

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

November 8, 2019

Oxy USA Inc  
P.O. Box 4294  
Houston, TX 77210-4294

**HOBBS OCD**  
**DEC 04 2019**  
**RECEIVED**

S30, T22S, R33E Lea, NM  
N 32.369424 W -103.60895

Re:

CLIENT: Oxy USA Inc  
WELL: Avogato 30 31 State Com 34H  
FIELD: Red Tank; Bone Spring, East  
  
RIG: H&P 617  
COUNTY: Lea  
API NO: 30-025-45930  
JOB NO: 19MLH0358

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 &amp; Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Steven McDonough FS	Avogato 30 31 State Com 34H Original Hole	1148.00 Ft to 22103.00 Ft	September 12, 2019 to September 27, 2019	SlimPulse, TelePacer 3rd Party Corrected

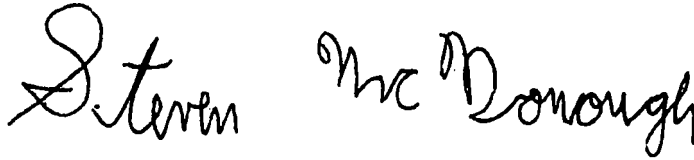
Oilfield Services, Central U.S. Land  
Schlumberger Drilling and Measurements  
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Geo Market Area: South West Texas Basin  
7220 W I-H 20  
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# Schlumberger

Well Reference:  
S30, T22S, R33E Lea, NM  
N 32.369424 W -103.60895

I, Steven McDonough certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of September 12, 2019 through September 27, 2019, conduct or supervise the taking of the SlimPulse, TelePacer & 3rd Party Corrected surveys from a depth of 1148.00 feet to a depth of 22103.00 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 Avogato 30 31 State Com 34H Well (Original Hole) API No. 30-025-45930 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.

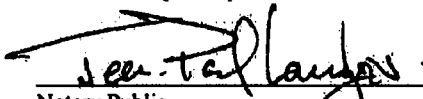
By  
Steven McDonough  
FS



Subscribed and Sworn to before me this 8 day of November (month) 2019 (yr)

My Commission expires:

6/14/2023

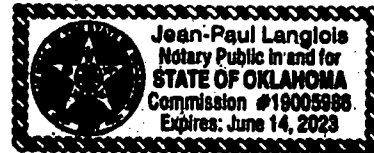


Notary Public

Comanche, Oklahoma

(County State)

(signature)





Oxy Avogato 30-31 State Com 34H gyro + MWD 0-22147 MD Survey
Geodetic Report
(Def Survey)

Report Date: October 28, 2019 - 03:55 PM
Client: OXY
Field: NM Lea County (NAD 83)
Structure / Slot: Oxy Avogato 30-31 State Com 34H / Oxy Avogato 30-31 State Com 34H
Well: Oxy Avogato 30-31 State Com 34H
Borehole: Original Borehole
UWI / API#: Unknown / 30-025-45930
Survey Name: Oxy Avogato 30-31 State Com 34H gyro + MWD 0-22147MD
Survey Date: September 08, 2019
Tort / AMD / DDI / ERD Ratio: 248.937' / 10941.329 ft / 6.704 / 0.918
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 22' 9.82601", W 103° 36' 32.21708"
Location Grid N/E Y/X: N 498885.000 RUS, E 764985.500 RUS
CRS Grid Convergence Angle: 0.3878°
Grid Scale Factor: 0.99996638
Version / Patch: 2.10.782.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 181.008° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3709.800 ft above MSL
Seabed / Ground Elevation: 3683.300 ft above MSL
Magnetic Declination: 8.593°
Total Gravity Field Strength: 998.4502mgm (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48042.300 nT
Magnetic Dip Angle: 60.082°
Declination Date: October 16, 2019
Magnetic Declination Model: IFR1
North Reference: Grid North
Grid Convergence Used: 0.3878°
Total Corr Mag North->Grid North: 6.2052°
Local Coord Referenced To: Well Head

Table with columns: 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 °). Rows include WRP, SHL, and Last Gyro data points.

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 °)
	6041.00	0.25	331.23	6038.41	-15.81	15.07	30.90	0.24	498900.06	765016.39	N 32 22 10.07 W	103 38 31.88
	6136.00	0.31	316.98	6133.41	-15.97	15.44	30.62	0.10	498900.43	765016.12	N 32 22 10.08 W	103 38 31.86
	6230.00	0.36	306.78	6227.41	-16.33	15.80	30.21	0.08	498900.80	765015.71	N 32 22 10.08 W	103 38 31.86
	6300.00	0.45	322.57	6297.41	-16.67	16.15	29.87	0.20	498901.15	765015.37	N 32 22 10.08 W	103 38 31.87
	6461.00	0.37	293.07	6456.41	-17.38	16.85	29.00	0.14	498901.85	765014.50	N 32 22 10.09 W	103 38 31.88
	6650.00	0.42	285.30	6647.40	-17.76	17.28	27.77	0.04	498902.27	765013.27	N 32 22 10.10 W	103 38 31.89
	6744.00	0.51	273.60	6741.40	-17.87	17.39	27.03	0.14	498902.39	765012.52	N 32 22 10.10 W	103 38 31.80
	6839.00	0.72	282.74	6836.39	-18.01	17.55	26.02	0.24	498902.55	765011.52	N 32 22 10.10 W	103 38 31.81
	7028.00	0.62	264.61	7025.38	-18.13	17.72	23.84	0.12	498902.72	765009.34	N 32 22 10.10 W	103 38 31.84
	7122.00	0.70	253.01	7119.37	-17.90	17.50	22.79	0.17	498902.50	765008.29	N 32 22 10.10 W	103 38 31.85
	7311.00	1.11	229.44	7308.35	-18.33	15.97	20.29	0.29	498900.97	765005.79	N 32 22 10.08 W	103 38 31.88
	7406.00	1.23	225.67	7403.33	-14.99	14.68	18.87	0.15	498899.66	765004.37	N 32 22 10.07 W	103 38 32.00
	7501.00	1.20	219.73	7498.31	-13.49	13.18	17.50	0.14	498898.18	765003.00	N 32 22 10.06 W	103 38 32.01
	7596.00	1.33	223.22	7593.29	-11.90	11.82	16.11	0.16	498896.62	765001.61	N 32 22 10.04 W	103 38 32.03
	7690.00	1.41	226.32	7687.26	-10.28	10.02	14.53	0.12	498895.02	765000.03	N 32 22 10.02 W	103 38 32.05
	7785.00	1.30	229.84	7782.23	-8.75	8.52	12.88	0.15	498893.52	764998.36	N 32 22 10.01 W	103 38 32.07
	7879.00	1.49	231.57	7878.21	-7.27	7.07	11.09	0.21	498892.07	764996.58	N 32 22 10.00 W	103 38 32.09
	7974.00	1.62	233.19	7971.17	-5.66	5.50	9.04	0.14	498890.50	764994.54	N 32 22 9.98 W	103 38 32.11
	8069.00	1.42	228.90	8068.14	-4.05	3.92	7.08	0.24	498888.92	764992.58	N 32 22 9.96 W	103 38 32.13
	8163.00	1.55	224.00	8160.11	-2.34	2.24	5.32	0.19	498887.24	764990.82	N 32 22 9.95 W	103 38 32.15
	8257.00	1.41	227.52	8254.07	-0.81	0.55	3.58	0.18	498885.55	764989.08	N 32 22 9.93 W	103 38 32.18
	8447.00	3.25	359.84	8443.88	-4.39	4.36	1.84	2.28	498889.36	764987.34	N 32 22 9.97 W	103 38 32.20
	8542.00	5.81	3.25	8538.69	-11.72	11.89	2.10	2.50	498896.69	764987.60	N 32 22 10.04 W	103 38 32.19
	8637.00	7.22	2.49	8633.09	-22.33	22.29	2.62	1.70	498907.29	764988.12	N 32 22 10.15 W	103 38 32.18
	8732.00	5.70	354.68	8727.49	-32.89	32.95	2.44	1.84	498917.95	764987.94	N 32 22 10.25 W	103 38 32.19
	8921.00	3.76	330.27	8915.86	-47.64	47.88	-1.50	1.46	498932.68	764984.00	N 32 22 10.40 W	103 38 32.23
	9110.00	6.88	298.86	9104.09	-58.11	58.37	-14.21	2.11	498943.37	764971.29	N 32 22 10.50 W	103 38 32.38
	9300.00	9.82	298.43	9292.10	-70.74	71.42	-38.14	1.65	498956.42	764947.36	N 32 22 10.64 W	103 38 32.66
	9394.00	9.88	312.98	9384.75	-79.72	80.63	-50.97	2.62	498965.62	764934.53	N 32 22 10.73 W	103 38 32.80
	9584.00	9.44	316.01	9572.12	-101.42	102.73	-73.48	0.29	498987.72	764912.02	N 32 22 10.95 W	103 38 33.07
	9679.00	8.46	311.58	9665.96	-111.47	112.97	-84.12	1.28	498997.97	764901.38	N 32 22 11.05 W	103 38 33.19
	9773.00	6.95	311.01	9759.11	-118.63	121.29	-93.58	1.81	499006.29	764891.92	N 32 22 11.13 W	103 38 33.30
	9868.00	5.39	312.11	9853.55	-126.25	128.08	-101.23	1.85	499013.05	764884.27	N 32 22 11.20 W	103 38 33.39
	9962.00	5.19	325.91	9947.16	-132.64	134.54	-106.89	1.37	499019.53	764878.61	N 32 22 11.28 W	103 38 33.45
	10151.00	5.75	338.88	10135.30	-148.40	150.45	-115.09	0.72	499035.44	764870.41	N 32 22 11.42 W	103 38 33.55
	10341.00	6.42	319.87	10324.25	-165.22	167.45	-129.37	1.11	499052.44	764860.14	N 32 22 11.59 W	103 38 33.87
	10435.00	5.68	314.96	10417.73	-172.40	174.74	-132.04	0.98	499059.74	764853.47	N 32 22 11.66 W	103 38 33.74
	10530.00	5.08	304.26	10512.32	-177.94	180.41	-136.81	1.22	499065.41	764846.69	N 32 22 11.72 W	103 38 33.82
	10624.00	4.79	291.87	10605.87	-181.82	184.22	-145.86	1.18	499069.21	764839.62	N 32 22 11.78 W	103 38 33.80
	10813.00	5.41	273.60	10794.24	-184.85	187.73	-162.09	0.92	499072.54	764823.41	N 32 22 11.79 W	103 38 34.09
	10907.00	6.05	262.31	10987.77	-184.30	187.34	-171.42	1.38	499072.54	764814.08	N 32 22 11.79 W	103 38 34.20
	11002.00	7.28	244.60	10982.13	-180.86	184.09	-181.82	2.51	499069.08	764803.68	N 32 22 11.76 W	103 38 34.32
	11097.00	6.45	238.63	11078.45	-175.41	178.81	-191.87	1.07	499063.80	764793.64	N 32 22 11.71 W	103 38 34.44
	11191.00	5.51	237.48	11169.94	-170.17	173.72	-200.23	1.03	499058.71	764785.28	N 32 22 11.66 W	103 38 34.54
	11286.00	5.58	235.90	11216.72	-167.81	171.22	-204.02	0.38	499056.22	764781.49	N 32 22 11.83 W	103 38 34.58
KOP Actual	11331.00	6.14	231.56	11309.23	-161.85	165.59	-211.66	0.77	499050.59	764773.85	N 32 22 11.58 W	103 38 34.67
	11425.00	10.23	201.56	11402.30	-150.83	154.70	-218.67	6.15	499039.69	764766.84	N 32 22 11.47 W	103 38 34.75
100' FNL Crossed	11495.00	18.83	188.55	11470.33	-134.94	138.88	-222.47	10.32	499023.87	764763.04	N 32 22 11.32 W	103 38 34.80
	11520.00	19.29	186.07	11494.10	-127.24	131.19	-223.44	10.32	499016.19	764762.07	N 32 22 11.24 W	103 38 34.81
	11614.00	23.46	177.98	11581.63	-93.05	87.01	-224.42	5.44	498982.01	764761.08	N 32 22 10.90 W	103 38 34.83
	11708.00	32.05	176.04	11664.73	-49.42	53.33	-222.04	9.17	498938.33	764763.47	N 32 22 10.47 W	103 38 34.80
3rd Bone Spring Intersection	11715.44	32.93	176.81	11671.00	-45.44	49.35	-221.79	13.11	498934.35	764763.72	N 32 22 10.43 W	103 38 34.80
	11803.00	43.60	183.74	11739.68	8.64	-4.73	-222.44	13.11	498880.27	764763.07	N 32 22 9.89 W	103 38 34.81
	11897.00	51.05	183.63	11803.35	77.63	-73.65	-226.87	7.93	498811.36	764758.64	N 32 22 9.21 W	103 38 34.87
	11992.00	62.11	183.43	11855.60	156.72	-152.67	-231.74	11.84	498732.34	764753.77	N 32 22 8.46 W	103 38 34.83
	12087.00	73.84	185.64	11891.32	244.40	-240.23	-238.75	12.33	498644.77	764746.76	N 32 22 7.53 W	103 38 35.02
	12181.00	83.82	183.89	11909.67	336.26	-331.88	-246.37	10.98	498553.03	764739.14	N 32 22 6.66 W	103 38 35.12
	12277.00	91.54	183.59	11913.55	432.00	-427.63	-252.63	8.05	498457.39	764732.88	N 32 22 5.71 W	103 38 35.20
	12306.00	90.76	184.07	11912.97	460.96	-456.55	-254.56	3.16	498428.46	764730.95	N 32 22 5.43 W	103 38 35.22
	12400.00	90.76	181.76	11911.72	554.89	-550.42	-259.34	2.46	498334.60	764726.17	N 32 22 4.50 W	103 38 35.28
	12495.00	90.28	180.62	11910.86	649.89	-645.39	-261.31	1.30	498239.63	764724.20	N 32 22 3.56 W	103 38 35.31
	12590.00	90.69	179.47	11910.06	744.87	-740.39	-261.39	1.29	498144.64	764724.12	N 32 22 2.62 W	103 38 35.32
	12685.00	90.59	181.64	11908.99	839.86	-835.37	-262.31	2.29	498049.66	764723.20	N 32 22 1.68 W	103 38 35.34
	12779.00	90.35	180.02	11908.22	933.85	-929.35	-263.67	1.74	497955.68	764721.84	N 32 22 0.75 W	103 38 35.36
	12874.00	91.14	180.47	11906.99	1028.83	-1024.34	-264.08	0.96	497860.69	764721.43	N 32 21 59.81 W	103 38 35.38
	12969.00	90.55	181.05	11905.59	1123.82	-1119.32	-265.34	0.87	497765.72	764720.17	N 32 21 58.87 W	103 38 35.40
	13063.00	90.62	179.48	11904.63	1217.80	-1213.32	-265.77	1.67	497671.73	764719.74	N 32 21 57.94 W	103 38 35.41
	13158.00	90.93	180.38	11903.34	1312.78	-1308.31	-265.68	1.00	497576.74	764719.85	N 32 21 57.00 W	103 38 35.42
	13253.00	90.45	179.33	11902.20	1407.75	-1403.30	-265.41	1.22	497481.75	764720.09	N 32 21 56.06 W	103 38 35.42
	13348.00	90.62	178.43	11901.31	1502.68	-1498.27	-263.58	0.98	497386.78	764721.95	N 32 21 55.12 W	103 38 35.41
	13442.00	90.73	179.51	11900.20	1596.61	-1592.25	-261.87	1.15	497292.81	764723.64	N 32 21 54.19 W	103 38 35.40
	13537.00	90.69	180.18	11899.03	1691.58	-1687.24	-261.81	0.71	497197.82	764723.90	N 32 21 53.25 W	103 38 35.40
	13632.00	90.80	180.60	11897.79	1786.57	-1782.23	-262.26	0.48	497102.83	764723.25	N 32 21 52.31 W	103 38 35.42
	13726.00	90.59	179.28	11896.65	1880.54	-1878.22	-262.16	1.42	497008.84	764723.35	N 32 21 51.38 W	103 38 35.42
	13820.00	90.28	178.18	11895.94	1974.47	-1970.20	-260.08	1.22	496914.87	764725.43	N 32 21 50.45 W	103 38 35.40
	13915.00	90.07	180.08	11895.65	2069.41	-2065.18	-258.63	2.01	496819.89	764726.88	N 32 21 49.51 W	103 38 35.40
	14009.00	89.82	182.14	11895.90	2163.40	-2159.16	-260.45	2.24	496725.92	764725.05	N 32 21 48.58 W	103 38 35.42
	14104.00											

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS ("/100ft)	Northing (RUS)	Eastng (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	16849.00	90.07	179.09	11897.99	5000.84	-4997.97	-207.17	1.29	493887.21	764778.34	N 32 21 20.49	W 103 36 35.03
	16938.00	90.42	180.98	11897.61	5089.82	-5088.96	-207.23	2.18	493798.22	764778.28	N 32 21 19.61	W 103 36 35.03
	17033.00	90.07	179.60	11897.20	5184.81	-5181.96	-207.71	1.50	493703.23	764777.80	N 32 21 18.67	W 103 36 35.05
	17128.00	90.18	180.11	11897.00	5278.79	-5278.96	-207.47	0.55	493608.23	764778.04	N 32 21 17.73	W 103 36 35.05
	17223.00	90.00	179.04	11898.85	5374.76	-5371.95	-208.78	1.14	493513.24	764778.74	N 32 21 16.79	W 103 36 35.05
	17318.00	90.14	179.78	11898.73	5469.72	-5468.95	-205.77	0.77	493418.25	764778.74	N 32 21 15.85	W 103 36 35.05
	17412.00	90.14	179.85	11898.50	5563.70	-5560.95	-205.45	0.10	493324.25	764780.06	N 32 21 14.92	W 103 36 35.05
	17508.00	90.21	179.52	11898.21	5657.67	-5654.94	-204.93	0.38	493230.26	764780.58	N 32 21 13.99	W 103 36 35.05
	17600.00	90.18	180.55	11895.89	5751.88	-5748.94	-204.99	1.10	493136.26	764780.52	N 32 21 13.06	W 103 36 35.06
	17695.00	90.07	179.30	11895.69	5846.84	-5843.94	-204.68	1.32	493041.27	764780.64	N 32 21 12.12	W 103 36 35.07
	17790.00	89.94	180.02	11895.68	5941.81	-5938.94	-204.30	0.77	492946.27	764781.21	N 32 21 11.18	W 103 36 35.07
	17884.00	90.00	180.75	11895.73	6035.81	-6032.93	-204.93	0.78	492852.28	764780.58	N 32 21 10.25	W 103 36 35.08
	17979.00	90.07	180.35	11895.67	6130.80	-6127.93	-205.84	0.43	492757.29	764778.66	N 32 21 9.31	W 103 36 35.10
	18074.00	90.25	179.95	11895.40	6225.59	-6222.93	-208.09	0.46	492662.29	764779.41	N 32 21 8.37	W 103 36 35.11
	18168.00	90.04	180.83	11895.17	6319.58	-6316.93	-208.57	0.76	492568.30	764778.94	N 32 21 7.44	W 103 36 35.12
	18264.00	90.14	180.02	11895.02	6415.58	-6412.92	-207.11	0.64	492472.30	764778.39	N 32 21 6.49	W 103 36 35.14
	18358.00	90.00	179.72	11894.90	6509.58	-6506.92	-206.90	0.35	492378.31	764778.61	N 32 21 5.56	W 103 36 35.14
	18453.00	90.14	179.98	11894.78	6604.54	-6601.92	-208.65	0.31	492283.31	764778.88	N 32 21 4.62	W 103 36 35.15
	18548.00	90.21	179.73	11894.49	6699.52	-6696.92	-208.41	0.27	492188.32	764778.10	N 32 21 3.68	W 103 36 35.15
	18642.00	90.07	178.95	11894.26	6793.48	-6790.92	-205.33	0.84	492094.33	764780.18	N 32 21 2.75	W 103 36 35.15
	18737.00	90.14	178.82	11894.09	6888.41	-6885.90	-203.48	0.16	491999.35	764782.03	N 32 21 1.81	W 103 36 35.13
	18832.00	90.18	179.03	11893.83	6983.35	-6980.88	-201.70	0.23	491904.37	764783.81	N 32 21 0.87	W 103 36 35.12
	18926.00	90.14	179.22	11893.56	7077.30	-7074.87	-200.28	0.21	491810.38	764785.25	N 32 20 59.94	W 103 36 35.11
	19021.00	90.11	178.91	11893.36	7172.24	-7169.86	-198.71	0.33	491715.40	764786.80	N 32 20 59.00	W 103 36 35.10
	19116.00	90.14	179.25	11893.15	7267.19	-7264.84	-197.19	0.36	491620.42	764788.32	N 32 20 58.06	W 103 36 35.09
	19211.00	90.04	179.37	11893.00	7362.15	-7359.84	-196.04	0.16	491525.43	764789.47	N 32 20 57.12	W 103 36 35.08
	19305.00	90.28	179.73	11892.74	7456.11	-7453.83	-195.30	0.46	491431.43	764790.20	N 32 20 56.19	W 103 36 35.08
	19400.00	90.14	179.25	11892.39	7551.08	-7548.83	-194.46	0.53	491336.44	764791.05	N 32 20 55.25	W 103 36 35.08
	19494.00	90.07	180.27	11892.22	7645.06	-7642.83	-194.08	1.09	491242.45	764791.44	N 32 20 54.32	W 103 36 35.08
	19589.00	89.83	179.71	11892.30	7740.04	-7737.82	-194.05	0.64	491147.45	764791.46	N 32 20 53.38	W 103 36 35.09
	19684.00	90.21	179.55	11892.27	7835.01	-7832.82	-193.43	0.43	491052.46	764792.07	N 32 20 52.44	W 103 36 35.09
	19779.00	89.83	180.58	11892.23	7930.00	-7927.82	-193.53	1.14	490957.47	764791.98	N 32 20 51.50	W 103 36 35.10
	19873.00	90.21	179.54	11892.20	8023.98	-8021.82	-193.61	1.18	490863.47	764791.90	N 32 20 50.57	W 103 36 35.11
	19967.00	90.28	179.97	11891.80	8117.96	-8115.82	-193.21	0.48	490769.47	764792.30	N 32 20 49.64	W 103 36 35.11
	20061.00	90.35	180.70	11891.28	8211.95	-8209.81	-193.75	0.78	490675.48	764791.75	N 32 20 48.71	W 103 36 35.12
	20156.00	90.14	179.59	11890.88	8306.94	-8304.81	-194.00	1.19	490580.48	764791.51	N 32 20 47.77	W 103 36 35.13
	20251.00	90.25	181.25	11890.55	8401.93	-8399.81	-194.69	1.75	490485.49	764790.82	N 32 20 46.83	W 103 36 35.15
	20346.00	90.06	180.80	11889.80	8496.93	-8494.79	-196.39	0.64	490390.52	764789.12	N 32 20 45.89	W 103 36 35.18
	20441.00	90.21	179.57	11889.08	8591.91	-8589.78	-196.70	1.38	490295.52	764788.81	N 32 20 44.95	W 103 36 35.19
	20535.00	90.11	179.88	11888.81	8685.89	-8683.78	-196.25	0.35	490201.53	764789.26	N 32 20 44.02	W 103 36 35.19
	20629.00	90.14	180.62	11888.61	8779.88	-8777.78	-196.66	0.79	490107.53	764788.85	N 32 20 43.09	W 103 36 35.20
	20724.00	90.04	180.40	11888.46	8874.88	-8872.77	-197.50	0.25	490012.54	764788.00	N 32 20 42.15	W 103 36 35.22
	20819.00	90.21	179.51	11888.25	8969.88	-8967.77	-197.43	0.95	489917.55	764788.08	N 32 20 41.21	W 103 36 35.23
	20914.00	90.14	179.98	11887.98	9064.81	-9062.76	-196.18	0.56	489822.56	764789.33	N 32 20 40.27	W 103 36 35.22
	21008.00	90.07	179.18	11887.79	9159.78	-9156.75	-194.67	0.23	489728.58	764790.84	N 32 20 39.34	W 103 36 35.21
	21103.00	89.94	179.88	11887.78	9254.73	-9251.75	-193.89	0.75	489633.58	764791.82	N 32 20 38.40	W 103 36 35.21
	21198.00	89.83	180.04	11887.97	9349.70	-9346.75	-193.82	0.20	489538.59	764791.69	N 32 20 37.46	W 103 36 35.21
	21292.00	89.94	179.93	11888.16	9444.70	-9441.75	-193.80	1.17	489444.59	764791.71	N 32 20 36.53	W 103 36 35.22
	21387.00	90.14	178.68	11888.09	9539.65	-9536.74	-192.64	1.33	489349.60	764792.86	N 32 20 35.59	W 103 36 35.21
	21481.00	90.18	178.57	11887.83	9634.61	-9631.71	-190.39	1.02	489255.63	764795.12	N 32 20 34.66	W 103 36 35.20
	21576.00	90.14	178.04	11887.57	9729.48	-9726.67	-187.58	0.56	489160.68	764797.93	N 32 20 33.72	W 103 36 35.17
	21671.00	90.16	180.45	11887.30	9824.41	-9821.65	-186.33	2.54	489065.70	764799.18	N 32 20 32.78	W 103 36 35.16
	21766.00	90.28	178.74	11886.92	9919.38	-9916.65	-185.66	1.80	488970.71	764799.85	N 32 20 31.84	W 103 36 35.16
	21860.00	89.87	178.44	11886.80	10010.29	-10008.62	-183.34	0.54	488876.74	764802.16	N 32 20 30.91	W 103 36 35.14
	21955.00	90.16	179.74	11886.78	10105.24	-10103.60	-181.83	1.41	488781.76	764803.67	N 32 20 29.97	W 103 36 35.13
	22050.00	90.28	178.84	11886.37	10200.19	-10198.59	-180.68	0.95	488686.77	764804.85	N 32 20 29.03	W 103 36 35.13
100FSL Crossed	22071.00	90.13	178.67	11886.30	10221.18	-10219.59	-180.20	1.10	488665.78	764805.31	N 32 20 28.82	W 103 36 35.12
Final MWD	22103.00	89.90	178.40	11886.29	10253.15	-10251.58	-179.38	1.10	488633.79	764806.13	N 32 20 28.50	W 103 36 35.12
Proj to TD	22147.00	89.90	178.40	11886.37	10297.10	-10295.56	-178.15	0.00	488589.81	764807.35	N 32 20 28.07	W 103 36 35.11

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 3 \*\*\* 3-D 95.000% Confidence 2.7955 sigma  
 Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/88.425	30.000	30.000	G_YD_GC+DROP+OH-Depth Only	Original Borehole / Oxy Avogato 30-31 State Com 34H gyro + MWD 0-22147MD
	1	26.500	26.500	Act Stns	30.000	30.000	G_YD_GC+DROP+OH-Depth Only	Original Borehole / Oxy Avogato 30-31 State Com 34H gyro + MWD 0-22147MD
	1	26.500	1042.500	Act Stns	30.000	30.000	G_YD_GC+DROP+OH	Original Borehole / Oxy Avogato 30-31 State Com 34H gyro +
	1	1042.500	22147.000	Act Stns	30.000	30.000	A010Mb_MWD+IFR1+SAG+MS	Original Borehole / Oxy Avogato 30-31 State Com 34H gyro + MWD 0-22147MD

...Original Borehole/Oxy Avogato 30-31 State Com 34H gyro + MWD 0-22147MD



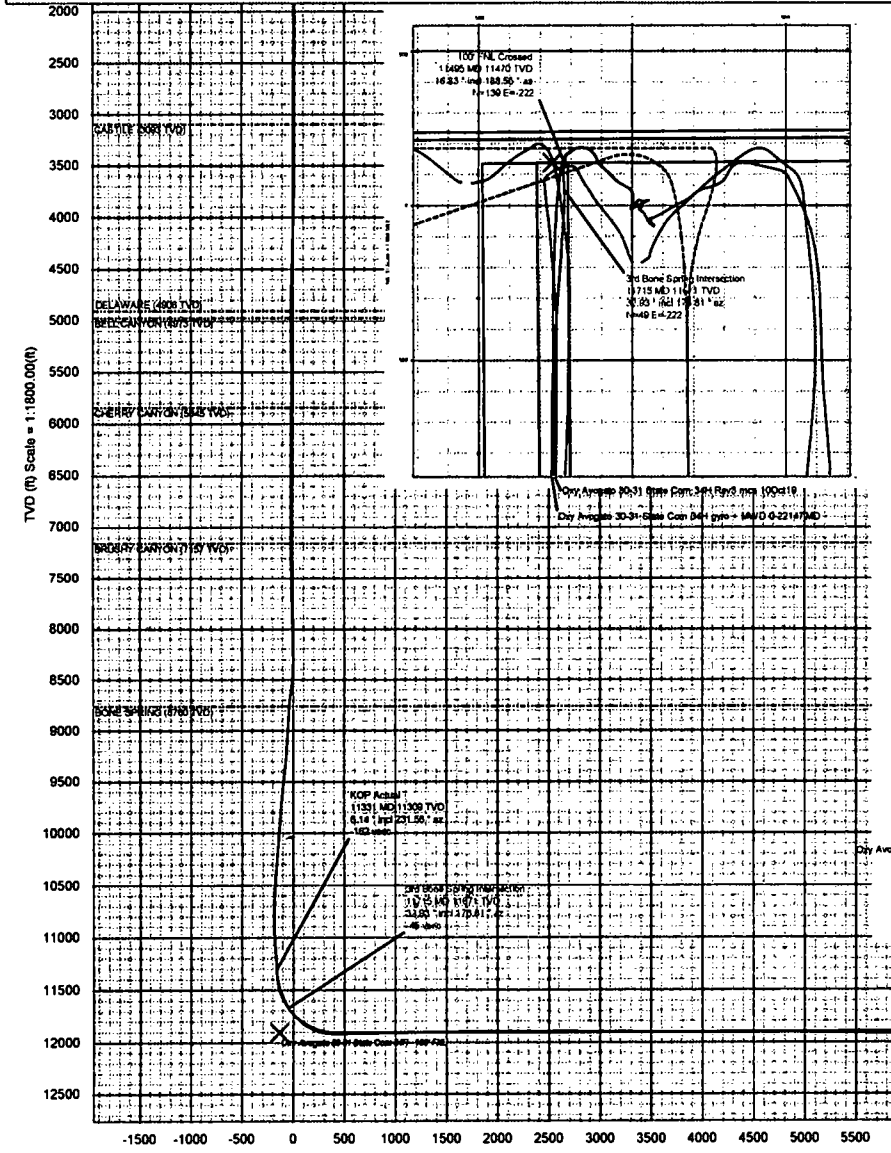
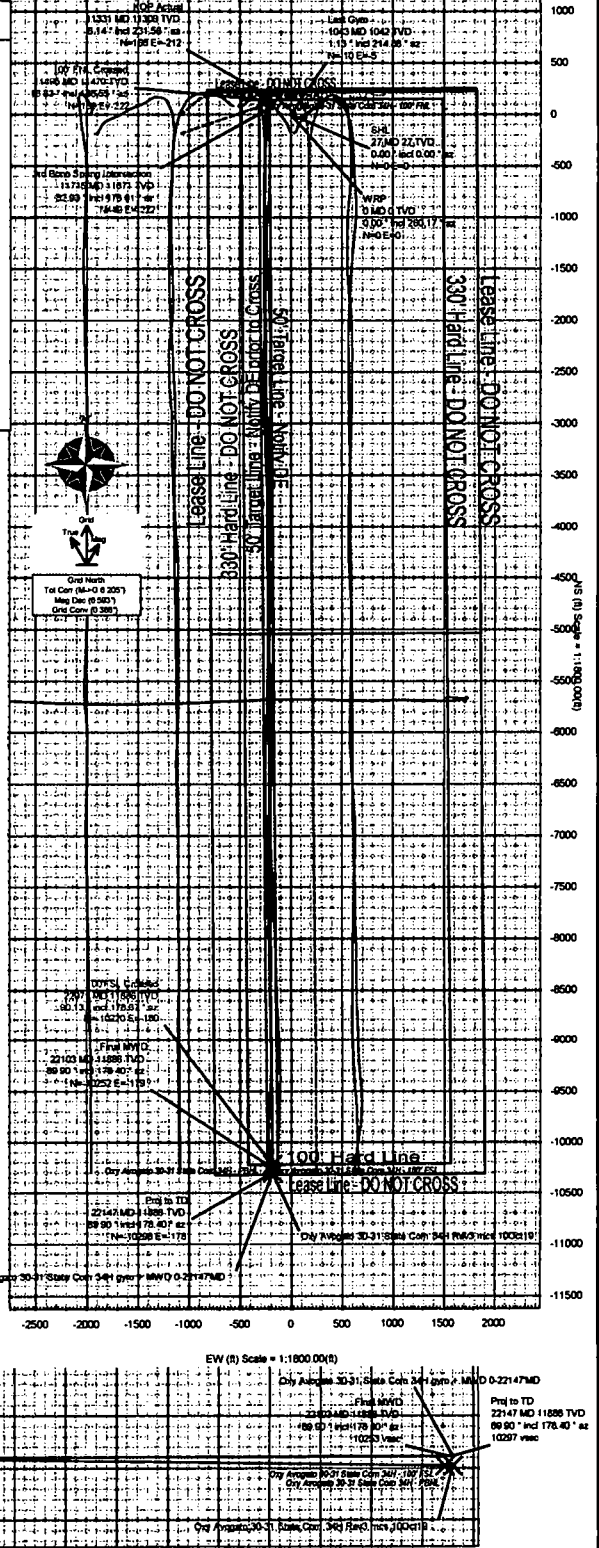
OXY



<b>Borehole:</b> Original Borehole	<b>Well:</b> Oxy Avogato 30-31 State Com 34H	<b>Field:</b> NM Lea County (NAD 83)	<b>Structure:</b> Oxy Avogato 30-31 State Com 34H
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<b>Gravity &amp; Magnetic Parameters</b>			<b>Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet</b>				<b>Miscellaneous</b>	
Model: IFR1	Dip: 60.082°	Date: 18-Oct-2018	Lat: N 32 22 8.90	Northing: 4983891.05	Grid Conv: 0.3873"	Stat: Oxy Avogato 30-31 State Com 34H	TVD Ref: RVD(3708.81 above MSL)	
MagDec: 6.893°	F8: 49042.3nT	Gravity F8: 986.45mgal (9.80665 Based)	Lon: W 103 39 32.22	Easting: 764868.0105	Scale Fact: 0.99996833	Plan: Oxy Avogato 30-31 State Com 34H gyro + MWD 0-22147MD		

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
WRP	0.00	0.00	260.17	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	1042.50	1.13	214.88	1042.41	10.11	-10.03	-4.91	0.38
KOP Actual	11331.00	6.14	231.56	11309.23	-161.85	165.59	-211.68	0.77
100' FNL Crossed	11495.00	16.83	188.55	11470.33	-134.94	138.88	-222.47	10.32
3rd Bone Spring Intersection	11715.44	32.93	176.81	11671.00	-45.44	49.35	-221.79	13.11
100'FSL Crossed	22071.00	90.13	178.67	11886.30	10221.16	-10219.59	-180.20	1.10
Final MWD	22103.00	89.90	178.40	11886.29	10253.15	-10251.58	-179.38	1.10
Proj to TD	22147.00	89.90	178.40	11886.37	10297.10	-10295.56	-178.15	0.00



Vertical Section (ft) Azim = 181.01° Scale = 1:1800.00(ft) Origin = 0N-S, 0E-W