

Schlumberger

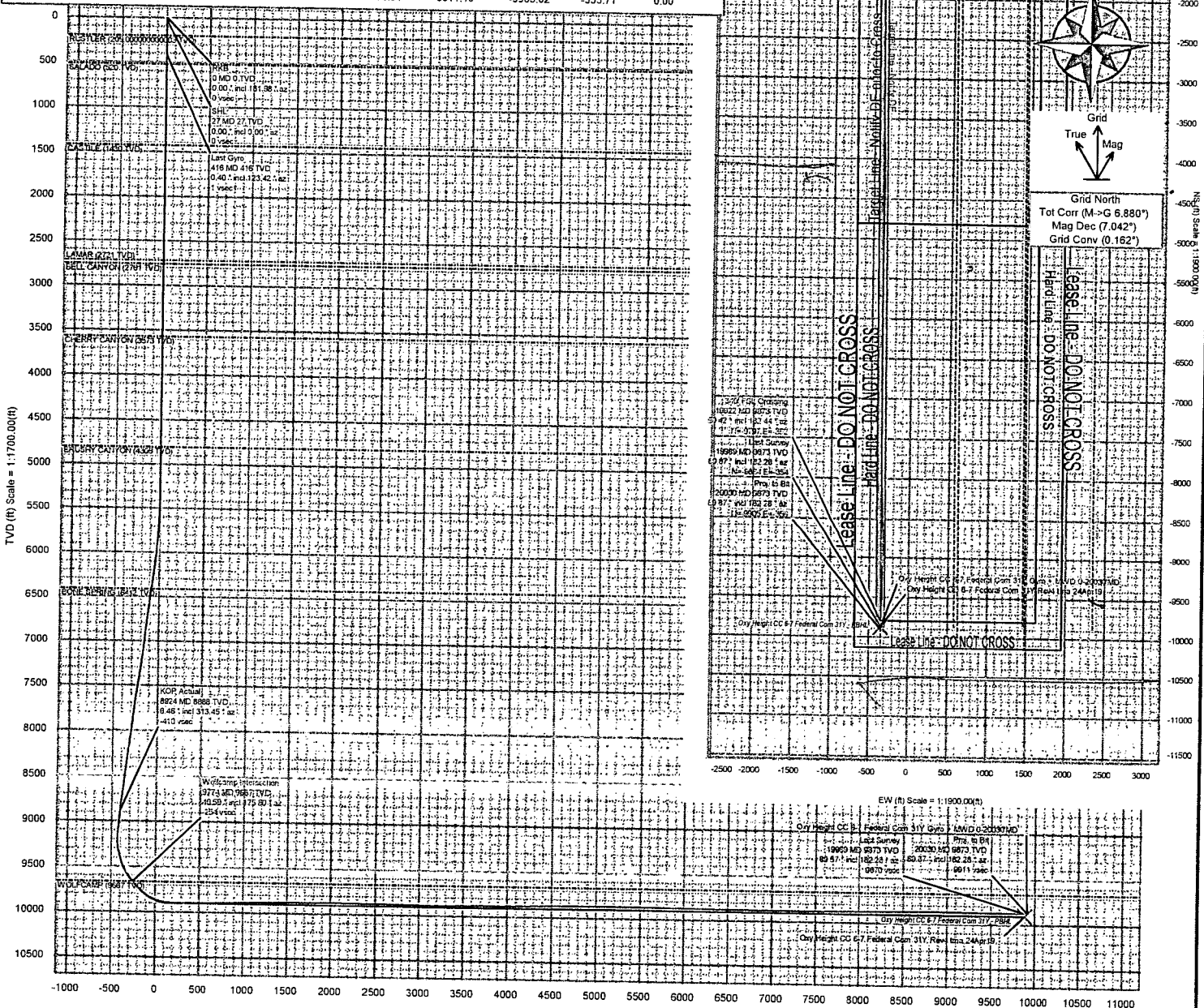
OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Height CC 6-7 Federal Com 31Y	NM Eddy County (NAD 83)	Oxy Height CC 6-7 Federal Com 31Y

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	IFR1	Dip:	60.023°	Date:	15-Apr-2019	Lat:	N 32 15 10.35	Northing:	456851.881US	Grid Conv:	0.1618°
MagDec:	7.042°	FS:	47928.8nT	Gravity FS:	988.471mg (8.80655 Based)	Lon:	W 104 1 47.92	Easting:	635115.871US	Scale Fact:	0.99991916
								Plan: Oxy Height CC 6-7 Federal Com 31Y Gyro + MWD 0-20030 MD			

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)S(-)	E(+)W(-)	DLS
RKB	0.00	0.00	181.98	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	416.00	0.40	123.42	415.99	1.26	-1.32	1.73	0.15
KOP Actual	8924.00	9.46	313.45	8887.56	-410.01	419.02	-246.59	0.93
100' FNL Crossing	9427.00	25.51	237.81	9375.00	-408.91	421.50	-347.36	3.86
Ext Target Box	9722.00	38.22	182.36	9625.48	-287.23	302.62	-428.76	9.79
Enter Target Box	9760.00	39.94	177.12	9655.98	-263.31	278.69	-428.03	9.79
Wolfcamp Intersection	9774.44	40.59	175.80	9667.00	-254.02	269.37	-428.03	3.63
340' FSL Crossing	19921.82	90.42	182.44	9873.34	9803.22	-9796.92	-351.59	1.26
Last Survey	19989.00	89.87	182.28	9872.92	9870.40	-9864.05	-354.08	3.65
Proj. to Bit	20030.00	89.87	182.28	9873.01	9911.40	-9905.02	-355.71	0.00



Vertical Section (ft) Azim = 182.03° Scale = 1:1700.00(ft) Origin = 0N/-S, 0E/-W

Oxy Height CC 6-7 Federal Com 31Y Gyro + MWD 0-20030 MD Survey

Geodetic Report

(Def Survey)



Report Date: May 03, 2019 - 10:47 AM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Height CC 6-7 Federal Com 31Y / Oxy Height CC 6-7 Federal Com 31Y
 Well: Oxy Height CC 6-7 Federal Com 31Y
 Borehole: Original Borehole
 UWI / API#: H&P 635 / 30-015-45770
 Survey Name: Oxy Height CC 6-7 Federal Com 31Y Gyro + MWD 0-20030 MD
 Survey Date: March 27, 2019
 Tort / AHD / DDI / ERD Ratio: 237.574' / 10984.016 ft / 6.723 / 1.110
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 15' 10.35173", W 104° 1' 47.91670"
 Location Grid N/E Y/X: N 455861.880 RUS, E 635115.570 RUS
 CRS Grid Convergence Angle: 0.1619 °
 Grid Scale Factor: 0.99991916
 Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 182.032 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB=26.5ft
 TVD Reference Elevation: 2990.100 ft above MSL
 Seabed / Ground Elevation: 2963.600 ft above MSL
 Magnetic Declination: 7.042 °
 Total Gravity Field Strength: 998.4711mgN (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47928.800 nT
 Magnetic Dip Angle: 60.023 °
 Declination Date: April 15, 2019
 Magnetic Declination Model: IFR1
 North Reference: Grid North
 Grid Convergence Used: 0.1619 °
 Total Corr Mag North->Grid: 6.8801 °
 North: 6.8801 °
 Local Coord Referenced To: Well Head

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JUL 08 2019

DISTRICT II-ARTESIA O.C.D.

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 ° ' ")
RKB	0.00	0.00	181.98	0.00	0.00	0.00	0.00	N/A	455861.88	635115.57	N 32 15 10.35 W 104	1 47.92
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	455861.88	635115.57	N 32 15 10.35 W 104	1 47.92
	99.60	0.07	48.18	99.60	-0.03	0.03	0.03	0.10	455861.91	635115.60	N 32 15 10.35 W 104	1 47.92
	159.40	0.59	118.25	159.40	0.08	-0.09	0.33	0.95	455861.79	635115.90	N 32 15 10.35 W 104	1 47.91
	245.60	0.37	136.58	245.60	0.47	-0.50	0.91	0.31	455861.38	635116.48	N 32 15 10.35 W 104	1 47.91
Last Gyro	340.70	0.40	139.43	340.69	0.93	-0.98	1.34	0.04	455860.90	635116.91	N 32 15 10.34 W 104	1 47.90
	416.00	0.40	123.42	415.99	1.26	-1.32	1.73	0.15	455860.56	635117.30	N 32 15 10.34 W 104	1 47.90
	548.00	0.19	17.49	547.99	1.29	-1.37	2.18	0.37	455860.51	635117.75	N 32 15 10.34 W 104	1 47.89
	636.00	0.19	7.59	635.99	1.00	-1.08	2.24	0.04	455860.80	635117.81	N 32 15 10.34 W 104	1 47.89
	731.00	0.14	101.06	730.99	0.87	-0.95	2.38	0.26	455860.93	635117.95	N 32 15 10.34 W 104	1 47.89
	824.00	0.11	245.96	823.99	0.92	-1.01	2.41	0.26	455860.87	635117.98	N 32 15 10.34 W 104	1 47.89
	1009.00	0.16	242.42	1008.99	1.13	-1.20	2.02	0.03	455860.68	635117.59	N 32 15 10.34 W 104	1 47.89
	1193.00	0.21	25.91	1192.98	0.95	-1.02	1.94	0.19	455860.86	635117.51	N 32 15 10.34 W 104	1 47.89
	1285.00	0.23	24.03	1284.99	0.62	-0.70	2.09	0.02	455861.18	635117.66	N 32 15 10.34 W 104	1 47.89
	1378.00	0.16	9.56	1377.99	0.32	-0.40	2.18	0.09	455861.48	635117.75	N 32 15 10.35 W 104	1 47.89
	1470.00	0.16	139.23	1469.99	0.29	-0.37	2.29	0.31	455861.51	635117.86	N 32 15 10.35 W 104	1 47.89
	1563.00	0.16	187.36	1562.99	0.51	-0.60	2.36	0.14	455861.28	635117.93	N 32 15 10.35 W 104	1 47.89
	1657.00	0.21	19.79	1656.99	0.48	-0.56	2.40	0.39	455861.32	635117.97	N 32 15 10.35 W 104	1 47.89
	1752.00	0.16	122.00	1751.99	0.38	-0.47	2.57	0.30	455861.41	635118.14	N 32 15 10.35 W 104	1 47.89
	1846.00	0.21	304.83	1845.98	0.35	-0.44	2.54	0.39	455861.44	635118.11	N 32 15 10.35 W 104	1 47.89
	1941.00	0.21	329.23	1940.99	0.11	-0.19	2.31	0.09	455861.69	635117.88	N 32 15 10.35 W 104	1 47.89
	2035.00	0.14	221.15	2034.99	0.05	-0.13	2.14	0.30	455861.75	635117.71	N 32 15 10.35 W 104	1 47.89
	2130.00	0.14	304.16	2129.99	0.08	-0.15	1.97	0.20	455861.73	635117.54	N 32 15 10.35 W 104	1 47.89
	2225.00	0.38	256.36	2224.98	0.11	-0.16	1.57	0.32	455861.72	635117.14	N 32 15 10.35 W 104	1 47.90
	2319.00	0.11	219.88	2318.98	0.26	-0.30	1.21	0.32	455861.58	635116.78	N 32 15 10.35 W 104	1 47.90
	2413.00	0.11	102.30	2412.98	0.35	-0.39	1.24	0.20	455861.49	635116.81	N 32 15 10.35 W 104	1 47.90
	2508.00	0.17	327.33	2507.98	0.25	-0.29	1.25	0.27	455861.59	635116.82	N 32 15 10.35 W 104	1 47.90
	2602.00	0.16	55.23	2601.98	0.06	-0.10	1.29	0.24	455861.78	635116.86	N 32 15 10.35 W 104	1 47.90
	2697.00	0.16	182.59	2696.98	0.11	-0.16	1.39	0.30	455861.72	635116.96	N 32 15 10.35 W 104	1 47.90
	2791.00	0.19	222.56	2790.98	0.36	-0.40	1.28	0.13	455861.48	635116.85	N 32 15 10.35 W 104	1 47.90
	2886.00	0.21	227.84	2885.98	0.60	-0.64	1.04	0.03	455861.24	635116.61	N 32 15 10.35 W 104	1 47.90
	2980.00	0.19	145.18	2979.98	0.84	-0.88	1.00	0.28	455861.00	635116.57	N 32 15 10.34 W 104	1 47.91
	3169.00	0.21	41.40	3168.98	0.83	-0.88	1.41	0.17	455861.00	635116.98	N 32 15 10.34 W 104	1 47.90
	3263.00	0.24	166.32	3262.98	0.88	-0.94	1.57	0.42	455860.94	635117.14	N 32 15 10.34 W 104	1 47.90
	3357.00	0.21	340.36	3356.98	0.91	-0.97	1.56	0.48	455860.91	635117.13	N 32 15 10.34 W 104	1 47.90
	3546.00	0.15	18.70	3545.98	0.35	-0.41	1.52	0.07	455861.47	635117.09	N 32 15 10.35 W 104	1 47.90
	3640.00	0.18	291.96	3639.98	0.19	-0.24	1.43	0.24	455861.64	635117.00	N 32 15 10.35 W 104	1 47.90
	3735.00	0.21	49.40	3734.98	0.02	-0.07	1.42	0.35	455861.81	635116.99	N 32 15 10.35 W 104	1 47.90
	3829.00	0.21	196.93	3828.98	0.07	-0.12	1.50	0.43	455861.76	635117.07	N 32 15 10.35 W 104	1 47.90
	3923.00	0.16	334.60	3922.98	0.12	-0.17	1.39	0.37	455861.71	635116.96	N 32 15 10.35 W 104	1 47.90
	4018.00	0.14	313.09	4017.98	-0.08	0.03	1.25	0.06	455861.91	635116.82	N 32 15 10.35 W 104	1 47.90
	4112.00	0.18	314.43	4111.98	-0.25	0.21	1.06	0.04	455862.09	635116.82	N 32 15 10.35 W 104	1 47.90
	4301.00	0.16	332.74	4300.98	-0.68	0.66	0.73	0.03	455862.54	635116.63	N 32 15 10.35 W 104	1 47.90
	4395.00	0.16	358.31	4394.98	-0.93	0.90	0.67	0.08	455862.78	635116.30	N 32 15 10.36 W 104	1 47.91
	4584.00	0.19	224.31	4583.98	-0.96	0.94	0.44	0.17	455862.82	635116.01	N 32 15 10.36 W 104	1 47.91
	4773.00	0.19	30.49	4772.98	-1.00	0.99	0.38	0.20	455862.87	635115.95	N 32 15 10.36 W 104	1 47.91
4867.00	0.21	300.97	4866.98	-1.22	1.21	0.31	0.30	0.30	455863.09	635115.88	N 32 15 10.36 W 104	1 47.91
4961.00	0.15	100.11	4960.98	-1.29	1.28	0.28	0.38	0.38	455863.16	635115.85	N 32 15 10.36 W 104	1 47.91
5055.00	0.18	342.52	5054.98	-1.41	1.40	0.36	0.30	0.30	455863.28	635115.93	N 32 15 10.37 W 104	1 47.91
5149.00	0.21	292.64	5148.97	-1.61	1.61	0.16	0.18	0.18	455863.49	635115.73	N 32 15 10.37 W 104	1 47.91
5338.00	0.16	310.41	5337.97	-1.90	1.91	-0.36	0.04	0.04	455863.79	635115.21	N 32 15 10.37 W 104	1 47.92
5432.00	0.71	301.29	5431.97	-2.26	2.30	-0.96	0.59	0.59	455864.18	635114.61	N 32 15 10.37 W 104	1 47.93
5527.00	1.59	325.69	5526.95	-3.61	3.69	-2.21	1.04	1.04	455865.57	635113.36	N 32 15 10.39 W 104	1 47.94
5621.00	2.82	321.80	5620.88	-6.43	6.59	-4.37	1.32	1.32	455868.47	635111.20	N 32 15 10.42 W 104	1 47.97
5715.00	3.87	330.15	5714.72	-10.89	11.16	-7.38	1.23	1.23	455873.03	635108.19	N 32 15 10.46 W 104	1 48.00
5810.00	4.88	330.93	5809.44	-17.07	17.47	-10.94	1.06	1.06	455879.35	635104.63	N 32 15 10.52 W 104	1 48.04
5998.00	6.90	330.16	5996.44	-33.51	34.25	-20.45	1.08	1.08	455896.13	635095.13	N 32 15 10.69 W 104	1 48.15
6093.00	7.68	329.48	6090.67	-43.70	44.67	-26.51	0.83	0.83	455906.55	635089.06	N 32 15 10.79 W 104	1 48.22
6187.00	8.11	327.67	6183.78	-54.47	55.69	-33.24	0.53	0.53	455917.66	635082.33	N 32 15 10.90 W 104	1 48.30
6282.00	9.31	328.71	6277.68	-66.43	67.92	-40.82	1.27	1.27	455929.79	635074.75	N 32 15 11.02 W 104	1 48.39
6376.00	9.94	328.67	6370.36	-79.56	81.34	-48.99	0.67	0.67	455943.22	635066.59	N 32 15 11.16 W 104	1 48.48
6470.00	9.20	327.69	6463.05	-92.54	94.62	-57.22	0.81	0.81	455956.50	635058.35	N 32 15 11.29 W 104	1 48.58
6564.00	8.69	325.65	6555.91	-104.46	106.84	-65.25	0.64	0.64	455968.71	635050.33	N 32 15 11.41 W 104	1 48.67
6659.00	8.92	326.78	6649.79	-116.25	118.92	-73.33	0.30	0.30	455980.80	635042.25	N 32 15 11.53 W 104	1 48.77
6753.00	9.04	324.93	6742.63	-128.09	131.07	-81.57	0.33	0.33	455992.93	635034.01	N 32 15 11.65 W 104	1 48.86
6942.00	8.65	320.13	6929.39	-150.51	154.13	-99.21	0.44	0.44	456015.99	635016.37	N 32 15 11.88 W 104	1 49.07
7037.00	8.76	320.71	7023.29	-161.26	165.21	-108.37	0.15	0.15	456027.07	635007.21	N 32 15 11.99 W 104	1 49.17
7225.00	8.69	336.09	7209.14	-184.79	189.28	-123.19	1.24	1.24	456051.14	634992.39	N 32 15 12.23 W 104	1 49.34
7320.00	8.88	346.52	7303.04	-198.31	202.97	-127.81	1.69	1.69	456064.83	634987.77	N 32 15 12.36 W 104	1 49.40
7414.00	8.76	344.38	7395.92	-212.12	216.92	-131.43	0.37	0.37	456078.78	634984.15	N 32 15 12.50 W 104	1 49.44
7508.00	9.07	343.78	7488.79	-225.98	230.92	-135.43	0.34	0.34	456092.78	634980.15	N 32 15 12.64 W 104	1 49.49
7603.00	8.66	341.00	7582.65	-239.76	244.88	-139.85	0.62	0.62	456106.74	634975.73	N 32 15 12.78 W 104	1 49.54
7697.00	8.81	334.59	7675.57	-252.76	258.07	-145.24	1.05	1.05	456119.93	634970.34	N 32 15 12.91 W 104	1 49.60
7792.00	8.67	325.04	7769.47	-264.93	270.51	-152.46	1.53	1.53	456132.37	634963.12	N 32 15 13.03 W 104	1 49.68
7886.00	8.81	321.81	7862.38	-276.09	281.97	-160.97	0.54					

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
	8263.00	8.74	328.81	8234.66	-326.54	333.40	-187.43	1.71	456195.25	634928.16	N 32 15 13.66 W 104	150.09
	8358.00	9.14	325.71	8328.70	-338.66	345.81	-195.42	0.66	456207.66	634920.17	N 32 15 13.78 W 104	150.18
	8452.00	8.87	325.66	8421.54	-350.51	357.96	-203.71	0.29	456219.81	634911.87	N 32 15 13.90 W 104	150.28
	8547.00	8.88	328.40	8515.41	-362.51	370.25	-211.69	0.45	456232.10	634903.90	N 32 15 14.02 W 104	150.37
	8641.00	9.27	330.59	8608.23	-375.01	383.03	-219.21	0.55	456244.88	634896.38	N 32 15 14.15 W 104	150.46
	8735.00	9.20	327.70	8701.01	-387.68	395.97	-226.94	0.50	456257.82	634888.65	N 32 15 14.28 W 104	150.55
	8830.00	9.19	318.57	8794.80	-399.46	408.08	-236.02	1.53	456269.93	634879.57	N 32 15 14.40 W 104	150.65
	8924.00	9.46	313.45	8887.56	-410.01	419.02	-246.59	0.93	456280.87	634869.00	N 32 15 14.50 W 104	150.77
	9019.00	9.28	306.65	8981.29	-419.53	428.96	-258.41	1.18	456290.81	634857.19	N 32 15 14.60 W 104	150.91
	9113.00	9.41	300.92	9074.05	-427.55	437.44	-271.08	1.00	456299.28	634844.51	N 32 15 14.69 W 104	151.06
	9158.00	9.42	297.20	9118.44	-430.89	441.01	-277.51	1.35	456302.85	634838.08	N 32 15 14.72 W 104	151.13
	9201.00	9.34	293.98	9160.87	-433.69	444.04	-283.83	1.23	456305.88	634831.77	N 32 15 14.75 W 104	151.21
	9296.00	17.23	255.48	9253.41	-432.56	443.64	-304.56	12.06	456305.49	634811.03	N 32 15 14.75 W 104	151.45
	9391.00	24.14	237.34	9342.32	-417.46	429.60	-334.60	9.84	456291.44	634780.99	N 32 15 14.61 W 104	151.80
100' FNL Crossing	9427.00	25.51	237.81	9375.00	-408.91	421.50	-347.36	3.86	456283.34	634768.24	N 32 15 14.53 W 104	151.95
	9486.00	27.77	238.49	9427.73	-394.17	407.54	-369.84	3.86	456269.39	634745.76	N 32 15 14.39 W 104	152.21
	9580.00	31.34	221.44	9509.63	-363.12	377.71	-404.76	9.68	456239.56	634710.84	N 32 15 14.10 W 104	152.62
Exit Target Box	9675.00	36.45	189.37	9589.09	-315.63	330.94	-425.89	19.37	456182.79	634689.72	N 32 15 13.84 W 104	152.87
Enter Target Box	9722.00	38.22	182.36	9626.48	-287.23	302.62	-428.76	9.79	456164.48	634686.84	N 32 15 13.36 W 104	152.90
	9760.00	39.94	177.12	9655.98	-263.31	278.69	-428.63	9.79	456140.54	634686.97	N 32 15 13.12 W 104	152.90
Wolfcamp Intersection	9770.00	40.43	175.81	9663.62	-256.89	272.25	-428.24	9.79	456134.10	634687.37	N 32 15 13.06 W 104	152.89
	9774.44	40.59	175.80	9667.00	-254.02	269.37	-428.03	3.63	456131.23	634687.58	N 32 15 13.03 W 104	152.89
	9865.00	43.87	175.53	9734.04	-193.54	208.69	-423.42	3.63	456070.55	634692.19	N 32 15 12.43 W 104	152.84
	9959.00	52.68	172.60	9796.55	-124.16	139.00	-416.05	9.65	456000.87	634699.55	N 32 15 11.74 W 104	152.76
	10054.00	66.96	173.18	9844.19	-43.29	57.72	-405.94	15.04	455919.59	634709.66	N 32 15 10.93 W 104	152.64
	10149.00	73.44	175.15	9876.35	45.21	-31.15	-396.89	7.09	455830.73	634718.71	N 32 15 10.05 W 104	152.54
	10243.00	83.97	177.37	9894.74	136.79	-123.00	-390.92	11.44	455738.89	634724.68	N 32 15 9.15 W 104	152.47
	10338.00	90.31	174.72	9899.48	231.10	-217.60	-384.37	7.23	455644.30	634731.23	N 32 15 8.21 W 104	152.40
	10407.00	90.75	176.38	9898.84	299.65	-286.39	-379.02	2.49	455575.52	634736.58	N 32 15 7.53 W 104	152.34
	10501.00	90.30	177.17	9897.98	393.25	-380.23	-373.73	0.97	455481.68	634741.87	N 32 15 6.60 W 104	152.28
	10584.00	90.13	178.11	9897.63	485.97	-473.15	-369.90	1.03	455388.77	634745.70	N 32 15 5.68 W 104	152.24
	10688.00	90.30	180.49	9897.28	579.86	-567.15	-368.75	2.54	455294.79	634746.85	N 32 15 4.75 W 104	152.23
	10781.00	91.30	182.83	9895.98	672.84	-660.08	-371.45	2.74	455201.85	634744.15	N 32 15 3.83 W 104	152.26
	10874.00	91.64	182.87	9893.59	765.80	-752.94	-376.07	0.37	455109.00	634739.53	N 32 15 2.91 W 104	152.32
	10969.00	91.54	183.17	9890.96	860.75	-847.77	-381.07	0.33	455014.18	634734.53	N 32 15 1.97 W 104	152.38
	11064.00	91.81	182.96	9888.72	955.71	-942.61	-386.15	0.46	454919.35	634729.45	N 32 15 1.04 W 104	152.44
	11159.00	90.92	182.32	9886.26	1050.67	-1037.47	-390.53	0.96	454824.49	634725.08	N 32 15 0.10 W 104	152.50
	11253.00	90.44	182.99	9884.02	1144.64	-1131.34	-394.88	1.18	454730.63	634720.72	N 32 15 59.17 W 104	152.55
	11348.00	90.44	180.91	9882.89	1239.62	-1226.28	-398.11	2.25	454635.70	634717.49	N 32 14 58.23 W 104	152.59
	11433.00	90.13	181.56	9882.47	1324.61	-1311.26	-399.94	0.85	454550.73	634715.66	N 32 14 57.39 W 104	152.62
	11537.00	91.33	180.99	9881.14	1428.59	-1415.22	-402.26	1.28	454446.78	634713.35	N 32 14 56.36 W 104	152.65
	11632.00	90.85	181.19	9879.33	1523.56	-1510.18	-404.06	0.55	454351.82	634711.54	N 32 14 55.42 W 104	152.67
	11727.00	90.09	180.94	9878.55	1618.55	-1605.16	-405.83	0.84	454256.85	634709.77	N 32 14 54.48 W 104	152.69
	11822.00	90.40	180.44	9878.15	1713.52	-1700.16	-406.97	0.62	454161.87	634708.63	N 32 14 53.54 W 104	152.71
	12010.00	90.71	181.09	9876.33	1901.46	-1888.13	-409.48	0.38	453973.91	634706.12	N 32 14 51.68 W 104	152.75
	12106.00	89.85	180.14	9875.86	1997.43	-1884.12	-410.51	1.33	453877.92	634705.09	N 32 14 50.73 W 104	152.76
	12295.00	89.06	179.29	9877.66	2186.26	-2173.11	-409.57	0.61	453688.95	634706.03	N 32 14 48.86 W 104	152.76
	12485.00	89.68	179.11	9879.74	2376.02	-2363.08	-406.92	0.34	453499.00	634708.68	N 32 14 46.98 W 104	152.73
	12580.00	89.16	179.87	9880.71	2470.92	-2458.07	-406.08	0.97	453404.02	634709.53	N 32 14 46.04 W 104	152.73
	12675.00	89.90	180.53	9881.49	2565.87	-2553.06	-406.41	1.04	453309.03	634709.20	N 32 14 45.10 W 104	152.73
	12770.00	89.00	180.47	9882.40	2660.83	-2648.05	-407.24	0.95	453214.05	634708.37	N 32 14 44.16 W 104	152.75
	12865.00	89.62	179.61	9883.54	2755.76	-2743.04	-407.30	1.12	453119.06	634708.30	N 32 14 43.22 W 104	152.75
	12960.00	88.86	179.67	9884.80	2850.67	-2838.03	-406.71	0.80	453024.08	634708.90	N 32 14 42.28 W 104	152.75
	13055.00	88.76	178.75	9886.77	2945.53	-2933.00	-405.40	0.97	452929.12	634710.21	N 32 14 41.34 W 104	152.73
	13150.00	89.31	177.50	9888.37	3040.30	-3027.94	-402.29	1.44	452834.20	634713.31	N 32 14 40.40 W 104	152.70
	13245.00	89.93	177.11	9889.00	3134.97	-3122.83	-397.82	0.77	452739.31	634717.78	N 32 14 39.46 W 104	152.65
	13340.00	90.31	178.00	9888.81	3229.68	-3217.74	-393.77	1.02	452644.41	634721.83	N 32 14 38.52 W 104	152.61
	13530.00	90.38	177.54	9887.66	3419.15	-3407.59	-386.38	0.24	452454.57	634729.23	N 32 14 36.64 W 104	152.53
	13624.00	90.45	178.66	9886.98	3512.92	-3501.54	-383.26	1.19	452360.63	634732.34	N 32 14 35.71 W 104	152.49
	13719.00	92.75	178.09	9884.33	3607.69	-3596.45	-380.57	2.49	452265.72	634735.03	N 32 14 34.78 W 104	152.47
	13814.00	89.97	177.83	9882.07	3702.41	-3691.36	-377.19	2.94	452170.83	634738.41	N 32 14 33.84 W 104	152.43
	13909.00	88.66	177.93	9883.21	3797.15	-3786.28	-373.67	1.38	452075.91	634741.93	N 32 14 32.90 W 104	152.39
	14098.00	91.07	178.87	9883.65	3895.76	-3975.19	-368.40	1.37	451887.02	634747.20	N 32 14 31.03 W 104	152.34
	14193.00	91.11	179.24	9881.85	4080.61	-4165.13	-366.83	0.39	451792.05	634748.77	N 32 14 30.09 W 104	152.32
	14288.00	91.83	179.48	9879.41	4175.48	-4250.08	-365.77	0.80	451697.10	634749.83	N 32 14 29.15 W 104	152.31
	14383.00	91.62	179.73	9876.55	4270.35	-4344.02	-365.11	0.34	451602.15	634750.49	N 32 14 28.21 W 104	152.31
	14572.00	91.21	180.55	9871.88	4459.19	-4543.99	-365.58	0.48	451413.23	634750.02	N 32 14 26.34 W 104	152.32
	14667.00	91.18	180.70	9869.90	4554.14	-4638.96	-366.81	0.16	451318.26	634748.99	N 32 14 25.40 W 104	152.33
	14856.00	90.32	180.23	9867.43	4743.05	-4732.97	-368.15	0.52	451129.30	634747.45	N 32 14 23.53 W 104	152.36
	14951.00	89.90	180.10	9867.25	4838.00	-4827.97	-368.42	0.46	451034.31	634747.18	N 32 14 22.59 W 104	152.36
	15045.00	90.15	179.98	9867.21	4931.94	-4921.97	-368.48	0.30	450940.32	634747.12	N 32 14 21.66 W 104	152.37
	15140.00	90.45	180.38	9866.71	5026.89	-5016.97	-368.78	0.53	450845.33	634746.82	N 32 14 20.72 W 104	152.38
	15235.00	90.46	181.22	9865.95	5121.86	-5111.95	-370.11	0.88	450750.35	634745.49	N 32 14 19.78 W 104	152.39
	15423.00	89.29	180.43	9866.36	5309.82	-5299.93	-372.82	0.75	450562.39	634742.78	N 32 14 17.92 W 104	152.43
	15613.00	89.29	180.50	9868.72	5499.73	-5489.91	-374.36	0.04	450372.43	634741.24	N 32 14 16.04 W 104	152.46
	15707.00	89.49	180.93	9869.72	5593.70	-5583.89	-375.53	0.50	450278.45	634740.07	N 32 14 15.11 W 104	152.47
	15801.00	89.59	181.07	9870.47	5687.68	-5677.88	-377.17	0.18	450184.47	634738.43	N 32 14 14.18 W 10	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	18929.00	89.84	178.93	9866.30	8810.60	-8804.59	-325.67	1.37	447058.02	634789.93	N 32 13 43.24	W 104 1 52.00
	19023.00	90.08	180.25	9866.37	8904.51	-8898.58	-325.00	1.43	448964.04	634790.60	N 32 13 42.31	W 104 1 51.99
	19212.00	89.39	181.48	9867.24	9093.46	-9087.55	-327.85	0.75	448775.08	634787.75	N 32 13 40.44	W 104 1 52.03
	19306.00	89.08	181.59	9868.50	9187.45	-9181.51	-330.37	0.35	448681.13	634785.23	N 32 13 39.51	W 104 1 52.06
	19496.00	89.11	181.74	9871.50	9377.42	-9371.41	-335.89	0.08	448491.25	634779.71	N 32 13 37.63	W 104 1 52.13
	19591.00	89.87	181.81	9872.34	9472.42	-9466.36	-338.83	0.80	448396.31	634776.77	N 32 13 36.69	W 104 1 52.17
	19780.00	89.42	182.03	9873.51	9661.41	-9655.25	-345.16	0.27	448207.43	634770.44	N 32 13 34.82	W 104 1 52.25
	19875.00	90.39	183.03	9873.67	9756.41	-9750.15	-349.36	1.47	448112.54	634766.24	N 32 13 33.88	W 104 1 52.30
340' FSL Crossing	19921.82	90.42	182.44	9873.34	9803.22	-9796.92	-351.59	1.26	448065.78	634764.01	N 32 13 33.42	W 104 1 52.33
	19969.00	90.46	181.85	9872.97	9850.40	-9844.06	-353.36	1.26	448018.63	634762.24	N 32 13 32.95	W 104 1 52.35
Last Survey	19989.00	89.87	182.28	9872.92	9870.40	-9864.05	-354.08	3.65	445998.65	634761.52	N 32 13 32.76	W 104 1 52.36
Proj. to Bit	20030.00	89.87	182.28	9873.01	9911.40	-9905.02	-355.71	0.00	445957.68	634759.89	N 32 13 32.35	W 104 1 52.38

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 Height CC 6-7 Federal Com 31Y Gyro + MWD 0-20030'MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Height CC 6-7 Federal Com 31Y Gyro + MWD 0-20030'MD
	1	26.500	416.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Height CC 6-7 Federal Com 31Y Gyro +
	1	416.000	12580.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Height CC 6-7 Federal Com 31Y Gyro +
	1	12580.000	13909.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Height CC 6-7 Federal Com 31Y Gyro +
	1	13909.000	20030.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Height CC 6-7 Federal Com 31Y Gyro +

...Original Borehole/Oxy Height CC 6-7 Federal Com 31Y Gyro + MWD 0-20030'MD