Oilfield Services, Central U S Land
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

15-43843

November 21, 2016

OXY USA INC.
5 Greenway Plaza, Suite 110
Houston, TX 77046-052

Re:

16, T24S, R29E, Eddy NM
N 32.22365 W 103.98407

CLIENT: OXY USA INC.
WELL: Cedar Canyon 16 State 34H
FIELD: Wolfcamp

RIG: H&P 617
COUNTY: Eddy
API NO: 30-015-43843
JOB NO: 16MLD2103

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.

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
Tamer Ahmed FE	Cedar Canyon 16 State 34H Original Hole	515.00 Ft 14505.00 Ft	to	October 16, 2016 October 31, 2016	to	TelePacer SlimPulse

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

Lindsey Keith
Field Service Manager

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:
16, T24S, R29E, Eddy NM
N 32.22365 W 103.98394

I, Tamer Ahmed certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of October 16, 2016 through October 31, 2016, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 515.00 feet to a depth of 14505.00 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 16 State 34H Well (Original Hole) API No. 30-015-43843 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
Tamer Ahmed
FE

Tamer Ahmed

Tamer Ahmed

Subscribed and Sworn to before me this 26th day of November (month) 2016 (yr)

My Commission expires:

03-09-2020

Notary Public (signature)

Montgomery / Texas
(County State)

BIBI EPSTEIN
Notary ID # 11879185
My Commission Expires
March 9, 2020

Schlumberger

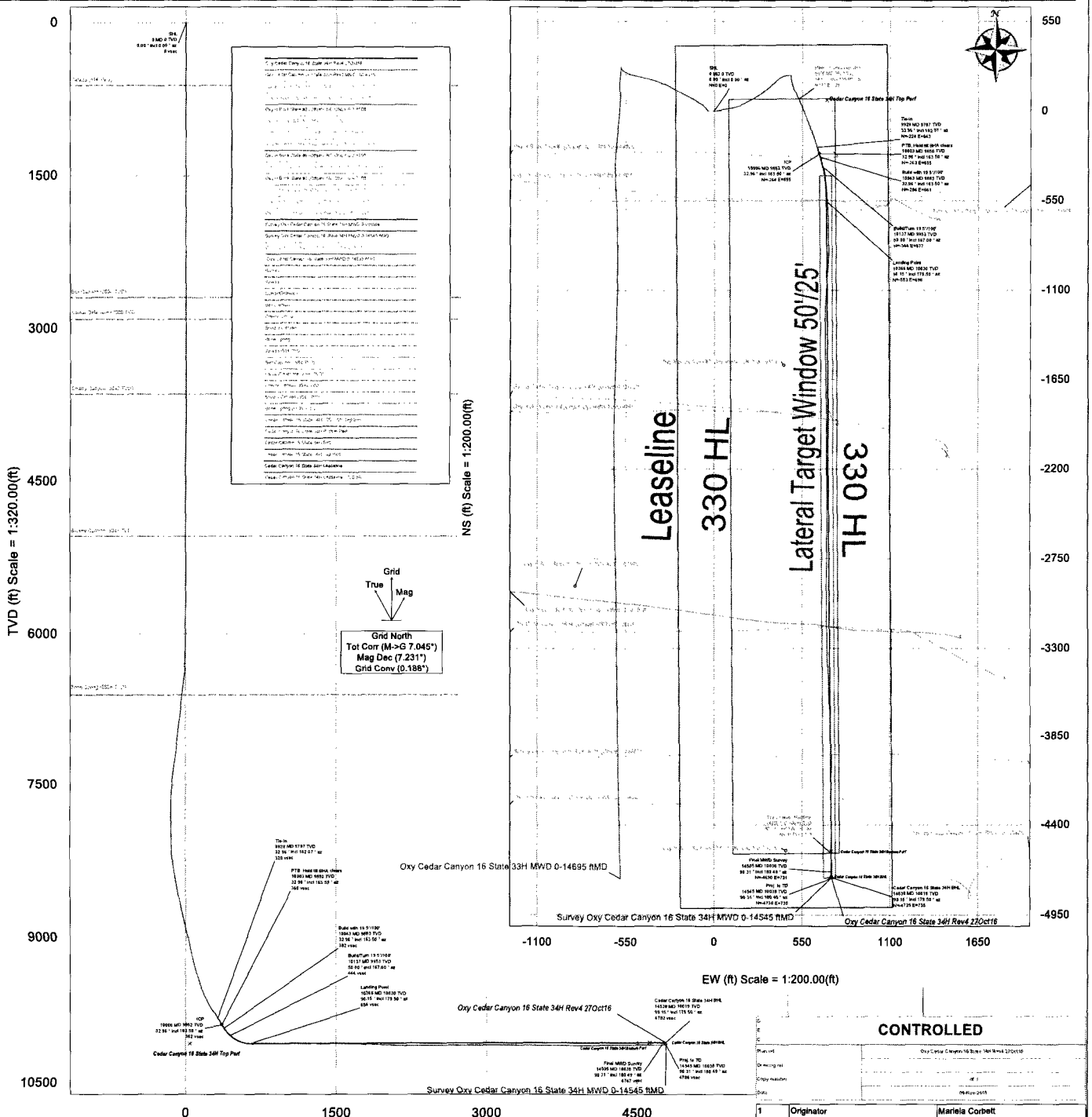
Final PvA - Rev4 **OXY** RKB = 26.5 ft

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Cedar Canyon 16 State 34H	NM Eddy County (NAD 27)	Oxy Cedar Canyon 16 State 34H

Gravity & Magnetic Parameters						Surface Location	NAD27 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous			
Model:	HDGM 2016	Dip:	60.079°	Date:	10-Oct-2016	Lat:	N 32 13 25.14	Northing:	445258.92ftUS	Grid Conv:	0.1863°	Slot:	Oxy Cedar Canyon 16 State 34H	TVD Ref:	RKB=26.5'(2953.8ft above MSL)
MagDec:	7.231°	FS:	48261.027nT	Gravity FS:	998.471mgn (9.80665 Based)	Lon:	W 103 59 2.17	Easting:	608047.88ftUS	Scale Fact:	0.99992246	Plan:	Oxy Cedar Canyon 16 State 34H Rev4 27Oct16		

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 (ftUS)	Northing (ftUS)	DLS (°/100ft)	Tool Face (deg)
Tie-In	9928.00	32.96	162.07	9786.61	6832.81	319.91	-223.75	642.99	N 32 13 22.909	W 103 58 54.694	608690.82	445035.19	0.60	90.00
PTB. Hold till BHA clears	10003.00	32.96	163.50	9849.54	6895.74	360.27	-262.72	655.07	N 32 13 22.522	W 103 58 54.554	608702.89	444996.22	1.04	0.00
ICP	10005.59	32.96	163.50	9851.71	6897.91	361.67	-264.07	655.47	N 32 13 22.509	W 103 58 54.550	608703.29	444994.87	0.00	0.00
Build with 18.25°/100'	10043.00	32.96	163.50	9883.10	6929.30	381.84	-283.59	661.25	N 32 13 22.316	W 103 58 54.483	608709.07	444975.35	0.00	9.10
Build/Turn 18.25°/100'	10137.20	50.00	167.00	9953.42	6999.62	443.69	-343.77	676.76	N 32 13 21.720	W 103 58 54.305	608724.58	444915.18	18.25	18.97
Landing Point	10365.91	90.15	179.50	10030.05	7076.25	653.57	-552.80	698.43	N 32 13 19.651	W 103 58 54.061	608746.25	444706.16	18.25	0.00
Cedar Canyon 16 State 34H BHL	14538.23	90.15	179.50	10019.00	7065.20	4781.75	-4724.95	734.85	N 32 12 38.364	W 103 58 53.796	608782.67	440534.35	0.00	



Vertical Section (ft) Azim = 171.16° Scale = 1:320.00(ft) Origin = 0N/-S, 0E/-W

CONTROLLED

1	Originator	Mariela Corbett
2	DE Sign Off Authority	
3	D&M Line Manager	Joel Dunn
4	Client	Oxy

Schlumberger

Survey Oxy Cedar Canyon 16 State 34H MWD 0-14545 ftMD Survey
Geodetic Report
(Def Survey)

Report Date:	November 09, 2016 - 10:04 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	171.160 ° (Grid North)
Field:	NM Eddy County (NAD 27)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Cedar Canyon 16 State 34H / Oxy Cedar Canyon 16 State 34H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Cedar Canyon 16 State 34H	**TVD Reference Elevation:**	2953.800 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	2927.300 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.233 °
Survey Name:	Survey Oxy Cedar Canyon 16 State 34H MWD 0-14545 ftMD	**Total Gravity Field Strength:**	998.4710mgn (9.80665 Based)
Survey Date:	October 02, 2016	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	208.161 ° / 5541.159 ft / 6.223 / 0.551	**Total Magnetic Field Strength:**	48203.406 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.080 °
Location Lat / Long:	N 32° 13' 25.14340", W 103° 59' 2.16962"	**Declination Date:**	October 02, 2016
Location Grid N/E Y/X:	N 445258.920 ftUS, E 608047.880 ftUS	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	0.1863 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99992246	**Grid Convergence Used:**	0.1863 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	7.0470 °
		Local Coord Referenced To:	Well Head

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	445258.92	608047.88	N 32 13 25.14	W 103 59 2.17
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	445258.92	608047.88	N 32 13 25.14	W 103 59 2.17
	515.00	0.13	294.46	515.00	-0.30	0.23	-0.50	0.03	445259.15	608047.38	N 32 13 25.15	W 103 59 2.18
	606.00	0.09	297.08	606.00	-0.40	0.30	-0.66	0.04	445259.22	608047.22	N 32 13 25.15	W 103 59 2.18
	784.00	0.11	353.15	784.00	-0.66	0.54	-0.81	0.05	445259.46	608047.07	N 32 13 25.15	W 103 59 2.18
	877.00	0.13	332.86	877.00	-0.85	0.72	-0.87	0.05	445259.64	608047.01	N 32 13 25.15	W 103 59 2.18
	966.00	0.11	39.66	966.00	-1.00	0.88	-0.86	0.15	445259.80	608047.02	N 32 13 25.15	W 103 59 2.18
	1054.00	0.09	229.30	1054.00	-1.02	0.90	-0.86	0.23	445259.82	608047.02	N 32 13 25.15	W 103 59 2.18
	1151.00	0.13	32.64	1151.00	-1.06	0.94	-0.85	0.22	445259.86	608047.03	N 32 13 25.15	W 103 59 2.18
	1246.00	0.11	84.64	1246.00	-1.13	1.04	-0.71	0.11	445259.96	608047.17	N 32 13 25.15	W 103 59 2.18
	1340.00	0.09	276.20	1340.00	-1.15	1.05	-0.69	0.21	445259.97	608047.19	N 32 13 25.15	W 103 59 2.18
	1435.00	0.09	126.30	1435.00	-1.11	1.02	-0.70	0.18	445259.94	608047.18	N 32 13 25.15	W 103 59 2.18
	1529.00	0.11	161.39	1529.00	-0.97	0.89	-0.61	0.07	445259.81	608047.27	N 32 13 25.15	W 103 59 2.18
	1624.00	0.13	301.41	1624.00	-0.95	0.86	-0.68	0.24	445259.78	608047.20	N 32 13 25.15	W 103 59 2.18
	1718.00	0.15	183.39	1718.00	-0.90	0.79	-0.78	0.26	445259.71	608047.10	N 32 13 25.15	W 103 59 2.18
	1813.00	0.11	334.03	1813.00	-0.87	0.75	-0.82	0.26	445259.67	608047.06	N 32 13 25.15	W 103 59 2.18
	1907.00	0.11	39.17	1907.00	-1.01	0.90	-0.81	0.13	445259.82	608047.07	N 32 13 25.15	W 103 59 2.18
	2096.00	0.09	90.78	2096.00	-1.11	1.04	-0.54	0.05	445259.96	608047.34	N 32 13 25.15	W 103 59 2.18
	2190.00	0.11	102.57	2190.00	-1.07	1.02	-0.38	0.03	445259.94	608047.50	N 32 13 25.15	W 103 59 2.17
	2284.00	0.15	257.95	2284.00	-1.03	0.97	-0.41	0.27	445259.89	608047.47	N 32 13 25.15	W 103 59 2.17
	2378.00	0.11	125.63	2378.00	-0.96	0.90	-0.46	0.25	445259.82	608047.42	N 32 13 25.15	W 103 59 2.17
	2472.00	0.15	206.41	2472.00	-0.79	0.73	-0.44	0.18	445259.65	608047.44	N 32 13 25.15	W 103 59 2.17
	2567.00	0.73	196.75	2566.99	-0.14	0.04	-0.67	0.61	445258.96	608047.21	N 32 13 25.14	W 103 59 2.18
	2661.00	1.10	181.24	2660.98	1.28	-1.43	-0.86	0.47	445257.49	608047.02	N 32 13 25.13	W 103 59 2.18
	2850.00	0.15	284.48	2849.97	2.97	-3.19	-1.14	0.61	445255.73	608046.74	N 32 13 25.11	W 103 59 2.18
	2944.00	0.07	182.73	2943.97	2.98	-3.21	-1.26	0.19	445255.71	608046.62	N 32 13 25.11	W 103 59 2.18
	3039.00	0.11	143.31	3038.97	3.12	-3.34	-1.21	0.08	445255.58	608046.67	N 32 13 25.11	W 103 59 2.18
	3133.00	0.13	356.46	3132.97	3.09	-3.31	-1.16	0.24	445255.61	608046.72	N 32 13 25.11	W 103 59 2.18
	3476.00	0.11	317.40	3475.97	2.43	-2.68	-1.41	0.02	445256.24	608046.47	N 32 13 25.12	W 103 59 2.19
	3511.00	0.11	61.93	3510.97	2.39	-2.64	-1.40	0.50	445256.28	608046.48	N 32 13 25.12	W 103 59 2.19
	3606.00	0.11	68.38	3605.97	2.34	-2.56	-1.24	0.01	445256.36	608046.64	N 32 13 25.12	W 103 59 2.18
	3700.00	0.13	279.24	3699.97	2.29	-2.51	-1.26	0.25	445256.41	608046.62	N 32 13 25.12	W 103 59 2.18
	3794.00	0.15	301.83	3793.97	2.17	-2.43	-1.47	0.06	445256.49	608046.41	N 32 13 25.12	W 103 59 2.19
	3889.00	0.13	20.61	3888.97	2.00	-2.26	-1.54	0.19	445256.66	608046.34	N 32 13 25.12	W 103 59 2.19
	3983.00	0.11	252.96	3982.97	1.92	-2.19	-1.59	0.23	445256.73	608046.29	N 32 13 25.12	W 103 59 2.19
	4077.00	0.13	34.36	4076.97	1.85	-2.13	-1.61	0.24	445256.79	608046.27	N 32 13 25.12	W 103 59 2.19
	4172.00	0.11	22.06	4171.97	1.70	-1.95	-1.52	0.03	445256.97	608046.36	N 32 13 25.12	W 103 59 2.19
	4266.00	0.09	125.00	4265.97	1.67	-1.91	-1.42	0.17	445257.01	608046.46	N 32 13 25.12	W 103 59 2.19
	4455.00	0.11	236.90	4454.97	1.85	-2.10	-1.45	0.09	445256.82	608046.43	N 32 13 25.12	W 103 59 2.19
	4549.00	0.11	18.92	4548.97	1.81	-2.06	-1.50	0.22	445256.86	608046.38	N 32 13 25.12	W 103 59 2.19
	4738.00	0.13	324.59	4737.97	1.45	-1.71	-1.57	0.06	445257.21	608046.31	N 32 13 25.13	W 103 59 2.19
	4832.00	0.11	336.19	4831.97	1.27	-1.55	-1.66	0.03	445257.37	608046.22	N 32 13 25.13	W 103 59 2.19
	4927.00	0.11	317.65	4926.97	1.11	-1.39	-1.76	0.04	445257.53	608046.12	N 32 13 25.13	W 103 59 2.19
	5021.00	0.29	99.82	5020.97	1.11	-1.37	-1.59	0.41	445257.55	608046.29	N 32 13 25.13	W 103 59 2.19
	5116.00	0.44	92.99	5115.96	1.26	-1.43	-0.99	0.16	445257.49	608046.89	N 32 13 25.13	W 103 59 2.18
	5210.00	0.66	97.03	5209.96	1.48	-1.51	-0.09	0.24	445257.41	608047.79	N 32 13 25.13	W 103 59 2.17
	5305.00	2.18	89.73	5304.93	1.90	-1.57	2.26	1.61	445257.35	608050.14	N 32 13 25.13	W 103 59 2.14
	5400.00	3.49	80.03	5399.81	2.11	-1.06	6.92	1.46	445257.86	608054.79	N 32 13 25.13	W 103 59 2.09
	5494.00	4.29	75.37	5493.59	1.70	0.32	13.14	0.91	445259.24	608061.01	N 32 13 25.15	W 103 59 2.02
	5589.00	6.31	76.28	5588.18	0.90	2.46	21.65	2.13	445261.38	608069.52	N 32 13 25.17	W 103 59 1.92
	5683.00	7.54	75.31	5681.50	-0.17	5.25	32.63	1.31	445264.17	608080.51	N 32 13 25.19	W 103 59 1.79
	5777.00	9.41	76.76	5774.46	-1.39	8.57	46.08	2.00	445267.49	608093.95	N 32 13 25.23	W 103 59 1.63
	5872.00	11.12	79.05	5867.94	-2.32	12.09	62.63	1.85	445271.01	608110.51	N 32 13 25.26	W 103 59 1.44
	5967.00	11.58	80.16	5961.08	-2.82	15.46	81.02	0.54	445274.38	608128.89	N 32 13 25.29	W 103 59 1.23
	6061.00	12.39	80.84	6053.03	-3.04	18.68	100.27	0.87	445277.60	608148.15	N 32 13 25.32	W 103 59 1.00
	6150.00	12.70	78.08	6139.91	-3.62	22.22	119.27	0.76	445281.14	608167.14	N 32 13 25.36	W 103 59 0.78
	6245.00	13.65	75.03	6232.41	-5.38	27.27	140.32	1.24	445286.19	608188.19	N 32 13 25.41	W 103 59 0.54
	6339.00	14.24	68.29	6323.64	-9.14	34.41	161.78	1.84	445293.33	608209.64	N 32 13 25.48	W 103 59 0.29
	6433.00	15.60	63.05	6414.48	-15.65	44.42	183.79	2.04	445303.33	608231.65	N 32 13 25.58	W 103 59 0.03
	6528.00	17.16	60.30	6505.62	-24.61	57.15	207.35	1.83	445316.07	608255.21	N 32 13 25.70	W 103 58 59.75
	6622.00	16.00	61.04	6595.71	-34.00	70.30	230.73	1.25	445329.21	608278.59	N 32 13 25.83	W 103 58 59.48
	6716.00	15.21	59.89	6686.24	-42.93	82.75	252.73	0.90	445341.67	608300.59	N 32 13 25.95	W 103 58 59.22
	6811.00	16.04	57.01	6777.73	-52.82	96.15	274.52	1.20	445355.07	608322.38	N 32 13 26.09	W 103 58 58.97
	6906.00	15.58	56.20	6869.14	-63.58	110.40	296.13	0.54	445369.31	608343.99	N 32 13 26.23	W 103 58 58.72
	7006.00	14.81	56.36	6965.64	-74.60	124.95	317.93	0.77	445383.86	608365.79	N 32 13 26.37	W 103 58 58.46
	7101.00	12.11	50.67	7058.03	-84.76	137.99	335.75	3.16	445396.90	608383.61	N 32 13 26.50	W 103 58 58.26
	7195.00	11.54	46.93	7150.04	-95.05	150.66	350.25	1.02	445409.57	608398.10	N 32 13 26.62	W 103 58 58.09
	7289.00	14.39	46.87	7241.63	-106.92	165.07	365.65	3.03	445423.98	608413.50	N 32 13 26.77	W 103 58 57.91
	7384.00	15.98	50.44	7333.31	-120.25	181.47	384.34	1.94	445440.38	608432.19	N 32 13 26.93	W 103 58 57.69
	7478.00	12.57	54.58	7424.40	-131.44	195.65	402.66	3.78	445454.55	608450.51	N 32 13 27.07	W 103 58 57.48
	7573.00	10.77	59.66	7517.43	-139.32	206.12	418.75	2.18	445465.03	608466.59	N 32 13 27.17	W 103 58 57.29

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 ° ' ")
	7667.00	9.56	70.47	7609.97	-143.99	213.17	433.69	2.40	445472.07	608481.53	N 32 13 27.24	W 103 58 57.11
	7762.00	10.13	80.87	7703.57	-145.49	217.13	449.37	1.96	445476.03	608497.21	N 32 13 27.28	W 103 58 56.93
	7856.00	7.36	82.65	7796.47	-145.38	219.21	463.51	2.96	445478.12	608511.35	N 32 13 27.30	W 103 58 56.77
	7951.00	4.33	88.47	7890.97	-144.76	220.09	473.13	3.25	445478.99	608520.97	N 32 13 27.31	W 103 58 56.65
	8045.00	1.93	119.27	7984.83	-143.34	219.41	478.06	3.03	445478.31	608525.90	N 32 13 27.30	W 103 58 56.60
	8140.00	1.03	164.46	8079.80	-141.50	217.80	479.68	1.48	445476.71	608527.52	N 32 13 27.28	W 103 58 56.58
	8234.00	3.71	185.97	8173.71	-137.72	213.96	479.59	2.95	445472.87	608527.43	N 32 13 27.25	W 103 58 56.58
	8329.00	6.86	177.58	8268.29	-129.11	205.24	479.51	3.41	445464.14	608527.35	N 32 13 27.16	W 103 58 56.58
	8423.00	8.35	167.44	8361.47	-116.72	192.96	481.23	2.13	445451.87	608529.08	N 32 13 27.04	W 103 58 56.56
	8518.00	10.88	168.66	8455.13	-100.87	177.44	484.50	2.67	445436.34	608532.34	N 32 13 26.88	W 103 58 56.52
	8612.00	12.00	161.82	8547.26	-82.37	159.46	489.29	1.87	445418.36	608537.13	N 32 13 26.71	W 103 58 56.47
	8706.00	11.49	157.36	8639.30	-63.63	141.53	495.94	1.11	445400.44	608543.78	N 32 13 26.53	W 103 58 56.39
	8801.00	13.67	156.04	8732.01	-43.60	122.54	504.15	2.31	445381.45	608551.99	N 32 13 26.34	W 103 58 56.30
	8896.00	15.16	153.95	8824.02	-20.90	101.12	514.16	1.66	445360.03	608562.00	N 32 13 26.13	W 103 58 56.18
	8990.00	14.79	156.39	8914.83	2.44	79.08	524.36	0.78	445337.99	608572.20	N 32 13 25.91	W 103 58 56.06
	9084.00	14.09	154.15	9005.86	24.99	57.79	534.16	0.95	445316.70	608582.00	N 32 13 25.70	W 103 58 55.95
	9173.00	11.67	154.12	9092.61	43.95	39.94	542.81	2.72	445298.86	608590.65	N 32 13 25.52	W 103 58 55.85
	9267.00	14.66	157.18	9184.13	64.59	20.42	551.58	3.27	445279.33	608599.41	N 32 13 25.33	W 103 58 55.75
	9362.00	16.81	157.17	9275.56	89.59	-3.33	561.57	2.26	445255.59	608609.41	N 32 13 25.09	W 103 58 55.63
	9456.00	16.04	157.11	9365.73	115.38	-27.82	571.90	0.82	445231.10	608619.73	N 32 13 24.85	W 103 58 55.51
	9551.00	19.76	160.12	9456.12	143.88	-55.02	582.46	4.03	445203.90	608630.30	N 32 13 24.58	W 103 58 55.39
	9645.00	25.27	159.07	9542.92	179.12	-88.73	595.05	5.88	445170.20	608642.88	N 32 13 24.25	W 103 58 55.25
	9739.00	29.10	159.39	9626.52	221.13	-128.88	610.26	4.08	445130.05	608658.10	N 32 13 23.85	W 103 58 55.07
	9834.00	33.16	161.10	9707.82	269.35	-175.10	626.82	4.37	445083.83	608674.65	N 32 13 23.39	W 103 58 54.88
	9928.00	32.96	162.07	9786.60	319.91	-223.76	643.02	0.60	445035.18	608690.85	N 32 13 22.91	W 103 58 54.69
	10032.00	33.78	161.74	9873.46	376.37	-278.13	660.79	0.81	444980.81	608708.61	N 32 13 22.37	W 103 58 54.49
	10082.00	41.91	163.04	9912.91	406.67	-307.35	670.03	16.34	444951.59	608717.86	N 32 13 22.08	W 103 58 54.38
	10129.00	48.68	165.55	9945.96	439.82	-339.50	679.02	14.89	444919.45	608726.85	N 32 13 21.76	W 103 58 54.28
	10222.00	63.29	173.29	9997.89	516.58	-415.06	692.68	17.14	444843.90	608740.50	N 32 13 21.01	W 103 58 54.12
	10318.00	79.55	175.46	10028.38	607.11	-505.31	701.49	17.07	444753.65	608749.31	N 32 13 20.12	W 103 58 54.02
	10408.00	91.03	177.31	10035.76	696.28	-594.68	707.12	12.92	444664.29	608754.94	N 32 13 19.24	W 103 58 53.96
	10474.00	91.45	178.34	10034.33	761.82	-660.61	709.62	1.69	444598.36	608757.45	N 32 13 18.58	W 103 58 53.93
	10569.00	90.14	179.67	10033.01	855.92	-755.59	711.27	1.96	444503.39	608759.10	N 32 13 17.64	W 103 58 53.92
	10662.00	90.24	179.63	10032.71	947.90	-848.58	711.84	0.12	444410.40	608759.67	N 32 13 16.72	W 103 58 53.92
	10755.00	90.21	182.60	10032.34	1039.49	-941.56	710.03	3.19	444317.44	608757.86	N 32 13 15.80	W 103 58 53.94
	10850.00	90.48	185.06	10031.77	1132.16	-1036.33	703.69	2.60	444222.67	608751.51	N 32 13 14.87	W 103 58 54.02
	10944.00	90.28	183.54	10031.15	1223.70	-1130.06	696.64	1.63	444128.95	608744.46	N 32 13 13.94	W 103 58 54.10
	11037.00	89.83	181.36	10031.06	1314.89	-1222.97	692.66	2.39	444036.04	608740.49	N 32 13 13.02	W 103 58 54.15
	11132.00	89.55	179.91	10031.57	1408.59	-1317.96	691.61	1.55	443941.06	608739.44	N 32 13 12.08	W 103 58 54.17
	11226.00	89.76	179.47	10032.14	1501.55	-1411.96	692.12	0.52	443847.07	608739.95	N 32 13 11.15	W 103 58 54.17
	11320.00	89.45	178.73	10032.78	1594.65	-1505.95	693.60	0.85	443753.09	608741.42	N 32 13 10.22	W 103 58 54.15
	11413.00	89.11	179.11	10033.95	1686.79	-1598.92	695.35	0.55	443660.13	608743.17	N 32 13 9.30	W 103 58 54.14
	11507.00	88.24	178.63	10036.13	1779.91	-1692.88	697.20	1.06	443566.18	608745.03	N 32 13 8.37	W 103 58 54.12
	11601.00	87.56	179.31	10039.57	1872.98	-1786.80	698.89	1.02	443472.26	608746.72	N 32 13 7.44	W 103 58 54.10
	11695.00	89.21	178.83	10042.22	1966.04	-1880.74	700.42	1.83	443378.32	608748.24	N 32 13 6.51	W 103 58 54.09
	11789.00	88.73	179.43	10043.91	2059.12	-1974.72	701.84	0.82	443284.36	608749.67	N 32 13 5.58	W 103 58 54.08
	11883.00	88.18	179.56	10046.44	2152.09	-2068.68	702.67	0.60	443190.40	608750.50	N 32 13 4.65	W 103 58 54.07
	11977.00	90.14	179.33	10047.82	2245.10	-2162.66	703.58	2.10	443096.43	608751.41	N 32 13 3.72	W 103 58 54.06
	12071.00	90.07	179.62	10047.65	2338.11	-2256.66	704.44	0.32	443002.44	608752.27	N 32 13 2.79	W 103 58 54.06
	12166.00	91.03	179.89	10046.74	2432.03	-2351.65	704.85	1.05	442907.46	608752.67	N 32 13 1.85	W 103 58 54.05
	12260.00	89.86	179.90	10046.01	2524.94	-2445.65	705.02	1.24	442813.47	608752.85	N 32 13 0.92	W 103 58 54.06
	12354.00	90.86	180.16	10045.42	2617.81	-2539.64	704.97	1.10	442719.48	608752.80	N 32 12 59.99	W 103 58 54.06
	12447.00	91.03	180.32	10043.88	2709.63	-2632.63	704.58	0.25	442626.50	608752.41	N 32 12 59.07	W 103 58 54.07
	12541.00	90.69	180.84	10042.47	2802.36	-2726.61	703.63	0.66	442532.52	608751.46	N 32 12 58.14	W 103 58 54.08
	12635.00	90.24	180.51	10041.71	2895.06	-2820.60	702.52	0.59	442438.54	608750.35	N 32 12 57.21	W 103 58 54.10
	12729.00	90.17	180.37	10041.37	2987.83	-2914.60	701.80	0.17	442344.55	608749.63	N 32 12 56.28	W 103 58 54.11
	12823.00	89.97	179.84	10041.26	3080.68	-3008.60	701.63	0.60	442250.56	608749.45	N 32 12 55.35	W 103 58 54.12
	12917.00	89.90	179.25	10041.37	3173.68	-3102.60	702.38	0.63	442156.57	608750.20	N 32 12 54.42	W 103 58 54.11
	13011.00	89.38	179.16	10041.96	3266.75	-3196.58	703.68	0.56	442062.59	608751.51	N 32 12 53.49	W 103 58 54.10
	13105.00	89.00	178.33	10043.28	3359.92	-3290.55	705.74	0.97	441968.63	608753.56	N 32 12 52.56	W 103 58 54.08
	13198.00	89.86	177.45	10044.21	3452.27	-3383.48	709.16	1.32	441875.71	608756.99	N 32 12 51.64	W 103 58 54.04
	13290.00	89.90	177.46	10044.40	3543.72	-3475.39	713.25	0.04	441783.81	608761.07	N 32 12 50.73	W 103 58 54.00
	13383.00	90.89	177.56	10043.76	3636.14	-3568.30	717.29	1.07	441690.90	608765.11	N 32 12 49.81	W 103 58 53.96
	13474.00	89.28	177.82	10043.63	3726.55	-3659.22	720.96	1.79	441599.99	608768.78	N 32 12 48.91	W 103 58 53.92
	13568.00	89.21	177.63	10044.87	3819.93	-3753.14	724.69	0.22	441506.08	608772.51	N 32 12 47.98	W 103 58 53.88
	13662.00	90.41	177.82	10045.18	3913.31	-3847.06	728.42	1.29	441412.16	608776.24	N 32 12 47.05	W 103 58 53.84
	13756.00	90.96	178.43	10044.05	4006.61	-3941.01	731.49	0.87	441318.23	608779.32	N 32 12 46.12	W 103 58 53.80
	13850.00	90.93	180.50	10042.50	4099.60	-4034.98	732.37	2.20	441224.26	608780.19	N 32 12 45.19	W 103 58 53.80
	13943.00	90.24	180.37	10041.55	4191.38	-4127.98	731.67	0.75	441131.27	608779.49	N 32 12 44.27	W 103 58 53.81
	14038.00	90.41	180.35	10041.01	4285.16	-4222.97	731.07	0.18	441036.28	608778.89	N 32 12 43.33	W 103 58 53.82
	14132.00	90.14	180.00	10040.56	4377.99	-4316.97	730.78	0.47	440942.29	608778.60	N 32 12 42.40	W 103 58 53.83
	14226.00	90.03	179.28	10040.42	4470.97	-4410.97	731.37	0.77	440848.30	608779.19	N 32 12 41.47	W 103 58 53.82
	14320.00	90.48	179.95	10040.01	4563.94	-4504.96	732.00	0.86	440754.31	608779.83	N 32 12 40.54	W 103 58 53.82
	14414.00	90.89	180.53	10038.88	4656.76	-4598.96	731.61	0.76	440660.33	608779.43	N 32 12 39.61	W 103 58 53.83
Final MWD Survey	14505.00	90.31	180.49	10037.93	4746.54	-4689.95	730.80	0.64	440569.35	608778.62	N 32 12 38.71	W 103 58 53.84
Proj. to TD	14545.00	90.31	180.49	10037.71	4786.01	-4729.95	730.46	0.00	440529.35	608778.28	N 32 12 38.32	W 103 58 53.85

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)	EOU Freq (ft)	Hole Size (in)	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	Original Borehole / Survey Oxy Cedar Canyon 16 State 34H MWD 0-14545 ftMD
	1	26.500	515.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Survey Oxy Cedar Canyon 16 State 34H MWD
	1	515.000	3133.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Survey Oxy Cedar Canyon 16 State 34H MWD
	1	3133.000	3476.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Survey Oxy Cedar Canyon 16 State 34H MWD
	1	3476.000	14545.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Survey Oxy Cedar Canyon 16 State 34H MWD

OXY USA Inc.
Cedar Canyon 16 State 34H
API No. 30-015-43843