

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)

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JUN 03 2019

DISTRICT II-ARTESIA O.C.D.

Schlumberger

April 19, 2019

OXY USA Inc.
P.O. Box 2289
Houston, TX 77252

17, 24S, 31E, Eddy NM
N 32.22406 W 103.80328

Re:

CLIENT: OXY USA Inc.
WELL: Sunrise MDP1 8-5 Fed com 172H
FIELD: Purple Sage Wolfcamp

RIG: H&P 657
COUNTY: Eddy
API NO: 30-015-44977
JOB NO: 19MLD3843

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>
Jude Omokwale FS	Sunrise MDP1 8-5 Fed com 172H Original Hole	860.00 Ft to 22363.00 Ft	March 14, 2019 to April 16, 2019	SlimPulse Third 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

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Schlumberger Drilling and Measurements
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7220 W I-H 20
Midland, Texas 79706
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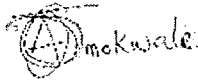
Schlumberger

DISTRICT II-ARTESIA O.C.D.

Well Reference:
17, 24S, 31E, Eddy NM
N 32.22406 W 103.80328

I, Jude Omokwale certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of March 14, 2019 through April 16, 2019, conduct or supervise the taking of the SlimPulse & Third Party Corrected surveys from a depth of 860.00 feet to a depth of 22363.00 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 172H Well (Original Hole) API No: 30-015-44977 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
Jude Omokwale
FS

 Jude Omokwale

Subscribed and Sworn to before me this 19th day of April (month) 2019 (yr)

My Commission expires:

2-16-2022

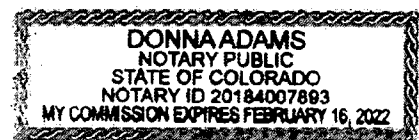
Notary Public

 Adams

(signature)

(County State)

Adams County Colorado



Schlumberger

OXY

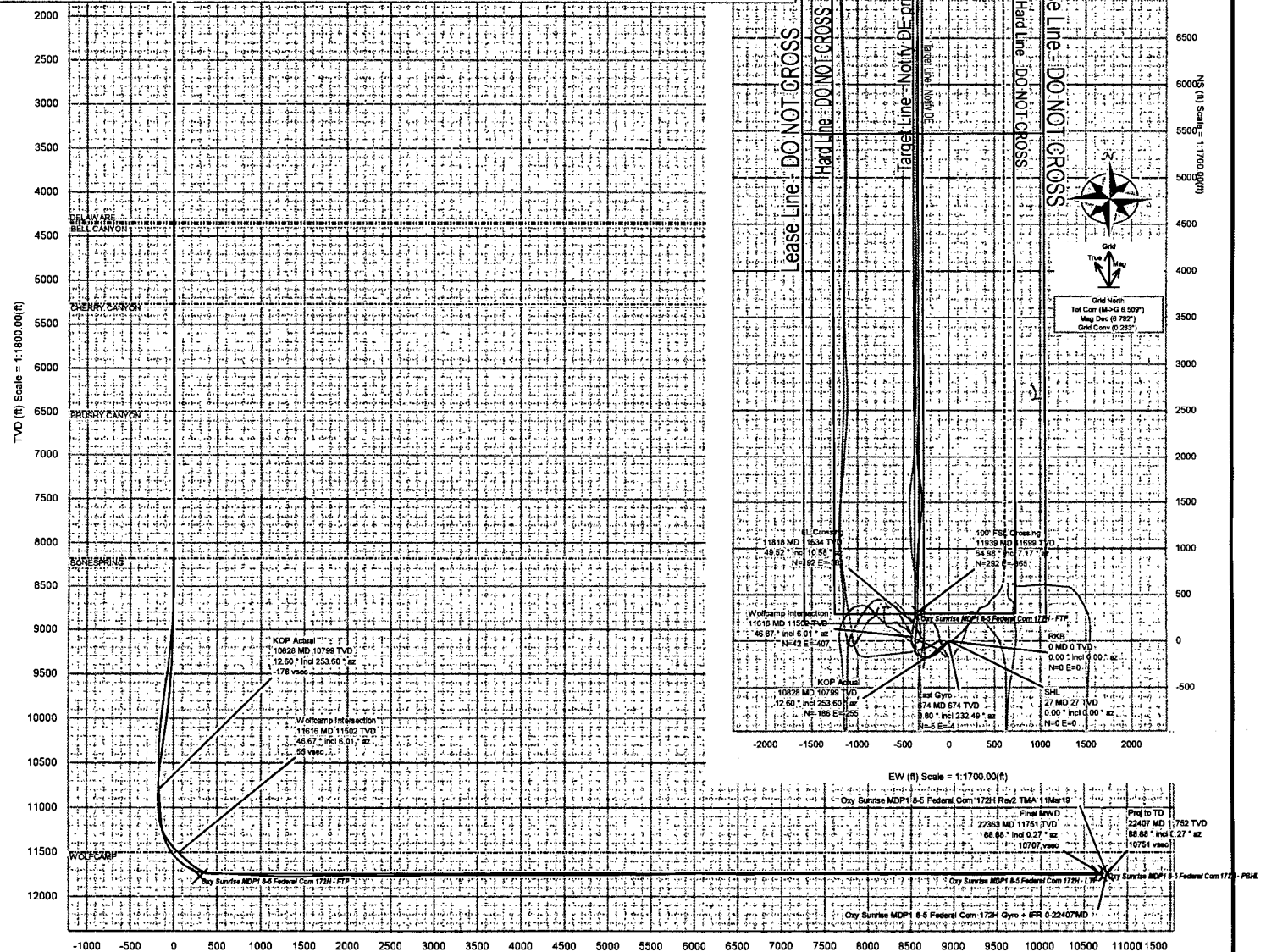


Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Sunrise MDP1 8-5 Federal Com 172H	NM Eddy County (NAD 83)	Oxy Sunrise MDP1 8-5 Federal Com 172H

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	IFR1	Dip:	59.821°	Date:	04-Apr-2018	Lat:	N 32.13 26.82	Northings:	445651.09RUS	Grid Conv:	0.2626°
MagDec:	6.792°	FS:	47940.8nT	Gravity FS:	998.428mg (9.80665 Based)	Lon:	W 103.48 11.83	Eastings:	705246.43RUS	Scale Fact:	0.99993986
								MDP1 8-5 Federal Com 172H			
								TVD Ref: RKB=26.5' (3540.9ft above MSL)			
								Plant: Oxy Sunrise MDP1 8-5 Federal Com 172H Gyro + IFR 0-22407MD			

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)S(-)	E(+)W(-)	DLS
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	
Last Gyro	674.30	0.80	232.49	674.26	-4.76	-4.90	-4.31	0.14
KOP Actual	10828.00	12.60	253.60	10799.39	-177.64	-186.21	-255.07	0.94
Wolfcamp Intersection	11616.33	46.67	6.01	11502.00	55.17	41.69	-407.19	14.65
LL Crossing	11818.00	49.52	10.58	11633.73	204.69	192.14	-381.41	12.86
100' FSL Crossing	11939.00	64.98	7.17	11698.95	304.12	292.19	-364.52	14.63
100' FNL Crossing	22328.00	89.74	0.73	11750.86	10671.82	10666.67	-332.28	2.79
Final MWD	22363.00	88.88	0.27	11751.28	10706.79	10701.67	-331.97	2.79
Proj to TD	22407.00	88.88	0.27	11752.14	10750.75	10745.66	-331.76	0.00



Vertical Section (ft) Azim = 358.10° Scale = 1:1800.00(ft) Origin = 0N-S, 0E-W

Oxy Sunrise MDP1 8-5 Federal Com 172H Gyro + IFR 0-22407 MD Survey

Geodetic Report

(Def Survey)



Report Date: April 17, 2019 - 10:18 AM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Sunrise MDP1 8-5 Federal Com 172H / Oxy Sunrise MDP1 8-5 Federal Com 172H
 Well: Oxy Sunrise MDP1 8-5 Federal Com 172H
 Borehole: Original Borehole
 UWI / API#: Unknown / 30-015-44977
 Survey Name: Oxy Sunrise MDP1 8-5 Federal Com 172H Gyro + IFR 0-22407 MD
 Survey Date: February 26, 2019
 Tort / AHD / DDI / ERD Ratio: 293.152' / 11339.863 ft / 6.801 / 0.963
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 13' 26.6156", W 103° 48' 11.8250"
 Location Grid N/E Y/X: N 445651.090 RUS, E 705246.430 RUS
 CRS Grid Convergence Angle: 0.2826°
 Grid Scale Factor: 0.99993986
 Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 358.099° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB=26.5'
 TVD Reference Elevation: 3560.900 ft above MSL
 Seabed / Ground Elevation: 3534.400 ft above MSL
 Magnetic Declination: 6.792°
 Total Gravity Field Strength: 998.4281mgN (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47940.800 nT
 Magnetic Dip Angle: 59.921°
 Declination Date: April 04, 2019
 Magnetic Declination Model: IFR1
 North Reference: Grid North
 Grid Convergence Used: 0.2826°
 Total Corr Mag North->Grid North: 6.5094°
 Local Coord Referenced To: Well Head

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DISTRICT II-ARTESIA O.C.D.

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	445651.09	705246.43	N 32 13 26.62	W 103 48 11.83
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	445651.09	705246.43	N 32 13 26.62	W 103 48 11.83
	120.80	0.43	225.92	120.80	-0.24	-0.25	-0.25	0.46	445650.84	705246.18	N 32 13 26.61	W 103 48 11.83
	205.30	0.56	226.90	205.30	-0.72	-0.75	-0.78	0.15	445650.34	705245.65	N 32 13 26.61	W 103 48 11.83
	296.30	0.45	219.21	296.29	-1.28	-1.33	-1.33	0.14	445649.76	705245.10	N 32 13 26.60	W 103 48 11.84
	391.10	0.63	209.71	391.09	-2.01	-2.07	-1.83	0.21	445649.02	705244.60	N 32 13 26.60	W 103 48 11.85
	486.00	0.75	217.59	485.98	-2.93	-3.02	-2.47	0.16	445648.07	705243.96	N 32 13 26.59	W 103 48 11.85
	580.80	0.84	223.63	580.77	-3.90	-4.01	-3.32	0.13	445647.08	705243.11	N 32 13 26.58	W 103 48 11.86
	674.30	0.80	232.49	674.26	-4.76	-4.90	-4.31	0.14	445646.19	705242.12	N 32 13 26.57	W 103 48 11.86
	860.00	0.04	195.01	859.96	-5.58	-5.76	-5.36	0.41	445645.33	705241.07	N 32 13 26.56	W 103 48 11.89
	916.00	0.06	127.85	915.96	-5.61	-5.79	-5.34	0.10	445645.30	705241.09	N 32 13 26.56	W 103 48 11.89
	1100.00	0.04	259.71	1099.96	-5.68	-5.86	-5.33	0.05	445645.23	705241.10	N 32 13 26.56	W 103 48 11.89
	1194.00	0.06	302.97	1193.96	-5.66	-5.84	-5.40	0.04	445645.25	705241.03	N 32 13 26.56	W 103 48 11.89
	1381.00	0.02	275.55	1380.96	-5.60	-5.79	-5.52	0.02	445645.30	705240.91	N 32 13 26.56	W 103 48 11.89
	1475.00	0.02	46.48	1474.96	-5.59	-5.77	-5.52	0.04	445645.32	705240.91	N 32 13 26.56	W 103 48 11.89
	1665.00	0.02	134.16	1664.96	-5.59	-5.77	-5.47	0.01	445645.32	705240.96	N 32 13 26.56	W 103 48 11.89
	1759.00	0.04	325.66	1758.96	-5.57	-5.76	-5.48	0.06	445645.33	705240.95	N 32 13 26.56	W 103 48 11.89
	1854.00	0.04	18.96	1853.96	-5.51	-5.70	-5.49	0.04	445645.39	705240.94	N 32 13 26.56	W 103 48 11.89
	1948.00	0.04	160.38	1947.96	-5.51	-5.70	-5.47	0.08	445645.39	705240.96	N 32 13 26.56	W 103 48 11.89
	2043.00	0.05	8.80	2042.96	-5.51	-5.69	-5.45	0.09	445645.40	705240.98	N 32 13 26.56	W 103 48 11.89
	2232.00	0.03	97.42	2231.96	-5.43	-5.61	-5.39	0.03	445645.48	705241.04	N 32 13 26.56	W 103 48 11.89
	2326.00	0.05	273.76	2325.96	-5.43	-5.61	-5.40	0.09	445645.48	705241.03	N 32 13 26.56	W 103 48 11.89
	2421.00	0.02	9.62	2420.96	-5.41	-5.60	-5.44	0.06	445645.49	705240.99	N 32 13 26.56	W 103 48 11.89
	2516.00	0.06	128.18	2515.96	-5.43	-5.61	-5.40	0.08	445645.48	705241.03	N 32 13 26.56	W 103 48 11.89
	2610.00	0.02	256.64	2609.96	-5.46	-5.64	-5.38	0.08	445645.45	705241.05	N 32 13 26.56	W 103 48 11.89
	2705.00	0.02	110.22	2704.96	-5.47	-5.65	-5.38	0.04	445645.44	705241.05	N 32 13 26.56	W 103 48 11.89
	2799.00	0.02	155.82	2798.96	-5.49	-5.67	-5.36	0.02	445645.42	705241.07	N 32 13 26.56	W 103 48 11.89
	2894.00	0.02	243.01	2893.96	-5.52	-5.70	-5.36	0.03	445645.39	705241.07	N 32 13 26.56	W 103 48 11.89
	3083.00	0.02	16.33	3082.96	-5.50	-5.68	-5.38	0.02	445645.41	705241.05	N 32 13 26.56	W 103 48 11.89
	3178.00	0.02	332.97	3177.96	-5.47	-5.65	-5.39	0.02	445645.44	705241.04	N 32 13 26.56	W 103 48 11.89
	3272.00	0.05	328.08	3271.96	-5.42	-5.60	-5.42	0.03	445645.49	705241.01	N 32 13 26.56	W 103 48 11.89
	3367.00	0.03	275.31	3366.96	-5.38	-5.56	-5.46	0.04	445645.53	705240.97	N 32 13 26.56	W 103 48 11.89
	3461.00	0.06	334.25	3460.96	-5.33	-5.52	-5.51	0.05	445645.57	705240.92	N 32 13 26.56	W 103 48 11.89
	3556.00	0.04	100.42	3555.96	-5.29	-5.48	-5.50	0.01	445645.61	705240.93	N 32 13 26.56	W 103 48 11.89
	3745.00	0.02	106.22	3744.96	-5.32	-5.50	-5.40	0.01	445645.59	705241.03	N 32 13 26.56	W 103 48 11.89
	3839.00	0.09	52.96	3838.96	-5.28	-5.46	-5.33	0.08	445645.63	705241.10	N 32 13 26.56	W 103 48 11.89
	3933.00	0.07	197.67	3932.96	-5.29	-5.47	-5.28	0.16	445645.62	705241.15	N 32 13 26.56	W 103 48 11.89
	4027.00	0.04	221.49	4026.96	-5.37	-5.55	-5.32	0.04	445645.54	705241.11	N 32 13 26.56	W 103 48 11.89
	4122.00	0.02	275.08	4121.96	-5.39	-5.57	-5.36	0.03	445645.52	705241.07	N 32 13 26.56	W 103 48 11.89
	4216.00	0.14	280.01	4215.96	-5.37	-5.55	-5.49	0.13	445645.54	705240.94	N 32 13 26.56	W 103 48 11.89
	4404.00	0.07	245.40	4403.96	-5.36	-5.56	-5.82	0.05	445645.53	705240.81	N 32 13 26.56	W 103 48 11.89
	4499.00	0.03	257.77	4498.96	-5.39	-5.59	-5.90	0.04	445645.50	705240.53	N 32 13 26.56	W 103 48 11.89
	4593.00	0.02	247.11	4592.96	-5.40	-5.60	-5.94	0.01	445645.49	705240.49	N 32 13 26.56	W 103 48 11.89
	4688.00	0.05	41.52	4687.96	-5.37	-5.57	-5.93	0.07	445645.52	705240.50	N 32 13 26.56	W 103 48 11.89
	4782.00	0.02	252.79	4781.96	-5.35	-5.55	-5.91	0.07	445645.54	705240.52	N 32 13 26.56	W 103 48 11.89
	4876.00	0.06	248.07	4875.96	-5.37	-5.57	-5.98	0.04	445645.52	705240.45	N 32 13 26.56	W 103 48 11.89
	4970.00	0.02	213.10	4969.96	-5.40	-5.60	-6.03	0.05	445645.49	705240.40	N 32 13 26.56	W 103 48 11.90
	5064.00	0.04	35.43	5063.96	-5.39	-5.59	-6.02	0.06	445645.50	705240.41	N 32 13 26.56	W 103 48 11.90
	5159.00	0.03	252.79	5158.96	-5.37	-5.57	-6.03	0.02	445645.52	705240.41	N 32 13 26.56	W 103 48 11.90
	5348.00	0.02	330.12	5347.96	-5.35	-5.56	-6.09	0.02	445645.53	705240.34	N 32 13 26.56	W 103 48 11.90
	5442.00	0.06	211.52	5441.96	-5.38	-5.59	-6.12	0.08	445645.51	705240.31	N 32 13 26.56	W 103 48 11.90
	5536.00	0.06	337.45	5535.96	-5.37	-5.58	-6.17	0.11	445645.51	705240.26	N 32 13 26.56	W 103 48 11.90
	5631.00	0.04	247.55	5630.96	-5.34	-5.55	-6.22	0.08	445645.54	705240.21	N 32 13 26.56	W 103 48 11.90
	5819.00	0.02	235.55	5818.96	-5.38	-5.59	-6.30	0.01	445645.50	705240.13	N 32 13 26.56	W 103 48 11.90
	5914.00	0.05	349.62	5913.96	-5.35	-5.56	-6.33	0.06	445645.53	705240.10	N 32 13 26.56	W 103 48 11.90
	6008.00	0.05	194.53	6007.96	-5.35	-5.56	-6.34	0.10	445645.53	705240.09	N 32 13 26.56	W 103 48 11.90
	6197.00	0.02	211.83	6196.96	-5.45	-5.67	-6.38	0.02	445645.42	705240.05	N 32 13 26.56	W 103 48 11.90
	6292.00	0.06	153.98	6291.96	-5.51	-5.73	-6.37	0.05	445645.36	705240.06	N 32 13 26.56	W 103 48 11.90
	6481.00	0.05	233.20	6480.96	-5.65	-5.86	-6.39	0.04	445645.23	705240.04	N 32 13 26.56	W 103 48 11.90
	6670.00	0.05	273.30	6669.96	-5.69	-5.91	-6.54	0.02	445645.18	705239.89	N 32 13 26.56	W 103 48 11.90
	6765.00	0.02	193.73	6764.95	-5.70	-5.92	-6.58	0.05	445645.17	705239.85	N 32 13 26.56	W 103 48 11.90
	6859.00	0.02	41.61	6858.95	-5.71	-5.93	-6.58	0.04	445645.16	705239.85	N 32 13 26.56	W 103 48 11.90
	7049.00	0.02	30.22	7048.95	-5.65	-5.87	-6.54	0.00	445645.22	705239.89	N 32 13 26.56	W 103 48 11.90
	7238.00	0.02	32.42	7237.95	-5.60	-5.82	-6.50	0.00	445645.27	705239.93	N 32 13 26.56	W 103 48 11.90
	7427.00	0.06	247.74	7426.95	-5.61	-5.83	-6.58	0.04	445645.26	705239.85	N 32 13 26.56	W 103 48 11.90
	7616.00	0.04	253.20	7615.95	-5.66	-5.88	-6.73	0.01	445645.21	705239.70	N 32 13 26.56	W 103 48 11.90
	7805.00	0.10	230.71	7804.95	-5.77	-6.01	-6.92	0.03	445645.08	705239.51	N 32 13 26.56	W 103 48 11.91
	7900.00	0.10	224.72	7899.95	-5.88	-6.12	-7.05	0.01	445644.97	705239.38	N 32 13 26.56	W 103 48 11.91
	8089.00	0.07	182.91	8088.95	-6.11	-6.35	-7.17	0.04	445644.74	705239.26	N 32 13 26.55	W 103 48 11.91
	8183.00	0.18	92.03	8182.95	-6.18	-6.41	-7.02	0.21	445644.68	705239.41	N 32 13 26.55	W 103 48 11.91
	8372.00	0.16	301.42	8371.95	-6.05	-6.29	-6.95	0.17	445644.80	705239.48	N 32 13 26.55	W 103 48 11.91
	8467.00	1.15	260.25	8466.95	-6.11	-6.38	-8.01	1.09	445644.71	705238.43	N 32 13 26.55	W 103 48 11.92
	8561.00	1.77	220.34	8560.92	-7.31	-7.64	-9.87	1.23	445643.45	705236.56	N 32 13 26.54	W

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	9128.00	2.92	225.60	9127.62	-14.37	-15.19	-24.50	0.99	445633.90	705221.93	N 32 13 26.47 W 103 48 12.11	
	9222.00	3.79	228.50	9221.46	-17.97	-18.93	-28.54	0.94	445632.16	705217.89	N 32 13 26.43 W 103 48 12.16	
	9316.00	4.20	232.99	9315.23	-21.93	-23.06	-33.62	0.55	445628.03	705212.82	N 32 13 26.39 W 103 48 12.22	
	9505.00	5.51	230.52	9503.55	-31.45	-32.99	-46.15	0.70	445618.10	705200.29	N 32 13 26.29 W 103 48 12.36	
	9600.00	7.74	233.77	9597.91	-37.84	-39.68	-54.83	2.38	445611.42	705191.60	N 32 13 26.23 W 103 48 12.47	
	9695.00	8.25	228.98	9691.99	-45.74	-47.93	-65.13	0.88	445603.16	705181.30	N 32 13 26.14 W 103 48 12.59	
	9789.00	8.85	227.65	9784.94	-54.69	-57.23	-75.56	0.67	445593.86	705170.87	N 32 13 26.04 W 103 48 12.71	
	9884.00	10.07	231.27	9878.65	-64.41	-67.35	-87.44	1.43	445583.75	705158.99	N 32 13 25.95 W 103 48 12.85	
	9978.00	12.61	231.40	9970.81	-75.47	-78.89	-101.88	2.70	445572.20	705144.56	N 32 13 25.84 W 103 48 13.02	
	10072.00	14.99	232.07	10062.09	-88.75	-92.77	-119.49	2.54	445558.33	705126.95	N 32 13 25.70 W 103 48 13.22	
	10261.00	11.85	225.90	10245.91	-116.17	-121.31	-152.71	1.82	445529.79	705093.73	N 32 13 25.42 W 103 48 13.61	
	10356.00	12.70	225.80	10338.74	-129.75	-135.38	-167.20	0.90	445515.72	705079.24	N 32 13 25.28 W 103 48 13.78	
	10450.00	13.45	229.71	10430.30	-143.50	-149.65	-182.95	1.23	445501.45	705063.49	N 32 13 25.14 W 103 48 13.96	
	10544.00	12.93	237.33	10521.83	-155.67	-162.40	-200.14	1.93	445488.70	705046.30	N 32 13 25.02 W 103 48 14.16	
	10639.00	12.00	243.53	10614.59	-165.21	-172.54	-217.93	1.71	445478.56	705028.51	N 32 13 24.92 W 103 48 14.37	
	10733.00	11.92	250.90	10706.56	-172.15	-180.07	-235.85	1.63	445471.03	705010.59	N 32 13 24.85 W 103 48 14.58	
	10828.00	12.60	253.60	10799.39	-177.64	-186.21	-255.07	0.94	445464.90	704991.38	N 32 13 24.79 W 103 48 14.80	
	10923.00	11.23	270.35	10892.37	-179.87	-189.08	-274.26	3.90	445462.03	704972.18	N 32 13 24.76 W 103 48 15.03	
	11019.00	9.47	294.89	10986.85	-175.94	-185.69	-290.78	4.90	445465.41	704955.66	N 32 13 25.12 W 103 48 15.22	
	11115.00	7.60	318.59	11081.81	-167.48	-177.60	-302.15	4.11	445473.50	704944.30	N 32 13 24.87 W 103 48 15.35	
	11248.00	18.94	326.40	11211.06	-142.25	-152.95	-319.97	8.61	445498.15	704926.48	N 32 13 25.12 W 103 48 15.56	
	11343.00	34.59	318.97	11295.64	-107.99	-119.55	-346.38	16.82	445531.55	704900.07	N 32 13 25.45 W 103 48 15.86	
	11438.00	41.06	325.32	11370.67	-60.77	-73.48	-381.88	7.94	445577.61	704864.57	N 32 13 25.91 W 103 48 16.27	
	11533.00	42.04	349.81	11442.24	-2.68	-16.13	-405.42	17.06	445634.96	704841.03	N 32 13 26.48 W 103 48 16.55	
Wolfcamp Intersection	11616.33	46.67	6.01	11502.00	55.17	41.69	-407.19	14.65	445692.78	704839.27	N 32 13 27.05 W 103 48 16.56	
	11628.00	47.49	8.06	11509.95	63.61	50.17	-406.14	14.65	445701.25	704840.31	N 32 13 27.13 W 103 48 16.55	
	11722.00	50.24	10.39	11571.78	133.06	120.03	-394.77	3.47	445771.11	704851.69	N 32 13 27.82 W 103 48 16.41	
	11817.00	49.39	10.59	11633.08	203.94	191.39	-381.55	0.91	445842.47	704864.90	N 32 13 28.53 W 103 48 16.26	
LL Crossing	11818.00	49.52	10.58	11633.73	204.69	192.14	-381.41	12.86	445843.22	704865.04	N 32 13 28.54 W 103 48 16.25	
	11911.00	61.45	9.50	11686.33	279.53	267.47	-368.13	12.86	445918.54	704878.32	N 32 13 29.28 W 103 48 16.09	
100' FSL Crossing	11939.00	64.98	7.17	11698.95	304.12	292.19	-364.52	14.63	445943.26	704881.94	N 32 13 29.52 W 103 48 16.05	
	12006.00	73.56	2.09	11722.86	366.30	354.57	-359.54	14.63	446005.64	704886.91	N 32 13 30.14 W 103 48 15.99	
	12101.00	89.31	359.83	11738.76	459.83	446.20	-358.01	16.74	446099.26	704888.44	N 32 13 31.07 W 103 48 15.97	
	12140.00	89.48	358.47	11737.17	498.81	487.20	-358.25	1.02	446138.26	704888.20	N 32 13 31.45 W 103 48 15.97	
	12230.00	88.41	0.60	11738.83	588.74	571.18	-358.19	1.73	446228.23	704888.26	N 32 13 32.34 W 103 48 15.96	
	12324.00	86.10	3.44	11743.33	682.40	671.00	-354.89	3.89	446322.04	704891.56	N 32 13 33.27 W 103 48 15.92	
	12419.00	86.93	3.35	11749.11	776.82	765.65	-349.27	0.88	446416.70	704897.18	N 32 13 34.21 W 103 48 15.85	
	12514.00	86.82	3.30	11754.29	864.65	853.35	-343.77	0.13	446511.39	704902.68	N 32 13 35.07 W 103 48 15.78	
	12608.00	87.17	4.32	11759.22	964.65	953.99	-337.21	1.55	446605.02	704909.25	N 32 13 36.07 W 103 48 15.61	
	12703.00	86.89	3.74	11764.30	1058.97	1048.59	-330.21	1.15	446699.62	704916.24	N 32 13 37.01 W 103 48 15.61	
	12797.00	87.20	4.39	11769.31	1152.33	1142.22	-323.55	0.88	446793.24	704922.90	N 32 13 37.93 W 103 48 15.53	
	12887.00	90.20	7.16	11773.62	1340.54	1331.17	-304.44	2.15	446882.18	704942.01	N 32 13 39.80 W 103 48 15.29	
	13082.00	90.16	4.42	11773.33	1434.67	1425.68	-294.86	2.88	447076.68	704951.59	N 32 13 40.74 W 103 48 15.18	
	13177.00	93.43	359.35	11770.35	1529.37	1520.53	-291.73	6.35	447171.53	704954.71	N 32 13 41.68 W 103 48 15.13	
	13272.00	94.40	353.57	11763.86	1624.07	1615.09	-287.58	6.16	447266.08	704948.87	N 32 13 42.61 W 103 48 15.20	
	13366.00	90.85	350.34	11759.55	1717.41	1708.04	-310.72	5.10	447359.02	704935.73	N 32 13 43.53 W 103 48 15.34	
	13462.00	89.92	351.71	11758.91	1812.67	1802.86	-325.70	1.72	447453.84	704920.75	N 32 13 44.47 W 103 48 15.51	
	13556.00	90.06	355.50	11758.92	1906.36	1896.26	-336.17	4.03	447547.23	704910.29	N 32 13 45.40 W 103 48 15.63	
	13651.00	90.03	357.46	11758.85	2001.32	1991.07	-342.00	2.06	447642.04	704904.45	N 32 13 46.33 W 103 48 15.69	
	13746.00	89.61	358.63	11759.15	2096.32	2086.02	-345.24	1.31	447736.98	704901.21	N 32 13 47.27 W 103 48 15.72	
	13841.00	89.16	358.29	11760.17	2191.31	2180.98	-347.79	0.59	447831.93	704898.66	N 32 13 48.21 W 103 48 15.75	
	13930.00	89.10	358.88	11761.11	2253.30	2242.95	-349.32	0.96	447893.90	704897.13	N 32 13 48.83 W 103 48 15.76	
	14092.00	89.86	358.18	11762.66	2442.29	2431.88	-354.17	0.59	448082.82	704892.28	N 32 13 50.70 W 103 48 15.81	
	14187.00	90.99	358.45	11761.87	2537.28	2526.83	-356.96	1.12	448177.76	704889.49	N 32 13 51.64 W 103 48 15.84	
	14282.00	90.92	357.94	11760.29	2632.27	2621.77	-359.96	0.54	448272.70	704886.50	N 32 13 52.58 W 103 48 15.86	
	14377.00	91.20	358.85	11758.53	2727.25	2716.72	-362.62	1.00	448367.64	704883.84	N 32 13 53.52 W 103 48 15.89	
	14471.00	91.27	359.79	11756.50	2821.21	2810.69	-363.73	1.00	448461.60	704882.72	N 32 13 54.45 W 103 48 15.90	
	14566.00	91.20	0.52	11754.46	2916.12	2905.66	-363.48	0.77	448556.57	704882.98	N 32 13 55.38 W 103 48 15.89	
	14661.00	91.20	0.14	11752.47	3011.03	3000.64	-362.93	0.40	448651.54	704883.52	N 32 13 56.32 W 103 48 15.88	
	14756.00	90.61	0.61	11750.97	3105.94	3095.63	-362.31	0.79	448746.52	704884.15	N 32 13 57.26 W 103 48 15.87	
	14850.00	89.96	0.63	11750.50	3199.85	3189.62	-361.29	0.69	448840.51	704885.16	N 32 13 58.19 W 103 48 15.85	
	14945.00	89.65	359.30	11750.82	3294.80	3284.62	-361.35	1.44	448935.50	704885.11	N 32 13 59.13 W 103 48 15.84	
	15040.00	89.99	359.58	11751.12	3389.77	3379.61	-362.28	0.46	449030.49	704884.18	N 32 14 0.07 W 103 48 15.85	
	15134.00	90.03	359.71	11751.10	3483.73	3473.61	-362.86	0.14	449124.48	704883.59	N 32 14 1.00 W 103 48 15.85	
	15229.00	89.69	359.46	11751.34	3578.70	3568.61	-363.55	0.44	449219.47	704882.91	N 32 14 1.94 W 103 48 15.85	
	15324.00	90.13	1.08	11751.48	3673.63	3663.60	-363.10	1.77	449314.46	704883.35	N 32 14 2.88 W 103 48 15.84	
	15418.00	90.06	0.73	11751.33	3767.52	3757.59	-361.61	0.38	449408.45	704884.84	N 32 14 3.81 W 103 48 15.82	
	15513.00	90.48	1.05	11750.88	3862.40	3852.58	-360.14	0.56	449503.43	704885.31	N 32 14 4.75 W 103 48 15.80	
	15608.00	89.75	0.36	11750.69	3957.30	3947.57	-358.97	1.06	449598.41	704887.48	N 32 14 5.69 W 103 48 15.78	
	15703.00	90.27	359.82	11750.67	4052.25	4042.57	-358.82	0.79	449693.41	704887.63	N 32 14 6.63 W 103 48 15.77	
	15797.00	89.89	0.21	11750.54	4146.19	4136.57	-358.80	0.58	449787.40	704887.66	N 32 14 7.56 W 103 48 15.76	
	15892.00	90.06	0.73	11750.58	4241.11	4231.50	-358.02	0.58	449882.39	704888.44	N 32 14 8.50 W 103 48 15.75	
	15986.00	89.96	359.97	11750.57	4335.04	4325.56	-357.44	0.82	449976.38	704889.01	N 32 14 9.43 W 103 48 15.74	
	16081.00	89.82	0.76	11750.75	4429.96	4420.56	-356.84	0.84	450071.37	704889.62	N 32 14 10.37 W 103 48 15.73	
	16176.00	89.99	0.27	11750.91	4524.88	4515.55	-355.98	0.55	450166.36	704890.47	N 32 14 11.31 W 103 48 15.71	
	16270.00	90.13	0.25	11750.81	4618.81	4609.55	-355.56	0.15	450260.36	704890.90	N 32 14 12.24 W 103 48 15.70	

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	19390.00	90.39	0.75	11738.09	7736.30	7729.26	-340.54	1.43	453379.87	704905.91	N 32 14 43.11	W 103 48 15.35
	19485.00	89.77	0.42	11737.96	7831.21	7824.25	-339.57	0.74	453474.86	704906.88	N 32 14 44.05	W 103 48 15.33
	19580.00	89.46	359.82	11738.60	7926.15	7919.25	-339.29	0.62	453568.85	704907.16	N 32 14 44.99	W 103 48 15.32
	19675.00	89.67	0.09	11739.32	8021.09	8014.25	-339.28	0.28	453664.84	704907.17	N 32 14 45.93	W 103 48 15.31
	19770.00	88.78	358.57	11740.60	8116.06	8109.23	-340.39	1.85	453759.82	704906.06	N 32 14 46.87	W 103 48 15.32
	19864.00	90.56	1.15	11741.14	8210.00	8203.22	-340.62	3.33	453853.80	704905.83	N 32 14 47.80	W 103 48 15.32
	19959.00	89.67	1.53	11740.95	8304.85	8298.19	-338.40	1.02	453948.76	704908.05	N 32 14 48.74	W 103 48 15.29
	20054.00	90.70	0.53	11740.65	8399.72	8393.17	-336.69	1.51	454043.74	704909.76	N 32 14 49.68	W 103 48 15.26
	20149.00	89.84	0.65	11740.20	8494.63	8488.16	-335.71	0.91	454138.73	704910.74	N 32 14 50.62	W 103 48 15.25
	20244.00	89.67	0.33	11740.60	8589.54	8583.16	-334.90	0.38	454233.72	704911.55	N 32 14 51.56	W 103 48 15.23
	20338.00	89.09	359.41	11741.62	8683.49	8677.15	-335.11	1.16	454327.70	704911.34	N 32 14 52.49	W 103 48 15.23
	20433.00	90.05	359.10	11742.33	8778.47	8772.14	-336.35	1.06	454422.68	704910.10	N 32 14 53.43	W 103 48 15.24
	20528.00	89.29	359.79	11742.88	8873.44	8867.13	-337.27	1.08	454517.67	704909.18	N 32 14 54.37	W 103 48 15.24
	20623.00	89.33	0.62	11744.03	8968.37	8962.12	-336.93	0.87	454612.66	704909.52	N 32 14 55.31	W 103 48 15.23
	20718.00	89.05	0.31	11745.37	9063.28	9057.11	-336.16	0.44	454707.64	704910.29	N 32 14 56.25	W 103 48 15.22
	20812.00	89.60	0.85	11746.48	9157.18	9151.10	-335.21	0.82	454801.62	704911.25	N 32 14 57.18	W 103 48 15.20
	20907.00	88.12	359.20	11748.37	9252.10	9246.07	-335.16	2.33	454896.59	704910.29	N 32 14 58.12	W 103 48 15.20
	21002.00	92.18	1.88	11748.12	9346.99	9341.04	-334.27	5.12	454991.55	704912.18	N 32 14 59.06	W 103 48 15.18
	21095.00	89.91	0.36	11746.42	9439.84	9434.00	-332.45	2.94	455084.50	704914.00	N 32 14 59.98	W 103 48 15.15
	21190.00	91.67	0.23	11745.11	9534.75	9528.98	-331.96	1.86	455179.48	704914.49	N 32 15 0.92	W 103 48 15.14
	21285.00	89.91	359.79	11743.80	9629.69	9623.97	-331.95	1.91	455274.46	704914.50	N 32 15 1.86	W 103 48 15.14
	21379.00	91.98	0.52	11742.25	9723.61	9717.95	-331.69	2.34	455368.44	704914.76	N 32 15 2.79	W 103 48 15.13
	21473.00	88.50	359.76	11741.86	9817.53	9811.94	-331.46	3.79	455462.42	704914.99	N 32 15 3.72	W 103 48 15.12
	21567.00	86.16	358.48	11746.24	9911.41	9905.82	-332.90	2.84	455556.29	704913.55	N 32 15 4.65	W 103 48 15.13
	21661.00	89.70	359.54	11749.63	10005.32	9999.72	-334.53	3.93	455650.19	704911.93	N 32 15 5.58	W 103 48 15.15
	21756.00	89.02	360.00	11750.69	10100.27	10094.72	-334.91	0.86	455745.18	704911.54	N 32 15 6.52	W 103 48 15.14
	21851.00	91.29	0.06	11750.44	10195.21	10189.71	-334.86	2.39	455840.17	704911.59	N 32 15 7.46	W 103 48 15.14
	22040.00	89.91	0.18	11748.46	10384.08	10378.69	-334.46	0.73	456029.14	704911.99	N 32 15 9.33	W 103 48 15.12
	22229.00	89.15	0.48	11750.01	10572.93	10567.68	-333.37	0.43	456218.12	704913.08	N 32 15 11.20	W 103 48 15.10
	22324.00	89.84	0.78	11750.84	10667.83	10662.67	-332.33	0.79	456313.10	704914.12	N 32 15 12.14	W 103 48 15.08
100' FNL Crossing	22328.00	89.74	0.73	11750.86	10671.82	10666.67	-332.28	2.79	456317.10	704914.18	N 32 15 12.18	W 103 48 15.08
Final MWD	22363.00	88.88	0.27	11751.28	10706.79	10701.67	-331.97	2.79	456352.09	704914.48	N 32 15 12.52	W 103 48 15.08
Proj to TD	22407.00	88.88	0.27	11752.14	10750.75	10745.66	-331.76	0.00	456396.08	704914.69	N 32 15 12.96	W 103 48 15.07

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 172H Gyro + IFR 0-22407'MD
	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 172H Gyro + IFR 0-22407'MD
	1	26.500	674.300	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 172H
	1	674.300	22407.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Sunrise MDP1 8-5 Federal Com 172H

...Original Borehole\Oxy Sunrise MDP1 8-5 Federal Com 172H Gyro + IFR 0-22407'MD