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

30-015-44273

Well Reference:
18, 24S, 31E, NM
32.22588 -103.80922

I, Kalu Uga certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of October 07, 2017 through October 31, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 795.00 feet to a depth of 15010.00 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 Patton MDP1 18 Federal 7H Well (Original Hole) API No. 30-015-44273 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
Kalu Uga
FE

Subscribed and Sworn to before me this 10th day of November (month) 2017 (yr)

My Commission expires:
12-20-2020

JAllemand
Notary Public
Adams County Colorado
(County State)

(signature)

JENNIFER ALLEMAND
Notary Public
State of Colorado
Notary ID # 20164047962
My Commission Expires 12-20-2020

Schlumberger

Oxy Patton MDP1 18 Federal 7H Gyro+MWD 0-15,048' MD Survey Geodetic Report

(Def Survey)

Report Date:	October 30, 2017 - 04 41 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	181.188 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Patton MDP1 18 Federal 7H / Oxy Patton MDP1 18 Federal 7H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Patton MDP1 18 Federal 7H	**TVD Reference Elevation:**	3550.600 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3524.100 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.954 °
Survey Name:	Oxy Patton MDP1 18 Federal 7H Gyro+MWD 0-15,048' MD	**Total Gravity Field Strength:**	998.4289mgn (9.80665 Based)
Survey Date:	October 25, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	233.059 ° / 5466.486 ft / 6.281 / 0.544	**Total Magnetic Field Strength:**	48080.264 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.988 °
Location Lat / Long:	N 32° 13' 27.05016", W 103° 48' 33.17524"	**Declination Date:**	October 25, 2017
Location Grid N/E Y/X:	N 445686.010 ftUS, E 703412.250 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.2795 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993918	**Grid Convergence Used:**	0.2795 °
Version / Patch:	2 10.565.0	**Total Corr Mag North->Grid North:**	6.6742 °
		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 ° ' ")
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	445686.01	703412.25	N 32 13 27.05	W 103 48 33.18
	77.50	0.27	306.09	77.50	-0.10	0.11	-0.15	0.35	445686.12	703412.10	N 32 13 27.05	W 103 48 33.18
	107.50	0.31	320.59	107.50	-0.21	0.21	-0.26	0.28	445686.22	703411.99	N 32 13 27.05	W 103 48 33.18
	138.50	0.21	318.42	138.50	-0.31	0.32	-0.35	0.32	445686.33	703411.90	N 32 13 27.05	W 103 48 33.18
	168.50	0.18	319.73	168.50	-0.39	0.40	-0.41	0.10	445686.41	703411.84	N 32 13 27.05	W 103 48 33.18
	196.50	0.17	348.00	196.50	-0.46	0.47	-0.45	0.31	445686.48	703411.80	N 32 13 27.05	W 103 48 33.18
	227.50	0.18	17.73	227.50	-0.55	0.56	-0.45	0.29	445686.57	703411.80	N 32 13 27.06	W 103 48 33.18
	259.50	0.21	44.00	259.50	-0.64	0.65	-0.39	0.29	445686.66	703411.86	N 32 13 27.06	W 103 48 33.18
	291.50	0.48	77.00	291.50	-0.72	0.72	-0.22	1.01	445686.73	703412.03	N 32 13 27.06	W 103 48 33.18
	321.50	0.57	77.51	321.50	-0.79	0.78	0.05	0.30	445686.79	703412.30	N 32 13 27.06	W 103 48 33.17
	352.50	0.54	53.79	352.50	-0.91	0.90	0.32	0.74	445686.91	703412.57	N 32 13 27.06	W 103 48 33.17
	383.50	0.48	65.59	383.49	-1.06	1.04	0.55	0.39	445687.05	703412.80	N 32 13 27.06	W 103 48 33.17
	415.50	0.48	71.63	415.49	-1.16	1.14	0.80	0.16	445687.15	703413.05	N 32 13 27.06	W 103 48 33.17
	446.50	0.46	100.68	446.49	-1.18	1.16	1.05	0.76	445687.17	703413.30	N 32 13 27.06	W 103 48 33.16
	477.50	0.59	124.06	477.49	-1.07	1.05	1.30	0.80	445687.06	703413.55	N 32 13 27.06	W 103 48 33.16
	509.50	0.73	128.83	509.49	-0.86	0.83	1.60	0.47	445686.84	703413.85	N 32 13 27.06	W 103 48 33.16
	540.50	0.88	128.71	540.49	-0.59	0.55	1.94	0.48	445686.56	703414.19	N 32 13 27.06	W 103 48 33.15
	571.50	0.80	138.12	571.48	-0.29	0.24	2.27	0.51	445686.25	703414.52	N 32 13 27.05	W 103 48 33.15
	602.50	0.88	142.62	602.48	0.05	-0.11	2.56	0.33	445685.90	703414.81	N 32 13 27.05	W 103 48 33.15
Last Gyro	632.50	0.63	154.60	632.48	0.38	-0.44	2.77	0.98	445685.57	703415.02	N 32 13 27.05	W 103 48 33.14
	795.00	0.62	317.74	794.97	0.54	-0.59	2.56	0.76	445685.42	703414.81	N 32 13 27.04	W 103 48 33.15
	873.00	0.13	185.01	872.97	0.32	-0.37	2.27	0.92	445685.64	703414.52	N 32 13 27.05	W 103 48 33.15
	1060.00	0.00	156.90	1059.97	0.53	-0.58	2.25	0.07	445685.43	703414.50	N 32 13 27.04	W 103 48 33.15
	1220.00	0.18	239.86	1219.97	0.67	-0.71	2.03	0.11	445685.30	703414.28	N 32 13 27.04	W 103 48 33.15
	1409.00	0.08	258.58	1408.97	0.85	-0.88	1.65	0.06	445685.13	703413.90	N 32 13 27.04	W 103 48 33.16
	1504.00	0.08	171.91	1503.97	0.93	-0.96	1.59	0.12	445685.05	703413.84	N 32 13 27.04	W 103 48 33.16
	1647.00	0.08	258.68	1646.97	1.05	-1.08	1.51	0.08	445684.93	703413.76	N 32 13 27.04	W 103 48 33.16
	1745.00	0.06	116.77	1744.97	1.09	-1.12	1.49	0.14	445684.89	703413.74	N 32 13 27.04	W 103 48 33.16
	1840.00	0.06	225.05	1839.97	1.14	-1.17	1.50	0.10	445684.84	703413.74	N 32 13 27.04	W 103 48 33.16
	1935.00	0.08	156.58	1934.97	1.24	-1.27	1.49	0.08	445684.74	703413.74	N 32 13 27.04	W 103 48 33.16
	2029.00	0.08	249.35	2028.97	1.32	-1.35	1.45	0.12	445684.66	703413.70	N 32 13 27.04	W 103 48 33.16
	2124.00	0.06	40.22	2123.97	1.31	-1.34	1.42	0.14	445684.67	703413.67	N 32 13 27.04	W 103 48 33.16
	2312.00	0.06	83.15	2311.97	1.22	-1.25	1.58	0.02	445684.76	703413.83	N 32 13 27.04	W 103 48 33.16
	2407.00	0.06	98.03	2406.97	1.22	-1.25	1.68	0.02	445684.76	703413.93	N 32 13 27.04	W 103 48 33.16
	2595.00	0.13	273.24	2594.97	1.22	-1.25	1.57	0.10	445684.76	703413.82	N 32 13 27.04	W 103 48 33.16
	2690.00	0.11	287.31	2689.97	1.19	-1.22	1.37	0.04	445684.79	703413.62	N 32 13 27.04	W 103 48 33.16
	2879.00	0.08	295.14	2878.97	1.09	-1.11	1.08	0.02	445684.90	703413.33	N 32 13 27.04	W 103 48 33.16
	2973.00	0.13	144.15	2972.97	1.15	-1.17	1.08	0.22	445684.84	703413.33	N 32 13 27.04	W 103 48 33.16
	3067.00	0.13	3.60	3066.97	1.13	-1.15	1.15	0.26	445684.86	703413.40	N 32 13 27.04	W 103 48 33.16
	3162.00	0.08	88.76	3161.97	1.02	-1.04	1.22	0.15	445684.97	703413.47	N 32 13 27.04	W 103 48 33.16
	3256.00	0.16	61.21	3255.97	0.95	-0.98	1.40	0.10	445685.03	703413.65	N 32 13 27.04	W 103 48 33.16
	3350.00	0.06	222.40	3349.97	0.92	-0.95	1.49	0.23	445685.06	703413.74	N 32 13 27.04	W 103 48 33.16
	3445.00	0.16	46.22	3444.97	0.86	-0.89	1.55	0.23	445685.12	703413.80	N 32 13 27.04	W 103 48 33.16
	3539.00	0.23	109.76	3538.97	0.83	-0.87	1.82	0.23	445685.14	703414.07	N 32 13 27.04	W 103 48 33.15
	3634.00	0.08	321.08	3633.97	0.84	-0.88	1.96	0.32	445685.13	703414.21	N 32 13 27.04	W 103 48 33.15
	3728.00	0.08	210.02	3727.97	0.85	-0.89	1.88	0.14	445685.12	703414.13	N 32 13 27.04	W 103 48 33.15
	3823.00	0.06	257.67	3822.97	0.92	-0.95	1.80	0.06	445685.06	703414.05	N 32 13 27.04	W 103 48 33.15
	3917.00	0.06	245.04	3916.97	0.95	-0.99	1.71	0.01	445685.02	703413.96	N 32 13 27.04	W 103 48 33.16
	4012.00	0.13	132.09	4011.97	1.04	-1.08	1.74	0.17	445684.93	703413.99	N 32 13 27.04	W 103 48 33.15
	4106.00	0.56	101.67	4105.97	1.20	-1.24	2.27	0.48	445684.77	703414.52	N 32 13 27.04	W 103 48 33.15
	4201.00	0.45	356.32	4200.96	0.91	-0.96	2.70	0.85	445685.05	703414.95	N 32 13 27.04	W 103 48 33.14
	4252.00	0.40	8.27	4251.96	0.53	-0.59	2.72	0.20	445685.42	703414.97	N 32 13 27.04	W 103 48 33.14
	4450.00	0.06	280.58	4449.96	-0.17	0.11	2.71	0.20	445686.12	703414.96	N 32 13 27.05	W 103 48 33.14
	4481.00	0.08	323.30	4480.96	-0.19	0.13	2.69	0.18	445686.14	703414.94	N 32 13 27.05	W 103 48 33.14
	4670.00	0.06	335.12	4669.96	-0.38	0.33	2.57	0.01	445686.34	703414.81	N 32 13 27.05	W 103 48 33.15
	4859.00	0.06	252.34	4858.96	-0.44	0.39	2.43	0.04	445686.40	703414.68	N 32 13 27.05	W 103 48 33.15
	5048.00	0.06	200.00	5047.96	-0.31	0.27	2.30	0.03	445686.28	703414.55	N 32 13 27.05	W 103 48 33.15
	5143.00	0.13	138.14	5142.96	-0.19	0.14	2.36	0.12	445686.15	703414.61	N 32 13 27.05	W 103 48 33.15
	5332.00	0.08	244.05	5331.96	0.03	-0.08	2.38	0.09	445685.93	703414.63	N 32 13 27.05	W 103 48 33.15
	5426.00	0.13	355.16	5425.96	-0.05	0.00	2.31	0.19	445686.01	703414.56	N 32 13 27.05	W 103 48 33.15
	5521.00	0.00	305.89	5520.96	-0.16	0.11	2.30	0.14	445686.12	703414.55	N 32 13 27.05	W 103 48 33.15
	5615.00	0.13	97.86	5614.96	-0.14	0.09	2.41	0.14	445686.10	703414.66	N 32 13 27.05	W 103 48 33.15
	5710.00	0.08	267.85	5709.96	-0.13	0.08	2.45	0.22	445686.09	703414.70	N 32 13 27.05	W 103 48 33.15
	5804.00	0.11	266.49	5803.96	-0.12	0.07	2.29	0.03	445686.08	703414.54	N 32 13 27.05	W 103 48 33.15
	5898.00	0.21	114.07	5897.96	-0.04	-0.01	2.36	0.33	445686.00	703414.61	N 32 13 27.05	W 103 48 33.15
	6087.00	0.06	283.26	6086.96	0.07	-0.13	2.58	0.14	445685.88	703414.83	N 32 13 27.05	W 103 48 33.15
	6181.00	0.06	162.52	6180.96	0.11	-0.16	2.55	0.11	445685.85	703414.80	N 32 13 27.05	W 103 48 33.15
	6276.00	0.08	109.34	6275.96	0.18	-0.23	2.63	0.07	445685.78	703414.88	N 32 13 27.05	W 103 48 33.14
	6370.00	0.06	137.08	6369.96	0.23	-0.29	2.72	0.04	445685.72	703414.97	N 32 13 27.05	W 103 48 33.14
	6465.00	0.06	29.92	6464.96	0.22	-0.28	2.78	0.10	445685.73	703415.03	N 32 13 27.05	W 103 48 33.14
	6559.00	0.06	270.31	6558.96	0.18	-0.24	2.75	0.11	445685.77	703415.00	N 32 13 27.05	W 103 48 33.14
	6748.00	0.00	309.85	6747.96	0.18	-0.24	2.66	0.03	445685.77	703414.91	N 32 13 27.05	W 103 48 33.14
	6842.00	0.06	270.31	6841.96	0.18	-0.24	2.61	0.06	445685.77	703414.86	N 32 13 27.05	W 103 48 33.14
	6937.00	0.06	132.84	6936.96	0.22	-0.27	2.59	0.12	445685.74	703414.84	N 32 13 27.05	W 103 48 33.15
	7031.00	0.11	346.02	7030.96	0.16	-0.22	2.61	0.17	445685.79	703414.86	N 32 13 27.05	W 103 48 33.14
	7126.00	0.11	85.25	7125.96	0.07	-0.12	2.68	0.18	445685.89	703414.93	N 32 13 27.05	W 103 48 33.14
	7220.00	0.13	77.53	7219.96	0.03	-0.09	2.87	0.03	445685.92	703415.12	N 32 13 27.05	W 103 48 33.14
	7315.00	0.16	79.80	7314.96	-0.02	-0.04	3.11	0.03	445685.97	703415.36	N 32 13 27.05	W 103 48 33.14

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 ° ' ")
	7503.00	0.08	108.24	7502.96	-0.03	-0.04	3.49	0.05	445685.97	703415.74	N 32 13 27.05	W 103 48 33.13
	7598.00	0.08	268.50	7597.96	-0.01	-0.06	3.49	0.17	445685.95	703415.74	N 32 13 27.05	W 103 48 33.13
	7692.00	0.00	260.12	7691.96	-0.01	-0.06	3.42	0.09	445685.95	703415.67	N 32 13 27.05	W 103 48 33.14
	7786.00	2.06	92.29	7785.94	0.03	-0.13	5.11	2.19	445685.88	703417.36	N 32 13 27.05	W 103 48 33.12
	7881.00	2.80	43.51	7880.86	-1.66	1.48	8.41	2.23	445687.49	703420.66	N 32 13 27.06	W 103 48 33.08
	7975.00	2.69	40.59	7974.75	-5.06	4.82	11.43	0.19	445690.83	703423.68	N 32 13 27.10	W 103 48 33.04
	8070.00	4.04	20.37	8069.59	-9.94	9.65	14.04	1.87	445695.66	703426.29	N 32 13 27.15	W 103 48 33.01
	8164.00	4.96	347.36	8163.31	-17.02	16.72	14.31	2.88	445702.73	703426.56	N 32 13 27.21	W 103 48 33.01
	8259.00	6.73	322.28	8257.83	-25.34	25.14	10.00	3.23	445711.15	703422.25	N 32 13 27.30	W 103 48 33.06
	8353.00	6.73	318.48	8351.18	-33.67	33.62	2.98	0.47	445719.63	703415.23	N 32 13 27.38	W 103 48 33.14
	8448.00	6.29	316.90	8445.57	-41.49	41.59	-4.26	0.50	445727.59	703407.99	N 32 13 27.46	W 103 48 33.22
	8542.00	8.25	312.56	8538.81	-49.63	49.91	-12.75	2.16	445735.92	703399.50	N 32 13 27.54	W 103 48 33.32
	8637.00	10.08	314.24	8632.60	-59.81	60.32	-23.73	1.95	445746.33	703388.52	N 32 13 27.65	W 103 48 33.45
	8731.00	9.93	319.37	8725.17	-71.47	72.21	-34.90	0.96	445758.22	703377.35	N 32 13 27.77	W 103 48 33.58
	8825.00	9.71	313.72	8817.79	-82.87	83.84	-45.91	1.05	445769.84	703366.35	N 32 13 27.88	W 103 48 33.70
	8920.00	10.28	305.65	8911.36	-93.08	94.32	-58.59	1.59	445780.32	703353.67	N 32 13 27.99	W 103 48 33.85
	9014.00	11.79	298.68	9003.62	-102.26	103.82	-73.83	2.14	445789.82	703338.43	N 32 13 28.08	W 103 48 34.03
	9109.00	12.29	290.62	9096.54	-110.11	112.04	-91.81	1.84	445798.04	703320.45	N 32 13 28.16	W 103 48 34.24
	9203.00	12.69	274.88	9188.34	-114.10	116.44	-111.46	3.64	445802.44	703300.79	N 32 13 28.21	W 103 48 34.47
	9284.00	12.61	260.44	9267.39	-113.03	115.73	-129.05	3.90	445801.73	703283.21	N 32 13 28.20	W 103 48 34.67
	9380.00	11.40	247.28	9361.31	-107.23	110.32	-148.14	3.11	445796.32	703264.12	N 32 13 28.15	W 103 48 34.89
	9475.00	10.25	230.87	9454.64	-97.95	101.36	-163.36	3.45	445787.36	703248.90	N 32 13 28.06	W 103 48 35.07
	9569.00	12.54	205.45	9546.84	-83.22	86.85	-174.24	5.81	445772.86	703238.02	N 32 13 27.92	W 103 48 35.20
	9664.00	15.00	198.41	9639.11	-62.07	65.87	-182.56	3.13	445751.88	703229.70	N 32 13 27.71	W 103 48 35.30
	9758.00	19.07	176.87	9729.05	-35.10	38.96	-185.57	7.92	445724.97	703226.69	N 32 13 27.44	W 103 48 35.33
	9853.00	23.05	173.47	9817.69	-1.18	4.97	-182.60	4.38	445690.98	703229.66	N 32 13 27.11	W 103 48 35.30
	9947.00	36.99	176.91	9898.89	45.48	-41.78	-178.97	14.94	445644.23	703233.29	N 32 13 26.65	W 103 48 35.26
	10042.00	53.34	177.73	9965.64	112.48	-108.85	-175.90	17.22	445577.16	703236.36	N 32 13 25.98	W 103 48 35.23
	10136.00	69.02	170.36	10010.86	193.81	-190.38	-166.99	18.02	445495.64	703245.27	N 32 13 25.17	W 103 48 35.13
	10231.00	83.66	169.97	10033.24	284.17	-281.09	-151.26	15.42	445404.94	703261.00	N 32 13 24.28	W 103 48 34.95
	10325.00	87.83	168.34	10040.21	375.82	-373.13	-133.62	4.76	445312.90	703278.64	N 32 13 23.36	W 103 48 34.75
	10376.00	87.94	168.27	10042.09	425.51	-423.04	-123.29	0.26	445262.99	703288.97	N 32 13 22.87	W 103 48 34.63
	10471.00	89.11	171.34	10044.54	518.59	-516.50	-106.48	3.46	445169.54	703305.77	N 32 13 21.94	W 103 48 34.44
	10565.00	89.76	173.40	10045.46	611.47	-609.66	-94.00	2.30	445076.39	703318.25	N 32 13 21.02	W 103 48 34.30
	10660.00	90.03	176.33	10045.64	705.89	-704.26	-85.50	3.10	444981.79	703326.75	N 32 13 20.09	W 103 48 34.21
	10754.00	90.34	181.87	10045.33	799.79	-798.22	-84.02	5.90	444887.84	703328.23	N 32 13 19.16	W 103 48 34.20
	10848.00	90.76	185.88	10044.43	893.66	-891.98	-90.38	4.29	444794.09	703321.88	N 32 13 18.23	W 103 48 34.28
	10943.00	90.41	187.52	10043.46	988.21	-986.32	-101.46	1.77	444699.75	703310.80	N 32 13 17.30	W 103 48 34.41
	11132.00	90.65	185.26	10041.71	1176.41	-1174.13	-122.49	1.20	444511.96	703289.77	N 32 13 15.44	W 103 48 34.67
	11226.00	90.55	181.01	10040.73	1270.33	-1267.96	-127.63	4.52	444418.13	703284.63	N 32 13 14.51	W 103 48 34.73
	11415.00	90.55	181.47	10038.91	1459.32	-1456.90	-131.72	0.24	444229.20	703280.54	N 32 13 12.64	W 103 48 34.79
	11509.00	90.52	181.07	10038.04	1553.32	-1550.88	-133.80	0.43	444135.23	703278.45	N 32 13 11.71	W 103 48 34.82
	11604.00	90.38	181.47	10037.29	1648.31	-1645.85	-135.91	0.45	444040.26	703276.35	N 32 13 10.77	W 103 48 34.85
	11698.00	90.69	182.02	10036.41	1742.31	-1739.80	-138.77	0.67	443946.32	703273.49	N 32 13 9.84	W 103 48 34.89
	11792.00	90.55	180.32	10035.40	1836.30	-1833.77	-140.69	1.81	443852.35	703271.57	N 32 13 8.91	W 103 48 34.92
	11887.00	90.41	179.91	10034.60	1931.28	-1928.77	-140.88	0.46	443757.36	703271.38	N 32 13 7.97	W 103 48 34.92
	12076.00	90.72	180.00	10032.74	2120.22	-2117.76	-140.73	0.17	443568.38	703271.53	N 32 13 6.10	W 103 48 34.93
	12170.00	90.62	177.87	10031.64	2214.14	-2211.73	-138.99	2.27	443474.42	703273.27	N 32 13 5.17	W 103 48 34.92
	12265.00	90.41	175.64	10030.78	2308.84	-2306.57	-133.61	2.36	443379.58	703278.65	N 32 13 4.23	W 103 48 34.86
	12359.00	90.72	173.16	10029.86	2402.17	-2400.11	-124.44	2.66	443286.05	703287.82	N 32 13 3.31	W 103 48 34.76
	12548.00	89.62	173.37	10029.29	2589.37	-2587.80	-102.27	0.59	443098.37	703309.98	N 32 13 1.45	W 103 48 34.51
	12642.00	90.17	174.19	10029.47	2682.58	-2681.25	-92.09	1.05	443004.93	703320.17	N 32 13 0.52	W 103 48 34.40
	12737.00	90.07	177.19	10029.27	2777.13	-2775.97	-84.95	3.16	442910.22	703327.31	N 32 12 59.59	W 103 48 34.32
	12831.00	89.69	182.34	10029.47	2871.07	-2869.93	-84.56	5.49	442816.26	703327.69	N 32 12 58.66	W 103 48 34.32
	12926.00	89.55	187.18	10030.10	2965.86	-2964.58	-92.44	5.10	442721.62	703319.81	N 32 12 57.72	W 103 48 34.42
	13020.00	90.07	188.92	10030.41	3059.18	-3057.65	-105.61	1.93	442628.56	703306.65	N 32 12 56.80	W 103 48 34.58
	13114.00	90.07	185.25	10030.29	3152.66	-3150.91	-117.20	3.90	442535.30	703295.06	N 32 12 55.88	W 103 48 34.72
	13209.00	89.83	183.53	10030.38	3247.51	-3245.63	-124.47	1.83	442440.58	703287.79	N 32 12 54.94	W 103 48 34.81
	13303.00	89.97	183.64	10030.54	3341.43	-3339.45	-130.35	0.19	442346.77	703281.91	N 32 12 54.01	W 103 48 34.88
	13398.00	90.10	182.16	10030.48	3436.39	-3434.32	-135.15	1.56	442251.90	703277.10	N 32 12 53.07	W 103 48 34.94
	13492.00	90.00	180.03	10030.40	3530.38	-3528.30	-136.95	2.27	442157.93	703275.31	N 32 12 52.14	W 103 48 34.97
	13586.00	89.90	176.85	10030.48	3624.26	-3622.25	-134.39	3.38	442063.99	703277.87	N 32 12 51.21	W 103 48 34.95
	13681.00	90.10	175.27	10030.48	3718.88	-3717.02	-127.86	1.68	441969.22	703284.39	N 32 12 50.28	W 103 48 34.87
	13775.00	90.03	174.15	10030.37	3812.27	-3810.62	-119.20	1.19	441875.63	703293.06	N 32 12 49.35	W 103 48 34.78
	13869.00	90.65	175.13	10029.82	3905.66	-3904.21	-110.42	1.23	441782.05	703301.84	N 32 12 48.42	W 103 48 34.68
	13964.00	90.55	176.44	10028.82	4000.23	-3998.94	-103.44	1.38	441687.32	703308.82	N 32 12 47.49	W 103 48 34.61
	14058.00	90.55	180.55	10027.92	4094.10	-4092.89	-100.97	4.37	441593.38	703311.29	N 32 12 46.56	W 103 48 34.58
	14153.00	90.52	185.37	10027.03	4189.02	-4187.73	-105.87	5.07	441498.55	703306.38	N 32 12 45.62	W 103 48 34.65
	14247.00	90.69	185.55	10026.04	4282.76	-4281.30	-114.82	0.26	441404.98	703297.44	N 32 12 44.69	W 103 48 34.75
	14342.00	90.69	183.92	10024.90	4377.56	-4375.96	-122.66	1.72	441310.32	703289.60	N 32 12 43.76	W 103 48 34.85
	14436.00	90.45	183.95	10023.96	4471.45	-4469.74	-129.11	0.26	441216.56	703283.15	N 32 12 42.83	W 103 48 34.93
	14531.00	90.55	184.30	10023.13	4566.32	-4564.49	-135.94	0.38	441121.81	703276.32	N 32 12 41.89	W 103 48 35.02
	14625.00	90.65	183.70	10022.15	4660.20	-4658.25	-142.50	0.65	441028.05	703269.76	N 32 12 40.96	W 103 48 35.10
	14720.00	90.21	181.72	10021.43	4755.16	-4753.14	-146.99	2.13	440933.17	703265.27	N 32 12 40.02	W 103 48 35.16
	14814.00	90.72	179.22	10020.67	4849.14	-4847.12	-147.76	2.71	440839.19	703264.50	N 32 12 39.09	W 103 48 35.17
	14908.00	90.76	174.51	10019.46	4942.84	-4940.95	-142.62	5.01	440745.37	703269.64	N 32 12 38.17	W 103 48 35.12
Last Survey	15018.00	90.62	171.29	10018.13	5051.67	-5050.08	-129.03	2.93	440636.24	703283.23	N 32 12 37.09	W 103 48 34.96
Proj. to TD	15048.00	90.62	171.29	10017.81	5081.22	-5079.73	-124.48	0.00	440606.59	703287.77	N 32 12 36.79	W 103 48 34.91

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 7H Gyro+MWD 0-15,048' MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Patton MDP1 18 Federal 7H Gyro+MWD 0-15,048' MD
	1	26.500	632.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Patton MDP1 18 Federal 7H Gyro+MWD
	1	632.500	15048.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Patton MDP1 18 Federal 7H Gyro+MWD

Schlumberger

OXY

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Patton MDP1 18 Federal 7H	NM Eddy County (NAD 83)	Oxy Patton MDP1 18 Federal 7H

Gravity & Magnetic Parameters

Model:	HDGM 2017	Dip:	59.989°	Date:	25-Oct-2017
MagDec:	6.954°	FS:	48080.264nT	Gravity FS:	998.429mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet

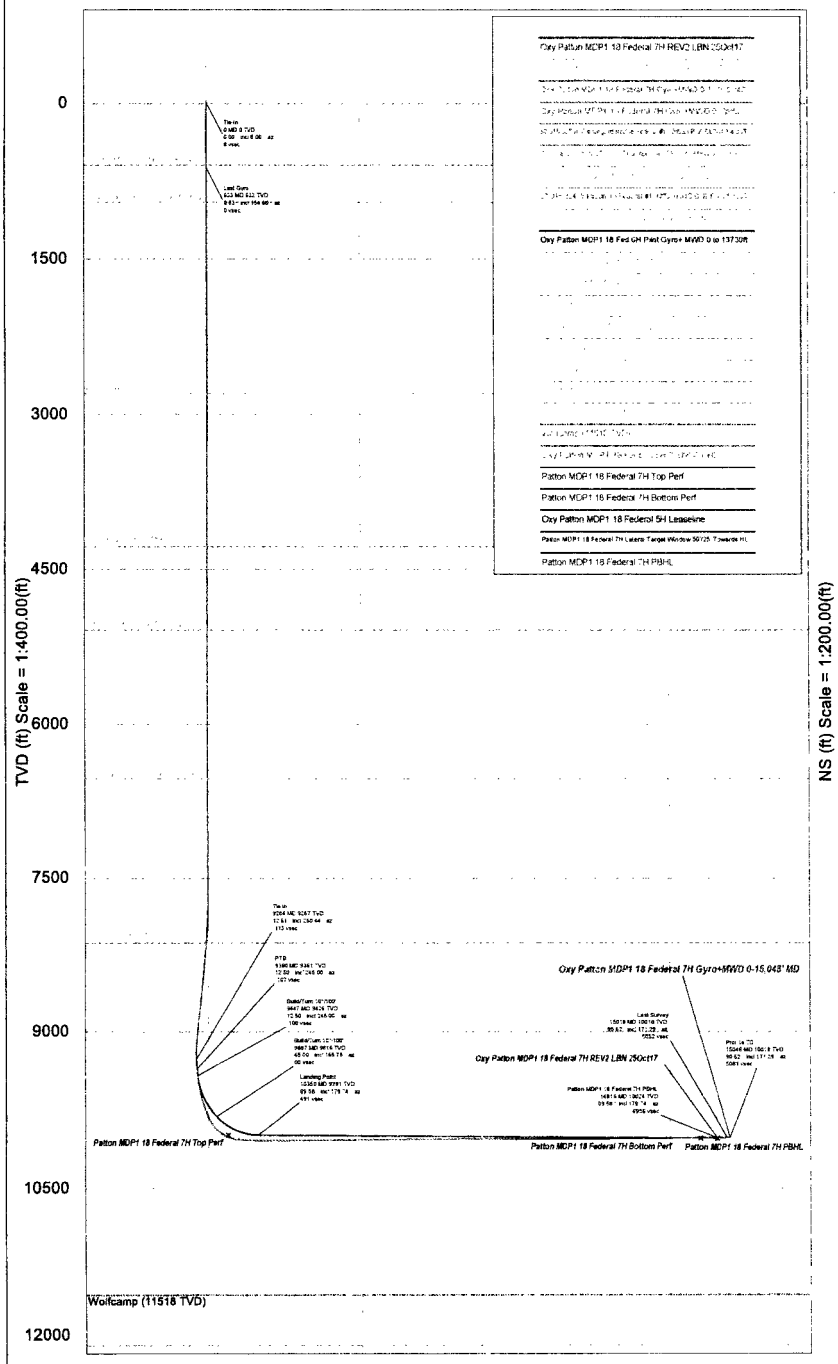
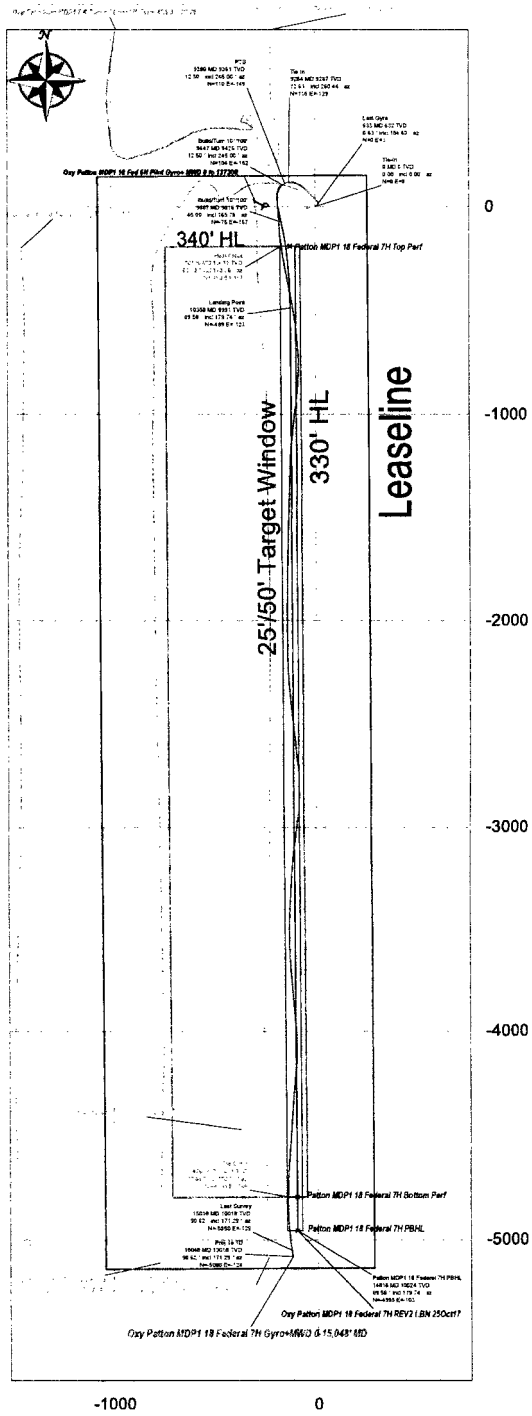
Lat:	N 32 13 27.05	Northing:	445686.01ftUS	Grid Conv:	0.2795°
Lon:	W 103 48 33.18	Easting:	703412.25ftUS	Scale Fact:	0.99993918

Miscellaneous

Slot:	Oxy Patton MDP1 18 Federal 7H	TVD Ref:	RKB=26.5'(3550.6ft above MSL)
Plan:	Oxy Patton MDP1 18 Federal 7H REV2 LBN 25Oct17		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Rustler	602.02	0.88	142.56	602.00	0.05	-0.10	2.55	0.33
Salado	959.03	0.07	185.01	959.00	0.47	-0.52	2.26	0.07
Castile Anhydrite	2801.03	0.09	291.29	2801.00	1.13	-1.16	1.19	0.02
Lamar/Delaware	4281.04	0.34	6.83	4281.00	0.35	0.40	2.74	0.20
Bell Canyon	5094.04	0.08	157.89	5094.00	-0.26	0.21	2.31	0.12
Brushy Canyon	6530.04	0.04	296.70	6530.00	0.19	0.24	2.78	0.11
Bone Spring	8139.60	4.59	354.52	8139.00	-15.02	14.72	14.65	2.88
Tie In	9264.00	12.51	250.44	9257.39	-113.23	115.93	-129.14	
PTB	9580.00	12.50	245.00	9561.12	-106.69	109.80	-148.89	3.49
Build/Turn 10 /100'	9446.52	12.50	245.00	9426.07	-100.34	103.71	-161.94	0.00
Build/Turn 10 /100'	9886.89	45.00	165.75	9816.12	79.72	-76.28	-167.06	10.00
Heel Cross	10034.89	59.11	171.46	9906.95	193.59	-190.63	-144.55	10.00
Landing Point	10349.52	89.58	179.74	9991.00	491.23	-488.77	-123.33	10.00
Toe Cross	14655.86	89.58	179.74	10022.82	4796.26	-4795.15	103.39	0.00
Patton MDP1 18 Federal 7H PBHL	14816.08	89.58	179.74	10024.00	4956.23	-4955.16	-102.74	0.00
Wolfcamp	NaN			11518.00				

Grid
True | Mag

Grid North
Tot Corr (M->G 6.674°)
Mag Dec (6.954°)
Grid Conv (0.279°)