BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING OCTOBER 22, 2021

CASE NO. 22183

JUNO UNIT

EDDY COUNTY, NEW MEXICO

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

APPLICATION OF OXY USA, INC. FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT, EDDY COUNTY, NEW MEXICO.

CASE NO. 20193
ORDER NO. R-21356

ORDER OF THE DIVISION

This case came in for hearing before the Oil Conservation Division ("OCD") at 8:15 a.m. on January 11, 2019, in Santa Fe, New Mexico.

The OCD Director, having considered the testimony, the record, the recommendations of Hearing Examiner Phillip R. Goetze, these findings of fact, and conclusions of law issues this Order.

FINDINGS OF FACT

(1) Due notice has been given, and the OCD has jurisdiction of the subject matter of this case.

(2) By this application, OXY USA, Inc. ("Applicant" or "OXY") seeks approval of a pressure maintenance project in the 2nd Bone Spring formation, Pierce Crossing; Bone Spring, East pool (Pool code 96473), within the following 480 acres, more or less, within Eddy County, New Mexico:

Township 24 South, Range 29 East, NMPM
N/2 Section 23 and NW/4 of Section 24

(3) Applicant proposes to inject produced gas, produced water and produced CO2 into the existing Cedar Canyon 23 Federal 4H well to benefit the Cedar Canyon 23 Federal 3H and the Cedar Canyon 23 Federal 5H at a true vertical depth interval from approximately 8850 feet to approximately 9050 feet below the surface, through the following horizontal well:

Cedar Canyon 23 Federal No. 4H (API No. 30-015-43281) with a surface location of 1415 feet from the North line and 155 feet from the East line (Unit letter H) of Section 22, Township 24 South, Range 29 East, NMPM, and a terminus of 1393 feet from the North line and 2439 feet from the West line (Unit letter F) of Section 24, Township 24 South, Range 29 East, NMPM.

(4) EOG Resources appeared through counsel at the hearing but did not oppose the application. No other party appeared at the hearing or otherwise opposed the application.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

(5) Applicant appeared through counsel and presented engineering testimony and exhibits to the effect that:

(a) In this area of Eddy County, the 2nd Bone Spring sand is a productive interval within the Bone Spring formation and is well delineated and characterized.

(b) The Cedar Canyon 23 Federal No. 4H (the "proposed injection well") is a horizontal well in the Bone Spring formation that was producing from the 2nd Bone Spring sand.

(c) Applicant has designed a pressure maintenance project limited to Sections N/2 Section 23 and NW/4 of Section 24 utilizing the proposed injection well to benefit these two existing horizontal oil wells, the Cedar Canyon 23 Federal No. 3H (API No. 30-015-43290), and the Cedar Canyon 23 Federal No. 5H (API No. 30-015-43282).

(d) Applicant will utilize produced water for injection as a component of pressure maintenance in conjunction with the produced gas injection to mitigate early offset breakthrough at low injection pressures.

(e) Applicant will utilize the proposed injection well with existing perforations and well construction. Applicant additionally stated that the proposed injection well will not be stimulated prior to the beginning of the pilot project.

(f) Applicant provided analyses of the produced water and produced gas along with testimony demonstrating compatibility with well components and the reservoir conditions.

(g) Applicant has proposed maximum surface injection pressures for each injection fluid: 1770 pounds per square inch (psi) for produced water, 4350 psi for produced gas and 2300 psi for carbon dioxide. Applicant submitted pressure analyses in support of the proposed maximum surface injection pressures.

(h) Applicant has proposed the placement of the packers below the kick-off point but significantly above the first perforations located in the horizontal portion of the production casing. Applicant requested an exception for the 100-foot packer setting depth requirement applied to vertical injection wells.

(i) Applicant has requested that unlined tubing be allowed for use in the injection operation of produced gas and CO2 and lined tubing when injecting water. Applicant stated that the unlined tubing would be preferable due to the increased use of wireline equipment in the proposed injection well, and the lack of significantly corrosive fluids being used for injection.

(j) Applicant established a modified area of review (AOR) using the horizontal segment of each well (as defined by the surface location, the first take point, and the terminus) as the center line for the one-half mile radius, the AOR being defined as the area within one-

half mile of any point on the horizontal well lateral. Not only did they look at the injection interval they analyzed any part of the wellbore penetrating the Bone Spring formation. All wells in the two AORs, both producing and the plugged well, are properly cemented.

(k) Applicant found no fresh water wells within one mile of the proposed injection wells. The database of the New Mexico Office of the State Engineer identified two wells within one mile of the proposed injection wells, but both wells are shallow disposal wells associated with the Interstate Stream Commission's River Desalination Project.

(l) Applicant has provided proper notice to affected persons including the surface land owner. Applicant has also published notice of the pilot project in Carlsbad Current-Argus, a newspaper with general circulation in the county where the project is located.

CONCLUSIONS OF LAW

(6) All of the wells (active and plugged) in the one-half mile modified AOR surrounding the proposed injection well appear to be adequately cased and cemented, so that none will become a conduit for the escape of injected fluid or gas from the permitted injection formation. Accordingly, there is no requirement for remedial work on any wells within the modified AOR for each of the injection wells.

(7) Applicant should be authorized to inject fluids at a surface injection pressure not to exceed 1770 pounds per square inch (psi) for produced water, 4350 psi for produced gas and 2300 psi for carbon dioxide. Applicant may apply to the OCD for a higher injection pressure upon satisfactorily demonstrating that an increase in injection pressure will not result in fracturing of the injection formation or confining strata.

(8) The proposed project will, in reasonable probability, result in production of substantially more hydrocarbons from the project area that would otherwise be produced therefrom, will prevent waste, and will not impair correlative rights.

(9) Accordingly, the application should be approved.

ORDER

(1) OXY USA, Inc. ("OXY" or "operator") is hereby authorized to inject produced water and produced gas into the Bone Spring formation [Pierce Crossing; Bone Spring, East pool (Pool code: 96473)], at a true vertical depth interval from approximately 8850 feet to approximately 9002 feet below the surface, through one of its horizontal wells located within the Cedar Canyon Federal 23 Lease.

(2) This project is hereby designated the Cedar Canyon Pressure Maintenance Pilot Project and shall consist of the Bone Spring formation underlying the following lands in Eddy County, New Mexico:

Township 24 South, Range 29 East, NMPM
N/2 Section 23 and NW/4 of Section 24

(3) OXY USA, Inc. (OGRID 16696) is designated operator of the project.

(4) The existing horizontal well (the "injection well") is approved for injection:

(a) Cedar Canyon 23 Federal No. 4H (API No. 30-015-43281) with a surface location of 1415 feet from the North line and 155 feet from the East line (Unit letter H) of Section 22, Township 24 South, Range 29 East, NMPM, and a terminus of 1393 feet from the North line and 2439 feet from the West line (Unit letter F) of Section 24, Township 24 South, Range 29 East, NMPM.

(5) The operator shall take all steps necessary to ensure that the injected fluid enters only the injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(6) The injection wells shall use the existing construction with injection occurring through perforations currently in place.

(7) Water from outside the operator's Cedar Canyon Treating Facility shall not be injected into these wells. The operator shall utilize its Cedar Canyon Central Delivery Point for the source of the produced gas to be used in the injection phases of the pilot project.

(8) Injection shall be accomplished through tubing installed in a packer set in the production casing so as to provide a proper seal while being as close as practical to the uppermost injection perforations. The limit for the upper placement of the packer in the production casing shall be no greater than 100 feet above the true vertical depth of the kick-off point for the individual well.

(9) The injection wells shall be initially equipped with a pressure control device or acceptable substitute that will limit the maximum surface injection pressure to no more than 1770 pounds per square inch (psi) for produced water, 4350 psi for produced gas and 2300 psi for carbon dioxide.

(10) The casing-tubing annulus shall be filled with an inert fluid, and a gauge or approved leak-detection device shall be attached to the annulus in order to detect leakage in the casing, tubing or packer.

(11) The injection wells shall pass a mechanical integrity test prior to initial commencement of injection and prior to resumption of injection each time the packer is

unseated. All testing procedures and schedules shall conform to the requirements of Rule 19.15.26.11(A) NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths.

(12) The injection wells shall be monitored with a SCADA system and the operator shall ensure that additional sensor systems for each injection well, as proposed in the C-108 application, are installed and monitored.

(13) The Division Director shall have the authority to administratively authorize an increase in injection pressure upon a showing by the operator that such higher pressure will not result in fracturing of the injection formation or confining strata. The operator shall give at least 72 hours advance notice to the supervisor of the OCD's District II office of the date and time (i) injection equipment will be installed, and (ii) the mechanical integrity pressure test will be conducted, so these operations may be witnessed.

(14) The operator shall provide written notice of the date of commencement of injection into each of the wells to the OCD's South District office.

(15) The operator shall immediately notify the supervisor of the OCD's District II office of the failure of the tubing, casing or packer in either injection well, or the leakage of water, oil, gas or other fluid from or around any producing or abandoned well within one-half mile of either injection well, and shall take all steps as may be timely and necessary to correct such failure or leakage.

(16) The Project shall be governed by OCD Rules 19.15.26.8 through 19.15.26.15 NMAC. The operator shall submit monthly reports of the injection operations on OCD Form C-115, in accordance with Rules 19.15.26.13 and 19.15.7.28 NMAC.

(17) The injection authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations; provided, however, the OCD, upon written request by the operator filed prior to the expiration of the two-year time period, may grant an extension for good cause.

(18) The operator shall provide written notice to the OCD upon permanent cessation of injection into the Project.

(19) This Order does not relieve the operator of responsibility should its operations cause any actual damage or threat of damage to protectable fresh water, human health or the environment; nor does it relieve the operator of responsibility for complying with applicable OCD rules or other state, federal or local laws or regulations.

(20) Upon failure of the operator to conduct operations (1) in such manner as will protect fresh water or (2) in a manner consistent with the requirements in this Order, the OCD may, after notice and hearing (or without notice and hearing in event of an emergency, subject to the provisions of NMSA 1978 Section 70-2-23), terminate the injection authority granted herein.

(21) Jurisdiction of this case is retained for the entry of such further orders as the OCD may deem necessary.

DONE at Santa Fe, New Mexico, on this 4th day of June, 2020.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

ADRIENNE SANDOVAL
DIRECTOR

Juno Unit

Exhibits

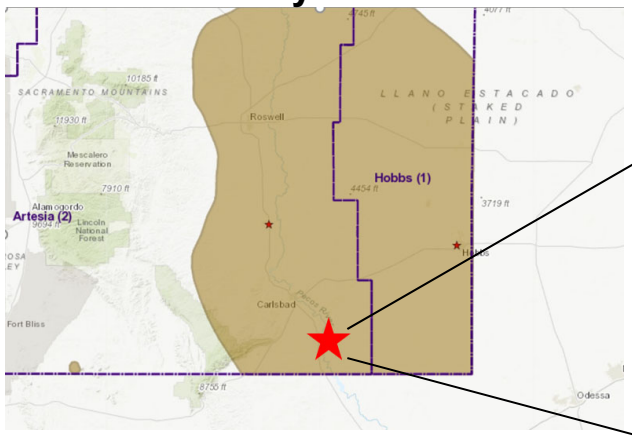
10/22/2021

Occidental

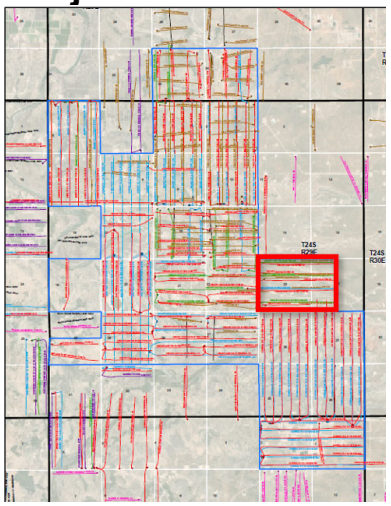
BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 2
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

Injection Project Area Overview

Cedar Canyon Location



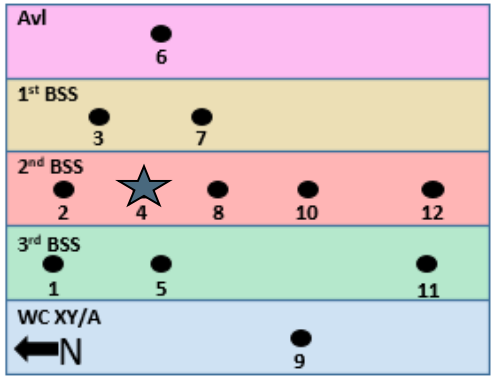
Project Area Location



- Oxy is proposing a project to inject produced field gas into 12 wells in Section 23 and W/2 of Section 24 for Enhanced Oil Recovery(EOR). This project will include unitization of the project area for EOR.
- The EOR method will be Huff-n-Puff (HnP) using hydrocarbon gas. This consists of period of injection followed by production for each well.
- Centralized compression facilities and high-pressure injection pipelines will be installed.
- Consists of 12 injection wells in Section 23 and W/2 of Section 24. CC 23 Fed 4H (R-21356) has an existing injection order.
- Includes injection into Bone Spring and Upper Wolfcamp reservoirs.

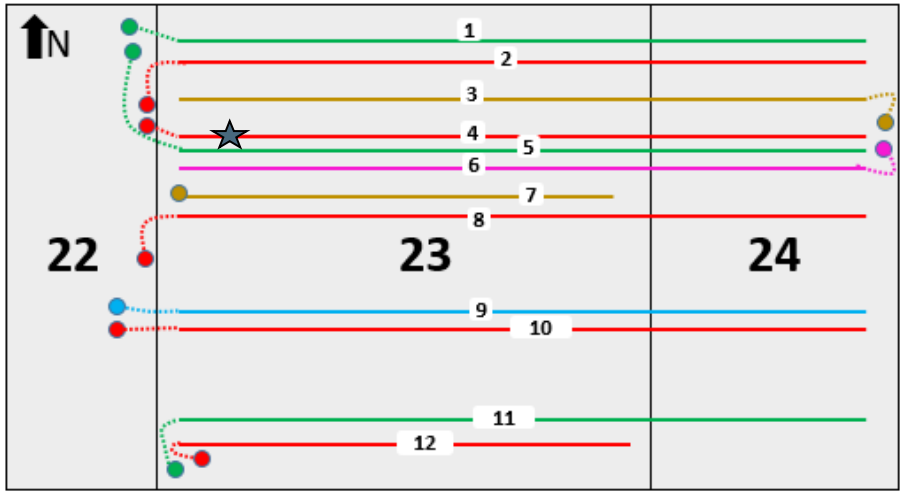
Project Area and Unit wells

Gun Barrel View of Unit



Bench Thickness not to scale

Bird's Eye View of Unit



ID	Well Name	ID	Well Name
1	Cedar Canyon 23-24 Fed 31H	7	Cedar Canyon 23 1H
2	Cedar Canyon 23 Fed 5H	8	Cedar Canyon 23 Fed 3H
3	Guacamole 24-23 Fed 11H	9	Cedar Canyon 23 Fed Com 33H
4	★Cedar Canyon 23 Fed 4H	10	Cedar Canyon 23 Fed Com 6H
5	Cedar Canyon 23-24 Fed 32H	11	Cedar Canyon 23-24 Fed Com 34H
6	Guacamole 24-23 Fed 12H	12	Cedar Canyon 23 2H

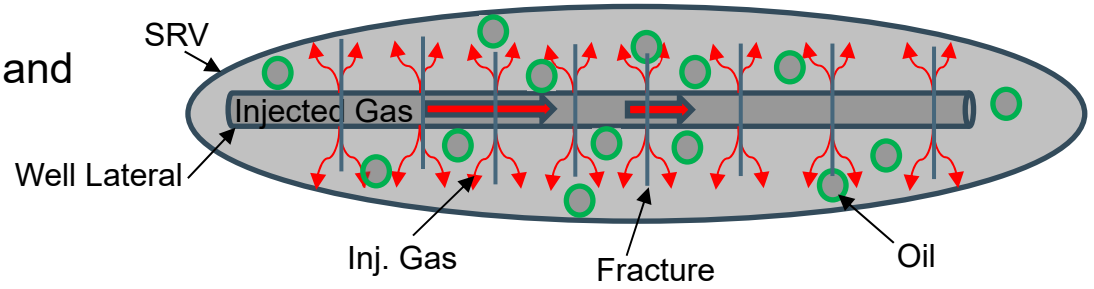
Legend

Symbol	Bench
Surface Loc.	Avalon
Uncompleted Wellbore	1st Bone Spring
Completed Wellbore	2nd Bone Spring
23 Section	3rd Bone Spring
[5] Unit well ID	Wolfcamp XY/A

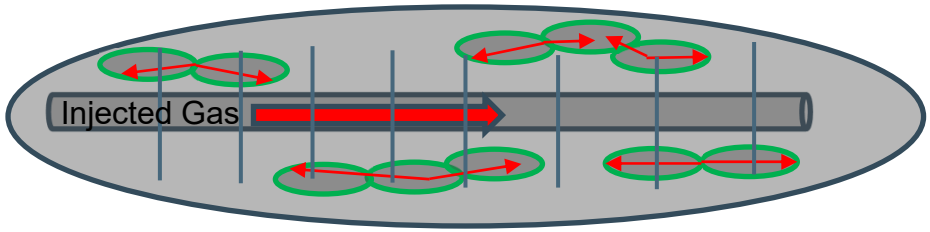
★ Approved injection order

Huff-n-Puff Mechanism for Horizontal wells

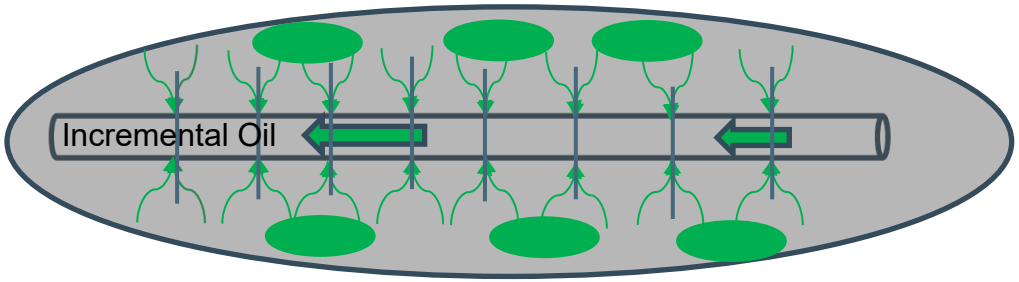
Step 1 : Injected gas enters fractures and pressurizes SRV (Stimulated Rock Volume).



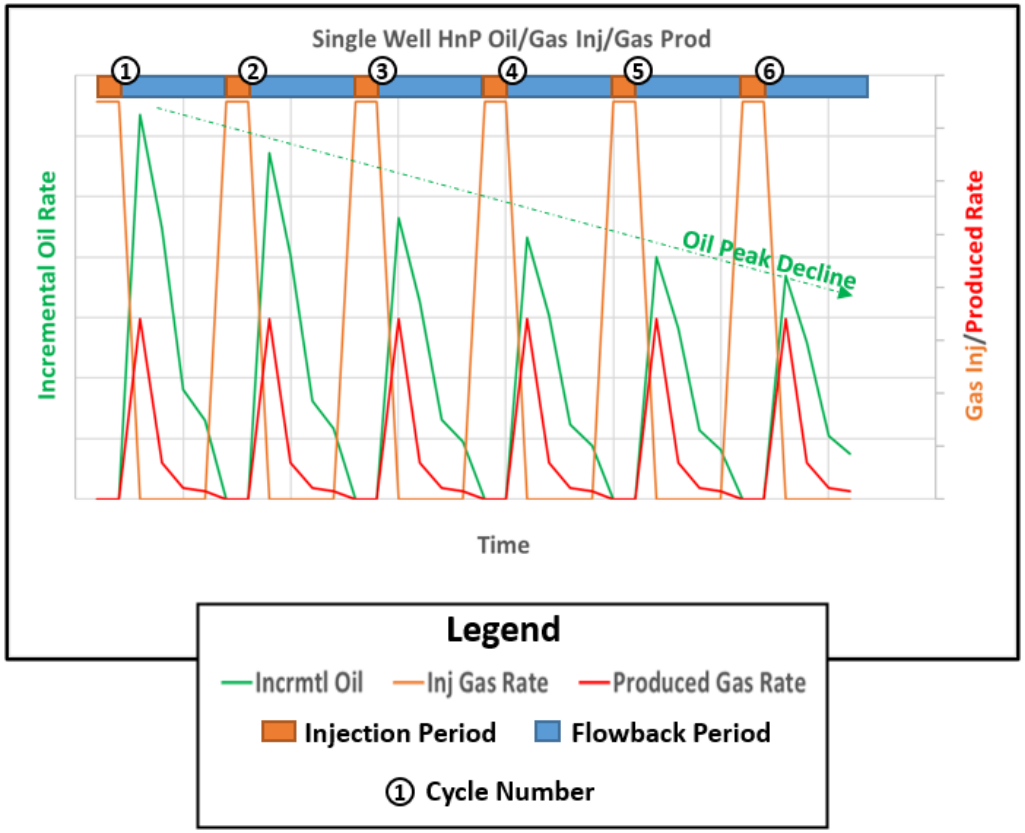
Step 2 : High Pressure creates miscibility and swells oil.



Step 3 : Mobilized Oil is produced in production cycle.



Huff-n-Puff Cycling Plan

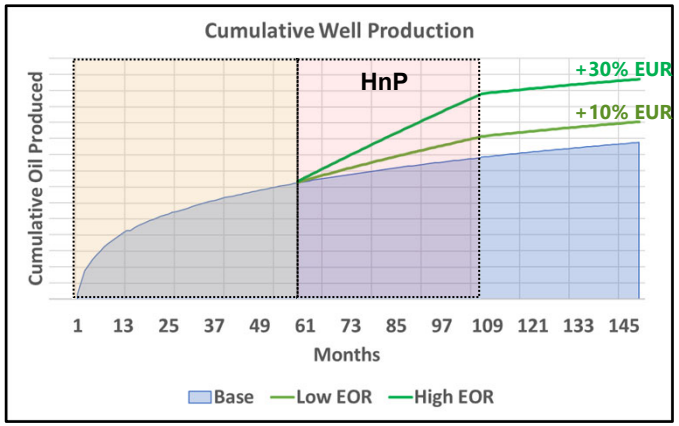


Preliminary Plan:

- Inject Gas into well for injection period (~few weeks to multiple months).
- Flowback well for period of time (~few weeks to multiple months).
- Targeting 6 cycles/well, but can add based on results.
- Simultaneous well injection
- Including water injection as option for conformance.
- CO2 included as injectant for longer term potential.

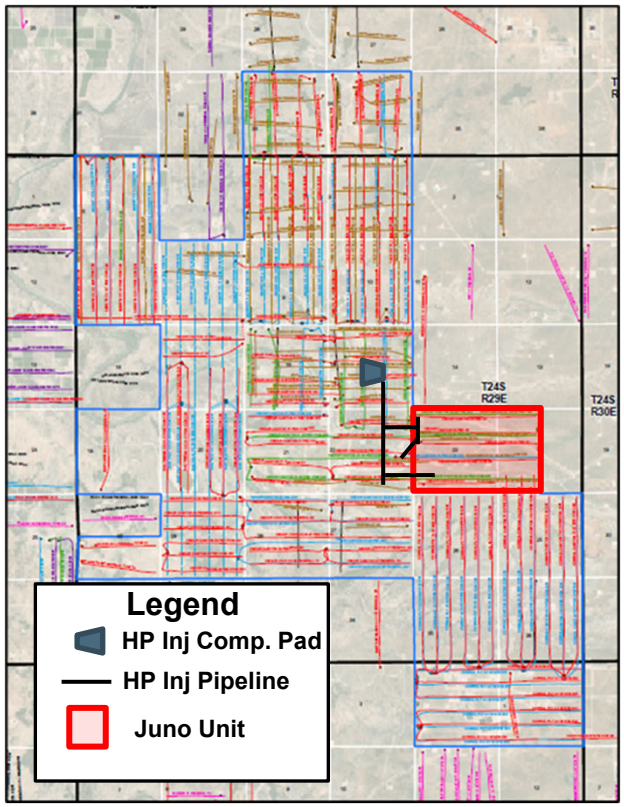
Huff-n-Puff Uplift Potential

- Primary production recovery factor is estimated to be 2-10% of OOIP(Original Oil in Place)
- Estimated Ultimate Recovery(EUR) can be improved by 10%-30+% using miscible hydrocarbon(HC) gas
- Miscible gas HnP has been demonstrated to increase production in unconventional wells in Midland Basin Texas
- Miscible HC Gas injection has potential in all target benches



- Gas HnP is estimated to last 3 – 5 years of well's life
- Post-HnP well will continue to produce
- HnP not expected to impact well's remaining producing life

Oxy Huff-n-Puff Project Overview

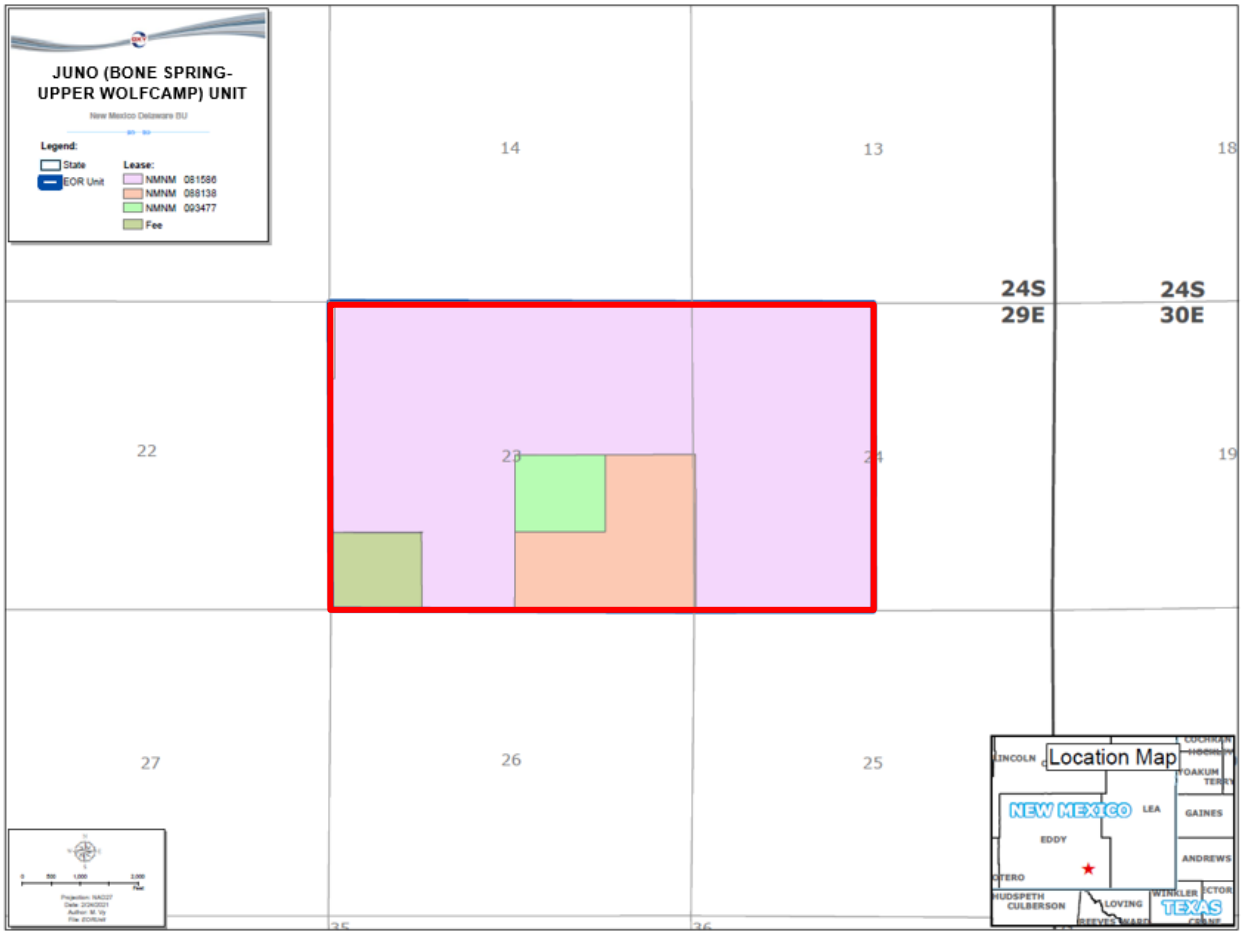


- Oxy will be committing $10MM+ to Phase 1(Juno Unit) of this project
- Three High Pressure Injection compressors will be installed at Compressor pad
- High pressure trunkline run to Juno Unit
- Engineering, Procurement, and Construction of project may potentially push over a year, so asking for 2 years from approval to injection start

Tract Participation Factor

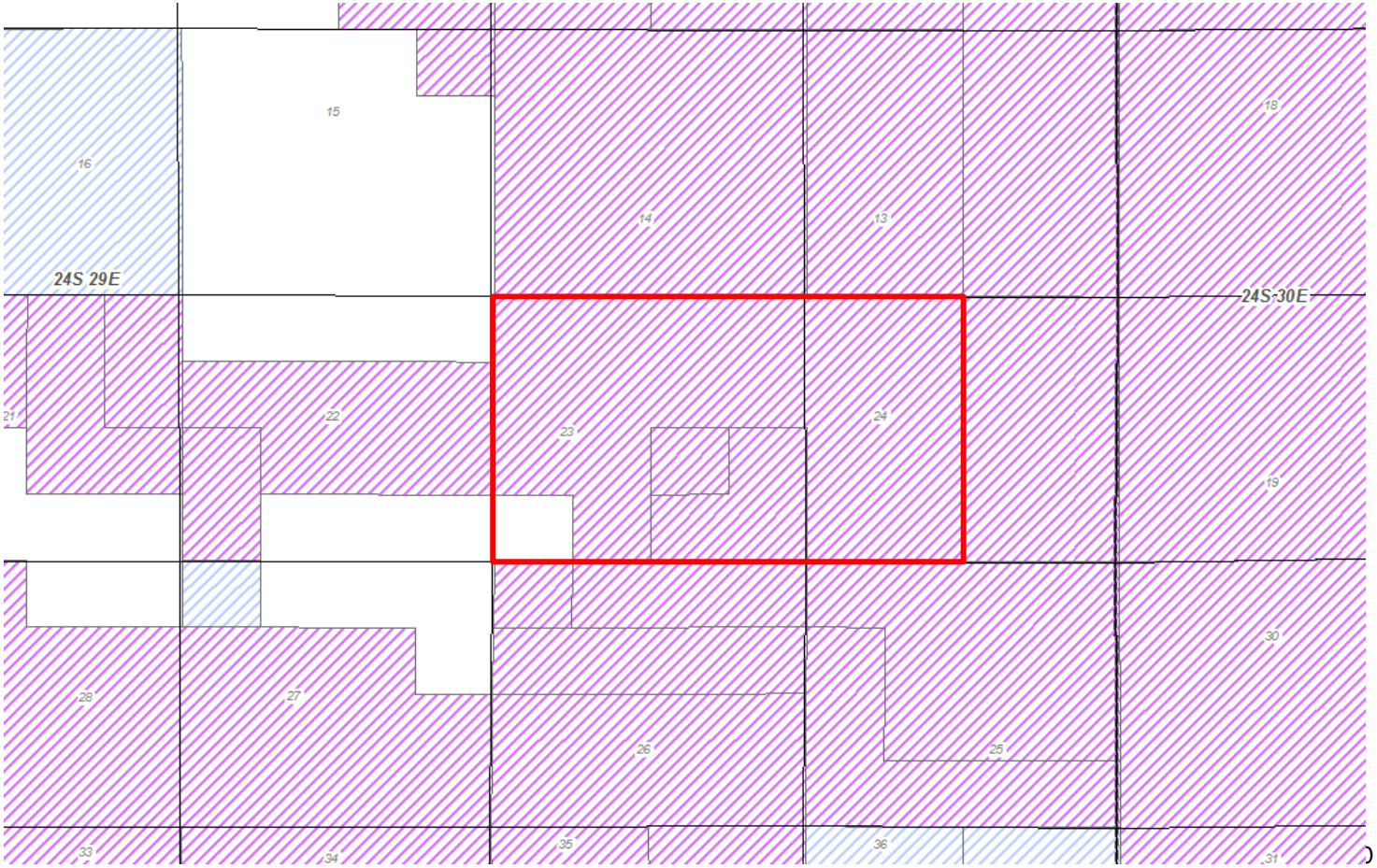
- **BLM and Oxy collaborated on Tract Factor participation factor formula**
  - **BLM + Oxy represent 92+% ownership in unit**
- Tract Participation factor is allocated based on Estimated Ultimate Recovery (EUR) for each well
- EOR uplift is proportional to primary well total production (EUR)
  - More primary production = More EOR production
- EUR = Cumulative Produced Oil (Historical) + Remaining Oil Reserves (Forecasted)
  - All Unit wells have been online for an average of 4.5 years, so enough historical data for decline curve analysis has been established

Unit Outline and Lease Composition



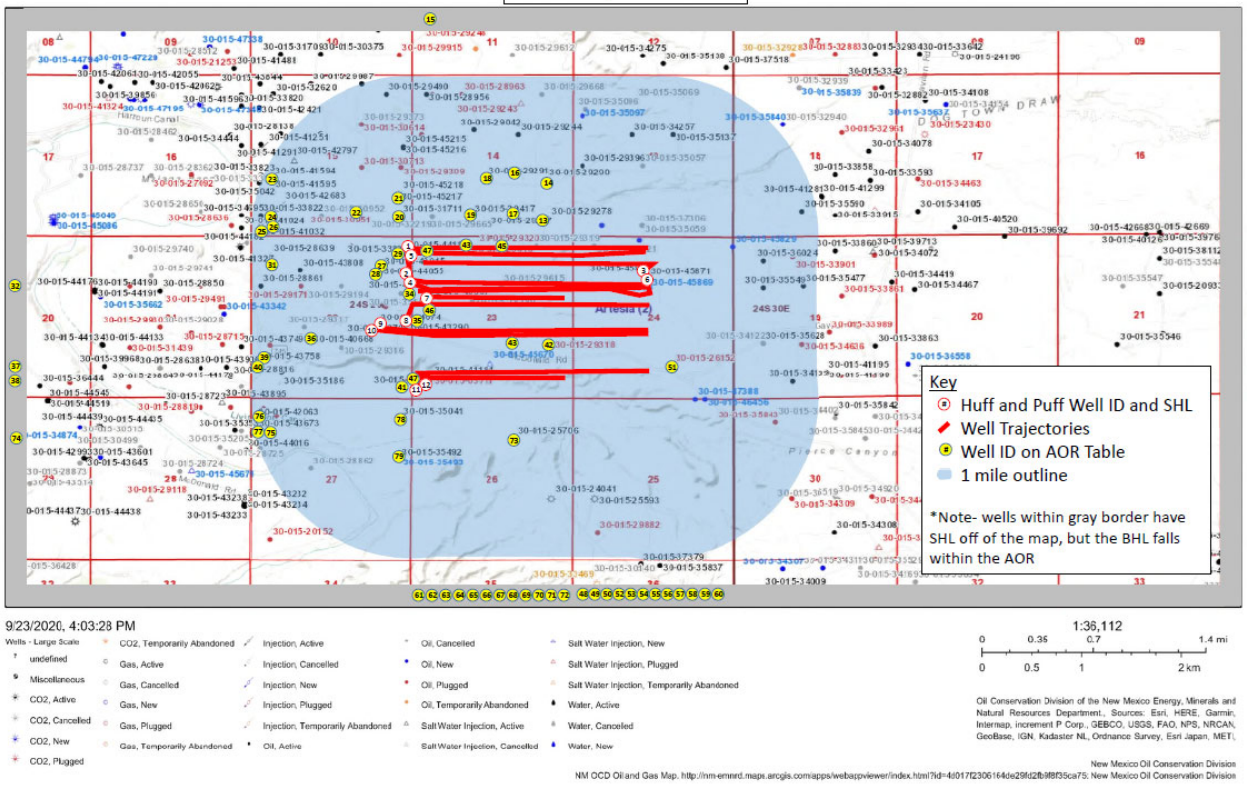
Surrounding Lease Composition

Map Legend
Purple: BLM Acreage
Blue: NM SLO Acreage
White: Fee Acreage
Red : EOR Project Boundary



Area of Review – One Mile Notification Radius

AOR Map T24S R29E



Notice to Parties

- Pursuant to Oxy's application, notice was provided to all Affected Persons in the Bone Spring and Wolfcamp formations within a 1 mile radius
- BLM and SLO were included in that Affected Persons notification
- BLM and OXY were notified as surface owners
- Notice was also made via publication

Unit Agreement and Exhibits

Juno Unit Facts and Features

- Pg. 3 & Exhibit A – 960 surface acres in Section 23 & W/2 Section 24, T24S-R29E, NMPM, Eddy County, New Mexico
- Pg. 5 – Unitized Formation from 6,878' – 10,736' per Canyon 23 #1 gamma ray log
- Pg. 11 – EUR (Enhanced Ultimate Recovery) method employed whereby tracts are weighted based on the expected ultimate recovery attributed the wells within that tract. This method values prior production but also remaining projected recovery to create the most equitable valuation of the unit lands.
  - > Five tracts created based on existing Communitization Agreements per BLM request
  - > Each of the wells within the five tracts was assessed an EUR calculation
  - > Total EUR tract figures / Total EUR unit figure = Tract participation percentage
- Pg. 12-14 – Gas royalty treatment and gas bank methodology required by the BLM.
- Exhibit A – Juno Unit tract outlines and currently existing communitization agreement outlines
- Exhibit B – Federal and fee record ownership of Juno Unit tracts
- Exhibit C – EUR figures and tract participation percentages
- Feasibility Study – "Huff and Puff" operations or short cycle, high pressure gas injection designed to create uplift in well after returning to production
- OXY worked with the BLM to craft the Juno Unit from February through September 2021

Note: Oxy is 100% GWI owner, no Unit Operating Agreement required

Tract Participation of Juno Unit Area

Tract Participation Facts and Figures

- When applying Tract Par EUR factors, Oxy and BLM account for over 92% of unit ownership from revenue perspective
- Fee royalty and overriding royalty owners receive most beneficial ownership percentage using EUR
- Oxy is 100% gross working interest owner within the Juno Unit; no working interest partners

Owners	NRI
Federal Royalty	11.87%
Fee Royalty	1.26%
Overriding Royalty	6.11%
Oxy	80.76%
Total	100%

Pool Overview

- Consolidate wells in the Bone Spring pools to the Pierce Cross Bone Spring East pool.
- Geographic limits of unit: T24S R29E Section 23 and W/2 of Section 24.
- Vertical limits of unit: Top of Bone Spring to base of Wolfcamp A
- Existing pools that overlap these boundaries:

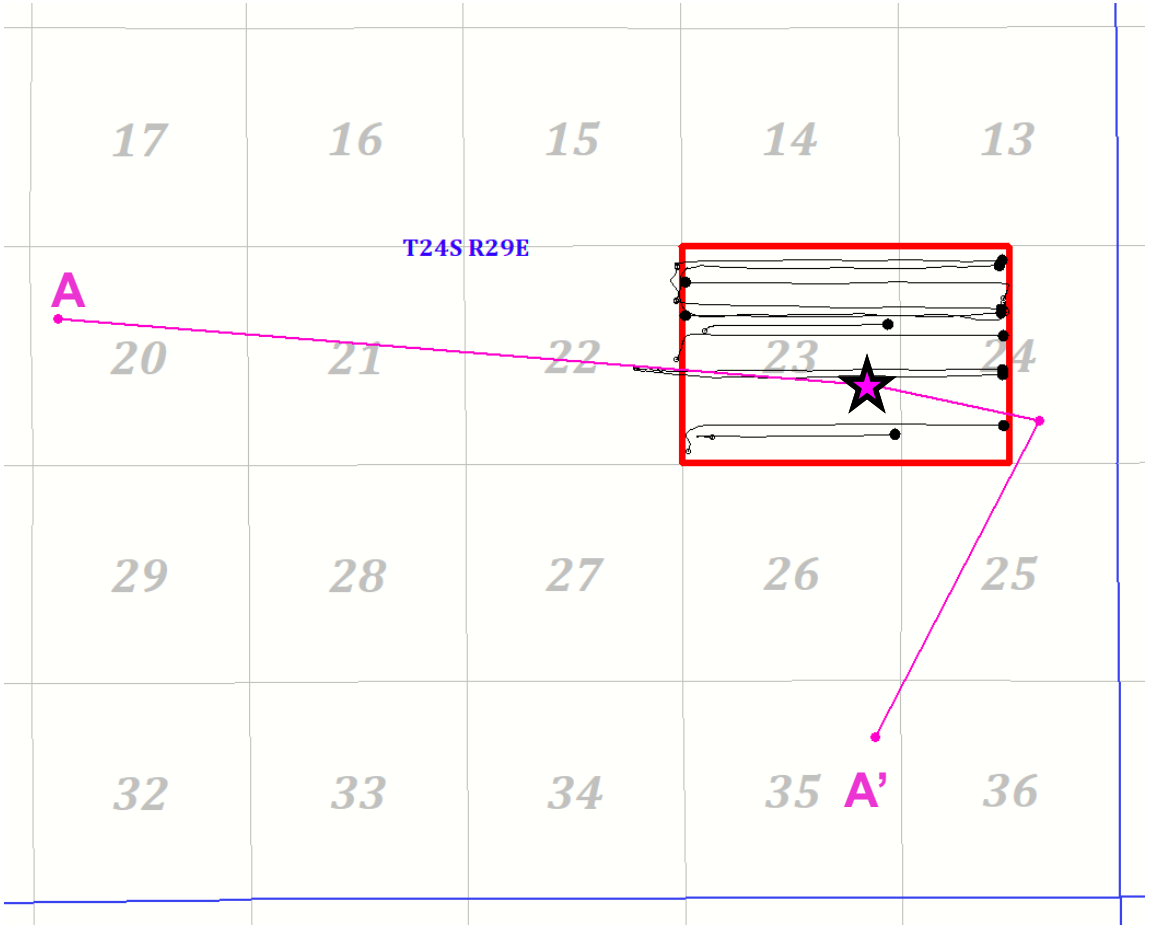
API	Well Name	Currently Assigned Pool Name	Pool Code
30-015-41194	Cedar Canyon 23 2H	Pierce Crossing Bone Spring	50371
30-015-40667	Cedar Canyon 23 1H	Corral Draw Bone Spring	96238
30-015-45871	Guacamole CC 24 23 Federal 12H	Pierce Crossing Bone Spring East	96473
30-015-45870	Guacamole CC 24 23 Federal 11H	Pierce Crossing Bone Spring East	96473
30-015-43290	Cedar Canyon 23 Federal 3H	Pierce Crossing Bone Spring East	96473
30-015-43281	★ Cedar Canyon 23 Federal 4H	Pierce Crossing Bone Spring East	96473
30-015-43282	Cedar Canyon 23 Federal 5H	Pierce Crossing Bone Spring East	96473
30-015-44095	Cedar Canyon 23 Federal Com 6H	Pierce Crossing Bone Spring East	96473
30-015-44179	Cedar Canyon 23 24 Federal 31H	Pierce Crossing Bone Spring East	96473
30-015-44180	Cedar Canyon 23 24 Federal 32H	Pierce Crossing Bone Spring East	96473
30-015-44178	Cedar Canyon 23 24 Federal Com 34H	Pierce Crossing Bone Spring East	96473
30-015-44074	Cedar Canyon 23 Federal Com 33H	Purple Sage Wolfcamp	98220

★ Approved injection order

CROSS SECTION LOCATION MAP

PROPOSED JUNO UNIT BOUNDARIES

★ **Type log**



Cross section: Juno Unit

Juno Unit Limits

Cedar Canyon Bone Spring – Upper Wolfcamp

Top of Bone Spring

Injection benches

Lower Avalon

1st BS Sand

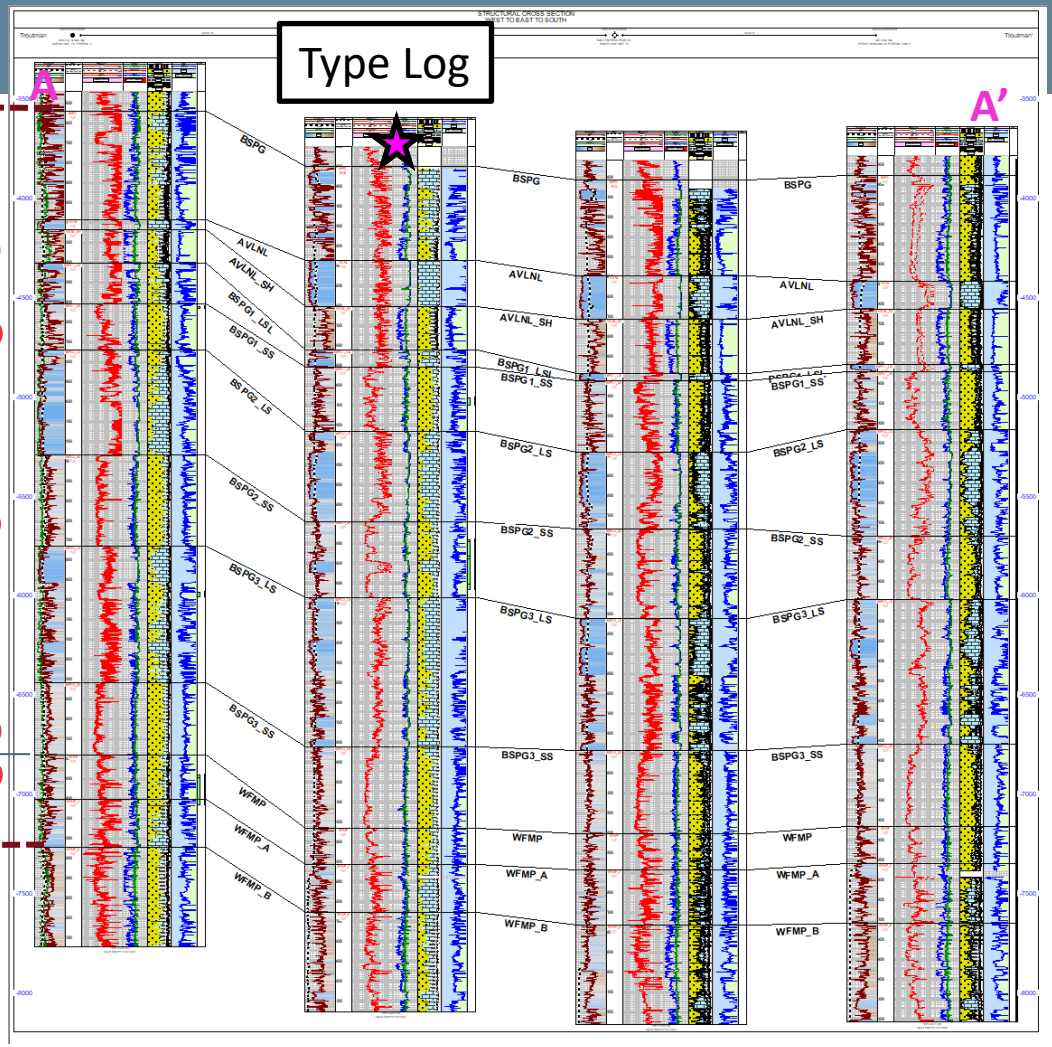
2nd BS Sand

3rd BS Sand

Top of Wolfcamp

Wolfcamp XY

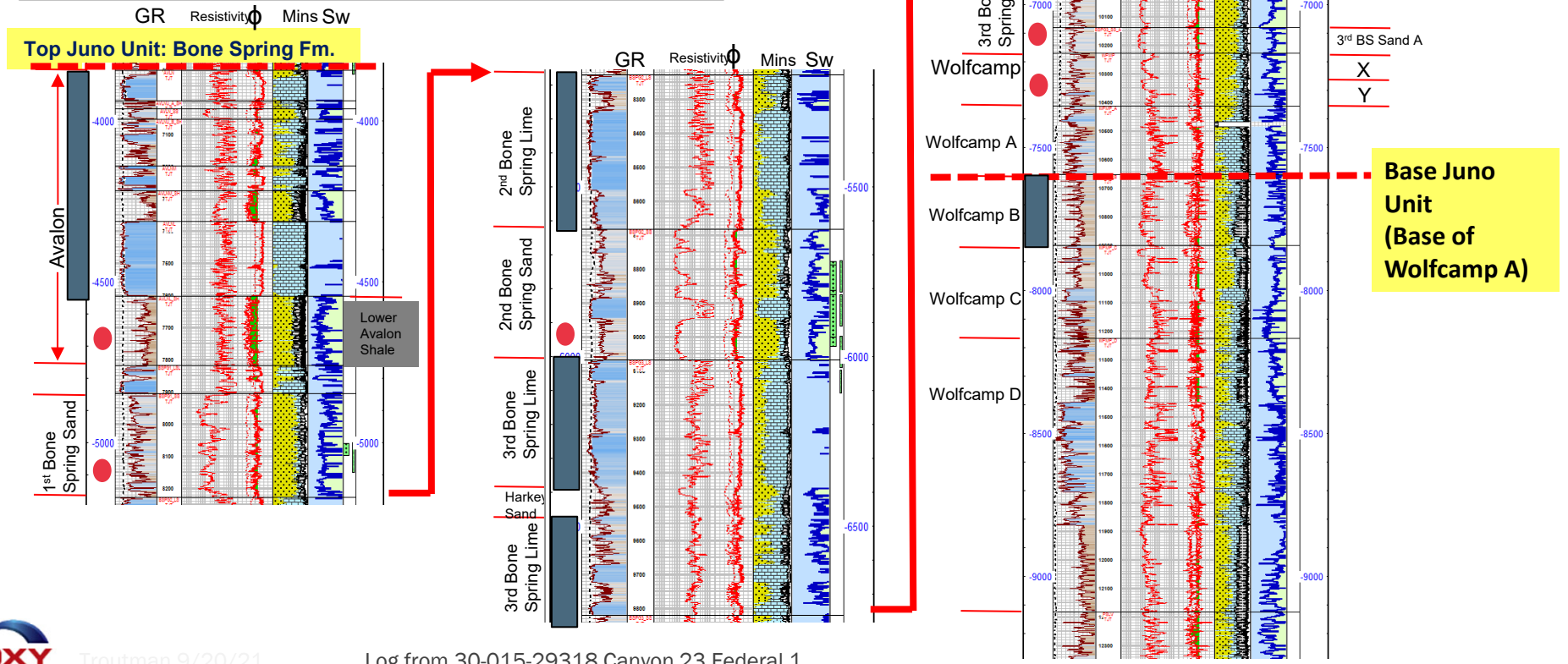
Top of Wolfcamp B



Type Logs: Section 23 & 24 of Cedar Canyon Area

Existing Wells

Barriers to vertical perm



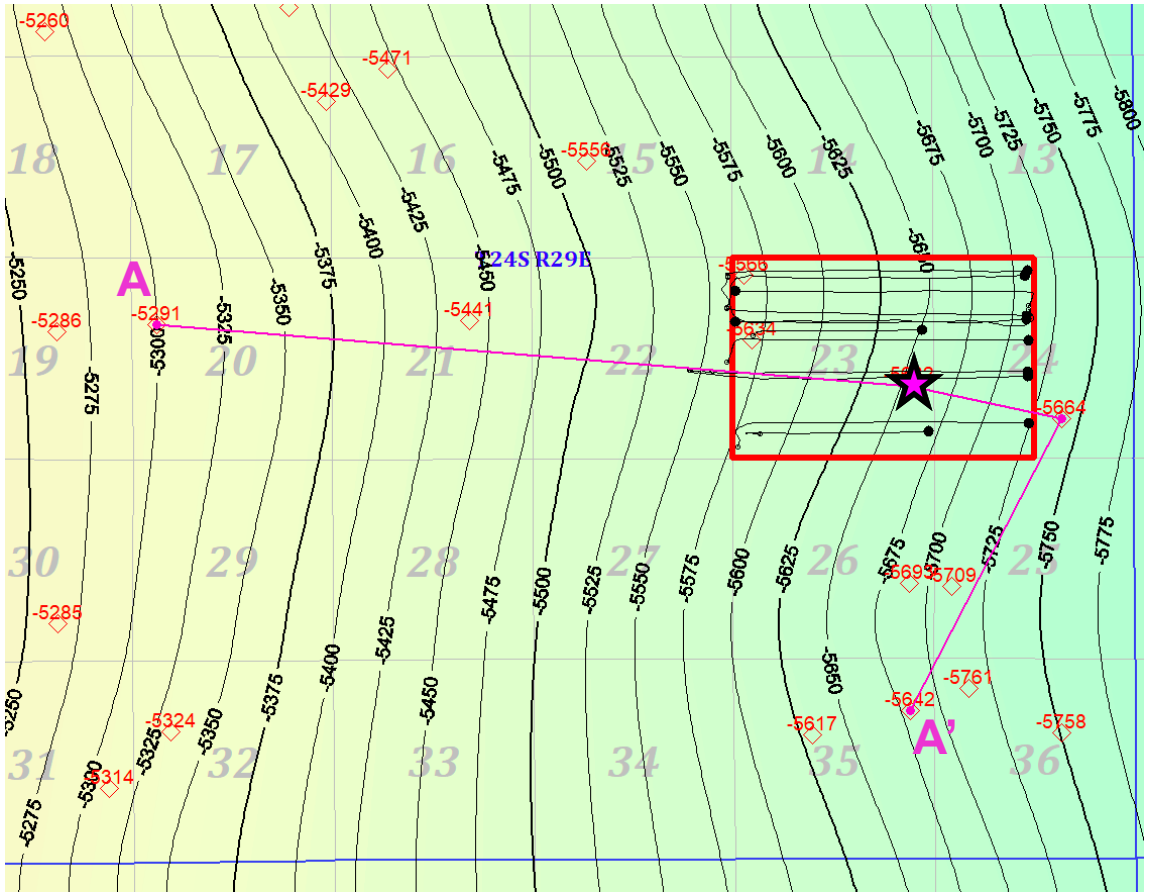
Log from 30-015-29318 Canyon 23 Federal 1

BONE SPRING TOP (AVALON) STRUCTURE MAP

25’ CONTOUR INTERVALS

POSTED VALUES
CONTROL POINTS
SUBSEA DEPTHS

★ **Type log**

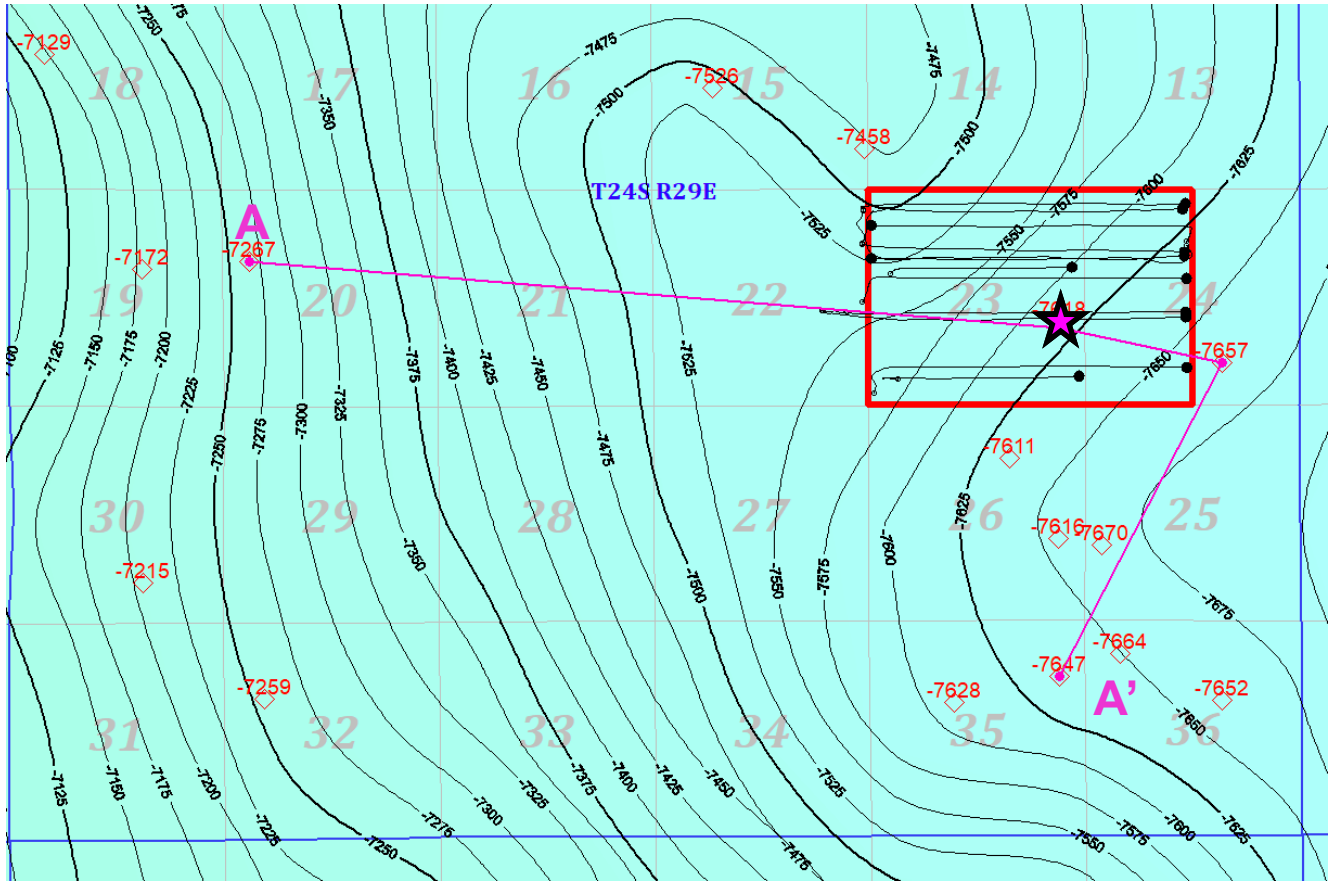


BASE OF WOLFCAMP A STRUCTURE MAP

25’ CONTOUR INTERVALS

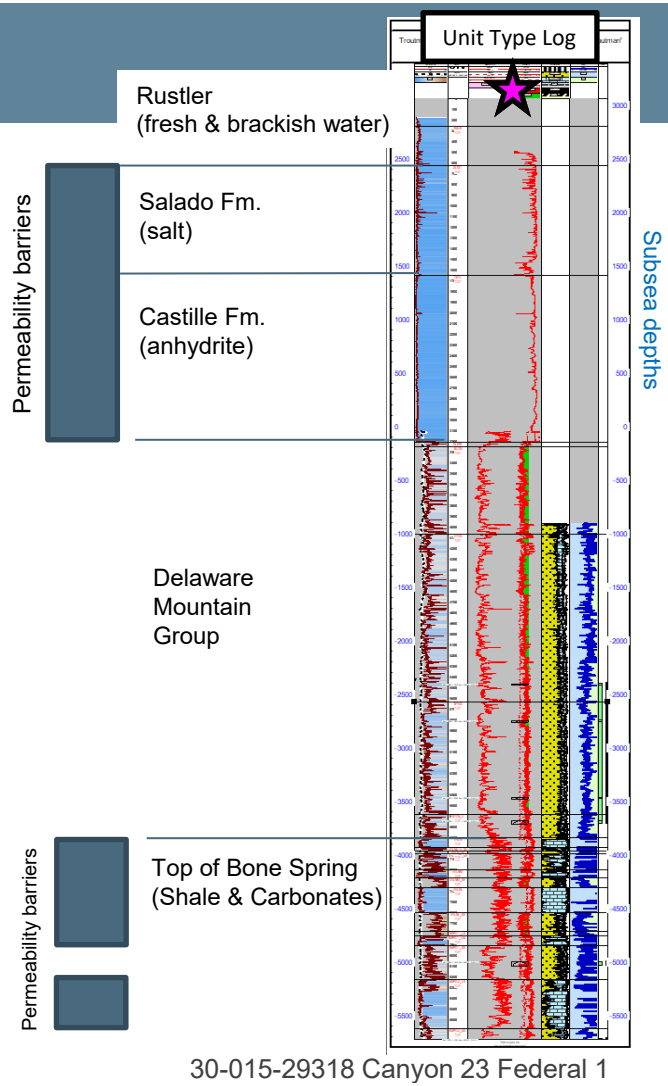
POSTED VALUES
CONTROL POINTS
SUBSEA DEPTHS

★ **Type log**



Cedar Canyon freshwater aquifers

- The top of the Bone Spring Formation is at ~6,878 ft. (log depth) with over 1,200 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas.
- Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 877 ft. 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 about 210 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path for migration upward into freshwater aquifers where they exist.
- An investigation of existing shallow water wells has not found any freshwater wells within a two-mile radius of these injectors.



30-015-29318 Canyon 23 Federal 1

Maximum Allowable Surface Pressure (MASP) Calculations

Water calculation

- 0.2 psi/ft * first perf TVD = max surface water pressure, rounded down

Gas calculation

- (0.2 psi/ft + 0.433 psi/ft) * first perf TVD = max bottomhole gas pressure
- Calculate surface pressure using PROSPER Model, injection rate, equipment, and gas composition = max surface gas pressure

CO2 Calculation

- Same methodology as gas calculation
- Use CO2 composition

1 final maximum value for each fluid for each zone, except for CO2 in Second Bone Spring.

MASP Summary

	#	Well Name	Zone	Max Water Injection Pressure [psi]	Max Gas Injection Pressure [psi]	Max CO2 Injection Pressure [psi]
	1	GUACAMOLE CC 24-23 FED #12H	AVL	1,500	3,900	2,000
	2	GUACAMOLE CC 24-23 FED #11H	1BSS	1,500	4,000	2,050
	3	CEDAR CANYON 23 #1H	1BSS	1,500	4,000	2,050
	4	CEDAR CANYON 23 #2H	2BSS	1,700	4,350	2,200
	5	CEDAR CANYON 23 FEDERAL #3H	2BSS	1,700	4,350	2,200
★	6	CEDAR CANYON 23 FEDERAL #4H	2BSS	1,770	4,350	2,300
	7	CEDAR CANYON 23 Fed #5H	2BSS	1,700	4,350	2,200
	8	CEDAR CANYON 23 FEDERAL COM #6H	2BSS	1,700	4,350	2,200
	9	CEDAR CANYON 23 24 FEDERAL #31H	3BSS	1,950	4,850	2,450
	10	CEDAR CANYON 23 24 FEDERAL #32H	3BSS	1,950	4,850	2,450
	11	CEDAR CANYON 23 24 FEDERAL COM #34H	3BSS	1,950	4,850	2,450
	12	CEDAR CANYON 23 FEDERAL COM #33H	WCXY	2,000	4,950	2,500

★ Approved injection order

Injection Fluids and Sources

★**Gas**- Produced gas from the Cedar Canyon Central Delivery Point.

★**Water**- Produced water from:

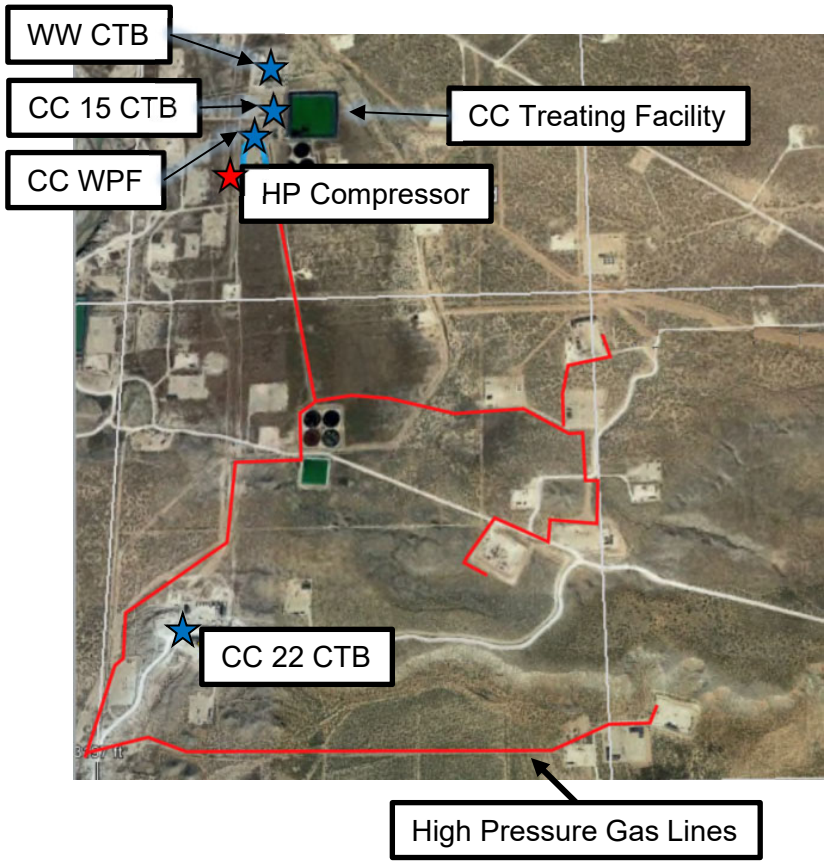
> Whomping Willow CTB (WW CTB)

> Cedar Canyon 15 CTB (CC 15 CTB)

> Cedar Canyon Water Polishing Facility (CC WPF)

> Cedar Canyon 22 Central Tank Battery (CC 22 CTB)

- **CO2**- Currently, no source for CO2.



Compatibility Analysis

- Produced Gas is the primary injectant.
- Produced Water to be injected for conformance.

- Conducted Water Combability Analysis between CC 15 CTB produced water and each target formation to evaluate scaling tendencies.
  - > Minute amounts of scaling potential for barite and celestite with small or negative scale indexes (SI).
  - > Focused on Calcium Carbonate (Calcite) SI.
  - > Results indicate the Calcite SI remains low in all formations and therefore scale inhibition is not required.

- Other water sources are similar composition to CC 15 CTB produced water.

Produced Gas as an Annular Fluid

- Reduces turnaround time between injection and production cycles.
- Utilize SCADA system to remotely monitor and control injection well.

- Oxy proposes the casing-tubing annulus shall be filled with an inert fluid or dehydrated produced gas. A gauge or approved leak-detection device shall be attached to the annulus in order to detect leakage in the casing, tubing, or packer. If the casing-tubing annulus is filled with dehydrated produced gas, the proposed restrictions will apply:

- Proposed Restrictions
  - > Inject with a stabilized casing/tubing annulus pressure of no more than 2500 psi.
    - Stabilized pressure= The pressure after the initial injection period when tubing and annulus temperatures reach equilibrium.
  - > Continuously monitor the bradenhead pressure and the casing/tubing annulus pressure .
  - > Notify the OCD within 24 hours if:
    - The Bradenhead pressure increases more than 100 psi over normal operational conditions.
    - The casing-tubing annulus pressure increases more than 500 psi over normal operational conditions.
  - > Immediately cease injection if:
    - There is any indication of a leak in the casing, tubing or packer.
    - The casing-tubing annulus pressure increases more than 1000 psi over normal operational conditions.

Max Stabilized Casing-Tubing Annulus Pressure

Why?

- A column of packer fluid on the backside (casing-tubing annulus) will exert hydrostatic pressure on the casing.
- If a column of produced gas is on the backside, the pressure gradient is less, but surface pressure can be applied to achieve the same bottomhole pressure.
- The Max Stabilized Pressure was calculated so the bottomhole pressure at the injection packer with a column of produced gas did not exceed the equivalent bottomhole pressure at the injection packer with a column of packer fluid.
- The Max Stabilized Pressure is the surface pressure at which the bottomhole pressure at the injection packer with a column of produced gas equals the bottomhole pressure at the injection packer with a column of packer fluid.

Inputs

- 7670 ft, TVD Packer Depth, shallowest well
- 0.433 psi/ft, Packer fluid pressure gradient
- Produced Gas Composition

Calculation

- Gas hydrostatic gradient varies with depth. Model and calculate with PROSPER.
- Surface Pressure + Produced Gas Hydrostatic Pressure = Packer Fluid Hydrostatic Pressure

> Max Stabilized Pressure + Produced Gas Hydrostatic Pressure (PROSPER calc) = 0.433 psi/ft * 7670 ft TVD

> Max Stabilized Pressure + 821 psi = 3321 psi

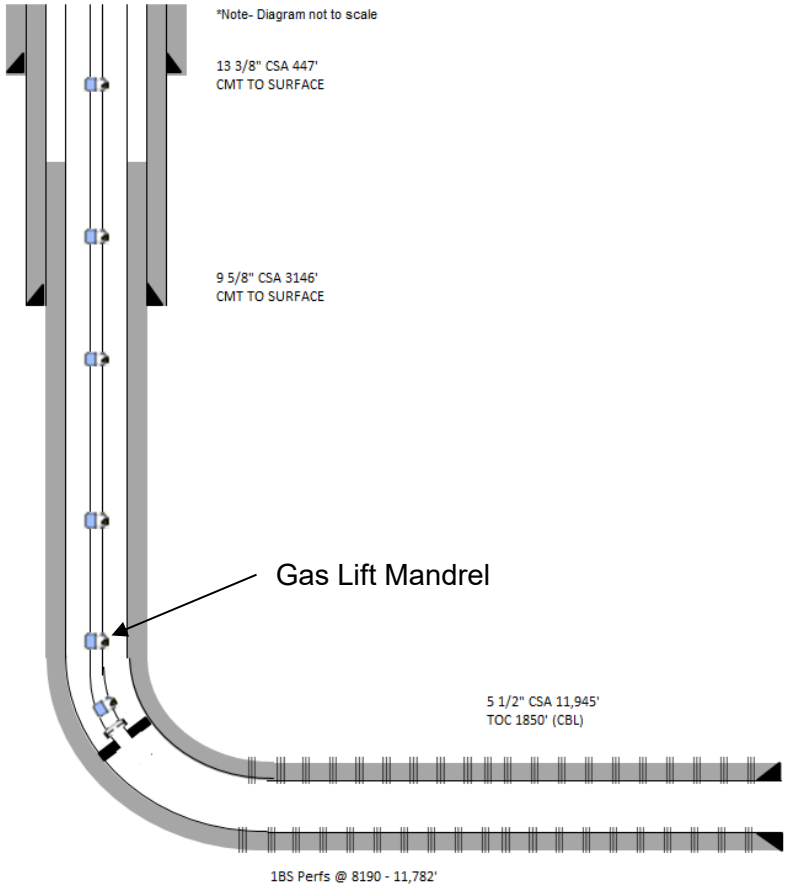
> **Max Stabilized Pressure = 2500 psi**

Reduces Turnaround Time

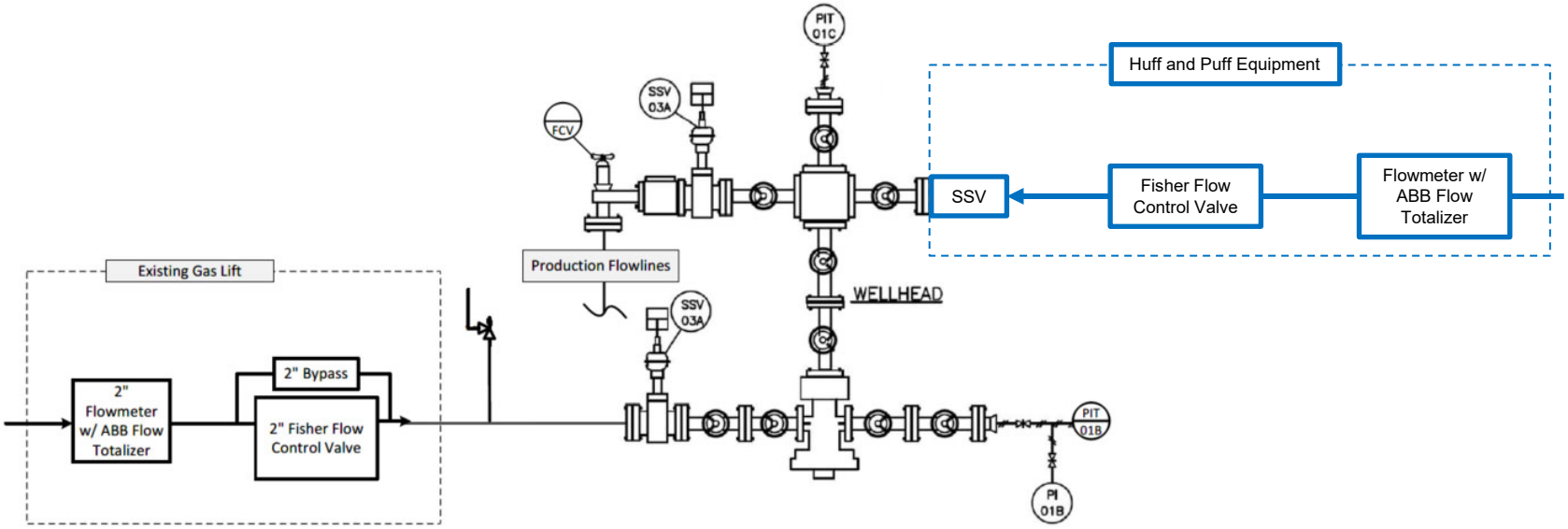
- Huff-n-Puff cycle:
  1. Injection
  2. Production
     - Flowing
     - Gas lift
  3. Repeat

- Inert packer fluid in the casing-tubing annulus during injection requires downhole equipment changes.
  > Pull equipment and place dummy valves in mandrels before injection.
  > Pull equipment and place gas lift valves in mandrels before gas lift production.

- Turnaround time between injection and production cycles is reduced if the casing-tubing annulus is filled with dehydrated produced gas because downhole equipment remains the same.



Injection Wellhead Diagram



- Utilize wellhead similar to gas lift producers.
- Add Huff and Puff wellhead injection equipment.
- Automation equipment connected to SCADA system.

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

Operational Plan

Oxy USA Inc. (Oxy) will monitor the following items on each injection 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

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

APPLICATION OF OXY USA INC. FOR APPROVAL OF THE JUNO BONE SPRING UPPER WOLFCAMP CC 23-24 UNIT, TO MODIFY THE INJECTION AUTHORITY APPROVED UNDER ORDER R-21356 AND EXPAND THAT AUTHORITY TO INCLUDE ELEVEN ADDITONAL WELLS IN THE UNITIZED AREA, AND TO CONTRACT EXISTING BONE SPRING AND WOLFCAMP POOLS IN FAVOR OF A NEW OIL POOL COMPRISED OF THE BONE SPRING FORMATION AND THE UPPER WOLFCAMP "XY" AND "A" INTERVALS OF THE WOLFCAMP FORMATION, EDDY COUNTY, NEW MEXICO.

CASE NO. 22183

AFFIDAVIT

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

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

Michael H. Feldewert

SUBSCRIBED AND SWORN to before me this 19th day of October, 2021 by Michael H. Feldewert.

Notary Public

My Commission Expires:
Nov. 12, 2023

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

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 3
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

HOLLAND&HART LLP

Michael H. Feldewert
Phone (505) 988-4421
Mfeldewert@hollandhart.com

September 17, 2021

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED

ATTN: ALL AFFECTED PARTIES

Re: Application of OXY USA, Ince. for approval of the Juno Bone Spring Upper Wolfcamp Cc 23-24 Unit, to modify the injection authority approved under Order R-21356 and expand that authority to include eleven additional wells in the unitized area, and to contract existing Bone Spring and Wolfcamp pools in favor of a new oil pool comprised of the Bone Spring Formation and the Upper Wolfcamp "XY" and "A" intervals of the Wolfcamp formation, Eddy County, New Mexico.

Greetings:

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

During the COVID-19 Public Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. Oxy has requested a hearing on October 7, 2021 beginning at 8:15 a.m. To participate in the electronic hearing, see the instructions posted on the OCD website: https://www.emnrd.nm.gov/ocd/oil-conservation-commission/hearing-information

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

If you have any questions about this matter, please contact Peter Van Liew, at (713) 627-6880, or Peter_VanLiew@OXY.com.

Sincerely,

Michael H. Feldewert
ATTORNEY FOR OXY USA INC.

TrackingNo	ToName	DeliveryAddress	City	State	Zip	USPS_Status
9414811898765854918673	Chesapeake Exploration LLC	6100 N Western Ave	Oklahoma City	OK	73118-1044	Your item was picked up at a postal facility at 7:54 am on September 21, 2021 in OKLAHOMA CITY, OK 73118.
9414811898765854918130	KONA Ltd	1302 West Ave	Austin	TX	78701-1716	Your item was delivered to the front desk, reception area, or mail room at 9:47 am on September 23, 2021 in AUSTIN, TX 78701.
9414811898765854918178	Legacy Reserves Operating LP	PO Box 207418	Dallas	TX	75320-7418	Your item was delivered at 5:04 pm on September 21, 2021 in DALLAS, TX 75260.
9414811898765854918352	Mobil Producing Texas & New Mexico Inc	22777 Springwoods Village Pkwy	Spring	TX	77389-1425	Your item has been delivered to an agent for final delivery in SPRING, TX 77389 on September 21, 2021 at 10:02 am.
9414811898765854918369	New Mexico Oil Conservation Division	811 S 1st St	Artesia	NM	88210-2834	Your item was returned to the sender on September 29, 2021 at 3:31 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.
9414811898765854918321	New Mexico Oil Conservation Division	1220 S St Francis Dr	Santa Fe	NM	87505-4225	Your item was delivered to the front desk, reception area, or mail room at 10:41 am on September 20, 2021 in SANTA FE, NM 87505.
9414811898765854918307	Phillips 66 Nat Gas	4001 Penbrook St Ste 324	Odessa	TX	79762-5977	Your item was returned to the sender on September 29, 2021 at 3:31 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.
9414811898765854918390	PXP Producing Co LLC	717 Texas St Ste 2100	Houston	TX	77002-2753	Your item was returned to the sender on October 13, 2021 at 11:57 am in SANTA FE, NM 87501 because it could not be delivered as addressed.
9414811898765854918345	Riverhill Energy Co	PO Box 2726	Midland	TX	79702-2726	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.
9414811898765854918383	Shackelford Oil Co	PO Box 10665	Midland	TX	79702-7665	Your item was delivered at 11:10 am on September 28, 2021 in MIDLAND, TX 79701.
9414811898765854918338	Siete Oil & Gas Corp	PO Box 2523	Roswell	NM	88202-2523	Your item was returned to the sender on September 29, 2021 at 3:31 pm in SANTA FE, NM 87501 because the addressee moved and left no forwarding address.
9414811898765854918116	Chevron USA Inc	1400 Smith St	Houston	TX	77002-7327	Your item was delivered at 9:29 am on October 1, 2021 in HOUSTON, TX 77002.
9414811898765854918017	SM Energy Co	1775 N Sherman St Ste 1200	Denver	CO	80203-4339	Your item was delivered to the front desk, reception area, or mail room at 1:21 pm on September 20, 2021 in DENVER, CO 80203.
9414811898765854918055	State of New Mexico	PO Box 1148	Santa Fe	NM	87504-1148	Your item was picked up at a postal facility at 6:14 am on September 21, 2021 in SANTA FE, NM 87501.
9414811898765854918024	United States Department of the Interior, Bureau of Land Management	620 E Greene St	Carlsbad	NM	88220-6292	Your item was delivered to an individual at the address at 3:12 pm on September 21, 2021 in CARLSBAD, NM 88220.
9414811898765854918000	XTO Delaware Basin LLC	22777 Springwoods Village Pkwy	Spring	TX	77389-1425	Your item has been delivered to an agent for final delivery in SPRING, TX 77389 on September 21, 2021 at 10:02 am.
9414811898765854918093	XTO Holdings LLC	PO Box 840780	Dallas	TX	75284-0780	Your item was delivered at 5:45 am on September 21, 2021 in DALLAS, TX 75266.
9414811898765854918048	XTO Permian Operating LLC	6401 Holiday Hill Rd Bldg 5	Midland	TX	79707-2157	Your item was delivered to the front desk, reception area, or mail room at 12:47 pm on September 22, 2021 in MIDLAND, TX 79707.
9414811898765854918086	McNic O&G Properties	1360 Post Oak Blvd	Houston	TX	77056-3030	Your item was delivered to the front desk, reception area, or mail room at 9:19 am on September 21, 2021 in HOUSTON, TX 77056.
9414811898765854918031	Penwell Energy Inc.	600 N Marienfeld St unit 1100	Midland	TX	79701-4395	Your item was returned to the sender on October 6, 2021 at 1:05 pm in SANTA FE, NM 87501 because the addressee was not known at the delivery address noted on the package.
9414811898765854918154	CTV OG NM LLC	201 Main St Ste 2700	Fort Worth	TX	76102-3131	Your item was delivered to an individual at the address at 11:37 am on September 21, 2021 in FORT WORTH, TX 76102.
9414811898765854918161	Devon Energy Production Co LP	333 W Sheridan Ave	Oklahoma City	OK	73102-5010	Your item was delivered at 7:37 am on September 21, 2021 in OKLAHOMA CITY, OK 73102.

9414811898765854918123	Devon Energy Production Inc	333 W Sheridan Ave	Oklahoma City	OK	73102-5010	Your item was delivered at 7:37 am on September 21, 2021 in OKLAHOMA CITY, OK 73102.
9414811898765854918109	Dominion OK TX Exploration & Production Inc	14000 Quail Springs Pkwy Ste 600	Oklahoma City	OK	73134-2658	Your package will arrive later than expected, but is still on its way. It is currently in transit to the next facility.
9414811898765854918192	Edward K Gaylord II	PO Box 31560	Edmond	OK	73003-0026	Your item was picked up at the post office at 9:17 am on September 24, 2021 in EDMOND, OK 73003.
9414811898765854918147	Eleven Sands Exploration Inc	PO Box 31560	Edmond	OK	73003-0026	Your item was picked up at the post office at 9:17 am on September 24, 2021 in EDMOND, OK 73003.
9414811898765854918185	Fortson Oil Co	301 Commerce St Ste 3301	Fort Worth	TX	76102-4133	Your item was delivered to the front desk, reception area, or mail room at 10:25 am on September 22, 2021 in FORT WORTH, TX 76102.
9414811898765858140520	Mary Martha Gaines England	PO Box 541661	Grand Prairie	TX	75054-1661	Your item was picked up at the post office at 11:31 am on October 8, 2021 in GRAND PRAIRIE, TX 75052.
9414811898765858140506	Robert E. Gaines, Jr.	PO Box 105	Waring	TX	78074-0105	Your item was delivered at 11:14 am on October 15, 2021 in WARING, TX 78074.
9414811898765858140599	Micaella Gaines Klapuch	PO Box 227	Wimberley	TX	78676-0227	Your item was picked up at the post office at 1:57 pm on October 7, 2021 in WIMBERLEY, TX 78676.
9414811898765858140544	Rebecca Gaines Hooks	PO Box 111	Waring	TX	78074-0111	Your item was delivered at 11:49 am on October 7, 2021 in WARING, TX 78074.

Carlsbad Current Argus.

Affidavit of Publication

Ad # 0004919674

This is not an invoice

DAVID WASHINGTON
110 NORTH GUADALUPE, SUITE 1 P

SANTA FE, NM 87504

I, a legal clerk of the **Carlsbad Current Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof in editions dated as follows:

09/23/2021

Legal Clerk

Subscribed and sworn before me this September 23, 2021:

State of WI, County of Brown
NOTARY PUBLIC

1-7-25
My commission expires

KATHLEEN ALLEN
Notary Public
State of Wisconsin

Ad # 0004919674
PO #:
# of Affidavits 1

This is not an invoice

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 4
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

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

The State of New Mexico, Energy Minerals and Natural Resources Department, Oil Conservation Division ("Division") hereby gives notice that the Division will hold public hearings before a hearing examiner on the following case. During the COVID-19 Public Health Emergency, state buildings are closed to the public and Division hearings will be conducted remotely. The public hearing for the following case will be electronic and conducted remotely. The hearing will be conducted on **Thursday, October 7, 2021, beginning at 8:15 a.m.** To participate in the electronic hearing, see the instructions posted below. The docket may be viewed at https://www.emnrd.nm.gov/ocd/hearing-info/ or obtained from Marlene Salvidrez, at Marlene.Salvidrez@state.nm.us. Documents filed in the case may be viewed at http://ocdimage.emnrd.state.nm.us/imaging/CaseFileCriteria.aspx. If you are an individual with a disability who needs a reader, amplifier, qualified sign language interpreter, or other form of auxiliary aid or service to attend or participate in a hearing, contact Marlene Salvidrez at Marlene.Salvidrez@state.nm.us , or the New Mexico Relay Network at 1-800-659-1779, no later than **September 27, 2021.**

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

Persons may view and participate in the hearings through the following link:
https://nmemnrd.webex.com/nmemnrd/onstage/g.php?MTID=e31a346dbbf01a09cd6beca6008Sa1ffe
Event number: 2497 424 5971
Event password: GxJqZW5M3H3

Join by video: 24974245971@nmemnrd.webex.com
Numeric Password: 935619
You can also dial 173.243.2.68 and enter your meeting number

Join by audio: 1-844-992-4726 United States Toll Free
Access code: 2497 424 5971

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

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

To: All overriding royalty interest owners and pooled parties, including: Chesapeake Exploration LLC; Chevron USA Inc; CTV OG NM LLC; Devon Energy Production Co LP; Devon Energy Production Inc; Dominion OK TX Exploration & Production Inc; Edward K. Gaylord, II, his heirs and devisees; Eleven Sands Exploration Inc; Fortson Oil Co; KONA Ltd; Legacy Reserves Operating LP; Mobil Producing Texas & New Mexico Inc; New Mexico Oil Conservation Division; Phillips 66 Nat Gas; PXP Producing Co LLC; Riverhill Energy Co; Shackelford Oil Co; Siete Oil & Gas Corp; SM Energy Co; State of New Mexico; United States Department of the Interior, Bureau of Land Management; XTO Delaware Basin LLC; XTO Holdings LLC; XTO Permian Operating LLC; McNic O&G Properties; and Penwell Energy Inc.

Case No. 22183: Application of OXY USA, Inc. for approval of the Juno Bone Spring Upper Wolfcamp Cc 23-24 Unit, to modify the injection authority approved under Order R-21356 and expand that authority to include eleven additional wells in the unitized area, and to contract existing Bone Spring and Wolfcamp pools in favor of a new oil pool comprised of the Bone Spring Formation and the Upper Wolfcamp "XY" and "A" intervals of the Wolfcamp formation, Eddy County, New Mexico. Applicant seeks an order (a) approving the Juno Bone Spring Upper Wolfcamp CC 23-24 Unit ("Juno Unit"), (b) modifying the injection authority approve under Division Order R-21356 and expanding that authority to include eleven additional wells in the unitized area for pressure maintenance, and (c) contracting the Pierce Crossing; Bone Spring, East Pool (96473), the Pierce Crossing; Bone Spring Pool (50371), the Corral Draw; Bone Spring Pool (96238) and the Purple Sage-Wolfcamp Gas Pool (98220) from the Unit Area and replacing it with a new oil pool comprised of the Bone Spring formation and the Upper Wolfcamp "XY" and A" intervals of the Wolfcamp formation. The proposed unit is comprised of the following federal and fee lands in Eddy County, New Mexico: TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M. Section 23: ALL Section 24: W/2 The unitized interval includes the Bone Spring formation and Upper Wolfcamp "XY" and "A" inter-

vals of the Wolfcamp formation as identified by the Gamma Ray log run in the Canyon 23 #1 well (API: 30-015-29318) located in the NE/4 SE/4 of Section 23, Township 24 South, Range 29 East, Eddy County, New Mexico, with the top of the unitized interval being found at a measured depth of 6,878 feet below the surface (-3,819 subsea) and the base of the unitized interval being found at a measured depth of 10,736 feet below the surface (-7,647 subsea) or the stratigraphic equivalent thereto. The proposed Unit Area has one injection well approved by Order R-21356 and eleven additional horizontal wells completed in the Bone Spring formation and the Upper Wolfcamp intervals of the Wolfcamp formation that Oxy seeks to convert into injection wells to implement a "huff and puff" pressure maintenance project. The subject area is located approximately ten miles southeast of Loving, New Mexico.

Current Argus September 23, 2021 #4919674

UNIT AGREEMENT AND PLAN OF UNITIZATION

FOR THE DEVELOPMENT AND OPERATION

OF THE

JUNO (BONE SPRING-UPPER WOLFCAMP) UNIT AREA

COUNTY OF EDDY

STATE OF NEW MEXICO

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 5
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

UNIT AGREEMENT AND PLAN OF UNITIZATION

FOR THE DEVELOPMENT AND OPERATION

OF THE

JUNO (BONE SPRING UPPER-WOLFCAMP) UNIT AREA

COUNTY OF EDDY

STATE OF NEW MEXICO

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UNIT AGREEMENT AND PLAN OF UNITIZATION

FOR THE DEVELOPMENT AND OPERATION

OF THE

JUNO (BONE SPRING UPPER-WOLFCAMP) UNIT AREA

COUNTY OF EDDY

STATE OF NEW MEXICO

THIS AGREEMENT, entered into as of the _____ day of _____, 2021, by and between the parties subscribing, ratifying or consenting hereto, and herein referred to as the "parties hereto".

WITNESSETH:

WHEREAS, the parties hereto are the owners of working, royalty, or other oil and gas interests in the unit area subject to this Agreement; and

WHEREAS, the term "Working Interest" as used herein shall mean the interest held in Unitized Substances or in lands containing Unitized Substances by virtue of a lease, operating agreement, fee title, or otherwise, which is chargeable with and obligated to pay or bear all or a portion of the costs of drilling, developing, producing and operating the land under the unit or cooperative agreement. "Royalty Interest" as used herein shall mean a right to or interest in any portion of the Unitized Substances or proceeds thereof other than a Working Interest. The owner of oil and gas rights that are free of lease or other instrument conveying the working interest rights to another shall be regarded as a Working Interest Owner to the extent of a seven-eighths (7/8ths) interest in and to such oil and gas rights, and as a Royalty Interest Owner to the extent of the remaining one-eighth (1/8th) interest therein; and

WHEREAS, the Mineral Leasing Act of February 25, 1920, 41 Stat. 437, as amended, 30 U.S.C. Secs. 181 et. seq., authorizes Federal lessees and their representatives to unite with each other, or jointly or separately with others, in collectively adopting and operating under a cooperative or unit plan of development or operation of any oil or gas pool, field, or like area, or any part thereof, for the purpose of more properly conserving the natural resources thereof

whenever determined and certified by the Secretary of the Interior to be necessary or advisable in the public interest; and

WHEREAS, the Oil Conservation Division of the State of New Mexico (hereinafter referred to as the "Division" is authorized by an Act of the Legislature (Chapter 72, Laws of 1935 as amended) (Chapter 70, Article 2, Section 2 et seq., New Mexico Statutes 1978 Annotated) to approve this Agreement and the conservation provisions hereof; and

WHEREAS, the parties involved, which said order shall be binding on all parties in said unit area; and

WHEREAS, it is the purpose of the parties hereto to conserve natural resources, prevent waste, and secure other benefits obtainable through development and operation of the area subject to this Agreement under the terms, conditions and limitations herein set forth;

NOW, THEREFORE, in consideration of the premises and the promises herein contained, the parties hereto commit to this Agreement their respective interests in the below-defined Unit Area, and agree severally among themselves as follows:

1. ENABLING ACT AND REGULATIONS. The Mineral Leasing Act of February 25, 1920, as amended, supra, and all valid, pertinent regulations, including operating and unit plan regulations, heretofore issued thereunder or valid, pertinent and reasonable regulations hereafter issued thereunder are accepted and made a part of this agreement as to Federal Lands, provided such regulations are not inconsistent with the terms of this Agreement; and as to Non-Federal Lands, the oil and gas operating regulations in effect as of the effective date hereof governing drilling and producing operations, not inconsistent with the terms hereof or the laws of the State of New Mexico, are hereby accepted and made a part of this Agreement.

2. UNIT AREA. The area specified on the plat attached hereto marked Exhibit "A" is hereby designated and recognized as constituting the Juno (Bone Spring Upper-Wolfcamp) Unit Area, containing 960 acres, more or less.

Exhibit "A" shows in addition to the boundary of the Unit Area, the boundaries and identity of tracts and leases in said area to the extent known to the Unit Operator. Exhibit "B" attached hereto is a schedule showing to the extent known to the Unit Operator the acreage, percentage and kind of ownership of oil and gas interests in all land in the Unit Area. Exhibit "C" attached hereto, is a schedule showing the percentage of participation credited to each Tract in the Unit Area based upon a presumed one hundred percent (100%) commitment. (Tract

means each parcel of land described as such and given a tract number in Exhibit "B"). However, nothing herein or in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown in said map or schedule as owned by such party. Exhibits "A" and "B" shall be revised by the Unit Operator whenever changes in the Unit Area render such revision necessary, or when requested by the Authorized Officer of the Bureau of Land Management, hereinafter referred to as "Authorized Officer" or by the Division. In such case not less than six (6) copies of the revised Exhibits shall be filed with the Authorized Officer. A unit boundary and unit participation established by a certified surveyor based upon knowledge of an impending government resurvey is acceptable; however, if the government resurvey indicates the need for boundary and unit participation revision, new Exhibits "A", "B" and "C" will be required.

3. EXPANSION OF UNIT AREA. Any enlargement of the Unit Area shall require approval by the Authorized Officer of the Bureau of Land Management. The Unit Area may, with the approval of the Authorized Officer, be expanded to include therein any additional lands whenever such expansion is necessary or advisable to conform with the purposes of this agreement. Subject to such approval of the Authorized Officer, any such expansion may be accomplished either (1) by order of the Division in accordance with Section 19.15.20.14, et seq., New Mexico Annotated Code, as heretofore or hereafter amended from time to time; or (2) pursuant to agreement fixing the tract participation of each tract added by such expansion and providing for the commitment of the interests of the owner thereof to this Agreement, and, if applicable, to the Unit Operating agreement, and negotiated with such owners by the Unit Operator acting on behalf of the Working Interest Owners collectively after being duly authorized by them as provided in the Unit Operating Agreement. Whenever the Unit Area is enlarged so as to admit additional land qualified for Participation, Exhibit "C" shall be revised as set forth in Section 12, Participation and Allocation of Production. Any such expansion shall be effected in the following manner:

(a) Unit Operator, on its own motion (after preliminary concurrence by the Authorized Officer), shall prepare a notice of proposed expansion describing the contemplated changes in the boundaries of the Unit Area, the reasons therefor, and the proposed effective date thereof, preferably the first day of the month subsequent to the date of notice.

(b) Said notice shall be delivered to the appropriate Bureau of Land Management office and copies thereof mailed to the last known address of each Working Interest Owner, lessee and lessor whose interest are affected, advising that thirty (30) days will be allowed for submission to the Unit Operator of any objections.

(c) Upon expiration of the thirty (30) day period provided in the preceding item (b) hereof, Unit Operator shall file with the Authorized Officer evidence of mailing of the notice of expansion and a copy of any objections thereto which have been filed with the Unit Operator, together with an application and appropriate joinder in sufficient number, for approval of such expansion.

(d) After due consideration of all pertinent information, the expansion shall, upon approval by the Authorized Officer, become effective as of the date prescribed in the notice thereof.

4. UNITIZED LAND AND UNITIZED SUBSTANCES. All land committed to this Agreement as provided in Section 5, Tracts Qualified for Participation, as to the Unitized Formation defined immediately below, shall constitute land referred to herein as "Unitized Land" or "land subject to this Agreement". All oil and gas in and produced from the Unitized Formation is unitized under the terms of this Agreement and herein is called "Unitized Substances".

The Unitized Formation shall mean the Bone Spring Upper Wolfcamp Formation as identified by the Gamma Ray log run in the Canyon 23 #1 well (API: 30-015-29318) located in the NE/4SE/4 of Section 23, Township 24 South, Range 29 East, Eddy County, New Mexico, with the top of the Unitized Formation being found at a measured depth of 6,878 feet below the surface (-3,819 subsea) and the base of the Unitized Formation being found at a measured depth of 10,736 feet below the surface (-7,674 subsea) or the stratigraphic equivalent thereto.

The following wells drilled and completed prior to the effective date hereof are specifically excluded from the terms of this Unit Agreement:

(a) Corral Canyon 36 25 Federal Com #021H (API: 30-015-44631)

(b) Corral Canyon 36 25 Federal Com #022H (API: 30-015-44632)

(c) Corral Canyon 36 25 Federal Com #023H (API: 30-015-44633)

(d) Cedar Canyon 22 #001H (API: 30-015-40668)

5. TRACTS QUALIFIED FOR PARTICIPATION. Inasmuch as the objective of this Unit Agreement is to have lands in the Unit Area operated and entitled to participation under the terms hereof, no joinder shall be considered a commitment to this Unit Agreement unless the tract involved is qualified under this section. On or after the effective date hereof, the tracts within the Unit Area which, in absence of an involuntary pooling order issued by the Division, shall be entitled to participation in the production of Unitized Substances therefrom shall be those tracts within the Unit Area more particularly described in Exhibit "B", that are qualified as follows (for the purposes of this section, the record interest shall replace the Royalty Interest as to Federal Land):

(a) Each tract as to which Working Interest Owners owning one hundred percent (100%) of the Working Interest have signed or ratified this Agreement and the Unit Operating Agreement and Royalty Owners owning seventy-five percent (75%) or more of the royalty interest created by the basic leases have signed or ratified this Agreement;

(b) Each Tract as to which Working Interest Owners owning one hundred percent (100%) of the Working Interest have signed or ratified this Agreement and the Unit Operating Agreement, and Royalty Owners owning less than seventy-five percent (75%) of the Royalty Interest created by the basic leases have signed or ratified this Agreement, and as to which (1) all Working Interest Owners in such tract join in a request of inclusion of such tract in Unit Participation upon the basis of such commitment status, and further as to which (2) seventy-five percent (75%) or more of the combined voting interests of Working Interest Owners in all tracts which meet the requirements of Subsection 5(a) vote in favor of the acceptance of such tract as qualified. For the purpose of this Subsection 5(b), the voting interest of each Working Interest Owner shall be equal to the ratio (expressed in percentage) which the total of such Working Interest Owner's percentage participation in all tracts which qualify under Subsection 5(a), bears to the total percentage participation of all Working Interest Owners in all tracts which qualify under said Subsection 5(a), as such percentages are shown on Exhibit "C";

(c) Each tract as to which Working Interest Owners owning less than one hundred percent (100%) of the Working Interest have signed or ratified this Agreement and the Unit Operating Agreement, regardless of the percentage of royalty interest therein that is committed hereto, and as to which (1) the Working Interest Owner who operates the tract

and all of the other subscribing Working Interest Owners in such tract have joined in a request for inclusion of such tract in unit participation upon the basis of such commitment status and have tendered and executed and delivered an indemnity agreement, indemnifying and agreeing to hold the owners of the Working Interests in the other qualified tracts harmless from and against any and all claims and demands that may be made by the non-subscribing Working Interest Owners in such tract on account of the inclusion of the same in Unit Participation, and further as to which (2) seventy-five percent (75%) or more of the combined voting interests of the Working Interest Owners in all tracts which meet the requirements of Subsection 5(a) and 5(b) above, vote in favor of the inclusion of such tract. For the purpose of the Subsection 5(c), the voting interest of each Working Interest Owner shall be equal to the ratio (expressed in percentage) which the total of such working interest owner's percentage participation attributed to tracts which qualify under Subsections 5(a) and 5(b) bears to the total percentage of all Working Interest Owners attributed to all tracts which qualify under Subsections 5(a) and 5(b), as such percentages are set out in Exhibit "C".

Notwithstanding anything in this section to the contrary all tracts other than unleased Federal Lands within the Unit Area shall be deemed to be qualified for participation if this Agreement and the Unit Operating Agreement are duly approved as the Plan of Unitization and Operating Plan by order of the New Mexico Conservation Division pursuant to Section 70-7-1, et seq., New Mexico Statutes Annotated and Section 19.15.20.14, et seq., New Mexico Annotated Code.

6. UNIT OPERATOR. OXY USA INC. is hereby designated as Unit Operator and by signature hereto as Unit Operator agrees and consents to accept the duties and obligations of unit operator for the development and production of Unitized Substances as herein provided. Whenever reference is made herein to the Unit Operator, such reference means the Unit Operator acting in that capacity and not as an owner of interest in Unitized Substances, and the term "Working Interest Owner" when used herein shall include or refer to Unit Operator as the owner of a Working Interest when such an interest is owned by it.

7. RESIGNATION OR REMOVAL OF UNIT OPERATOR. Unit Operator shall have the right to resign at any time, but such resignation shall not become effective so as to release Unit Operator from the duties and obligations of Unit Operator and terminate that Unit

Operator's rights as such for a period of six (6) months after notice of intention to resign has been served by Unit Operator on all Working Interest Owners and the Authorized Officer, and until all wells are placed in a satisfactory condition for suspension or abandonment whichever is required by the Authorized Officer, unless a new Unit Operator shall have been selected and accepted and shall have taken over and assumed the duties and obligations of Unit Operator prior to the expiration of said period.

The resignation of Unit Operator shall not release the Unit Operator from any liability for default by it hereunder occurring prior to the effective date of its resignation.

The Unit Operator may, upon default or failure in the performance of its duties or obligations hereunder, be subject to removal by an affirmative vote of the Working Interest Owners of at least ninety percent (90%) of the voting interest remaining after excluding the voting interest of the Unit Operator. Such removal shall be effective upon notice thereof to the Authorized Officer. In all such instances of resignation or removal, until a successor Unit Operator is selected and accepted as hereinafter provided, the Working Interest Owners shall be jointly responsible for performance of the duties of Unit Operator, and shall not later than thirty (30) days before such resignation or removal becomes effective appoint a common agent to represent them in any action to be taken hereunder.

The resignation or removal of Unit Operator under this Agreement shall not terminate its right, title or interest as the owner of a Working Interest or other interest in Unitized Substances, but upon the resignation or removal of Unit Operator becoming effective, such Unit Operator shall deliver possession of all wells, equipment, materials and appurtenances used in conducting the Unit Operations and owned by the Working Interest Owners to the new duly qualified successor Unit Operator or to the owners thereof if no such new Unit Operator is selected, to be used for the purpose of conducting Unit Operations hereunder. Nothing herein shall be construed as authorizing removal of any material, equipment or appurtenances needed for the preservation of any wells.

8. SUCCESSOR UNIT OPERATOR. Whenever the Unit Operator shall tender his or its resignation as Unit Operator or shall be removed as hereinabove provided, or a change of Unit Operator is negotiated by Working Interest Owners, a successor Unit Operator shall be selected by Working Interest Owners voting according to their respective tract participation in all unitized land by a majority vote; provided, that, if a majority but less than seventy-five percent

(75%) of the Working Interests qualified to vote are owned by one party to this Agreement, a concurring vote of one or more additional Working Interest Owners shall be required to select a New Operator. Such selection shall not become effective until:

(a) a Unit Operator so selected shall accept in writing the duties and responsibilities of Unit Operator, and

(b) the selection shall have been approved by the Authorized Officer.

If no successor Unit Operator is selected and qualified as herein provided, the Authorized Officer at his election may declare this Unit Agreement terminated.

9. ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT. If the Unit Operator is not the sole owner of Working Interests, costs and expenses incurred by Unit Operator in conducting unit operations hereunder shall be paid and apportioned among and borne by the Owners of Working Interests, all in accordance with the agreement or agreements, whether one or more, separately or collectively, entered into by and between the Unit Operator and the owners of Working Interests. Any agreement or agreements, whether one or more, entered into between the Working Interest Owners and the Unit Operator as provided in this section are hereinafter referred to as the "Unit Operating Agreement".

Such Unit Operating Agreement shall set forth such other rights and obligations as between Unit Operator and the Working Interest Owners as may be agreed upon by Unit Operator and the Working Interest Owners, however, no such Unit Operating Agreement shall be deemed either to modify any of the terms and conditions of this Unit Agreement or to relieve the Unit Operator of any right or obligation established under this Unit Agreement, and in case of any inconsistency or conflict between the Unit Agreement and the Unit Operating Agreement, this Unit Agreement shall prevail. Three (3) true copies of any Unit Operating Agreement executed pursuant to this section shall be filed with the Authorized Officer, prior to approval of this Unit Agreement, and thereafter promptly after any revision or amendment.

10. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR. Except as otherwise specifically provided herein, the exclusive right, privilege and duty of exercising any and all rights of the parties hereto, including surface rights, which are necessary or convenient for prospecting for, producing, storing, allocating and distributing the Unitized Substances are hereby delegated to and shall be exercised by the Unit Operator as herein provided. Acceptable evidence of title to said rights shall be deposited with said Unit Operator and, together with this

Agreement, shall constitute and define the rights, privileges and obligations of Unit Operator. Nothing herein, however, shall be construed to transfer title to any land or to any lease or operating agreement, it being understood that under this Agreement the Unit Operator, in its capacity as Unit Operator, shall exercise the rights of possession and use vested in the parties hereto only for the purposes herein specified.

11. PLAN OF OPERATION. It is recognized and agreed by the parties hereto that the Unit Area is developed and productive, and only such drilling as is incidental to a secondary recovery or pressure maintenance program is contemplated.

Inasmuch as the primary purpose of this Unit Agreement is to permit the institution and consummation of a secondary recovery or pressure maintenance program for the maximum economic production of Unitized Substances consistent with good engineering and conservation practices, Unit Operator, concurrently with the filing of this Unit Agreement for approval, shall submit to the Authorized Officer for approval, a plan of operation for the Unitized Land, and upon approval thereof by the Authorized Officer, such plan shall constitute the future operating obligations of the Unit Operator under this Unit Agreement for the period specified therein. Thereafter, from time to time before the expiration of any existing plan, the Unit Operator shall submit for the approval of the Authorized Officer, a plan for an additional specified period of operation; said plan or plans shall be modified or supplemented when necessary to meet changed conditions, or to protect the interest of all parties to the Unit Agreement. Reasonable diligence shall be exercised in complying with the obligations of any approved plan of operation.

Unit Operator shall have the right to inject into the Unitized Formation any substances for secondary recovery or pressure maintenance purposes in accordance with a plan of operation approved by the Authorized Officer including the right to drill and maintain injection wells on the Unitized Land and completed in the Unitized Formation, and to use abandoned well or wells producing from the Unitized Formation for said purpose, and the parties hereto, to the extent of their rights and interests, hereby grant to the Unit Operator the right to use as much of the surface of the land within the Unit Area as may be reasonably necessary for the operation and the development of the Unit Area hereunder. Unit Operator shall have free use of water from the Unitized Land for operations hereunder and for operations on adjacent lands except water from surface owner's and Royalty Owner's fresh water wells, private lakes, ponds or irrigation ditches.

12. PARTICIPATION AND ALLOCATION OF PRODUCTION. Beginning at 7:00 a.m. on the effective date hereof, the Tract Participation of each Tract shall be based upon the following factors and formula:

Estimated Ultimate Recovery (EUR) of each tract compared to the total EUR of all tracts in the unit – 100.00%

A / B = C

A = Estimated Ultimate Recovery, herein called "EUR" per Tract, barrels

B = Total EUR of all tracts in the unit, barrels

C = Tract Participation (percentage) for each tract

The figure set forth opposite each Tract in Exhibit "C" represents the Tract Participation to which such Tract is entitled if all Tracts are committed hereto and qualified as of the effective date of this Agreement. If, upon official resurvey of the Unit Area, the Authorized Officer determines that sufficient discrepancies exist from the official resurvey and the map used herein for all acreage-related parameters, the Authorized Officer may require a revision of the figures in Exhibit "C" to accommodate the resulting revised parameters. Said revisions shall be effective as of the date determined by the Authorized Officer.

Promptly after approval of the Unit Agreement, if all Tracts are not qualified hereto, Unit Operator shall revise Exhibit "C" to show the Tracts qualified for participation under this agreement by setting forth opposite each Tract a revised Tract Participation therefor, which shall be calculated by using the same Tract factors and formula which were used to arrive at the Tract Participation of each Tract as set out in the original Exhibit "C" but applying the same only to those Tracts which are qualified for participation as of the effective date of this Unit Agreement. Said revised Exhibit "C" shall be subject to approval by the Authorized Officer and shall be effective as of the effective date of this agreement.

If after the effective date of this Agreement any Tract or Tracts are subsequently committed hereto and qualified because of expansion of the Unit Area under Section 3, Expansion of Unit Area, or any Tract or Tracts are subsequently qualified under the provisions of Section 5, Tracts Qualified for Participation, and Section 30, Subsequent Joinder, or if any Tract is eliminated from this Unit Agreement as provided in Section 29, Loss of Title, the schedule of participation as shown in Exhibit "C" shall be revised by the Unit Operator to show the new

Tract Participation of all the then qualified Tracts; and the revised Exhibit "C", upon approval by the Authorized Officer, shall govern the allocation of production from the effective date thereof until a new schedule is so approved. In any such revised Exhibit "C", pursuant to this paragraph, the Tract Participation of the previously qualified Tracts shall remain in the same ratio one to the other.

On the effective date of this Agreement, and thereafter, all Unitized Substances produced hereunder (except any part thereof used in conformity with good operating practices for drilling, operating, camp and other production or development purposes, for pressure maintenance or secondary recovery operations in accordance with a plan of operation approved by the Authorized Officer, or unavoidably lost), shall be deemed to be produced from the several Tracts of Unitized Land, and for the purpose of determining any benefits accruing under this Agreement each such Tract shall have allocated to it that percentage of said production equal to its Tract Participation effective hereunder during the respective period such Unitized Substances were produced, as set out in Exhibit "C".

The amount of Unitized Substances allocated to each Tract shall be deemed to be produced from such Tract irrespective of the location of the wells from which the same is produced and regardless of depletion of wells or Tracts. In the absence of a controlling contract or agreement to the contrary, when two or more leases, or part or parts thereof have been combined into a single Tract, the percentage participation assigned to such Tract shall for all purposes be divided among the separate leases, or part or parts thereof, which have been put into such Tract, in proportion to the number of surface acres of the leases, or part or parts thereof contained in such Tract to the total surface acres contained in said Tract.

13. ROYALTY SETTLEMENT. The United States and all Royalty Owners who, under existing contracts, are entitled to take in kind a share of the substance now unitized hereunder produced from any tract, shall hereafter be entitled to the right to take in kind their proportionate share of the Unitized Substances allocated to such tract, and Unit Operator shall make deliveries of such royalty share taken in kind in conformity with the applicable contracts, laws and regulations. Settlement for Royalty Interest not taken in kind shall be made by Working Interest Owners responsible therefor under existing contracts, laws and regulations on or before the last day of each month for Unitized Substances produced during the preceding calendar month; provided, however, that nothing herein contained shall operate to relieve the

lessees of any land from their respective lease obligations for the payment of any royalties due under their leases.

If gas obtained from lands or formations not subject to this Agreement is introduced into the Unitized Formation hereunder, for use in repressuring, stimulation of production or increasing ultimate recovery, which shall be in conformity with a plan first approved by the Authorized Officer, a like amount of gas less appropriate deduction for loss or depletion from any cause, may be withdrawn from the Unitized Formation, royalty free; provided that such withdrawal shall be at such time as may be provided in the approved plan of operations or as may otherwise be consented to by the Authorized Officer as conforming to good petroleum engineering practice; and provided further, that such right of withdrawal shall terminate on the termination of this Unit Agreement.

If natural gasoline, liquid petroleum gas fractions or other liquid hydrocarbon substances (herein collectively called "LPGS") which were not extracted from gas produced from the Unitized Formation are injected into the Unitized Formation, which shall be in conformity with a plan of operation first approved by the Authorized Officer , Working Interest Owners shall be entitled to recover, royalty free, such "LPGS" pursuant to such conditions and formulas as may be prescribed or approved by the Authorized Officer.

As of the effective date that injection operations utilizing gas from outside the Unitized Formation begins, one hundred percent (100%) of all gas subsequently produced and sold from the Unitized Formation shall be deemed to be “Outside Gas” while zero percent (0%) shall be classified as “Native Gas” until the aggregate of the one hundred percent (100%) Outside Gas produced equals the accumulated BTU of Outside Gas injected into the Unitized Formation, hereinafter referred to as “Gas Payout.” Prior to such “Gas Payout”, Operator will not pay royalty, overriding royalty, production or any other payments on the Native Gas, as defined above. Working Interest Owners may use or consume Unitized Substances for Unit Operations and no royalty, overriding royalty, production or other payments shall be payable on account of the Unitized Substances used, lost or consumed in Unit Operations. All Outside Gas and all gas produced from the Unit after injection of Outside Gas will be measured in BTUs. During this time, Outside Gas and gas produced from Unitized Formations will be periodically sampled and analyzed to determine the BTU content for BTU balance purposes. Once Gas Payout occurs on a BTU basis, all gas produced from Unitized Formations shall be classified as Native Gas.

For purposes of the above paragraph, "Native Gas" shall mean natural gas originally in place and produced from any well located within the spatial boundaries and Unitized Formation of this Unit Agreement. "Outside Gas" shall be defined as all gas obtained from any source other than the Unitized Formations covered by this Agreement, including, but not limited to natural gas, carbon dioxide, nitrogen, other inert gases and all liquid hydrocarbon substances;. If Operator wishes to alter the approved injection substance, they shall submit an updated plan of operation to and receive approval from the Authorized Officer prior to commencing those operations.

Royalty due the United States on all Native Gas shall be computed as provided in the operating regulations and paid in value or delivered in kind as to all Unitized Substances on the basis of the amounts thereof allocated to unitized Federal or State Land as provided herein at the rates specified in the respective Federal or State Leases, or at such lower rates as may be authorized by law or regulation; provided, that for leases on which the royalty rate depends on the daily average production per well, said average production shall be determined in accordance with the operating regulations as though the Unitized Lands were a single consolidated lease.

As to Fee Lands, any royalty or other payment which varies under the terms of the instrument creating it, according to actual production from a tract or according to the capabilities of wells located thereon to produce, shall, on and after the effective date, be computed upon that portion of the Unitized Substances allocated to the particular tract and not upon the actual production of oil and gas from the tract or the capability of the well thereon to produce. If any such royalty or other payment depends on the production or pipeline runs from a well, such production or pipeline runs shall be determined by dividing the Unitized Substances allocated to the tract by the number of wells located thereon that were capable of producing or capable of being used in unit operations as a producing well or otherwise as of the effective date. If any tract has no such well located thereon as of the effective date, it shall be treated as having one well within the meaning of this section.

14. RENTAL SETTLEMENT. Rental or minimum royalties due on leases committed hereto shall be paid by Working Interest Owners responsible therefor under existing contracts, laws and regulations, provided that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any rental or minimum royalty in lieu thereof due under their leases. Rental or minimum royalty for lands of

the United States subject to this Agreement shall be paid at the rate specified in the respective leases from the United States unless such rental or minimum royalty is waived, suspended or reduced by law or by approval of the Secretary of the Interior, hereinafter referred to as "Secretary" or his duly authorized representative.

15. CONSERVATION. Operations hereunder and production of Unitized Substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by or pursuant to State or Federal Law or Regulation.

16. DRAINAGE. The Unit Operator shall take appropriate and adequate measures to prevent drainage of Unitized Substances from Unitized Land by wells on land not subject to this Agreement, or with prior consent of the Authorized Officer, pursuant to applicable regulations pay a fair and reasonable compensatory royalty as determined by the Authorized Officer. In the event compensatory royalty is so paid, it shall be treated in the same manner as Unitized Substances.

17. GAUGE OF MERCHANTABLE OIL. Unit Operator shall make a proper and timely gauge of all lease tanks and other tanks within the Unit Area and associated with the operation of Unitized Land in order to ascertain the amount of merchantable oil above the pipeline connections in such tanks at 7:00 a.m. on the effective date hereof. All such oil shall be and remain the property of the parties entitled thereto the same as if the Unit had not been formed; and such parties shall promptly remove said oil from said tanks. Any such oil not so removed shall be sold by Unit Operator for the account of parties entitled thereto, subject to the payment of all royalties, overriding royalties, production payments and all other payments under the terms and provisions of the applicable lease, leases or other contracts.

18. LEASES AND CONTRACTS CONFORMED AND EXTENDED. The terms, conditions and provisions of all leases, subleases and other contracts relating to exploration, drilling, development or operation for oil or gas on lands committed to this Agreement are hereby expressly modified and amended to the extent necessary to make the same conform to the provisions hereof, but otherwise to remain in full force and effect; and the parties hereto hereby consent that the Secretary shall and by his approval hereof, or by the approval hereof by his duly authorized representative, does hereby establish, alter, change or revoke the drilling, producing, rental, minimum royalty and royalty requirements of Federal Leases committed hereto and the regulations in respect thereto to conform said requirements to the provisions of this Agreement,

and, without limiting the generality of the foregoing, all leases, subleases and contracts are particularly modified in accordance with the following:

(a) The development and operation of lands subject to this Agreement under the terms hereof shall be deemed full performance of all obligations for development and operation with respect to each and every part of separately owned tract subject to this Agreement, regardless of whether there is any development of any particular part or tract of the Unitized Land, notwithstanding anything to the contrary in any lease, operating agreement or other contract by and between the parties hereto, or their respective predecessors in interest, or any of them.

(b) Drilling and producing operations performed hereunder upon any tract of Unitized Land will be accepted and deemed to be performed upon and for the benefit of each and every tract of Unitized Land, and no lease shall be deemed to expire by reason of failure to drill or produce wells situated on the land therein embraced.

(c) Suspension of drilling or producing operations on all Unitized Land pursuant to direction or consent of the Secretary or his duly authorized representative shall be deemed to constitute such suspension pursuant to such direction or consent as to each and every tract of Unitized Land.

(d) Each lease, sublease or contract relating to the exploration, drilling, development or operation for oil or gas on lands committed to this Agreement, which, by its terms might expire prior to the termination of this Agreement; is hereby extended beyond any such term so provided therein so that it shall be continued in full force and effect for and during the term of this Agreement.

(e) The segregation of any Federal Lease committed to this Agreement is governed by the following provision in the fourth paragraph of Section 17(m) of the Mineral Leasing Act, as amended by the Act of September 2, 1960, (74 Stat. 781-784): "Any (Federal) Lease heretofore or hereafter committed to any such (unit) plan embracing lands that are in part within and in part outside of the area covered by any such plan shall be segregated into separate leases as to the lands committed and the lands not committed as of the effective date of unitization; *provided*, *however*, that any such lease as to the non-unitized portion shall continue in force and effect for the term thereof but for not less

than two years from the date of such segregation and so long thereafter as oil or gas is produced in paying quantities".

19. COVENANTS RUN WITH LAND. The covenants herein shall be construed to be covenants running with the land with respect to the interest of the parties hereto and their successors in interest until this Agreement terminates, and any grant, transfer or conveyance of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee or other successor in interest. No assignment or transfer of any Working Interest shall be binding upon Unit Operator nor shall any transfer of any Royalty Interest or other interest be binding on the Working Interest Owner responsible for payment or settlement thereof, until the first day of the calendar month after Unit Operator or the responsible Working Interest Owner, as the case may be, is furnished with the original, photostat or certified copy of the instrument of transfer.

20. EFFECTIVE DATE. This Agreement shall become binding upon each party who executes or ratifies it as of the date of execution or ratification by such party and shall become effective as of 7:00 a.m. on the first day of the calendar month next following the approval of this Agreement by the Secretary of the Interior or his duly authorized delegate.

Unit Operator shall within thirty (30) days after the effective date of this Agreement file for record in Eddy County, New Mexico, a copy of this Agreement and a certificate to the effect that this Agreement has become effective according to its terms and stating further the effective date.

21. TERM. The term of this Agreement shall be for and during the time that Unitized Substances can be produced in quantities sufficient to pay for the cost of producing same from wells on Unitized Land and for as long thereafter as drilling, reworking or other operations are prosecuted on Unitized Land without cessation of more than sixty (60) consecutive days, and so long thereafter as Unitized Substances can be produced as aforesaid, unless sooner terminated by the Authorized Officer as provided in Section 8, Successor Unit Operator, or by the Working Interest Owners as provided in Section 22, Termination by Working Interest Owners.

22. TERMINATION BY WORKING INTEREST OWNERS. This Agreement may be terminated at any time by Working Interest Owners owning ninety percent (90%) or more of the participation percentage in the Unitized Land with the approval of the Authorized

Officer. Notice of any such termination shall be given by the Unit Operator to all parties hereto. Upon termination of this Agreement the parties hereto shall be governed by the terms and provisions of the leases and contracts affecting the separate tracts.

If not specified otherwise by the leases unitized under this Agreement, Basic Royalty Owners hereby grant Working Interest Owners a period of six (6) months after termination of this Agreement in which to salvage, sell, distribute or otherwise dispose of the personal property and facilities used in connection with Unit Operations.

Unit Operator shall, within thirty (30) days after the termination of this Agreement has been determined, pursuant to Section 8, Successor Unit Operator, and Section 22, Termination by Working Interest Owners, hereof, file for record in the office or offices where a counterpart of this Agreement is recorded, a certificate setting forth the fact of such termination and the date thereof.

23. RATE OF PROSPECTING, DEVELOPMENT AND PRODUCTION. The Authorized Officer is hereby vested with authority to alter or modify from time to time in his discretion the quantity and rate of production under this Agreement when such quantity and rate is not fixed pursuant to Federal or State Law or does not conform to any statewide voluntary conservation or allocation program, which is established, recognized and generally adhered to by the majority of operators in such State, such authority being hereby limited to alteration or modification in the public interest, the purpose thereof and the public interest to be served thereby to be stated in the order of alteration or modification. Without regard to the foregoing, the Authorized Officer is also hereby vested with authority to alter or modify from time to time in his discretion the rate of prospecting and development and the quantity and rate of production under this Agreement when such alteration or modification is in the interest of attaining the conservation objectives stated in this Agreement and is not in violation of any applicable Federal or State Law.

Powers in this section vested in the Authorized Officer shall only be exercised after notice to Unit Operator and opportunity for hearing to be held not less than fifteen (15) days from notice.

24. APPEARANCES. The unit operator shall, after notice to other parties affected, have the right to appear for and on behalf of any and all interests affected hereby before the Department of the Interior and to appeal from orders issued under the regulations of said

Department or to apply for relief from any of said regulations or in any proceedings relative to operations before the Department of the Interior or any other legally constituted authority; provided, however, that any other interested party shall also have the right at his own expense to be heard in any such proceeding.

25. NOTICES. All notices, demands or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given if given in writing and personally delivered to the party or sent by postpaid registered or certified mail, addressed to such party at the address such party has furnished to the party sending the notice, demand or statement.

26. NO WAIVER OF CERTAIN RIGHTS. Nothing in this Agreement contained shall be construed as a waiver by any party hereto of the right to assert any legal or constitutional right or defense as to the validity or invalidity of any law of the State of New Mexico, or of the United States, or regulations issued thereunder in any way affecting such party, or as a waiver by any such party of any right beyond his or its authority to waive; provided, however, each party hereto except the United States covenants that during the existence of this Agreement, such party shall not resort to any action at law or in equity to partition the Unitized Land or the facilities used in the development or operation thereof and to that extent waives the benefits of all laws authorizing such partition.

27. UNAVOIDABLE DELAY. All obligations under this Agreement, except the payment of money, shall be suspended while, but only so long as, the Unit Operator despite the exercise of due care and diligence is prevented from complying with such obligations, in whole or in part, by strikes, acts of God, Federal, State or Municipal Law or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market or other matters beyond the reasonable control of the Unit Operator whether similar to matters herein enumerated or not.

28. NON-DISCRIMINATION. In connection with the performance of work under this Agreement, the Unit Operator agrees to comply with all the provisions of Section 202(1) to (7) inclusive, of Executive Order 11246, (30 F.R. 12319), as amended, which are hereby incorporated by reference in this Agreement.

29. LOSS OF TITLE. In the event title to any tract of Unitized Land shall fail and the true owner cannot be induced to join this Unit Agreement, such tract shall be automatically regarded as not committed hereto and there shall be such readjustment of future costs and

benefits as may be required on account of the loss of such title. In the event of a dispute as to title as to any Royalty, Working Interest or other interests subject hereto, payment or delivery on account thereof may be withheld without liability for interest until the dispute is finally settled; provided, that, as to Federal Land or Leases, no payments of funds due the United States should be withheld, but such funds shall be deposited as directed by the Authorized Officer to be held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

Unit Operator as such is relieved from any responsibility for any defect or failure of any title hereunder.

In order to avoid title failure which might incidentally cause the title to a Working Interest or Interests to fail, the owners of (a) the surface rights to land subject to this Agreement, (b) severed minerals or Royalty Interests in said land and (c) improvements located on said lands but not utilized for Unit Operations, shall individually be responsible for the rendition and assessment, for ad valorem tax purposes, of all such property, and for payment of such taxes, except as otherwise provided in any contract or agreement between such owners and a Working Interest Owner or Owners or in the Unit Operating Agreement. If any ad valorem taxes are not paid by such owners responsible therefor when due, the Unit Operator may, at any time prior to tax sale, pay the same, redeem such property, and discharge such tax liens as may arise through non-payment. In the event the unit operator makes any such payment or redeems any such property from tax sale, the unit operator shall be reimbursed therefor by the Working Interest Owners in proportion to their respective percentages of Unit Participation; and the Unit Operator shall withhold from the proceeds otherwise due to said delinquent taxpayer or taxpayers, an amount sufficient to defray the costs of such payment or redemption, such withholdings to be distributed among the Working Interest Owners in proportion to respective contributions toward such payment or redemption.

30. SUBSEQUENT JOINDER. After the effective date of this Agreement, the commitment of any interest in any tract within the Unit Area shall be upon such equitable terms as may be negotiated by Working Interest Owners and the owner of such interest. After the effective date hereof, joinder by a Royalty Owner must be consented to in writing by the Working Interest Owner committed hereto and responsible for the payment of any benefits that may accrue hereunder in behalf of such Royalty Interest. Joinder by any Royalty Owner at any

time must be accompanied or preceded by appropriate joinder by the Owner of the corresponding Working Interest in order for the interest to be regarded as effectively committed. Joinder to the Unit Agreement by a Working Interest Owner at any time must be accompanied by appropriate joinder to the Unit Operating Agreement in order for the interest to be regarded as committed to this Unit Agreement. Except as may otherwise herein be provided, subsequent joinders to this Agreement shall be effective as of the date of the filing with the Authorized Officer of duly executed counterparts of all or any papers necessary to establish commitment of any tract to this Agreement unless objection to such joinder is made within sixty (60) days by the Authorized Officer.

31. COUNTERPARTS. This Agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties, or may be ratified or consented to by separate instrument in writing specifically referring hereto and shall be binding upon those parties who have executed such a counterpart, ratification or consent hereto with the same force and effect as if all parties had signed the same document and regardless of whether or not it is executed by all other parties owning or claiming an interest in the lands within the above-described Unit Area.

In the event any of the parties hereto own both Working Interests and Royalty Interests, as such interests are shown on Exhibit "B", it shall not be necessary for such party to execute this Agreement in both capacities in order to commit both classes of Interests. Execution hereof by any such party in one capacity shall also constitute an execution in the other capacity, provided said interest owner has also executed the Unit Operating Agreement in its capacity as a Working Interest Owner.

32. ROYALTY OWNERS' TAXES. Unless otherwise specifically provided by law, each Royalty Owner shall render and pay all ad valorem taxes, including ad valorem taxes measured by production levied against its royalty or mineral interest. Unit Operator shall pay, as an agent for the Working Interest Owners, each Royalty Owner's share of all taxes other than ad valorem taxes levied on or measured by the Unitized Substances in and under, or that may be produced , gathered and sold from the land subject hereto, or upon the proceeds or net proceeds derived therefrom, and shall pay ad valorem taxes to the extent that the same are made payable by law by any Working Interest Owner. Each Working Interest Owner shall reimburse Unit Operator for taxes so paid on its behalf and such Working Interest Owner shall make

proportionate deductions of said amounts in settling with its Royalty Owners in each separately owned tract. No such taxes shall be charged to the United States or the State of New Mexico, or to any lessor who has a contract with his lessee which requires the lessee to pay such taxes.

33. NO PARTNERSHIP. It is expressly agreed that the relation of the parties hereto is that of independent contractors and nothing in this Agreement contained, expressed or implied, nor any operations conducted hereunder, shall create or be deemed to have created a partnership or association between the parties hereto or any of them.

34. BORDER AGREEMENTS. Unit Operator, subject to the provisions of the Unit Operating Agreement and subject to approval of the Authorized Officer, may enter into an agreement or agreements with the Working Interest Owners of adjacent lands with respect to operations designed to increase the ultimate recovery of oil and/or gas from the unitized formation, prevent waste and protect the correlative rights of the parties.

35. CORRECTION OF ERROR. It is hereby agreed by all parties to this Agreement that Unit Operator is empowered to correct any mathematical or clerical errors which may exist in the pertinent Exhibits to this Agreement; provided, however, that correction of any error other than mathematical or clerical shall be made by Unit Operator only after first having obtained approval of Working Interest Owners and the Authorized Officer. If any such corrections are made, Unit Operator shall file not less than six (6) copies of the corrected pages of this Agreement or of the Exhibits hereto with the Authorized Officer. Unit Operator shall also provide, in conformance with Section 25, Notices, such corrected pages to the parties hereto.

36. SPECIAL SURFACE STIPULATIONS. Nothing in this agreement shall modify the special Federal Lease stipulations attached to the individual Federal Oil Leases.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed and have set opposite their respective names the date of execution.

UNIT OPERATOR AND WORKING INTEREST OWNER

_____

By_____

Address:_____

_____

_____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me by _____, as _____ of _____.

This _____ day of _____, 2021.

WITNESS my hand and official seal.

My Commission Expires:

_____ _____
Notary Public

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Wyoming State Office Reservoir Management Group
2987 Prospector Drive
Casper, WY 82604-2968

In Reply Refer To:
3181
(3181.2)
Juno (Bone Spring-Upper Wolfcamp) Unit
NMNM143646X

SEP 0 9 2021

OXY USA Inc.
Attn: Peter Van Liew
5 Greenway Plaza, Suite 110
Houston, TX 77046-0521

Dear Mr. Van Liew:

Your application of August 24, 2021, filed with the Chief, Reservoir Management Group, requests the designation of the Juno (Bone Spring-Upper Wolfcamp) Unit, embracing 960.00 acres, in Eddy County, New Mexico, as logically subject to operations under unitization provisions of the Mineral Leasing Act, as amended, and acceptance of the proposed form of unit agreement.

The secondary recovery study for this proposed unit estimates that successful secondary operations by gas injection would result in 1.5MM additional barrels of oil. Pursuant to unit plan regulations 43 CFR 3180, the land requested, as outlined on your plat marked "Exhibit `A', Juno (Bone Spring-Upper Wolfcamp) Unit", is acceptable as a logical unit area for the purpose of secondary recovery operations.

The form of unit agreement and Exhibits "A", "B", and "C" as submitted with your application will be accepted. One copy of the agreement and Exhibits "A", "B" and "C" are being retained by this office.

Please be advised that before this office can grant final approval of the Juno (Bone Spring-Upper Wolfcamp) Unit, the following statement must be submitted notifying this office as to what bonding will be used to cover operations under this unit and the intent to not horizontally segregate Federal leases.

The parties to the _____ Unit Agreement request that the Federal Leases committed to this unit not be horizontally segregated. BLM bond No. _____ will be used to cover operations under this Unit.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 6
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

Refer any questions on this matter to Sandy Blackburn Land Law Examiner, at (307) 261-7632.

Sincerely,

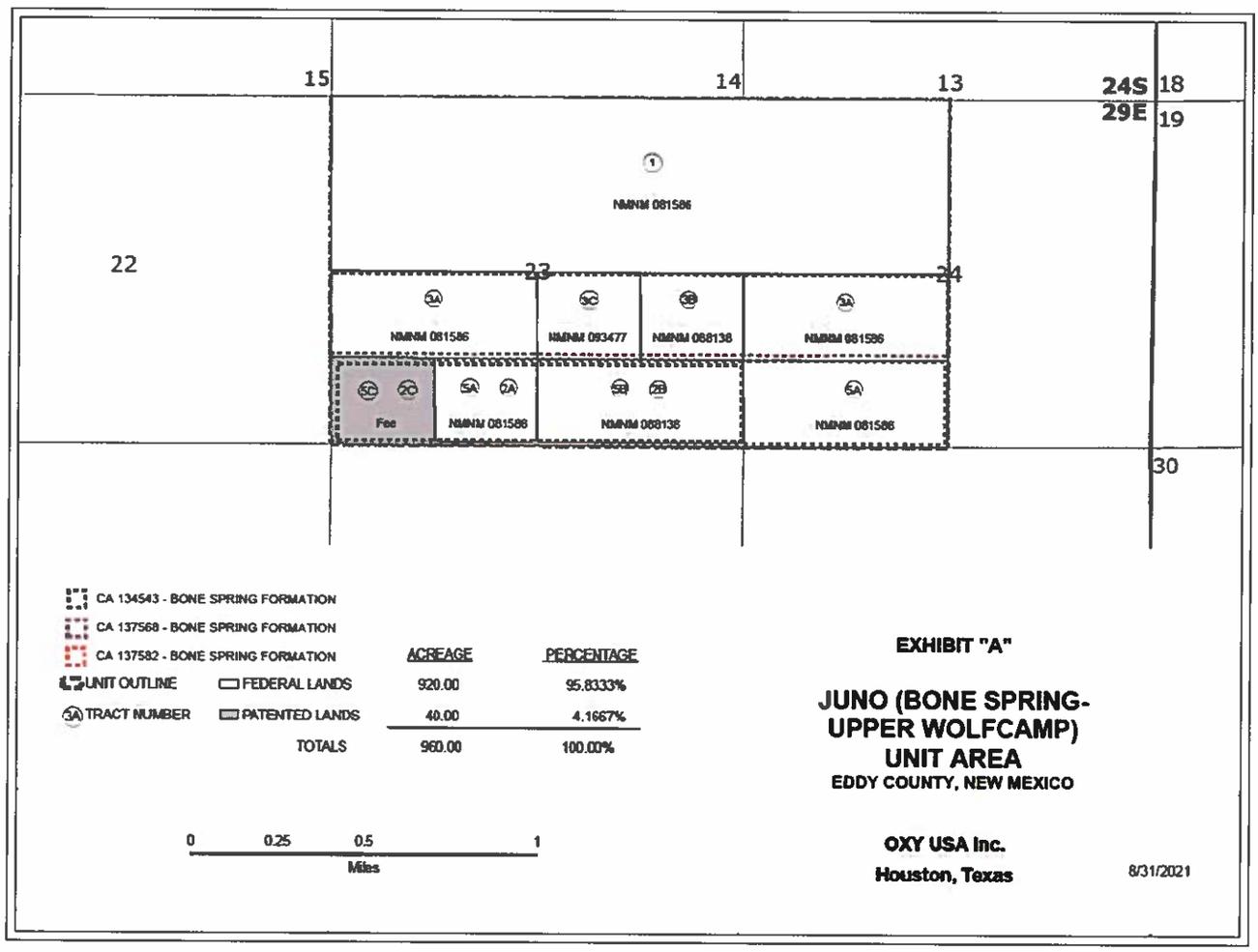
J. David Chase
Chief, Reservoir Management Group

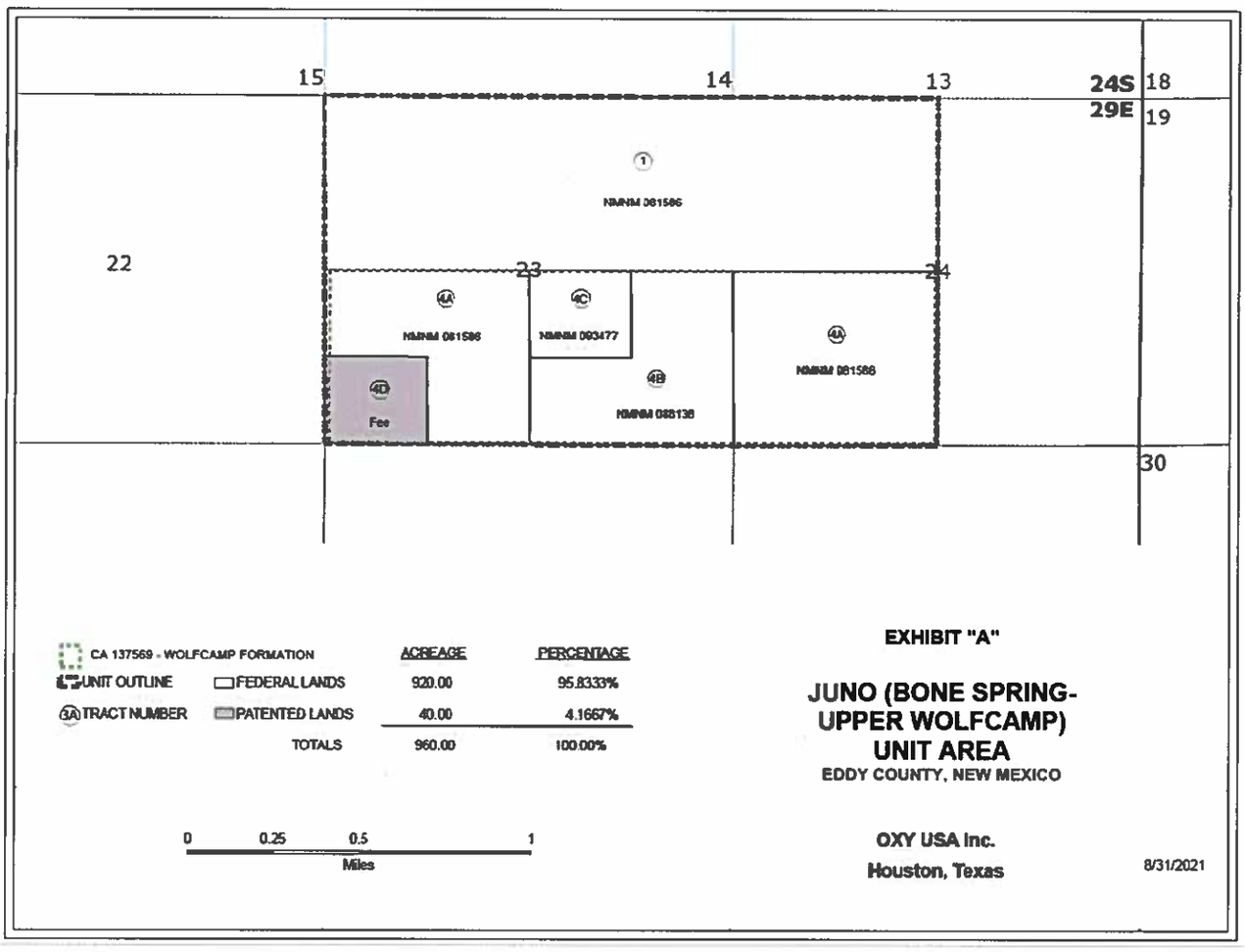
2 Enclosures
1- Unit Agreement
2- Exhibits A, B, C

cc: NMSO, Sheila Mallory w/ application
ONRR-RRM (email: leases.blm@onrr.gov)
New Mexico State Land Office, Scott Dawson
New Mexico Oil Conservation Division, Leonard Lowe

EXHIBIT "A"

Attached to and made a part of the
Unit Agreement for the
Juno (Bone Spring-Upper Wolfcamp) Unit Area
Eddy County, New Mexico




15
14
13
24S
29E
18
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23
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30
1
NMNM 081586
4A
NMNM 081586
4C
NMNM 093477
4B
NMNM 088136
4A
NMNM 081586
4D
Fee
CA 137569 - WOLFCAMP FORMATION
UNIT OUTLINE
5A TRACT NUMBER
FEDERAL LANDS
PATENTED LANDS
TOTALS
ACREAGE
920.00
40.00
960.00
PERCENTAGE
95.8333%
4.1667%
100.00%
0
0.25
0.5
1
Miles
EXHIBIT "A"
JUNO (BONE SPRING-UPPER WOLFCAMP) UNIT AREA
EDDY COUNTY, NEW MEXICO
OXY USA Inc.
Houston, Texas
8/31/2021

EXHIBIT "B"

SCHEDULE SHOWING THE PERCENTAGE AND KIND OF OWNERSHIP OF OIL AND GAS INTERESTS
JUNO (BONE SPRING-UPPER WOLFCAMP) UNIT
EDDY COUNTY, NEW MEXICO

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage	Lessee of Record and Percentage	Overriding Royalty and Percentage	Working Interest and Percentage
1	T24S-R29E, N.M.P.M. Sec. 23: N/2 Sec. 24: NW/4 Depths Covered: All	480	NMNM 81586 Eff. 6-1-1989 HBP	United States of America 12.50%	OXY USA Inc. 100.00% TOTAL 100.00%	Kimbell Art Foundation 2.793939% The Roach Foundation 0.344654% Bill Burton 0.041444% Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust 0.019735% Robert C. Grable 0.019735% Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust 0.005921% Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust 0.005921% Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust 0.005921% Sundance Minerals I 0.000762% MAP00-Net, a Texas general partnership 0.592050% Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship 1.500000% Pegasus Resources, LLC 1.552500% McMullen Minerals, LLC 0.135000% TOTAL 7.017580%	OXY USA Inc. 100.00% TOTAL 100.00%
	Tracts 2A, 2B and 2C comprise CA NMNM 134543						
2A	T24S-R29E, N.M.P.M. Sec. 23: SE/4SW/4	40	NMNM 81586 Eff. 6-1-1989	United States of America 12.50%	OXY USA Inc. 100.00% TOTAL 100.00%	Kimbell Art Foundation 2.932803% The Roach Foundation 0.361784%	OXY USA Inc. 100.00% TOTAL 100.00%

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
	Depths Covered: Bone Spring Only		HBP					Bill Burton	0.044875%		
								Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust	0.021369%		
								Robert C. Grable	0.021369%		
								Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust	0.006411%		
								Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust	0.006411%		
								Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust	0.006411%		
								Sundance Minerals I	0.082500%		
								MAP00-Net, a Texas general partnership	0.641068%		
								Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship	1.500000%		
								Pegasus Resources, LLC	1.552500%		
								McMullen Minerals, LLC	0.135000%		
								TOTAL	7.312501%		
2B	T24S-R29E, N.M.P.M. Sec. 23: S/2SE/4 Depths Covered: Bone Spring Only	80	NMNM 88138 Eff. 3-1-1992 HBP	United States of America	12.50%	OXY USA Inc. TOTAL	100.00% 100.00%	Kimbell Art Foundation	0.733201%	OXY USA Inc. OXY USA WTP Limited Partnership	92.1875% 7.8125%
								The Roach Foundation	0.733201%		
								Bill Burton	0.011219%	TOTAL	100.00%
								Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust	0.005342%		
								Robert C. Grable	0.005342%		
								Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust	0.001603%		
								Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust	0.001603%		

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
								Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust	0.00001603		
								Sundance Minerals I	0.020625%		
								MAP00-Net, a Texas general partnership	0.160267%		
								Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship	1.500000%		
								C. Mark Wheeler	0.019531%		
								Paul R. Barwis	0.039063%		
								Jareed Partners, Ltd.	0.039063%		
								Chisos Minerals, LLC	0.011719%		
								John Lawrence Thoma, Trustee of the Cornerstone Family Trust	0.023438%		
								CrownRock Minerals, L.P.	0.023438%		
								Collins & Ware, Inc.	0.468750%		
								TOTAL	3.799008%		
2C	T24S-R29E, N.M.P.M. Sec. 23: SW/4SW/4 Depths Covered: Bone Spring Only	40	Fee (Patented Lands) HBP	Jan Alice Herrstrom	0.716146%	OXY USA Inc.	100.00%	None		OXY USA Inc.	100.00%
				Jack Scott McDonald and wife, Sandra McDonald	0.716147%	TOTAL	100.00%			TOTAL	100.00%
				George Scott Cranford, Trustee of the Scott Cranford AP Trust dated September 17, 2018	0.716147%						
				Cydney Medford and husband, Britt P. Medford	0.716146%						
				Twin Oaks Petroleum, LLC	1.432292%						
				Rebecca Gaines Hooks	3.222656%						
				Micaella Gaines Klapuch	3.222656%						
				Robert E. Gaines, Jr.	3.222656%						
				Mary Martha Gaines England	3.222656%						
				Glen McDonald and wife, Barbara McDonald	1.302083%						

RECEIVED
AUG 25 2021
Bureau of Land Management
Reservoir Management Group

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
				Raymond H. McDonald, Jr., and wife, Margaret McDonald	1.302083%						
				Robert Patton and wife, Brenda K. Patton	1.302083%						
				Lonny Ray McDonald	1.302083%						
				David H. McDonald and wife, Vicki McDonald	1.302083%						
				Enrich H. McDonald, a/k/a Henry E. McDonald	1.302083%						
				TOTAL	25.000000%						
	Tracts 3A, 3B and 3C comprise CA NMNM 137568										
3A	T24S-R29E, N.M.P.M. Sec. 23: N/2SW/4 Sec. 24: N/2SW/4 Depths Covered: Bone Spring Only	160	NMNM 81586 Eff. 6-1-1989 HBP	United States of America	12.50%	OXY USA Inc. TOTAL	100.00% 100.00%	Kimbell Art Foundation The Roach Foundation Bill Burton Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust Robert C. Grable Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust Sundance Minerals I MAP00-Net, a Texas general partnership Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship Pegasus Resources, LLC McMullen Minerals, LLC	2.863371% 0.353219% 0.043812% 0.020863% 0.020863% 0.006259% 0.006259% 0.006259% 0.080547% 0.625892% 1.500000% 1.552500% 0.135000%	OXY USA Inc. TOTAL	100.00% 100.00%

RECEIVED

AUG 25 2021

Bureau of Land Management
Reservoir Management Group

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage	Lessee of Record and Percentage	Overriding Royalty and Percentage	Working Interest and Percentage
						TOTAL 7.214844%	
3B	T24S-R29E, N.M.P.M. Sec. 23: NE/4SE/4 Depths Covered: Bone Spring Only	40	NMNM 88138 Eff. 3-1-1992 HBP	United States of America 12.50%	OXY USA Inc. 100.00% TOTAL 100.00%	Kimbell Art Foundation 0.733201% The Roach Foundation 0.090446% Bill Burton 0.011219% Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust 0.005342% Robert C. Grable 0.005342% Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust 0.001603% Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust 0.001603% Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust 0.001603% Sundance Minerals I 0.020625% MAP00-Net, a Texas general partnership 0.160267% Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship 1.500000% C. Mark Wheeler 0.019531% Paul R. Barwis 0.039063% Jareed Partners, Ltd. 0.039063% Chisos Minerals, LLC 0.011719% John Lawrence Thoma, Trustee of the Cornerstone Family Trust 0.023438% CrownRock Minerals, L.P. 0.023438% TOTAL 2.687503%	OXY USA Inc. 92.1875% 7.8125% OXY USA WTP Limited Partnership TOTAL 100.00%

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
3C	T24S-R29E, N.M.P.M. Sec. 23: NW/4SE/4 Depths Covered: Bone Spring Only	40	NMNM 93477 Eff. 9-1-1994 HBP	United States of America	12.50%	OXY USA Inc. TOTAL	100.00% 100.00%	Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship Collins & Ware, Inc. TOTAL	0.153000% 0.357000% 0.510000%	OXY USA Inc. TOTAL	100.00% 100.00%
	Tracts 4A, 4B, 4C and 4D comprise CA NMNM 137569										
4A	T24S-R29E, N.M.P.M. Sec. 23: N/2SW/4 & SE/4SW/4 Sec. 24: SW/4 Depths Covered: Top of Wolfcamp to Base of Wolfcamp A	280	NMNM 81586 Eff. 6-1-1989 HBP	United States of America	12.50%	OXY USA Inc. TOTAL	100.00% 100.00%	Kimbell Art Foundation The Roach Foundation Bill Burton Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust Robert C. Grable Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust Sundance Minerals I MAP00-Net, a Texas general partnership Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship Pegasus Resources, LLC McMullen Minerals, LLC TOTAL	1.664514% 0.205331% 0.025469% 0.012128% 0.012128% 0.003638% 0.003638% 0.003638% 0.046823% 0.363839% 0.875000% 0.905625% 0.078750% 4.200521%	OXY USA Inc. TOTAL	100.00% 100.00%
4B	T24S-R29E, N.M.P.M.	120	NMNM 88138	United States of America	12.50%	OXY USA Inc.	100.00%	Kimbell Art Foundation	0.733201%	OXY USA Inc.	92.1875%

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
	Sec. 23: S/2SE/4 & NE/4SE/4 Depths Covered: Top of Wolfcamp to Base of Wolfcamp A		Eff. 3-1-1992 HBP			TOTAL	100.00%	The Roach Foundation Bill Burton Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust Robert C. Grable Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust Sundance Minerals I MAP00-Net, a Texas general partnership Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship C. Mark Wheeler Paul R. Barwis Jareed Partners, Ltd. Chisos Minerals, LLC John Lawrence Thoma, Trustee of the Cornerstone Family Trust CrownRock Minerals, L.P. Collins & Ware, Inc. TOTAL	0.090446% 0.011219% 0.005342% 0.005342% 0.001603% 0.001603% 0.001603% 0.020625% 0.160267% 1.500000% 0.019531% 0.039063% 0.039063% 0.011719% 0.023438% 0.023438% 0.312500% 3.000003%	OXY USA WTP Limited Partnership TOTAL	7.8125% 100.00%
4C	T24S-R29E, N.M.P.M. Sec. 23: NW/4SE/4 Depths Covered: Top of Wolfcamp to Base of Wolfcamp A	40	NMNM 93477 Eff. 9-1-1994 HBP	United States of America	12.50%	OXY USA Inc. TOTAL	100.00% 100.00%	Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship Collins & Ware, Inc.	0.153000% 0.357000%	OXY USA Inc. TOTAL	100.00% 100.00%

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
								TOTAL	0.510000%		
4D	T24S-R29E, N.M.P.M. Sec. 23: SW/4SW/4 Depths Covered: Top of Wolfcamp to Base of Wolfcamp A	40	Fee (Patented Lands) HBP	Jan Alice Herrstrom	0.716146%	OXY USA Inc.	100.00%	None		OXY USA Inc.	100.00%
				Jack Scott McDonald and wife, Sandra McDonald	0.716146%	TOTAL	100.00%			TOTAL	100.00%
				George Scott Cranford, Trustee of the Scott Cranford AP Trust dated September 17, 2018	0.716146%						
				Cydney Medford and husband, Britt P. Medford	0.716146%						
				Twin Oaks Petroleum, LLC	1.432293%						
				Rebecca Gaines Hooks	3.222657%						
				Micaella Gaines Klapuch	3.222656%						
				Robert E. Gaines, Jr.	3.222656%						
				Mary Martha Gaines England	3.222656%						
				Glen McDonald and wife, Barbara McDonald	1.302083%						
				Raymond H. McDonald, Jr., and wife, Margaret McDonald	1.302083%						
				Robert Patton and wife, Brenda K. Patton	1.302083%						
				Lonny Ray McDonald	1.302083%						
				David H. McDonald and wife, Vicki McDonald	1.302083%						
				Enrich H. McDonald, a/k/a Henry E. McDonald	1.302083%						
				TOTAL	25.000000%						
	Tracts 5A, 5B and 5C comprise CA NMNM 137582										
5A	T24S-R29E, N.M.P.M. Sec. 23: SE/4SW/4	120	NMNM 81586 Eff. 6-1-1989	United States of America	12.50%	OXY USA Inc. TOTAL	100.00% 100.00%	Kimbell Art Foundation The Roach Foundation	2.840227% 0.350364%	OXY USA Inc. TOTAL	100.00% 100.00%

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
	Sec. 24: S/2SW/4 Depths Covered: Bone Spring Only		HBP					Bill Burton Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust Robert C. Grable Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust Sundance Minerals I MAP00-Net, a Texas general partnership Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship Pegasus Resources, LLC McMullen Minerals, LLC TOTAL	0.043458% 0.020695% 0.020695% 0.006208% 0.006208% 0.006208% 0.079896% 0.620833% 1.500000% 1.552500% 0.135000% 7.182292%		
5B	T24S-R29E, N.M.P.M. Sec. 23: S/2SE/4 Depths Covered: Bone Spring Only	80	NMNM 88138 Eff. 3-1-1992 HBP	United States of America	12.50%	OXY USA Inc. TOTAL	100.00% 100.00%	Kimbell Art Foundation The Roach Foundation Bill Burton Ben J. Fortson III, Trustee of the Ben J. Fortson III Children's Trust Robert C. Grable Ben J. Fortson, Jr., Trustee of the MWB 1998 Trust Ben J. Fortson, Jr., Trustee of the CCB 1998 Trust Ben J. Fortson, Jr., Trustee of the DCB 1998 Trust	0.733201% 0.090446% 0.011219% 0.005342% 0.005342% 0.001603% 0.001603% 0.001603% 	OXY USA Inc. OXY USA WTP Limited Partnership TOTAL	92.1875% 7.8125% 100.00%

RECEIVED

AUG 25 2021

Bureau of Land Management
Reservoir Management Group

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage		Lessee of Record and Percentage		Overriding Royalty and Percentage		Working Interest and Percentage	
								Sundance Minerals I	0.020625%		
								MAP00-Net, a Texas general partnership	0.160267%		
								Curtis A. Anderson and Edna I. Anderson, Joint Tenants with Rights of Survivorship	1.500000%		
								C. Mark Wheeler	0.019531%		
								Paul R. Barwis	0.039062%		
								Jareed Partners, Ltd.	0.039062%		
								Chisos Minerals, LLC	0.011718%		
								John Lawrence Thoma, Trustee of the Cornerstone Family Trust	0.023438%		
								CrownRock Minerals, L.P.	0.023438%		
								TOTAL	2.687500%		
5C	T24S-R29E, N.M.P.M. Sec. 23: SW/4SW/4 Depths Covered: Bone Spring Only	40	Fee (Patented Lands) HBP	Jan Alice Herrstrom	0.716146%	OXY USA Inc.	100.00%	None		OXY USA Inc.	100.00%
				Jack Scott McDonald and wife, Sandra McDonald	0.716146%	TOTAL	100.00%			TOTAL	100.00%
				George Scott Cranford, Trustee of the Scott Cranford AP Trust dated September 17, 2018	0.716146%						
				Cydney Medford and husband, Britt P. Medford	0.716146%						
				Twin Oaks Petroleum. LLC	1.432293%						
				Rebecca Gaines Hooks	3.222657%						
				Micaella Gaines Klapuch	3.222656%						
				Robert E. Gaines, Jr.	3.222656%						
				Mary Martha Gaines England	3.222656%						
				Glen McDonald and wife, Barbara McDonald	1.302083%						
				Raymond H. McDonald, Jr., and wife, Margaret McDonald	1.302083%						

Tract No.	Description of Land & Depths Covered	Number of Acres	Serial Number & Expiration Date of Lease	Basic Royalty and Percentage	Lessee of Record and Percentage	Overriding Royalty and Percentage	Working Interest and Percentage
				Robert Patton and wife, Brenda K. Patton 1.302083%			
				Lonny Ray McDonald 1.302083%			
				David H. McDonald and wife, Vicki McDonald 1.302083%			
				Enrich H. McDonald, a/k/a Henry E. McDonald 1.302083%			
				25.000000%			

FEDERAL TRACTS TOTALING 920.00 ACRES OR 95.8333% OF THE UNIT AREA

PATENTED TRACTS TOTALING 40.00 ACRES OR 4.1667% OF THE UNIT AREA

960.00 ACRES IN UNIT AREA

EXHIBIT "C"

ATTACHED TO AND MADE A PART OF THE
UNIT AGREEMENT FOR THE
JUNO (BONE SPRING-UPPER WOLFCAMP) UNIT AREA
EDDY COUNTY, NEW MEXICO

Tract Letter	EUR	Tract Participation
1	3,169	54.4034%
2A	124	2.1245%
2B	248	4.2489%
2C	124	2.1245%
3A	545	9.3496%
3B	136	2.3381%
3C	136	2.3381%
4A	383	6.5802%
4B	164	2.8197%
4C	55	0.9395%
4D	55	0.9395%
5A	344	5.8970%
5B	229	3.9309%
5C	115	1.9661%
TOTAL	5,825	100.0000%

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery X_____Pressure Maintenance _____Disposal _____Storage
Application qualifies for administrative approval? _____Yes X_____No

II. OPERATOR: OXY USA INC.

ADDRESS: P.O. BOX 4294 HOUSTON, TX 77210

CONTACT PARTY: STEPHEN JANACEK PHONE: 713-497-2417

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ____X_____Yes _____N
o
If yes, give the Division order number authorizing the project: R-21356

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 7
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: STEPHEN JANACEK TITLE: REGULATORY ENGINEER

SIGNATURE: Stephen Janacek DATE: 01/21/2021

E-MAIL ADDRESS: STEPHEN_JANACEK@OXY.COM

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

C-108 Application
Oxy USA Inc.
Cedar Canyon Section 23-24
Eddy County, NM

I. This is a pressure maintenance project.

II. OXY USA Inc.
P.O. Box 4294
Houston, TX 77210
Contact Party: Stephen Janacek, Phone: 713-493-1986

III. Injection well data sheets and wellbore schematics have been attached for the injection wells covered by this application.

IV. This is an expansion of an existing project: Injection order R-21356 for Cedar Canyon 23 Federal #4H.

V. The map with a two-mile radius surrounding the injection wells and a one-half mile radius for the area of review is attached.

VI. The tabular format of the area of review is attached.

VII. The proposed operations data sheet is attached.

VIII. Please see attached signed statements on geologic data for the injection zone.

IX. There are no proposed stimulation programs for these wells.

X. Logs were filed for the wells on the following dates:

#	Well Name	API	Log File Date(s)
1	GUACAMOLE CC 24-23 FED #12H	30-015-45871	5/19/2020, 6/1/2020
2	GUACAMOLE CC 24-23 FED #11H	30-015-45870	6/1/2020, 2/3/2021
3	CEDAR CANYON 23 #1H	30-015-40667	10/8/2013, 9/2/2015
4	CEDAR CANYON 23 #2H	30-015-41194	4/2/2015
5	CEDAR CANYON 23 FEDERAL #3H	30-015-43290	4/13/2017
6	CEDAR CANYON 23 FEDERAL #4H	30-015-43281	4/11/2016
7	CEDAR CANYON 23 Fed #5H	30-015-43282	4/11/2016
8	CEDAR CANYON 23 FEDERAL COM #6H	30-015-44095	10/2/2017
9	CEDAR CANYON 23 24 FEDERAL #31H	30-015-44179	11/27/2017
10	CEDAR CANYON 23 24 FEDERAL #32H	30-015-44180	11/27/2017, 2/3/2021
11	CEDAR CANYON 23 24 FEDERAL COM #34H	30-015-44178	11/27/2017, 2/3/2021
12	CEDAR CANYON 23 FEDERAL COM #33H	30-015-44074	10/2/2017

XI. Per the Office of the State Engineer GIS website, no active freshwater wells were found within one mile of these wells.

XII. N/A. These are not disposal wells.

XIII. Attached, please find the Proof of Notice.

Side 1

INJECTION WELL DATA SHEET

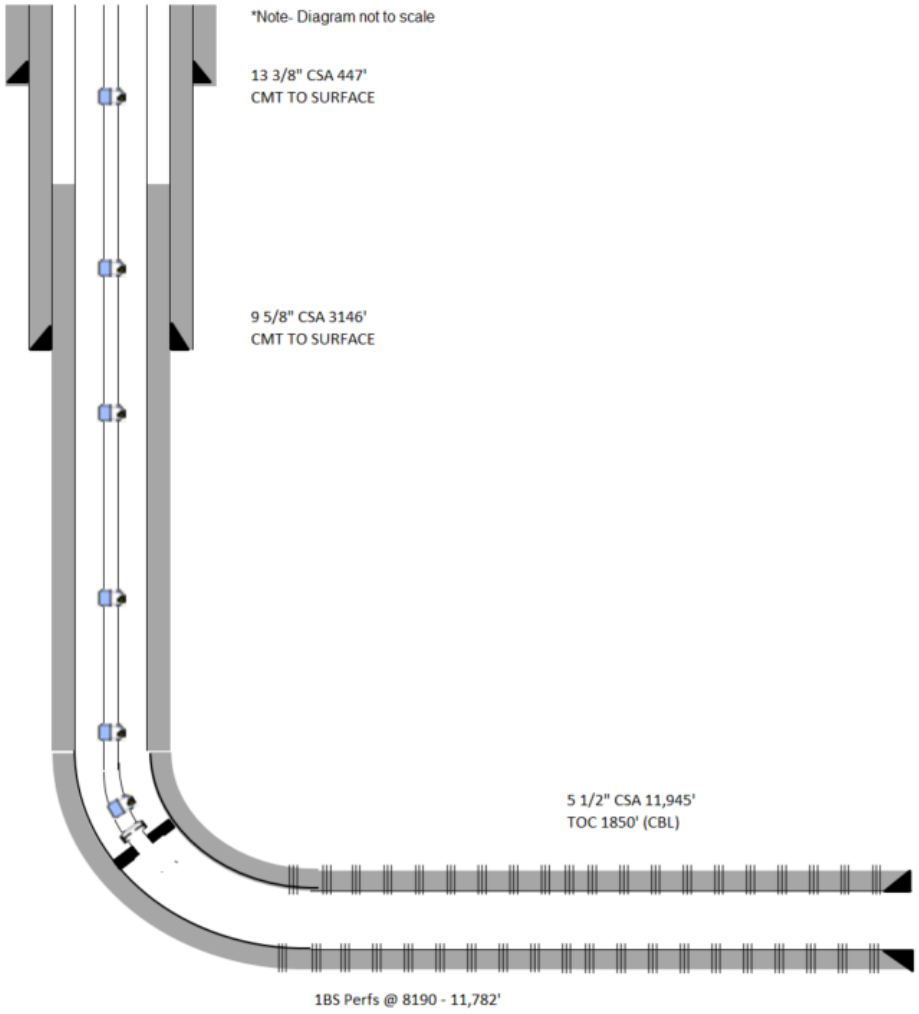
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23 #1H API 30-015-40667

WELL LOCATION: 2068' FNL, 483' FWL | E | 23 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 650 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 1850 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 8.5" Casing Size: 5.5"

Cemented with: 3000 sx. ***or*** _____ ft^3

Top of Cement: 1850' Method Determined: CBL

Total Depth: 11945' MD / 7886' TVD

Injection Interval

PERFS 8190' MD / 7854' TVD feet to 11782' MD / 7891' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 7700' MD / 7675' 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: BONE SPRING

3. Name of Field or Pool (if applicable): CORRAL DRAW BONE SPRING

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 (DELAWARE) 5199'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

INJECTION WELL DATA SHEET

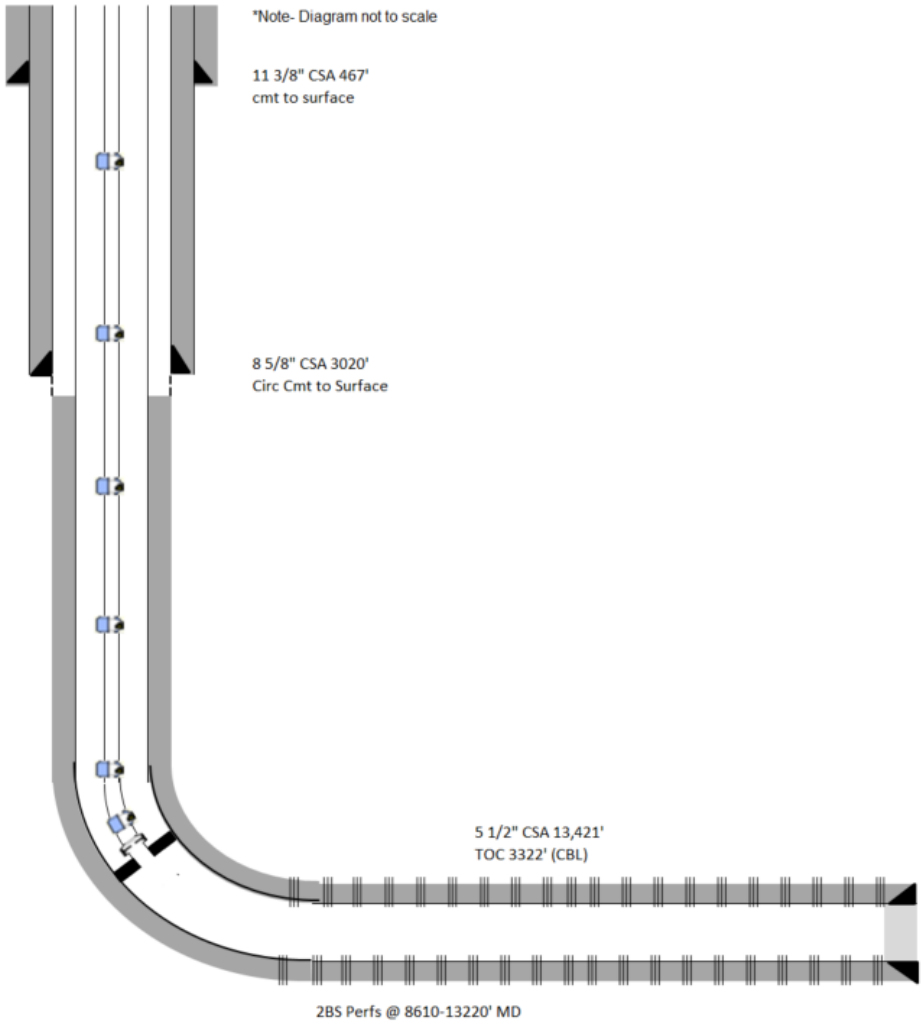
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23 COM #2H 30-015-41194

WELL LOCATION: 650' FSL, 660' FWL | M | 23 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 11.375"

Cemented with: 721 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 10.625" Casing Size: 8.625"

Cemented with: 1120 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 7.875" Casing Size: 5.5"

Cemented with: 1360 sx. ***or*** _____ ft^3

Top of Cement: 3322' Method Determined: CBL

Total Depth: 13421' MD / 8902' TVD

Injection Interval

PERFS 8610' MD / 8570' TVD feet to 13220' MD / 8902' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 8664' MD / 8614' 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: BONE SPRING

3. Name of Field or Pool (if applicable): PIERCE CROSSING BONE SPRING

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 (DELAWARE) 5175'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

INJECTION WELL DATA SHEET

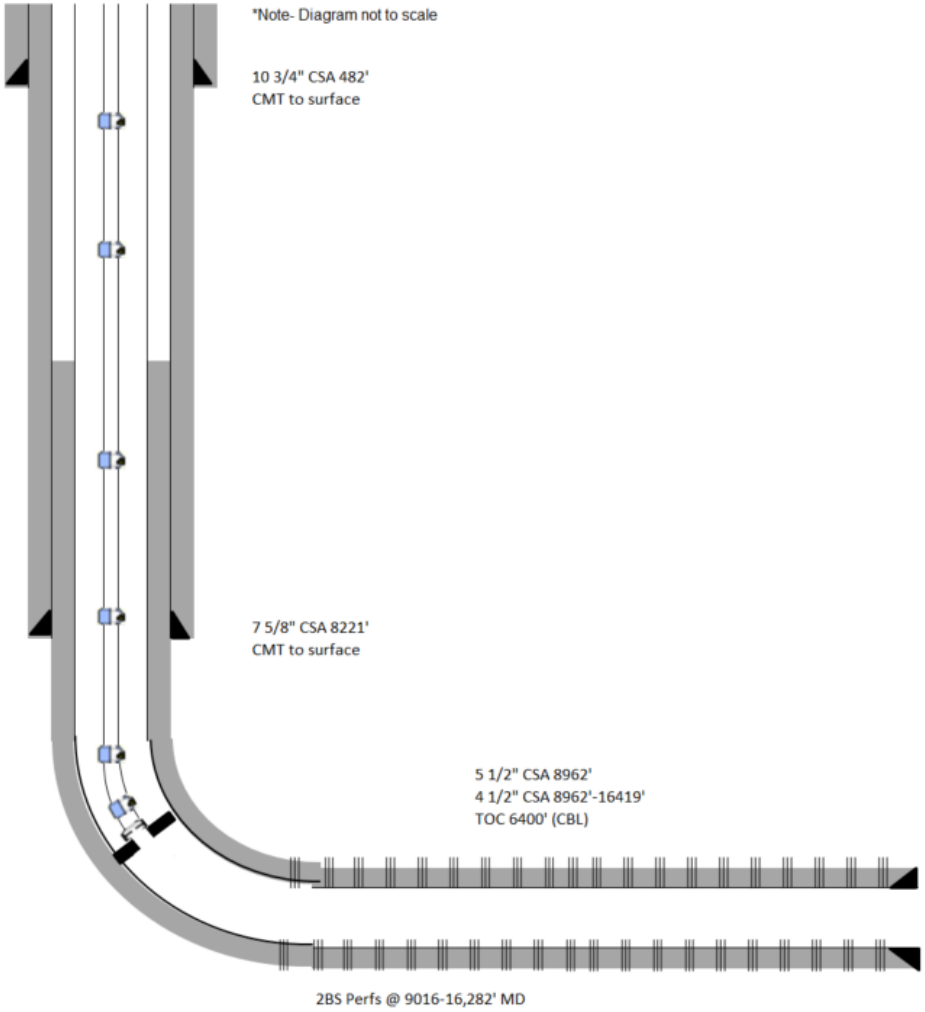
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23 FEDERAL #3H API 30-015-43290

WELL LOCATION: 2540' FSL, 200' FEL | I | 22 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 382 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 3238 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 830 sx. ***or*** _____ ft^3

Top of Cement: 6400' Method Determined: CBL

Total Depth: 16419' MD / 9010' TVD

Injection Interval

PERFS 9016' MD / 8830' TVD feet to 16282' MD / 9010' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 8800' MD / 8695' 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: _____

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

   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 (DELWARE) 5209'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

INJECTION WELL DATA SHEET

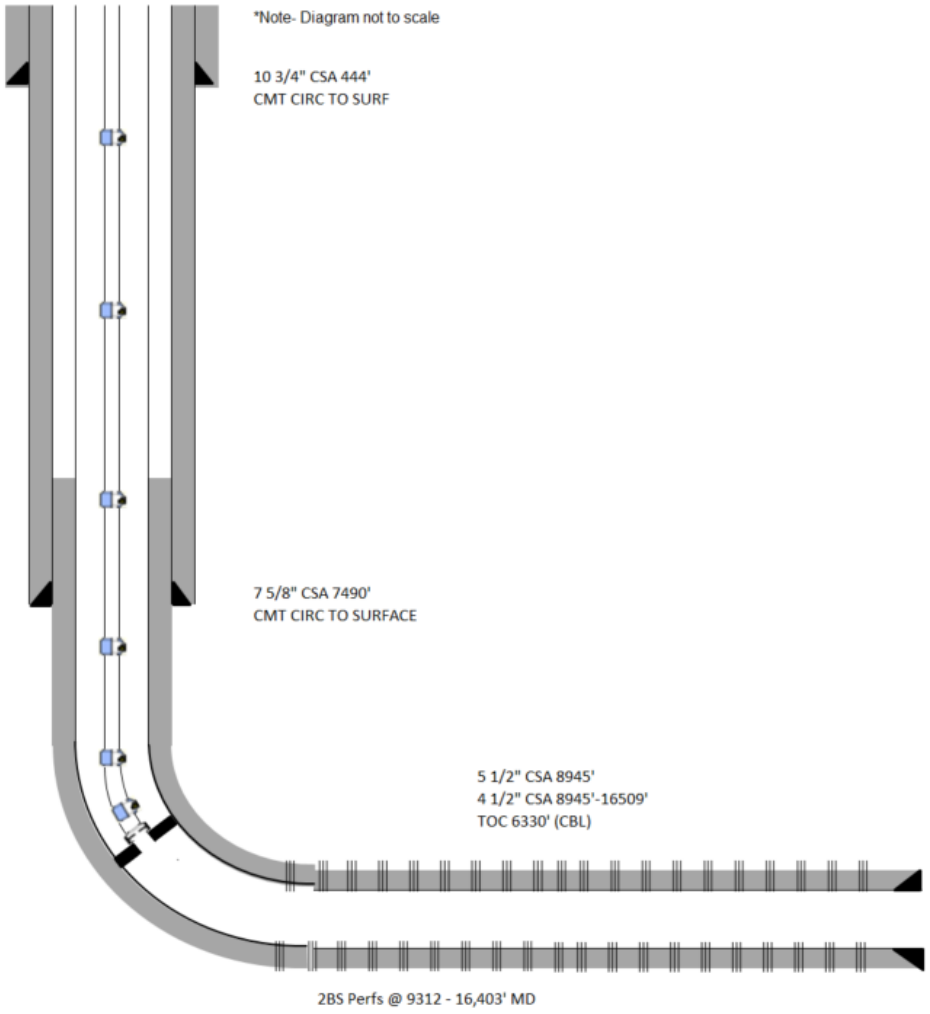
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23 FEDERAL #4H API 30-015-43281

WELL LOCATION: 1352' FNL, 195' FEL | H | 22 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 550 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 4000 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 1090 sx. ***or*** _____ ft^3

Top of Cement: 6330 Method Determined: CBL

Total Depth: 16509' MD / 9006' TVD

Injection Interval

PERFS 9312' MD / 8849' TVD feet to 16403' MD / 9006' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 8727' MD / 8686' 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: BONE SPRING

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

   NONE

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 (DELAWARE) 5190'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

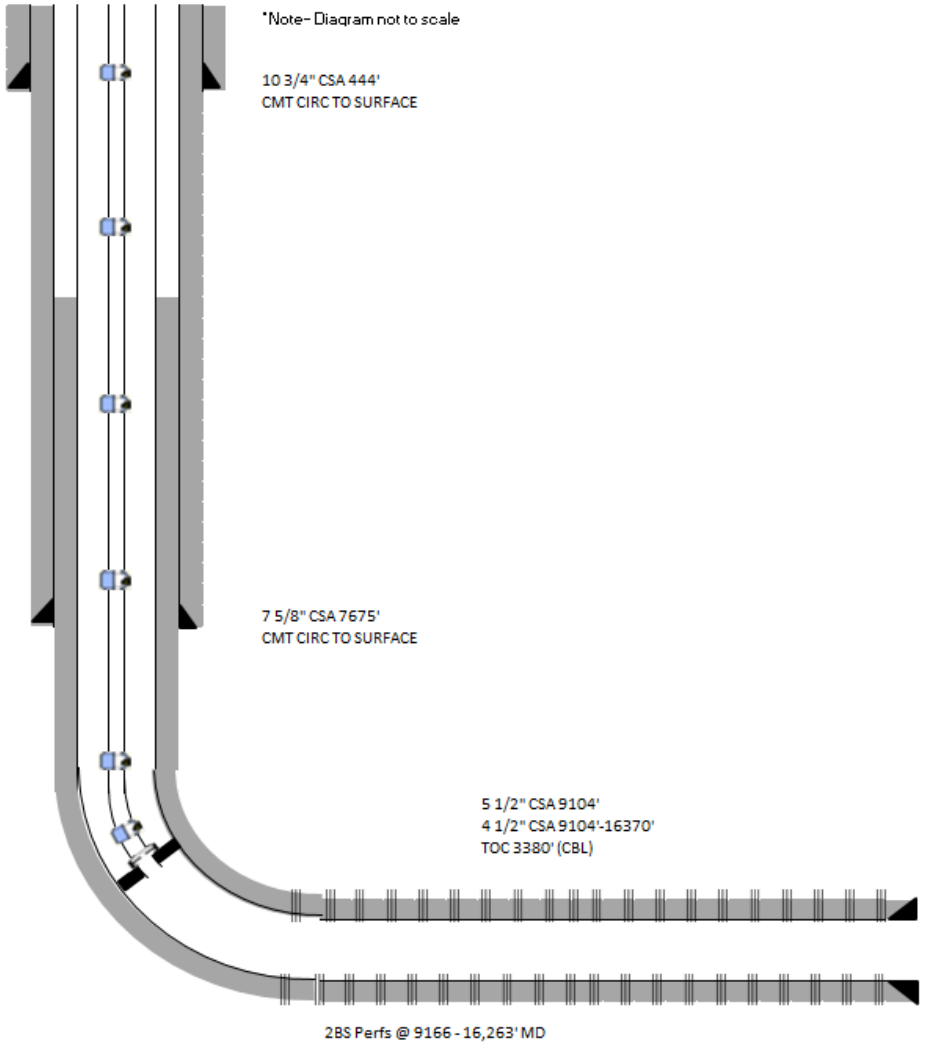
INJECTION WELL DATA SHEET

OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23 FEDERAL #5H API 30-015-43282

WELL LOCATION:	1317' FNL, 195' FEL	A	22	24S	29E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 550 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 1570 sx. ***or*** _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 1110 sx. ***or*** _____ ft^3

Top of Cement: 3380' Method Determined: CBL

Total Depth: 16370' MD / 9014' TVD

Injection Interval

PERFS 9166' MD / 8844' TVD feet to 16263' MD / 9014' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 4.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 8740' MD / 8622' 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: BONE SPRING

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

   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 (DELAWARE) 5190'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

INJECTION WELL DATA SHEET

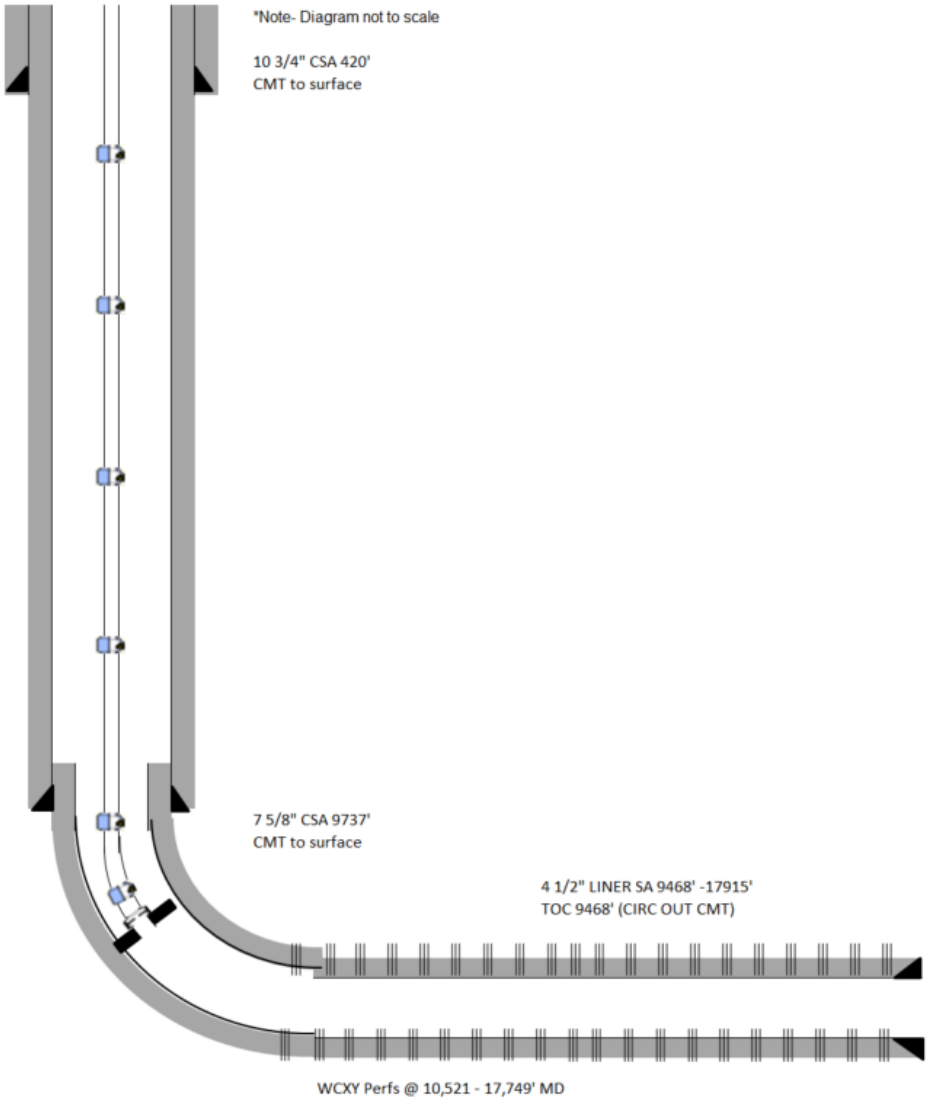
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23 FEDERAL COM #33H API 30-015-44074

WELL LOCATION: 2344' FSL, 1199' FEL | I | 22 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 350 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 1370 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 6.75" Casing Size: 4.5"

Cemented with: 765 sx. *or* _____ ft³

Top of Cement: 9468' Method Determined: CIRC

Total Depth: 17915' MD / 10327' TVD

Injection Interval

PERFS 10521' MD / 10130' TVD feet to 17749' MD / 10327' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 9400' MD / 9293' 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- GAS

2. Name of the Injection Formation: WOLFCAMP

3. Name of Field or Pool (if applicable): PURPLE SAGE WOLFCAMP

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: BONE SPRING 6795'

   UNDERLYING: PENNSYLVANIAN 12180'

Side 1

INJECTION WELL DATA SHEET

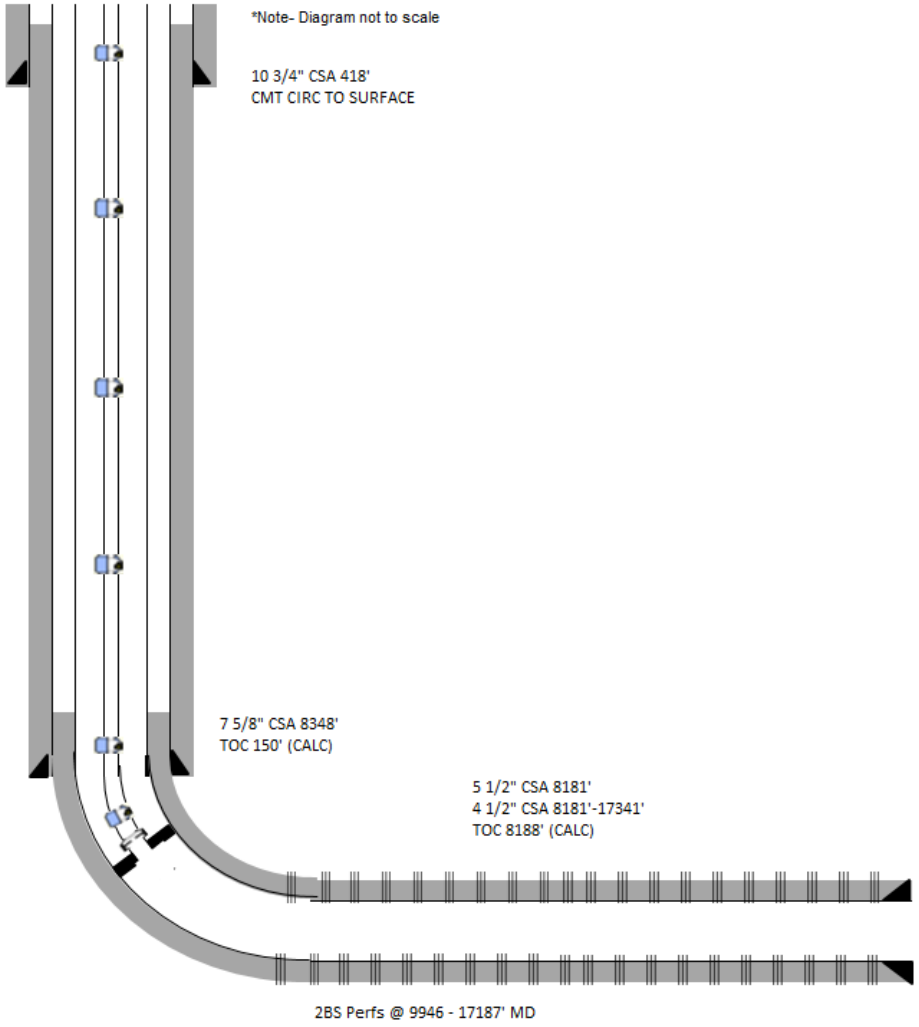
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23 FEDERAL COM #6H API 30-015-44095

WELL LOCATION: 2329' FSL, 1173' FEL | I | 22 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 350 sx. *or* _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 1870 sx. *or* _____ ft^3

Top of Cement: 150' Method Determined: CALC

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 875 sx. *or* _____ ft^3

Top of Cement: 8188' Method Determined: CALC

Total Depth: 17341' MD / 8974' TVD

Injection Interval

PERFS 9946' MD / 8854' TVD feet to 17187' MD / 8974' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 8100' MD / 8079' 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: _____

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

   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 (DELAWARE) 5088'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

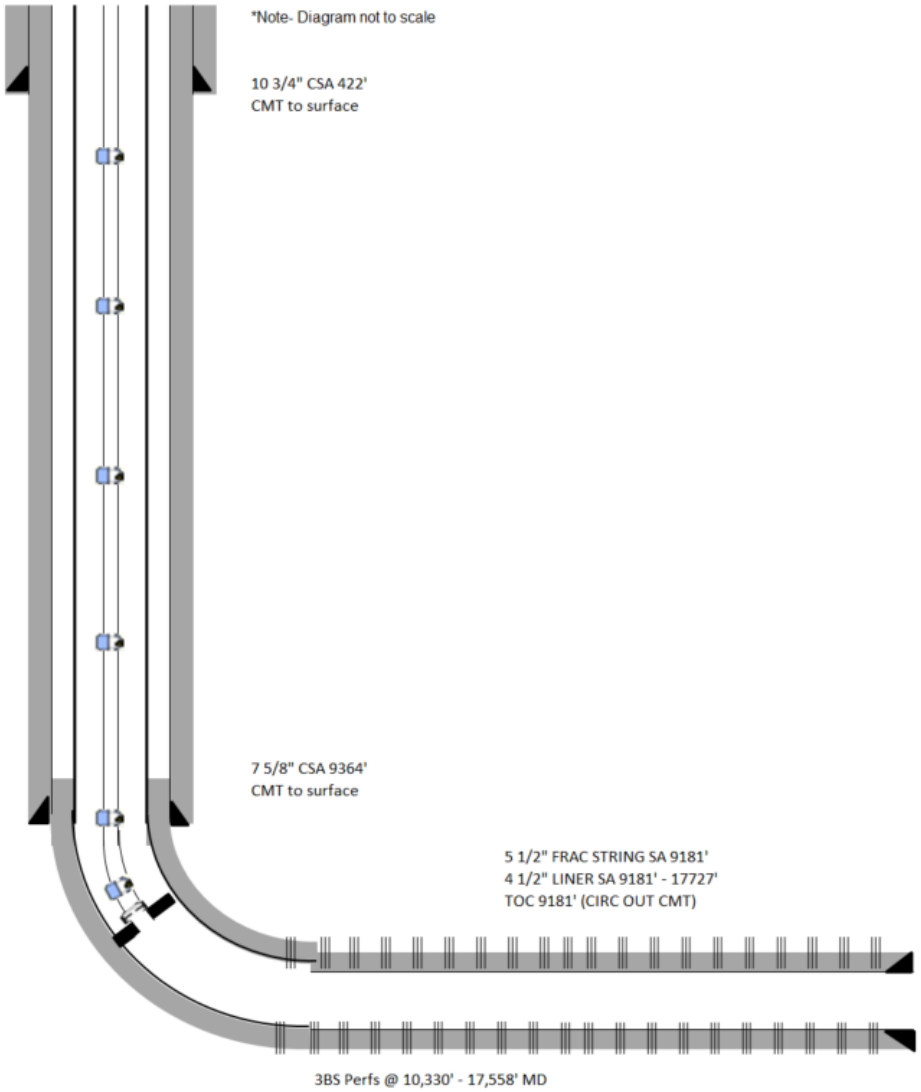
INJECTION WELL DATA SHEET

OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23-24 FEDERAL #31H API 30-015-44179

WELL LOCATION:	491' FNL, 177' FEL	A	22	24S	29E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 385 sx. *or* _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 1365 sx. *or* _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 815 sx. *or* _____ ft^3

Top of Cement: 9181' Method Determined: CIRC

Total Depth: 17727' MD / 10158' TVD

Injection Interval

PERFS 10330' MD / 9971' TVD feet to 17558' MD / 10158' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 4.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 9683' MD / 9670' 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: BONE SPRING

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

   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 (DELAWARE) 5187'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

INJECTION WELL DATA SHEET

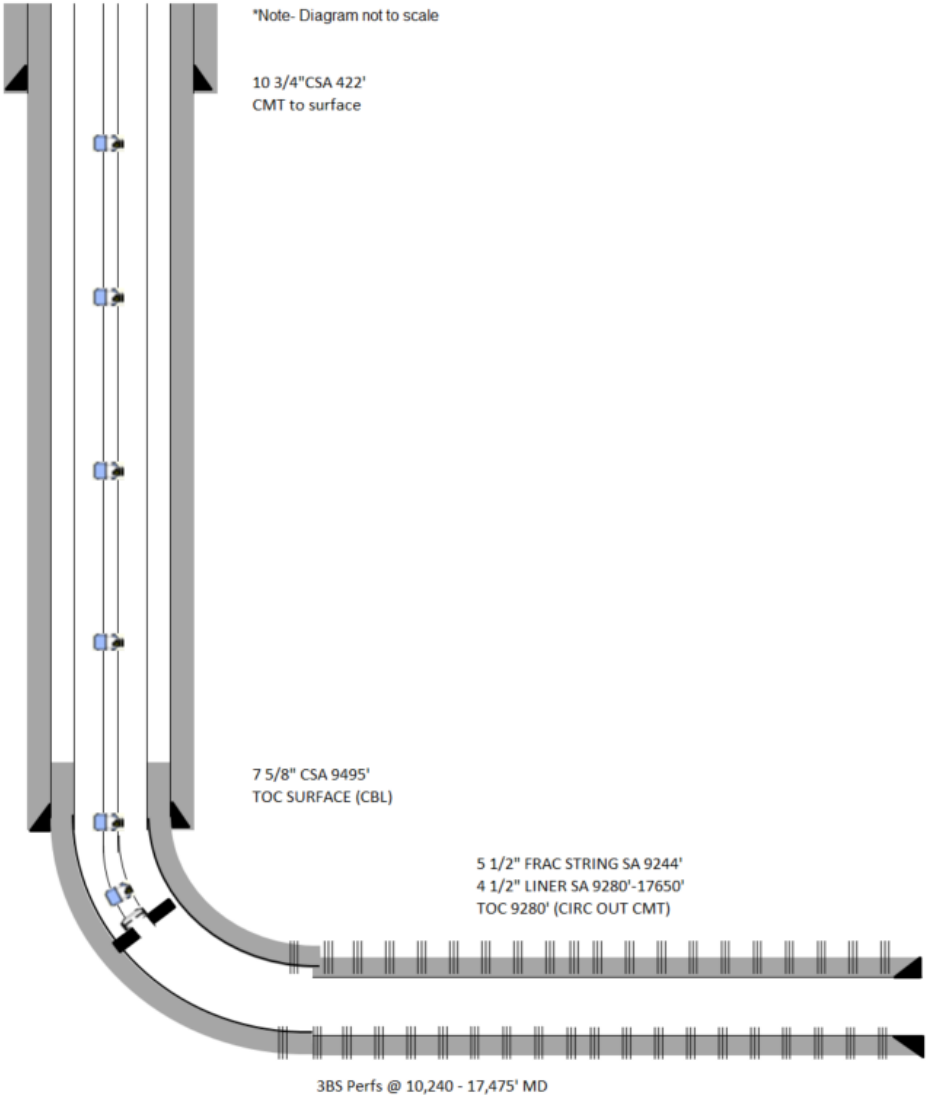
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23-24 FEDERAL #32H API 30-015-44180

WELL LOCATION: 520' FNL, 172' FEL | A | 22 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 385 sx. *or* _____ ft^3

Top of Cement: 0 Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

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

Top of Cement: SURFACE Method Determined: CBL

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 790 sx. *or* _____ ft^3

Top of Cement: 9280 Method Determined: CIRC

Total Depth: 17650' MD / 10169' TVD

Injection Interval

PERFS 10240' MD / 9917' TVD feet to 17475' MD / 10169' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 4.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 9778' MD / 9617' 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: BONE SPRING

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

   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 (DELAWARE) 5217'

   UNDERLYING: WOLFCAMP FORMATION: 10234'

Side 1

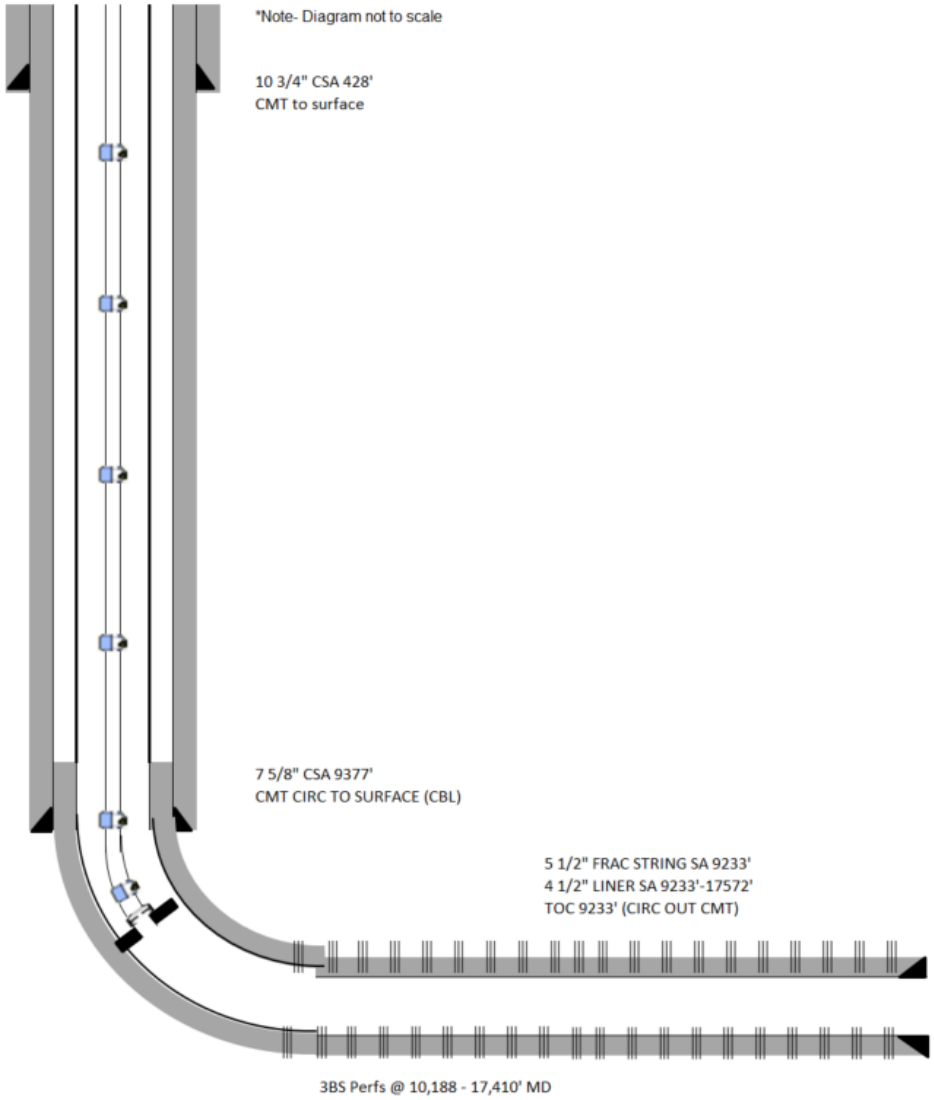
INJECTION WELL DATA SHEET

OPERATOR: OXY USA INC.

WELL NAME & NUMBER: CEDAR CANYON 23-24 FEDERAL COM #34H API 30-015-44178

WELL LOCATION:	319' FSL, 88' FWL	M	23	24S	29E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 329 sx. *or* _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 1656 sx. *or* _____ ft^3

Top of Cement: SURFACE Method Determined: CBL

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 1028 sx. *or* _____ ft^3

Top of Cement: 9233' Method Determined: CIRC

Total Depth: 17575' MD / 10117' TVD

Injection Interval

PERFS 10188' MD / 9925' TVD feet to 17410' MD / 10117' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 9633' MD / 9580' 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: BONE SPRING

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

   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 (DELWARE) 5200'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

INJECTION WELL DATA SHEET

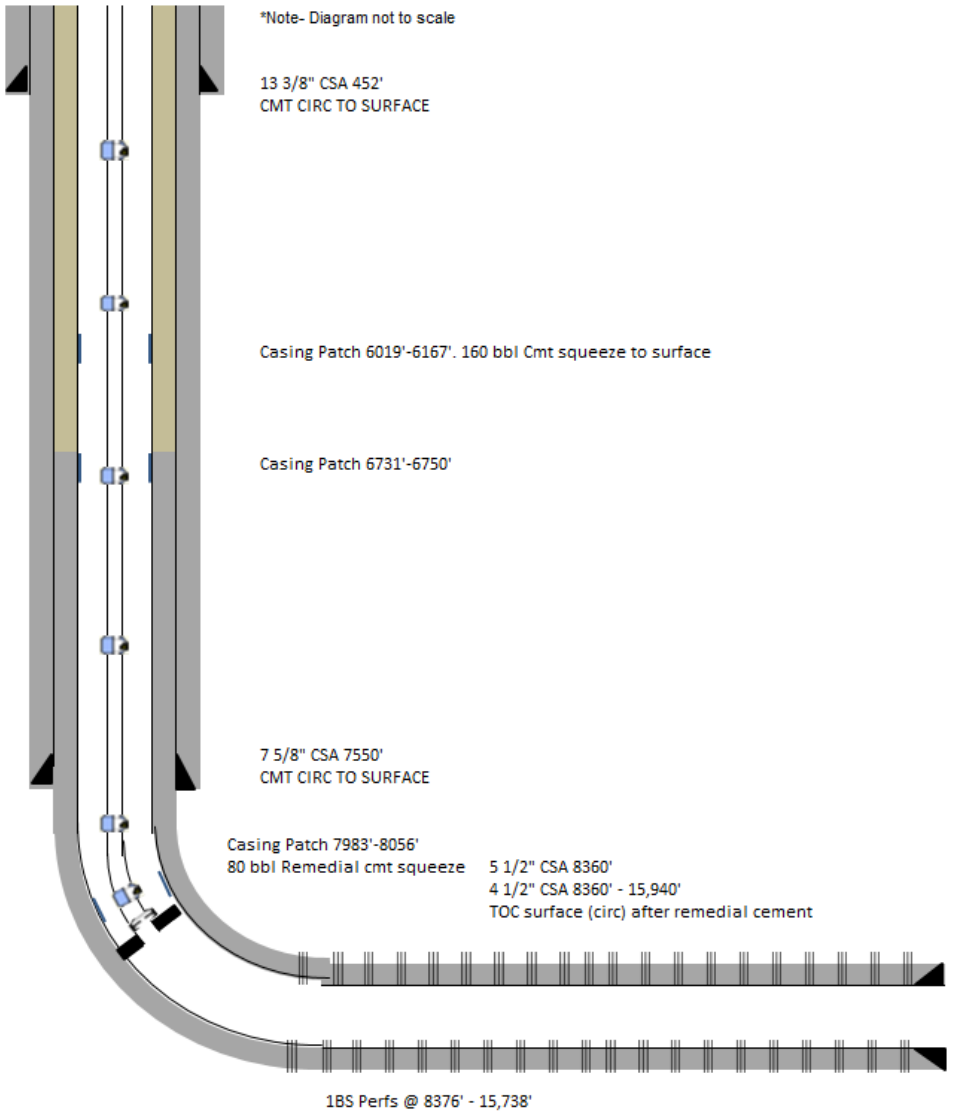
OPERATOR: OXY USA INC.

WELL NAME & NUMBER: GUACAMOLE CC 24-23 FED #11H API 30-015-45870

WELL LOCATION: 1290' FNL, 2490' FWL | C | 24 | 24S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 590 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 1269 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 6.75" Casing Size: 5.5" AND 4.5"

Cemented with: 2054 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC

Total Depth: 15940' MD / 8081' TVD

Injection Interval

PERFS 8376' MD / 8218' TVD feet to 15738' MD / 8081' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 8085' MD / 8037' 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: BONE SPRING

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

   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 (DELAWARE) 5471'

   UNDERLYING: WOLFCAMP FORMATION 10234'

Side 1

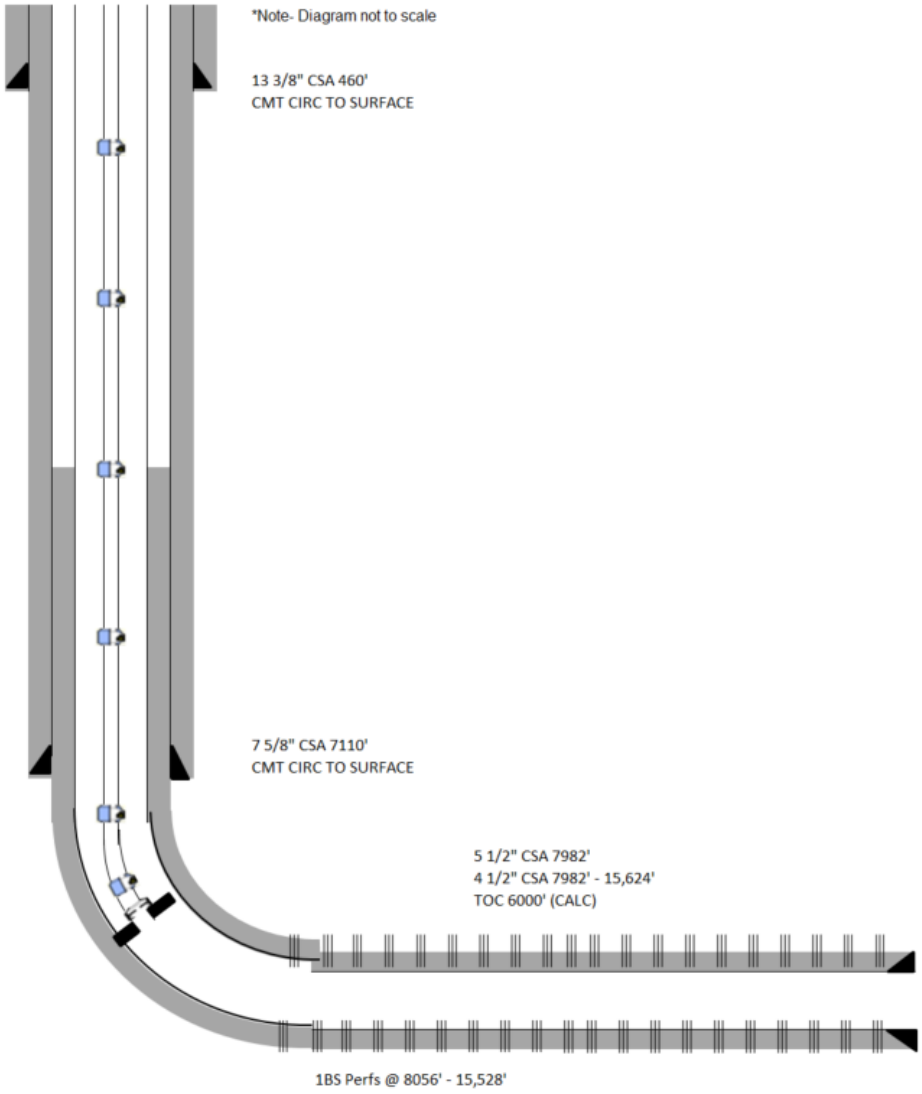
INJECTION WELL DATA SHEET

OPERATOR: OXY USA INC.

WELL NAME & NUMBER: GUACAMOLE CC 24-23 FED #12H API 30-015-45871

WELL LOCATION:	1395' FNL, 2490' FWL	F	24	24S	29E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 620 sx. *or* _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Intermediate Casing

Hole Size: 9.875" Casing Size: 7.625"

Cemented with: 1139 sx. *or* _____ ft^3

Top of Cement: SURFACE Method Determined: CIRC

Production Casing

Hole Size: 6.7" Casing Size: 5.5" AND 4.5"

Cemented with: 1014 sx. *or* _____ ft^3

Top of Cement: 6000' Method Determined: CALC

Total Depth: 15624' MD / 7741' TVD

Injection Interval

PERFS 8056' MD / 7862' TVD feet to 15528' MD / 7741' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2.875" 7.90# L80 BTS6 Lining Material: None

Type of Packer: 5.5" Weatherford 10k AS1X nickel coated packer

Packer Setting Depth: 7713' MD / 7670' 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: BONE SPRING

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

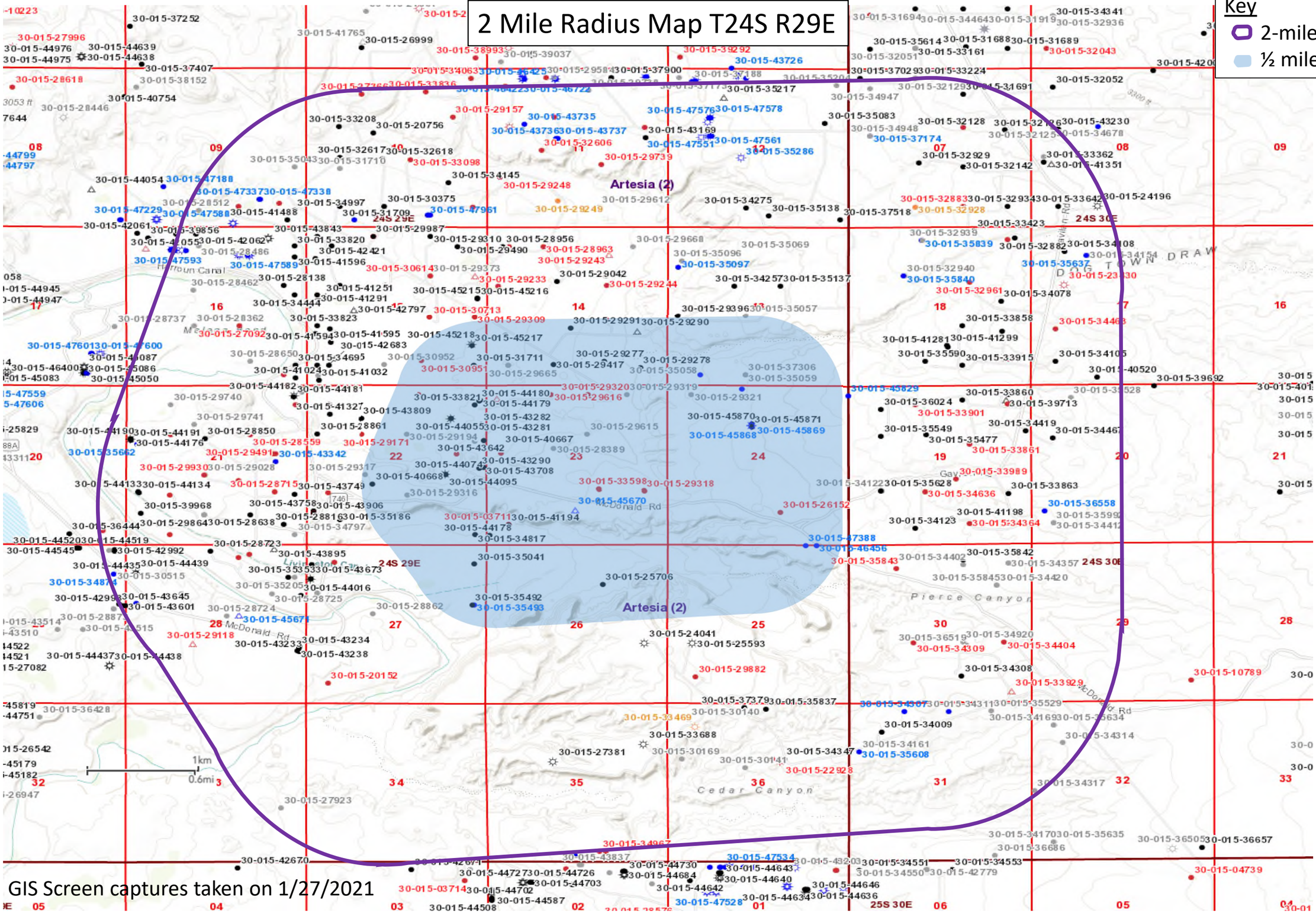
   NO

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 (DELAWARE) 5464'

   UNDERLYING: WOLFCAMP FORMATION 10234'

2 Mile Radius Map T24S R29E



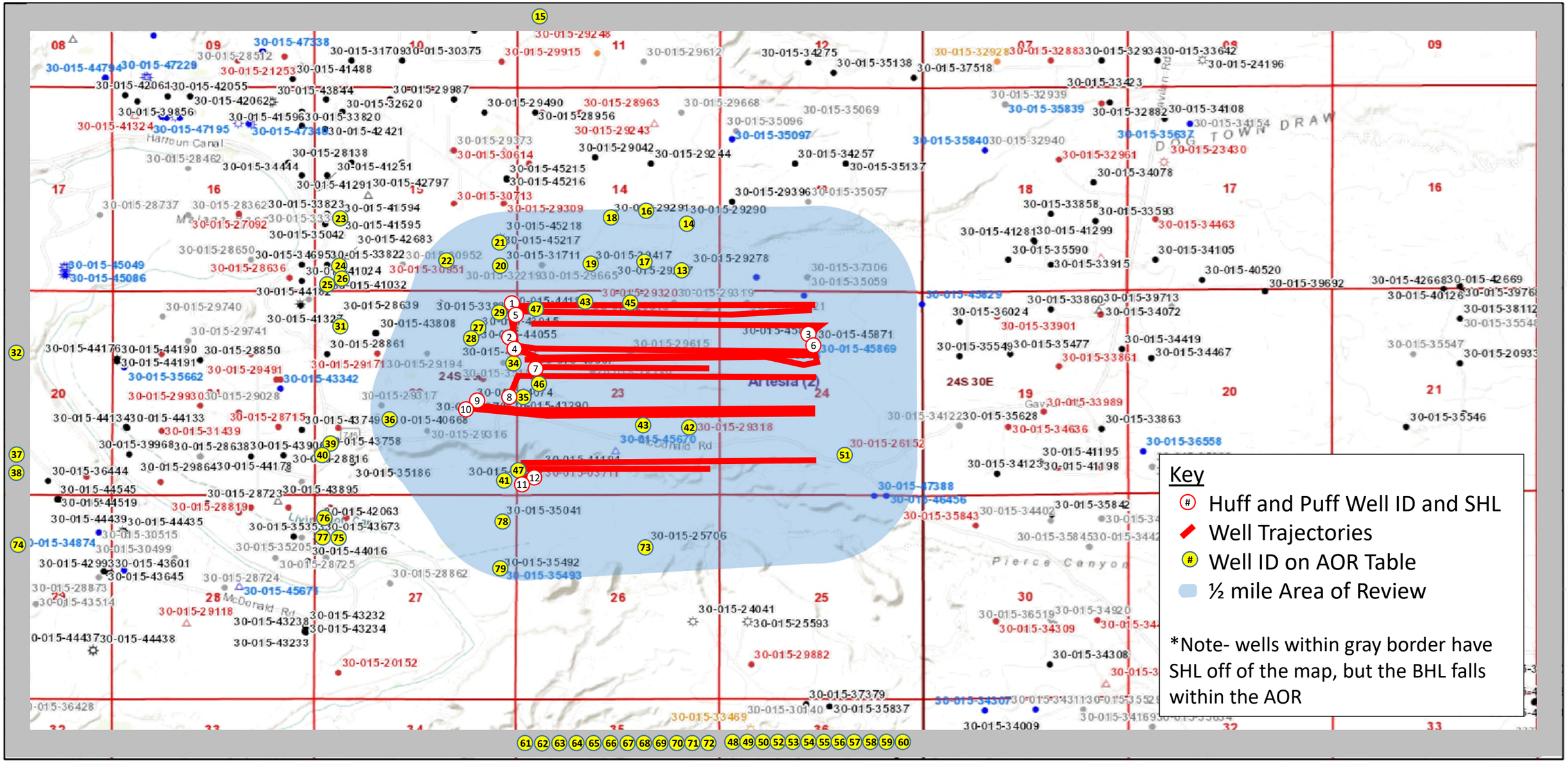
Key

- 2-mile Radius
- ½ mile Area of Review

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

GIS Screen captures taken on 1/27/2021

AOR Map T24S R29E



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Wells - Large Scale

- undefined
- 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

1:36,112

0 0.35 0.7 1.4 mi

0 0.5 1 2 km

Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI,

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

Well ID	API NUMBER	Current Operator	LEASE NAME	WELL NUMBER	Well Type:	Status:	Footages N/S	N/S	Footages E/W	E/W	Surface Location Unit	Surface Location Section	Surface Location TShip	Surface Location Range	Spud:	True Vertical Depth [ft]	Measured Depth [ft]	HOLE SIZE [in]	CSG SIZE [in]	SET AT [ft]	SX CMT	CMT TO [ft]	HOW MEASURED	Current Completion [ft]	Comment	Current Producing Pool
1	30-015-44179	] OXY USA INC	CEDAR CANYON 23 24 FEDERAL	031H	Oil	Active	491	N	177	E	A	22	24S	29E	6/18/2017	10160	17742	14.750	10.750	422	385	Surf	Circ	10330-17558	5.5" frac string. Top of 4.5" liner 9181'	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	9364	1365	Surf	Circ			
																		6.750	5.500	9181	NA	NA	NA			
																		6.750	4.500	17727	815	9181	Circ			
2	30-015-43282	] OXY USA INC	CEDAR CANYON 23 FEDERAL	005H	Oil	Active	1305	N	155	E	A	22	24S	29E	11/26/2015	9012	16385	14.750	10.750	444	550	Surf	Circ	9166-16263		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	7675	1570	Surf	Circ			
																		6.750	5.500	9104	1110	3380	CBL			
																		6.750	4.500	16370	1110	3380	CBL			
3	30-015-45870	] OXY USA INC	GUACAMOLE CC 24 23 FEDERAL	011H	Oil	Active	1290	N	2490	W	C	24	24S	29E	6/7/2019	8082	15960	17.500	13.375	452	590	Surf	Circ	8376-15738		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	7550	1269	Surf	Circ			
																		6.750	5.500	8360	2054	6300	CALC			
																		6.750	4.500	15940	2054	6300	CALC			
4	30-015-43281	] OXY USA INC	CEDAR CANYON 23 FEDERAL	004H	Inj	Active	1415	N	155	E	H	22	24S	29E	11/26/2015	9006	16535	14.750	10.750	444	550	Surf	Circ	9312-16403		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	7490	4000	Surf	Circ			
																		6.750	5.500	8945	1090	6330	CBL			
																		6.750	4.500	16509	1090	6330	CBL			
5	30-015-44180	] OXY USA INC	CEDAR CANYON 23 24 FEDERAL	032H	Oil	Active	520	N	172	E	A	22	24S	29E	6/19/2017	10169	17665	14.750	10.750	422	385	Surf	Circ	10240-17475	5.5" frac string. Top of 4.5" liner 9244'	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	9495	1600	Surf	Circ			
																		6.750	5.500	9244	NA	NA	NA			
																		6.750	4.500	17650	790	Surf	Circ			
6	30-015-45871	] OXY USA INC	GUACAMOLE CC 24 23 FEDERAL	012H	Oil	Active	1395	N	2490	W	F	24	24S	29E	5/4/2019	7741	15650	17.500	13.375	460	620	Surf	Circ	8056-15528		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	7110	1139	Surf	Circ			
																		6.750	5.500	7982	1014	6000	CALC			
																		6.750	4.500	15624	1014	6000	CALC			
7	30-015-40667	] OXY USA INC	CEDAR CANYON 23	001H	Oil	Active	2068	N	483	W	E	23	24S	29E	10/1/2012	7886	11968	17.500	13.375	447	650	Surf	Circ	8190-11782		[96238] CORRAL DRAW; BONE SPRING
																		12.250	9.625	3146	1850	Surf	Circ			
																		8.500	5.500	11945	3000	1850	CBL			
8	30-015-43290	] OXY USA INC	CEDAR CANYON 23 FEDERAL	003H	Oil	Active	2540	S	200	E	I	22	24S	29E	10/26/2016	9010	16430	14.750	10.750	482	382	Surf	Circ	9016-16282		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	8221	3238	Surf	Circ			
																		6.750	5.500	8962	830	8962	Circ			
																		6.750	4.500	16419	830	8962	Circ			
9	30-015-44074	] OXY USA INC	CEDAR CANYON 23 FEDERAL COM	033H	Gas	Active	2344	S	1199	E	I	22	24S	29E	4/29/2017	10329	17935	14.750	10.750	420	350	Surf	Circ	10521-17749	Top of 4.5" liner 9468'	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.625	9737	1370	Surf	Circ			
																		6.750	4.500	17915	765	9468	Circ			
10	30-015-44095	] OXY USA INC	CEDAR CANYON 23 FEDERAL COM	006H	Oil	Active	2329	S	1173	E	I	22	24S	29E	4/30/2017	8974	17351	14.750	10.750	418	350	Surf	Circ	9946-17187		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	8348	1870	Surf	Circ			
																		6.750	5.500	8181	875	8188	Calc			
																		6.750	4.500	17341	875	8188	Calc			
11	30-015-44178	] OXY USA INC	CEDAR CANYON 23 24 FEDERAL COM	034H	Oil	Active	319	S	88	W	M	23	24S	29E	7/5/2017	10119	17582	14.750	10.750	428	329	Surf	Circ	10188-17410	5.5" frac string. Top of 4.5" liner 9233'	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	9377	1656	Surf	Circ			
																		6.750	5.500	9233	NA	NA	NA			
																		6.750	4.500	17572	1028	9233	Circ			
12	30-015-41194	] OXY USA INC	CEDAR CANYON 23	002H	Oil	Active	650	S	660	W	M	23	24S	29E	8/17/2014	8902	13430	14.750	11.375	467	721	Surf	Circ	8610-13220		[50371] PIERCE CROSSING; BONE SPRING
																		10.625	8.625	3020	1120	Surf	Circ			
																		7.875	5.500	13421	1360	3322	CBL			
13	30-015-29278	] SHACKELFORD OIL CO	ORE IDA 14 FEDERAL	009	Oil	Active	560	S	760	E	P	14	24S	29E	4/6/1997	8350	8350	17.500	13.375	357	535	Surf	Circ	7923-8098		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	8.625	3134	1220	Surf	Circ			
																		7.875	5.500	8350	610	Surf	Circ			
14	30-015-29290	] DEVON ENERGY PRODUCTION COMPANY, LP	ORE IDA 14 FEDERAL	010	SWD	Active	1780	S	860	E	I	14	24S	29E	1/28/1997	8354	8354	17.500	13.375	362	525	Surf	Circ	3210-3618		[96769] SWD; BELL CANYON
																		12.250	8.625	3141	1275	Surf	Circ			
																		7.875	7.875	8250	1000	Surf	Circ			
15	30-015-43169	] DEVON ENERGY PRODUCTION COMPANY, LP	NEW POTATO 11 FEDERAL COM	001H	Oil	Active	2324	N	641	E	E	11	24S	29E	6/23/2015	8903	16576	17.500	13.375	538	555	Surf	Circ	9350-16505		[11520] CEDAR CANYON; BONE SPRING
																		12.250	9.625	3113	1060	Surf	Circ			
																		8.750	5.500	16576	3515	3458	CBL			
16	30-015-29306	] DEVON ENERGY PRODUCTION COMPANY, LP	ORE IDA 14 FEDERAL	007	Oil	PA	2180	S	1780	E	J	14	24S	29E	1/28/1997	8354	8354	17.500	13.375	376	525	Surf	Circ	NA		NA
																		12.250	8.625	3124	1275	Surf	Circ			
																		7.875	5.500	8354	1000	Surf	Circ			
17	30-015-29277	] SHACKELFORD OIL CO	ORE IDA 14 FEDERAL	008	Oil	Active	760	S	1830	E	O	14	24S	29E	1/9/1997	8340	8340	17.500	13.375	355	750	Surf	Circ	6432-6672		[11540] CEDAR CANYON; DELAWARE
																		12.250	8.625	3127	1250	Surf	Circ			
																		7.875	5.500	8340	1180	Surf	Circ			
18	30-015-29291	] SHACKELFORD OIL CO	ORE IDA 14 FEDERAL	012	Oil	Active	1880	S	2480	W	K	14	24S	29E	3/17/1997	8332	8332	17.500	13.375	377	425	Surf	Circ	7815-7899		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	8.625	3075	800	Surf	Circ			
																		7.875	5.500	8335	1150	Surf	Circ			
19	30-015-29417	] SHACKELFORD OIL CO	ORE IDA 14 FEDERAL	013	Oil	Active	660	S	1980	W	N	14	24S	29E	4/8/1997	8350	8350	13.375	13.375	354	185	Surf	Circ	7841-8019		[96473] PIERCE CROSSING; BONE SPRING, EAST
																		8.625	8.625	3066	300	Surf	Circ			
																		5.500	5.500	8350	910	5502	Calc			
20	30-015-31711	] OXY USA INC	HARROUN 15	013	Oil	PA	660	S	360	E	P	15	24S	29E	6/19/2001	8020	8020	13.375	13.375	580	1070	Surf	Circ	NA		NA
																		8.625	8.625	2915	1050	Surf	Circ			

																		5.500	5.500	8020	1830	1900	Calc			
21	30-015-45217	] OXY USA INC	REFRIED BEANS CC 15 16 STATE COM	014H	Oil	Active	1330	S	420	E	I	15	24S	29E	10/13/2018	7834	16820	14.750	10.750	455	600	Surf	Circ	8027-16731	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	7304	1475	Surf	Circ		
																		6.750	5.500	16809	620	6804	Calc		
22	30-015-45218	] OXY USA INC	WHOMPING WILLOW CC 15 16 STATE COM	044H	Gas	Active	1365	S	420	E	I	15	24S	29E	10/12/2018	10844	21170	14.750	10.750	455	600	Surf	Circ	10512-20714	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.875	10445	1135	Surf	Circ		
																		6.750	5.500	21152	1500	8015	CBL		
23	30-015-30951	] OXY USA INC	HARROUN 15	011	Oil	PA	800	S	1900	E	O	15	24S	29E	8/4/2000	6890	6890	14.750	10.750	563	545	Surf	Circ	NA	NA
																		9.875	7.625	2930	800	Surf	Circ		
																		6.750	4.500	6890	1115	3234	CBL		
24	30-015-41594	] OXY USA INC	CEDAR CANYON 15	003H	Oil	Active	1888	S	700	W	L	15	24S	29E	6/14/2014	8810	13180	14.750	11.750	390	550	Surf	Circ	9152-13041	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		10.625	8.625	3125	890	Surf	Circ		
																		7.875	5.500	13177	1300	478	CBL		
25	30-015-33822	] OXY USA INC	HARROUN 15	017	Oil	Active	660	S	330	W	M	15	24S	29E	7/9/2006	10887	10887	17.500	13.375	315	580	Surf	Circ	8405-10740	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	9.625	2880	1000	Surf	Circ		
																		8.500	5.500	10887	2005	3940	CBL		
26	30-015-41032	] OXY USA INC	CEDAR CANYON 15	002H	Oil	Active	170	S	360	W	M	15	24S	29E	2/23/2013	8795	12960	14.750	11.750	334	280	Surf	Circ	8900-12800	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		10.625	8.625	3101	840	Surf	Circ		
																		7.875	5.500	12960	1450	2960	CBL		
27	30-015-44055	] OXY USA INC	CEDAR CANYON 22 15 FEDERAL COM	034H	Oil	Active	1107	N	1022	E	A	22	24S	29E	3/8/2017	9970	16100	14.750	10.750	441	625	Surf	Circ	9980-15931	Top of 4.5" liner 9355'	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	9481	1350	Surf	Circ		
																		6.750	4.500	16091	660	9355	Circ		
28	30-015-43915	] OXY USA INC	CEDAR CANYON 22 15 FEE	033H	Gas	Active	1107	N	1052	E	A	22	24S	29E	3/6/2017	10090	16336	14.750	10.750	438	665	Surf	Circ	10252-16170	Top of 4.5" liner 9383'	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.625	9516	2540	10	TS		
																		6.750	4.500	16326	670	9383	Circ		
29	30-015-33821	] OXY USA INC	HARROUN 22	003	Oil	Active	660	N	330	E	A	22	24S	29E	1/19/2006	6750	10864	17.500	13.375	506	450	Surf	Circ	7863-10720	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	9.625	2914	1100	Surf	Circ		
																		8.5 & 7.875	5.500	10819	2150	4670	CBL		
31	30-015-41327	] OXY USA INC	CEDAR CANYON 22	002H	Oil	Active	990	N	690	W	D	22	24S	29E	6/8/2013	8813	12685	14.750	11.750	389	415	Surf	Circ	8920-12520	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		10.625	8.625	3105	960	Surf	Circ		
																		7.875	5.500	12678	1400	2995	CBL		
32	30-015-44176	] OXY USA INC	CEDAR CANYON 21 22 FEDERAL COM	032H	Gas	Active	1794	N	141	W	E	21	24S	29E	8/9/2017	9979	19940	17.500	13.375	451	580	Surf	Circ	9920-19771	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	9.625	9260	2707	Surf	Circ		
																		8.500	5.500	19936	2619	8270	Calc		
34	30-015-43642	] OXY USA INC	CEDAR CANYON 22 FEDERAL	021H	Oil	Active	2540	S	230	E	I	22	24S	29E	10/25/2016	8817	13620	14.750	10.750	482	382	Surf	Circ	8887-13471	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	8300	2627	Surf	Circ		
																		6.750	5.500	8782	830	5250	CBL		
																		6.750	4.500	13610	830	5250	CBL		
35	30-015-43708	] OXY USA INC	CEDAR CANYON 22 FEDERAL COM	004H	Oil	Active	2540	S	260	E	I	22	24S	29E	10/25/2016	8728	13435	14.750	10.750	488	382	Surf	Circ	8827-13265	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	8197	2886	Surf	Circ		
																		6.750	5.500	8848	500	6630	CBL		
																		6.750	4.500	13424	500	6630	CBL		
36	30-015-40668	] OXY USA INC	CEDAR CANYON 22	001H	Oil	Active	1980	S	1980	W	K	22	24S	29E	10/27/2012	7905	11885	17.500	13.375	465	540	Surf	Circ	8240-11692	[96238] CORRAL DRAW; BONE SPRING
																		12.250	9.625	3260	1910	Surf	Circ		
																		8.500	5.500	11870	1760	2440	CBL		
37	30-015-44133	] OXY USA INC	CEDAR CANYON 21 22 FEDERAL COM	033H	Oil	Active	1754	S	374	W	L	21	24S	29E	5/10/2017	10002	19951	17.500	13.375	542	633	Surf	Circ	9908-19667	Top of 5.5" liner 8918'	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	9.625	9183	2235	1305	TS		
																		8.500	5.500	19842	1730	8918	Circ		
38	30-015-44134	] OXY USA INC	CEDAR CANYON 21 22 FEDERAL COM	034H	Oil	Active	1737	S	399	W	L	21	24S	29E	5/9/2017	9997	19980	17.500	13.375	540	617	Surf	Circ	9978-19797	Top of 5.5" liner 9115'	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	9.625	9242	2335	Surf	Circ		
																		8.500	5.500	19968	1735	9115	Circ		
39	30-015-43758	] OXY USA INC	CEDAR CANYON 22 FEDERAL COM	005H	Oil	Active	1120	S	207	W	M	22	24S	29E	8/6/2016	8819	13525	14.750	10.750	437	470	Surf	Circ	8939-13358	[96238] CORRAL DRAW; BONE SPRING
																		9.875	7.625	7650	3500	Surf	Circ		
																		6.750	5.500	8921	580	5329	Calc		
																		6.750	4.500	13514	580	5329	Calc		
40	30-015-43906	] OXY USA INC	CEDAR CANYON 22 FEDERAL COM	006Y	Oil	Active	1040	S	207	W	M	22	24S	29E	9/27/2016	8850	13405	14.750	10.750	435	740	Surf	Circ	8610-13196	[96238] CORRAL DRAW; BONE SPRING
																		9.875	7.625	8163	1300	Surf	Circ		
																		6.750	5.500	8957	540	7100	CBL		
																		6.750	4.500	13397	540	7100	CBL		
41	30-015-34817	] OXY USA INC	VORTEC 22	001	Oil	Active	330	S	330	E	P	22	24S	29E	4/28/2006	10852	10852	17.500	13.325	555	475	Surf	Circ	8121-10730	[50371] PIERCE CROSSING; BONE SPRING
																		12.250	9.625	2915	1075	Surf	Circ		
																		8.5 & 7.875	5.500	10852	2100	4190	CBL		
42	30-015-29318	] OXY USA INC	CANYON 23 FEDERAL	001	Oil	PA	1750	S	660	E	I	23	24S	29E	2/28/1997	13950	13950	26.000	20.000	40	grout	NA	NA	NA	NA
																		13.375	13.375	516	600	Surf	Circ		
																		9.625	9.625	3120	1200	Surf	Circ		
																		8.500	7.000	10500	1495	2300	Calc		
43	30-015-29616	] OXY USA INC	RIVERBEND 23 FEDERAL	014	Oil	PA	330	N	1910	W	C	23	24S	29E	5/31/1997	8200	8200	14.750	10.750	529	550	Surf	Circ	NA	NA
																		9.625	7.625	2976	800	Surf	Circ		
																		6.750	4.500	8200	1325	1497	TS		
44	30-015-33598	] OXY USA INC	RIVERBEND 23 FEDERAL	016Q	Oil	PA	1830	S	1980	E	J	23	24S	29E	8/31/2004	7850	8320	17.500	13.375	612	850	Surf	Circ	NA	NA
																		11.000	8.625	3060	1430	Surf	Circ		
																		7.875	5.500	8320	1690	1530	CBL		
45	30-015-29320	] OXY USA INC	RIVERBEND B FEDERAL	011	Oil	PA	330	N	2310	E	B	23	24S	29E	4/19/1997	8250	8250	17.500	13.375	535	950	Surf	Circ	NA	NA
																		11.000	8.625	2950	1107	Surf	Circ		

																		7.875	5.500	8250	1590	1160	Calc				
46	30-015-27994	] OXY USA INC	RIVERBEND FEDERAL	007		Oil	PA	2280	N	460	W	E	23	24S	29E	5/31/1994	9020	9020	17.500	13.375	465	640	Surf	Circ	NA		NA
																			11.000	8.625	2934	1450	Surf	Circ			
																			7.875	5.500	9020	1800	1494	TS			
47	30-015-28390	] OXY USA INC	RIVERBEND FEDERAL	008		SWD	PA	460	N	330	W	D	23	24S	29E	11/17/1995	9000	9000	14.750	10.750	451	570	Surf	Circ	NA		NA
																			9.975	7.625	2900	806	Surf	Circ			
																			6.750	4.500	9000	1220	1400	Calc			
48	30-015-44631	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	021H		Oil	Active	381	N	1493	W	C	1	25S	29E	2/20/2018	9101	20726	17.500	13.375	553	650	Surf	Circ	9361-20555		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			12.250	9.625	8621	3138	Surf	Circ			
																			8.500	5.500	20716	2474	8090	Calc			
49	30-015-44632	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	022H		Oil	Active	381	N	1528	W	C	1	25S	29E	2/20/2018	9117	20890	17.500	13.375	533	650	Surf	Circ	9546-20737		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8588	2149	Surf	Circ			
																			6.750	5.500	20880	775	5940	CBL			
50	30-015-44633	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	023H		Oil	Active	381	N	1563	W	C	1	25S	29E	2/21/2018	9138	20675	17.500	13.375	554	685	Surf	Circ	9283-20476		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8579	1986	255	TS			
																			6.750	5.500	20635	923	4900	CBL			
51	30-015-26152	Bass Enterprises Produciton Co.	Poker Lake Unit		73	Oil	PA	1060	S	1980	E	D	24	24S	29E	4/25/1991	11000	11000	17.500	13.375	820	1050	Surf	Circ	NA		NA
																			12.250	9.625	3295	1600	Surf	Circ			
																			8.750	7.000	11000	800					
52	30-015-44634	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	024H		Oil	Active	940	N	1283	E	A	1	25S	29E	2/22/2018	9156	19803	14.750	10.750	658	762	Surf	Circ	9772-19624		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8648	1904	Surf	Circ			
																			6.750	5.500	19788	867	5450	CBL			
53	30-015-44635	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	025H		Oil	Active	940	N	1248	E	A	1	25S	29E	2/24/2018	9197	19575	14.750	10.750	657	825	Surf	Circ	9570-19422		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8648	1826	Surf	Circ			
																			6.750	5.500	19562	834	8130	CBL			
54	30-015-44636	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	026H		Oil	Active	940	N	1213	E	A	1	25S	29E	2/25/2018	9189	19660	14.750	10.750	657	825	Surf	Circ	9647-19499		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8765	1908	Surf	Circ			
																			6.750	5.500	19646	831	5800	CBL			
55	30-015-44640	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	031H		Gas	Active	561	N	1493	W	C	1	25S	29E	6/29/2018	10444	20630	14.750	10.750	558	579	Surf	Circ	10556-20308		[98220] PURPLE SAGE; WOLFCAMP (GAS)
																			9.875	7.625	9807	1285	Surf	Circ			
																			6.125	5.500	9698	934	5480	Calc			
																			6.125	4.500	20616	934	5480	Calc			
56	30-015-44642	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	032H		Gas	Active	561	N	1528	W	C	1	25S	29E	6/30/2018	10400	20718	14.750	10.750	558	680	Surf	Circ	10451-20500		[98220] PURPLE SAGE; WOLFCAMP (GAS)
																			9.875	7.625	9849	1235	Surf	Circ			
																			6.750	5.500	20708	827	6500	Calc			
57	30-015-44643	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	033H		Gas	Active	561	N	1563	W	C	1	25S	29E	7/15/2018	10420	20861	14.750	10.750	580	700	Surf	Circ	10525-20625		[98220] PURPLE SAGE; WOLFCAMP (GAS)
																			9.875	7.625	9906	1289	Surf	Circ			
																			6.750	5.500	20852	903	7550	Calc			
58	30-015-44644	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	034H		Gas	Active	1120	N	1284	E	A	1	25S	29E	7/14/2018	10418	21175	14.750	10.750	598	700	Surf	Circ	11168-20870		[98220] PURPLE SAGE; WOLFCAMP (GAS)
																			9.875	7.625	9925	1513	Surf	Circ			
																			6.750	5.500	20980	903	9420	Calc			
59	30-015-44645	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	035H		Gas	Active	1120	N	1249	E	A	1	25S	29E	7/13/2018	10506	21108	14.750	10.750	598	660	Surf	Circ	11130-20981		[98220] PURPLE SAGE; WOLFCAMP (GAS)
																			9.875	7.625	9968	1400	Surf	Circ			
																			6.750	5.500	21088	900	9454	Calc			
60	30-015-44646	] OXY USA INC	CORRAL CANYON 36 25 FEDERAL COM	036H		Gas	Active	1120	N	1214	E	A	1	25S	29E	7/12/2018	10533	21233	14.750	10.750	599	690	Surf	Circ	11260-21091		[98220] PURPLE SAGE; WOLFCAMP (GAS)
																			9.875	7.625	10060	1317	Surf	Circ			
																			6.750	5.500	21223	853	8430	Calc			
61	30-015-44702	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	021H		Oil	Active	694	N	1248	W	D	2	25S	29E	3/31/2018	8928	19584	14.750	10.750	412	418	Surf	Circ	9509-19389		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8168	1885	Surf	Circ			
																			6.750	5.500	19519	846	7837	Calc			
62	30-015-44703	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	022H		Oil	Active	694	N	1278	E	D	2	25S	29E	3/31/2018	8930	19410	14.750	10.750	382	836	Surf	Circ	9373-19248		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8302	1869	Surf	Circ			
																			6.750	5.500	19394	882	7802	Calc			
63	30-015-44704	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	023H		Oil	Active	694	N	1308	W	D	2	25S	29E	4/1/2018	8949	19480	14.750	10.750	400	418	Surf	Circ	9463-19338		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8405	1737	Surf	Circ			
																			6.750	5.500	19470	850	7903	Calc			
64	30-015-44705	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	024H		Oil	Active	314	N	1307	E	A	2	25S	29E	3/22/2018	9056	19671	14.750	10.750	442	490	Surf	Circ	9643-19519		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8381	1841	Surf	Circ			
																			6.750	5.500	19651	821	7894	Calc			
65	30-015-44683	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	025H		Oil	Active	314	N	1277	E	A	2	25S	29E	3/23/2018	9084	19378	14.750	10.750	436	490	Surf	Circ	9358-19234		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8355	1611	Surf	Circ			
																			6.750	5.500	19363	807	6160	CBL			
66	30-015-44684	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	026H		Oil	Active	314	N	1247	E	A	2	25S	29E	3/24/2018	9050	19313	14.750	10.750	444	490	Surf	Circ	9243-19169		[96473] PIERCE CROSSING; BONE SPRING, EAST
																			9.875	7.625	8454	1846	Surf	Circ			
																			6.750	5.500	19303	821	6472	Calc			
67	30-015-44726	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	031H		Gas	Active	694	N	1008	W	D	2	25S	29E	11/18/2018	10239	20840	14.750	10.750	722	1150	Surf	Circ	10851-20727		[98220] PURPLE SAGE; WOLFCAMP (GAS)
																			9.875	7.625	9772	2094	Surf	Circ			
																			6.750	5.500	20827	880	9268	Calc			
68	30-015-44727	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	032H		Gas	Active	694	N	1038	W	D	2	25S	29E	11/19/2018	10245	20568	14.750	10.750	723	1100	Surf	Circ	10617-20493		[98220] PURPLE SAGE; WOLFCAMP (GAS)

																	9.875	7.625	9492	1271	Surf	Circ		
																	6.750	5.500	20609	849	9099	Calc		
69	30-015-44728	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	033H	Gas	Active	694	N	1068	W	D	2	25S	29E	11/23/2018	10260	20990	14.750	10.750	721	1290	Surf	Circ	11013-20889	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.625	9849	1280	Surf	Circ		
																		6.750	5.500	20970	859	9348	Calc		
70	30-015-44729	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	034H	Gas	Active	434	N	1308	E	A	2	25S	29E	10/2/2018	10366	20705	14.750	10.750	454	410	Surf	Circ	10687-20541	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.625	9715	1693	Surf	Circ		
																		6.750	5.500	20649	857	6200	Calc		
71	30-015-44730	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	035H	Gas	Active	434	N	1278	E	A	2	25S	29E	10/2/2018	10358	20570	14.750	10.750	453	412	Surf	Circ	10571-20421	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.625	9759	1690	Surf	Circ		
																		6.750	5.500	20561	884	6200	Calc		
72	30-015-44731	] OXY USA INC	CORRAL FLY 35 26 FEDERAL COM	036H	Gas	Active	434	N	1248	E	A	2	25S	29E	10/3/2018	10364	20483	14.750	10.750	453	412	Surf	Circ	10537-20387	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.625	9530	1698	Surf	Circ		
																		6.750	5.500	20483	884	6200	Calc		
73	30-015-25706	] OXY USA INC	OWEN MESA 26 FEDERAL	001	Oil	PA	1350	N	1880	E	G	26	24S	29E	12/31/1986	12860	12860	17.500	13.375	680	500	Surf	Circ	NA	NA
																		12.250	9.625	3050	1955	Surf	Circ		
																		8.750	7.000	11050	1525	332	Calc		
																		6.125	4.500	12860	340	10696	Circ		
74	30-015-44435	] OXY USA INC	CEDAR CANYON 27 28 FEDERAL	042H	Oil	Active	956	N	325	W	D	28	24S	29E	8/5/2018	9982	20134	14.750	10.750	670	1000	Surf	Circ	9837-20031	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	9382	817	Surf	Circ		
																		6.750	5.500	20122	864	8880	Calc		
75	30-015-43775	] OXY USA INC	CEDAR CANYON 27 FEDERAL COM	005H	Oil	Active	1154	N	151	W	D	27	24S	29E	5/28/2016	8819	13743	14.75	10.75	518	530	Surf	Circ	9079-13583	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		9.875	7.625	8886	1500	Surf	Circ		
																		6.750	5.500	8886	600	6350	CBL		
																		6.750	4.500	13734	600	6350	CBL		
76	30-015-42063	] OXY USA INC	CEDAR CANYON 27 STATE COM	004H	Oil	Active	700	N	173	W	D	27	24S	29E	7/17/2014	8826	13589	14.750	11.750	464	910	Surf	Circ	9110-13340	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		10.625	8.625	3115	880	Surf	Circ		
																		7.875	5.500	13585	1620	Surf	Circ		
77	30-015-43673	] OXY USA INC	CEDAR CANYON 27 STATE COM	010H	Gas	Active	1154	N	121	W	D	27	24S	29E	5/28/2016	10125	14880	14.750	10.750	500	530	Surf	Circ	10136-14712	[98220] PURPLE SAGE; WOLFCAMP (GAS)
																		9.875	7.625	9032	1640	Surf	Circ		
																		6.750	5.500	10189	590	6000	CBL		
																		6.750	4.500	14870	590	6000	CBL		
78	30-015-35041	] OXY USA INC	VORTEC 27	001	Oil	Active	660	N	330	E	A	27	24S	29E	10/1/2006	10848	10848	17.500	13.375	552	600	Surf	Circ	8102-10770	[96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	9.625	2898	1030	Surf	Circ		
																		8.500	5.500	10848	2200	5900	CBL		
79	30-015-35492	] OXY USA INC	VORTEC 27	002	Oil	Active	2010	N	380	E	H	27	24S	29E	8/31/2007	11376	11376	17.500	13.375	550	500	surf	Circ	7981-11180	ACTIVE 1BS PROD. TOC 2400' MD, CBL [96473] PIERCE CROSSING; BONE SPRING, EAST
																		12.250	9.625	2920	950	surf	Circ		
																		8.5 & 7.875	5.500	11376	2250	2400	Calc		

WELL ID 16

Current Wellbore

10/5/2020

Ore Ida 14 Fed #7

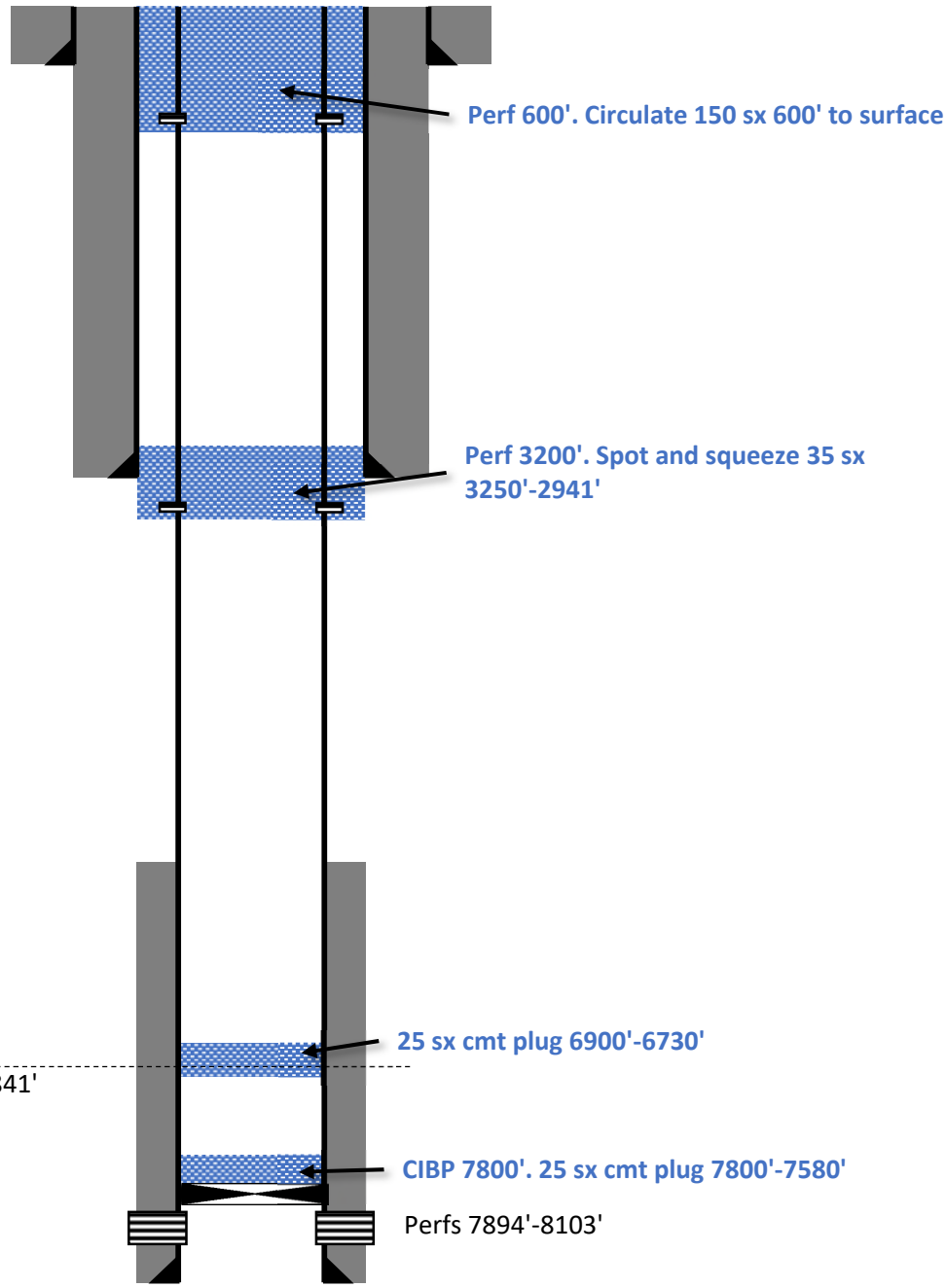
30-015-29306-0000

Eddy

String 1
OD 13.375 in
TD 376 ft
TOC 0 ft (Circulated)
525 sx

String 2
OD 8.625 in
TD 3081 ft
TOC 0 ft (Circulated)
1275 sx

String 3
OD 5.5 in
TD 8354 ft
TOC 5600 ft (Calculated)
PBTD 8354 ft
700 sx



WELL ID 20

OXY USA Inc. - Actual P&A
Harroun 15 # 013
API No. 30-015-31711

Perf'd @ 635'. 150sx Cl C to surface. Verified.

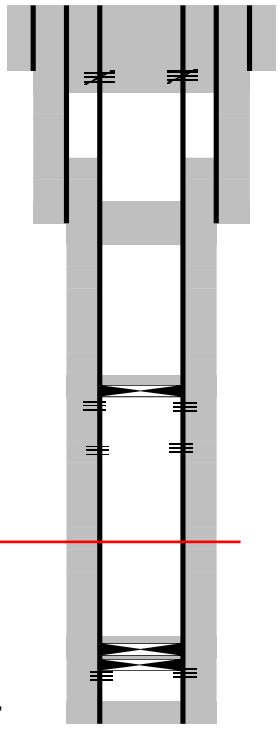
45sx Cl C f/ 3027' to 2532'.

Set CIBP @ 4840'. Tagged. Pumped 35sx Cl C. Tagged TOC @ 4490'.

Top of Proposed Injection Zone 6740'

Set CIBP @ 7730' - 35sx Cl H. Tagged TOC @ 7324'.
Pushed CIBP down to 7762'.

PBTD - 7973'



17-1/2" hole @ 580'
13-3/8" csg @ 580'
w/ 1070 sx-TOC-Surf-Circ.-1"

11" hole @ 2915'
8-5/8" csg @ 2915'
w/ 1050 sx-TOC-Surf- Circ.

Perfs 4890'-5151'

Perfs 5282'-5310'

7-7/8" hole @ 8020'
5-1/2" csg @ 8020'
w/ 1830sx-TOC-~1800'-CBL

Perfs 7780'-7802'

TD - 8020' TVD

WELL ID 23

Current Wellbore

10/6/2020

Harroun 15 #11

30-015-30951-0000

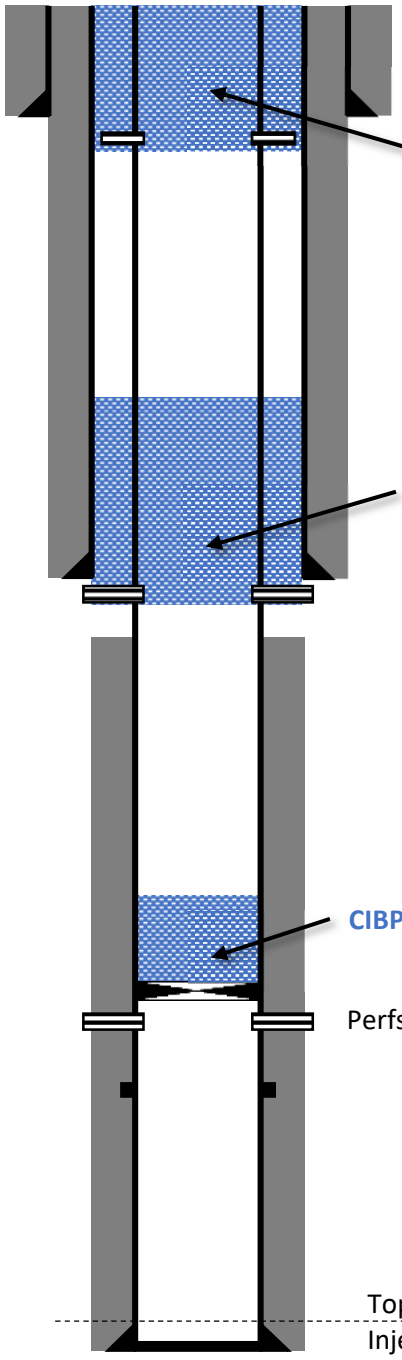
Eddy

String 1
OD 10.75 in
TD 563 ft
TOC 0 ft (circulated)
545 sx

String 2
OD 7.625 in
TD 2930 ft
TOC 0 ft (circulated)
800 sx

DV Tool
Top 5520 ft

String 3
OD 4.5 in
TD 6890 ft
TOC 3234 ft (CBL)
PBTD 6847 ft
1115 sx



Perforate 613'. 178 sx cmt plug 613' - surface.

Perforate 2980'. 65 sx cmt plug 2980'-2096'.

CIBP 5196'. 35 sx cmt plug 5196'-4800'.

Perfs 5246'-5264', Brushy Canyon

Top of Proposed
Injection Zone 6710'

WELL ID 42

Current Wellbore

10/21/2020

Canyon 23 Federal #1

30-015-29318-0000

Eddy

String 1
OD 13.375 in
TD 516 ft
TOC 0 ft , Circulated
600 sx

String 2
OD 9.625 in
TD 3120 ft
TOC 0 ft , Circulated
1200 sx

DV Tool 4277 ft

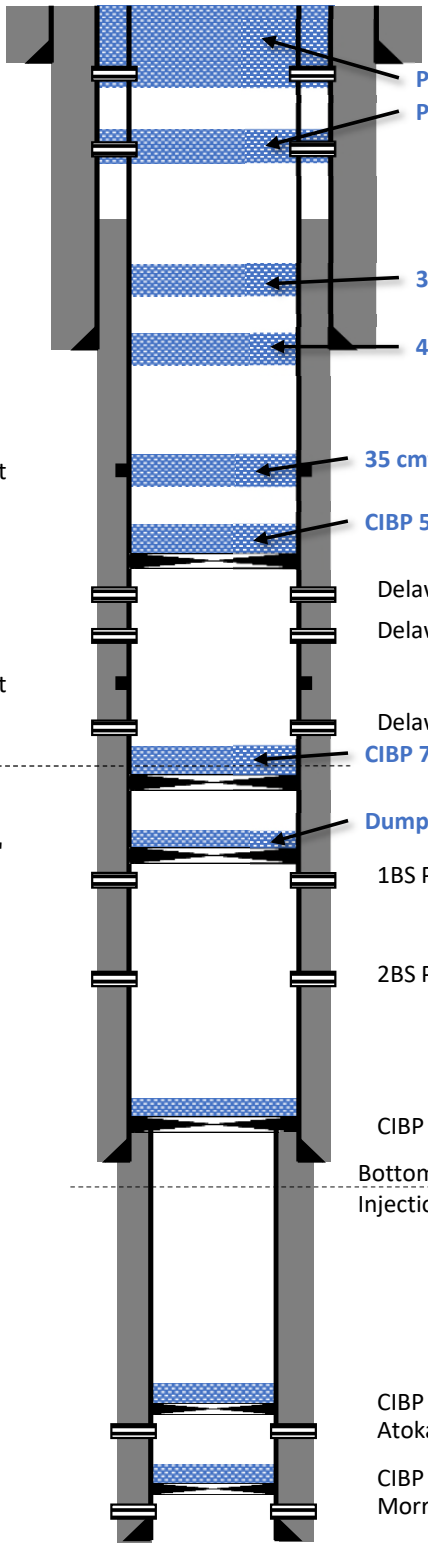
DV Tool 6103 ft

Top of Proposed
Injection Interval 6924'

CIBP 8000'

String 3
OD 7 in
TD 10500 ft
TOC 1936 ft , CBL
PBTD 13950 ft
1495 sx

Partial Liner
OD 5 in
10242 ft - 13930 ft
415 sx cmt
TOC 10242 ft



Perf 566'. 160 sx cmt plug 566' to surf

Perf 950'. 40 sx cmt plug 950'-849'

35 sx cmt plug 2769'-2557'

40 sx cmt plug 3267'-3017'

35 cmt plug 4355'-4157'

CIBP 5413'. 35 sx cmt plug 5413'-5183'.

Delaware Perfs 5464'-5478'

Delaware Perfs 5809'-5822'

Delaware Perfs 6530'-6772'

CIBP 7000'. 40 sx cmt plug 7000'-6818'.

Dump 5.5 sx cmt. Tag 7925'.

1BS Perfs 8064-8100'

2BS Perfs 8782'-9032'

CIBP 10240' w/ 50 sx cmt to 9957'

Bottom of Proposed
Injection Interval 10681'

CIBP 12712' with 35' cmt to 12677'
Atoka Perfs 12736'-12748'

CIBP 13600' with 36' cmt to 13564'
Morrow Perfs 13618'-13680'

WELL ID 43

Current Wellbore

10/21/2020

Riverbend 23 Federal #14

30-015-29616-0000

EDDY

String 1
OD 10.75 in
TD 529 ft
TOC 0 ft , Circulated
550 sx

String 2
OD 7.625 in
TD 2976 ft
TOC 0 ft , Circulated
800 sx

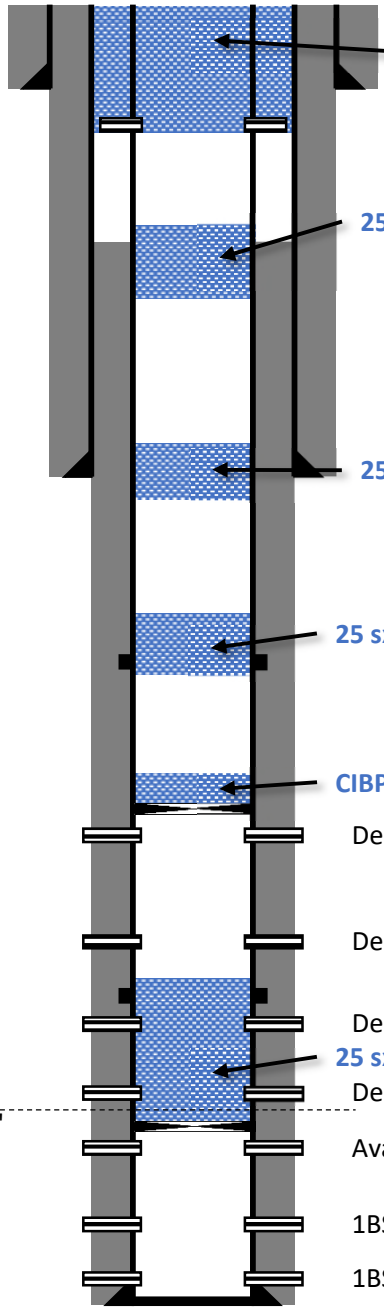
DV Tool 4409 ft

DV Tool 6211 ft

Top of Proposed Injection Interval 6788'

CIBP 6836'

String 3
OD 4.5 in
TD 8200 ft
TOC 1497 ft , Temp Survey
PBTD 8157 ft
1325 sx



Perf 579'. 140 sx cmt 579'-surface

25 sx cmt 1840'-1457'

25 sx cmt 3123'-2769'

25 sx cmt 4540'-4154'

CIBP 5135'. 25 sx cmt 5135'-4749'

Delaware Perfs 5184'-5370'

Delaware Perfs 5932'-5944'

Delaware Perfs 6348'-6399'

25 sx cmt plug 6836'-6018'

Delaware Perfs 6560'-6642'

Avalon Perfs 6886'-6900'

1BS Perfs 7856'-7864'

1BS Perfs 8053'-8078'

WELL ID 44

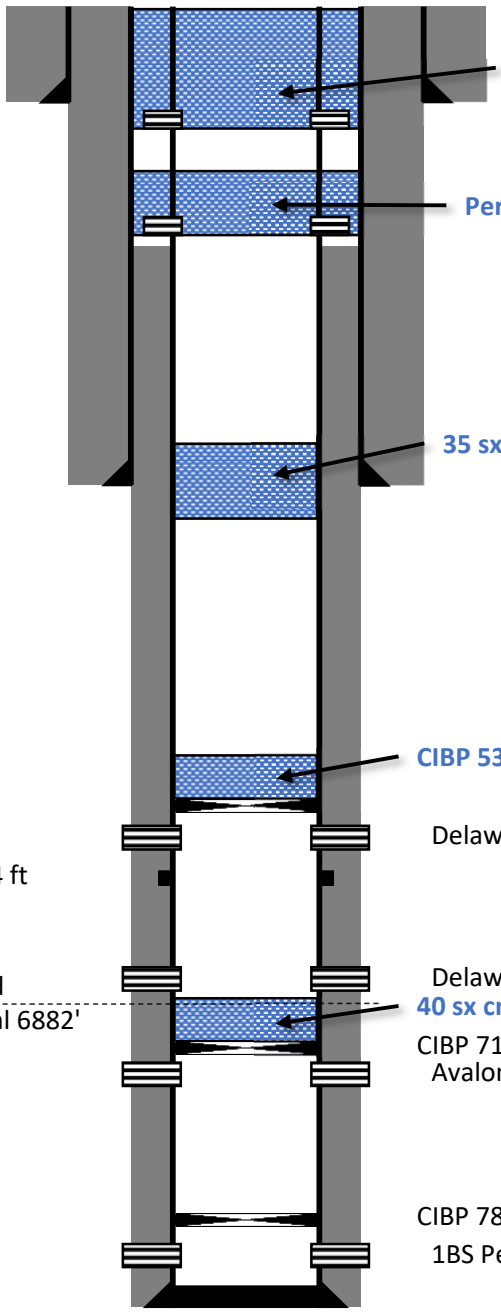
Current Wellbore

10/21/2020

Riverbend 23 Federal #16Q

30-015-33598-0000

Eddy



String 1
OD 13.325 in
TD 612 ft
TOC 0 ft , Circulated
800 sx

Perf 662'. 185 sx cmt 662'-surface

Perf 1410'. 85 sx cmt 1410-1071'

String 2
OD 8.625 in
TD 3060 ft
TOC 0 ft , Circulated
1430 sx

35 sx cmt 3205'-2930'

CIBP 5390'. 25 sx cmt 5390'-5166'

Delaware Perfs 5440'-5450'

DV Tool 5534 ft

Delaware Perfs 6707'-6735'

Top of Proposed
Injection Interval 6882'

40 sx cmt 7180'-6822'

CIBP 7180'

Avalon Perfs 7227'-7323'

CIBP 7850'

1BS Perfs 7918'-8066'

String 3
OD 5.5 in
TD 8320 ft
TOC 1530 ft , CBL
PBTD 8192 ft
1690 sx

WELL ID 45

Current Wellbore

10/21/2020

Riverbend B Federal #11

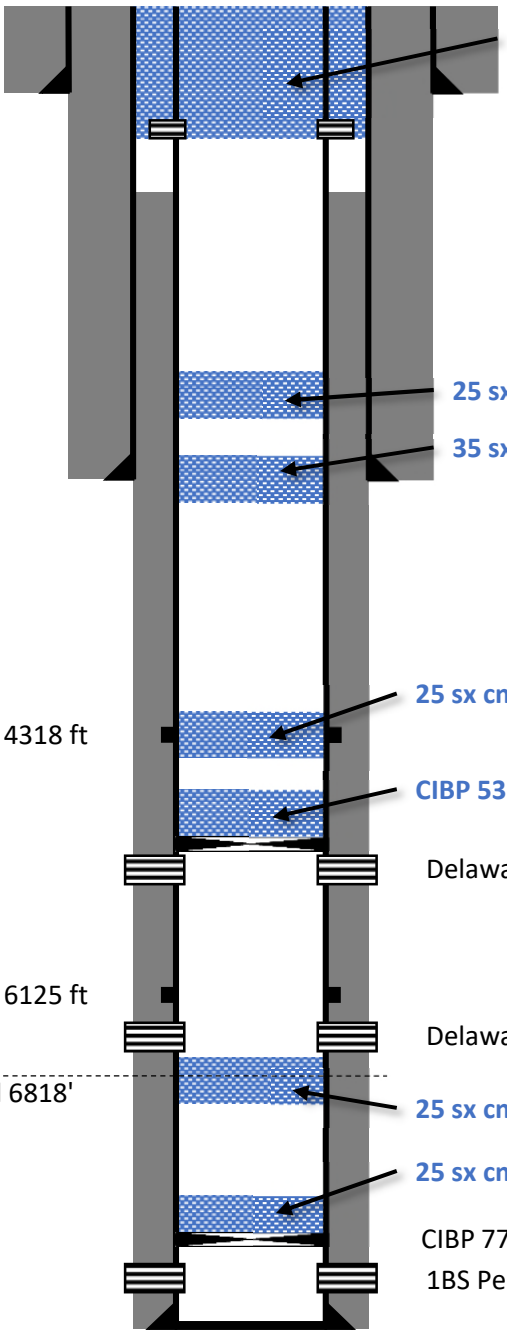
30-015-29320-0000

Eddy

String 1
OD 13.375 in
TD 535 ft
TOC 0 ft , Circulated
950 sx

String 2
OD 8.625 in
TD 2950 ft
TOC 0 ft , Circulated
1107 sx

String 3
OD 5.5 in
TD 8250 ft
TOC 1160 ft , Temp Survey
PBTD 8210 ft
1590 sx



Perf 730'. 185 sx cmt 730'-surface

25 sx cmt 2614'-2347'

35 sx cmt 3188'-2822'

25 sx cmt 4399'-4144'

DV Tool 4318 ft

CIBP 5322'. 25 sx cmt 5322'-5172'

Delaware Perfs 5372'-5670'

DV Tool 6125 ft

Delaware Perfs 6430'-6673'

Top of Proposed
Injection Interval 6818'

25 sx cmt 6921'-6678'

25 sx cmt 7793'-7555'

CIBP 7795'

1BS Perfs 7845'-8022'

WELL ID 46

Current Wellbore

10/21/2020

Riverbend Federal #7

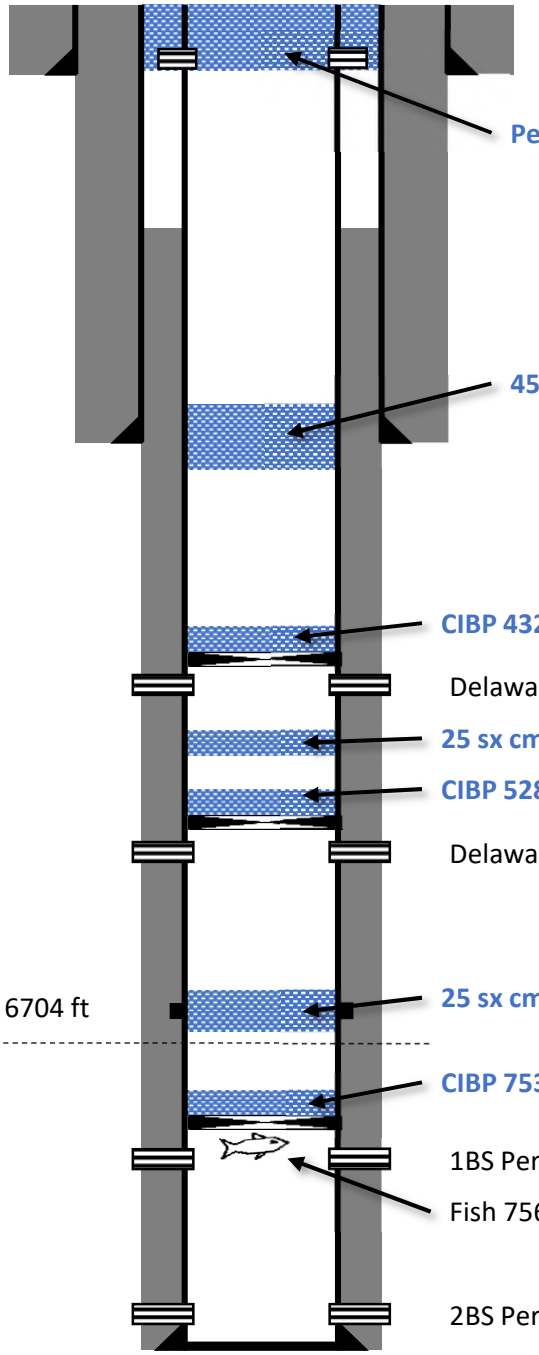
30-015-27994-0000

Eddy

String 1
OD 13.375 in
TD 465 ft
TOC 0 ft , Circulated
560 sx

String 2
OD 8.625 in
TD 2934 ft
TOC 0 ft , Circulated
1300 sx

String 3
OD 5.5 in
TD 9020 ft
TOC 1494 ft , CBL
PBTD 8975 ft
1300 sx



Perf 515'. 155 sx cmt 515'-surface

45 sx cmt 3115'-2650'

CIBP 4320'. 25 sx cmt 4320'-4067'

Delaware Perfs 4370'-4376'

25 sx cmt 4672'-4413'

CIBP 5280'. 25 sx cmt plug 5280'-5027'

Delaware Perfs 5330'-5354'

DV Tool 6704 ft

Top of Proposed Injection Interval 6784'

25 sx cmt 6847'-6565'

CIBP 7530'. 25 sx cmt 7530'-7204'

1BS Perfs 7814'-7922'

Fish 7561'-7752' (Tbg, TAC, pump)

Prod Zone
8780 ft
8848 ft

2BS Perfs 8780'-8848'

WELL ID 47

Current Wellbore

10/26/2020

Riverbend Federal #8

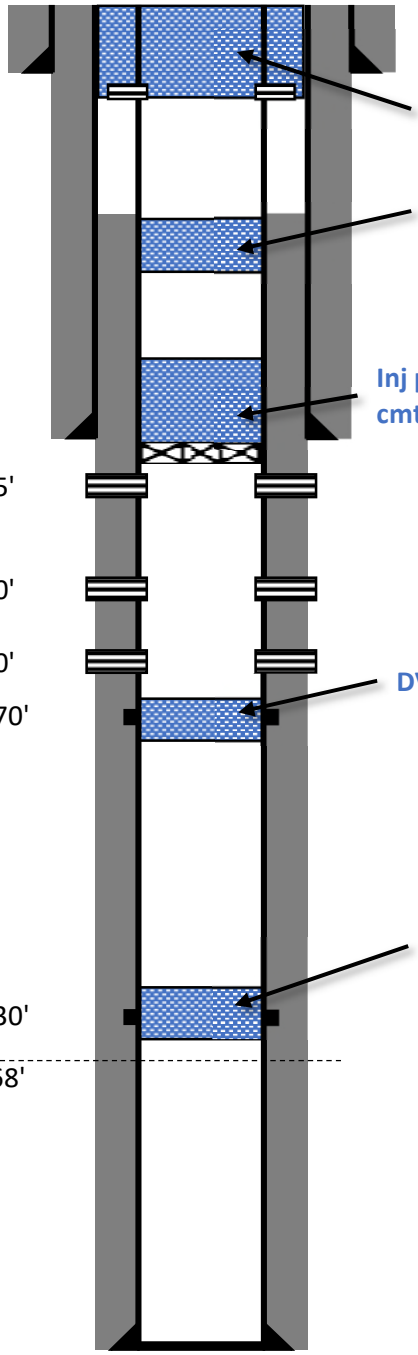
30-015-28390-0000

Eddy

String 1
OD 10.75 in
TD 451 ft
TOC 0 ft , Circulated
470 sx

String 2
OD 7.625 in
TD 2900 ft
TOC 0 ft , Circulated
700 sx

String 3
OD 4.5 in
TD 9000 ft
TOC 1400 ft , CBL
PBTD 8953 ft
1220 sx



Perf 501'. 100 sx cmt 501' - surface

25 sx cmt 1768'-1401'

Inj packer w/ blk plug 3012'. 25 sx cmt 3012'-2604'

Perfs 3070'-3165'

Perfs 3946'-4000'

Perfs 4320'-4470'

DV Tool 4570'

DVT not drilled out 4570'

DVT not drilled out 6728'

DV Tool 6730'

Top of Proposed Injection Interval 6768'

WELL ID 51

Current Wellbore

10/28/2020

Poker Lake Unit 73

30-015-26152-0000

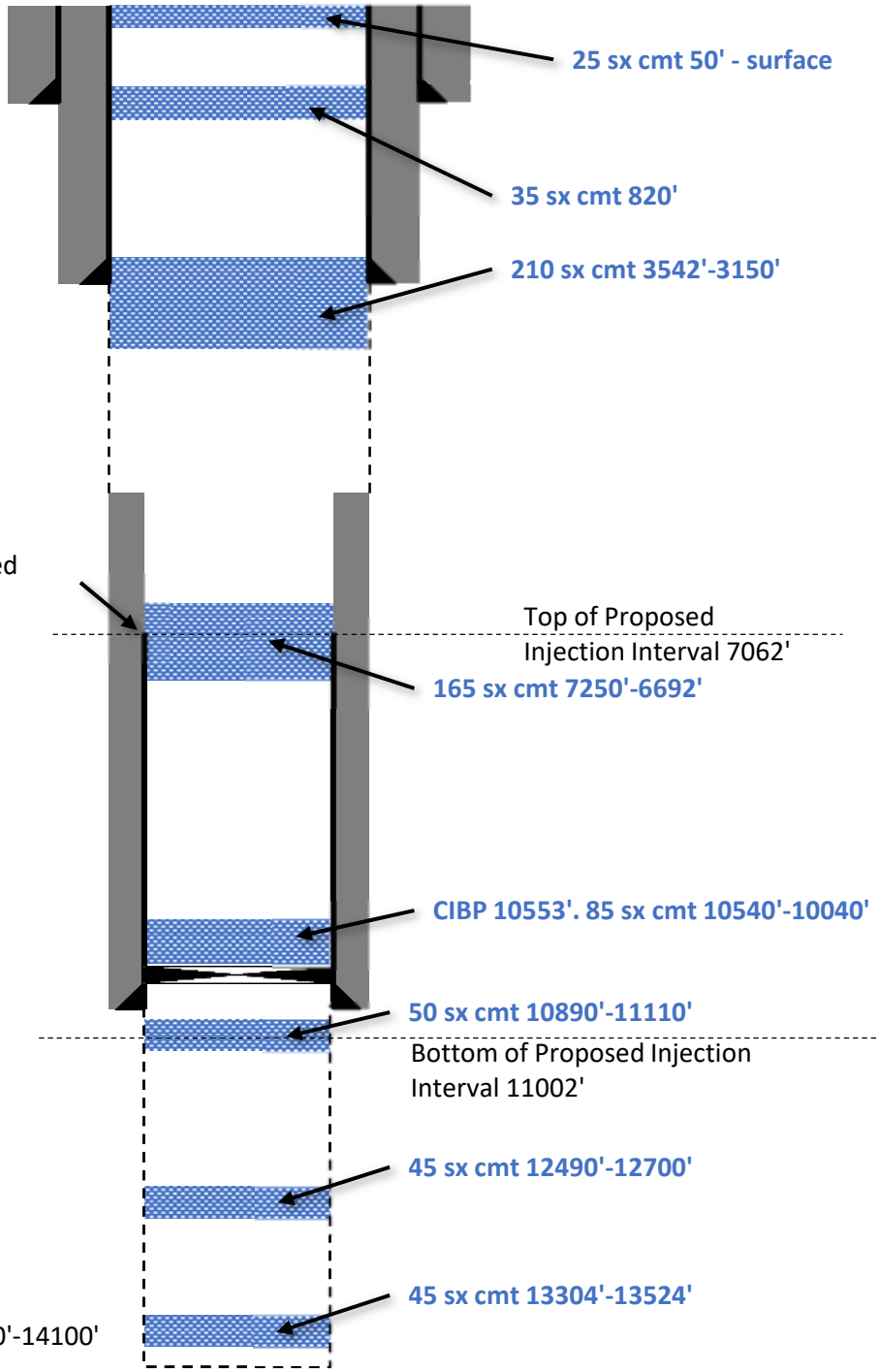
Eddy

String 1
OD 13.375 in
TD 820 ft
TOC 0 ft , Circulated
1050 sx

String 2
OD 9.625 in
TD 3295 ft
TOC 0 ft , Circulated
1050 sx

Cut casing at 7057'. Recovered
7057' of 7 in casing

String 3
OD 7 in
TD 11000 ft
TOC 5378 ft , Calc
PBTD 14100 ft
1050 sx



WELL ID 73

ACTUAL P&A SUBSEQUENT WBD

6/7/2021

Owen Mesa 26 Federal Com #001

30-015-25706-0000

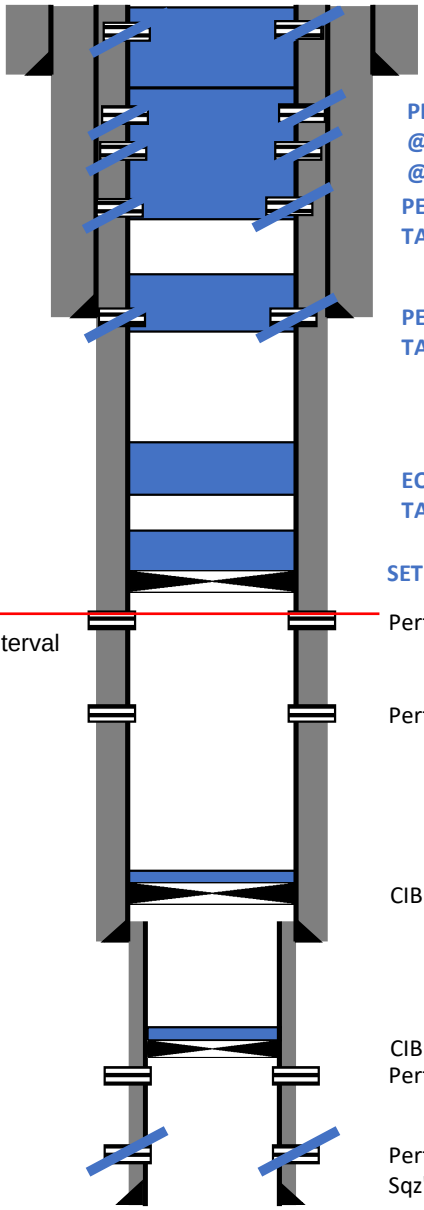
Eddy

String 1
OD 13.375 in
TD 680 ft
TOC 0 ft

String 2
OD 9.625 in
TD 3050 ft
TOC 11 ft

String 3
OD 7 in
TD 11050 ft
TOC 0 ft
PBTD ft

Liner
4.5 in
10696-12860 ft



PERF'D 60'. EOT @ 589'. 100SX CLASS C CMT. VERIFIED CMT TO SURF.

PERF'D @ 730'. PERF'D @ 680'. EOT @ 848'. 40SXCLASS C CMT. TAGGED @ 589'

PERF'D @ 950'. 30SXCLASS C CMT. TAGGED @ 848'

PERF'D 3150'. 85SX CLASS C CMT. TAGGED @ 2646'.

EOT @ 4955'. 45 SX CLASS C CMT. TAGGED @ 4633'.

SET CIBP AT 6782'. 45sx CL C CMT. TAGGED @ 6484'

Top of Proposed Injection Interval
6842'

Perfs 6832-6962

Perfs 7952-7962

CIBP @ 10000 with 35' cmt

CIBP @ 11400 with 35' cmt
Perfs 11487-11731, Wolfcamp

Perfs 12576-12697, Atoka
Sqz'd with 100 sx cmt.

Oxy USA Inc.
Cedar Canyon Section 23-24
Eddy County, NM
Item VII- Proposed Operations

Proposed Operations

Water Injection

1. Water Rate Table

Well Name	Zone	Average Daily Injection Rate [BWIPD]	Max Daily Injection Rate [BWIPD]
GUACAMOLE CC 24-23 FED #12H	AVL	5,000	10,000
GUACAMOLE CC 24-23 FED #11H	1BS	5,000	10,000
CEDAR CANYON 23 #1H	1BS	5,000	10,000
CEDAR CANYON 23 #2H	2BS	5,000	10,000
CEDAR CANYON 23 FEDERAL #3H	2BS	5,000	10,000
CEDAR CANYON 23 FEDERAL #4H	2BS	5,000	10,000
CEDAR CANYON 23 Fed #5H	2BS	5,000	10,000
CEDAR CANYON 23 FEDERAL COM #6H	2BS	5,000	10,000
CEDAR CANYON 23 24 FEDERAL #31H	3BS	5,000	10,000
CEDAR CANYON 23 24 FEDERAL #32H	3BS	5,000	10,000
CEDAR CANYON 23 24 FEDERAL COM #34H	3BS	5,000	10,000
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	5,000	10,000

2. This will be a closed system.

3. Water Pressure Table (see Calculations below for Max Injection Pressure)

Well Name	Zone	Average Injection Pressure [psi]	Max Injection Pressure [psi]
GUACAMOLE CC 24-23 FED #12H	AVL	1,500	1,500
GUACAMOLE CC 24-23 FED #11H	1BS	1,500	1,500
CEDAR CANYON 23 #1H	1BS	1,500	1,500
CEDAR CANYON 23 #2H	2BS	1,700	1,700
CEDAR CANYON 23 FEDERAL #3H	2BS	1,700	1,700
CEDAR CANYON 23 FEDERAL #4H	2BS	1,770	1,770
CEDAR CANYON 23 Fed #5H	2BS	1,700	1,700
CEDAR CANYON 23 FEDERAL COM #6H	2BS	1,700	1,700
CEDAR CANYON 23 24 FEDERAL #31H	3BS	1,950	1,950
CEDAR CANYON 23 24 FEDERAL #32H	3BS	1,950	1,950
CEDAR CANYON 23 24 FEDERAL COM #34H	3BS	1,950	1,950
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	2,000	2,000

4. The source of the injected water will be produced water, which is comprised of nearby Delaware, Bone Spring, and Wolfcamp wells. Please see the attached water analysis.

5. N/A

Gas Injection

1. Gas Rate Table

Well Name	Zone	Average Daily Injection Rate [MMSCFD]	Max Daily Injection Rate [MMSCFD]
GUACAMOLE CC 24-23 FED #12H	AVL	15	40
GUACAMOLE CC 24-23 FED #11H	1BS	15	40
CEDAR CANYON 23 #1H	1BS	15	40
CEDAR CANYON 23 #2H	2BS	15	40
CEDAR CANYON 23 FEDERAL #3H	2BS	15	40
CEDAR CANYON 23 FEDERAL #4H	2BS	15	40
CEDAR CANYON 23 Fed #5H	2BS	15	40
CEDAR CANYON 23 FEDERAL COM #6H	2BS	15	40
CEDAR CANYON 23 24 FEDERAL #31H	3BS	15	40
CEDAR CANYON 23 24 FEDERAL #32H	3BS	15	40
CEDAR CANYON 23 24 FEDERAL COM #34H	3BS	15	40
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	15	40

2. This will be a closed system.

3. Gas Pressure Table (see Calculations below for Max Injection Pressure)

Well Name	Zone	Average Injection Pressure [psi]	Max Injection Pressure [psi]
GUACAMOLE CC 24-23 FED #12H	AVL	3,900	3,900
GUACAMOLE CC 24-23 FED #11H	1BS	4,000	4,000
CEDAR CANYON 23 #1H	1BS	4,000	4,000
CEDAR CANYON 23 #2H	2BS	4,350	4,350
CEDAR CANYON 23 FEDERAL #3H	2BS	4,350	4,350
CEDAR CANYON 23 FEDERAL #4H	2BS	4,350	4,350
CEDAR CANYON 23 Fed #5H	2BS	4,350	4,350
CEDAR CANYON 23 FEDERAL COM #6H	2BS	4,350	4,350
CEDAR CANYON 23 24 FEDERAL #31H	3BS	4,850	4,850
CEDAR CANYON 23 24 FEDERAL #32H	3BS	4,850	4,850
CEDAR CANYON 23 24 FEDERAL COM #34H	3BS	4,850	4,850
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	4,950	4,950

4. The source of the injected gas will be produced gas from the Cedar Canyon Gathering Network, which is comprised of nearby Delaware, Bone Spring, and Wolfcamp wells. Please see the attached gas analysis.

5. N/A

CO2 Injection

1. CO2 Rate Table

Well Name	Zone	Average Daily Injection Rate [MMSCFD]	Max Daily Injection Rate [MMSCFD]
GUACAMOLE CC 24-23 FED #12H	AVL	30	40
GUACAMOLE CC 24-23 FED #11H	1BS	30	40
CEDAR CANYON 23 #1H	1BS	30	40
CEDAR CANYON 23 #2H	2BS	30	40
CEDAR CANYON 23 FEDERAL #3H	2BS	30	40
CEDAR CANYON 23 FEDERAL #4H	2BS	30	40
CEDAR CANYON 23 Fed #5H	2BS	30	40
CEDAR CANYON 23 FEDERAL COM #6H	2BS	30	40
CEDAR CANYON 23 24 FEDERAL #31H	3BS	30	40
CEDAR CANYON 23 24 FEDERAL #32H	3BS	30	40
CEDAR CANYON 23 24 FEDERAL COM #34H	3BS	30	40
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	30	40

2. This will be a closed system.

3. CO2 Pressure Table (see Calculations section below for Max Injection Pressure)

Well Name	Zone	Average Injection Pressure [psi]	Max Injection Pressure [psi]
GUACAMOLE CC 24-23 FED #12H	AVL	2,000	2,000
GUACAMOLE CC 24-23 FED #11H	1BS	2,050	2,050
CEDAR CANYON 23 #1H	1BS	2,050	2,050
CEDAR CANYON 23 #2H	2BS	2,200	2,200
CEDAR CANYON 23 FEDERAL #3H	2BS	2,200	2,200
CEDAR CANYON 23 FEDERAL #4H	2BS	2,300	2,300
CEDAR CANYON 23 Fed #5H	2BS	2,200	2,200
CEDAR CANYON 23 FEDERAL COM #6H	2BS	2,200	2,200
CEDAR CANYON 23 24 FEDERAL #31H	3BS	2,450	2,450
CEDAR CANYON 23 24 FEDERAL #32H	3BS	2,450	2,450
CEDAR CANYON 23 24 FEDERAL COM #34H	3BS	2,450	2,450
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	2,500	2,500

4. Oxy does not currently have a source for CO2 for this project area. However, Oxy would like to have the ability to inject CO2 when a source becomes available.

5. N/A

Maximum Injection Pressure Calculations

Water

Maximum Water Injection Pressures were calculated for each well. The First Perf TVD (Column C) was multiplied by 0.2 psi/ft (per OCD guidelines). The result is the Calculated Max Water Surface Pressure (Column D). Next, the minimum value of each zone was identified. This was rounded down and used for all wells in the same zone (Column E). The requested Max Water Injection Pressure for each well is in Column E.

A	B	C	D	E
Well Name	**Zone**	**First perf TVD [ft]**	**Calculated Max Water Surface Pressure [psi]**	**Max Water Injection Pressure [psi]**
GUACAMOLE CC 24-23 FED #12H	AVL	7,862	1,572	1,500
GUACAMOLE CC 24-23 FED #11H	1BSS	8,219	1,644	1,500
CEDAR CANYON 23 #1H	1BSS	7,854	1,571	1,500
CEDAR CANYON 23 #2H	2BSS	8,570	1,714	1,700
CEDAR CANYON 23 FEDERAL #3H	2BSS	8,829	1,766	1,700
CEDAR CANYON 23 FEDERAL #4H	2BSS	8,850	1,770	1,770
CEDAR CANYON 23 Fed #5H	2BSS	8,844	1,769	1,700
CEDAR CANYON 23 FEDERAL COM #6H	2BSS	8,854	1,771	1,700
CEDAR CANYON 23 24 FEDERAL #31H	3BSS	9,972	1,994	1,950
CEDAR CANYON 23 24 FEDERAL #32H	3BSS	9,917	1,983	1,950
CEDAR CANYON 23 24 FEDERAL COM #34H	3BSS	9,925	1,985	1,950
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	10,131	2,026	2,000

Gas

Maximum Gas Injection Pressures were calculated for each well. The first Perf TVD (Column C) was multiplied by 0.2 psi/ft and 0.433 psi/ft (freshwater pressure gradient). The result is Calculated Max Bottomhole Pressure (Column D). Next, a Petroleum Expert Prosper Model was used to calculate the Max Surface Pressure (Column E). Various inputs were made for each well, including: Fluid Composition, Downhole Equipment Configuration, Bottomhole Temperature, and Injection Rate. Finally, the average value was calculated for each zone. This value was rounded and used for all wells in the same zone (Column F). The requested Max Gas Injection Pressure for each well is in Column F.

*Prosper Model is an industrial standard nodal analysis software for pressure calculation and includes phase behavior change and friction loss.

A	B	C	D	E	F
Well Name	**Zone**	**First perf TVD [ft]**	**Calculated Max Bottomhole Pressure [psi]**	**Calculated Max Surface Pressure [psi]**	**Max Gas Injection Pressure [psi]**
GUACAMOLE CC 24-23 FED #12H	AVL	7,862	4,977	3920	3,900
GUACAMOLE CC 24-23 FED #11H	1BSS	8,219	5,203	4080	4,000
CEDAR CANYON 23 #1H	1BSS	7,854	4,972	3920	4,000
CEDAR CANYON 23 #2H	2BSS	8,570	5,425	4250	4,350
CEDAR CANYON 23 FEDERAL #3H	2BSS	8,829	5,589	4360	4,350
CEDAR CANYON 23 FEDERAL #4H	2BSS	8,850	5,602	4370	4,350
CEDAR CANYON 23 Fed #5H	2BSS	8,844	5,598	4360	4,350
CEDAR CANYON 23 FEDERAL COM #6H	2BSS	8,854	5,605	4380	4,350
CEDAR CANYON 23 24 FEDERAL #31H	3BSS	9,972	6,312	4860	4,850
CEDAR CANYON 23 24 FEDERAL #32H	3BSS	9,917	6,277	4840	4,850
CEDAR CANYON 23 24 FEDERAL COM #34H	3BSS	9,925	6,283	4840	4,850
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	10,131	6,413	4930	4,950

CO2

Maximum CO2 Injection Pressures were calculated for each well. The process is very similar to the calculations for gas. The first Perf TVD (Column C) was multiplied by 0.2 psi/ft and 0.433 psi/ft (freshwater pressure gradient). The result is Calculated Max Bottomhole Pressure (Column D). Next, a Petroleum Expert Prosper Model was used to calculate the Max Surface Pressure (Column E). Various inputs were made for each well, including: Fluid Composition, Downhole Equipment Configuration, Bottomhole Temperature, and Injection Rate. For CO2, the Prosper Model inputs were the same as gas, except for Fluid Composition, Tubing ID, and Tubing Roughness. Finally, the average value was calculated for each zone. This value was rounded and used for all wells in the same zone (Column F). The requested Max CO2 Injection Pressure for each well is in Column F.

A	B	C	D	E	F
Well Name	**Zone**	**First perf TVD [ft]**	**Calculated Max Bottomhole Pressure [psi]**	**Calculated Max Surface Pressure [psi]**	**Max CO2 Injection Pressure [psi]**
GUACAMOLE CC 24-23 FED #12H	AVL	7,862	4,977	2,000	2,000
GUACAMOLE CC 24-23 FED #11H	1BSS	8,219	5,203	2,070	2,050
CEDAR CANYON 23 #1H	1BSS	7,854	4,972	2,000	2,050
CEDAR CANYON 23 #2H	2BSS	8,570	5,425	2,180	2,200
CEDAR CANYON 23 FEDERAL #3H	2BSS	8,829	5,589	2,230	2,200
CEDAR CANYON 23 FEDERAL #4H	2BSS	8,850	5,602	2,230	2,300
CEDAR CANYON 23 Fed #5H	2BSS	8,844	5,598	2,230	2,200
CEDAR CANYON 23 FEDERAL COM #6H	2BSS	8,854	5,605	2,240	2,200
CEDAR CANYON 23 24 FEDERAL #31H	3BSS	9,972	6,312	2,460	2,450
CEDAR CANYON 23 24 FEDERAL #32H	3BSS	9,917	6,277	2,450	2,450
CEDAR CANYON 23 24 FEDERAL COM #34H	3BSS	9,925	6,283	2,450	2,450
CEDAR CANYON 23 FEDERAL COM #33H	WCXY	10,131	6,413	2,490	2,500

Water Compatibility Analysis

Scale precipitation due to incompatibility of mixing different waters is simulated using ScaleSoftPitzer™ (SSP) developed by Rice University's Brine Chemistry Consortium. Compatibility simulations were performed between (a) Avalon (Av) formation water and produced water (PW) from Cedar Canyon Water Treatment Facility (CC15 WTF); (b) 1st Bone Spring (1BS) formation water and PW, and (c) 2nd BS (2BS) formation water and PW, (d) 3rd BS (3BS) formation water and PW, and (e) Wolfcamp XY (WCXY) formation water and PW. Table 1 shows the water analysis for the 6 waters.

Table 1. Water analysis of the various formation waters and produced water.

	Avalon	1BS	2BS	3BS	WCXY	PW (CC15 SWD / WTF)
Na+	61,300	62,900	49,968	41,800	40,800	47,391
K+	1,150	1,010	919	725	754	789
Mg2+	417	458	1,321	835	734	1,313
Ca2+	2,000	2,420	8,657	5,500	4,760	8,793
Sr2+	337	526	525	946	922	799
Ba2+	0.8	1.6	0.8	3.0	2.9	2.4
Fe2+	21	31	49	21	10	20
Cl-	93,748	89,722	80,324	67,188	61,658	89,632
SO42-	847	347	501	306	240	386
Total Alkalinity	3,080	403	101	134	98	169
TDS (Measured)	163,975	158,834	142,809	118,138	110,649	148,507
Calc. Density (STP)	1.122	1.121	1.117	1.088		1.109
pH, measured	6.48	6.30	6.55	7.13	6.30	6.29

The various waters are input into SSP at different ratios to calculate scaling index (SI) and potential precipitation (ppt) in pound per thousand barrels (ptb). Bottomhole temperature of 150 F and bottomhole pressures of 5,000 psia were used in the modeling. Results are summarized in Table 2 to Table 5.

Three common types of oilfield scales are examined; they are calcite, barite and celestite. Amongst the various ratios of the different formation waters, there are minute amount of scaling potential for barite and celestite, i.e. small or negative SI, therefore the focus of discussion with be surrounding calcium carbonate (calcite) scale.

(a) Avalon + Produced Water:

In general, there is a significant, inherent calcite scaling tendency in Avalon formation water itself. The predicted SI downhole is of 1.52 with a potential precipitation of 549 lb of scale per thousand bbl of water as shown in Table 2. Any scaling index above zero indicates a supersaturation condition of the scale. By mixing PW with the Avalon formation water it is observed that the scaling index of calcite become slightly higher first and then become smaller as the ratio of PW increases. The potential amount of precipitation is found to decrease as the ratio of PW to Avalon water increases. Therefore we expect little to no additional precipitation is induced due to addition of produced water into the Avalon reservoir.

Table 2: Prediction of SI and potential PPT of 3 common oilfield scales by mixing Avalon formation water and PW at different ratios.

PW from CC15 SWD / WTF	avg. Avalon	Calcite		Barite		Celestite	
% PW	% Avalon	SI	ppt (ptb)	SI	ppt (ptb)	SI	ppt (ptb)
100	0	0.54	15	-0.10	0.0	0.08	33
75	25	1.39	164	-0.04	0.0	0.16	66
50	50	1.59	323	-0.03	0.0	0.20	84
25	75	1.63	467	-0.05	0.0	0.20	82
0	100	1.52	549	-0.14	0.0	0.17	60

(b) 1st Bone Spring + Produced Water

In general there is a slight, inherent calcite scaling tendency in 1BS formation water itself as shown in Table 3. By introducing PW, the scaling index is first observed to increase slightly and then decrease. The potential amount of precipitation is found to decrease by diluting the 1BS water with PW at all ratios. Therefore we expect little to no additional precipitation is induced due to addition of produced water into the 1BS reservoir.

Table 3: Prediction of SI and potential PPT of 3 common oilfield scales by mixing 1st BS water and PW at different ratios.

PW from CC15 SWD / WTF	avg. 1st BS	Calcite		Barite		Celestite	
% PW	% 1st BS	SI	ppt (ptb)	SI	ppt (ptb)	SI	ppt (ptb)
100	0	0.54	15	-0.10	0.0	0.08	33
75	25	0.62	23	-0.14	0.0	0.05	18
50	50	0.65	29	-0.18	0.0	0.01	3
25	75	0.62	33	-0.23	0.0	-0.04	0
0	100	0.49	30	-0.29	0.0	-0.09	0

(c) 2nd Bone Spring + Produced Water

One can observe that the water quality of 2BS formation water is very similar to that of PW. This is because the majority of our wells in Cedar Canyon are of 2BS. By introducing PW into the 2BS reservoir, it is observed that there is a slight increase in scaling index and a slight increase in precipitation as shown in Table 4. The increase of such is probably within the natural variation of the water quality itself. Therefore we expect little to no additional precipitation is induced due to addition of produced water into the 2BS reservoir.

Table 4: Prediction of SI and potential PPT of 3 common oilfield scales by mixing 2nd BS water and PW at different ratios.

PW from CC15 SWD / WTF	avg. 2nd BS	Calcite		Barite		Celestite	
% PW	% 2nd BS	SI	ppt (ptb)	SI	ppt (ptb)	SI	ppt (ptb)
100	0	0.54	15	-0.10	0	0.08	33
75	25	0.50	12	-0.16	0	0.06	24
50	50	0.48	10	-0.25	0	0.03	13
25	75	0.47	8	-0.37	0	0.00	0
0	100	0.49	7	-0.55	0	-0.05	0

(d) 3rd Bone Spring + Produced Water

3BS formation water is found to have a moderate, inherent calcite scaling tendency by itself. By mixing PW with 3BS water, the scaling index is found to decrease as shown in Table 5. The potential amount of precipitation is found to decrease as well. Therefore we expect little to no additional precipitation is induced due to addition of produced water into the 3BS reservoir.

Table 5: Prediction of SI and potential PPT of 3 common oilfield scales by mixing 3rd BS water and PW at different ratios.

PW from CC15 SWD / WTF	avg. 3rd BS	Calcite		Barite		Celestite	
% PW	% 3rd BS	SI	ppt (ptb)	SI	ppt (ptb)	SI	ppt (ptb)
100	0	0.54	15	-0.10	0	0.08	33
75	25	0.61	15	-0.09	0	0.08	29
50	50	0.73	15	-0.09	0	0.07	25
25	75	0.88	16	-0.08	0	0.06	21
0	100	0.99	17	-0.08	0	0.05	18

(e) Wolfcamp XY + Produced Water

WCXY formation water has essentially no calcite scaling tendency. By mixing PW with WCXY water, simulation suggests that both scaling index and potential precipitation increase. However even at 100% of WP, the potential amount of precipitation is only of 15 PTB, an amount that is so small that it is within natural variation of the water quality itself. Therefore we expect little to no additional precipitation is induced due to addition of produced water into the WCXY reservoir. In reality, the high ratio of WP to WCXY only happens at the front of the flood. As soon as the two waters start mixing, the scaling index and the amount of potential precipitation will begin to reduce.

Table 6: Prediction of SI and potential PPT of 3 common oilfield scales by mixing WCXY water and PW at different ratios.

PW from CC15 SWD / WTF	avg. WCXY	Calcite		Barite		Celestite	
% PW	% WCXY	SI	ppt (ptb)	SI	ppt (ptb)	SI	ppt (ptb)
100	0	0.54	15	-0.10	0	0.08	33
75	25	0.42	11	-0.11	0	0.06	21
50	50	0.29	7	-0.12	0	0.02	9
25	75	0.15	3	-0.14	0	-0.01	0
0	100	-0.03	0	-0.16	0	-0.05	0

Injection Gas Sample

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

Company:	OXY USA INC	**Work Order**	4000319007
Field/Location :	NMSW	**Sampled by:**	VOLUMETRICS/JA
Station Name :	CEDAR CANYON SAN MATEO CHECK A	**Sample Type :**	SPOT-CYLINDER
Station Number :	14898C	**Sample Temperature (F):**	90
Sample Date:	6/15/21 8:00 AM	**Sample Pressure (PSIG):**	737
Analysis Date:	6/28/21 3:27 PM	**Flow rate (MCF/Day):**	28931.7
Instrument:	VARIAN- 490 GC	**Ambient Temperature (F):**	77
Calibration/Verification Date:	6/28/2021	**Sampling method:**	FILL & EMPTY
Heat Trace used:	YES	**Cylinder Number:**	1434

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	1.4612	1.4735			
Methane	75.8013	76.4367			
Carbon Dioxide	0.8630	0.8702			
Ethane	11.5892	11.6864	3.119	3.136	3.199
Propane	5.6599	5.7074	1.569	1.578	1.609
Isobutane	0.7204	0.7264	0.237	0.239	0.243
N-butane	1.7860	1.8010	0.567	0.570	0.581
Isopentane	0.3998	0.4032	0.147	0.148	0.151
N-Pentane	0.4470	0.4507	0.163	0.164	0.167
Hexanes Plus	0.4408	0.4445	0.194	0.195	0.199
Total	**99.1686**	**100.0000**			

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

Physical Properties (Calculated)	**14.650 psia**	**14.730 psia**	**15.025 psia**
Total GPM Ethane+	5.996	6.029	6.150
Total GPM Iso-Pentane+	0.504	0.507	0.517
Compressibility (Z)	0.9963	0.9963	0.9962
Specific Gravity (Air=1) @ 60 °F	0.7479	0.7479	0.7479
Molecular Weight	21.588	21.588	21.588

Gross Heating Value	**14.650 psia**	**14.730 psia**	**15.025 psia**
Dry, Real (BTU/Ft^3)	1262.5	1269.5	1295.0
Wet, Real (BTU/Ft^3)	1240.6	1247.4	1272.4
Dry, Ideal (BTU/Ft^3)	1257.9	1264.7	1290.1
Wet, Ideal (BTU/Ft^3)	1236.0	1242.7	1267.6

Temperature base 60 °F

Comment: FIELD H2S = 0 PPM

Verified by

Mostaq Ahammad
Petroleum Chemist

Approved by

Deann Friend
Deann Friend
Laboratory Manager

Produced Water Samples

Collection Date	1/19/2018	2/15/2018	3/27/2018	4/11/2018	5/8/2018	6/7/2018	8/14/2018	Average (model input)
pH	6.3	6.31	6.38	6.21	6.2	6.4	6.2	6.3
bicarbonate	122	195.2	170.8	183	183	170.8	158.6	169.1
dissolved CO2	330	210	270	260	280	220	340	273
dissolved H2S						0	0.1	0.1
Ba	2.36	2.14	1.99	2.7	2.69	2.53	2.44	2.41
Ca	6686.22	6467.31	6600	8960	12800	10900	9140	8793
Mg	1145.69	1070.41	934	1340	1820	1570	1310	1313
Cl	73927.672	75384.05	73349	90181	104922.896	113080	96580	89632
SO4	302.528	324.087	263	325	351.165	757	378.092	385.839
K							789	789
Na	44125.52	46408.95	40500	45400	54200	49300	51800	47391
Sr	688.57	616.03	707	889	952	886	855	799
Fe	6.52	8.92	20.9	30.2	26.1	22.3	22.9	19.7
Br							840.536	841
TDS	127008.3	130478.3	122547.6	147312.9	175261.1	176691.4	160249.2	148507.0
B							58.2	58.2
specific gravity	1.094	1.098	1.104	1.11	1.129	1.118	1.11	1.109

AVALON

CHAMPIONX

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Guacamole Lease**
System: **Production System**

Equipment: **Guacamole CC 24-23 Fed 12H**
Sample Point: **Well Head**
Sample ID: **AO52287**
Acct Rep Email: **William.VanGlider@championx.com**

Collection Date: **02/13/2020**
Receive Date: **02/17/2020**
Report Date: **02/20/2020**
Location Code: **429749**

Field Analysis

Bicarbonate	**3080.00** mg/L	Dissolved CO2	**270.00** mg/L	Dissolved H2S	**0** mg/L
Pressure Surface	**300** psi	Temperature	**68** ° F	pH of Water	**6.48**
Oil per Day	**1500** B/D	Gas per Day	**643** Mcf/D	Water per Day	**5072** B/D

Sample Analysis

Calculated Gaseous CO2	**38.62** %	Calculated pH	**6.48**	Conductivity (Calculated)	**252703** µS - cm3
Ionic Strength	**2.84**	Resistivity	**0.040** ohms - m	Specific Gravity	**1.122**
Total Dissolved Solids	**163975** mg/L				

Cations

Iron	**20.5** mg/L	Manganese	**0.505** mg/L	Barium	**0.828** mg/L
Strontium	**337** mg/L	Calcium	**2000** mg/L	Magnesium	**417** mg/L
Sodium	**61300.00** mg/L	Potassium	**1150** mg/L	Boron	**30.2** mg/L
Lithium	**25.6** mg/L	Copper	**<0.050** mg/L	Nickel	**<0.100** mg/L
Zinc	**0.138** mg/L	Lead	**<0.500** mg/L	Cobalt	**<0.050** mg/L
Chromium	**<0.050** mg/L	Silicon	**15.2** mg/L	Aluminum	**<0.300** mg/L
Molybdenum	**<0.050** mg/L				

Anions

Bromide	**985.428** mg/L	Chloride	**93748** mg/L	Fluoride	**17.634** mg/L
Sulfate	**847.269** mg/L				

Chemical Residual

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	0.38	589.26	34.62	0.00	0.00	10.32	0.00
75°	0.32	669.84	51.01	0.00	0.00	13.15	0.00
100°	0.24	723.77	69.22	0.00	0.00	14.14	0.00
125°	0.14	761.45	87.73	0.00	0.00	14.54	0.00
150°	0.03	788.66	105.68	0.00	0.00	14.71	0.00
175°	0.00	808.81	122.39	0.00	0.00	14.80	0.00
200°	0.00	824.04	137.46	0.00	0.00	14.84	0.00
225°	0.00	835.76	150.76	0.00	0.00	14.86	0.00
250°	0.00	844.90	162.34	0.00	0.00	14.88	0.00
275°	0.00	852.11	172.33	0.00	0.00	14.88	0.00
300°	0.00	857.84	180.98	0.00	0.00	14.89	0.00
325°	0.00	862.43	188.50	0.00	0.00	14.89	0.00
350°	0.00	866.10	195.09	0.00	0.00	14.89	0.00
375°	0.00	869.04	200.85	0.00	0.00	14.90	0.00
400°	0.00	871.39	205.80	0.00	0.00	14.90	0.00

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI
50°	0.66	1.14	0.09	-0.82	-0.97	0.52
75°	0.46	1.45	0.14	-0.81	-0.98	0.94
100°	0.29	1.71	0.20	-0.79	-0.99	1.30
125°	0.15	1.96	0.26	-0.77	-1.00	1.62
150°	0.02	2.18	0.33	-0.75	-1.01	1.89
175°	-0.08	2.38	0.40	-0.76	-1.01	2.13
200°	-0.16	2.57	0.40	-0.77	-1.02	2.34
225°	-0.24	2.75	0.54	-0.81	-1.02	2.51
250°	-0.30	2.92	0.61	-0.85	-1.02	2.66
275°	-0.36	3.08	0.67	-0.89	-1.02	2.79
300°	-0.42	3.23	0.74	-0.92	-1.02	2.89
325°	-0.47	3.38	0.80	-0.92	-1.02	2.97
350°	-0.53	3.52	0.86	-0.88	-1.02	3.03
375°	-0.60	3.66	0.91	-0.76	-1.01	3.06
400°	-0.67	3.79	0.97	-0.56	-1.00	3.07

Scaling predictions calculated using Scale Soft Pitzer 2019

Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

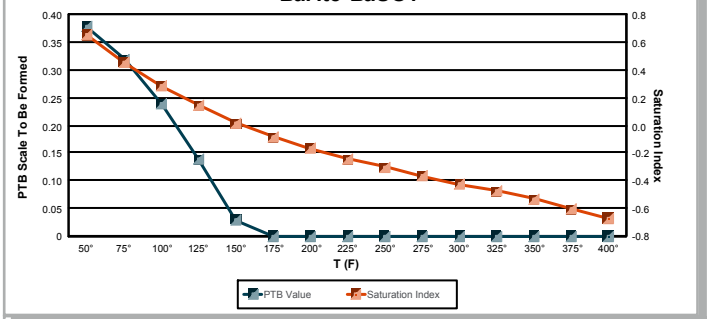
Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Guacamole Lease**
System: **Production System**

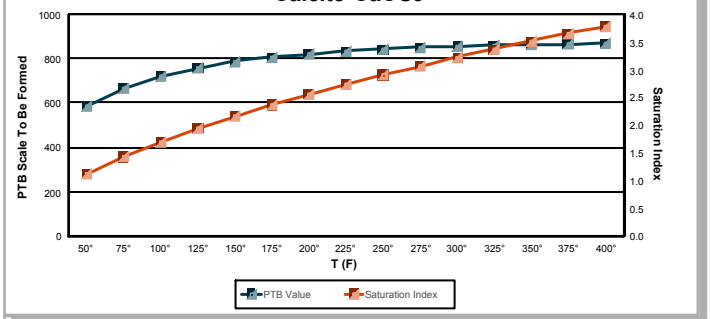
Equipment: **Guacamole CC 24-23 Fed 12H**
Sample Point: **Well Head**
Sample ID: **AO52287**
Acct Rep Email: **William.VanGlider@championx.com**

Collection Date: **02/13/2020**
Receive Date: **02/17/2020**
Report Date: **02/20/2020**
Location Code: **429749**

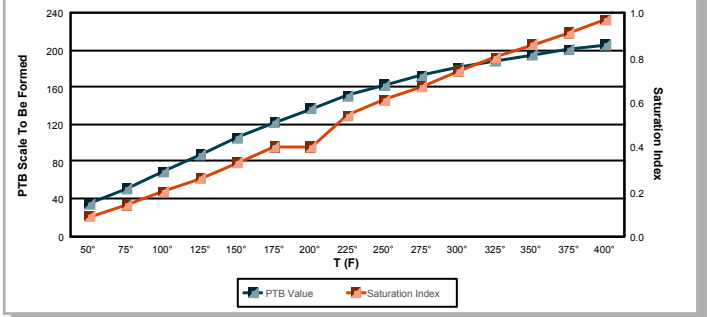
Barite BaSO4



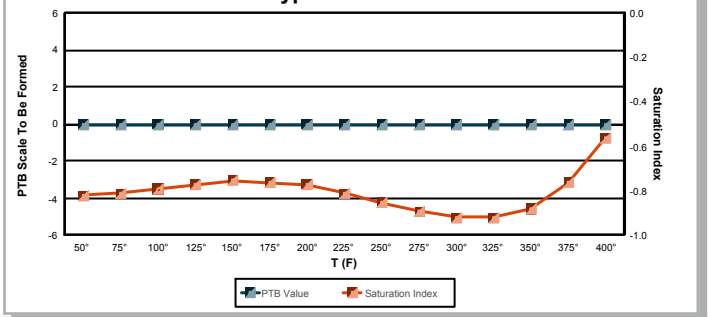
Calcite CaCO3



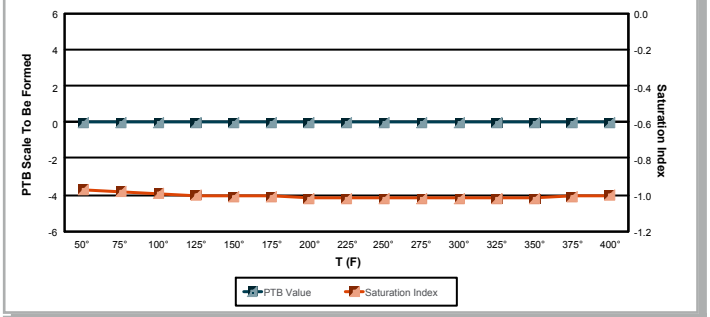
Celestite SrSO4



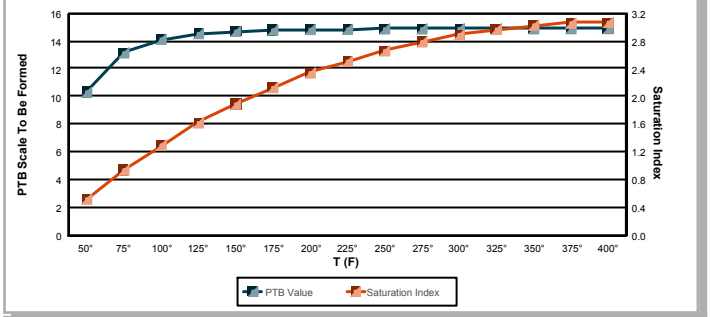
Gypsum CaSO4



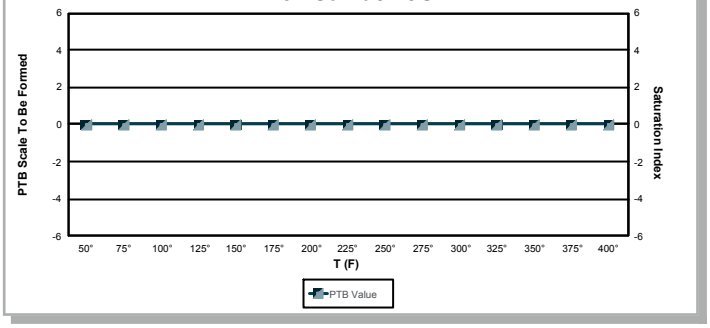
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



Comments

Scaling predictions calculated using Scale Soft Pitzer 2019
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1ST BONE SPRING

NALCO Champion
An Ecolab Company

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

Equipment: **CEDAR CANYON 23 001H**
Sample Point: **Well Head**
Sample ID: **AO75213**
Acct Rep Email: **William.VanGlider@ecolab.com**

Collection Date: **03/19/2020**
Receive Date: **03/20/2020**
Report Date: **03/27/2020**
Location Code: **153519**

Field Analysis

Bicarbonate	**402.60** mg/L	Dissolved CO2	**300.00** mg/L	Dissolved H2S	**0.00** mg/L
Pressure Surface	**150.00** psi	Temperature	**73.50** ° F	pH of Water	**6.30**
Oil per Day	**8.00** B/D	Gas per Day	**0.00** Mcf/D	Water per Day	**33** B/D

Sample Analysis

Calculated Gaseous CO2	**7.64** %	Calculated pH	**6.30**	Conductivity (Calculated)	**244965** µS - cm3
Ionic Strength	**2.81**	Resistivity	**0.041** ohms - m	Specific Gravity	**1.121**
Total Dissolved Solids	**158834** mg/L				

Cations

Iron	**30.9** mg/L	Manganese	**0.585** mg/L	Barium	**1.63** mg/L
Strontium	**526** mg/L	Calcium	**2420** mg/L	Magnesium	**458** mg/L
Sodium	**62900.00** mg/L	Potassium	**1010** mg/L	Boron	**19** mg/L
Lithium	**43.6** mg/L	Copper	**0.084** mg/L	Nickel	**<0.100** mg/L
Zinc	**<0.100** mg/L	Lead	**<0.500** mg/L	Cobalt	**<0.050** mg/L
Chromium	**<0.050** mg/L	Silicon	**7.37** mg/L	Molybdenum	**<0.050** mg/L

Anions

Bromide	**944.64** mg/L	Chloride	**89722** mg/L	Sulfate	**347.151** mg/L

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	0.68	16.86	0.00	0.00	0.00	0.00	0.00
75°	0.51	30.95	0.00	0.00	0.00	0.00	0.00
100°	0.29	43.92	0.00	0.00	0.00	5.80	0.00
125°	0.02	55.14	5.39	0.00	0.00	11.58	0.00
150°	0.00	64.74	27.52	0.00	0.00	15.29	0.00
175°	0.00	72.86	48.61	0.00	0.00	17.63	0.00
200°	0.00	79.69	68.05	0.00	0.00	19.09	0.00
225°	0.00	85.42	85.56	0.00	0.00	20.02	0.00
250°	0.00	90.21	101.13	0.00	0.00	20.62	0.00
275°	0.00	94.21	114.84	0.00	0.00	21.01	0.00
300°	0.00	97.52	126.94	0.00	0.00	21.26	0.00
325°	0.00	100.28	137.66	0.00	0.00	21.43	0.00
350°	0.00	102.55	147.22	0.00	0.00	21.52	0.00
375°	0.00	104.41	155.72	0.00	0.00	21.57	0.00
400°	0.00	105.91	163.16	0.00	0.00	21.56	0.00

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI
50°	0.53	0.21	-0.15	-1.19	-0.97	-0.37
75°	0.33	0.40	-0.11	-1.18	-0.99	-0.08
100°	0.15	0.59	-0.05	-1.16	-1.00	0.19
125°	0.01	0.76	0.02	-1.13	-1.01	0.43
150°	-0.12	0.94	0.09	-1.12	-1.02	0.65
175°	-0.22	1.10	0.16	-1.11	-1.02	0.85
200°	-0.30	1.26	0.16	-1.12	-1.03	1.02
225°	-0.37	1.41	0.31	-1.15	-1.03	1.16
250°	-0.43	1.56	0.38	-1.19	-1.03	1.29
275°	-0.49	1.71	0.45	-1.22	-1.03	1.39
300°	-0.54	1.85	0.52	-1.25	-1.03	1.47
325°	-0.60	1.98	0.58	-1.25	-1.03	1.53
350°	-0.65	2.11	0.64	-1.20	-1.03	1.57
375°	-0.72	2.22	0.70	-1.08	-1.02	1.59
400°	-0.79	2.33	0.76	-0.88	-1.01	1.58

Scaling predictions calculated using Scale Soft Pitzer 2017
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NALCO Champion
An Ecolab Company

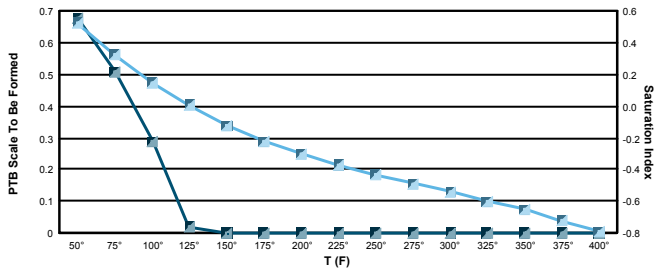
Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

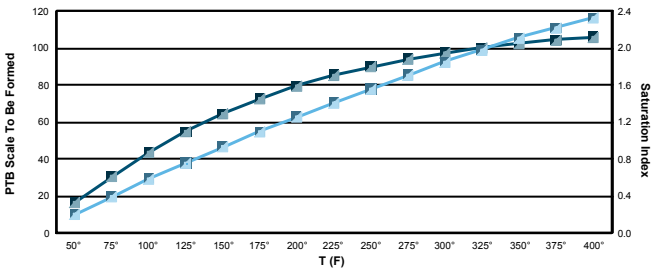
Equipment: **CEDAR CANYON 23 001H**
Sample Point: **Well Head**
Sample ID: **AO75213**
Acct Rep Email: **William.VanGlider@ecolab.com**

Collection Date: **03/19/2020**
Receive Date: **03/20/2020**
Report Date: **03/27/2020**
Location Code: **153519**

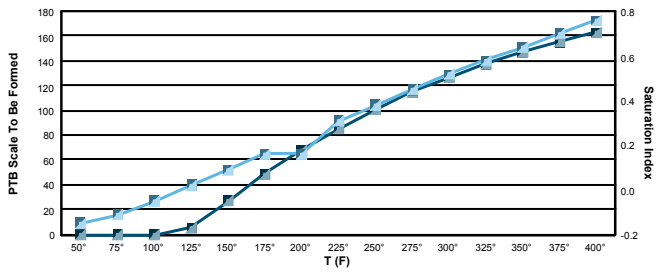
Barite BaSO4



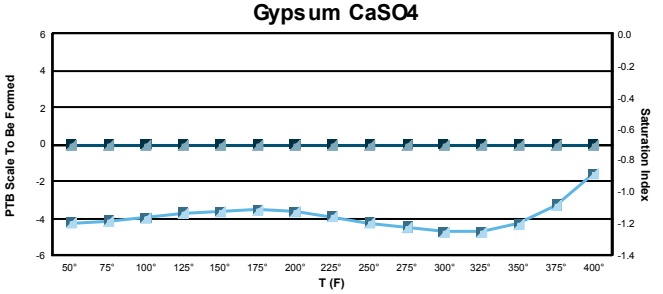
Calcite CaCO3



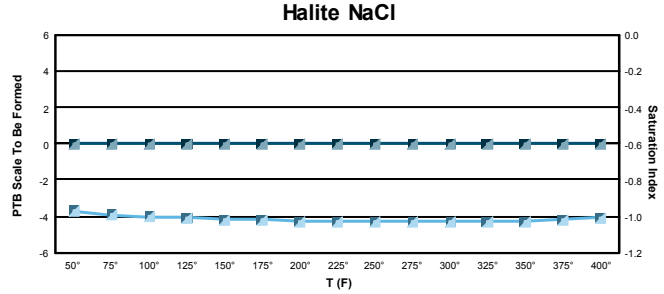
Celestite SrSO4



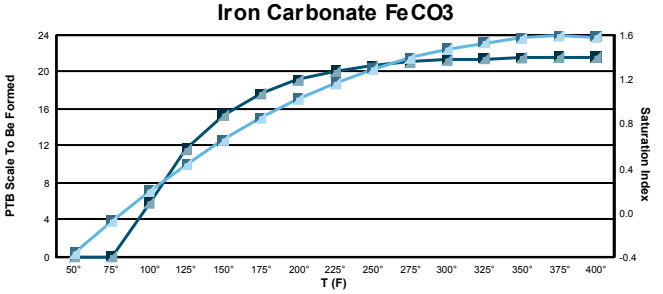
Gypsum CaSO4



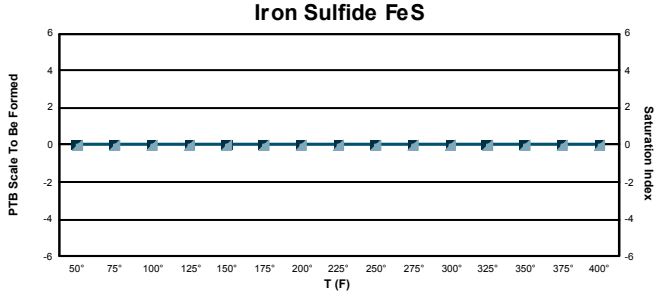
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



Comments

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2ND BONE SPRING

NALCO Champion
An Ecolab Company

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

Equipment: **CEDAR CANYON 23 002H**
Sample Point: **Wellhead**
Sample ID: **AO81993**
Acct Rep Email: **william.vanglider@championX.com**

Collection Date: **03/25/2020**
Receive Date: **03/27/2020**
Report Date: **04/07/2020**
Location Code: **404344**

Field Analysis

Bicarbonate	**122.00** mg/L	Dissolved CO2	**250.00** mg/L	Dissolved H2S	**0** mg/L
Pressure Surface	**150** psi	Temperature	**74.8** ° F	pH of Water	**6.30**
Oil per Day	**34** B/D	Gas per Day	**198** Mcf/D	Water per Day	**258** B/D

Sample Analysis

Calculated Gaseous CO2	**2.46** %	Calculated pH	**6.30**	Conductivity (Calculated)	**192867** µS - cm3
Ionic Strength	**2.38**	Resistivity	**0.052** ohms - m	Specific Gravity	**1.098**
Total Dissolved Solids	**125161** mg/L				

Cations

Iron	**46.6** mg/L	Manganese	**2.3** mg/L	Barium	**0.296** mg/L
Strontium	**390** mg/L	Calcium	**7010** mg/L	Magnesium	**1180** mg/L
Sodium	**39400.00** mg/L	Potassium	**866** mg/L	Boron	**35** mg/L
Lithium	**19.9** mg/L	Copper	**<0.050** mg/L	Nickel	**0.153** mg/L
Zinc	**<0.100** mg/L	Lead	**<0.500** mg/L	Cobalt	**<0.050** mg/L
Chromium	**<0.050** mg/L	Silicon	**5.32** mg/L	Aluminum	**<0.300** mg/L
Molybdenum	**<0.050** mg/L				

Anions

Bromide	**748.356** mg/L	Chloride	**74339** mg/L	Fluoride	**2.582** mg/L
Sulfate	**992.989** mg/L				

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	0.10	1.16	95.19	0.00	0.00	0.00	0.00
75°	0.04	9.67	93.35	0.00	0.00	0.00	0.00
100°	0.00	15.50	99.45	0.00	0.00	0.00	0.00
125°	0.00	19.69	110.16	0.00	0.00	4.01	0.00
150°	0.00	22.81	123.28	0.00	0.00	9.85	0.00
175°	0.00	25.17	137.26	0.00	0.00	14.15	0.00
200°	0.00	27.00	151.01	0.00	0.00	17.36	0.00
225°	0.00	28.43	163.95	0.00	0.00	19.77	0.00
250°	0.00	29.56	175.77	0.00	0.00	21.58	0.00
275°	0.00	30.45	186.36	0.00	0.00	22.90	0.00
300°	0.00	31.13	195.78	0.00	0.00	23.82	0.00
325°	0.00	31.66	204.13	0.00	0.00	24.37	0.00
350°	0.00	32.05	211.52	0.00	0.00	24.57	0.00
375°	0.00	32.32	217.99	0.00	0.00	24.41	0.00
400°	0.00	32.50	223.50	0.00	0.00	23.84	0.00

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI
50°	0.36	0.03	0.24	-0.18	-1.29	-0.80
75°	0.11	0.28	0.24	-0.21	-1.31	-0.45
100°	-0.10	0.51	0.26	-0.22	-1.33	-0.13
125°	-0.27	0.71	0.29	-0.21	-1.34	0.14
150°	-0.42	0.91	0.33	-0.22	-1.35	0.39
175°	-0.54	1.09	0.38	-0.23	-1.35	0.60
200°	-0.64	1.26	0.38	-0.25	-1.36	0.79
225°	-0.73	1.43	0.49	-0.29	-1.36	0.95
250°	-0.80	1.59	0.55	-0.34	-1.36	1.09
275°	-0.87	1.73	0.60	-0.39	-1.35	1.20
300°	-0.94	1.87	0.65	-0.42	-1.35	1.28
325°	-1.01	1.99	0.70	-0.43	-1.34	1.33
350°	-1.07	2.10	0.75	-0.39	-1.33	1.35
375°	-1.15	2.18	0.79	-0.29	-1.32	1.33
400°	-1.23	2.24	0.83	-0.09	-1.30	1.28

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NALCO Champion
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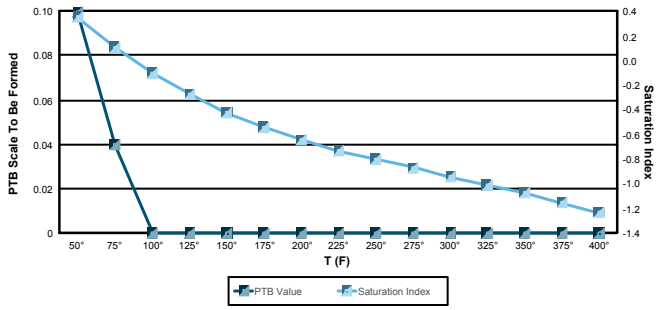
Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

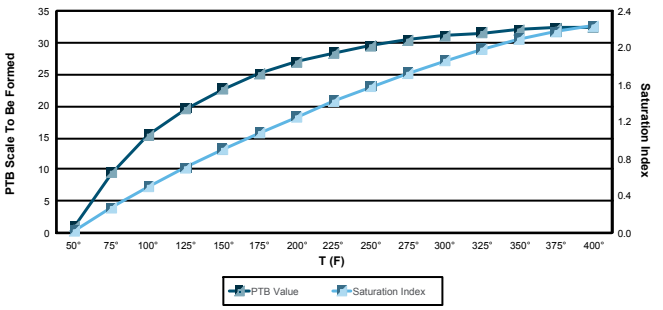
Equipment: **CEDAR CANYON 23 002H**
Sample Point: **Wellhead**
Sample ID: **AO81993**
Acct Rep Email: **william.vanglider@championX.com**

Collection Date: **03/25/2020**
Receive Date: **03/27/2020**
Report Date: **04/07/2020**
Location Code: **404344**

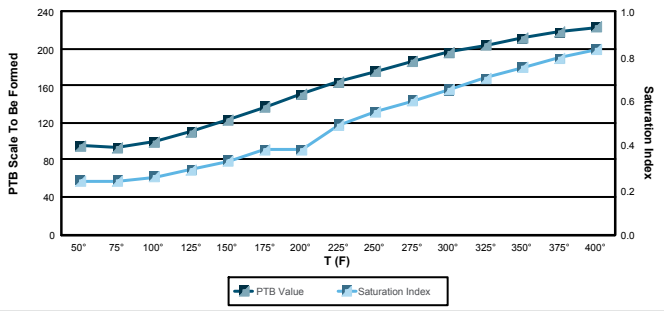
Barite BaSO4



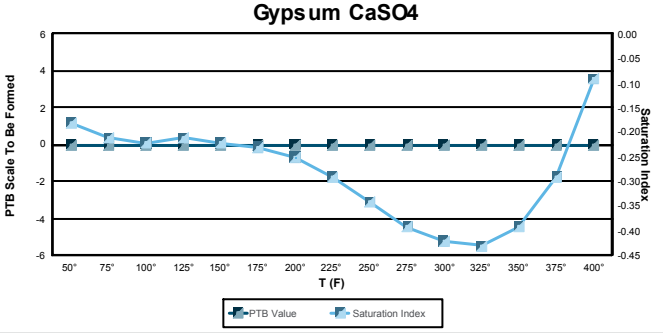
Calcite CaCO3



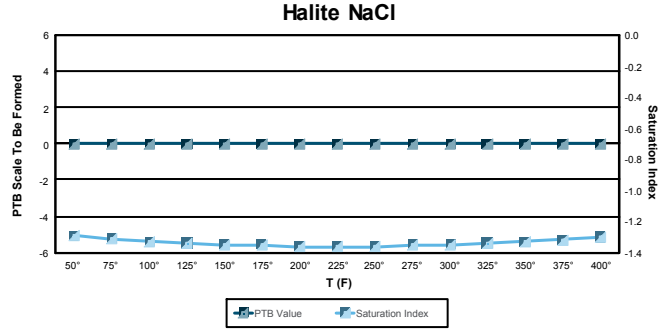
Celestite SrSO4



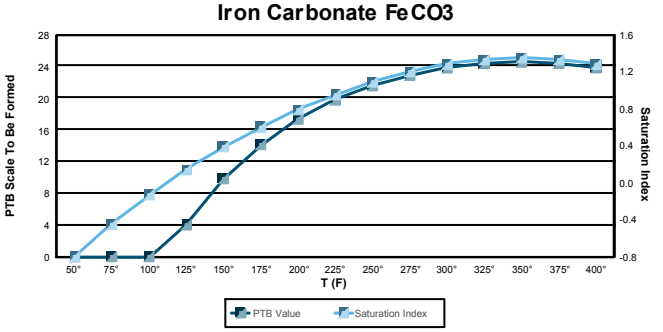
Gypsum CaSO4



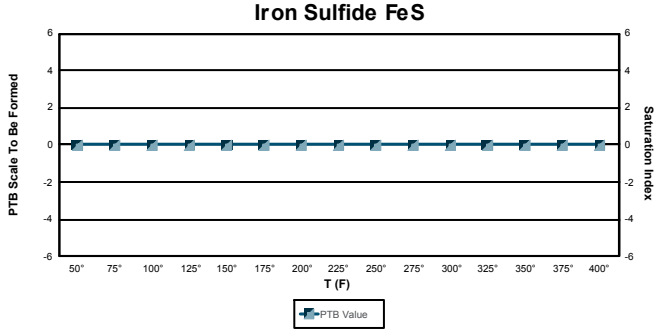
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



Comments

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2ND BONE SPRING

NALCO Champion
An Ecolab Company

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon 23 Lease**
System: **Production System**

Equipment: **Well 4H**
Sample Point: **Test Separator**
Sample ID: **AO75214**
Acct Rep Email: **William.VanGlider@ecolab.com**

Collection Date: **03/19/2020**
Receive Date: **03/20/2020**
Report Date: **03/27/2020**
Location Code: **289230**

Field Analysis

Bicarbonate	**61.00** mg/L	Dissolved CO2	**380.00** mg/L	Dissolved H2S	**0.00** mg/L
Pressure Surface	**150.00** psi	Temperature	**73.60** ° F	pH of Water	**6.30**
Oil per Day	**64.00** B/D	Gas per Day	**399.00** Mcf/D	Water per Day	**145** B/D

Sample Analysis

Calculated Gaseous CO2	**1.21** %	Calculated pH	**6.30**	Conductivity (Calculated)	**231833** µS - cm3
Ionic Strength	**3.02**	Resistivity	**0.043** ohms - m	Specific Gravity	**1.125**
Total Dissolved Solids	**150237** mg/L				

Cations

Iron	**56.1** mg/L	Manganese	**1.58** mg/L	Barium	**0.856** mg/L
Strontium	**648** mg/L	Calcium	**10300** mg/L	Magnesium	**1440** mg/L
Sodium	**59300.00** mg/L	Potassium	**961** mg/L	Boron	**41.5** mg/L
Lithium	**28.2** mg/L	Copper	**<0.050** mg/L	Nickel	**<0.100** mg/L
Zinc	**1.19** mg/L	Lead	**<0.500** mg/L	Cobalt	**<0.050** mg/L
Chromium	**<0.050** mg/L	Silicon	**8.04** mg/L	Aluminum	**<0.300** mg/L
Molybdenum	**<0.050** mg/L				

Anions

Bromide	**766.773** mg/L	Chloride	**76311** mg/L	Sulfate	**311.357** mg/L

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	0.18	0.00	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.07	0.00	0.00	0.00	0.00	0.00
100°	0.00	3.91	0.00	0.00	0.00	0.00	0.00
125°	0.00	6.65	0.00	0.00	0.00	0.00	0.00
150°	0.00	8.68	0.00	0.00	0.00	0.00	0.00
175°	0.00	10.22	19.74	0.00	0.00	2.69	0.00
200°	0.00	11.42	38.51	0.00	0.00	5.20	0.00
225°	0.00	12.35	55.76	0.00	0.00	7.03	0.00
250°	0.00	13.07	71.27	0.00	0.00	8.31	0.00
275°	0.00	13.63	85.00	0.00	0.00	9.14	0.00
300°	0.00	14.04	97.09	0.00	0.00	9.56	0.00
325°	0.00	14.33	107.73	0.00	0.00	9.58	0.00
350°	0.00	14.51	117.10	0.00	0.00	9.17	0.00
375°	0.00	14.59	125.29	0.00	0.00	8.28	0.00
400°	0.00	14.58	132.28	0.00	0.00	6.79	0.00

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI
50°	0.19	-0.24	-0.15	-0.67	-1.05	-1.17
75°	-0.05	0.00	-0.14	-0.70	-1.07	-0.82
100°	-0.25	0.22	-0.11	-0.70	-1.08	-0.52
125°	-0.42	0.41	-0.06	-0.69	-1.09	-0.26
150°	-0.56	0.59	0.00	-0.69	-1.10	-0.04
175°	-0.67	0.75	0.06	-0.70	-1.11	0.15
200°	-0.77	0.91	0.06	-0.73	-1.11	0.31
225°	-0.85	1.05	0.19	-0.77	-1.12	0.45
250°	-0.92	1.17	0.25	-0.81	-1.12	0.55
275°	-0.99	1.29	0.31	-0.86	-1.12	0.62
300°	-1.06	1.39	0.37	-0.90	-1.12	0.66
325°	-1.12	1.46	0.43	-0.91	-1.12	0.66
350°	-1.19	1.51	0.48	-0.87	-1.11	0.63
375°	-1.26	1.54	0.53	-0.77	-1.10	0.55
400°	-1.34	1.54	0.58	-0.57	-1.09	0.43

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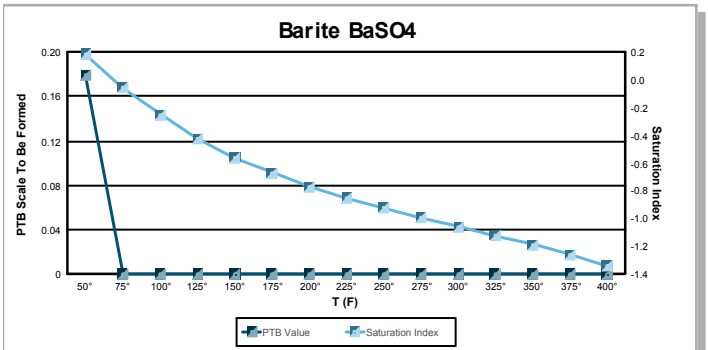
NALCO Champion
An Ecolab Company

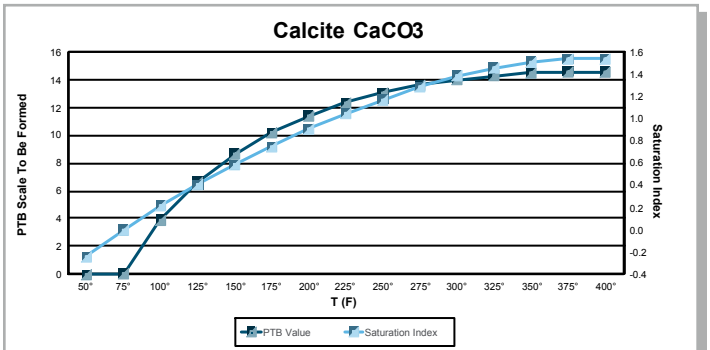
Complete Water Analysis Report

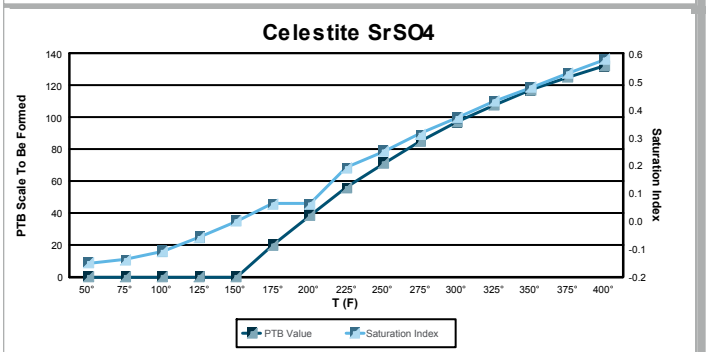
Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon 23 Lease**
System: **Production System**

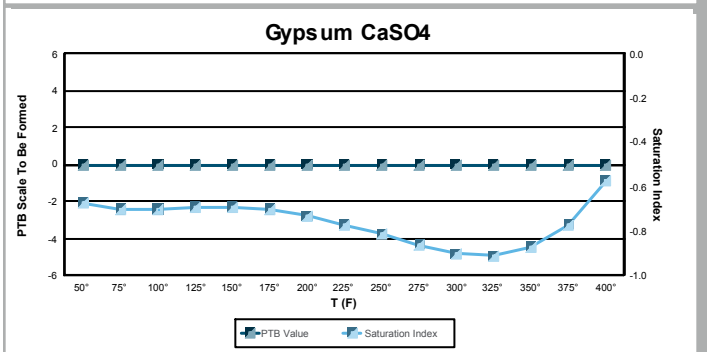
Equipment: **Well 4H**
Sample Point: **Test Separator**
Sample ID: **AO75214**
Acct Rep Email: **William.VanGlider@ecolab.com**

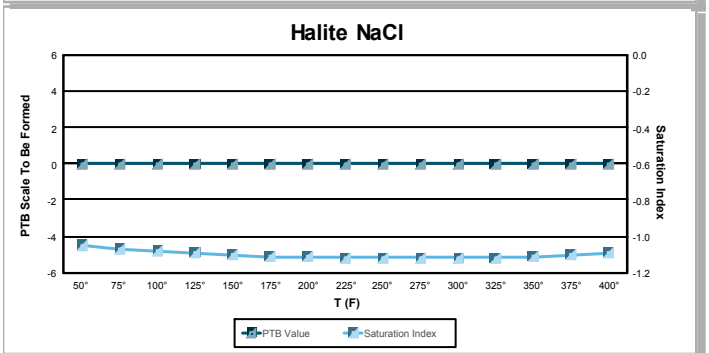
Collection Date: **03/19/2020**
Receive Date: **03/20/2020**
Report Date: **03/27/2020**
Location Code: **289230**

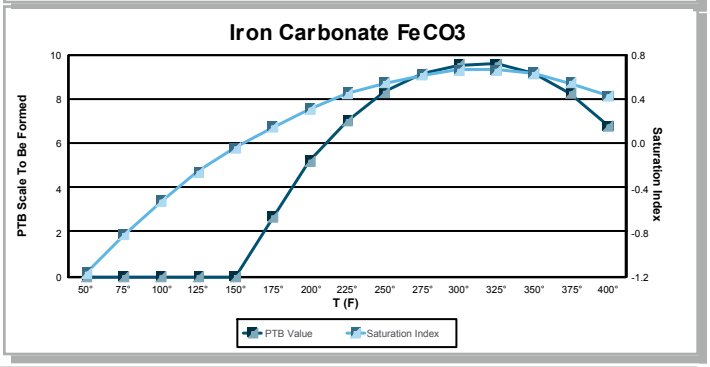


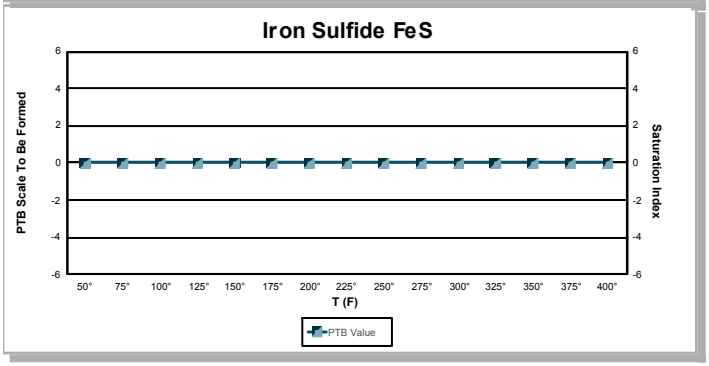












Comments

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3RD BONE SPRING

NALCO Champion
An Ecolab Company

Complete Water Analysis Report

Customer: **OXY USA WTP LP**
Region: **Carlsbad, NM**
Location: **Cedar Canyon 23-24**
System: **Production System**

Equipment: **Cedar Canyon 23-24 Fed com 34H**
Sample Point: **Wellhead**
Sample ID: **AM76453**
Acct Rep Email: **Ramon.Artalejo@ecolab.com**

Collection Date: **04/04/2019**
Receive Date: **04/11/2019**
Report Date: **04/16/2019**
Location Code: **405448**

Field Analysis

Bicarbonate	**134.2** mg/L	Dissolved CO2	**210** mg/L	Dissolved H2S	**0.7** mg/L
Pressure Surface	**315** psi	Temperature	**82** ° F	pH of Water	**7.13**

Sample Analysis

Calculated Gaseous CO2	**0.39** %	Calculated pH	**7.13**	Conductivity (Calculated)	**182364** µS - cm3
Ionic Strength	**2.23**	Resistivity	**0.055** ohms - m	Specific Gravity	**1.088**
Total Dissolved Solids	**118138** mg/L				

Cations

Iron	**21.1**	mg/L	Manganese	**1.04**	mg/L	Barium	**2.97**	mg/L
Strontium	**946**	mg/L	Calcium	**5500**	mg/L	Magnesium	**835**	mg/L
Sodium	**41800.00**	mg/L	Potassium	**725**	mg/L	Boron	**83.9**	mg/L
Copper	**0.014**	mg/L	Nickel	**0.023**	mg/L	Zinc	**0.105**	mg/L
Lead	**0.182**	mg/L	Cobalt	**0.025**	mg/L	Chromium	**0.008**	mg/L
Silicon	**12.7**	mg/L	Aluminum	**Not Detected**	mg/L	Molybdenum	**0.015**	mg/L
Phosphorus	**Not Detected**	mg/L						

Anions

Bromide	**576.495**	mg/L	Chloride	**67188**	mg/L	Fluoride	**4.151**	mg/L
Sulfate	**306.433**	mg/L						

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	1.50	14.10	23.17	0.00	0.00	0.00	0.72
75°	1.31	17.44	27.80	0.00	0.00	0.00	0.70
100°	1.04	20.27	38.59	0.00	0.00	0.75	0.70
125°	0.70	22.67	52.43	0.00	0.00	3.68	0.71
150°	0.31	24.72	67.47	0.00	0.00	5.99	0.72
175°	0.00	26.49	82.44	0.00	0.00	7.76	0.74
200°	0.00	28.01	96.53	0.00	0.00	9.10	0.76
225°	0.00	29.33	109.34	0.00	0.00	10.09	0.78
250°	0.00	30.48	120.75	0.00	0.00	10.79	0.80
275°	0.00	31.47	130.73	0.00	0.00	11.26	0.82
300°	0.00	32.31	139.44	0.00	0.00	11.54	0.84
325°	0.00	33.04	147.03	0.00	0.00	11.65	0.85
350°	0.00	33.64	153.64	0.00	0.00	11.58	0.87
375°	0.00	34.14	159.36	0.00	0.00	11.32	0.88
400°	0.00	34.53	164.23	0.00	0.00	10.84	0.88

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI	Iron Sulfide SI
50°	0.82	0.64	0.07	-0.82	-1.32	-0.44	0.69
75°	0.58	0.80	0.08	-0.84	-1.34	-0.18	0.65
100°	0.39	0.95	0.12	-0.83	-1.36	0.05	0.63
125°	0.22	1.09	0.16	-0.82	-1.37	0.25	0.64
150°	0.08	1.21	0.22	-0.81	-1.38	0.43	0.66
175°	-0.03	1.34	0.28	-0.81	-1.38	0.57	0.69
200°	-0.12	1.45	0.28	-0.83	-1.38	0.70	0.73
225°	-0.20	1.56	0.40	-0.86	-1.38	0.80	0.78
250°	-0.27	1.66	0.47	-0.90	-1.38	0.87	0.84
275°	-0.33	1.76	0.53	-0.94	-1.38	0.92	0.89
300°	-0.39	1.84	0.59	-0.97	-1.37	0.95	0.95
325°	-0.45	1.91	0.65	-0.97	-1.36	0.95	1.00
350°	-0.51	1.98	0.71	-0.92	-1.35	0.92	1.05
375°	-0.58	2.03	0.76	-0.81	-1.34	0.87	1.09
400°	-0.66	2.07	0.82	-0.60	-1.32	0.80	1.13

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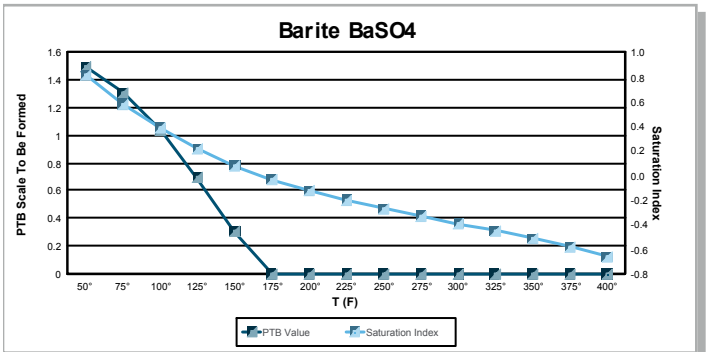
NALCO Champion
An Ecolab Company

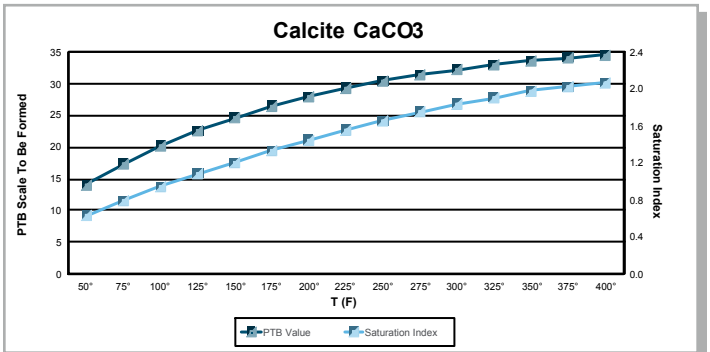
Complete Water Analysis Report

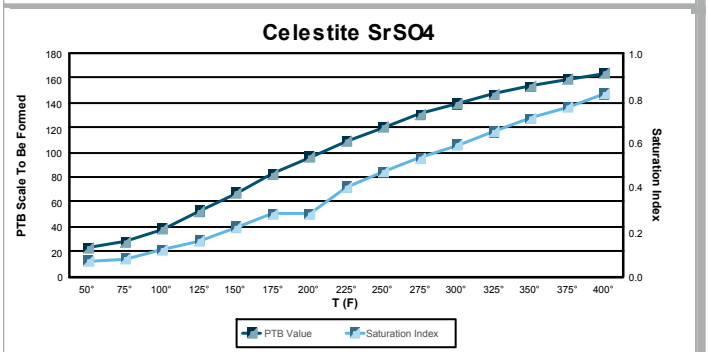
Customer: **OXY USA WTP LP**
Region: **Carlsbad, NM**
Location: **Cedar Canyon 23-24**
System: **Production System**

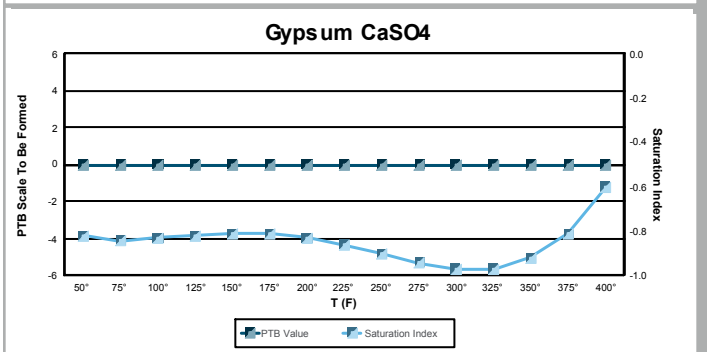
Equipment: **Cedar Canyon 23-24 Fed com 34H**
Sample Point: **Wellhead**
Sample ID: **AM76453**
Acct Rep Email: **Ramon.Artalejo@ecolab.com**

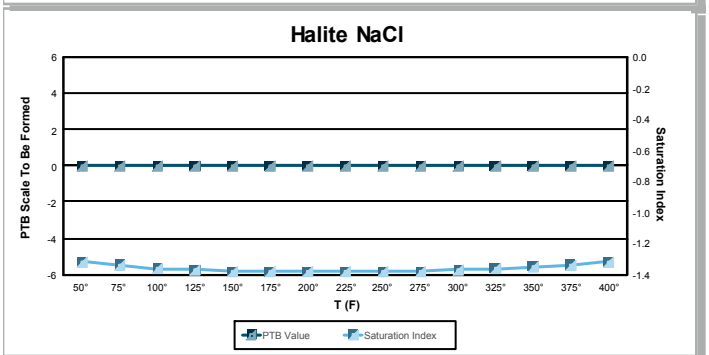
Collection Date: **04/04/2019**
Receive Date: **04/11/2019**
Report Date: **04/16/2019**
Location Code: **405448**

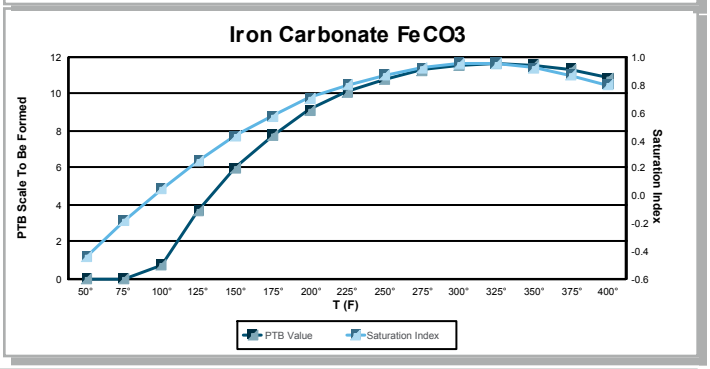


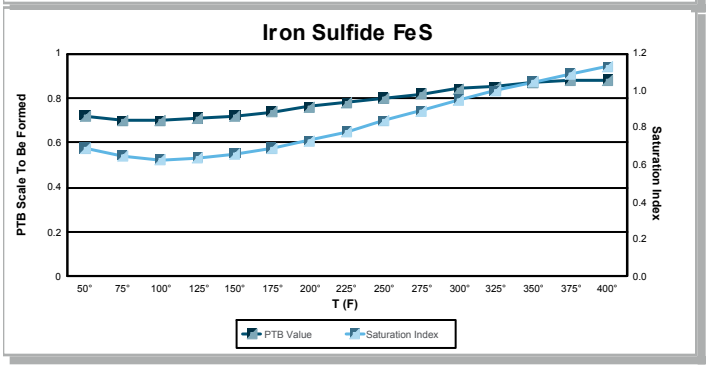












Comments

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2ND BONE SPRING

NALCO Champion
An Ecolab Company

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

Equipment: **CEDAR CANYON 23 FEDERAL CO 006** Collection Date: **03/19/2020**
Sample Point: **Well Head**
Sample ID: **AO75216**
Acct Rep Email: **William.VanGlider@ecolab.com**
Receive Date: **03/20/2020**
Report Date: **03/27/2020**
Location Code: **391670**

Field Analysis

Bicarbonate	**122.00** mg/L	Dissolved CO2	**410.00** mg/L	Dissolved H2S	**0.00** mg/L
Pressure Surface	**150.00** psi	Temperature	**74.70** ° F	pH of Water	**6.40**
Oil per Day	**155.00** B/D	Gas per Day	**780.00** Mcf/D	Water per Day	**240** B/D

Sample Analysis

Calculated Gaseous CO2	**1.90** %	Calculated pH	**6.40**	Conductivity (Calculated)	**254967** µS - cm3
Ionic Strength	**3.24**	Resistivity	**0.039** ohms - m	Specific Gravity	**1.129**
Total Dissolved Solids	**165197** mg/L				

Cations

Iron	**57.1** mg/L	Manganese	**1.59** mg/L	Barium	**1.19** mg/L
Strontium	**674** mg/L	Calcium	**10200** mg/L	Magnesium	**1440** mg/L
Sodium	**60700.00** mg/L	Potassium	**976** mg/L	Boron	**40.3** mg/L
Lithium	**28.8** mg/L	Copper	**<0.050** mg/L	Nickel	**<0.100** mg/L
Zinc	**<0.100** mg/L	Lead	**<0.500** mg/L	Cobalt	**<0.050** mg/L
Chromium	**<0.050** mg/L	Silicon	**7.65** mg/L	Aluminum	**<0.300** mg/L
Molybdenum	**<0.050** mg/L				

Anions

Bromide	**906.531** mg/L	Chloride	**89703** mg/L	Sulfate	**337.901** mg/L

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	0.42	9.88	0.00	0.00	0.00	0.00	0.00
75°	0.20	16.05	0.00	0.00	0.00	0.00	0.00
100°	0.00	20.21	0.00	0.00	0.00	0.00	0.00
125°	0.00	23.18	3.26	0.00	0.00	7.35	0.00
150°	0.00	25.38	20.09	0.00	0.00	12.65	0.00
175°	0.00	27.05	37.48	0.00	0.00	16.54	0.00
200°	0.00	28.35	54.27	0.00	0.00	19.41	0.00
225°	0.00	29.37	69.85	0.00	0.00	21.52	0.00
250°	0.00	30.17	83.93	0.00	0.00	23.06	0.00
275°	0.00	30.81	96.45	0.00	0.00	24.11	0.00
300°	0.00	31.30	107.53	0.00	0.00	24.73	0.00
325°	0.00	31.66	117.35	0.00	0.00	24.92	0.00
350°	0.00	31.91	126.06	0.00	0.00	24.68	0.00
375°	0.00	32.07	133.75	0.00	0.00	23.95	0.00
400°	0.00	32.14	140.33	0.00	0.00	22.65	0.00

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI
50°	0.39	0.29	-0.06	-0.59	-0.95	-0.64
75°	0.14	0.53	-0.06	-0.62	-0.97	-0.30
100°	-0.06	0.74	-0.03	-0.63	-0.98	0.00
125°	-0.24	0.93	0.01	-0.62	-0.99	0.26
150°	-0.38	1.11	0.06	-0.63	-1.00	0.48
175°	-0.50	1.27	0.11	-0.64	-1.01	0.67
200°	-0.60	1.42	0.11	-0.67	-1.01	0.83
225°	-0.69	1.56	0.23	-0.71	-1.02	0.96
250°	-0.77	1.68	0.28	-0.76	-1.02	1.07
275°	-0.84	1.80	0.34	-0.81	-1.03	1.14
300°	-0.91	1.91	0.39	-0.85	-1.03	1.19
325°	-0.98	1.99	0.43	-0.86	-1.03	1.21
350°	-1.05	2.06	0.48	-0.83	-1.02	1.19
375°	-1.13	2.11	0.52	-0.73	-1.02	1.13
400°	-1.22	2.13	0.56	-0.54	-1.01	1.04

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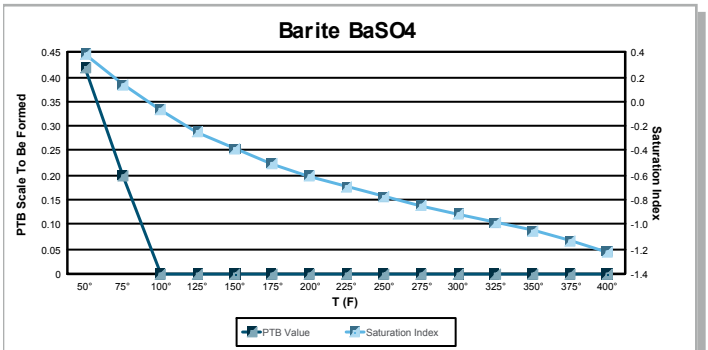
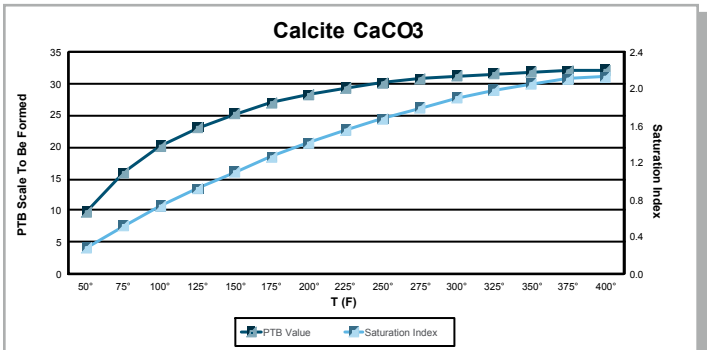
NALCO Champion
An Ecolab Company

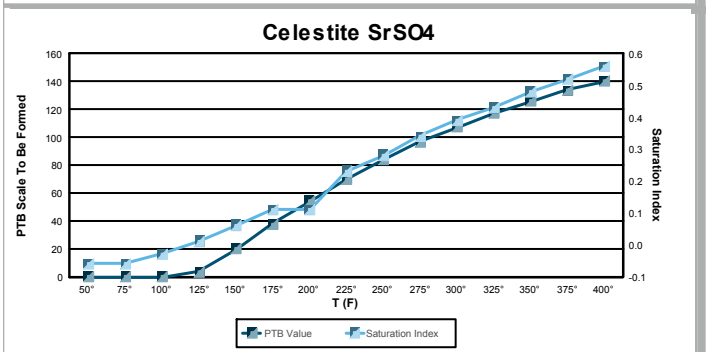
Complete Water Analysis Report

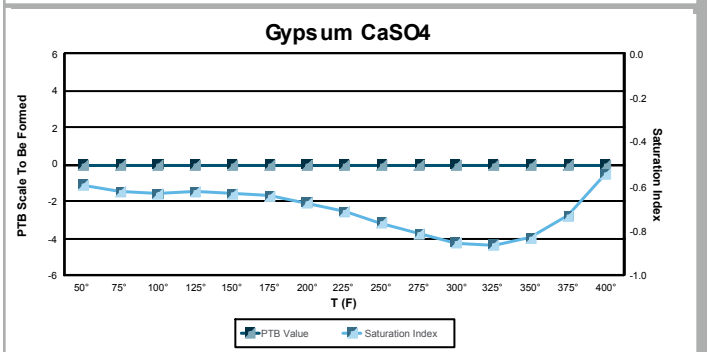
Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

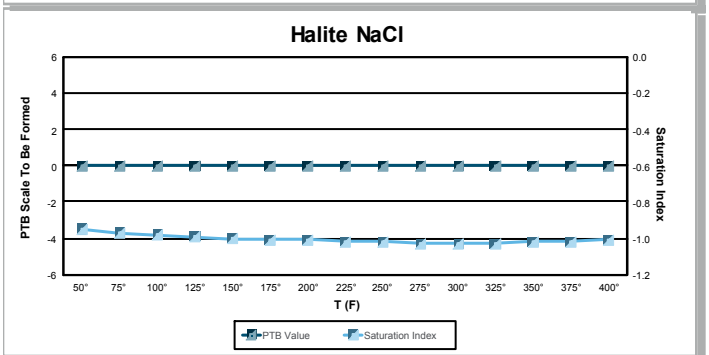
Equipment: **CEDAR CANYON 23 FEDERAL CO 006** Collection Date: **03/19/2020**
Sample Point: **Well Head** Receive Date: **03/20/2020**
Sample ID: **AO75216** Report Date: **03/27/2020**
Acct Rep Email: **William.VanGlider@ecolab.com** Location Code: **391670**

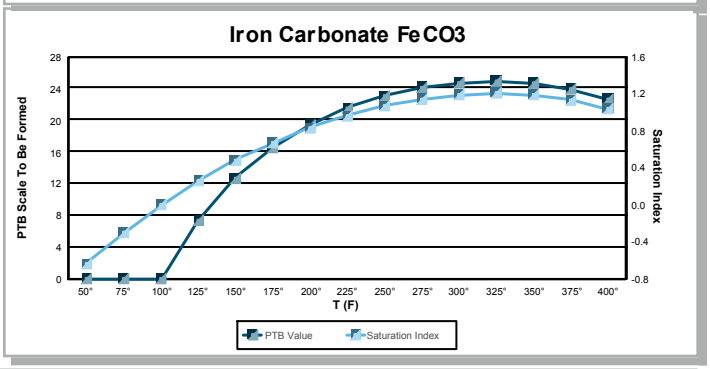


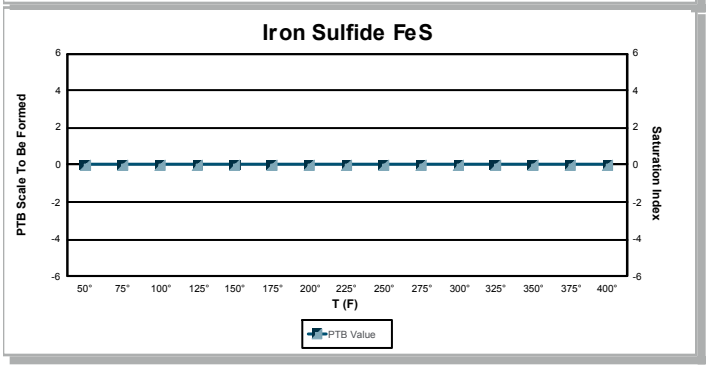












Comments

Scaling predictions calculated using Scale Soft Pitzer 2017
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

WOLFCAMP XY

NALCO Champion
An Ecolab Company

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

Equipment: **CEDAR CANYON 23 FEDERAL COM 03**
Sample Point: **Wellhead**
Sample ID: **AO75217**
Acct Rep Email: **William.VanGlider@ecolab.com**

Collection Date: **03/19/2020**
Receive Date: **03/20/2020**
Report Date: **03/27/2020**
Location Code: **397000**

Field Analysis

Bicarbonate	**97.60** mg/L	Dissolved CO2	**180.00** mg/L	Dissolved H2S	**0.00** mg/L
Pressure Surface	**150.00** psi	Temperature	**81.70** ° F	pH of Water	**6.30**
Oil per Day	**113.00** B/D	Gas per Day	**329.00** Mcf/D	Water per Day	**300** B/D

Sample Analysis

Calculated Gaseous CO2	**1.97** %	Calculated pH	**6.30**	Conductivity (Calculated)	**170647** µS - cm3
Ionic Strength	**2.08**	Resistivity	**0.059** ohms - m	Specific Gravity	**1.084**
Total Dissolved Solids	**110649** mg/L				

Cations

Iron	**10.3** mg/L	Manganese	**0.695** mg/L	Barium	**2.92** mg/L
Strontium	**922** mg/L	Calcium	**4760** mg/L	Magnesium	**734** mg/L
Sodium	**40800.00** mg/L	Potassium	**754** mg/L	Boron	**84.5** mg/L
Lithium	**21.4** mg/L	Copper	**<0.050** mg/L	Nickel	**<0.100** mg/L
Zinc	**<0.100** mg/L	Lead	**<0.500** mg/L	Cobalt	**<0.050** mg/L
Chromium	**<0.050** mg/L	Silicon	**12.8** mg/L	Aluminum	**<0.300** mg/L
Molybdenum	**<0.050** mg/L	Phosphorus	**<0.200** mg/L		

Anions

Bromide	**549.235** mg/L	Chloride	**61657** mg/L	Fluoride	**1.945** mg/L
Sulfate	**239.684** mg/L				

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	1.41	0.00	0.00	0.00	0.00	0.00	0.00
75°	1.19	0.00	0.00	0.00	0.00	0.00	0.00
100°	0.88	4.35	7.90	0.00	0.00	0.00	0.00
125°	0.49	9.82	21.78	0.00	0.00	0.00	0.00
150°	0.04	13.79	36.61	0.00	0.00	0.00	0.00
175°	0.00	16.75	51.23	0.00	0.00	0.00	0.00
200°	0.00	18.99	64.87	0.00	0.00	0.13	0.00
225°	0.00	20.71	77.20	0.00	0.00	1.95	0.00
250°	0.00	22.03	88.08	0.00	0.00	3.18	0.00
275°	0.00	23.05	97.54	0.00	0.00	4.01	0.00
300°	0.00	23.82	105.72	0.00	0.00	4.53	0.00
325°	0.00	24.39	112.76	0.00	0.00	4.82	0.00
350°	0.00	24.81	118.81	0.00	0.00	4.92	0.00
375°	0.00	25.09	123.98	0.00	0.00	4.81	0.00
400°	0.00	25.26	128.31	0.00	0.00	4.48	0.00

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI
50°	0.73	-0.37	-0.03	-1.00	-1.38	-1.68
75°	0.50	-0.10	-0.01	-1.02	-1.40	-1.30
100°	0.31	0.15	0.03	-1.01	-1.42	-0.97
125°	0.14	0.37	0.08	-0.99	-1.43	-0.68
150°	0.01	0.59	0.14	-0.98	-1.43	-0.42
175°	-0.10	0.79	0.20	-0.98	-1.44	-0.19
200°	-0.19	0.97	0.20	-1.00	-1.44	0.01
225°	-0.26	1.15	0.34	-1.03	-1.44	0.18
250°	-0.33	1.32	0.41	-1.07	-1.44	0.33
275°	-0.38	1.48	0.47	-1.10	-1.43	0.44
300°	-0.44	1.62	0.54	-1.13	-1.43	0.53
325°	-0.49	1.75	0.60	-1.12	-1.42	0.59
350°	-0.55	1.85	0.67	-1.07	-1.40	0.60
375°	-0.61	1.94	0.73	-0.96	-1.39	0.58
400°	-0.67	1.99	0.79	-0.74	-1.37	0.52

Scaling predictions calculated using Scale Soft Pitzer 2017
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

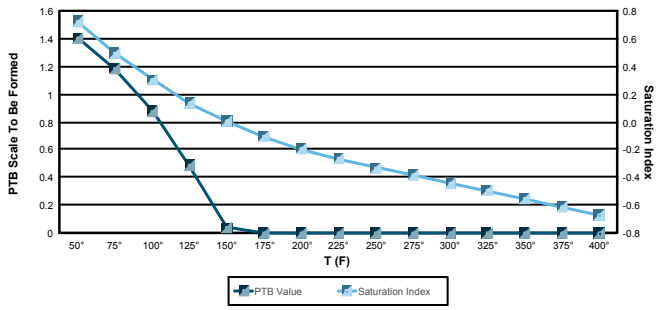
NALCO Champion
An Ecolab Company

Complete Water Analysis Report

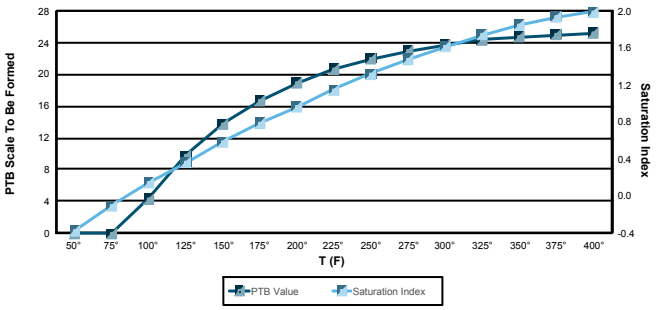
Customer: **OXY PERMIAN RESOURCES - NM**
Region: **Carlsbad, NM**
Location: **Cedar Canyon Lease**
System: **Production System**

Equipment: **CEDAR CANYON 23 FEDERAL COM 03** Collection Date: **03/19/2020**
Sample Point: **Wellhead** Receive Date: **03/20/2020**
Sample ID: **AO75217** Report Date: **03/27/2020**
Acct Rep Email: **William.VanGlider@ecolab.com** Location Code: **397000**

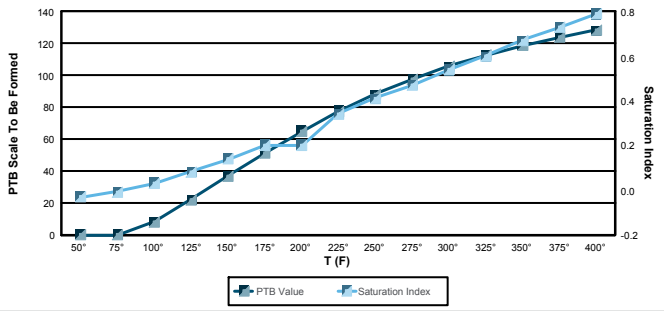
Barite BaSO4



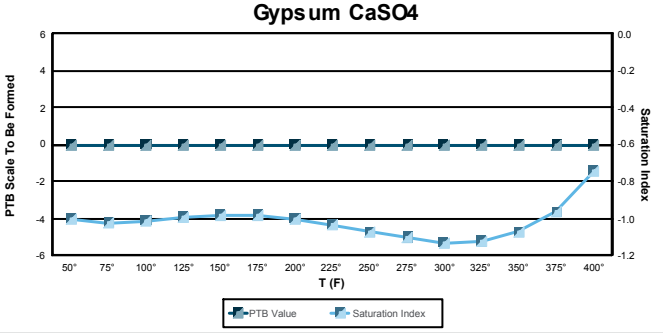
Calcite CaCO3



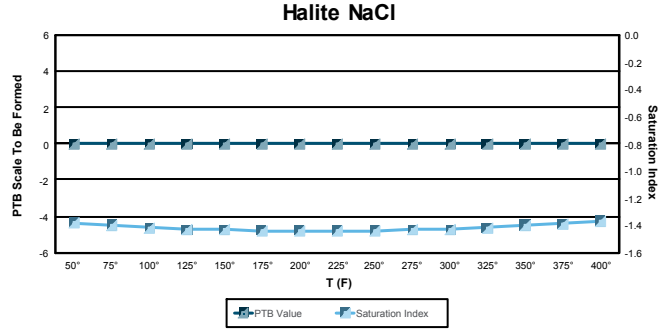
Celestite SrSO4



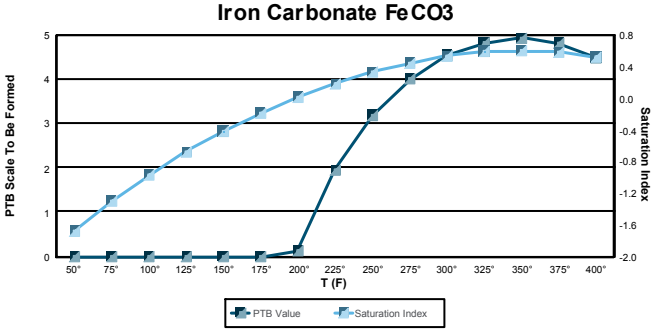
Gypsum CaSO4



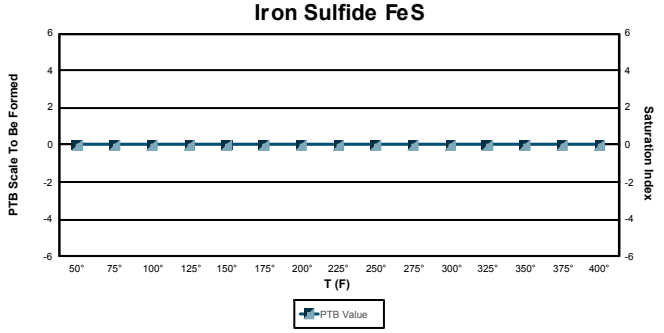
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



Comments

Scaling predictions calculated using Scale Soft Pitzer 2017
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

Part VIII- Geologic Information for Guacamole CC 24-23 Federal 12H API 30-15-45871

The Cedar Canyon 23-24 Federal Com 33H will be injecting into the Avalon Shale of the Bone Spring Formation. The well has a TVD of 7,897 ft. with a lateral length of approximately 6,757 ft. It will be injecting into a reservoir composed of tight siltstone and shale (mudstone). Core data indicates that the grain sizes range from clay to fine siltstone (Folk, 1980). Samples show evidence of moderate compaction. Illite, smectite, kaolinite, and chlorite clays are found throughout the samples ranging from 10% to 35%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 3-15% with an average porosity of 10%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.1 millidarcies to 1 nanodarcies.

The injection area for this well is bounded by producing wells in the 1st Bone Spring Sand reservoir interval that is 330 ft. thick. An 80 ft. thick barrier of limestone is between the Lower Avalon Shale and the 1st Bone Spring Sand. Downward permeability is further limited by increasing lithostatic pressure with depth. 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 nearby wells will be the primary constraints on the conformance of the injection to the project area and are expected to contain the injected gas.

The top of the Bone Spring Formation is at 6,801 ft. (log depth) with over 700 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 877 ft. 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 about 211 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Guacamole CC 24 23 Federal 11H API 30-015-45870

The Guacamole CC 24 23 Federal 11H will be injecting into the 1st Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 8,085 ft. with a lateral length of approximately 7,888 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 11.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.02 millidarcies to 0.001 millidarcies.

The injection area for this well is bounded by two producing wells in the same reservoir interval that is 330 ft. thick. Low-permeability barriers act as seals above the reservoir. The upper barrier consists of carbonate mudstone, dolomudstone, and shales that are 1,000 ft. thick. Below the well, the top of the 2nd Bone Spring Limestone is at 8,200 ft TVD, with the lateral being 250 ft. above it. The 2nd Bone Spring Limestone is a very low permeability carbonate mudstone that is 480 ft. thick. Downward permeability is further limited by increasing lithostatic pressure with depth. 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.

The top of the Bone Spring Formation is at 6,806 ft. (log depth) with over 1,000 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 620 ft. 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 about 260 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23 1H API 30-015-44178

The Cedar Canyon 23 1H will be injecting into the 1st Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 7,897 ft. with a lateral length of approximately 4,503 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 11.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.02 millidarcies to 0.001 millidarcies.

The injection area for this well is bounded by two producing wells in the same reservoir interval that is 330 ft. thick. Low-permeability barriers act as seals above the reservoir. The upper barrier consists of carbonate mudstone, dolomudstone, and shales that are 1,000 ft. thick. Below the well, the top of the 2nd Bone Spring Limestone is at 8,200 ft TVD, with the lateral being 280 ft. above it. The 2nd Bone Spring Limestone is a very low permeability carbonate mudstone that is 480 ft. thick. Downward permeability is further limited by increasing lithostatic pressure with depth. 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.

The top of the Bone Spring Formation is at 6,806 ft. (log depth) with over 1,000 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 620 ft. 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 about 260 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23 2H API 30-015-41194

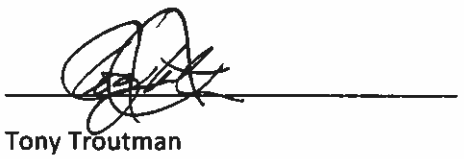
The Cedar Canyon 23 2H will be injecting into the 2nd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 8,914 ft. with a lateral length of approximately 4,327 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, pore-bridging illite and some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 9.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 10 millidarcies to 0.003 millidarcies.

The injection area for this well is bounded by producing wells in the same reservoir interval that is 395 ft. thick. Low-permeability barriers act as seals above and below the reservoir. These barriers consist of carbonate mudstone and dolomudstone that are 450 ft. thick above and 745 ft. thick below. 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.

The top of the Bone Spring Formation is at 6,733 ft. (log depth) with over 2,000 ft. of carbonate mudstones and shales acting as permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 510 ft. 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 440 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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



Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23 Federal Com 3H API 30-015-43290

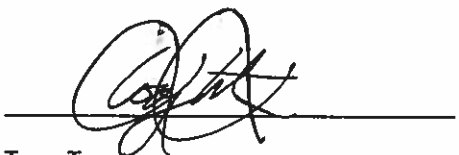
The Cedar Canyon 23 Federal Com 3H will be injecting into the 2nd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 8,986 ft. with a lateral length of approximately 7,266 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, pore-bridging illite and some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 9.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 10 millidarcies to 0.003 millidarcies.

The injection area for this well is bounded by producing wells in the same reservoir interval that is 395 ft. thick. Low-permeability barriers act as seals above and below the reservoir. These barriers consist of carbonate mudstone and dolomudstone that are 450 ft. thick above and 745 ft. thick below. 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.

The top of the Bone Spring Formation is at 6,733 ft. (log depth) with over 2,000 ft. of carbonate mudstones and shales acting as permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 510 ft. 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 440 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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



Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23 Fed 4H API 30-015-43281

The Cedar Canyon 23 Fed 4H will be injecting into the 2nd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 8,982 ft. with a lateral length of approximately 7,553 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 11.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.02 millidarcies to 0.001 millidarcies.

The injection area for this well is bounded by two producing wells in the same reservoir interval that is 330 ft. thick. Low-permeability barriers act as seals above and below the reservoir. These barriers consist of carbonate mudstone and dolomudstone that are 520 ft. thick above and 715 ft. thick below. 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.

The top of the Bone Spring Formation is at 6,733 ft. (log depth) with over 2,000 ft. of carbonate mudstones and shales acting as permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 510 ft. 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 440 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23 Federal 5H API 30-015-43282

The Cedar Canyon 23 5H will be injecting into the 2nd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 9,010 ft. with a lateral length of approximately 7,207 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, pore-bridging illite and some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 9.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 10 millidarcies to 0.003 millidarcies.

The injection area for this well is bounded by producing wells in the same reservoir interval that is 395 ft. thick. Low-permeability barriers act as seals above and below the reservoir. These barriers consist of carbonate mudstone and dolomudstone that are 450 ft. thick above and 745 ft. thick below. 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.

The top of the Bone Spring Formation is at 6,733 ft. (log depth) with over 2,000 ft. of carbonate mudstones and shales acting as permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 510 ft. 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 440 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23 Federal Com 6H API 30-015- 44095

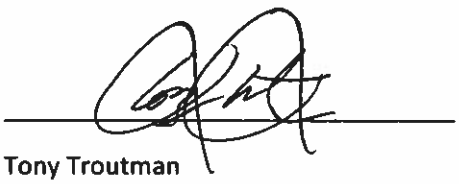
The Cedar Canyon 23 Federal Com 6H will be injecting into the 2nd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 8,974 ft. with a lateral length of approximately 7,275 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, pore-bridging illite and some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 9.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 10 millidarcies to 0.003 millidarcies.

The injection area for this well is bounded by producing wells in the same reservoir interval that is 395 ft. thick. Low-permeability barriers act as seals above and below the reservoir. These barriers consist of carbonate mudstone and dolomudstone that are 450 ft. thick above and 745 ft. thick below. 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.

The top of the Bone Spring Formation is at 6,733 ft. (log depth) with over 2,000 ft. of carbonate mudstones and shales acting as permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 510 ft. 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 440 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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



Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23-24 Fed 31H API 30-015-44179

The Cedar Canyon 23-24 Federal 31H will be injecting into the 3rd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 10,159 ft. with a lateral length of approximately 7,242 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 11.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.02 millidarcies to 0.001 millidarcies.

The injection area for this well is bounded by producing wells in the same reservoir interval that is 365 ft. thick. Low-permeability barriers act as seals above the reservoir. The upper barrier consists of carbonate mudstone, dolomudstone, and shales that are 715 ft. thick. Below the well, the top of the Wolfcamp is at 10,170 ft TVD, with the lateral being 50 ft. above it. The top of Wolfcamp is a thin bentonitic shale that presents a minor permeability barrier. Downward permeability is further limited by increasing lithostatic pressure with depth. 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.

The top of the Bone Spring Formation is at 6,801 ft. (log depth) with over 1,200 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 877 ft. 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 about 211 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23-24 Fed 32H API 30-015-44180

The Cedar Canyon 23-24 Federal 32H will be injecting into the 3rd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 10,120ft. with a lateral length of approximately 7,545 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 11.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.02 millidarcies to 0.001 millidarcies.

The injection area for this well is bounded by two producing wells in the same reservoir interval that is 365 ft. thick. Low-permeability barriers act as seals above the reservoir. The upper barrier consists of carbonate mudstone, dolomudstone, and shales that are 715 ft. thick. Below the well, the top of the Wolfcamp is at 10,170 ft TVD, with the lateral being 50 ft. above it. The top of Wolfcamp is a thin bentonitic shale that presents a minor permeability barrier. Downward permeability is further limited by increasing lithostatic pressure with depth. 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.

The top of the Bone Spring Formation is at 6,801 ft. (log depth) with over 1,200 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 877 ft. 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 about 211 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23-24 Fed 34H API 30-015-44178

The Cedar Canyon 23-24 Federal 34H will be injecting into the 3rd Bone Spring Sandstone of the Bone Spring Formation. The well has a TVD of 9,970 ft. with a lateral length of approximately 7,242 ft. It will be injecting into a reservoir composed of tight siltstone. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Minor amounts of illite and smectite clays are found throughout the samples ranging from 5% to 15%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 8-18% with an average porosity of 11.7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.02 millidarcies to 0.001 millidarcies.

The injection area for this well is bounded by producing wells in the same reservoir interval that is 365 ft. thick. Low-permeability barriers act as seals above the reservoir. The upper barrier consists of carbonate mudstone, dolomudstone, and shales that are 715 ft. thick. Below the well, the top of the Wolfcamp is at 10,170 ft TVD, with the lateral being 50 ft. above it. The top of Wolfcamp is a thin bentonitic shale that presents a minor permeability barrier. Downward permeability is further limited by increasing lithostatic pressure with depth. 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.

The top of the Bone Spring Formation is at 6,801 ft. (log depth) with over 1,200 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 877 ft. 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 about 211 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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

Tony Troutman
Geological Advisor

2/2/2021
Date

Part VIII- Geologic Information for Cedar Canyon 23 Federal Com 33H API 30-015-44074

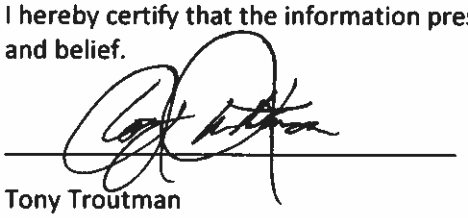
The Cedar Canyon 23-24 Federal Com 33H will be injecting into the Wolfcamp XY Sandstone of the Bone Spring Formation. The well has a TVD of 10,330 ft. with a lateral length of approximately 7,362 ft. It will be injecting into a reservoir composed of tight siltstone and shale. Core data indicates that the grain sizes range from coarse siltstone to very-fine-grained subarkose (Folk, 1980) sandstone. Samples show evidence of moderate compaction. Illite, smectite, kaolinite, and chlorite clays are found throughout the samples ranging from 5% to 35%. Cements are Fe-calcite, Fe-dolomite, with some quartz overgrowths. Minor amounts of pyrite (<1%) are present. The resulting reservoir rock has porosity of 3-13% with an average porosity of 7%. Permeability measured by injection fall-off tests conducted within the reservoir ranges from 0.1 millidarcies to 1 nanodarcies.

The injection area for this well is bounded by producing wells in the same reservoir interval that is 420 ft. thick. The top of Wolfcamp is a thin bentonitic shale that presents a minor permeability barrier. Above the 3rd Bone Spring Sand, the 3rd Bone Spring Limestone creates the upper barrier, which consists of carbonate mudstone, dolomudstone, and shales that are 715 ft. thick. Below the well, the top of the Wolfcamp B Shale is at 10,650 ft. TVD, with the lateral being 300 ft. above it. Downward permeability is further limited by increasing lithostatic pressure with depth. 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.

The top of the Bone Spring Formation is at 6,801 ft. (log depth) with over 1,200 ft. of carbonate mudstones and shales acting as additional permeability barriers to upward migration of injected gas. Above that the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,700 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 overlies the Castile and forms a 1,000 ft. thick barrier of salt. The top of the Salado is at 877 ft. 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 about 211 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. Because of the thickness of multiple impermeable rock layers above the injection reservoir there is no possible path 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 freshwater wells within a two mile radius of this injector.

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



Tony Troutman
Geological Advisor

2/2/2021
Date

Notice List

Party	Address	Street	City	State	Zip
Chesapeake Exploration LLC	6100 N Western, Oklahoma City, OK 73118	6100 N Western	Oklahoma City	OK	73118
Chevron USA Inc	1400 Smith Street, Houston, TX 77002	1400 Smith Street	Houston	TX	77002
CTV OG NM LLC	201 Main Street Suite 2700, Fort Worth, TX 76102	201 Main Street Suite 2700	Fort Worth	TX	76102
Devon Energy Production Co LP	333 West Sheridan Avenue, Oklahoma City, OK 73102	333 West Sheridan Avenue	Oklahoma City	OK	73102
Devon Energy Production Inc	333 West Sheridan Avenue, Oklahoma City, OK 73102	333 West Sheridan Avenue	Oklahoma City	OK	73102
Dominion OK TX Exploration & Production Inc	14000 Quail Springs Pkwy #600, Oklahoma City, OK 73134	14000 Quail Springs Pkwy #600	Oklahoma City	OK	73134
Edward K Gaylord II	PO Box 31560, Edmond, OK 73003	PO Box 31560	Edmond	OK	73003
Eleven Sands Exploration Inc	PO Box 31560, Edmond, OK 73003	PO Box 31560	Edmond	OK	73003
Fortson Oil Co	301 Commerce #3301, Fort Worth, TX 76102	301 Commerce #3301	Fort Worth	TX	76102
KONA Ltd	1302 West Avenue, Austin, TX 78701	1302 West Avenue	Austin	TX	78701
Legacy Reserves Operating LP	PO Box 207418, Dallas, TX 75320-7418	PO Box 207418	Dallas	TX	75320
Mobil Producing Texas & New Mexico Inc	22777 Springwoods Village Pkwy, Spring, TX 77389-1425	22777 Springwoods Village Pkwy	Spring	TX	77389
New Mexico Oil Conservation Division	811 S. First St., Artesia, NM 88210	811 S. First St.	Artesia	NM	88210
New Mexico Oil Conservation Division	1220 South St. Francis Dr., Santa Fe, NM 87505	1220 South St. Francis Dr.	Santa Fe	NM	87505
Phillips 66 Nat Gas	4001 Penbrook #324, Odessa, TX 79762	4001 Penbrook #324	Odessa	TX	79762
PXP Producing Co LLC	717 Texas Street Suite 2100, Houston, TX 77002	717 Texas Street Suite 2100	Houston	TX	77002
Riverhill Energy Co	PO Box 2726, Midland, TX 79702	PO Box 2726	Midland	TX	79702
Shackelford Oil Co	PO Box 10665, Midland, TX 79702	PO Box 10665	Midland	TX	79702
Siete Oil & Gas Corp	PO Box 2523, Roswell, TX 88202	PO Box 2523	Roswell	TX	88202
SM Energy Co	1775 Sherman Street, Suite 1200, Denver, CO 80203	1775 Sherman Street Suite 1200	Denver	CO	80203
State of New Mexico	PO Box 1148, Santa Fe, NM 87504	PO Box 1148	Santa Fe	NM	87504
United States Department of the Interior, Bureau of Land Management	620 E. Greene Street, Carlsbad, NM 88220	620 E. Greene Street	Carlsbad	NM	88220
XTO Delaware Basin LLC	22777 Springwoods Village Pkwy, Spring, TX 77389-1425	22777 Springwoods Village Pkwy	Spring	TX	77389
XTO Holdings LLC	PO BOX 840780, Dallas, TX, 75284	PO BOX 840780	Dallas	TX	75284
XTO Permian Operating LLC	6401 Holiday Hill Road Building 5, Midland, TX, 79707	6401 Holiday Hill Road Building 5	Midland	TX	79707
McNic O&G Properties	1360 Post Oak Blvd, Houston, TX, 77056	1360 Post Oak Blvd	Houston	TX	77056
Penwell Energy Inc.	600 N. Marienfeld #1100, Midland, TX, 79701	600 N. Marienfeld #1100	Midland	TX	79701

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **SW**
Location: **cedar canyon**
System: **facility**

Equipment: **CEDAR CANYOHN WPF**
Sample Point: **discharge line**
Sample ID: **AS20268**
Acct Rep Email: **devlin.willingham@championX.com**

Collection Date: **10/06/2021**
Receive Date: **10/08/2021**
Report Date: **10/14/2021**
Location Code: **475191**

Field Analysis

Bicarbonate	**73.20**	mg/L	Dissolved CO2	**210.00**	mg/L	Dissolved H2S	**0.00**	mg/L
Pressure Surface	**110**	psi	Temperature	**63.1**	° F	pH of Water	**6.30**	

Sample Analysis

Ionic Strength	**3.10**	mol/L	Specific Gravity	**1.113**		Total Dissolved Solids	**163660**	mg/L

Cations

Iron	**46.700**	mg/L	Manganese	**1.870**	mg/L	Barium	**2.340**	mg/L
Strontium	**769.000**	mg/L	Calcium	**8240.000**	mg/L	Magnesium	**1250.000**	mg/L
Sodium	**55600.00**	mg/L	Potassium	**931.000**	mg/L	Boron	**57.500**	mg/L
Lithium	**29.000**	mg/L	Copper	**0.148**	mg/L	Nickel	**0.407**	mg/L
Zinc	**0.122**	mg/L	Lead	**<0.500**	mg/L	Cobalt	**0.527**	mg/L
Chromium	**0.174**	mg/L	Silicon	**10.300**	mg/L	Aluminum	**0.438**	mg/L
Molybdenum	**<0.050**	mg/L	Phosphorus	**<0.200**	mg/L			

Anions

Bromide	**753.607**	mg/L	Chloride	**95539**	mg/L	Sulfate	**354.51**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-0.78
Barite BaSO4 PTB	0.9	**Barite BaSO4 SI**	0.43
Calcite CaCO3 PTB	N/A	**Calcite CaCO3 SI**	-1.20
Celestite SrSO4 PTB	75.0	**Celestite SrSO4 SI**	0.25
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-0.65
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-0.68

Comments

RUN ACIDIZED FOR CATIONS

Scaling predictions calculated using Oddo-Tomson model

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **SW**
Location: **WHOMPING WILLOW**
System: **FACILITY**

Equipment: **SW_WHOMPING WILLOW CTB**
Sample Point: **Production Seperator**
Sample ID: **AO43644**
Acct Rep Email: **William.VanGlider@championx.com**

Collection Date: **01/28/2020**
Receive Date: **02/03/2020**
Report Date: **02/12/2020**
Location Code: **430469**

Field Analysis

Bicarbonate	**48.80** mg/L	Dissolved CO2	**160.00** mg/L	Dissolved H2S	**0** mg/L
Pressure Surface	**100** psi	Temperature	**60** ° F	pH of Water	**6.82**
Oil per Day	**15000.00** B/D	Gas per Day	**18.5** Mcf/D	Water per Day	**5000** B/D

Sample Analysis

Calculated Gaseous CO2	**0.28** %	Calculated pH	**6.82**	Conductivity (Calculated)	**260201** µS - cm3
Ionic Strength	**3.12**	Resistivity	**0.038** ohms - m	Specific Gravity	**1.119**
Total Dissolved Solids	**168582** mg/L				

Cations

Iron	**12.6** mg/L	Manganese	**1.18** mg/L	Barium	**0.441** mg/L
Strontium	**442** mg/L	Calcium	**8140** mg/L	Magnesium	**1230** mg/L
Sodium	**51100.00** mg/L	Potassium	**918** mg/L	Boron	**41.4** mg/L
Lithium	**28.8** mg/L	Copper	**0.106** mg/L	Nickel	**0.154** mg/L
Zinc	**0.403** mg/L	Lead	**<0.500** mg/L	Cobalt	**<0.050** mg/L
Chromium	**<0.050** mg/L	Silicon	**7.08** mg/L	Molybdenum	**<0.050** mg/L

Anions

Bromide	**1043.862** mg/L	Chloride	**104638** mg/L	Sulfate	**928.809** mg/L

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	0.18	5.42	126.23	0.00	0.00	0.00	0.00
75°	0.11	6.99	120.03	0.00	0.00	0.00	0.00
100°	0.01	8.16	122.62	0.00	0.00	0.00	0.00
125°	0.00	9.07	130.61	0.00	0.00	0.00	0.00
150°	0.00	9.79	141.66	0.00	0.00	0.00	0.00
175°	0.00	10.36	154.00	0.00	0.00	0.79	0.00
200°	0.00	10.82	166.38	0.00	0.00	1.80	0.00
225°	0.00	11.19	178.12	0.00	0.00	2.50	0.00
250°	0.00	11.47	188.86	0.00	0.00	2.92	0.00
275°	0.00	11.67	198.47	0.00	0.00	3.08	0.00
300°	0.00	11.81	207.03	0.00	0.00	2.96	0.00
325°	0.00	11.87	214.68	0.00	0.00	2.57	0.00
350°	0.00	11.88	221.55	0.00	0.00	1.86	0.00
375°	0.00	11.83	227.67	0.00	0.00	0.80	0.00
400°	0.00	11.73	232.93	0.00	0.00	0.00	0.00

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI
50°	0.49	0.50	0.31	-0.10	-0.97	-1.01
75°	0.23	0.69	0.29	-0.14	-0.98	-0.72
100°	0.02	0.85	0.30	-0.15	-1.00	-0.46
125°	-0.16	1.00	0.33	-0.16	-1.01	-0.25
150°	-0.32	1.13	0.36	-0.16	-1.02	-0.06
175°	-0.44	1.25	0.40	-0.18	-1.02	0.09
200°	-0.55	1.35	0.40	-0.21	-1.03	0.21
225°	-0.64	1.44	0.49	-0.26	-1.03	0.29
250°	-0.73	1.52	0.54	-0.31	-1.04	0.35
275°	-0.81	1.57	0.58	-0.37	-1.04	0.36
300°	-0.88	1.60	0.62	-0.41	-1.04	0.34
325°	-0.96	1.62	0.65	-0.42	-1.04	0.29
350°	-1.04	1.61	0.69	-0.39	-1.04	0.20
375°	-1.13	1.59	0.72	-0.30	-1.03	0.08
400°	-1.22	1.55	0.75	-0.11	-1.02	-0.07

Scaling predictions calculated using Scale Soft Pitzer 2019
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

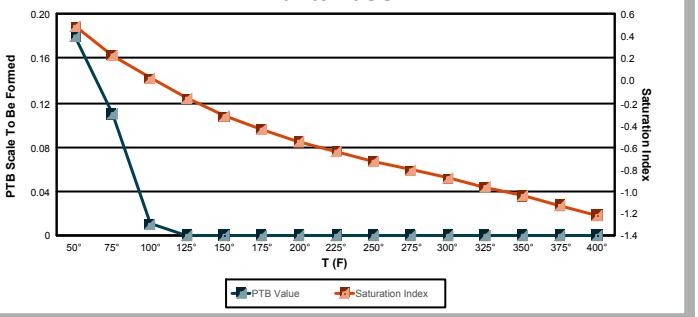
Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **SW**
Location: **WHOMPING WILLOW**
System: **FACILITY**

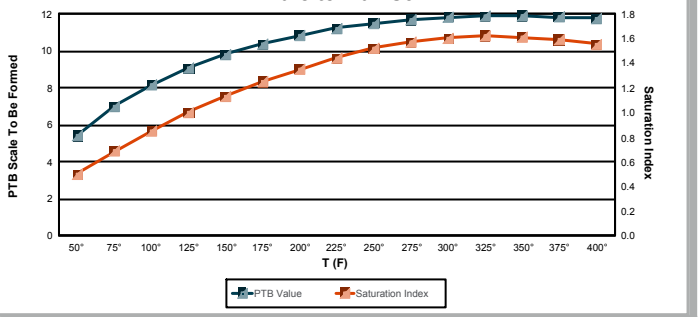
Equipment: **SW_WHOMPING WILLOW CTB**
Sample Point: **Production Seperator**
Sample ID: **AO43644**
Acct Rep Email: **William.VanGlider@championx.com**

Collection Date: **01/28/2020**
Receive Date: **02/03/2020**
Report Date: **02/12/2020**
Location Code: **430469**

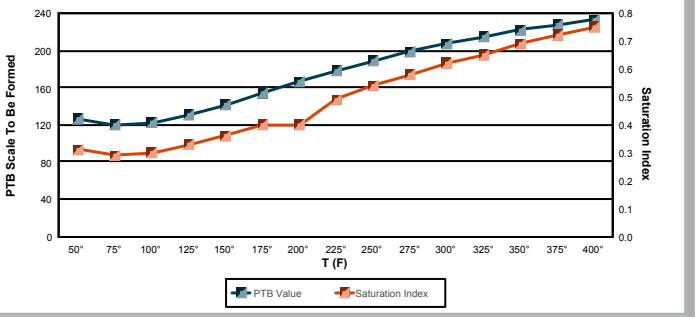
Barite BaSO4



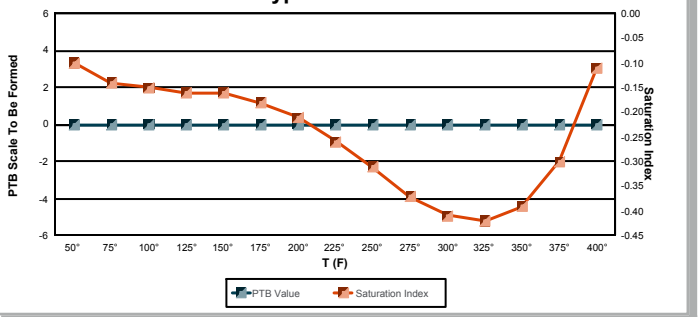
Calcite CaCO3



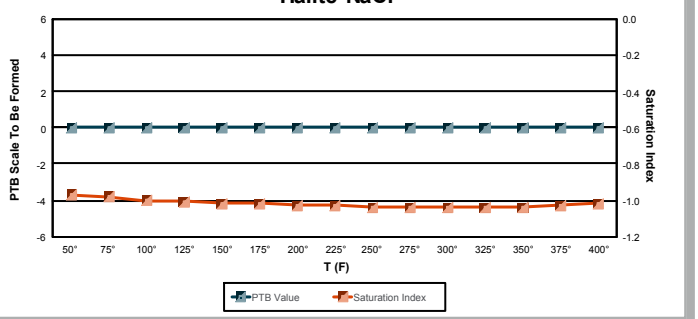
Celestite SrSO4



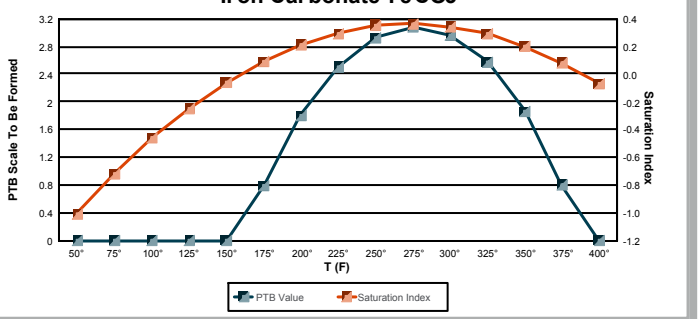
Gypsum CaSO4



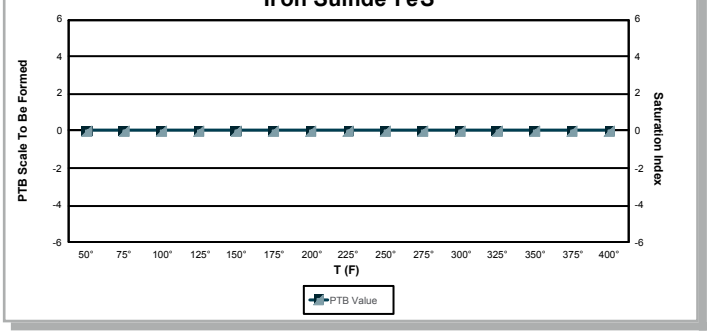
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

Complete Water Analysis Report

Customer: **OXY PERMIAN RESOURCES - NM**
Region: **SW**
Location: **CEDAR CANYON**
System: **FACILITY**

Equipment: **SW_CEDAR CANYON 22 CTB**
Sample Point: **Heater Treater**
Sample ID: **AS20266**
Acct Rep Email: **devlin.willingham@championX.com**

Collection Date: **10/06/2021**
Receive Date: **10/08/2021**
Report Date: **10/14/2021**
Location Code: **318791**

Field Analysis

Bicarbonate	**109.80**	mg/L	Dissolved CO2	**210.00**	mg/L	Dissolved H2S	**0.00**	mg/L
Pressure Surface	**110**	psi	Temperature	**61.9**	° F	pH of Water	**6.08**	

Sample Analysis

Ionic Strength	**2.90**	mol/L	Specific Gravity	**1.097**		Total Dissolved Solids	**153141**	mg/L

Cations

Iron	**44.600**	mg/L	Manganese	**1.960**	mg/L	Barium	**3.700**	mg/L
Strontium	**1010.000**	mg/L	Calcium	**7270.000**	mg/L	Magnesium	**1130.000**	mg/L
Sodium	**55500.00**	mg/L	Potassium	**917.000**	mg/L	Boron	**87.100**	mg/L
Lithium	**30.200**	mg/L	Copper	**0.063**	mg/L	Nickel	**0.390**	mg/L
Zinc	**<0.100**	mg/L	Lead	**<0.500**	mg/L	Cobalt	**0.497**	mg/L
Chromium	**0.153**	mg/L	Silicon	**12.900**	mg/L	Aluminum	**0.412**	mg/L
Molybdenum	**<0.050**	mg/L	Phosphorus	**0.735**	mg/L			

Anions

Bromide	**842.41**	mg/L	Chloride	**85898**	mg/L	Sulfate	**281.275**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-0.97
Barite BaSO4 PTB	1.5	**Barite BaSO4 SI**	0.51
Calcite CaCO3 PTB	N/A	**Calcite CaCO3 SI**	-1.34
Celestite SrSO4 PTB	63.5	**Celestite SrSO4 SI**	0.24
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-0.80
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-0.83

Comments

RUN ACIDIZED FOR CATIONS

Scaling predictions calculated using Oddo-Tomson model

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

APPLICATION FOR EOG RESOURCES, INC FOR A GAS CAPTURE PILOT PROJECT INVOLVING THE OCCASIONAL INJECTION OF PRODUCED GAS INTO THE BONE SPRING FORMATION IN LEA COUNTY, NEW MEXICO

CASE NO. 21567
ORDER NO. R-21747

ORDER

The Director of the New Mexico Oil Conservation Division ("OCD"), having heard this matter through a Hearing Examiner on January 7, 2021, and after considering the testimony, evidence, and recommendation of the OCD Engineering Bureau staff, issues the following Order.

FINDINGS OF FACT

1. EOG Resources, Inc ("Applicant") submitted an Application to operate what OCD has classified as a closed loop gas capture ("CLGC") pilot project ("Project") which shall involve the intermittent injection of produced gas into selected production well(s) for the purpose of temporary storage and recovery to prevent waste, reduce impacts associated with temporary interruptions of gas pipeline services, and to develop standard practices for similar projects.
2. The Application was heard by the Hearing Examiner on the date specified above, during which Applicant presented evidence through affidavits and expert witness testimony in support of the Application.
3. Applicant selected one or more producing oil and gas wells ("CLGC Well(s)") identified in Exhibit A in which to intermittently inject gas delivered by a common gas gathering system.
4. Applicant proposed an area described in Exhibit A in which the Project shall be confined ("Project Area"). The Project Area is comprised of the lease(s) containing each CLGC Well and may include the adjacent lease(s) that are owned or operated by Applicant.
5. Applicant provided a general description and timeline of the Project.
6. Applicant provided a lease map which depicts the Project Area, lateral(s) of each CLGC Well, and the area which the gathering system incorporates including affected compressor stations.
7. Applicant proposed a maximum allowable surface pressure (MASP) of two thousand two hundred fifty pounds per square inch (2,250 psi) for each CLGC Well which will not endanger the mechanical integrity of the well or fracture the formation.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 9
Submitted by: OXY USA INC.
Hearing Date: October 22, 2021
Case No. 22183

8. Applicant provided geologic and reservoir information to demonstrate that the injected fluids will enter only the pool(s) from which the CLGC Well(s) produce and will not affect correlative rights or migrate into other formations or protectable waters.

9. Applicant provided construction details for each CLGC Well and every well with a segment within one-half (½) mile of any segment of a CLGC Well.

10. The casing and cementing of each CLGC Well is or will be sufficient prior to injection to prevent leakage and prevent movement of formation or injected fluid from the injection zone into another zone or to the surface around the outside of a casing string in accordance with 19.15.26.9 NMAC.

11. Applicant conducted a mechanical integrity test (MIT) upon each CLGC Well prior to injection which consisted of holding a pressure of at least one hundred ten percent (110%) of the proposed MASP or five hundred pounds per square inch (500 psi), whichever is greater, within the annulus of the production casing.

12. Applicant provided or intends to provide a cement bond log (CBL) which demonstrates the placement of cement and cement bond of the production casing and the tie-in of the production casing with the next prior casing for each CLGC Well.

13. Applicant provided a summary of its operational plan to ensure safe operation and efficient response in the event of an emergency, including a supervisory control and data acquisition (SCADA) system to monitor and collect relevant data.

14. Applicant proposed a method to allocate gas production to each CLGC Well during the period in which injected gas is being recovered ("CLGC Allocation Plan").

15. Applicant provided an affirmative statement that it 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.

16. Applicant provided an affirmative statement that it has 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 Project.

17. Applicant identified the source(s) of the gas to be injected during the Project, conducted an analysis of it, and proposed a corrosion prevention plan to assure the integrity of the CLGC Well(s) ("Corrosion Prevention Plan").

18. Applicant provided a copy of the Application by certified or registered mail to each owner of the land surface on which each CLGC Well is located and to each leasehold operator and other affected person(s), as defined in 19.15.2.7(A) NMAC, within any tract wholly or partially contained within one-half (½) mile of the well, in accordance with 19.15.26.8(B)(2) NMAC.

19. Applicant published public notice of the Application in a newspaper of general circulation in the county in which the CLGC Well(s) are located, in accordance with 19.15.26.8(C)(1) NMAC.

20. Applicant provided notice of the hearing in accordance with 19.15.4.9 NMAC.

21. Applicant is in compliance with 19.15.5.9(A) NMAC.

22. Applicant requested that an order be issued for this Application with an indefinite duration so that the order would last as long as the CLGC Wells are capable of injection and production as determined by the Applicant. Due to the unique technical and legal matters related to this Application, OCD has determined that an order with an indefinite duration cannot be issued for an application of this kind at this time.

23. Legal counsel for NGL Energy appeared at the hearing but did not oppose the Application. No other party appeared at the hearing.

CONCLUSIONS OF LAW

24. OCD has jurisdiction to issue this Order pursuant to the Oil and Gas Act, NMSA 1978.

25. The New Mexico Administrative Code does not specify a process for the Application. Accordingly, approval of applications of this type are considered on a case-by-case basis after a public hearing.

26. Applicant is in compliance with 19.15.5.9(A) NMAC.

27. Operation of the Project as required herein shall be in compliance with 19.15.26.10 NMAC.

28. The Project as stipulated herein shall, in reasonable probability, prevent waste and protect correlative rights, public health, and the environment.

ORDER

1. Applicant is authorized to operate a closed loop gas capture pilot project which shall involve the intermittent injection of gas into the production well(s) identified in Exhibit A for the purpose of temporary storage and recovery to prevent waste, reduce impacts associated with temporary interruptions of gas pipeline services, and to develop standard practices for similar projects.

2. Applicant is designated as the operator of the Project.

3. The Project Area shall comprise the lands described in Exhibit A.

4. Applicant's request for an order with an indefinite duration is denied. The authority granted by this Order shall terminate two (2) years after the date of approval, provided however OCD, upon receipt of a written request submitted before the termination date and for good cause shown, may extend the authority granted by this Order. Required to be included in this request is the operators showing of compliance with the stipulations of this Order.

5. The MASP for each CLGC Well shall be two thousand two hundred fifty pounds per square inch (2,250 psi). Applicant shall install equipment to limit the production casing pressure to less than or equal to the MASP and incorporate procedures into its operational plan to allow the safe reduction or cessation of injection to prevent the production casing pressure from exceeding the MASP.

6. Applicant shall allocate gas production to each CLGC Well during the period in which injected gas is being recovered as detailed in the CLGC Allocation Plan approved by OCD, provided however OCD, upon receipt of a written request from Applicant or upon its own determination that correlative rights may be harmed, may modify the CLGC Allocation Plan.

7. Applicant shall conduct MITs pursuant to 19.15.26.11 NMAC on each CLGC Well in accordance with the following:

    a. A MIT shall consist of isolating the production casing from the reservoir by setting a retrievable bridge plug or packer within one hundred (100) feet of the uppermost perforations or production casing shoe, loading the production casing with an inert fluid, and conducting a pressure test with a pressure drop of not more than ten percent (10%) over a thirty (30) minute period.

    b. A chart recorder with a maximum two (2) hour clock and an appropriate maximum pound spring and which has been calibrated within the six (6) months prior to conducting the test shall be used during each MIT. Copies of the chart shall be submitted to OCD with a Form C-103 within thirty (30) days following the test date.

    c. No more than one (1) year prior to commencement of injection, a MIT shall be conducted to a pressure of at least one hundred ten percent (110%) of the MASP or five hundred pounds per square inch (500 psi), whichever is greater.

    d. No later than six (6) months after the Project has terminated, a MIT shall be conducted to a pressure of at least five hundred pounds per square inch (500 psi).

    e. Additional MITs shall be conducted as directed by OCD.

8. Applicant shall install and maintain a SCADA system approved by OCD. The information collected during the active Project shall be maintained and made available to OCD upon request for no less than five (5) years after the cessation of the project, including:

    a. for each CLGC Well, the oil and gas production and injection flow rates, tubing pressure, and annulus pressure for all casing strings; and

    b. for each well required by OCD as described in Exhibit B, the oil and gas production and injection flow rates and production casing pressure.

9. No less than forty-eight (48) hours before initially placing each CLGC Well into service and available for injection, Applicant shall notify the OCD Engineering Bureau at ocd.engineer@state.nm.us. The notice shall include the results of the most recent MIT conducted upon the CLGC Well.

10. Prior to placing Black Bear 36 State No. 4H (30-025-40580) into service and available for injection, Applicant shall conduct and provide to OCD a CBL which demonstrates the placement of cement and cement bond of the production casing and the tie-in of the production casing with the next prior casing.

11. For each CLGC Well, Applicant shall submit a Form C-115 in accordance with 19.15.7.24 NMAC and 19.15.26.13 NMAC or as otherwise directed by OCD.

12. Applicant shall monitor the production casing pressure and injection rate while injecting into a CLGC Well. If any indication that a leak in the production casing occurs, then Applicant shall:

    a. immediately cease injection into the CLGC Well;

    b. within twenty-four (24) hours notify the OCD Engineering Bureau at ocd.engineer@state.nm.us;

    c. within thirty (30) days perform a MIT or other test approved by OCD demonstrating the well integrity of the CLGC Well and submit the results on Form C-103 to the OCD Engineering Bureau; and

    d. not recommence injection into the CLGC Well until OCD grants approval.

13. Applicant shall monitor the casing annulus pressure(s) while injecting into a CLGC Well. For casings other than the production casing whenever:

    a. the pressure increases over normal operational conditions of more than one hundred pounds per square inch (100 psi) for the surface casing annulus and five hundred pounds per square inch (500 psi) for any intermediate annulus; in the event of such a pressure increase, Applicant shall notify the OCD Engineering Bureau at ocd.engineer@state.nm.us within twenty-four (24) hours;

    b. the pressure increases more than one thousand pounds per square inch (1,000 psi) over normal operational conditions; in the event of such a pressure increase, Applicant shall:

        i. immediately cease injection into the CLGC Well;

        ii. within thirty (30) days, submit a Form C-103 to the OCD Engineering Bureau containing a summary of the event that includes the cause for the pressure increase, description of any remedial actions and a revised operational plan to reduce and maintain the pressure below one thousand pounds per square inch (1,000 psi) over normal operation conditions; and

        iii. not recommence injection into the CLGC Well until OCD has approved the revised operational plan.

14. Applicant shall follow the approved Corrosion Prevention Plan if applicable. If the composition of the injectant being injected into a CLGC Well becomes inherently more corrosive than the composition approved by OCD, Applicant shall perform the following:

    a. immediately cease injection into the CLGC Well;

    b. within twenty-four (24) hours, notify the OCD Engineering Bureau at ocd.engineer@state.nm.us;

    c. within thirty (30) days, submit a Form C-103 to the OCD Engineering Bureau describing the alteration to the injectant's composition and a revised Corrosion Prevention Plan which addresses the effect of the alteration or a certification from a qualified person that no revision to the Corrosion Prevention Plan is required; and

    d. not recommence injection into the CLGC Well until OCD has approved the revised Corrosion Prevention Plan or certification that no revision to the Corrosion Prevention Plan is required.

15. If the casing of a CLGC Well fails or fluids leak from or around the CLGC Well or any well with a segment within one-half (½) mile of any segment of a CLGC Well, Applicant shall:

    a. immediately cease injection into every well with a segment within one-half (½) mile of any segment of the well from which fluids are leaking from or around;

    b. immediately notify the OCD Engineering Bureau Chief at the emergency contact number;

    c. within twenty-four (24) hours, notify the OCD Engineering Bureau at ocd.engineer@state.nm.us; and

    d. take all necessary steps and actions required and approved by OCD to correct the failure or leakage.

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

    a. a summary of all project-related activity;

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

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

        i. average and maximum injection flow rates;

        ii. injection duration; and

iii. total injected volume.

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

i. for each involved CLGC Well, the oil and gas production and injection flow rates and annulus pressure of all casing strings; and

ii. for each well related to each involved CLGC Well as described in Exhibit B, the oil and gas production and injection flow rates and production casing pressure.

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

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

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

17. This Order does not grant an exception to 19.15.12.9 NMAC. Applicant shall not commingle oil or gas production from different pools or leases or transport oil or gas production from a lease until approval to do so has been granted by OCD in accordance with 19.15.12.10 NMAC or 19.15.23.9 NMAC, as applicable.

18. Notwithstanding the authority granted by this Order, Applicant shall be responsible for complying with all applicable OCD rules and any other state, federal, or local law or regulation and if the Project causes any harm or damage or threat of harm or damage to protectable fresh water, public health, or the environment.

19. If OCD determines that Applicant has failed to comply with any provision of this Order, OCD may take any action authorized by the Oil and Gas Act or OCD rules.

20. If the OCD or EPA determines a UIC permit is required for the injection approved under this order, the operator must acquire such permits as directed at that time.

21. OCD retains jurisdiction of this case for the entry of such further orders as may be deemed necessary.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

DATE: 6/11/2021

ADRIENNE SANDOVAL
DIRECTOR

State of New Mexico
Energy, Minerals and Natural Resources Department

Exhibit A

Case No. 21567
Order No. R-21747
Operator: EOG Resources, Inc. (7377)

Project Area (NMPM)

Township 24 South, Range 33 East, NMPM
Section 25: W/2 W/2

Township 25 South, Range 33 East, NMPM
Section 36: All

Township 26 South, Range 33 East, NMPM
Section 22: E/2 SE/4
Section 27: E/2 NE/4

CLGC Wells

Well API	Well Name	UL or Q/Q	S-T-R	Pool Code
30-025-40580	Black Bear 36 State #4H	E/2	36-25S-33E	97900
30-025-40371	Brown Bear 36 State #1H	W/2	36-25S-33E	97900
30-025-41494	Hawk 25 Federal #1H	W/2 W/2	25-24S-33E	96434
30-025-41419	Hawk 25 Federal #2H	W/2 W/2	25-24S-33E	96434
30-025-41114	Ophelia 27 #1H	E/2 SE/4 E/2 NE/4	22-26S-33E 27-26S-33E	97900

State of New Mexico
Energy, Minerals and Natural Resources Department

Exhibit B

Case No. 21567
Order No. R-21747
Operator: EOG Resources, Inc. (7377)

CLGC Wells and Related Wells

CLGC Well API	CLGC Well Name
30-025-40580	Black Bear 36 State #4H
Related Well API	**Related Well Name**
30-025-40368	Black Bear 36 State #1H
30-025-40369	Black Bear 36 State #2H
30-025-40370	Black Bear 36 State #3H
CLGC Well API	**CLGC Well Name**
30-025-40371	Brown Bear 36 State #1H
Related Well API	**Related Well Name**
30-025-39703	Lomas Rojas 26 State Com #4H
CLGC Well API	**CLGC Well Name**
30-025-41494	Hawk 25 Federal #1H
Related Well API	**Related Well Name**
30-025-41419	Hawk 25 Federal #2H
30-025-40925	Dragon 36 State #3H
30-025-42412	Hawk 35 Federal #9H
CLGC Well API	**CLGC Well Name**
30-025-41419	Hawk 25 Federal #2H
Related Well API	**Related Well Name**
30-025-41494	Hawk 25 Federal #1H
30-025-40925	Dragon 36 State #3H
30-025-39560	Falcon 25 Federal #1
CLGC Well API	**CLGC Well Name**
30-025-41114	Ophelia 27 #1H
Related Well API	**Related Well Name**
	No Related Wells