

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

NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 04 2017

October 23, 2017

OXY USA INC.

RECEIVED

30-015-44318

Re:

CLIENT: OXY USA INC.
WELL: Patton MDP1 18 Federal 73H
FIELD: Cotton Draw; Bone Spring

32.22367 -103.81525

RIG: H&P 639
COUNTY: Eddy
API NO: 30-015-44318
JOB NO: 17MLD1936

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Rasheed Atanda FE	Patton MDP1 18 Federal 73H Original Hole	10515.00 Ft to 15751.00 Ft	October 10, 2017 to October 17, 2017	SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Cody Nelms
Field Service Manager

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

Well Reference:

32.22367 -103.81525

I, Rasheed Atanda certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of October 10, 2017 through October 17, 2017, conduct or supervise the taking of the SlimPulse surveys from a depth of 10515.00 feet to a depth of 15751.00 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 73H Well (Original Hole) API No. 30-015-44318 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

Rasheed Atanda

FE

R. Atanda

Subscribed and Sworn to before me this 23 day of October (month) 2017 (yr)

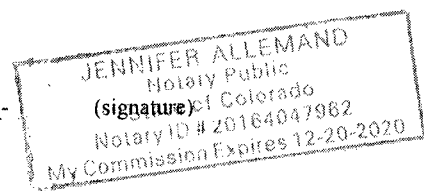
My Commission expires:

12-20-2020

J. Allemand

Notary Public

Adams County Colorado
(County State)



Oxy Patton MDP1 18 Federal 73H Gyro+MWD 0-15,810' Survey Geodetic Report

(Def Survey)



Report Date: October 18, 2017 - 09:34 AM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Patton MDP1 18 Federal 73H / Oxy Patton MDP1 18 Federal 73H
Well: Oxy Patton MDP1 18 Federal 73H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Oxy Patton MDP1 18 Federal 73H Gyro+MWD 0-15,810'
Survey Date: October 05, 2017
Tort / AHD / DDI / ERD Ratio: 233.394' / 5413.472 ft / 6.252 / 0.484
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 13' 25.21754", W 103° 48' 54.56233"
Location Grid N/E Y/X: N 445491.910 NUS, E 701576.010 NUS
CRS Grid Convergence Angle: 0.2763 °
Grid Scale Factor: 0.9999385
Version / Patch: 2.10.565.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 181.771 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=26.5'
TVD Reference Elevation: 3559.800 ft above MSL
Seabed / Ground Elevation: 3533.800 ft above MSL
Magnetic Declination: 6.963 °
Total Gravity Field Strength: 998.4277mgn (9.80665 Based)
Gravity Model: GARIM
Total Magnetic Field Strength: 48086.082 nT
Magnetic Dip Angle: 59.991 °
Declination Date: October 05, 2017
Magnetic Declination Model: HDGM 2017
North Reference: Grid North
Grid Convergence Used: 0.2763 °
Total Corr Mag North->Grid North: 6.6865 °
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	445491.91	701576.01	N 32 13 25.22	W 103 48 54.56
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	445491.91	701576.01	N 32 13 25.22	W 103 48 54.56
	162.00	0.83	232.82	162.00	0.62	-0.59	-0.78	0.61	445491.32	701575.23	N 32 13 25.21	W 103 48 54.57
	593.00	0.61	83.45	592.98	2.25	-2.22	-0.99	0.32	445489.69	701575.02	N 32 13 25.20	W 103 48 54.57
	725.00	0.91	244.85	724.98	2.62	-2.58	-1.24	1.14	445489.33	701574.77	N 32 13 25.19	W 103 48 54.58
	848.00	0.93	254.99	847.96	3.35	-3.26	-3.09	0.13	445488.65	701572.92	N 32 13 25.19	W 103 48 54.60
	909.00	0.83	253.30	908.95	3.63	-3.51	-3.99	0.17	445488.40	701572.02	N 32 13 25.18	W 103 48 54.61
	1059.00	1.12	240.55	1058.93	4.74	-4.55	-6.31	0.24	445487.37	701569.70	N 32 13 25.17	W 103 48 54.64
	1240.00	1.16	247.04	1239.90	6.42	-6.13	-9.53	0.07	445485.78	701566.48	N 32 13 25.16	W 103 48 54.67
	1330.00	1.18	252.62	1329.88	7.11	-6.76	-11.26	0.13	445485.15	701564.75	N 32 13 25.15	W 103 48 54.69
	1419.00	0.13	277.54	1418.87	7.40	-7.02	-12.23	1.19	445484.89	701563.78	N 32 13 25.15	W 103 48 54.71
	1510.00	0.68	94.97	1509.87	7.42	-7.06	-11.80	0.89	445484.86	701564.21	N 32 13 25.15	W 103 48 54.70
	1600.00	1.76	98.01	1599.85	7.60	-7.29	-9.90	1.20	445484.62	701566.11	N 32 13 25.15	W 103 48 54.68
	1690.00	1.36	88.49	1689.81	7.69	-7.46	-7.46	0.53	445484.45	701568.55	N 32 13 25.14	W 103 48 54.65
	1781.00	1.24	75.57	1780.79	7.35	-7.18	-5.43	0.35	445484.73	701570.58	N 32 13 25.15	W 103 48 54.63
	1872.00	1.43	95.16	1871.77	7.14	-7.04	-3.34	0.54	445484.87	701572.67	N 32 13 25.15	W 103 48 54.60
	1966.00	1.32	93.62	1965.74	7.25	-7.22	-1.09	0.12	445484.69	701574.92	N 32 13 25.15	W 103 48 54.58
	2156.00	1.19	100.99	2155.69	7.63	-7.73	3.03	0.11	445484.18	701579.04	N 32 13 25.14	W 103 48 54.53
	2250.00	1.23	103.13	2249.67	7.99	-8.15	4.97	0.06	445483.77	701580.98	N 32 13 25.14	W 103 48 54.50
	2345.00	0.76	113.74	2344.66	8.42	-8.63	6.54	0.53	445483.28	701582.55	N 32 13 25.13	W 103 48 54.49
	2440.00	0.56	121.52	2439.65	8.89	-9.13	7.51	0.23	445482.78	701583.52	N 32 13 25.13	W 103 48 54.48
	2534.00	0.34	81.20	2533.65	9.07	-9.32	8.18	0.40	445482.59	701584.19	N 32 13 25.12	W 103 48 54.47
	2629.00	0.28	36.69	2628.65	8.82	-9.09	8.59	0.25	445482.82	701584.60	N 32 13 25.13	W 103 48 54.46
	2724.00	0.67	35.64	2723.64	8.17	-8.46	9.06	0.41	445483.45	701585.07	N 32 13 25.13	W 103 48 54.46
	2818.00	0.63	18.57	2817.64	7.22	-7.52	9.54	0.21	445484.39	701585.55	N 32 13 25.14	W 103 48 54.45
	2913.00	0.73	5.58	2912.63	6.12	-6.42	9.77	0.19	445485.49	701585.78	N 32 13 25.15	W 103 48 54.45
	3008.00	1.13	341.66	3007.62	4.64	-4.93	9.53	0.58	445486.98	701585.54	N 32 13 25.17	W 103 48 54.45
	3102.00	1.98	351.90	3101.58	2.16	-2.44	9.01	0.95	445489.47	701585.02	N 32 13 25.19	W 103 48 54.46
	3181.00	1.98	351.90	3180.54	-0.52	0.26	8.63	0.00	445492.17	701584.64	N 32 13 25.22	W 103 48 54.46
	3197.00	1.86	351.92	3196.53	-1.05	0.79	8.55	0.75	445492.70	701584.56	N 32 13 25.22	W 103 48 54.46
	3292.00	1.48	352.40	3291.49	-3.78	3.53	8.17	0.40	445495.44	701584.18	N 32 13 25.25	W 103 48 54.47
	3386.00	1.34	326.32	3385.46	-5.87	5.65	7.40	0.69	445497.56	701583.41	N 32 13 25.27	W 103 48 54.48
	3481.00	1.64	297.96	3480.43	-7.38	7.21	5.58	0.83	445499.12	701581.59	N 32 13 25.29	W 103 48 54.50
	3576.00	1.10	78.60	3575.42	-8.19	8.03	5.28	2.72	445499.94	701581.29	N 32 13 25.30	W 103 48 54.50
	3671.00	3.65	114.62	3670.33	-7.22	6.95	8.92	2.98	445498.86	701584.93	N 32 13 25.29	W 103 48 54.46
	3860.00	4.19	120.65	3858.89	-1.55	0.92	20.33	0.36	445492.83	701596.34	N 32 13 25.23	W 103 48 54.33
	3955.00	4.97	129.65	3953.59	2.66	-3.48	26.48	1.13	445488.43	701602.48	N 32 13 25.18	W 103 48 54.25
	4050.00	6.21	144.17	4048.14	9.27	-10.29	32.64	1.96	445481.62	701608.65	N 32 13 25.11	W 103 48 54.18
First Gyro	4122.07	6.37	141.75	4119.77	15.42	-16.59	37.40	0.43	445475.32	701613.41	N 32 13 25.05	W 103 48 54.13
	4216.81	5.38	154.42	4214.02	23.39	-24.72	42.57	1.72	445467.19	701618.58	N 32 13 24.97	W 103 48 54.07
	4311.53	4.11	155.52	4308.41	30.38	-31.82	45.90	1.34	445460.10	701621.90	N 32 13 24.90	W 103 48 54.03
	4406.21	3.86	157.93	4402.86	36.34	-37.86	48.50	0.32	445454.06	701624.51	N 32 13 24.84	W 103 48 54.00
	4501.00	2.81	148.03	4497.49	41.19	-42.79	50.93	1.26	445449.13	701626.94	N 32 13 24.79	W 103 48 53.97
	4595.73	2.04	151.53	4592.14	44.58	-46.24	52.96	0.83	445445.68	701628.97	N 32 13 24.76	W 103 48 53.95
	4690.36	1.26	157.81	4686.73	46.98	-48.68	54.16	0.84	445443.23	701630.16	N 32 13 24.73	W 103 48 53.93
	4784.83	0.20	144.58	4781.19	48.07	-49.78	54.65	1.13	445442.14	701630.65	N 32 13 24.72	W 103 48 53.93
	4879.54	0.13	27.28	4875.90	48.10	-49.82	54.79	0.30	445442.10	701630.80	N 32 13 24.72	W 103 48 53.93
	4974.35	0.06	291.47	4970.71	47.99	-49.70	54.79	0.16	445442.21	701630.80	N 32 13 24.72	W 103 48 53.93
	5068.98	0.05	358.39	5065.34	47.93	-49.64	54.75	0.06	445442.27	701630.75	N 32 13 24.72	W 103 48 53.93
	5163.75	0.07	338.23	5160.11	47.83	-49.55	54.72	0.03	445442.36	701630.73	N 32 13 24.72	W 103 48 53.93
	5258.47	0.09	316.32	5254.83	47.73	-49.44	54.65	0.04	445442.47	701630.66	N 32 13 24.73	W 103 48 53.93
	5353.12	0.08	111.90	5349.48	47.61	-49.32	54.61	0.08	445442.59	701630.62	N 32 13 24.73	W 103 48 53.93
	5447.75	0.05	329.95	5444.11	47.51	-49.22	54.61	0.06	445442.69	701630.61	N 32 13 24.73	W 103 48 53.93
	5542.57	0.08	299.55	5538.93	47.45	-49.15	54.53	0.05	445442.76	701630.53	N 32 13 24.73	W 103 48 53.93
	5637.28	0.12	330.64	5633.84	47.33	-49.03	54.42	0.07	445442.88	701630.43	N 32 13 24.73	W 103 48 53.93
	5731.96	0.07	48.25	5728.32	47.20	-48.91	54.42	0.13	445443.00	701630.42	N 32 13 24.73	W 103 48 53.93
	5826.68	0.07	52.06	5823.04	47.13	-48.84	54.51	0.00	445443.08	701630.51	N 32 13 24.73	W 103 48 53.93
	5921.40	0.09	5.52	5917.76	47.02	-48.73	54.58	0.07	445443.19	701630.56	N 32 13 24.73	W 103 48 53.93
	6016.13	0.11	1.55	6012.49	46.85	-48.56	54.57	0.02	445443.35	701630.57	N 32 13 24.73	W 103 48 53.93
	6110.82	0.04	301.15	6107.18	46.74	-48.45	54.54	0.10	445443.46	701630.55	N 32 13 24.74	W 103 48 53.93
	6205.55	0.06	46.89	6201.91	46.69	-48.40	54.55	0.09	445443.51	701630.56	N 32 13 24.74	W 103 48 53.93
	6300.26	0.11	24.87	6296.62	46.57	-48.29	54.62	0.06	445443.63	701630.63	N 32 13 24.74	W 103 48 53.93
	6395.04	0.08	316.31	6391.40	46.44	-48.16	54.62	0.12	445443.76	701630.62	N 32 13 24.74	W 103 48 53.93
	6489.75	0.07	68.42	6486.11	46.38	-48.09	54.62	0.13	445443.83	701630.63	N 32 13 24.74	W 103 48 53.93
	6584.57	0.05	44.87	6580.93	46.32	-48.04	54.71	0.03	445443.88	701630.71	N 32 13 24.74	W 103 48 53.93
	6679.34	0.04	220.28	6675.70	46.32	-48.03	54.72	0.09	445443.88	701630.72	N 32 13 24.74	W 103 48 53.93
	6774.09	0.02	138.89	6770.45	46.36	-48.07	54.71	0.04	445443.84	701630.71	N 32 13 24.74	W 103 48 53.93
	6868.83	0.08	338.86	6865.19	46.31	-48.02	54.69	0.10	445443.89	701630.70	N 32 13 24.74	W 103 48 53.93
	6963.46	0.01	257.28	6959.82	46.25	-47.96	54.66	0.08	445443.95	701630.67	N 32 13 24.74	W 103 48 53.93
	7058.18	0.03	73.43	7054.54	46.24	-47.95	54.68	0.04	445443.96	701630.68	N 32 13 24.74	W 103 48 53.93
	7152.90	0.04	339.90	7149.26	46.20	-47.92	54.69	0.05	445444.00	701630.69	N 32 13 24.74	W 103 48 53.93
	7247.63	0.06	19.66	7243.99	46.13	-47.84	54.69	0.04	445444.07	701630.70	N 32 13 24.74	W 103 48 53.93
	7342.45	0.02	304.63	7338.81	46.07	-47.78	54.70	0.06	445444.13	701630.70	N 32 13 24.74	W 103 48 53.93
	7437.21	0.04	238.76	7433.57	46.08	-47.79	54.65	0.04	445444.12	701630.66	N 32 13 24.74	W 103 48 53.93
	7531.94	0.89	341.78	7528.29	45.41	-47.11	53.40	0.95	445445			

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7910.91	4.51	342.00	7906.68	26.72	-26.25	48.91	0.42	445463.66	701624.92	N 32 13 24.94 W	103 48 53.99
	8005.69	5.05	344.34	8001.13	19.24	-20.69	46.64	0.61	445471.22	701622.64	N 32 13 25.01 W	103 48 54.02
	8100.40	5.76	339.96	8095.42	10.85	-12.21	43.88	0.87	445479.70	701619.89	N 32 13 25.09 W	103 48 54.05
	8195.17	6.17	325.10	8189.68	2.35	-3.56	39.34	1.68	445488.35	701615.35	N 32 13 25.18 W	103 48 54.10
	8269.89	6.05	317.53	8283.86	-5.31	4.29	33.05	0.86	445496.20	701609.06	N 32 13 25.26 W	103 48 54.18
	8384.64	6.32	314.66	8378.06	-12.44	11.64	25.97	0.43	445503.55	701601.98	N 32 13 25.33 W	103 48 54.26
	8479.33	6.32	320.61	8472.18	-19.91	19.33	18.96	0.69	445511.24	701594.97	N 32 13 25.41 W	103 48 54.34
	8574.04	6.05	312.03	8566.34	-27.06	26.70	11.94	1.02	445518.61	701587.95	N 32 13 25.48 W	103 48 54.42
	8668.77	6.76	307.14	8660.48	-33.51	33.41	3.79	0.94	445525.32	701579.80	N 32 13 25.55 W	103 48 54.52
	8763.49	6.47	310.54	8754.57	-40.08	40.25	-4.71	0.51	445532.16	701571.30	N 32 13 25.62 W	103 48 54.61
	8858.10	7.02	312.46	8848.52	-47.19	47.62	-13.02	0.63	445539.52	701562.99	N 32 13 25.69 W	103 48 54.71
	8952.71	6.33	315.04	8942.49	-54.53	55.21	-20.98	0.80	445547.12	701555.04	N 32 13 25.76 W	103 48 54.80
	9047.23	9.27	327.77	9036.13	-64.42	65.34	-28.72	3.59	445557.25	701547.29	N 32 13 25.87 W	103 48 54.89
	9141.83	9.63	329.44	9129.45	-77.42	78.60	-36.81	0.48	445570.50	701539.21	N 32 13 26.00 W	103 48 54.99
	9236.39	11.85	329.35	9222.35	-92.30	93.76	-45.78	2.35	445585.67	701530.23	N 32 13 26.15 W	103 48 55.09
	9331.09	12.97	327.27	9314.83	-109.27	111.07	-56.48	1.27	445602.97	701519.53	N 32 13 26.32 W	103 48 55.21
	9425.70	13.57	323.07	9406.92	-126.68	128.87	-68.89	1.20	445620.78	701507.12	N 32 13 26.50 W	103 48 55.36
	9520.27	13.59	322.68	9498.85	-143.96	146.58	-82.29	0.10	445638.48	701493.72	N 32 13 26.67 W	103 48 55.51
	9614.90	12.75	323.90	9590.99	-160.84	163.86	-95.19	0.93	445655.76	701480.83	N 32 13 26.84 W	103 48 55.66
	9709.57	13.01	327.94	9683.28	-177.94	181.33	-107.00	0.99	445673.23	701469.02	N 32 13 27.02 W	103 48 55.80
	9804.25	7.34	321.54	9776.43	-191.42	195.11	-116.43	6.10	445687.01	701459.59	N 32 13 27.15 W	103 48 55.91
	9898.85	3.41	261.90	9870.62	-196.53	200.42	-122.94	5.49	445692.32	701453.08	N 32 13 27.21 W	103 48 55.98
	9993.26	4.75	223.42	9964.83	-194.10	198.16	-128.38	4.40	445699.06	701447.64	N 32 13 27.18 W	103 48 56.05
	10087.73	6.42	206.58	10058.85	-186.46	190.68	-133.59	2.32	445692.58	701442.42	N 32 13 27.11 W	103 48 56.11
	10182.48	6.97	187.51	10152.97	-176.01	180.33	-136.88	2.64	445672.23	701439.14	N 32 13 27.01 W	103 48 56.15
	10277.20	7.35	175.88	10246.96	-164.27	168.59	-137.20	1.58	445660.49	701438.82	N 32 13 26.89 W	103 48 56.15
Last Gyro	10371.90	6.52	173.45	10340.96	-152.92	157.20	-136.15	0.93	445649.10	701439.87	N 32 13 26.78 W	103 48 56.14
	10466.66	6.27	172.73	10435.13	-142.49	146.73	-134.88	0.28	445638.63	701441.14	N 32 13 26.68 W	103 48 56.12
	10515.00	6.67	161.45	10483.17	-137.25	141.45	-133.65	2.75	445633.35	701442.37	N 32 13 26.62 W	103 48 56.11
	10610.00	6.03	161.43	10577.58	-127.40	131.49	-130.31	0.67	445623.39	701445.71	N 32 13 26.52 W	103 48 56.07
	10704.00	12.35	179.15	10670.35	-112.71	116.74	-128.58	7.29	445608.64	701447.43	N 32 13 26.38 W	103 48 56.05
	10799.00	22.11	185.09	10760.98	-84.64	88.70	-130.02	10.43	445580.61	701446.00	N 32 13 26.10 W	103 48 56.07
	10893.00	26.60	182.89	10846.60	-45.92	50.04	-132.65	4.87	445541.95	701443.36	N 32 13 25.72 W	103 48 56.10
	11007.00	34.10	184.36	10944.90	11.61	-7.39	-136.38	6.61	445484.52	701439.64	N 32 13 25.15 W	103 48 56.15
	11101.00	49.39	185.45	11014.83	73.91	-69.56	-141.80	16.28	445422.36	701434.22	N 32 13 24.54 W	103 48 56.22
	11196.00	66.51	178.91	11065.10	154.06	-149.67	-144.42	18.93	445342.25	701431.60	N 32 13 23.74 W	103 48 56.25
	11290.00	78.54	179.21	11093.27	243.46	-239.15	-142.96	12.80	445252.77	701433.06	N 32 13 22.86 W	103 48 56.24
	11384.00	88.80	178.53	11103.62	336.64	-332.44	-141.11	10.94	445159.49	701434.91	N 32 13 21.93 W	103 48 56.22
	11432.00	90.07	179.08	11104.09	384.57	-380.42	-140.11	2.88	445111.51	701435.91	N 32 13 21.46 W	103 48 56.21
	11498.00	88.93	179.81	11104.67	450.51	-446.42	-139.47	2.05	445045.52	701436.55	N 32 13 20.81 W	103 48 56.21
	11592.00	90.62	180.29	11105.04	544.47	-540.41	-139.55	1.87	444951.53	701436.47	N 32 13 19.88 W	103 48 56.22
	11687.00	88.69	176.84	11105.61	639.30	-635.36	-137.18	4.16	444856.59	701438.84	N 32 13 18.94 W	103 48 56.19
	11782.00	87.70	176.59	11108.60	733.88	-730.16	-131.73	1.07	444761.80	701444.28	N 32 13 18.00 W	103 48 56.14
	11876.00	88.11	178.04	11112.04	827.53	-823.99	-127.33	1.60	444667.97	701448.68	N 32 13 17.07 W	103 48 56.09
	11970.00	87.80	180.04	11115.40	921.36	-917.91	-125.76	2.15	444574.06	701450.26	N 32 13 16.14 W	103 48 56.08
	12065.00	87.70	180.53	11119.12	1016.25	-1012.84	-126.23	0.53	444479.14	701449.79	N 32 13 15.20 W	103 48 56.09
	12159.00	89.86	181.04	11121.13	1110.21	-1106.80	-127.52	2.36	444385.18	701448.50	N 32 13 14.27 W	103 48 56.11
	12254.00	88.42	181.28	11122.55	1205.19	-1201.77	-129.44	1.54	444290.22	701446.58	N 32 13 13.33 W	103 48 56.14
	12349.00	87.70	181.12	11125.77	1300.13	-1296.69	-131.43	0.78	444195.30	701444.59	N 32 13 12.39 W	103 48 56.16
	12443.00	88.28	182.31	11129.07	1394.07	-1390.59	-134.24	1.41	444101.41	701441.78	N 32 13 11.46 W	103 48 56.20
	12538.00	87.14	180.74	11132.86	1488.99	-1485.48	-136.77	2.04	444006.53	701439.25	N 32 13 10.53 W	103 48 56.24
	12632.00	88.18	180.67	11136.70	1582.90	-1579.39	-137.93	1.11	443912.62	701438.09	N 32 13 9.80 W	103 48 56.26
	12727.00	89.00	181.09	11139.04	1677.85	-1674.35	-139.38	0.97	443817.67	701436.63	N 32 13 8.66 W	103 48 56.28
	12821.00	89.00	180.85	11140.68	1771.83	-1768.32	-140.97	0.26	443723.70	701435.04	N 32 13 7.73 W	103 48 56.30
	12915.00	89.35	181.61	11142.05	1866.82	-1863.29	-143.01	0.86	443628.74	701433.01	N 32 13 6.79 W	103 48 56.33
	13011.00	89.52	180.77	11142.98	1961.81	-1958.26	-144.99	0.90	443533.77	701431.03	N 32 13 5.85 W	103 48 56.36
	13105.00	89.21	181.50	11144.02	2055.79	-2052.24	-146.85	0.84	443439.80	701429.17	N 32 13 4.92 W	103 48 56.39
	13294.00	92.34	177.69	11141.47	2244.58	-2241.16	-145.52	2.61	443250.90	701430.50	N 32 13 3.05 W	103 48 56.38
	13389.00	88.28	180.08	11140.95	2339.43	-2336.11	-143.67	4.96	443155.95	701432.35	N 32 13 2.11 W	103 48 56.37
	13484.00	89.66	181.12	11142.66	2434.39	-2431.09	-144.66	1.82	443060.98	701431.36	N 32 13 1.17 W	103 48 56.38
	13578.00	93.96	180.42	11139.69	2528.31	-2525.01	-145.93	4.63	442967.06	701430.09	N 32 13 0.24 W	103 48 56.40
	13765.00	87.83	178.48	11136.77	2715.04	-2711.88	-144.13	3.44	442780.20	701431.89	N 32 12 58.39 W	103 48 56.39
	13859.00	87.83	180.56	11140.33	2808.89	-2805.80	-143.34	2.21	442686.29	701432.68	N 32 12 57.46 W	103 48 56.39
	13954.00	88.14	180.39	11143.67	2903.81	-2900.74	-144.13	0.37	442591.35	701431.89	N 32 12 56.52 W	103 48 56.40
	14049.00	87.97	180.15	11146.90	2998.72	-2995.68	-144.58	0.31	442496.42	701431.44	N 32 12 55.58 W	103 48 56.41
	14143.00	89.52	180.26	11148.96	3092.66	-3089.66	-144.91	1.65	442402.45	701431.11	N 32 12 54.65 W	103 48 56.42
	14238.00	87.70	180.12	11151.26	3187.59	-3184.63	-145.23	1.92	442307.49	701430.79	N 32 12 53.71 W	103 48 56.43
	14332.00	87.59	179.99	11155.12	3281.47	-3278.55	-145.32	0.18	442213.57	701430.40	N 32 12 52.78 W	103 48 56.44
	14427.00	88.04	180.15	11158.74	3376.36	-3373.48	-145.43	0.50	442118.65	701430.59	N 32 12 51.84 W	103 48 56.44
	14521.00	89.04	180.09	11161.14	3470.29	-3467.44	-145.63	1.07	442024.69	701430.39	N 32 12 50.91 W	103 48 56.45
	14711.00	90.14	180.15	11162.50	3660.20	-3657.44	-146.03	0.58	441834.71	701429.99	N 32 12 49.03 W	103 48 56.47
	14805.00	87.76	180.32	11164.22	3754.15	-3751.41	-146.41	2.54	441740.74	701429.61	N 32 12 48.10 W	103 48 56.48
	14900.00	88.04	180.46	11167.70	3849.05	-3846.35	-147.06	0.33	441645.81	701428.96	N 32 12 47.16 W	103 48 56.49
	14994.00	88.07	180.23	11170.89	3942.97	-3940.29	-147.63	0.25	441551.87	701428.39	N 32 12 46.24 W	103 48 56.50
	15089.00	88.45	179.95	11173.78	4037.89	-4035.25	-147.78	0.50	441458.92	701428.24	N 32 12 45.30 W	103 48 56.51
	15184.00	88.59	180.41	11176.23	4132.82	-4130.21	-148.07	0.51	441361.96	701427.95	N 32 12 44.36 W	103 48 56.52

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

OXY USA

Lease: PATTON MDP118 FEDERAL Well: 73H, 5 INCH DRILL PIPE

Location: H&P 639, EDDY COUNTY, NEW MEXICO

Job Number: MD0917G00654

Run Date: 03 Sep 2017

Report Generated: 04 Sep 2017 04:41

Surveyor: Paul Petersen

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Company Man

Survey Latitude: 32.223548 deg. N

Longitude: 103.814672 deg. W

Azimuth Correction:

Gyro: -2.80000 deg to Grid North

Depth Reference: Rotary Table

Air Gap (RKB to Ground / RKB to MSL): 26.50

Vertical Section Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

OXY USA

Lease: PATTON MDP1 18 FEDERAL Well: 73H. 5 INCH DRILL PIPE

Location: H&P 639, EDDY COUNTY, NEW MEXICO

Job Number: MD0917G00654

MEASURED DEPTH	INCL	AZIMUTH	DOGLEG SEVERITY	VERTICAL DEPTH	HORIZONTAL COORDINATES
feet	deg.	deg.	deg./ 100 ft.	feet	feet
4122 FT. -10466 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 5" DRILLPIPE					
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO DRILLING RIG H&P 639 R.K.B. OF 26.5 FT.					
4122.07	6.37	141.64	0.15	4113.58	179.49 S
4216.81	5.38	154.30	1.72	4207.83	187.61 S
4311.53	4.10	155.47	1.36	4302.22	194.70 S
4406.21	3.86	157.82	0.31	4396.67	200.73 S
4501.00	2.81	149.79	1.21	4491.30	205.69 S
4595.73	2.04	150.96	0.81	4585.95	209.17 S
4690.36	1.26	159.38	0.86	4680.54	211.62 S
4784.83	0.20	144.27	1.13	4775.00	212.72 S
4879.54	0.13	28.08	0.30	4869.71	212.76 S
4974.35	0.06	290.07	0.16	4964.52	212.65 S
5068.98	0.05	359.67	0.07	5059.15	212.59 S
5163.75	0.06	338.39	0.02	5153.92	212.50 S
5258.47	0.09	314.39	0.05	5248.64	212.41 S
5353.12	0.09	10.76	0.09	5343.29	212.28 S
5447.75	0.05	329.92	0.07	5437.92	212.17 S
5542.57	0.09	299.25	0.06	5532.74	212.10 S
5637.28	0.12	329.47	0.07	5627.45	211.98 S
5731.96	0.07	46.75	0.13	5722.13	211.85 S

A Gyrodata Directional Survey

OXY USA

Lease: PATTON MDP1 18 FEDERAL Well: 73H, 5 INCH DRILL PIPE

Location: H&P 639 , EDDY COUNTY, NEW MEXICO

Job Number: MD0917GOO654

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	HORIZONTAL COORDINATES feet
5826.68	0.07	50.52	0.00	5816.85	211.78 S
5921.40	0.09	6.60	0.07	5911.57	211.67 S
6016.13	0.11	1.53	0.02	6006.30	211.50 S
6110.82	0.05	299.17	0.10	6100.99	211.39 S
6205.55	0.06	47.73	0.09	6195.72	211.34 S
6300.26	0.10	25.54	0.05	6290.43	211.23 S
6395.04	0.08	316.32	0.11	6385.21	211.11 S
6489.75	0.07	69.14	0.13	6479.92	211.04 S
6584.57	0.05	45.24	0.03	6574.74	210.99 S
6679.34	0.04	221.14	0.09	6669.51	210.98 S
6774.09	0.02	138.43	0.04	6764.26	211.02 S
6868.83	0.08	340.22	0.10	6859.00	210.97 S
6963.46	0.01	256.98	0.08	6953.63	210.91 S
7058.18	0.03	73.07	0.04	7048.35	210.91 S
7152.90	0.05	341.08	0.06	7143.07	210.86 S
7247.63	0.06	21.37	0.04	7237.80	210.77 S
7342.45	0.02	305.00	0.06	7332.62	210.72 S
7437.21	0.03	237.03	0.03	7427.38	210.72 S
7531.94	0.89	342.11	0.95	7522.10	210.04 S
7626.78	2.02	343.55	1.19	7616.91	207.73 S
7721.47	3.01	344.21	1.05	7711.51	203.74 S
7816.19	4.16	344.80	1.21	7806.04	198.03 S
					159.04 E
					159.09 E
					159.10 E
					159.07 E
					159.07 E
					159.14 E
					159.13 E
					159.14 E
					159.22 E
					159.21 E
					159.18 E
					159.19 E
					159.21 E
					159.21 E
					159.21 E
					159.18 E
					158.93 E
					158.23 E
					157.08 E
					155.51 E

A Gyrodata Directional Survey

OXY USA

Lease: PATTON MDP1 18 FEDERAL Well: 73H, 5 INCH DRILL PIPE

Location: H&P 639 , EDDY COUNTY, NEW MEXICO

Job Number: MD0917G00654

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	HORIZONTAL COORDINATES feet
7910.91	4.51	342.01	0.43	7900.49	191.17 S 153.46 E
8005.69	5.05	344.72	0.62	7994.94	183.60 S 151.21 E
8100.40	5.76	339.90	0.89	8089.23	175.12 S 148.47 E
8195.17	6.17	325.98	1.58	8183.49	166.43 S 143.99 E
8289.89	6.05	317.35	0.98	8277.68	158.54 S 137.76 E
8384.64	6.32	314.72	0.41	8371.87	151.20 S 130.67 E
8479.33	6.32	320.57	0.68	8465.99	143.51 S 123.66 E
8574.04	6.05	312.05	1.01	8560.15	136.14 S 116.64 E
8668.77	6.76	307.27	0.94	8654.29	129.42 S 108.50 E
8763.49	6.47	310.70	0.52	8748.38	122.56 S 100.01 E
8858.10	7.02	312.55	0.62	8842.33	115.18 S 91.71 E
8952.71	6.33	315.08	0.79	8936.30	107.57 S 83.77 E
9047.23	9.27	327.61	3.58	9029.94	97.45 S 76.01 E
9141.83	9.64	329.49	0.51	9123.26	84.19 S 67.91 E
9236.39	11.85	329.20	2.34	9216.15	69.03 S 58.92 E
9331.09	12.97	327.33	1.26	9308.64	51.73 S 48.20 E
9425.70	13.57	323.09	1.21	9400.73	33.92 S 35.80 E
9520.27	13.58	323.09	0.01	9492.65	16.17 S 22.47 E
9614.90	12.75	323.98	0.90	9584.80	1.16 N 9.66 E
9709.57	13.01	328.04	0.99	9677.09	18.65 N 2.12 W
9804.25	7.33	321.30	6.12	9770.24	32.42 N 11.55 W

A Gyrodata Directional Survey

OXY USA

Lease: PATTON MDP1 18 FEDERAL Well: 73H, 5 INCH DRILL PIPE

Location: H&P 639 , EDDY COUNTY, NEW MEXICO

Job Number: MD0917G00654

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	HORIZONTAL COORDINATES feet
9898.85	3.41	281.87	5.46	9864.44	37.71 N 18.08 W
9993.26	4.76	223.73	4.38	9958.64	35.45 N 23.54 W
10087.73	6.42	208.55	2.34	10052.66	27.98 N 28.77 W
10182.48	6.97	187.13	2.68	10146.78	17.62 N 32.02 W
10277.20	7.36	175.56	1.58	10240.77	5.87 N 32.26 W
10371.90	6.52	173.56	0.92	10334.77	5.52 S 31.19 W
10466.66	6.27	172.18	0.31	10428.94	15.99 S 29.88 W

Schlumberger**OXY**

Borehole:

Well:

Field:

Structure:

Original Borehole

Oxy Patton MDP1 18 Federal 73H

NM Eddy County (NAD 83)

Oxy Patton MDP1 18 Federal 73H

Gravity & Magnetic Parameters

Model: HDGM 3017 Dip: 89.991° Date: 06-Oct-2017
 MagDec: 6.963° FB: 48048.000m Gravity FB: 986.420mg (0.00655 Based)

Surface Location

NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Lat: N 32 13 36.33 Northing: 446491.81RUS
 Lon: W 103 48 54.56 Easting: 791676.01RUS

Miscellaneous

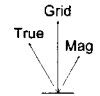
Block: Oxy Patton MDP1 18 Federal 73H
 Plan: Oxy Patton MDP1 18 Federal 73H REV1 LBN 25Aug17
 TYD Ref: RKB=26.5 (3869.86 above MBL)

Critical Point

MD	INCL	AZIM
SHL	0.00	0.00
Rustler	595.00	0.00
Salado	950.00	0.00
Castle	2600.00	0.00
Delaware	4295.00	0.00
Bell Canyon	4341.00	0.00
Cherry Canyon	5118.00	0.00
Brushy Canyon	6432.00	0.00
Build 27(100'	7840.00	0.00
Bone Spring	8080.26	4.61
Hold Tangent	8330.98	10.00
Drop 27(100'	9703.43	10.00
Build 107(100'	10674.32	10.00
Landing Point	11467.11	89.28
Patton MDP1 18 Federal 73H PSHL	15216.57	89.28
Workcamp (projected)	N/A	N/A

Critical Points

TYD	VSEC	N(°)E(-)	E(°)W(-)	DLS
SHL	0.00	0.00	0.00	0.00
Rustler	595.00	0.00	0.00	0.00
Salado	950.00	0.00	0.00	0.00
Castle	2600.00	0.00	0.00	0.00
Delaware	4295.00	0.00	0.00	0.00
Bell Canyon	4341.00	0.00	0.00	0.00
Cherry Canyon	5118.00	0.00	0.00	0.00
Brushy Canyon	6432.00	0.00	0.00	0.00
Build 27(100'	7840.00	0.00	0.00	0.00
Bone Spring	8080.00	-8.76	8.91	2.00
Hold Tangent	8337.44	-37.84	38.48	2.00
Drop 27(100'	9690.16	-243.69	247.85	0.00
Build 107(100'	10645.58	-232.83	238.00	2.00
Landing Point	11119.00	324.07	-319.04	10.00
Patton MDP1 18 Federal 73H PSHL	11175.00	4772.38	-4770.10	0.00
Workcamp (projected)	11483.00			



Grid North
 Tot Corr (M->G 6.686°)
 Mag Dec (6.963°)
 Grid Conv (0.276°)

