

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

August 1, 2019

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

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 16 2019

RECEIVED

Re:

S17, T24S, R31E Eddy, NM
N 32.22297 W -103.7957295

CLIENT: OXY USA Incorporated
WELL: Sunrise MDP1 8-5 Federal Com 174H
FIELD: Purple Sage Wolfcamp

RIG: H&P 617
COUNTY: Eddy
API NO: 30-015-45112
JOB NO: 19MLH0193

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 MDP1 8-5 Federal Com 174H Original Hole	839.00 Ft to 22528.00 Ft	May 13, 2019 to July 26, 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

Schlumberger-Private

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

Well Reference:

S17, T24S, R31E Eddy, NM
N 32.22297 W -103.7957295

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 13, 2019 through July 26, 2019, conduct or supervise the taking of the SlimPulse & 3rd Party Corrected surveys from a depth of 839.00 feet to a depth of 22528.00 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 Incorporated for the Sunrise MDP1 8-5 Federal Com 174H Well (Original Hole) API No. 30-015-45112 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

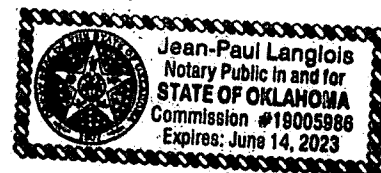
Jean Paul Langlois

(signature)

Notary Public

Countee Oklahoma

(County State)



Oxy Sunrise MDP1 8-5 Federal Com 174H Gyro + MWD 0-22572' MD Survey Geodetic Report (Def Survey)



Report Date: July 26, 2019 - 02:47 PM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Sunrise MDP1 8-5 Federal Com 174H / Oxy Sunrise MDP1 8-5 Federal Com 174H
Well: Oxy Sunrise MDP1 8-5 Federal Com 174H
Borehole: Original Borehole
UWI / API#: Unknown / 30-015-45112
Survey Name: Oxy Sunrise MDP1 8-5 Federal Com 174H Gyro + MWD 0-22572' MD
Survey Date: May 10, 2019
Tort / AHD / DDI / ERD Ratio: 274.362' / 11703.514 ft / 6.788 / 0.991
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 13' 22.69306", W 103° 47' 44.62606"
Location Grid N/E Y/X: N 445266.320 ftUS, E 707584.790 ftUS
CRS Grid Convergence Angle: 0.2867°
Grid Scale Factor: 0.99994074
Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 355.495° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=26.5'
TVD Reference Elevation: 3573.400 ft above MSL
Seabed / Ground Elevation: 3546.900 ft above MSL
Magnetic Declination: 6.772°
Total Gravity Field Strength: 998.4271mgN (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47930.700 nT
Magnetic Dip Angle: 59.913°
Declination Date: May 10, 2019
Magnetic Declination Model: IFR1
North Reference: Grid North
Grid Convergence Used: 0.2867°
Total Corr Mag North->Grid: 6.4853°
North: Well Head
Local Coord Referenced To:

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS ("/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
RKB	0.00	0.00	355.43	0.00	0.00	0.00	0.00	N/A	445266.32	707584.79	N 32 13 22.69	W 103 47 44.63
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	445266.32	707584.79	N 32 13 22.69	W 103 47 44.63
	98.12	0.37	338.21	98.12	0.22	0.21	-0.09	0.52	445266.53	707584.70	N 32 13 22.70	W 103 47 44.63
	185.49	0.46	309.25	185.49	0.73	0.70	-0.46	0.26	445267.02	707584.33	N 32 13 22.70	W 103 47 44.63
	274.49	0.57	289.84	274.48	1.16	1.07	-1.16	0.23	445267.39	707583.63	N 32 13 22.70	W 103 47 44.64
	369.28	0.62	271.41	369.27	1.41	1.25	-2.11	0.21	445267.57	707582.68	N 32 13 22.71	W 103 47 44.65
	464.19	0.59	254.82	464.17	1.37	1.13	-3.10	0.19	445267.45	707581.69	N 32 13 22.70	W 103 47 44.66
	559.18	0.68	259.55	559.16	1.22	0.90	-4.12	0.11	445267.22	707580.67	N 32 13 22.70	W 103 47 44.67
	653.89	0.64	245.40	653.86	0.98	0.58	-5.16	0.18	445266.90	707579.63	N 32 13 22.70	W 103 47 44.69
Last Gyro	731.19	0.58	244.46	731.16	0.69	0.23	-5.90	0.08	445266.55	707578.89	N 32 13 22.70	W 103 47 44.69
	839.00	0.81	238.99	838.96	0.16	-0.40	-7.05	0.22	445265.92	707577.74	N 32 13 22.69	W 103 47 44.71
	930.00	0.09	358.09	929.96	-0.06	-0.66	-7.60	0.94	445265.66	707577.19	N 32 13 22.69	W 103 47 44.71
	1020.00	0.10	237.21	1019.96	-0.02	-0.63	-7.67	0.18	445265.69	707577.12	N 32 13 22.69	W 103 47 44.72
	1202.00	0.11	185.75	1201.96	-0.27	-0.89	-7.82	0.05	445265.43	707576.97	N 32 13 22.68	W 103 47 44.72
	1293.00	0.09	199.74	1292.96	-0.42	-1.04	-7.85	0.03	445265.28	707576.94	N 32 13 22.68	W 103 47 44.72
	1475.00	0.06	173.45	1474.96	-0.65	-1.27	-7.89	0.02	445265.05	707576.90	N 32 13 22.68	W 103 47 44.72
	1567.00	0.09	76.66	1566.96	-0.68	-1.30	-7.81	0.12	445265.02	707576.98	N 32 13 22.68	W 103 47 44.72
	1658.00	0.10	48.41	1657.96	-0.63	-1.23	-7.69	0.05	445265.09	707577.10	N 32 13 22.68	W 103 47 44.72
	1750.00	0.13	104.51	1749.96	-0.61	-1.21	-7.52	0.12	445265.11	707577.27	N 32 13 22.68	W 103 47 44.71
	1930.00	0.09	297.04	1929.96	-0.60	-1.19	-7.45	0.12	445265.13	707577.34	N 32 13 22.68	W 103 47 44.71
	2022.00	0.13	203.39	2021.95	-0.66	-1.26	-7.56	0.18	445265.06	707577.23	N 32 13 22.68	W 103 47 44.71
	2114.00	0.09	132.87	2113.95	-0.80	-1.40	-7.55	0.14	445264.92	707577.24	N 32 13 22.68	W 103 47 44.71
	2209.00	0.09	167.47	2208.95	-0.93	-1.52	-7.48	0.06	445264.80	707577.31	N 32 13 22.68	W 103 47 44.71
	2399.00	0.02	125.05	2398.95	-1.10	-1.69	-7.42	0.04	445264.63	707577.37	N 32 13 22.68	W 103 47 44.71
	2493.00	0.09	93.86	2492.95	-1.12	-1.70	-7.33	0.08	445264.62	707577.46	N 32 13 22.68	W 103 47 44.71
	2588.00	0.10	282.95	2587.95	-1.11	-1.69	-7.34	0.20	445264.63	707577.45	N 32 13 22.68	W 103 47 44.71
	2683.00	0.06	50.26	2682.95	-1.06	-1.64	-7.38	0.15	445264.68	707577.41	N 32 13 22.68	W 103 47 44.71
	2777.00	0.13	70.20	2776.95	-1.00	-1.57	-7.24	0.08	445264.75	707577.55	N 32 13 22.68	W 103 47 44.71
	2872.00	0.10	262.23	2871.95	-0.98	-1.55	-7.22	0.24	445264.77	707577.57	N 32 13 22.68	W 103 47 44.71
	2967.00	0.12	122.28	2966.95	-1.04	-1.61	-7.22	0.22	445264.71	707577.57	N 32 13 22.68	W 103 47 44.71
	3061.00	0.01	159.84	3060.95	-1.11	-1.67	-7.13	0.12	445264.65	707577.66	N 32 13 22.68	W 103 47 44.71
	3251.00	0.18	22.48	3250.95	-0.86	-1.41	-7.01	0.10	445264.91	707577.78	N 32 13 22.68	W 103 47 44.71
	3345.00	0.05	318.13	3344.95	-0.69	-1.24	-6.98	0.18	445265.08	707577.81	N 32 13 22.68	W 103 47 44.71
	3440.00	0.16	282.37	3439.95	-0.62	-1.19	-7.14	0.13	445265.13	707577.65	N 32 13 22.68	W 103 47 44.71
	3630.00	0.12	60.87	3629.95	-0.46	-1.03	-7.23	0.14	445265.29	707577.56	N 32 13 22.68	W 103 47 44.71
	3724.00	0.10	102.73	3723.95	-0.44	-1.00	-7.06	0.09	445265.32	707577.73	N 32 13 22.68	W 103 47 44.71
	3818.00	0.15	121.09	3817.95	-0.54	-1.08	-6.88	0.07	445265.24	707577.91	N 32 13 22.68	W 103 47 44.71
	3913.00	0.08	280.70	3912.95	-0.59	-1.14	-6.83	0.24	445265.18	707577.96	N 32 13 22.68	W 103 47 44.71
	4007.00	0.01	238.45	4006.95	-0.58	-1.13	-6.91	0.08	445265.19	707577.88	N 32 13 22.68	W 103 47 44.71
	4102.00	0.15	223.70	4101.95	-0.67	-1.22	-7.00	0.15	445265.10	707577.98	N 32 13 22.68	W 103 47 44.71
	4196.00	0.10	245.04	4195.95	-0.78	-1.35	-7.16	0.07	445264.97	707577.63	N 32 13 22.68	W 103 47 44.71
	4385.00	0.15	354.08	4384.95	-0.59	-1.17	-7.33	0.11	445265.15	707577.46	N 32 13 22.68	W 103 47 44.71
	4479.00	0.07	20.74	4478.95	-0.41	-0.99	-7.33	0.10	445265.33	707577.46	N 32 13 22.68	W 103 47 44.71
	4574.00	0.06	250.84	4573.95	-0.37	-0.95	-7.35	0.12	445265.37	707577.44	N 32 13 22.68	W 103 47 44.71
	4669.00	0.06	74.36	4668.95	-0.38	-0.96	-7.35	0.13	445265.36	707577.44	N 32 13 22.68	W 103 47 44.71
	4763.00	0.05	109.84	4762.95	-0.38	-0.96	-7.27	0.04	445265.36	707577.53	N 32 13 22.68	W 103 47 44.71
	4858.00	0.10	330.43	4857.95	-0.33	-0.90	-7.27	0.15	445265.42	707577.52	N 32 13 22.68	W 103 47 44.71
	4953.00	0.06	263.88	4952.95	-0.25	-0.83	-7.36	0.10	445265.49	707577.43	N 32 13 22.69	W 103 47 44.71
	5046.00	0.10	260.94	5045.95	-0.26	-0.85	-7.49	0.04	445265.47	707577.30	N 32 13 22.69	W 103 47 44.71
	5235.00	0.07	56.11	5234.95	-0.22	-0.81	-7.55	0.09	445265.51	707577.24	N 32 13 22.69	W 103 47 44.71
	5329.00	0.10	279.30	5328.95	-0.17	-0.77	-7.59	0.17	445265.55	707577.20	N 32 13 22.69	W 103 47 44.71
	5519.00	0.13	44.26	5518.95	0.01	-0.59	-7.60	0.11	445265.73	707577.19	N 32 13 22.69	W 103 47 44.71
	5613.00	0.06	77.44	5612.95	0.09	-0.50	-7.48	0.09	445265.82	707577.31	N 32 13 22.69	W 103 47 44.71
	5708.00	0.66	309.06	5707.95	0.47	-0.14	-7.85	0.74	445266.16	707576.94	N 32 13 22.69	W 103 47 44.72
	5802.00	2.78	302.01	5801.90	2.20	1.41	-10.21	2.26	445267.73	707574.58	N 32 13 22.71	W 103 47 44.74
	5897.00	5.04	297.87	5896.67	5.81	4.58	-15.85	2.40	445270.90	707568.94	N 32 13 22.74	W 103 47 44.81
	5992.00	6.89	296.55	5991.16	10.98	9.08	-24.64	1.95	445275.40	707560.15	N 32 13 22.78	W 103 47 44.91
	6086.00	8.14	291.50	6084.35	16.81	14.04	-35.87	1.50	445280.35	707548.92	N 32 13 22.83	W 103 47 45.04
	6181.00	9.54	290.01	6178.22	23.03	19.19	-49.53	1.49	445285.51	707535.26	N 32 13 22.89	W 103 47 45.20
	6275.00	11.67	289.61	6270.61	30.14	25.05	-65.81	2.27	445291.37	707518.99	N 32 13 22.94	W 103 47 45.39
	6465.00	11.02	285.00	6456.90	44.06	36.20	-101.45	0.59	445302.52	707483.35	N 32 13 23.06	W 103 47 45.80
	6559.00	9.91	279.78	6549.33	49.05	39.90	-118.10	1.55	445306.22	707466.70	N 32 13 23.09	W 103 47 46.00
	6654.00	8.70	274.26	6643.08	52.17	41.82	-133.32	1.58	445308.14	707451.48	N 32 13 23.11	W 103 47 46.18
	6749.00	6.66	265.69	6737.23	53.28	41.94	-145.98	2.46	445308.26	707438.82	N 32 13 23.12	W 103 47 46.32
	6843.00	6.56	267.50	6830.60	53.49	41.30	-156.78	0.25	445307.62	707428.02	N 32 13 23.11	W 103 47 46.45
	6937.00	6.46	271.80	6924.00	54.25	41.23	-167.43	0.53	445307.55	707417.37	N 32 13 23.11	W 103 47 46.57
	7032.00	6.52	275.33	7018.39	55.76	41.90	-178.14	0.42	445308.22	707406.66	N 32 13 23.12	W 103 47 46.70
	7126.00	6.73	279.56	7111.76	58.01	43.31	-188.89	0.57	445309.63	707395.91	N 32 13 23.13	W 103 47 46.82
	7221.00	6.69	280.36	7206.11	60.79	45.23	-199.82	0.11	445311.55	707384.98	N 32 13 23.15	W 103 47 46.95
	7410.00	6.81	279.44	7393.80	66.31	49.05	-221.70	0.09	445315.36	707363.10	N 32 13 23.19	W 103 47 47.20
	7504.00	6.71	279.16	7487.15	68.95	50.84	-232.62	0.11	445317.15	707352.18	N 32 13 23.21	W 103 47 47.33
	7599.00	6.85	276.45	7581.49	71.34	52.36	-243.73	0.37	445318.67	707341.07	N 32 13 23.22	W 103 47 47.46
	7694.00	6.74	273.23	7675.82	73.17	53.31	-254.93	0.42	445319.62	707329.88	N 32 13 23.23	W 103 47 47.59
	7883.00	6.61	277.01	7863.54	76.83	55.26	-276.80	0.24	445321.58	707308.01	N	

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 ° ' ")
	8357.00	6.99	289.27	8334.18	93.55	67.71	-331.53	0.60	445334.03	707253.18	N 32 13 23.36	W 103 47 48.48
	8546.00	7.16	293.97	8521.74	103.80	76.29	-353.25	0.32	445342.61	707231.56	N 32 13 23.47	W 103 47 48.73
	8640.00	7.29	288.34	8615.00	108.91	80.55	-364.26	0.77	445346.86	707220.55	N 32 13 23.51	W 103 47 48.95
	8735.00	7.24	283.11	8709.23	113.06	83.80	-375.81	0.70	445350.12	707209.00	N 32 13 23.54	W 103 47 49.00
	8829.00	7.36	279.44	8802.47	116.31	86.13	-387.52	0.51	445352.45	707197.29	N 32 13 23.56	W 103 47 49.13
	8924.00	7.17	277.19	8896.71	118.97	87.87	-399.41	0.36	445354.19	707185.41	N 32 13 23.58	W 103 47 49.27
	9018.00	7.19	280.28	8989.97	121.66	89.66	-411.02	0.41	445355.97	707173.60	N 32 13 23.60	W 103 47 49.41
	9113.00	7.50	282.54	9084.19	125.00	92.07	-422.92	0.45	445358.38	707161.90	N 32 13 23.62	W 103 47 49.54
	9208.00	7.51	281.51	9178.38	128.53	94.65	-435.05	0.14	445360.96	707149.76	N 32 13 23.65	W 103 47 49.68
	9302.00	7.34	274.34	9271.59	131.15	96.33	-447.06	1.00	445362.64	707137.76	N 32 13 23.67	W 103 47 49.82
	9397.00	7.49	271.12	9365.80	132.69	96.91	-459.30	0.46	445363.22	707125.52	N 32 13 23.67	W 103 47 49.97
	9492.00	7.32	281.33	9460.01	134.95	98.22	-471.43	1.39	445364.53	707113.39	N 32 13 23.69	W 103 47 50.11
	9586.00	7.04	282.20	9553.27	138.24	100.61	-482.93	0.32	445366.93	707101.89	N 32 13 23.71	W 103 47 50.24
	9776.00	7.32	288.59	9741.79	146.33	106.93	-505.78	0.45	445373.25	707079.04	N 32 13 23.78	W 103 47 50.51
	9871.00	7.00	287.26	9836.05	150.85	110.58	-517.05	0.38	445376.89	707067.77	N 32 13 23.81	W 103 47 50.64
	9965.00	6.64	285.30	9929.38	154.82	113.71	-527.76	0.46	445380.03	707057.06	N 32 13 23.84	W 103 47 50.76
	10155.00	7.22	269.62	10118.01	159.40	116.53	-550.30	1.04	445382.85	707034.53	N 32 13 23.87	W 103 47 51.02
	10249.00	6.65	266.96	10211.32	159.96	116.21	-561.64	0.70	445382.52	707023.19	N 32 13 23.87	W 103 47 51.16
	10344.00	7.30	266.38	10305.62	160.20	115.53	-573.15	0.69	445381.85	707011.67	N 32 13 23.86	W 103 47 51.29
	10438.00	6.22	264.94	10398.96	160.24	114.71	-584.19	1.16	445381.02	707000.64	N 32 13 23.86	W 103 47 51.42
	10533.00	5.51	269.23	10493.47	160.49	114.19	-593.87	0.88	445380.50	706990.95	N 32 13 23.85	W 103 47 51.53
	10627.00	4.75	281.62	10587.09	161.86	114.92	-602.20	1.42	445381.23	706982.63	N 32 13 23.86	W 103 47 51.63
	10722.00	4.96	303.83	10681.76	165.50	117.99	-609.46	1.98	445384.31	706975.36	N 32 13 23.89	W 103 47 51.71
	10869.00	6.06	309.12	10828.08	174.80	126.43	-620.76	0.82	445392.74	706964.06	N 32 13 23.97	W 103 47 51.84
	10910.00	5.73	310.70	10868.86	177.74	129.13	-623.99	0.90	445395.44	706960.83	N 32 13 24.00	W 103 47 51.88
	11005.00	6.18	316.50	10963.35	185.08	135.93	-631.11	0.79	445402.24	706953.72	N 32 13 24.07	W 103 47 51.96
	11100.00	5.94	324.17	11057.82	193.25	143.62	-637.51	0.89	445409.94	706947.32	N 32 13 24.15	W 103 47 52.04
	11191.00	6.81	329.46	11148.26	202.13	152.09	-643.01	1.15	445418.40	706941.82	N 32 13 24.23	W 103 47 52.10
	11245.00	7.78	331.36	11201.82	208.34	158.05	-646.38	1.85	445424.37	706938.45	N 32 13 24.29	W 103 47 52.14
	11339.00	14.17	335.54	11294.05	224.98	174.13	-654.21	6.85	445440.44	706930.62	N 32 13 24.45	W 103 47 52.23
	11434.00	22.31	337.11	11384.21	253.06	201.37	-666.05	8.58	445467.68	706918.78	N 32 13 24.72	W 103 47 52.37
	11529.00	31.08	337.16	11469.00	293.53	240.66	-682.62	9.23	445506.96	706902.21	N 32 13 25.11	W 103 47 52.56
	11623.00	39.74	337.31	11545.54	345.21	290.84	-703.67	9.21	445557.14	706881.17	N 32 13 25.61	W 103 47 52.80
Wolfcamp Intersection	11645.09	40.72	338.00	11562.40	358.79	304.03	-709.09	4.87	445570.33	706875.74	N 32 13 25.74	W 103 47 52.86
	11718.00	43.98	340.09	11616.28	405.89	349.90	-726.63	4.87	445616.20	706858.21	N 32 13 26.19	W 103 47 53.06
	11812.00	54.67	348.06	11677.51	475.64	418.36	-745.75	13.05	445684.65	706839.09	N 32 13 26.87	W 103 47 53.28
	11907.00	62.93	348.93	11726.68	556.23	497.92	-761.91	8.73	445764.21	706822.92	N 32 13 27.66	W 103 47 53.47
	12001.00	72.46	351.58	11762.32	642.73	583.54	-776.55	10.47	445848.82	706808.29	N 32 13 28.51	W 103 47 53.63
LL Crossed	12005.00	73.01	351.56	11763.51	646.54	587.32	-777.11	13.65	445853.60	706807.73	N 32 13 28.54	W 103 47 53.64
	12096.00	85.42	351.22	11780.51	735.53	675.53	-790.47	13.65	445941.81	706794.37	N 32 13 29.42	W 103 47 53.79
100' FSL Crossed	12108.00	85.58	351.24	11781.45	747.46	687.35	-792.29	1.31	445953.63	706792.55	N 32 13 29.53	W 103 47 53.81
	12226.00	87.12	351.39	11788.97	864.90	803.76	-810.08	1.31	446070.03	706774.76	N 32 13 30.69	W 103 47 54.01
	12320.00	87.33	353.63	11793.52	958.66	896.84	-822.31	2.39	446163.10	706762.53	N 32 13 31.61	W 103 47 54.15
	12414.00	88.57	354.57	11796.88	1052.57	990.28	-831.97	1.65	446256.54	706752.87	N 32 13 32.53	W 103 47 54.25
	12509.00	88.26	356.29	11799.51	1147.53	1084.94	-839.54	1.84	446351.19	706745.31	N 32 13 33.47	W 103 47 54.34
	12604.00	88.67	358.31	11802.05	1242.44	1179.79	-844.01	2.17	446446.04	706740.83	N 32 13 34.41	W 103 47 54.38
	12665.00	88.59	358.16	11803.51	1303.35	1240.75	-845.89	0.28	446506.99	706738.95	N 32 13 35.01	W 103 47 54.40
	12855.00	89.11	357.30	11807.33	1493.17	1430.56	-853.41	0.53	446696.79	706731.43	N 32 13 36.89	W 103 47 54.48
	13044.00	89.73	357.11	11808.24	1682.07	1619.32	-862.63	0.34	446885.54	706722.22	N 32 13 38.76	W 103 47 54.57
	13233.00	89.59	359.08	11810.35	1870.87	1808.20	-868.91	1.04	447074.41	706715.93	N 32 13 40.63	W 103 47 54.64
	13293.00	89.67	1.07	11810.75	1930.67	1888.20	-868.83	3.32	447134.40	706716.01	N 32 13 41.22	W 103 47 54.63
	13387.00	89.78	358.92	11811.20	2024.37	1962.19	-868.84	2.29	447228.39	706716.00	N 32 13 42.15	W 103 47 54.63
	13481.00	89.47	0.77	11811.82	2118.10	2056.19	-869.09	2.00	447322.38	706715.75	N 32 13 43.08	W 103 47 54.62
	13670.00	89.43	0.37	11813.63	2306.35	2245.17	-867.21	0.21	447511.35	706717.63	N 32 13 44.95	W 103 47 54.59
	13765.00	89.95	0.27	11814.14	2401.01	2340.16	-866.68	0.55	447606.34	706718.16	N 32 13 45.89	W 103 47 54.58
	13854.00	91.60	3.26	11811.59	2588.83	2529.03	-866.86	1.81	447795.19	706723.98	N 32 13 47.76	W 103 47 54.50
	14143.00	90.77	0.67	11807.68	2776.57	2717.86	-854.39	1.44	447984.01	706730.46	N 32 13 49.63	W 103 47 54.41
	14238.00	89.71	357.75	11807.28	2871.36	2812.84	-855.70	3.27	448078.99	706729.15	N 32 13 50.57	W 103 47 54.42
	14427.00	90.33	0.27	11807.21	3059.99	3001.79	-858.96	1.37	448267.93	706725.88	N 32 13 52.44	W 103 47 54.45
	14521.00	89.98	0.53	11806.96	3153.64	3095.79	-858.30	0.46	448361.92	706726.54	N 32 13 53.37	W 103 47 54.44
	14616.00	90.36	0.13	11806.68	3248.30	3190.79	-857.76	0.58	448456.91	706727.08	N 32 13 54.31	W 103 47 54.43
	14710.00	91.39	1.92	11805.24	3341.85	3284.76	-856.08	2.20	448550.88	706728.77	N 32 13 55.24	W 103 47 54.40
	14805.00	89.74	359.62	11804.30	3436.43	3379.73	-854.80	2.98	448645.85	706730.04	N 32 13 56.18	W 103 47 54.38
	14899.00	90.67	0.98	11803.97	3530.10	3473.73	-854.31	1.75	448739.84	706730.53	N 32 13 57.11	W 103 47 54.37
	14994.00	90.60	0.78	11802.92	3624.67	3568.71	-852.85	0.22	448834.81	706731.99	N 32 13 58.05	W 103 47 54.35
	15133.00	90.66	0.34	11801.39	3763.12	3707.70	-851.49	0.32	448973.79	706733.35	N 32 13 59.42	W 103 47 54.32
	15322.00	90.42	0.57	11799.61	3951.41	3896.68	-849.99	0.18	449162.76	706734.85	N 32 14 1.29	W 103 47 54.29
	15416.00	90.59	0.97	11798.78	4045.00	3990.67	-848.73	0.46	449256.75	706736.11	N 32 14 2.22	W 103 47 54.27
	15511.00	90.32	0.71	11798.02	4139.59	4085.66	-847.33	0.39	449351.73	706737.51	N 32 14 3.16	W 103 47 54.25
	15700.00	90.63	0.60	11796.46	4327.82	4274.64	-845.17	0.17	449540.70	706739.67	N 32 14 5.03	W 103 47 54.22
	15795.00	90.56	0.62	11795.47	4422.43	4369.63	-844.16	0.08	449635.68	706740.68	N 32 14 5.97	W 103 47 54.20
	15885.00	91.38	1.21	11792.25	4611.55	4559.57	-841.13	0.53	449825.61	706743.71	N 32 14 7.85	W 103 47 54.15
	16080.00	92.42	0.66	11789.10	4706.07	4654.51	-839.58	1.24	449920.54	706745.26	N 32 14 8.79	W 103 47 54.13
	16174.00	90.87	0.71	11786.40	4799.64	4748.46	-838.46	1.65	450014.49	706746.39	N 32 14 9.72	W 103 47 54.11
	16269.00	90.42	0.56	11785.34	4894.26	4843.45	-837.40	0.50	450109.47	706747.44	N 32 14 10.66	W 103 47 54.09
	16364.00	90.28	0.40	11784.76	4988.90	4938.44	-836.61	0.22	45			

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 ° ' ")
	19857.00	89.81	3.50	11770.95	8470.01	8427.82	-868.53	2.12	453693.62	706716.22	N 32 14 46.13	W 103 47 54.25
	19952.00	91.08	5.75	11770.21	8563.79	8522.50	-860.97	2.72	453788.30	706723.88	N 32 14 47.07	W 103 47 54.15
	20141.00	87.64	4.26	11772.32	8750.15	8710.73	-844.48	1.98	453976.52	706740.36	N 32 14 48.93	W 103 47 53.95
	20235.00	88.95	1.41	11775.12	8843.33	8804.56	-839.84	3.34	454070.35	706745.01	N 32 14 49.86	W 103 47 53.89
	20330.00	89.77	1.59	11776.18	8937.80	8899.53	-837.95	0.88	454165.30	706747.49	N 32 14 50.80	W 103 47 53.86
	20519.00	91.63	358.60	11773.87	9126.15	9088.48	-837.03	1.86	454354.24	706747.81	N 32 14 52.66	W 103 47 53.84
	20708.00	91.66	356.98	11768.44	9314.91	9277.26	-844.32	0.86	454543.01	706740.52	N 32 14 54.53	W 103 47 53.92
	20802.00	91.70	356.38	11765.69	9408.85	9371.06	-849.76	0.64	454636.80	706735.08	N 32 14 55.46	W 103 47 53.97
	20897.00	91.11	354.86	11763.36	9503.82	9465.75	-857.01	1.72	454731.49	706727.83	N 32 14 56.40	W 103 47 54.05
	20991.00	90.98	354.66	11761.64	9597.80	9559.34	-865.60	0.25	454825.07	706719.25	N 32 14 57.33	W 103 47 54.15
	21180.00	84.61	349.26	11768.92	9786.13	9746.18	-891.97	4.42	455011.90	706692.87	N 32 14 59.18	W 103 47 54.44
	21275.00	87.20	352.32	11775.70	9880.55	9839.70	-907.13	4.21	455105.42	706677.72	N 32 15 0.10	W 103 47 54.62
Exit Target Box	21421.00	89.42	355.00	11780.01	10026.39	9984.72	-923.24	2.38	455250.43	706661.61	N 32 15 1.54	W 103 47 54.79
	21465.00	90.09	355.81	11780.20	10070.39	10028.58	-926.76	2.38	455294.28	706658.09	N 32 15 1.97	W 103 47 54.83
	21653.00	89.13	354.66	11781.48	10258.38	10215.92	-942.38	0.80	455481.61	706642.47	N 32 15 3.83	W 103 47 55.00
	21748.00	89.06	358.05	11782.98	10353.34	10310.70	-948.42	3.57	455576.39	706636.43	N 32 15 4.76	W 103 47 55.07
	21842.00	89.68	358.19	11784.01	10447.24	10404.64	-951.50	0.68	455670.33	706633.35	N 32 15 5.69	W 103 47 55.10
	22031.00	90.99	358.26	11782.90	10636.01	10593.55	-957.35	0.69	455859.22	706627.50	N 32 15 7.56	W 103 47 55.16
	22126.00	90.44	358.93	11781.72	10730.87	10688.51	-959.68	0.91	455954.17	706625.17	N 32 15 8.50	W 103 47 55.18
	22219.00	90.37	3.13	11781.06	10823.41	10781.47	-958.91	4.52	456047.13	706626.84	N 32 15 9.42	W 103 47 55.15
	22314.00	91.92	6.55	11779.16	10917.11	10876.10	-950.00	3.95	456141.75	706634.85	N 32 15 10.36	W 103 47 55.05
Enter Target Box	22489.00	91.16	8.25	11774.47	11088.28	11049.57	-927.46	1.07	456315.21	706657.38	N 32 15 12.07	W 103 47 54.78
100' FNL Crossed	22500.00	91.11	8.36	11774.25	11099.00	11060.45	-925.87	1.07	456326.09	706658.97	N 32 15 12.18	W 103 47 54.76
	22504.00	91.09	8.40	11774.17	11102.90	11064.41	-925.29	1.07	456330.05	706659.56	N 32 15 12.22	W 103 47 54.76
Final MWD	22528.00	90.71	8.19	11773.80	11126.30	11088.15	-921.83	1.81	456353.79	706663.02	N 32 15 12.46	W 103 47 54.71
Proj to TD	22572.00	90.71	8.19	11773.25	11169.22	11131.70	-915.56	0.00	456397.34	706669.29	N 32 15 12.89	W 103 47 54.64

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 174H Gyro + MWD 0-22572MD
	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 174H Gyro + MWD 0-22572MD
	1	26.500	731.190	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 174H
	1	731.190	10910.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 174H
	1	10910.000	11191.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 174H
	1	11191.000	22572.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 174H

...Original Borehole/Oxy Sunrise MDP1 8-5 Federal Com 174H Gyro + MWD 0-22572MD

OXY



Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
RKB	0.00	0.00	355.43	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	731.19	0.58	244.46	731.16	0.69	0.23	-5.90	0.08
KOP Actual	11100.00	5.94	324.17	11057.82	193.25	143.62	-637.51	0.89
Wolfcamp Intersection	11645.09	40.72	338.00	11562.40	358.79	304.03	-709.09	4.87
LL Crossed	12005.00	73.01	351.56	11763.51	646.54	587.32	-777.11	13.65
100' FSL Crossed	12108.00	85.58	351.24	11781.45	747.46	687.35	-792.29	1.31
Exit Target Box	21421.00	89.42	355.00	11780.01	10026.39	9984.72	-923.24	2.38
Enter Target Box	22489.00	91.16	8.25	11774.47	11088.28	11049.57	-927.46	1.07
100' FNL Crossed	22500.00	91.11	8.36	11774.25	11099.00	11060.45	-925.87	1.07
Final MWD	22528.00	90.71	8.19	11773.80	11126.30	11088.15	-921.83	1.81
Proj to TD	22572.00	90.71	8.19	11773.25	11169.22	11131.70	-915.56	0.00

