30-015-44460

Schlumberger

Oxy Patton MDP1 17 Federal 2H ST02 Gyro+MWD 0-15,165' Survey
Geodetic Report
(Def Survey)

Report Date:	January 30, 2018 - 03:45 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	175.910 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Patton MDP1 17 Federal 2H / Oxy Patton MDP1 17 Federal 2H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Patton MDP1 17 Federal 2H	**TVD Reference Elevation:**	3555.600 ft above MSL
Borehole:	ST02	**Seabed / Ground Elevation:**	3529.300 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.931 °
Survey Name:	Oxy Patton MDP1 17 Federal 2H ST02 Gyro+MWD 0-15,165'	**Total Gravity Field Strength:**	998.4287mgn (9.80665 Based)
Survey Date:	January 18, 2018	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	228.533 ° / 5676.134 ft / 6.293 / 0.566	**Total Magnetic Field Strength:**	48054.236 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.881 °
Location Lat / Long:	N 32° 13' 30.21749", W 103° 48' 19.65727"	**Declination Date:**	January 18, 2018
Location Grid N/E Y/X:	N 446011.760 ftUS, E 704571.860 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.2815 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993961	**Grid Convergence Used:**	0.2815 °
Version / Patch:	2.10.696.0	**Total Corr Mag North->Grid North:**	6.6493 °
		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	446011.76	704571.86	N 32 13 30.22	W 103 48 19.66
	115.80	0.39	104.39	115.80	0.12	0.10	0.38	0.34	446011.66	704572.24	N 32 13 30.22	W 103 48 19.65
	204.20	0.29	179.34	204.20	0.44	-0.40	0.68	0.48	446011.36	704572.54	N 32 13 30.21	W 103 48 19.65
	299.00	0.33	158.41	299.00	0.94	-0.89	0.78	0.13	446010.87	704572.64	N 32 13 30.21	W 103 48 19.65
	391.20	0.50	173.82	391.19	1.60	-1.54	0.92	0.22	446010.22	704572.78	N 32 13 30.20	W 103 48 19.65
	485.80	0.61	187.67	485.79	2.50	-2.45	0.90	0.18	446009.31	704572.76	N 32 13 30.19	W 103 48 19.65
	580.70	0.46	204.42	580.69	3.33	-3.29	0.67	0.23	446008.47	704572.53	N 32 13 30.18	W 103 48 19.65
Last Gyro	653.00	0.45	191.32	652.98	3.86	-3.84	0.50	0.14	446007.92	704572.36	N 32 13 30.18	W 103 48 19.65
	770.00	0.36	167.77	769.98	4.67	-4.65	0.48	0.16	446007.11	704572.34	N 32 13 30.17	W 103 48 19.65
	953.00	0.57	165.28	952.97	6.13	-6.09	0.84	0.12	446005.67	704572.70	N 32 13 30.16	W 103 48 19.65
	1137.00	0.51	149.31	1136.97	7.76	-7.68	1.49	0.09	446004.08	704573.35	N 32 13 30.14	W 103 48 19.64
	1320.00	0.41	147.32	1319.96	9.07	-8.93	2.26	0.06	446002.83	704574.12	N 32 13 30.13	W 103 48 19.63
	1503.00	0.23	145.80	1502.96	9.96	-9.78	2.82	0.10	446001.98	704574.68	N 32 13 30.12	W 103 48 19.63
	1687.00	0.06	204.68	1686.96	10.36	-10.18	2.98	0.11	446001.58	704574.84	N 32 13 30.12	W 103 48 19.62
	1876.00	0.17	337.35	1875.96	10.19	-10.01	2.84	0.11	446001.75	704574.69	N 32 13 30.12	W 103 48 19.62
	2065.00	0.34	318.86	2064.95	9.47	-9.33	2.36	0.10	446002.43	704574.22	N 32 13 30.13	W 103 48 19.63
	2254.00	0.41	295.24	2253.95	8.69	-8.62	1.38	0.09	446003.14	704573.24	N 32 13 30.13	W 103 48 19.64
	2444.00	0.66	282.24	2443.94	8.05	-8.08	0.31	0.15	446003.67	704571.55	N 32 13 30.14	W 103 48 19.66
	2633.00	0.18	226.66	2632.94	7.93	-8.07	-1.59	0.31	446003.69	704570.27	N 32 13 30.14	W 103 48 19.66
	2822.00	0.25	138.62	2821.94	8.45	-8.58	-1.53	0.16	446003.18	704570.33	N 32 13 30.13	W 103 48 19.66
	3011.00	0.13	178.02	3010.94	8.89	-9.10	-1.25	0.09	446002.66	704570.61	N 32 13 30.13	W 103 48 19.67
	3106.00	0.11	336.48	3105.94	9.01	-9.13	-1.28	0.25	446002.63	704570.58	N 32 13 30.13	W 103 48 19.67
	3295.00	0.18	253.85	3294.93	8.91	-9.05	-1.64	0.11	446002.72	704570.22	N 32 13 30.13	W 103 48 19.68
	3485.00	0.29	195.97	3484.93	9.42	-9.59	-2.06	0.13	446002.17	704569.80	N 32 13 30.12	W 103 48 19.68
	3674.00	0.32	81.67	3673.93	9.65	-9.80	-1.73	0.30	446001.96	704570.13	N 32 13 30.12	W 103 48 19.68
	3863.00	0.11	196.36	3862.93	9.60	-9.72	-1.31	0.21	446002.04	704570.55	N 32 13 30.12	W 103 48 19.67
	4052.00	0.06	76.73	4051.93	9.76	-9.87	-1.27	0.08	446001.89	704570.59	N 32 13 30.12	W 103 48 19.67
	4241.00	0.34	276.34	4240.93	9.64	-9.79	-1.73	0.21	446001.97	704570.13	N 32 13 30.12	W 103 48 19.68
	4286.00	0.33	266.20	4285.93	9.62	-9.78	-1.89	0.13	446001.98	704569.97	N 32 13 30.12	W 103 48 19.68
	4471.00	0.30	153.84	4470.93	10.06	-10.25	-2.31	0.28	446001.51	704569.55	N 32 13 30.12	W 103 48 19.68
	4566.00	0.80	80.21	4565.92	10.23	-10.36	-1.55	0.81	446001.40	704570.31	N 32 13 30.12	W 103 48 19.68
	4660.00	2.26	76.56	4659.89	9.86	-9.82	0.92	1.56	446001.94	704572.78	N 32 13 30.12	W 103 48 19.65
	4755.00	3.37	78.92	4754.77	9.21	-8.84	5.50	1.15	446002.92	704577.36	N 32 13 30.13	W 103 48 19.59
	4850.00	2.32	62.37	4849.65	8.10	-7.41	9.94	1.39	446004.35	704581.80	N 32 13 30.14	W 103 48 19.54
	4944.00	1.24	30.92	4943.61	6.51	-5.86	12.15	1.51	446006.10	704584.01	N 32 13 30.16	W 103 48 19.52
	5039.00	0.29	253.91	5038.60	5.72	-4.84	12.45	1.54	446006.92	704584.31	N 32 13 30.17	W 103 48 19.51
	5133.00	0.08	195.25	5132.60	5.83	-4.97	12.20	0.27	446006.79	704584.06	N 32 13 30.17	W 103 48 19.52
	5228.00	0.08	32.17	5227.60	5.84	-4.98	12.22	0.17	446006.78	704584.08	N 32 13 30.17	W 103 48 19.52
	5323.00	0.48	190.61	5322.60	6.17	-5.32	12.18	0.58	446006.44	704584.04	N 32 13 30.16	W 103 48 19.52
	5417.00	2.43	293.15	5416.57	5.64	-4.92	10.28	2.74	446006.84	704582.14	N 32 13 30.17	W 103 48 19.54
	5512.00	4.63	331.68	5511.40	1.22	-0.75	6.61	3.28	446011.01	704578.48	N 32 13 30.21	W 103 48 19.58
	5606.00	4.10	330.64	5605.13	-5.28	5.52	3.16	0.57	446017.28	704575.02	N 32 13 30.27	W 103 48 19.62
	5701.00	2.16	293.10	5699.99	-9.17	9.18	-0.15	2.87	446020.94	704571.71	N 32 13 30.31	W 103 48 19.66
	5795.00	0.29	159.75	5793.97	-9.75	9.65	-1.70	2.52	446021.41	704570.16	N 32 13 30.31	W 103 48 19.68
	5890.00	0.13	128.24	5888.97	-9.45	9.38	-1.53	0.20	446021.12	704570.33	N 32 13 30.31	W 103 48 19.67
	5984.00	0.13	344.20	5982.97	-9.48	9.40	-1.48	0.26	446021.16	704570.38	N 32 13 30.31	W 103 48 19.67
	6079.00	0.18	233.29	6077.97	-9.50	9.41	-1.63	0.27	446021.17	704570.23	N 32 13 30.31	W 103 48 19.68
	6173.00	0.18	127.07	6171.97	-9.33	9.23	-1.63	0.31	446020.99	704570.23	N 32 13 30.31	W 103 48 19.68
	6268.00	0.13	228.42	6266.97	-9.16	9.07	-1.59	0.25	446020.83	704570.27	N 32 13 30.31	W 103 48 19.68
	6362.00	0.17	105.89	6360.97	-9.05	8.96	-1.54	0.28	446020.72	704570.32	N 32 13 30.31	W 103 48 19.67
	6457.00	0.18	118.74	6455.97	-8.92	8.85	-1.27	0.04	446020.61	704570.59	N 32 13 30.31	W 103 48 19.67
	6552.00	0.11	168.05	6550.97	-8.75	8.69	-1.12	0.14	446020.45	704570.74	N 32 13 30.30	W 103 48 19.67
	6646.00	0.11	52.67	6644.97	-8.71	8.66	-1.03	0.20	446020.42	704570.83	N 32 13 30.30	W 103 48 19.67
	6741.00	0.18	17.40	6739.97	-8.90	8.86	-0.91	0.12	446020.62	704570.95	N 32 13 30.31	W 103 48 19.67
	6835.00	0.18	272.85	6833.96	-9.05	9.00	-1.02	0.30	446020.76	704570.84	N 32 13 30.31	W 103 48 19.67
	6930.00	0.18	62.89	6928.96	-9.13	9.08	-1.03	0.37	446020.84	704570.83	N 32 13 30.31	W 103 48 19.67
	7024.00	0.18	247.90	7022.96	-9.14	9.09	-1.04	0.38	446020.85	704570.82	N 32 13 30.31	W 103 48 19.67
	7119.00	0.16	233.55	7117.96	-9.02	8.95	-1.30	0.05	446020.71	704570.56	N 32 13 30.31	W 103 48 19.67
	7213.00	0.13	161.90	7211.96	-8.83	8.76	-1.38	0.20	446020.52	704570.48	N 32 13 30.30	W 103 48 19.67
	7308.00	0.13	332.31	7306.96	-8.83	8.75	-1.40	0.27	446020.51	704570.46	N 32 13 30.30	W 103 48 19.67
	7403.00	0.17	31.85	7401.96	-9.04	8.97	-1.37	0.16	446020.73	704570.49	N 32 13 30.31	W 103 48 19.67
	7497.00	0.11	328.72	7495.96	-9.23	9.16	-1.35	0.17	446020.92	704570.51	N 32 13 30.31	W 103 48 19.67
	7592.00	0.18	30.12	7590.96	-9.44	9.37	-1.32	0.17	446021.13	704570.54	N 32 13 30.31	W 103 48 19.67
	7687.00	0.13	50.62	7685.96	-9.62	9.57	-1.16	0.08	446021.33	704570.70	N 32 13 30.31	W 103 48 19.67
	7781.00	0.13	174.25	7779.96	-9.58	9.53	-1.07	0.24	446021.29	704570.79	N 32 13 30.31	W 103 48 19.67
	7876.00	0.18	303.19	7874.96	-9.56	9.50	-1.18	0.30	446021.26	704570.68	N 32 13 30.31	W 103 48 19.67
	7971.00	0.53	147.42	7969.96	-9.27	9.21	-1.07	0.73	446020.97	704570.79	N 32 13 30.31	W 103 48 19.67
	8066.00	1.98	122.73	8064.94	-7.90	7.96	0.55	1.59	446019.72	704572.41	N 32 13 30.30	W 103 48 19.65
	8160.00	3.37	115.02	8158.83	-5.58	5.91	4.42	1.52	446017.67	704576.28	N 32 13 30.28	W 103 48 19.61
	8255.00	4.35	110.86	8253.62	-2.70	3.45	10.31	1.07	446015.21	704582.17	N 32 13 30.25	W 103 48 19.54
	8350.00	5.18	104.07	8348.29	0.16	1.12	17.84	1.05	446012.88	704589.70	N 32 13 30.23	W 103 48 19.45
	8444.00	5.94	91.88	8441.85	1.98	-0.07	26.82	1.49	446011.69	704598.68	N 32 13 30.22	W 103 48 19.35
	8539.00	6.85	75.34	8536.26	1.46	1.20	37.21	2.15	446012.96	704609.07	N 32 13 30.23	W 103 48 19.22
	8633.00	7.28	54.02	8629.57	-2.71	6.11	47.44	2.80	446017.87	704619.30	N 32 13 30.28	W 103 48 19.10
Tie into OH @ 8727' MD	8727.00	7.44	33.92	8722.81	-10.64	14.65	55.65	2.73	446026.41	704627.51	N 32 13 30.36	W 103 48 19.01
	8818.00	7.42	31.92	8813.05	-20.04	24.53	62.04	0.29	446036.29	704633.90	N 32 13 30.46	W 103 48 18.93
	8858.00	6.09	76.07	8852.79	-22.49	27.23	65.47	13.04	446038.99	704637.33	N 32 13 30.48	W 103 48 18.89

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 ° ' ")
	8912.00	8.34	107.59	8906.38	21.54	26.74	71.99	8.28	446038.50	704643.84	N 32 13 30.48	W 103 48 18.82
	9007.00	11.81	120.45	8999.92	13.47	19.73	86.94	4.33	446031.49	704658.80	N 32 13 30.41	W 103 48 18.64
	9102.00	14.00	148.78	9092.80	2.28	4.96	101.30	6.96	446016.72	704673.15	N 32 13 30.26	W 103 48 18.48
	9196.00	14.68	158.99	9183.69	23.80	15.89	111.46	2.78	445995.87	704683.31	N 32 13 30.05	W 103 48 18.36
	9291.00	14.14	157.26	9275.70	46.31	-37.83	120.26	0.73	445973.93	704892.11	N 32 13 29.84	W 103 48 18.26
	9385.00	12.75	156.35	9367.12	66.97	57.92	128.86	1.50	445953.84	704700.71	N 32 13 29.64	W 103 48 18.16
	9480.00	11.34	153.16	9460.03	85.46	-75.86	137.28	1.64	445935.91	704709.14	N 32 13 29.46	W 103 48 18.06
	9574.00	13.06	146.68	9551.91	103.25	-92.98	147.29	2.34	445918.78	704719.14	N 32 13 29.29	W 103 48 17.95
	9669.00	19.08	153.47	9643.16	126.99	-115.87	160.14	6.63	445895.90	704731.99	N 32 13 29.06	W 103 48 17.80
	9764.00	37.42	146.66	9726.51	166.88	-154.21	183.14	19.57	445857.56	704754.99	N 32 13 28.68	W 103 48 17.53
	9859.00	42.06	144.36	9799.54	219.21	-204.21	217.57	5.12	445807.56	704789.42	N 32 13 28.19	W 103 48 17.14
	9953.00	50.37	150.26	9864.56	278.80	-261.36	253.96	9.93	445750.43	704825.80	N 32 13 27.62	W 103 48 16.72
	10048.00	61.22	157.81	9917.94	351.64	-331.95	287.96	13.16	445679.83	704859.81	N 32 13 26.92	W 103 48 16.32
	10143.00	68.08	167.03	9958.66	435.00	-413.68	313.65	11.35	445598.11	704885.49	N 32 13 26.11	W 103 48 16.03
	10237.00	76.71	171.94	9987.08	523.93	-501.67	329.89	10.44	445510.12	704901.73	N 32 13 25.24	W 103 48 15.85
	10332.00	87.14	173.89	10000.40	617.72	-594.68	341.46	11.16	445418.92	704913.30	N 32 13 24.31	W 103 48 15.72
	10395.00	92.13	173.96	10000.81	680.66	-657.51	348.12	7.92	445354.29	704919.96	N 32 13 23.69	W 103 48 15.64
	10434.00	92.72	173.78	9999.16	719.60	-696.25	352.28	1.58	445315.55	704924.12	N 32 13 23.31	W 103 48 15.60
	10529.00	91.58	177.10	9995.59	814.52	-790.87	359.83	3.69	445220.94	704931.67	N 32 13 22.37	W 103 48 15.51
	10624.00	91.20	178.43	9993.29	909.44	-885.76	363.53	1.46	445126.05	704935.37	N 32 13 21.44	W 103 48 15.46
	10718.00	89.66	180.31	9992.58	1003.26	-978.75	364.56	2.59	445032.07	704936.40	N 32 13 20.51	W 103 48 15.47
	10813.00	90.93	181.30	9992.09	1097.91	-1074.74	363.23	1.70	444937.09	704935.07	N 32 13 19.57	W 103 48 15.49
	10908.00	90.21	179.19	9991.15	1192.62	-1169.72	362.82	2.35	444842.11	704934.66	N 32 13 18.63	W 103 48 15.50
	11097.00	89.24	181.02	9992.05	1381.11	-1358.71	362.48	1.10	444653.13	704934.32	N 32 13 16.76	W 103 48 15.52
	11191.00	89.24	179.70	9993.30	1474.81	-1452.70	361.89	1.40	444559.15	704933.72	N 32 13 15.83	W 103 48 15.53
	11286.00	89.35	180.82	9994.47	1569.53	-1547.69	361.46	1.18	444464.17	704933.29	N 32 13 14.89	W 103 48 15.54
	11381.00	89.21	181.45	9995.66	1664.13	-1642.66	359.57	0.68	444369.20	704931.41	N 32 13 13.95	W 103 48 15.57
	11475.00	89.11	182.57	9997.04	1757.56	-1736.59	356.28	1.20	444275.28	704928.12	N 32 13 13.02	W 103 48 15.61
	11570.00	89.28	181.83	9998.38	1852.00	-1831.51	352.63	0.80	444180.36	704924.47	N 32 13 12.08	W 103 48 15.66
	11665.00	89.00	183.04	9999.80	1946.37	-1926.41	348.60	1.31	444085.47	704920.43	N 32 13 11.14	W 103 48 15.71
	11854.00	89.21	180.02	10002.75	2134.42	-2115.30	343.55	1.60	443896.59	704915.39	N 32 13 9.27	W 103 48 15.78
	11948.00	89.31	179.00	10003.97	2228.22	-2209.29	344.36	1.09	443802.61	704916.19	N 32 13 8.34	W 103 48 15.76
	12137.00	89.28	179.77	10006.29	2416.86	-2398.26	346.38	0.41	443613.65	704918.22	N 32 13 6.47	W 103 48 15.76
	12232.00	90.14	179.90	10006.77	2511.84	-2493.26	346.66	0.92	443518.66	704918.50	N 32 13 5.53	W 103 48 15.76
	12421.00	89.93	179.35	10006.66	2700.24	-2682.26	347.89	0.31	443329.67	704919.73	N 32 13 3.66	W 103 48 15.76
	12516.00	89.72	178.50	10006.95	2795.11	-2777.24	349.68	0.92	443234.70	704921.51	N 32 13 2.72	W 103 48 15.75
	12611.00	89.42	180.39	10007.66	2889.92	-2872.23	350.60	2.01	443139.71	704922.43	N 32 13 1.78	W 103 48 15.74
	12705.00	89.66	180.00	10008.42	2983.85	-2966.22	350.28	0.49	443045.72	704922.11	N 32 13 0.85	W 103 48 15.75
	12800.00	89.31	178.56	10009.27	3078.48	-3061.21	351.47	1.56	442950.74	704923.31	N 32 12 59.91	W 103 48 15.74
	12894.00	89.28	180.18	10010.43	3172.30	-3155.19	352.50	1.72	442856.76	704924.34	N 32 12 58.98	W 103 48 15.73
	12989.00	89.21	180.15	10011.68	3267.03	-3250.18	352.23	0.08	442761.78	704924.07	N 32 12 58.04	W 103 48 15.74
	13084.00	86.97	180.76	10014.85	3361.67	-3345.12	351.48	2.44	442666.85	704923.31	N 32 12 57.10	W 103 48 15.76
	13273.00	89.38	181.51	10020.86	3549.77	-3533.97	347.73	1.34	442478.01	704919.57	N 32 12 55.23	W 103 48 15.81
	13461.00	96.75	181.55	10010.82	3736.47	-3721.51	342.73	3.92	442290.48	704914.56	N 32 12 53.38	W 103 48 15.88
	13536.00	95.44	179.88	10002.64	3812.77	-3796.08	341.77	2.75	442213.93	704913.61	N 32 12 52.62	W 103 48 15.90
	13590.00	95.03	179.02	9997.90	3864.45	-3849.84	342.27	1.83	442162.16	704914.11	N 32 12 52.11	W 103 48 15.89
	13684.00	92.66	177.57	9991.56	3958.15	-3943.58	345.06	2.94	442068.43	704916.90	N 32 12 51.18	W 103 48 15.87
	13778.00	91.82	179.81	9987.89	4051.96	-4037.47	347.21	2.55	441974.54	704919.05	N 32 12 50.25	W 103 48 15.85
	13873.00	91.24	182.59	9985.35	4146.51	-4132.41	345.22	2.99	441879.61	704917.06	N 32 12 49.31	W 103 48 15.88
	13967.00	90.65	182.25	9983.80	4239.89	-4226.31	341.25	0.72	441785.71	704913.09	N 32 12 48.38	W 103 48 15.93
	14062.00	90.52	181.46	9982.83	4334.37	-4321.26	338.17	0.84	441690.77	704910.01	N 32 12 47.44	W 103 48 15.97
	14156.00	90.00	179.63	9982.40	4428.06	-4415.25	337.28	2.02	441596.79	704909.12	N 32 12 46.51	W 103 48 15.98
	14251.00	89.79	180.18	9982.58	4522.83	-4510.25	337.44	0.62	441501.79	704909.28	N 32 12 45.57	W 103 48 15.99
	14345.00	89.66	180.14	9983.03	4616.57	-4604.25	337.18	0.14	441407.80	704909.01	N 32 12 44.64	W 103 48 16.00
	14440.00	89.97	179.83	9983.34	4711.34	-4699.24	337.37	0.63	441312.81	704909.21	N 32 12 43.70	W 103 48 16.00
	14534.00	89.86	177.65	9983.48	4805.23	-4793.21	339.60	2.11	441218.85	704911.44	N 32 12 42.77	W 103 48 15.98
	14629.00	89.86	177.51	9983.71	4900.19	-4888.13	343.81	0.15	441123.94	704915.45	N 32 12 41.83	W 103 48 15.94
	14724.00	89.86	178.11	9983.94	4995.13	-4983.06	347.24	0.63	441029.01	704919.08	N 32 12 40.89	W 103 48 15.90
	14818.00	89.76	178.27	9984.25	5089.06	-5077.01	350.21	0.20	440935.07	704922.05	N 32 12 39.96	W 103 48 15.87
	14913.00	89.79	177.59	9984.62	5184.00	-5171.95	353.84	0.72	440840.13	704925.48	N 32 12 39.02	W 103 48 15.84
	15007.00	89.83	177.86	9984.94	5277.95	-5265.87	357.37	0.29	440746.22	704928.21	N 32 12 38.09	W 103 48 15.80
	15102.00	89.72	177.98	9985.31	5372.89	-5360.81	360.82	0.17	440651.28	704932.66	N 32 12 37.15	W 103 48 15.76
Final MWD Survey	15125.00	90.45	177.64	9985.28	5395.88	-5383.79	361.70	3.50	440628.30	704933.53	N 32 12 36.93	W 103 48 15.76
Proj. to Bit	15165.00	90.45	177.64	9984.96	5435.86	-5423.76	363.34	0.00	440588.34	704935.18	N 32 12 36.53	W 103 48 15.74

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 17 Federal 2H Gyro+MWD 0-10,569'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Patton MDP1 17 Federal 2H Gyro+MWD 0-10,569'
	1	26.500	653.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Patton MDP1 17 Federal 2H Gyro+MWD
	1	653.000	8727.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Patton MDP1 17 Federal 2H Gyro+MWD
	1	8727.000	9574.000	Act Stns	30.000	30.000	NAL_MWD_HDGM+MS	ST02 / Oxy Patton MDP1 17 Federal 2H ST02 Gyro+MWD 0-
	1	9574.000	15165.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	ST02 / Oxy Patton MDP1 17 Federal 2H ST02 Gyro+MWD 0-

Final PvA - ST02 - Rev2

H&P 617 (RKB=26.5')

Schlumberger

OXY

Borehole: ST02

Well: Oxy Patton MDP1 17 Federal 2H

Field: NM Eddy County (NAD 83)

Structure: Oxy Patton MDP1 17 Federal 2H

Gravity & Magnetic Parameters
Model HDGM 2017 Dip 59.981° Date 18-Jan-2018
MagDec 6.931° FS 48964.234nT Gravity FS 998.428mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 13 30.22 Northing: 448911.78fUS Grid Conv: 0.281°
Lon: W 103 48 19.66 Easting: 784671.86fUS Scale Fact: 0.99993961

Miscellaneous
Slot: Oxy Patton MDP1 17 Federal 2H TVD Ref RKB=26.5'@3588.5ft above MSL)
Plan: Oxy Patton MDP1 17 Federal 2H ST02 Rev2 ALS 21Jan18