

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 26, 2019

Oxy USA Incorporated
P.O. BOX 4294
HOUSTON, TX 77210-4294

HOBBS OCD

FEB 13 2020

RECEIVED

Re:

S30, T22S, R33E, LEA NM
N 32.36894 W -103.61519

CLIENT: Oxy USA Incorporated
WELL: Avogato 30-31 State Com 23H
FIELD: Red Tank; Bone Spring, East

RIG: H&P 636
COUNTY: LEA
API NO: 30-025-45926
JOB NO: 19MLH0256

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>
Raja A. Hakeem Raja Shahreen FE	AVOGATO 30-31 STATE 23H Original Hole	1147.00 Ft to 20909.00 Ft	August 12, 2019 to August 26, 2019	Telepacer, SlimPulse Third Party Corrected

Schlumberger-Private

Schlumberger Drilling and Measurements
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Midland, Texas 79706
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Well Reference:

S30, T22S, R33E, LEA NM
N 32.36894 W -103.61519

I, RAJA A. HAKEEM RAJA SHAHREEN certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of August 12, 2019 through August 26, 2019, conduct or supervise the taking of the Telepacer, SlimPulse & Third Party Corrected surveys from a depth of 1147.00 feet to a depth of 20909.00 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 WTP LIMITED PARTNERSHIP for the AVOGATO 30-31 STATE 23H Well (Original Hole) API No. 30-025-45926 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 *Raja A. Hakeem Raja Shahreen*
RAJA A. HAKEEM RAJA SHAHREEN
FE

Subscribed and Sworn to before me this 16 day of September (month) 2019 (yr)

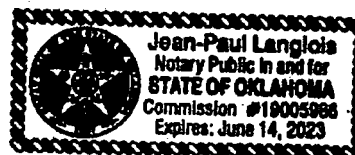
My Commission expires:

6/14/2023

Jean-Paul Langlois
Notary Public

(signature)

Comanche, Oklahoma
(County State)



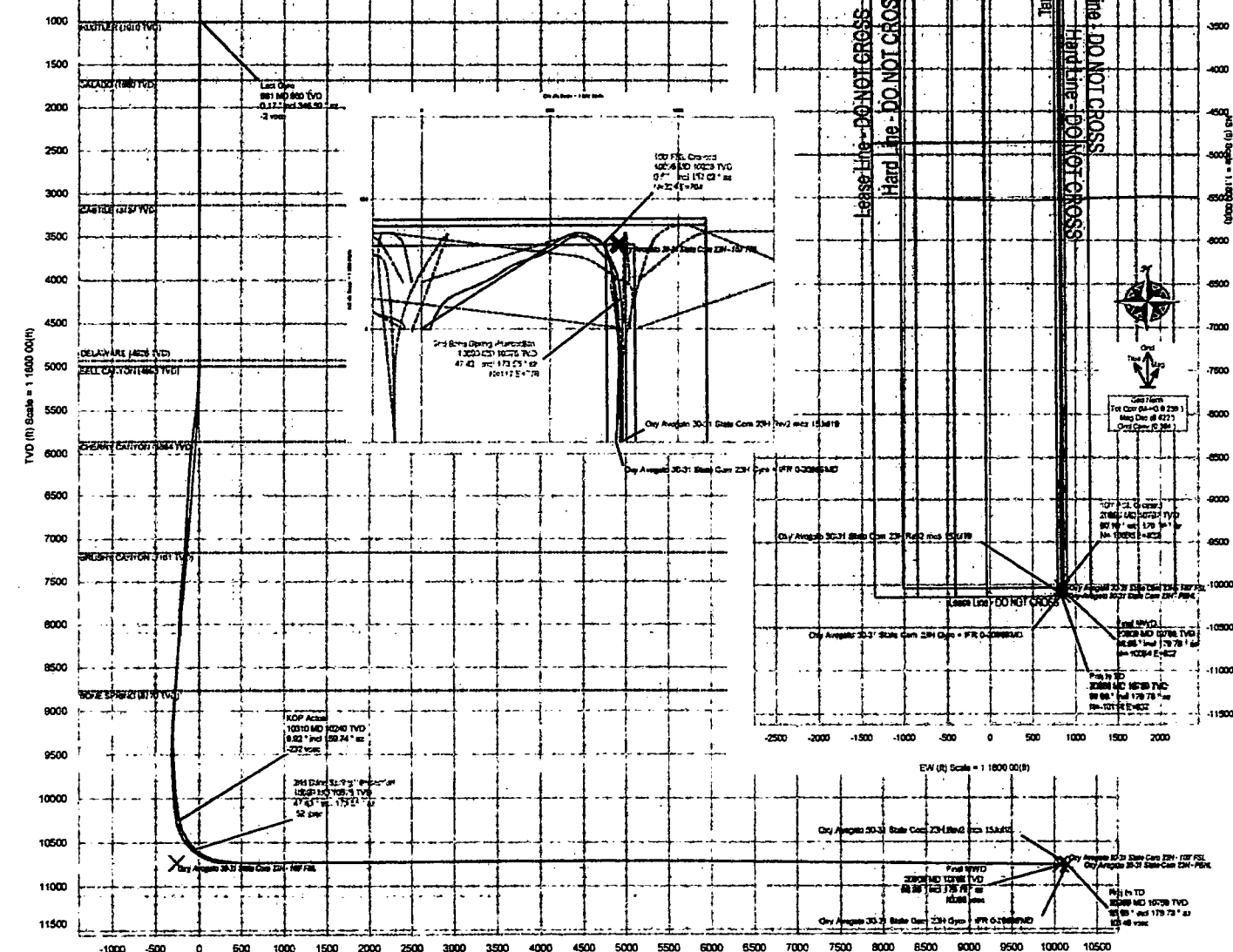


OXY



Gravity & Magnetic Parameters				Surface Location				MADE3 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	IFR1	Qty:	60.085	Date:	03-Aug-2019	Lat:	N 32 22 8.17	Northing:	438884.6743	Grid Contr:	6.3845	Elev:	Qty Average 30-31 8.5m Cont 23H	TVD Ref:	603404.513732.611 above MSL
MagDec:	9.922	FS:	40803.0nT	Gravity FS:	980.640mgn (9.80665 m/s^2)	Long:	W 103 38 54.78	Easting:	162084.0743	Scale Fact:	0.999995529	Plan:	Qty Average 30-31 State Cont 23H Gryo + F#R 0-208951MD		

Critical Points								
Critical Point	MD	DNCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLG
ROB	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	0.00
Last Gyro	980.50	0.17	346.59	980.49	-2.44	2.63	2.88	0.15
100' FNL Crossed	10095.00	9.57	137.02	10028.42	-264.16	323.76	704.34	1.65
KOP Actual	10310.00	9.92	159.74	10240.42	-232.25	293.25	722.48	1.18
2nd Bone Spring Intersection	10638.54	47.43	173.55	10575.00	-51.74	118.54	775.55	11.98
100' FSL Crossed	20890.00	88.10	179.78	10767.23	10068.95	-10034.56	831.54	0.63
Final MWD	20909.00	88.98	179.78	10767.55	10087.89	-10053.55	831.82	0.63
Proj to TD	20969.00	88.98	179.78	10768.62	10147.69	-10113.54	831.85	0.00



Vertical Section (ft) Azim = 175.24° Scale = 1:1800 (0.01ft) Origin = CNV-S, 0E-W

Schlumberger

Oxy Avogato 30-31 State Com 23H Gyro + IFR 0-20969 MD Survey Geodetic Report (Def Survey)



HOBBS OCD

FEB 13 2020

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Report Date: August 27, 2019 - 09:49 AM
Client: OXY
Field: NM Lea County (NAD 83)
Structure / Slot: Oxy Avogato 30-31 State Com 23H / Oxy Avogato 30-31 State Com 23H
Well: Oxy Avogato 30-31 State Com 23H
Borehole: Original Borehole
UWI / API#: Unknown / 30-025-45626
Survey Name: Oxy Avogato 30-31 State Com 23H Gyro + IFR 0-20969 MD
Survey Date: August 02, 2019
Tert / AHD / DDI / ERD Ratio: 213.894 * / 11303.364 ft / 6.873 / 1.050
Coordinate Reference System: NAD83 New Mexico State Plane, Easting Zone, US Feet
Location Lat / Long: N 32° 22' 8.17051", W 103° 36' 54.70084"
Location Grid N/E Y/X: N 498694.600 MJS, E 763059.400 RUS
CRS Grid Convergence Angle: 0.3845°
Grid Scale Factor: 0.99996539
Version / Patch: 2.10.782.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 175.237° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=28.5'
TVD Reference Elevation: 3732.600 ft above MSL
Beahd / Ground Elevation: 3706.100 ft above MSL
Magnetic Declination: 6.622°
Total Gravity Field Strength: 998.4480mgm (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48063.600 nT
Magnetic Dip Angle: 60.069°
Declination Date: August 09, 2019
Magnetic Declination Model: IFR1
North Reference: Grid North
Grid Convergence Used: 0.3845°
Total Corr Mag North-Grid North: 6.2375°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	498694.60	763059.40	N 32 22 8.17 W 103 36 54.70	
SHL	28.50	0.00	0.00	28.50	0.00	0.00	0.00	0.00	498694.60	763059.40	N 32 22 8.17 W 103 36 54.70	
	70.50	0.28	78.90	70.50	-0.01	0.02	0.10	0.59	498694.62	763059.40	N 32 22 8.17 W 103 36 54.70	
	120.50	0.34	88.83	120.50	-0.07	0.09	0.35	0.19	498694.69	763059.32	N 32 22 8.17 W 103 36 54.69	
	220.50	0.39	81.21	220.50	-0.29	0.37	0.92	0.07	498694.97	763059.32	N 32 22 8.17 W 103 36 54.69	
	320.50	0.28	66.16	320.50	-0.51	0.63	1.44	0.11	498695.23	763059.84	N 32 22 8.18 W 103 36 54.68	
	420.50	0.22	55.47	420.49	-0.69	0.84	1.82	0.07	498695.44	763060.22	N 32 22 8.18 W 103 36 54.68	
	520.50	0.21	54.92	520.49	-0.88	1.06	2.13	0.01	498695.66	763060.53	N 32 22 8.18 W 103 36 54.68	
	620.50	0.24	49.02	620.49	-1.09	1.30	2.44	0.04	498695.90	763060.84	N 32 22 8.18 W 103 36 54.67	
	720.50	0.29	20.21	720.49	-1.45	1.68	2.68	0.14	498696.28	763061.08	N 32 22 8.19 W 103 36 54.67	
	820.50	0.24	34.49	820.49	-1.84	2.09	2.89	0.08	498696.69	763061.29	N 32 22 8.19 W 103 36 54.67	
	920.50	0.28	343.28	920.49	-2.22	2.48	2.94	0.22	498697.08	763061.34	N 32 22 8.19 W 103 36 54.67	
	980.50	0.17	346.59	980.49	-2.44	2.69	2.88	0.15	498697.29	763061.28	N 32 22 8.20 W 103 36 54.67	
	1147.00	0.29	32.70	1146.99	-2.92	3.18	2.98	0.09	498697.78	763061.38	N 32 22 8.20 W 103 36 54.67	
	1259.00	0.18	198.75	1258.99	-2.91	3.18	3.02	0.41	498697.78	763061.42	N 32 22 8.20 W 103 36 54.67	
	1330.00	0.18	74.19	1329.99	-2.81	3.07	3.10	0.33	498697.67	763061.50	N 32 22 8.20 W 103 36 54.68	
	1422.00	0.11	222.30	1421.99	-2.77	3.04	3.16	0.28	498697.64	763061.56	N 32 22 8.20 W 103 36 54.68	
	1517.00	0.12	162.45	1516.99	-2.81	2.88	3.13	0.12	498697.48	763061.53	N 32 22 8.20 W 103 36 54.68	
	1610.00	0.20	222.50	1609.99	-2.41	2.87	3.05	0.19	498697.27	763061.45	N 32 22 8.20 W 103 36 54.67	
	1705.00	0.20	54.29	1704.99	-2.38	2.84	3.08	0.42	498697.24	763061.47	N 32 22 8.20 W 103 36 54.68	
	1894.00	0.18	293.81	1893.99	-2.69	2.96	3.07	0.17	498697.56	763061.47	N 32 22 8.20 W 103 36 54.68	
	1989.00	0.12	284.88	1988.99	-2.76	3.01	2.84	0.10	498697.61	763061.24	N 32 22 8.20 W 103 36 54.67	
	2084.00	0.18	300.94	2083.99	-2.85	3.08	2.81	0.11	498697.68	763061.01	N 32 22 8.20 W 103 36 54.67	
	2178.00	0.20	215.27	2177.99	-2.81	3.02	2.39	0.28	498697.62	763060.79	N 32 22 8.20 W 103 36 54.67	
	2273.00	0.12	195.35	2272.99	-2.59	2.79	2.27	0.10	498697.39	763060.67	N 32 22 8.20 W 103 36 54.67	
	2368.00	0.12	57.39	2367.99	-2.54	2.74	2.32	0.24	498697.34	763060.72	N 32 22 8.20 W 103 36 54.67	
	2462.00	0.16	81.95	2461.99	-2.84	2.86	2.62	0.04	498697.46	763060.92	N 32 22 8.20 W 103 36 54.67	
	2557.00	0.11	87.75	2556.99	-2.89	2.92	2.73	0.08	498697.52	763061.13	N 32 22 8.20 W 103 36 54.67	
	2652.00	0.05	106.86	2651.99	-2.87	2.92	2.86	0.07	498697.52	763061.26	N 32 22 8.20 W 103 36 54.67	
	2748.00	0.08	128.79	2747.99	-2.81	2.88	2.95	0.04	498697.46	763061.35	N 32 22 8.20 W 103 36 54.67	
	2838.00	0.16	87.37	2837.99	-2.51	2.79	3.32	0.08	498697.39	763061.72	N 32 22 8.20 W 103 36 54.68	
	2930.00	0.23	250.43	2929.99	-2.58	2.86	3.27	0.41	498697.46	763061.67	N 32 22 8.20 W 103 36 54.68	
	3030.00	0.12	210.93	3029.99	-2.58	2.85	3.04	0.25	498697.45	763061.44	N 32 22 8.20 W 103 36 54.67	
	3125.00	0.12	88.05	3124.99	-2.50	2.78	3.09	0.22	498697.38	763061.49	N 32 22 8.20 W 103 36 54.68	
	3220.00	0.23	306.46	3219.99	-2.62	2.68	3.04	0.35	498697.48	763061.44	N 32 22 8.20 W 103 36 54.67	
	3314.00	0.11	159.07	3313.99	-2.85	2.81	2.92	0.35	498697.51	763061.32	N 32 22 8.20 W 103 36 54.67	
	3409.00	0.22	142.78	3408.99	-2.41	2.88	3.08	0.12	498697.28	763061.48	N 32 22 8.20 W 103 36 54.68	
	3504.00	0.55	126.54	3503.99	-1.51	1.85	4.01	0.18	498696.45	763062.41	N 32 22 8.19 W 103 36 54.65	
	3593.00	1.21	120.24	3592.99	-0.63	1.07	8.24	0.70	498695.67	763063.64	N 32 22 8.18 W 103 36 54.64	
	3788.00	1.84	109.32	3787.99	0.49	0.13	7.37	0.54	498694.73	763065.77	N 32 22 8.17 W 103 36 54.61	
	3882.00	2.10	103.24	3881.99	1.58	-0.72	10.35	0.93	498693.88	763068.75	N 32 22 8.16 W 103 36 54.58	
	3977.00	1.58	92.45	3976.99	2.27	-1.17	13.32	0.86	498693.43	763071.72	N 32 22 8.16 W 103 36 54.55	
	4071.00	2.11	93.80	4070.99	2.70	-1.34	16.37	0.58	498693.28	763074.77	N 32 22 8.16 W 103 36 54.51	
	4168.00	2.68	88.19	4167.99	3.07	-1.39	20.32	0.63	498693.21	763078.72	N 32 22 8.16 W 103 36 54.48	
	4261.00	2.10	90.76	4260.99	3.35	-1.34	24.22	0.81	498693.26	763082.62	N 32 22 8.16 W 103 36 54.42	
	4355.00	1.93	91.85	4354.99	3.70	-1.41	27.96	0.18	498693.19	763085.96	N 32 22 8.15 W 103 36 54.38	
	4440.00	1.78	104.98	4439.99	4.37	-1.84	30.55	0.48	498692.78	763088.95	N 32 22 8.15 W 103 36 54.34	
	4534.00	1.36	107.50	4533.99	5.29	-2.56	33.05	0.45	498692.04	763091.45	N 32 22 8.14 W 103 36 54.32	
	4639.00	0.41	91.58	4638.99	5.78	-2.90	34.47	1.02	498691.70	763092.87	N 32 22 8.14 W 103 36 54.30	
	4734.00	0.23	10.28	4733.99	5.81	-2.73	34.84	0.47	498691.87	763093.24	N 32 22 8.14 W 103 36 54.29	
	4828.00	0.13	32.07	4827.99	5.34	-2.45	34.93	0.13	498692.15	763093.33	N 32 22 8.14 W 103 36 54.29	
	4923.00	0.05	359.58	4922.99	4.47	-1.57	34.98	0.89	498693.03	763093.38	N 32 22 8.15 W 103 36 54.29	
	5018.00	2.40	12.38	5017.99	1.78	1.16	35.40	1.57	498693.78	763093.80	N 32 22 8.18 W 103 36 54.29	
	5113.00	4.31	20.83	5112.99	-3.26	6.38	37.08	2.09	498700.88	763095.48	N 32 22 8.23 W 103 36 54.27	
	5207.00	5.59	21.47	5206.99	-10.65	14.03	40.04	1.35	498704.63	763098.44	N 32 22 8.31 W 103 36 54.23	
	5302.00	7.22	22.45	5301.99	-20.11	23.85	44.02	1.72	498718.45	763102.42	N 32 22 8.40 W 103 36 54.19	
	5397.00	6.36	26.03	5396.99	-31.24	35.49	49.27	1.32	498730.05	763107.67	N 32 22 8.52 W 103 36 54.12	
	5491.00	9.03	26.95	5490.99	-43.51	48.30	55.88	0.72	498742.90	763114.08	N 32 22 8.64 W 103 36 54.05	
	5586.00	9.64	29.09	5585.99	-56.46	61.50	62.93	0.74	498756.50	763121.33	N 32 22 8.78 W 103 36 53.96	
	5681.00	9.21	33.74	5680.99	-68.88	75.03	70.93	0.83	498769.63	763129.33	N 32 22 8.91 W 103 36 53.87	
	5775.00	9.17	34.66	5774.99	-80.68	87.58	79.48	0.16	498782.18	763137.86	N 32 22 9.03 W 103 36 53.77	
	5870.00	9.41	40.47	5869.99	-91.88	99.59	88.71	1.03	498794.18	763147.10	N 32 22 9.15 W 103 36 53.68	
	5964.00	9.08	48.11	5963.99	-101.87	110.50	99.33	1.34	498805.10	763157.73	N 32 22 9.26 W 103 36 53.53	
	6059.00	9.20	55.88	6058.99	-110.12	119.77	111.20	1.30	498814.36	763169.59	N 32 22 9.35 W 103 36 53.40	
	6154.00	9.31	61.58	6153.99	-116.93	127.68	124.24	0.97	498822.28	763182.84	N 32 22 9.43 W 103 36 53.24	
	6249.00	9.39	87.29	6248.99	-122.34	134.28	138.00	0.99	498828.86	763196.40	N 32 22 9.49 W 103 36 53.08	
	6343.00	9.36	87.18	6342.99	-131.71	145.89	165.94	0.02	498844.59	763224.33	N 32 22 9.60 W 103 36 52.75	
	6438.00	9.41	86.51	6437.99	-136.55	152.02	180.03	0.12	498849.62	763234.43	N 32 22 9.66 W 103 36 52.59	
	6532.00	9.87	87.21	6531.99	-140.40	164.30	208.85	0.15	498859.90	763267.24	N 32 22 9.78 W 103 36 52.25	
	6627.00	9.77	87.50	6626.99	-151.31	170.47	223.66	0.11	498865.06	763282.05	N 32 22 9.84 W 103 36 52.08	
	6722.00	9.83	86.34	6721.99	-156.39	178.81	238.53	0.22	498871.40	763296.92	N 32 22 9.90 W 103 36 51.91	
	6817.00	9.55	84.00	6816.99	-161.81	183.44	252.89	0.51	498878.04	763311.28	N 32 22 9.97 W 103 36 51.74	
	6912.00	9.50	81.73	6911.99	-167.79	190.61	268.88	0.40	498885.21	763328.27	N 32 22 10.04 W 103 36 51.57	
	7007.00	10.17	60.61	7006.99	-174.42	198.44	281.09	0.73	498893.03	763339.48	N 32 22 10.12 W 103 36 51.41	

Comments	MD (ft)	Incl (°)	Asm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7759.00	9.97	63.28	7725.01	-212.43	242.42	351.28	1.01	498937.01	763409.47	N 32 22 10.53 W 103 36 50.59	
	7948.00	10.08	70.02	7911.13	-222.89	235.43	381.24	0.82	498950.02	763439.83	N 32 22 10.87 W 103 36 50.24	
	8043.00	9.92	71.24	8004.69	-227.05	260.80	396.80	0.28	498953.49	763455.19	N 32 22 10.73 W 103 36 50.05	
	8137.00	10.11	72.24	8097.23	-230.88	268.02	412.33	0.27	498960.81	763470.71	N 32 22 10.78 W 103 36 49.87	
	8232.00	10.21	70.49	8180.78	-234.88	271.37	428.20	0.34	498965.86	763486.59	N 32 22 10.83 W 103 36 49.69	
	8327.00	10.05	69.50	8264.28	-239.27	277.09	443.90	0.25	498971.88	763502.29	N 32 22 10.88 W 103 36 49.50	
	8421.00	10.26	67.37	8378.81	-244.07	283.18	459.31	0.48	498977.77	763517.70	N 32 22 10.94 W 103 36 49.32	
	8516.00	9.85	65.22	8470.35	-249.44	289.84	474.50	0.59	498984.43	763532.88	N 32 22 11.01 W 103 36 49.15	
	8611.00	10.13	63.46	8563.81	-253.32	296.88	489.35	0.44	498991.57	763547.73	N 32 22 11.08 W 103 36 48.97	
	8706.00	10.10	61.12	8657.44	-261.83	304.74	504.12	0.43	498998.33	763562.50	N 32 22 11.15 W 103 36 48.80	
	8800.00	9.98	59.24	8750.00	-266.77	312.89	518.34	0.37	499007.48	763578.72	N 32 22 11.23 W 103 36 48.63	
	8895.00	9.93	55.73	8843.82	-276.25	321.83	531.92	0.79	499016.12	763590.30	N 32 22 11.32 W 103 36 48.47	
	8989.00	9.87	54.91	8938.28	-284.18	330.55	544.95	0.59	499025.13	763603.33	N 32 22 11.40 W 103 36 48.32	
	9084.00	9.68	58.30	9029.90	-291.68	339.41	558.39	0.64	499034.00	763618.77	N 32 22 11.49 W 103 36 48.16	
	9179.00	9.82	62.19	9123.53	-298.68	347.38	572.34	0.71	499041.97	763630.72	N 32 22 11.57 W 103 36 48.00	
	9273.00	9.91	73.96	9218.15	-303.38	353.38	587.20	2.14	499047.95	763645.58	N 32 22 11.63 W 103 36 47.83	
	9368.00	9.23	85.57	9309.84	-304.83	358.21	602.66	2.15	499050.79	763661.04	N 32 22 11.65 W 103 36 47.65	
	9462.00	8.75	93.23	9402.69	-303.60	358.30	617.31	1.37	499050.97	763675.69	N 32 22 11.66 W 103 36 47.48	
	9557.00	7.87	99.66	9496.69	-301.27	354.89	630.84	1.35	499049.47	763689.32	N 32 22 11.84 W 103 36 47.32	
	9652.00	8.41	97.74	9590.73	-288.15	352.88	644.24	0.84	499047.45	763702.81	N 32 22 11.82 W 103 36 47.18	
	9746.00	8.32	102.66	9683.73	-294.82	350.44	657.68	0.77	499045.03	763716.06	N 32 22 11.59 W 103 36 47.01	
	9841.00	8.33	111.18	9777.73	-289.85	348.44	670.82	1.20	499041.03	763729.20	N 32 22 11.55 W 103 36 46.85	
	9936.00	9.18	119.29	9871.63	-282.29	340.24	683.86	1.58	499034.63	763742.24	N 32 22 11.49 W 103 36 46.70	
	10031.00	9.82	130.93	9965.33	-272.24	331.23	696.89	2.13	499025.82	763754.97	N 32 22 11.40 W 103 36 46.55	
100' FAL Crossed	10085.00	9.57	137.02	10028.42	-264.16	323.78	704.34	1.65	499018.35	763762.72	N 32 22 11.33 W 103 36 46.48	
	10125.00	9.49	139.97	10058.01	-260.18	320.04	707.84	1.55	499014.63	763786.01	N 32 22 11.29 W 103 36 46.43	
	10220.00	9.58	151.56	10151.70	-248.54	307.09	716.44	2.02	499001.68	763774.81	N 32 22 11.18 W 103 36 46.32	
KOP Actual	10273.00	9.63	157.93	10203.98	-238.28	295.11	720.21	1.88	498993.70	763778.58	N 32 22 11.08 W 103 36 46.28	
	10310.00	9.92	188.74	10240.42	-232.25	283.25	722.48	1.18	498987.84	763780.66	N 32 22 11.02 W 103 36 46.25	
	10405.00	21.81	153.83	10331.85	-207.85	268.85	733.14	12.61	498984.24	763791.51	N 32 22 10.79 W 103 36 46.13	
	10499.00	29.11	155.81	10416.48	-169.97	233.07	750.23	7.82	498972.67	763808.80	N 32 22 10.43 W 103 36 45.94	
	10594.00	35.53	168.65	10496.80	-120.65	184.82	765.17	9.86	498979.42	763823.34	N 32 22 9.95 W 103 36 45.77	
	10689.00	48.33	173.12	10588.48	-88.70	123.45	774.75	11.77	498981.06	763833.12	N 32 22 9.34 W 103 36 45.68	
2nd Bone Spring Intersection	10898.54	47.43	173.55	10575.00	-51.74	118.54	775.65	11.98	498981.14	763833.93	N 32 22 9.27 W 103 36 45.65	
	10783.00	57.22	178.78	10826.57	15.01	50.01	781.06	11.88	498744.81	763838.43	N 32 22 8.81 W 103 36 45.59	
	10878.00	66.93	184.77	10871.06	98.34	-33.72	779.68	12.63	498660.89	763838.03	N 32 22 7.79 W 103 36 45.61	
	10973.00	77.93	189.43	10899.70	187.43	-123.79	771.81	11.60	498570.82	763829.98	N 32 22 6.89 W 103 36 45.71	
	11067.00	84.17	181.38	10714.32	279.28	-216.41	768.12	7.88	498478.20	763824.50	N 32 22 5.88 W 103 36 45.79	
	11174.00	84.78	182.06	10724.84	385.10	-322.88	762.93	0.84	498371.75	763821.30	N 32 22 4.93 W 103 36 45.83	
	11269.00	85.85	183.48	10732.41	478.98	-417.43	756.37	1.86	498277.18	763816.74	N 32 22 3.98 W 103 36 45.89	
	11363.00	87.78	183.81	10737.84	571.80	-511.09	752.42	2.09	498183.53	763810.78	N 32 22 3.06 W 103 36 45.97	
	11458.00	91.50	185.21	10738.23	665.54	-605.78	744.95	4.18	498088.84	763803.32	N 32 22 2.13 W 103 36 46.00	
	11552.00	91.40	183.78	10735.85	759.29	-698.48	737.58	1.52	497995.17	763795.98	N 32 22 1.20 W 103 36 46.18	
	11647.00	90.74	181.84	10734.06	852.48	-794.33	733.08	2.38	497900.30	763791.47	N 32 22 0.26 W 103 36 46.22	
	11742.00	91.16	178.57	10732.51	947.02	-889.30	732.08	2.22	497805.33	763790.46	N 32 21 58.32 W 103 36 46.24	
	11836.00	92.02	178.71	10729.90	1040.77	-983.26	733.50	1.29	497711.38	763791.87	N 32 21 58.39 W 103 36 46.23	
	11931.00	90.71	181.55	10727.63	1135.38	-1078.22	733.28	3.29	497618.42	763791.88	N 32 21 57.45 W 103 36 46.24	
	12026.00	90.60	180.68	10726.53	1229.86	-1173.19	731.27	0.71	497521.43	763789.84	N 32 21 56.81 W 103 36 46.27	
	12120.00	89.81	178.59	10728.21	1323.56	-1267.18	731.71	2.58	497427.47	763790.08	N 32 21 55.58 W 103 36 46.27	
	12215.00	89.19	178.71	10727.04	1418.39	-1362.15	733.94	0.66	497332.50	763782.32	N 32 21 54.64 W 103 36 46.25	
	12309.00	89.68	177.85	10727.87	1512.26	-1458.10	736.78	1.05	497238.55	763785.14	N 32 21 53.71 W 103 36 46.23	
	12404.00	89.33	178.38	10728.81	1702.00	-1645.89	743.01	0.33	497048.87	763801.39	N 32 21 51.83 W 103 36 46.17	
	12594.00	89.88	177.07	10730.43	1796.91	-1740.91	746.79	1.43	496953.75	763805.16	N 32 21 50.90 W 103 36 46.13	
	12689.00	89.50	176.88	10731.11	1891.86	-1835.78	751.73	0.22	496858.89	763810.10	N 32 21 49.86 W 103 36 46.08	
	12783.00	89.88	177.58	10731.82	1985.80	-1928.67	756.21	0.77	496763.00	763814.58	N 32 21 48.03 W 103 36 46.04	
	12878.00	90.33	177.18	10731.44	2080.73	-2024.57	760.55	0.83	496670.10	763818.92	N 32 21 46.89 W 103 36 45.99	
	13067.00	90.60	178.89	10729.81	2289.83	-2213.31	770.33	0.21	496481.37	763828.70	N 32 21 46.22 W 103 36 45.89	
	13257.00	90.74	177.14	10727.89	2499.83	-2403.04	780.22	0.15	496291.65	763836.59	N 32 21 44.34 W 103 36 45.79	
	13351.00	90.81	176.89	10728.42	2653.47	-2498.50	785.12	0.28	496197.79	763843.49	N 32 21 42.41 W 103 36 45.74	
	13446.00	90.47	176.89	10724.31	2742.84	-2585.78	791.81	1.13	496088.94	763850.28	N 32 21 40.54 W 103 36 45.68	
	13540.00	90.12	176.46	10723.82	2837.01	-2670.78	793.19	0.62	495913.95	763851.58	N 32 21 40.80 W 103 36 45.67	
	13730.00	90.85	178.94	10723.01	2931.72	-2874.74	793.69	0.92	495818.68	763852.08	N 32 21 39.66 W 103 36 45.67	
	13822.00	90.74	181.52	10720.35	3122.81	-3067.70	791.25	0.82	495627.01	763849.82	N 32 21 37.78 W 103 36 45.72	
	14013.00	90.85	181.31	10719.09	3213.27	-3158.67	789.00	0.28	495538.05	763847.37	N 32 21 36.88 W 103 36 45.76	
	14203.00	90.74	180.82	10718.45	3402.27	-3348.61	785.47	0.28	495348.11	763843.84	N 32 21 34.98 W 103 36 45.81	
	14397.00	90.05	181.85	10715.80	3495.73	-3442.58	783.28	1.32	495252.14	763841.85	N 32 21 34.06 W 103 36 45.84	
	14487.00	89.19	179.16	10715.40	3684.91	-3632.56	781.80	1.42	495062.17	763839.97	N 32 21 32.18 W 103 36 45.87	
	14576.00	89.89	178.88	10715.11	3873.41	-3821.55	783.55	0.28	494873.19	763841.92	N 32 21 30.31 W 103 36 45.87	
	14771.00	89.09	178.29	10715.04	3968.21	-3918.53	785.25	1.45	494778.21	763843.82	N 32 21 29.37 W 103 36 45.85	
	14865.00	91.43	179.41	10713.79	4062.01	-4010.50	787.13	1.88	494684.25	763845.51	N 32 21 28.44 W 103 36 45.84	
	15054.00	89.85	178.40	10711.85	4256.49	-4199.47	789.10	0.84	494495.28	763847.47	N 32 21 26.57 W 103 36 45.83	
	15149.00	90.19	179.35	10711.85	4345.24	-4294.47	790.13	0.38	494400.29	763848.50	N 32 21 25.83 W 103 36 45.83	
	15244.00	90.09	178.72	10711.42	4440.03	-4389.45	791.73	0.87	494305.31	763850.10	N 32 21 24.89 W 103 36 45.81	
	15338.00	89.82	178.29	10711.41	4533.88	-4483.42	794.19	0.49	494211.34	763852.58	N 32 21 23.76 W 103 36 45.79	
	15433.00	89.84	178.40	10711.77	4628.69	-4578.40	796.10	1.21	494118.37	763854.47	N 32 21 22.82 W 103 36 45.78	
	15528.00	87.79	178.59	10713.84	4723.40	-4673.37	794.94	0.20	494024.41	763855.31	N 32 21 21.88 W 103 36 45.	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Eastings (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	18836.00	89.38	178.70	10737.16	8022.28	-7881.55	828.38	0.60	480713.84	763888.75	N 32 20 48.15 W 103 38 45.67	
	18930.00	89.53	178.17	10738.04	8116.08	-8075.53	830.13	0.52	480818.88	763888.50	N 32 20 48.22 W 103 38 45.66	
	18118.00	88.85	181.54	10740.53	8303.30	-8263.00	828.87	1.30	490431.90	763887.34	N 32 20 46.38 W 103 38 45.68	
	19213.00	88.77	181.58	10742.42	8397.70	-8357.94	828.38	0.19	490338.96	763884.75	N 32 20 45.42 W 103 38 45.72	
	19307.00	89.08	181.48	10744.18	8491.12	-8451.89	823.87	0.35	490243.01	763882.24	N 32 20 44.49 W 103 38 45.76	
	19491.00	89.01	181.87	10745.75	8584.53	-8545.85	821.29	0.22	490148.07	763878.68	N 32 20 43.58 W 103 38 45.80	
	19496.00	89.02	181.11	10747.29	8678.97	-8640.80	818.88	0.59	490054.11	763877.25	N 32 20 42.62 W 103 38 45.83	
	19590.00	89.32	180.19	10748.75	8772.54	-8734.79	817.92	1.03	489960.13	763876.29	N 32 20 41.69 W 103 38 45.85	
	19684.00	89.12	179.87	10750.03	8866.21	-8828.78	818.03	0.59	489866.15	763876.40	N 32 20 40.78 W 103 38 45.88	
	19779.00	89.22	179.49	10751.40	8960.93	-8923.76	818.73	0.22	489771.18	763877.10	N 32 20 39.82 W 103 38 45.88	
	19873.00	89.02	179.32	10752.85	9054.67	-9017.75	819.70	0.28	489677.18	763878.07	N 32 20 38.89 W 103 38 45.85	
	19967.00	89.19	178.81	10754.32	9148.45	-9111.72	821.24	0.87	489583.21	763879.61	N 32 20 37.96 W 103 38 45.84	
	20061.00	89.08	179.29	10755.74	9242.23	-9205.70	822.80	0.82	489489.24	763881.17	N 32 20 37.03 W 103 38 45.83	
	20155.00	89.38	179.85	10757.02	9335.95	-9298.89	823.50	0.87	489395.25	763881.87	N 32 20 36.10 W 103 38 45.83	
	20249.00	89.29	179.76	10758.12	9429.85	-9393.68	823.82	0.12	489301.28	763882.19	N 32 20 35.17 W 103 38 45.83	
	20344.00	89.19	178.84	10759.38	9524.40	-9488.66	824.88	0.87	489206.28	763883.35	N 32 20 34.23 W 103 38 45.83	
	20438.00	89.28	179.25	10760.65	9618.18	-9583.64	826.55	0.44	489112.31	763884.92	N 32 20 33.30 W 103 38 45.82	
	20532.00	88.81	178.58	10762.24	9711.82	-9678.62	827.51	0.59	489018.33	763885.88	N 32 20 32.37 W 103 38 45.81	
	20627.00	89.02	178.59	10764.04	9806.53	-9771.60	828.20	0.22	488923.35	763886.57	N 32 20 31.43 W 103 38 45.81	
	20721.00	89.29	178.54	10765.42	9900.41	-9863.58	829.73	1.15	488829.38	763888.10	N 32 20 30.50 W 103 38 45.80	
	20815.00	89.57	179.69	10766.38	9994.19	-9955.56	831.18	1.26	488735.40	763889.55	N 32 20 29.57 W 103 38 45.79	
100' FSL Crossed	20890.00	89.10	179.78	10767.23	10088.95	-10034.56	831.54	0.63	488640.41	763889.91	N 32 20 28.63 W 103 38 45.79	
Final MWD	20909.00	88.98	179.78	10767.55	10097.89	-10053.55	831.82	0.63	488541.41	763888.89	N 32 20 28.64 W 103 38 45.78	
Proj to TD	20969.00	88.98	179.78	10768.62	10147.69	-10113.54	831.85	0.00	488561.43	763890.22	N 32 20 28.64 W 103 38 45.80	

Survey Type: Def Survey

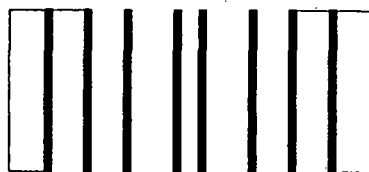
Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EDU Freq (Hz)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	28.500	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Avogato 30-31 State Com 23H Gyro + IFR 0-20969' MD
	1	28.500	28.500	Act Strs	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Avogato 30-31 State Com 23H Gyro + IFR 0-20969' MD
	1	28.500	980.500	Act Strs	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Avogato 30-31 State Com 23H Gyro + IFR 0-20969' MD
	1	980.500	20969.000	Act Strs	30.000	30.000	NAL_MWVD_PLUS_0.5_DEG	Original Borehole / Oxy Avogato 30-31 State Com 23H Gyro + IFR

...Original Borehole/Oxy Avogato 30-31 State Com 23H Gyro + IFR 0-20969' MD

Schlumberger-Private

OXY USA Inc.
Avogato 30-31 State Com 23H
API No. 30-025-45926

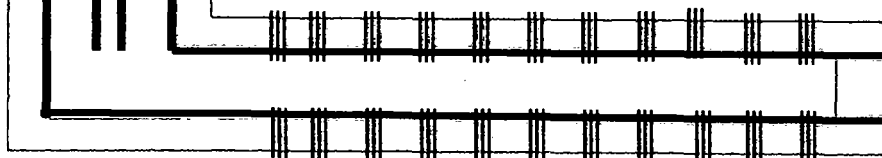


17-1/2" hole @ 1060'
13-3/8" csg @ 1050'
w/ 1340sx-TOC-Surf Circ.

12-1/4" hole @ 6465'
9-5/8" csg @ 6450'
w/ 1210sx-TOC-Surf Circ.

8-1/2" hole @ 20969'
5-1/2" csg @ 20956'
w/ 2710sx-TOC-5950'

2-3/8" tbg w/ Gas Lift @ 10810'



Perfs @ 10853-20877'

TD- 20969'M 10769'V

Country Name: United States of America
State Name: New Mexico
County Name: Lea County
Field Name: Bone Springs
Well Name: Avogato 30-31 State Com 023H

Telepacer and Slimpulse GR
1in/100ft Measured Depth
Final Print
Recorded Mode

Schlumberger

Company: OXY USA INC

Well: Avogato 30-31 State Com 023H

Field Name: Bone Springs

County Name: Lea County

State Name: New Mexico

Country Name: United States of America

Latitude: 32°22'08.171"N

Longitude: 103°36'54.701"W

Spud Date: 11-May-2019

Log Interval: 937.00-20968.59(ft)

Depth Source: Driller's Depth

Log Measured From: Drill Floor

Drill Floor Elevation: 26.5(ft)

Ground Level Elevation: 3706.1(ft)

Permanent Datum: Sea Level

API Number: 30-025-45926

Rig Name: H&P 636

Rig Type: Land

Job Number: 19MLH0256

Print Type: Final Print

Northing: 498694.6(ft)

Easting: 763058.4(ft)

Coordinate System: NAD83 New Mexico
State Plane, Eastern
Zone, US Feet