

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

30-015-44476

Well Reference:
8, 24S, 31E, Eddy NM
N 32.22689 W -103.79633

I, Robert Hargrave certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of January 21, 2018 through January 29, 2018, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 10516.00 feet to a depth of 20434.00 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 Sunrise MDP1 8-5 Fed Com 5H Well (Original Hole) API No. 30-015-44476 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
Robert Hargrave
FE



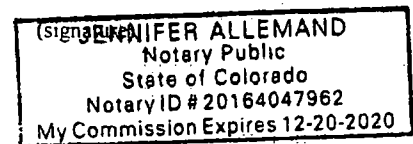
Subscribed and Sworn to before me this 22nd day of February (month) 2018 (yr)

My Commission expires:

12-20-2020

J. Allemand
Notary Public

Adams County Colorado
(County State)



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February 21, 2018

OXY USA INC.

Re:

8, 24S, 31E, Eddy NM
N 32.22689 W -103.79633

CLIENT: OXY USA INC.
WELL: Sunrise MDP1 8-5 Fed Com 5H
FIELD: Cotton Draw Bone Spring

RIG: HP 656
COUNTY: Eddy
API NO: 30-015-44476
JOB NO: 17MLD2551

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>
Robert Hargrave FE	Sunrise MDP1 8-5 Fed Com 5H Original Hole	10516.00 Ft to 20434.00 Ft	January 21, 2018 to January 29, 2018	TelePacer SlimPulse

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

Mike Stephens
Field Service Manager

[illegible]

Last Gyro

MD	Inc	Azin Grid	TVD	VSEC	NS	EW	ELS	Northing	Eastng	Latitde	Longitde
7333.00	10.69	7270.68	7270.68	-581.09	-581.09	138.77	0.03	44610.17	44610.17	N 32 13 31.00	E 103 47 45.21
7427.80	10.70	7363.83	7363.83	-597.42	-601.51	144.88	0.03	44609.20	44609.20	N 32 13 30.88	E 103 47 45.07
7522.40	11.67	7456.29	7456.29	-614.44	-617.70	151.28	1.03	44607.00	44607.00	N 32 13 30.67	E 103 47 45.07
7617.20	12.70	7549.29	7549.29	-633.07	-637.52	158.09	1.10	44605.33	44605.33	N 32 13 30.48	E 103 47 44.99
7711.80	13.05	7641.99	7641.99	-653.34	-657.98	163.59	2.14	44603.98	44603.98	N 32 13 30.27	E 103 47 44.83
7806.60	13.05	7733.81	7733.81	-674.41	-679.13	167.51	2.14	44601.58	44601.58	N 32 13 30.07	E 103 47 44.66
7901.20	13.21	7825.94	7825.94	-695.42	-700.25	171.46	2.28	44599.40	44599.40	N 32 13 29.86	E 103 47 44.79
7995.90	13.21	7918.13	7918.13	-716.54	-721.49	173.83	0.03	44597.02	44597.02	N 32 13 29.65	E 103 47 44.79
8090.50	13.00	8010.27	8010.27	-737.51	-742.50	175.57	0.27	44594.84	44594.84	N 32 13 29.44	E 103 47 44.75
8185.10	13.12	8102.42	8102.42	-758.42	-763.60	183.44	0.37	44592.71	44592.71	N 32 13 29.23	E 103 47 44.70
8279.70	13.14	8194.55	8194.55	-779.43	-784.71	191.47	0.13	44590.60	44590.60	N 32 13 29.02	E 103 47 44.66
8374.30	13.11	8286.68	8286.68	-800.48	-805.87	197.12	0.22	44588.45	44588.45	N 32 13 28.81	E 103 47 44.62
8469.30	12.78	8378.05	8378.05	-821.00	-826.49	197.47	0.78	44586.23	44586.23	N 32 13 28.61	E 103 47 44.58
8564.30	12.77	8471.08	8471.08	-841.22	-846.80	197.46	0.49	44584.05	44584.05	N 32 13 28.41	E 103 47 44.55
8659.30	12.55	8562.93	8562.93	-861.88	-867.50	200.66	0.46	44581.77	44581.77	N 32 13 28.21	E 103 47 44.51
8754.30	12.07	8655.40	8655.40	-881.93	-887.70	203.88	0.89	44580.03	44580.03	N 32 13 28.00	E 103 47 44.47
8849.30	12.34	8748.13	8748.13	-901.84	-907.67	206.33	0.80	44578.05	44578.05	N 32 13 27.80	E 103 47 44.45
8944.30	12.57	8840.67	8840.67	-922.25	-928.16	208.58	0.28	44576.57	44576.57	N 32 13 27.60	E 103 47 44.42
9039.50	12.57	8932.47	8932.47	-942.47	-948.47	211.82	1.01	44574.25	44574.25	N 32 13 27.40	E 103 47 44.38
9134.30	12.57	9025.49	9025.49	-962.52	-968.66	216.79	1.20	44572.07	44572.07	N 32 13 27.20	E 103 47 44.33
9229.30	12.79	9118.25	9118.25	-982.57	-988.72	221.92	3.44	44570.52	44570.52	N 32 13 27.00	E 103 47 44.27
9324.30	12.52	9210.50	9210.50	-997.92	-1003.96	228.03	4.28	44569.78	44569.78	N 32 13 26.80	E 103 47 44.22
9419.30	14.15	9306.44	9306.44	-997.02	-1003.96	230.68	3.89	44568.11	44568.11	N 32 13 26.60	E 103 47 44.19
9514.30	15.53	9404.44	9404.44	-996.09	-1002.83	232.97	2.54	44566.99	44566.99	N 32 13 26.40	E 103 47 44.14
9609.30	16.68	9495.35	9495.35	-996.09	-1002.83	235.27	2.54	44565.87	44565.87	N 32 13 26.20	E 103 47 44.11
9704.30	17.68	9586.13	9586.13	-996.09	-1002.83	237.57	2.54	44564.75	44564.75	N 32 13 26.00	E 103 47 44.08
9800.30	18.52	9677.00	9677.00	-996.09	-1002.83	239.87	2.54	44563.63	44563.63	N 32 13 25.80	E 103 47 44.05
9895.30	19.37	9768.00	9768.00	-996.09	-1002.83	242.17	2.54	44562.51	44562.51	N 32 13 25.60	E 103 47 44.02
9990.30	20.21	9859.00	9859.00	-996.09	-1002.83	244.47	2.54	44561.39	44561.39	N 32 13 25.40	E 103 47 43.99
10085.30	21.06	9950.00	9950.00	-996.09	-1002.83	246.77	2.54	44560.27	44560.27	N 32 13 25.20	E 103 47 43.96
10180.30	21.91	10041.00	10041.00	-996.09	-1002.83	249.07	2.54	44559.15	44559.15	N 32 13 25.00	E 103 47 43.93
10275.30	22.76	10132.00	10132.00	-996.09	-1002.83	251.37	2.54	44558.03	44558.03	N 32 13 24.80	E 103 47 43.90
10370.30	23.61	10223.00	10223.00	-996.09	-1002.83	253.67	2.54	44556.91	44556.91	N 32 13 24.60	E 103 47 43.87
10465.30	24.46	10314.00	10314.00	-996.09	-1002.83	255.97	2.54	44555.79	44555.79	N 32 13 24.40	E 103 47 43.84
10560.30	25.31	10405.00	10405.00	-996.09	-1002.83	258.27	2.54	44554.67	44554.67	N 32 13 24.20	E 103 47 43.81
10655.30	26.16	10496.00	10496.00	-996.09	-1002.83	260.57	2.54	44553.55	44553.55	N 32 13 24.00	E 103 47 43.78
10750.30	27.01	10587.00	10587.00	-996.09	-1002.83	262.87	2.54	44552.43	44552.43	N 32 13 23.80	E 103 47 43.75
10845.30	27.86	10678.00	10678.00	-996.09	-1002.83	265.17	2.54	44551.31	44551.31	N 32 13 23.60	E 103 47 43.72
10940.30	28.71	10769.00	10769.00	-996.09	-1002.83	267.47	2.54	44550.19	44550.19	N 32 13 23.40	E 103 47 43.69
11035.30	29.56	10860.00	10860.00	-996.09	-1002.83	269.77	2.54	44549.07	44549.07	N 32 13 23.20	E 103 47 43.66
11130.30	30.41	10951.00	10951.00	-996.09	-1002.83	272.07	2.54	44547.95	44547.95	N 32 13 23.00	E 103 47 43.63
11225.30	31.26	11042.00	11042.00	-996.09	-1002.83	274.37	2.54	44546.83	44546.83	N 32 13 22.80	E 103 47 43.60
11320.30	32.11	11133.00	11133.00	-996.09	-1002.83	276.67	2.54	44545.71	44545.71	N 32 13 22.60	E 103 47 43.57
11415.30	32.96	11224.00	11224.00	-996.09	-1002.83	278.97	2.54	44544.59	44544.59	N 32 13 22.40	E 103 47 43.54
11510.30	33.81	11315.00	11315.00	-996.09	-1002.83	281.27	2.54	44543.47	44543.47	N 32 13 22.20	E 103 47 43.51
11605.30	34.66	11406.00	11406.00	-996.09	-1002.83	283.57	2.54	44542.35	44542.35	N 32 13 22.00	E 103 47 43.48
11700.30	35.51	11497.00	11497.00	-996.09	-1002.83	285.87	2.54	44541.23	44541.23	N 32 13 21.80	E 103 47 43.45
11795.30	36.36	11588.00	11588.00	-996.09	-1002.83	288.17	2.54	44540.11	44540.11	N 32 13 21.60	E 103 47 43.42
11890.30	37.21	11679.00	11679.00	-996.09	-1002.83	290.47	2.54	44538.99	44538.99	N 32 13 21.40	E 103 47 43.39
11985.30	38.06	11770.00	11770.00	-996.09	-1002.83	292.77	2.54	44537.87	44537.87	N 32 13 21.20	E 103 47 43.36
12080.30	38.91	11861.00	11861.00	-996.09	-1002.83	295.07	2.54	44536.75	44536.75	N 32 13 21.00	E 103 47 43.33
12175.30	39.76	11952.00	11952.00	-996.09	-1002.83	297.37	2.54	44535.63	44535.63	N 32 13 20.80	E 103 47 43.30
12270.30	40.61	12043.00	12043.00	-996.09	-1002.83	299.67	2.54	44534.51	44534.51	N 32 13 20.60	E 103 47 43.27
12365.30	41.46	12134.00	12134.00	-996.09	-1002.83	301.97	2.54	44533.39	44533.39	N 32 13 20.40	E 103 47 43.24
12460.30	42.31	12225.00	12225.00	-996.09	-1002.83	304.27	2.54	44532.27	44532.27	N 32 13 20.20	E 103 47 43.21
12555.30	43.16	12316.00	12316.00	-996.09	-1002.83	306.57	2.54	44531.15	44531.15	N 32 13 20.00	E 103 47 43.18
12650.30	44.01	12407.00	12407.00	-996.09	-1002.83	308.87	2.54	44530.03	44530.03	N 32 13 19.80	E 103 47 43.15
12745.30	44.86	12498.00	12498.00	-996.09	-1002.83	311.17	2.54	44528.91	44528.91	N 32 13 19.60	E 103 47 43.12
12840.30	45.71	12589.00	12589.00	-996.09	-1002.83	313.47	2.54	44527.79	44527.79	N 32 13 19.40	E 103 47 43.09
12935.30	46.56	12680.00	12680.00	-996.09	-1002.83	315.77	2.54	44526.67	44526.67	N 32 13 19.20	E 103 47 43.06
13030.30	47.41	12771.00	12771.00	-996.09	-1002.83	318.07	2.54	44525.55	44525.55	N 32 13 19.00	E 103 47 43.03
13125.30	48.26	12862.00	12862.00	-996.09	-1002.83	320.37	2.54	44524.43	44524.43	N 32 13 18.80	E 103 47 43.00
13220.30	49.11	12953.00	12953.00	-996.09	-1002.83	322.67	2.54	44523.31	44523.31	N 32 13 18.60	E 103 47 42.97
13315.30	50.00	13044.00	13044.00	-996.09	-1002.83	324.97	2.54	44522.19	44522.19	N 32 13 18.40	E 103 47 42.94
13410.30	50.85	13135.00	13135.00	-996.09	-1002.83	327.27	2.54	44521.07	44521.07	N 32 13 18.20	E 103 47 42.91
13505.30	51.70	13226.00	13226.00	-996.09	-1002.83	329.57	2.54	44519.95	44519.95	N 32 13 18.00	E 103 47 42.88
13600.30	52.55	13317.00	13317.00	-996.09	-1002.83	331.87	2.54	44518.83	44518.83	N 32 13 17.80	E 103 47 42.85
13695.30	53.40	13408.00	13408.00	-996.09	-1002.83	334.17	2.54	44517.71	44517.71	N 32 13 17.60	E 103 47 42.82
13790.30	54.25	13499.00	13499.00	-996.09	-1002.83	336.47	2.54	44516.59	44516.59	N 32 13 17.40	E 103 47 42.79
13885.30	55.10	13590.00	13590.00	-996.09	-1002.83	338.77	2.54	44515.47	44515.47	N 32 13 17.20	E 103 47 42.76
13980.30	55.95	13681.00	13681.00	-996.09	-1002.83	341.07	2.54	44514.35	44514.35	N 32 13 17.00	E 103 47 42.73
14075.30	56.80	13772.00	13772.00	-996.09	-1002.83	343.37	2.54	44513.23	44513.23	N 32 13 16.80	E 103 47 42.70
14170.30	57.65	13863.00	13863.00	-996.09	-1002.83	345.67	2.54	44512.11	44512.11	N 32 13 16.60	E 103 47 42.67
14265.30	58.50	13954.00	13954.00	-996.09	-1002.83	347.97	2.54	44510.99	44510.99	N 32 13 16.40	E 103 47 42.64
14360.30	59.35	14045.00	14045.00	-996.09	-1002.83	350.27	2.54	44509.87	44509.87	N 32 13 16.20	E 103 47 42.61
14455.30	60.20	14136.00	14136.00	-996.09	-1002.83	352.57	2.54	44508.75	44508.75	N 32 13 16.00	E 103 47 42.58
14550.30	61.05	14227.00	14227.00	-996.09	-1002.83	354.87	2.54	44507.63	44507.63	N 32 13 15.80	E 103 47 42.55
14645.30	61.90	14318.00	14318.00	-996.09	-1002.83	357.17	2.54				

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 ° ' ")
Final MWD Survey	20434.00	99.08	355.43	9941.98	9491.82	9490.31	183.27	2.16	456180.40	707574.65	N 32 15 10.69	W 103 47 44.11
Proj. to Bit	20490.00	99.08	355.43	9933.14	9546.80	9545.43	178.86	0.00	456235.52	707570.25	N 32 15 11.24	W 103 47 44.16

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	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 Sunrise MDP1 8-5 Federal Com 5H Gyro+MWD 0-20,490'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 5H Gyro+MWD 0-20,490'
	1	26.500	10455.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 5H Gyro+MWD 0-20,490'
	1	10455.500	20490.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 5H

Schlumberger

OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Sunrise MDP1 8-5 Federal Com 5H	NM Eddy County (NAD 83)	Oxy Sunrise MDP1 8-5 Federal Com 5H

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: HDGM 2017 Dip: 69.982° Date: 10-Jan-2018 MagDec: 6.928° FS: 48258.00ZnT Gravity FS: 989.428mgm (9.80665 Based)	NAD83 New Mexico State Plane, Eastern Zone, US Feet Lat: N 32 13 38.80 Northing: 448680.87705 Grid Conv: 0.2884° Lon: W 103 47 48.79 Easting: 707351.42105 Scale Fact: 0.99994067	Slot: 8-5 Federal Com TVD Ref: RKB=26.5' (1548.3' above MSL) Plan: Oxy Sunrise MDP1 8-5 Federal Com 5H REV2 APS 09-Jan-18

