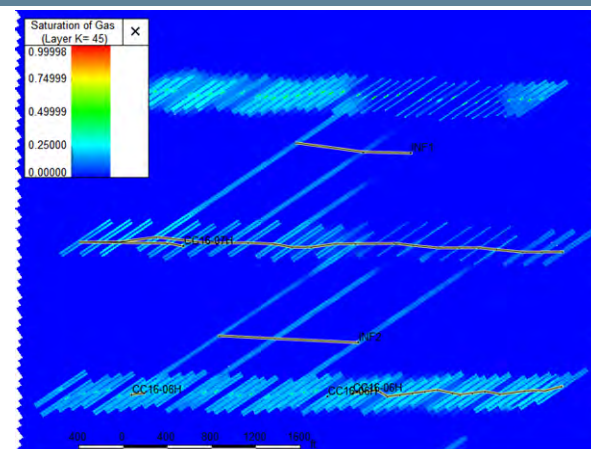
Gas Injection Profile



Before injection

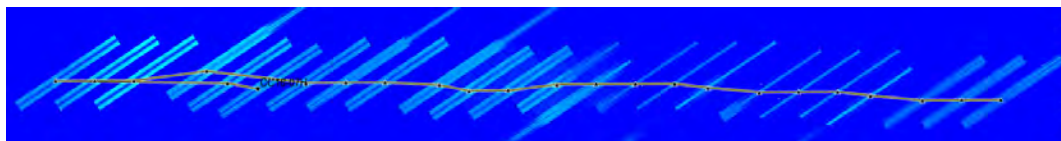


After 1 week of injection (3 MMSCFPD)

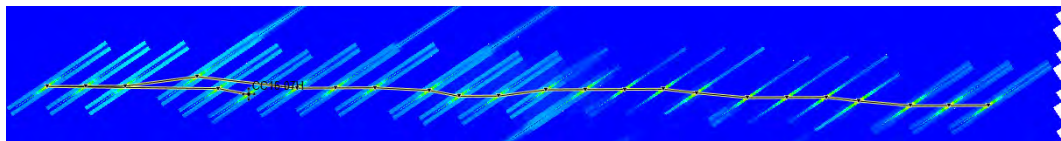


After 16 months production

Before Injection CC16-7H Blow-up



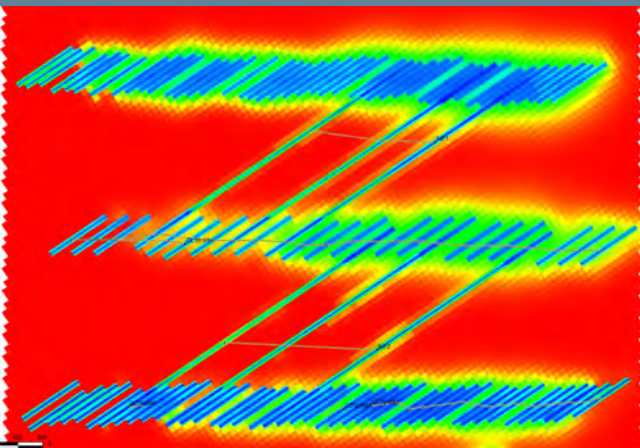
After Injection CC16-7H Blow-up



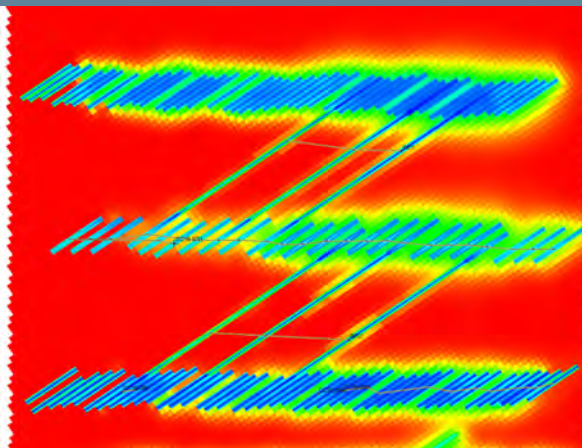
- Gas is stored within fractures.
- All injection cases indicate horizontal gas movement of 100 ft or less into the fractures.



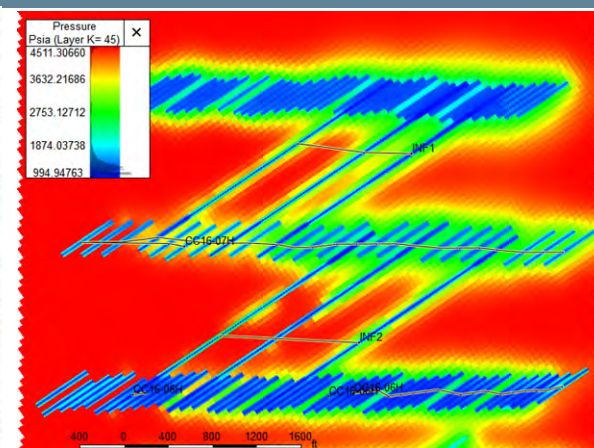
Pressure Profile



Before injection

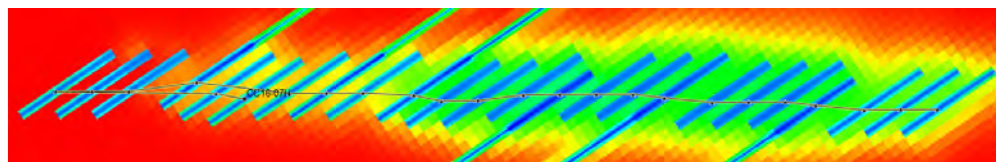


After 1 week of injection (3 MMSCFPD)

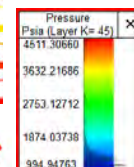
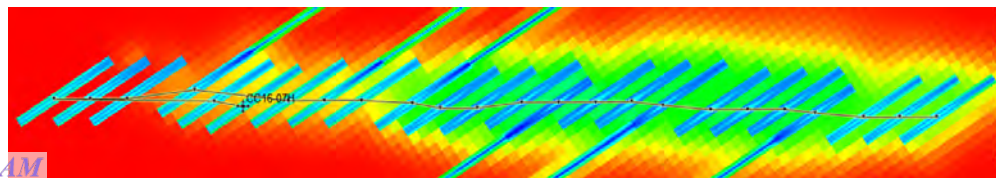


After 16 months production

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

API	Well Name	Gas Storage Capacity with 1200 psi WHP Injection	
		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

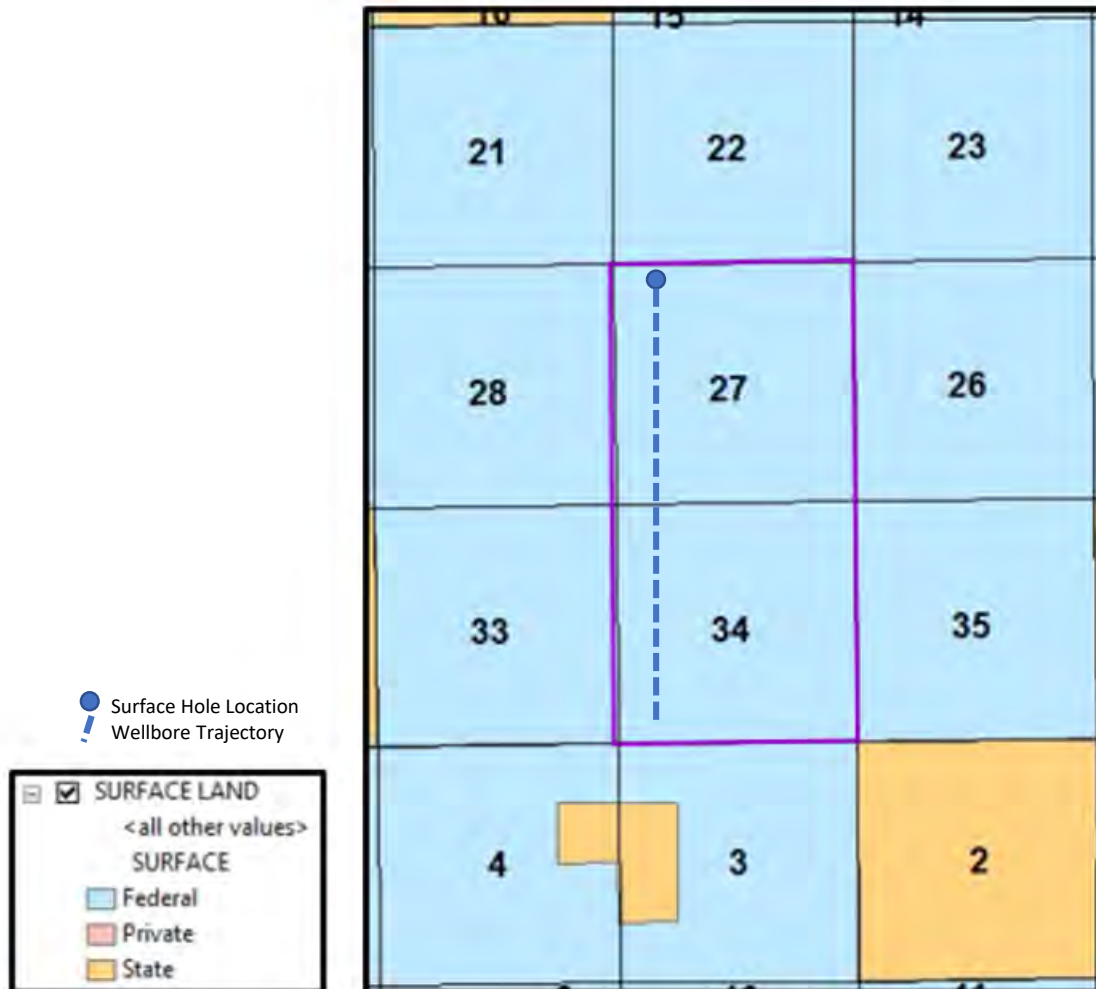
Date

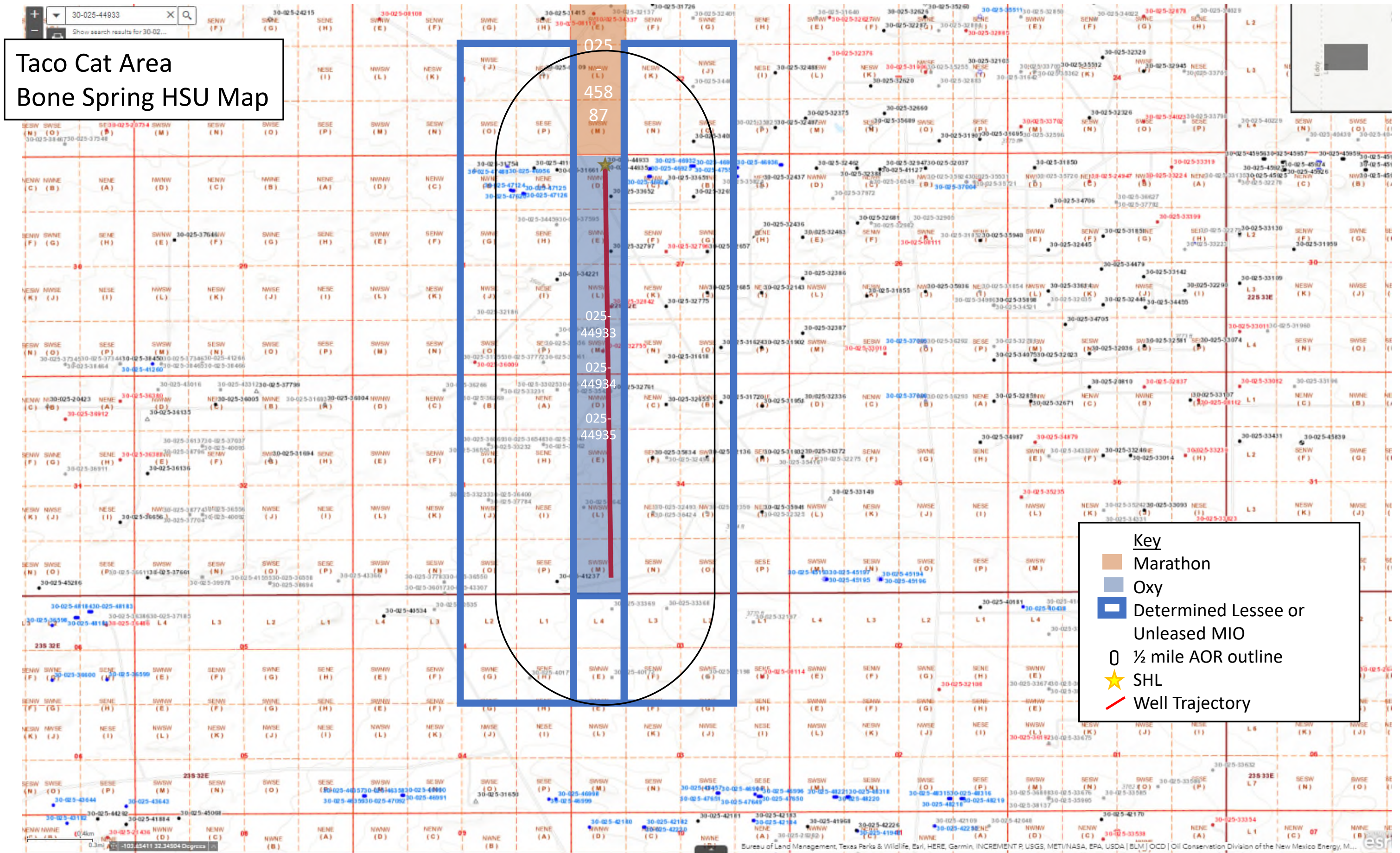
Notice

Surface Land Ownership

Taco Cat Area

Avogato Area





Taco Cat Area
Bone Spring HSU Map

Key

- Marathon
- Oxy
- Determined Lessee or Unleased MIO
- 1/2 mile AOR outline
- SHL
- Well Trajectory

Avogato Area Bone Spring HSU Map

Legend

Oil and Gas Wells

- Wells - Large Scale
- Miscellaneous
- CO2, Active
- CO2, Cancelled
- CO2, New
- CO2, Plugged
- CO2, Temporarily Abandoned
- Gas, Active
- Gas, Cancelled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active
- Injection, Cancelled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned
- Oil, Active
- Oil, Cancelled
- Oil, New
- Oil, Plugged
- Oil, Temporarily Abandoned
- Salt Water Injection, Active
- Salt Water Injection, Cancelled
- Salt Water Injection, New
- Salt Water Injection, Plugged
- Salt Water Injection, Temporarily Abandoned
- Water, Active
- Water, Cancelled
- Water, New
- Water, Plugged
- Water, Temporarily Abandoned
- undefined

OCD Districts and Offices

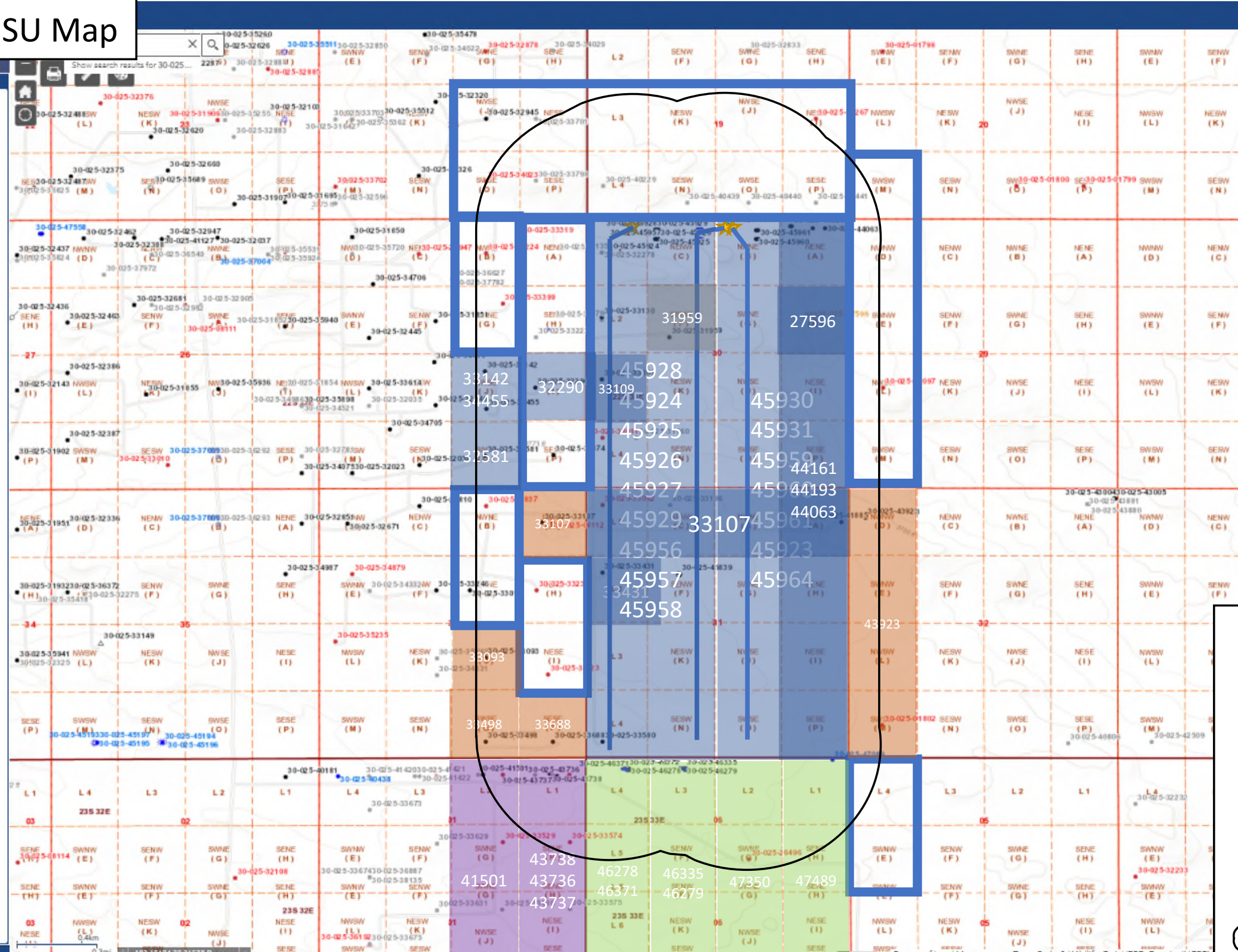
OCD District Offices

Public Land Survey System

PLSS Townships

PLSS Second Division

PLSS First Division



Key

- EOG
- Cimarex
- Matador
- Oxy
- Wagner Oil Co
- Determined Lessee or unleased MIO
- SHL
- Wellbore Trajectory
- 1/2 Mile AOR

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 Connecticut Ave NW	Washington	DC	20006	Diance C. Prince 816 Connecticut 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 Connecticut Ave NW	Washington	DC	20006	Frederick Prince IV 816 Connecticut 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
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
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
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 Connecticut Ave NW	Washington	DC	20006	Diance C. Prince 816 Connecticut 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 Connecticut Ave NW	Washington	DC	20006	Frederick Prince IV 816 Connecticut Ave NW Washington, DC 20006
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 Artista Rd NW	Albuquerque	NM	87105	Robert M. Dow Revocable Trust 5136 Lomas De Artista Rd NW Albuquerque, NM 87105
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
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
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