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

APPLICATION OF OXY USA INC. FOR APPROVAL OF INJECTION AUTHORITY FOR THE MESA VERDE BONE SPRING RESOURCE DEVELOPMENT UNIT FOR ENHANCED OIL RECOVERY, EDDY AND LEA COUNTY, NEW MEXICO.

CASE NO.

APPLICATION

OXY USA Inc. ("Oxy" or "Applicant") (OGRID No. 16696), through its undersigned attorneys, files this application for an order authorizing the injection of water, produced gas and carbon dioxide for purposes of enhanced oil recovery ("EOR") within the Unitized Interval of the Mesa Verde Bone Spring Resource Development Unit area. In support of this application, Oxy states:

1. The proposed Project Area is the same as the Mesa Verde Bone Spring Resource Development Unit area and consists of the following 3461.80 acres, more or less, of federal and state lands situated in Eddy and Lea County, New Mexico:

TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.

Section 13: ALL

TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.

Section 7: SE/4, E/2 of NE/4 Section 8: ALL Section 9: W/2 Section 16: W/2 Section 17: ALL Section 18: ALL

2. The Mesa Verde Bone Spring Unit ("Unit") is a Resource Development Unit.

3. Oxy is the designated operator under the Resource Development Unit Agreement.

4. The Unitized Interval for the Unit includes the Bone Spring formation as identified by the Gamma Ray log run in the Heavy Metal 14 Federal 1 well (API: 30-015-29603) located in the NE/4 of SE/4 of Section 14, Township 24 South, Range 31 East, Eddy County, New Mexico, with the top of the Unitized Interval being found at a depth of 8,445 feet below the surface and the base of the unitized interval being found at a depth of 11,830 feet below the surface.

5. The Unit has twenty-nine (29) active horizontal wells completed in the Bone Spring formation. Oxy seeks to convert fifteen (15) of these producing horizontal wells into injection wells to implement a "huff and puff" enhanced oil recovery project. Oxy intends to periodically inject water, produced gas and carbon dioxide into the Bone Spring formation within the Unitized Interval through one or more of these wells followed by a period of flowback and production.

6. Submitted with this application is a complete Form C-108 for these wells, attached as **Exhibit A**.

7. Oxy requests authority to inject produced gas, water, and carbon dioxide within the Unitized Interval at up to the following maximum surface injection pressures in the respective Bone Spring zones of the Avalon, First Bone Spring Sand ("1BSS"), Second Bone Spring Sand ("2BSS"), Third Bone Spring Sand ("3BSS"), and Third Bone Spring Lime ("3BSL"):

	Maximum Surface Injection Pressure (psi)									
Zone	Hydrocarbon Gas	Water	CO2							
Avalon	4,510	1,813	2,490							
1BSS	4,810	1,949	2,630							
2BSS	4,980	2,022	2,700							
3BSS & 3BSL	5,700	2,361	3,080							

Injectant	Maximum Rate	Average Rate
Hydrocarbon Gas	50 MMSCFPD	22 MMSCFPD
Water	10,000 bwpd	5,000 bwpd
CO2	50 MMSCFPD	22 MMSCFPD

8. Oxy seeks authority to inject at the following maximum and average rates:

9. Due to facility costs and timing associated with implementing this "huff and puff" injection project, Oxy seeks an exception from 19.15.26.12.C NMAC, which requires actual injection to occur within one (1) year of approval. Oxy requests authorization for injection to occur within two (2) years of approval.

10. Pursuant to 19.15.26.8.F(5) NMAC, Oxy requests that additional injection wells in the Unit Area be approved administratively, subject to the applicable notice requirements.

11. A copy of this Application has been provided to all affected parties as required by Division Rules and notice of the hearing on this application will be provided in a newspaper of general circulation in Eddy and Lea Counties.

12. Approval of this Application is in the best interests of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE, Applicant requests that this matter be set for hearing before an Examiner of the Oil Conservation Division on March 13, 2025, and that after notice and hearing this Application be approved.

Respectfully submitted,

HOLLAND & HART LLP

By: (

Michael H. Felder

Michael H. Feldewert Adam G. Rankin Paula M. Vance Post Office Box 2208 Santa Fe, NM 87504 505-988-4421 mfeldewert@hollandhart.com agrankin@hollandhart.com

ATTORNEYS FOR OXY USA INC.

CASE NO. ____: Application of Oxy USA Inc. for Approval of Injection Authority for the Mesa Verde Bone Spring Resource Development Unit for Enhanced Oil Recovery, Eddy and Lea Counties, New Mexico. Applicant seeks an order authorizing the injection of water, produced gas and carbon dioxide for purposes of enhanced oil recovery ("EOR") within the Unitized Interval of the Mesa Verde Bone Spring Resource Development Unit area. The Project Area is comprised of the following federal and state lands in Eddy and Lea County, New Mexico:

TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.

Section 13: ALL

TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.

Section 7: SE/4, E/2 of NE/4 Section 8: ALL Section 9: W/2 Section 16: W/2 Section 17: ALL Section 18: ALL

The unitized interval consists of the Bone Spring formation as identified by the Gamma Ray log run in the Heavy Metal 14 Federal 1 well (API: 30-015-29603) located in the NE/4 of SE/4 of Section 14, Township 24 South, Range 31 East, Eddy County, New Mexico, with the top of the unitized interval being found at a depth of 8,445 feet below the surface and the base of the unitized interval being found at a depth of 11,830 feet below the surface. The Unit has twenty-nine (29) active horizontal wells completed in the Bone Spring formation. Oxy seeks to convert fifteen (15) of these producing horizontal wells into injection wells to implement a "huff and puff" enhanced oil recovery project. Oxy requests authorization for injection to occur within two (2) years of approval. Oxy seeks approval to inject produced gas, water, and carbon dioxide within the Unitized Interval at up to the following maximum surface injection pressures in the respective Bone Spring zones of the Avalon, First Bone Spring Sand ("1BSS"), Second Bone Spring Sand ("2BSS"), Third Bone Spring Sand ("3BSS"), and Third Bone Spring Lime ("3BSL"):

	Maximum Surfa	ice]	e Injection Pressure (psi)			
Zone	Hydrocarbon Gas	Water		CO2		
Avalon	4,510	1,8	313	2,490		
1BSS	4,810	1,949		2,630		
2BSS	4,980	2,0)22	2,700		
3BSS & 3BSL	5,700	2,3	361	3,080		
Oxy seeks authority t	o inject at the following	ng n	naximum a	and average rates:		
Injectant	Maximum Rate		Average Rate			
Hydrocarbon Gas	50 MMSCFPD	22 MMSCFPD		CFPD		
Water	10,000 bwpd		5,000 bwpd			

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CO2 50 MMSCFPD 22 MMSCFPD

The Mesa Verde Bone Spring Resource Development Unit is approximately 5 miles west of Jal, New Mexico.

EXHIBIT A

February 2025

OXY REGULATORY



MESA VERDE BONE SPRING UNIT EOR INJECTION PROJECT

EOR PROJECT

Released to Imaging: 2/11/2025 4:36:09 PM

Received by OCD: 2/11/2025 12:02:29 PM STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

	APPLICATION FOR AUTHORIZATION TO INJECT							
I.	PURPOSE: XSecondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Yes No							
II.	OPERATOR:OXY USA INC							
	ADDRESS:PO BOX 4294, HOUSTON, TX, 77210-4294							
	CONTACT PARTY:PHONE:713-493-1986							
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. SEE ATTACHED							
IV.	Is this an expansion of an existing project?YesNo If yes, give the Division order number authorizing the project:No							
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. SEE ATTACHED.							
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. SEE ATTACHED.							
VII.	Attach data on the proposed operation, including: SEE ATTACHED.							
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; CLOSED Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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. SEE ATTACHED.							
IX.	Describe the proposed stimulation program, if any. NO STIMULATION PLANNED AT TIME OF APPLICATION.							
*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: REGULAT	ORY ENGINEER
SIGNATURE:	Stephen Jaroah	DATE:	_1/10/2025
E-MAIL ADDRESS:STEPHEN_J.	ANACEK@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:

*

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: **SEE ATTACHED**.
 - (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. SEE ATTACHED.
 - (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.

PROJECT OVERVIEW

- Description
 - The Mesa Verde Bone Spring Unit is a Resource Development Unit with wells initially drilled in 2017.
 - Various Enhanced Oil Recovery ("EOR") techniques, such as Huff and Puff or Line Drive Injection will be applied with produced gas, water, and CO2 as injectants to sweep the pore space of the depleted reservoir to recover additional hydrocarbon reserves.
- Benefits
 - No additional surface disturbances.
 - Prevents waste of resources.
- Estimated Timeline
 - 1. Install compressor and surface facilities 6 months
 - 2. Install injection equipment ¹/₂ month
 - 3. Begin injection in first phase wells



REQUESTED RELIEF

- Requested Relief:
 - 1. Approval of an Enhanced Oil Recovery ("EOR") Project.
 - 2. 15 injection wells in various zones in the Bone Spring Pool.
 - Add additional injection wells administratively
 - 3. Approval to use hydrocarbon gas, water, and CO2 as injectant.
 - 4. Maximum Allowable Surface Pressure ("MASP") for each zone and each injectant as seen in table below:

	Max Allowable Surface Pressure [PSI]									
Zone	on Gas	Water	CO2							
Avalon	4,510	1,813	2,490							
1BSS	4,810	1,949	2,630							
2BSS	4,980	2,022	2,700							
3BSS and 3BSL	5,700	2,361	3,080							



WELL LIST

AOR WELL ID	ΑΡΙ	WELL_NAME	ZONE
1	3002544101	MESA VERDE BS UNIT 1H ST1	Avalon:
2	3002544196	MESA VERDE BS UNIT 2H	3BSS:
3	3002544183	MESA VERDE BS UNIT 3H	Avalon:
4	3002544064	MESA VERDE BS UNIT 4H	2BSS:
5	3002544185	MESA VERDE BS UNIT 5H	2BSS:
6	3002544042	MESA VERDE BS UNIT 6H	2BSS:
7	3002544065	MESA VERDE BS UNIT 7H	2BSS:
8	3002544559	MESA VERDE BS UNIT 22H	2BSS:
9	3002544560	MESA VERDE BS UNIT 23H	2BSS:
10	3002544561	MESA VERDE BS UNIT 24H	2BSS:
11	3002548814	MESA VERDE BS UNIT 44H	Avalon:
12	3002548815	MESA VERDE BS UNIT 45H	Avalon:
13	3002548816	MESA VERDE BS UNIT 46H	1BSS:
14	3002548818	MESA VERDE BS UNIT 73H	1BSS:
15	3002548819	MESA VERDE BS UNIT 74H	3BSL:

- Initially, not all unit wells are being permitted for injection. As of January 2025, there are 29 unit wells.
- The remaining unit wells will be added to the injection permit later.



Spud late 2024. Pending completion report filing.



PROJECT MAP





- Mesa Verde Bone Spring Unit
- Surface Hole Location
- Well Trajectory
- \odot AOR Well ID



EOR UPLIFT

- 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 EOR injection.
- 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





Wells UCCARTION AND ACREAGE DEDUCATION PLAT 30-025-4400 Any Nume Notion Provide State Provide Bis UNIT Well Number Subtract Location OCREM IN: OCREM IN: <td colspa<="" th=""><th><u>Provint I</u> 1423 N. French D., Phone: (373) 393-41 Phone: (373) 343-41 Phone: (373) 344-12 Phone: (373) 344-12 <u>Phone:</u> (303) 344-64 <u>Phone:</u> (303) 344-64 Phone: (303) 476-34</th><th>Habbe, IGA 181 Faz, (37) 101 Faz, (37) 101 Faz, (37) 101 Faz, (37) 179 Faz, (30) 104 Faz, (30)</th><th>112-00 13 393-4720 10 13 743-9720 24 87410 13 7454720 13 7454720 13 7454720 13 7454720 13 7454720 13 7454720</th><th></th><th colspan="7">State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505</th><th></th><th>ן Submit d</th><th>Revised Lone copy AMEN</th><th>Form C-102 August 1, 2011 to appropriate District Office DED REPORT</th></td>	<th><u>Provint I</u> 1423 N. French D., Phone: (373) 393-41 Phone: (373) 343-41 Phone: (373) 344-12 Phone: (373) 344-12 <u>Phone:</u> (303) 344-64 <u>Phone:</u> (303) 344-64 Phone: (303) 476-34</th> <th>Habbe, IGA 181 Faz, (37) 101 Faz, (37) 101 Faz, (37) 101 Faz, (37) 179 Faz, (30) 104 Faz, (30)</th> <th>112-00 13 393-4720 10 13 743-9720 24 87410 13 7454720 13 7454720 13 7454720 13 7454720 13 7454720 13 7454720</th> <th></th> <th colspan="7">State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505</th> <th></th> <th>ן Submit d</th> <th>Revised Lone copy AMEN</th> <th>Form C-102 August 1, 2011 to appropriate District Office DED REPORT</th>	<u>Provint I</u> 1423 N. French D., Phone: (373) 393-41 Phone: (373) 343-41 Phone: (373) 344-12 Phone: (373) 344-12 <u>Phone:</u> (303) 344-64 <u>Phone:</u> (303) 344-64 Phone: (303) 476-34	Habbe, IGA 181 Faz, (37) 101 Faz, (37) 101 Faz, (37) 101 Faz, (37) 179 Faz, (30) 104 Faz, (30)	112-00 13 393-4720 10 13 743-9720 24 87410 13 7454720 13 7454720 13 7454720 13 7454720 13 7454720 13 7454720		State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505								ן Submit d	Revised Lone copy AMEN	Form C-102 August 1, 2011 to appropriate District Office DED REPORT	
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Form C-102

State of New Mexico <u>Destret I</u> 1825 St. Franch Dr., Habba, SOM 88240 Planae (873) 293-4141 Fax: (573) 193-6720 Revised August 1, 2011 Energy, Minerals & Natural Resources Department (Natives II) 111 S. Part St., Amerika VAI 11210 Pacine (575) 744-1251 Fee. (575) 744-9720 Submit one copy to appropriate OIL CONSERVATION DIVISION District Office Duartes (1) 1400 Ras Brazas Road, Astron, NM 87410 Phone (303) 334-6173 Far. (503) 334-6170 Phone (303) 334-6173 1220 South St. Francis Dr. Santa Fe, NM 87505 Factor (NO) 1999 113 FD: (AD) 1999 110 <u>Despit (V</u> 1220 S. B. Francis Dr., Socia Fc, NM 1333 Fhome: (SDS) 475-3460 Far-(SDS) 478-3463 AMENDED REPORT (AS-)VILLUE PLAT) WELL LOCATION AND ACREAGE DEDICATION PLAT Pool Name API Number Pool Code 96229 Mesa Verde 30-025-44064 Bone Jorino Property Code Property Name Well Number 320828 BS Unit 4# MESA VERDE OGRID No. Operator Name Elevation 6696 OXY USA INC 3560.5 Surface Location Township Range Lot Ida Feet from the Feet from the East West Inc UL or lot po Sacio North South Inc. County 24 SOUTH P 17 32 EAST, N.M.P.M. 280 SOUTH 965 EAST LEA Bottom Hole Location If Different From Surface LL or lat no Section Tourship Lot Ida Feet from the North South Line | Feet from the East West line Ranet County 512 24 SOUTH 32 EAST, N.M.P.M. NORTH EAST 8 189 A LEA Dedicated Acres Joint or Infill Consolidation Code Order No. Perf: 349'FNL & 508'FEL Bottom 320 Ч Top yerf: 343' FSL of 442' FEL No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division. 185 349, 2512 7 8 OPERATOR CERTIFICATION 502 BOTTOW HOLE LOCATION NEW MEXICO EAST NO 1983 Y=451153.47 US FT X=740355.33 US FT and the she she water -----1222 LAT. N 32.2386574" LONG : W 103.6895486" BOTTOM PERF. NEW MEXICO EAST NAD 1983 451043 47 US F 1.01 3 17 N 32.2383550 W 103 689647 N 8 "PROJECT harman 10233 PRODUCIN man@ory.com 18 1 10,01.051 SURVEYOR CERTIFICATION CERTIFICATION ON CHIL 1 know on KICK OFF POINT NEW VEXICO EAST HAD 1993 Y=440919.87 US FT X=740444.59 US FT וא באי plat was plat $a \dot{q}$ 9 made to m 4 11111111111 de la N ISTER 15079 LAT N 32 2105265 LONG W 103 6895587 GRID 28 1 TOP PERF. NEW MDOCO EAST HAD 1983 T=441159.86 US FT X=740442.50 US FT Demal LAND BORESSIONAL GRID AZ = 107*18'1. 569.17' Signature and Professional Survey SURFACE LOCATION NEW MEXICO EAST NON 1923 7-441093.67 US FT X=739902.60 US FT LAT : N 32 2111862 DNG W 103 6895603 LAT N 32 2110131" ONC W 103 6913072 23/24/6 ems Certificator 1442 15079 18 17 424 WOJ 150928WL-c (Rev. A) (NA) ЯZ Released to Imaging: 2/11/2025 4:36:09 PM



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District I	M 88740		State	of New N	<i>Aexico</i>	ł –				Form C-102		
Phone: (375) 393-6161 Fax: (3 District II	75) 393-0720	Energy, Minerals & Natural Resources Department								Revised August 1, 2011		
B11 S. Farst St., Astonia, NM 8 Phone: (\$75) 748-1283 Fax: (2 District III	8210 575) 748-9720	OIL CONSERVATION DIVISION								District Office		
1000 Rio Brazos Road, Artec, Phone: (505) 334-6178 Fax: (5	NM 87410 (05) 334-6170	7100 1220 South St. Francis Dr.								Disaici Onice		
District IV 1220 S. St. Francis Dr., Sacas I	Te, NM 87505		Santa	re, NM	8/303					MENDED REPORT		
P2naae: (303) 476-9460 F82; (3	(1) * /0-1462								(A	-drilled)		
	V	VELL LOCATI	ON AND	ACREA	GE D	EDIC.	ATIO.	NPLAT				
	Number	Pool	Code	N	100	Vol	. · .	Pool Name	\			
SU-OLS-7	7042	16227		Property Marr	IW4	000	- 10	one spri	ing	12 all Mamber		
319616		MESA V.	ERDE –	17 <u>-8" 1</u>	- FEDER	AL C	юм (3s Unit		411-6H		
OGRID No.	1		0.000	Operator Nam						Elevation		
10070				USA II	NC.					3559.6		
UL or lat no. Section	Township	Ranee	Surta	ICE LOCAL	10D from the	North S	outh line	Feet from the	East/West lin	County		
0 17	24 SOUTH	32 EAST, N.	М. Р. М.		280'	SOL	TTH .	2624'	EAST	LEA		
······		Bottom Hol	le Locatio	on If Diff	erent F	From S	Surfac	e				
UL or lot no. Section	Township	Range	10 0 10	Lot Ida Feel	from the	North/S	outh line	Feet from the	East/West hit	County		
BB	24 SUUTH	32 EAST, N.	М. Р. М.		206'	NUR		` <u>دالدَّدَّ</u>	EAST	LEA		
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.	FTP:	647	FSL	うづい	"FEL				
320	<u> </u>		<u> </u>	LTP:	<u>437'</u>	FNL	228	O' FEL				
No allowable wi division.	ll be assigned to	this completion un	ntil all inter	ests have b	een cons	solidate	ed or a r	on-standard	unit has been	approved by the		
R	~ 1 0		206			Antone Production						
	8	<u> </u>	Second .	1290	9			0	PERATOR CER	TIFICATION		
BOTTOM HOLE LOC	ATION) hereby cert	ifs that the information	contrined herein is true and		
NAD 1983 Y=451133.45 US	ы п Ц							complete to	the best of my knowledge	e and bellef, and that this		
LAT.: N 32.2386								interest in th	e concer owner a working i e land including the tree	Autrali or Universit Inversit		
CONG.: W 103.093								bar a right a	and this well at this la	מולמת המרוגנים בי כל שנערדיום המוצות		
BOTTOM PERF	ST							भयंत्रे दन त्यन्त्र	er of such a mineral or v	enting interest, or to a		
NAD 1983	д —			· ······	<u> </u>			יכן קיגוביולטי	oling egreenent or a co	npulsary poolog order		
LAT.: N 32.2383	288° 3397	330						Acressione of	ceres by the division			
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						I		Jus	<u>hin_Morr</u>	is@oxy.com		
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			6.0			İ		[hanebu	CORY	ASochana an this		
TOP PERF.		[·		plas was	poned yron peter	Eler Kachual surveys		
NEW MEXICO EA NAD 1983	ST I.							same is t	пела изоветну su идага соттер 10	the best of an felice.		
X=738682.61 US	596 <i>GRID</i>	Z = 111*38'21"				1			Si (150	179		
LONG.: W 103.695	2507	474.43			K	CK OFF	POINT	Date of S	CRITEMBER	28, 20165		
				<u> </u>		NAD 19	BAST	Simatar		(AND)		
SURFACE LOCAT					X=7.	38684.70 N 32.2	i ŭš H 104999	Professio	nal Surveyor.SSI	JNAL -		
NEW MEXICO EA NAD 1983	ST	\checkmark			LONG.	<u>: W 103.</u>	6952486	.J	_	-		
Y≈441074.64 US X≈738243.71 US					F	<u> </u>		-1-1-	\cap	2 1.1.1.		
LONG .: W 103.696	6710		2674					de	ng [][l	sux 11/17/2016		
				210		r r		Certificat	e Numper	15079		
L	18 17	280	Quint?	184' 17	16				₩0 # 15	50928WL-0 (Rev. A) (KA)		
		647	100'									

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Dutrier I 1625 N. Franch Dr., Hobba, KM SE240 Photon: (573) 593-6161 Fast. (573) 593-0720 Diviting II 511 S. Farts S., Annesin, NAI 88210 Photo: (573) 748-1223 Fast. (575) 748-9720 Diviting III 1000 Rith Photos Road, Annor, NM 87410 Phone. (505) 334-6178 Fast. (505) 334-6170 Diviting IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone. (505) 475-3400 Fast. (505) 475-440 State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

M AMENDED REPORT (As-drilled)

			VELL LOCATI	<u>ON AND</u>	ACK	EAGE D.	EDICATIC	ON PLAT			
30-0;	_{مهر} ۲ - 22	Number 14065	96229	Code	Mesa Verde ¡Bare Spring						
Prope 319(erty Code 616		MESA V	ERDE –	Property	Well Number 311 7 H					
OGI	RID No.				Operator	Name	***************************************	<u> </u>		Elevation	
1669	6			OXY	' USA	1 INC.			3559.9'		
				Surfa	ace Lo	ocation					
UL or lot ao.	Section	Township	Range		Lot Idn	Feet from the	North/South line	e Feet from the	East/West line	County	
N	17	24 SOUTH	32 EAST, N.	М. Р. М.		280'	SOUTH	2626'	WEST	LEA	
		. <u></u>	Bottom Hol	e Locatio	on If I	Different H	From Surfa	ce			
UL or lot no.	Section	Township	Range		Lot Idn	Feet from the	North/South line	e Feet from the	East/West line	County	
С	8	24 SOUTH	32 EAST, N.	32 EAST, N.M.P.M.			NORTH	2/39	WEST	LEA	
Dedicated	i Acres	Joint or Infill	Consolidation Code	Order No.	FT	P: 453'	FSL	2209' FN	IL.		
320	r	y			LT	P: 369'	FNL	2144' FV	1L		

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



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HOBE	S OCD	
Destruct J 1623 N. French Dr., Hobbs, NM 88249	State of New Mexico	Form C-102
Proce (\$75) 393-6161 Far (\$75) 393-0720	Enclar Minerals & Natural Resources Dep	partment Revised August 1, 2011
411 S. Firp SL, Anosia, INI 11210 Manae, (373) 744-1243 Faz, (375) 748-9720 Derman 111	OIL CONSERVATION DIVISION	District Office
1000 Ren Branne Rosel, Astron, NM 87/10 Phone. (505) 334-6178 Fast (505) 334-6170	EIVED 1220 South St. Francis Dr.	
Departer IV 1200 S. St. Francis Dr., Sema Fe, NM \$7503	Sana re, IVM 87505	AMENDED REPORT
1355 (36) *103900 FM (360) */*9902	·	as drived
WEI	L LOCATION AND ACREAGE DEDICA	ATION PLAT
30-025-44559	96229 1000	Deule Bone Silving
Property Code	Property Name	IG LINIT Well Number
30828	MISSA VERDE BONE SPRIM	datt datt
Vial-S (a	OXY LISA INC	2568 2'
	Surface Location	0000.2
UL or lot ao. Section Township	Range Lot Idn Feet from the North/Sou	uth line Feet from the East/West line County
M 16 24 SOUTH	32 EAST, N.M.P.M. 250' SOUT	TH 1285' WEST LEA
	Bottom Hole Location If Different From St	urface
C 9 24 SOUTH	Reage Lot Idn Feet from the North Sou 32 FAST NIMPM	nut 252 West line County
320	P/FIP: 326/FS	TAIL 2152 FUL
No allowable will be assigned to this	s completion until all interests have been consolidated	I or a non-standard unit has been approved by the
division.	144	· · · · · · · · · · · · · · · · · · ·
8		
25		
	BOTTOM MOLE LOCATION	Thereby carry can be best of my boundation carbatines herein a pole and carbatery to the best of my boundative and balled and bad this
	Y=451225.65 US FT	organization either owner a working bettrast or salwand minoral
	LAT.: N 32.2388119' LONG.: W 103.6810876'	incorrect in the kenel socialing the proposed bactors have bactlan or
		That a right to Arill this well as this location purposes to a constant
	NEW MEXICO EAST	with an energy of such a material or warfally antirest, or to a valuatory poolses arreases or a computery poolses order
	¥=4\$13655.69 US FT	Assessfor Apone by the during in 1
	LONG.: W 103.681087	Caleonor Malis
		LESLIE REEVES
		LESUE_REEVES@OXY. COM
8 9	B 10	E-mail Address
	SURFACE LOCATION	SURVEYOR PERTIFICATION
	NAD 1983	And REPAIR STATE
	X=742152.66 US FT	plat was plotted from which notes of a nucl surveys
	CPID 47 = 101*52*10*	some is guesn't correct to the bort of hybrid;
	936.13	Harris Anna S
	TOP PERF.	Date of Subject of
		Signance and Sea OF SSIONAL A
	LAT:: N 32.2112055 LONG: W 103.6610748	Professional Surveyee
	NEW MEXICO EAST	Town All History
200		Certificary Nyaber 15079
17 1285		W14 170703Wi Acas
Changes and the second se	61	

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Distorts 1 1625 N. French De, Hobbis, NM 82740 Phane. (373) 393-61661 Faz. (575) 393-0720 Dentric II, 811 S. First SL. Artecki, NM 82210 Phone. (573) 748-1520 Paz. (373) 748-5720 Dettric III 1600 Rio Brason Road, Actor, NM 87410 Phone. (503) 334-6178 Faz. (505) 334-6170 <u>Dettric III</u> 1520 S. St. Francis Dr., Sarto Fe, NM 87505 Phone. (502) 416-3460 Faz. (505) 476-3462	HOBBS State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION B 20 1220 South St. Francis Dr. Santa Fe, NM 87505 RECEI	OCD Form C-102 Revised August 1, 2011 2019 Submit one copy to appropriate District Office VED AMENDED REPORT AS-DRIUCID
A Printer and	VELL LOCATION AND ACREAGE DEDICATION I	PLAT
30-025-44500	96229 Mesallerd	e Bone Spring
Property Code	MESA VEPNE BONE SPRING	UNIT 224
0GR/D No	Operator Name	Elevation
16696	OXY USA INC.	3568.2'
UL or lot po Section Township	Surface Location	t from the East/West line County
M 16 24 SOUTH	32 EAST, N.M.P.M. 250' SOUTH	1255' WEST LEA
L	Bottom Hole Location If Different From Surface	I
UL or lot po. Section Township	Range Lot Ida Feet from the North/South line Fee	t from the East/West line County
D 9 24 SOUTH	32 EAST, N.M.P.M.	201 WEST LEA
	Consolidation Code Order No TP/FTP: 161'FSL 1	279 FWL
No allowable will be assigned	o this completion until all interests have been consolidated or a non-	standard unit has been approved by the
division.		
8 30	21.	OPERATOR CERTIFICATION
124		I handy partify that the information constand hereis is one and
	NEW MEXICO EAST NEW MEXICO EAST	complete to the best of my burnledge and belief, and that the
		organization exter owns a working inserved or subsecond mineral
	LONC.: W 103.6841276	laterat in the land including the proposed bottom hale location or "has a right to drift this well at this location permansi to a controct
	BOTTOM PEAF.	with an owner of such a minoral or working instruct. Or to a
		volunary pooling ogreeness or a compulsory pooling order
	4 60 X=742063.02 US F1 4 CAL LAT.: N 32.2383677 LAT.: N 103.6641276	Jarlin Dry 10- 11/19/18
		Support
IECT CINC		LESLIE REEVES
		LESUE-REEVES OXX.COM
8 3ª	9 10	E-muil Address
	SURFACE LOCATION	SURVEYOR CERTIFICATION
	ST 0 NEW MEXICO EAST NAD 1983 SK 1 Y=441084.94 ⊔S FT	I hereby corner this the well includes how a on this
┣━ ━━╷━━ ━-{ ┣━	21 6 X=742122.66 US FT 1 4 LVT.: N 32.2109525'	plat was pifered from Retaining School surveys made by the any supervising and that the
		same is not and correct to the war of my thering.
	NEW MEXICO EAST NAD 1983	TUNE 27, 2017
	Since 1 x=742126.83 US Ft	Date of Stories
	$\begin{bmatrix} 0 & 1 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	Professional Surveyor SSIONAL
	200.05	
		or Malala
E la	14 AV X=312934 88 US FF	Cartificate Mughar 15070
17 122	101 161 LONG: W 103.6841135	WD# 170627WI = 6 (MA)
Channes	250' 89'	

.

District 1 1833 N Franch Dr., Hobbn, NM 88240 Proces. (371) 303-6161 Fax (372) 383-6720 District 1 711 S. Frant S., Artusia, NM 88210 Proces. (473) 744-1233 Fax. (373) 744-9720 District 11 1000 Pas Branna Rand, Asta, NM 87410 Proces. (303) 334-6173 Fax. (303) 334-6170 District 11 1220 S. S. Frances Dr., Sana Fa, NM 87505 Prane (303) 476-3469 Fax. (303) 476-3460 W API Number 30-025-4456	State of Energy, Minerals & Na OIL CONSER 1220 Sout 1220 Sout Santa F <u>/ELL LOCATION AND A</u> Pool Code 9 & 229	f New Mexico atural Resource VATION DIV th St. Francis Fe, NM 87505 A <u>CREAGE D</u>	HOB ces Department /ISION FEB Dr. REC EDICATION Ae<, \\ev	3S OCD at Subn 2 0 2019 EIVED <i>Pool Neme</i> - Le ISone	Revised nit one copy AS AS Source	Form C-102 August 1, 2011 to appropriate District Office DED REPORT -DRIUSO
Property Code	MSCILLICENC	ANG SD	PINGIN	117	H	ell Number
OGRID No	MICONVOLUC 07	perator Name	KINU VI			- III Elevation
16696	OXY	USA INC.			38	5 <i>69.3</i> '
UL or lat no Section Township	Surfac Range L	e Location	North/South line F	eet from the En	st/West line	County
M 16 24 SOUTH	32 EAST, N.M.P.M.	250'	SOUTH	1225'	WEST	LEA
······	Bottom Hole Location	If Different I	From Surface	······································		
UL or lat no Section Township D 9 24 SOUTH	Range Li 32 EAST. N.M.P.M.	ot Ida Feet from the	North/South line F NORTH	cet from the East	n/West line WEST	County I.E.A
Dedicated Acres Joint or Infill	Consolidation Code Order No	TD/GEOR Hal				
320 4	é	PLIP: 15	D FSL DI	37N'FW	L	
No allowable will be assigned to	this completion until all interest	ts have been con	solidated or a no	n-standard unit b	as been appr	oved by the
<u>aivision</u> .						
373 373		9 10		OPERAT	OR CERTIFICA	TION
	BOTTON HOLE LOCATION			I have by carefy that the	a di farmana annuna	herein is low and
	NAD 1983			complete to the best of a	ny kaondadys and bell u o workey saterest or	g, and that this welawat mineral
	LAT.: N 32 2388036 LONG.: W 103 6867798			harmen in she hard inch	inting the proposed bot	tom hale location or
				New a right to drift blue	well at this location pu	rimal D a contract
	NEW MEXICO EAST			sobatry pooling agree	anau or e asspubury	pooling order
233.80 ⁻ IV ALL	1 Y=451051.08 US FT X=74123.04 US FT LAT: N 32.2383637* LONG.: w 10.3 6867796* LONG.: w 10.3 6867796*		 	LESL	Dout E REE	<u>- "/19/18</u> EVES
100			1	E-and Address	- RZEV	<u>esean</u> .qm
		<u> </u>			· · · · · · · · · · · · · · · · · · ·	
	TOP PERF NEW MEXICO EAST NEW MEXICO EAST Y=41158.81 US FT LAT: N 32 2111951' LONG. W 103.6867652 KICK OFF POINT NEW MEXICO EAST NON 1983 Y=440978 31 US FT LAT: N 32 210380' LONG: W 103.6867648 UAT: N 03.22103860' LONG: W 103.6867648 GRID AZ = 255*14'58" BIO.55'			SUR VEYO I hereby certify at play was plated made by me play some is investid of Date of Subvey Signature and Se Professional Sur	RY JA RY JA (15079) (15079) (E 27 201 (15079)	Con Stipholog on this partial porces of an style ite of any stelling by the the the the the the the the
637-11/25/ 17 500	SURFACE LOCATION NEW MENCO EAST NAD 1983 Y=712082 66 US FT LAT: N 32 2109523 LONG W 103 6842266			Contract you	Usel 2 wog 170	8/11/2017 15079 0627WL-0 (M)

1625 N. French Dr., Hobbs. NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 <u>District III</u> 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 <u>District IV</u> 1220 S. St. Francis Dr. Santa Fe, NM 87505

1220 S. St. Francis Dr,. Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462 State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION AS-DRILLED PLAT

1	API Number	r		² Pool Code	e		³ Pool Nar	ne			
30-0)25-488	314		96229)	³ Pool Name <u>MESA VERDE; BONE SPRING</u> Property Name <u>VERDE BS UNIT</u> ⁸ Operator Name <u>KY USA INC.</u> ⁹ Elevation <u>3573'</u> Surface Location					
⁴ Property C	ode				Property N	Jame			⁶ Well Number		
32082	.8			Μ	ESA VERD	E BS UNIT				44H	
⁷ OGRID N	⁷ OGRID No. ⁸ Operator Name								5	' Elevation	
16696 OXY USA INC.										3573'	
	¹⁰ Surface Location										
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/V	West line	County	
М	16	24S	32E		635	SOUTH	1140	WES	ST	LEA	
11			11 Be	ottom Hol	le Location If	Different From S	Surface				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/V	West line	County	
D	9	24S	32E		46	NORTH	450	WES	ST	LEA	
¹² Dedicated Acres	¹³ Joint or	Infill 14	Consolidation (Code ¹⁵ Or	der No.						
640.0											

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



Distances/areas relative to NAD 83 Combined Scale Factor: 0.9990013 Convergence Angle: 0.68792778

1625 N. French Dr., Hobbs. NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV

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AMENDED REPORT

District Office

WELL LOCATION AND ACREAGE DEDICATION AS-DRILLED PLAT

API Number ² Pool Code ³ Pool Name										
30-0	025-488	15		96229	1	MES	A VERDE; B	ONE SE	PRINC	Ĵ
⁴ Property Code Property Name							⁶ Well Nu			
32082	.8			М	IESA VERD	E BS UNIT			45H	
⁷ OGRID N	No.				⁸ Operator N	lame			9	Elevation
1669	6				OXY USA	A INC.				3572'
	¹⁰ Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/V	West line	County
М	16	24S	32E		635	SOUTH	1175	WES	ST	LEA
11			11 B	ottom Hol	le Location If	Different From S	Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/V	West line	County
C	9	24S	32E		49	NORTH	1349	WES	ST	LEA
¹² Dedicated Acres	¹³ Joint or	Infill ¹⁴	Consolidation (Code ¹⁵ Or	der No.					
640.0										

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Distances/areas relative to NAD 83 Combined Scale Factor: 0.9990013 Convergence Angle: 0.68792778

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AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION AS-DRILLED PLAT

1	API Number	r		² Pool Code	e		³ Pool Nar	ne			
30-0)25-488	16		96229)	MESA	A VERDE; B	SONE SRE	PING		
⁴ Property C	ode				Property N	lame			⁶ Well Number		
32082	.8			Μ	IESA VERDI	E BS UNIT			46H		
⁷ OGRID No. ⁸ Operator Name									⁹ Elevation		
16696 OXY USA INC.								3573'			
	¹⁰ Surface Location										
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/Wes	st line County		
М	16	24S	32E		635	SOUTH	1210	WEST	LEA		
11			11 B	ottom Hol	le Location If I	Different From S	Surface				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/Wes	st line County		
C	9	24S	32E		44	NORTH	2301	WEST	LEA		
¹² Dedicated Acres	¹³ Joint or	Infill ¹⁴	Consolidation (Code ¹⁵ Or	der No.						
640.0											

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Distances/areas relative to NAD 83 Combined Scale Factor: 0.9990013 Convergence Angle: 0.68792778

PLANNED HSU

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 <u>District II</u> 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

□ AMENDED REPORT

	WELL LOCATION AND ACREAGE DEDICATION PLAT											
30-025- 96229				N	IESA \	/ERDE;	Pool Name BONE	SPR	RING			
Prope 320828	Property Code 20828 MESA VI				MESA VE	Property CRDE	Name BS UNI	T			и	Vell Number 73H
1669	IRID No. Operator Name Ele OXY USA INC. 356						Elevation 568.0'					
					Surfa	ace Lo	ocation					
UL or lot no.	Section	Township		Rang	е	Lot Idn	Feet from the	North/South line	Feet from the	East/We	est line	County
М	16	24 SOUTH	32	EAST,	N. M. P. M.		250'	SOUTH	500'	WES	T	LEA
			Bo	ttom H	lole Locatio	on If I	Different H	From Surfac	е			
UL or lot no.	Section	Township		Rang	е	Lot Idn	Feet from the	North/South line	Feet from the	East/We	est line	County
D	9	24 SOUTH	32	EAST,	N. M. P. M.		20'	NORTH	380'	WES	T	LEA
^{Dedicated} 320	Acres	Joint or Infill	Consolida	ation Code	Order No.			•				

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



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PLANNED HSU

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 <u>District II</u> 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462 State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

□ AMENDED REPORT

	WELL LOCATION AND ACREAGE DEDICATION PLAT										
API Number 96229					N	IESA V	VERDE	; BONE	E SP	RINC	G
Prope 320828	roperty Code 8 MESA VI					Property Name PRDE BS UNIT					Vell Number 74H
166 ^{0Gk}	RID No. 6			OXY	Operator USA	Name A INC.				3:	Elevation 568.2'
				Surfa	ace Lo	ocation					
UL or lot no.	Section	Township	Rang	ge	Lot Idn	Feet from the	North/South line	Feet from the	East/We	est line	County
М	16	24 SOUTH	32 EAST,	N. M. P. M.		250'	SOUTH	535'	WES	ST	LEA
			Bottom H	Iole Locatio	on If l	Different H	From Surfac	e			
UL or lot no.	Section	Township	Rang	ge	Lot Idn	Feet from the	North/South line	Feet from the	East/W	est line	County
С	9	24 SOUTH	UTH 32 EAST, N.M.P.M.			20'	NORTH	1700'	WEST		LEA
^{Dedicated} 320	l Acres	Joint or Infill	Consolidation Cod	e Order No.							

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

	20		
8 9 1700	· [200'	9 10	OPERATOR CERTIFICATION
	BOTTOM HOL NEW MEX NAD Y=451381 X=742501 LAT.: N 32 LONG.: W 10	E LOCATION ICO EAST 1983 .76 US FT .08 US FT 2.2392494* 2.33.6827045*	I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or
			has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a
	NAD Y=451301 X=742501 LAT:: N 32 LONG:: W 11 LAT:: N 32 LONG:: W 11	ICO EAST 1983	voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Lucar 12/16/19
	10493.42		Signature Date LESLIE REEVES Printed Name LESLIE_REEVES@OXY.COM
<u> </u>		9 10 16 15	E-mail Address
	64 12.2.5 12.2.5 12.5.5 12	LOCATION LOCATION ICO EAST 1983 .08 US FT .2109483' 03.6864575' <i>99°16'44"</i> <i>1.56'</i> KE POINT ICO EAST 1983 3.57 US FT 2.2105427' 03.6826911'	SURVEYOR CERTIFICATION I hereby certify that the well toodian shown on this plat was plotted from field notes of actual surveys made by me of under by supervision, and that the same is the and correct to the best of my belief. <u>IUNE 26, 2019</u> Date of Survey Signature and Seat of SIONAL Professional Surveyor:
	KICK OF NEW MED Y=440888 X=742565 LAT.: N 3: LONG:: W 1	F POINT (ICO EAST 1983 1.57 US FT 1.79 US FT 2.2104053* 0.3.6826910*	Serry Asil 1/10/2019 Certificate Number 15079
17 16		16 15	WO# 190626WL−а (КА)

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Side 1

OPERATOR: OXY USA INC

WELL NAME	E & NUMBER: <u>M</u>	ESA VERDE BONE SPRING UN	NIT 1H	API 30-025-4	4101			
WELL LOCA	TION: <u>271' FSL</u>	245' FEL	Р	17	24S	32E		
	FOOT	AGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE		
	<u>WELLBORE SC</u>	<u>HEMATIC</u>		<u>WELL Co</u> Surface	ONSTRUCTION DAT Casing	<u>A</u>		
	Wellbore Hole OD-17,5000		Hole Size: <u>17.5</u> "		Casing Size: <u>13-3/</u>	8"		
	13 378" CSA 949' CMT CIRC TO SURFACE		Cemented with: <u>12</u>	64 sx.	or	ft ³		
	TOC @ 4000'		Top of Cement: <u>SL</u>	JRFACE	Method Determined	L: CIRC		
				<u>Intermedia</u>	te Casing			
			Hole Size: <u>12.25</u> "		Casing Size: <u>9-5/8</u>	"		
			Cemented with: <u>59</u>	05 sx.	<i>or</i> ft ³			
			Top of Cement: <u>19</u>	85'	Method Determined: CA			
	Wellbore Hole OD-17.5000 13 3/8" CSA 949" CMT CIRC TO SURFACE TOC @ 4000"			Production Casing				
			Hole Size: <u>6.75</u> "		Casing Size: 5.5"			
	Wellbore Hole OD- 12.250 9 5/8" CSG Window from 6986 Circ Cmt to Surface	- 7003"	Cemented with: <u>26</u>	21 sx.	or	ft ³		
			Top of Cement: 40	00'	Method Determined	l: CBL		
	2 7/8" Tbg PKR SA 9000'	Wellbore Hole OD- 8.500 5 1/2" 23# HCP-110 to 19,350" TOC @ 4000'	Total Depth: 19,35	0' MD/9290' TVD				
				<u>Injection</u>	Interval			
			9451' MD/924	7' TVD fee	t to <u>19,251' MD/9</u>	290' TVD		
				(Perforated or Open H	lole; indicate which)			

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Side 2

	PERF
Tubi	ng Size: 2-7/8" Lining Material:
Туре	e of Packer: ARROWSET PACKER 5.5"
Pack	ker Setting Depth: 9065' MD/8970' TVD
Othe	er Type of Tubing/Casing Seal (if applicable):
	Additional Data
1.	Is this a new well drilled for injection?Yes XNo
	If no, for what purpose was the well originally drilled?
2.	Name of the Injection Formation: AVALON
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNO
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
	WOLFCAMP 12150' MD

Side 1

RATOR: Oxy USA								
L NAME & NUMBER: Mesa Verde BS Unit #2H	A	PI 30-025-44196	3					
L LOCATION: SWSE/240 FSL / 1614 FEL FOOTAGE LOCATION	0 UNIT LETTER	17 SECTION	T24S TOWNSHIP	R32E RANGE				
<u>WELLBORE SCHEMATIC</u>		<u>WELL C</u> Surface	CONSTRUCTION DAT Casing	<u>[]4</u>				
17 1/2" Hole	Hole Size: 17.5"		Casing Size: 13.375					
Circ Cmt to Surface	Cemented with: <u>1202</u>	SX.	or	f				
	Top of Cement: Surfac	20	Method Determine	d: Circulated				
		Intermediate Casing						
	Hole Size: <u>9.875</u> "		Casing Size: 7.625"					
	Cemented with: 2624	SX.	or	f				
	Top of Cement: Surfac	e	Method Determine	d: Circulated				
		Productio	on Casing					
	Hole Size: <u>6.75</u> "		Casing Size: 5.5"					
2.875" Tbg	Cemented with: <u>846</u>	SX.	0r	fi				
9 7/8" Hole 7 5/8" CSA 11095'	Top of Cement: 10,500)'	Method Determine	d: Calc				
Circ Cmt to Surface 5 1/2" 20# P110 DQX CSA 22082' MD	Total Depth: 22,082		Total Vertical De	pth: <u>11,860'</u>				
		Injection	Interval MD/TVD					
	12,165'MD /1 1,817' T	VDfee	et to 21,915' MD / 11,86	0' TVD				

(Perforated or Open Hole; indicate which)

.

Side 2

.

INJECTION WELL DATA SHEET

Tub	Ding Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)
Туј	pe of Packer: 2.875" x 5.5" Nickle Coated (proposed)
Pac	eker Setting Depth: 11,500' MD / 11,593 TVD (proposed) (MD/TVD)
Otł	ner Type of Tubing/Casing Seal (if applicable): <u>NA</u>
	Additional Data
1.	Is this a new well drilled for injection?Yes _XNo
	If no, for what purpose was the well originally drilled? Oil and Gas production
2.	Name of the Injection Formation: 3RD BONE SPRING SAND
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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
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 6850' MD
	UNDERLYING: WOLFCAMP 12150' MD

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OPERATOR: 0	Oxy USA
-------------	---------

Side 1

WELL NAME	& NUMBER: _	Mesa Verde BS Unit #3H	A	PI 30-025-44183				
WELL LOCA	TION: <u>240 FSL / 164</u>	44 FEL	0	17	T24S	R32E		
	FOOT	AGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE		
	<u>WELLBORE SC</u>	<u>HEMATIC</u>		<u>WELL CO</u> Surface C	<u>NSTRUCTION DA1</u> Casing	<u>'A</u>		
	Vellbore Hole OD-17 5000		Hole Size: <u>17.5</u> "		Casing Size: 13.375			
	13 3/8" CSA 964' CMT CIRC TO SURFACE		Cemented with: 1220	SX.	or	ft ³		
			Top of Cement: Surface	ce	Method Determined	1: Circulated		
				Intermediat	e Casing			
			Hole Size: <u>9.875</u> "		Casing Size: 7.625"			
			Cemented with: 2399	SX.	or	ft ³		
	TOC @ 7000'		Top of Cement: Surface	ce	Method Determined	1: Circulated		
			Production Casing					
			Hole Size: 6.75"		Casing Size: 5.5"			
			Cemented with: 826	SX.	or	ft ³		
	Velibore Hole UD- 3.875 7 578" CSA 8600" Cmt circ to surface		Top of Cement: 7000'		Method Determined	1: Calc		
	2 7/8" Tbg PKR SA 8800'	Wellbore Hole OD- 6.7500 5 1/2'' 20# P-110 DQX @19,305' TOC @ 7000'	Total Depth: <u>19,305</u> '		Total Vertical Dep	oth: 9,125'		
$\langle \mathbf{x}_{\mathbf{z}} \rangle$				Injection I	nterval MD/TVD			
			9,252' MD / 9,075' TVI	Dfeet	to_19,155' MD / 9,125'	TVD		
				(Perforated or Open Hole; indicate which)				

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Side 2

.

INJECTION WELL DATA SHEET

Tub	ing Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)
Typ	be of Packer: 2.875" x 5.5" Nickle Coated (proposed)
Pac	ker Setting Depth: 8,800' MD / 8,750' TVD (proposed) (MD/TVD)
Oth	er Type of Tubing/Casing Seal (if applicable): <u>NA</u>
	Additional Data
1.	Is this a new well drilled for injection?Yes _XNo
	If no, for what purpose was the well originally drilled? Oil and Gas production
2.	Name of the Injection Formation: AVALON
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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
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 6850' MD
	UNDERLYING: WOLFCAMP 12150' MD

Side 1

Page 36 of 88

PERATOR: Oxy USA	A					
'ELL NAME & NU	MBER: Mesa Verde BS Unit #4H		30-025-44064			
ELL LOCATION:	280 FSL / 965 FEL	0	17	T24S	R32E	
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE	
<u>WEL</u>	<u>LBORE SCHEMATIC</u>		<u>WELL CONSTRUCTION DATA</u> Surface Casing			
17 1/2' 13 3/8'	" Hole " CSA 952"	Hole Size: <u>17.5</u> "		Casing Size: 13.375"		
Circ Cr	Circ Cmt to Surface	Cemented with: <u>1712</u>	SX.	or	ft ³	
		Top of Cement: Surface		Method Determined	Circulated	
			Intermediate Casing			
12 1/4' 9 5/8" TOC 14	" Hole CSA 4735' 450', Calc	Hole Size: <u>12.25</u> "		Casing Size: 9.625"		
		Cemented with: 2060	SX.	0r	ft ³	
		Top of Cement: <u>1450</u>		Method Determined	Calc	
			Production Casing			
		Hole Size: <u>8.5</u> "	Hole Size: <u>8.5</u> "		Casing Size: 5.5"	
		Cemented with: <u>3050</u>	SX.	or	ft ³	
2.875" 2.7/8" 5.1/2"	'Tbg x 5 1/2" PSA 10,200' 20# P110 DQX CSA 20532' MD	Top of Cement: Surface		Method Determined	Calc	
TOC at	t Surface, Calc	Total Depth: 20,490'		Total Vertical Dep	th: <u>10,446</u>	
			Injection I	nterval MD/TVD		
		10,483' MD / 10,350' TV	Dfeet	to 20,385' MD / 10,447'	TVD	

(Perforated or Open Hole; indicate which)
.

Tub	ing Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)			
Typ	be of Packer: 2.875" x 5.5" Nickle Coated (proposed)			
Pac	ker Setting Depth: 10,200' MD / 10,200' TVD (proposed) (MD/TVD)			
Oth	er Type of Tubing/Casing Seal (if applicable): <u>NA</u>			
	Additional Data			
1.	Is this a new well drilled for injection?Yes _XNo			
	If no, for what purpose was the well originally drilled? Oil and Gas production			
2.	Name of the Injection Formation: 2ND BONE SPRING SAND			
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNo			
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 6850' MD			
	UNDERLYING: WOLFCAMP 12150' MD			

Side 1

INJECTION WELL DATA SHEET

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OPERATOR: Oxy	USA				
WELL NAME & 1	NUMBER: Mesa Verde BS Unit #5H	API	30-025-44185		
WELL LOCATIO	N: 280 FSL / 995 FEL	p	17	T24S	R32E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
<u> </u>	<u>VELLBORE SCHEMATIC</u>		<u>WELL CO</u> Surface C	<u>DNSTRUCTION DAT.</u> Casing	<u>4</u>
17 1/2	2" Hole /8" CSA 995'	Hole Size: <u>17.5</u> "		Casing Size: 13.375"	
Circ	Cmt to Surface	Cemented with: <u>1245</u>	SX.	or	ft ³
		Top of Cement: Surface		Method Determined	: Circulated
			Intermediate	e Casing	
12 1/4 9 5/8 Circ	4" Hole 8" CSA 4694' : Cmt to Surface	Hole Size: <u>12.25</u> "		Casing Size: 9.625"	
		Cemented with: 1290	SX.	0r	ft ³
		Top of Cement: Surface		Method Determined	: Circulated
			Production	Casing	
		Hole Size: <u>8.5</u> "		Casing Size: 5.5"	
		Cemented with: 2895	SX.	or	ft ³
2,875 2,778 5,11/2	'5'' Tbg 8'' x5 #2'' PSA 10,200' 2'' 20# P110 DQX CSA 20490' MD D 204 2772'	Top of Cement: <u>1273</u>		Method Determined	: Echo Meter
		Total Depth: 20,505		Total Vertical Dep	th: <u>10,449'</u>
			Injection I	nterval MD/TVD	
		10,441' MD / 10,342' TVD	feet	to_20,343' MD / 10,449	TVD

(Perforated or Open Hole; indicate which)

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Tub	Ding Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)				
Туј	pe of Packer: 2.875" x 5.5" Nickle Coated (proposed)				
Pac	exer Setting Depth: 10,200' MD / 10,200' TVD (proposed) (MD/TVD)				
Otł	her Type of Tubing/Casing Seal (if applicable): <u>NA</u>				
	Additional Data				
1.	Is this a new well drilled for injection?Yes _XNo				
	If no, for what purpose was the well originally drilled? Oil and Gas production				
2.	Name of the Injection Formation: 2ND BONE SPRING SAND				
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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				
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 6850' MD				
	UNDERLYING: WOLFCAMP 12150' MD				

Side 1

ELL NAME & NUMBER: Mesa Verde BS Unit #6H		API 30-025-44042	2		
ELL LOCATION: 280 FSL/2624 FEL	0	17	T24S	R32E	
FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE	
<u>WELLBORE SCHEMATIC</u>		<u>WELL C</u> Surface	<u>ONSTRUCTION DAT</u> Casing	<u> </u>	
17 1/2" Hole 13 3/8" CSA 960' Circ Cmt to Surface	Hole Size: <u>17.5</u> "		Casing Size: 13.375		
	Cemented with: 1240	SX.	or	ft	
	Top of Cement: Surfa	ace	Method Determined	1: Circulated	
		Intermediate Casing			
12 1/4" Hole 9 5/8" CSA 4733" Circ Cmt to Surface	Hole Size: 12.25"		Casing Size: 9.625"		
	Cemented with: 1300	SX.	or	ft	
	Top of Cement: Surfa	ace	Method Determined	1: Circulated	
		Productio	n Casing		
	Hole Size: 8.5"		Casing Size: 5.5"		
0.075 The	Cemented with: 2970	0sx.	or	ft	
2.7/8" x 5 1/2" PSA 10,100' 5 1/2" 20# P110 DQX CSA 20,444' MD TOC @ 1313'	Top of Cement: <u>1312</u>		Method Determined	1: Echo Meter	
	Total Depth: <u>20,444</u>		Total Vertical De	pth: <u>10,411'</u>	
		Injection	Interval MD/TVD		
			t to 20 224' MD / 10 000	חעד יו	

(Perforated or Open Hole; indicate which)

.

Tuł	Ding Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)				
Tyj	pe of Packer: 2.875" x 5.5" Nickle Coated (proposed)				
Pac	exer Setting Depth: 10,200' MD / 10,100' TVD (proposed) (MD/TVD)				
Otł	ner Type of Tubing/Casing Seal (if applicable): <u>NA</u>				
	Additional Data				
1.	Is this a new well drilled for injection?Yes _XNo				
	If no, for what purpose was the well originally drilled? Oil and Gas production				
2.	Name of the Injection Formation: 2ND BONE SPRING SAND				
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNo				
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 6850' MD				
	UNDERLYING: WOLFCAMP 12150' MD				

Side 1

OPERATOR: Oxy USA API 30-025-44065 Mesa Verde BS Unit #7H WELL NAME & NUMBER: WELL LOCATION: 280 FSL / 2626 FWL 17 T24S R32E Ν UNIT LETTER FOOTAGE LOCATION SECTION TOWNSHIP RANGE WELLBORE SCHEMATIC WELL CONSTRUCTION DATA Surface Casing Hole Size: 17.5" Casing Size: 13.375" 17 1/2" Hole 13 3/8" CSA 955' Circ Cmt to Surface Cemented with: 1240 sx. or ft³ Top of Cement: Surface Method Determined: Circulated Intermediate Casing 12 1/4" Hole Hole Size: 12.25" Casing Size: 9.625" 9 5/8" CSA 4742' Circ Cmt to Surface or ft³ Cemented with: 1300 sx. Top of Cement: Surface Method Determined: Circulated Production Casing Hole Size: 8.5" Casing Size: 5.5" or Cemented with: 2965 ft³ SX. 2.875" Tbg 2 7/8" x 5 1/2" PSA 10,200' Top of Cement: 12' Method Determined: Echo Meter 5 1/2" 20# P110 DQX CSA 20,531' MD TOC @ 12 Total Vertical Depth: 10,429 Total Depth: 20,531' Injection Interval MD/TVD feet to 20,371' MD / 10,428' TVD 10,619 MD / 10,364' TVD

(Perforated or Open Hole; indicate which)

.

Tub	ing Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)				
Typ	be of Packer: 2.875" x 5.5" Nickle Coated (proposed)				
Pac	ker Setting Depth: 10,200' MD / 10,100' TVD (proposed) (MD/TVD)				
Oth	er Type of Tubing/Casing Seal (if applicable): <u>NA</u>				
	Additional Data				
1.	Is this a new well drilled for injection?Yes _XNo				
	If no, for what purpose was the well originally drilled? Oil and Gas production				
2.	Name of the Injection Formation: 2ND BONE SPRING SAND				
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNo				
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 6850' MD				
	UNDERLYING: WOLFCAMP 12150' MD				

Side 1

INJECTION WELL DATA SHEET

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OPERATOR: Oxy USA						
WELL NAME & NUMB	ER: Mesa Verde BS Unit #22H	API	30-025-44559			
WELL LOCATION: 250 F	FSL / 1285 FWL	Μ	16	T24S	R32E	
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE	
<u>WELLBO</u>	<u>PRE SCHEMATIC</u>		<u>WELL C</u> Surface	<u>ONSTRUCTION DAT</u> Casing	<u>[] [] [] [] [] [] [] [] [] [] [] [] [] [</u>	
17.40% Hele		Hole Size: <u>17.5</u> "		Casing Size: 13.375	n	
13 3/8" CSA 990' Circ Cmt to Surfac	e	Cemented with: 1254	SX.	or	ft ³	
		Top of Cement: Surface		Method Determine	d: Circulated	
			Intermediate Casing			
12 1/4" Hole 9 5/8" CSA 4721'		Hole Size: <u>12.25</u> "		Casing Size: 9.625"		
Circ Cmt to Surfac	e	Cemented with: 1565	SX.	or	ft ³	
		Top of Cement: Surface		Method Determine	d: Circulated	
			Production	n Casing		
		Hole Size: <u>8.5</u> "		Casing Size: 5.5"		
		Cemented with: 2980	SX.	or	ft ³	
		Top of Cement: <u>1547</u>		Method Determine	d: <u>CBL</u>	
2.875" Tbg 2 7/8" x 5 1/2" PS, 5 1/2" 20# P110 D	A 10,000' QX CSA 20805' MD	Total Depth: 20,805		Total Vertical De	pth: <u>10,522'</u>	
TOC @ 1547			Injection	Interval MD/TVD		
		10,616 MD / 10,425 TVD	fee	t to 20,668' MD / 10,52	0' TVD	
		(Per	forated or Open H	lole; indicate which)		

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Tub	Ding Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)				
Туţ	De of Packer: 2.875" x 5.5" Nickle Coated (proposed)				
Pac	exer Setting Depth: 10,000' MD / 9,941' TVD (proposed) (MD/TVD)				
Oth	her Type of Tubing/Casing Seal (if applicable): <u>NA</u>				
	Additional Data				
1.	Is this a new well drilled for injection?Yes _XNo				
	If no, for what purpose was the well originally drilled? Oil and Gas production				
2.	Name of the Injection Formation: 2ND BONE SPRING SAND				
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNo				
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 6850' MD				
	UNDERLYING: WOLFCAMP 12150' MD				

Side 1

INJECTION WELL DATA SHEET

OPERATOR:	Oxy USA				
WELL NAME	& NUMBER: Mesa Verde BS Unit #23H	AF	PI 30-025-44560		
WELL LOCAT	FION: 250 FSL / 1255 FWL FOOTAGE LOCATION	M UNIT LETTER	16 SECTION	T24S TOWNSHIP	R32E RANGE
	<u>WELLBORE SCHEMATIC</u>		<u>WELL CO</u> Surface C	NSTRUCTION DAT Casing	<u>A</u>
	17 1/2" Hole	Hole Size: <u>17.5</u> "		Casing Size: 13.375"	
	13 3/8" CSA 1000' Circ Cmt to Surface	Cemented with: 1254	SX.	or	ft ³
		Top of Cement: Surface		Method Determined	: Circulated
			Intermediate Casing		
	12 1/4" Hole 9 5/8" CSA 4742' Circ Cmt to Surface	Hole Size: <u>12.25</u> "		Casing Size: 9.625"	
		Cemented with: 1705	SX.	or	ft ³
		Top of Cement: Surface		Method Determined	: Circulated
			Production	Casing	
		Hole Size: 8.5"		Casing Size: 5.5"	
		Cemented with: 2965	SX.	or	ft ³
	2.875" Tbg 2 7/8" x 5 1/2" PSA 10,500' 5 1/2" 20# P110 DQX CSA 21115' MD	Top of Cement: <u>330</u> '		Method Determined	: Echometer
	TOC @ 330'	Total Depth: 21,115		Total Vertical Dep	oth: 10,812'
			Injection I	nterval MD/TVD	
		10,648 MD / 10,630' TVE	<u>feet</u>	to 21,002' MD / 10,809	' TVD

(Perforated or Open Hole; indicate which)

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Tub	Ding Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)
Туţ	De of Packer: 2.875" x 5.5" Nickle Coated (proposed)
Pac	ker Setting Depth: 10,500' MD / 10,482' TVD (proposed) (MD/TVD)
Oth	her Type of Tubing/Casing Seal (if applicable): <u>NA</u>
	Additional Data
1.	Is this a new well drilled for injection?Yes _XNo
	If no, for what purpose was the well originally drilled? Oil and Gas production
2.	Name of the Injection Formation: 2ND BONE SPRING SAND
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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
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 6850' MD
	UNDERLYING: WOLFCAMP 12150' MD

INJECTION WELL DATA SHEET

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Side 1

WELL NAME & NUMBER: Mesa Verde BS Unit #24H	API	30-025-44561		
WELL LOCATION: 250 FSL / 1225 FWL FOOTAGE LOCATION	M UNIT LETTER	16 SECTION	T24S TOWNSHIP	R32E RANGE
WELLBORE SCHEMATIC		<u>WELL CO</u> Surface C	NSTRUCTION DAT	<u>74</u>
17 1/2" Hole 13 3/8" CSA 991' Circ Cmt to Surface	Hole Size: <u>17.5</u> "		Casing Size: 13.375	1
	Cemented with: <u>1254</u>	SX.	or	ft ³
	Top of Cement: Surface		Method Determine	d: Circulated
		Intermediate	e Casing	
12 1/4" Hole 9 5/8" CSA 4727' TOC 900', TS	Hole Size: <u>12.25</u> "		Casing Size: 9.625"	
	Cemented with: <u>1430</u>	SX.	or	ft ³
	Top of Cement: 900'		Method Determine	d: Temp Survey
		Production	Casing	
	Hole Size: 8.5"		Casing Size: 5.5"	
	Cemented with: <u>3095</u>	SX.	or	ft ³
2.875" Tbg 2.7/8" × 5.1/2" PSA 10.300'	Top of Cement: <u>315</u>		Method Determine	d: Echometer
5 1/2" 20# P110 DQX CSA 20800' MD TOC @ 315'	Total Depth: <u>20,800</u>		Total Vertical De	pth: <u>10,426</u>
		Injection In	nterval MD/TVD	
	10,338' MD / 10,230' TVD	feet	to_20,692' MD / 10,420	6' TVD
	(Perf	orated or Open Ho	ole; indicate which)	

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Tub	Ding Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)
Туј	pe of Packer: 2.875" x 5.5" Nickle Coated (proposed)
Pac	eker Setting Depth: 10,300' MD / 10,214' TVD (proposed) (MD/TVD)
Otł	her Type of Tubing/Casing Seal (if applicable): <u>NA</u>
	Additional Data
1.	Is this a new well drilled for injection?Yes _XNo
	If no, for what purpose was the well originally drilled? Oil and Gas production
2.	Name of the Injection Formation: 2ND BONE SPRING SAND
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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
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 6850' MD
	UNDERLYING: WOLFCAMP 12150' MD

Side 1

OPERATOR: Oxy USA API 30-025-08814 Mesa Verde BS Unit #44H WELL NAME & NUMBER: WELL LOCATION: 635FSL / 1140 FWL 16 24S 32E Μ UNIT LETTER FOOTAGE LOCATION SECTION TOWNSHIP RANGE WELLBORE SCHEMATIC WELL CONSTRUCTION DATA Surface Casing Hole Size: 14.75" Casing Size: 10.75" 14.75" Hole 10.75" CSA 949' Cmt w/1015 Sx Circ to Surf or Cemented with: 1015 sx. ft³ Top of Cement: Surface Method Determined: Circulated Intermediate Casing Hole Size: 9.875" Casing Size: 7.625" or ft³ Cemented with: 2699 SX. Top of Cement: Surface Method Determined: Circulated **Production Casing** Hole Size: 6.75" Casing Size: 5.5" 9 7/8" Hole or Cemented with: 1353 ft³ 7 5/8" CSA 8889 SX. Cmt w/2699 sx cmt to surf Top of Cement: 7665' Method Determined: Echometer 2.875" Tbg 6.75" Hole 5.5" 20# CSA 20,133' 2 7/8" x 5 1/2" PSA 9200' Cmt w/1353 Sx TOC @ 7665 Total Vertical Depth: 9,326 Total Depth: 20,152' Injection Interval MD/TVD feet to 19,993' MD/ 9325.3' TVD 9,767' MD / 9453.7' TVD Perfs 9767 - 19,993' in 41 Stages

(Perforated or Open Hole; indicate which)

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Tub	ing Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)
Typ	be of Packer: 2.875" x 5.5" Nickle Coated (proposed)
Pac	ker Setting Depth:
Oth	er Type of Tubing/Casing Seal (if applicable): <u>NA</u>
	Additional Data
1.	Is this a new well drilled for injection?Yes _XNo
	If no, for what purpose was the well originally drilled? Oil and Gas production
2.	Name of the Injection Formation: AVALON
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNo
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 6850' MD
	UNDERLYING: WOLFCAMP 12150' MD

INJECTION	WELL	DATA	SHEET
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OPERATOR: Oxy USA

Side 1

WELL NAME & NUMBER:	MESA VERDE BONE SPRING	UNIT #045H	API 30-025-48815		
WELL LOCATION: 635 FSL FOO	1175 FWL DTAGE LOCATION	M UNIT LETTER	16 SECTION	24S TOWNSHIP	32E RANGE
<u>WELLBORE</u>	<u>SCHEMATIC</u>		<u>WELL Co</u> Surface	<u>ONSTRUCTION DAT</u> Casing	<u>74</u>
14.75" Hole 10.75" CSA 951' Cmt w/990 Sx Circ to St	urf	Hole Size: <u>14.75</u> " Cemented with: 990)	Casing Size: <u>10.75</u> " <i>or</i>	ft ³
			face Intermedia	Method Determined	I: Circulated
		Hole Size: <u>9.875</u> "		Casing Size: 7.625"	
		Top of Cement: Sur	face	or Method Determined	tt ³
		Hole Size: <u>6.75</u> "	Productio	<u>n Casing</u> Casing Size: <u>5.5"</u>	
9 7/8" Hole 7 5/8" CSA 8886' Cmt w/2691 sx cmt to s	urf	Cemented with: 817	SX.	<i>or</i>	ft ³
2.875" Tbg 2 7/8" x 5 1/2" PSA 910	6.75" Hole 0' 5.5" 20# CSA 19,984' Cmt w/760 Sx TOC @ 7721'	Top of Cement: 772 Total Depth: 20,004	'	Method Determined Total Vertical Dep	: Echometer
			Injection	Interval MD/TVD	
Perfs 9601 - 19,82	7' in 41 Stages	9601' MD / 9377.6'	TVD fee	t to 19.827' MD / 9289.6	' TVD

(Perforated or Open Hole; indicate which)

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Tub	Ding Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)
Ty	pe of Packer: 2.875" x 5.5" Nickle Coated (proposed)
Pac	eker Setting Depth:
Otł	her Type of Tubing/Casing Seal (if applicable): <u>NA</u>
	Additional Data
1.	Is this a new well drilled for injection?Yes _XNo
	If no, for what purpose was the well originally drilled? Oil and Gas production
2.	Name of the Injection Formation: AVALON
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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
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 6850' MD
	UNDERLYING: WOLFCAMP 12150' MD

INJECTION WELL DATA SHEET

OPERATOR: Oxy USA

Side 1

WELL NAME & NUMBER:	MESA VERDE BONE SPRING	JNIT #046H	API 30-025-48816	3	
WELL LOCATION: 635 FSL	/ 1210 FWL	М	16	24S	32E
FO	OTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
<u>WELLBORE</u>	<u>SCHEMATIC</u>		<u>WELL C</u> Surface	<u>ONSTRUCTION DA1</u> Casing	<u>74</u>
14.75" Hole 10.75" CSA 979'		Hole Size: <u>14.75</u> "		Casing Size: 10.75"	
Cmt w/1015 Sx Circ to S	urf	Cemented with: 1015	SX.	or	ft ³
		Top of Cement: Surfa	ace	Method Determined	1: Circulated
			Intermedia	te Casing	
		Hole Size: <u>9.875</u> "		Casing Size: 7.625"	
		Cemented with: 2441	SX.	or	ft ³
		Top of Cement: Surfa	асе	Method Determined	1: Circulated
			Productio	n Casing	
		Hole Size: <u>6.750</u> "		Casing Size: 5.5"	
9 7/8" Hole 7 5/8" CSA 9274' Cmt w/2441 sx cmt to su	rf	Cemented with: 1177	SX.	or	ft ³
2.875" Tbg	6.75" Hole	Top of Cement: 5000)'	Method Determined	1: Theory
	5.5 20# C5A 20,476 Cmt w/1177 Sx TOC @ 5000'	Total Depth: 20,476		Total Vertical Dep	pth: <u>9742.3</u> '
		<u></u>	<u>Injection</u>	Interval MD/TVD	
Perfs 10,110 - 20,3	1 1 1 Stages	10,110' MD / 9752.7'	TVD fee	et to 20,336' MD / 9742.3	B' TVD

(Perforated or Open Hole; indicate which)

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Tub	ing Size: 2.875" (proposed) Lining Material: Plastic Lined (proposed)			
Туŗ	be of Packer: 2.875" x 5.5" Nickle Coated (proposed)			
Pac	ker Setting Depth: <u>9700' MD / 9504.8' TVD</u> (MD/TVD)			
Oth	er Type of Tubing/Casing Seal (if applicable): <u>NA</u>			
	Additional Data			
1.	Is this a new well drilled for injection?Yes _XNo			
	If no, for what purpose was the well originally drilled? Oil and Gas production			
2.	Name of the Injection Formation: 1ST BONE SPRING SAND			
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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			
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 6850' MD			
	UNDERLYING: WOLFCAMP 12150' MD			

NOTE- SPUD LATE 2024. PENDING COMPLETION REPORT FILING. INFO BASED OFF APD.

OPERATOR: OXY USA INC

WELL NAME &	NUMBER: MESA VERDE BONE SPRING UNIT 7	API 30-025-4	18818		
WELL LOCATIO	ON: 250 FSL, 500 FWL	Μ	17	24S	32E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
<u>1</u>	WELLBORE SCHEMATIC		<u>WELL CC</u> Surface C	DNSTRUCTION DAT Casing	<u>4</u>
14	4.75" Hole	Hole Size: <u>14.75</u> "		Casing Size: 10.75"	
	0.75 CSA 904 mt w/806 SX CMT, PLANNED CMT TO SURFACE	Cemented with: 964	SX.	or	ft ³
		Top of Cement: SUR	FACE	Method Determined	: PROPOSED
			Intermediat	e Casing	
		Hole Size: <u>9.875</u> "		Casing Size: 7.625"	
		Cemented with: 1515	5sx.	or	ft ³
		Top of Cement: SUR	FACE	Method Determined	: PROPOSED
			Production	Casing	
		Hole Size: <u>6.75</u> "		Casing Size: 5.5"	
9 7 Ci	7/8" Hole 5/8" CSA 10,211' mt w/1515 SX CMT, PLANNED CMT TO SURFACE	Cemented with: <u>620</u>	SX.	or	ft ³
	6.75" Hole	Top of Cement: 9711	·	Method Determined	: PROPOSED
	5.5" 20# CSA 20,654' Cmt w/620 SX CMT, PLANNED CMT TO 9711'	Total Depth: 20654'	MD/9820' TVD		
			Injection 1	Interval	
	PERFS NOT COMPLETED	NOT YET COMPL	ETED feet	to NOT YET COMP	LETED

(Perforated or Open Hole; indicate which)

.

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Side 2

	PERF
Tub	Ding Size: 2-7/8"Lining Material:
Ty	pe of Packer: ARROWSET PACKER 5.5"
Pac	cker Setting Depth: <u>NOT YET COMPLETED</u>
Oth	her Type of Tubing/Casing Seal (if applicable):
	Additional Data
1.	Is this a new well drilled for injection?Yes XNo
	If no, for what purpose was the well originally drilled?
2.	Name of the Injection Formation: 1ST BONE SPRING SAND
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNO
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
	WOLFCAMP 12150' MD

NOTE- WELL SPUD LATE 2024. PENDING COMPLETION REPORT FILING. INFO BASED OFF APD.

OPERATOR: OXY USA INC

WELL NAME	& NUMBER: MESA VERDE BONE SPRING UNIT 74H		API 30-025-4	18819	
WELL LOCA	TION: 250 FSL, 535 FWL	M	17	24S	32E
	FOOTAGE LOCATION U	JNIT LETTER	SECTION	TOWNSHIP	RANGE
	<u>WELLBORE SCHEMATIC</u>		<u>WELL CC</u> Surface C	DNSTRUCTION DATA Casing	-
	14.75" Hole 10.75" CSA 1167' Cmt w/821 Sx, PLANNED CMT TO SURFACE	Hole Size: <u>14.75</u> "		Casing Size: 10.75"	
		Cemented with: <u>821</u>	SX.	or	ft^3
		Top of Cement: SURFAC	Ε	Method Determined:	PROPOSED
			<u>Intermediat</u>	e Casing	
		Hole Size: <u>9.875</u> "		Casing Size: 7.625"	
		Cemented with: <u>1770</u>	SX.	or	ft ³
		Top of Cement: SURFAC	E	Method Determined:	PROPOSED
			Production	<u>Casing</u>	
	9 7/8" Hole	Hole Size: <u>6.75</u> "		Casing Size: 5.5"	
	7 5/8" CSA 10,760' Cmt w/1770 SX, PLANNED CMT TO SURFACE	Cemented with: <u>647</u>	SX.	or	ft^3
	6.75" Hole 5.5" 20# CSA 22,074' Cmt w/647 SX CMT, PLANNED TOC 10,260'	Top of Cement: <u>10260'</u>		Method Determined:	PROPOSED
		Total Depth: <u>22074' MD/1</u>	1129' TVD		
		l	Injection 1	Interval	
	PERFS NOT YET COMPLETED	NOT YET COMPLETE	Dfeet	to <u>NOT YET COMPL</u>	ETED

(Perforated or Open Hole; indicate which)

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Side 2

	PERF
Tub	bing Size: 2-7/8"Lining Material:
Тур	pe of Packer: ARROWSET PACKER 5.5"
Pac	eker Setting Depth: NOT YET COMPLETED
Oth	ner Type of Tubing/Casing Seal (if applicable):
	Additional Data
1.	Is this a new well drilled for injection?Yes XNo
	If no, for what purpose was the well originally drilled?
2.	Name of the Injection Formation: 3RD BONE SPRING LIME
3.	Name of Field or Pool (if applicable): [96229] MESA VERDE; 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) usedNO
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
	WOLFCAMP 12150' MD



Bone Spring ΔOR Table 2/6/2025

Bone Spring AOR Ta	DIE 2/6/2025	Red Text- Candidate EOR Injection v	well												Top (f	
AOR ID API NUMBER	Current Operator	LEASE NAME	WELL NUMB Well Type:	Status:	Footages N/S N/S	Footag E/W Location	e Surface Surface n Location Location Section TShin	e Surface n Location	Spud:	True Current Vertical Completion	HOLE SIZE	CSG SIZE	SET AT S	SX CMT (CMT TO Ceme How	nt Comment	Pool
1 30-025-44101	OXY USA INC	MESA VERDE BONE SPRING UNIT	er 001H Oil	Active	271 S	245 E P	17 24S	32E	12/27/2017	9291 9451-19251	17.500	13.375	918	1264	Measur Surf Circ	ed Intermediate casing parted at 8608'. Plugs set and whipstock at 7013'.	[96229] MESA VERDE; BONE SPRING
2 20 025 44106				Activo	240 5	1614 5 0	17.046	205	2/2/2010	11001 10105 01010	12.250 8.500	9.625 5.500	11062 19350	5905 2621	1985 Circ 4000 Calc	Active CLGC well	
2 30-025-44196	OXY USA INC	MESA VERDE BONE SPRING UNIT	UU2H OIL	Active	240 5	1614 E O	17 245	32E	2/3/2018	11861 12165-21916	9.875 6.750	7.625 5.500	938 11092 22082	1202 2624 846	Surf Circ Surf Circ 10500 Calc	Permitted CLGC well	[96229] MESA VERDE; BONE SPRING
3 30-025-44183	OXY USA INC	MESA VERDE BONE SPRING UNIT	003H Oil	Active	240 S	1644 E O	17 24S	32E	2/5/2018	9125 9253-19155	17.500 9.875	13.375 7.625	954 8600	1220 2399	Surf Circ Surf Circ	Active CLGC well	[96229] MESA VERDE; BONE SPRING
4 30-025-44064	OXY USA INC	MESA VERDE BONE SPRING UNIT	004H Oil	Active	280 S	965 E P	17 24S	32E	1/25/2018	10447 10483-20385	17.500 12.250	5.500 13.375 9.625	952 4735	1712 2060	Surf Circ 1450 Calc	Permitted CLGC well	[96229] MESA VERDE; BONE SPRING
5 30-025-44185	OXY USA INC	MESA VERDE BONE SPRING UNIT	005H Oil	Active	280 S	995 E P	17 24S	32E	1/29/2018	10449 10441-20343	8.500 17.500	5.500 13.375	20532 974	3050 1245	Surf Calc Surf Circ	Active CLGC well	[96229] MESA VERDE; BONE SPRING
6 30-025-44042	OXY USA INC	MESA VERDE BONE SPRING UNIT	006H Oil	Active	280 S	2624 E 0	17 24S	32E	1/6/2018	10411 10739-20223	8.500 17.500	9.625 5.500 13.375	20290 939	2895 1240	1273 Echome Surf Circ	er Permitted CLGC well	[96229] MESA VERDE; BONE SPRING
7 30-025-44065		MESA VERDE BONE SPRING LINIT		Active	280 S	2626 W N	17 245	32F	1/3/2018	10/29 10619-20370	12.250 8.500 17 500	9.625 5.500	4735 20444 935	1300 2970 1240	Surf Circ 1312 Echome	er	[96229] MESA VERDE: BONE SPRING
				Active	200 0	2020 W	1, 240	UZL	1/0/2010	10420 10010 20070	12.250 8.500	9.625 5.500	4742 20531	1300 2965	Surf Circ 12 Echome	er	
8 30-025-44559	OXY USA INC	MESA VERDE BONE SPRING UNIT	022H Oil	Active	250 S	1285 W M	16 24S	32E	6/6/2018	10522 10565-20668	17.500 12.250 8.500	13.375 9.625 5.500	964 4721 20806	1254 1565 2980	Surf Circ Surf Circ 1547 CBL		[96229] MESA VERDE; BONE SPRING
9 30-025-44560	OXY USA INC	MESA VERDE BONE SPRING UNIT	023H Oil	Active	250 S	1255 W M	16 24S	32E	6/8/2018	10812 10648-21001	17.500 12.250	13.375 9.625	970 4741	1254 1705	Surf Circ Surf Circ		[96229] MESA VERDE; BONE SPRING
10 30-025-44561	OXY USA INC	MESA VERDE BONE SPRING UNIT	024H Oil	Active	250 S	1225 W M	16 24S	32E	6/10/2018	10426 10338-20691	8.500 17.500 12.250	5.500 13.375 9.625	21114 970 4725	2965 1254 1430	330 Echome Surf Circ 900 TS	er	[96229] MESA VERDE; BONE SPRING
11 30-025-48814	OXY USA INC	MESA VERDE BONE SPRING UNIT	044H Oil	Active	635 S	1140 W M	16 24S	32E	10/12/2022	9326 9767-19993	8.500 14.750	5.500 10.750	20810 949	3095 1015	315 Echome Surf Circ	er	[96229] MESA VERDE; BONE SPRING
12 30-025-48815	OXY USA INC	MESA VERDE BONE SPRING UNIT	045H Oil	Active	635 S	1175 W M	16 24S	32E	10/14/2022	9287 9601-19827	9.875 6.750 14.750	7.625 5.500 10.750	8889 20133 951	2699 1353 990	Surf Circ 7665 Echome Surf Circ	er	[96229] MESA VERDE; BONE SPRING
											9.875 6.750	7.625 5.500	8886 19984	2691 817	Surf Circ 7721 Echome	ter	[]
13 30-025-48816	OXY USA INC	MESA VERDE BONE SPRING UNIT	046H Oil	Active	635 S	1210 W M	16 24S	32E	10/15/2022	9742 10110-20336	14.750 9.875 6.750	10.750 7.625 5.500	979 9274 20476	1015 2441 1177	Surf Circ Surf Circ 5000 Calc		[96229] MESA VERDE; BONE SPRING
14 30-025-48818	OXY USA INC	MESA VERDE BONE SPRING UNIT	073H Oil	New	250 S	500 W M	16 24S	32E	9/19/2024	9820 Not Yet Complete	14.750 9.875	10.750 9.625	964 10211	806 1515	Surf Planned Surf Planned	Spud in late 2024. Completion report has not been filed.	[96229] MESA VERDE; BONE SPRING
15 30-025-48819	OXY USA INC	MESA VERDE BONE SPRING UNIT	074H Oil	New	250 S	535 W M	16 24S	32E	9/21/2024	11150 Not Yet Complete	6.750 14.750 9.875	5.500 10.750 9.625	20654 1167 10760	620 821 1658	9711 Planned Surf Planned Surf Planned	Spud in late 2024. Completion report has not been filed.	[96229] MESA VERDE; BONE SPRING
											6.750	5.500	22074	647	10260 Planned	8.5" Vertical pilot hole to 14150' MD. 5.5" Production Liner. 5.5" frac st	ring
16 30-025-44195	OXY USA INC	MESA VERDE WOLFCAMP UNIT	001H Oil	Active	241 S	245 E P	17 24S	32E	12/30/2017	12054 12240-22116	17.500 12.250 8.500	13.375 9.625 5.500	922 10933 10764-22271	1190 3620 2193	Surf Circ Surf Circ 10764 Circ	from 0'-10764'	[98252] MESA VERDE; WOLFCAMP
17 30-025-46110	OXY USA INC	MESA VERDE WOLFCAMP UNIT	002H Oil	Active	250 S	1035 W M	16 24S	32E	11/25/2019	12280 12395-22413	14.750 9.875	10.750 7.625	959 11725	975 3015	Surf Circ 190 Calc		[98252] MESA VERDE; WOLFCAMP
18 30-025-46111	OXY USA INC	MESA VERDE WOLFCAMP UNIT	003H Oil	Active	250 S	1000 W M	16 24S	32E	11/29/2019	12087 12270-22288	6.750 14.750 9.875	5.500 10.750 7.625	22585 890 11420	855 975 2824	5618 Calc Surf Circ Surf Circ		[98252] MESA VERDE; WOLFCAMP
19 30-025-46112	OXY USA INC	MESA VERDE WOLFCAMP UNIT	004H Oil	Active	250 S	965 W M	16 24S	32E	12/1/2019	12225 12668-22488	6.750 14.750	5.500 10.750	22351 941	842 975	9031 Calc Surf Circ		[98252] MESA VERDE; WOLFCAMP
20 30-025-45862	OXY USA INC	MESA VERDE WOLFCAMP UNIT	005H Oil	Active	280 S	2436 W N	17 245	32E	5/18/2019	12211 12327-22387	9.875 6.750 14.750	7.625 5.500 10.750	11600 22534 942	2745 834 908	75 Calc 9269 Calc Surf Circ		[98252] MESA VERDE: WOLFCAMP
											9.875 6.750	7.625 5.500	11567 22445	3988 840	Surf Circ 11050 Calc		[],,,
21 30-025-45863	OXY USA INC	MESA VERDE WOLFCAMP UNIT	006H Oil	Active	280 S	2401 W N	17 24S	32E	5/16/2019	12067 12157-22218	14.750 9.875 6.750	10.750 7.625 5.500	942 11278 22279	908 1655 887	Surf Circ Surf Circ 10775 Calc		[98252] MESA VERDE; WOLFCAMP
22 30-025-45920	OXY USA INC	MESA VERDE WOLFCAMP UNIT	007H Oil	Active	280 S	1421 W N	17 24S	32E	5/25/2019	12211 12047-22108	14.750 9.875	10.750 7.625	934 11461	970 1530	Surf Circ Surf Circ		[98252] MESA VERDE; WOLFCAMP
23 30-025-45921	OXY USA INC	MESA VERDE WOLFCAMP UNIT	008H Oil	Active	280 S	1386 W N	17 24S	32E	5/26/2019	12016 12137-22108	6.750 14.750 9.875	5.500 10.750 7.625	22433 950 11445	805 970 1220	10960 Calc Surf Circ Surf Circ		[98252] MESA VERDE; WOLFCAMP
24 30-025-45871	OXY USA INC	MESA VERDE WOLFCAMP UNIT	009H Oil	Active	422 S	1254 E P	18 24S	32E	1/27/2020	12316 12427-22488	6.750 14.750	5.500 10.750	22327 860	780 870	10940 Calc Surf Circ		[98252] MESA VERDE; WOLFCAMP
25 30-025-45872	OXY USA INC	MESA VERDE WOLFCAMP UNIT	010H Oil	Active	422 S	1289 E P	18 24S	32E	1/28/2020	12064 12017-19438	9.875 6.750 14.750	7.625 5.500 10.750	11290 22605 861	2540 905 870	Surf Circ 10100 Calc Surf Circ		[98252] MESA VERDE; WOLFCAMP
			01111 01	Activo	400.0	1004 5 0	10.040	205	1/00/0000	10007 10050 10010	9.875 6.750	7.625	11356 19681	2975 652	Surf Circ 7865 Calc		
26 30-025-45873	OXY USA INC	MESA VERDE WOLFCAMP UNIT	011H OIL	Active	422 5	1324 E O	18 245	32E	1/29/2020	12267 12258-19918	14.750 9.875 6.750	10.750 7.625 5.500	860 11662 20015	870 2242 648	Surf Circ Surf Circ 11137 Calc		[98252] MESA VERDE; WOLFCAMP
27 30-025-48824	OXY USA INC	MESA VERDE WOLFCAMP UNIT	039H Oil	New	250 S	1715 W N	16 24S	32E	9/22/2024	12851 Not Yet Complete	14.750 9.875	10.750 7.625	1158 12696	807 1851	Surf Planned Surf Planned	Spud in late 2024. Completion report has not been filed.	[98252] MESA VERDE; WOLFCAMP
28 30-025-48825	OXY USA INC	MESA VERDE WOLFCAMP UNIT	040H Oil	New	250 S	1750 W N	16 24S	32E	9/23/2024	12851 Not Yet Complete	14.750 9.875	10.750 7.625	1158 12613	819 1827	Surf Planned Surf Planned	Spud in late 2024. Completion report has not been filed.	[98252] MESA VERDE; WOLFCAMP
29 30-025-48817	OXY USA INC	MESA VERDE WOLFCAMP UNIT	054H Oil	New	635 S	865 W M	16 24S	32E	9/25/2024	12950 Not Yet Complete	6.750 14.750 9.875	5.500 10.750 7.625	23957 971 12560	620 812 1831	12113 Planned Surf Planned	Spud in late 2024. Completion report has not been filed.	[98252] MESA VERDE; WOLFCAMP
30 30-025-48863	OXY USA INC	MESA VERDE WOLFCAMP UNIT	055H Oil	New	635 S	1004 W M	16 24S	32E	9/27/2024	12950 Not Yet Complete	6.750 14.750	5.500	23149 1156	626 823	12060 Planned Surf Planned	Spud in late 2024. Completion report has not been filed.	[98252] MESA VERDE; WOLFCAMP
21 20 025 22102			002 01		2100 N		0.046	205	0/10/1002	15400 NA	9.875	7.625	12654 23242	1843 626	Surf Planned 12154 Planned		
31 30-025-32192	EOG RESOURCES INC	JACK TANK 8 FEDERAL	002 OII	PA	2180 N	660 W E	8 245	32E	9/10/1993	15460 NA	17.000 12.250	20.000 13.325 9.625	598 4521 12108	932 4500 3625	Surf Circ Surf Circ 4500 TS		NA
22 20 025 22105			001 Oil	DA	1650 \$	000 E I	0.245	225	4/16/1007	10000 NA	9.625 9.625	7.000 4.500	11768-14950 14656-15452	750 200	? ? ? ? Surf Circ		ΝΑ
05 00-050-09180				10	2000 2		0 243	JEL		10000 INA	11.000 7.875	8.625 5.500	4580 10000	1470 1340	Surf Circ 6436 Calc		
33 30-025-42769	DEVON ENERGY PRODUCTION COMPANY, LP	REBEL 20 FEDERAL	005H Oil	Active	314 N	472 W D	20 24S	32E	9/27/2015	10740 11067-15034	17.500 12.250	13.375 9.625	885 4576	960 1295 1860	Surf Circ Surf Circ		[96556] COTTON DRAW; BONE SPRING, EAST
34 30-025-43159	DEVON ENERGY PRODUCTION COMPANY, LP	REBEL 20 FEDERAL	008H Oil	Active	250 N	870 E A	20 24S	32E	6/9/2017	10787 10930-15493	8.750 17.500 12.250	13.375 9.625	913 4623	960 2060	Surf Circ Surf Circ		NA
35 30-025-37914	OXY USA INC	MESA VERDE 8 FEDERAL	002H Oil	Active	660 S	330 E P	8 24S	32E	8/1/2006	9764 10152-12710	8.500 17.500	5.500 13.375	15630 850	1380 745	390 ? Surf Circ		[96229] MESA VERDE; BONE SPRING
36 30-025-43449	DEVON ENERGY PRODUCTION COMPANY, LP	REBEL 20 FEDERAL	006Y Oil	Active	250 N	1970 W C	20 24S	32E	1/17/2018	10411 10656-14961	8.500 17.500	5.500 13.375	12900 920	1350 1205	7290 Echome Surf Circ	er	[96556] COTTON DRAW; BONE SPRING, EAST
37 30-025 42000				Activo	220 M	1980 E P	20.240	325	5/15/2017	10700 10000 15000	12.250 8.75 and 8.5	9.625 5.500	4608 15102	1705 1560	Surf Circ 2600 Calc		
<u> </u>					200 N		20 243	JLL	5,15/201/	10700 10902-19928	12.250 8.75 and 8.5	9.625 5.500	4623 15529	1510 1715	Surf Circ 3350 Calc		
38 30-025-42064	EOG RESOURCES INC	MASTIFF FEDERAL	003H Oil	Active	190 N	1980 W C	4 24S	32E	9/6/2015	10652 10757-14860	17.500	13.375 9.625	1263 4850	1000 1580	Surf Circ Surf Circ		[96229] MESA VERDE; BONE SPRING
39 30-025-48459	DEVON ENERGY PRODUCTION COMPANY, LP	RIGHT MEOW 31 6 FEDERAL COM	626H Oil	Active	350 N	1095 E A	31 23\$	32E	4/14/2021	12091 12250-22293	8.750 17.500 9.875	5.500 13.375 8.625	15020 1067 11357	2215 910 1292	2140 Calc Surf Circ 3412 Circ		[98248] WC-025 G-08 S243217P; UPR WOLFCAMP
40 30-025-33626	OXY USA INC	DIAGA 18 FEDERAL	001 Oil	PA	1980 S	1980 W K	18 24S	32E	10/31/1996	8720 6873-7258	7.875	5.500 10.750	22307 630	3130 600	? ? Surf Circ		NA
41 30-025-33345	EOG Y RESOURCES, INC.	HARACZ AMO FEDERAL	007 Oil	PA	1650 N	2310 W F	19 24S	32E	3/21/1996	9900 8245-8274	9.875 6.750 17.500	7.625 4.500 13.375	4507 8720 766	950 635 725	Surf Circ 4650 CBL Surf Circ		NA
			04011 01	A ~ · ·	005	4070 111 11	-	005	0445	44050 40445	11.000 7.875	8.625 5.500	4477 9900	1200 1125	Surf Circ Surf ?		
42 30-025-45874	UXY USA INC	MESA VERDE WOLFCAMP UNIT	U12H Oil	Active	365 S	1378 W M	18 24S	32E	3/18/2021	11959 12443-16984	14.750 9.875 6.750	10.750 7.625 5.500	970 11248 17065	890 2656 500	Surf Circ Surf Circ 10748 Calc		[98252] MESA VERDE; WOLFCAMP
43 30-025-44186	OXY USA INC	MESA VERDE BONE SPRING UNIT	012H Oil	Active	280 S	2563 W N	18 24S	32E	3/18/2018	10700 10822-18007	14.750 9.875	10.750 7.625	950 10125	1020 1930	Surf Circ 1395 Calc		[96229] MESA VERDE; BONE SPRING
44 30-025-44187	OXY USA INC	MESA VERDE BONE SPRING UNIT	011H Oil	Active	420 S	1070 E P	18 24S	32E	3/1/2018	10444 10292-17985	6.750 17.500 12.250	5.500 13.375 9.625	18151 948 4702	1165 4558 1379	Surf Circ Surf Circ Surf Circ		[96229] MESA VERDE; BONE SPRING
45 30-025-43473	NGL WATER SOLUTIONS PERMIAN, LLC	STATION SWD	001 Salt Water Disposa	al Active	2625 N	2315 W F	7 24S	32E	5/6/2018	18264 16763-18264	8.500	5.500	18175 925	2729	509 Echome Surf Circ	ter	[97869] SWD; DEVONIAN-SILURIAN
											17.500 12.250 8.500	13.375 9.625 7.625	4475 11924 16763	2460 1760 250	Surf Circ Surf Circ 11405 Calc		
46 30-025-39444	HARVARD PETROLEUM COMPANY, LLC	MESA VERDE 7 FEDERAL	003 Oil	Active	330 S	1980 W N	7 24S	32E	11/22/2009	8797 7222-8596	17.500 11.000	13.375 8.625	915 4500	950 1345	915 Circ 4500 Circ		[96191] MESA VERDE; DELAWARE
											7.875	5.500	4000-8797	825	3626 Calc		

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47 30-025-32398	DEVON ENERGY PRODUCTION COMPANY, LP	MESA VERDE 7 FEDERAL	001 Oil	PA	660 N	1980 E B	7 24S	32E	5/28/1994	9880 7178-7205	14.750	11.750	610	425	Surf Circ		NA
											11.000	8.625	4450	1275	Surf Circ		
											7.875	5.500	9880	1179	3800 TS		
48 30-025-44192	OXY USA INC	MESA VERDE BONE SPRING UNIT	013H Oil	Active	280 S	2533 W N	18 24S	32E	3/20/2018	10383 10483-15055	14.750	10.750	950	1020	Surf Circ		[96229] MESA VERDE; BONE SPRING
											9.875	7.625	9954	2320	3976 Calc		
											6.750	5.500	15196	890	250 Calc		
											6.750	4.500	10404-15196	890	250 Calc		
49 30-025-45864	OXY USA INC	MESA VERDE WOLFCAMP UNIT	014H Oil	Active	400 S	1378 W M	18 24S	32E	3/19/2021	11929 12670-17211	14.750	10.750	957	890	Surf Circ		[98252] MESA VERDE; WOLFCAMP
											9.875	7.625	11617	2816	Surf Circ		
											6.750	5.500	17286	485	10000 Calc		
50 30-025-45875	OXY USA INC	MESA VERDE WOLFCAMP UNIT	013H Oil	Active	330 S	1378 W M	18 24S	32E	3/16/2021	12075 12509-17050	14.750	10.750	960	890	Surf Circ		[98252] MESA VERDE; WOLFCAMP
											9.875	7.625	11365	2615	Surf Circ		
											6.125	5.500 x 4.5	11275	512	10200 Calc		
51 30-025-32482	BURLINGTON RESOURCES OIL & GAS CO	JACK TANK 7 FEDERAL	002 Oil	PA	330 N	660 E A	7 24S	32E	11/10/1994	9900 PA	17.500	13.375	623	630	Surf Circ	Dry hole. OH to 8546'.	NA
											12.250	8.625	4509	1600	Surf Circ		
											7.875	NA	8546	NA	NA NA		
52 30-025-44191	OXY USA INC	MESA VERDE BONE SPRING UNIT	014H Oil	Active	310 S	1078 W M	18 24S	32E	3/3/2018	10700 10689-15416	14.750	10.750	990	1351	Surf Circ		[96229] MESA VERDE; BONE SPRING
											9.875	7.625	9958	2880	Surf Circ		
											6.750	5.500	15556	375	8862 Calc		
53 30-025-44190	OXY USA INC	MESA VERDE BONE SPRING UNIT	015H Oil	Active	280 S	1078 W M	18 24S	32E	3/5/2018	10421 10483-15210	14.750	10.750	977	1010	Surf Circ		[96229] MESA VERDE; BONE SPRING
											9.875	7.625	9554	1860	Surf Circ		
											6.750	5.500	15345	370	8043 Calc		
54 30-025-47306	DEVON ENERGY PRODUCTION COMPANY, LP	CATTY SHACK 6 7 FEDERAL COM	210H Oil	Active	10 S	860 W M	31 23S	32E	8/24/2020	10642 10778-21282	17.500	13.375	1004	928	Surf Circ		[96229] MESA VERDE; BONE SPRING
											12.250	9.625	8593	975	6900 Calc		
											8.750	5.500	21294	2655	Surf Circ		
55 30-025-47307	DEVON ENERGY PRODUCTION COMPANY, LP	CATTY SHACK 6 7 FEDERAL COM	211H Oil	Active	10 S	800 W M	31 23S	32E	8/21/2020	10376 10600-20961	17.500	13.375	1004	780	Surf Circ		[96229] MESA VERDE; BONE SPRING
											12.250	9.625	7300	3165	Surf Circ		
											8.750	5.500	20973	2655	Surf Circ		
56 30-025-47308	DEVON ENERGY PRODUCTION COMPANY, LP	CATTY SHACK 6 7 FEDERAL COM	212H Oil	Active	165 S	2225 W N	31 23S	32E	7/24/2020	10425 10550-20913	17.500	13.375	974	835	Surf Circ		[96229] MESA VERDE; BONE SPRING
											12.250	9.625	8591	975	Surf Circ		
											8.750	5.500	20926	2625	Surf Circ		
57 30-025-48486	DEVON ENERGY PRODUCTION COMPANY, LP	CATTY SHACK 6 7 FEDERAL COM	711H Oil	Active	150 S	800 W M	31 23S	32E	5/4/2021	12131 12437-22787	17.500	13.375	999	630	Surf Circ		[98248] WC-025 G-08 S243217P; UPR WOLFCAMP
											9.625	8.625	11563	2295	7000 Calc		
											7.875	5.500	22801	2700	Surf Circ		
58 30-025-48485	DEVON ENERGY PRODUCTION COMPANY, LP	CATTY SHACK 6 7 FEDERAL COM	623H Oil	Active	315 S	2255 W N	31 23S	32E	4/7/2021	12007 12277-22657	17.500	13.375	978	850	Surf Circ		[98248] WC-025 G-08 S243217P; UPR WOLFCAMP
											9.625	8.625	11197	1720	950 Circ		
											7.875	5.500	22672	2609	Surf Circ		
59 30-025-48487	DEVON ENERGY PRODUCTION COMPANY, LP	CATTY SHACK 6 7 FEDERAL COM	713H Oil	Active	315 S	2195 W N	31 23S	32E	4/8/2021	12174 12379-22759	17.500	13.375	996	740	Surf Circ		[98248] WC-025 G-08 S243217P; UPR WOLFCAMP
											9.625	8.625	11601	1030	950 Circ		
											7.875	5.500	22773	2860	Surf Circ		
60 30-025-48460	DEVON ENERGY PRODUCTION COMPANY, LP	RIGHT MEOW 31 6 FEDERAL COM	716H Oil	Active	350 N	1155 E A	31 23S	32E	4/13/2021	12220 12355-22373	17.500	13.375	1067	910	Surf Circ		[98248] WC-025 G-08 S243217P; UPR WOLFCAMP
											9.625	8.625	11639	710	Surf Circ		
											7.875	5.500	22388	3130	Surf Circ		
61 30-025-30746	COG OPERATING LLC	DOUBLE ABJ STATE	001 Gas	PA	660 N	1980 E B	16 24S	32E	7/31/1990	15800 PA	17.500	13.375	511	525	Surf Circ		NA
											12.250	9.625	4975	2700	Surf Circ		
											8.750	7.000	13000	1225	6320 CBL		
											7.875	4.500	12749-15798	350	12749 Circ		

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PBTD: 8676' MD

Depth (ft) CMT (ss) TOC (ft)

600 Surt

952 Surt

465

635

8389.32

8392.32

8473.72

8485.57

20 44

63 5019

8144

\$345

8370

8172

8142

8195

630

4507

8720

1.3

1.2 \$388.22

26

25 4950

3325

1

25

2

20

3 8389.32 30.9 8392.82

67.35 8473.22

Length (ft) Top (ft) Bottom (ft) Comments 7 8373.12 14 8387.17

Length (ft) Top (ft) Battom (ft) Comment

14!

40

44 69

5019

8344

8345

8370

\$372

8392

14 8387.17 6397.12 8388.22

40.5

26.4

11.6

267

1

1

2

132

1

1

1



Burlington Resources Oil & Gas CO - Dry Hole P&A Jack Tank 7 Federal #2 Set plug @ 63 to Surface' w/20sx Cmt Spud 11/10/1994 API No. 30-025-32482 Set plug @ 673' - 573' w/35sx Cmt 17.5" hole @ 623' 13.375" Csg @ 623' Cmt w/630sx Circ to Surface Set plug @ 1050' - 1150' w/40sx Cmt 12.25" hole @ 4509' 8.625" csg @ 4509' Cmt w/1600sx circ to surface Set plug @ 4370' - 4690' w/150sx Cmt 7.875" Open Hole to 8546' Top of Proposed Injection Interval 8496' (Bone Spring) Set Cmt Plug 8546' - 8360' w/60sx Cmt _ _ _ _ _ _ _ _ _ _ _



API#: 30-025-32398

Well Name: MESA VERDE 7 FEDERAL 1

Location: 660' FNL & 1980' FEL; 7-24S-32E

Prepared by: Ronnie Slack

Elevation: 3572' KB; 3556' GL; 16' KB to GL





Released to Imaging: 2/11/2025 4:36:09 PM



Perf @ 316', spot 90 sx to surface

Spot 100 sx, tag @ 416'

PERF @ 1620', spot 45 sx, tag @ 1498'

PERF at 4762', Spot 120 sx cmt, tag @ 4187'

PERF at 5540', Spot 40 sx cmt, tag @ 5372'

PERF at 5640', Spot 55 sx cmt, tag @ 5565'

SPOT 35 SX CMT 6611-6956'.

_ ___

SET CIBP @ 9630'. Dump 35 sx cmt. Tag @9296'. Perfs 9680-9820' (Bone Spring)

<u>String 3</u> OD 5.5 in TD 10000 ft TOC 13 ft , CBL PBTD 10000 ft

Top of Proposed

Inj Interval 8576'

<u>String 2</u> OD 8.625 in TD 4578 ft TOC 0 ft, Circ

COG			Plugged	De	escription	O.D.	Grade	Weight	Depth	Hole	Cmt Sx	TOC		
Author: Well Name	Abby @ JMR Double ABJ State	Well No.	#1	Su	Irface Csg	13 3/8	K55	54.5#	511	17 1/2	300	0		
Field County	Und. Lea Strawn Gas Lea	API #: Location	30-025-30746 660 FNL & 1980 FEL	l Ir	nter Csg	9 5/8	K55	36 to 32#	4,975	12 1/4	875	0		
State Spud Date	NM 5/1/1980	GI	Sec 16, T24S, R32E 3605	P	Prod Csg	7	P110	26#	13,000	8 3/4	1,225	6,320		
opuu Duto		01] =	Liner	4 1/2	P110	15.1 to 13.5#	12,749-15,798'	7 7/8	350	12,749		
										Formati	on Tops			
		b _{6. Sp}	13 3/8 csg set @ 511 otted 75 sx class C cmt @ 310'	with & circulate	300 ed to su	cmt sx rface in	side the	e 7".						
		5 5 5	ottad 50 av alass C amt @ 500	200' WOO	C & togo	rod @ 2	210'							
		5. 3p Cut 2	3/8" tbg @ 590'. POH w/ tbg & cut j	300 . WOC jt.	J & lagg	jeu @ c	510.							
		4. Pe	rf'd @ 1590'. Sqz'd 80 sx class e 7", tagged TOC @ 590'.	C cmt @ 1	1590-11	00'. RIH	H w/ wire	eline inside ti	og, tagged plu	ıg @ 91()'. RIH			
-		3. Pe RIH v)'. Could not fi 92'.	sh out o	f hole.									
		2. Pe	5'.											
2	1	9 5/8												
		1. Spot Drilled	ed 57 sx class C cmt @ 5512-5 down to 6632'. Ran CBL. CBL does no	150'. WOO ot show cmt	C & tagg across th	ged @ { he 9 5/8"	5159'. <mark>shoe.</mark>							
		Spotted	30 sx class H cmt @ 7805' & d	isplaced to	o 7649'.									
		Spotted	30 sx class H cmt @ 8679' & d	isplaced to	o 8515'.									
		Spotted	30 sx class H cmt @ 10,365' &	displaced	l to 10,2	01'.								
		Spotted	30 sx class H cmt @ 12,175' &	displaced	l to 12,0	11'.								
		Spotted	7 csg set @ 13,000 40 sx class H cmt @ 13,050-12	with 2,639'. Tag	1,225 gged plu	cmt sx ig @ 12	2,639'.							
		Spotted 10# brir Wireline	25 sx class H cmt @ 13,986' & he H2O. WOC & Tagged plug @ & ran CBL from 13,975' to surface.	displaced) 13,615'. . Found TO	l with 4 E	BBLs fro 0'.	esh brin	e H20 to 13,	621'. Circ'd ho	ole w/ 55	5 BBLs			
		CIBP @ Perfs @ 14												
		Perfs @ 14	373-14,384' CP CUN											
		Dropped TCP GUN CIBP @ 15,260' w 30' cmt on top Perfs @ 15,332-15,404'												
			4 1/2 csg set @ 12,749-15,798	' with	350	cmt sx								

PROPOSED OPERATIONS-PRESSURES AND RATES

- 1. Calculated Maximum Allowable Surface Pressure for water based on 0.2 psi/ft gradient.
- 2. Calculated bottom hole pressure based on 0.2 psi/ft (OCD gradient), 0.433 psi/ft (freshwater gradient), and true vertical depth of top perforation.
- 3. Calculated Maximum Allowable Surface Pressure for hydrocarbon gas and CO2 based on PROSPER model
 - Various inputs for fluid composition, downhole equipment, bottomhole temperature, and injection rate.

		Wa	ter			Hydroc	arbon Gas			CO	2	
Zone	Average Daily Injection Rate [BWIPD]	Max Daily Injection Rate [BWIPD]	Average Injection Pressure [PSI]	Max Allowable Surface Pressure [PSI]	Average Daily Injection Rate [MMSCFP D]	Max Daily Injection Rate [MMSCFP D]	Average Injection Pressure [PSI]	Max Allowable Surface Pressure [PSI]	Average Daily Injection Rate [MMSCFP D]	Max Daily Injection Rate [MMSCFP D]	Average Injection Pressure [PSI]	Max Allowabl e Surface Pressure [PSI]
Avalon	5000	10000	1813	1813	22	50	4510	4510	22	50	2490	2490
1BSS	5000	10000	1949	1949	22	50	4810	4810	22	50	2630	2630
2BSS	5000	10000	2022	2022	22	50	4980	4980	22	50	2700	2700
3BSS / 3BSL	5000	10000	2361	2361	22	50	5700	5700	22	50	3080	3080



Mesa Verde Water Mixing Analysis

12/18/2024

An analysis was conducted to review scale risk due to water mixing from the Mesa Verde 18 CTB with the Avalon, 2nd Bone Spring, 3rd Bone Spring, Wolfcamp XY, and Wolfcamp A formation water from respective producing wells. To model the scale risks, ScaleSoftPitzer 2025 was used with its Mixing Two Wells function. Average water chemistry values from ChampionX were used for this analysis for all locations. The waters were mixed in the downhole conditions (temperature/pressure) for their respective formations. The Mixing Two Wells function allowed us to review the scale risk at various ratios of the two fluids being mixed.

Overall, there is little risk for scale to be formed when mixing Mesa Verde 18 CTB with formation waters downhole. The only scale that has slight risk for forming is Celestite (SrSO4) scale that increases as the ratio between the CTB and formation water increases, i.e. more CTB water, more scale risk. Realistically, the water mixing ratio in the formation would heavily lean towards more formation water but the contact point between the two fluids would likely have more CTB water.

- At a 10/90 ratio of CTB/formation water, Celestite SI peaked at 0.06 SI and Celestite mg/L peaked at 60 mg/L (20 PTB). Both values are relatively low.
- At a 50/50 ratio of CTB/formation water, Celestite SI peaked at 0.10 SI and Celestite mg/L peaked at 100 mg/L (33 PTB). Both values are low.
- At a 90/10 ratio of CTB/formation water, Celestite SI peaked at 0.12 SI and Celestite mg/L peaked at 140 mg/L (47 PTB). SI values are low, but mg/L starts to hit the moderate range.

If scale risk needs to be minimized further, it is possible to inject a scale inhibitor chemistry with the CTB injection water. We would need discuss with the chemical vendor to see what chemistries they would recommend and any lab testing as needed. With scale risk being low, I do not believe a scale inhibitor would be needed for this application.

Below is supporting information and the SSP2025 results that were modeled. Additional files have the raw water chemistry information and the SSP2025 models that were ran.

Locations	Formation	Temperature (F)	Pressure (PSI)
Mesa Verde 18 CTB	СТВ		
MV BS 1H-ST1	Avalon	135	5700
MV BS 4H	2nd Bone Spring	155	6400
MV BS 2H	3rd Bone Spring	170	7500
MV WC 5H	WCXY	170	7500
MV WC 7H	WCA	170	7500

Mesa Verde 18 CTB / MV BS 1H-ST1 (Avalon)

Mixing Tu	ing Two Wells																															
Well(s):	Mesa Ver	Date:	9/2/2022				Click th	is buttor	1 to calcu	late SI va	alues in r	nixed bri	nesof tw	o produc	ed fluids	on Input	t sheet.															
Produced	Calci	te - SI	Barit	e - SI	Hali	ite - SI	Calcite	(mg/L)	Barite	(mg/L)	Halite	(mg/L)	Gypsu	ım - SI	hemihy	drate- SI	Anhyd	ite - SI	Celest	tite - SI	Gypsun	n (mg/L)	Hemihydr	ate (mg/L)	Anhydri	te (mg/L)	Celestit	e (mg/L)	FeCO	03 - SI	FeCO3	(mg/L)
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Fluids #2 ¹	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)
0.00	0.47	0.47	0.10	0.10	-1.16	-1.16	56	56	1	1	0	0	-0.46	-0.46	-1.08	-1.08	-0.32	-0.32	0.07	0.07	0	0	0	0	0	0	91	91				
0.10	-1.37	-1.37	0.11	0.11	-1.16	-1.16	0	0	1	1	0	0	-0.46	-0.46	-1.08	-1.08	-0.32	-0.32	0.09	0.09	0	0	0	0	0	0	102	102				
0.20	-1.45	-1.45	0.11	0.11	-1.15	-1.15	0	0	0	0	0	0	-0.47	-0.47	-1.09	-1.09	-0.33	-0.33	0.09	0.09	0	0	0	0	0	0	102	102				
0.30	-1.52	-1.52	0.11	0.11	-1.14	-1.14	0	0	0	0	0	0	-0.49	-0.49	-1.11	-1.11	-0.35	-0.35	0.09	0.09	0	0	0	0	0	0	99	99				
0.40	-1.59	-1.59	0.10	0.10	-1.13	-1.13	0	0	0	0	0	0	-0.52	-0.52	-1.14	-1.14	-0.38	-0.38	0.09	0.09	0	0	0	0	0	0	94	94				
0.50	-1.67	-1.67	0.10	0.10	-1.12	-1.12	0	0	0	0	0	0	-0.56	-0.56	-1.17	-1.17	-0.41	-0.41	0.09	0.09	0	0	0	0	0	0	86	86				
0.60	-1.76	-1.76	0.09	0.09	-1.11	-1.11	0	0	0	0	0	0	-0.60	-0.60	-1.22	-1.22	-0.46	-0.46	0.08	0.08	0	0	0	0	0	0	76	76				
0.70	-1.86	-1.86	0.08	0.08	-1.10	-1.10	0	0	0	0	0	0	-0.66	-0.66	-1.28	-1.28	-0.52	-0.52	0.07	0.07	0	0	0	0	0	0	65	65				
0.80	-1.99	-1.99	0.07	0.07	-1.09	-1.09	0	0	0	0	0	0	-0.75	-0.75	-1.36	-1.36	-0.60	-0.60	0.06	0.06	0	0	0	0	0	0	51	51				
0.90	-2.15	-2.15	0.05	0.05	-1.09	-1.09	0	0	0	0	0	0	-0.87	-0.87	-1.48	-1.48	-0.72	-0.72	0.05	0.05	0	0	0	0	0	0	35	35				
1.00	-2.39	-2.39	0.03	0.03	-1.08	-1.08	28 0 0 0 0 0 0 -1.07								-1.68	-1.68	-0.92	-0.92	0.02	0.02	0	0	0	0	0	0	18	18				
1.0 T	Calcite Initial Barite						il Lu	-1.0	Halite	Ini Fin	tial ial	0.0 T	Gypsum		ial 91	0.0 T	Hemihyd	irate Ini Fin	tial nal	0.0	Anhydi	ritel	nitial inal	0.3	Celes	tite	Final	1.5	FeC	D3 _	Final	
40.0 101.0 102.0 -3.0 0.0	ID Caldite Initial_ Barite I 30.0				0.5 0.8 tion of Fluid	1.0	-1.3 +) 0.3 Fra	0.5 0.8 ction of Fl	3 1.0 uid II	91.0 - -1.5 + 0.0) 0.3 Fra	0.5 0.8 ction of Fl	1.0 uid II	81.5 1.0 1.5 2.0 2.0 0.0	0.3 Fra	0.5 0.8 ction of Fl	3 1.0 Juid II	0 0 0 0 0	1.0 0.3 Fi	0.5 (raction of	0.8 1.0 Fluid II	0.0 SI Celestite	0.0 0.3	0.5 Fraction o	0.8 1.0 f Fluid II	0.0 0.0	0.0 0	3 0.5 Fraction	0.8 1.0 of Fluid II		
001 001 001 001 001 001 001 001	Cakite initial. 2 So 3 So 3 So 3 So 5 So					0.5 0.8 tion of Flui	i L 1.0	Halite (mg/t)	Halite 0.3 Frac	0.5 0.8 tion of Flu	al I 1.0 iid II	1	Gypsum 0.3 Fra	0.5 0.8 cction of Fl	:lal al 1.0 uid II	Hemihydrate (mg/L)	Hemihy 0 0.3 Fra	0.5 0.	itial nal 8 1.0 Juid II	Anhydrite (mg/L)	Anhyd	0.5 raction of	nitial Final 0.8 1.0 Fluid II	120 0 05 0 05 0 05 0 05 0 05 0 05 0 05 0	Celes	0.5 Fraction o	initial Final 0.8 1.0 f Fluid II	FeCO3 (mg/L)	FeC	03 3 0.5 Fraction	Initial Final 0.8 1.0 of Fluid II	

Mesa Verde 18 CTB / MV BS 4H (2nd Bone Spring)



Mesa Verde 18 CTB / MV BS 2H (3rd Bone Spring)

Mixing Ty	o Wells																															
Well(s):	Mesa Ver	Date:	Avg				Click th	is butto	n to calcu	late SI v	alues in i	nixed bri	nesof tw	o produc	ed fluid:	s on Inpu	t sheet.															
Produced	Calci	te - SI	Barit	e - SI	Hali	ite - SI	Calcite	(mg/L)	Barite	(mg/L)	Halite	(mg/L)	Gypsi	ım - SI	hemihy	drate- SI	Anhvd	rite - SI	Celest	tite - SI	Gypsun	(mg/L)	Hemihvdr	ate (mg/L)	Anhvdri	te (mg/L)	Celestit	e (mg/L)	FeC	03 - SI	FeCO3	(mg/L)
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Fluids #2	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)
0.00	0.59	0.59	-0.13	-0.13	-1.18	-1.18	68	68	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.23	-0.23	0.12	0.12	0	0	0	0	0	0	143	143				
0.10	-1.07	-1.07	-0.14	-0.14	-1.21	-1.21	0	0	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.23	-0.23	0.12	0.12	0	0	0	0	0	0	136	136				
0.20	-1.20	-1.20	-0.15	-0.15	-1.24	-1.24	0	0	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.23	-0.23	0.11	0.11	0	0	0	0	0	0	126	126				
0.30	-1.32	-1.32	-0.16	-0.16	-1.26	-1.26	0	0	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.23	-0.23	0.10	0.10	0	0	0	0	0	0	116	116				
0.40	-1.45	-1.45	-0.17	-0.17	-1.29	-1.29	0	0	0	0	0	0	-0.52	-0.52	-1.02	-1.02	-0.23	-0.23	0.09	0.09	0	0	0	0	0	0	106	106				
0.50	-1.59	-1.59	-0.18	-0.18	-1.31	-1.31	0	0	0	0	0	0	-0.52	-0.52	-1.02	-1.02	-0.23	-0.23	0.09	0.09	0	0	0	0	0	0	96	96				
0.60	-1.75	-1.75	-0.20	-0.20	-1.34	-1.34	0	0	0	0	0	0	-0.52	-0.52	-1.02	-1.02	-0.24	-0.24	0.08	0.08	0	0	0	0	0	0	86	86				
0.70	-1.93	-1.93	-0.21	-0.21	-1.37	-1.37	0	0	0	0	0	0	-0.52	-0.52	-1.02	-1.02	-0.24	-0.24	0.07	0.07	0	0	0	0	0	0	77	77				
0.80	-2.16	-2.16	-0.23	-0.23	-1.40	-1.40	0	0	0	0	0	0	-0.52	-0.52	-1.02	-1.02	-0.24	-0.24	0.06	0.06	0	0	0	0	0	0	67	67				
0.90	-2.44	-2.44	-0.25	-0.25	-1.43	-1.43	0	0	0	0	0	0	-0.52	-0.52	-1.02	-1.02	-0.24	-0.24	0.06	0.06	0	0	0	0	0	0	58	58				
1.00	-2.82	-2.82	-0.27	-0.27	-1.45	-1.45	0	0	0	0	0	0	-0.52	-0.52	-1.02	-1.02	-0.24	-0.24	0.05	0.05	0	0	0	0	0	0	49	49				
1.0 90.0 	100 2.82 2.82 0.27 0.27 1.45 1.45 0.0 -Galdie -Final Barite Initial Final Final Final Final Final Final So				1 1.0	0.0 90.5 1.0 5 1.5 -2.0 0	Halite - - - 0 0.3 Fra	0.5 0.8 ction of Fl	tial Ial 3 1.0 Iuid II	-0.5 - Wind Absent	Gypsum 0 0.3 Fra	0.5 0.8 ction of Fl	::al al 1.0 luid II	-1.0 SI Hemihydrate	Hemihy 0 0.3 Fra	0.5 0.1 ction of Fl	tial ial 3 1.0 uid II	0.0 SI Anhydrife	Anhydr .0 0.3 Fr	0.5 action of	nitial Final 0.8 1.0 Fluid II	6.0 SI Celestite 0.0	Celes	tite 3 0.5 Fraction o	-Initial Final 0.8 1.0 f Fluid II	1.5 01.0 5.05 0.0	FeC	03 1.3 0.5 Fraction	- Initial - Final 0.8 1.0 of Fluid II			
001 Calcite (mg/l) 0 05 000 000	Calciteinitial CalciteFinal Calciteinitialinitian Calciteinitian Calciteinitianinitian Calciteinitianini					0.5 0.8 tion of Flui	al I 1.0 4 II	1 1 1 0.0 0.0	Halite 0 0.3 Frac	0.5 0.8 tion of Flu	al .i i aid II	1 - 1 - 1 - 1 1 	Gypsum 0 0.3 Fra	0.5 0.1 ction of Fi	tial Ial 3 1.0 Iuid II	Hemihydrate (mg/L)	Hemihy 0 0.3 Fr	0.5 0 action of F	itial nal 8 1.0 luid II	Anhydrite (mg/L)	Anhydr	0.5 raction of	Initial Final 0.8 1.0 Fluid II	Celestite (mg/L) 0 00 0	Celes	tite	Initial Final 0.8 1.0 f Fluid II	Feco3 (mg/L)		0.3 0.5 Fraction	- Initial - Final 0.8 1.0 of Fluid II	
Mixing To	xing Two Wells																															
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Well(s):	Mesa Ver	Date:	9/2/2022				Click th	is buttor	i to calcu	calculate si values in mixed brinesor two produced huids on input sneet.																						
Produces	Calci	te - SI	Barit	e - SI	Hali	te - SI	Calcite	(mg/L)	Barite	te (mg/L) Halite (mg/L		(mg/L)	g/L) Gypsum - SI h		hemihy	lrate- SI	Anhyd	rite - SI	Celest	ite - SI	Gypsun	1 (mg/L)	Hemihydr	ate (mg/L)	Anhydri	e (mg/L)	L) Celestite (m		ag/L) FeCO3 - SI		FeCO3	(mg/L)
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Fluids #2	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)
0.00	0.61	0.61	-0.13	-0.13	-1.18	-1.18	69	69	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.23	-0.23	0.12	0.12	0	0	0	0	0	0	143	143				
0.10	-1.04	-1.04	-0.13	-0.13	-1.21	-1.21	0	0	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.22	-0.22	0.12	0.12	0	0	0	0	0	0	137	137				
0.20	-1.18	-1.18	-0.14	-0.14	-1.24	-1.24	0	0	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.22	-0.22	0.11	0.11	0	0	0	0	0	0	128	128				
0.30	-1.29	-1.29	-0.15	-0.15	-1.27	-1.27	0	0	0	0	0	0	-0.51	-0.51	-1.01	-1.01	-0.23	-0.23	0.10	0.10	0	0	0	0	0	0	119	119				
0.40	-1.41	-1.41	-0.16	-0.16	-1.29	-1.29	0	0	0	0	0	0	-0.51	-0.51	-1.01	-1.01	-0.23	-0.23	0.10	0.10	0	0	0	0	0	0	110	110				
0.50	-1.53	-1.53	-0.17	-0.17	-1.32	-1.32	0	0	0	0	0	0	-0.51	-0.51	-1.01	-1.01	-0.23	-0.23	0.09	0.09	0	0	0	0	0	0	100	100				
0.60	-1.67	-1.67	-0.18	-0.18	-1.35	-1.35	0	0	0	0	0	0	-0.51	-0.51	-1.01	-1.01	-0.23	-0.23	0.08	0.08	0	0	0	0	0	0	91	91				
0.70	-1.82	-1.82	-0.19	-0.19	-1.38	-1.38	0	0	0	0	0	0	-0.51	-0.51	-1.01	-1.01	-0.23	-0.23	0.08	0.08	0	0	0	0	0	0	82	82				
0.80	-2.00	-2.00	-0.20	-0.20	-1.41	-1.41	0	0	0	0	0	0	-0.51	-0.51	-1.01	-1.01	-0.23	-0.23	0.07	0.07	0	0	0	0	0	0	12	12				
0.90	-2.20	-2.20	-0.22	-0.22	-1.44	-1,44	0	0	0	0	0	0	-0.50	0.50	-1.01	-1.01	-0.23	-0.23	0.05	0.05	0	0	0	0	0	0	0.5	03				
1.00	12.10	-2.40	-0.20	-0.25	-1.47	-1.4/		V	v	v		_	-0.50	-0.50	-1.01	-1.01	-0.25	-0.23	0.05	0.02	v	· ·	, v		, v	V						_
	Calcite	-Initia	ıl		Barite	Initia	al		Halite	Init	tial		Gypsum	Init	al		Hemihyo	Irate Ini	tial		Anhydr	ite	initial		Celes	tite	Initial		FeC	03 —	Initial	
1.0		-Fina		0.0 T		-Fina	I	0.0		Fin	al	-0.5		Fina	<u></u>	-1.0		Fir	al	0.0 -	Т		Final	0.3	Т	_	rinal	1.5	5 —	_	-rinal	
. <u></u> 20.0				i i				<u>9</u> 0.5 -				§				ş				ţi.				ite				81.0	o 🕂			
ja.0 -	<u> </u>			Bar –	_			₹1.0 -				sdA				ydr				ydr				lest	_			FeC				
7 2.0		and the owner where the owner w	_	~ ~			_	∽ _{1.5}				910				in line				Ant				2 2				or 20.5	5 †			
-3.0 +			-	-0.3 +				-2.0 -				-0.8 +	-	+ +		₩1.3 +		+ +		∞ 0.3 -		-		°0.0	++			0.0	o ——			
0.0	0.3 (0.5 0.8	1.0	0.0	0.3	0.5 0.8	1.0	0.0	0.3	0.5 0.8	1.0	0.0	0.3	0.5 0.8	1.0	∽ 0.0	0.3	0.5 0.8	1.0	0	.0 0.3	0.5	0.8 1.0		0.0 0.3	0.5	0.8 1.0		0.0 0	.3 0.5	0.8 1.0	
	Frac	tion of Flu	d II		Frac	tion of Fluid			Fra	ction of Fl	uid II		Fra	ction of Fl	II bu		Fra	ction of FI	uid II		Fr	action of	Fluid II			Fraction o	f Fluid II			Fraction	of Fluid II	
	Coluito	-Initi	al		De elte	Initia	al						C		ial		the second beau		itial		A		Initial		Color		Initial		F-0		Initial	1
100 -	Calcite	-Fina	I	1 -	bante	Fina	L	1	naiite	Fina	l	1 -	dypsum	Fin	al	1 -	neminy	Fi	nal	1.	Annya		Final	200			Final		2 FeU	⁰³ —	Final	
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J 0.	0.3	0.5 0.8	1.0	° 0.0	0.3	0.5 0.8	1.0	± 00	0.3	0.5 0.8	10	d 0 +				1 200	0 03	0.5 0	8 10	Å,	0 02	0.5	0.9 1.0	8	00 03	0.5	0.8 1.0	1 × .	0.0 0	3 0.5	0.8 1.0	
	Fra	tion of Flu			Frac	tion of Fluid	10	0.0	Frac	tion of Flu	id IÎ	- 0.0	U.3 Fra	ction of Fl	JID II bit	Hei	Fra	iction of F	luid II	4	.0 U.S Fi	raction of	Fluid II	0	0.0	Fraction o	f Fluid II		0	Fraction	of Fluid II	

Mesa Verde 18 CTB / MV WC 5H (WCXY)

Mesa Verde 18 CTB / MV WC 7H (WCA)

Well(e)	Mess Ver	Data	0/2/2022				Click th	is buttor	to calcu	late SI va	alues in n	nixed bri	nesof two	produce	ed fluids	on Input	t sheet.															
Produced	Calci	te - SI	Barit	e - SI	Hali	te - SI	Calcite	(mg/L)	Barite	(mg/L)	Halite	(mg/L)	Gypsu	m - SI	hemihy	drate- SI	Anhyd	rite - SI	Celest	tite - SI	Gypsun	(mg/L)	Hemihydr	ate (mg/L)	Anhydrit	e (mg/L)	Celestite	(mg/L)	FeCO	03 - SI	FeCO3	(mg/L)
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Fluids #21	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)	(T,P)
0.00	0.58	0.58	-0.13	-0.13	-1.18	-1.18	67	67	0	0	0	0	-0.52	-0.52	-1.01	-1.01	-0.23	-0.23	0.12	0.12	0	0	0	0	0	0	143	143				
0.10	-1.04	-1.04	-0.14	-0.14	-1.21	-1.21	0	0	0	0	0	0	-0.53	-0.53	-1.02	-1.02	-0.23	-0.23	0.11	0.11	0	0	0	0	0	0	131	131				
0.20	-1.17	-1.17	-0.15	-0.15	-1.24	-1.24	0	0	0	0	0	0	-0.53	-0.53	-1.03	-1.03	-0.24	-0.24	0.10	0.10	0	0	0	0	0	0	116	116				
0.30	-1.27	-1.27	-0.16	-0.16	-1.27	-1.27	0	0	0	0	0	0	-0.54	-0.54	-1.04	-1.04	-0.25	-0.25	0.09	0.09	0	0	0	0	0	0	102	102				
0.40	-1.38	-1.38	-0.17	-0.17	-1.30	-1.30	0	0	0	0	0	0	-0.55	-0.55	-1.05	-1.05	-0.26	-0.26	0.08	0.08	0	0	0	0	0	0	88	88				
0.50	-1.50	-1.50	-0.19	-0.19	-1.33	-1.33	0	0	0	0	0	0	-0.56	-0.56	-1.06	-1.06	-0.27	-0.27	0.07	0.07	0	0	0	0	0	0	74	74				
0.60	-1.62	-1.62	-0.20	-0.20	-1.36	-1.36	0	0	0	0	0	0	-0.57	-0.57	-1.07	-1.07	-0.28	-0.28	0.05	0.05	0	0	0	0	0	0	60	60				
0.70	-1.77	-1.77	-0.21	-0.21	-1.39	-1.39	0	0	0	0	0	0	-0.57	-0.57	-1.08	-1.08	-0.29	-0.29	0.04	0.04	0	0	0	0	0	0	47	47				
0.80	-1.93	-1.93	-0.22	-0.22	-1.42	-1.42	0	0	0	0	0	0	-0.58	-0.58	-1.09	-1.09	-0.30	-0.30	0.03	0.03	0	0	0	0	0	0	34	34				
0.90	-2.12	-2.12	-0.24	-0.24	-1.45	-1.45	0	0	0	0	0	0	-0.59	-0.59	-1.09	-1.09	-0.31	-0.31	0.02	0.02	0	0	0	0	0	0	22	22				
1.00	-2.35	-2.35	-0.25	-0.25	-1.48	-1.48	0	0	0	0	0	0	-0.60	-0.60	-1.10	-1.10	-0.32	-0.32	0.01	0.01	0	0	0	0	0	0	10	10				
1.0 90.0 91.0 72.0 -3.0 0.0	0.3 0 Fract	Initi Fina	ial sl 1.0 sid II	0.0 eti-0.3 -0.5 0.0	Barite 0.3 Fract	Initia Final	i 1.0	0.0 a0.5 H1.0 S1.5 -2.0 0.0	Halite	0.5 0.8	tial al 3 1.0 uid II	-0.5 Big -0.8 -0.8 -0.0	Gypsum 0 0.3 Frai	0.5 0.8 ction of Flu	ial al 1.0 uid II	-1.0 st Hemihydrate	Hemihyo 0.3 Fra	0.5 0.5 ction of Fl	tial hal 8 1.0 luid II	0.0 E.O.S S Anhydrite	Anhydr	0.5 Caction of	nitial 'inal 0.8 1.0 Fluid II	0.3 SI Celestite 0.0	Celest	0.5 Fraction o	-Initial Final 0.8 1.0 f Fluid II	1.5 Si.0 50.5 0.0	FeC0	3 0.5 Fraction	- Initial - Final 0.8 1.0 of Fluid II	
100 Calcite (mg/L) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Calcite		ial al i 1.0 uid II	Barite (mg/t)	Barite 0.3 Frac	0.5 0.8 tion of Fluid	i L III ^{1.0}	1 1 0.0 0.0	Halite 0.3 Frac	Initia Fina	al I 1.0 sid II	1 + 1 + 0 0.0 0.0	Gypsum	0.5 0.8	tial al 3 1.0 uid II	Hemihydrate (mg/L)	Hemihy 0.3	0.5 0 action of F	itial nal .8 1.0 iluid II	Anhydrite (mg/L)	Anhydr	0.5 action of	nitial Final 0.8 1.0 Fluid II	Celestite (mg/L) 0 00 00	Celest	0.5 Fraction o	Initial Final 0.8 1.0 f Fluid II	2 FeCO3 (mg/l)	FeC	03 3 0.5 Fraction	- Initial - Final 0.8 1.0 of Fluid II	

Atchafalaya Measurement Inc 416 East Main Street, Artesia NM 88210 575-746-3481

Sample Information

	Sample Information
Sample Name	OXYMesa Verde 2HGC2-41619-10
Station Number	15504T
Lease Name	Mesa Verde 2H
Analysis For	OXY USA
Producer	OXY USA
Field Name	Basin
County/State	Eddy,NM
Frequency/Spot Sample	Quarterly
Sampling Method	Fill Empty
Sample Deg F	86.5
Atmos Deg F	60
Flow Rate	1575.9771
Line PSIG	112.4
Date Sampled/Time Sampled	4-11-19
Cylinder Number	N/A
Cylinder Clean Date	N/A
Sampled By	Victor Urias
Analysis By	Pat Silvas
Verified/Calibrated Date	4-15-19
Report Date	2019-04-16 14:03:56

Component Results

Component Name	Ret. Time	Peak Area	Norm%	GPM (Dry) (Gal. / 1000 cu.ft.)	
Nitrogen	22.960	21911.2	1.6270	0.000	
H2S	0.000	0.0	0.0000	0.000	
Methane	23.740	732471.0	71.9846	0.000	
Carbon Dioxide	27.640	44300.2	2.8176	0.000	
Ethane	36.960	211191.6	12.5633	3.354	
Propane	77.160	149546.1	6.7228	1.849	
i-Butane	29.820	71692.4	0.8789	0.287	
n-Butane	32.080	168721.6	2.0529	0.646	
i-Pentane	39.180	40565.8	0.4290	0.157	
n-Pentane	41.980	44912.8	0.4623	0.167	
C6's	50.750	26514.0	0.2401	0.099	
C7's	67.000	19009.0	0.1657	0.076	
C8's	84.000	5233.0	0.0486	0.025	
C9's	102.000	1531.0	0.0051	0.003	
C10 Plus	146.000	557.0	0.0021	0.001	
Total:			100.0000	6.664	

Results Summary

Result	Dry	Sat. (Base)
Total Raw Mole% (Dry)	100.9186	
Pressure Base (psia)	14.650	
Temperature Base	60.00	
Gross Heating Value (BTU / Ideal cu.ft.)	1269.9	1247.7
Gross Heating Value (BTU / Real cu.ft.)	1275.0	1253.2
Relative Density (G), Ideal	0.7862	0.7833
Relative Density (G), Real	0.7891	0.7865
Compressibility (Z) Factor	0.9960	0.9955



Field:	Mesa Verde
Station Name:	Mesa Verde East CGL
Station Number:	N/A
Sample Point:	Inlet to Dehy
Meter Number:	
County:	Lea
Type of Sample:	Spot-Cylinder
Heat Trace Used:	N/A
Sampling Method:	Fill and Purge
Sampling Company	:OXY

Certificate of Analysis

Number: 6030-20110021-001A

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

Nov. 05, 2020

Sampled By: Scott Beasley Sample Of: Gas Spot Sample Date: 10/30/2020 10:00 Sample Conditions: 1290 psig, @ 60 °F Ambient: 45 °F Effective Date: 10/30/2020 10:00 Method: GPA 2286 Cylinder No: 1111-002316 Instrument: 6030_GC2 (Agilent GC-7890B) Last Inst. Cal.: 08/25/2020 8:12 AM Analyzed: 11/05/2020 08:47:32 by PGS

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	1.206	1.189	1.495		GPM TOTAL C2+	6.645
Methane	75.248	74.177	53.401		GPM TOTAL C3+	3.314
Carbon Dioxide	1.152	1.136	2.244		GPM TOTAL iC5+	0.562
Ethane	12.654	12.474	16.832	3.331		
Propane	6.662	6.567	12.995	1.806		
Iso-butane	0.889	0.876	2.285	0.286		
n-Butane	2.126	2.096	5.467	0.660		
Iso-pentane	0.443	0.437	1.415	0.159		
n-Pentane	0.488	0.481	1.557	0.174		
Hexanes Plus	0.575	0.567	2.309	0.229		
	101.443	100.000	100.000	6.645		
Calculated Physical	I Properties	Тс	otal	C6+		
Relative Density Rea	ll Gas	0.77	722	3.1348		
Calculated Molecular	r Weight	22	.28	90.79		
Compressibility Factor	or	0.99	960			
GPA 2172 Calculation	on:					
Calculated Gross B	TU per ft ³ @ 14.65 p	sia & 60°F				
Real Gas Dry BTU	• •	12	298	4897		
Water Sat. Gas Base	BTU	12	275	4811		
Ideal, Gross HV - Dry	y at 14.65 psia	129	2.6	4896.9		
Ideal, Gross HV - We	et i	127	0.0	0.000		
Net BTU Dry Gas - re	eal gas	1.	179			
Net BTU Wet Gas - r	eal gas	1 <i>*</i>	158			
• · · · · · · · · · · · · · · · · · · ·						

Comments: H2S Field Content 0 ppm

Hydrocarbon Laboratory Manager

Quality Assurance:

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



Field:Mesa VerdeStation Name:Mesa Verde East CGLStation Number:N/ASample Point:Inlet to DehyMeter Number:LeaCounty:LeaType of Sample:Spot-CylinderHeat Trace Used:N/ASampling Method: Fill and Purge

Certificate of Analysis

Number: 6030-20110021-001A

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

Nov. 05, 2020

Sampled By:Scott BeasleySample Of:GasSpotSample Date:10/30/2020 10:00Sample Conditions:1290 psig, @ 60 °FMethod:GPA 2286Cylinder No:1111-002316Analyzed:11/05/2020 14:31:50 by PGSSampling Company:OXY

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia			
Nitrogen	1.189	1.495		GPM TOTAL C2+	6.645	
Methane	74.177	53.401		GPM TOTAL C3+	3.314	
Carbon Dioxide	1.136	2.244		GPM TOTAL iC5+	0.562	
Ethane	12.474	16.832	3.331			
Propane	6.567	12.995	1.806			
Iso-Butane	0.876	2.285	0.286			
n-Butane	2.096	5.467	0.660			
Iso-Pentane	0.437	1.415	0.159			
n-Pentane	0.481	1.557	0.174			
Hexanes	0.260	1.017	0.107			
Heptanes Plus	0.307	1.292	0.122			
	100.000	100.000	6.645			
Calculated Physica	I Properties		Total	C7+		
Relative Density Rea	al Gas		0.7722	3.3040		
Calculated Molecula	r Weight		22.28	95.69		
Compressibility Fact	or		0.9960			
GPA 2172 Calculati	ion:					
Calculated Gross B	BTU per ft ³ @	2 14.65 psia	a & 60°F			
Real Gas Dry BTU			1298	5090		
Water Sat. Gas Base	e BTU		1275	5000		
Ideal, Gross HV - Dr	y at 14.65 ps	ia	1292.6	5089.5		
Ideal, Gross HV - We	et		1270.0	NIL		
Commonter U28 E	iold Contont	0 000				

Comments: H2S Field Content 0 ppm

Hydrocarbon Laboratory Manager

Quality Assurance:

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



Field:Mesa VerdeStation Name:Mesa Verde East CGLStation Number:N/ASample Point:Inlet to DehyMeter Number:County:County:LeaType of Sample:Spot-CylinderHeat Trace Used:N/ASampling Method: Fill and Purge

Certificate of Analysis

Number: 6030-20110021-001A

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

Nov. 05, 2020

Sampled By:Scott BeasleySample Of:GasSpotSample Date:10/30/2020 10:00Sample Conditions:1290 psig, @ 60 °FMethod:GPA 2286Cylinder No:1111-002316Analyzed:11/05/2020 14:31:50 by PGSSampling Company:OXY

Analytical Data GPM at Components Mol. % Wt. % 14.65 psia GPM TOTAL C2+ Nitrogen 1.189 1.495 6.645 Methane 74.177 53.401 Carbon Dioxide 1.136 2.244 Ethane 12.474 16.832 3.331 Propane 6.567 12.995 1.806 Iso-Butane 2.285 0.876 0.286 n-Butane 2.096 5.467 0.660 1.415 Iso-Pentane 0.437 0.159 n-Pentane 0.481 1.557 0.174 i-Hexanes 0.161 0.616 0.065 0.099 n-Hexane 0.401 0.042 0.019 0.064 0.005 Benzene 0.059 Cyclohexane 0.227 0.021 i-Heptanes 0.101 0.415 0.040 n-Heptane 0.026 0.119 0.012 Toluene 0.001 0.002 NIL i-Octanes 0.077 0.352 0.034 n-Octane 0.005 0.003 0.026 Ethylbenzene 0.001 0.004 NIL **Xvlenes** 0.005 0.020 0.002 i-Nonanes 0.009 0.047 0.004 n-Nonane 0.002 0.009 0.001 i-Decanes NIL 0.002 NIL n-Decane 0.001 0.002 NIL Undecanes 0.003 0.001 NIL Dodecanes NIL NIL NIL NIL Tridecanes NIL NIL **Tetradecanes Plus** NIL NIL NIL 100.000 100.000 6.645



Field:Mesa VerdeStation Name:Mesa Verde East CGLStation Number:N/ASample Point:Inlet to DehyMeter Number:County:County:LeaType of Sample:Spot-CylinderHeat Trace Used:N/ASampling Method: Fill and Purge

Certificate of Analysis

Number: 6030-20110021-001A

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

Nov. 05, 2020

Sampled By:Scott BeasleySample Of:GasSpotSample Date:10/30/2020 10:00Sample Conditions:1290 psig, @ 60 °FMethod:GPA 2286Cylinder No:1111-002316Analyzed:11/05/2020 14:31:50 by PGSSampling Company:OXY

Calculated Physical PropertiesTotalCalculated Molecular Weight22.284GPA 2172 Calculation:Calculated Gross BTU per ft³ @ 14.65 psia & 60°FCalculated Gross BTU per ft³ @ 14.65 psia & 60°F1297.8Water Sat. Gas Base BTU1297.8Water Sat. Gas Base BTU1275.1Relative Density Real Gas0.7722Compressibility Factor0.9960Comments:H2S Field Content 0 ppm

Quality Assurance:

Hydrocarbon Laboratory Manager The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

4.36.09 pmley Released to Imaging: 2/11/2023



Released to Imaging: 2/11/2025 4:36:09 PM

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Mesa Verde BS EOR Project- Notice List 2/10/2025

Party	Address
Agencies and Surface Ow	ners
Durage of Land Mangmant, Carlshad Field Office	620 E. Greene Street
Bureau of Land Mangment- Cansbad Field Office	Carlsbad, New Mexico 88220-6292
State Land Office	P.O. Box 1148
State Land Office	Santa Fe, NM 87504
Offset Operators	
	P.O. Box 51810
BURLINGTON RESOURCES OIL & GAS CO	Midland, TX 79710
	600 W. Illinois Avenue
BURLINGTON RESOURCES OIL & GAS COMPANY LP	Midland, TX 79701
	6301 Deauville Blvd
CHEVRON U S A INC	Midland, TX 79706
	600 W. Illinois Avenue
COG OPERATING LLC	Midland, TX 79701
	600 W. Illinois Avenue
COG PRODUCTION, LLC	Midland, TX 79701
	333 West Sheridan Avenue
DEVON ENERGY PRODUCTION COMPANY, LP	Oklahoma City, OK 73102
	20 N. Broadway
	Suite 1500
DEVON SFS OPERATING INC	Oklahoma City, OK 73102
	5509 Champions Drive
EOG RESOURCES INC	Midland, TX 79706
	104 S. 4th Street
EOG Y RESOURCES, INC.	Artesia, NM 88210
	P.O. Box 936
HARVARD PETROLEUM COMPANY, LLC	Roswell, NM 88202
	P.O Box 1479
MESQUITE SWD, INC	Carlsbad, NM 88221
	865 North Albion Street
	Suite 500
NGL WATER SOLUTIONS PERMIAN, LLC	Denver, CO 80220
	523 Park Point Drive
	Suite 200
TAP ROCK OPERATING, LLC	Golden, CO 80401
	6401 Holiday Hill Road
	Building #5
XTO ENERGY, INC	Midland, TX 79707
Other Affected Persons and	Parties
28TwentyEight Energy LLC	5790 Saintsbury Drive
	The Colony, TX 75056

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3 Knights Operating LLC	6404 County Road 1440
	Lubbock, TX 79407
3XT Holding LLC	5325 County Road 7560
	Lubbock, TX 79424
Abo Petroleum	P.O. Box 900
	Artesia, NM 88211
Burlington Resources Oil & Gas Company LP	P.O. Box 51810
	Midland, TX 79710
Chevron USA Inc.	1400 Smith Street
	Houston, TX 77002
COG Operating LLC	600 W. Illinois Avenue
	Midland, TX 79701
Devon Energy Production Company, LP	333 W. Sheridan Avenue
	Oklahoma City, OK 73102
EOG Resources	1111 Bagby Street
	Sky Lobby 2
	Houston, TX 77002
Hilcorp Energy	1000 Louisiana #3760
	Houston, TX 77002
LMS Limited Liability Company	Box 621402
	Littleton, CO 80162
Mersereau Enterprises LLC	132 Castillo Avenue
	San Antonio, TX 78210
	5 Greenway Plaza, Suite 110
Oxy Y-1 Company	Houston, TX 77046
Panada Pipe & Equipment	P.O. Box 3721
	Midland, TX 79702
	717 Texas Street
PXP Producing Company LLC	Suite 2100
	Houston, TX 77002
	1415 Louisiana Street
Sabine Oil & Gas Corporation	Suite 1600
	Houston, TX 77002
T E F Corporation	P.O. Box 3721
·	Midland, TX 79702
Tempo Energy Inc.	P.O. Box 1034
1 07	Midland. TX 79702
	P.O. Box 1797
Thomas E. Jennings	Roswell. NM 88202
U-	P.O. Box 1797
Timothy Z. Jennings	Roswell, NM 88202
, 05	P.O. Box 100
Vladin LLC	Artesia. NM 88211
	22777 Springwoods Village Parkway
XTO Holdings LLC	Spring, TX 77389
U -	

Part VIII- Geologic Information for Mesa Verde – Avalon

Table 1. Mesa Verde Avalon Laterals (4).

Well Name	API
MESA VERDE BS UNIT 1H ST1	3002544101
MESA VERDE BS UNIT 3H	3002544183
MESA VERDE BS UNIT 44H	3002548814
MESA VERDE BS UNIT 45H	3002548815

The Mesa Verde Avalon lateral wells (Table 1) will be injecting into the Avalon Formation of the Bone Spring Formation. These wells have a subsea true vertical depth (SSTVD) of approximately -5500 to - 5700 ft. with lateral lengths of approximately 10,000 ft. They will be injecting into a reservoir composed of kerogen-rich mudrock. The reservoir rock has porosity of 3-15% with an average porosity of 10%. Rock matrix permeability measured on whole core and rotary sidewall cores with GRI tests averages 0.0009 millidarcies, ranging from 0.0000001 to 0.00655 millidarcies.

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 measures at 8,482 MD depth at the Jack Tank Federal 2 well (30-025-32192) in Mesa Verde with a total thickness of 640 to 800 ft. above the injection zone with tight carbonates and shales acting as permeability baffles to upward migration of injected gas. These low-permeability barriers acted as seals above and below the reservoir to historically trap hydrocarbons. Above that, the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,800 ft. thick. Above that is the Castile Formation consisting of very low permeability anhydrite, gypsum, and calcite that acts as another 1,400 ft. thick barrier to upward movement of fluids. The Salado overlies the Castile and forms a 2,000 ft. thick barrier of salt. The top of the Salado is at 1,285 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 930 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 found freshwater wells within a two mile radius of Mesa Verde.

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

Stephanie Noonan

2/6/25

Stephanie Noonan Geologist Staff Sr. Date

Part VIII- Geologic Information for Mesa Verde – First Bone Spring Sandstone

Table 1. Mesa Verde First Bone Spring Sandstone Laterals (2).

Well Name	ΑΡΙ
MESA VERDE BS UNIT 46H	3002548816
MESA VERDE BS UNIT 73H	3002548818

The Mesa Verde First Bone Spring lateral wells (Table 1) will be injecting into the First Bone Spring Sandstone of the Bone Spring Formation. These wells have a subsea true vertical depth (SSTVD) of approximately -6200 ft. with lateral lengths of approximately 10,000 ft. They will be injecting into a reservoir composed of tight siltstone. The reservoir rock has porosity of 2-13% with an average porosity of 6%. Rock matrix permeability measured on whole core and rotary sidewall cores with GRI tests averages 0.0001489 millidarcies, ranging from 0.0000013 to 0.0005076 millidarcies.

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 measures at 8,482 MD depth at the Jack Tank Federal 2 well (30-025-32192) in Mesa Verde with a total thickness of 1,000 ft. above the injection zone with tight carbonates and shales acting as permeability baffles to upward migration of injected gas. These lowpermeability barriers acted as seals above and below the reservoir to historically trap hydrocarbons. Above that, the Delaware Mountain Group consists of connate-water bearing and hydrocarbon-bearing sands, with minor limestone and shale intervals and is over 3,800 ft. thick. Above that is the Castile Formation consisting of very low permeability anhydrite, gypsum, and calcite that acts as another 1,400 ft. thick barrier to upward movement of fluids. The Salado overlies the Castile and forms a 2,000 ft. thick barrier of salt. The top of the Salado is at 1,285 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 930 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 found freshwater wells within a two mile radius of Mesa Verde.

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

Stephanie Noonan

<u>2/6/25</u>

Stephanie Noonan Geologist Staff Sr. Date

Part VIII- Geologic Information for Mesa Verde Second Bone Spring Sandstone Lateral Wells:

Table 1. Mesa Verde 2nd Bone Sandstone Laterals (7).

Well Name	ΑΡΙ
MESA VERDE BS UNIT 4H	3002544064
MESA VERDE BS UNIT 5H	3002544185
MESA VERDE BS UNIT 6H	3002544042
MESA VERDE BS UNIT 7H	3002544065
MESA VERDE BS UNIT 22H	3002544559
MESA VERDE BS UNIT 23H	3002544560
MESA VERDE BS UNIT 24H	3002544561

The Mesa Verde Second Bone Spring Sandstone lateral wells (Table 1) will be injecting into the Second Bone Spring Sandstone of the Bone Spring Formation. These wells have a subsea true vertical depth (SSTVD) of approximately -6700 ft. to -7100 ft. with lateral lengths of approximately 10,000 ft. They will be injecting into a reservoir composed of tight siltstone. The reservoir rock has porosity of 2-11% with an average porosity of 7%. Rock matrix permeability measured on whole core and rotary sidewall cores with GRI tests averages 0.0002106 millidarcies, ranging from 0.0000003 to 0.0014078 millidarcies.

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 measures at 8,482 MD depth at the Jack Tank Federal 2 well (30-025-32192) in Mesa Verde with a total thickness of 1,800 ft. above the injection zone, with carbonate mudstones and shales acting as permeability baffles to upward migration of injected gas. These low-permeability barriers acted as seals above and below the reservoir to historically trap hydrocarbon 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 3,800 ft. thick. Above that is the Castile Formation consisting of very low permeability anhydrite, gypsum, and calcite that acts as another 1,400 ft. thick barrier to upward movement of fluids. The Salado overlies the Castile and forms a 2,000 ft. thick barrier of salt. The top of the Salado is at 1,285 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 930 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 wells has found freshwater wells within a two mile radius of Mesa Verde.

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

Stephanie Noonan

Stephanie Noonan

____2/6/25_____

Date

Geologist Staff Sr.

Part VIII- Geologic Information for Mesa Verde – Third Bone Spring Sand Mesa Verde BS 2H Well

The Mesa Verde Third Bone Spring lateral well, Mesa Verde BS 2H (3002544196), will be injecting into the Third Bone Spring Sandstone of the Bone Spring Formation. This well has a subsea true vertical depth (SSTVD) of approximately -8275 ft. with a lateral length of approximately 10,000 ft. It will be injecting into a reservoir composed of tight siltstone. The reservoir rock has porosity of 1-9% with an average porosity of 8%. Rock matrix permeability measured on whole core and rotary sidewall cores with GRI tests averages 0.001 millidarcies, ranging from 0.0000008 to 0.0023809 millidarcies.

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 measures at 8,482 MD depth at the Jack Tank Federal 2 well (API #30-025-32192) in Mesa Verde with a total thickness of 3,300 ft. above the injection zone, with carbonate mudstones and shales acting as permeability baffles to upward migration of injected gas. These low-permeability barriers acted as seals above and below the reservoir to historically trap hydrocarbon 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 3,800 ft. thick. Above that is the Castile Formation consisting of very low permeability anhydrite, gypsum, and calcite that acts as another 1,400 ft. thick barrier to upward movement of fluids. The Salado overlies the Castile and forms a 2,000 ft. thick barrier of salt. The top of the Salado is at 1,285 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 930 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 found any freshwater wells within a two mile rad ius of Mesa Verde.

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

Stephonic Noonan

2/6/25

Stephanie Noonan Geologist Staff Sr. Date

Part VIII- Geologic Information for Mesa Verde – Third Bone Spring Limestone Mesa Verde BS 74H Well

The Mesa Verde Third Bone Spring Limestone lateral well Mesa Verde BS 74H (3002548819) will be injecting into the Harkey Member of the Third Bone Spring Limestone of the Bone Spring Formation. This well has a subsea true vertical depth (SSTVD) of approximately -7560 ft. with a lateral length of approximately 10,000 ft. It will be injecting into a reservoir composed of tight siltstone. The reservoir rock has porosity of 2-10% with an average porosity of 5%. Rock matrix permeability measured on whole core and rotary sidewall cores with GRI tests averages 0.002 millidarcies, ranging from 0.0000003 to 0.0053 millidarcies.

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 measures at 8,482 MD depth at the Jack Tank Federal 2 well (API #30-025-32192) in Mesa Verde with a total thickness of 2,500 ft. above the injection zone, with carbonate mudstones and shales acting as permeability baffles to upward migration of injected gas. These low-permeability barriers acted as seals above and below the reservoir to historically trap hydrocarbon 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 3,800 ft. thick. Above that is the Castile Formation consisting of very low permeability anhydrite, gypsum, and calcite that acts as another 1,400 ft. thick barrier to upward movement of fluids. The Salado overlies the Castile and forms a 2,000 ft. thick barrier of salt. The top of the Salado is at 1,285 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 930 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 found freshwater wells within a two mile radius of Mesa Verde.

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

Stephanie Noonan

<u>2/6/25</u>

Date

Stephanie Noonan

Geologist Staff Sr.