

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 19 2019

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)

RECEIVED

Schlumberger

30-015-44640

Well Reference:

I, 25 S, 29 E, Eddy NM
N 32.16501 W -103.94177

I, Diyar Kaky certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of December 07, 2018 through January 10, 2019, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 622.00 feet to a depth of 20576.00 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 Corral Canyon 36-25 Federal Com 31H Well (Original Hole) API No. 30-015-44640 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
Diyar Kaky
FS



Subscribed and Sworn to before me this 24th day of January (month) 2019 (yr)

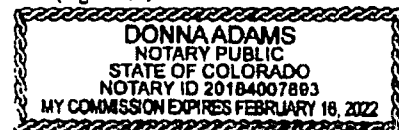
My Commission expires:

2-16-2022

D. Adams
Notary Public

Adams County Colorado
(County State)

(signature)



Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-20630' Survey

Geodetic Report

(Det Survey)

Report Date:	January 14, 2018 - 03:08 PM
Client:	OKY
Field:	NH Eddy County (NAED 83)
Structure / Slot:	Oxy Corral Canyon 36-25 Federal Com 31H / Oxy Corral Canyon 36-25
Well:	Corral Canyon 36-25 Federal Com 31H
Borehole:	Original Borehole
UWI / API#:	HAP 833 / 30-015-4460
Survey Name:	Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-20630'
Survey Date:	January 14, 2018
Tool / AH / DDI / ERD Range:	292.747' / 11460.016 N / 0.822 / 1.096
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long:	N 32° 0' 54.02000", W 103° 56' 30.39274"
Location Off M/E Y/X:	N 423984.470 NUS, E 662498.210 NUS
CRS Grid Convergence Angle:	0.2085°
Grid Scale Factor:	0.99929259
Version / Patch:	2.10.753.0
North:	North
Local Coord Referenced To:	Well Head
Gravity Model:	GARM
Total Gravity Field Strength:	988.4504mp (0.8665 Based)
TVD Reference Elevation:	3118.000 ft above MSL
Sealed / Ground Elevation:	3111.500 ft above MSL
Magnetic Declination:	0.884°
Vertical Section Origin:	354.713' (Grid North)
Vertical Section Azimuth:	0.000 N, 0.000 N
Minimum Curvature / Lubinski:	
Survey / DLS Computation:	
Comments:	
MD	(ft)
Incl	(°)
Azim	(°)
TVD	(ft)
VSC	(ft)
NS	(ft)
EW	(ft)
DLS	(ft)
North	(ft)
East	(ft)
Lat/Long	(N/E)
Long/Short	(E/W)
WVP	(ft)
Major Borehole	
SHL	



Comments	MD	Incl	Altitude	TVD	VBEC	NS	EW	DLG	Northing	Eastings	Latitude	Longitude
	6056.00	7.67	273.33	7852.37	431.77	367.53	-605.69	1.67	423531.66	601802.56	N 32 9 57.58 W 103 56 37.42	
	8151.00	7.43	297.32	8078.71	425.01	359.69	-617.39	1.89	424354.13	601806.86	N 32 9 57.70 W 103 56 37.56	
	8245.00	7.99	295.17	8172.87	430.66	374.26	-623.11	1.27	424359.72	601809.15	N 32 9 57.75 W 103 56 37.70	
	8340.00	7.09	300.44	8260.95	438.22	388.50	-630.57	1.35	424365.26	601813.73	N 32 9 57.81 W 103 56 37.83	
	8434.00	7.03	311.26	8350.15	446.75	388.50	-638.03	1.66	424372.84	601818.19	N 32 9 57.89 W 103 56 38.04	
	8528.00	8.46	310.30	8435.44	455.70	398.75	-645.01	0.60	424381.19	601824.25	N 32 9 57.97 W 103 56 38.03	
	8622.00	8.26	310.51	8520.60	464.45	404.85	-653.44	0.60	424389.29	601832.82	N 32 9 58.05 W 103 56 38.22	
	8716.00	8.26	310.51	8605.82	473.26	411.19	-661.86	1.00	424397.53	601842.06	N 32 9 58.13 W 103 56 38.46	
	8810.00	9.02	310.21	8691.02	482.05	418.82	-670.31	0.65	424405.81	601851.31	N 32 9 58.21 W 103 56 38.72	
	8904.00	8.88	313.84	8776.33	490.15	425.63	-678.74	0.65	424414.11	601860.56	N 32 9 58.29 W 103 56 39.00	
	9000.00	9.00	315.16	8861.64	498.15	433.63	-687.17	0.65	424422.41	601870.11	N 32 9 58.37 W 103 56 39.26	
	9095.00	9.00	316.94	8946.95	506.39	441.58	-695.55	0.65	424430.71	601879.10	N 32 9 58.45 W 103 56 39.52	
	9190.00	10.66	318.58	9032.26	514.77	449.54	-703.92	0.75	424439.01	601888.15	N 32 9 58.53 W 103 56 39.78	
	9284.00	11.09	321.23	9117.57	523.16	457.50	-712.35	1.59	424447.31	601897.10	N 32 9 58.61 W 103 56 40.04	
	9378.00	11.31	323.92	9202.88	531.55	465.46	-720.78	0.90	424455.61	601906.15	N 32 9 58.69 W 103 56 40.30	
	9473.00	10.15	316.47	9288.19	539.94	473.42	-729.21	1.23	424463.91	601915.10	N 32 9 58.77 W 103 56 40.56	
	9567.00	8.54	311.94	9373.50	548.33	481.29	-737.64	2.05	424472.21	601924.15	N 32 9 58.85 W 103 56 40.82	
	9662.00	8.22	312.44	9458.81	556.72	489.16	-746.07	0.35	424480.51	601933.10	N 32 9 58.93 W 103 56 41.08	
	9757.00	8.22	313.81	9544.12	565.11	497.03	-754.50	0.70	424488.81	601942.15	N 32 9 59.01 W 103 56 41.34	
	9852.00	6.07	313.96	9629.43	573.50	504.90	-762.93	0.04	424497.11	601951.10	N 32 9 59.09 W 103 56 41.60	
	9947.00	11.53	308.78	9714.74	581.89	512.77	-771.36	2.86	424505.41	601960.15	N 32 9 59.17 W 103 56 41.86	
	10042.00	27.22	302.88	9800.05	589.28	520.64	-780.79	10.74	424513.71	601969.10	N 32 9 59.25 W 103 56 42.12	
	10137.00	38.09	310.32	9885.36	596.67	528.51	-789.22	14.30	424522.01	601978.15	N 32 9 59.33 W 103 56 42.38	
	10232.00	39.25	311.62	9970.67	604.06	536.38	-797.65	9.04	424530.31	601987.10	N 32 9 59.41 W 103 56 42.64	
	10327.00	39.25	312.92	10055.98	611.45	544.25	-806.08	9.56	424538.61	601996.15	N 32 9 59.49 W 103 56 42.90	
	10422.00	54.57	310.06	10141.29	618.84	552.12	-814.51	8.36	424546.91	602005.10	N 32 9 59.57 W 103 56 43.16	
	10517.00	61.34	310.10	10226.61	626.23	560.00	-822.94	6.41	424555.21	602014.15	N 32 9 59.65 W 103 56 43.42	
	10612.00		317.27	10312.92	633.63	567.87	-831.37	14.59	424563.51	602023.10	N 32 9 59.73 W 103 56 43.68	
	10707.37	63.06	352.71	10399.23	641.04	575.74	-840.80	14.59	424571.81	602032.15	N 32 9 59.81 W 103 56 43.94	
	10802.00	63.63	353.52	10485.54	648.45	583.61	-849.23	14.59	424580.11	602041.10	N 32 9 59.89 W 103 56 44.20	
	10897.00	65.39	354.34	10571.85	655.86	591.48	-857.66	14.59	424588.41	602050.15	N 32 9 59.97 W 103 56 44.46	
	10992.00	71.60	357.10	10658.16	663.27	599.35	-866.09	8.02	424596.71	602059.10	N 32 9 60.05 W 103 56 44.72	
	11087.00	79.73	359.87	10744.47	670.68	607.22	-874.52	7.02	424605.01	602068.15	N 32 9 60.13 W 103 56 44.98	
	11182.00	83.40	362.64	10830.78	678.09	615.09	-882.95	6.88	424613.31	602077.10	N 32 9 60.21 W 103 56 45.24	
	11277.00	93.71	365.41	10917.09	685.50	622.96	-891.38	15.33	424621.61	602086.15	N 32 9 60.29 W 103 56 45.50	
	11372.00	94.84	368.18	11003.40	692.91	630.83	-900.81	0.33	424629.91	602095.10	N 32 9 60.37 W 103 56 45.76	
	11467.00	94.84	370.95	11089.71	700.32	638.70	-909.24	0.87	424638.21	602104.15	N 32 9 60.45 W 103 56 46.02	
	11562.00	92.05	382.72	11176.02	707.73	646.57	-917.67	1.50	424646.51	602113.10	N 32 9 60.53 W 103 56 46.28	
	11657.00	91.19	390.59	11262.33	715.14	654.44	-926.10	3.17	424654.81	602122.15	N 32 9 60.61 W 103 56 46.54	
	11752.00	88.75	398.46	11348.64	722.55	662.31	-934.53	1.76	424663.11	602131.10	N 32 9 60.69 W 103 56 46.80	
	11847.00	86.12	406.33	11434.95	730.96	670.18	-942.96	2.34	424671.41	602140.15	N 32 9 60.77 W 103 56 47.06	
	11942.00	88.72	414.20	11521.26	738.37	678.05	-951.39	3.64	424679.71	602149.10	N 32 9 60.85 W 103 56 47.32	
	12037.00	88.72	422.07	11607.57	745.78	685.92	-960.82	1.47	424688.01	602158.15	N 32 9 60.93 W 103 56 47.58	
	12132.00	88.72	429.94	11693.88	753.19	693.79	-969.25	1.23	424696.31	602167.10	N 32 9 61.01 W 103 56 47.84	
	12227.00	88.72	437.81	11780.19	760.60	701.66	-977.68	1.35	424704.61	602176.15	N 32 9 61.09 W 103 56 48.10	
	12322.00	88.72	445.68	11866.50	768.01	709.53	-986.11	0.89	424712.91	602185.10	N 32 9 61.17 W 103 56 48.36	
	12417.00	86.73	453.55	11952.81	775.42	717.40	-994.54	2.87	424721.21	602194.15	N 32 9 61.25 W 103 56 48.62	
	12512.00	86.73	461.42	12039.12	782.83	725.27	-1002.97	1.16	424729.51	602203.10	N 32 9 61.33 W 103 56 48.88	
	12607.00	87.14	469.29	12125.43	790.24	733.14	-1011.40	0.35	424737.81	602212.15	N 32 9 61.41 W 103 56 49.14	
	12702.00	87.14	477.16	12211.74	797.65	741.01	-1019.83	0.35	424746.11	602221.10	N 32 9 61.49 W 103 56 49.40	
	12797.00	86.90	485.03	12298.05	805.06	748.88	-1028.26	0.32	424754.41	602230.15	N 32 9 61.57 W 103 56 49.66	
	12892.00	86.90	492.90	12384.36	812.47	756.75	-1036.69	0.60	424762.71	602239.10	N 32 9 61.65 W 103 56 49.92	
	12987.00	86.90	500.77	12470.67	819.88	764.62	-1045.12	1.34	424771.01	602248.15	N 32 9 61.73 W 103 56 50.18	
	13082.00	86.90	508.64	12556.98	827.29	772.49	-1053.55	1.80	424779.31	602257.10	N 32 9 61.81 W 103 56 50.44	
	13177.00	86.90	516.51	12643.29	834.70	780.36	-1061.98	0.23	424787.61	602266.15	N 32 9 61.89 W 103 56 50.70	
	13272.00	86.90	524.38	12729.60	842.11	788.23	-1070.41	0.51	424795.91	602275.10	N 32 9 61.97 W 103 56 50.96	
	13367.00	86.90	532.25	12815.91	849.52	796.10	-1078.84	0.25	424804.21	602284.15	N 32 9 62.05 W 103 56 51.22	
	13462.00	86.90	540.12	12902.22	856.93	803.97	-1087.27	1.08	424812.51	602293.10	N 32 9 62.13 W 103 56 51.48	
	13557.00	86.90	547.99	12988.53	864.34	811.84	-1095.70	1.81	424820.81	602302.15	N 32 9 62.21 W 103 56 51.74	
	13652.00	86.90	555.86	13074.84	871.75	819.71	-1104.13	0.99	424829.11	602311.10	N 32 9 62.29 W 103 56 52.00	
	13747.00	86.90	563.73	13161.15	879.16	827.58	-1112.56	0.32	424837.41	602320.15	N 32 9 62.37 W 103 56 52.26	
	13842.00	86.90	571.60	13247.46	886.57	835.45	-1120.99	0.34	424845.71	602329.10	N 32 9 62.45 W 103 56 52.52	
	13937.00	86.90	579.47	13333.77	893.98	843.32	-1129.42	0.26	424854.01	602338.15	N 32 9 62.53 W 103 56 52.78	
	14032.00	86.90	587.34	13420.08	901.39	851.19	-1137.85	3.46	424862.31	602347.10	N 32 9 62.61 W 103 56 53.04	
	14127.00	86.90	595.21	13506.39	908.80	859.06	-1146.28	3.05	424870.61	602356.15	N 32 9 62.69 W 103 56 53.30	
	14222.00	86.90	603.08	13592.70	916.21	866.93	-1154.71	1.69	424878.91	602365.10	N 32 9 62.77 W 103 56 53.56	
	14317.00	86.90	610.95	13679.01	923.62	874.80	-1163.14	0.38	424887.21	602374.15	N 32 9 62.85 W 103 56 53.82	
	14412.00	86.90	618.82	13765.32	931.03	882.67	-1171.57	0.70	424895.51	602383.10	N 32 9 62.93 W 103 56 54.08	
	14507.00	86.90	626.69	13851.63	938.44	890.54	-1180.00	0.38	424903.81	602392.15	N 32 9 63.01 W 103 56 54.34	
	14602.00	86.90	634.56	13937.94	945.85	898.41	-1188.43	0.70	424912.11	602401.10	N 32 9 63.09 W 103 56 54.60	
	14697.00	86.90	642.43	14024.25	953.26	906.28	-1196.86	0.20	424920.41	602410.15	N 32 9 63.17 W 103 56 54.86	
	14792.00	86.90	650.30	14110.56	960.67	914.15	-1205.29	0.20	424928.71	602419.10	N 32 9 63.25 W 103 56 55.12	
	14887.00	86.90	658.17	14196.87	968.08	922.02	-1213.72	1.80	424937.01	602428.15	N 32 9 63.33 W 103 56 55.38	
	14982.00	86.90	666.04	14283.18	975.49	929.89	-1222.15	1.23	424945.31	602437.10	N 32 9 63.41 W 103 56 55.64	
	15077.00	86.90	673.91	14369.49	982.90	937.76	-1230.58	0.81	424953.61	602446.15	N 32 9 63.49 W 103 56 55.90	
	15172.00	86.90	681.78	14455.80	990.31	945.63	-1239.01	0.75	424961.91	602455.10	N 32 9 63.57 W 103 56 56.16	
	15267.00	86.90	689.65	14542.11	997.7							

Comments	MD (ft)	Incl C	Atm GHD C	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS C/(100ft)	Northing (NUS)	Existing (NUS)	Latitude (NUS...)	Longitude (EW...)
	18761.00	92.92	0.69	10437.15	9156.63	9103.08	-960.10	0.58	433068.55	681518.18	N 32 11 24.15	W 103 56 41.41
	18770.00	90.44	359.67	10431.61	9344.69	9293.98	-979.51	1.42	433277.74	681518.78	N 32 11 26.02	W 103 56 41.40
	19154.00	90.20	1.26	10430.56	9531.74	9481.90	-977.88	0.86	433465.71	681520.30	N 32 11 27.69	W 103 56 41.37
	19446.00	89.37	0.45	10431.28	9718.65	9689.94	-975.18	0.62	433653.67	681523.11	N 32 11 29.74	W 103 56 41.33
	19447.00	89.30	0.19	10432.38	9813.19	9784.93	-974.85	0.28	433748.68	681523.64	N 32 11 30.66	W 103 56 41.32
	19535.00	89.96	0.59	10432.90	9907.73	9859.92	-974.00	0.90	433843.64	681524.28	N 32 11 31.62	W 103 56 41.31
	19536.00	89.94	0.24	10434.22	10002.22	9954.91	-973.10	1.61	433938.62	681525.18	N 32 11 32.66	W 103 56 41.28
	19723.00	89.98	349.65	10434.22	10092.67	10048.68	-972.83	2.69	434032.59	681527.46	N 32 11 33.49	W 103 56 41.28
	19820.00	88.82	337.87	10438.46	10193.67	10148.68	-969.94	1.46	434127.54	681527.86	N 32 11 35.30	W 103 56 41.23
	20006.00	89.65	350.03	10439.99	10279.66	10232.61	-968.34	0.33	434116.16	681528.86	N 32 11 36.17	W 103 56 41.24
	20103.00	89.51	356.35	10439.68	10473.41	10426.43	-961.35	1.45	434294.96	681529.80	N 32 11 38.17	W 103 56 41.84
	20196.00	89.03	337.64	10440.89	10568.33	10521.26	-966.26	0.94	434489.67	681529.80	N 32 11 40.93	W 103 56 41.85
	20397.00	90.27	356.37	10442.04	10757.16	10710.02	-1009.16	3.31	434787.59	681482.13	N 32 11 40.93	W 103 56 41.85
	20481.00	89.51	359.39	10442.22	10851.01	10803.84	-1009.83	0.97	434809.02	681488.55	N 32 11 41.14	W 103 56 41.88
	20493.43	89.47	359.23	10442.38	10888.38	10821.37	-1009.84	0.97	434809.02	681489.44	N 32 11 41.14	W 103 56 41.89
	20578.00	89.27	358.50	10443.23	10945.74	10888.82	-1011.38	0.97	434882.56	681488.90	N 32 11 41.90	W 103 56 41.70
	20630.00	89.27	358.50	10443.02	10999.62	10952.90	-1012.80	0.00	434936.53	681485.49	N 32 11 42.44	W 103 56 41.71

JAG FNL
Crossing
Final MWD
Survey
Proj to Bit

Survey Type: Del Survey

Survey Error Model: ISCWBA Rev 0 *** 3-D 95 000% Confidence 2.7855 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EDU Freq (ft)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	28.500	1/89.425	30.000	NAL_NSG+MSHOT-Open Only	Original Borehole / Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-28037
	1	28.500	28.500	Act Sens	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-28037
	1	28.500	933.500	Act Sens	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-28037
	1	933.500	11088.000	Act Sens	30.000	NAL_MWD_IFRI+MS	Original Borehole / Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-28037
	1	11088.000	11217.000	Act Sens	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-28037
	1	11217.000	20630.000	Act Sens	30.000	NAL_MWD_IFRI+MS	Original Borehole / Oxy Corral Canyon 36-25 Federal Com 31H Gyro + MWD 0-28037

Schlumberger

OXY

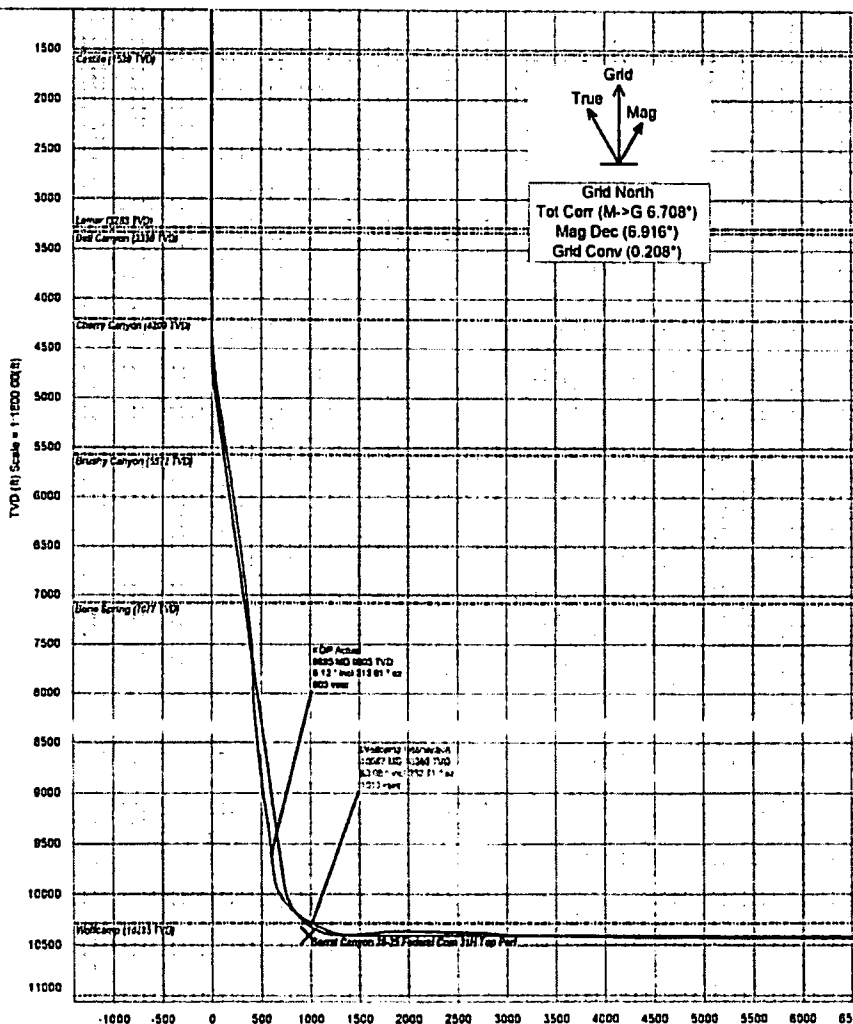
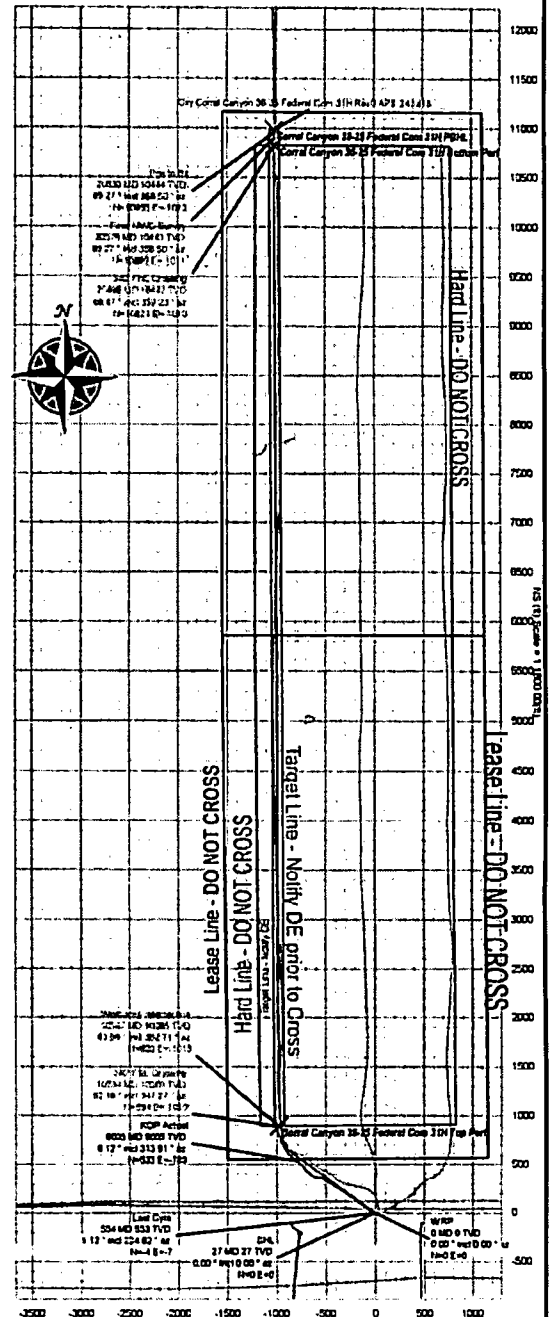


Borehole:	Well:	Field:	Structure:
Original Borehole	Corral Canyon 36-25 Federal Com 31H	NM Eddy County (NAD 83)	Oxy Corral Canyon 36-25 Federal Com 31H

Gravity & Magnetic Parameters				Surface Location				Macellaneous			
Model:	WGS84	Dir:	92.99°	Date:	14-Jan-2019	Lat:	N 32 9 54.82	Longitude:	107 30 47.013	Grid Zone:	18QUD
MagDec:	6.916°	PR:	47918.000	Gravity PR:	980.41m/s² (9.80425 m/s²)	Lon:	W 103 30 28.29	Easting:	643438.317	Scale Factor:	0.999271
								Dry Corral Canyon 36-25 Federal Com 31H			
								Dry Corral Canyon 36-25 Federal Com 31H			

Critical Points

Critical Point	MD	INCL	AZIM	TYD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
WRP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00
Last Gyro	553.50	1.12	224.62	553.42	-3.93	-3.93	-7.49	0.11
KOP Actual	9695.00	8.12	313.91	9604.67	532.97	532.97	-789.03	0.70
340° FGL Crossing	10533.66	62.18	347.27	10289.49	893.80	893.80	-1009.58	14.59
Wolfcamp	10567.37	63.08	352.71	10285.00	923.26	923.26	-1014.77	14.59
340° FNL Crossing	20498.43	89.47	359.23	10442.38	10821.37	10821.37	-1009.84	0.97
Final MWD Survey	20578.00	89.27	358.50	10443.23	10898.92	10898.92	-1011.36	0.07
Proj to B4	20830.00	89.27	358.50	10443.92	10952.90	10952.90	-1012.60	0.00



Vertical Section (ft) Azim = 354.71° Scale = 1:1800 (ft) Origin = GN/S, DE/W