

NM OIL CONSERVATION
ARTESIA DISTRICT

MAY 01 2017

RECEIVED

Schlumberger

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W L-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

February 15, 2017

OXY USA INCORPORATED

Re:

CLIENT: OXY USA INCORPORATED
WELL: Cedar Canyon 29 Federal 3H
FIELD: Pierce Crossing Bone Spring

RIG: H&P639
COUNTY: Eddy
API NO: 30-015-42993
JOB NO: 16MLD2225

29, 24S, 29E, Eddy NM
-32.19008 -103.99827

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Kalu Uga FS	Cedar Canyon 29 Federal 3H Original Hole	459.00 Ft to 13303.00 Ft	December 24, 2016 to February 14, 2017	TelePacer SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Cody Nelms
Field Service Manager

Schlumberger

Reservoir Development

Schlumberger Drilling and Measurements

9200 West Reno Avenue

Oklahoma City, Oklahoma 73127 USA

Phone: (405) 789-1515

Fax: (405) 789-1519

Well Reference:

29, 24S, 29E, Eddy NM

-32.19008 -103.99827

I, Kalu Uga certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of December 24, 2016 through February 14, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 459.00 feet to a depth of 13303.00 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 INCORPORATED for the Cedar Canyon 29 Federal 3H Well (Original Hole) API No. 30-015-42993 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

Kalu Uga

FS



Subscribed and Sworn to before me this 20 day of February (month) 2017 (yr)

My Commission expires:

12-20-2020

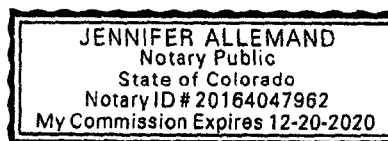


(signature)

Notary Public

Adams, Colorado

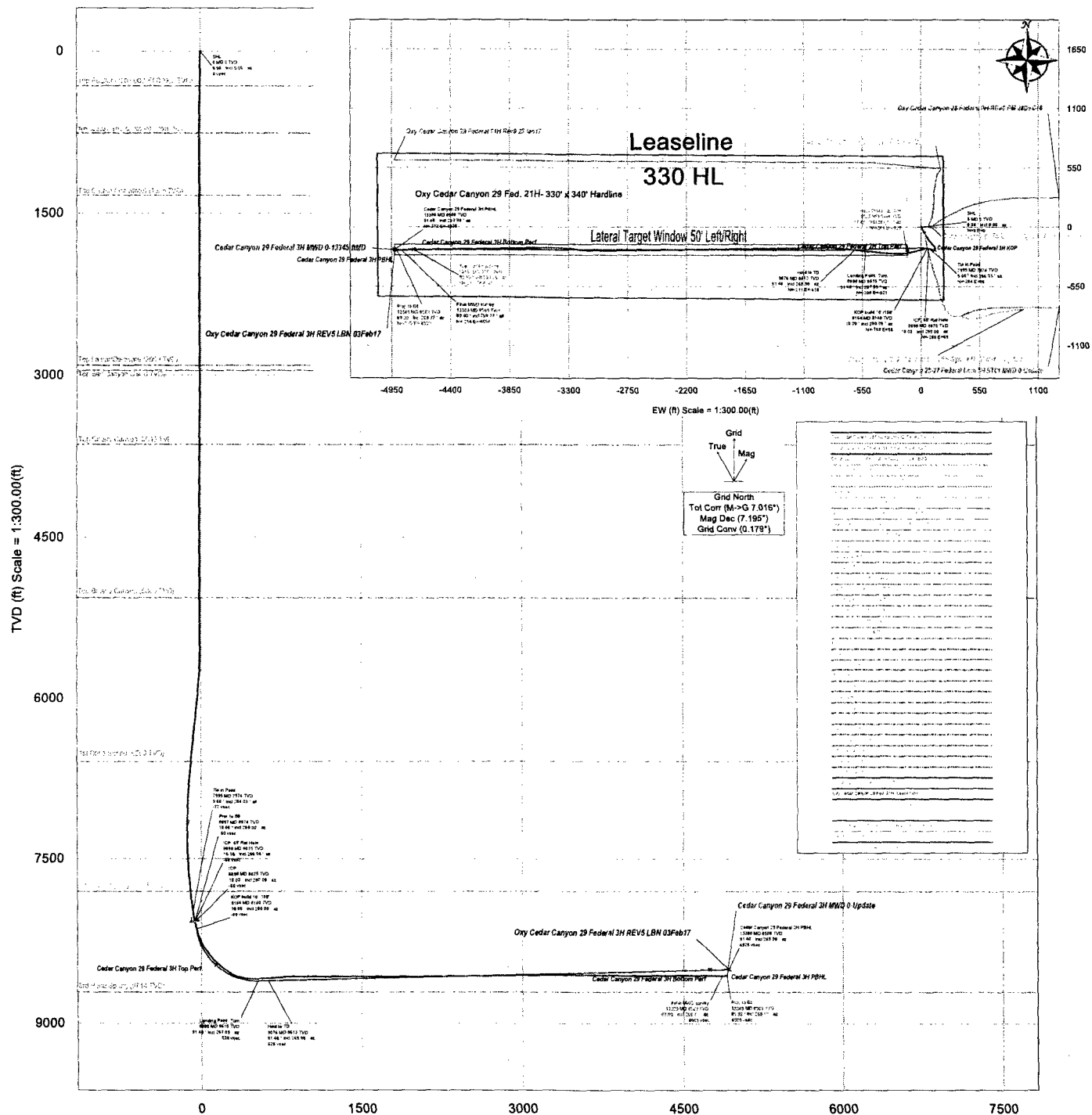
(County State)



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Cedar Canyon 29 Federal 3H	NM Eddy County (NAD 27)	Oxy Cedar Canyon 29 Federal 3H
Gravity & Magnetic Parameters	Surface Location	Miscellaneous	
Model: HDGM 2016	NAD27 New Mexico State Plane, Eastern Zone US Feet	Oxy Cedar Canyon	
Dip: 66.033°	Lat: N 32 11 24.38	Slot: Oxy Cedar Canyon	TVD Ref: RKB(2975h above MSL)
PS: 48155.7m	North: 433034.231RUS	Plan: Oxy Cedar Canyon 29 Federal 3H	
Gravity PS: 988.464mg (9.80665 Based)	Lon: W 103 59 53.76	Scale Fact: 0.9999214	Oxy Cedar Canyon 29 Federal 3H REV5 LBN 03Feb17

Critical Points

Comments	Survey MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Sub-Sur TVD	VS (ft)	NS (ft)	EW (ft)	Latitude (deg)	Longitude (deg)	Easting (ftUS)	Northing (ftUS)	DL S (7000ft)	Tool Face (deg)
Tie in Point	7995.00	9.60	284.03	7973.52	4998.52	-77.01	-203.78	85.87	N 32 11 22.284	W 103 59 52.767	603740.28	432830.47	2.90	-61.75
Proj. to Bit	8097.00	10.00	280.00	8074.03	5099.03	-60.21	-200.18	68.90	N 32 11 22.320	W 103 59 52.964	603723.30	432834.07	0.78	0.00
ICP. 65' Rat Hole	8097.99	10.00	280.00	8075.00	5100.00	-60.04	-200.15	68.73	N 32 11 22.321	W 103 59 52.966	603723.14	432834.10	0.00	0.00
ICP	8097.99	10.00	280.00	8075.00	5100.00	-60.04	-200.15	68.73	N 32 11 22.321	W 103 59 52.966	603723.14	432834.10	0.00	0.00
KOP build 10'/100	8163.56	10.00	280.00	8139.57	5164.57	-48.93	-198.17	57.52	N 32 11 22.341	W 103 59 53.097	603711.92	432836.07	0.00	-13.05
Landing Point, Turn	8580.10	91.40	267.09	8615.00	5640.00	529.88	-208.37	-521.39	N 32 11 22.258	W 103 59 59.833	603133.06	432825.88	10.00	89.97
Hold to TD	9076.42	91.40	269.98	8612.64	5637.64	626.15	-210.83	-617.65	N 32 11 22.236	W 104 0 0.953	603036.81	432823.42	3.00	
Cedar Canyon 29 Federal 3H PBHL	13380.41	91.40	269.98	8507.50	5532.50	4924.92	-212.18	-4920.35	N 32 11 22.352	W 104 0 51.019	598734.46	432822.07	0.00	



Vertical Section (ft) Azim = 267.531° Scale = 1:300.00(ft) Origin = 0N/-S, 0E/-W



Cedar Canyon 29 Federal 3H MWD 0-13345 ftMD Survey Geodetic Report

(Def Survey)

Report Date:	February 15, 2017 - 08:20 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	OXY	Vertical Section Azimuth:	267.531 ° (Grid North)
Field:	NM Eddy County (NAD 27)	Vertical Section Origin:	0.000 ft. 0.000 ft
Structure / Slot:	Oxy Cedar Canyon 29 Federal 3H / Oxy Cedar Canyon 29 Fed. 3H	TVD Reference Datum:	RKB
Well:	Oxy Cedar Canyon 29 Federal 3H	TVD Reference Elevation:	2975.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	2948.500 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.193 °
Survey Name:	Cedar Canyon 29 Federal 3H MWD 0-13345 ftMD	Total Gravity Field Strength:	998.4640mgn (9.80665 Based)
Survey Date:	February 07, 2017	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	181.623 ° / 5321.449 ft / 6.176 / 0.619	Total Magnetic Field Strength:	48154.509 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	60.032 °
Location Lat / Long:	N 32° 11' 24.30343" W 103° 59' 53.75863"	Declination Date:	February 07, 2017
Location Grid N/E Y/X:	N 433034.230 RUS, E 603654.410 ftUS	Magnetic Declination Model:	HDGM 2016
CRS Grid Convergence Angle:	0.1785 °	North Reference:	Grid North
Grid Scale Factor:	0.9999214	Grid Convergence Used:	0.1785 °
Version / Patch:	2.10.254.0	Total Corr Mag North->Grid North:	7.0150 °
		Local Coord Referenced To:	Structure Reference Point

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 ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	433034.23	603654.41	N 32 11 24.30	W 103 59 53.76
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	433034.23	603654.41	N 32 11 24.30	W 103 59 53.76
	459.00	1.19	66.40	458.97	-4.19	1.80	4.12	0.28	433036.03	603658.53	N 32 11 24.32	W 103 59 53.71
	607.00	1.14	65.53	606.94	-6.99	3.02	6.86	0.04	433037.25	603661.27	N 32 11 24.33	W 103 59 53.68
	697.00	0.84	60.44	696.92	-8.41	3.72	8.25	0.35	433037.95	603662.66	N 32 11 24.34	W 103 59 53.66
	788.00	0.11	15.00	787.92	-9.03	4.13	8.86	0.84	433038.36	603663.26	N 32 11 24.34	W 103 59 53.66
	878.00	0.09	39.74	877.92	-9.10	4.27	8.92	0.05	433038.50	603663.33	N 32 11 24.35	W 103 59 53.65
	968.00	0.09	181.62	967.92	-9.14	4.25	8.97	0.19	433038.48	603663.38	N 32 11 24.35	W 103 59 53.65
	1058.00	0.09	38.80	1057.92	-9.18	4.24	9.01	0.19	433038.47	603663.42	N 32 11 24.35	W 103 59 53.65
	1152.00	0.15	287.79	1151.92	-9.12	4.33	8.94	0.21	433038.56	603663.35	N 32 11 24.35	W 103 59 53.65
	1247.00	0.20	165.34	1246.92	-9.03	4.21	8.86	0.32	433038.44	603663.27	N 32 11 24.34	W 103 59 53.66
	1341.00	0.09	194.64	1340.92	-9.05	3.98	8.88	0.14	433038.21	603663.29	N 32 11 24.34	W 103 59 53.66
	1436.00	0.13	184.82	1435.92	-9.01	3.80	8.86	0.05	433038.03	603663.27	N 32 11 24.34	W 103 59 53.66
	1530.00	0.11	199.49	1529.92	-8.96	3.61	8.82	0.04	433037.84	603663.23	N 32 11 24.34	W 103 59 53.66
	1625.00	0.11	289.76	1624.92	-8.85	3.56	8.70	0.16	433037.79	603663.11	N 32 11 24.34	W 103 59 53.66
	1719.00	0.11	150.72	1718.92	-8.80	3.51	8.66	0.22	433037.74	603663.07	N 32 11 24.34	W 103 59 53.66
	1814.00	0.09	135.74	1813.92	-8.89	3.37	8.76	0.03	433037.60	603663.17	N 32 11 24.34	W 103 59 53.66
	1908.00	0.11	114.51	1907.92	-9.02	3.28	8.89	0.04	433037.51	603663.30	N 32 11 24.34	W 103 59 53.66
	2003.00	0.13	147.66	2002.92	-9.16	3.16	9.03	0.07	433037.38	603663.44	N 32 11 24.33	W 103 59 53.65
	2097.00	0.11	201.99	2096.92	-9.17	2.98	9.05	0.12	433037.21	603663.46	N 32 11 24.33	W 103 59 53.65
	2191.00	0.15	145.94	2190.92	-9.20	2.80	9.09	0.14	433037.03	603663.50	N 32 11 24.33	W 103 59 53.65
	2286.00	0.09	263.60	2285.92	-9.19	2.68	9.08	0.22	433036.91	603663.49	N 32 11 24.33	W 103 59 53.65
	2380.00	0.07	318.26	2379.92	-9.08	2.72	8.97	0.08	433036.95	603663.38	N 32 11 24.33	W 103 59 53.65
	2474.00	0.07	342.15	2473.92	-9.03	2.82	8.92	0.03	433037.05	603663.33	N 32 11 24.33	W 103 59 53.65
	2568.00	0.13	243.57	2567.92	-8.92	2.82	8.80	0.17	433037.05	603663.21	N 32 11 24.33	W 103 59 53.66
	2663.00	0.13	193.77	2662.92	-8.79	2.67	8.68	0.12	433036.90	603663.09	N 32 11 24.33	W 103 59 53.66
	2757.00	0.11	253.85	2756.92	-8.67	2.54	8.57	0.13	433036.77	603662.98	N 32 11 24.33	W 103 59 53.66
	2852.00	0.11	219.03	2851.92	-8.52	2.45	8.43	0.07	433036.68	603662.83	N 32 11 24.33	W 103 59 53.66
	2946.00	0.11	131.12	2945.92	-8.53	2.32	8.44	0.16	433036.55	603662.85	N 32 11 24.33	W 103 59 53.66
	3040.00	0.13	86.22	3039.92	-8.70	2.26	8.61	0.10	433036.49	603663.02	N 32 11 24.33	W 103 59 53.66
	3135.00	0.09	358.57	3134.92	-8.81	2.35	8.72	0.16	433036.58	603663.13	N 32 11 24.33	W 103 59 53.66
	3229.00	0.13	340.21	3228.92	-8.78	2.52	8.68	0.06	433036.75	603663.09	N 32 11 24.33	W 103 59 53.66
	3324.00	0.11	104.30	3323.92	-8.83	2.60	8.73	0.22	433036.83	603663.14	N 32 11 24.33	W 103 59 53.66
	3418.00	0.13	5.31	3417.92	-8.93	2.68	8.83	0.19	433036.91	603663.24	N 32 11 24.33	W 103 59 53.66
	3513.00	0.13	67.25	3512.92	-9.05	2.83	8.94	0.14	433037.06	603663.35	N 32 11 24.33	W 103 59 53.65
	3607.00	0.11	170.35	3606.92	-9.16	2.78	9.05	0.20	433037.01	603663.46	N 32 11 24.33	W 103 59 53.65
	3702.00	0.11	83.17	3701.92	-9.26	2.71	9.16	0.16	433036.93	603663.57	N 32 11 24.33	W 103 59 53.65
	3796.00	0.13	264.31	3795.92	-9.25	2.71	9.14	0.26	433036.94	603663.55	N 32 11 24.33	W 103 59 53.65
	3891.00	0.11	273.48	3890.92	-9.05	2.70	8.94	0.03	433036.93	603663.35	N 32 11 24.33	W 103 59 53.65
	3985.00	0.11	34.84	3984.92	-9.01	2.78	8.90	0.20	433037.01	603663.31	N 32 11 24.33	W 103 59 53.65
	4079.00	0.11	29.19	4078.92	-9.12	2.93	9.00	0.01	433037.16	603663.41	N 32 11 24.33	W 103 59 53.65
	4173.00	0.09	317.80	4172.92	-9.12	3.07	8.99	0.13	433037.30	603663.40	N 32 11 24.33	W 103 59 53.65
	4267.00	0.13	128.47	4266.92	-9.15	3.05	9.03	0.23	433037.28	603663.44	N 32 11 24.33	W 103 59 53.65
	4362.00	0.11	240.78	4361.92	-9.15	2.94	9.03	0.21	433037.17	603663.44	N 32 11 24.33	W 103 59 53.65
	4456.00	0.11	154.31	4455.92	-9.10	2.82	8.99	0.16	433037.05	603663.40	N 32 11 24.33	W 103 59 53.65
	4644.00	0.11	159.79	4643.92	-9.23	2.49	9.13	0.01	433036.72	603663.54	N 32 11 24.33	W 103 59 53.65
	4832.00	0.13	220.82	4831.92	-9.14	2.15	9.06	0.07	433036.38	603663.46	N 32 11 24.32	W 103 59 53.65
	4926.00	0.11	37.08	4925.91	-9.12	2.15	9.04	0.26	433036.38	603663.45	N 32 11 24.32	W 103 59 53.65
	5021.00	0.11	3.40	5020.91	-9.19	2.31	9.10	0.07	433036.54	603663.51	N 32 11 24.33	W 103 59 53.65
	5115.00	0.09	154.75	5114.91	-9.23	2.33	9.14	0.21	433036.56	603663.55	N 32 11 24.33	W 103 59 53.65
	5209.00	0.11	291.78	5208.91	-9.18	2.30	9.09	0.20	433036.53	603663.49	N 32 11 24.33	W 103 59 53.65
	5303.00	0.11	157.81	5302.91	-9.12	2.25	9.04	0.22	433036.48	603663.44	N 32 11 24.33	W 103 59 53.65
	5491.00	2.33	169.18	5490.86	-9.74	-1.67	9.82	1.18	433032.56	603664.23	N 32 11 24.29	W 103 59 53.64
	5585.00	5.10	167.47	5584.65	-10.75	-7.63	11.09	2.95	433026.60	603665.50	N 32 11 24.23	W 103 59 53.63
	5679.00	7.47	163.80	5678.08	-12.93	-17.58	13.70	2.56	433016.66	603668.11	N 32 11 24.13	W 103 59 53.60
	5773.00	8.90	158.57	5771.12	-16.74	-30.21	18.06	1.71	433004.02	603672.47	N 32 11 24.00	W 103 59 53.55
	5961.00	11.01	150.39	5956.29	-29.66	-59.36	32.25	1.35	432974.87	603686.65	N 32 11 23.72	W 103 59 53.39
	6055.00	11.32	147.48	6048.51	-38.37	-74.95	41.64	0.68	432959.29	603696.05	N 32 11 23.56	W 103 59 53.28
	6149.00	11.89	145.58	6140.59	-48.12	-90.71	52.07	0.73	432943.52	603706.48	N 32 11 23.40	W 103 59 53.16
	6243.00	11.12	144.94	6232.70	-58.12	-106.12	62.75	0.83	432928.12	603717.16	N 32 11 23.25	W 103 59 53.03
	6337.00	10.31	142.41	6325.06	-67.85	-120.21	73.09	1.00	432914.03	603727.50	N 32 11 23.11	W 103 59 52.91
	6431.00	9.10	139.55	6417.72	-77.26	-132.53	83.05	1.39	432901.71	603737.45	N 32 11 22.99	W 103 59 52.80
	6525.00	8.17	139.33	6510.65	-85.97	-143.25	92.22	0.99	432890.99	603746.63	N 32 11 22.88	W 103 59 52.69
	6620.00	8.00	137.02	6604.71	-94.44	-153.21	101.13	0.39	432881.03	603755.53	N 32 11 22.78	W 103 59 52.59
	6714.00	7.56	135.79	6697.84	-102.80	-162.43	109.90	0.50	432871.82	603764.30	N 32 11 22.69	W 103 59 52.49
	6808.00	6.24	132.22	6791.16	-110.55	-170.29	118.00	1.48	432863.95	603772.40	N 32 11 22.61	W 103 59 52.39
	6902.00	4.81	137.72	6884.72	-116.71	-176.64	124.43	1.62	432857.60	603778.83	N 32 11 22.55	W 103 59 52.32
	6996.00	4.48	155.61	6978.42	-120.60	-182.90	128.60	1.57	432851.34	603783.00	N 32 11 22.49	W 103 59 52.27
	7090.00	4.37	157.34	7072.14	-123.21	-189.55	131.49	0.18	432844.70	603785.89	N 32 11 22.42	W 103 59 52.24
	7184.00	4.37	162.91	7165.86	-125.35	-196.28	133.93	0.45	432837.97	603788.33	N 32 11 22.36	W 103 59 52.21
	7278.00	4.48	175.02	7259.58	-126.41	-203.36	135.30	1.00	432830.89	603789.70	N 32 11 22.29	W 103 59 52.18

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 ° ' ")
	7372.00	3.76	190.06	7353.34	-125.90	-210.05	135.08	1.37	432824.20	603789.48	N 32 11 22.22 W	103 59 52.19
	7466.00	3.03	224.74	7447.19	-123.41	-214.85	132.79	2.28	432819.40	603787.19	N 32 11 22.17 W	103 59 52.22
	7560.00	3.67	253.63	7541.03	-118.67	-217.46	128.15	1.90	432816.78	603782.55	N 32 11 22.15 W	103 59 52.28
	7654.00	4.59	279.20	7634.80	-112.06	-217.71	121.55	2.16	432816.54	603775.95	N 32 11 22.15 W	103 59 52.35
	7748.00	5.87	300.48	7728.41	-104.34	-214.67	113.70	2.45	432819.58	603768.10	N 32 11 22.18 W	103 59 52.44
	7842.00	6.09	300.18	7821.90	-96.11	-209.72	105.25	0.24	432824.52	603759.65	N 32 11 22.22 W	103 59 52.54
	7936.00	7.91	282.31	7915.21	-85.66	-205.84	94.61	3.00	432828.41	603749.02	N 32 11 22.26 W	103 59 52.67
	7995.00	9.60	284.03	7973.52	-77.02	-203.78	85.87	2.90	432830.47	603740.28	N 32 11 22.28 W	103 59 52.77
	8099.00	10.11	283.42	8075.98	-59.92	-199.56	68.58	0.50	432834.69	603722.99	N 32 11 22.33 W	103 59 52.97
	8193.00	18.03	260.69	8167.15	-37.49	-200.00	46.15	10.12	432834.25	603700.56	N 32 11 22.32 W	103 59 53.23
	8287.00	28.50	253.78	8253.41	-1.16	-208.64	10.15	11.49	432825.60	603664.56	N 32 11 22.24 W	103 59 53.65
	8380.00	34.93	258.80	8332.49	46.77	-220.03	-37.33	7.47	432814.22	603617.09	N 32 11 22.13 W	103 59 54.20
	8473.00	40.73	254.70	8405.93	102.73	-233.22	-92.77	6.79	432801.03	603561.65	N 32 11 22.00 W	103 59 54.85
	8566.00	52.73	265.24	8469.65	169.63	-244.35	-159.25	15.28	432789.90	603495.17	N 32 11 21.89 W	103 59 55.62
	8660.00	54.67	273.00	8525.35	245.25	-245.45	-234.90	6.96	432788.80	603419.53	N 32 11 21.88 W	103 59 56.50
	8757.00	69.51	273.27	8570.63	330.32	-240.76	-320.25	15.30	432793.49	603334.19	N 32 11 21.93 W	103 59 57.49
	8851.00	84.87	274.97	8591.41	421.10	-234.15	-411.39	16.43	432800.10	603243.05	N 32 11 22.00 W	103 59 58.55
	8944.00	91.65	276.44	8594.23	513.05	-224.92	-503.83	7.46	432809.33	603150.62	N 32 11 22.09 W	103 59 59.63
	9040.00	94.10	275.84	8589.42	607.84	-214.66	-599.15	2.63	432819.59	603055.31	N 32 11 22.20 W	104 0 0.74
	9134.00	93.92	275.89	8582.84	700.62	-205.08	-692.43	0.20	432829.17	602962.04	N 32 11 22.33 W	104 0 1.82
	9225.00	93.93	275.78	8576.61	790.46	-195.85	-782.75	0.12	432838.40	602871.73	N 32 11 22.39 W	104 0 2.87
	9320.00	89.38	269.74	8573.87	884.95	-191.29	-877.53	7.96	432842.96	602776.95	N 32 11 22.44 W	104 0 3.98
	9414.00	90.21	268.95	8574.21	978.90	-192.36	-971.52	1.22	432841.88	602682.97	N 32 11 22.32 W	104 0 5.07
	9601.00	89.93	269.17	8573.98	1165.84	-195.43	-1158.49	0.19	432838.82	602496.01	N 32 11 22.41 W	104 0 7.25
	9695.00	90.00	269.08	8574.03	1259.80	-196.86	-1252.48	0.12	432837.38	602402.03	N 32 11 22.39 W	104 0 8.34
	9789.00	89.90	269.14	8574.12	1353.77	-198.32	-1346.47	0.12	432835.92	602308.05	N 32 11 22.38 W	104 0 9.43
	9882.00	90.07	269.18	8574.14	1446.73	-199.69	-1439.46	0.19	432834.56	602215.06	N 32 11 22.37 W	104 0 10.52
	9976.00	90.21	269.17	8573.91	1540.69	-201.04	-1533.45	0.15	432833.21	602121.08	N 32 11 22.36 W	104 0 11.61
	10069.00	90.00	269.20	8573.74	1633.65	-202.36	-1626.44	0.23	432831.88	602028.10	N 32 11 22.35 W	104 0 12.69
	10163.00	90.00	269.08	8573.74	1727.61	-203.77	-1720.43	0.13	432830.47	601934.12	N 32 11 22.34 W	104 0 13.78
	10257.00	90.21	269.09	8573.57	1821.58	-205.28	-1814.42	0.22	432828.97	601840.14	N 32 11 22.33 W	104 0 14.88
	10350.00	90.55	269.19	8572.95	1914.54	-206.67	-1907.41	0.38	432827.58	601747.16	N 32 11 22.32 W	104 0 15.96
	10444.00	90.62	269.13	8571.99	2008.50	-208.05	-2001.39	0.10	432826.20	601653.18	N 32 11 22.31 W	104 0 17.05
	10539.00	90.65	269.02	8570.94	2103.46	-209.58	-2096.37	0.12	432824.66	601558.21	N 32 11 22.29 W	104 0 18.16
	10633.00	90.41	269.18	8570.07	2197.42	-211.06	-2190.36	0.31	432823.19	601464.23	N 32 11 22.28 W	104 0 19.25
	10727.00	90.55	269.31	8569.28	2291.37	-212.30	-2284.35	0.20	432821.95	601370.25	N 32 11 22.27 W	104 0 20.35
	10821.00	90.45	269.15	8568.46	2385.33	-213.56	-2378.33	0.20	432820.69	601276.27	N 32 11 22.26 W	104 0 21.44
	10915.00	90.52	269.26	8567.67	2479.28	-214.87	-2472.32	0.14	432819.38	601182.29	N 32 11 22.25 W	104 0 22.53
	11008.00	90.93	269.28	8566.49	2572.23	-216.05	-2565.31	0.44	432818.20	601089.31	N 32 11 22.24 W	104 0 23.62
	11101.00	90.55	269.44	8565.29	2665.18	-217.09	-2658.29	0.44	432817.16	600996.33	N 32 11 22.24 W	104 0 24.70
	11195.00	90.55	269.32	8564.39	2759.12	-218.11	-2752.28	0.13	432816.14	600902.35	N 32 11 22.23 W	104 0 25.79
	11288.00	90.79	270.06	8563.30	2852.05	-218.61	-2845.27	0.84	432815.64	600809.36	N 32 11 22.23 W	104 0 26.87
	11382.00	90.72	269.61	8562.06	2945.97	-218.88	-2939.27	0.48	432815.37	600715.38	N 32 11 22.23 W	104 0 27.97
	11476.00	90.72	268.93	8560.88	3039.92	-220.08	-3033.25	0.72	432814.17	600621.40	N 32 11 22.22 W	104 0 29.06
	11570.00	89.93	271.82	8560.35	3133.79	-219.46	-3127.24	3.19	432814.79	600527.43	N 32 11 22.23 W	104 0 30.16
	11663.00	91.48	278.77	8559.20	3225.87	-210.89	-3219.77	7.66	432823.36	600434.90	N 32 11 22.31 W	104 0 31.23
	11758.00	90.82	276.83	8557.29	3319.32	-198.00	-3313.87	2.16	432836.25	600340.81	N 32 11 22.44 W	104 0 32.33
	11851.00	89.52	269.50	8557.02	3411.81	-192.87	-3406.66	8.00	432841.38	600248.02	N 32 11 22.50 W	104 0 33.41
	11944.00	89.59	268.90	8557.74	3504.77	-194.16	-3499.65	0.65	432840.08	600155.04	N 32 11 22.49 W	104 0 34.49
	12133.00	89.07	269.29	8559.95	3693.68	-197.15	-3688.61	0.34	432837.10	599966.09	N 32 11 22.46 W	104 0 36.69
	12227.00	89.52	269.16	8561.11	3787.63	-198.42	-3782.60	0.50	432835.82	599872.12	N 32 11 22.45 W	104 0 37.78
	12321.00	89.17	268.88	8562.18	3881.59	-200.03	-3876.58	0.48	432834.22	599778.15	N 32 11 22.44 W	104 0 38.87
	12414.00	88.83	268.61	8563.80	3974.56	-202.07	-3969.54	0.47	432832.18	599685.19	N 32 11 22.42 W	104 0 39.96
	12508.00	89.28	269.06	8565.35	4068.52	-203.98	-4063.51	0.68	432830.27	599591.23	N 32 11 22.41 W	104 0 41.05
	12602.00	90.10	269.48	8565.86	4162.48	-205.17	-4157.50	0.98	432829.07	599497.25	N 32 11 22.40 W	104 0 42.14
	12695.00	90.41	269.43	8565.45	4255.42	-206.06	-4250.49	0.34	432828.19	599404.26	N 32 11 22.39 W	104 0 43.22
	12789.00	90.14	269.62	8565.00	4349.36	-206.84	-4344.49	0.35	432827.41	599310.27	N 32 11 22.39 W	104 0 44.32
	12884.00	90.58	269.36	8564.40	4444.31	-207.68	-4439.48	0.54	432826.56	599215.29	N 32 11 22.38 W	104 0 45.42
	13070.00	90.07	269.18	8563.35	4630.22	-210.05	-4625.46	0.29	432824.19	599029.32	N 32 11 22.36 W	104 0 47.59
	13164.00	90.17	269.11	8563.15	4724.18	-211.46	-4719.45	0.13	432822.79	598935.34	N 32 11 22.35 W	104 0 48.68
Final MWD survey	13303.00	89.90	268.77	8563.06	4863.14	-214.03	-4858.43	0.31	432820.22	598796.37	N 32 11 22.33 W	104 0 50.30
Proj. to Bit	13345.00	89.90	268.77	8563.14	4905.13	-214.93	-4900.42	0.00	432819.32	598754.39	N 32 11 22.32 W	104 0 50.79

Survey Type: Def Survey

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG-Depth Only
	1	26.500	459.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG
	1	459.000	13345.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG

OXY USA Inc.
Cedar Canyon 29 Federal 3H
API No. 30-015-42993

14-3/4" hole @ 680'
10-3/4" csg @ 670'
w/ 700sx-TOC-Surf Circ.

9-7/8" hole @ 8110'
7-5/8" csg @ 8098'
w/ 1215sx-TOC-Surf Circ.

6-3/4" hole @ 13345'
4-1/2" liner @ 7991-13340'
w/ 550sx-TOC- 7991' Circ.

Perfs @ 8582-13135'

TD- 13345'M 8563'V