30-015-44317

Schlumberger

Oxy Patton MDP1 18 Federal 1H Gyro+MWD 0-14,880ft MD Survey
Geodetic Report
(Def Survey)

Report Date:	December 18, 2017 - 11:05 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	182.499 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Patton MDP1 18 Federal 1H / Oxy Patton MDP1 18 Federal 1H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Patton MDP1 18 Federal 1H	**TVD Reference Elevation:**	3557.100 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3530.600 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.957 °
Survey Name:	Oxy Patton MDP1 18 Federal 1H Gyro+MWD 0-14,880ft MD	**Total Gravity Field Strength:**	998.4281mgn (9.80665 Based)
Survey Date:	December 07, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	220.052 ° / 5746.533 ft / 6.272 / 0.571	**Total Magnetic Field Strength:**	48068.092 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.992 °
Location Lat / Long:	N 32° 13' 34.55711", W 103° 49' 24.10589"	**Declination Date:**	December 07, 2017
Location Grid N/E Y/X:	N 446423.550 ftUS, E 699033.750 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.2720 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993757	**Grid Convergence Used:**	0.2720 °
Version / Patch:	2.10.565.0	**Total Corr Mag North->Grid North:**	6.6846 °
		Local Coord Referenced To:	Well Head

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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	446423.55	699033.75	N 32 13 34.56	W 103 49 24.11
	82.50	0.86	102.29	82.50	0.11	-0.13	0.60	1.04	446423.42	699034.35	N 32 13 34.56	W 103 49 24.10
	176.70	0.57	113.52	176.69	0.39	-0.47	1.73	0.34	446423.08	699035.48	N 32 13 34.55	W 103 49 24.09
	271.10	0.73	158.39	271.08	1.11	-1.22	2.38	0.55	446422.33	699036.13	N 32 13 34.54	W 103 49 24.08
	365.20	0.76	182.83	365.18	2.28	-2.40	2.57	0.34	446421.15	699036.32	N 32 13 34.53	W 103 49 24.08
	459.60	0.73	196.50	459.57	3.49	-3.59	2.35	0.22	446419.96	699036.10	N 32 13 34.52	W 103 49 24.08
	554.20	0.92	201.10	554.16	4.79	-4.87	1.88	0.20	446418.68	699035.63	N 32 13 34.51	W 103 49 24.08
	648.50	0.48	207.71	648.45	5.86	-5.93	1.42	0.47	446417.62	699035.17	N 32 13 34.50	W 103 49 24.09
	740.50	0.04	118.08	740.45	6.22	-6.28	1.27	0.52	446417.27	699035.02	N 32 13 34.49	W 103 49 24.09
	831.90	0.05	41.10	831.85	6.21	-6.27	1.33	0.06	446417.28	699035.08	N 32 13 34.50	W 103 49 24.09
	922.20	0.04	52.85	922.15	6.15	-6.22	1.38	0.02	446417.33	699035.13	N 32 13 34.50	W 103 49 24.09
	1014.00	0.03	59.00	1013.95	6.12	-6.19	1.43	0.01	446417.36	699035.18	N 32 13 34.50	W 103 49 24.09
	1105.20	0.09	355.41	1105.15	6.04	-6.11	1.44	0.09	446417.45	699035.19	N 32 13 34.50	W 103 49 24.09
	1196.50	0.06	11.07	1196.45	5.92	-5.99	1.44	0.04	446417.56	699035.19	N 32 13 34.50	W 103 49 24.09
	1288.20	0.05	33.54	1288.15	5.84	-5.91	1.47	0.03	446417.64	699035.22	N 32 13 34.50	W 103 49 24.09
	1379.60	0.06	14.30	1379.75	5.76	-5.83	1.51	0.02	446417.72	699035.26	N 32 13 34.50	W 103 49 24.09
	1471.30	0.11	348.98	1471.25	5.62	-5.69	1.50	0.07	446417.86	699035.25	N 32 13 34.50	W 103 49 24.09
	1563.30	0.05	357.38	1563.25	5.50	-5.57	1.49	0.07	446417.98	699035.24	N 32 13 34.50	W 103 49 24.09
	1658.00	0.12	333.04	1657.95	5.37	-5.44	1.44	0.08	446418.11	699035.19	N 32 13 34.50	W 103 49 24.09
	1752.30	0.08	353.03	1752.25	5.22	-5.28	1.39	0.06	446418.27	699035.14	N 32 13 34.50	W 103 49 24.09
	1846.50	0.09	345.28	1846.45	5.08	-5.15	1.36	0.02	446418.40	699035.11	N 32 13 34.51	W 103 49 24.09
	1941.30	0.05	7.57	1941.25	4.97	-5.03	1.35	0.05	446418.52	699035.10	N 32 13 34.51	W 103 49 24.09
	2036.10	0.07	354.94	2036.05	4.87	-4.94	1.35	0.03	446418.61	699035.10	N 32 13 34.51	W 103 49 24.09
	2130.80	0.08	346.42	2130.75	4.75	-4.81	1.33	0.02	446418.74	699035.07	N 32 13 34.51	W 103 49 24.09
	2225.50	0.11	335.39	2225.45	4.61	-4.67	1.27	0.04	446418.88	699035.02	N 32 13 34.51	W 103 49 24.09
	2320.20	0.12	328.61	2320.15	4.44	-4.50	1.18	0.02	446419.05	699034.93	N 32 13 34.51	W 103 49 24.09
	2414.90	0.12	328.90	2414.85	4.28	-4.33	1.08	0.00	446419.22	699034.83	N 32 13 34.51	W 103 49 24.09
	2509.70	0.07	344.95	2509.65	4.14	-4.19	1.01	0.06	446419.36	699034.76	N 32 13 34.52	W 103 49 24.09
	2604.50	0.27	343.08	2604.45	3.97	-3.92	0.93	0.21	446419.63	699034.68	N 32 13 34.52	W 103 49 24.10
	2699.30	0.07	325.93	2699.25	3.82	-3.66	0.84	0.22	446419.89	699034.59	N 32 13 34.52	W 103 49 24.10
	2793.90	0.07	341.85	2793.85	3.52	-3.55	0.79	0.02	446420.00	699034.54	N 32 13 34.52	W 103 49 24.10
	2888.80	0.07	320.25	2888.75	3.42	-3.46	0.73	0.03	446420.10	699034.48	N 32 13 34.52	W 103 49 24.10
	2983.60	0.05	336.83	2983.55	3.34	-3.37	0.68	0.03	446420.18	699034.43	N 32 13 34.52	W 103 49 24.10
	3078.30	0.05	322.67	3078.25	3.27	-3.30	0.64	0.01	446420.25	699034.39	N 32 13 34.52	W 103 49 24.10
	3172.90	0.04	324.03	3172.85	3.21	-3.24	0.59	0.01	446420.31	699034.34	N 32 13 34.52	W 103 49 24.10
	3267.90	0.04	292.42	3267.85	3.18	-3.20	0.54	0.02	446420.35	699034.29	N 32 13 34.53	W 103 49 24.10
	3362.70	0.03	301.20	3362.65	3.15	-3.18	0.49	0.01	446420.37	699034.24	N 32 13 34.53	W 103 49 24.10
	3457.60	0.03	290.59	3457.55	3.13	-3.16	0.44	0.01	446420.39	699034.19	N 32 13 34.53	W 103 49 24.10
	3552.50	0.12	90.50	3552.45	3.12	-3.15	0.52	0.16	446420.40	699034.27	N 32 13 34.53	W 103 49 24.10
	3647.50	0.30	109.36	3647.45	3.19	-3.23	0.85	0.20	446420.32	699034.60	N 32 13 34.53	W 103 49 24.10
	3742.30	0.25	86.57	3742.25	3.24	-3.30	1.30	0.13	446420.25	699035.05	N 32 13 34.52	W 103 49 24.09
	3837.20	0.08	84.64	3837.15	3.21	-3.28	1.57	0.18	446420.27	699035.32	N 32 13 34.52	W 103 49 24.09
	3932.00	0.30	102.50	3931.94	3.24	-3.33	1.88	0.24	446420.22	699035.63	N 32 13 34.52	W 103 49 24.08
	4026.90	0.07	90.56	4026.84	3.29	-3.38	2.18	0.24	446420.17	699035.93	N 32 13 34.52	W 103 49 24.08
	4121.80	0.09	56.53	4121.74	3.24	-3.34	2.30	0.05	446420.21	699036.05	N 32 13 34.52	W 103 49 24.08
	4216.70	0.26	66.03	4216.64	3.10	-3.22	2.56	0.18	446420.34	699036.31	N 32 13 34.53	W 103 49 24.08
	4311.50	0.07	73.59	4311.44	2.99	-3.11	2.81	0.20	446420.44	699036.56	N 32 13 34.53	W 103 49 24.07
	4406.40	0.07	72.57	4406.34	2.95	-3.08	2.92	0.00	446420.47	699036.67	N 32 13 34.53	W 103 49 24.07
	4501.20	0.08	36.25	4501.14	2.87	-3.01	3.01	0.05	446420.54	699036.76	N 32 13 34.53	W 103 49 24.07
	4595.90	0.15	31.93	4595.84	2.71	-2.85	3.12	0.07	446420.70	699036.87	N 32 13 34.53	W 103 49 24.07
	4690.40	0.04	77.82	4690.34	2.59	-2.74	3.22	0.13	446420.81	699036.97	N 32 13 34.53	W 103 49 24.07
	4785.20	0.04	69.24	4785.14	2.57	-2.72	3.28	0.01	446420.83	699037.03	N 32 13 34.53	W 103 49 24.07
	4880.00	0.08	22.33	4879.94	2.50	-2.64	3.33	0.06	446420.91	699037.08	N 32 13 34.53	W 103 49 24.07
	4974.40	0.05	64.60	4974.34	2.42	-2.57	3.40	0.06	446420.98	699037.15	N 32 13 34.53	W 103 49 24.07
	5069.00	0.08	23.12	5068.94	2.33	-2.49	3.46	0.06	446421.06	699037.21	N 32 13 34.53	W 103 49 24.07
	5163.80	0.04	53.64	5163.74	2.25	-2.41	3.51	0.05	446421.14	699037.26	N 32 13 34.53	W 103 49 24.07
	5258.40	0.04	56.41	5258.34	2.21	-2.37	3.57	0.00	446421.18	699037.32	N 32 13 34.53	W 103 49 24.06
	5352.90	0.04	38.83	5352.84	2.17	-2.33	3.62	0.01	446421.22	699037.37	N 32 13 34.53	W 103 49 24.06
	5447.50	0.04	36.26	5447.44	2.11	-2.27	3.66	0.00	446421.28	699037.41	N 32 13 34.53	W 103 49 24.06
	5542.10	0.03	46.72	5542.04	2.07	-2.23	3.69	0.01	446421.32	699037.44	N 32 13 34.53	W 103 49 24.06
	5636.50	0.04	53.73	5636.44	2.03	-2.19	3.74	0.01	446421.36	699037.49	N 32 13 34.54	W 103 49 24.06
	5731.30	0.21	47.68	5731.24	1.88	-2.06	3.89	0.18	446421.49	699037.64	N 32 13 34.54	W 103 49 24.06
	5826.00	0.13	104.47	5825.94	1.78	-1.97	4.13	0.19	446421.58	699037.87	N 32 13 34.54	W 103 49 24.06
	5920.70	2.18	200.02	5920.62	3.53	-3.69	3.61	2.32	446419.86	699037.36	N 32 13 34.52	W 103 49 24.06
	6015.50	5.25	205.82	6015.21	9.23	-9.29	1.11	3.26	446414.26	699034.86	N 32 13 34.47	W 103 49 24.09
	6110.30	8.66	199.53	6109.30	20.04	-19.92	-3.17	3.68	446403.63	699030.58	N 32 13 34.36	W 103 49 24.14
	6205.10	11.53	205.36	6202.62	35.60	-35.21	-9.62	3.21	446388.34	699024.13	N 32 13 34.21	W 103 49 24.22
	6299.80	11.89	205.01	6295.35	53.33	-52.60	-17.79	0.39	446370.95	699015.96	N 32 13 34.04	W 103 49 24.32
	6394.60	11.97	202.87	6388.11	71.57	-70.51	-25.74	0.47	446353.04	699008.01	N 32 13 33.86	W 103 49 24.41
	6489.30	11.96	196.10	6480.75	90.31	-88.99	-32.28	1.48	446334.57	699001.47	N 32 13 33.68	W 103 49 24.49
	6584.00	11.34	194.26	6573.50	108.96	-107.44	-37.30	0.76	446316.12	698996.46	N 32 13 33.50	W 103 49 24.55
	6678.80	11.05	194.46	6666.50	126.98	-125.27	-41.86	0.31	446298.29	698991.89	N 32 13 33.32	W 103 49 24.60
	6773.40	10.32	195.30	6759.46	144.11	-142.22	-46.36	0.79	446281.34	698987.39	N 32 13 33.15	W 103 49 24.65
	6868.20	10.35	196.31	6852.72	160.66	-158.59	-50.99	0.19	446264.97	698982.76	N 32 13 32.99	W 103 49 24.71
	6962.90	10.52	194.59	6945.85	177.37	-175.12	-55.56	0.37	446248.44	698978.19	N 32 13 32.83	W 103 49 24.76
	7057.60	10.27	194.14	7039.00	194.10	-191.67	-59.80	0.28	446231.89	698973.95	N 32 13 32.66	W 103 49 24.81
	7152.40	10.41	195.00	7132.26	210.73	-208.14	-64.08	0.22	446215.43	698969.67	N 32 13 32.50	W 103 49 24.86
	7247.10	10.48	193.30	7225.39	227.55	-224.78	-68.28	0.33	446198.78	698965.48	N 32 13 32.34	W 103 49 24.91

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 ° ' ")
	7341.80	10.57	194.10	7318.50	244.52	-241.59	-72.37	0.18	446181.98	698961.38	N 32 13 32.17	W 103 49 24.96
	7436.50	10.50	193.75	7411.60	261.49	-258.39	-76.54	0.10	446165.17	698957.21	N 32 13 32.00	W 103 49 25.01
	7531.10	10.56	194.52	7504.61	278.42	-275.16	-80.76	0.16	446148.41	698952.99	N 32 13 31.84	W 103 49 25.06
	7625.90	10.49	194.88	7597.81	295.34	-291.91	-85.16	0.10	446131.66	698948.60	N 32 13 31.67	W 103 49 25.11
	7720.60	10.52	193.95	7690.92	312.24	-308.63	-89.45	0.18	446114.94	698944.30	N 32 13 31.51	W 103 49 25.16
	7815.40	10.05	194.73	7784.20	328.80	-325.03	-93.64	0.52	446098.54	698940.11	N 32 13 31.35	W 103 49 25.21
	7910.00	10.02	193.89	7877.35	344.94	-341.00	-97.72	0.16	446082.57	698936.04	N 32 13 31.19	W 103 49 25.26
	8004.80	9.69	195.70	7970.76	360.79	-356.69	-101.86	0.48	446066.88	698931.90	N 32 13 31.03	W 103 49 25.31
	8099.40	9.85	194.89	8063.98	376.44	-372.17	-106.09	0.22	446051.40	698927.67	N 32 13 30.88	W 103 49 25.36
	8194.20	9.87	195.54	8157.38	392.28	-387.84	-110.35	0.12	446035.74	698923.41	N 32 13 30.72	W 103 49 25.41
	8289.00	9.54	192.63	8250.83	407.93	-403.33	-114.25	0.62	446020.24	698919.51	N 32 13 30.57	W 103 49 25.46
	8383.50	9.36	195.12	8344.04	423.14	-418.39	-117.96	0.47	446005.19	698915.80	N 32 13 30.42	W 103 49 25.50
	8478.30	9.15	194.83	8437.61	438.02	-433.12	-121.90	0.23	445990.46	698911.86	N 32 13 30.28	W 103 49 25.55
	8572.90	9.54	195.50	8530.95	453.01	-447.95	-125.92	0.43	445975.63	698907.84	N 32 13 30.13	W 103 49 25.60
	8667.70	9.55	195.86	8624.44	468.32	-463.08	-130.17	0.06	445960.50	698903.59	N 32 13 29.98	W 103 49 25.65
	8762.30	8.98	195.16	8717.81	483.15	-477.76	-134.25	0.61	445945.83	698899.51	N 32 13 29.84	W 103 49 25.70
	8857.10	9.15	194.29	8811.42	497.75	-492.20	-138.04	0.23	445931.38	698895.72	N 32 13 29.69	W 103 49 25.74
	8951.80	8.85	196.10	8904.96	512.20	-506.50	-141.92	0.44	445917.09	698891.84	N 32 13 29.55	W 103 49 25.79
	9046.60	9.65	192.93	8998.53	527.10	-521.25	-145.72	1.00	445902.34	698888.04	N 32 13 29.41	W 103 49 25.83
	9141.30	8.81	187.85	9092.00	542.13	-536.17	-148.49	1.23	445887.42	698885.27	N 32 13 29.26	W 103 49 25.86
	9236.10	8.45	185.86	9185.73	556.31	-550.29	-150.19	0.49	445873.30	698883.57	N 32 13 29.12	W 103 49 25.88
	9330.80	8.46	185.35	9279.40	570.22	-564.15	-151.55	0.08	445859.44	698882.21	N 32 13 28.98	W 103 49 25.90
	9425.50	7.96	183.97	9373.13	583.73	-577.62	-152.65	0.57	445845.96	698881.11	N 32 13 28.85	W 103 49 25.91
	9520.30	9.33	186.72	9466.85	597.96	-591.80	-154.01	1.51	445831.78	698879.75	N 32 13 28.71	W 103 49 25.93
	9615.00	17.96	193.32	9558.79	619.99	-613.68	-158.28	9.25	445809.91	698875.48	N 32 13 28.49	W 103 49 25.98
	9709.70	29.09	200.68	9645.50	656.33	-649.54	-169.81	12.13	445774.05	698863.95	N 32 13 28.14	W 103 49 26.12
	9804.40	40.52	201.49	9723.13	707.46	-699.87	-189.27	12.08	445723.72	698844.49	N 32 13 27.64	W 103 49 26.35
Last Gyro	9899.20	54.66	200.52	9786.91	773.69	-765.07	-214.24	14.93	445658.53	698819.53	N 32 13 27.00	W 103 49 26.64
	9955.00	58.44	199.23	9817.66	818.11	-808.85	-230.05	7.04	445614.75	698803.71	N 32 13 26.56	W 103 49 26.83
	10050.00	62.16	194.28	9864.74	898.06	-887.84	-253.76	5.98	445535.77	698780.00	N 32 13 25.78	W 103 49 27.11
	10145.00	65.94	188.45	9906.34	982.40	-971.53	-270.51	6.80	445452.08	698763.25	N 32 13 24.96	W 103 49 27.31
	10239.00	74.37	174.70	9938.35	1070.46	-1059.58	-272.65	16.41	445364.03	698761.12	N 32 13 24.09	W 103 49 27.34
	10334.00	78.45	172.60	9960.67	1161.68	-1151.33	-262.43	4.80	445272.29	698771.34	N 32 13 23.18	W 103 49 27.22
	10429.00	82.18	179.46	9976.67	1254.66	-1244.68	-255.98	8.13	445178.95	698777.79	N 32 13 22.25	W 103 49 27.15
	10524.00	92.82	181.56	9980.81	1349.37	-1339.44	-256.83	11.42	445084.19	698776.94	N 32 13 21.32	W 103 49 27.17
	10663.00	91.27	182.57	9975.85	1488.27	-1478.26	-261.84	1.33	444945.39	698771.93	N 32 13 19.94	W 103 49 27.24
	10758.00	90.21	181.29	9974.62	1583.25	-1573.19	-265.04	1.75	444850.46	698768.73	N 32 13 19.00	W 103 49 27.28
	10853.00	90.55	178.67	9973.99	1678.15	-1668.18	-265.00	2.78	444755.47	698768.76	N 32 13 18.06	W 103 49 27.28
	10945.00	90.38	174.00	9973.25	1769.59	-1759.97	-259.12	5.08	444663.70	698774.64	N 32 13 17.15	W 103 49 27.22
	11042.00	89.83	174.67	9973.07	1865.61	-1856.49	-249.55	0.89	444567.18	698784.22	N 32 13 16.20	W 103 49 27.11
	11133.00	88.97	175.23	9974.02	1955.81	-1947.13	-241.54	1.13	444476.54	698792.23	N 32 13 15.30	W 103 49 27.03
	11232.00	87.77	178.56	9976.84	2054.28	-2045.93	-236.18	3.57	444377.75	698797.59	N 32 13 14.32	W 103 49 26.97
	11327.00	88.25	184.62	9980.14	2149.17	-2140.79	-238.81	6.40	444282.90	698794.95	N 32 13 13.39	W 103 49 27.00
	11516.00	90.24	180.71	9982.63	2338.11	-2329.53	-247.60	2.32	444094.17	698786.17	N 32 13 11.52	W 103 49 27.12
	11611.00	88.80	182.63	9983.43	2433.09	-2424.47	-250.36	2.53	443999.23	698783.40	N 32 13 10.58	W 103 49 27.15
	11706.00	89.26	183.47	9985.02	2528.07	-2519.33	-255.42	1.02	443904.39	698778.35	N 32 13 9.64	W 103 49 27.22
	11800.00	88.90	184.42	9986.51	2622.02	-2613.09	-261.88	1.09	443810.63	698771.88	N 32 13 8.71	W 103 49 27.30
	11895.00	88.45	185.06	9988.71	2716.92	-2707.74	-269.73	0.82	443715.99	698764.04	N 32 13 7.78	W 103 49 27.40
	12084.00	88.11	185.42	9994.38	2905.62	-2895.86	-286.98	0.26	443527.87	698746.78	N 32 13 5.92	W 103 49 27.61
	12179.00	88.59	184.92	9997.12	3000.48	-2990.44	-295.54	0.73	443433.31	698738.23	N 32 13 4.98	W 103 49 27.71
	12298.00	89.55	183.00	9999.05	3119.42	-3109.13	-303.76	1.80	443314.62	698730.01	N 32 13 3.81	W 103 49 27.81
	12463.00	93.34	177.68	9994.88	3284.16	-3273.99	-304.74	3.96	443149.77	698729.03	N 32 13 2.18	W 103 49 27.83
	12653.00	85.29	173.12	9997.16	3472.49	-3463.18	-289.53	4.87	442960.62	698744.24	N 32 13 0.30	W 103 49 27.67
	12748.00	80.05	172.81	10009.27	3565.38	-3556.64	-277.99	5.53	442867.14	698755.77	N 32 12 59.38	W 103 49 27.54
	12937.00	80.82	178.57	10040.70	3750.35	-3742.40	-264.00	3.03	442681.39	698769.76	N 32 12 57.54	W 103 49 27.39
	13032.00	85.63	180.41	10051.91	3844.53	-3836.70	-263.17	5.42	442587.10	698770.59	N 32 12 56.61	W 103 49 27.38
	13126.00	89.31	182.07	10056.06	3938.39	-3930.57	-265.21	4.29	442493.24	698768.56	N 32 12 55.68	W 103 49 27.41
	13221.00	89.28	180.59	10057.23	4033.36	-4025.53	-267.41	1.56	442398.28	698766.36	N 32 12 54.74	W 103 49 27.44
	13315.00	89.31	181.15	10058.38	4127.32	-4119.51	-268.84	0.60	442304.30	698764.93	N 32 12 53.81	W 103 49 27.46
	13409.00	89.38	181.36	10059.46	4221.29	-4213.48	-270.90	0.24	442210.34	698762.87	N 32 12 52.88	W 103 49 27.49
	13598.00	89.42	182.59	10061.44	4410.27	-4402.36	-277.41	0.65	442021.47	698756.36	N 32 12 51.01	W 103 49 27.58
	13692.00	89.62	183.04	10062.22	4504.26	-4496.24	-282.03	0.52	441927.60	698751.74	N 32 12 50.08	W 103 49 27.64
	13786.00	89.62	182.59	10062.85	4598.26	-4590.13	-286.64	0.48	441833.72	698747.13	N 32 12 49.15	W 103 49 27.70
	13880.00	89.76	180.43	10063.36	4692.24	-4684.09	-289.12	2.30	441739.77	698744.65	N 32 12 48.22	W 103 49 27.73
	13975.00	89.55	178.84	10063.93	4787.11	-4779.08	-288.51	1.69	441644.78	698745.25	N 32 12 47.28	W 103 49 27.73
	14069.00	90.03	177.05	10064.27	4880.81	-4873.01	-285.14	1.97	441550.85	698748.62	N 32 12 46.35	W 103 49 27.69
	14258.00	89.48	176.29	10065.08	5068.83	-5061.69	-274.17	0.50	441362.18	698759.60	N 32 12 44.48	W 103 49 27.58
	14446.00	91.17	176.89	10064.01	5255.82	-5249.35	-262.98	0.95	441174.54	698770.78	N 32 12 42.63	W 103 49 27.46
	14635.00	91.41	178.31	10059.76	5444.08	-5438.13	-255.07	0.76	440985.77	698778.69	N 32 12 40.76	W 103 49 27.36
Final MWD Survey	14824.00	91.24	178.74	10055.39	5632.57	-5627.02	-250.21	0.24	440796.90	698783.56	N 32 12 38.89	W 103 49 27.33
Proj. to bit	14880.00	91.24	178.74	10054.18	5688.44	-5682.99	-248.98	0.00	440740.93	698784.79	N 32 12 38.34	W 103 49 27.32

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	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Patton MDP1 18 Federal 1H Gyro+MWD 0-14,880ft MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Patton MDP1 18 Federal 1H Gyro+MWD 0-14,880ft MD
	1	26.500	9899.200	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Patton MDP1 18 Federal 1H Gyro+MWD
	1	9899.200	14880.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Patton MDP1 18 Federal 1H Gyro+MWD

Schlumberger

OXY

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Patton MDP1 18 Federal 1H	NM Eddy County (NAD 83)	Oxy Patton MDP1 18 Federal 1H

Gravity & Magnetic Parameters
Model: HDGM 2017 Dip: 59.992° Date: 07-Dec-2017
MagDec: 6.957° FS: 48068.092nT Gravity FS: 998.428mgn (9.80665 Based)

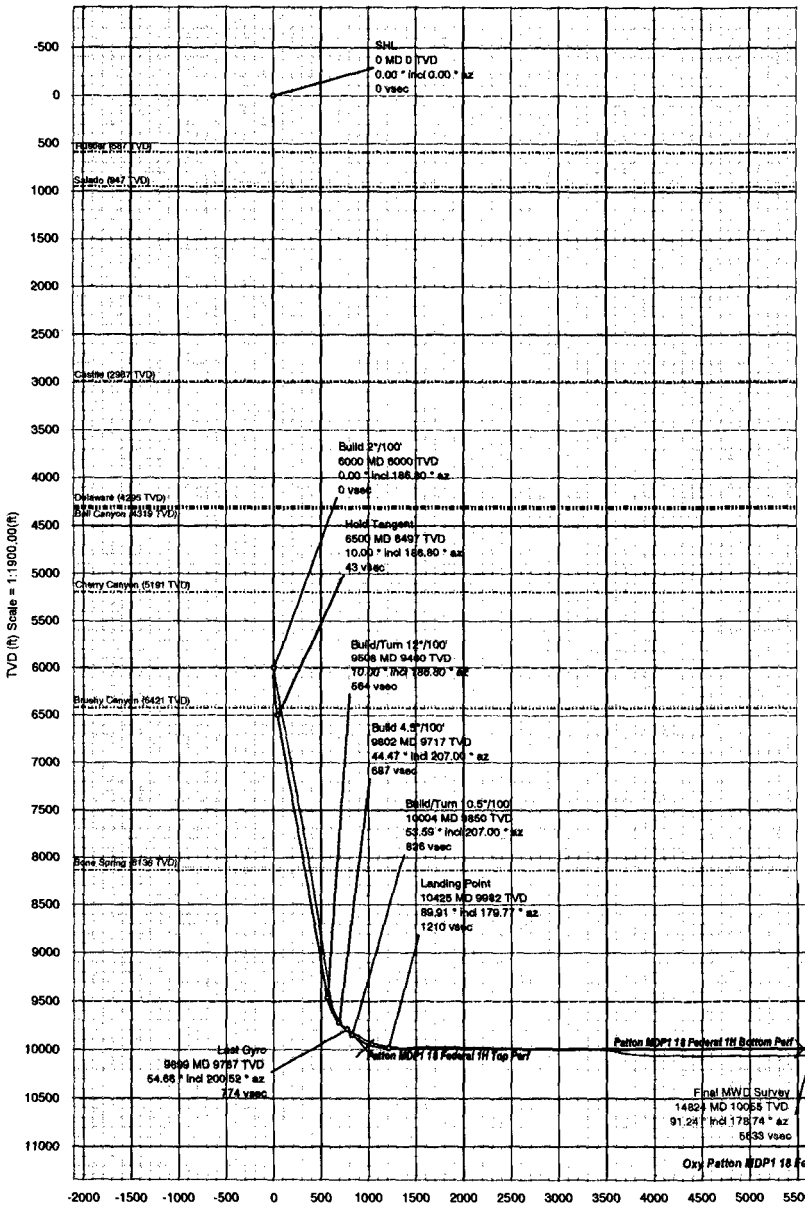
Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 13 34.86 Northing: 448423.58RUS Grid Conv: 0.272°
Lon: W 103 48 24.11 Easting: 699033.78RUS Scale Fact: 0.99993757

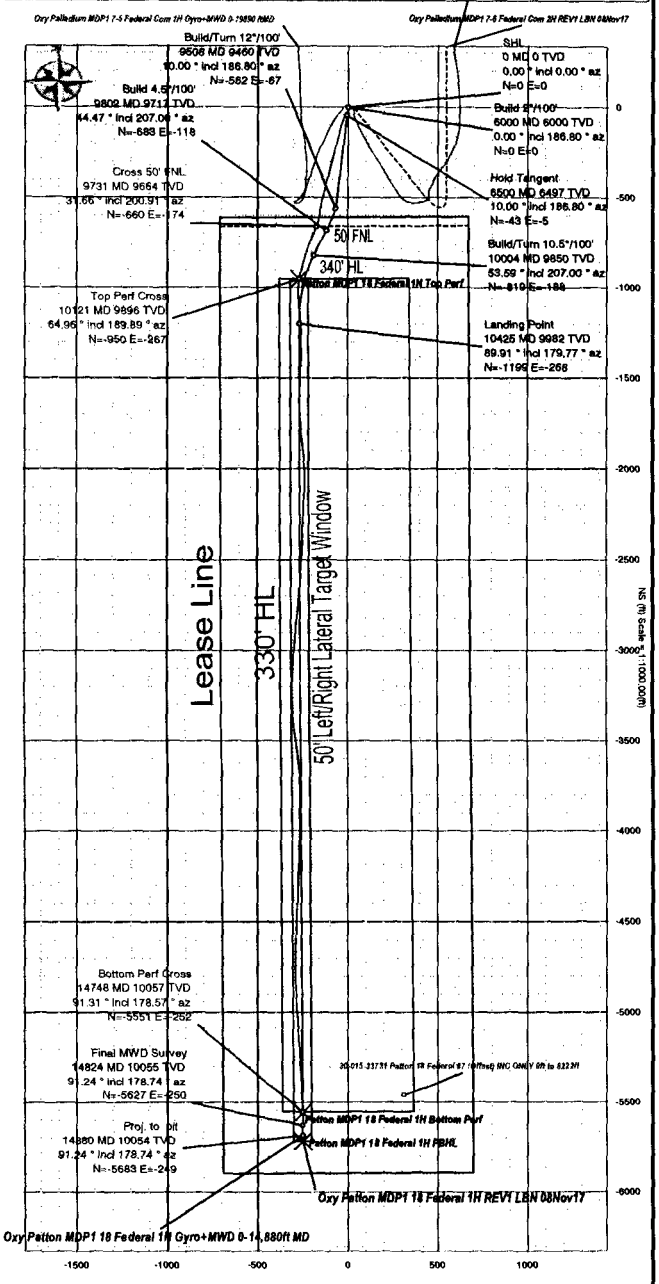
Miscellaneous
Slot: Oxy Patton MDP1 18 Federal 1H TVD Ref: RKB=26.5'(3557.1ft above MSL)
Plan: Oxy Patton MDP1 18 Federal 1H REV1 LBN 08Nov17

MWD 0-2

Grid
True
Mag

Grid North
Tot Corr (M->G 6.685°)
Mag Dec (6.957°)
Grid Conv (0.272°)





Vertical Section (ft) Azim = 182.50° Scale = 1:1900.00(ft) Origin = 0N/-S, 0E/-W