

Oxy Sunrise MDP1 8-5 Federal Com 2H Gyro+MWD 0-20,335' MD Survey

Geodetic Report

(Def Survey)



Provide Signature Page for Directional Survey

Report Date: January 04, 2018 - 04:38 PM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Sunrise MDP1 8-5 Federal Com 2H / Oxy Sunrise MDP1 8-5 Federal Com 2H
 Well: Oxy Sunrise MDP1 8-5 Federal Com 2H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Oxy Sunrise MDP1 8-5 Federal Com 2H Gyro+MWD 0-20,335' MD
 Survey Date: December 11, 2017
 Tort / AHD / DDI / ERD Ratio: 249.744' / 11217.497 ft / 6.754' / 1.119
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 13' 30.21746", W 103° 48' 20.00652"
 Location Grid N/E Y/X: N 446011.610 NUS, E 704541.860 NUS
 CRS Grid Convergence Angle: 0.2814°
 Grid Scale Factor: 0.9999396
 Version / Patch: 2.10.565.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 1.949° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB=26.5'
 TVD Reference Elevation: 3555.900 ft above MSL
 Seabed / Ground Elevation: 3529.400 ft above MSL
 Magnetic Declination: 6.940°
 Total Gravity Field Strength: 998.4287mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48066.134 nT
 Magnetic Dip Angle: 59.985°
 Declination Date: December 11, 2017
 Magnetic Declination Model: HDGM 2017
 North Reference: Grid North
 Grid Convergence Used: 0.2814°
 Total Corr Mag North->Grid North: 6.6587°
 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	446011.61	704541.86	N 32 13 30.22	W 103 48 20.04
	41.20	0.28	167.68	41.20	-0.10	-0.10	0.02	0.68	446011.51	704541.88	N 32 13 30.22	W 103 48 20.01
	133.10	0.35	196.39	133.10	-0.59	-0.59	-0.01	0.19	446011.02	704541.85	N 32 13 30.21	W 103 48 20.01
	223.90	0.58	189.81	223.90	-1.31	-1.31	-0.17	0.26	446010.30	704541.69	N 32 13 30.20	W 103 48 20.01
	316.20	0.79	175.69	316.19	-2.41	-2.40	-0.20	0.29	446009.21	704541.66	N 32 13 30.19	W 103 48 20.01
	407.90	0.78	175.04	407.88	-3.65	-3.65	-0.10	0.01	446007.96	704541.76	N 32 13 30.18	W 103 48 20.01
	499.30	0.52	180.99	499.27	-4.69	-4.69	-0.05	0.29	446006.92	704541.81	N 32 13 30.17	W 103 48 20.01
	591.60	0.56	176.75	591.57	-5.55	-5.56	-0.03	0.06	446006.05	704541.83	N 32 13 30.16	W 103 48 20.01
	683.50	0.59	154.43	683.47	-6.42	-6.43	0.20	0.24	446005.18	704542.06	N 32 13 30.15	W 103 48 20.00
	774.80	0.80	157.31	774.76	-7.42	-7.44	0.65	0.23	446004.17	704542.51	N 32 13 30.14	W 103 48 20.00
	866.70	1.22	161.20	866.64	-8.92	-8.96	1.21	0.46	446002.65	704543.71	N 32 13 30.13	W 103 48 19.99
	958.20	1.50	164.41	958.12	-10.97	-11.04	1.85	0.32	446000.57	704543.07	N 32 13 30.11	W 103 48 19.99
	1052.90	1.53	165.03	1052.79	-13.36	-13.45	2.50	0.04	445998.16	704544.36	N 32 13 30.08	W 103 48 19.98
	1147.60	1.57	171.79	1147.45	-15.85	-15.96	3.02	0.20	445995.65	704544.88	N 32 13 30.06	W 103 48 19.97
	1242.00	0.91	167.89	1241.83	-17.85	-17.97	3.36	0.70	445993.64	704545.22	N 32 13 30.04	W 103 48 19.97
	1336.60	0.08	200.30	1336.42	-18.64	-18.77	3.49	0.89	445992.84	704545.35	N 32 13 30.03	W 103 48 19.97
	1431.10	0.09	204.33	1430.92	-18.77	-18.90	3.44	0.01	445992.71	704545.30	N 32 13 30.03	W 103 48 19.97
	1525.70	0.10	218.29	1525.52	-18.90	-19.03	3.36	0.03	445992.58	704545.22	N 32 13 30.03	W 103 48 19.97
	1620.60	0.10	196.82	1620.42	-19.05	-19.17	3.28	0.04	445992.44	704545.14	N 32 13 30.03	W 103 48 19.97
	1715.00	0.12	208.69	1714.82	-19.22	-19.34	3.21	0.03	445992.27	704545.07	N 32 13 30.03	W 103 48 19.97
	1809.70	0.13	214.22	1809.52	-19.40	-19.52	3.10	0.02	445992.10	704544.96	N 32 13 30.02	W 103 48 19.97
	1904.40	0.10	207.54	1904.22	-19.56	-19.68	3.00	0.03	445991.93	704544.86	N 32 13 30.02	W 103 48 19.97
	1999.10	0.07	199.33	1998.92	-19.69	-19.81	2.95	0.03	445991.81	704544.81	N 32 13 30.02	W 103 48 19.97
	2093.70	0.11	216.25	2093.52	-19.82	-19.93	2.87	0.05	445991.68	704544.73	N 32 13 30.02	W 103 48 19.97
	2188.20	0.11	225.06	2188.02	-19.96	-20.07	2.76	0.02	445991.54	704544.62	N 32 13 30.02	W 103 48 19.98
	2282.60	0.11	231.76	2282.42	-20.09	-20.19	2.62	0.01	445991.42	704544.48	N 32 13 30.02	W 103 48 19.98
	2377.30	0.11	251.32	2377.12	-20.18	-20.28	2.46	0.04	445991.34	704544.32	N 32 13 30.02	W 103 48 19.98
	2472.20	0.11	249.73	2472.02	-20.25	-20.34	2.29	0.00	445991.27	704544.15	N 32 13 30.02	W 103 48 19.98
	2566.70	0.10	239.14	2566.52	-20.33	-20.41	2.14	0.02	445991.20	704544.00	N 32 13 30.02	W 103 48 19.98
	2661.60	0.10	250.97	2661.42	-20.40	-20.48	1.99	0.02	445991.13	704543.85	N 32 13 30.01	W 103 48 19.98
	2756.20	0.12	249.24	2756.02	-20.47	-20.54	1.82	0.02	445991.07	704543.68	N 32 13 30.01	W 103 48 19.99
	2850.80	0.10	209.15	2850.62	-20.58	-20.65	1.68	0.08	445990.96	704543.54	N 32 13 30.01	W 103 48 19.99
	2945.30	0.09	227.55	2945.12	-20.70	-20.77	1.59	0.03	445990.84	704543.45	N 32 13 30.01	W 103 48 19.99
	3039.70	0.06	223.91	3039.52	-20.79	-20.86	1.50	0.03	445990.75	704543.36	N 32 13 30.01	W 103 48 19.99
	3134.30	0.07	156.35	3134.12	-20.88	-20.95	1.49	0.08	445990.67	704543.35	N 32 13 30.01	W 103 48 19.99
	3228.70	0.10	120.61	3228.52	-20.97	-21.04	1.58	0.06	445990.57	704543.44	N 32 13 30.01	W 103 48 19.99
	3323.30	0.11	248.48	3323.12	-21.05	-21.12	1.57	0.20	445990.50	704543.43	N 32 13 30.01	W 103 48 19.99
	3417.80	0.23	207.08	3417.62	-21.26	-21.32	1.40	0.17	445990.29	704543.26	N 32 13 30.01	W 103 48 19.99
	3512.30	0.21	168.04	3512.12	-21.60	-21.66	1.35	0.16	445989.96	704543.21	N 32 13 30.01	W 103 48 19.99
	3606.80	0.09	125.53	3606.62	-21.81	-21.87	1.44	0.17	445989.74	704543.30	N 32 13 30.00	W 103 48 19.99
	3701.50	0.06	221.43	3701.32	-21.89	-21.95	1.47	0.12	445989.66	704543.31	N 32 13 30.00	W 103 48 19.99
	3796.30	0.13	235.08	3796.12	-21.99	-22.05	1.35	0.08	445989.58	704543.21	N 32 13 30.00	W 103 48 19.99
	3891.20	0.09	227.19	3891.02	-22.11	-22.16	1.21	0.04	445989.45	704543.07	N 32 13 30.00	W 103 48 19.99
	3985.90	0.10	205.54	3985.72	-22.23	-22.28	1.12	0.04	445989.33	704542.98	N 32 13 30.00	W 103 48 19.99
	4080.50	0.11	170.23	4080.32	-22.40	-22.45	1.10	0.07	445989.16	704542.96	N 32 13 30.00	W 103 48 20.00
	4175.00	0.17	347.77	4174.82	-22.35	-22.40	1.08	0.30	445989.21	704542.94	N 32 13 30.00	W 103 48 20.00
	4269.40	0.25	267.35	4269.22	-22.23	-22.27	0.85	0.29	445989.34	704542.71	N 32 13 30.00	W 103 48 20.00
	4364.10	0.21	234.38	4363.92	-22.35	-22.38	0.50	0.14	445989.23	704542.36	N 32 13 30.00	W 103 48 20.00
	4458.80	0.13	275.08	4458.62	-22.45	-22.48	0.25	0.15	445989.14	704542.11	N 32 13 30.00	W 103 48 20.00
	4553.40	0.10	36.00	4553.22	-22.38	-22.40	0.19	0.21	445989.21	704542.05	N 32 13 30.00	W 103 48 20.01
	4647.80	0.10	57.32	4647.62	-22.27	-22.29	0.31	0.04	445989.32	704542.17	N 32 13 30.00	W 103 48 20.00
	4742.40	0.12	37.70	4742.22	-22.14	-22.17	0.44	0.04	445989.45	704542.30	N 32 13 30.00	W 103 48 20.00
	4837.00	0.10	53.52	4836.82	-22.01	-22.04	0.57	0.04	445989.57	704542.43	N 32 13 30.00	W 103 48 20.00
	4931.60	0.09	73.05	4931.42	-21.93	-21.97	0.71	0.04	445989.64	704542.57	N 32 13 30.00	W 103 48 20.00
	5026.00	0.13	56.78	5025.82	-21.85	-21.89	0.87	0.05	445989.72	704542.73	N 32 13 30.00	W 103 48 20.00
	5120.40	0.10	58.59	5120.22	-21.74	-21.79	1.03	0.03	445989.83	704542.89	N 32 13 30.00	W 103 48 20.00
	5214.90	0.11	57.47	5214.72	-21.64	-21.69	1.17	0.01	445989.92	704543.03	N 32 13 30.00	W 103 48 19.99
	5309.40	0.15	49.40	5309.22	-21.51	-21.56	1.34	0.05	445990.05	704543.20	N 32 13 30.00	W 103 48 19.99
	5404.00	0.10	53.24	5403.82	-21.37	-21.43	1.50	0.05	445990.18	704543.36	N 32 13 30.01	W 103 48 19.99
	5498.50	0.10	63.03	5498.32	-21.28	-21.35	1.64	0.02	445990.26	704543.50	N 32 13 30.01	W 103 48 19.99
	5593.00	0.11	48.72	5592.82	-21.18	-21.25	1.79	0.03	445990.36	704543.65	N 32 13 30.01	W 103 48 19.99
	5687.50	0.12	85.12	5687.32	-21.10	-21.18	1.95	0.08	445990.43	704543.81	N 32 13 30.01	W 103 48 19.99
	5782.10	0.17	50.78	5781.91	-21.00	-21.09	2.16	0.10	445990.53	704544.02	N 32 13 30.01	W 103 48 19.98
	5876.80	0.10	46.43	5876.61	-20.85	-20.94	2.33	0.07	445990.67	704544.19	N 32 13 30.01	W 103 48 19.98
	5971.40	0.09	87.32	5971.21	-20.78	-20.88	2.46	0.07	445990.73	704544.32	N 32 13 30.01	W 103 48 19.98
	6065.90	0.28	194.58	6065.71	-21.00	-21.10	2.48	0.34	445990.51	704544.34	N 32 13 30.01	W 103 48 19.98
	6160.40	2.85	198.24	6160.17	-23.48	-23.55	1.68	2.72	445988.06	704543.54	N 32 13 29.98	W 103 48 19.99
	6254.80	5.57	198.20	6254.31	-30.14	-30.14	-0.48	2.88	445981.48	704541.38	N 32 13 29.92	W 103 48 20.01
	6349.30	8.55	193.42	6348.08	-41.43	-41.33	-3.54	3.21	445970.28	704538.32	N 32 13 29.81	W 103 48 20.05
	6443.90	10.91	185.69	6441.32	-57.25	-57.08	-6.06	2.85	445954.53	704535.80	N 32 13 29.65	W 103 48 20.08

Comments	MD	Incl	Azim Gnd	TVD	VSEC	NS	EW	DLS	Northng	Eastng	Latitude	Longitude
	6538.50	12.67	179.20	6533.52	-76.55	-76.36	-8.81	2.33	445935.25	704355.05	N 32 11 29.46 W	103 48 20.09
	6633.10	15.02	174.64	6625.77	-59.08	-59.55	-5.52	2.74	445912.67	704356.34	N 32 11 29.24 W	103 48 20.09
	6727.80	16.21	170.28	6716.96	-124.19	-124.19	-2.14	1.76	445887.42	704359.76	N 32 11 28.99 W	103 48 20.04
	6822.70	15.35	164.76	6808.50	-149.17	-149.17	3.40	1.82	445862.25	704354.26	N 32 11 28.74 W	103 48 19.98
	6917.30	13.37	159.27	6899.94	-171.23	-171.23	1.68	2.54	445859.94	704355.00	N 32 11 28.54 W	103 48 19.98
	7011.90	11.58	143.07	6992.34	-188.72	-188.72	20.14	4.14	445822.11	704365.00	N 32 11 28.54 W	103 48 19.78
	7106.60	12.96	124.96	7085.10	-201.42	-202.09	33.83	3.88	445808.93	704375.69	N 32 11 28.54 W	103 48 19.62
	7201.30	13.05	109.18	7177.59	-209.89	-211.78	51.91	3.79	445799.84	704393.77	N 32 11 28.12 W	103 48 19.41
	7296.00	14.52	110.94	7269.56	-216.92	-219.54	73.10	1.61	445792.09	704394.96	N 32 11 28.12 W	103 48 19.17
	7390.70	16.23	117.02	7360.88	-226.40	-229.79	98.98	2.48	445781.83	704397.83	N 32 11 27.94 W	103 48 18.90
	7485.40	16.94	121.08	7451.64	-232.72	-242.83	119.59	1.43	445768.70	704398.44	N 32 11 27.81 W	103 48 18.63
	7580.10	17.66	124.06	7542.06	-252.20	-258.22	141.22	1.35	445753.41	704399.07	N 32 11 27.66 W	103 48 18.35
	7674.20	18.53	126.98	7631.88	-265.56	-275.40	169.97	1.20	445736.23	704400.86	N 32 11 27.48 W	103 48 18.08
	7769.20	18.83	128.47	7721.50	-281.27	-293.49	199.97	0.60	445717.69	704402.82	N 32 11 27.30 W	103 48 17.80
	7863.80	18.42	128.41	7801.01	-305.48	-312.87	238.65	0.11	445698.66	704405.80	N 32 11 27.11 W	103 48 17.52
	7958.30	18.92	126.46	7900.54	-323.47	-331.78	286.55	0.54	445679.85	704408.50	N 32 11 26.92 W	103 48 17.25
	8052.70	17.21	125.19	7990.41	-340.00	-349.10	261.74	1.66	445662.53	704403.59	N 32 11 26.75 W	103 48 16.98
	8141.20	15.31	116.81	8081.13	-353.26	-363.14	264.13	2.80	445646.50	704402.97	N 32 11 26.51 W	103 48 16.72
	8241.50	13.10	111.67	8172.55	-362.46	-373.04	304.99	2.95	445636.59	704406.45	N 32 11 26.51 W	103 48 16.48
	8336.20	10.78	104.59	8265.20	-368.02	-379.24	339.54	2.89	445632.39	704408.06	N 32 11 26.45 W	103 48 16.26
	8430.80	8.43	94.20	8358.48	-370.23	-381.96	332.02	3.08	445629.66	704409.66	N 32 11 26.42 W	103 48 16.08
	8525.40	7.27	79.26	8452.20	-369.19	-381.37	351.82	2.47	445630.26	704409.66	N 32 11 26.42 W	103 48 15.80
	8620.20	6.06	63.06	8546.25	-364.97	-377.53	363.06	2.16	445634.10	704409.66	N 32 11 26.46 W	103 48 15.50
	8714.70	6.76	47.60	8640.05	-358.19	-371.07	372.50	2.06	445640.56	704411.33	N 32 11 26.53 W	103 48 15.26
	8809.30	6.03	36.44	8734.06	-350.21	-363.32	379.56	1.52	445648.31	704421.40	N 32 11 26.60 W	103 48 15.01
	8903.80	6.38	28.58	8828.01	-341.41	-354.71	385.03	0.98	445656.92	704426.86	N 32 11 26.60 W	103 48 14.76
	8998.50	6.72	22.89	8922.09	-331.56	-345.02	389.79	0.66	445666.62	704431.63	N 32 11 26.68 W	103 48 14.54
	9093.10	7.10	16.78	9016.00	-320.78	-334.36	396.33	0.99	445678.27	704436.99	N 32 11 26.68 W	103 48 14.29
	9187.80	8.08	9109.89	-308.64	-322.30	-322.30	398.33	1.47	445689.33	704438.16	N 32 11 27.01 W	103 48 14.01
	9282.40	8.84	9203.50	-295.02	-308.73	-295.02	397.95	1.20	445702.91	704439.37	N 32 11 27.14 W	103 48 13.75
	9376.80	9.64	9296.67	-279.83	-283.52	-283.52	397.95	1.25	445718.10	704439.78	N 32 11 27.29 W	103 48 13.50
	9471.20	9.75	9389.70	-263.77	-277.47	-277.47	398.06	0.19	445734.16	704439.89	N 32 11 27.45 W	103 48 13.25
	9566.50	8.75	9483.07	-248.64	-263.30	-263.30	397.33	1.43	445749.33	704439.35	N 32 11 27.79 W	103 48 13.00
	9660.50	13.94	9575.89	-230.09	-243.71	-243.71	396.52	5.59	445767.91	704439.35	N 32 11 27.79 W	103 48 12.75
	9755.10	22.75	9665.60	-200.53	-214.07	-214.07	394.51	9.49	445797.56	704439.35	N 32 11 28.08 W	103 48 12.50
	9848.80	34.13	9749.98	-158.98	-172.20	-172.20	385.87	10.02	445839.42	704439.70	N 32 11 28.48 W	103 48 12.25
	9944.50	41.29	9826.28	-105.80	-118.47	-118.47	370.52	10.71	445893.15	704439.70	N 32 11 29.03 W	103 48 12.00
	10039.10	50.46	9892.10	-40.21	-52.34	-52.34	355.69	10.78	445959.27	704439.70	N 32 11 29.68 W	103 48 11.75
	10133.60	65.10	9942.40	38.71	26.91	26.91	341.74	10.45	446089.58	704439.70	N 32 11 30.47 W	103 48 11.50
	10228.00	74.92	9974.64	127.13	115.47	115.47	345.02	10.45	446127.07	704439.70	N 32 11 31.34 W	103 48 11.25
	10320.00	82.48	9992.65	217.08	205.57	205.57	336.66	8.32	446217.16	704439.70	N 32 11 32.23 W	103 48 11.00
	10415.00	89.76	9999.07	311.40	300.13	300.13	324.04	2.12	446311.72	704439.70	N 32 11 33.17 W	103 48 10.75
	10449.00	89.87	9999.15	345.19	334.03	334.03	315.88	3.55	446375.88	704439.70	N 32 11 34.31 W	103 48 10.50
	10531.00	90.31	9998.56	426.35	415.54	415.54	325.18	3.55	446427.12	704439.70	N 32 11 35.25 W	103 48 10.25
	10626.00	90.17	9998.56	519.94	519.94	519.94	321.03	0.66	446521.20	704439.70	N 32 11 36.17 W	103 48 10.00
	10720.00	90.00	9998.42	612.86	602.87	602.87	301.10	3.37	446614.54	704439.70	N 32 11 37.11 W	103 48 9.75
	10815.00	90.03	9998.38	692.39	687.72	687.72	294.17	1.93	446709.28	704439.70	N 32 11 38.17 W	103 48 9.50
	10910.00	90.24	9998.28	801.91	792.56	792.56	286.67	0.13	446804.01	704439.70	N 32 11 39.15 W	103 48 9.25
	11004.00	90.24	9998.01	895.63	886.66	886.66	284.62	1.93	446898.02	704439.70	N 32 11 40.08 W	103 48 9.00
	11099.00	90.17	9997.61	990.43	981.42	981.42	281.65	0.49	446992.49	704439.70	N 32 11 41.01 W	103 48 8.75
	11193.00	90.21	9997.27	1084.23	1075.25	1075.25	278.74	0.55	447086.91	704439.70	N 32 11 42.04 W	103 48 8.50
	11288.00	90.31	9996.96	1179.13	1170.36	1170.36	277.83	2.04	447191.90	704439.70	N 32 11 43.11 W	103 48 8.25
	11383.00	90.31	9996.52	1274.10	1265.23	1265.23	282.28	4.78	447276.76	704439.70	N 32 11 44.27 W	103 48 8.00
	11477.00	90.38	9995.96	1367.10	1358.59	1358.59	287.10	3.51	447370.12	704439.70	N 32 11 45.45 W	103 48 7.75
	11572.00	90.41	9995.30	1462.30	1452.75	1452.75	305.69	1.36	447464.27	704439.70	N 32 11 46.68 W	103 48 7.50
	11667.00	90.38	9994.65	1557.05	1547.21	1547.21	315.75	1.87	447558.72	704439.70	N 32 11 47.91 W	103 48 7.25
	11761.00	90.45	9993.97	1650.89	1640.80	1640.80	324.43	0.25	447652.31	704439.70	N 32 11 49.14 W	103 48 7.00
	11856.00	89.79	9993.77	1745.74	1735.42	1735.42	332.93	0.91	447746.77	704439.70	N 32 11 50.37 W	103 48 6.75
	11951.00	89.79	9994.12	1840.60	1830.48	1830.48	340.94	0.02	447841.58	704439.70	N 32 11 51.60 W	103 48 6.50
	12045.00	89.79	9994.46	1934.54	1923.83	1923.83	344.80	1.37	447935.32	704439.70	N 32 11 52.84 W	103 48 6.25
	12140.00	89.68	9994.75	2028.51	2018.67	2018.67	353.35	0.42	448030.15	704439.70	N 32 11 54.08 W	103 48 6.00
	12235.00	89.79	9995.33	2218.49	2207.44	2207.44	362.50	0.40	448128.92	704439.70	N 32 11 55.32 W	103 48 5.75
	12329.00	89.79	9995.46	2313.49	2302.40	2302.40	368.45	1.33	448233.66	704439.70	N 32 11 56.56 W	103 48 5.50
	12424.00	90.03	9995.54	2596.44	2585.35	2585.35	369.81	0.38	448339.78	704439.70	N 32 11 57.80 W	103 48 5.25
	12519.00	89.93	9995.64	2786.39	2775.25	2775.25	376.87	0.11	448447.66	704439.70	N 32 11 59.04 W	103 48 5.00
	12614.00	90.00	9995.76	2975.37	2964.31	2964.31	384.84	0.50	448557.35	704439.70	N 32 12 00.28 W	103 48 4.75
	12709.00	90.00	9995.86	3164.30	3153.24	3153.24	392.81	2.18	448669.71	704439.70	N 32 12 01.52 W	103 48 4.50
	12804.00	89.52	9996.39	3353.11	3342.07	3342.07	397.95	0.55	448782.68	704439.70	N 32 12 02.76 W	103 48 4.25
	12899.00	89.42	9996.80	3541.86	3530.82	3530.82	403.00	0.10	448897.60	704439.70	N 32 12 04.00 W	103 48 4.00
	12994.00	89.38	9997.26	3730.17	3719.13	3719.13	408.09	0.53	449012.51	704439.70	N 32 12 05.24 W	103 48 3.75
	13089.00	89.29	9997.63	3918.48	3907.44	3907.44	413.18	1.07	449127.42	704439.70	N 32 12 06.48 W	103 48 3.50
	13184.00	89.26	9997.99	4106.79	4095.75	4095.75	418.27	0.83	449242.33	704439.70	N 32 12 07.72 W	103 48 3.25
	13279.00	89.14	9998.34	4295.09	4284.05	4284.05	423.36	0.47	449357.24	704439.70	N 32 12 08.96 W	103 48 3.00
	13374.00	89.00	9998.59	4483.40	4472.36	4472.36	428.45	0.09	449472.15	704439.70	N 32 12 10.20 W	103 48 2.75
	13469.00	88.83	9998.74	4671.75	4660.71	4660.71	433.54	1.08	449587.06	704439.70	N 32 12 11.44 W	103 48 2.50
	13564.00	88.68	9998.88	4860.09	4849.05	4849.05	438.63	0.09	449701.97	704439.70	N 32 12 12.68 W	103 48 2.25
	13659.00	88.53	9998.99	5048.40	5037.36	5037.36	443.72	0.47	449816.88	704439.70	N 32 12 13.92 W	103 48 2.00
	13754.00											

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 ° ' ")
	17905.00	90.07	358.97	10028.25	7788.11	7780.90	344.36	0.32	453792.03	704886.20	N 32 14 47.19	W 103 48 15.55
	18000.00	90.41	358.93	10027.85	7882.98	7875.89	342.62	0.36	453887.01	704884.46	N 32 14 48.13	W 103 48 15.57
	18189.00	89.72	358.56	10027.64	8071.69	8064.84	338.48	0.41	454075.95	704880.32	N 32 14 50.00	W 103 48 15.60
	18378.00	90.45	358.86	10027.36	8260.38	8253.79	334.23	0.42	454264.89	704876.06	N 32 14 51.87	W 103 48 15.64
	18473.00	90.41	359.30	10026.64	8355.26	8348.78	332.70	0.47	454359.87	704874.54	N 32 14 52.81	W 103 48 15.66
	18662.00	91.17	0.53	10024.04	8544.12	8537.75	332.42	0.76	454548.83	704874.26	N 32 14 54.68	W 103 48 15.65
	18757.00	91.20	0.95	10022.07	8639.08	8632.72	333.65	0.44	454643.80	704875.49	N 32 14 55.62	W 103 48 15.63
	18851.00	90.89	0.90	10020.36	8733.05	8726.70	335.16	0.33	454737.76	704877.00	N 32 14 56.55	W 103 48 15.60
	18946.00	91.13	0.74	10018.68	8828.01	8821.67	336.52	0.30	454832.73	704878.36	N 32 14 57.49	W 103 48 15.58
	19040.00	91.03	0.95	10016.91	8921.98	8915.65	337.91	0.25	454926.70	704879.75	N 32 14 58.42	W 103 48 15.56
	19135.00	90.65	0.21	10015.52	9016.94	9010.63	338.87	0.88	455021.68	704880.71	N 32 14 59.36	W 103 48 15.55
	19229.00	91.00	0.69	10014.16	9110.90	9104.62	339.61	0.63	455115.66	704881.45	N 32 15 0.29	W 103 48 15.53
	19324.00	90.82	0.48	10012.66	9205.86	9199.60	340.58	0.29	455210.63	704882.42	N 32 15 1.23	W 103 48 15.51
	19417.00	91.31	1.44	10010.93	9298.83	9292.57	342.14	1.16	455303.60	704883.97	N 32 15 2.15	W 103 48 15.49
	19512.00	91.82	2.80	10008.33	9393.79	9387.47	345.65	1.53	455398.49	704887.49	N 32 15 3.09	W 103 48 15.44
	19606.00	91.24	1.61	10005.82	9487.75	9481.36	349.26	1.41	455492.38	704891.10	N 32 15 4.02	W 103 48 15.40
	19700.00	92.10	2.02	10003.08	9581.71	9575.27	352.24	1.01	455586.28	704894.08	N 32 15 4.95	W 103 48 15.36
	19795.00	90.96	359.64	10000.55	9676.65	9670.22	353.61	2.78	455681.23	704895.45	N 32 15 5.89	W 103 48 15.34
	19889.00	91.20	357.19	9998.77	9770.45	9764.16	351.02	2.62	455775.16	704892.85	N 32 15 6.82	W 103 48 15.36
	20078.00	91.13	357.06	9994.93	9858.74	9852.88	341.54	0.08	455963.87	704883.38	N 32 15 8.68	W 103 48 15.46
	20172.00	91.17	357.30	9993.05	10052.40	10046.75	336.91	0.26	456057.73	704878.75	N 32 15 9.61	W 103 48 15.51
	20266.00	91.07	357.65	9991.21	10146.09	10140.64	332.77	0.39	456151.62	704874.61	N 32 15 10.54	W 103 48 15.55
Last MWD	20296.00	91.10	357.69	9990.64	10176.00	10170.61	331.55	0.17	456181.59	704873.39	N 32 15 10.84	W 103 48 15.56
Survey	20335.00	91.10	357.69	9989.89	10214.89	10209.57	329.98	0.00	456220.54	704871.82	N 32 15 11.23	W 103 48 15.58
Proj. to bit												

Survey Type: Def Survey

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

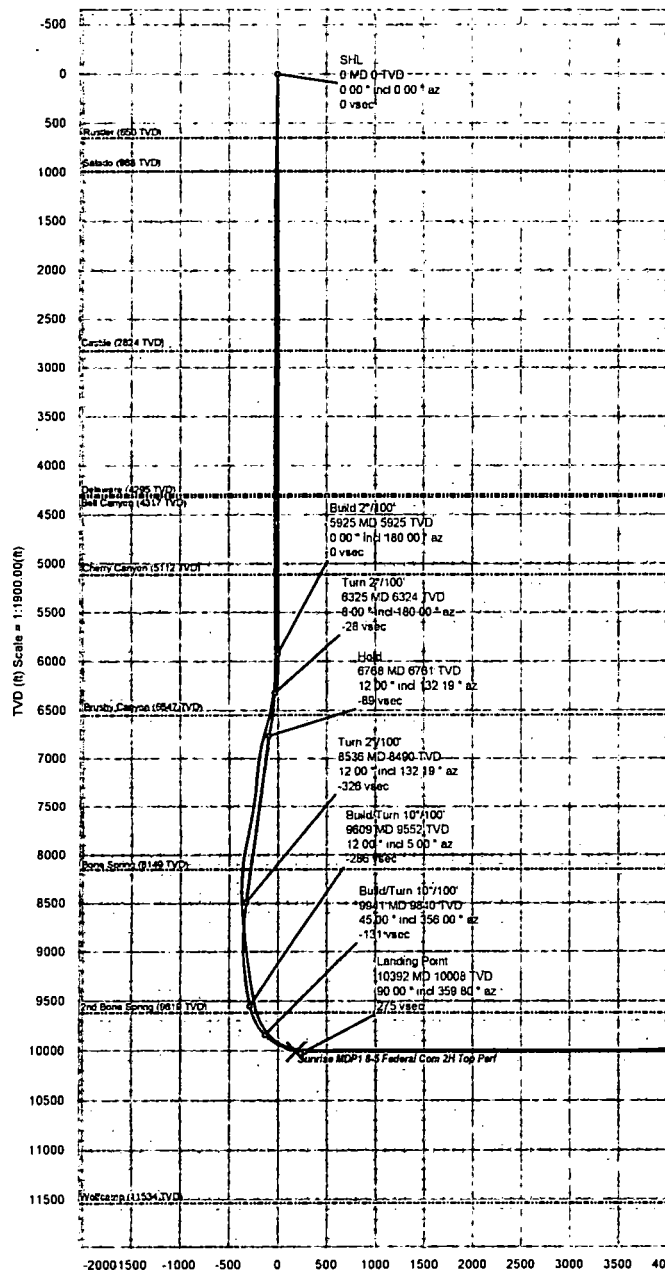
Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 2H Gyro+MWD 0-20.335' MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 2H Gyro+MWD 0-20.335' MD
	1	26.500	10228.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 2H
	1	10228.000	20335.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 2H

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Sunrise MDP1 8-5 Federal Com 2H	NM Eddy County (NAD 83)	Oxy Sunrise MDP1 8-5 Federal Com 2H

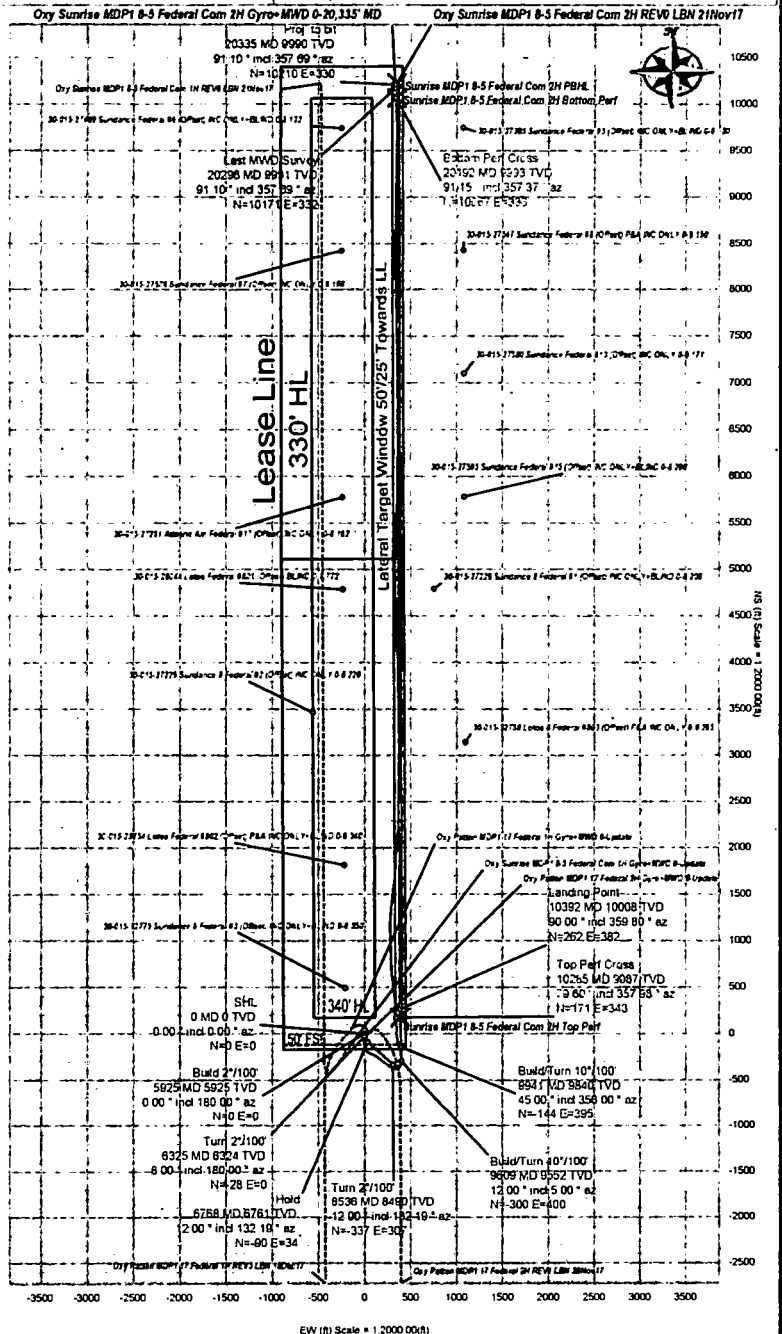
Gravity & Magnetic Parameters				Surface Location				NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	HDGM 2017	Dp	59 985"	Date	11-Dec-2017	Lat	N 32 13 30.22	Nothing	446011.611US	Grid Zone	Q 2814"	Plot	0-6 Federal COM	TVD Ref.	RK=26 513555.99 above MSL
MagDec:	6.94°	FS	48064.134nT	Gravity FS	998.429mgN (8 80645 Based)	Lon	W 103 48 20.01	Easting	704541.841US	Scale Fact.	0.9999336	Shot	0-6 Survey MDP1	0-6 Federal COM	24 REV0 LBN 21Nov17

Grid
True ↑ Mag

Grid North
Tot Corr (M->G 6.659°)
Mag Dec (6.940°)
Grid Conv (0.281°)



Vertical Section (ft) Azim = 1 95° Scale = 1:1900 00(ft) Origin = 0N/-S, 0E/-W



Ory Sunrise MDP1 8-5 Federal Com 2H REV0 LBN 21Nov17

Source MDP1 4-5 Federal Com 2H Bottom Port ~~SECRET~~ Source MDP1 3-5 Federal Com 2H PBHL

Last MVD Survey
 20296 MD 9991 TVD
 91 10" incl 357 69" az
 0176 vasc
 Proj to bit
 20335 MD 9990 TVD
 91 10" incl 357 69" az
 10215 vasc