

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
ArtesiaFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other			5. Lease Serial No. NMNM86908		
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____			6. If Indian, Allottee or Tribe Name		
2. Name of Operator OXY USA INCORPORATED			7. Unit or CA Agreement Name and No. NMNM136584		
Contact: JANA MENDIOLA E-Mail: janalyn_mendiola@oxy.com			8. Lease Name and Well No. CEDAR CANYON 21 FEDERAL COM 5H		
3. Address 5 GREENWAY PLAZA SUITE 110 HOUSTON, TX 77046-0521			9. API Well No. 30-015-43749-00-S1		
3a. Phone No. (include area code) Ph: 432-685-5936			10. Field and Pool, or Exploratory CORRAL DRAW-BONE SPRING		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 22 T24S R29E Mer NMP At surface SWSW 1090FSL 207FWL 32.198548 N Lat, 103.979724 W Lon Sec 21 T24S R29E Mer NMP At top prod interval reported below NESE 1671FSL 521FEL Sec 21 T24S R29E Mer NMP At total depth NWSW 1957FSL 146FWL 32.200993 N Lat, 103.996967 W Lon			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 08/06/2016		15. Date T.D. Reached 09/24/2016		16. Date Completed ☐ D & A ☒ Ready to Prod. 11/23/2016	
17. Elevations (DF, KB, RT, GL)* 2940 GL					
18. Total Depth: MD TVD 13545 8706		19. Plug Back T.D.: MD TVD 13479 8706		20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) GAMMARAY			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 J-55	45.5	0	430		470	125	0	
9.875	7.625 L-80	29.7	0	8138	3002	1170	576	0	
6.750	5.500 P-110	20.0	0	8840				7450	
6.750	4.500 P-110	13.5	8840	13531		560	158	8840	

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 2ND	8918	13313	8918 TO 13313	0.420	528	ACTIVE - Bone Spring
B)						
C)						
D)						

26. Perforation Record

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

Depth Interval	Amount and Type of Material
8918 TO 13313	8401302G SLICK WATER + 43218G 15% HCL ACID W/ 8617700# 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
11/27/2016	11/30/2016	24	→	471.0	712.0	1571.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
26/64	SI	1265.0	→	471	712	1571	1512	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. SI	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 #359449 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

DAVID R. GLASS

RECLAMATION DUE:
MAY 23 2017

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	3019	3726	OIL, GAS, WATER	RUSTLER	266
CHERRY CANYON	3727	5104	OIL, GAS, WATER	SALADO	764
BRUSHY CANYON	5105	6689	OIL, GAS, WATER	CASTILE	1438
BONE SPRING	6690	7709	OIL, GAS, WATER	DELAWARE	2951
BONE SPRING 1ST	7710	7953	OIL, GAS, WATER	BELL CANYON	3019
BONE SPRING 2ND	7954	8628	OIL, GAS, WATER	CHERRY CANYON	3727
				BRUSHY CANYON	5105
				BONE SPRING	6690
				BONE SPRING 1ST	7710
				BONE SPRING 2ND	7954

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

1ST BONE SPRING 7710' MD
2ND BONE SPRING 7954' MD

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 #359449 Verified by the BLM Well Information System.
For OXY USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH HAM on 12/21/2016 (17DMH0029SE)

Name (please print) DAVID STEWARTTitle REGULATORY ADVISORSignature (Electronic Submission)Date 11/30/2016

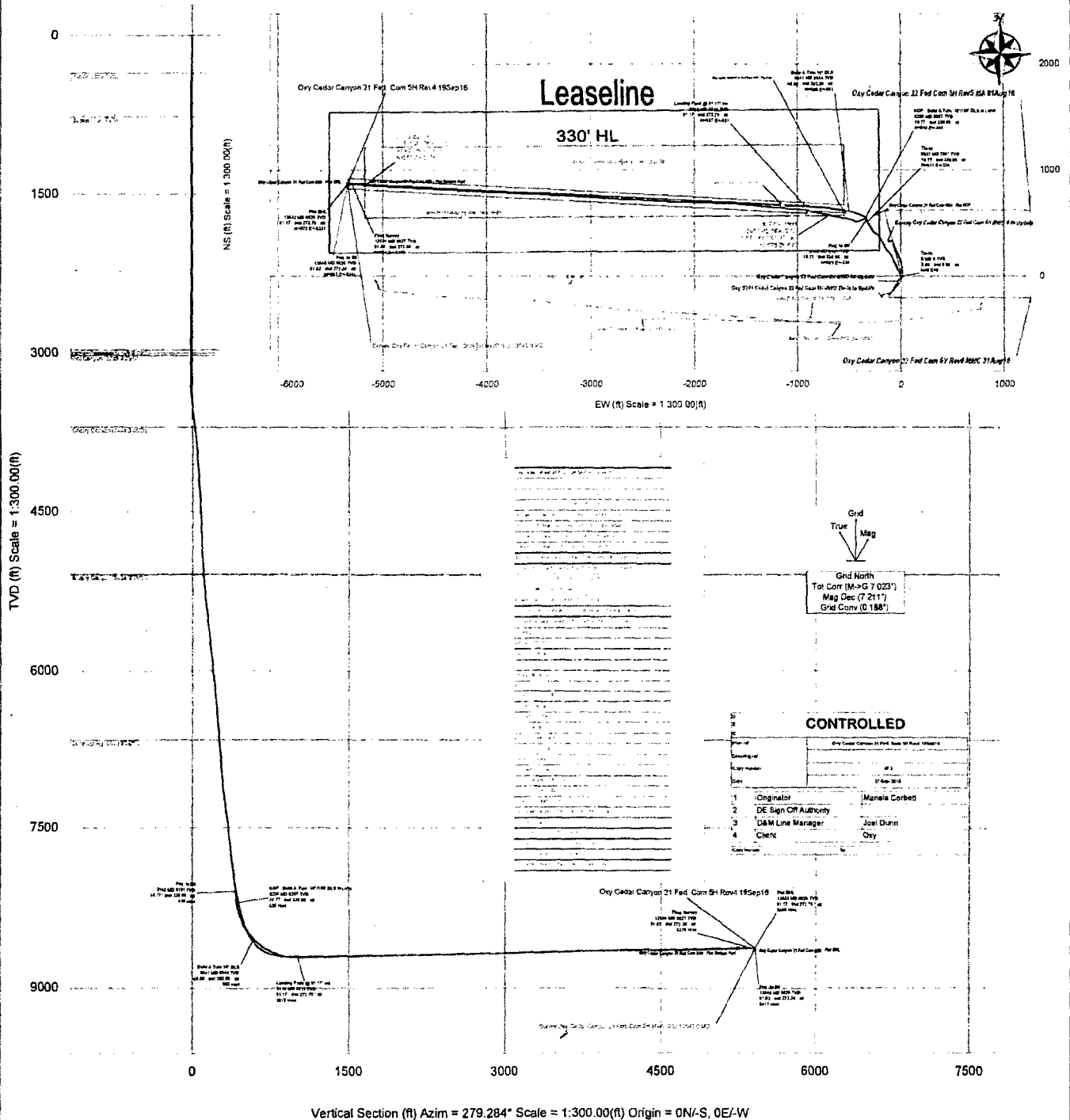
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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

Borehole:		Well:	Field:	Structure:
Cedar Canyon 21 Fed. Com 5H - Original Borehole		Cedar Canyon 21 Fed. Com 5H	NM Eddy County (NAD 27)	Oxy Cedar Canyon 21 Fed. Com 5H
Gravity & Magnetic Parameters		Surface Location		Measurements
Model:	NOON 2018	Dy	69.848°	Date:
MagDec:	7.311°	PS:	49239.165m	Gravity PS:
			599.467mgs (3.88645 Gauss)	
		NAAD27 New Mexico State Plane, Eastern Zone, US Feet		
		Lat:	N 32 11' 54.78"	Northing:
		Easting:	436131.720mE	Grid Contour:
		Scale:	W 103 58' 47.81"	Scale Factor:
			0.99993279	
		Oxy Cedar Canyon		TVD Ref:
		31 Fed. Com 5H		AKB(1982.87) above NSL
		Oxy Cedar Canyon 21 Fed. Com 5H Rnd 15 Sep 18		

Critical Points

Comments	Survey	MD(ft)	Inclination(deg)	Azimuth(deg)	TVD(ft)	Sub-Sea TVD	VS(ft)	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Easting(ft/US)	Northing(ft/US)	Closure(ft)	Closure Azimuth(deg)	DLS(*10 Dft)	Tool Face(deg)
Free-In	8037.00	16.77		330.06	7991.46	5022.86	401.78	511.03	-323.57	N 32 11 59 843	W 103 58 50 752	608056.91	436642.71	664.85	327.65	1.38	0.00
Prog. to Bit	8148.00	10.77		330.06	8100.51	5131.91	414.89	529.90	-333.93	N 32 12 0 021	W 103 58 50 872	609046.56	436668.68	625.58	327.74	0.00	0.00
KOP - Build & Turn 10°:100' DLS to Land	8256.00	10.77		330.06	8206.60	5238.00	427.65	545.49	-344.00	N 32 12 0 194	W 103 58 50 969	609036.49	436676.17	645.74	327.81	0.00	-57.73
Build & Turn 10° DLS	8640.67	45.00		262.00	8544.34	5575.74	592.47	608.25	-500.91	N 32 12 0 811	W 103 58 52 612	608873.92	436739.92	787.96	320.53	10.00	-12.65
Landing Point @ 31.17' Inc	9109.52	91.17		272.79	8714.96	5545.36	1014.75	656.88	-920.84	N 32 12 3 365	W 103 58 57 687	606150.69	436788.55	1131.12	305.50	10.00	0.00
Plat BHL	9153.79	91.17		272.79	8675.00	5648.40	947.77	672.39	-9336.94	N 32 12 3 578	W 103 59 03 081	604043.94	431904.04	5467.77	278.28	0.00	





Survey Oxy Cedar Canyon 21 Fed. Com 5H MWD 0 to 13545 ft MD Survey **Geodetic Report** (Def Survey)

Report Date:	September 27, 2016 - 06:25 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	OXY	Vertical Section Azimuth:	279.284 ° (Grid North)
Field:	NM Eddy County (NAD 27)	Vertical Section Origin:	0 000 ft, 0 000 ft
Structure / Slot:	Oxy Cedar Canyon 21 Fed. Com 5H / Oxy Cedar Canyon 21 Fed. Com 5H	TVD Reference Datum:	RKB
Well:	Cedar Canyon 21 Fed. Com 5H	TVD Reference Elevation:	2968.800 ft above MSL
Borehole:	Cedar Canyon 21 Fed. Com 5H - Original Borehole	Seabed / Ground Elevation:	2939.700 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.213 °
Survey Name:	Survey Oxy Cedar Canyon 21 Fed. Com 5H MWD 0 to 13545 ft MD	Total Gravity Field Strength:	998.466mgm (g 80665 Based)
Survey Date:	September 09, 2016	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	229.565 ° / 5709.009 ft / 6.309 / 0.656	Total Magnetic Field Strength:	43203.137 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	60.048 °
Location Lat / Long:	N 32° 11' 54.77552", W 103° 58' 47.00630"	Declination Date:	September 09, 2016
Location Grid N/E Y/X:	N 436131 720 NUS, E 609380 460 NUS	Magnetic Declination Model:	HDMG 2016
CRS Grid Convergence Angle:	0.1884 °	North Reference:	Grid North
Grid Scale Factor:	0.99992279	Grid Convergence Used:	0.1884 °
Version / Patch:	2.9.365.0	Total Corr Mag North-Grid North:	7.0249 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0.00	0.00	0.00	0.00	-2968.60	0.00	0.00	0.00	N/A	436131.72	609380.46	N 32 11 54.76	W 103 58 47.01
RKB	28.20	0.00	0.00	28.20	-2940.40	0.00	0.00	0.00	0.00	436131.72	609380.46	N 32 11 54.78	W 103 58 47.01
	444.00	2.07	107.62	443.91	-2524.89	-7.43	-2.27	7.16	0.50	436129.45	609387.62	N 32 11 54.75	W 103 58 46.92
	535.00	0.18	163.38	534.89	-2433.71	-9.12	-2.91	8.77	2.17	436128.61	609389.22	N 32 11 54.75	W 103 58 46.90
	715.00	0.09	223.28	714.89	-2253.71	-9.16	-3.28	8.75	0.09	436128.44	609389.21	N 32 11 54.74	W 103 58 46.90
	809.00	0.07	79.85	808.89	-2159.71	-9.18	-3.33	8.76	0.15	436128.39	609389.21	N 32 11 54.74	W 103 58 46.90
	987.00	0.04	350.48	986.89	-1981.71	-9.26	-3.24	8.85	0.05	436128.48	609389.31	N 32 11 54.74	W 103 58 46.90
	1078.00	0.09	38.99	1077.89	-1890.71	-9.28	-3.16	8.89	0.08	436128.56	609389.35	N 32 11 54.74	W 103 58 46.90
	1172.00	0.07	218.09	1171.89	-1796.71	-9.30	-3.15	8.90	0.17	436128.57	609389.36	N 32 11 54.74	W 103 58 46.90
	1266.00	0.24	172.20	1265.89	-1702.71	-9.33	-3.39	8.90	0.21	436128.33	609389.36	N 32 11 54.74	W 103 58 46.90
	1360.00	0.48	198.21	1359.89	-1608.71	-9.32	-3.96	8.80	0.30	436127.76	609389.25	N 32 11 54.74	W 103 58 46.90
	1455.00	0.57	165.91	1454.88	-1513.72	-9.45	-4.79	8.79	0.32	436126.93	609389.25	N 32 11 54.73	W 103 58 46.90
	1549.00	0.44	177.31	1548.88	-1419.72	-9.71	-5.61	8.92	0.17	436126.11	609389.38	N 32 11 54.72	W 103 58 46.90
	1643.00	0.26	196.70	1642.88	-1325.72	-9.76	-6.17	8.88	0.23	436125.55	609389.34	N 32 11 54.71	W 103 58 46.90
	1737.00	0.51	199.78	1736.87	-1231.73	-9.65	-8.77	8.68	0.27	436124.95	609389.13	N 32 11 54.71	W 103 58 46.91
	1832.00	0.53	188.43	1831.87	-1135.73	-9.58	-7.60	8.47	0.11	436124.12	609388.93	N 32 11 54.70	W 103 58 46.91
	1926.00	0.86	184.02	1925.86	-1042.74	-9.66	-8.75	8.35	0.38	436122.97	609388.81	N 32 11 54.69	W 103 58 46.91
	2020.00	1.30	191.53	2019.85	-948.75	-9.68	-10.52	8.09	0.47	436121.20	609388.55	N 32 11 54.67	W 103 58 46.91
	2115.00	1.49	192.95	2114.82	-853.78	-9.56	-12.78	7.60	0.20	436118.94	609388.06	N 32 11 54.65	W 103 58 46.92
	2209.00	1.53	189.07	2208.78	-759.82	-9.49	-15.29	7.11	0.19	436116.43	609387.57	N 32 11 54.62	W 103 58 46.92
	2304.00	0.20	112.62	2303.77	-664.83	-9.65	-16.69	7.05	1.68	436115.03	609387.51	N 32 11 54.61	W 103 58 46.92
	2398.00	0.15	107.66	2397.77	-570.83	-9.63	-16.79	7.32	0.06	436114.93	609387.78	N 32 11 54.61	W 103 58 46.92
	2492.00	0.11	188.92	2491.77	-476.83	-10.06	-16.91	7.43	0.18	436114.61	609387.88	N 32 11 54.61	W 103 58 46.92
	2586.00	0.07	68.18	2585.77	-382.83	-10.11	-16.98	7.46	0.17	436114.74	609387.92	N 32 11 54.61	W 103 58 46.92
	2681.00	0.07	275.72	2680.77	-287.83	-10.10	-16.95	7.46	0.14	436114.77	609387.92	N 32 11 54.61	W 103 58 46.92
	2775.00	0.11	162.16	2774.77	-193.83	-10.08	-17.03	7.43	0.16	436114.69	609387.89	N 32 11 54.61	W 103 58 46.92
	2869.00	0.44	88.21	2868.77	-99.83	-10.48	-17.11	7.82	0.45	436114.61	609387.88	N 32 11 54.61	W 103 58 46.92
	2963.00	0.59	85.09	2962.76	-5.84	-11.31	-17.09	8.66	0.16	436114.63	609389.12	N 32 11 54.61	W 103 58 46.91
	3057.00	0.09	220.64	3056.76	88.16	-11.75	-17.14	9.10	0.69	436114.58	609389.56	N 32 11 54.61	W 103 58 46.90
	3151.00	0.09	173.10	3150.76	182.16	-11.73	-17.27	9.08	0.08	436114.45	609389.52	N 32 11 54.60	W 103 58 46.90
	3245.00	0.31	314.17	3244.76	276.16	-11.54	-17.16	8.89	0.41	436114.58	609389.35	N 32 11 54.61	W 103 58 46.90
	3340.00	0.30	336.27	3339.69	371.09	-9.70	-14.25	7.50	3.49	436117.47	609387.96	N 32 11 54.63	W 103 58 46.92
	3434.00	7.32	332.59	3433.25	464.85	-4.52	-6.23	3.56	3.97	436125.49	609384.02	N 32 11 54.71	W 103 58 46.97
	3528.00	10.24	333.29	3526.14	557.54	3.97	6.55	-2.96	3.11	436138.27	609377.50	N 32 11 54.84	W 103 58 47.04
	3622.00	10.44	332.87	3618.61	650.01	13.94	21.59	-10.60	0.23	436153.31	609369.86	N 32 11 54.99	W 103 58 47.13
	3716.00	9.91	333.04	3711.13	742.53	23.78	36.38	-18.15	0.58	436168.10	609362.31	N 32 11 55.14	W 103 58 47.22
	3810.00	8.64	334.62	3803.90	835.30	32.58	49.97	-24.84	1.38	436181.69	609355.62	N 32 11 55.27	W 103 58 47.26
	3904.00	7.49	332.56	3896.97	928.37	40.26	61.79	-30.69	1.25	436193.50	609349.77	N 32 11 55.39	W 103 58 47.35
	3998.00	6.67	332.86	3990.26	1021.66	47.16	72.08	-36.00	0.87	436203.80	609344.46	N 32 11 55.49	W 103 58 47.42
	4091.00	6.37	334.51	4082.65	1114.05	53.31	81.55	-40.69	0.38	436213.26	609339.77	N 32 11 55.58	W 103 58 47.48
	4186.00	6.20	332.16	4177.08	1208.48	59.41	90.84	-45.35	0.32	436222.55	609335.11	N 32 11 55.68	W 103 58 47.53
	4280.00	6.20	331.80	4270.53	1301.93	65.57	99.80	-50.12	0.04	436231.51	609330.34	N 32 11 55.76	W 103 58 47.59
	4374.00	5.89	332.88	4364.03	1395.43	71.42	108.42	-54.64	0.56	436240.13	609325.82	N 32 11 55.85	W 103 58 47.64
	4468.00	4.55	333.61	4457.65	1489.05	76.36	115.91	-58.43	1.21	436247.62	609322.04	N 32 11 55.92	W 103 58 47.68
	4562.00	3.89	334.15	4551.40	1582.80	80.37	122.12	-61.47	0.70	436253.83	609318.99	N 32 11 55.99	W 103 58 47.72
	4656.00	3.30	331.89	4645.21	1676.61	83.85	127.38	-64.14	0.65	436259.09	609316.33	N 32 11 56.04	W 103 58 47.75
	4751.00	3.27	332.64	4740.05	1771.45	87.13	132.19	-66.87	0.06	436263.90	609313.79	N 32 11 56.09	W 103 58 47.78
	4845.00	4.70	336.77	4833.82	1865.22	90.80	138.11	-69.42	1.55	436269.82	609311.04	N 32 11 56.14	W 103 58 47.81
	4939.00	8.28	340.46	4927.39	1958.79	95.34	146.50	-72.66	1.72	436278.21	609307.80	N 32 11 56.23	W 103 58 47.85
	5033.00	7.32	339.15	5020.73	2052.13	100.83	156.94	-76.51	1.12	436286.65	609303.95	N 32 11 56.33	W 103 58 47.89
	5128.00	7.58	335.71	5114.93	2146.33	107.33	168.31	-81.25	0.54	436300.01	609299.22	N 32 11 56.44	W 103 58 47.95
	5222.00	8.15	334.22	5208.04	2239.44	114.59	179.96	-86.69	0.64	436311.86	609293.77	N 32 11 56.56	W 103 58 48.01
	5316.00	8.88	331.50	5301.01	2332.41	122.86	192.33	-93.05	0.89	436324.04	609287.41	N 32 11 56.68	W 103 58 48.08
	5410.00	9.05	318.62	5393.87	2425.27	133.03	204.26	-101.40	2.14	436335.96	609279.06	N 32 11 56.80	W 103 58 48.18
	5504.00	8.28	323.48	5486.80	2518.20	143.59	215.23	-110.31	1.14	436346.94	609270.16	N 32 11 56.91	W 103 58 48.28
	5598.00	8.37	321.45	5579.61	2611.21	153.50	226.01	-118.59	0.33	436357.71	609261.88	N 32 11 57.02	W 103 58 48.38
	5692.00	8.55	321.35	5672.79	2704.19	163.76	236.82	-127.22	0.19	436368.52	609253.25	N 32 11 57.12	W 103 58 48.48
	5786.00	8.68	321.45	5765.73	2797.13	174.20	247.82	-136.00	0.14	436379.52	609244.47	N 32 11 57.23	W 103 58 48.58
	5880.00	8.59	323.06	5858.66	2890.06	184.47	259.03	-144.57	0.38	436390.73	609235.90	N 32 11 57.34	W 103 58 48.68
	5975.00	8.39	327.76	5952.62	2984.02	194.19	270.57	-152.54	0.55	436402.27	609227.94	N 32 11 57.46	W 103 58 48.77
	6069.00	8.75	330.01	6045.57	3076.97	203.32	282.52	-159.84	0.60	436414.22	609220.63	N 32 11 57.58	W 103 58 48.86
	6163.00	9.25	332.21	6138.81	3169.81	212.40	295.39	-166.94	0.65	436427.09	609213.54	N 32 11 57.70	W 103 58 48.94
	6257.00	8.64	331.12	6231.27	3262.67	221.32	308.26	-173.87	0.67	436439.96	609206.61	N 32 11 57.83	W 103 58 49.02
	6351.00	8.79	330.58	6324.18	3355.58	230.17	320.70	-180.81	0.18	436452.39	609199.67	N 32 11 57.95	W 103 58 49.10
	6445.00	7.98	331.38	6417.18	3448.58	238.67	332.68	-187.48	0.87	436464.38	609193.02	N 32 11 58.07	W 103 58 49.18

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7763.00	11.10	330.26	7722.84	4754.24	368.25	465.76	-294.98	1.90	436597.44	609085.50	N 32 11 59.39	W 103 58 50.42
	7857.00	11.89	327.60	7814.95	4846.35	378.39	481.79	-304.86	1.01	436613.47	609075.83	N 32 11 59.55	W 103 58 50.53
	7951.00	11.23	324.40	7907.04	4938.44	391.29	497.41	-315.17	0.98	436629.09	609065.31	N 32 11 59.71	W 103 58 50.65
	8037.00	10.77	330.06	7991.47	5022.87	402.28	511.18	-324.06	1.36	436642.86	609056.43	N 32 11 59.84	W 103 58 50.76
	8205.00	15.37	266.77	8155.29	5186.66	433.50	534.86	-351.82	5.14	436656.53	609028.66	N 32 12 0.08	W 103 58 51.08
	8236.00	13.06	274.37	8185.36	5216.76	440.92	536.88	-358.99	19.09	436668.65	609021.50	N 32 12 0.10	W 103 58 51.16
	8267.00	12.79	249.01	8215.60	5247.00	447.37	536.01	-365.69	18.18	436667.69	609014.80	N 32 12 0.09	W 103 58 51.24
	8299.00	17.23	235.78	8246.51	5277.91	453.88	532.08	-372.92	17.44	436663.75	609007.56	N 32 12 0.05	W 103 58 51.33
	8330.00	19.65	240.37	8275.92	5307.32	461.26	526.92	-381.25	9.10	436658.59	608999.24	N 32 12 0.00	W 103 58 51.42
	8361.00	15.84	247.21	8305.44	5336.84	468.91	522.70	-389.59	13.99	436654.38	608990.80	N 32 11 59.96	W 103 58 51.52
	8392.00	16.96	252.15	8335.16	5366.58	476.52	519.67	-397.89	5.77	436651.35	608982.60	N 32 11 59.93	W 103 58 51.62
	8424.00	19.36	257.39	8365.59	5396.99	485.59	517.08	-407.51	9.08	436648.76	608972.98	N 32 11 59.91	W 103 58 51.73
	8466.00	19.53	271.77	8424.09	5455.49	505.41	515.16	-427.91	7.71	436646.84	608952.58	N 32 11 59.89	W 103 58 51.97
	8580.00	31.34	239.24	8508.94	5540.34	545.25	523.74	-466.89	14.76	436655.42	608913.61	N 32 11 59.97	W 103 58 52.42
	8674.00	41.63	281.25	8584.46	5615.86	600.73	537.93	-520.77	12.04	436669.61	608859.73	N 32 12 0.12	W 103 58 53.05
	8768.00	57.30	282.94	8645.36	5676.76	671.85	552.98	-590.37	16.73	436684.65	608790.13	N 32 12 0.27	W 103 58 53.86
	8861.00	73.42	282.09	8684.01	5715.41	755.97	571.19	-672.63	17.35	436702.87	608707.88	N 32 12 0.45	W 103 58 54.81
	8955.00	84.39	278.95	8702.07	5733.47	846.04	587.96	-763.18	12.12	436719.63	608617.34	N 32 12 0.62	W 103 58 55.87
	9048.00	90.79	264.73	8706.03	5737.43	941.77	607.22	-855.01	9.17	436738.90	608525.51	N 32 12 0.81	W 103 58 56.93
	9147.00	90.38	274.12	8705.02	5736.42	1038.63	623.25	-951.55	10.83	436754.92	608428.99	N 32 12 0.97	W 103 58 58.06
	9240.00	90.41	274.98	8704.38	5735.78	1132.31	630.63	-1044.25	0.93	436762.30	608336.29	N 32 12 1.05	W 103 58 59.13
	9334.00	90.34	274.85	8703.77	5735.17	1226.03	638.88	-1137.90	0.16	436770.35	608242.65	N 32 12 1.13	W 103 59 0.22
	9428.00	91.03	275.83	8702.84	5734.04	1318.80	647.43	-1231.49	1.27	436779.09	608149.07	N 32 12 1.22	W 103 59 1.31
	9521.00	90.45	274.80	8701.44	5732.84	1412.57	656.04	-1324.08	1.27	436787.71	608055.49	N 32 12 1.31	W 103 59 2.39
	9707.00	90.96	275.94	8699.15	5730.55	1598.12	673.45	-1509.24	0.67	436805.11	607871.34	N 32 12 1.49	W 103 59 4.54
	9894.00	90.31	270.99	8697.08	5728.48	1784.08	684.74	-1695.83	2.67	436818.41	607684.76	N 32 12 1.61	W 103 59 6.72
	9987.00	90.93	272.29	8696.07	5727.47	1876.25	687.40	-1766.79	1.55	436819.07	607591.82	N 32 12 1.64	W 103 59 7.80
	10080.00	90.86	271.59	8694.62	5726.02	1968.47	690.55	-1861.72	0.76	436822.22	607498.89	N 32 12 1.67	W 103 59 8.88
	10174.00	90.58	271.12	8693.44	5724.84	2061.57	692.77	-1975.69	0.58	436824.44	607404.93	N 32 12 1.69	W 103 59 9.97
	10269.00	90.69	271.07	8692.39	5723.79	2155.59	694.59	-2070.66	0.13	436826.25	607309.96	N 32 12 1.72	W 103 59 11.08
	10362.00	90.52	272.02	8691.41	5722.81	2247.74	697.10	-2163.82	1.04	436828.76	607217.01	N 32 12 1.74	W 103 59 12.16
	10457.00	90.89	273.05	8690.24	5721.64	2342.07	701.30	-2258.52	1.15	436832.96	607122.12	N 32 12 1.79	W 103 59 13.26
	10550.00	91.27	273.25	8688.48	5719.88	2434.52	706.41	-2351.36	0.46	436836.07	607029.28	N 32 12 1.84	W 103 59 14.34
	10644.00	91.07	273.11	8686.56	5717.96	2527.97	711.62	-2445.20	0.26	436843.28	606935.45	N 32 12 1.90	W 103 59 15.43
	10737.00	91.20	273.35	8684.72	5716.12	2620.43	716.86	-2538.03	0.29	436848.52	606842.63	N 32 12 1.95	W 103 59 16.51
	10832.00	91.03	272.92	8682.87	5714.27	2714.87	722.05	-2632.87	0.49	436853.72	606747.80	N 32 12 2.01	W 103 59 17.62
	10928.00	91.03	273.17	8681.18	5712.58	2808.30	727.05	-2726.73	0.27	436858.71	606653.95	N 32 12 2.06	W 103 59 18.71
	11019.00	90.86	272.96	8679.65	5711.05	2900.73	731.94	-2819.58	0.38	436863.60	606561.10	N 32 12 2.11	W 103 59 19.79
	11113.00	90.79	272.97	8678.30	5709.70	2994.14	736.72	-2913.45	0.14	436868.38	606467.24	N 32 12 2.16	W 103 59 20.88
	11208.00	90.79	272.95	8677.01	5708.41	3086.56	741.44	-3006.32	0.13	436873.10	606374.37	N 32 12 2.21	W 103 59 21.96
	11299.00	91.48	273.49	8675.17	5706.57	3179.01	746.58	-3099.16	1.01	436878.24	606281.54	N 32 12 2.26	W 103 59 23.04
	11393.00	91.48	273.37	8672.74	5704.14	3272.49	752.20	-3192.96	0.13	436883.86	606187.75	N 32 12 2.32	W 103 59 24.14
	11488.00	91.37	273.09	8670.43	5701.63	3364.94	757.44	-3285.79	0.32	436889.10	606094.93	N 32 12 2.38	W 103 59 25.22
	11580.00	91.51	273.42	8668.07	5699.47	3458.39	762.78	-3379.60	0.38	436894.44	606001.12	N 32 12 2.43	W 103 59 26.31
	11673.00	91.58	273.32	8665.56	5696.96	3550.86	768.24	-3472.41	0.13	436899.80	605908.33	N 32 12 2.49	W 103 59 27.39
	11767.00	91.55	272.90	8663.00	5694.40	3644.28	773.34	-3566.24	0.45	436905.00	605814.51	N 32 12 2.54	W 103 59 28.48
	11861.00	91.44	273.20	8660.54	5691.94	3737.69	778.34	-3660.07	0.34	436910.00	605720.68	N 32 12 2.59	W 103 59 29.57
	11954.00	91.48	273.27	8658.17	5689.57	3830.15	783.59	-3752.89	0.09	436915.24	605627.86	N 32 12 2.65	W 103 59 30.65
	12047.00	90.79	272.41	8655.33	5687.73	3922.54	788.19	-3845.76	1.19	436919.85	605535.01	N 32 12 2.70	W 103 59 31.73
	12141.00	91.13	273.13	8654.76	5686.16	4015.92	792.73	-3939.63	0.85	436924.38	605441.14	N 32 12 2.75	W 103 59 32.82
	12234.00	89.83	272.25	8653.98	5685.38	4108.30	797.10	-4032.53	1.62	436928.76	605348.25	N 32 12 2.79	W 103 59 33.90
	12328.00	91.38	273.20	8651.99	5683.39	4205.05	806.04	-4120.30	0.97	436933.69	605254.50	N 32 12 2.89	W 103 59 35.09
	12422.00	91.34	273.13	8649.76	5681.16	4308.49	811.22	-4214.13	0.09	436942.88	605160.50	N 32 12 2.94	W 103 59 36.27
	12516.00	90.93	272.76	8647.90	5679.30	4411.89	816.05	-4307.98	0.59	436947.71	605066.68	N 32 12 2.99	W 103 59 37.45
	12610.00	91.17	273.05	8646.18	5677.58	4515.30	820.82	-4401.85	0.41	436952.58	604972.83	N 32 12 3.04	W 103 59 38.63
	12704.00	89.14	271.28	8645.95	5677.35	4618.63	824.04	-4495.78	3.18	436955.70	604878.97	N 32 12 3.06	W 103 59 39.81
	12798.00	91.27	273.24	8645.58	5676.98	4721.85	828.10	-4589.68	2.81	436959.76	604784.05	N 32 12 3.12	W 103 59 41.00
	12892.00	92.20	273.60	8642.73	5674.13	4825.31	833.71	-4683.47	1.06	436965.36	604689.15	N 32 12 3.18	W 103 59 42.18
	12986.00	91.75	272.93	8639.53	5670.93	4927.74	839.00	-4777.27	0.87	436970.75	604594.24	N 32 12 3.23	W 103 59 43.37
	13079.00	91.96	273.19	8636.48	5667.88	5021.14	844.02	-4871.08	0.36	436975.67	604500.38	N 32 12 3.25	W 103 59 44.55
	13173.00	91.75	273.26	8633.47	5664.87	5115.57	849.25	-4964.89	0.24	436980.90	604406.52	N 32 12 3.34	W 103 59 45.73
	13266.00	91.34	273.62	8630.94	5662.34	5210.05	854.88	-5058.68	0.58	436986.54	604312.66	N 32 12 3.40	W 103 59 46.91
	13359.00	91.82	273.85	8628.37	5659.77	5314.58	860.94	-5152.49	0.57	436992.59	604218.80	N 32 12 3.46	W 103 59 48.09
Final Survey	13504.00	91.03	273.38	8627.11	5658.51	5370.31	864.15	-5246.33	1.80	436998.81	604124.94	N 32 12 3.50	W 103 59 49.27
Proj. to Bit	13545.00	91.03	273.38	8626.37	5657.77	5411.09	866.57	-5341.25	0.00	436998.22	604030.83	N 32 12 3.52	W 103 59 49.13

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EDU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	28 900	Act Stns	30 000	30 000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Cedar Canyon 21 Fed. Com SH- Original Borehole / Survey Oxy
	1	28 900	444 000	1/96 425	30 000	30 000	NAL_MWD_PLUS_0.5_DEG	Cedar Canyon 21 Fed. Com SH- Original Borehole / Survey Oxy
	1	444 000	13545 000	Act Stns	30 000	30 000	NAL_MWD_PLUS_0.5_DEG	Cedar Canyon 21 Fed. Com SH- Original Borehole / Survey Oxy

OXY USA Inc.
Cedar Canyon 21 Federal Com 5H
API No. 30-015-43749

