

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

NO. 011 CONSERVATION

ARTESIA DISTRICT

DEC 16 2019

RECEIVED

July 8, 2019

OXY USA Inc
5 Greenway Plaza, Suite 110
Houston, TX 77046

Re:

S17, T24S, R31E, Eddy NM
N 32.22297 W 103.79550

CLIENT: OXY USA Inc
WELL: Sunrise MDPI 8-5 Federal Com 176H
FIELD: Purple Sage Wolfcamp

RIG: H&P 617
COUNTY: Eddy
API NO: 30-015-45153
JOB NO: 19MLH0202

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>
Jeremy James FST	Sunrise MDPI 8-5 Federal Com 176H Original Hole	800.00 Ft to 22465.00 Ft	May 23, 2019 to July 7, 2019	SlimPulse 3rd Party Corrected

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

Andrew Salomon
Field Service Manager

Oilfield Services, Central U.S. Land
Schlumberger Drilling and Measurements
Drilling Group
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7220 W I-H 20
Midland, Texas 79706
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Schlumberger

Well Reference:
S17,T 24S,R 31E, Eddy NM
N 32.22297 W 103.79550

I, Jeremy James certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of May 23, 2019 through July 07, 2019, conduct or supervise the taking of the SlimPulse & 3rd Part Corrected surveys from a depth of 800.00 feet to a depth of 22465.00 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 Federal Com 176H Well (Original Hole) API No. 30-015-45153 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
Jeremy James
FST

Jeremy James

Subscribed and Sworn to before me this 1 day of August (month) 2019 (yr)

My Commission expires:

6/14/2023

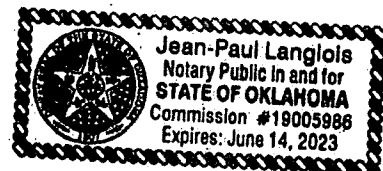
Jean-Paul Langlois

Notary Public

Concho Oklahoma

(County State)

(signature)



Oxy Sunrise MDP1 8-5 Federal Com 176H Gyro + MWD 0-22,520' Survey Geodetic Report (Def Survey)



Report Date: July 09, 2019 - 12:28 PM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Sunrise MDP1 8-5 Federal Com 176H / Oxy Sunrise MDP1 8-5 Federal Com 176H
Well: Oxy Sunrise MDP1 8-5 Federal Com 176H
Borehole: Original Borehole
UWI / API#: Unknown / 30-015-45153
Survey Name: Oxy Sunrise MDP1 8-5 Federal Com 176H Gyro + MWD 0-22,520'
Survey Date: May 10, 2019
Tort / AHD / DDI / ERD Ratio: 262.579' / 11778.571 ft / 6.769 / 0.994
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 13' 22.69385", W 103° 47' 43.81116"
Location Grid N/E Y/X: N 445266.750 RUS, E 707654.790 RUS
CRS Grid Convergence Angle: 0.2868 °
Grid Scale Factor: 0.99994077
Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 4.167 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=26.5'
TVD Reference Elevation: 3574.300 ft above MSL
Seabed / Ground Elevation: 3547.800 ft above MSL
Magnetic Declination: 6.761 °
Total Gravity Field Strength: 998.4270mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47918.900 nT
Magnetic Dip Angle: 59.910 °
Declination Date: June 19, 2019
Magnetic Declination Model: IFR1
North Reference: Grid North
Grid Convergence Used: 0.2868 °
Total Corr Mag North->Grid: 6.4742 °
North: Well Head
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100m)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
RKB	0.00	0.00	4.23	0.00	0.00	0.00	0.00	N/A	445266.75	707654.79	N 32 13 22.69	W 103 47 43.81
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	445266.75	707654.79	N 32 13 22.69	W 103 47 43.81
	92.40	1.32	196.44	92.39	-0.74	-0.73	-0.21	2.00	445266.02	707654.58	N 32 13 22.69	W 103 47 43.81
	179.80	1.29	192.93	179.77	-2.70	-2.65	-0.72	0.10	445264.10	707654.07	N 32 13 22.67	W 103 47 43.82
	268.80	1.20	193.60	268.75	-4.61	-4.53	-1.16	0.10	445262.22	707653.63	N 32 13 22.65	W 103 47 43.82
	363.59	1.00	197.43	363.52	-6.39	-6.29	-1.64	0.10	445260.46	707653.15	N 32 13 22.63	W 103 47 43.83
	502.56	1.11	198.91	502.47	-8.87	-8.72	-2.44	0.08	445258.03	707652.35	N 32 13 22.61	W 103 47 43.84
	553.49	0.88	190.33	553.39	-9.74	-9.57	-2.67	0.54	445257.18	707652.12	N 32 13 22.60	W 103 47 43.84
	648.20	1.14	184.55	648.09	-11.40	-11.23	-2.88	0.29	445255.53	707651.91	N 32 13 22.58	W 103 47 43.85
	718.50	1.19	185.89	718.37	-12.83	-12.65	-3.01	0.08	445254.10	707651.78	N 32 13 22.57	W 103 47 43.85
	800.00	1.46	187.87	799.85	-14.72	-14.52	-3.24	0.34	445252.23	707651.55	N 32 13 22.55	W 103 47 43.85
	831.00	1.12	196.68	830.84	-15.41	-15.20	-3.38	1.27	445251.55	707651.41	N 32 13 22.54	W 103 47 43.85
	922.00	0.07	68.68	921.84	-16.25	-16.03	-3.58	1.28	445250.72	707651.21	N 32 13 22.54	W 103 47 43.85
	1103.00	0.20	145.47	1102.84	-16.45	-16.25	-3.30	0.11	445250.50	707651.49	N 32 13 22.53	W 103 47 43.85
	1194.00	0.14	209.97	1193.84	-16.67	-16.48	-3.27	0.21	445250.27	707651.52	N 32 13 22.53	W 103 47 43.85
	1377.00	0.18	297.20	1376.84	-16.76	-16.54	-3.63	0.12	445250.21	707651.16	N 32 13 22.53	W 103 47 43.85
	1559.00	0.22	5.51	1558.83	-16.30	-16.06	-3.85	0.12	445250.69	707650.94	N 32 13 22.54	W 103 47 43.86
	1741.00	0.23	266.28	1740.83	-16.00	-15.74	-4.19	0.19	445251.01	707650.60	N 32 13 22.54	W 103 47 43.86
	1922.00	0.20	342.27	1921.83	-15.76	-15.46	-4.64	0.15	445251.29	707650.15	N 32 13 22.54	W 103 47 43.87
	2108.00	0.17	258.99	2105.83	-15.53	-15.21	-5.01	0.13	445251.54	707649.78	N 32 13 22.54	W 103 47 43.87
	2201.00	0.15	94.01	2200.83	-15.57	-15.24	-5.02	0.33	445251.51	707649.77	N 32 13 22.54	W 103 47 43.87
	2296.00	0.25	61.87	2295.83	-15.46	-15.15	-4.72	0.15	445251.60	707650.07	N 32 13 22.54	W 103 47 43.87
	2390.00	0.11	136.59	2389.83	-15.41	-15.12	-4.47	0.26	445251.63	707650.32	N 32 13 22.54	W 103 47 43.86
	2485.00	0.19	313.43	2484.83	-15.37	-15.08	-4.53	0.32	445251.67	707650.26	N 32 13 22.54	W 103 47 43.86
	2675.00	0.11	246.01	2674.83	-15.26	-14.94	-4.92	0.09	445251.81	707649.87	N 32 13 22.55	W 103 47 43.87
	2769.00	0.20	33.85	2768.83	-15.16	-14.84	-4.91	0.32	445251.91	707649.88	N 32 13 22.55	W 103 47 43.87
	2864.00	0.19	35.24	2863.83	-14.88	-14.57	-4.73	0.01	445252.18	707650.06	N 32 13 22.55	W 103 47 43.87
	2958.00	0.15	48.70	2957.83	-14.66	-14.36	-4.55	0.06	445252.39	707650.24	N 32 13 22.55	W 103 47 43.86
	3148.00	0.21	19.69	3147.83	-14.14	-13.87	-4.24	0.06	445252.88	707650.55	N 32 13 22.56	W 103 47 43.86
	3243.00	0.23	336.21	3242.83	-13.81	-13.53	-4.26	0.17	445253.22	707650.53	N 32 13 22.56	W 103 47 43.86
	3337.00	0.22	180.75	3336.83	-13.82	-13.54	-4.34	0.47	445253.21	707650.45	N 32 13 22.56	W 103 47 43.86
	3432.00	0.12	335.05	3431.83	-13.92	-13.63	-4.38	0.35	445253.12	707650.41	N 32 13 22.56	W 103 47 43.86
	3527.00	0.22	158.61	3526.83	-13.99	-13.71	-4.36	0.36	445253.04	707650.43	N 32 13 22.56	W 103 47 43.86
	3622.00	0.10	348.36	3621.83	-14.08	-13.80	-4.31	0.34	445252.95	707650.48	N 32 13 22.56	W 103 47 43.86
	3716.00	0.08	35.04	3715.83	-13.94	-13.67	-4.29	0.08	445253.08	707650.50	N 32 13 22.56	W 103 47 43.86
	3810.00	0.12	189.51	3809.83	-13.99	-13.71	-4.27	0.21	445253.04	707650.52	N 32 13 22.56	W 103 47 43.86
	3905.00	0.96	183.77	3904.82	-14.88	-14.60	-4.34	0.88	445252.15	707650.45	N 32 13 22.55	W 103 47 43.86
	3999.00	1.04	277.50	3998.81	-15.62	-15.28	-5.23	1.55	445251.47	707649.56	N 32 13 22.54	W 103 47 43.87
	4094.00	0.57	135.26	4093.81	-15.88	-15.50	-5.76	1.61	445251.25	707649.03	N 32 13 22.54	W 103 47 43.88
	4188.00	2.55	99.40	4187.77	-16.38	-16.17	-3.36	2.25	445250.58	707651.43	N 32 13 22.53	W 103 47 43.85
	4282.00	4.75	82.23	4281.58	-15.76	-15.43	-11.50	2.59	445250.76	707657.35	N 32 13 22.54	W 103 47 43.78
	4377.00	6.26	77.17	4376.14	-13.43	-14.31	11.50	1.67	445252.44	707666.29	N 32 13 22.55	W 103 47 43.68
	4471.00	7.62	72.93	4469.45	-9.68	-11.34	22.46	1.55	445255.41	707677.25	N 32 13 22.58	W 103 47 43.55
	4566.00	7.68	67.16	4563.60	-4.51	-7.03	34.33	0.81	445259.72	707689.12	N 32 13 22.62	W 103 47 43.41
	4660.00	7.50	60.15	4656.78	1.77	-1.54	45.44	1.00	445265.21	707700.23	N 32 13 22.68	W 103 47 43.28
	4755.00	7.54	60.82	4750.96	8.66	4.59	56.26	0.10	445271.34	707711.05	N 32 13 22.74	W 103 47 43.16
	4850.00	7.67	57.52	4845.13	15.88	11.03	67.05	0.48	445277.78	707721.84	N 32 13 22.80	W 103 47 43.03
	4945.00	7.49	53.53	4939.30	23.69	18.12	77.38	0.59	445284.87	707732.16	N 32 13 22.87	W 103 47 42.91
	5038.00	7.63	54.71	5031.49	31.56	25.29	87.29	0.22	445292.04	707742.08	N 32 13 22.94	W 103 47 42.79
	5132.00	7.73	53.88	5124.65	39.62	32.62	97.49	0.16	445299.37	707752.28	N 32 13 23.01	W 103 47 42.67
	5227.00	7.40	55.43	5218.82	47.58	39.86	107.69	0.41	445306.60	707762.47	N 32 13 23.08	W 103 47 42.56
	5321.00	7.37	56.55	5312.04	55.04	46.61	117.71	0.16	445313.36	707772.49	N 32 13 23.15	W 103 47 42.44
	5416.00	7.68	58.35	5406.22	62.48	53.30	128.19	0.41	445320.05	707782.98	N 32 13 23.21	W 103 47 42.32
	5511.00	7.32	61.94	5500.41	69.42	59.48	138.94	0.62	445326.23	707793.72	N 32 13 23.28	W 103 47 42.19
	5605.00	7.71	68.32	5593.60	75.36	64.63	150.08	0.98	445331.37	707804.86	N 32 13 23.33	W 103 47 42.06
	5700.00	7.69	74.11	5687.75	80.32	68.72	162.12	0.82	445335.47	707816.90	N 32 13 23.37	W 103 47 41.92
	5889.00	7.51	72.17	5875.09	89.28	75.97	186.04	0.17	445342.71	707840.82	N 32 13 23.44	W 103 47 41.64
	5983.00	7.28	70.00	5968.31	94.02	79.88	197.48	0.38	445346.63	707852.26	N 32 13 23.47	W 103 47 41.51
	6078.00	7.64	69.44	6062.50	99.13	84.16	209.05	0.39	445350.91	707863.83	N 32 13 23.52	W 103 47 41.37
	6173.00	7.73	70.86	6156.65	104.30	88.47	221.00	0.22	445355.22	707875.78	N 32 13 23.56	W 103 47 41.23
	6267.00	7.55	76.28	6249.82	108.70	92.01	232.97	0.79	445358.76	707887.75	N 32 13 23.59	W 103 47 41.09
	6457.00	7.46	84.21	6438.19	114.66	96.22	257.37	0.55	445362.96	707912.14	N 32 13 23.63	W 103 47 40.81
	6551.00	7.44	86.21	6531.40	116.56	97.23	269.51	0.28	445363.98	707924.29	N 32 13 23.64	W 103 47 40.67
	6646.00	7.51	86.27	6625.59	118.26	98.04	281.85	0.07	445364.79	707936.62	N 32 13 23.65	W 103 47 40.52
	6740.00	7.44	81.17	6718.79	120.48	99.38	293.99	0.71	445366.12	707948.76	N 32 13 23.66	W 103 47 40.38
	6835.00	7.75	74.26	6812.96	124.04	102.06	306.23	1.01	445368.80	707961.00	N 32 13 23.69	W 103 47 40.24
	6929.00	7.67	67.21	6906.12	129.04	106.21	318.12	1.01	445372.95	707972.89	N 32 13 23.73	W 103 47 40.10
	7118.00	7.74	60.89	7093.41	141.74	117.29	340.86	0.45	445384.03	707995.63	N 32 13 23.84	W 103 47 39.84
	7213.00	7.45	62.72	7187.58	148.47	123.22	351.93	0.40	445389.96	708006.70	N 32 13 23.90	W 103 47 39.71
	7307.00	7.30	68.01	7280.80	154.28	128.25	362.88	0.74	445394.99	708017.65	N 32 13 23.94	W 103 47 39.58
	7402.00	7.45	72.53	7375.02	159.21	132.36	374.35	0.63	445399.10	708029.12	N 32 13 23.98	W 103 47 39.45
	7496.00	7.48	79.24	7468.22	163.03	135.33	386.18	0.93	445402.07	708040.94	N 32 13 24.01	W 103 47 39.31
	7591.00	7.43	81.26	7562.42	166.00	137.42	398.32	0.28	445404.16	708053.09	N 32 13 24.03	W 10

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 ° ' ")
	8160.00	6.56	82.91	8127.44	184.74	151.44	463.82	0.41	445418.15	708118.58	N 32 13 24.17	W 103 47 38.40
	8254.00	7.21	74.33	8220.77	187.79	153.70	474.82	1.30	445420.44	708129.58	N 32 13 24.19	W 103 47 38.28
	8349.00	6.81	67.25	8315.06	192.37	157.49	485.76	1.00	445424.23	708140.52	N 32 13 24.23	W 103 47 38.15
	8443.00	6.73	65.91	8408.40	197.50	161.89	495.92	0.19	445428.63	708150.68	N 32 13 24.27	W 103 47 38.03
	8538.00	6.59	65.21	8502.76	202.77	166.45	505.96	0.17	445433.19	708160.71	N 32 13 24.32	W 103 47 37.91
	8632.00	6.70	63.15	8596.13	208.21	171.19	515.74	0.28	445437.92	708170.50	N 32 13 24.36	W 103 47 37.80
	8727.00	6.47	62.31	8690.50	213.89	176.18	525.43	0.26	445442.91	708180.19	N 32 13 24.41	W 103 47 37.68
	8821.00	6.55	61.47	8783.90	219.58	181.20	534.83	0.13	445447.94	708189.59	N 32 13 24.46	W 103 47 37.57
	8916.00	6.67	62.99	8878.27	225.36	186.29	544.50	0.22	445453.03	708199.26	N 32 13 24.51	W 103 47 37.46
	9010.00	6.65	61.66	8971.63	231.11	191.35	554.16	0.17	445458.09	708208.91	N 32 13 24.56	W 103 47 37.35
	9104.00	6.71	59.23	9064.99	237.18	196.75	563.67	0.31	445463.48	708218.42	N 32 13 24.61	W 103 47 37.24
	9200.00	6.26	60.88	9160.38	243.27	202.16	573.06	0.51	445468.90	708227.81	N 32 13 24.67	W 103 47 37.13
	9294.00	6.43	66.18	9253.80	248.55	206.78	582.35	0.65	445473.52	708237.11	N 32 13 24.71	W 103 47 37.02
	9389.00	6.46	75.41	9348.21	252.77	210.28	592.39	1.09	445477.01	708247.14	N 32 13 24.75	W 103 47 36.90
	9484.00	6.31	78.76	9442.62	255.87	212.64	602.68	0.42	445479.38	708257.43	N 32 13 24.77	W 103 47 36.78
	9578.00	6.48	80.38	9536.03	258.51	214.53	612.98	0.26	445481.27	708267.73	N 32 13 24.79	W 103 47 36.66
	9673.00	6.68	79.92	9630.41	261.15	216.40	623.70	0.22	445483.13	708278.46	N 32 13 24.80	W 103 47 36.54
	9775.00	6.53	79.61	9731.73	264.06	218.48	635.25	0.15	445485.22	708290.00	N 32 13 24.82	W 103 47 36.40
	9870.00	6.72	81.53	9826.10	266.64	220.27	646.06	0.31	445487.01	708300.81	N 32 13 24.84	W 103 47 36.28
	9964.00	6.73	80.59	9919.45	269.13	221.99	656.93	0.12	445488.72	708311.68	N 32 13 24.86	W 103 47 36.15
	10059.00	7.13	75.11	10013.76	272.37	224.41	668.12	0.81	445491.15	708322.87	N 32 13 24.88	W 103 47 36.02
	10154.00	6.90	63.00	10108.05	277.24	228.52	678.91	1.57	445495.25	708333.65	N 32 13 24.92	W 103 47 35.90
	10248.00	6.89	53.46	10201.37	283.84	234.44	688.47	1.22	445501.17	708343.22	N 32 13 24.98	W 103 47 35.78
	10343.00	6.95	56.91	10295.68	291.04	240.97	697.86	0.44	445507.70	708352.61	N 32 13 25.04	W 103 47 35.67
	10437.00	6.85	62.65	10389.00	297.41	246.65	707.61	0.74	445513.38	708362.35	N 32 13 25.10	W 103 47 35.56
	10532.00	6.78	71.43	10483.33	302.54	251.04	717.95	1.10	445517.77	708372.70	N 32 13 25.14	W 103 47 35.44
	10626.00	6.99	83.34	10576.66	305.76	253.47	728.90	1.53	445520.20	708383.64	N 32 13 25.17	W 103 47 35.31
	10721.00	7.01	88.67	10670.95	307.40	254.27	740.43	0.68	445521.01	708395.18	N 32 13 25.17	W 103 47 35.18
	10816.00	6.92	74.13	10858.57	312.41	257.65	762.92	0.93	445524.39	708417.66	N 32 13 25.21	W 103 47 34.92
	11004.00	6.96	72.19	10951.88	316.48	260.94	773.78	0.25	445527.68	708428.53	N 32 13 25.24	W 103 47 34.79
	11098.00	7.02	64.24	11045.19	321.48	265.18	784.38	1.03	445531.92	708439.12	N 32 13 25.28	W 103 47 34.67
	11193.00	7.18	62.87	11139.46	327.46	270.41	794.89	0.25	445537.15	708449.63	N 32 13 25.33	W 103 47 34.54
	11337.00	7.94	32.39	11282.26	340.90	282.92	808.24	2.80	445549.65	708462.98	N 32 13 25.45	W 103 47 34.39
	11432.00	17.64	12.52	11374.83	360.98	302.57	814.89	11.07	445569.30	708469.63	N 32 13 25.65	W 103 47 34.31
	11527.00	25.52	6.38	11463.12	395.73	337.02	820.29	8.62	445603.75	708475.03	N 32 13 25.99	W 103 47 34.24
	11621.00	31.31	3.51	11545.76	440.43	381.56	824.04	6.33	445648.28	708478.78	N 32 13 26.43	W 103 47 34.20
Wolfcamp Intersection	11677.32	34.66	5.46	11593.00	471.08	412.12	826.46	6.24	445678.84	708481.20	N 32 13 26.73	W 103 47 34.17
	11701.00	36.08	6.18	11612.31	484.78	425.75	827.85	6.24	445692.48	708482.59	N 32 13 26.87	W 103 47 34.15
	11716.00	36.86	6.68	11624.37	493.69	434.61	828.85	5.56	445701.34	708483.59	N 32 13 26.95	W 103 47 34.14
	11781.00	37.34	6.07	11676.21	532.87	473.58	833.20	0.93	445740.30	708487.94	N 32 13 27.34	W 103 47 34.08
	11810.00	38.63	5.69	11699.07	550.71	491.33	835.03	4.52	445758.05	708489.77	N 32 13 27.51	W 103 47 34.06
	11905.00	50.08	6.97	11766.88	616.96	557.22	842.42	12.09	445823.94	708497.15	N 32 13 28.17	W 103 47 33.97
LL Crossing	11951.70	59.69	4.48	11793.72	655.10	595.19	846.17	21.04	445861.90	708500.91	N 32 13 28.54	W 103 47 33.93
100' FSL Crossing	11999.00	69.47	2.41	11813.99	697.76	637.78	848.70	21.04	445904.49	708503.44	N 32 13 28.96	W 103 47 33.89
	12058.66	81.23	359.69	11829.06	755.29	695.38	849.72	20.20	445962.09	708504.46	N 32 13 29.53	W 103 47 33.88
	12062.00	81.89	359.54	11829.55	758.58	698.69	849.70	20.20	445965.39	708504.44	N 32 13 29.57	W 103 47 33.88
	12197.00	88.23	359.21	11841.17	892.54	833.11	848.23	4.70	446099.81	708502.97	N 32 13 30.90	W 103 47 33.89
	12291.00	88.30	359.32	11844.02	986.16	927.06	847.02	0.14	446193.75	708501.76	N 32 13 31.63	W 103 47 33.90
	12386.00	89.91	359.23	11845.50	1080.79	1022.04	845.82	1.70	446288.72	708500.56	N 32 13 32.76	W 103 47 33.91
	12480.00	92.90	359.17	11843.19	1174.40	1115.99	844.51	3.18	446382.67	708499.25	N 32 13 33.69	W 103 47 33.92
	12575.00	93.46	358.16	11837.92	1268.82	1210.81	842.30	1.21	446477.49	708497.04	N 32 13 34.63	W 103 47 33.94
	12669.00	93.56	358.51	11832.17	1362.16	1304.60	839.58	0.39	446571.27	708494.31	N 32 13 35.56	W 103 47 33.96
	12764.00	93.70	357.88	11826.15	1456.45	1399.36	836.59	1.60	446666.02	708491.33	N 32 13 36.50	W 103 47 33.99
	12859.00	92.22	358.22	11821.25	1550.78	1494.18	833.36	0.57	446760.83	708488.10	N 32 13 37.44	W 103 47 34.02
	12953.00	92.60	358.60	11817.30	1644.22	1588.06	830.76	1.05	446854.71	708485.49	N 32 13 38.37	W 103 47 34.05
	13048.00	93.59	358.48	11812.17	1738.63	1682.88	828.34	0.54	446949.53	708483.08	N 32 13 39.30	W 103 47 34.07
	13142.00	93.87	358.06	11806.05	1831.93	1776.64	825.51	1.14	447043.28	708480.25	N 32 13 40.23	W 103 47 34.10
	13237.00	94.90	357.74	11798.79	1926.08	1871.30	822.04	0.77	447137.93	708476.78	N 32 13 41.17	W 103 47 34.13
	13331.00	94.18	357.82	11791.35	2019.21	1964.93	818.41	0.98	447231.56	708473.15	N 32 13 42.10	W 103 47 34.17
	13426.00	93.25	357.84	11785.19	2113.43	2059.67	814.82	1.86	447326.29	708469.56	N 32 13 43.03	W 103 47 34.21
	13520.00	92.46	359.40	11780.51	2206.87	2153.52	812.56	1.47	447420.14	708467.30	N 32 13 43.96	W 103 47 34.23
	13614.00	91.25	0.06	11777.47	2300.53	2247.46	812.11	1.50	447514.08	708466.85	N 32 13 44.89	W 103 47 34.23
	13709.00	90.60	1.33	11775.93	2395.35	2342.44	813.27	1.48	447609.05	708468.01	N 32 13 45.83	W 103 47 34.21
	13804.00	89.26	1.75	11776.05	2490.24	2437.41	815.82	1.46	447704.01	708470.56	N 32 13 46.77	W 103 47 34.17
	13898.00	88.02	2.33	11778.28	2584.15	2531.32	819.16	1.58	447797.91	708473.90	N 32 13 47.70	W 103 47 34.13
	13992.00	86.54	2.19	11782.74	2677.99	2625.14	822.87	1.14	447891.73	708477.61	N 32 13 48.63	W 103 47 34.08
	14087.00	87.37	1.49	11787.79	2772.78	2719.95	825.91	1.86	447986.54	708480.65	N 32 13 49.57	W 103 47 34.04
	14182.00	88.98	0.76	11790.81	2867.59	2814.88	827.78	1.80	448081.46	708482.52	N 32 13 50.51	W 103 47 34.01
	14276.00	90.26	359.65	11791.44	2961.36	2908.88	828.11	0.72	448175.45	708482.85	N 32 13 51.44	W 103 47 34.00
	14371.00	90.36	358.97	11790.92	3056.02	3003.87	826.97	0.31	448270.43	708481.71	N 32 13 52.38	W 103 47 34.01
	14466.00	90.56	358.75	11790.16	3150.61	3098.84	825.08	0.95	448365.41	708479.82	N 32 13 53.32	W 103 47 34.03
	14560.00	91.42	358.98	11788.54	3244.19	3192.81	823.22	1.97	448459.37	708477.96	N 32 13 54.25	W 103 47 34.04
	14655.00	93.28	358.77	11784.64	3338.70	3287.71	821.35	0.27	448554.26	708476.09	N 32 13 55.18	W 103 47 34.06
	14750.00	93.08	358.93	11779.37	3433.15	3382.54	819.45	3.12	448649.09	708474.19	N 32 13 56.12	W 103 47 34.07
	14845.00	90.15	358.51	11776.69	3527.67	3477.47	817.33	2.44	448744.01	708472.07	N 32 13 57.06	W 103 47 34.09
	14940.00	87.85	358.24	11778.35	3622.16	3572.41	814.63	1.11	448838.94	708469.37		

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 ° ' ")
	18778.00	90.35	359.30	11787.16	7447.52	7408.58	805.31	0.07	452674.88	708460.05	N 32 14 35.98 W	103 47 34.00
	18873.00	90.59	359.64	11786.38	7542.19	7503.58	804.43	0.44	452769.87	708459.17	N 32 14 36.90 W	103 47 34.01
	18968.00	90.76	358.70	11785.26	7636.83	7598.56	803.06	1.01	452864.84	708457.80	N 32 14 37.84 W	103 47 34.02
	19156.00	90.31	359.17	11783.51	7824.03	7786.52	799.56	-0.35	453052.79	708454.30	N 32 14 39.70 W	103 47 34.05
	19345.00	90.38	0.12	11782.37	8012.44	7975.51	798.39	0.50	453241.77	708453.13	N 32 14 41.57 W	103 47 34.05
	19535.00	90.62	359.77	11780.71	8201.92	8165.50	798.21	0.22	453431.75	708452.95	N 32 14 43.45 W	103 47 34.04
	19629.00	90.17	359.34	11780.06	8295.61	8259.49	797.48	0.66	453525.74	708452.22	N 32 14 44.38 W	103 47 34.04
	19724.00	90.55	359.45	11779.47	8390.28	8354.49	796.48	0.42	453620.73	708451.22	N 32 14 45.32 W	103 47 34.05
	19818.00	90.52	359.48	11778.59	8483.96	8448.48	795.60	0.05	453714.71	708450.34	N 32 14 46.32 W	103 47 34.06
	19913.00	90.45	358.82	11777.79	8578.59	8543.46	794.19	0.70	453809.69	708448.93	N 32 14 47.19 W	103 47 34.07
	20007.00	90.62	359.90	11776.91	8672.25	8637.45	793.14	1.16	453903.67	708447.88	N 32 14 48.12 W	103 47 34.07
	20101.00	90.21	0.74	11776.23	8766.04	8731.45	793.66	0.99	453997.66	708448.41	N 32 14 49.05 W	103 47 34.06
	20196.00	90.76	359.29	11775.42	8860.78	8826.44	793.69	1.63	454092.65	708448.43	N 32 14 49.99 W	103 47 34.06
	20290.00	90.96	358.85	11774.01	8954.40	8920.42	792.16	0.51	454186.62	708446.90	N 32 14 50.92 W	103 47 34.07
	20385.00	90.79	359.35	11772.56	9049.02	9015.40	790.67	0.56	454281.59	708445.41	N 32 14 51.86 W	103 47 34.08
	20479.00	90.31	359.37	11771.66	9142.68	9109.39	789.62	0.51	454375.58	708444.36	N 32 14 52.79 W	103 47 34.09
	20574.00	90.59	359.55	11770.91	9237.36	9204.38	788.73	0.35	454470.56	708443.47	N 32 14 53.73 W	103 47 34.09
	20669.00	90.59	1.82	11769.93	9332.17	9299.36	789.86	2.39	454565.54	708444.60	N 32 14 54.67 W	103 47 34.07
	20763.00	90.65	1.75	11768.92	9426.08	9393.31	792.79	0.10	454659.48	708447.53	N 32 14 55.60 W	103 47 34.03
	20858.00	90.45	2.98	11768.01	9521.03	9488.22	796.71	1.31	454754.39	708451.45	N 32 14 56.54 W	103 47 33.98
	20953.00	90.52	3.58	11767.20	9616.02	9583.06	802.14	0.64	454849.23	708456.89	N 32 14 57.48 W	103 47 33.91
	21047.00	90.76	2.02	11766.15	9709.98	9676.94	806.74	1.68	454943.10	708461.48	N 32 14 58.41 W	103 47 33.85
	21142.00	90.65	2.87	11764.98	9804.93	9771.85	810.79	0.90	455038.00	708465.53	N 32 14 59.35 W	103 47 33.80
	21237.00	90.21	2.22	11764.27	9899.89	9866.75	815.01	0.83	455132.90	708469.75	N 32 15 0.28 W	103 47 33.75
	21331.00	90.52	0.63	11763.67	9993.78	9960.72	817.34	1.72	455226.86	708472.08	N 32 15 1.21 W	103 47 33.71
	21521.00	90.72	358.79	11761.61	10183.18	10150.69	816.38	0.97	455416.82	708471.12	N 32 15 3.09 W	103 47 33.71
	21709.00	90.04	358.07	11760.37	10370.23	10338.62	811.23	0.53	455604.73	708465.97	N 32 15 4.95 W	103 47 33.76
	21898.00	89.76	359.34	11760.70	10558.37	10527.56	806.96	0.69	455793.67	708461.70	N 32 15 6.82 W	103 47 33.80
	21992.00	88.73	359.35	11761.94	10652.03	10621.55	805.89	1.10	455887.65	708460.63	N 32 15 7.75 W	103 47 33.81
	22087.00	90.31	0.21	11762.73	10746.74	10716.54	805.52	1.89	455982.63	708460.26	N 32 15 8.69 W	103 47 33.81
	22181.00	88.73	359.26	11763.52	10840.46	10810.53	805.09	1.96	456076.62	708459.83	N 32 15 9.62 W	103 47 33.81
	22275.00	89.52	0.31	11764.95	10934.17	10904.52	804.73	1.40	456170.60	708459.48	N 32 15 10.55 W	103 47 33.80
	22370.00	89.86	0.99	11765.47	11028.99	10989.51	805.81	0.80	456265.59	708460.55	N 32 15 11.49 W	103 47 33.79
100' FNL Crossing	22438.19	91.84	0.69	11764.46	11097.05	11067.68	806.81	2.94	456333.75	708461.55	N 32 15 12.17 W	103 47 33.77
Final Survey	22465.00	92.62	0.57	11763.41	11123.79	11094.47	807.11	2.94	456360.54	708461.85	N 32 15 12.43 W	103 47 33.77
Proj. to TD	22520.00	92.62	0.57	11760.90	11178.62	11149.41	807.65	0.00	456415.48	708462.39	N 32 15 12.98 W	103 47 33.76

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	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H Gyro + MWD 0-22,520'
	1	26.500	26.500	Act Stns	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H Gyro + MWD 0-22,520'
	1	26.500	718.500	Act Stns	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	718.500	9104.000	Act Stns	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	9104.000	9673.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	9673.000	9775.000	Act Stns	30.000	NAL_MWD_1.0_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	9775.000	10154.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	10154.000	10248.000	Act Stns	30.000	NAL_MWD_1.0_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	10248.000	10532.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	10532.000	10626.000	Act Stns	30.000	NAL_MWD_1.0_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	10626.000	10910.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	10910.000	11004.000	Act Stns	30.000	NAL_MWD_1.0_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	11004.000	11193.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	11193.000	11701.000	Act Stns	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	11701.000	11781.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H
	1	11781.000	22520.000	Act Stns	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 176H

...Original Borehole\Oxy Sunrise MDP1 8-5 Federal Com 176H Gyro + MWD 0-22,520'

Schlumberger

OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Sunrise MDP1 8-5 Federal Com 176H	NM Eddy County (NAD 83)	Oxy Sunrise MDP1 8-5 Federal Com 176H

Gravity & Magnetic Parameters	Surface Location	NAD83 New Mexico State Plane, Eastern Zone	US Feet	Miscellaneous
Model: IFR1 Dip: 58.91° Date: 19-Jun-2019	Lat: N 32 13 22.69	Northings: 445266.75RUS	Grid Conv: 0.2868°	Slot: MDP1 8-5 Federal Com
MagDec: 6.761° FS: 47918.9nT Gravity FS: 998.427mg (9.80665 Based)	Lon: W 103 47 43.81	Easting: 707654.79RUS	Scale Fact: 0.99994077	Plan: Oxy Sunrise MDP1 8-5 Federal Com 176H Gyro + MWD 0-22520'

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(°)/S(-)	E(°)/W(-)	DLS
RKB	0.00	0.00	4.23	0.00	0.00	0.00	0.00	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00
Last Gyro	718.50	1.19	185.89	718.37	-12.83	-12.65	-3.01	0.08
KOP Actual	9775.00	6.53	79.61	9731.73	264.06	218.48	635.25	0.15
Wolfcamp Intersection	11677.32	34.66	5.46	11593.00	471.08	412.12	826.46	6.24
LL Crossing	11951.70	59.69	4.48	11793.72	655.10	585.19	846.17	21.04
100' FSL Crossing	12058.66	81.23	359.69	11829.06	755.29	695.38	849.72	20.20
100' FNL Crossing	22438.19	91.84	0.69	11764.46	11097.05	11067.68	806.81	2.94
Final Survey	22465.00	92.62	0.57	11763.41	11123.79	11094.47	807.11	2.94
Proj. to TD	22520.00	92.62	0.57	11760.90	11178.62	11149.41	807.65	0.00

