

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

30-015-44369

February 27, 2018

OXY USA INC.

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 24 2018

RECEIVED

Re:

CLIENT: OXY USA INC.
WELL: Sunrise MDPI 8-5 Fed Com 1H ST I
FIELD: Cotton Draw Bone Spring

RIG: H&P 617
COUNTY: Eddy
API NO: 30-015-44369
JOB NO: 18MLD2092

8. 24 South, 31 East, Eddy NM
-32.22506 -103.80575

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>
Tyler Matthews FET	Sunrise MDPI 8-5 Fed Com 1H ST I Side Track	10046.00 Ft to 20366.00 Ft	February 16, 2018 to February 23, 2018	TelePacer SlimPulse

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

Field Service Manager

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:

8, 24 South, 31 East, Eddy NM
-32.22506 -103.80575

I, Tyler Matthews certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of February 16, 2018 through February 23, 2018, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 10046.00 feet to a depth of 20366.00 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 III ST1 Well (Side Track) API No. 30-015-44369 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
Tyler Matthews
FET

Tyler Matthews

Subscribed and Sworn to before me this 1st day of March (month) 2018 (yr)

My Commission expires:

12-20-2020

J. Allemand

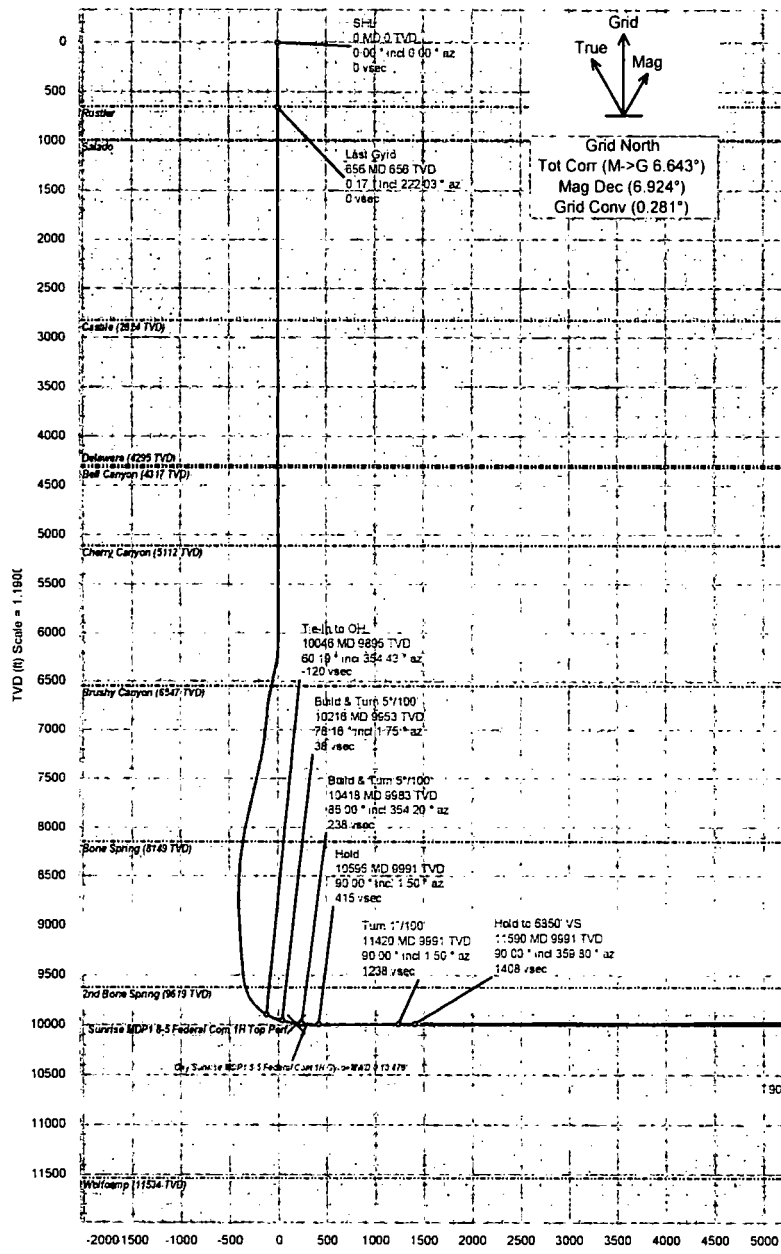
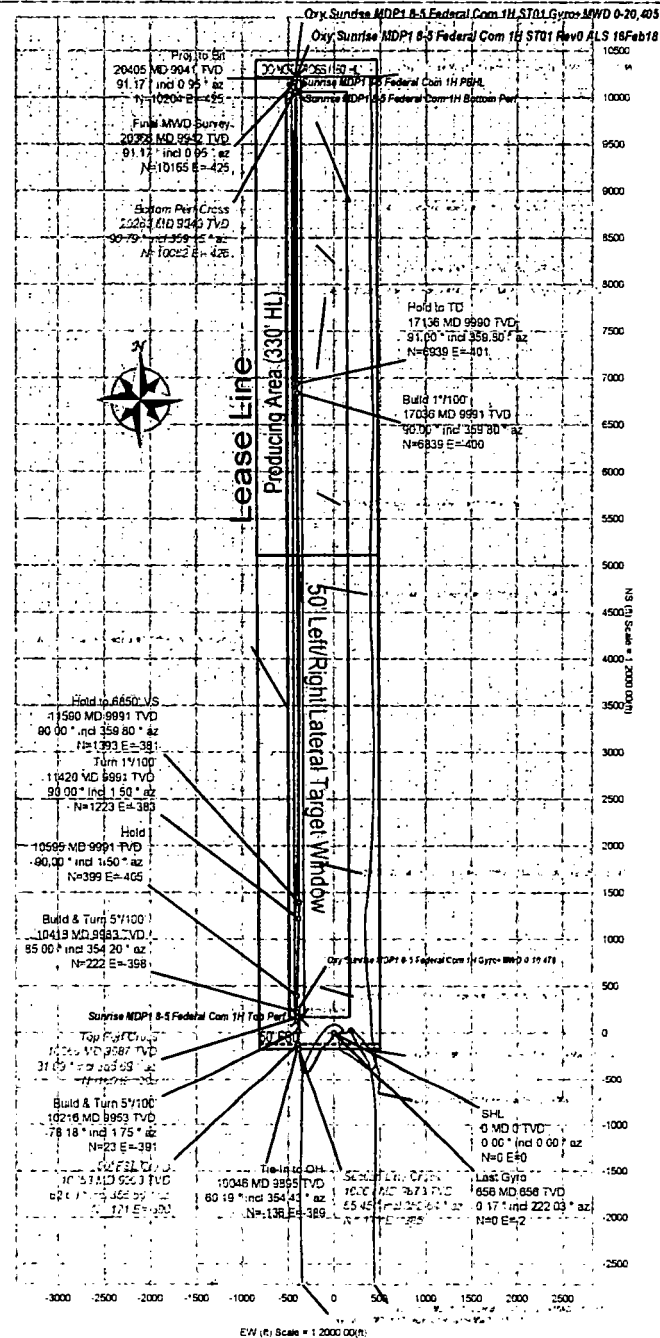
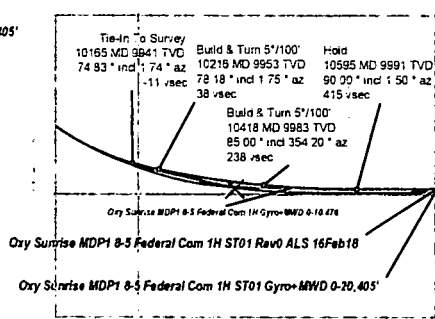
Notary Public

Adams County Colorado
(County State)

JENNIFER ALLEMAND
(signature) Notary Public
State of Colorado
Notary ID # 20164047962
My Commission Expires 12-20-2020



Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Rev0 ALS 16Feb18



Vertical Section (ft) Azim = 357.69° Scale = 1:1900.00(ft) Origin = 0N/-S. 0E/-W

Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro+MWD 0-20,405' Survey

Geodetic Report

(Def Survey)



Report Date: February 23, 2018 - 01:21 PM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Sunrise MDP1 8-5 Federal Com 1H / Oxy Sunrise 8-5 Federal Com 1H
Well: Oxy Sunrise MDP1 8-5 Federal Com 1H
Borehole: ST01
UWI / API#: Unknown / Unknown
Survey Name: Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro-MWD 0-20.405'
Survey Date: February 16, 2018
Tort / AHD / DDI / ERD Ratio: 227.476' / 11197.905 ft / 6.716' / 1.120
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 13' 30.21751", W 103° 48' 20.70502"
Location Grid N/E Y/X: N 446011.320 ftUS, E 704481.860 ftUS
CRS Grid Convergence Angle: 0.2813 °
Grid Scale Factor: 0.99993957
Version / Patch: 2.10.706.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 357.690 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB (26.5')
TVD Reference Elevation: 3555.900 ft above MSL
Seabed / Ground Elevation: 3529.400 ft above MSL
Magnetic Declination: 6.924 °
Total Gravity Field Strength: 998.4287mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48045.153 nT
Magnetic Dip Angle: 59.979 °
Declination Date: February 16, 2018
Magnetic Declination Model: HDGM 2017
North Reference: Grid North
Grid Convergence Used: 0.2813 °
Total Corr Mag North->Grid North: 6.6425 °
Local Coord Referenced To: Well Head

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 ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	446011.32	704481.86	N 32 13 30.22 W 103 48 20.71	
	86.10	0.25	298.03	86.10	0.09	0.09	-0.17	0.29	446011.41	704481.69	N 32 13 30.22 W 103 48 20.71	
	176.40	0.29	307.10	176.40	0.34	0.32	-0.52	0.06	446011.64	704481.34	N 32 13 30.22 W 103 48 20.71	
	263.20	0.27	323.63	263.20	0.65	0.62	-0.82	0.10	446011.94	704481.04	N 32 13 30.22 W 103 48 20.71	
	358.20	0.09	283.90	358.20	0.85	0.81	-1.02	0.22	446012.13	704480.84	N 32 13 30.23 W 103 48 20.72	
	450.70	0.08	229.70	450.70	0.84	0.79	-1.14	0.08	446012.11	704480.72	N 32 13 30.23 W 103 48 20.72	
	545.70	0.21	214.44	545.70	0.65	0.60	-1.29	0.14	446011.92	704480.57	N 32 13 30.22 W 103 48 20.72	
	640.40	0.40	204.00	640.40	0.22	0.16	-1.53	0.21	446011.48	704480.34	N 32 13 30.22 W 103 48 20.72	
Last Gyro	655.60	0.17	222.03	655.60	0.16	0.09	-1.56	1.61	446011.41	704480.30	N 32 13 30.22 W 103 48 20.72	
	846.00	0.29	98.06	845.99	-0.13	-0.18	-1.27	0.22	446011.14	704480.59	N 32 13 30.22 W 103 48 20.72	
	937.00	0.23	279.48	936.99	-0.14	-0.19	-1.23	0.57	446011.13	704480.63	N 32 13 30.22 W 103 48 20.72	
	1029.00	0.18	75.24	1028.99	-0.07	-0.12	-1.27	0.44	446011.20	704480.59	N 32 13 30.22 W 103 48 20.72	
	1121.00	0.13	241.89	1120.99	-0.08	-0.13	-1.22	0.33	446011.19	704480.64	N 32 13 30.22 W 103 48 20.72	
	1212.00	0.23	88.62	1211.99	-0.13	-0.18	-1.13	0.39	446011.14	704480.73	N 32 13 30.22 W 103 48 20.72	
	1305.00	0.17	245.00	1304.99	-0.19	-0.23	-1.07	0.42	446011.09	704480.79	N 32 13 30.22 W 103 48 20.72	
	1397.00	0.17	63.72	1396.99	-0.18	-0.23	-1.07	0.37	446011.09	704480.79	N 32 13 30.22 W 103 48 20.72	
	1488.00	0.17	245.32	1487.99	-0.18	-0.22	-1.07	0.37	446011.09	704480.79	N 32 13 30.22 W 103 48 20.72	
	1580.00	0.11	56.97	1579.99	-0.19	-0.23	-1.12	0.30	446011.09	704480.79	N 32 13 30.22 W 103 48 20.72	
	1671.00	0.24	280.73	1670.99	-0.10	-0.15	-1.23	0.36	446011.17	704480.63	N 32 13 30.22 W 103 48 20.72	
	1766.00	0.13	87.86	1765.99	-0.05	-0.11	-1.32	0.39	446011.21	704480.59	N 32 13 30.22 W 103 48 20.72	
	1861.00	0.11	266.02	1860.99	-0.06	-0.11	-1.31	0.25	446011.21	704480.55	N 32 13 30.22 W 103 48 20.72	
	2050.00	0.11	7.48	2049.99	0.12	0.06	-1.46	0.09	446011.38	704480.40	N 32 13 30.22 W 103 48 20.72	
	2239.00	0.11	4.21	2238.99	0.47	0.42	-1.43	0.00	446011.74	704480.43	N 32 13 30.22 W 103 48 20.72	
	2334.00	0.13	284.11	2333.99	0.60	0.53	-1.52	0.16	446011.85	704480.34	N 32 13 30.22 W 103 48 20.72	
	2428.00	0.06	212.18	2427.99	0.59	0.52	-1.65	0.13	446011.84	704480.21	N 32 13 30.22 W 103 48 20.72	
	2523.00	0.06	191.41	2522.99	0.50	0.43	-1.69	0.02	446011.75	704480.17	N 32 13 30.22 W 103 48 20.72	
	2618.00	0.08	15.75	2617.99	0.51	0.44	-1.68	0.15	446011.76	704480.18	N 32 13 30.22 W 103 48 20.72	
	2712.00	0.06	206.01	2711.99	0.53	0.46	-1.69	0.15	446011.78	704480.17	N 32 13 30.22 W 103 48 20.72	
	2807.00	0.08	118.07	2806.99	0.45	0.39	-1.65	0.10	446011.71	704480.21	N 32 13 30.22 W 103 48 20.72	
	2996.00	0.06	2.35	2995.99	0.48	0.42	-1.53	0.06	446011.74	704480.33	N 32 13 30.22 W 103 48 20.72	
	3090.00	0.06	3.63	3089.99	0.58	0.52	-1.52	0.00	446011.84	704480.34	N 32 13 30.22 W 103 48 20.72	
	3185.00	0.06	5.38	3184.99	0.68	0.62	-1.52	0.00	446011.94	704480.34	N 32 13 30.22 W 103 48 20.72	
	3280.00	0.06	28.23	3279.99	0.77	0.71	-1.49	0.03	446012.03	704480.37	N 32 13 30.22 W 103 48 20.72	
	3375.00	0.11	317.59	3374.99	0.89	0.82	-1.52	0.11	446012.14	704480.34	N 32 13 30.23 W 103 48 20.72	
	3469.00	0.08	93.89	3468.99	0.95	0.89	-1.52	0.19	446012.21	704480.34	N 32 13 30.23 W 103 48 20.72	
	3658.00	0.28	199.05	3657.99	0.50	0.44	-1.54	0.16	446011.76	704480.32	N 32 13 30.22 W 103 48 20.72	
	3753.00	0.13	6.50	3752.99	0.39	0.33	-1.60	0.43	446011.65	704480.26	N 32 13 30.22 W 103 48 20.72	
	3847.00	0.08	156.33	3846.99	0.44	0.38	-1.56	0.22	446011.70	704480.30	N 32 13 30.22 W 103 48 20.72	
	3942.00	0.08	178.83	3941.99	0.31	0.25	-1.54	0.03	446011.57	704480.32	N 32 13 30.22 W 103 48 20.72	
	4036.00	0.20	267.35	4035.99	0.24	0.17	-1.70	0.23	446011.49	704480.16	N 32 13 30.22 W 103 48 20.72	
	4131.00	0.16	44.92	4130.99	0.33	0.26	-1.77	0.35	446011.58	704480.09	N 32 13 30.22 W 103 48 20.73	
	4226.00	0.11	18.82	4225.99	0.51	0.44	-1.65	0.08	446011.76	704480.21	N 32 13 30.22 W 103 48 20.72	
	4320.00	0.13	281.26	4319.99	0.62	0.55	-1.72	0.19	446011.87	704480.14	N 32 13 30.22 W 103 48 20.73	
	4483.00	0.16	33.89	4482.99	0.84	0.77	-1.78	0.15	446012.09	704480.08	N 32 13 30.23 W 103 48 20.73	
	4578.00	0.08	256.44	4577.99	0.94	0.87	-1.77	0.24	446012.19	704480.09	N 32 13 30.23 W 103 48 20.73	
	4672.00	0.08	266.16	4671.99	0.92	0.85	-1.90	0.01	446012.17	704479.96	N 32 13 30.23 W 103 48 20.73	
	4767.00	0.13	323.99	4766.99	1.01	0.93	-2.03	0.12	446012.25	704479.83	N 32 13 30.23 W 103 48 20.73	
	4957.00	0.08	329.12	4956.99	1.31	1.22	-2.22	0.03	446012.54	704479.64	N 32 13 30.23 W 103 48 20.73	
	5052.00	0.16	295.62	5051.99	1.43	1.33	-2.38	0.11	446012.65	704479.48	N 32 13 30.23 W 103 48 20.73	
	5241.00	0.08	223.35	5240.99	1.46	1.35	-2.70	0.08	446012.67	704479.16	N 32 13 30.23 W 103 48 20.74	
	5430.00	0.06	188.29	5429.99	1.27	1.16	-2.81	0.02	446012.48	704479.05	N 32 13 30.23 W 103 48 20.74	
	5524.00	0.06	108.12	5523.99	1.20	1.09	-2.77	0.08	446012.41	704479.09	N 32 13 30.23 W 103 48 20.74	
	5713.00	0.08	176.97	5712.99	1.04	0.93	-2.67	0.04	446012.25	704479.19	N 32 13 30.23 W 103 48 20.74	
	5808.00	0.08	348.90	5807.99	1.04	0.93	-2.68	0.17	446012.25	704479.18	N 32 13 30.23 W 103 48 20.74	
	5903.00	0.08	62.88	5902.99	1.13	1.02	-2.63	0.10	446012.34	704479.23	N 32 13 30.23 W 103 48 20.74	
	5997.00	0.48	10.71	5996.99	1.54	1.44	-2.50	0.46	446012.76	704479.36	N 32 13 30.23 W 103 48 20.73	
	6092.00	1.46	206.27	6091.99	0.87	0.75	-2.96	2.03	446012.07	704478.90	N 32 13 30.23 W 103 48 20.74	
	6186.00	4.82	201.48	6185.82	-3.80	-4.00	-4.94	3.58	446007.32	704476.92	N 32 13 30.18 W 103 48 20.76	
	6281.00	8.35	201.68	6280.18	-13.76	-14.13	-8.95	3.72	445997.19	704472.91	N 32 13 30.08 W 103 48 20.81	
	6375.00	11.29	200.54	6372.79	-28.48	-29.09	-14.70	3.13	445982.23	704467.16	N 32 13 29.93 W 103 48 20.88	
	6470.00	14.09	202.95	6465.47	-47.51	-48.45	-22.47	3.00	445962.87	704459.39	N 32 13 29.74 W 103 48 20.97	
	6559.00	14.25	215.27	6548.76	-86.76	-88.64	-44.88	1.60	445922.69	704436.98	N 32 13 29.34 W 103 48 21.23	
	6753.00	11.89	227.30	6740.33	-102.21	-104.66	-58.68	3.82	445906.67	704423.18	N 32 13 29.18 W 103 48 21.39	
	6848.00	10.77	240.49	6833.50	-112.61	-115.67	-73.60	2.96	445895.66	704408.26	N 32 13 29.08 W 103 48 21.57	
	6943.00	10.43	240.30	6926.87	-120.62	-124.30	-88.80	0.36	445887.03	704393.07	N 32 13 28.99 W 103 48 21.75	
	7037.00	11.58	234.67	7019.15	-129.68	-133.97	-103.89	1.67	445877.36	704377.98	N 32 13 28.90 W 103 48 21.92	
	7132.00	12.52	227.97	7112.06	-141.45	-146.38	-119.31	1.77	445864.95	704362.55	N 32 13 28.77 W 103 48 22.10	
	7226.00	12.41	216.78	7203.85	-155.81	-161.30	-132.93	2.57	445850.04	704348.94	N 32 13 28.63 W 103 48 22.26	
	7321.00	13.43	206.33	7296.46	-173.41	-179.36	-143.94	2.68	445831.97	704337.93	N 32 13 28.45 W 103 48 22.39	
	7415.00	14.30	203.17	7387.72	-193.48	-199.82	-153.35	1.23	445811.51	704328.52	N 32 13 28.25 W 103 48 22.50	

Comments	MD (ft)	Incl (°)	Azim Grd (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N S ° ' '')	Longitude (E W ° ' '')
	7510.00	14.43	205.02	7479.75	-214.58	-221.33	-162.97	0.50	445790.00	704318.90	N 32 13 28.04	W 103 48 22.61
	7604.00	15.20	206.82	7570.63	-235.75	-242.94	-173.49	0.95	445768.39	704308.39	N 32 13 27.82	W 103 48 22.74
	7699.00	15.22	206.83	7662.30	-257.52	-265.18	-184.73	0.02	445746.15	704297.14	N 32 13 27.60	W 103 48 22.87
	7794.00	15.31	208.85	7753.95	-279.15	-287.30	-196.41	0.57	445724.04	704285.46	N 32 13 27.38	W 103 48 23.01
	7888.00	15.84	209.58	7844.50	-300.66	-309.32	-208.73	0.60	445702.02	704273.14	N 32 13 27.17	W 103 48 23.15
	7983.00	15.34	210.92	7936.00	-322.18	-331.38	-221.59	0.65	445679.96	704260.28	N 32 13 26.95	W 103 48 23.30
	8078.00	14.65	212.75	8027.77	-342.52	-352.26	-234.55	0.88	445659.08	704247.33	N 32 13 26.74	W 103 48 23.46
	8172.00	13.14	215.71	8119.01	-360.67	-370.94	-247.21	1.77	445640.41	704234.66	N 32 13 26.56	W 103 48 23.60
	8267.00	10.74	218.20	8211.95	-375.91	-386.66	-258.99	2.58	445624.68	704222.88	N 32 13 26.40	W 103 48 23.74
	8362.00	8.14	221.62	8305.66	-387.49	-398.65	-268.94	2.80	445612.69	704212.94	N 32 13 26.29	W 103 48 23.86
	8457.00	6.21	225.85	8399.91	-395.76	-407.26	-277.09	2.10	445604.09	704204.79	N 32 13 26.20	W 103 48 23.95
	8551.00	5.36	231.27	8493.43	-401.76	-413.55	-284.16	1.07	445597.80	704197.71	N 32 13 26.14	W 103 48 24.04
	8646.00	5.28	245.04	8588.03	-406.07	-418.17	-291.59	1.34	445593.18	704190.29	N 32 13 26.09	W 103 48 24.12
	8740.00	4.24	260.43	8681.71	-408.18	-420.57	-298.94	1.74	445590.78	704182.94	N 32 13 26.07	W 103 48 24.21
	8830.00	3.61	296.27	8871.29	-406.21	-419.09	-311.23	1.31	445592.26	704170.65	N 32 13 26.09	W 103 48 24.35
	8924.00	5.27	300.41	8965.00	-402.46	-415.60	-317.61	1.80	445595.75	704164.27	N 32 13 26.12	W 103 48 24.43
	9019.00	5.33	306.73	9059.60	-397.32	-410.75	-324.90	0.62	445600.60	704156.98	N 32 13 26.17	W 103 48 24.51
	9113.00	5.35	308.04	9153.19	-391.73	-405.44	-331.86	0.13	445605.91	704150.03	N 32 13 26.22	W 103 48 24.59
	9207.00	5.85	315.68	9246.74	-385.33	-399.31	-338.65	0.95	445612.04	704143.23	N 32 13 26.28	W 103 48 24.67
	9302.00	5.81	329.79	9341.25	-377.49	-391.69	-344.46	1.51	445619.66	704137.43	N 32 13 26.36	W 103 48 24.74
	9397.00	5.38	338.72	9435.80	-369.03	-383.38	-348.49	1.02	445627.96	704133.39	N 32 13 26.44	W 103 48 24.78
	9492.00	5.47	351.10	9512.46	-361.97	-376.39	-350.37	1.52	445634.95	704131.51	N 32 13 26.51	W 103 48 24.81
	9587.00	15.88	1.82	9604.71	-344.64	-359.06	-350.66	11.23	445652.28	704131.23	N 32 13 26.68	W 103 48 24.81
	9682.00	26.39	348.35	9692.32	-311.09	-325.64	-354.48	12.25	445685.70	704127.40	N 32 13 27.01	W 103 48 24.85
	9777.00	38.04	346.14	9772.56	-261.40	-276.37	-365.79	12.32	445734.97	704116.09	N 32 13 27.50	W 103 48 24.98
	9872.00	49.62	350.12	9840.99	-196.62	-212.07	-379.06	12.53	445799.26	704102.82	N 32 13 28.14	W 103 48 25.13
	9967.00	60.19	354.43	9934.97	-120.18	-135.97	-389.19	11.85	445875.35	704092.69	N 32 13 28.89	W 103 48 25.24
	10062.00	70.34	0.02	9932.60	-38.59	-54.47	-392.98	12.60	445956.85	704088.90	N 32 13 29.70	W 103 48 25.28
	10157.00	77.45	2.15	9958.67	51.50	35.76	-391.24	7.87	446047.08	704090.64	N 32 13 30.59	W 103 48 25.26
	10252.00	77.52	356.33	9979.27	144.17	128.45	-392.47	5.98	446139.76	704089.41	N 32 13 31.51	W 103 48 25.27
	10347.00	85.80	354.86	9993.04	238.01	222.08	-399.70	8.85	446233.39	704082.19	N 32 13 32.43	W 103 48 25.35
	10442.00	89.31	354.15	9997.05	331.77	315.55	-408.69	3.81	446326.85	704073.19	N 32 13 33.36	W 103 48 25.44
	10537.00	90.83	355.67	9996.91	445.63	429.09	-418.80	1.89	446440.39	704063.08	N 32 13 34.48	W 103 48 25.56
	10632.00	90.89	0.20	9994.07	634.55	617.90	-425.61	2.40	446629.18	704056.27	N 32 13 36.35	W 103 48 25.62
	10727.00	90.76	0.05	9992.72	728.46	711.89	-425.41	0.21	446723.17	704056.48	N 32 13 37.28	W 103 48 25.62
	10822.00	90.45	359.29	9991.71	823.40	806.88	-425.95	0.86	446818.15	704055.93	N 32 13 38.22	W 103 48 25.62
	10917.00	90.79	0.57	9990.68	918.32	901.88	-426.07	1.39	446913.14	704055.82	N 32 13 39.16	W 103 48 25.61
	11012.00	90.48	0.73	9989.64	1012.18	995.86	-425.00	0.37	447007.12	704056.88	N 32 13 40.09	W 103 48 25.60
	11107.00	90.69	2.04	9987.70	1105.79	1185.79	-420.41	0.70	447197.04	704061.47	N 32 13 41.97	W 103 48 25.53
	11202.00	90.48	1.87	9984.19	1578.72	1563.56	-407.67	0.02	447574.78	704067.99	N 32 13 43.84	W 103 48 25.44
	11297.00	90.03	2.10	9983.34	1768.19	1753.45	-401.08	0.27	447764.66	704074.22	N 32 13 45.71	W 103 48 25.36
	11392.00	89.79	2.17	9983.49	1861.90	1847.38	-397.58	0.27	447858.59	704080.80	N 32 13 47.59	W 103 48 25.27
	11487.00	90.10	2.33	9983.67	2051.30	2037.23	-390.12	0.18	448048.43	704084.30	N 32 13 48.52	W 103 48 25.23
	11582.00	90.00	1.17	9983.59	2145.07	2131.19	-387.25	1.24	448142.38	704091.76	N 32 13 50.39	W 103 48 25.13
	11677.00	90.41	0.78	9983.26	2238.91	2225.17	-385.65	0.60	448236.35	704094.63	N 32 13 51.32	W 103 48 25.09
	11772.00	89.90	359.89	9983.00	2333.81	2320.17	-385.10	1.08	448331.35	704096.79	N 32 13 53.19	W 103 48 25.06
	11867.00	90.00	359.49	9983.08	2428.75	2415.17	-385.61	0.43	448426.34	704096.27	N 32 13 54.13	W 103 48 25.06
	11962.00	90.10	359.19	9983.00	2523.71	2510.16	-386.71	0.33	448521.33	704095.18	N 32 13 55.07	W 103 48 25.06
	12057.00	90.03	0.18	9982.78	2712.59	2699.16	-387.75	0.53	448710.31	704094.14	N 32 13 56.94	W 103 48 25.06
	12152.00	90.31	0.51	9982.51	2806.49	2793.15	-387.18	0.46	448804.30	704094.71	N 32 13 57.87	W 103 48 25.05
	12247.00	90.00	1.25	9981.99	2996.19	2983.13	-384.26	0.42	448994.26	704097.62	N 32 13 59.75	W 103 48 25.01
	12342.00	89.14	0.49	9983.41	3184.89	3172.10	-381.39	0.61	449183.22	704100.49	N 32 14 1.62	W 103 48 24.96
	12437.00	89.59	0.62	9985.50	3373.65	3361.08	-379.56	0.25	449372.19	704102.32	N 32 14 3.49	W 103 48 24.93
	12532.00	90.07	0.62	9985.78	3467.52	3455.07	-378.54	0.51	449466.18	704103.34	N 32 14 4.42	W 103 48 24.91
	12627.00	89.62	0.80	9986.04	3562.39	3550.06	-377.37	0.51	449561.16	704104.52	N 32 14 5.36	W 103 48 24.90
	12722.00	89.31	359.98	9986.92	3656.28	3644.06	-376.73	0.93	449655.15	704105.16	N 32 14 6.29	W 103 48 24.88
	12817.00	90.65	0.10	9986.98	3845.12	3833.05	-376.59	0.71	449844.13	704105.29	N 32 14 8.16	W 103 48 24.87
	12912.00	90.62	0.56	9984.89	4033.90	4022.04	-375.51	0.24	450033.11	704106.38	N 32 14 10.03	W 103 48 24.85
	13007.00	91.79	359.78	9980.91	4222.68	4210.99	-374.95	0.74	450222.05	704106.94	N 32 14 11.90	W 103 48 24.83
	13102.00	91.41	0.45	9978.29	4316.56	4304.95	-374.76	0.82	450316.00	704107.13	N 32 14 12.83	W 103 48 24.82
	13197.00	90.17	0.83	9975.68	4505.29	4493.92	-372.65	0.69	450504.96	704109.24	N 32 14 14.70	W 103 48 24.79
	13292.00	89.97	0.31	9975.57	4600.17	4588.91	-371.70	0.59	450599.95	704110.18	N 32 14 15.64	W 103 48 24.77
	13387.00	90.00	359.52	9975.59	4694.10	4682.91	-371.84	0.84	450693.94	704110.04	N 32 14 16.57	W 103 48 24.77
	13482.00	90.03	358.27	9975.54	4884.05	4872.87	-375.50	0.66	450883.89	704106.38	N 32 14 18.45	W 103 48 24.80
	13577.00	89.93	358.52	9975.61	5073.03	5061.80	-380.80	0.14	451072.80	704101.09	N 32 14 20.32	W 103 48 24.85
	13672.00	90.34	358.73	9975.39	5167.02	5155.77	-383.05	0.49	451166.77	704098.83	N 32 14 21.25	W 103 48 24.87
	13767.00	90.93	358.29	9973.29	5355.99	5344.70	-387.97	0.39	451355.68	704093.92	N 32 14 23.12	W 103 48 24.92
	13862.00	90.86	358.78	9971.81	5450.97	5439.65	-390.40	0.52	451450.63	704091.49	N 32 14 24.06	W 103 48 24.94
	13957.00	90.72	358.71	9969.20	5639.92	5628.59	-394.53	0.08	451639.58	704087.35	N 32 14 25.93	W 103 48 24.98
	14052.00	90.48	358.57	9967.22	5828.88	5817.53	-399.02	0.15	451828.48	704082.86	N 32 14 27.80	W 103 48 25.02
	14147.00	90.58	358.49	9966.35	5923.87	5912.49	-401.46	0.13	451923.44	704080.43	N 32 14 28.74	W 103 48 25.04
	14242.00	89.55	358.66	9966.24	6017.85	6006.46	-403.80	1.11	452017.40	704078.09	N 32 14 29.67	W 103 48 25.06
	14337.00	89.31	358.14	9967.17	6111.84	6100.42	-406.42	0.61	452111.36	704075.47	N 32 14 30.60	W 103 48 25.09
	14432.00	89.83	358.30	9968.59	6300.83	6289.32	-412.29	0.29	452300.25	704069.60	N 32 14 32.47	W 103 48 25.15
	14527.00	90.14	358.75	9968.64	6489.81	6478.26	-417.15	0.29	452489.17	704064.73	N 32 14 34.34	W 103 48 25.19
	14622.00	90.31	358.89	9968.27	6583.79	6572.24	-419.09	0.23	452583.15	704062.80	N 32 14 35.27	W 103 48

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 ° ' ")
	19520.00	90.38	359.12	9950.08	9328.74	9318.83	-433.52	0.68	455329.57	704048.37	N 32 15 2.45	W 103 48 25.22
	19709.00	90.48	0.63	9948.67	9517.59	9507.82	-433.93	0.80	455518.55	704047.95	N 32 15 4.32	W 103 48 25.21
	19804.00	90.58	3.30	9947.79	9612.31	9602.76	-430.68	2.81	455613.48	704051.21	N 32 15 5.26	W 103 48 25.17
	19899.00	90.55	2.34	9946.85	9706.92	9697.63	-426.00	1.01	455708.35	704055.88	N 32 15 6.20	W 103 48 25.11
	19993.00	90.10	1.17	9946.32	9800.68	9791.59	-423.12	1.33	455802.30	704058.76	N 32 15 7.13	W 103 48 25.07
	20088.00	90.76	359.31	9945.60	9895.58	9886.58	-422.73	2.08	455897.28	704059.16	N 32 15 8.07	W 103 48 25.06
	20277.00	90.79	359.12	9943.05	10084.50	10075.54	-425.32	0.10	456086.23	704056.57	N 32 15 9.94	W 103 48 25.08
Final MWD	20366.00	91.17	0.95	9941.52	10173.41	10164.53	-425.26	2.10	456175.21	704056.62	N 32 15 10.82	W 103 48 25.08
Survey	20405.00	91.17	0.95	9940.73	10212.34	10203.51	-424.62	0.00	456214.20	704057.27	N 32 15 11.20	W 103 48 25.07
Proj. to Bit												

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	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro+MWD 0-20.405'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01 Gyro+MWD 0-20.405'
	1	26.500	655.600	Act Stns	30.000	30.000	NAL_NSG+MSHOT	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01
	1	655.600	20405.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	ST01 / Oxy Sunrise MDP1 8-5 Federal Com 1H ST01