Schlumberger

Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro+MWD 0-20,405' Survey
Geodetic Report
(Def Survey)

30-015-44369

OXY

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Report Date:	February 23, 2018 - 01:21 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	357.690 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Sunrise MDP1 8-5 Federal Com 1H / Oxy Sunrise 8-5 Federal Com 1H	**TVD Reference Datum:**	RKB (26.5')
Well:	Oxy Sunrise MDP1 8-5 Federal Com 1H	**TVD Reference Elevation:**	3555.900 ft above MSL
Borehole:	ST01	**Seabed / Ground Elevation:**	3529.400 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.924 °
Survey Name:	Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro+MWD 0-20,405'	**Total Gravity Field Strength:**	998.4287mgn (9.80665 Based)
Survey Date:	February 16, 2018	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	227.476 ° / 11197.905 ft / 6.716 / 1.120	**Total Magnetic Field Strength:**	48045.153 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.979 °
Location Lat / Long:	N 32° 13' 30.21751", W 103° 48' 20.70502"	**Declination Date:**	February 16, 2018
Location Grid N/E Y/X:	N 446011.320 ftUS, E 704481.860 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.2813 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993957	**Grid Convergence Used:**	0.2813 °
Version / Patch:	2.10.706.0	**Total Corr Mag North->Grid North:**	6.6425 °
		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	446011.32	704481.86	N 32 13 30.22	W 103 48 20.71
	86.10	0.25	298.03	86.10	0.09	0.09	-0.17	0.29	446011.41	704481.69	N 32 13 30.22	W 103 48 20.71
	176.40	0.29	307.10	176.40	0.34	0.32	-0.52	0.06	446011.64	704481.34	N 32 13 30.22	W 103 48 20.71
	263.20	0.27	323.63	263.20	0.65	0.62	-0.82	0.10	446011.94	704481.04	N 32 13 30.22	W 103 48 20.71
	358.20	0.09	283.90	358.20	0.85	0.81	-1.02	0.22	446012.13	704480.84	N 32 13 30.23	W 103 48 20.72
	450.70	0.08	229.70	450.70	0.84	0.79	-1.14	0.08	446012.11	704480.72	N 32 13 30.23	W 103 48 20.72
	545.70	0.21	214.44	545.70	0.65	0.60	-1.29	0.14	446011.92	704480.57	N 32 13 30.22	W 103 48 20.72
	640.40	0.40	204.00	640.40	0.22	0.16	-1.53	0.21	446011.48	704480.34	N 32 13 30.22	W 103 48 20.72
Last Gyro	655.60	0.17	222.03	655.60	0.16	0.09	-1.56	1.61	446011.41	704480.30	N 32 13 30.22	W 103 48 20.72
	846.00	0.29	98.06	845.99	-0.13	-0.18	-1.27	0.22	446011.14	704480.59	N 32 13 30.22	W 103 48 20.72
	937.00	0.23	279.48	936.99	-0.14	-0.19	-1.23	0.57	446011.13	704480.63	N 32 13 30.22	W 103 48 20.72
	1029.00	0.18	75.24	1028.99	-0.07	-0.12	-1.27	0.44	446011.20	704480.59	N 32 13 30.22	W 103 48 20.72
	1121.00	0.13	241.89	1120.99	-0.08	-0.13	-1.22	0.33	446011.19	704480.64	N 32 13 30.22	W 103 48 20.72
	1212.00	0.23	88.62	1211.99	-0.13	-0.18	-1.13	0.39	446011.14	704480.73	N 32 13 30.22	W 103 48 20.72
	1305.00	0.17	245.00	1304.99	-0.19	-0.23	-1.07	0.42	446011.09	704480.79	N 32 13 30.22	W 103 48 20.72
	1397.00	0.17	63.72	1396.99	-0.18	-0.23	-1.07	0.37	446011.09	704480.79	N 32 13 30.22	W 103 48 20.72
	1488.00	0.17	245.32	1487.99	-0.18	-0.22	-1.07	0.37	446011.10	704480.79	N 32 13 30.22	W 103 48 20.72
	1580.00	0.11	56.97	1579.99	-0.19	-0.23	-1.12	0.30	446011.09	704480.74	N 32 13 30.22	W 103 48 20.72
	1671.00	0.24	280.73	1670.99	-0.10	-0.15	-1.23	0.36	446011.17	704480.63	N 32 13 30.22	W 103 48 20.72
	1766.00	0.13	87.86	1765.99	-0.05	-0.11	-1.32	0.39	446011.21	704480.54	N 32 13 30.22	W 103 48 20.72
	1861.00	0.11	266.02	1860.99	-0.06	-0.11	-1.31	0.25	446011.21	704480.55	N 32 13 30.22	W 103 48 20.72
	2050.00	0.11	7.48	2049.99	0.12	0.06	-1.46	0.09	446011.38	704480.40	N 32 13 30.22	W 103 48 20.72
	2239.00	0.11	4.21	2238.99	0.47	0.42	-1.43	0.00	446011.74	704480.43	N 32 13 30.22	W 103 48 20.72
	2334.00	0.13	284.11	2333.99	0.60	0.53	-1.52	0.16	446011.85	704480.34	N 32 13 30.22	W 103 48 20.72
	2428.00	0.06	212.18	2427.99	0.59	0.52	-1.65	0.13	446011.84	704480.21	N 32 13 30.22	W 103 48 20.72
	2523.00	0.06	191.41	2522.99	0.50	0.43	-1.69	0.02	446011.75	704480.17	N 32 13 30.22	W 103 48 20.72
	2618.00	0.08	15.75	2617.99	0.51	0.44	-1.68	0.15	446011.76	704480.18	N 32 13 30.22	W 103 48 20.72
	2712.00	0.06	206.01	2711.99	0.53	0.46	-1.69	0.15	446011.78	704480.17	N 32 13 30.22	W 103 48 20.72
	2807.00	0.08	118.07	2806.99	0.45	0.39	-1.65	0.10	446011.71	704480.21	N 32 13 30.22	W 103 48 20.72
	2996.00	0.06	2.35	2995.99	0.48	0.42	-1.53	0.06	446011.74	704480.33	N 32 13 30.22	W 103 48 20.72
	3090.00	0.06	3.63	3089.99	0.58	0.52	-1.52	0.00	446011.84	704480.34	N 32 13 30.22	W 103 48 20.72
	3185.00	0.06	5.38	3184.99	0.68	0.62	-1.52	0.00	446011.94	704480.34	N 32 13 30.22	W 103 48 20.72
	3280.00	0.06	28.23	3279.99	0.77	0.71	-1.49	0.03	446012.03	704480.37	N 32 13 30.22	W 103 48 20.72
	3375.00	0.11	317.59	3374.99	0.89	0.82	-1.52	0.11	446012.14	704480.34	N 32 13 30.23	W 103 48 20.72
	3469.00	0.08	93.89	3468.99	0.95	0.89	-1.52	0.19	446012.21	704480.34	N 32 13 30.23	W 103 48 20.72
	3658.00	0.28	199.05	3657.99	0.50	0.44	-1.54	0.16	446011.76	704480.32	N 32 13 30.22	W 103 48 20.72
	3753.00	0.13	6.50	3752.99	0.39	0.33	-1.60	0.43	446011.65	704480.26	N 32 13 30.22	W 103 48 20.72
	3847.00	0.08	156.33	3846.99	0.44	0.38	-1.56	0.22	446011.70	704480.30	N 32 13 30.22	W 103 48 20.72
	3942.00	0.08	178.83	3941.99	0.31	0.25	-1.54	0.03	446011.57	704480.32	N 32 13 30.22	W 103 48 20.72
	4036.00	0.20	267.35	4035.99	0.24	0.17	-1.70	0.23	446011.49	704480.16	N 32 13 30.22	W 103 48 20.72
	4131.00	0.16	44.92	4130.99	0.33	0.26	-1.77	0.35	446011.58	704480.09	N 32 13 30.22	W 103 48 20.73
	4226.00	0.11	18.82	4225.99	0.51	0.44	-1.65	0.08	446011.76	704480.21	N 32 13 30.22	W 103 48 20.72
	4320.00	0.13	281.26	4319.99	0.62	0.55	-1.72	0.19	446011.87	704480.14	N 32 13 30.22	W 103 48 20.73
	4483.00	0.16	33.89	4482.99	0.84	0.77	-1.78	0.15	446012.09	704480.08	N 32 13 30.23	W 103 48 20.73
	4578.00	0.08	256.44	4577.99	0.94	0.87	-1.77	0.24	446012.19	704480.09	N 32 13 30.23	W 103 48 20.73
	4672.00	0.08	266.16	4671.99	0.92	0.85	-1.90	0.01	446012.17	704479.96	N 32 13 30.23	W 103 48 20.73
	4767.00	0.13	323.99	4766.99	1.01	0.93	-2.03	0.12	446012.25	704479.83	N 32 13 30.23	W 103 48 20.73
	4957.00	0.08	329.12	4956.99	1.31	1.22	-2.22	0.03	446012.54	704479.64	N 32 13 30.23	W 103 48 20.73
	5052.00	0.16	295.62	5051.99	1.43	1.33	-2.38	0.11	446012.65	704479.48	N 32 13 30.23	W 103 48 20.73
	5241.00	0.08	223.35	5240.99	1.46	1.35	-2.70	0.08	446012.67	704479.16	N 32 13 30.23	W 103 48 20.74
	5430.00	0.06	188.29	5429.99	1.27	1.16	-2.81	0.02	446012.48	704479.05	N 32 13 30.23	W 103 48 20.74
	5524.00	0.06	108.12	5523.99	1.20	1.09	-2.77	0.08	446012.41	704479.09	N 32 13 30.23	W 103 48 20.74
	5713.00	0.08	176.97	5712.99	1.04	0.93	-2.67	0.04	446012.25	704479.19	N 32 13 30.23	W 103 48 20.74
	5808.00	0.08	348.90	5807.99	1.04	0.93	-2.68	0.17	446012.25	704479.18	N 32 13 30.23	W 103 48 20.74
	5903.00	0.08	62.88	5902.99	1.13	1.02	-2.63	0.10	446012.34	704479.23	N 32 13 30.23	W 103 48 20.74
	5997.00	0.48	10.71	5996.99	1.54	1.44	-2.50	0.46	446012.76	704479.36	N 32 13 30.23	W 103 48 20.73
	6092.00	1.46	206.27	6091.98	0.87	0.75	-2.96	2.03	446012.07	704478.90	N 32 13 30.23	W 103 48 20.74
	6186.00	4.82	201.48	6185.82	-3.80	-4.00	-4.94	3.58	446007.32	704476.92	N 32 13 30.18	W 103 48 20.76
	6281.00	8.35	201.68	6280.18	-13.76	-14.13	-8.95	3.72	445997.19	704472.91	N 32 13 30.08	W 103 48 20.81
	6375.00	11.29	200.54	6372.79	-28.48	-29.09	-14.70	3.13	445982.23	704467.16	N 32 13 29.93	W 103 48 20.88
	6470.00	14.09	202.95	6465.47	-47.51	-48.45	-22.47	3.00	445962.87	704459.39	N 32 13 29.74	W 103 48 20.97
	6659.00	14.25	215.27	6648.76	-86.76	-88.64	-44.88	1.60	445922.69	704436.98	N 32 13 29.34	W 103 48 21.23
	6753.00	11.89	227.30	6740.33	-102.21	-104.66	-58.68	3.82	445906.67	704423.18	N 32 13 29.18	W 103 48 21.39
	6848.00	10.77	240.49	6833.50	-112.61	-115.67	-73.60	2.96	445895.66	704408.26	N 32 13 29.08	W 103 48 21.57
	6943.00	10.43	240.30	6926.87	-120.62	-124.30	-88.80	0.36	445887.03	704393.07	N 32 13 28.99	W 103 48 21.75
	7037.00	11.58	234.67	7019.15	-129.68	-133.97	-103.89	1.67	445877.36	704377.98	N 32 13 28.90	W 103 48 21.92
	7132.00	12.52	227.97	7112.06	-141.45	-146.38	-119.31	1.77	445864.95	704362.55	N 32 13 28.77	W 103 48 22.10
	7226.00	12.41	216.78	7203.85	-155.81	-161.30	-132.93	2.57	445850.04	704348.94	N 32 13 28.63	W 103 48 22.26
	7321.00	13.43	206.33	7296.46	-173.41	-179.36	-143.94	2.68	445831.97	704337.93	N 32 13 28.45	W 103 48 22.39
	7415.00	14.30	203.17	7387.72	-193.48	-199.82	-153.35	1.23	445811.51	704328.52	N 32 13 28.25	W 103 48 22.50

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 ° ' ")
	7510.00	14.43	205.02	7479.75	-214.58	-221.33	-162.97	0.50	445790.00	704318.90	N 32 13 28.04	W 103 48 22.61
	7604.00	15.20	206.82	7570.63	-235.75	-242.94	-173.49	0.95	445768.39	704308.39	N 32 13 27.82	W 103 48 22.74
	7699.00	15.22	206.83	7662.30	-257.52	-265.18	-184.73	0.02	445746.15	704297.14	N 32 13 27.60	W 103 48 22.87
	7794.00	15.31	208.85	7753.95	-279.15	-287.30	-196.41	0.57	445724.04	704285.46	N 32 13 27.38	W 103 48 23.01
	7888.00	15.84	209.58	7844.50	-300.66	-309.32	-208.73	0.60	445702.02	704273.14	N 32 13 27.17	W 103 48 23.15
	7983.00	15.34	210.92	7936.00	-322.18	-331.38	-221.59	0.65	445679.96	704260.28	N 32 13 26.95	W 103 48 23.30
	8078.00	14.65	212.75	8027.77	-342.52	-352.26	-234.55	0.88	445659.08	704247.33	N 32 13 26.74	W 103 48 23.46
	8172.00	13.14	215.71	8119.01	-360.67	-370.94	-247.21	1.77	445640.41	704234.66	N 32 13 26.56	W 103 48 23.60
	8267.00	10.74	218.20	8211.95	-375.91	-386.66	-258.99	2.58	445624.68	704222.88	N 32 13 26.40	W 103 48 23.74
	8362.00	8.14	221.62	8305.66	-387.49	-398.65	-268.94	2.80	445612.69	704212.94	N 32 13 26.29	W 103 48 23.86
	8457.00	6.21	225.85	8399.91	-395.76	-407.26	-277.09	2.10	445604.09	704204.79	N 32 13 26.20	W 103 48 23.95
	8551.00	5.36	231.27	8493.43	-401.76	-413.55	-284.16	1.07	445597.80	704197.71	N 32 13 26.14	W 103 48 24.04
	8646.00	5.28	245.04	8588.03	-406.07	-418.17	-291.59	1.34	445593.18	704190.29	N 32 13 26.09	W 103 48 24.12
	8740.00	4.24	260.43	8681.71	-408.18	-420.57	-298.94	1.74	445590.78	704182.94	N 32 13 26.07	W 103 48 24.21
	8930.00	3.61	296.27	8871.29	-406.21	-419.09	-311.23	1.31	445592.26	704170.65	N 32 13 26.09	W 103 48 24.35
	9024.00	5.27	300.41	8965.00	-402.46	-415.60	-317.61	1.80	445595.75	704164.27	N 32 13 26.12	W 103 48 24.43
	9119.00	5.33	306.73	9059.60	-397.32	-410.75	-324.90	0.62	445600.60	704156.98	N 32 13 26.17	W 103 48 24.51
	9213.00	5.35	308.04	9153.19	-391.73	-405.44	-331.86	0.13	445605.91	704150.03	N 32 13 26.22	W 103 48 24.59
	9307.00	5.85	315.68	9246.74	-385.33	-399.31	-338.65	0.95	445612.04	704143.23	N 32 13 26.28	W 103 48 24.67
	9402.00	5.81	329.79	9341.25	-377.49	-391.69	-344.46	1.51	445619.66	704137.43	N 32 13 26.36	W 103 48 24.74
	9497.00	5.38	338.72	9435.80	-369.03	-383.38	-348.49	1.02	445627.96	704133.39	N 32 13 26.44	W 103 48 24.78
	9574.00	5.47	351.10	9512.46	-361.97	-376.39	-350.37	1.52	445634.95	704131.51	N 32 13 26.51	W 103 48 24.81
	9668.00	15.88	1.82	9604.71	-344.64	-359.06	-350.66	11.23	445652.28	704131.23	N 32 13 26.68	W 103 48 24.81
	9762.00	26.39	348.35	9692.32	-311.09	-325.64	-354.48	12.25	445685.70	704127.40	N 32 13 27.01	W 103 48 24.85
	9857.00	38.04	346.14	9772.56	-261.40	-276.37	-365.79	12.32	445734.97	704116.09	N 32 13 27.50	W 103 48 24.98
	9952.00	49.62	350.12	9840.99	-196.62	-212.07	-379.06	12.53	445799.26	704102.82	N 32 13 28.14	W 103 48 25.13
Tie-In to OH:	10046.00	60.19	354.43	9894.97	-120.18	-135.97	-389.19	11.85	445875.35	704092.69	N 32 13 28.89	W 103 48 25.24
	10136.00	70.34	0.02	9932.60	-38.59	-54.47	-392.98	12.60	445956.85	704088.90	N 32 13 29.70	W 103 48 25.28
	10230.00	77.45	2.15	9958.67	51.50	35.76	-391.24	7.87	446047.08	704090.64	N 32 13 30.59	W 103 48 25.26
	10325.00	77.52	356.33	9979.27	144.17	128.45	-392.47	5.98	446139.76	704089.41	N 32 13 31.51	W 103 48 25.27
	10420.00	85.80	354.86	9993.04	238.01	222.08	-399.70	8.85	446233.39	704082.19	N 32 13 32.43	W 103 48 25.35
	10514.00	89.31	354.15	9997.05	331.77	315.55	-408.69	3.81	446326.85	704073.19	N 32 13 33.36	W 103 48 25.44
	10628.00	90.83	355.67	9996.91	445.63	429.09	-418.80	1.89	446440.39	704063.08	N 32 13 34.48	W 103 48 25.56
	10817.00	90.89	0.20	9994.07	634.55	617.90	-425.61	2.40	446629.18	704056.27	N 32 13 36.35	W 103 48 25.62
	10911.00	90.76	0.05	9992.72	728.46	711.89	-425.41	0.21	446723.17	704056.48	N 32 13 37.28	W 103 48 25.62
	11006.00	90.45	359.29	9991.71	823.40	806.88	-425.95	0.86	446818.15	704055.93	N 32 13 38.22	W 103 48 25.62
	11101.00	90.79	0.57	9990.68	918.32	901.88	-426.07	1.39	446913.14	704055.82	N 32 13 39.16	W 103 48 25.61
	11195.00	90.48	0.73	9989.64	1012.18	995.86	-425.00	0.37	447007.12	704056.88	N 32 13 40.09	W 103 48 25.60
	11385.00	90.69	2.04	9987.70	1201.78	1185.79	-420.41	0.70	447197.04	704061.47	N 32 13 41.97	W 103 48 25.53
	11574.00	90.48	1.91	9985.77	1390.24	1374.67	-413.90	0.13	447385.91	704067.99	N 32 13 43.84	W 103 48 25.44
	11763.00	90.48	1.87	9984.19	1578.72	1563.56	-407.67	0.02	447574.78	704074.22	N 32 13 45.71	W 103 48 25.36
	11953.00	90.03	2.10	9983.34	1768.19	1753.45	-401.08	0.27	447764.66	704080.80	N 32 13 47.59	W 103 48 25.27
	12047.00	89.79	2.17	9983.49	1861.90	1847.38	-397.58	0.27	447858.59	704084.30	N 32 13 48.52	W 103 48 25.23
	12237.00	90.10	2.33	9983.67	2051.30	2037.23	-390.12	0.18	448048.43	704091.76	N 32 13 50.39	W 103 48 25.13
	12331.00	90.00	1.17	9983.59	2145.07	2131.19	-387.25	1.24	448142.38	704094.63	N 32 13 51.32	W 103 48 25.09
	12425.00	90.41	0.78	9983.26	2238.91	2225.17	-385.65	0.60	448236.35	704096.23	N 32 13 52.25	W 103 48 25.07
	12520.00	89.90	359.89	9983.00	2333.81	2320.17	-385.10	1.08	448331.35	704096.79	N 32 13 53.19	W 103 48 25.06
	12615.00	90.00	359.49	9983.08	2428.75	2415.17	-385.61	0.43	448426.34	704096.27	N 32 13 54.13	W 103 48 25.06
	12710.00	90.10	359.19	9983.00	2523.71	2510.16	-386.71	0.33	448521.33	704095.18	N 32 13 55.07	W 103 48 25.06
	12899.00	90.03	0.18	9982.78	2712.59	2699.16	-387.75	0.53	448710.31	704094.14	N 32 13 56.94	W 103 48 25.06
	12993.00	90.31	0.51	9982.51	2806.49	2793.15	-387.18	0.46	448804.30	704094.71	N 32 13 57.87	W 103 48 25.05
	13183.00	90.00	1.25	9981.99	2996.19	2983.13	-384.26	0.42	448994.26	704097.62	N 32 13 59.75	W 103 48 25.01
	13372.00	89.14	0.49	9983.41	3184.89	3172.10	-381.39	0.61	449183.22	704100.49	N 32 14 1.62	W 103 48 24.96
	13561.00	89.59	0.62	9985.50	3373.65	3361.08	-379.56	0.25	449372.19	704102.32	N 32 14 3.49	W 103 48 24.93
	13655.00	90.07	0.62	9985.78	3467.52	3455.07	-378.54	0.51	449466.18	704103.34	N 32 14 4.42	W 103 48 24.91
	13750.00	89.62	0.80	9986.04	3562.39	3550.06	-377.37	0.51	449561.16	704104.52	N 32 14 5.36	W 103 48 24.90
	13844.00	89.31	359.98	9986.92	3656.28	3644.06	-376.73	0.93	449655.15	704105.16	N 32 14 6.29	W 103 48 24.88
	14033.00	90.65	0.10	9986.98	3845.12	3833.05	-376.59	0.71	449844.13	704105.29	N 32 14 8.16	W 103 48 24.87
	14222.00	90.62	0.56	9984.89	4033.90	4022.04	-375.51	0.24	450033.11	704106.38	N 32 14 10.03	W 103 48 24.85
	14411.00	91.79	359.78	9980.91	4222.68	4210.99	-374.95	0.74	450222.05	704106.94	N 32 14 11.90	W 103 48 24.83
	14505.00	91.41	0.45	9978.29	4316.56	4304.95	-374.76	0.82	450316.00	704107.13	N 32 14 12.83	W 103 48 24.82
	14694.00	90.17	0.83	9975.68	4505.29	4493.92	-372.65	0.69	450504.96	704109.24	N 32 14 14.70	W 103 48 24.79
	14789.00	89.97	0.31	9975.57	4600.17	4588.91	-371.70	0.59	450599.95	704110.18	N 32 14 15.64	W 103 48 24.77
	14883.00	90.00	359.52	9975.59	4694.10	4682.91	-371.84	0.84	450693.94	704110.04	N 32 14 16.57	W 103 48 24.77
	15073.00	90.03	358.27	9975.54	4884.05	4872.87	-375.50	0.66	450883.89	704106.38	N 32 14 18.45	W 103 48 24.80
	15262.00	89.93	358.52	9975.61	5073.03	5061.80	-380.80	0.14	451072.80	704101.09	N 32 14 20.32	W 103 48 24.85
	15356.00	90.34	358.73	9975.39	5167.02	5155.77	-383.05	0.49	451166.77	704098.83	N 32 14 21.25	W 103 48 24.87
	15545.00	90.93	358.29	9973.29	5355.99	5344.70	-387.97	0.39	451355.68	704093.92	N 32 14 23.12	W 103 48 24.92
	15640.00	90.86	358.78	9971.81	5450.97	5439.65	-390.40	0.52	451450.63	704091.49	N 32 14 24.06	W 103 48 24.94
	15829.00	90.72	358.71	9969.20	5639.92	5628.59	-394.53	0.08	451639.56	704087.35	N 32 14 25.93	W 103 48 24.98
	16018.00	90.48	358.57	9967.22	5828.88	5817.53	-399.02	0.15	451828.48	704082.86	N 32 14 27.80	W 103 48 25.02
	16113.00	90.58	358.49	9966.35	5923.87	5912.49	-401.46	0.13	451923.44	704080.43	N 32 14 28.74	W 103 48 25.04
	16207.00	89.55	358.66	9966.24	6017.85	6006.46	-403.80	1.11	452017.40	704078.09	N 32 14 29.67	W 103 48 25.06
	16301.00	89.31	358.14	9967.17	6111.84	6100.42	-406.42	0.61	452111.36	704075.47	N 32 14 30.60	W 103 48 25.09
	16490.00	89.83	358.30	9968.59	6300.83	6289.32	-412.29	0.29	452300.25	704069.60	N 32 14 32.47	W 103 48 25.15
	16679.00	90.14	358.75	9968.64	6489.81	6478.26	-417.15	0.29	452489.17	704064.73	N 32 14 34.34	W 103 48 25.19
	16773.00	90.31	358.89	9968.27	6583.79	6572.24	-419.09	0.23	452583.15	704062.80	N 32 14 35.27	W 103 48 25.21
	16868.00	90.10	358.85	9967.93	6678.77	6667.22	-420.96	0.23	452678.12	704060.92	N 32 14 36.21	W 103 48 25.23
	16962.00	89.59	359.75	9968.19	6772.73	6761.21	-422.11	1.10	452772.11	704059.77	N 32 14 37.14	W 103 48 25.23
	17057.00	89.28	359.44	9969.12	6867.67	6856.20	-422.78	0.46	452867.09	704059.10	N 32 14 38.08	W 103 48 25.24
	17151.00	90.48	0.60	9969.32	6961.59	6950.20	-422.75	1.78	452961.08	704059.14	N 32 14 39.01	W 103 48 25.23
	17246.00	91.03	0.18	9968.07	7056.48	7045.19	-422.10	0.73	453056.07	704059.78	N 32 14 39.95	W 103 48 25.22
	17340.00	91.65	359.82	9965.87	7150.37	7139.16	-422.10	0.76	453150.03	704059.78	N 32 14 40.88	W 103 48 25.21
	17435.00	92.20	0.11	9962.68	7245.24	7234.11	-422.16	0.65	453244.97	704059.72	N 32 14 41.82	W 103 48 25.21
	17530.00	92.30	359.58	9958.95	7340.10	7329.03	-422.42	0.57	453339.89	704059.47	N 32 14 42.76	W 103 48 25.20
	17624.00	91.24	359.18	9956.05	7434.02	7422.98	-423.44	1.21	453433.84	704058.45	N 32 14 43.69	W 103 48 25.21
	17719.00	89.83	359.78	9955.16	7528.96	7517.97	-424.30	1.61	453528.82	704057.59	N 32 14 44.63	W 103 48 25.22
	17814.00	89.66	359.99	9955.58	7623.89	7612.97	-424.49	0.28	453623.81	704057.40	N 32 14 45.57	W 103 48 25.21
	17909.00	89.79	0.07	9956.04	7718.81	7707.97	-424.44	0.16	453718.81	704057.45	N 32 14 46.51	W 103 48 25.21
	18003.00	89.72	0.07	9956.44	7812.73	7801.97	-424.32	0.07	453812.80	704057.56	N 32 14 47.44	W 103 48 25.20
	18098.00	89.90	359.92	9956.75	7907.65	7896.97	-424.33	0.25	453907.79	704057.55	N 32 14 48.38	W 103 48 25.19
	18192.00	89.76	359.90	9957.03	8001.58	7990.97	-424.48	0.15	454001.79	704057.41	N 32 14 49.31	W 103 48 25.19
	18386.00	89.86	359.50	9957.68	8195.46	8184.96	-425.50	0.21	454195.77	704056.39	N 32 14 51.23	W 103 48 25.19
	18575.00	90.21	359.51	9957.56	8384.36	8373.95	-427.13	0.19	454384.75	704054.76	N 32 14 53.10	W 103 48 25.20
	18669.00	90.83	359.93	9956.71	8478.30	8467.95	-427.59	0.80	454478.74	704054.30	N 32 14 54.03	W 103 48 25.20
	18764.00	90.76	0.57	9955.39	8573.20	8562.94	-427.17	0.68	454573.72	704054.71	N 32 14 54.97	W 103 48 25.19
	18858.00	91.10	357.97	9953.86	8667.14	8656.91	-428.37	2.79	454667.69	704053.52	N 32 14 55.90	W 103 48 25.20
	19047.00	90.00	359.61	9952.05	8856.09	8845.85	-432.36	1.04	454856.62	704049.53	N 32 14 57.77	W 103 48 25.23
	19142.00	90.28	0.58	9951.82	8951.00	8940.85	-432.20	1.06	454951.61	704049.68	N 32 14 58.71	W 103 48 25.23
	19236.00	90.03	359.81	9951.56	9044.91	9034.85	-431.88	0.86	455045.60	704050.00	N 32 14 59.64	W 103 48 25.22
	19425.00	90.45	359.76	9950.77	9233.78	9223.84	-432.59	0.22	455234.59	704049.29	N 32 15 1.51	W 103 48 25.21

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 ° ' ")
	19520.00	90.38	359.12	9950.08	9328.74	9318.83	-433.52	0.68	455329.57	704048.37	N 32 15 2.45	W 103 48 25.22
	19709.00	90.48	0.63	9948.67	9517.59	9507.82	-433.93	0.80	455518.55	704047.95	N 32 15 4.32	W 103 48 25.21
	19804.00	90.58	3.30	9947.79	9612.31	9602.76	-430.68	2.81	455613.48	704051.21	N 32 15 5.26	W 103 48 25.17
	19899.00	90.55	2.34	9946.85	9706.92	9697.63	-426.00	1.01	455708.35	704055.88	N 32 15 6.20	W 103 48 25.11
	19993.00	90.10	1.17	9946.32	9800.68	9791.59	-423.12	1.33	455802.30	704058.76	N 32 15 7.13	W 103 48 25.07
	20088.00	90.76	359.31	9945.60	9895.58	9886.58	-422.73	2.08	455897.28	704059.16	N 32 15 8.07	W 103 48 25.06
	20277.00	90.79	359.12	9943.05	10084.50	10075.54	-425.32	0.10	456086.23	704056.57	N 32 15 9.94	W 103 48 25.08
Final MWD Survey	20366.00	91.17	0.95	9941.52	10173.41	10164.53	-425.26	2.10	456175.21	704056.62	N 32 15 10.82	W 103 48 25.08
Proj. to Bit	20405.00	91.17	0.95	9940.73	10212.34	10203.51	-424.62	0.00	456214.20	704057.27	N 32 15 11.20	W 103 48 25.07

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 Casing Diameter (in)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro+MWD 0-20,405'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro+MWD 0-20,405'
	1	26.500	655.600	Act Stns	30.000	30.000	NAL_NSG+MSHOT	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01
	1	655.600	20405.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01

Schlumberger

OXY

OXY

Borehole:	Well:	Field:	Structure:
ST01	Oxy Sunrise MDP1 8-5 Federal Com 1H	NM Eddy County (NAD 83)	Oxy Sunrise MDP1 8-5 Federal Com 1H

Gravity & Magnetic Parameters				Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous		
Model:	HDGM 2017	Dip: 59.979°	Date: 16-Feb-2018	Lat:	N 32 13 30.22	Northing:	446011.32ftUS	Grid Conv: 0.2813°	Slot:	Oxy Sunrise 8-5 Federal Com 1H	TVD Ref. RKB (26.5')(3555.9ft above MSL)
MagDec:	6.924°	FS: 48045.163nT	Gravity FS: 998.429mgn (9.80665 Based)	Lon:	W 103 48 20.71	Easting:	704461.86ftUS	Scale Fact: 0.99993857	Plan:	Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Rev0 ALS 16Feb18