

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

February 14, 2018

OXY USA INC
PO BOX 4294
HOUSTON, TX 77210

Re:

2, 25S, 29E, EDDY NM
N 32.16296 W -103.96331

CLIENT: OXY USA INC
WELL: Corral Fly 02 01 State 23H
FIELD: Pierce Crossing, Bone Spring; East

RIG: H&P 635
COUNTY: Eddy
API NO: 30-015-44509
JOB NO: 18MLD2103

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>
Kristina Hansen FET	Corral Fly 02 01 State 23H Original Hole	469.00 Ft to 18964.00 Ft	January 24, 2018 to February 4, 2018	TelePacer SlimPulse

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

BRYAN NOGUES
Field Service Manager

Schlumberger Drilling and Measurements
Drilling Group
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7220 W I-H 20
Midland, Texas 79706
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Well Reference:
2, 25S, 29E, EDDY NM
N 32.16296 W -103.96331

I, Kristina Hansen certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of January 24, 2018 through February 04, 2018, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 469.00 feet to a depth of 18964.00 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 Fly 02 01 State 23H Well (Original Hole) API No. 30-015-44509 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
Kristina Hansen
FET

Subscribed and Sworn to before me this 22nd day of February (month) 2018 (yr)

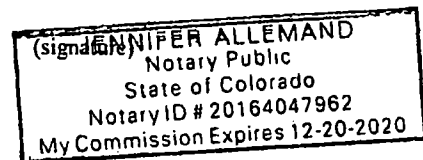
My Commission expires:

12-20-2020

Allemand

Notary Public

Adams County Colorado
(County State)

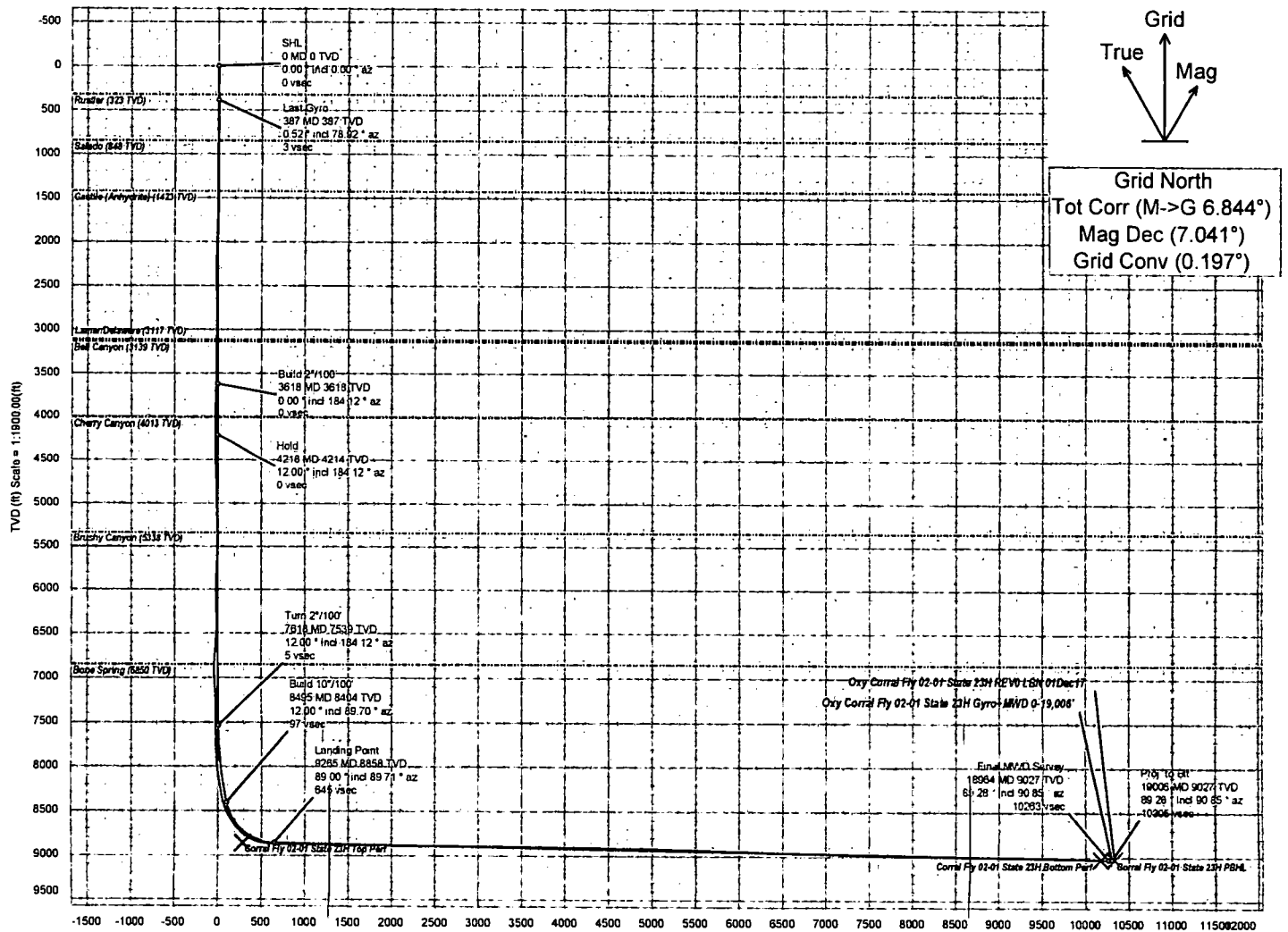
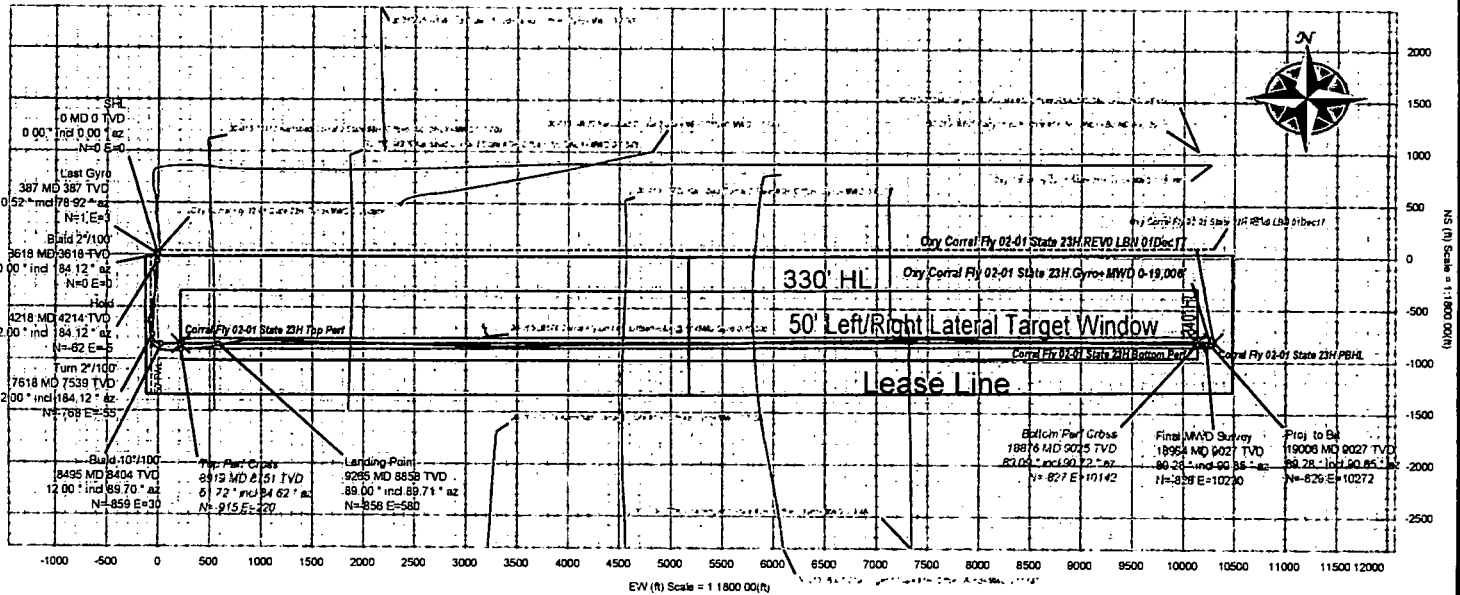


Schlumberger

OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Corral Fly 02-01 State 23H	NM Eddy County (NAD 83)	Oxy Corral Fly 02-01 State 23H
Gravity & Magnetic Parameters			
Model: HGM 2017	Dip: 59.837°	Date: 19-Jan-2018	Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
MagDec: 7.041°	FS: 48032.453m7	Gravity FS: 999.458mgm (9.80665 Based)	Lat: N 32 9 46.88 Northings: 423217.19HUS Grid Conv: 0.197°
			Lon: W 103 57 47.92 Eastings: 656836.99HUS Scale Fact: 0.99992411
Miscellaneous			
			Slot: Oxy Corral Fly 02-01 State 23H TVD Ref: RKB=26.5'(10227m above MSL)
			Plan: Oxy Corral Fly 02-01 State 23H REV0 LBN 01Dec17



Vertical Section (ft) Azim = 94.48° Scale = 1:1900.00(ft) Origin = 0N-S, 0E-W

[illegible]

Comments	Inc1	Azlm Grd	TD	VSEC	NS	EW	DLS	Eastng	Longtude	EW . . .	NS . . .
7555.00	14.52	177.20	7832.25	-1.11	-797.78	-74.59	1.82	422319.47	655762.19	N 32	9 38.54 W 103 57 48.82
8055.00	14.32	167.45	7973.12	-0.52	-821.14	-70.58	1.07	422396.12	655762.19	N 32	9 38.54 W 103 57 48.82
8145.00	12.85	156.07	8065.18	-2.27	-843.95	-63.80	3.60	422373.30	655777.22	N 32	9 38.31 W 103 57 48.57
8245.00	12.85	144.47	8136.59	-1.68	-862.75	-62.80	3.87	422354.51	655784.19	N 32	9 38.13 W 103 57 48.57
8375.00	12.17	111.20	8286.25	-0.29	-878.07	-60.34	2.74	422339.19	655798.66	N 32	9 37.97 W 103 57 48.57
8492.00	16.92	112.50	8368.58	-0.23	-903.57	-57.84	1.82	422331.69	655805.18	N 32	9 37.92 W 103 57 48.57
8592.00	24.88	109.12	8469.72	-0.60	-929.29	-54.17	4.28	422316.97	655833.82	N 32	9 37.75 W 103 57 48.57
8692.00	31.81	106.91	8581.33	-0.51	-951.88	-51.62	9.05	422305.58	655864.81	N 32	9 37.54 W 103 57 48.57
8786.00	39.32	104.84	8676.77	-0.87	-971.86	-48.77	8.77	422297.49	655906.90	N 32	9 37.35 W 103 57 48.57
8881.00	47.32	103.84	8766.58	-1.07	-987.32	-45.77	9.22	422287.82	655936.30	N 32	9 37.15 W 103 57 48.57
8976.00	56.79	102.80	8856.50	-0.67	-1006.72	-42.67	9.31	422278.05	655966.78	N 32	9 37.07 W 103 57 48.57
9071.00	66.20	101.65	8946.50	-0.29	-1026.67	-39.63	12.35	422268.32	656026.78	N 32	9 37.07 W 103 57 48.57
9165.00	76.69	100.44	9036.88	-0.80	-1047.84	-36.24	17.69	422257.57	656188.20	N 32	9 37.07 W 103 57 48.57
9260.00	86.79	99.24	9126.81	-0.58	-1069.64	-32.82	22.59	422244.72	656372.82	N 32	9 37.07 W 103 57 48.57
9359.00	96.92	97.97	9216.87	-0.55	-1092.32	-29.32	27.59	422231.57	656571.57	N 32	9 37.07 W 103 57 48.57
9458.00	107.10	96.78	9306.84	-0.54	-1115.67	-25.78	32.32	422217.95	656778.52	N 32	9 37.07 W 103 57 48.57
9557.00	117.20	95.55	9396.54	-0.54	-1139.57	-22.24	37.05	422203.92	656991.17	N 32	9 37.07 W 103 57 48.57
9656.00	127.20	94.29	9486.54	-0.54	-1163.57	-18.74	41.74	422189.92	657202.95	N 32	9 37.07 W 103 57 48.57
9755.00	137.20	93.02	9576.54	-0.54	-1187.57	-15.24	46.48	422175.92	657414.92	N 32	9 37.07 W 103 57 48.57
9854.00	147.20	91.75	9666.54	-0.54	-1211.57	-11.74	51.22	422161.92	657626.92	N 32	9 37.07 W 103 57 48.57
9953.00	157.20	90.48	9756.54	-0.54	-1235.57	-8.24	55.95	422147.92	657838.92	N 32	9 37.07 W 103 57 48.57
10052.00	167.20	89.21	9846.54	-0.54	-1259.57	-4.74	60.68	422133.92	658050.92	N 32	9 37.07 W 103 57 48.57
10151.00	177.20	87.94	9936.54	-0.54	-1283.57	-1.24	65.41	422119.92	658262.92	N 32	9 37.07 W 103 57 48.57
10250.00	187.20	86.67	10026.54	-0.54	-1307.57	2.24	70.14	422105.92	658474.92	N 32	9 37.07 W 103 57 48.57
10349.00	197.20	85.40	10116.54	-0.54	-1331.57	5.74	74.87	422091.92	658686.92	N 32	9 37.07 W 103 57 48.57
10448.00	207.20	84.13	10206.54	-0.54	-1355.57	9.24	79.60	422077.92	658898.92	N 32	9 37.07 W 103 57 48.57
10547.00	217.20	82.8	10296.54	-0.54	-1379.57	12.74	84.33	422063.92	659110.92	N 32	9 37.07 W 103 57 48.57
10646.00	227.20	81.53	10386.54	-0.54	-1403.57	16.24	89.06	422049.92	659322.92	N 32	9 37.07 W 103 57 48.57
10745.00	237.20	80.26	10476.54	-0.54	-1427.57	19.74	93.79	422035.92	659534.92	N 32	9 37.07 W 103 57 48.57
10844.00	247.20	79.0	10566.54	-0.54	-1451.57	23.24	98.52	422021.92	659746.92	N 32	9 37.07 W 103 57 48.57
10943.00	257.20	77.73	10656.54	-0.54	-1475.57	26.74	103.25	422007.92	659958.92	N 32	9 37.07 W 103 57 48.57
11042.00	267.20	76.46	10746.54	-0.54	-1499.57	30.24	107.98	421993.92	660170.92	N 32	9 37.07 W 103 57 48.57
11141.00	277.20	75.19	10836.54	-0.54	-1523.57	33.74	112.69	421979.92	660382.92	N 32	9 37.07 W 103 57 48.57
11240.00	287.20	73.92	10926.54	-0.54	-1547.57	37.24	117.4	421965.92	660594.92	N 32	9 37.07 W 103 57 48.57
11339.00	297.20	72.65	11016.54	-0.54	-1571.57	40.74	122.11	421951.92	660806.92	N 32	9 37.07 W 103 57 48.57
11438.00	307.20	71.38	11106.54	-0.54	-1595.57	44.24	126.82	421937.92	661018.92	N 32	9 37.07 W 103 57 48.57
11537.00	317.20	70.11	11196.54	-0.54	-1619.57	47.74	131.53	421923.92	661230.92	N 32	9 37.07 W 103 57 48.57
11636.00	327.20	68.84	11286.54	-0.54	-1643.57	51.24	136.24	421909.92	661442.92	N 32	9 37.07 W 103 57 48.57
11735.00	337.20	67.57	11376.54	-0.54	-1667.57	54.74	140.95	421895.92	661654.92	N 32	9 37.07 W 103 57 48.57
11834.00	347.20	66.3	11466.54	-0.54	-1691.57	58.24	145.66	421881.92	661866.92	N 32	9 37.07 W 103 57 48.57
11933.00	357.20	65.03	11556.54	-0.54	-1715.57	61.74	150.37	421867.92	662078.92	N 32	9 37.07 W 103 57 48.57
12032.00	367.20	63.76	11646.54	-0.54	-1739.57	65.24	155.08	421853.92	662290.92	N 32	9 37.07 W 103 57 48.57
12131.00	377.20	62.49	11736.54	-0.54	-1763.57	68.74	159.79	421839.92	662502.92	N 32	9 37.07 W 103 57 48.57
12230.00	387.20	61.22	11826.54	-0.54	-1787.57	72.24	164.5	421825.92	662714.92	N 32	9 37.07 W 103 57 48.57
12329.00	397.20	59.95	11916.54	-0.54	-1811.57	75.74	169.21	421811.92	662926.92	N 32	9 37.07 W 103 57 48.57
12428.00	407.20	58.68	12006.54	-0.54	-1835.57	79.24	173.92	421797.92	663138.92	N 32	9 37.07 W 103 57 48.57
12527.00	417.20	57.41	12096.54	-0.54	-1859.57	82.74	178.63	421783.92	663350.92	N 32	9 37.07 W 103 57 48.57
12626.00	427.20	56.14	12186.54	-0.54	-1883.57	86.24	183.34	421769.92	663562.92	N 32	9 37.07 W 103 57 48.57
12725.00	437.20	54.87	12276.54	-0.54	-1907.57	89.74	188.05	421755.92	663774.92	N 32	9 37.07 W 103 57 48.57
12824.00	447.20	53.6	12366.54	-0.54	-1931.57	93.24	192.76	421741.92	663986.92	N 32	9 37.07 W 103 57 48.57
12923.00	457.20	52.33	12456.54	-0.54	-1955.57	96.74	197.47	421727.92	664198.92	N 32	9 37.07 W 103 57 48.57
13022.00	467.20	51.06	12546.54	-0.54	-1979.57	100.24	202.18	421713.92	664410.92	N 32	9 37.07 W 103 57 48.57
13121.00	477.20	49.79	12636.54	-0.54	-2003.57	103.74	206.89	421699.92	664622.92	N 32	9 37.07 W 103 57 48.57
13220.00	487.20	48.52	12726.54	-0.54	-2027.57	107.24	211.6	421685.92	664834.92	N 32	9 37.07 W 103 57 48.57
13319.00	497.20	47.25	12816.54	-0.54	-2051.57	110.74	216.31	421671.92	665046.92	N 32	9 37.07 W 103 57 48.57
13418.00	507.20	45.98	12906.54	-0.54	-2075.57	114.24	221.02	421657.92	665258.92	N 32	9 37.07 W 103 57 48.57
13517.00	517.20	44.71	12996.54	-0.54	-2099.57	117.74	225.73	421643.92	665470.92	N 32	9 37.07 W 103 57 48.57
13616.00	527.20	43.44	13086.54	-0.54	-2123.57	121.24	230.44	421629.92	665682.92	N 32	9 37.07 W 103 57 48.57
13715.00	537.20	42.17	13176.54	-0.54	-2147.57	124.74	235.15	421615.92	665894.92	N 32	9 37.07 W 103 57 48.57
13814.00	547.20	40.9	13266.54	-0.54	-2171.57	128.24	239.86	421601.92	666106.92	N 32	9 37.07 W 103 57 48.57
13913.00	557.20	39.63	13356.54	-0.54	-2195.57	131.74	244.57	421587.92	666318.92	N 32	9 37.07 W 103 57 48.57
14012.00	567.20	38.36	13446.54	-0.54	-2219.57	135.24	249.28	421573.92	666530.92	N 32	9 37.07 W 103 57 48.57
14111.00	577.20	37.09	13536.54	-0.54	-2243.57	138.74	253.99	421559.92	666742.92	N 32	9 37.07 W 103 57 48.57
14210.00	587.20	35.82	13626.54	-0.54	-2267.57	142.24	258.7	421545.92	666954.92	N 32	9 37.07 W 103 57 48.57
14309.00	597.20	34.55	13716.54	-0.54	-2291.57	145.74	263.41	421531.92	667166.92	N 32	9 37.07 W 103 57 48.57
14408.00	607.20	33.28	13806.54	-0.54	-2315.57	149.24	268.12	421517.92	667378.92	N 32	9 37.07 W 103 57 48.57
14507.00	617.20	32.01	13896.54	-0.54	-2339.57	152.74	272.83	421503.92	667590.92	N 32	9 37.07 W 103 57 48.57
14606.00	627.20	30.74	13986.54	-0.54	-2363.57	156.24	277.54	421489.92	667802.92	N 32	9 37.07 W 103 57 48.57
14705.00	637.20	29.47	14076.54	-0.54	-2387.57	159.74	282.25	421475.92	668014.92	N 32	9 37.07 W 103 57 48.57
14804.00	647.20	28.2	14166.54	-0.54	-2411.57	163.24	286.96	421461.92	668226.92	N 32	9 37.07 W 103 57 48.57
14903.00	657.20	26.93	14256.54	-0.54	-2435.57	166.74	291.67	421447.92	668438.92	N 32	9 37.07 W 103 57 48.57
15002.00	667.20	25.66	14346.54	-0.54	-2459.57	170.24	296.38	421433.92	668650.92	N 32	9 37.07 W 103 57 48.57
15101.00	677.20	24.39	14436.54	-0.54	-2483.57	173.74	301.09	421419.92	668862.92	N 32	9 37.07 W 103 57 48.57
15200.00	687.20	23.12	14526.54	-0.54	-2507.57	177.24	305.8	421405.92	669074.92	N 32	9 37.07 W 103 57 48.57
15299.00	697.20	21.85	14616.54	-0.54	-2531.57	180.74	310.51	421391.92	669286.92	N 32	9 37.07 W 103 57 48.57
15398.00	707.20	20.58	14706.54	-0.54	-2555.57	184.24	315.22	421377.92	669498.92	N 32	9 37.07 W 103 57 48.57
15497.00	717.20	19.31	14796.54	-0.54	-2579.57	187.74	319.93	421363.92	669710.92	N 32	9 37.07 W 103 57 48.57
15596.00	727.20	18.04	14886.54	-0.54	-2603.57	191.24	324.64	421349.92	669922.92	N 32	9 37.07 W 103 57 48.57
15695.00	737.20	16.77	14976.54	-0.54	-2627.57	194.74	329.35	421335.92	670134.92	N 32	9 37.07 W 103 57 48.57
15794.00	747.20	15.5	15066.54	-0.54	-2651.57	198.24	334.06	421321.92	670346.92	N 32	9 37.

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 ° ' ")
	18750.00	89.21	90.75	9023.42	10049.86	-825.43	10015.99	0.25	422391.83	665852.20	N 32 9 38.14 W 103 55 51.44	
	18845.00	89.11	90.57	9024.81	10144.64	-826.52	10110.98	0.22	422390.73	665947.18	N 32 9 38.12 W 103 55 50.34	
	18940.00	89.04	91.03	9026.34	10239.43	-827.85	10205.96	0.49	422389.41	666042.15	N 32 9 38.11 W 103 55 49.23	
Final MWD	18964.00	89.28	90.85	9026.70	10263.39	-828.24	10229.95	1.25	422389.01	666066.14	N 32 9 38.10 W 103 55 48.95	
Proj. to Bit	19006.00	89.28	90.85	9027.22	10305.30	-828.86	10271.94	0.00	422388.39	666108.13	N 32 9 38.09 W 103 55 48.46	

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 (in)	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 Corral Fly 02-01 State 23H Gyro+MWD 0-19,006'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Corral Fly 02-01 State 23H Gyro+MWD 0-19,006'
	1	26.500	386.650	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Corral Fly 02-01 State 23H Gyro+MWD 0-19,006'
	1	386.650	8375.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Corral Fly 02-01 State 23H Gyro+MWD 0-19,006'
	1	8375.000	9260.000	Act Stns	30.000	30.000	NAL_MWD_HDGM+MS	Original Borehole / Oxy Corral Fly 02-01 State 23H Gyro+MWD 0-19,006'
	1	9260.000	19006.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Corral Fly 02-01 State 23H Gyro+MWD 0-19,006'