

Oilfield Services, Central U.S. Land
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)

NM OIL CONSERVATION
ARTESIA DISTRICT

Schlumberger

JAN 23 2019

RECEIVED

January 22, 2019

30-015-44990

Oxy USA INC.
5 Greenway Plaza
Houston, Texas 77046

Re:

17, T24S, R31E, Eddy NMP
N 32.22357 -103.80328

CLIENT: Oxy USA INC.
WELL: Patton MDP1 17 Federal 172H
FIELD: Purple Sage WolfCamp

RIG: H&P 656
COUNTY: Eddy
API NO: 30-015-44990
JOB NO: 18MLD3583

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>
Orlando Williams FE	Patton MDP1 17 Federal 172H Original Hole	795.00 Ft to 16621.00 Ft	August 25, 2018 to September 14, 2018	SlimPulse Third Party Corrected

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

Jermaine Allen
Field Service Manager

Oilfield Services, Central U.S. Land
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:

17, T24S, R31E, Eddy NMP
N 32.22357 -103.80328

I, Orlando Williams certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of August 25, 2018 through September 14, 2018, conduct or supervise the taking of the SlimPulse & Third Party Corrected surveys from a depth of 795.00 feet to a depth of 16621.00 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 MDPI 17 Federal 172H Well (Original Hole) API No. 30-015-44990 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
Orlando Williams
FE

Orlando Williams

Subscribed and Sworn to before me this 22nd day of January (month) 2019 (yr)

My Commission expires:

2-16-2022

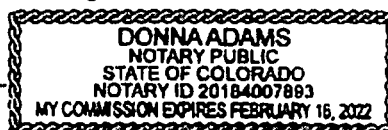
Notary Public

D Adams

(signature)

(County State)

Adams County Colorado



Oxy Patton MDP1 17 Federal 172H Gyro + MWD 0-16667' MD Survey Geodetic Report

(Def Survey)



Report Date: September 14, 2018 - 10:12 AM
Client: OXY
Field: NM Eddy County (HAD 83)
Structure / Slot: Oxy Patton MDP1 17 Federal 172H / Patton MDP1 17 Federal 172H
Well: Patton MDP1 17 Federal 172H
Borehole: Original Borehole
UVS / API# : Unknown / Unknown
Survey Name: Oxy Patton MDP1 17 Federal 172H Gyro + MWD 0-16667' MD
Survey Date: September 08, 2018
Tort / AMD / ODI / ERD Ratio: 181.081' / 5832.430 R / 6.174 / 0.494
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 13' 24.83426", W 103° 48' 11.81421"
Location Grid N/E Y/X: N 445471.080 NUS, E 705248.250 NUS
CRS Grid Convergence Angle: 0.2828°
Grid Scale Factor: 0.99991885
Version / Patch: 2.10.740.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 183.810° (Grid North)
Vertical Section Origin: 0.000 R, 0.000 N
TVD Reference Datum: RKB=26.5'
TVD Reference Elevation: 3557.300 ft above MSL
Seabed / Ground Elevation: 3530.800 ft above MSL
Magnetic Declination: 8.884°
Total Gravity Field Strength: 998.4284 mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47079.931 nT
Magnetic Dip Angle: 59.952°
Declination Date: September 08, 2018
Magnetic Declination Model: HDOM 2018
North Reference: Grid North
Grid Convergence Used: 0.2828°
Total Corr Mag North → Grid North: 6.5812°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	445471.09	705248.25	N 32° 13' 24.83"	W 103° 48' 11.81"
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	445471.09	705248.25	N 32° 13' 24.83"	W 103° 48' 11.81"
	123.41	0.15	210.99	123.41	0.11	-0.11	-0.07	0.15	445470.98	705248.18	N 32° 13' 24.83"	W 103° 48' 11.81"
	212.80	0.22	223.33	212.80	0.35	-0.33	-0.24	0.00	445470.76	705248.01	N 32° 13' 24.83"	W 103° 48' 11.82"
	300.38	0.32	232.10	300.38	0.64	-0.61	-0.55	0.12	445470.48	705247.70	N 32° 13' 24.83"	W 103° 48' 11.82"
	394.98	0.25	204.13	394.98	1.01	-0.66	-0.84	0.16	445470.13	705247.41	N 32° 13' 24.82"	W 103° 48' 11.82"
	489.48	0.22	190.42	489.48	1.38	-1.32	-0.95	0.07	445469.77	705247.20	N 32° 13' 24.82"	W 103° 48' 11.83"
	584.12	0.23	209.46	584.12	1.73	-1.67	-1.09	0.08	445469.42	705247.10	N 32° 13' 24.82"	W 103° 48' 11.83"
	681.68	0.34	224.36	681.67	2.13	-2.05	-1.39	0.14	445469.04	705246.88	N 32° 13' 24.81"	W 103° 48' 11.83"
Last Gyro	795.00	0.21	211.74	794.99	2.57	-2.46	-1.73	0.13	445468.63	705246.52	N 32° 13' 24.81"	W 103° 48' 11.83"
	983.00	0.03	245.78	982.99	2.89	-2.78	-1.96	0.10	445468.31	705246.29	N 32° 13' 24.81"	W 103° 48' 11.84"
	1077.00	0.03	189.15	1076.99	2.93	-2.81	-1.98	0.03	445468.28	705246.27	N 32° 13' 24.81"	W 103° 48' 11.84"
	1247.00	0.04	177.88	1246.99	3.03	-2.91	-1.99	0.01	445468.18	705246.26	N 32° 13' 24.81"	W 103° 48' 11.84"
	1360.00	0.09	285.01	1359.99	3.05	-2.93	-2.07	0.10	445468.16	705246.18	N 32° 13' 24.81"	W 103° 48' 11.84"
	1548.00	0.04	202.42	1547.99	3.09	-2.95	-2.24	0.05	445468.14	705246.01	N 32° 13' 24.81"	W 103° 48' 11.84"
	1644.00	0.03	229.03	1643.99	3.14	-3.00	-2.27	0.02	445468.09	705245.98	N 32° 13' 24.80"	W 103° 48' 11.84"
	1833.00	0.10	261.00	1832.99	3.21	-3.08	-2.47	0.04	445468.03	705245.78	N 32° 13' 24.80"	W 103° 48' 11.84"
	1927.00	0.03	348.13	1926.99	3.20	-3.05	-2.56	0.11	445468.04	705245.69	N 32° 13' 24.80"	W 103° 48' 11.84"
	2022.00	0.09	290.23	2021.99	3.18	-3.00	-2.63	0.08	445468.09	705245.62	N 32° 13' 24.80"	W 103° 48' 11.85"
	2211.00	0.04	348.05	2210.99	3.17	-3.00	-2.74	0.07	445468.09	705245.51	N 32° 13' 24.80"	W 103° 48' 11.85"
	2305.00	0.04	348.05	2304.99	3.16	-3.00	-2.73	0.08	445468.09	705245.52	N 32° 13' 24.80"	W 103° 48' 11.85"
	2400.00	0.05	212.78	2399.99	3.17	-3.00	-2.78	0.09	445468.09	705245.49	N 32° 13' 24.80"	W 103° 48' 11.85"
	2500.00	0.04	196.80	2499.99	3.24	-3.07	-2.80	0.02	445468.02	705245.45	N 32° 13' 24.80"	W 103° 48' 11.85"
	2594.00	0.05	194.17	2593.99	3.31	-3.14	-2.82	0.01	445467.95	705245.44	N 32° 13' 24.80"	W 103° 48' 11.85"
	2689.00	0.04	151.09	2688.99	3.38	-3.21	-2.81	0.04	445467.88	705245.43	N 32° 13' 24.80"	W 103° 48' 11.85"
	2783.00	0.04	289.34	2782.99	3.40	-3.23	-2.82	0.08	445467.88	705245.43	N 32° 13' 24.80"	W 103° 48' 11.85"
	2878.00	0.10	183.42	2877.99	3.47	-3.30	-2.85	0.12	445467.79	705245.39	N 32° 13' 24.80"	W 103° 48' 11.85"
	2972.00	0.05	87.50	2971.99	3.55	-3.38	-2.82	0.12	445467.71	705245.43	N 32° 13' 24.80"	W 103° 48' 11.85"
	3067.00	0.04	161.84	3066.99	3.58	-3.41	-2.77	0.06	445467.68	705245.48	N 32° 13' 24.80"	W 103° 48' 11.85"
	3161.00	0.04	12.93	3160.99	3.58	-3.41	-2.78	0.08	445467.68	705245.49	N 32° 13' 24.80"	W 103° 48' 11.85"
	3256.00	0.10	328.00	3255.99	3.48	-3.31	-2.78	0.08	445467.78	705245.46	N 32° 13' 24.80"	W 103° 48' 11.85"
	3350.00	0.10	280.82	3348.99	3.40	-3.22	-2.91	0.09	445467.87	705245.34	N 32° 13' 24.80"	W 103° 48' 11.85"
	3445.00	0.08	313.83	3444.99	3.35	-3.10	-3.04	0.06	445467.93	705245.21	N 32° 13' 24.80"	W 103° 48' 11.85"
	3540.00	0.10	282.70	3539.99	3.29	-3.10	-3.17	0.05	445467.99	705245.08	N 32° 13' 24.80"	W 103° 48' 11.85"
	3634.00	0.04	42.32	3633.99	3.25	-3.05	-3.23	0.13	445468.04	705245.02	N 32° 13' 24.80"	W 103° 48' 11.85"
	3728.00	0.10	88.65	3728.99	3.21	-3.02	-3.12	0.08	445468.07	705245.13	N 32° 13' 24.80"	W 103° 48' 11.85"
	3823.00	0.09	141.50	3822.99	3.28	-3.08	-3.00	0.09	445468.01	705245.25	N 32° 13' 24.80"	W 103° 48' 11.85"
	3918.00	0.11	127.75	3917.99	3.37	-3.19	-2.88	0.03	445467.90	705245.37	N 32° 13' 24.80"	W 103° 48' 11.85"
	4012.00	0.13	129.89	4011.99	3.48	-3.32	-2.72	0.02	445467.78	705245.53	N 32° 13' 24.80"	W 103° 48' 11.85"
	4106.00	0.27	69.47	4105.99	3.57	-3.42	-2.42	0.18	445467.81	705245.83	N 32° 13' 24.80"	W 103° 48' 11.84"
	4207.00	0.19	97.58	4206.99	3.60	-3.48	-2.02	0.08	445467.81	705246.42	N 32° 13' 24.80"	W 103° 48' 11.84"
	4301.00	0.05	118.63	4300.99	3.63	-3.52	-1.83	0.15	445467.57	705246.42	N 32° 13' 24.80"	W 103° 48' 11.84"
	4395.00	0.03	189.03	4394.99	3.67	-3.57	-1.60	0.05	445467.52	705246.45	N 32° 13' 24.80"	W 103° 48' 11.84"
	4490.00	0.04	193.80	4489.99	3.73	-3.62	-1.81	0.01	445467.47	705246.44	N 32° 13' 24.80"	W 103° 48' 11.84"
	4585.00	0.04	134.68	4584.99	3.78	-3.68	-1.80	0.04	445467.41	705246.45	N 32° 13' 24.80"	W 103° 48' 11.84"
	4679.00	0.03	110.34	4678.99	3.81	-3.71	-1.75	0.02	445467.38	705246.50	N 32° 13' 24.80"	W 103° 48' 11.83"
	4774.00	0.04	143.64	4773.99	3.84	-3.74	-1.71	0.02	445467.35	705246.54	N 32° 13' 24.80"	W 103° 48' 11.83"
	4868.00	0.04	30.37	4867.99	3.84	-3.74	-1.87	0.07	445467.33	705246.58	N 32° 13' 24.80"	W 103° 48' 11.83"
	4963.00	0.04	219.38	4962.99	3.84	-3.74	-1.88	0.08	445467.35	705246.57	N 32° 13' 24.80"	W 103° 48' 11.83"
	5057.00	0.04	307.03	5056.99	3.85	-3.75	-1.72	0.06	445467.35	705246.53	N 32° 13' 24.80"	W 103° 48' 11.83"
	5152.00	0.04	181.49	5151.99	3.88	-3.78	-1.75	0.07	445467.33	705246.50	N 32° 13' 24.80"	W 103° 48' 11.83"
	5246.00	0.04	181.70	5245.99	3.93	-3.82	-1.73	0.00	445467.27	705246.50	N 32° 13' 24.80"	W 103° 48' 11.83"
	5341.00	0.03	248.63	5340.99	3.97	-3.87	-1.78	0.04	445467.22	705246.47	N 32° 13' 24.80"	W 103° 48' 11.84"
	5435.00	0.05	140.99	5434.99	4.03	-3.95	-1.77	0.03	445467.14	705246.48	N 32° 13' 24.80"	W 103° 48' 11.84"
	5529.00	0.04	353.53	5528.99	4.09	-3.95	-1.73	0.09	445467.14	705246.50	N 32° 13' 24.80"	W 103° 48' 11.83"
	5624.00	0.03	307.53	5623.99	4.01	-3.80	-1.77	0.03	445467.10	705246.48	N 32° 13' 24.80"	W 103° 48' 11.84"
	5719.00	0.03	328.70	5718.99	4.02	-3.29	-2.15	0.87	445467.80	705246.10	N 32° 13' 24.80"	W 103° 48' 11.84"
	5813.00	0.85	328.70	5812.99	4.42	-3.29	-2.15	0.87	445467.80	705246.10	N 32° 13' 24.80"	W 103° 48' 11.84"
	5907.00	2.24	329.23	5906.95	1.33	-1.12	-3.45	1.48	445469.97	705244.80	N 32° 13' 24.82"	W 103° 48' 11.85"
	6002.00	3.49	324.31	6001.83	-2.44	2.63	-6.09	1.34	445473.92	705242.18	N 32° 13' 24.86"	W 103° 48' 11.88"
	6096.00	4.78	324.38	6095.58	-7.67	8.32	-10.03	1.35	445479.41	705238.22	N 32° 13' 24.82"	W 103° 48' 11.93"
	6191.00	5.98	326.19	6190.18	-14.66	15.64	-15.08	1.30	445486.73	705233.17	N 32° 13' 24.99"	W 103° 48' 11.99"
	6285.00	7.14	325.32	6283.55	-23.13	24.81	-21.13	1.24	445495.60	705227.12	N 32° 13' 25.08"	W 103° 48' 12.08"
	6380.00	8.03	325.68	6377.72	-33.00	34.85	-28.23	0.94	445505.93	705220.02	N 32° 13' 25.18"	W 103° 48' 12.14"
	6474.00	8.83	328.58	6470.70	-44.09	46.43	-35.69	0.96	445517.51	705212.56	N 32° 13' 25.30"	W 103° 48' 12.23"
	6568.00	8.89	328.86	6564.57	-56.10	58.94	-43.28	0.99	445530.02	705204.97	N 32° 13' 25.42"	W 103° 48' 12.31"
	6663.00	9.51	332.02	6657.38	-68.60	72.02	-50.07	0.84	445543.10	705197.59	N 32° 13' 25.55"	W 103° 48' 12.40"
	6757.00	8.82	332.71	6750.16	-81.48	85.28	-57.61	0.74	445556.37	705180.64	N 32° 13' 25.68"	W 103° 48' 12.48"
	6852.00	9.22	335.99	6843.84	-94.48	98.71	-64.05	0.69	445569.78	705164.20	N 32° 13' 25.81"	W 103° 48' 12.55"
	6946.00	8.67	336.93	6936.84	-107.48	112.10	-69.89	0.61	445583.19	705178.36	N 32° 13' 25.95"	W 103° 48' 12.62"
	7041.00	7.91	337.27	7030.84	-119.74	124.72	-73.22	0.60	445595.80	705173.03	N 32° 13' 26.07"	W 103° 48' 12.68"
	7135.00	7.87	337.14	7123.96	-131.29	136.82	-80.22	0.05	445607.70	705168.03	N 32° 13' 26.19"	W 103° 48' 12.74"
	7230.00	7.59	337.10	7218.08	-142.81	148.47	-85.22	0.19	<			

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	VSEC (m)	NS (m)	EW (m)	CLS (°/100m)	Northing (mUS)	Easting (mUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7891.00	8.35	347.05	7872.40	-230.66	238.17	-111.77	0.48	445708.25	705136.49	N 32 13 27.20 W 103 48 13.10	
	7895.00	8.03	347.23	7865.44	-243.50	251.23	-114.75	0.34	445722.30	705133.51	N 32 13 27.33 W 103 48 13.14	
	8080.00	7.82	348.29	8039.53	-258.04	263.98	-117.74	0.28	445735.05	705130.51	N 32 13 27.45 W 103 48 13.17	
	8177.00	7.29	345.18	8155.69	-268.18	278.34	-120.88	0.57	445747.41	705127.38	N 32 13 27.57 W 103 48 13.21	
	8272.00	8.72	342.83	8249.98	-279.09	287.47	-124.07	0.87	445758.55	705124.19	N 32 13 27.68 W 103 48 13.24	
	8368.00	5.93	338.89	8343.41	-288.64	297.20	-127.44	0.86	445768.33	705120.82	N 32 13 27.78 W 103 48 13.28	
	8461.00	6.39	335.56	8437.88	-297.77	306.65	-131.39	0.81	445777.72	705116.87	N 32 13 27.87 W 103 48 13.33	
	8558.00	6.60	335.41	8532.25	-307.24	316.43	-135.85	0.22	445787.50	705112.41	N 32 13 27.97 W 103 48 13.38	
	8650.00	5.09	335.39	8625.81	-318.89	326.38	-140.41	0.18	445797.45	705107.85	N 32 13 28.07 W 103 48 13.43	
	8734.00	3.58	335.33	8713.59	-334.09	344.12	-148.55	0.89	445815.19	705099.71	N 32 13 28.25 W 103 48 13.52	
	8828.00	3.87	329.62	8808.32	-340.28	350.51	-151.80	1.85	445821.58	705096.45	N 32 13 28.31 W 103 48 13.56	
	9123.00	4.77	330.27	9098.85	-351.53	362.20	-163.48	0.43	445827.02	705093.53	N 32 13 28.38 W 103 48 13.59	
	9218.00	6.91	322.42	9191.38	-359.13	376.18	-168.04	1.00	445833.27	705090.22	N 32 13 28.43 W 103 48 13.63	
	9312.00	8.27	312.05	9284.53	-367.98	379.17	-171.95	2.05	445841.23	705084.78	N 32 13 28.50 W 103 48 13.70	
	9407.00	8.58	301.55	9378.51	-375.18	387.45	-183.06	1.65	445850.24	705078.31	N 32 13 28.59 W 103 48 13.78	
	9501.00	9.38	294.78	9471.36	-381.21	394.33	-195.99	1.41	445858.52	705065.20	N 32 13 28.75 W 103 48 14.07	
	9596.00	9.78	288.53	9565.04	-388.08	400.14	-210.68	1.18	445865.40	705052.27	N 32 13 28.80 W 103 48 14.24	
	9690.00	8.71	291.31	9657.82	-390.30	403.26	-224.84	1.21	445872.30	705023.42	N 32 13 28.88 W 103 48 14.41	
	9785.00	8.65	289.13	9751.74	-395.58	411.35	-237.79	1.24	445882.41	705010.48	N 32 13 28.92 W 103 48 14.56	
	9879.00	8.63	307.39	9844.68	-402.53	419.07	-249.56	1.32	445890.14	704998.70	N 32 13 28.99 W 103 48 14.70	
	9974.00	8.79	319.87	9938.58	-411.74	428.96	-259.90	2.01	445900.02	704988.37	N 32 13 29.09 W 103 48 14.81	
	10068.00	8.53	329.70	10031.52	-422.74	440.49	-268.04	1.58	445911.58	704980.22	N 32 13 29.21 W 103 48 14.91	
	10163.00	7.80	345.18	10125.57	-434.72	453.82	-273.28	2.44	445923.89	704973.01	N 32 13 29.33 W 103 48 14.97	
	10257.00	7.41	357.70	10218.75	-448.80	465.05	-275.13	1.81	445936.11	704973.14	N 32 13 29.45 W 103 48 14.99	
	10352.00	5.24	4.02	10313.18	-457.23	475.50	-275.07	2.40	445948.58	704973.20	N 32 13 29.55 W 103 48 14.99	
	10446.00	4.44	10.68	10408.83	-465.14	483.36	-274.10	1.04	445954.42	704974.17	N 32 13 29.63 W 103 48 14.98	
	10541.00	4.41	12.28	10501.54	-472.40	490.54	-272.64	0.13	445961.60	704975.83	N 32 13 29.70 W 103 48 14.96	
	10635.00	3.83	9.03	10595.30	-479.10	497.17	-271.89	0.68	445968.23	704977.89	N 32 13 29.77 W 103 48 14.94	
	10730.00	2.87	4.68	10689.14	-484.83	505.82	-270.83	2.30	445978.68	704977.54	N 32 13 29.86 W 103 48 14.94	
	10824.00	0.75	347.69	10784.09	-487.58	507.87	-270.69	1.04	445984.56	704975.61	N 32 13 29.93 W 103 48 14.98	
	10918.00	0.32	170.32	10941.08	-488.14	508.19	-270.77	0.68	445992.88	704973.02	N 32 13 29.92 W 103 48 14.99	
	11011.00	7.21	189.05	11140.53	-475.09	493.23	-272.66	3.45	446004.39	704971.71	N 32 13 29.94 W 103 48 15.01	
	11275.00	19.41	168.09	11231.84	-453.53	471.79	-275.25	12.99	446042.88	704973.16	N 32 13 29.92 W 103 48 15.01	
	11370.00	28.58	179.07	11318.55	-415.01	433.29	-276.58	10.09	446094.35	704971.71	N 32 13 29.94 W 103 48 15.01	
	11463.00	36.62	177.81	11388.52	-384.09	382.17	-275.11	8.40	446153.24	704973.16	N 32 13 29.93 W 103 48 14.99	
	11559.00	42.73	179.42	11470.84	-304.33	322.21	-273.71	6.59	446203.28	704974.56	N 32 13 29.94 W 103 48 14.98	
Wellcamp Intersection	11597.00	45.68	180.40	11469.08	-277.00	285.72	-273.67	7.92	445788.70	704974.59	N 32 13 27.77 W 103 48 14.93	
	11654.00	50.07	181.70	11538.31	-235.69	253.47	-274.47	7.92	445724.54	704973.80	N 32 13 27.36 W 103 48 14.99	
	11748.00	56.58	185.08	11592.43	-180.35	178.27	-279.01	7.50	445648.35	704969.25	N 32 13 26.81 W 103 48 15.05	
	11843.00	83.41	189.03	11638.93	-78.31	96.71	-289.21	8.04	445587.80	704958.08	N 32 13 25.81 W 103 48 15.18	
Top Perf Cross	11914.00	88.88	188.56	11688.64	-13.07	32.57	-299.12	7.71	445503.68	704949.15	N 32 13 25.17 W 103 48 15.29	
	11937.00	70.83	188.40	11878.60	7.83	11.23	-302.30	7.71	445482.32	704945.07	N 32 13 24.98 W 103 48 15.33	
	12031.00	71.72	188.33	11708.93	98.49	-78.80	-315.24	1.16	445394.30	704933.03	N 32 13 24.96 W 103 48 15.40	
	12126.00	75.23	185.25	11730.75	188.24	-168.04	-326.06	8.50	445303.08	704922.21	N 32 13 23.19 W 103 48 15.62	
	12221.00	88.40	182.83	11740.97	378.48	-262.15	-332.89	9.98	445208.98	704915.58	N 32 13 22.26 W 103 48 15.70	
	12315.00	90.36	179.84	11741.99	378.48	-262.15	-332.89	3.80	445115.01	704913.39	N 32 13 21.33 W 103 48 15.73	
	12406.00	82.38	180.12	11738.38	327.13	-507.05	-334.83	1.35	444984.07	704913.44	N 32 13 18.83 W 103 48 15.74	
	12581.00	91.35	179.57	11735.29	621.87	-602.00	-334.57	1.23	444869.13	704912.70	N 32 13 18.89 W 103 48 15.78	
	12652.00	88.39	181.34	11735.50	712.72	-692.98	-335.29	3.79	444778.15	704912.98	N 32 13 17.05 W 103 48 15.78	
	12747.00	88.29	180.44	11738.25	807.57	-787.93	-336.77	0.95	444683.21	704911.50	N 32 13 17.05 W 103 48 15.78	
	12842.00	88.29	181.10	11741.08	902.41	-882.88	-338.04	0.69	444588.27	704910.23	N 32 13 16.11 W 103 48 15.80	
	12938.00	88.29	180.24	11743.89	996.24	-978.63	-339.14	0.91	444494.32	704909.13	N 32 13 15.19 W 103 48 15.82	
	13030.00	88.53	180.60	11748.50	1090.06	-1070.79	-339.83	0.48	444400.37	704908.44	N 32 13 14.28 W 103 48 15.83	
	13125.00	88.01	180.77	11749.36	1184.89	-1163.74	-340.97	0.58	444305.42	704907.30	N 32 13 13.32 W 103 48 15.85	
	13219.00	87.94	180.30	11752.89	1278.70	-1259.68	-341.84	0.51	444211.49	704906.43	N 32 13 12.39 W 103 48 15.87	
	13314.00	87.60	179.55	11756.38	1373.43	-1354.60	-341.72	0.87	444118.57	704905.55	N 32 13 11.45 W 103 48 15.87	
	13409.00	87.58	178.22	11760.39	1468.02	-1448.50	-339.87	1.40	444021.68	704908.40	N 32 13 10.51 W 103 48 15.85	
	13503.00	87.98	178.23	11764.05	1561.54	-1543.38	-338.96	0.45	443927.80	704911.31	N 32 13 9.58 W 103 48 15.83	
	13598.00	88.08	178.49	11767.40	1656.09	-1638.28	-334.25	0.27	443832.91	704914.02	N 32 13 8.74 W 103 48 15.80	
	13693.00	88.01	177.77	11773.08	1843.10	-1828.07	-328.12	0.38	443645.14	704920.15	N 32 13 6.84 W 103 48 15.74	
	13788.00	88.96	177.32	11778.82	1937.53	-1920.94	-324.05	0.75	443550.27	704924.22	N 32 13 5.84 W 103 48 15.70	
	14071.00	89.42	177.84	11782.13	2126.48	-2110.75	-316.39	0.80	443360.47	704931.88	N 32 13 3.96 W 103 48 15.62	
	14260.00	89.38	177.84	11782.13	2314.55	-2299.82	-309.83	0.12	443171.81	704938.64	N 32 13 2.09 W 103 48 15.55	
	14448.00	89.15	177.37	11784.53	2501.50	-2487.44	-301.78	0.28	442986.88	704946.49	N 32 13 0.24 W 103 48 15.47	
	14543.00	89.45	178.12	11785.69	2596.00	-2582.38	-299.04	0.83	442888.88	704950.23	N 32 12 58.37 W 103 48 15.40	
	14637.00	89.35	178.47	11786.67	2684.59	-2676.31	-295.24	0.39	442794.96	704956.32	N 32 12 57.43 W 103 48 15.37	
	14732.00	89.87	177.56	11788.06	2789.13	-2771.24	-281.95	1.04	442700.02	704959.98	N 32 12 56.49 W 103 48 15.33	
	14827.00	89.11	178.02	11789.68	2878.62	-2866.16	-288.29	0.51	442605.11	704963.00	N 32 12 55.58 W 103 48 15.30	
	14921.00	89.35	178.30	11790.82	2972.19	-2960.10	-285.27	0.39	442511.17	704965.82	N 32 12 54.62 W 103 48 15.29	
	15016.00	89.78	178.54	11791.66	3066.80	-3055.06	-282.83	0.50	442418.22	704968.95	N 32 12 53.87 W 103 48 15.25	
	15110.00	89.16	177.39	11792.53	3160.33	-3148.00	-279.31	1.37	442322.29	704977.03	N 32 12 51.81 W 103 48 15.18	
	15200.00	89.21	177.74	11795.20	3249.28	-3238.81	-271.24	0.18	442132.49	704979.70	N 32 12 50.88 W 103 48 15.14	
	15294.00	89.28	179.00	11796.44	3342.88	-3332.76	-268.57	1.34	441943.58	704980.11	N 32 12 49.94 W 103 48 15.14	
	15389.00	89.49	180.50	11797.45	3537.83	-3527.75	-268.15	1.59	441849.59	704975.14	N 32 12 48.07 W 103 48 15.21	
	15483.00	89.45	181.72	11798.32	3631.84	-3621.72	-269.97	1.30	441754.85	704971.42	N 32 12 46.20 W 103 48 15.28	
	15578.00	90.01	182.08	11798.77	3725.49	-3718.67	-273.12	0.70	441660.72	704967.87	N 32 12 45.26 W 103 48 15.27	
	15											

Comments	MD (N)	Incl (°)	Azim Grid (°)	TVD (M)	VSEC (M)	NS (N)	EW (N)	DLS (°/100R)	Northing (MUS)	Easting (MUS)	Latitude (N/S °'")	Longitude (E/W °'")
		1	681.680	16887.000	Act Sns	30.000	30.000	NAL_MWD_IFR1+M3			Original Northing / Easting MDP1 17 Federal 172H Gyro *	



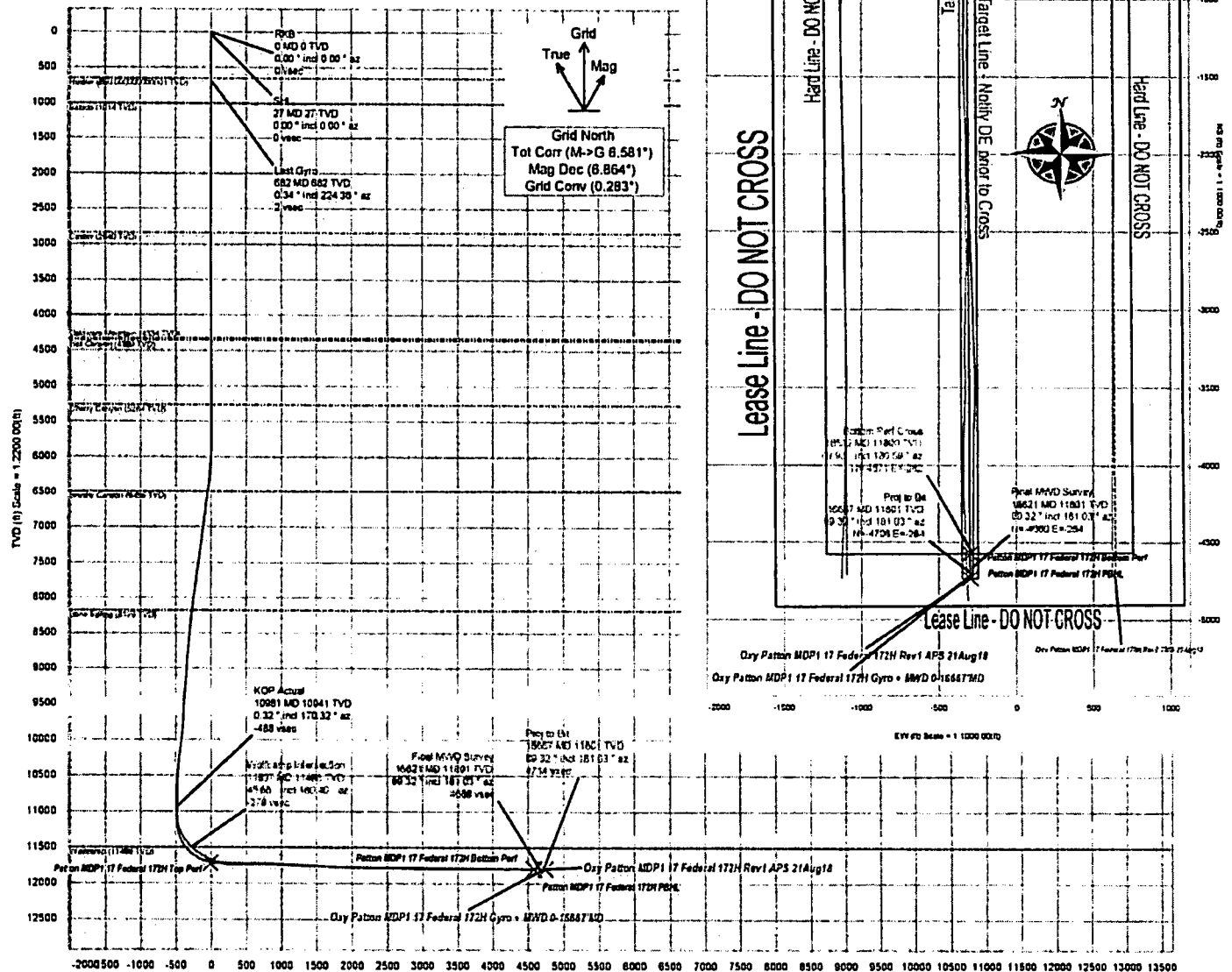
OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Patton MDP1 17 Federal 172H	NW Eddy County (NAD 83)	Oxy Patton MDP1 17 Federal 172H

Gravity & Magnetic Parameters				Surface Location		NAD83 New Mexico State Plane, Eastern Zone, US Feet		Miscellaneous							
Model:	MOG 2010	Dip:	83.56.2	Date:	04-Sep-2010	Lat:	N 32.13 24.92	Northing:	465471.011US	Grid Conv:	0.0220"	Sheet:	Polzin MOGPI 17	TVD Ref:	RUBIN 20 8' (1537.39 above MSL)
MagCh:	0.064"	F.R.	4779.931nT	Gravity F.R.:	999.423mgp (0.0005 Gaud)	Long:	W 103.40 11.01	Easting:	795240.251US	Scale Fact:	0.9991236	Plan:	City Polzin MOGPI 17 Federal 1724 Cyro	MWD 6-104738D	

	Critical Points							
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)S(-)	E(+)W(-)	DLG
RKB	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
SHL	28 50	0 00	0 00	28 50	0 00	0 00	0 00	0 00
Last Gyro	681.68	0.34	224.38	681.67	2.13	-2.05	-1.39	0.14
KOP Actual	10981.00	0.32	170.32	10941.08	-488.14	500.19	-270.77	0.68
Wolfcamp Intersection	11597.00	45.68	180.40	11498.08	-277.90	295.72	-273.67	7.92
Top Perf Cross	11914.00	68.68	188.55	11658.64	-13.67	32.57	-299.12	7.71
Bottom Perf Cross	18532.00	69.03	180.59	11789.95	4579.31	-4570.60	-282.37	0.84
Final MWD Survey	16621.00	89.32	181.03	11800.53	4668.20	-4659.59	-283.83	0.84
Proj to Bit	16687.00	89.32	181.03	11801.08	4714.15	-4705.58	-284.48	0.00



Vertical Section (ft) Azim = 183.61° Scale = 1:2200 00(ft) Origin = 0N/-S, 0E/-W