

Carlsbad Field Office
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Artesia
FEB 15 2018

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
NMNM81586

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No.
CEDAR CANYON 23-24 FEDERAL 31H

9. API Well No.
30-015-44179-00-S1

10. Field and Pool, or Exploratory
PIERCE CROSSING-BONE SPRING, E

11. Sec., T., R., M., or Block and Survey
or Area Sec 22 T24S R29E Mer NMP

12. County or Parish
EDDY

13. State
NM

14. Date Spudded
06/18/2017

15. Date T.D. Reached
08/06/2017

16. Date Completed
☐ D & A ☒ Ready to Prod.
09/18/2017

17. Elevations (DF, KB, RT, GL)*
2943 GL

18. Total Depth: MD 17742
TVD 10160

19. Plug Back T.D.: MD 17675
TVD 10158

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	422		385	93	0	
9.875	7.625 L80	29.7	0	9364	3067	1365	530	0	
6.750	4.500 P110	13.5	9181	17727		815	241	9181	

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) BONE SPRING 3RD			10330 TO 17558	0.420	1480	ACTIVE
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
10330 TO 17558	10190208G SLICKWATER + 75054G 15% HCL ACID W/ 11429273# 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
09/20/2017	09/24/2017	24	→	3564.0	9530.0	11980.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
50/128	SI	1257.0	→	3564	9530	11980	2674	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	
	SI		→						

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

ELECTRONIC SUBMISSION #395436 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

Interim Reclamation 6 months months from 9/18/17

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	3073	3894	OIL, GAS, WATER	RUSTLER	211
CHERRY CANYON	3895	5186	OIL, GAS, WATER	SALADO	880
BRUSHY CANYON	5187	6724	OIL, GAS, WATER	CASTILE	1469
BONE SPRING	6725	7746	OIL, GAS, WATER	DELAWARE	3019
BONE SPRING 1ST	7747	8516	OIL, GAS, WATER	BELL CANYON	3073
BONE SPRING 2ND	8517	9687	OIL, GAS, WATER	CHERRY CANYON	3895
BONE SPRING 3RD	9688	10158	OIL, GAS, WATER	BRUSHY CANYON	5187
				BONE SPRING	6725

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

1ST BONE SPRING 7747'M
2ND BONE SPRING 8517'M
3RD BONE SPRING 9688'M

Logs were mailed 11/17/17.

ACCEPTED FOR RECORD

FEB 15 2018

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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 #395436 Verified by the BLM Well Information System.
For OXY USA INC, sent to the Carlsbad
Committed to AFMSS for processing by DUNCAN WHITLOCK on 12/01/2017 (18DW0027SE)

Name (please print) DAVID STEWART

Title SR REGULATORY ADVISOR

Signature (Electronic Submission)

Date 11/17/2017

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 ** REVISED **

Additional data for transaction #395436 that would not fit on the form

32. Additional remarks, continued

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Azusa, 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
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3463

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
(As-Drilled)

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-44179	Pool Code 96473	Pool Name Pierce Crossing Bone Spring, East
Property Code 317748	Property Name CEDAR CANYON "23-24" FEDERAL	Well Number 31H
OGRID No. 16096	Operator Name OXY USA INC.	Elevation 2943.2'

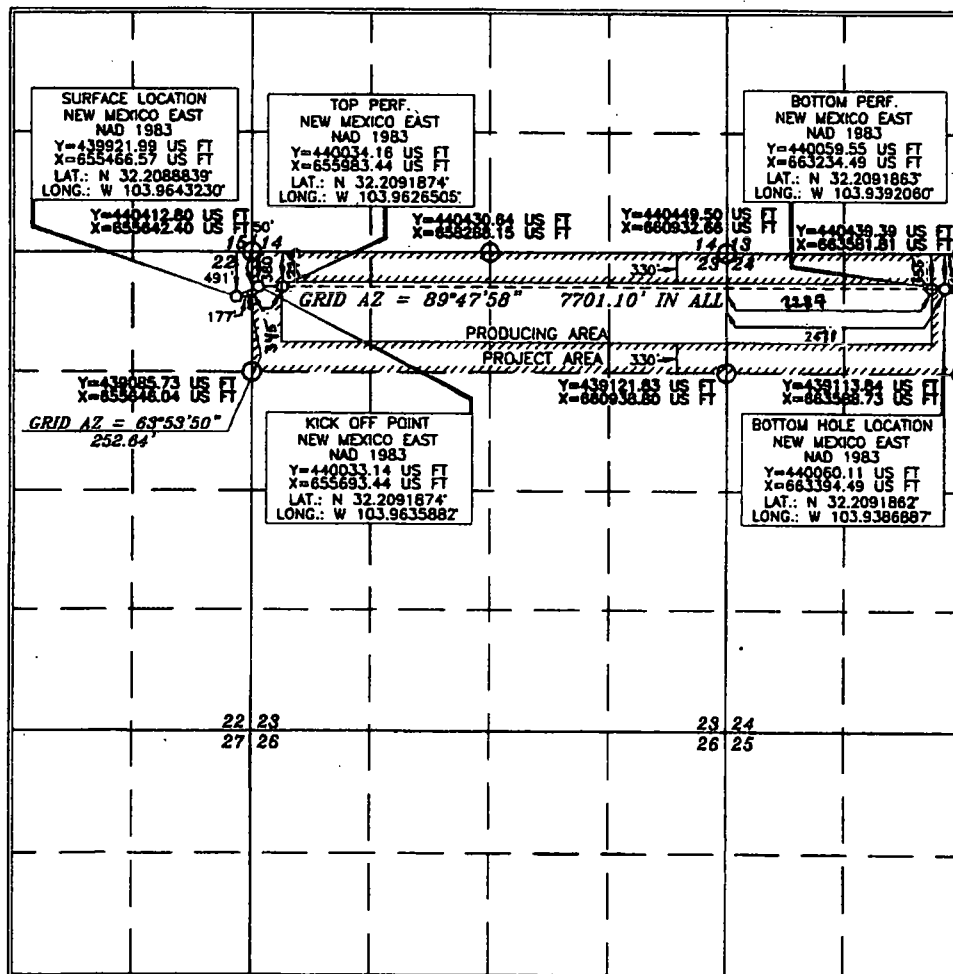
Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	22	24 SOUTH	29 EAST, N.M.P.M.		491'	NORTH	177'	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
C	24	24 SOUTH	29 EAST, N.M.P.M.		345 345	NORTH	2400 2471	WEST	EDDY
Dedicated Acres 240	Joint or Infill Y	Consolidation Code	Order No.	BP- 355 FNL 2287 FWL TP- 373 FNL 345 FWL					

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



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or 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 voluntary pooling agreement or a compulsory pooling order heretofore entered into with the division.

Signature: *Jana Mendiola* Date: **9/5/17**
Printed Name: **Jana Mendiola**
E-mail Address: **janam-mendiola@oxy.com**

SURVEYOR CERTIFICATION

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

Date of Survey: **MARCH 30, 2016**
Signature and Seal: *Terry J. Asch*
Professional Surveyor

Certificate Number: **15079**

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:

32.20888 -103.96432

I, Rasheed Atanda certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of July 14, 2017 through August 06, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 26.50 feet to a depth of 17701.00 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 23-24 Federal 31H Well (Original Hole) API No. 30-015-44179 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:
Rasheed Atanda

R. Atanda

Subscribed and Sworn to before me this

28th

day of

August

(month), *2017* (yr)

My Commission expires:

12-20-20

J. Allemand

Notary Public

Adams County Colorado

(County State)

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

Oxy Cedar Canyon 23-24 Federal 31H MWD 0-17742 ftMD Survey Geodetic Report (Def Survey)



Report Date: August 07, 2017 - 10 18 AM
 Client: OXY
 Field: NIA Eddy County (NAD 83)
 Structure / Slot: Oxy Cedar Canyon 23-24 Federal 31H / Oxy Cedar Canyon 23-24 Federal 31H
 Well: Oxy Cedar Canyon 23-24 Federal 31H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Oxy Cedar Canyon 23-24 Federal 31H MWD 0-17742 RMD
 Survey Date: July 13 2017
 Tort / AHD / ODI / ERD Ratio: 197 898' / 8118 270 ft / 6 448 / 0 799
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone US Feet
 Location Lat / Long: N 32° 12' 31.88222" W 103° 57' 51.56258"
 Location Grid N/E Y/X: N 439921 990 RUS, E 655466 570 RUS
 CRS Grid Convergence Angle: 0.1967'
 Grid Scale Factor: 0.99992401
 Version / Patch: 2.10.544.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 88.985' (Grid North)
 Vertical Section Origin: 0 000 ft 0 000 ft
 TVD Reference Datum: RKB=26.5
 TVD Reference Elevation: 2969 700 ft above MSL
 Seabed / Ground Elevation: 2943.200 ft above MSL
 Magnetic Declination: 7.125'
 Total Gravity Field Strength: 998.4695mgm (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48104.403 nT
 Magnetic Dip Angle: 60.015'
 Declination Date: July 28, 2017
 Magnetic Declination Model: MOGM 2017
 North Reference: Grid North
 Grid Convergence Used: 0.1967'
 Total Corr Mag North-Grid North: 6.8262'
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azth 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	N/A	439921.99	655466.57	N 32 12 31.98	W 103 57 51.56
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	439921.99	655466.57	N 32 12 31.98	W 103 57 51.56
	505.00	0.76	128.30	504.99	2.48	-1.97	2.49	0.16	439920.02	655469.06	N 32 12 31.96	W 103 57 51.53
	595.00	0.18	138.27	594.98	3.01	-2.44	3.05	0.65	439919.55	655469.62	N 32 12 31.96	W 103 57 51.53
	686.00	0.13	203.65	685.98	3.06	-2.64	3.11	0.19	439919.35	655469.68	N 32 12 31.96	W 103 57 51.53
	775.00	0.13	254.70	774.98	2.92	-2.76	2.87	0.13	439919.23	655469.54	N 32 12 31.96	W 103 57 51.53
	864.00	0.11	13.69	863.98	2.64	-2.71	2.89	0.23	439919.28	655469.46	N 32 12 31.96	W 103 57 51.53
	1046.00	0.08	74.99	1045.98	3.01	-2.50	3.06	0.06	439919.49	655469.63	N 32 12 31.96	W 103 57 51.53
	1141.00	0.11	287.06	1140.98	2.99	-2.46	3.03	0.19	439919.53	655469.60	N 32 12 31.96	W 103 57 51.53
	1236.00	0.08	152.93	1235.98	2.93	-2.49	2.98	0.18	439919.50	655469.55	N 32 12 31.96	W 103 57 51.53
	1330.00	0.08	157.11	1329.98	2.98	-2.61	3.03	0.01	439919.38	655469.60	N 32 12 31.96	W 103 57 51.53
	1425.00	0.08	167.78	1424.98	3.02	-2.74	3.07	0.02	439919.25	655469.64	N 32 12 31.96	W 103 57 51.53
	1520.00	0.08	171.93	1519.98	3.04	-2.87	3.08	0.01	439919.12	655469.66	N 32 12 31.95	W 103 57 51.53
	1709.00	0.06	330.05	1708.98	3.01	-2.91	3.06	0.07	439919.08	655469.63	N 32 12 31.95	W 103 57 51.53
	1803.00	0.06	19.41	1802.98	3.00	-2.82	3.06	0.05	439919.17	655469.62	N 32 12 31.95	W 103 57 51.53
	1898.00	0.06	233.86	1897.98	2.98	-2.81	3.03	0.12	439919.18	655469.60	N 32 12 31.95	W 103 57 51.53
	1993.00	0.13	354.18	1992.98	2.93	-2.73	2.98	0.18	439919.26	655469.55	N 32 12 31.95	W 103 57 51.53
	2087.00	0.13	214.89	2086.98	2.86	-2.71	2.91	0.26	439919.28	655469.48	N 32 12 31.96	W 103 57 51.53
	2182.00	0.06	77.74	2181.98	2.85	-2.79	2.90	0.19	439919.20	655469.47	N 32 12 31.95	W 103 57 51.53
	2278.00	0.11	249.10	2275.98	2.81	-2.81	2.86	0.18	439919.18	655469.43	N 32 12 31.95	W 103 57 51.53
	2371.00	0.13	244.66	2370.98	2.63	-2.89	2.68	0.02	439919.10	655469.25	N 32 12 31.95	W 103 57 51.53
	2466.00	0.06	254.80	2465.98	2.48	-2.95	2.53	0.08	439919.04	655469.10	N 32 12 31.95	W 103 57 51.53
	2560.00	1.49	150.63	2559.97	3.01	-4.02	3.08	1.60	439917.97	655469.65	N 32 12 31.94	W 103 57 51.53
	2655.00	0.00	158.86	2654.98	3.60	-5.10	3.69	1.57	439916.89	655470.26	N 32 12 31.93	W 103 57 51.52
	2750.00	0.08	335.51	2749.96	3.57	-5.04	3.66	0.08	439916.95	655470.23	N 32 12 31.93	W 103 57 51.52
	2844.00	0.11	48.21	2843.96	3.61	-4.92	3.70	0.12	439917.07	655470.27	N 32 12 31.93	W 103 57 51.52
	2939.00	0.17	23.33	2938.96	3.74	-4.73	3.83	0.09	439917.26	655470.40	N 32 12 31.94	W 103 57 51.52
	3033.00	0.08	131.89	3032.96	3.83	-4.64	3.92	0.21	439917.35	655470.49	N 32 12 31.94	W 103 57 51.52
	3128.00	0.08	316.27	3127.96	3.83	-4.62	3.91	0.15	439917.37	655470.48	N 32 12 31.94	W 103 57 51.52
	3233.00	0.13	293.45	3232.96	3.67	-4.52	3.75	0.06	439917.47	655470.32	N 32 12 31.94	W 103 57 51.52
	3412.00	0.13	174.39	3411.96	3.50	-4.64	3.58	0.13	439917.35	655470.15	N 32 12 31.94	W 103 57 51.52
	3507.00	0.13	221.82	3506.96	3.42	-4.82	3.51	0.13	439917.17	655470.08	N 32 12 31.93	W 103 57 51.52
	3602.00	0.06	141.78	3601.96	3.37	-4.92	3.45	0.15	439917.07	655470.02	N 32 12 31.93	W 103 57 51.52
	3696.00	0.08	81.59	3695.96	3.54	-4.95	3.55	0.08	439917.04	655470.12	N 32 12 31.93	W 103 57 51.52
	3791.00	0.11	168.24	3790.96	3.54	-5.03	3.63	0.14	439916.96	655470.20	N 32 12 31.93	W 103 57 51.52
	3886.00	0.08	205.25	3885.96	3.53	-5.18	3.62	0.07	439916.81	655470.19	N 32 12 31.93	W 103 57 51.52
	3981.00	0.83	311.47	3980.95	2.99	-4.78	3.08	0.90	439917.21	655469.65	N 32 12 31.93	W 103 57 51.53
	4075.00	1.53	312.82	4074.93	1.59	-3.48	1.65	0.75	439918.51	655468.22	N 32 12 31.95	W 103 57 51.54
	4265.00	2.79	316.30	4264.80	3.38	1.59	3.41	0.67	439923.58	655463.16	N 32 12 32.00	W 103 57 51.60
	4359.00	3.43	323.87	4358.66	6.55	5.51	-4.64	0.81	439927.50	655459.93	N 32 12 32.09	W 103 57 51.64
	4454.00	4.25	324.62	4453.44	10.17	10.68	-10.36	0.85	439932.67	655456.21	N 32 12 32.04	W 103 57 51.68
	4548.00	5.00	323.06	4547.14	-14.54	16.79	-14.84	0.81	439938.78	655451.73	N 32 12 32.15	W 103 57 51.73
	4643.00	5.68	325.01	4641.72	-19.59	23.95	-20.02	0.74	439945.94	655446.55	N 32 12 32.22	W 103 57 51.78
	4738.00	6.14	326.74	4736.22	-24.93	32.05	-25.50	0.52	439954.04	655441.07	N 32 12 32.30	W 103 57 51.86
	4927.00	6.46	331.40	4924.08	-35.25	49.84	-36.14	0.32	439971.83	655430.44	N 32 12 32.48	W 103 57 51.98
	5022.00	6.52	325.29	5018.56	-40.26	58.29	-41.30	1.19	439980.27	655425.28	N 32 12 32.56	W 103 57 52.04
	5117.00	4.20	321.60	5113.22	-44.91	64.77	-46.06	1.43	439986.76	655420.51	N 32 12 32.62	W 103 57 52.10
	5211.00	3.01	319.49	5207.03	-48.57	69.34	-49.60	1.27	439991.33	655416.77	N 32 12 32.67	W 103 57 52.14
	5306.00	1.24	302.26	5301.96	-51.01	71.79	-52.29	1.96	439993.77	655414.28	N 32 12 32.69	W 103 57 52.17
	5401.00	0.13	321.60	5399.95	-51.94	72.42	-53.23	1.18	439994.41	655413.35	N 32 12 32.70	W 103 57 52.18
	5496.00	0.18	267.21	5491.95	-52.15	72.50	-53.44	0.16	439994.48	655413.13	N 32 12 32.70	W 103 57 52.18
	5590.00	0.06	3.55	5585.95	-52.29	72.54	-53.59	0.21	439994.53	655412.99	N 32 12 32.70	W 103 57 52.18
	5685.00	0.08	219.32	5680.95	-52.33	72.54	-53.63	0.14	439994.53	655412.95	N 32 12 32.70	W 103 57 52.18
	5780.00	0.11	101.52	5775.95	-52.29	72.47	-53.56	0.17	439994.46	655413.00	N 32 12 32.70	W 103 57 52.18
	5989.00	0.06	129.89	5984.95	-52.04	72.37	-53.33	0.03	439994.36	655413.25	N 32 12 32.70	W 103 57 52.18
	6084.00	0.08	316.20	6059.95	-52.04	72.39	-53.33	0.15	439994.37	655413.24	N 32 12 32.70	W 103 57 52.18
	6158.00	0.06	47.82	6153.95	-52.05	72.47	-53.34	0.11	439994.45	655413.23	N 32 12 32.70	W 103 57 52.18
	6348.00	0.11	325.61	6343.95	-52.08	72.69	-53.37	0.06	439994.67	655413.20	N 32 12 32.70	W 103 57 52.18
	6443.00	0.08	182.23	6438.95	-52.13	72.69	-53.43	0.19	439994.68	655413.15	N 32 12 32.70	W 103 57 52.18
	6537.00	0.08	221.24	6532.95	-52.18	72.58	-53.47	0.06	439994.56	655413.10	N 32 12 32.70	W 103 57 52.18
	6632.00	0.18	214.13	6627.95	-52.31	72.41	-53.60	0.11	439994.39	655412.98	N 32 12 32.70	W 103 57 52.18
	6727.00	0.17	277.57	6722.95	-52.53	72.30	-53.82	0.19	439994.29	655412.75	N 32 12 32.70	W 103 57 52.19
	6821.00	0.29	283.36	6816.95	-52.80	72.37	-54.19	0.13	439994.36	655412.55	N 32 12 32.70	W 103 57 52.19
	6916.00	0.33	303.13	6911.95	-53.36	72.58	-54.65	0.12	439994.55	655411.92	N 32 12 32.70	W 103 57 52.20
	7011.00	0.08	291.48	7006.95	-53.65	72.75	-54.95	0.27	439994.74	655411.63	N 32 12 32.70	W 103 57 52.20
	7106.00	0.11	303.09	7101.95	-53.79	72.83	-55.08	0.04	439994.81	655411.49	N 32 12 32.70	W 103 57 52.20
	7201.00	0.18	220.49	7196.95	-53.96	72.76	-55.26	0.21	439994.75	655411.32	N 32 12 32.70	W 103 57 52.20
	7295.00	1.47	222.78	7290.93	-54.88	71.77	-56.17	1.37	439993.75	655410.40	N 32 12 32.69	W 103 57 52.21
	7390.00	0.06	94.85	7385.92	-55.69	70.87	-56.95	1.59	439992.85	655409.62	N 32 12 32.69	W 103 57 52.22
	7485.00	0.13	301.01	7480.92	-55.73	70.92	-56.99	0.20	439992.90	655409.58	N 32 12 32.69	W 103 57 52.22
	7580.00	0.06	322.74	7575.92	-55.85	71.01	-57.12	0.08	439993.00	655409.46	N 32 12 32.69	W 103 57 52.22
	7675.00	0.30	135.15	7670.92	-55.71	70.88	-56.97	0.38	439992.86	655409.60	N 32 12 32.69	W 103 57 52.22
	7769.00	0.08	310.19	7764.92	-55.58	70.74	-56.85	0.40	439992.73	655409.73	N 32 12 32.68	W 103 57 52.22
	7864.00	0.08	16.37	7859.92	-55.62	70.85	-56.88	0.09	439992.84	655409.70	N 32 12 32.69	W 103 57 52.22
	7959.00	0.08										

Comments	MD	Incl	Azim Off	TVP	VSEC	NS	EW	DLS	North	East	Latitude	Longitude	Time
	(m)	(°)	(°)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(°N)	(°W)	(h:m:s)
	833.00	0.55	157.28	833.00	56.51	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	832.00	0.56	220.51	832.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	831.00	0.56	210.14	831.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	830.00	0.56	199.51	830.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	829.00	0.56	188.88	829.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	828.00	0.56	178.25	828.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	827.00	0.56	167.62	827.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	826.00	0.56	156.99	826.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	825.00	0.56	146.36	825.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	824.00	0.56	135.73	824.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	823.00	0.56	125.10	823.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	822.00	0.56	114.47	822.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	821.00	0.56	103.84	821.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	820.00	0.56	93.21	820.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	819.00	0.56	82.58	819.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	818.00	0.56	71.95	818.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	817.00	0.56	61.32	817.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	816.00	0.56	50.69	816.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	815.00	0.56	40.06	815.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	814.00	0.56	29.43	814.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	813.00	0.56	18.80	813.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	812.00	0.56	8.17	812.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	811.00	0.56	-2.46	811.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	810.00	0.56	-13.09	810.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	809.00	0.56	-23.72	809.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	808.00	0.56	-34.35	808.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	807.00	0.56	-44.98	807.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	806.00	0.56	-55.61	806.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	805.00	0.56	-66.24	805.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	804.00	0.56	-76.87	804.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	803.00	0.56	-87.50	803.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	802.00	0.56	-98.13	802.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	801.00	0.56	-108.76	801.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	800.00	0.56	-119.39	800.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	799.00	0.56	-130.02	799.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	798.00	0.56	-140.65	798.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	797.00	0.56	-151.28	797.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	796.00	0.56	-161.91	796.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	795.00	0.56	-172.54	795.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	794.00	0.56	-183.17	794.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	793.00	0.56	-193.80	793.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	792.00	0.56	-204.43	792.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	791.00	0.56	-215.06	791.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	790.00	0.56	-225.69	790.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	789.00	0.56	-236.32	789.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	788.00	0.56	-246.95	788.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	787.00	0.56	-257.58	787.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	786.00	0.56	-268.21	786.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	785.00	0.56	-278.84	785.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	784.00	0.56	-289.47	784.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	783.00	0.56	-300.10	783.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	782.00	0.56	-310.73	782.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	781.00	0.56	-321.36	781.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	780.00	0.56	-331.99	780.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	779.00	0.56	-342.62	779.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	778.00	0.56	-353.25	778.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	777.00	0.56	-363.88	777.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	776.00	0.56	-374.51	776.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	775.00	0.56	-385.14	775.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	774.00	0.56	-395.77	774.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	773.00	0.56	-406.40	773.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	772.00	0.56	-417.03	772.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	771.00	0.56	-427.66	771.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	770.00	0.56	-438.29	770.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	769.00	0.56	-448.92	769.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	768.00	0.56	-459.55	768.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	767.00	0.56	-470.18	767.00	56.72	88.81	57.73	0.60	43999.60	655406.64	N 32 12 32.66 W 103 57 52.23	103 57 52.23	17742.00
	766.00	0.56	-480.81	766.0									

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
		1	0 000	26 500	Act Stns	30 000	30 000	NAL_MWD_PLUS_0 5_DEG- Depth Only		Original Borehole / Oxy Cedar Canyon 23-24 Federal 31H MWD 0-17742 RMD		
		1	26 500	505 000	1/98 425	30 000	30 000	NAL_MWD_PLUS_0 5_DEG		Original Borehole / Oxy Cedar Canyon 23-24 Federal 31H MWD		
		1	505 000	17742 000	Act Stns	30 000	30 000	NAL_MWD_PLUS_0 5_DEG		Original Borehole / Oxy Cedar Canyon 23-24 Federal 31H MWD		

COLUMBINE LOGGING

Scale: 1" / 100'
Measured Depth Log

Well Name 30015441790000_CedarCanyon23-24FedCom31H_ML_5INHorz_R

Location 491' FNL x 177' FEL, 24S, 29E

State New Mexico

County Eddy

Country USA

Rig Number H & P 639

API Number 30015441790000

Field Cedar Canyon

Spud Date 6/1/2017

Drilling Completed 8/6/2017

Surface Coordinates N 32°12'31.98"
W 103°57'51.56"

Bottom Hole Coordinates N 32°12'32.63"
W 103°56'17.53"

Ground Elevation 2,943.6'

K.B. Elevation 2,970.1'

Logged Interval 9358' To 17742'

Total Depth 17742'

Formation 3rd Bone Spring Sand

Type of Drilling Fluid OBM

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name 30015441790000_CedarCanyon23-24FedCom31H_ML_5INHorz_R

Location 491' FNL x 177' FEL, 24S, 29E

State New Mexico

County Eddy

Country USA

Rig Number H & P 639

API Number 30015441790000

Field Cedar Canyon

Spud Date 6/1/2017

Drilling Completed 8/6/2017

Surface Coordinates N 32°12'31.98"
W103°57'51.56"

Bottom Hole Coordinates N 32°12'32.63"
W103°56'17.53"

Ground Elevation 2,943.6'

K.B. Elevation 2,970.1'

Logged Interval 9358' To 17742'

Total Depth 17742'

Formation 3rd Bone Spring Sand

Type of Drilling Fluid OBM

OXY USA Inc.
Cedar Canyon 23-24 Federal 31H
API No. 30-015-44179

14-3/4" hole @ 422'
10-3/4" csg @ 422'
w/ 385sx-TOC-Surf Circ.

9-7/8" hole @ 9358'
7-5/8" csg @ 9346'
w/ 1365sx-TOC-Surf Circ.

6-3/4" hole @ 17742'
4-1/2" liner @ 9181-17727'
w/ 815sx-TOC- 9181' Circ.

Perfs @ 10330-17558'

TD- 17742'M 10160'V