

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

**APPLICATION OF OXY USA INC. TO AMEND
ORDER NO. R-24146 TO RE-AUTHORIZE CERTAIN
WELLS UNDER THE ORIGINAL ORDER AND
EXTEND THE PILOT PROJECT FOR TWO YEARS,
LEA COUNTY, NEW MEXICO.**

**CASE NO. _____
ORDER NO. R-24146**

APPLICATION

OXY USA Inc. (“OXY” or “Applicant”) (OGRID No. 16696) through its undersigned attorneys, hereby files this application with the Oil Conservation Division (“Division”) for an order amending Order No. R-24146 to (1) re-authorize certain wells under the original order; and (2) extend the pilot project, and all deadlines under Order No. R-24146, for an additional two years from issuance of an order in this case. In support of this application, OXY states:

PROJECT OVERVIEW

1. The Division approved Order No. R-24146 on December 14, 2025 in Case No. 25287, which superseded Order R-22101-A (amended original order). Under Order No. R-24146, the approved closed loop gas capture (“CLGC”) injection pilot project (“Pilot Project”) area was expanded. In addition, two additional wells were authorized for intermittent, temporary injection of produced gas within the Bone Spring formation within the project area, and an increase of the maximum allowable surface injection pressure for the two additional wells was authorized.

2. However, Order No. R-24146 rescinded approval of the W/2 Avalon wells because the Mule Deer 36 State No. 4 (API. No. 30-025-33107) was plugged & abandoned (“P&A”) and no longer available for monitoring as required by the Division under the terms of the order.

3. OXY now requests re-authorization of the Avogato 30_31 State Com 12H (API No. 30-025-45957) and Avogato 30_31 State Com 13H (API No. 30-025-45958). OXY proposes to use the Avogato 30_31 State Com 11H (API No. 30-025-45956) as a pressure sink well between the requested re-authorization CLGC wells, along with the offset sub-standard P&A wellbores to the West of the project area. The proposed configuration will greatly reduce the chance of out-of-the-zone injection into offset wellbores during CLGC events. *See Exhibit A* at 1.

4. OXY seeks re-authorization of the above-referenced wells to avoid the temporary flaring of gas or the shut-in of producing wells during pipeline capacity constraints, mechanical difficulties, plant shutdowns, or other events impacting the ability to deliver gas into a pipeline.

5. Within the Pilot Project area, OXY seeks authority to utilize the following wells to occasionally inject produced gas into the Avalon formation under Order No. R-24146:

- **Avogato 30_31 State Com 12H** well (API No. 30-025-45957), with a surface location in Lot 1 (NW/4 NW/4 equivalent) of irregular Section 30, T22S-R33E, and a bottom hole location in Lot 4 (SW/4 SW/4 equivalent) of irregular Section 31, T22S-R33E; and
- **Avogato 30_31 State Com 13H** well (API No. 30-025-45958), with a surface location in the NW/4 NE/4 (Unit B) of irregular Section 30, T22S-R33E, and a bottom hole location in the SE/4 SW/4 (Unit N) of irregular Section 31, T22S-R33E. *See Exhibit A* at 5-6.

6. The proposed average injection rate for each re-authorization well is 3 MMSCFD with a maximum injection rate of 4 MMSCFD during injection. *See Exhibit A* at 11.

7. The maximum achievable surface pressure (MASP) for the re-authorization wells is proposed to be 1,300 psi. *See Id.* The current average surface pressures under normal operations for the proposed re-authorization injection wells range between approximately 540 psi and 921 psi. *See Id.*

8. Injection along the horizontal portion of the wellbores will be within the Avalon formation [Red Tank; Bone Spring, East Pool (Pool Code 51687)], at the following approximate true vertical depths:

- **Avogato 30-31 State Com 12H** well between 10,409 feet and 20,984 feet.
- **Avogato 30-31 State Com 13H** well between 9,396 feet to 9,397 feet.

See Exhibit A at 7-10.

9. A map and process flow diagram depicting the pipeline that ties the re-authorization wells proposed for the Pilot Project into the gathering system and the affected compressor stations are included in the attached **Exhibit A** at pages 3-4.

WELL DATA

10. Information on the well data, including well diagrams and well construction, casing, tubing, packers, cement, perforations, and other details for the re-authorization injection wells are included in the attached **Exhibit A** at pages 7-10.

11. For the re-authorization injection wells, the proposed maximum achievable surface pressure will not exert pressure at the top perforations in the wellbores 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 11. In addition, the proposed maximum achievable surface pressure will not exert pressure at the topmost perforation in excess of 90% of the formation parting pressure. *See Id.*

12. Cement bond logs¹ for each of the re-authorization injection wells demonstrate the placement of cement in the wells proposed for this Pilot Project and that there is a good and

¹ Electronic versions of the cement bond logs have been or will be submitted to the Division through each well file.

sufficient cement bond with the production casing and the tie-in of the production casing with the next prior casing in each well.

13. The **Avogato 30-31 State Com 12H** recently demonstrated mechanical integrity; however, OXY will undertake new tests to demonstrate mechanical integrity for both re-authorization wells proposed for this Pilot Project as a condition of approval prior to commencing injection operations. *See Exhibit A* at 12.

GEOLOGY AND RESERVOIR

14. Data and a geologic analysis confirming that the Avalon formation is suitable for the proposed Pilot Project is included in **Exhibit A** at pages 29-33. A general characterization of the geology of the Avalon 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. *See Exhibit A* at 34.

15. The top of the Bone Spring formation in this area is at approximately 8,596 feet measured depth and extends down to the top of the Wolfcamp formation. *See Exhibit A* at 29.

16. Zones that are productive of oil and gas are located above and below the targeted injection interval. *See Exhibit A* at 29-34.

17. Reservoir modeling indicates anticipated horizontal movement of injected gas will be approximately 100 feet or less from each injection wellbore within the Avalon formation. *See Exhibit A* at 37-46.

18. 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 43-48. OXY's analysis concludes that there will be no

change in the oil recovery from each of its proposed re-authorization injection wells or from any of the offsetting wells. *See Exhibit A* at 49.

19. The source of gas for injection will be from OXY's wells producing from the Bone Spring and Wolfcamp formations that are identified in the list of wells in **Exhibit A** at page 13. All proposed temporary injection wells and gas source wells are commingled under the approved gas surface commingling permit PLC-835-A. Additional source wells may be added over time under an approved surface commingling authorization. Each of OXY's proposed injection wells are operated by OXY.

20. OXY has prepared an analysis of the composition of the source gas for injection and a corrosion prevention plan.² *See Exhibit A* at 14-18.

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 35. 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 49.

GAS ALLOCATION

28. OXY's proposes a method of gas allocation following a temporary injection event has been previously approved by the Division under Order R-24146 and previous orders.

² There have been no changes to the original corrosion prevention plan submitted in Case No. 22088. *See* Case No. 22088, Application at page 55.

AREA OF REVIEW

22. OXY has prepared maps depicting the surface hole location and trajectory of the proposed re-authorization injection wells, the location of every well within a two-mile radius, leases within two miles, and the half-mile area of review. *See Exhibit A* at pages 19-24.

23. A tabulation of data for wells that penetrate the proposed injection interval or the confining layer within the half-mile area of review is included in **Exhibit A** at pages 25-28. Wellbore schematics for wells that are plugged and abandoned or temporarily abandoned were submitted in Case No. 25287. *See Case No. 25287, Application* at pages 43-64.

OPERATIONS AND SAFETY

24. 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.³ OXY will also monitor and track various operational parameters at the Pilot Project's central tank battery and central gas lift compressors.⁴

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 list of the affected parties subject to notice is included in **Exhibit A** at 52-54, along with a map and list identifying each tract subject to notice. *See Exhibit A* at 51.

³ There have been no changes to the original monitoring plans submitted in Case No. 22088. *See Case No. 22088, Application* at pages 57-58.

⁴ *See Id.*

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 July 9, 2026, 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.

CASE _____ :

Application of OXY USA Inc. to Amend Order No. R-24146 to Re-Authorize Certain Wells Under the Original Order and Extend the Pilot Project for Two Years, Lea County, New Mexico. Applicant seeks an order amending Order No. R-24146 to (1) re-authorize certain wells under the original order; and (2) extend the pilot project, and all deadlines under Order No. R-24146, for an additional two years from issuance of an order in this case. The Pilot Project area is comprised of 2,533.28-acres, more or less, consisting of the following acreage identified below in Lea County, New Mexico (the “Project Area”):

Township 22 South, Range 32 East

Section 27 All

Section 34 All

Township 22 South, Range 33 East

Section 30 Lots 1-4, E/2 W/2, & E/2 (All equivalent)

Section 31 Lots 1-4, E/2 W/2, & E/2 (All equivalent)

Applicant proposes to occasionally inject produced gas from the Bone Spring and Wolfcamp formations into the following additional producing wells to avoid temporary flaring of gas or the shut-in of producing wells during pipeline capacity constraints, mechanical difficulties, plant shutdowns, or other events impacting the ability to deliver gas into a pipeline:

- **Avogato 30_31 State Com 12H** well (API No. 30-025-45957), with a surface location in Lot 1 (NW/4 NW/4 equivalent) of irregular Section 30, T22S-R33E, and a bottom hole location in Lot 4 (SW/4 SW/4 equivalent) of irregular Section 31, T22S-R33E;
- **Avogato 30_31 State Com 13H** well (API No. 30-025-45958), with a surface location in the NW/4 NE/4 (Unit B) of irregular Section 30, T22S-R33E, and a bottom hole location in the SE/4 SW/4 (Unit N) of irregular Section 31, T22S-R33E.

OXY seeks authority to inject produced gas into the Avalon formation through these additional wells at a depth of between approximately 9,339 feet to 10,849 feet along the horizontal portion of each wellbore at surface injection pressures of no more than 1,300 psi and a maximum injection rate of 4 MMSCF per day. The subject acreage is located approximately 35 miles east of Carlsbad, New Mexico.



GENERAL PROJECT DESCRIPTION: CLOSED LOOP GAS CAPTURE (CLGC) PROJECT

OXY- 2026 RED TANK RE-AUTHORIZATION

About the Red Tank Area

The Red Tank area is composed of two combined systems: Avogato wells in Sections 30 and 31 T22S, R33E, and Taco Cat wells in Sections 27 and 34 T22S, R32E.

Summary of Requested Relief

1. Re-Authorization to operate a CLGC project consisting of two additional wells. The project will help to prevent waste and reduce adverse impacts from temporary interruptions of gas pipeline capacity.
2. A two-year pilot project extension from the date of the signed order.

Overview

Oxy is proposing a 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.

Oxy has experienced interruptions where the third-party gas purchaser temporarily reduced takeaway capacity from this location, resulting in the flaring of gas or the immediate shut-in of production. 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 Red Tank 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.

Mark West is the third-party gas purchaser for the Red Tank 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 Stations 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.

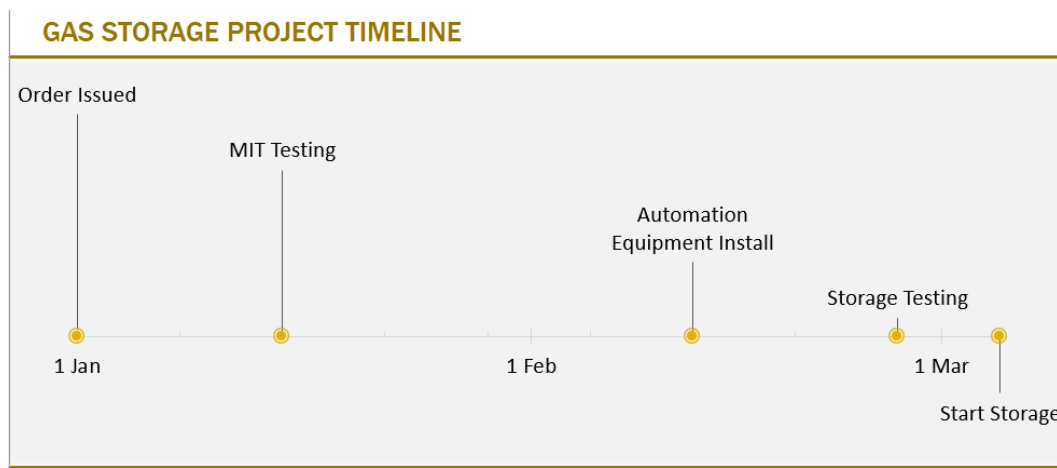
Wells

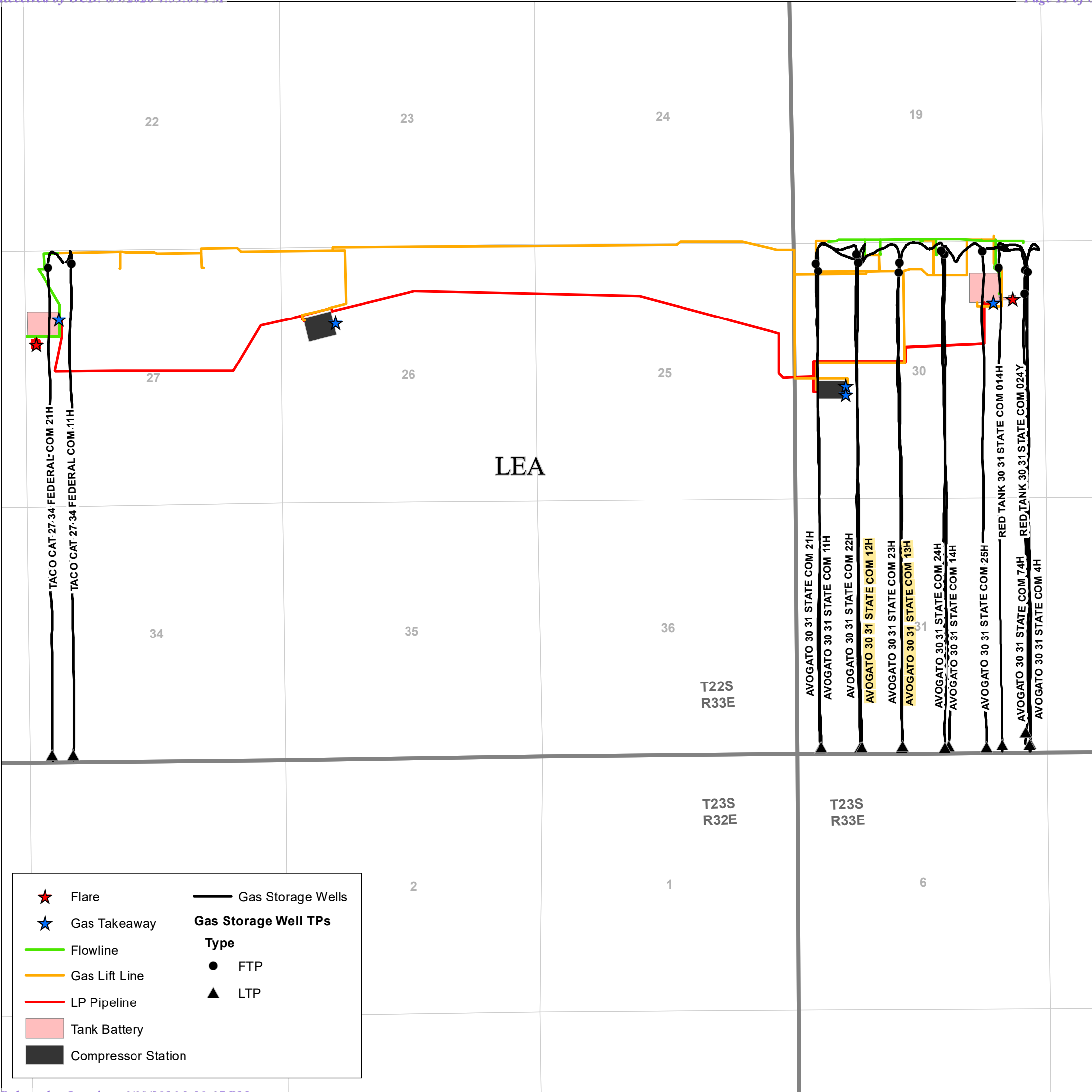
Oxy proposes to re-authorize CLGC in two wells:

API10	Well Name	Status
30-025-45957	Avogato 30 31 State #012H	Active Producer
30-025-45958	Avogato 30 31 State #013H	Active Producer

Timeline

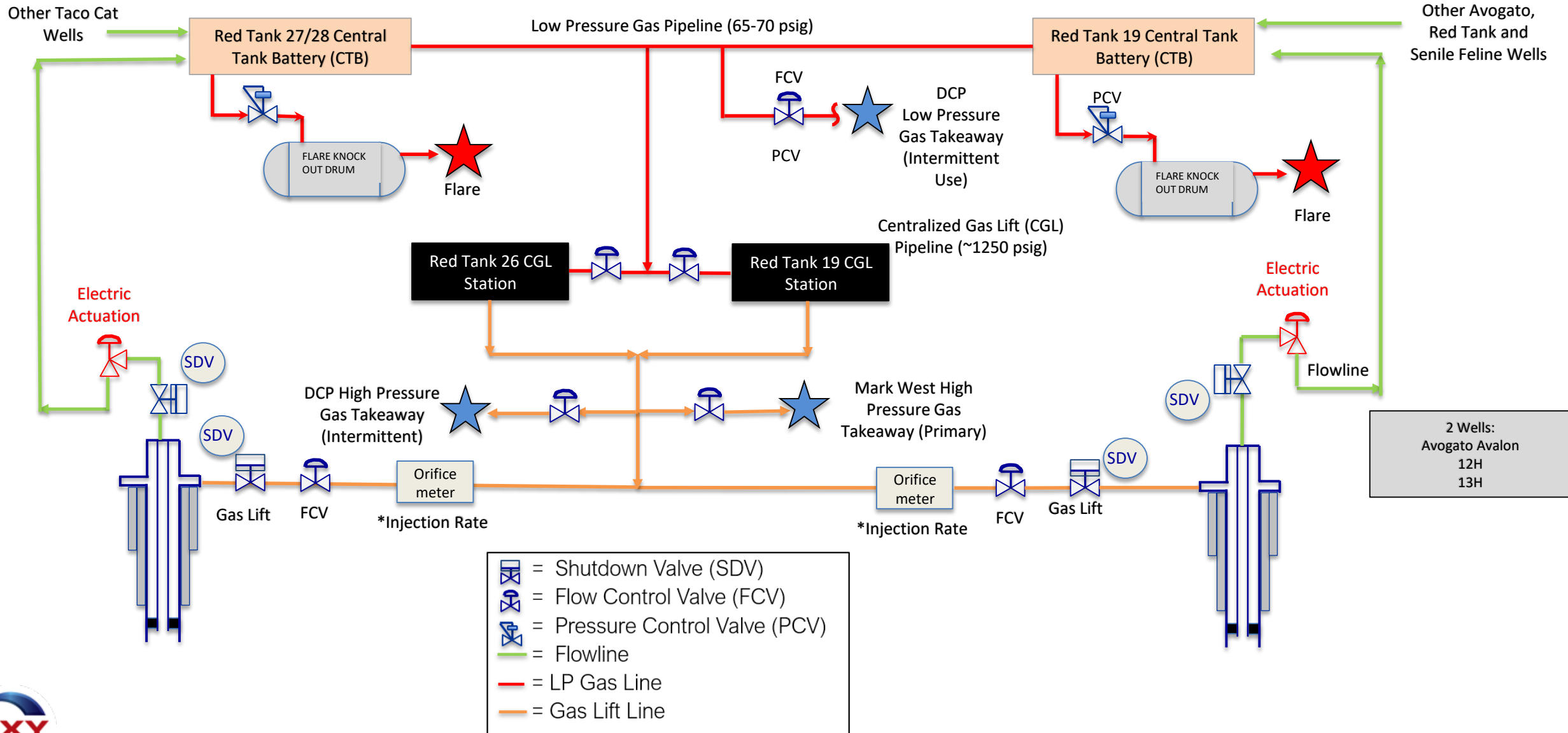
Since no new surface disturbances are required, this project can be implemented with minimal facility modifications. The timeline below assumes an order is issued on January 1 for illustration purposes.





	Flare		Gas Storage Wells
	Gas Takeaway	Gas Storage Well TPs	
	Flowline	Type	
	Gas Lift Line		FTP
	LP Pipeline		LTP
	Tank Battery		
	Compressor Station		

Red Tank Process Flow Diagram



2 Wells:
 Avogato Avalon
 12H
 13H

HOBBS OCD

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 333-6181 Fax: (575) 333-0720

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

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

FEB 28 2020

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Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT
As-Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-45957		Pool Code 51687	Pool Name RED TANK; BONE SPRING; EAST
Property Code 325625	Property Name AVOGATO 30_31 STATE COM		Well Number 12H
OGRID No. 16696	Operator Name OXY USA, INC.		Elevation 3705.6'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	30	22-S	33-E		160	NORTH	920	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
N	31	22-S	33-E		22	SOUTH	1426	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

GRID AZ. - 73°56'09"
HORZ. DIST. - 405.0'

SURFACE LOCATION
Y=498951.9 N
X=762556.6 E
LAT.=32.369653° N
LONG.=103.616814° W

* ALL COORDINATES ARE
NAD 83 VALUES

BOTTOM HOLE LOCATION
.....
.....

LIP
.....
.....

B.H.
.....

KOP
.....
.....

FIP
.....
.....

POINT LEGEND	
1	Y=499107.0 N X=761635.4 E
2	Y=493826.8 N X=761673.4 E
3	Y=491187.3 N X=761692.6 E
4	Y=488547.8 N X=761711.3 E
5	Y=488562.6 N X=764238.7 E
6	Y=493844.2 N X=764203.2 E
7	Y=489120.5 N X=764165.7 E

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. # 19-471 DRAWN BY: AM

DISTRICT I
1625 N. FERRICE 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

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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Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

AMENDED REPORT
As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-45958	Pool Code 51683 51687	Pool Name RED TANK; BONE SPRING, <i>RAFF</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 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

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

EIP
657' FNL & 2976' FEL
LAT. = 33.36829
LONG. = 103.61270

BOTTOM HOLE LOCATION
17' FSL & 2905' FEL
LAT. = 32.36112
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. = 32.36115
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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: _____

WELL NAME & NUMBER: _____

WELL LOCATION: _____

FOOTAGE LOCATION

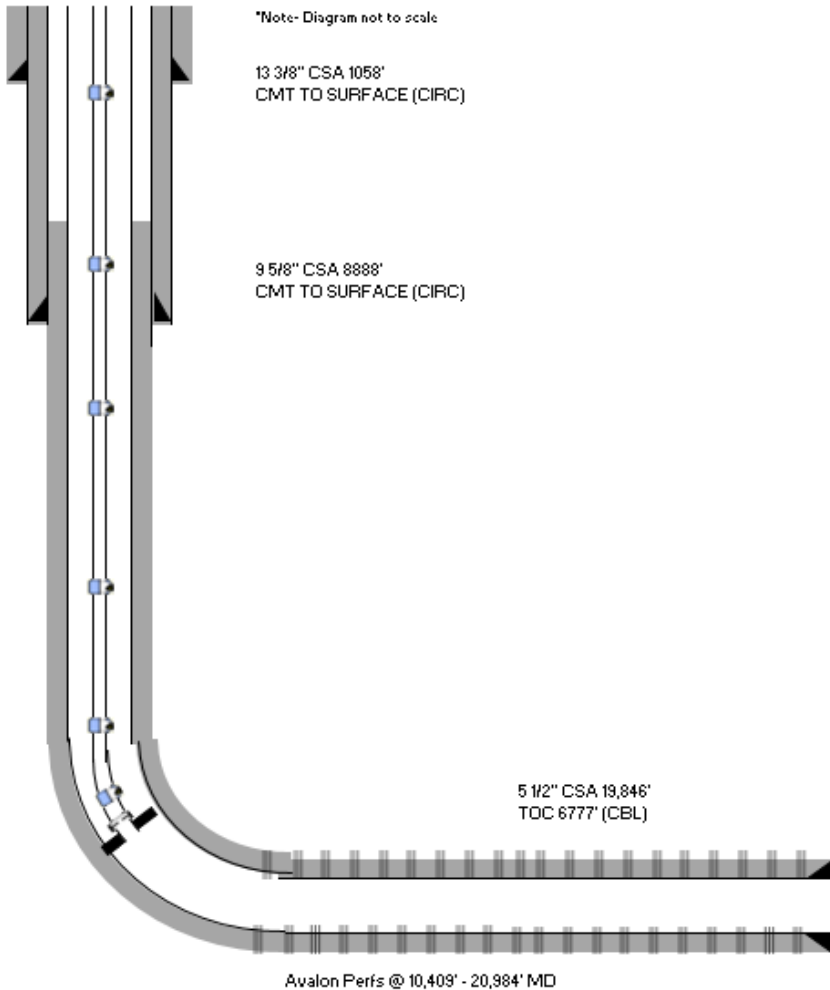
UNIT LETTER

SECTION

TOWNSHIP

RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. **or** _____ ft³

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. **or** _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. **or** _____ ft³

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval

_____ feet to _____

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: _____ Lining Material: _____

Type of Packer: _____

Packer Setting Depth: _____

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? _____

2. Name of the Injection Formation: _____

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. _____

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

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 BONE SPRING, EAST

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

Max Allowable Surface Pressure (MASP) Table

5/22/2026 Update

AP110	Well Name	Proposed Max Allowable Surface Pressure (MASP) (PSI)	Current Average Surface Pressure (PSI)	Max Achievable Surface Pressure (PSI)	Proposed Average Infrastructure (PSI)	Proposed Average Injection Rate (MMSCFPD)	Proposed Max Injection Rate (MMSCFPD)	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 + Gas Hydrostatic as a percentage of Formation Parting Pressure (%)
30-025-45957	AVOGATO 30 31 STATE COM #012H	1,300	921	1,300	3	4	10,455	0.468	12,640	49%	10,455	0.124	10,455	0.200	0.650	50%	
30-025-45958	AVOGATO 30 31 STATE COM #013H	1,300	540	1,300	3	4	9,396	0.468	12,640	45%	9,396	0.138	9,396	0.200	0.650	52%	
Column		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Calculation										$(1+6*7)/8$		$= 1/10$				$= (1+12*13) / (12/14)$	

Mechanical Integrity Test (MIT) Summary Table

5/22/2026

API10	Well Name	MIT #1		MIT #2		MIT #3	
		Date	Surface Pressure [psi]	Date	Surface Pressure [psi]	Date	Surface Pressure [psi]
30-025-45957	AVOGATO 30 31 STATE COM #012H	11/4/2019	didn't record psi	3/12/2025	1470		
30-025-45958	AVOGATO 30 31 STATE COM #013H	10/24/2019	3000	12/2/2019	1000	4/9/2022	1350

Red Tank Gas Source Well List

Note- Any additional wells drilled, completed, and added to this gas gathering system after the application filing date will be included in the gas source well list.

API10	Well Name	CTB
3002545956	AVOGATO 30-31 STATE COM 11H	Red Tank 19 CTB
3002545957	AVOGATO 30-31 STATE COM 12H	Red Tank 19 CTB
3002545958	AVOGATO 30-31 STATE COM 13H	Red Tank 19 CTB
3002545959	AVOGATO 30-31 STATE COM 14H	Red Tank 19 CTB
3002545924	AVOGATO 30-31 STATE COM 21H	Red Tank 19 CTB
3002545925	AVOGATO 30-31 STATE COM 22H	Red Tank 19 CTB
3002545926	AVOGATO 30-31 STATE COM 23H	Red Tank 19 CTB
3002545960	AVOGATO 30-31 STATE COM 24H	Red Tank 19 CTB
3002545961	AVOGATO 30-31 STATE COM 25H	Red Tank 19 CTB
3002545929	AVOGATO 30-31 STATE COM 31H	Red Tank 19 CTB
3002545927	AVOGATO 30-31 STATE COM 32H	Red Tank 19 CTB
3002545928	AVOGATO 30-31 STATE COM 33H	Red Tank 19 CTB
3002545930	AVOGATO 30-31 STATE COM 34H	Red Tank 19 CTB
3002545931	AVOGATO 30-31 STATE COM 35H	Red Tank 19 CTB
3002545923	AVOGATO 30-31 STATE COM 4H	Red Tank 19 CTB
3002545964	AVOGATO 30-31 STATE COM 74H	Red Tank 19 CTB
3002544161	RED TANK 30 31 STATE COM 024Y	Red Tank 19 CTB
3002544063	RED TANK 30 31 STATE COM 034H	Red Tank 19 CTB
3002544193	RED TANK 30-31 STATE COM 014H	Red Tank 19 CTB
3002541885	RED TANK 31 STATE 5H	Red Tank 19 CTB
3002548756	SENILE FELINES 18 7 STATE COM 311H	Red Tank 19 CTB
3002548758	SENILE FELINES 18 7 STATE COM 312H	Red Tank 19 CTB
3002548757	SENILE FELINES 18 7 STATE COM 313H	Red Tank 19 CTB
3002548751	SENILE FELINES 18 7 STATE COM 31H	Red Tank 19 CTB
3002548754	SENILE FELINES 18 7 STATE COM 34H	Red Tank 19 CTB
3002544933	TACO CAT 27 34 FEDERAL COM 11H	Red Tank 27/28 CTB
3002544934	TACO CAT 27 34 FEDERAL COM 21H	Red Tank 27/28 CTB
3002546949	TACO CAT 27 34 FEDERAL COM 24H	Red Tank 27/28 CTB
3002546934	TACO CAT 27 34 FEDERAL COM 25H	Red Tank 27/28 CTB
3002546935	TACO CAT 27 34 FEDERAL COM 26H	Red Tank 27/28 CTB
3002544935	TACO CAT 27 34 FEDERAL COM 31H	Red Tank 27/28 CTB
3002546925	TACO CAT 27 34 FEDERAL COM 32H	Red Tank 27/28 CTB
3002546926	TACO CAT 27 34 FEDERAL COM 33H	Red Tank 27/28 CTB
3002546936	TACO CAT 27 34 FEDERAL COM 34H	Red Tank 27/28 CTB
3002546937	TACO CAT 27 34 FEDERAL COM 35H	Red Tank 27/28 CTB

Red Tank Gas Analysis Summary 5/22/2026

- In 2022, the low-pressure and high-pressure gas systems were combined in Red Tank.
- The primary, third-party gas takeaway is Mark West.
- Central Tank Batteries (CTBs)
 - All producing wells flow to the Red Tank 19 CTB or the Red Tank 27/28 CTB.
 - See Gas Source Well List for list of wells.
 - All low-pressure gas lines are combined downstream of the CTBs.
- Centralized Gas Lift Compressors (CGLs)
 - All low-pressure gas lines connect to the Red Tank 19 CGL Station and Red Tank 26 CGL Station.
 - CGLs increase pressure from ~70 psig to ~1250 psig.
 - All high-pressure gas lines are combined downstream of the CGLs.
- Gas analysis is provided for:
 - Injection gas
 - Avalon production



Natural Gas Analysis Report

GPA 2172-09/API 14.5 Report with GPA 2145-16 Physical Properties

Sample Information	
Sample Name	RED TANK BOO OUTLET A
WELL NAME/EU#/FMP#	RED TANK BOO OUTLET A/ 16299C
Technician	ANTHONY DOMINGUEZ
Analyzer Make & Model	INFICON MICRO GC
Last Calibration/Validation Date	12-7-2022
Air temperature	61
Flow Rate (MCF/Day)	35323.47
Heat Tracing	Heated Hose & Gasifier
Type of Sample	spot-cylinder
Sampling Method	fill and empty
Operator	AKM MEASUREMENT
State	New Mexico
Region Name	Permian EOR
API#	NA
Feild	EAST
Sampling point	SAMPLE PROBE
Method Name	C9
Injection Date	2023-01-04 09:32:59
Report Date	2023-01-04 09:37:29
EZReporter Configuration File	6-17-2022 OXY GPA C9+ H2S #2.cfgx
Source Data File	deef27a1-bbbf-4190-9370-bf7235ce6ff4
NGA Phys. Property Data Source	GPA Standard 2145-16 (FPS)
Data Source	INFICON Fusion Connector

Component Results

Component Name	Peak Area	Raw Amount	Response Factor	Norm Mole%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	35113.5	1.9809	0.00005642	1.9819	0.0	0.01917	0.219
Methane	1029730.2	75.2428	0.00007307	75.2804	762.1	0.41698	12.804
CO2	62268.9	2.9380	0.00004718	2.9395	0.0	0.04467	0.503
Ethane	253594.1	11.5242	0.00004544	11.5300	204.5	0.11970	3.094
H2S	0.0	0.0012	0.00000000	0.0012	0.0	0.00001	0.000
Propane	171344.9	5.5694	0.00003250	5.5722	140.5	0.08484	1.540
iso-butane	56016.2	0.6200	0.00001107	0.6203	20.2	0.01245	0.204
n-Butane	131365.6	1.4400	0.00001096	1.4407	47.1	0.02891	0.456
iso-pentane	24338.2	0.2349	0.00000965	0.2350	9.4	0.00585	0.086
n-Pentane	24956.6	0.2343	0.00000939	0.2344	9.4	0.00584	0.085
hexanes	12499.0	0.0933	0.00000747	0.0934	4.5	0.00278	0.039
heptanes	9067.0	0.0544	0.00000600	0.0544	3.0	0.00188	0.025
octanes	3214.0	0.0163	0.00000507	0.0163	1.0	0.00064	0.008
nonanes+	60.0	0.0003	0.00000489	0.0003	0.0	0.00001	0.000
Total:		99.9500		100.0000	1201.8	0.74374	19.063

Results Summary

Result	Dry	Sat.
Total Un-Normalized Mole%	99.9500	
Pressure Base (psia)	14.730	
Temperature Base (Deg. F)	60.00	
Flowing Temperature (Deg. F)	109.0	
Flowing Pressure (psia)	1244.0	
Gross Heating Value (BTU / Ideal cu.ft.)	1201.8	1180.9
Gross Heating Value (BTU / Real cu.ft.)	1206.0	1185.5
Relative Density (G), Real	0.7460	0.7442

Parameter	Value	Lower Limit	Upper Limit	Status
Total un-normalized amount	99.9500	97.0000	103.0000	Pass



Natural Gas Analysis Report

GPA 2172-09/API 14.5 Report with GPA 2145-16 Physical Properties

Sample Information	
Sample Name	RED TANK 19 CTB TEST 2 - AVOGATO 12H
Technician	ANTHONY DOMINGUEZ
Analyzer Make & Model	INFICON MICRO GC
Last Calibration/Validation Date	02-01-2023
Meter Number	15602T
Air temperature	28
Flow Rate (MCF/Day)	3866
Heat Tracing	Heated Hose & Gasifier
Sample description/mtr name	RED TANK 19 CTB TEST 2 - AVOGATO 12H
Sampling Method	fill and empty
Operator	AKM MEASUREMENT
State	New Mexico
Region Name	PERMIAN_RESOURCES
Asset	NEW MEXICO
System	EAST
FLOC	OP-L2154-WELLS-WPI-0000003
Sample Sub Type	PRODUCTION
Sample Name Type	WELL
Vendor	AKM MEASUREMENT
Cylinder #	5577
Sampled by	JONATHAN ALDRICH
Sample date	2-17-2023
Analyzed date	2-20-2023
Method Name	C9
Injection Date	2023-02-20 09:05:58
Report Date	2023-02-20 09:10:21
EZReporter Configuration File	1-16-2023 OXY GPA C9+ H2S #2.cfgx
Source Data File	08344528-2750-4699-a357-8df8fac3148e
NGA Phys. Property Data Source	GPA Standard 2145-16 (FPS)
Data Source	INFICON Fusion Connector

Component Results

Component Name	Peak Area	Raw Amount	Response Factor	Norm Mole%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	48186.5	2.7157	0.00005636	2.7212	0.0	0.02632	0.300
Methane	999802.4	73.2513	0.00007327	73.3991	743.0	0.40656	12.484
CO2	147234.2	6.9584	0.00004726	6.9724	0.0	0.10595	1.194
Ethane	206923.5	9.4164	0.00004551	9.4355	167.4	0.09796	2.532
H2S	0.0	0.0020	0.00000000	0.0020	0.0	0.00002	0.000
Propane	142823.5	4.6801	0.00003277	4.6896	118.3	0.07140	1.296
iso-butane	49569.7	0.5509	0.00001111	0.5520	18.0	0.01108	0.181
n-Butane	119289.9	1.3103	0.00001098	1.3130	42.9	0.02635	0.415
iso-pentane	30197.3	0.2933	0.00000971	0.2939	11.8	0.00732	0.108
n-Pentane	31952.1	0.3025	0.00000947	0.3032	12.2	0.00755	0.110
hexanes	21519.0	0.1635	0.00000760	0.1638	7.8	0.00487	0.068
heptanes	15914.0	0.0994	0.00000624	0.0996	5.5	0.00345	0.046
octanes	7604.0	0.0424	0.00000558	0.0425	2.7	0.00168	0.022
nonanes+	1967.0	0.0122	0.00000619	0.0122	0.9	0.00054	0.007
Total:		99.7985		100.0000	1130.4	0.77104	18.763

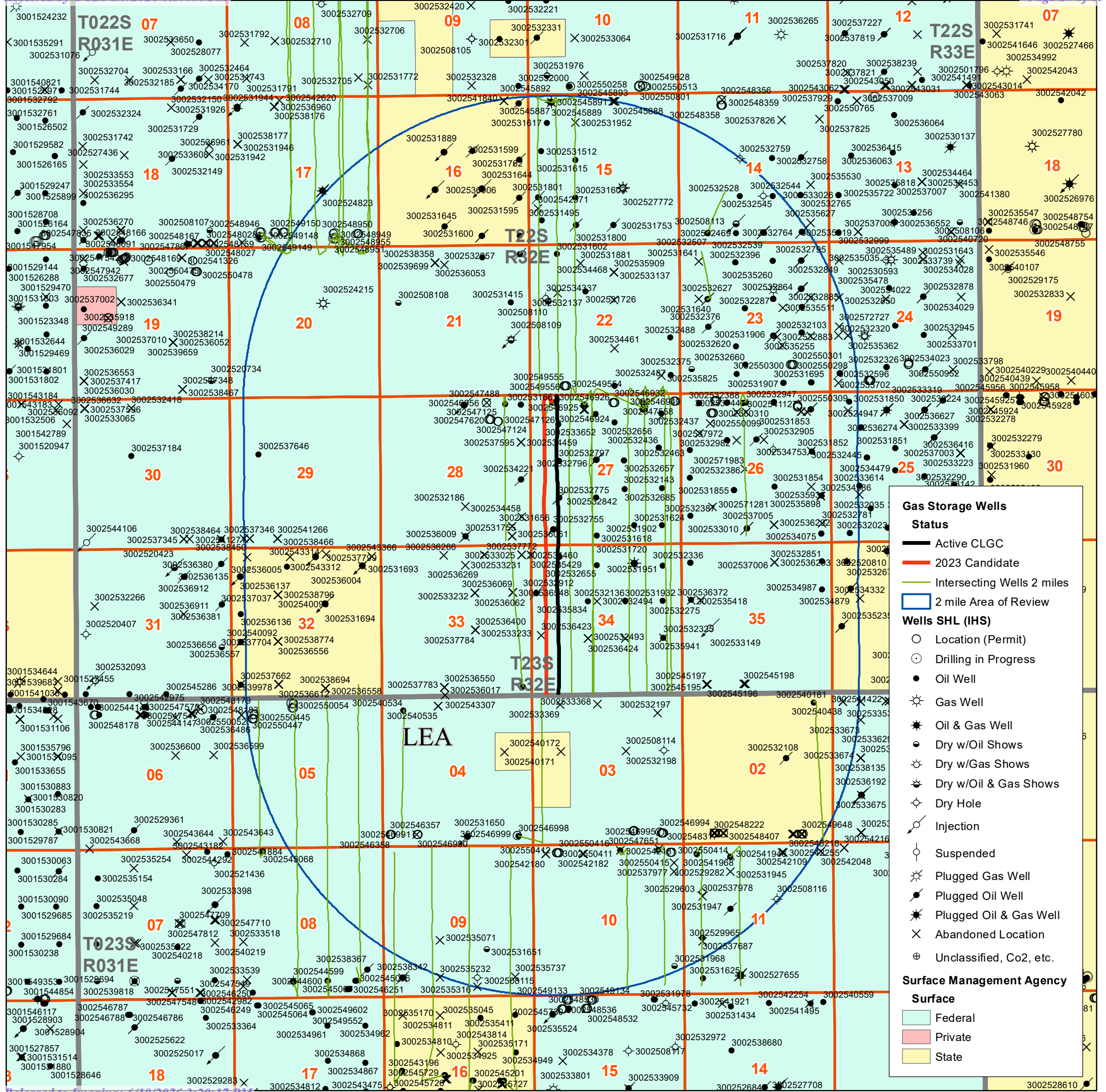
Results Summary

Result	Dry	Sat.
Total Un-Normalized Mole%	99.7985	
Pressure Base (psia)	14.730	
Temperature Base (Deg. F)	60.00	
Flowing Temperature (Deg. F)	48.0	
Flowing Temperature (Deg. F)	112.1	

Result	Dry	Sat.
Gross Heating Value (BTU / Ideal cu.ft.)	1130.4	1110.7
Gross Heating Value (BTU / Real cu.ft.)	1134.4	1115.1
Relative Density (G), Real	0.7734	0.7711

Monitored Parameter Report

Parameter	Value	Lower Limit	Upper Limit	Status
Total un-normalized amount	99.7986	97.0000	103.0000	Pass



Gas Storage Wells

Status

- Active CLGC
- 2023 Candidate
- Intersecting Wells 2 miles
- 2 mile Area of Review

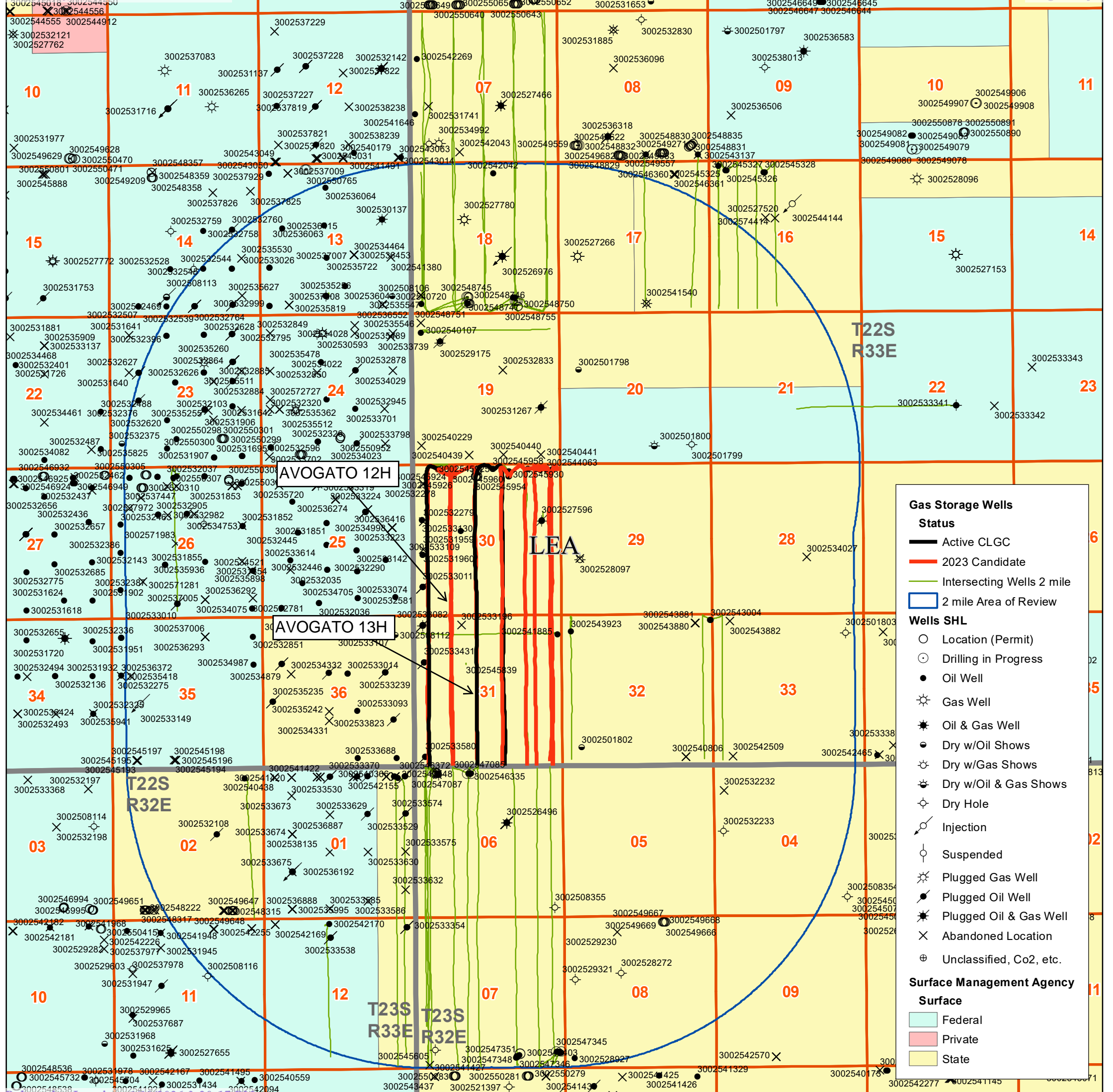
Wells SHL (IHS)

- Location (Permit)
- Drilling in Progress
- Oil Well
- Gas Well
- Oil & Gas Well
- Dry w/Oil Shows
- Dry w/Gas Shows
- Dry w/Oil & Gas Shows
- Dry Hole
- Injection
- Suspended
- Plugged Gas Well
- Plugged Oil Well
- Plugged Oil & Gas Well
- Abandoned Location
- Unclassified, Co2, etc.

Surface Management Agency

Surface

- Federal
- Private
- State



Gas Storage Wells Status

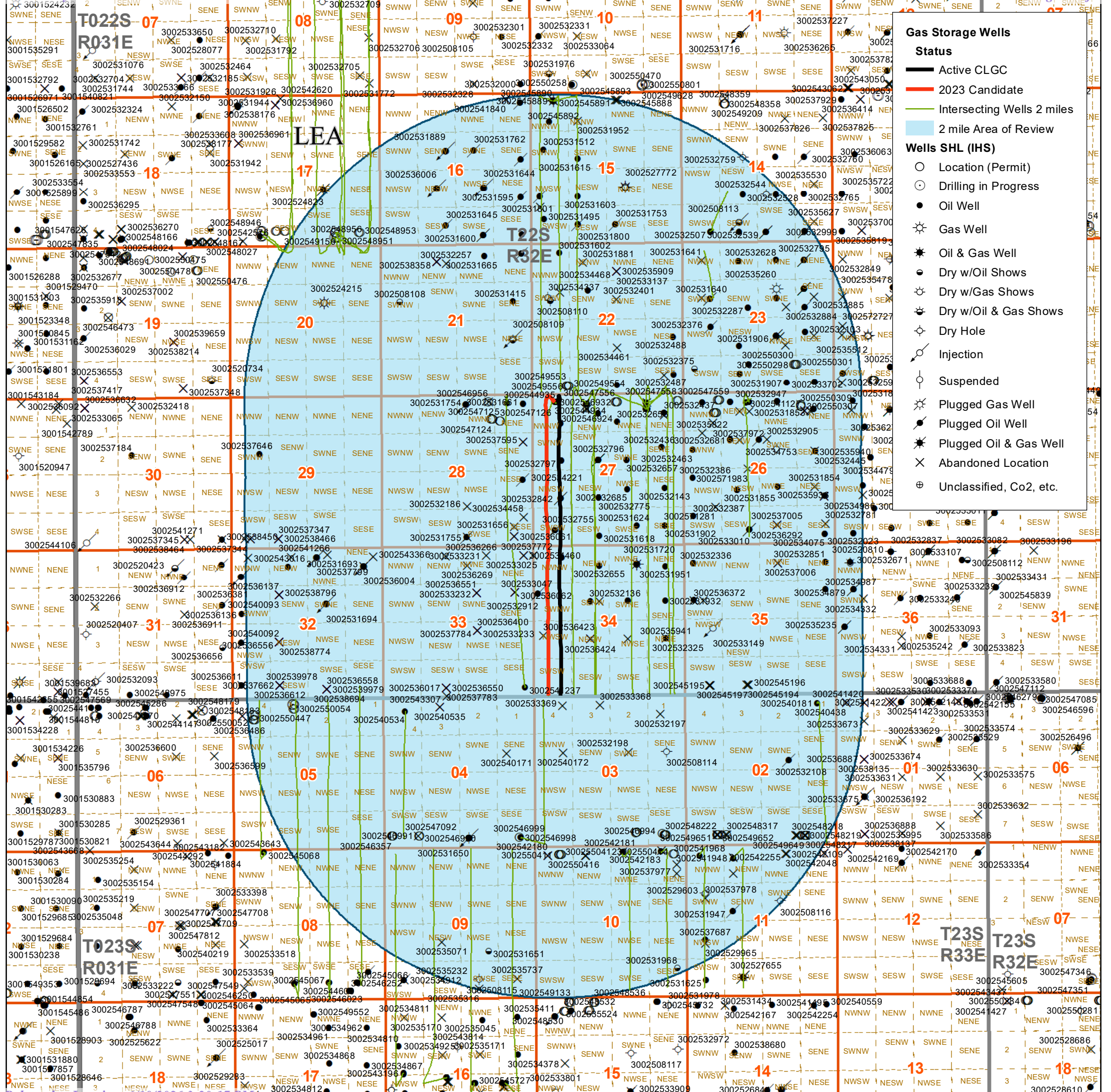
- Active CLGC
- 2023 Candidate
- Intersecting Wells 2 mile
- 2 mile Area of Review

Wells SHL

- Location (Permit)
- Drilling in Progress
- Oil Well
- Gas Well
- Oil & Gas Well
- Dry w/Oil Shows
- Dry w/Gas Shows
- Dry w/Oil & Gas Shows
- Dry Hole
- Injection
- Suspended
- Plugged Gas Well
- Plugged Oil Well
- Plugged Oil & Gas Well
- Abandoned Location
- Unclassified, Co2, etc.

Surface Management Agency Surface

- Federal
- Private
- State



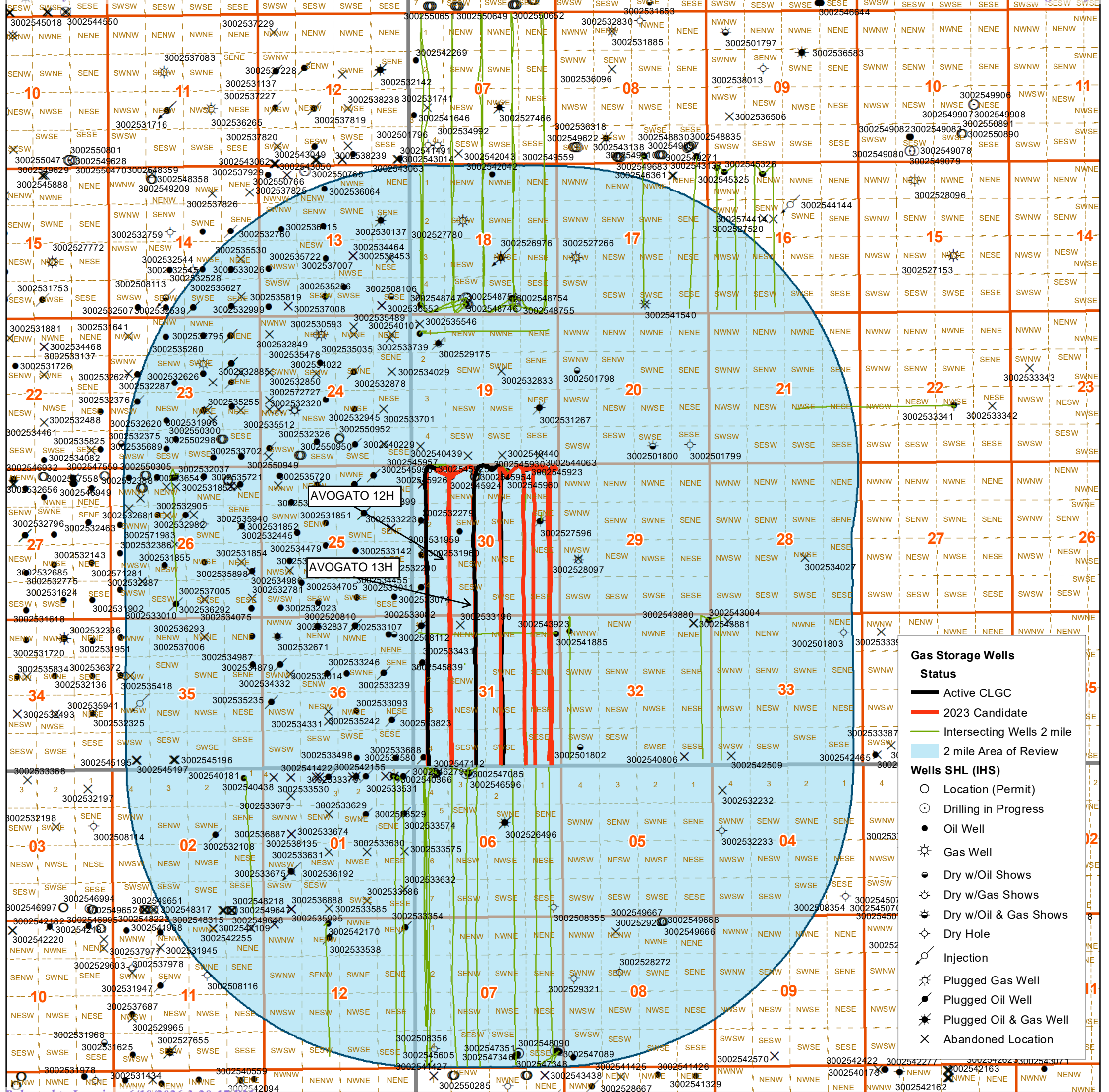
Gas Storage Wells

Status

- Active CLGC
- 2023 Candidate
- Intersecting Wells 2 miles
- 2 mile Area of Review

Wells SHL (IHS)

- Location (Permit)
- ◉ Drilling in Progress
- Oil Well
- ☀ Gas Well
- ☀ Oil & Gas Well
- Dry w/Oil Shows
- ☀ Dry w/Gas Shows
- ☀ Dry w/Oil & Gas Shows
- Dry Hole
- Injection
- Suspended
- ☀ Plugged Gas Well
- Plugged Oil Well
- ☀ Plugged Oil & Gas Well
- ✕ Abandoned Location
- ⊕ Unclassified, Co2, etc.

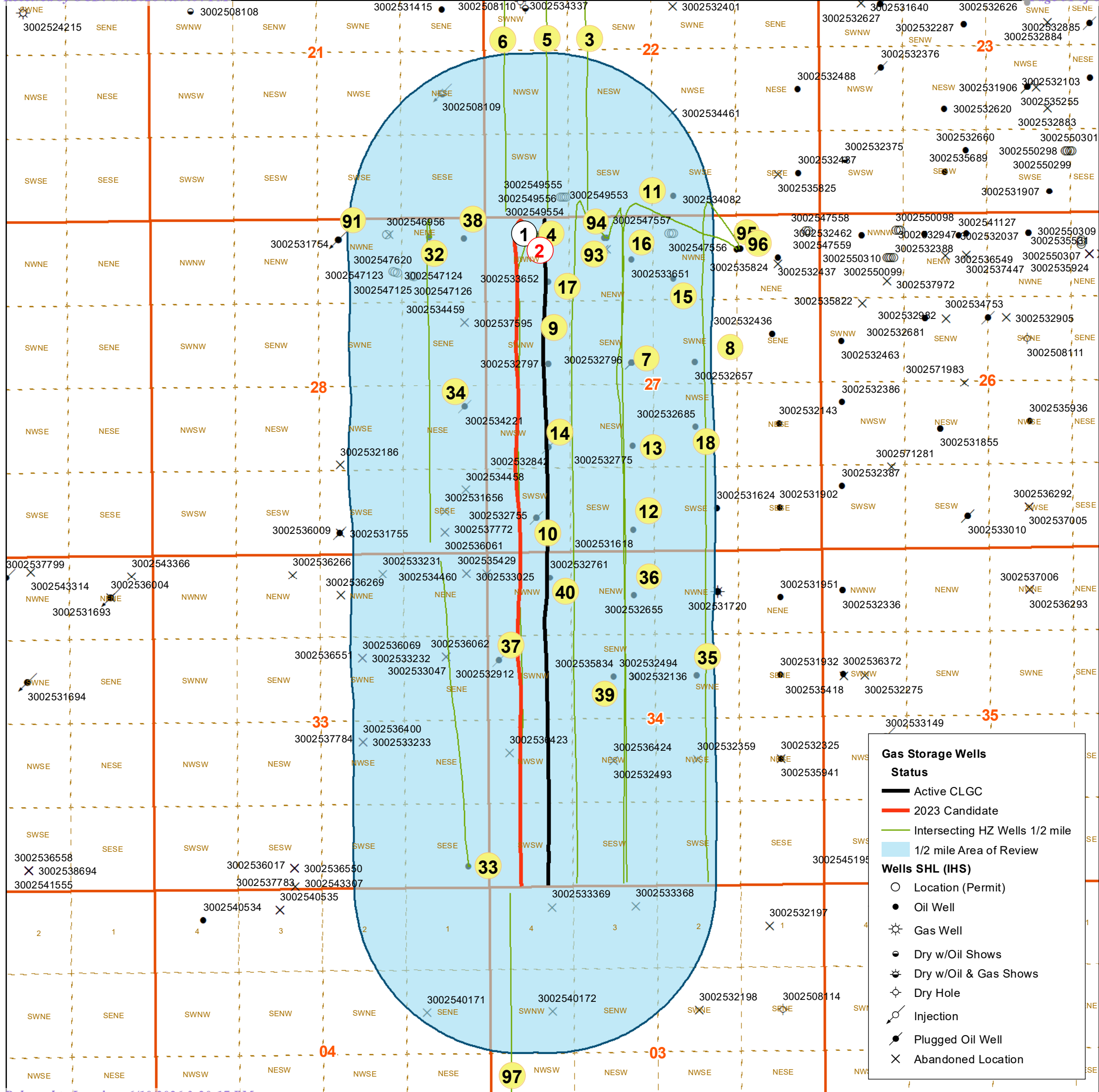


Gas Storage Wells Status

- Active CLGC
- 2023 Candidate
- Intersecting Wells 2 mile
- 2 mile Area of Review

Wells SHL (IHS)

- Location (Permit)
- ◐ Drilling in Progress
- Oil Well
- ☼ Gas Well
- Dry w/Oil Shows
- ☼ Dry w/Gas Shows
- ☼ Dry w/Oil & Gas Shows
- Dry Hole
- ↻ Injection
- ☼ Plugged Gas Well
- Plugged Oil Well
- ☼ Plugged Oil & Gas Well
- ✕ Abandoned Location

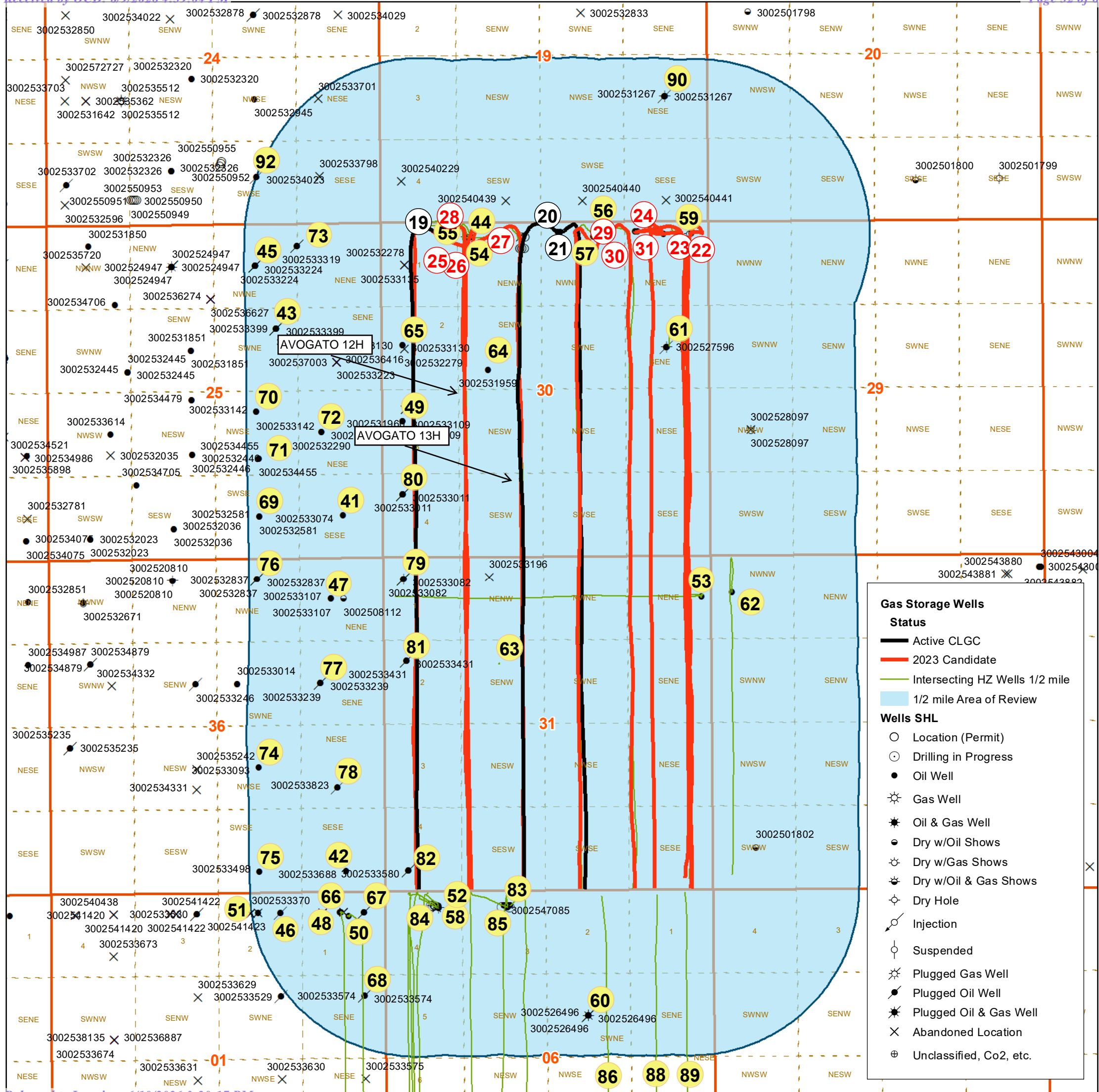


Gas Storage Wells Status

- Active CLGC
- 2023 Candidate
- Intersecting HZ Wells 1/2 mile
- 1/2 mile Area of Review

Wells SHL (IHS)

- Location (Permit)
- Oil Well
- Gas Well
- Dry w/Oil Shows
- Dry w/Oil & Gas Shows
- Dry Hole
- Injection
- Plugged Oil Well
- Abandoned Location



Gas Storage Wells

Status

- Active CLGC
- 2023 Candidate
- Intersecting HZ Wells 1/2 mile
- 1/2 mile Area of Review

Wells SHL

- Location (Permit)
- ⊙ Drilling in Progress
- Oil Well
- ☼ Gas Well
- ★ Oil & Gas Well
- Dry w/Oil Shows
- ☼ Dry w/Gas Shows
- ★ Dry w/Oil & Gas Shows
- ⊙ Dry Hole
- ↻ Injection
- ⊙ Suspended
- ☼ Plugged Gas Well
- ★ Plugged Oil Well
- ★ Plugged Oil & Gas Well
- × Abandoned Location
- ⊕ Unclassified, Co2, etc.

Well ID	API NUMBER	Current Operator	LEASE NAME	WELL NUMBER	Well Type:	Status:	Footages		Footages		Surface Location Unit	Surface Location Section	Surface Location TShip	Surface Location Range	Spud:	True Vertical Depth [ft]	Measured Depth [ft]	HOLE SIZE			CSG SIZE			SET AT		SX CMT	CMT TO WELLFILE		HOW MEASURE	Current Completion [ft]	Comment	Current Producing Pool
							N/S	N/S	E/W	E/W								[in]	[in]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]		[ft]	D				
1	30-025-44933	OXY USA INC	TACO CAT 27 34 FEDERAL COM	011H	Oil	Active	260	N	855	W	D	27	22S	32E	7/29/2018	9514	19732	17.5	13.375	867	800	0	Circ	9445-19621	2021	CLGC Well, Active	[51683] RED TANK; BONE SPRING					
2	30-025-44934	OXY USA INC	TACO CAT 27 34 FEDERAL COM	021H	Oil	Active	260	N	785	W	D	27	22S	32E	7/27/2018	10849	20904	17.5	13.375	858	1100	0	Circ	10699-20791	2023	CLGC Candidate	[51683] RED TANK; BONE SPRING					
3	30-025-45892	MARATHON OIL PERMIAN LLC	FRIZZLE FRY 15 WXY FEDERAL COM	007H	Oil	Active	274	N	852	W	D	15	22S	32E	8/13/2019	12111	22217	17.5	13.375	1074	920	0	Circ	12320-22126		Top of 5.5" liner 11794'	[98258] WC-025 S223203A; LWR WOLFCAMP (GAS)					
4	30-025-44935	OXY USA INC	TACO CAT 27 34 FEDERAL COM	031H	Oil	Active	260	N	820	W	D	27	22S	32E	7/25/2018	12205	22168	17.5	13.375	825	1140	0	Circ	11982-22029			[98286] WC-025 G-08 S223227D; UPPER WOLFCAMP					
5	30-025-45887	MARATHON OIL PERMIAN LLC	FRIZZLE FRY 15 TB FEDERAL COM	001H	Oil	Active	273	N	792	W	D	15	22S	32E	8/15/2019	11967	21990	17.5	13.375	1061	940	0	Circ	12024-21908			[51683] RED TANK; BONE SPRING					
6	30-025-45890	MARATHON OIL PERMIAN LLC	FRIZZLE FRY 15 WA FEDERAL COM	002H	Oil	Active	273	N	762	W	D	15	22S	32E	8/16/2019	12115	22467	17.5	13.375	1086	940	0	Circ	12606-22334		Top of 4.5" liner 11762'	[98166] WC-025 G-09 S233216K; UPR WOLFCAMP					
7	30-025-32796	OXY USA INC	FEDERAL 27	4	Oil	PA	2310	N	2310	W	F	27	22S	32E	8/9/1996	8730	8730	14.75	10.75	805	780	0	Circ	N/A			N/A					
8	30-025-32657	OXY USA INC	PRIZE FEDERAL	7	Oil	Active	2310	N	1980	E	G	27	22S	32E	7/6/1996	8715	8715	14.75	10.75	830	780	0	Circ	8364-8416			[51689] RED TANK; DELAWARE, WEST					
9	30-025-32797	OXY USA INC	FEDERAL 27	5	Oil	Active	2310	N	990	W	E	27	22S	32E	11/11/1996	8714	8714	14.75	10.75	808	700	0	Circ	7188-7204; 7299-7310; 7638-7690; 8356-8378			[51689] RED TANK; DELAWARE, WEST					
10	30-025-32755	OXY USA INC	FEDERAL 27	8	Oil	PA	580	S	790	W	M	27	22S	32E	6/9/1995	8732	8732	14.75	10.75	822	800	0	Circ	N/A			N/A					
11	30-025-34082	OXY USA INC	PRIZE FEDERAL	11	Oil	Active	330	S	2310	E	O	22	22S	32E	8/19/1997	8780	8780	14.75	10.75	802	800	0	Circ	7000-7168; 8360-8440			[51689] RED TANK; DELAWARE, WEST					
12	30-025-31618	OXY USA INC	FEDERAL 27	1	Oil	Active	330	S	2310	W	N	27	22S	32E	6/18/1992	8850	8850	17.5	13.375	850	1060	0	Circ	8330-8391			[51689] RED TANK; DELAWARE, WEST					
13	30-025-32775	OXY USA INC	FEDERAL 27	7	Oil	Active	1650	S	2310	W	K	27	22S	32E	7/8/1995	8734	8734	14.75	10.75	805	700	0	Circ	8370-8470			[51689] RED TANK; DELAWARE, WEST					
14	30-025-32842	OXY USA INC	FEDERAL 27	6	Oil	PA	1650	S	990	W	L	27	22S	32E	10/11/1995	8700	8700	14.75	10.75	825	600	0	Circ	N/A			N/A					
15	30-025-32656	OXY USA INC	PRIZE FEDERAL	6	Oil	Active	990	N	2310	E	B	27	22S	32E	1/27/1997	8756	8756	14.75	10.75	830	800	0	Circ	8346-8360			[51689] RED TANK; DELAWARE, WEST					
16	30-025-33651	OXY USA INC	FEDERAL 27	3	Oil	Active	660	N	2310	W	C	27	22S	32E	12/27/1997	8800	8800	14.75	10.75	804	800	0	Circ	6987-7150			[51689] RED TANK; DELAWARE, WEST					
17	30-025-33652	OXY USA INC	FEDERAL 27	2	Oil	Active	990	N	990	W	D	27	22S	32E	6/8/1998	8653	8653	14.75	10.75	804	750	0	Circ	7184-7678			[51689] RED TANK; DELAWARE, WEST					
18	30-025-32685	OXY USA INC	PRIZE FEDERAL	8	Oil	Active	1980	S	1980	E	J	27	22S	32E	12/7/1995	8750	8750	14.75	10.75	803	550	0	Circ	8376-8400			[51689] RED TANK; DELAWARE, WEST					
19	30-025-45956	OXY USA INC	AVOGATO 30 31 STATE COM	011H	Oil	Active	160	N	885	W	D	30	22S	33E	9/8/2019	9426	19645	17.5	13.375	1049	1340	0	CIRC	9558'-19537'	2021	CLGC Well, Active	[51687] RED TANK; BONE SPRING, EAST					
20	30-025-45958	OXY USA INC	AVOGATO 30 31 STATE COM	013H	Oil	Active	160	N	2375	E	B	30	22S	33E	8/23/2019	9397	19645	17.5	13.375	1060	1340	0	CIRC	9752'-19532'	2021	CLGC Well, Active	[51687] RED TANK; BONE SPRING, EAST					
21	30-025-45959	OXY USA INC	AVOGATO 30 31 STATE COM	014H	Oil	Active	160	N	2340	E	B	30	22S	33E	8/26/2019	9532	19891	17.5	13.375	1060	1340	0	CIRC	9598'-19778'	2021	CLGC Well, Active	[51687] RED TANK; BONE SPRING, EAST					
22	30-025-44161	OXY USA INC	RED TANK 30 31 STATE COM	024Y	Oil	Active	200	N	270	E	A	30	22S	33E	11/21/2017	10863	20600	17.5	13.375	1090	1165	0	CIRC	11300'-20364'	2023	CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST					
23	30-025-44193	OXY USA INC	RED TANK 30 31 STATE COM	014H	Oil	Active	200	N	710	E	A	30	22S	33E	8/1/2018	9407	19687	17.5	13.375	1072	1450	0	CIRC	9694'-19546'	2023	CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST					
24	30-025-45923	OXY USA INC	AVOGATO 30 31 STATE COM	004H	Oil	Active	160	N	1120	E	A	30	22S	33E	9/14/2019	10154	20295	17.5	13.375	1037	1340	0	CIRC	10357'-20138'	2023	CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST					
25	30-025-45924	OXY USA INC	AVOGATO 30 31 STATE COM	021H	Oil	Active	420	N	1350	W	C	30	22S	33E	7/13/2019	10755	20863	17.5	13.375	1052	1340	0	Circ	10951'-20804'	2023	CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST					
26	30-025-45925	OXY USA INC	AVOGATO 30 31 STATE COM	022H	Oil	Active	420	N	1385	W	C	30	22S	33E	7/10/2019	10891	21097	17.5	13.375	1050	1340	0	CIRC	10982'-21006'	2023	CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST					
27	30-025-45926	OXY USA INC	AVOGATO 30 31 STATE COM	023H	Oil	Active	420	N	1420	W	C	30	22S	33E	7/8/2019	10769	20969	17.5	13.375	1050	1340	0	CIRC	10853'-20877'	2023	CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST					

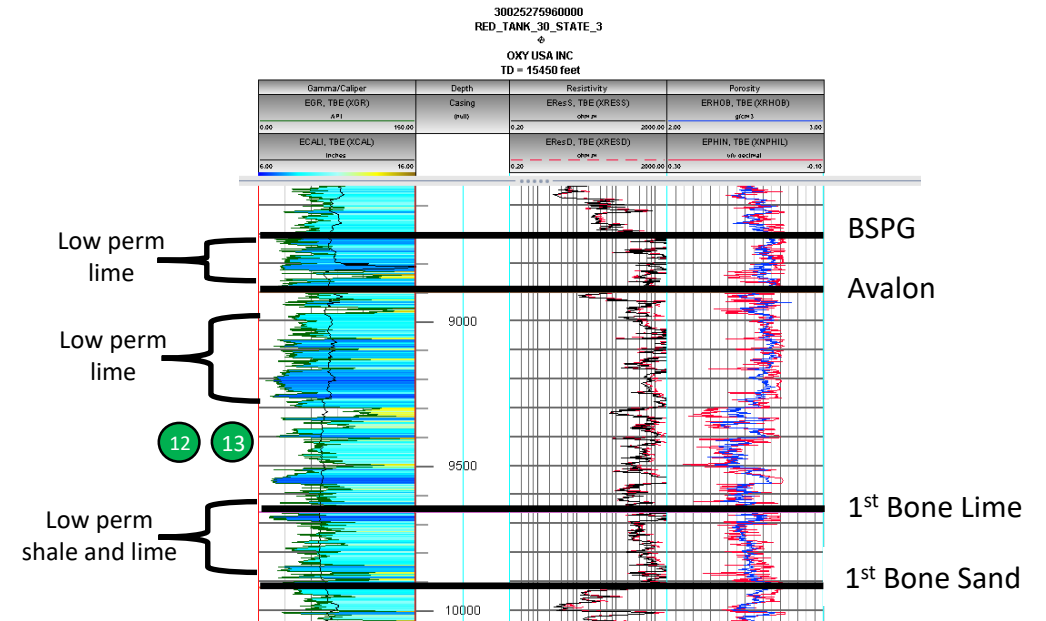
28	30-025-45957	OXY USA INC	AVOGATO 30 31 STATE COM	012H	Oil	Active	160 N	920 W	D	30 22S	33E	9/10/2019	9614	19873	17.5 12.25 8.5	13.375 9.625 5.5	1037 8890 19846	1340 1670 2130	0 CIRC 0 CIRC 6777 CBL	9578'-19759'	2023 CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST
29	30-025-45960	OXY USA INC	AVOGATO 30 31 STATE COM	024H	Oil	Active	420 N	1820 E	B	30 22S	33E	7/16/2019	10961	21078	17.5 12.25 8.5	13.375 9.625 5.5	1054 6425 21051	1340 1165 2485	0 CIRC 0 CIRC 3170 CALC	10610'-20985'	2023 CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST
30	30-025-45961	OXY USA INC	AVOGATO 30 31 STATE COM	025H	Oil	Active	420 N	1785 E	B	30 22S	33E	7/18/2019	10785	20988	17.5 12.25 8.5	13.375 9.625 5.5	1052 6435 20988	1340 1165 2470	0 CIRC 0 CIRC 3316 CALC	10572'-20896'	2023 CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST
31	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 12.25 8.5 6.75	13.375 9.625 7.625 5.5	1058 7343 10562 21610	1340 1447 472 858	0 CIRC 0 CIRC 6834 CALC 10446 CALC	11772'-21527'	2023 CLGC Candidate	[51687] RED TANK; BONE SPRING, EAST
32	30-025-41189	OXY USA INC	RED TANK 28 FEDERAL	005H	Oil	Active	295 N	880 E	A	28 22S	32E	9/25/2014	8418	13270	14.75 10.625 7.875	11.75 8.625 5.5	927 4650 13270	690 1120 1590	0 CIRC 0 CIRC 0 CIRC	8602-13122		[51689] RED TANK; DELAWARE, WEST
33	30-025-41237	OXY USA INC	RED TANK 33 FEDERAL	001H	Oil	Active	330 S	330 E	P	33 22S	32E	9/23/2014	8431	13014	14.75 10.625 7.875	11.75 8.625 5.5	1129 4655 13004	840 1110 1640	0 CIRC 0 CIRC 0 CIRC	8690-12788		[51689] RED TANK; DELAWARE, WEST
34	30-025-34221	OXY USA INC	RED TANK 28 FEDERAL	6	Oil	PA	2310 S	330 E	I	28 22S	32E	8/23/1998	8700	8700	14.75 9.875 6.75	10.75 7.625 4.5	815 4435 8700	750 1050 995	0 CIRC 0 CIRC 4150 Calc	8300-8540		[51689] RED TANK; DELAWARE, WEST
35	30-025-32136	OXY USA INC	RED TANK 34 FEDERAL	4	Oil	Active	1980 N	1980 E	G	34 22S	32E	1/21/1994	8850	8850	17.5 11 7.875	13.375 8.625 5.5	764 4750 8850	1050 1750 1240	0 CIRC 0 CIRC 2660 Calc	4800-4820; 8414-8442		[51689] RED TANK; DELAWARE, WEST
36	30-025-32655	OXY USA INC	RED TANK 34 FEDERAL	14	Oil	Active	710 N	2310 W	C	34 22S	32E	9/21/1994	8718	8718	17.5 11 7.875	13.375 8.625 5.5	800 4511 8718	950 1800 1420	0 CIRC 0 CIRC 2550 Calc	8378-8412		[51689] RED TANK; DELAWARE, WEST
37	30-025-32912	OXY USA INC	RED TANK 34 FEDERAL	15	Oil	PA	1700 N	180 W	E	34 22S	32E	6/24/1995	8742	8742	14.75 9.875 6.75	10.75 7.625 4.5	818 4520 8742	700 1400 900	0 CIRC 0 CIRC 3674 Calc	N/A		N/A
38	30-025-31661	OXY USA INC	RED TANK 28 FEDERAL	1	Oil	Active	330 N	330 E	A	28 22S	32E	10/20/1992	8740	8740	17.5 11 7.875	13.375 8.625 5.5	817 4500 8740	850 1800 1125	0 CIRC 0 CIRC 2900 Calc	7004-7218; 8373-8409		[51689] RED TANK; DELAWARE, WEST
39	30-025-35834	OXY USA INC	RED TANK 34 FEDERAL	12	Oil	Active	1980 N	1980 W	F	34 22S	32E	4/20/2002	8795	8795	14.75 9.875 6.75	10.75 7.625 4.5	1025 4570 8795	800 1404 985	0 CIRC 0 CIRC 0 CIRC	8420-8435		[51689] RED TANK; DELAWARE, WEST
40	30-025-32761	OXY USA INC	RED TANK 34 FEDERAL	13	Oil	Active	410 N	990 W	D	34 22S	32E	12/8/1994	8722	8722	17.5 11 7.875	13.375 8.625 5.5	812 4475 8722	950 1800 1210	0 CIRC 0 CIRC 3096 Calc	8366-8392		[51689] RED TANK; DELAWARE, WEST
41	30-025-33074	OXY USA INC	COVINGTON A FEDERAL	11	Oil	Active	660 S	660 E	P	25 22S	32E	10/28/1995	9010	9010	14.75 9.625 6.75	10.75 7.625 4.5	802 4720 9010	600 1000 900	0 CIRC 0 CIRC 3110 CBL	8070-8084; 8552-8570		[51689] RED TANK; DELAWARE, WEST
42	30-025-33688	OXY USA INC	MULE DEER 36 STATE	7	Oil	Active	330 S	660 E	P	36 22S	32E	12/10/1996	9100	9100	12.25 8.75 6.125	9.625 7 4.5	850 4600 9100	365 965 1050	0 CIRC 0 CIRC 5865 CBL	8942-8989		[51683] RED TANK; BONE SPRING
43	30-025-33399	OXY USA INC	COVINGTON A FEDERAL	14	Oil	PA	1650 N	1650 E	G	25 22S	32E	4/27/1996	8966	8966	14.75 9.875 6.75	10.75 7.625 4.5	800 4670 8966	800 1150 1100	0 CIRC 0 CIRC 3202 CBL	N/A		N/A
44	30-025-45928	OXY USA INC	AVOGATO 30 31 STATE COM	033H	Oil	Active	240 N	1420 W	C	30 22S	33E	6/24/2019	11991	22103	17.5 12.25; 9.87 6.75	13.375 7.625 5.5	1050 11336 22103	1340 4119 831	0 CIRC 0 CIRC 11457 Calc	11819'-22000'		[51687] RED TANK; BONE SPRING, EAST
45	30-025-33224	OXY USA INC	COVINGTON A FEDERAL	16	Oil	PA	660 N	1980 E	B	25 22S	32E	7/23/1996	8980	8980	14.75 9.625 6.75	10.75 7.625 4.5	830 4695 8980	780 1125 490	0 CIRC 0 CIRC 5828 CALC	N/A		N/A
46	30-025-33370	CIMAREX ENERGY CO.	THYME APY FEDERAL	1	Oil	PA	330 N	1650 E	B	1 23S	32E	4/9/1996	10250	10250	17.5 12.25 7.875	13.375 8.625 5.5	1165 4790 10250	750 1175 1075	0 CIRC 0 CIRC 3000 CBL	N/A		N/A
47	30-025-33107	OXY USA INC	MULE DEER 36 STATE	4	Oil	Active	660 N	860 E	A	36 22S	32E	10/10/1995	9007	9007	17.5 12.25 7.875	13.375 8.625 5.5	853 4665 9001	750 1600 1150	0 CIRC 0 CIRC 4850 CALC	8848'-8871'; 8466'-8539'	Well of Interest. Delaware and Avalon Sand Perfs in commingled	[51683] RED TANK; BONE SPRING; [51689] RED TANK; DELAWARE, WEST
48	30-025-43738	CIMAREX ENERGY CO.	CORIANDER AOC 1-12 STATE	003H	Oil	Active	330 N	730 E	A	1 23S	32E	8/6/2018	9570	19431	17.5 12.25 8.75 6	13.375 9.625 7 4.5	1290 4975 12408 19431	1525 1860 1325 715	0 CIRC 0 CIRC 1110 CALC 1110 CALC	9682'-19335'	4.5" liner from 8037'-19431'	[17644] DIAMONDTAIL; BONE SPRING
49	30-025-33109	OXY USA INC	RED TANK 30 STATE	2	Oil	Active	2145 S	330 W	L	30 22S	33E	4/23/2000	9020	9020	14.75 9.875 6.75	10.75 7.625 4.5	825 4720 9020	775 1210 1050	0 CIRC 0 CIRC 3588 CALC	8862-8884		[51689] RED TANK; DELAWARE, WEST
50	30-025-43736	CIMAREX ENERGY CO.	CORIANDER AOC 1-12 STATE	001H	Oil	Active	390 N	590 E	A	1 23S	32E	8/1/2017	9557	19004	17.5 12.25 8.75	13.375 9.625 5.5	1295 4982 19004	302 1773 3859	0 CIRC 0 CIRC 2000 Calc	9470'-18976'		[17644] DIAMONDTAIL; BONE SPRING
51	30-025-41501	CIMAREX ENERGY CO.	THYME APY FEDERAL	009H	Oil	Active	330 N	2030 E	B	1 23S	32E	10/13/2017	9250	14027	17.5 12.25 8.75	13.375 9.625 5.5	1321 4975 14030	1460 1745 2570	0 CIRC 0 CIRC 0 CIRC	9450-14002		[51683] RED TANK; BONE SPRING
52	30-025-46278	MATADOR PRODUCTION COMPANY	RODNEY ROBINSON FEDERAL	101H	Oil	Active	240 N	827 W	D	6 23S	33E	9/29/2019	9899	20004	17.5 12.25 8.75	13.375 9.625 5.5	1335 8855 19989	1140 1574 3021	0 CIRC 5010 CALC 4056 CALC	9965'-19842'		[96228] PRONGHORN; BONE SPRING
53	30-025-41885	OXY USA INC	RED TANK 31 STATE	005H	Oil	Active	660 N	150 E	A	31 22S	33E	7/9/2014	10750	15423	14.75 10.625 7.875	11.75 8.625 5.5	1215 4930 15423	960 1160 1690	0 CIRC 0 CIRC 3920 CALC	11056'-15276'		[51687] RED TANK; BONE SPRING, EAST
54	30-025-45927	OXY USA INC	AVOGATO 30 31 STATE COM	032H	Oil	Active	240 N	1385 W	C	30 22S	33E	6/30/2019	11948	22127	17.5 9.875 6.75	13.375 7.625 5.5	1052 11162 22105	1340 4050 874	0 CIRC 0 CIRC 8243 CALC	11850'-22031'		[51683] RED TANK; BONE SPRING
55	30-025-45929	OXY USA INC	AVOGATO 30 31 STATE COM	031H	Oil	Active	240 N	1350 W	C	30 22S	33E	7/3/2019	11948	22234	17.5 12.25 8.5 6.75	13.375 9.625 7.625 5.5	1055 6435 11332 22206	1340 1207 627 826	0 CIRC 0 CIRC 6241 CALC 25 CALC	11829'-22011'		[51687] RED TANK; BONE SPRING, EAST
56	30-025-45930	OXY USA INC	AVOGATO 30 31 STATE COM	034H	Oil	Active	240 N	1820 E	B	30 22S	33E	6/20/2019	11886	22147	17.5 12.25	13.375 9.625	1050 6422	1340 1620	0 CIRC 0 CIRC	11886'-22109'		[51687] RED TANK; BONE SPRING, EAST

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	0 CIRC	12386-22283	[96228] PRONGHORN; BONE SPRING
														9.875	7.625	11441	2610	0 CIRC		
														6.75	5.5	22420	1090	0 CIRC		
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
														12.25	9.625	4870	2250	0 CALC		
														8.75	7	12166	1400	2332 CALC		
90	30-025-31267	C W TRAINER	WHITE LIGHTNIN	1 Oil	PA	1980 S	660 E	I	19 22S	33E	6/29/1991	15384	15384	17.5	13.375	804	860	0 CALC	N/A	N/A
														12.25	9.625	4870	2250	0 CALC		
														8.75	7	12166	1400	2332 CALC		
91	30-025-31754	OXY USA INC	RED TANK 28 FEDERAL	3 SWD	Active	330 N	2310 E	B	28 22S	32E	3/14/1993	10153	10107	13.375	8.20	820	1275	0 CIRC	4674-4698;5434-5748	[96100] SWD; DELAWARE
														8.625	4.435	4435	2035	0 CIRC		
														5.5	10153	10153	1675	2580 CBL		
92	30-025-34023	DEVON ENERGY PRODUCTION COMPANY, LP	CHECKERS 24 FEDERAL	7 Oil	PA	760 S	1980 E	O	24 22S	32E	4/9/1998	9066	9066	17.5	13.375	850	525	0 CIRC	N/A	N/A
														11	8.625	4875	1500	0 CIRC		
														7.875	5.5	9066	575	5920 CBL		
93	30-025-46925	OXY USA INC	TACO CAT 27 34 FEDERAL COM	032H Oil	Active	340 N	1880 W	C	27 22S	32E	9/6/2021	11993	22379	17.5	13.375	976	1165	0 Circ	11968-22296	[98286] WC-025 G-08 S223227D; UPPER WOLFCAMP
														9.875	7.625	11147	1550	0 Circ		
														6.75	5.5	22359	930	8700 CBL		
94	30-025-46926	OXY USA INC	TACO CAT 27 34 FEDERAL COM	033H Oil	Active	340 N	1915 W	C	27 22S	32E	9/8/2021	12140	22380	17.5	13.375	975	1140	0 Circ	11968-22298	[98286] WC-025 G-08 S223227D; UPPER WOLFCAMP
														9.875	7.625	11264	2130	0 Circ		
														6.75	5.5	22362	926	10653 CALC		
95	30-025-46949	OXY USA INC	TACO CAT 27 34 FEDERAL COM	024H Oil	Active	535 N	1315 E	A	27 22S	32E	8/28/2021	10718	21199	17.5	13.375	963	1160	0 Circ	10788-21089	[51683] RED TANK;BONE SPRING;
														12.25	9.625	6433	1714	0 Circ		
														8.75	5.5	21179	2848	2918 Est.		
96	30-025-46934	OXY USA INC	TACO CAT 27 34 FEDERAL COM	025H Oil	Active	535 N	1285 E	A	27 22S	32E	8/29/2021	10821	21246	17.5	13.375	970	1165	0 Circ	10835-21136	[51683] RED TANK;BONE SPRING;
														12.25	9.625	6346	1714	0 Circ		
														8.75x8.5	5.5	21226	2724	3798 Est		
97	30-025-46998	OXY USA INC	RED TANK 3 FEDERAL	014H Oil	Active	330 S	508 E	P	4 23S	32E	1/6/2021	12010	16829	17.5	13.375	1006	997	0 Circ	12023-16795	[17644] DIAMONDTAIL; BONE SPRING
														12.25	9.625	4721	1923	0 Circ		
														8.75	7	12233	1184	10672 Calc		
														6	4.5	16829	349	3950 CBL		

Type Log

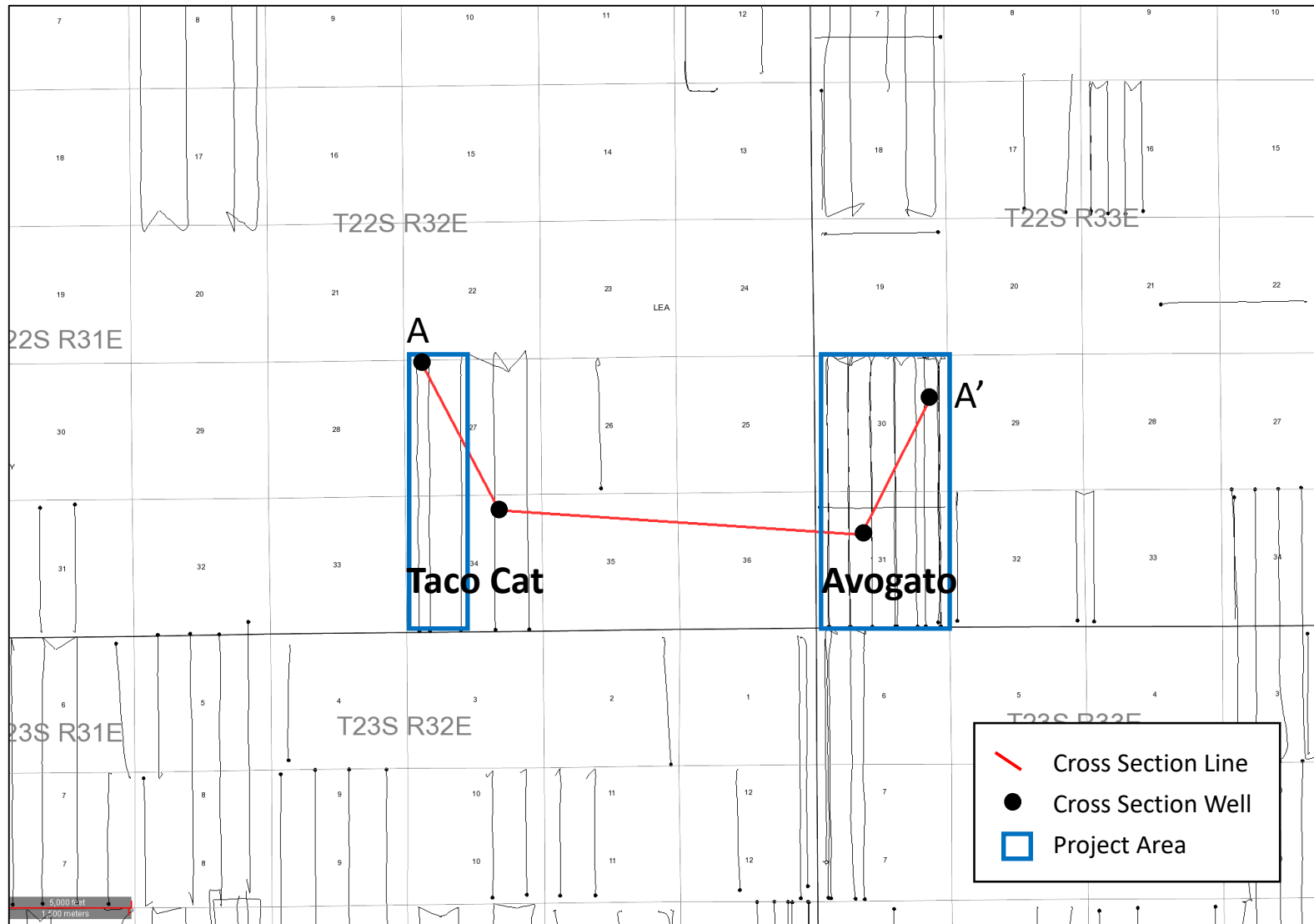
Proposed Storage Zones

- Avalon Shale (Avogato 12H, Avogato 13H)
 - Reservoir comprised of siliceous mudstone reservoir with natural permeability in the nano-darcy range
 - Confining layer: overlain by ~300' of low porosity and permeability limestone and underlain by ~250' of interbedded low porosity and permeability limestone and shale

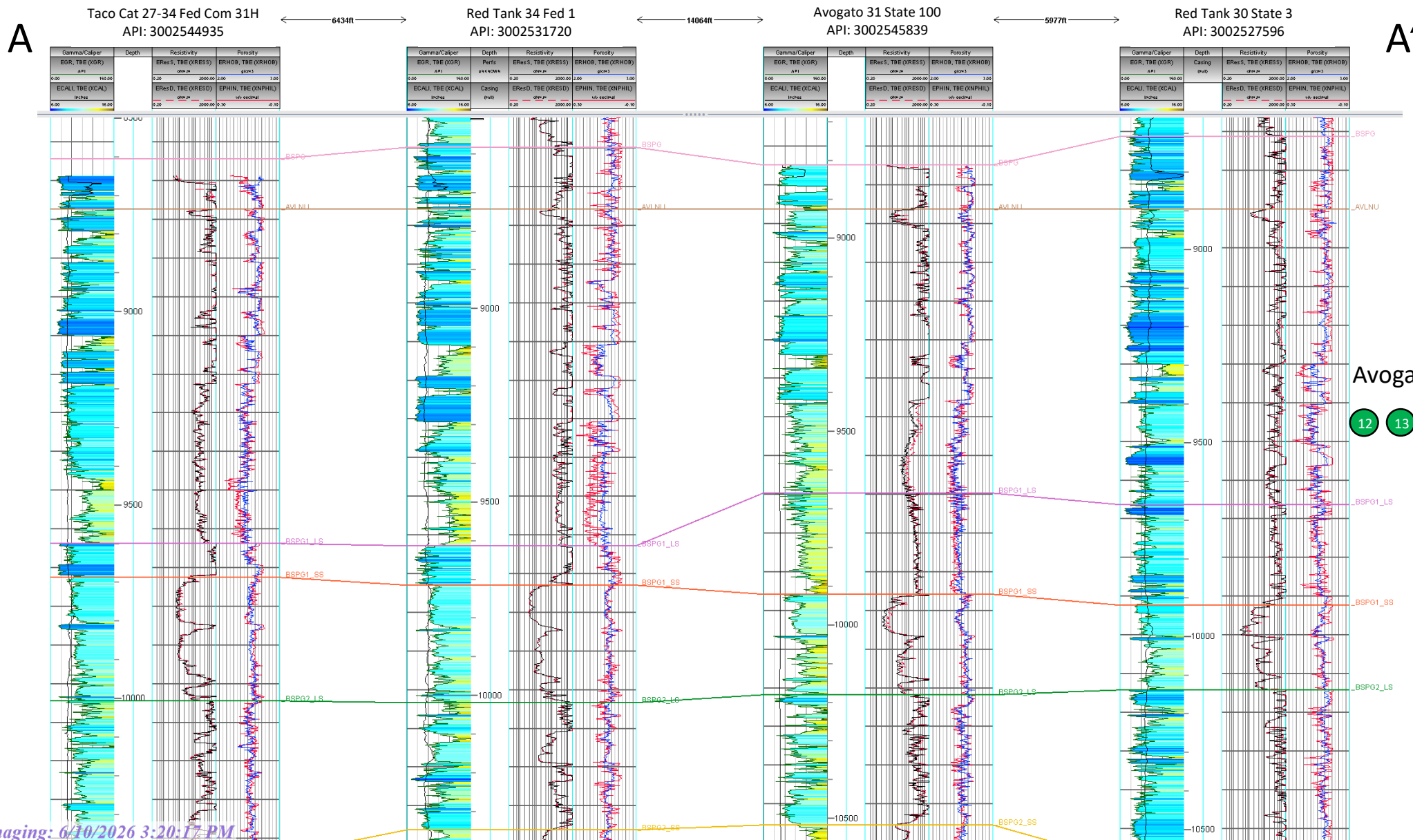


Key
12 Proposed Avogato Injectors

Cross Section Location Map

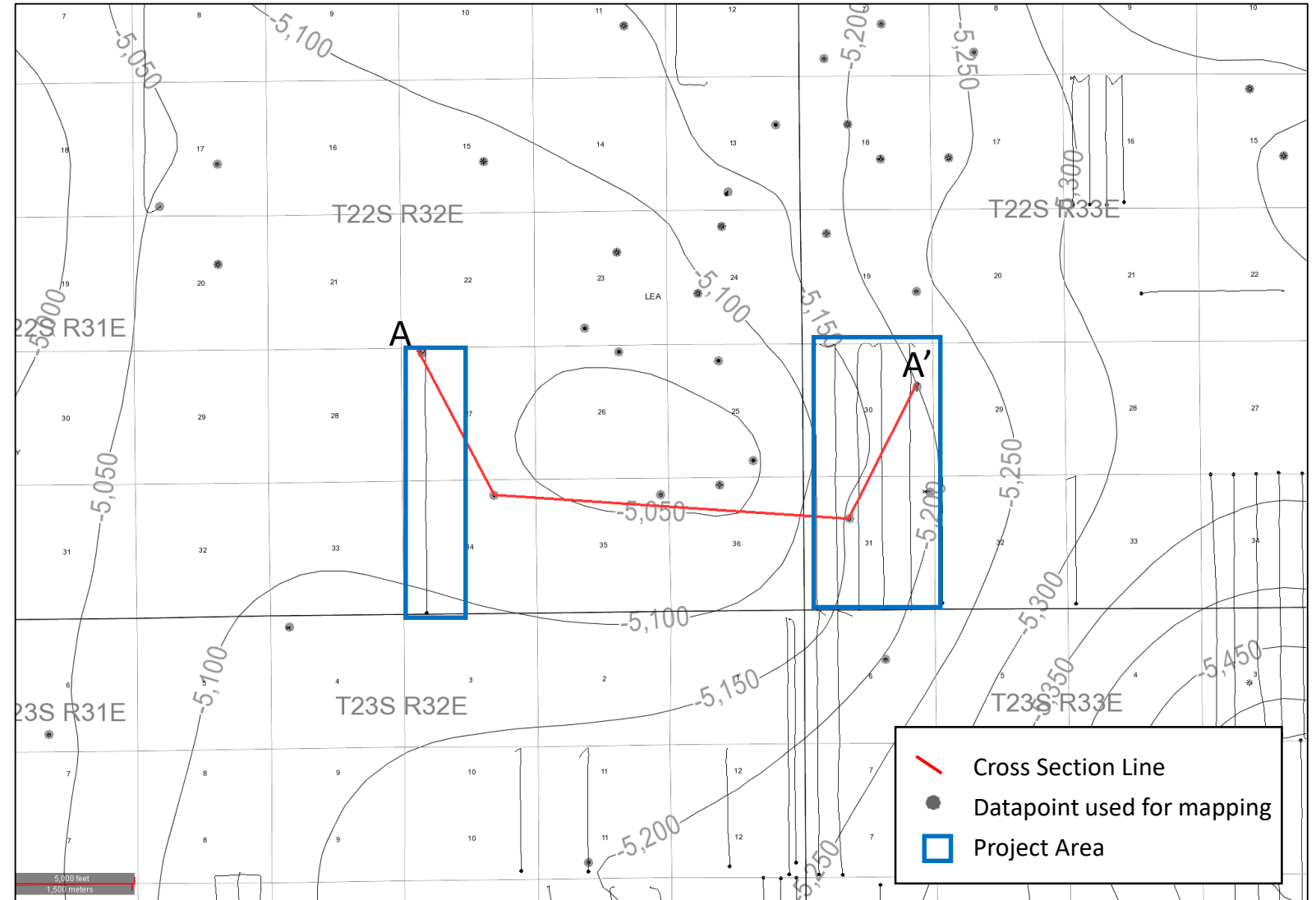


Avalon and First Bone Spring Cross Section



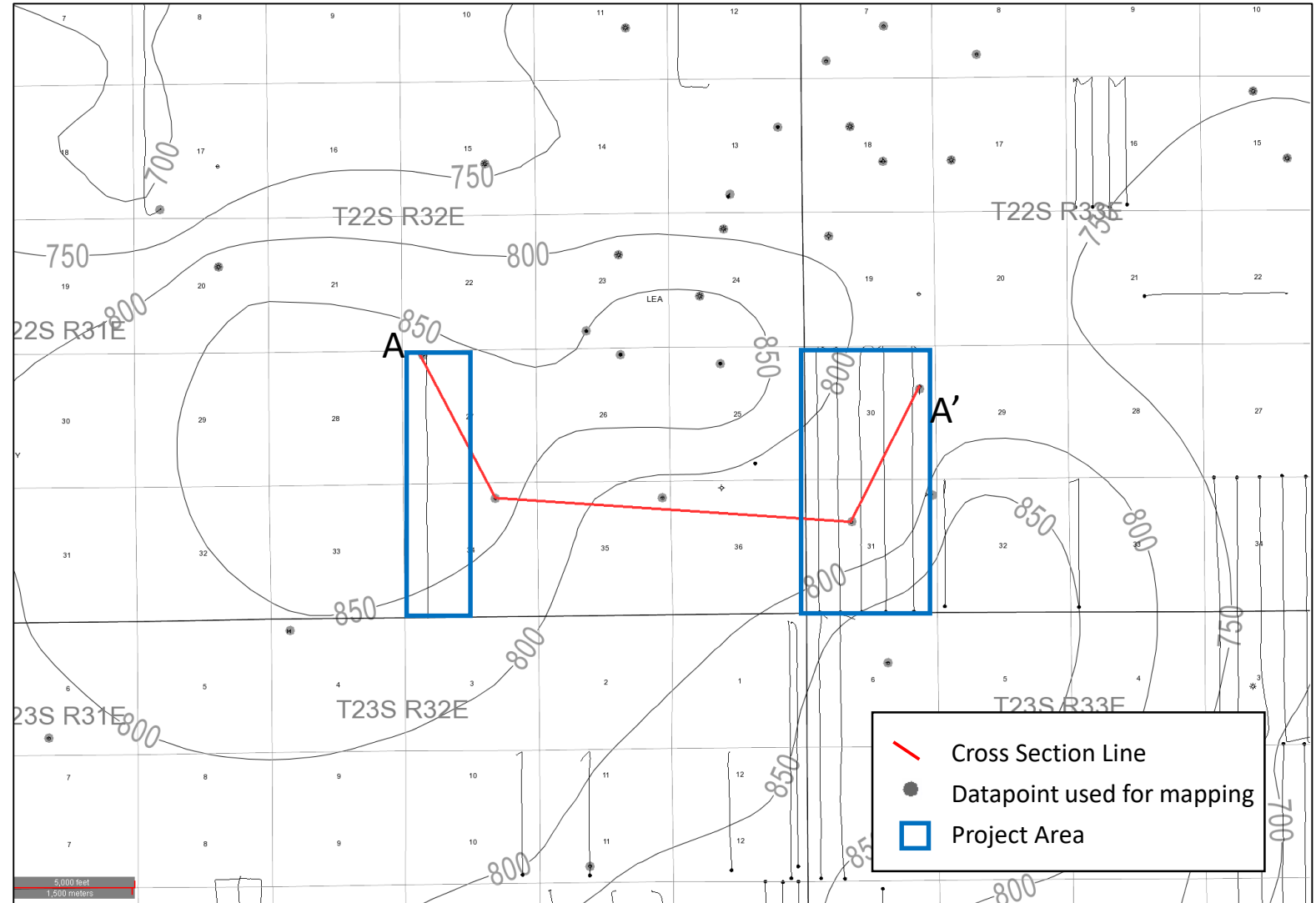
Avalon Structure Map (SSTVD)

Horizontal wells shown are
Avalon Producers



Avalon Isopach

Horizontal wells shown are
Avalon Producers



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

Two wells will be injecting into the Avalon member of the Bone Spring Formation. The wells have an average TVD of approximately 9,475' (Avogato 30-31 State Com 12H and Avogato 30-31 State Com 13H). The wells have lateral lengths of approximately 10,000'. The Avalon Shale is a very fine-grained quartz-rich and brittle siltstone with alternating cycles of carbonate rich mudstones deposited by gravity flows. Well log analysis indicates the Avalon has an average porosity of 6% with nanodarcy permeabilities.

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 approximately 300' of fine-grained siltstones and limestones that have very low permeabilities. Below the Avalon Shale is approximately 250' of low permeability interbedded limestones and siltstones.

Overlying the Bone Spring is the 3,700' thick Delaware Mountain Group, which consists of water and hydrocarbon-bearing low porosity and permeability sands with minor amounts of interbedded limestone and shale. Above the Delaware Mountain Group is the Castile Formation consisting of very low permeability anhydrite, gypsum, and calcite that acts as another ~1,500' thick barrier to upward movement of fluids. The Salado Formation overlies the Castile and consists of ~1,000' of impermeable salt. The top of the Salado is at 1,500' TVD 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'. The Rustler is a continuous anhydrite layer that acts as another low permeability confining layer creating a perched aquifer above it that is the lowest known fresh water in the area. Due to the thickness of multiple impermeable rock layers between the injection interval and the shallow aquifers there is very little possibility of migration of injected fluids into freshwater aquifers.

Locate freshwater wells within two miles:

An investigation of existing shallow water wells has not identified any active freshwater wells within a two-mile radius of the proposed injectors.

Well List:

Avogato 30 31 State Com #012H

Avogato 30 31 State Com #013H

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.



Jared Rountree, Geologist

3/1/2023
Date



Rahul Joshi, Reservoir Engineer

02/17/2023
Date

Reservoir Analysis for Closed Loop Gas Capture Project

Rahul Joshi/Xueying Xie
2023 Updated Analysis



2021 Reservoir Analysis Recap

- Reservoir Simulation Model was built and history-matched with 2017 high pressure (4200 psi) gas EOR pilot project in Cedar Canyon 16-7H.
- For this project, multiple low-pressure (1200-1300 psi) gas storage scenarios were simulated.
- Results
 - Minor increase in gas saturation and reservoir pressure within the fracture network. Gas storage impacts the fracture network no more than 100 ft from the wellbore.
 - Forecast initial injection rate of 3000 MSCFPD for a 10,000 ft lateral at 1200 psi surface injection pressure.
 - Anticipate no impact on oil or gas production of gas storage well. This is due to small volumes and low pressure of gas storage events.
 - Anticipate no impact on oil or gas production of offset wells.



2023 Reservoir Analysis Updates

- Previous model results are still applicable due to similar project scope.
 - Theoretical vs. actual gas storage injection rates confirmed accuracy of model.
 - Increase in the MASP from 1200 psi to 1300 psi results in increased injection rate but does not impact the reservoir model results on reservoir gas saturation or reservoir pressure profile.
- Oil production rates before and after a gas storage event are similar.
- Gas storage capacity and SRV values are included for new candidate wells.
- Actual injection volumes are a lot less than the gas storage capacity of the fracture network.
- For the longest storage event of 5 days, storage gas from each well was recovered after 1-3 months.

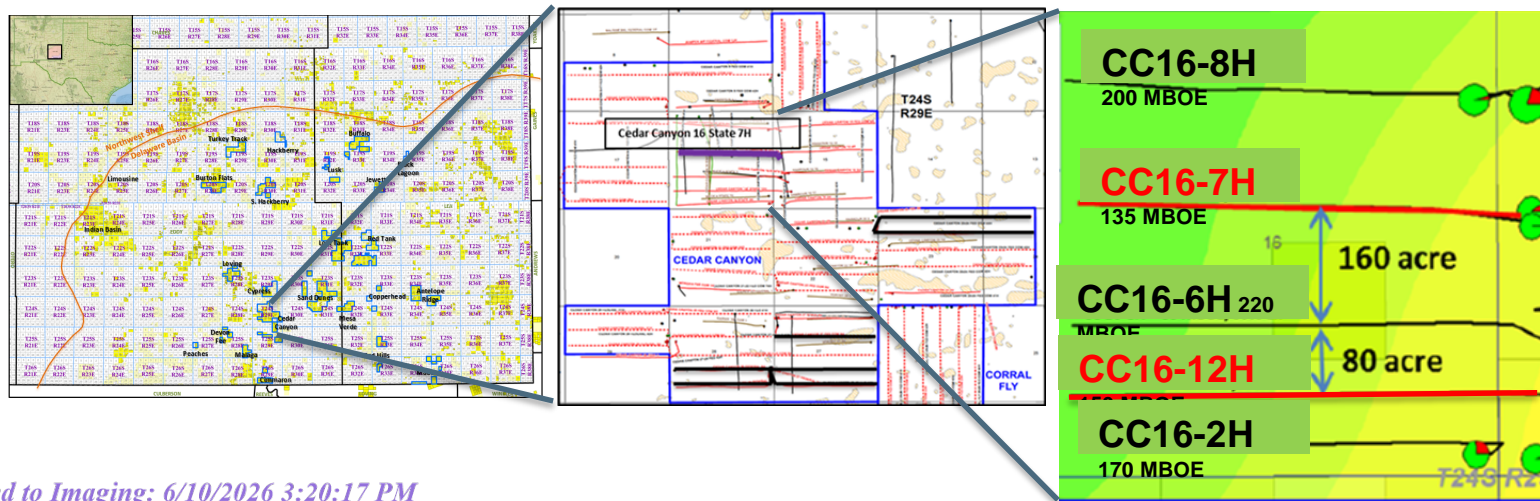


Project Overview – Avogato, Taco Cat & Red Tank

- Closed loop gas capture project (CLGC) IN Oxy's NM assets
- Produced gas injection into productive formation in NM (Avalon, 1BS, 2BS, Harkey)
- Gas injection into horizontal wells of 10,000 ft lateral length
- Purpose of Modeling
 - > Review potential effects on wells adjacent to the CLGC area
 - > Quantify movement of the injected gas
 - > Utilize data from Cedar Canyon Huff and Puff Projects

Model Set up

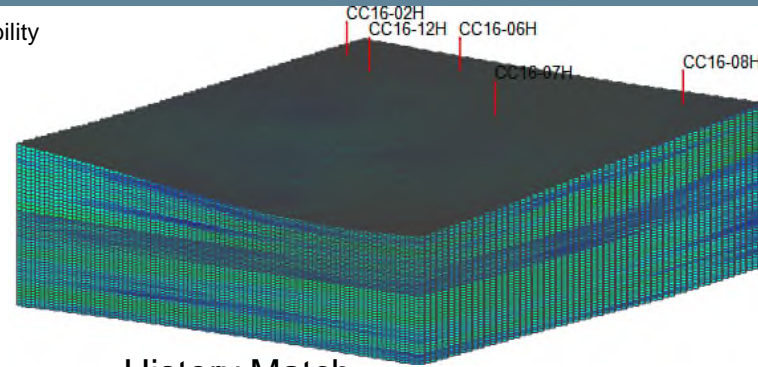
- Uses Cedar Canyon Sec 16 2nd BSS (as shown in layout below)
- Gas Injection pilot (EOR) was implemented in CC16-7H well in 2017
- Reservoir model is history matched for primary production and gas injection pilot
- Model is also tuned to capture injection gas breakthrough in offset wells that was observed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



Cedar Canyon Section-16 Reservoir Model

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

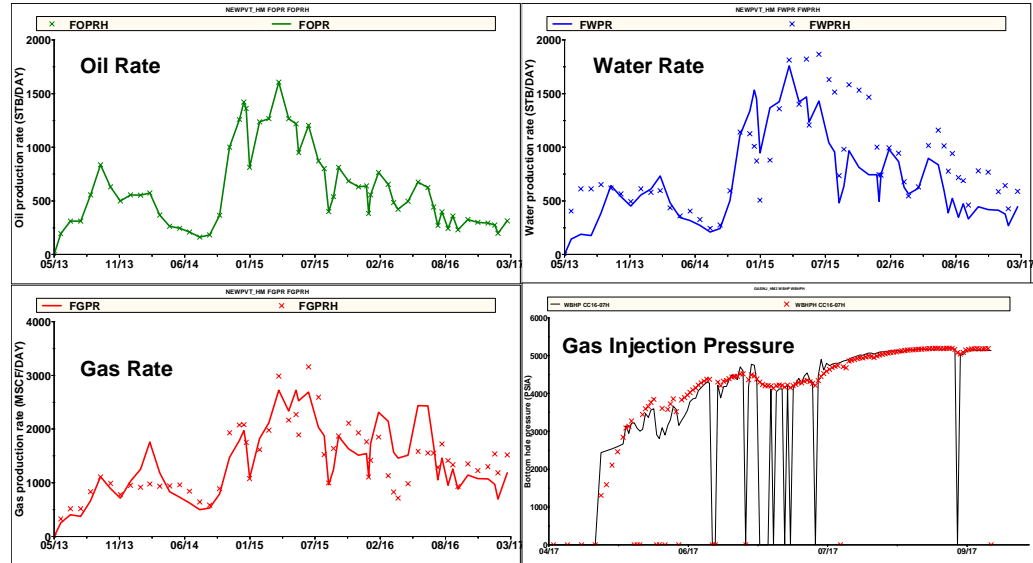
Structure & Permeability
 1,177,400 Grids
 56 Layers



History Match

Gross Pay:	320 ft
Net Pay:	320 ft
Avg Porosity:	6.8%
Initial Sw:	50%
Permeability:	0.0003md (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

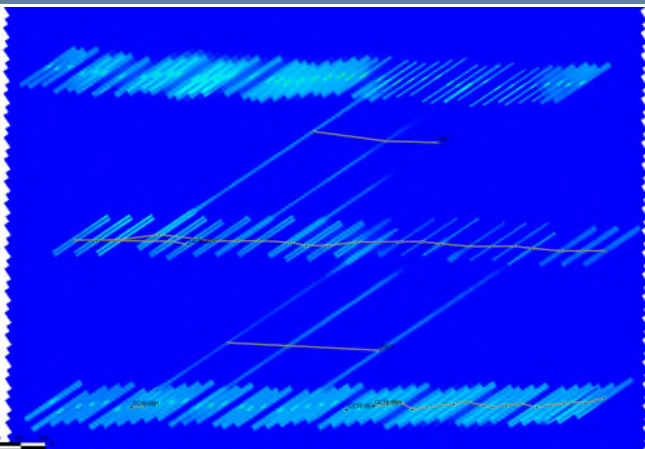
Model Inputs



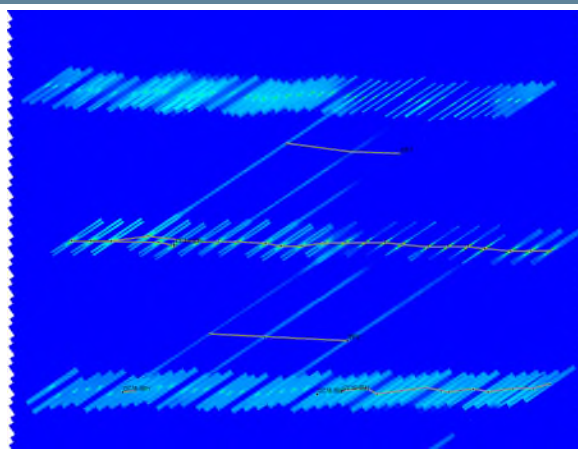
Gas Storage Simulation Process

- 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

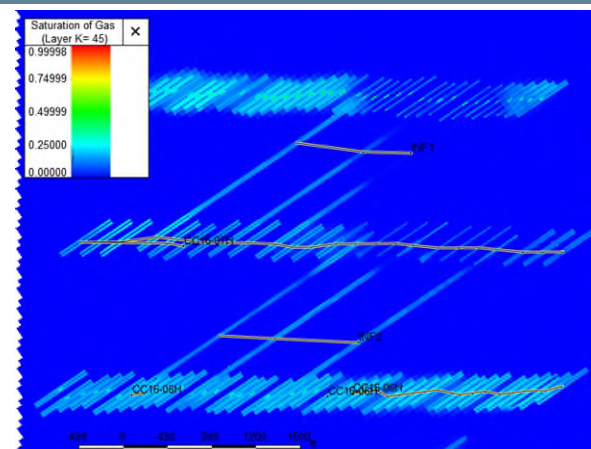
Gas Injection Profile (1 week Injection)



Before injection

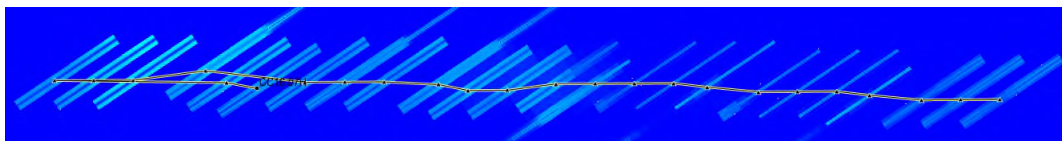


After 1 week of injection (3 MMSCFPD)

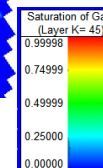
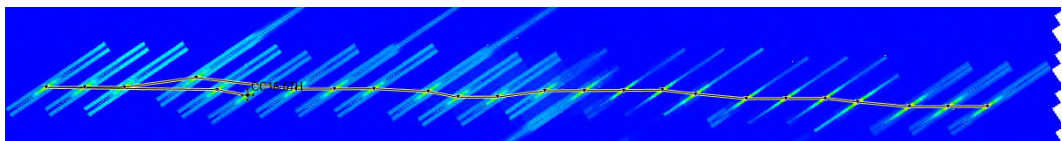


After 16 months production

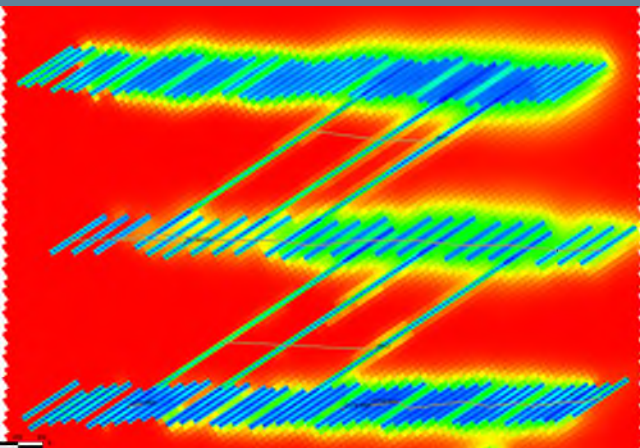
Before Injection CC16-7H
Blow-up



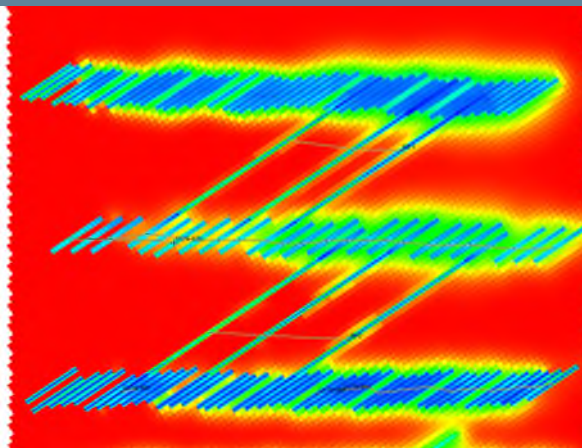
After Injection CC16-7H
Blow-up



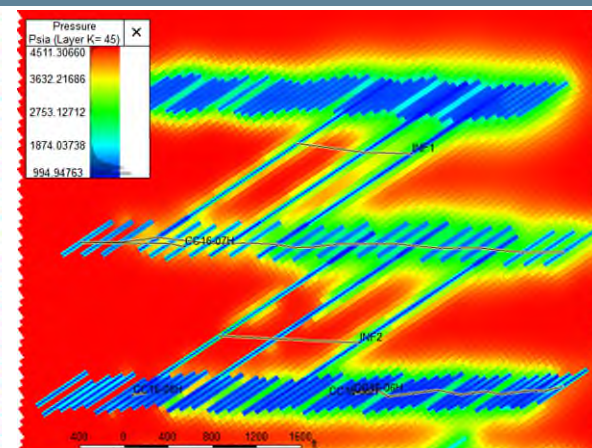
Pressure Profile (1 week injection)



Before injection

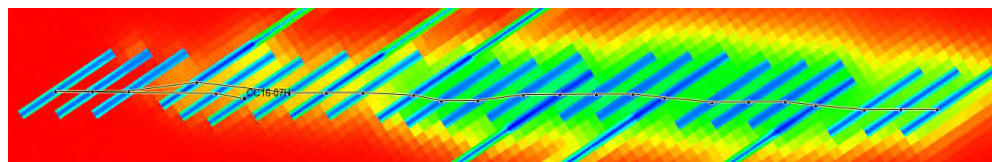


After 1 week of injection (3 MMSCFPD)

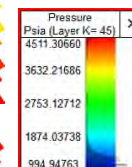
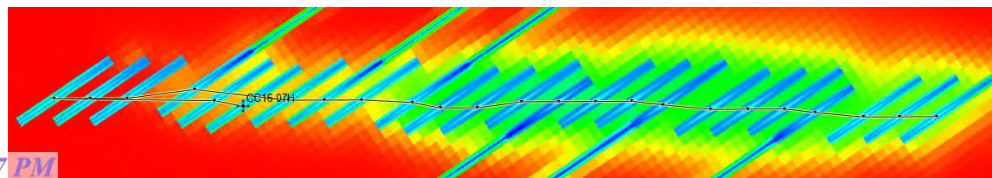


After 16 months production

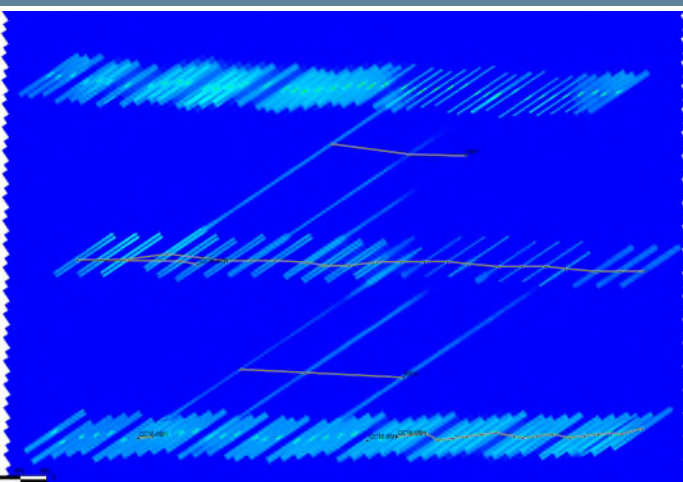
Before Injection CC16-7H Blow-up



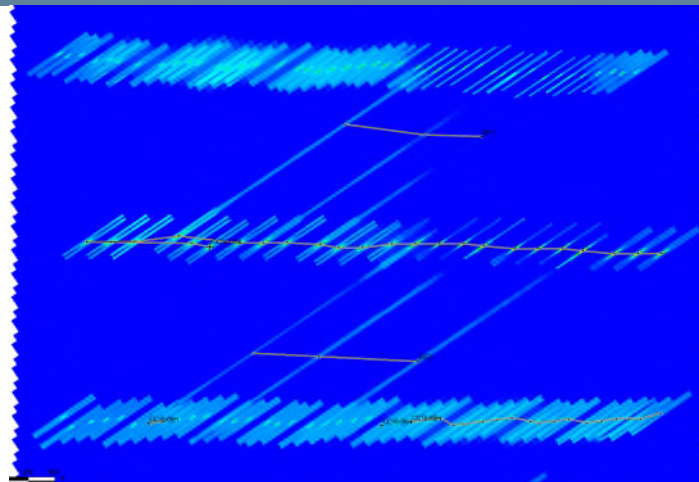
After Injection CC16-7H Blow-up



Gas Injection Profile (3 weeks Injection)

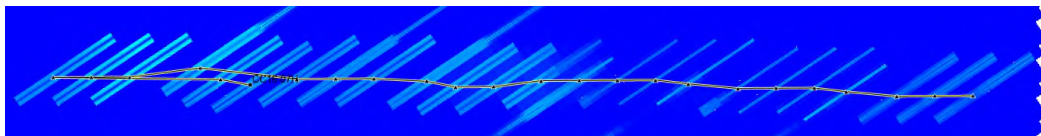


Before injection

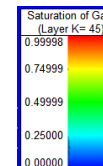
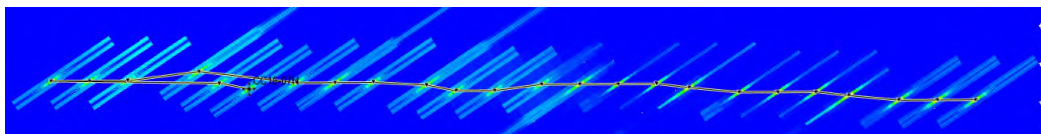


After 3 weeks of injection (@ 1200 psi THP)

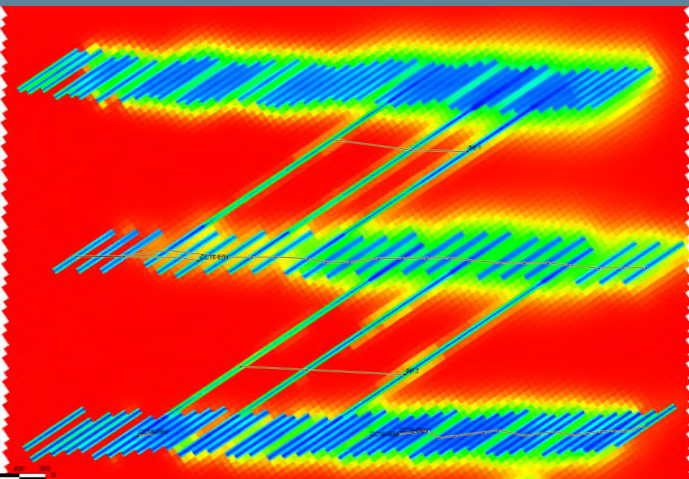
Before Injection CC16-7H
Blow-up



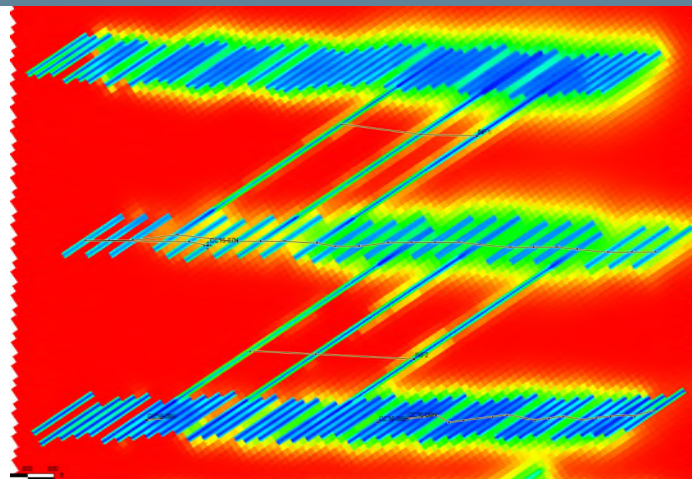
After Injection CC16-7H
Blow-up



Pressure Profile (3 weeks Injection)

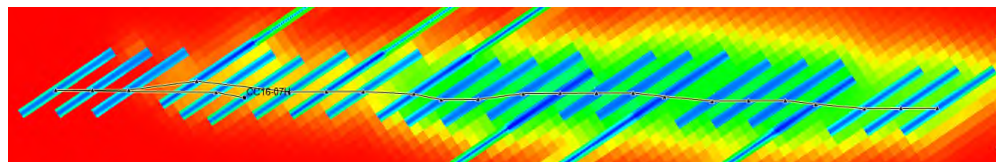


Before injection

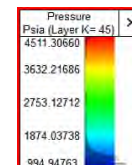
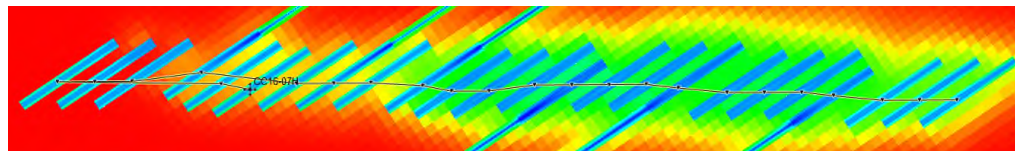


After 3 weeks of injection (@ 1200 psi THP)

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



Stimulated Rock Volume (SRV)

API	Well Name	Avg Xf (ft)	Avg H (ft)	Well Length (ft)	SRV, ft3
3002545957	AVOGATO 30 31 STATE COM #012H	350	423	10000	2,961,000,000
3002545958	AVOGATO 30 31 STATE COM #013H	350	340	10000	2,380,000,000

Gas storage capacity is high for each well

- $SRV : 2 * Xf * Xh * WellLength$



Closed Loop Gas Capture (CLGC) Project

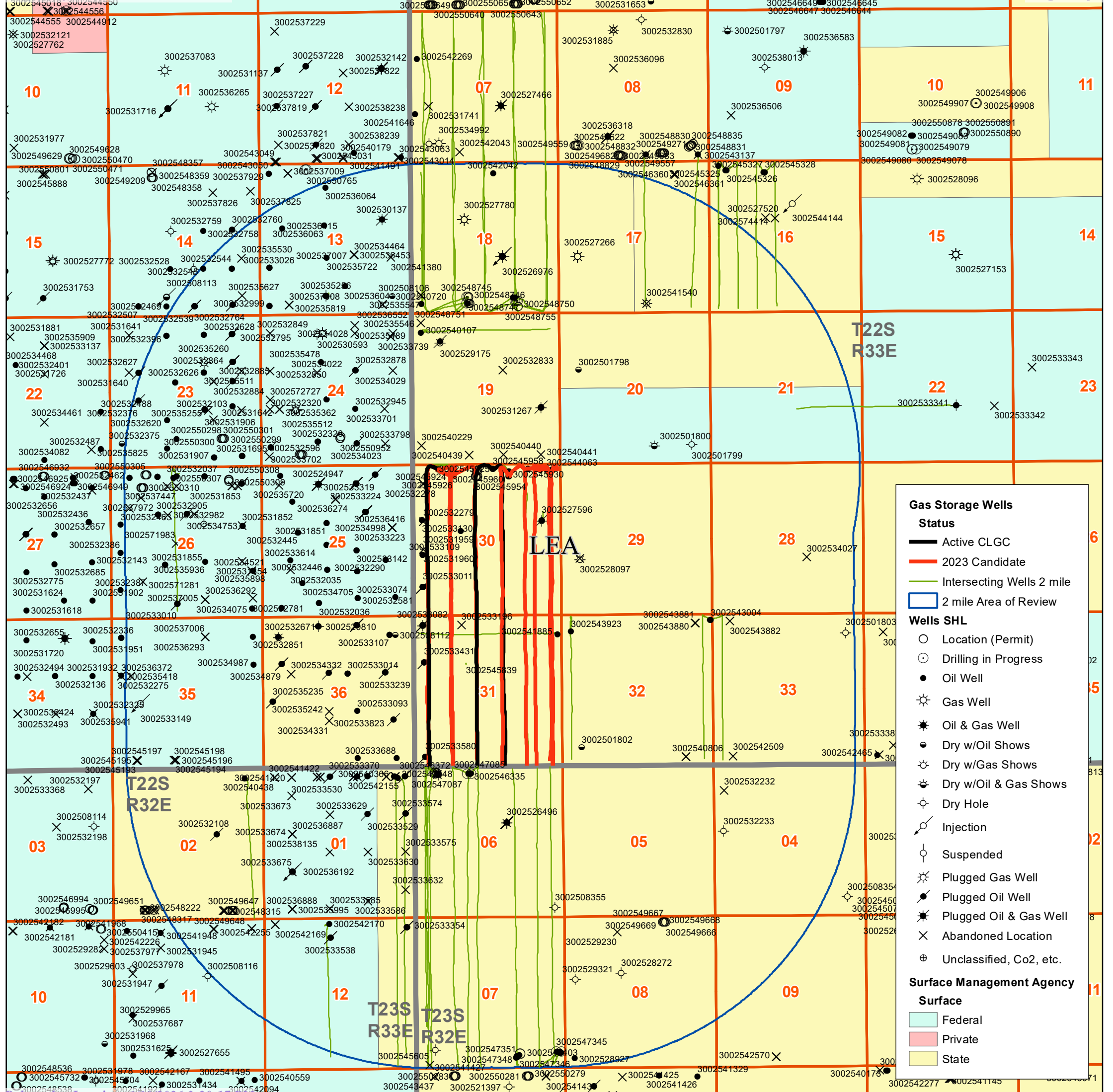
Affirmative Statement 2

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.



Rahul Joshi, Reservoir Engineer

02/17/2023_____
Date



Gas Storage Wells Status

- Active CLGC
- 2023 Candidate
- Intersecting Wells 2 mile
- 2 mile Area of Review

Wells SHL

- Location (Permit)
- Drilling in Progress
- Oil Well
- Gas Well
- Oil & Gas Well
- Dry w/Oil Shows
- Dry w/Gas Shows
- Dry w/Oil & Gas Shows
- Dry Hole
- Injection
- Suspended
- Plugged Gas Well
- Plugged Oil Well
- Plugged Oil & Gas Well
- Abandoned Location
- Unclassified, Co2, etc.

Surface Management Agency Surface

- Federal
- Private
- State

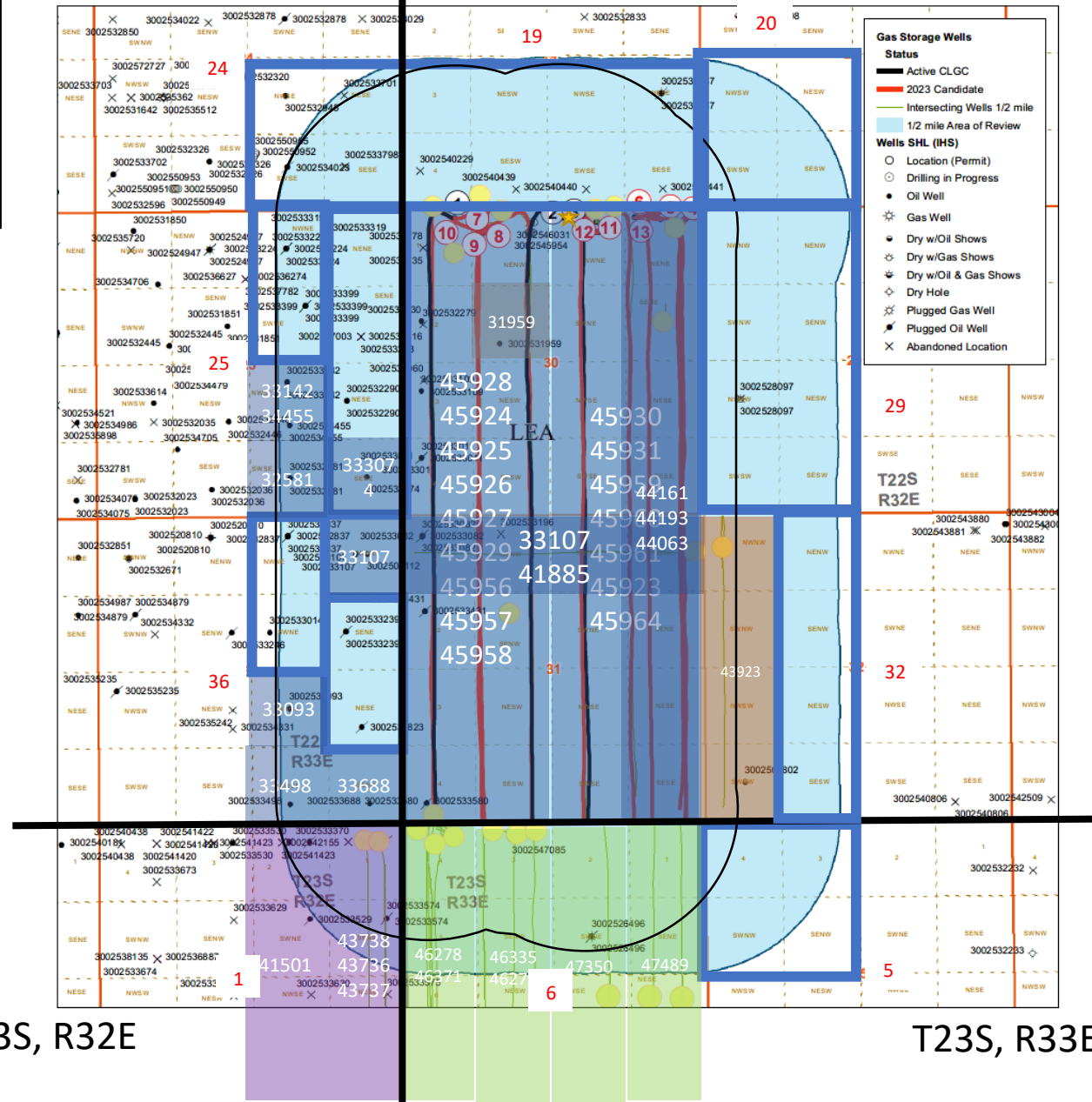
Avogato Area

Bone Spring HSU Map 2/13/23

- AOR is expanded to the east by 1/4 mile.

T22S, R32E

T22S, R33E



T23S, R32E

T23S, R33E

Key

- EOG
- Cimarex
- Matador
- Oxy
- Wagner Oil Co
- Determined Lessee or unleased MIO
- SHL
- Wellbore Trajectory
- 1/2 Mile AOR, 2021
- 1/2 Mile AOR, 2023

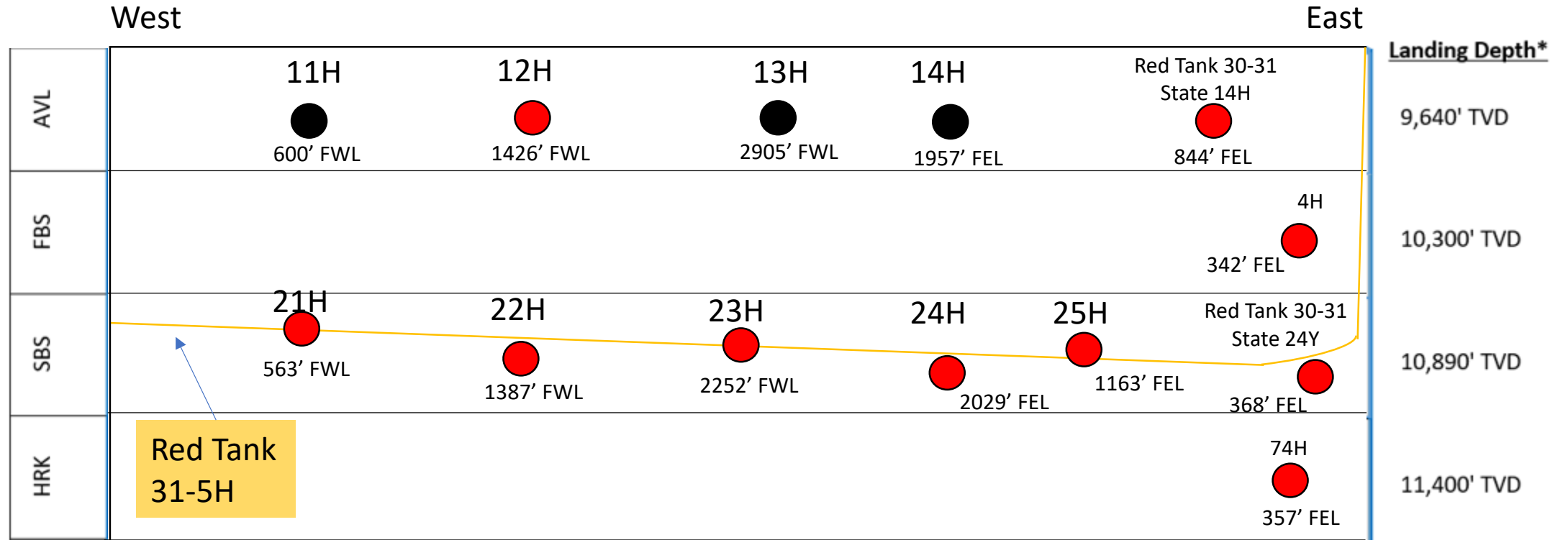
Red Tank Notice List 2023

Party	Address
Agencies and Surface Owners	
Bureau of Land Mangment	301 Dinosaur Trail Santa Fe, NM 87508
State Land Office	P.O. Box 1148 Santa Fe, NM 87504
Offset Operators	
Marathon Oil Permian LLC	5555 San Felipe St. Houston ,TX 77056
Cimarex Energy Company of Colorado	600 N. Marienfield St., Suite 600 Midland, TX 79701-4405
MATADOR PRODUCTION COMPANY	One Lincoln Centre 5400 LBJ Freeway, Ste 1500 Dallas, TX 75240
EOG Resources Inc.	P.O. Box 840321 Dallas, TX 75284
WAGNER OIL CO.	500 Commerce St, Ste 600 Forth Worth, TX 76102
Other Affected Persons and Parties	
2019 PERMIAN BASIN JV	P O BOX 10 FOLSOM, LA 70437
A.J. Losee	Box 1720 Artesia, NM 88211
ACCELERATE RESOURCES OPERATING LLC	7950 LEGACY DRIVE SUITE 500 PLANO, TX 75024
Advance Energy Partners Hat Mesa LLC	11490 Westheimer Rd, Ste 950 Houston, TX 77077-6841
Anne Ransome-Losee	3505 Calle Cuervo #218 Albuquerque, NM 87048
Arthur Dow	324 Yucca Dr. NW Albuquerque, NM 87105
Black Mountain Operating LLC	500 Main St, Ste 1200 Fort Worth, TX 76102-3926
Bradley S. Bates	2400 N. Pecos St. Midland, TX 79705
Buckeye Energy Inc.	P.O. Box 3788 Midland, TX 79702-3788
Bullhead Energy LLC	P.O. BOX 3445 Midland, TX 79702-3445
Burlington Resources Oil & Gas Co LP	P.O. Box 51810 Midland, TX 79710-1810
C. W. Trainer	P.O. Box 3788 Midland, TX 79702-3788

CAL MON OIL COMPANY	200 N LORAIN ST STE 1404 MIDLAND, TX 79701
CAMPECHE PETRO LP	500 COMMERCE ST STE 600 FORT WORTH, TX 76102
CARDINAL PLASTICS INC	PO BOX 935 ODESSA, TX 79760-0935
Carmine Scarcelli	2111 Wellington Ct. Midland, TX 79705
Carrie A. Haydel	149 14th St. New Orleans, LA 70124
Chevron USA Inc.	1400 Smith St. Houston, TX 77002
CONRAD E COFFIELD	500 RODEO ROAD #202 SANTA FE, NM 87505
Devon Energy Production Company LP	333 W. Sheridan Ave Oklahoma City, OK 73102-5010
Diance C. Prince	816 Connectcut Ave NW Washington, DC 20006
Elizabeth Losee	328 Sierra Pl. Albuquerque, NM 87108
Frederick Prince IV	816 Connectcut Ave NW Washington, DC 20006
Highpoint Operating Corp.	216 16th St., Ste 1100 Denver, CO 80202-5115
Jesus Salazar Family LP	2400 Rose NW Albuquerque, NM 87104
John Blackburn	P.O. Box 340535 Austin, TX 78734
JUDITH K MARTIN	#25 LAKES DRIVE MIDLAND, TX 79705
KASTMAN OIL COMPANY	P O BOX 5930 LUBBOCK, TX 79408-5930
Kent H. Berger	203 W. Wall St. #612 Midland, TX 79701
Lewis O. Campell	8111 Lamp Post Cir SE Albuquerque, NM 87123
Losee Investments	P.O. Box 1720 Artesia, NM 88211
Lynn S. Charulk	2401 Stutz Pl. Midland, TX 79705
Mackenroth Interests LLC	3601 N. I-40 Service Rd. West Martairie, LA 70002
MCM Permian LLC	P.O. Box 1540 Midland, TX 79702-1540
Mcnic O&G Properties	1360 Post Oak Blvd Houston, TX 77056

MRC Permian Co.	5400 LBJ Fwy, Ste 1500 Dallas, TX 75240-1017
PBEX Resources	223 W. Wall St., Ste 900 Midland, TX 79701-4567
Penwell Energy Inc.	600 N. Marienfield St., Suite 1100 Midland, TX 79701
Pioneer Exploration Ltd.	15603 Kuyhendahal #219 Houston, TX 77090-3655
PXP Producing LLC	717 Texas St, Ste #2100 Houston, TX 77002-2753
Robert M. Dow Revocable Trust	5136 Lomas De Artista Rd NW Albuquerque, NM 87105
SDS PROPERTIES INC	P O BOX 246 ROSWELL, NM 88202-0010
Sealy Hutchings Cavin Inc.	504 N Wyoming Ave Roswell, NM 88201-2169
SILVERSTONE RESOURCES INC	106 ROW THREE LAFAYETTE, LA 70508
South Highway 14 Bus Co	324 Yucca Dr. NW Albuquerque, NM 87105
Southwest Royalties Inc	6 Desta Dr., Ste 3700 Midland, TX 79705-5516
Strata Production Co	P.O Box 1030 Roswell, NM 88292-1030
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
TOCOR INVESTMENTS INC	P O BOX 293 MIDLAND, TX 79702
Trainer Partners LTD	P.O. Box 3788 Midland, TX 79702-3788
Warwick-Artemis LLC	6608 N. Western Ave Oklahoma City, OK 73116-7326
XTO Energy Inc.	22777 Springwoods Village Pkwy Spring, TX 77389-1425
XTO HOLDINGS LLC	PO BOX 840780 DALLAS, TX 75284-0780

Gunbarrel View: Avogato 30-31 and Red Tank 30-31



- Approved CLGC Well
- 2023 CLGC Candidate
- Offset Well