

FEB 15 2018

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
NMNM85893

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other			6. If Indian, Allottee or Tribe Name		
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other			7. Unit or CA Agreement Name and No.		
2. Name of Operator OXY USA INC			8. Lease Name and Well No. CEDAR CANYON 21 FEDERAL COM 31H		
3. Address MIDLAND, TX 79710			9. API Well No. 30-015-44182-00-S1		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface NENE 339FNL 368FEL 32.209353 N Lat, 103.982058 W Lon At top prod interval reported below NENE 389FNL 368FEL 32.209240 N Lat, 103.981968 W Lon At total depth NWNW 419FNL 184FWL 32.209212 N Lat, 103.997388 W Lon			10. Field and Pool, or Exploratory UNKNOWN		
14. Date Spudded 07/31/2017			15. Date T.D. Reached 08/14/2017		
16. Date Completed ☐ D & A ☒ Ready to Prod. 10/05/2017			17. Elevations (DF, KB, RT, GL)* 2928 GL		
18. Total Depth: MD TVD 14734 9950		19. Plug Back T.D.: MD TVD 14671 9952		20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) MUDLOG			22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☐ No ☒ Yes (Submit analysis)		

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
14.750	10.750 J55	45.5	0	456		674	168	0	
9.875	7.625 L80	29.7	0	9295	3007	1773	604	0	
6.750	4.500 P110	13.5	9183	14724		713	171	9183	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WOLFCAMP	9966	14562	9966 TO 14562	0.420	920	ACTIVE
B)						
C)						
D)						

26. Perforation Record

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
9966 TO 14562	7021686G SLICKWATER + 966000G 7.5% HCL ACID W/6932640# SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/06/2017	10/13/2017	24	→	1864.0	3375.0	4649.0			FLOW FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
52/128	SI	1437.0	→	1864	3375	4649	1811	POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #398955 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Interm Reclamation to be done 6 months from 10/5/17.

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

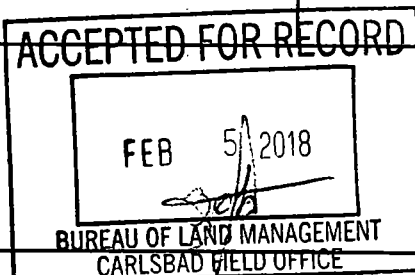
31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
BELL CANYON	3008	3835	OIL, GAS, WATER	RUSTLER	286
CHERRY CANYON	3836	5194	OIL, GAS, WATER	SALADO	615
BRUSHY CANYON	5195	6634	OIL, GAS, WATER	CASTILE	1367
BONE SPRING	6635	7650	OIL, GAS, WATER	DELAWARE	2957
BONE SPRING 1ST	7651	8480	OIL, GAS, WATER	BELL CANYON	3008
BONE SPRING 2ND	8481	9588	OIL, GAS, WATER	CHERRY CANYON	3836
BONE SPRING 3RD	9589	9901	OIL, GAS, WATER	BRUSHY CANYON	5195
WOLFCAMP	9902	9952	OIL, GAS, WATER	BONE SPRING	6635

32. Additional remarks (include plugging procedure):
52. FORMATION (LOG) MARKERS CONTD.

1ST BONE SPRING 7651'M
2ND BONE SPRING 8481'M
3RD BONE SPRING 9589'M
WOLFCAMP 9902'M

Logs were mailed 12/27/17.



33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7. Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #398955 Verified by the BLM Well Information System.
For OXY USA INC, sent to the Carlsbad
Committed to AFMSS for processing by DUNCAN WHITLOCK on 01/10/2018 (18DW0038SE)

Name (please print) DAVID STEWART

Title SR REGULATORY ADVISOR

Signature _____ (Electronic Submission)

Date 12/22/2017

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

Additional data for transaction #398955 that would not fit on the form

32. Additional remarks, continued

Log Header, Directional Survey, As-Drilled Amended C-102 plat & WBD are attached.

NM OIL CONSERVATION

ARTESIA DISTRICT

FEB 15 2018

DISTRICT I
1025 N. FRENCH DR., HOBBS, NM 88240
Phone: (876) 393-6181 Fax: (876) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (876) 748-1283 Fax: (876) 748-0720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

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

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

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

☒ AMENDED REPORT
(As-Drilled)

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-44182	Pool Code 98220	Pool Name Purple Sage Wolfcamp
Property Code 315207	Property Name CEDAR CANYON 21 FEDERAL COM	
OGRID No. 16696	Operator Name OXY USA INC.	Well Number 31H
		Elevation 2928.2'

Surface Location

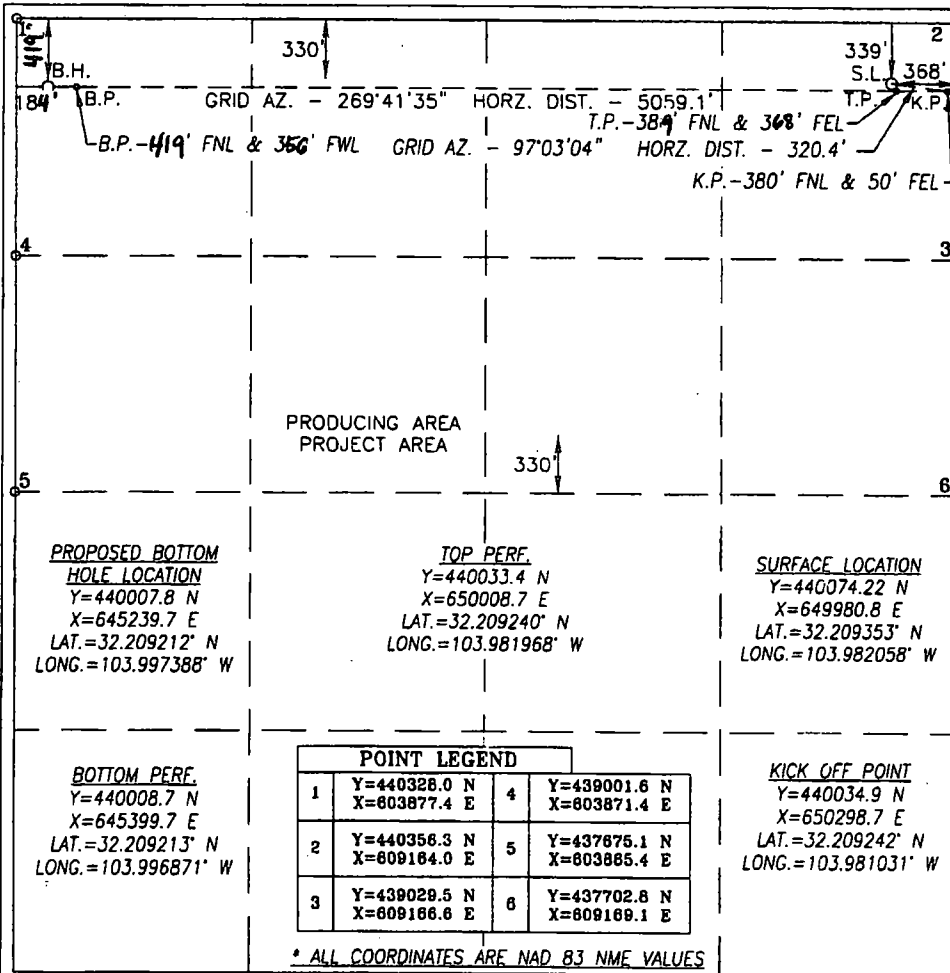
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	24-S	29-E		339	NORTH	368	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	24-S	29-E		380 419	NORTH	180 184	WEST	EDDY

Dedicated Acres 320	Joint or Infill Y	Consolidation Code	Order No. BP- 419 FNL 356 FWL TP- 389 FNL 308 FEL
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

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

Signature: *[Signature]* Date: **9/28/17**
Printed Name: **Jana Mendiola**
E-mail Address: **jana.mendiola@oxy.com**

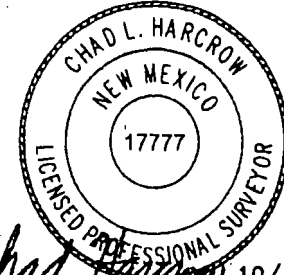
SURVEYOR CERTIFICATION

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

JULY 27, 2016

Date of Survey

Signature & Seal of Professional Surveyor



Signature: *[Signature]* Date: **10/13/16**
Certificate No. **CHAD HARCROW 17777**
W.O. #16-803 DRAWN BY: AM

Schlumberger Drilling and Measurements

Drilling Group

Geo Market Area: South West Texas Basin

7220 W I-H 20

Midland, Texas 79706

Phone : (432) 742-5400 (Main)

Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:

21, 24S, 29E, Eddy NM

N 32.20935 W -103.98206

I, Kurt Valentine certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of August 01, 2017 through August 14, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 529.00 feet to a depth of 14686.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of OXY USA, INC for the Cedar Canyon 21 FedCom 31H Well (Original Hole) API No. 30-015-44182 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By

Kurt Valentine

FS

Kurt Valentine

Subscribed and Sworn to before me this 28th day of August (month) 2017 (yr)

My Commission expires:

12-20-2020

J. Allemand

Notary Public

Adams County, Colorado
(County State)

JENNIFER ALLEMAND
signature) Notary Public
State of Colorado
Notary ID # 20164047962
My Commission Expires 12-20-2020

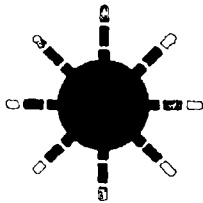
Oxy Cedar Canyon 21 Federal Com 31H Gyro+MWD 0-14734 ftMD Survey Geodetic Report (Def Survey)



Report Date: August 14, 2017 01:38 PM Client: OXY Field: NM Eddy County (NAD 83) Structure / Slot: Oxy Cedar Canyon 21 Federal Com 31H / Oxy Cedar Canyon 21 Federal Com 31H Well: Oxy Cedar Canyon 21 Federal Com 31H Borehole: Original Borehole UW / API#: Unknown / Unknown Survey Name: Oxy Cedar Canyon 21 Federal Com 31H Gyro+MWD 0-14734 RMD Survey Date: July 26, 2017 Tor / AMD / DDI / ERD Ratio: 186 857 / 5239 072 R / 6.158 / 0.522 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 12' 33.67056" W 103° 58' 55.40890" Location Grid N/E Y/X: N 440074 220 RUS E 649980 800 RUS CRS Grid Convergence Angle: 0.1872° Grid Scale Factor: 0.99992261 Version / Patch: 2 10 544 0	Survey / DLS Computation: Minimum Curvature : Lubinski Vertical Section Azimuth: 269 197 (Grid North) Vertical Section Origin: 0 000 ft. 0 000 ft TVD Reference Datum: RKB=26.5' TVD Reference Elevation: 2954 700 ft above MSL Seabed / Ground Elevation: 2628 200 ft above MSL Magnetic Declination: 7 147' Total Gravity Field Strength: 998 4693mgn (9 80665 Based) Gravity Model: GARM Total Magnetic Field Strength: 48100 185 nT Magnetic Dip Angle: 60 017' Declination Date: August 08, 2017 Magnetic Declination Model: HDGM 2017 North Reference: Grid North Grid Convergence Used: 0.1872° Total Corr Mag North->Grid North: 6 9600' Local Coord Referenced To: Well Head	Minimum Curvature : Lubinski 269 197 (Grid North) 0 000 ft. 0 000 ft RKB=26.5' 2954 700 ft above MSL 2628 200 ft above MSL 7 147' 998 4693mgn (9 80665 Based) GARM 48100 185 nT 60 017' August 08, 2017 HDGM 2017 Grid North 0.1872° 6 9600' Well Head
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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	440074.22	649980.80	N 32 12 33.67 W 103 58 55.41
	72.60	0.53	337.23	72.60	0.13	0.31	0.13	0.73	440074.53	649980.87	N 32 12 33.67 W 103 58 55.41	
	164.80	0.90	349.36	164.79	0.41	1.41	-0.43	0.43	440075.63	649980.37	N 32 12 33.68 W 103 58 55.41	
	258.60	1.44	3.00	258.57	0.46	3.27	-0.50	0.66	440077.49	649980.30	N 32 12 33.73 W 103 58 55.41	
	346.80	1.90	7.61	346.73	0.16	5.89	-0.24	0.53	440080.11	649980.56	N 32 12 33.73 W 103 58 55.41	
	437.40	2.07	13.24	437.28	-0.46	8.97	0.33	0.29	440083.19	649981.13	N 32 12 33.76 W 103 58 55.40	
	529.40	0.49	11.54	529.25	-0.94	10.97	0.79	1.72	440085.19	649981.59	N 32 12 33.76 W 103 58 55.40	
	621.30	0.14	24.91	621.15	-1.08	11.45	0.91	0.39	440085.68	649981.71	N 32 12 33.76 W 103 58 55.40	
	712.80	0.12	26.46	712.65	1.17	11.65	1.00	0.02	440085.67	649981.80	N 32 12 33.76 W 103 58 55.40	
	803.70	0.11	5.63	803.55	-1.22	11.82	1.06	0.05	440086.04	649981.85	N 32 12 33.79 W 103 58 55.40	
	895.50	0.08	199.22	895.35	-1.21	11.86	1.05	0.18	440086.08	649981.85	N 32 12 33.79 W 103 58 55.40	
	985.80	0.11	293.31	985.65	1.12	11.85	0.95	0.14	440086.07	649981.75	N 32 12 33.79 W 103 58 55.40	
	1077.40	0.11	332.97	1077.25	-1.00	11.96	0.83	0.08	440086.18	649981.63	N 32 12 33.79 W 103 58 55.40	
	1168.70	0.07	159.00	1168.55	-0.98	11.99	0.81	0.20	440086.21	649981.61	N 32 12 33.79 W 103 58 55.40	
	1260.40	0.07	145.87	1260.25	-1.03	11.89	0.86	0.02	440086.11	649981.66	N 32 12 33.79 W 103 58 55.40	
	1323.40	0.07	148.06	1323.25	-1.07	11.83	0.91	0.00	440086.05	649981.71	N 32 12 33.78 W 103 58 55.40	
	1418.00	0.06	138.45	1417.85	1.13	11.74	0.97	0.02	440085.96	649981.77	N 32 12 33.79 W 103 58 55.40	
	1512.80	0.13	103.07	1512.45	1.14	11.60	0.98	0.11	440085.82	649981.78	N 32 12 33.79 W 103 58 55.40	
	1607.20	0.30	216.52	1607.05	-0.86	11.30	0.80	0.20	440085.52	649981.60	N 32 12 33.78 W 103 58 55.40	
	1701.80	0.21	191.05	1701.65	0.77	10.94	0.81	0.16	440085.16	649981.41	N 32 12 33.78 W 103 58 55.40	
	1796.50	0.17	198.38	1796.35	-0.68	10.63	0.53	0.05	440084.85	649981.33	N 32 12 33.78 W 103 58 55.40	
	1891.50	0.19	208.09	1891.35	0.56	10.36	0.42	0.04	440084.58	649981.22	N 32 12 33.77 W 103 58 55.40	
	1986.20	0.16	197.07	1986.05	-0.44	10.10	0.30	0.05	440084.32	649981.10	N 32 12 33.77 W 103 58 55.40	
	2080.90	0.19	200.85	2080.75	0.35	9.82	0.21	0.03	440084.04	649981.01	N 32 12 33.77 W 103 58 55.41	
	2175.40	0.09	181.85	2175.25	-0.31	9.61	0.18	0.14	440083.83	649980.98	N 32 12 33.77 W 103 58 55.41	
	2270.10	0.11	153.85	2269.95	-0.37	9.45	0.24	0.03	440083.67	649981.04	N 32 12 33.76 W 103 58 55.41	
	2364.70	0.06	52.15	2364.55	-0.45	9.40	0.32	0.14	440083.62	649981.12	N 32 12 33.76 W 103 58 55.40	
	2459.30	0.08	69.19	2459.15	0.54	9.45	0.40	0.02	440083.67	649981.20	N 32 12 33.76 W 103 58 55.40	
	2553.90	0.11	135.42	2553.75	0.65	9.40	0.51	0.11	440083.62	649981.31	N 32 12 33.76 W 103 58 55.40	
	2648.30	0.14	135.45	2648.15	-0.79	9.26	0.66	0.03	440083.48	649981.46	N 32 12 33.76 W 103 58 55.40	
	2742.90	0.21	117.88	2742.75	1.02	9.09	0.89	0.09	440083.31	649981.69	N 32 12 33.76 W 103 58 55.40	
	2837.60	0.21	110.86	2837.45	1.33	8.95	1.21	0.03	440083.17	649982.01	N 32 12 33.76 W 103 58 55.39	
	2932.20	0.15	84.08	2932.05	-1.62	8.80	1.49	0.11	440083.12	649982.29	N 32 12 33.76 W 103 58 55.39	
	3026.90	0.06	80.97	3026.75	-1.79	8.92	1.67	0.10	440083.14	649982.47	N 32 12 33.76 W 103 58 55.39	
	3121.40	0.06	109.47	3121.25	-1.89	8.91	1.76	0.03	440083.13	649982.56	N 32 12 33.76 W 103 58 55.39	
	3216.00	0.05	99.00	3215.85	-1.87	8.89	1.85	0.01	440083.11	649982.65	N 32 12 33.76 W 103 58 55.39	
	3310.60	0.05	95.84	3310.44	2.05	8.88	1.93	0.00	440083.10	649982.73	N 32 12 33.76 W 103 58 55.39	
	3405.30	0.05	110.09	3405.14	-2.13	8.86	2.01	0.01	440083.08	649982.81	N 32 12 33.76 W 103 58 55.39	
	3500.10	0.05	335.17	3499.94	2.16	8.88	2.03	0.10	440083.10	649982.83	N 32 12 33.76 W 103 58 55.38	
	3595.00	0.05	347.34	3594.84	-2.13	8.86	2.01	0.01	440083.18	649982.81	N 32 12 33.76 W 103 58 55.39	
	3689.80	0.06	354.33	3689.64	2.12	9.05	1.99	0.01	440083.27	649982.79	N 32 12 33.76 W 103 58 55.39	
	3784.60	0.05	345.83	3784.44	-2.10	9.14	1.98	0.01	440083.36	649982.78	N 32 12 33.76 W 103 58 55.39	
	3879.40	0.05	336.17	3879.24	-2.08	9.22	1.95	0.01	440083.44	649982.75	N 32 12 33.76 W 103 58 55.39	
	3974.10	0.03	315.66	3973.94	-2.05	9.28	1.92	0.03	440083.49	649982.72	N 32 12 33.76 W 103 58 55.39	
	4068.80	0.04	328.59	4068.64	2.01	9.32	1.88	0.01	440083.54	649982.72	N 32 12 33.76 W 103 58 55.39	
	4163.40	0.04	325.69	4163.24	1.98	9.38	1.84	0.00	440083.60	649982.64	N 32 12 33.76 W 103 58 55.39	
	4258.10	0.05	324.07	4257.94	1.93	9.44	1.80	0.01	440083.66	649982.60	N 32 12 33.76 W 103 58 55.39	
	4352.80	0.05	326.55	4352.64	1.89	9.51	1.76	0.00	440083.72	649982.55	N 32 12 33.76 W 103 58 55.39	
	4447.40	0.05	326.88	4447.24	1.84	9.57	1.71	0.00	440083.79	649982.51	N 32 12 33.77 W 103 58 55.39	
	4542.00	0.05	328.08	4541.84	1.80	9.64	1.66	0.00	440083.85	649982.46	N 32 12 33.77 W 103 58 55.39	
	4636.80	0.05	327.19	4636.64	1.75	9.71	1.62	0.00	440083.93	649982.42	N 32 12 33.77 W 103 58 55.39	
	4731.40	0.05	326.23	4731.24	-1.71	9.78	1.57	0.00	440084.00	649982.37	N 32 12 33.77 W 103 58 55.39	
	4825.90	0.05	319.76	4825.74	1.56	9.85	1.52	0.01	440084.07	649982.32	N 32 12 33.77 W 103 58 55.39	
	4920.60	0.05	323.90	4920.44	-1.51	9.91	1.47	0.00	440084.13	649982.27	N 32 12 33.77 W 103 58 55.39	
	5015.30	0.05	318.22	5015.14	-1.58	9.98	1.42	0.01	440084.19	649982.22	N 32 12 33.77 W 103 58 55.39	
	5110.20	0.05	320.29	5110.04	1.51	10.04	1.37	0.00	440084.26	649982.17	N 32 12 33.77 W 103 58 55.39	
	5205.10	0.05	325.77	5204.94	-1.46	10.10	1.32	0.01	440084.32	649982.12	N 32 12 33.77 W 103 58 55.39	
	5299.80	0.05	327.20	5299.64	1.41	10.17	1.27	0.00	440084.39	649982.07	N 32 12 33.77 W 103 58 55.39	
	5394.60	0.05	331.66	5394.44	-1.37	10.24	1.23	0.00	440084.46	649982.03	N 32 12 33.77 W 103 58 55.39	
	5489.80	0.05	327.38	5489.44	-1.33	10.32	1.19	0.00	440084.53	649981.99	N 32 12 33.77 W 103 58 55.39	
	5584.40	0.05	328.43	5584.24	1.29	10.39	1.14	0.00	440084.60	649981.94	N 32 12 33.77 W 103 58 55.40	
	5679.20	0.05	320.74	5679.04	-1.24	10.45	1.09	0.01	440084.67	649981.89	N 32 12 33.77 W 103 58 55.40	
	5773.90	0.08	213.84	5773.74	-1.19	10.44	1.04	0.09	440084.66	649981.84	N 32 12 33.77 W 103 58 55.40	
	5868.50	0.05	215.02	5868.34	-1.13	10.37	0.99	0.01	440084.59	649981.79	N 32 12 33.77 W 103 58 55.40	
	5963.20	0.06	210.09	5963.04	1.08	10.29	0.94	0.01	440084.51	649981.74	N 32 12 33.77 W 103 58 55.40	
	6057.80	0.06	212.56	6057.64	-1.03	10.21	0.89	0.00	440084.43	649981.69	N 32 12 33.77 W 103 58 55.40	
	6152.50	0.08	213.50	6152.34	-0.98	10.12	0.84	0.03	440084.34	649981.64	N 32 12 33.77 W 103 58 55.40	
	6247.30	0.06	218.84	6247.14	-0.92	10.04	0.78	0.01	440084.26	649981.58	N 32 12 33.77 W 103 58 55.40	
	6342.10	0.05	214.73	6341.94	0.86	9.97	0.72	0.01	440084.19	649981.52	N 32 12 33.77 W 103 58 55.40	
	6436.80	0.05	210.08	6436.64	-0.82	9.90	0.68	0.00	440084.12	649981.48	N 32 12 33.77 W 103 58 55.40	
	6531.50	0.05	214.91	6531.34	-0.77	9.83	0.63	0.00	440084.05	649981.43	N 32 12 33.77 W 103 58 55.40	
	6626.10	0.10	242.45	6625.94	-0.67	9.76	0.54	0.06	440083.98	649981.34	N 32 12 33.77 W 103 58 55.40	
	6720.90	0.15	249.32	6720.74	0.48	9.68	0.35	0.05	440083.90	649981.15	N 32 12 33.77 W 103 58 55.40	
	6815.40	0.50	268.58	6815.24	0.95	9.62	0.18	0.38	440083.84	649980.62	N 32 12 33.77 W 103 58 55.41	
	6910.10	0.63	280.94	6909.94	0.07	9.71	-1.11	0.16	440083.93	649979.70	N 32 12 33.77 W 103 58 55.42	
	7004.80	0.22	277.68	7004.63	1.68	9.84	-1.80	0.43	440084.06	649979.00	N 32 12 33.77 W 103 58 55.43	
	7099.50	0.19	252.68	7099.33	1.99	9.81	2.13	0.10	440084.03	649978.67	N 32 12 33.77 W 103 58 55.43	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7184.00	0.81	263.07	7183.63	2.80	8.69	-2.84	0.68	440083.91	649977.86	N 32 12 33.77	W 103 58 55.44
	7286.50	1.14	264.05	7286.32	4.40	9.51	-4.54	0.35	440083.73	649976.26	N 32 12 33.76	W 103 58 55.48
	7383.10	0.14	249.18	7382.91	5.45	9.37	-5.58	1.08	440083.59	649975.22	N 32 12 33.76	W 103 58 55.47
	7477.70	0.08	185.44	7477.51	5.56	9.26	-5.69	0.13	440083.50	649975.11	N 32 12 33.76	W 103 58 55.48
	7572.30	0.16	220.09	7572.11	5.68	9.13	-5.78	0.12	440083.35	649974.04	N 32 12 33.75	W 103 58 55.48
	7666.80	0.67	168.80	7666.61	5.64	8.49	-5.76	0.62	440082.71	649975.04	N 32 12 33.75	W 103 58 55.48
	7761.40	2.83	141.63	7761.16	4.12	6.11	-4.20	2.38	440080.33	649976.60	N 32 12 33.73	W 103 58 55.46
	7855.90	4.37	133.74	7855.47	0.13	1.79	-0.15	1.71	440076.01	649980.65	N 32 12 33.69	W 103 58 55.41
	7950.60	6.14	122.87	7949.77	-6.68	-3.45	6.71	2.14	440070.77	649987.51	N 32 12 33.64	W 103 58 55.33
	8045.10	8.58	120.94	8043.48	-16.66	-9.82	17.00	2.59	440064.40	649997.80	N 32 12 33.57	W 103 58 55.21
	8139.00	9.50	124.47	8137.01	-29.25	-17.87	29.50	1.13	440056.35	650010.30	N 32 12 33.49	W 103 58 55.07
	8234.00	9.70	122.79	8230.28	-42.26	-26.61	42.64	0.36	440047.61	650023.43	N 32 12 33.41	W 103 58 54.91
	8329.10	9.48	118.89	8323.66	-55.68	-34.70	56.17	0.72	440039.53	650036.97	N 32 12 33.33	W 103 58 54.76
	8423.80	10.44	120.21	8418.73	-69.78	-42.76	70.39	1.04	440031.48	650051.18	N 32 12 33.25	W 103 58 54.59
	8518.30	11.95	112.39	8509.64	-86.15	-50.82	85.87	2.26	440023.41	650067.66	N 32 12 33.16	W 103 58 54.40
	8613.00	12.28	102.57	8602.24	-104.96	-56.74	105.78	2.20	440017.48	650086.58	N 32 12 33.11	W 103 58 54.18
	8707.90	13.43	88.81	8694.39	-125.71	-58.70	126.55	3.45	440015.52	650107.34	N 32 12 33.09	W 103 58 53.94
	8802.10	12.75	76.47	8785.55	-146.89	-56.03	147.69	3.03	440018.19	650128.48	N 32 12 33.11	W 103 58 53.69
	8896.60	12.33	75.09	8878.79	-166.84	-51.00	167.58	0.55	440023.23	650148.36	N 32 12 33.16	W 103 58 53.46
	8991.20	9.17	78.78	8971.72	-184.08	-46.93	184.73	3.42	440027.28	650165.52	N 32 12 33.20	W 103 58 53.26
	9086.00	7.99	81.73	9065.45	-198.02	-44.51	198.66	1.33	440029.71	650179.45	N 32 12 33.22	W 103 58 53.10
	9159.00	7.31	96.07	9150.71	-207.68	-44.27	208.30	2.77	440029.95	650189.09	N 32 12 33.23	W 103 58 52.99
	9213.00	6.09	100.64	9181.45	-220.27	-44.51	209.91	4.63	440029.71	650199.69	N 32 12 33.22	W 103 58 52.87
	9347.00	4.09	144.57	9324.84	-223.05	-45.77	214.41	3.79	440028.46	650195.19	N 32 12 33.21	W 103 58 52.92
	9442.00	4.68	226.78	9419.74	-222.12	-57.66	223.80	2.60	440021.97	650204.58	N 32 12 33.15	W 103 58 52.81
	9538.00	14.64	263.18	9514.33	-207.13	-61.78	208.02	6.07	440016.57	650203.74	N 32 12 33.09	W 103 58 52.82
	9633.00	19.83	272.86	9605.05	-179.09	-62.40	179.98	6.22	440012.44	650188.80	N 32 12 33.05	W 103 58 52.99
	9728.00	24.17	274.52	9693.11	-143.62	-60.07	144.48	4.61	440011.82	650160.77	N 32 12 33.05	W 103 58 53.73
	9823.00	34.81	273.50	9775.68	-97.09	-56.87	97.89	11.21	440017.35	650125.27	N 32 12 33.10	W 103 58 54.27
	9918.00	44.57	274.67	9848.70	-35.72	-52.49	37.46	10.30	440021.73	650018.25	N 32 12 33.15	W 103 58 54.97
	10013.00	56.79	272.32	9908.79	-36.43	-48.15	-35.76	13.00	440026.07	649945.04	N 32 12 33.20	W 103 58 55.83
	10109.00	63.35	265.31	9956.21	-118.64	-50.02	-117.95	9.41	440024.21	649882.86	N 32 12 33.18	W 103 58 56.78
	10202.00	66.95	264.05	9995.70	-203.65	-57.94	-202.86	4.02	440016.29	649777.96	N 32 12 33.10	W 103 58 57.77
	10297.00	79.71	268.95	10023.72	-294.13	-63.34	-293.27	13.32	440010.88	649687.55	N 32 12 33.05	W 103 58 58.62
	10352.00	89.20	272.51	10033.71	-388.42	-62.11	-387.59	11.65	440012.11	649593.24	N 32 12 33.07	W 103 58 59.92
	10456.00	89.13	270.80	10034.64	-452.35	-60.21	-451.55	2.52	440014.02	649529.29	N 32 12 33.09	W 103 59.08
	10469.00	89.28	269.93	10035.10	-485.34	-59.97	-484.55	2.97	440014.25	649496.29	N 32 12 33.05	W 103 59.105
	10584.00	91.45	269.71	10034.49	-580.33	-60.27	-579.54	2.30	440013.96	649401.31	N 32 12 33.09	W 103 59.216
	10679.00	92.24	270.41	10031.44	-675.26	-60.17	-674.49	1.11	440014.06	649306.37	N 32 12 33.10	W 103 59.326
	10774.00	91.89	269.84	10027.93	-770.19	-59.96	-769.42	0.85	440014.26	649211.44	N 32 12 33.10	W 103 59.437
	10869.00	91.51	270.08	10025.03	-865.13	-60.03	-864.38	0.56	440014.20	649116.49	N 32 12 33.07	W 103 59.547
	10964.00	90.52	268.74	10023.35	-960.12	-61.01	-959.35	1.75	440013.22	649021.52	N 32 12 33.10	W 103 59.658
	11059.00	91.41	270.23	10021.75	-1055.10	-61.86	-1054.33	1.83	440012.36	648926.55	N 32 12 33.09	W 103 59.766
	11154.00	91.14	268.73	10019.63	-1150.07	-62.72	-1149.30	1.60	440011.50	648831.59	N 32 12 33.09	W 103 59.879
	11249.00	92.48	267.03	10015.86	-1245.02	-64.00	-1244.24	1.76	440010.23	648736.65	N 32 12 33.08	W 103 59.988
	11344.00	86.45	270.80	10013.69	-1339.98	-66.68	-1339.17	5.11	440007.54	648641.73	N 32 12 33.05	W 103 59.110
	11439.00	83.13	270.49	10008.57	-1529.88	-70.28	-1529.04	3.08	440003.94	648451.88	N 32 12 33.02	W 103 59.132
	11534.00	92.82	268.84	10003.64	-1719.57	-68.94	-1718.78	0.39	440005.01	648357.02	N 32 12 33.04	W 103 59.143
	11629.00	93.34	270.33	9998.54	-1814.42	-68.80	-1813.64	0.76	440005.28	648262.16	N 32 12 33.04	W 103 59.152
	11724.00	92.68	270.11	9993.50	-1910.28	-68.43	-1909.51	0.72	440005.57	648167.30	N 32 12 33.05	W 103 59.165
	11819.00	91.62	270.10	9988.94	-2005.20	-68.26	-2004.44	1.12	440005.79	648071.45	N 32 12 33.06	W 103 59.174
	11915.00	91.13	270.05	9987.66	-2100.16	-68.14	-2099.41	0.52	440006.09	647976.52	N 32 12 33.06	W 103 59.185
	12010.00	90.96	269.88	9985.82	-2195.13	-68.11	-2194.39	0.19	440006.12	647881.56	N 32 12 33.07	W 103 59.205
	12105.00	90.65	269.91	9984.59	-2290.11	-68.20	-2289.38	0.33	440006.02	647786.58	N 32 12 33.07	W 103 59.226
	12200.00	90.59	269.80	9983.56	-2385.10	-68.44	-2384.38	0.13	440005.78	647691.60	N 32 12 33.07	W 103 59.247
	12295.00	90.62	269.84	9982.56	-2480.09	-68.74	-2479.37	0.05	440005.48	647596.64	N 32 12 33.07	W 103 59.268
	12390.00	90.69	270.20	9981.47	-2575.08	-68.71	-2574.37	0.39	440005.52	647501.82	N 32 12 33.07	W 103 59.289
	12485.00	90.48	269.80	9980.50	-2670.06	-68.71	-2669.36	0.48	440005.57	647406.84	N 32 12 33.08	W 103 59.310
	12580.00	90.28	270.02	9979.87	-2765.05	-68.86	-2764.36	0.31	440005.32	647311.65	N 32 12 33.08	W 103 59.331
	12675.00	91.03	270.39	9978.79	-2860.03	-68.52	-2859.35	0.88	440005.71	647216.66	N 32 12 33.08	W 103 59.352
	12770.00	90.93	269.72	9977.16	-2955.00	-68.43	-2954.34	0.71	440005.80	647121.68	N 32 12 33.07	W 103 59.373
	12865.00	91.03	269.97	9975.54	-3049.98	-68.68	-3049.32	0.28	440005.54	647026.70	N 32 12 33.09	W 103 59.394
	12960.00	92.08	267.46	9972.54	-3144.92	-70.81	-3144.24	3.10	440003.42	646931.72	N 32 12 33.07	W 103 59.415
	13055.00	90.48	270.08	9970.01	-3239.87	-72.85	-3239.17	3.53	440001.38	646836.81	N 32 12 33.05	W 103 59.436
	13150.00	90.76	270.26	9968.98	-3334.85	-72.57	-3334.16	0.35	440001.66	646741.89	N 32 12 33.06	W 103 59.457
	13245.00	90.69	270.11	9967.78	-3429.83	-72.26	-3429.16	0.17	440001.87	646646.90	N 32 12 33.06	W 103 59.478
	13340.00	90.65	270.08	9966.66	-3524.81	-72.10	-3524.15	0.05	440002.12	646551.92	N 32 12 33.06	W 103 59.499
	13435.00	90.21	269.95	9965.85	-3619.81	-72.57	-3619.15	0.90	440001.65	646456.93	N 32 12 33.07	W 103 59.520
	13530.00	90.28	269.68	9965.55	-3714.80	-73.38	-3714.14	0.36	440001.85	646361.94	N 32 12 33.06	W 103 59.541
	13625.00	80.72	269.86	9964.72	-3809.80	-73.76	-3809.14	0.50	440000.47	646266.95	N 32 12 33.06	W 103 59.562
	13720.00	90.48	269.81	9963.72	-3904.79	-74.20	-3904.13	0.36	440000.03	646171.97	N 32 12 33.06	W 103 59.583
	13815.00	90.34	269.19	9962.36	-4005.78	-76.20	-4005.11	0.23	439999.60	646076.98	N 32 12 33.06	W 103 59.604
	13910.00	91.76	269.57	9961.44	-4100.77	-77.23	-4100.10	0.60	439999.03	645981.99	N 32 12 33.05	W 103 59.625
	14005.00	90.55	270.22	9959.53	-4205.75	-77.40	-4205.08	1.08	439998.42	645886.91	N 32 12 33.04	W 103 59.646
	14100.00	91.48	269.44	9957.02	-4300.71	-77.68	-4300.05	0.82	439997.81	645791.93	N 32 12 33.04	W 103 59.667
	14195.00	90.82	269.21	9955.02	-4475.69	-78.80	-4475.02	0.63	439996.54	645696.95	N 32 12 33.04	W 103 59.688
	14290.00	90.89	269.67	9953.51	-4570.67	-79.73	-4570.00	0.49	439995.54	645601.97	N 32 12 33.03	W 103 59.709



Impac

SURFACE LOGGING

Anadarko Basin
1501 Lera Dr, Suite 3
Weatherford, OK 73096

info@impacxs.com

Permian Basin

601 W Railroad Ave
Ft Stockton, TX 79735

Marcellus Utica

5430 Cherokee Ave NW
North Canton, OH 44720

(888) 959-0350

COMPANY: OXY

WELL: CEDAR CANYON 21 FED COM #31H

FIELD: CEDAR CANYON COUNTY: EDDY STATE: NM

LOCATION: SEC.21, T24S, R29E
339' FNL X 368' FEL

Interval Logged: 9,308' To: 14,734' G.L.: 2928.20 K.B.: 2964.7

Date Logged: 08-09-17 To: 08-17-17 Spud Date: 7-29-17

Rig: H&P 666 Unit No.: 217

Loggers: BO MARCUM, ARMANDO RANGEL

Api No.: 30-015-44182

Filename: cedar_canyon_21_fed_com_31h.mlw

Geologist: DENNIS LEE

ated By MainLog

Abbreviations:

Lithology Symbols:

OXY USA Inc.
Cedar Canyon 21 Federal Com 31H
API No. 30-015-44182

14-3/4" hole @ 456'
10-3/4" csg @ 456'
w/ 674sx-TOC-Surf Circ.

9-7/8" hole @ 9306'
7-5/8" csg @ 9295'
w/ 1773sx-TOC-Surf Circ.

6-3/4" hole @ 14734'
4-1/2" liner @ 9183-14724'
w/ 713sx-TOC-9183' Circ.

Perfs @ 9966-14562'

TD- 14734'M 9950'V