

Oxy Height CC 6-7 Federal Com 33H Gyro + MWD 0-20010'MD Survey Geodetic Report (Def Survey)



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Report Date: May 20, 2019 - 12:09 PM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Height CC 6-7 Federal Com 33H / Oxy Height CC 6-7 Federal Com 33H
Well: Oxy Height CC 6-7 Federal Com 33H
Borehole: Original Borehole
UWI / API#: Unknown / 30-015-45561
Survey Name: Oxy Height CC 6-7 Federal Com 33H Gyro + MWD 0-20010'MD
Survey Date: March 22, 2019
Tort / AHD / ODI / ERD Ratio: 253.851' / 10611.060 ft / 6.735' / 1.071
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 15' 13.05131", W 104° 1' 29.02405"
Location Grid N/E Y/X: N 456139.300 ftUS, E 636737.120 ftUS
CRS Grid Convergence Angle: 0.1647°
Grid Scale Factor: 0.99991951
Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 180.915° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=26.5'
TVD Reference Elevation: 2984.700 ft above MSL
Seabed / Ground Elevation: 2958.200 ft above MSL
Magnetic Declination: 7.031°
Total Gravity Field Strength: 998.4714mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47924.600 nT
Magnetic Dip Angle: 60.021°
Declination Date: May 02, 2019
Magnetic Declination Model: IFR1
North Reference: Grid North
Grid Convergence Used: 0.1647°
Total Corr Mag North->Grid: 6.8663°
North: 6.8663°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
RKB	0.00	0.00	305.00	0.00	0.00	0.00	0.00	N/A	456139.30	636737.12	N 32 15 13.05 W 104	1 29 02
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	456139.30	636737.12	N 32 15 13.05 W 104	1 29 02
	117.80	0.47	272.71	117.80	-0.01	0.02	-0.37	0.51	456139.32	636736.75	N 32 15 13.05 W 104	1 29 03
	190.10	0.34	253.37	190.10	0.04	-0.03	-0.88	0.26	456139.27	636736.24	N 32 15 13.05 W 104	1 29 03
Last Gyro	352.60	0.10	302.78	352.60	0.11	-0.09	-1.46	0.18	456139.21	636735.66	N 32 15 13.05 W 104	1 29 04
	443.80	0.66	312.07	443.79	-0.27	0.30	-1.91	0.62	456139.60	636735.21	N 32 15 13.05 W 104	1 29 05
	473.00	0.56	316.43	472.99	-0.49	0.52	-2.14	0.38	456139.82	636734.98	N 32 15 13.06 W 104	1 29 05
	567.00	0.12	28.31	566.99	-0.90	0.94	-2.41	0.57	456140.24	636734.71	N 32 15 13.06 W 104	1 29 05
	661.00	0.16	318.99	660.99	-1.09	1.13	-2.45	0.17	456140.43	636734.67	N 32 15 13.06 W 104	1 29 05
	755.00	0.14	356.25	754.99	-1.30	1.34	-2.54	0.10	456140.64	636734.58	N 32 15 13.06 W 104	1 29 05
	934.00	0.12	302.49	933.99	-1.61	1.66	-2.71	0.07	456140.96	636734.41	N 32 15 13.07 W 104	1 29 06
	1028.00	0.19	341.24	1027.99	-1.81	1.86	-2.85	0.13	456141.16	636734.27	N 32 15 13.07 W 104	1 29 06
	1122.00	0.14	323.49	1121.99	-2.05	2.10	-2.96	0.08	456141.40	636734.16	N 32 15 13.07 W 104	1 29 06
	1216.00	0.20	33.80	1215.99	-2.28	2.33	-2.94	0.21	456141.63	636734.18	N 32 15 13.07 W 104	1 29 06
	1310.00	0.18	224.42	1309.99	-2.31	2.36	-2.95	0.40	456141.66	636734.17	N 32 15 13.07 W 104	1 29 06
	1404.00	0.20	0.69	1403.99	-2.37	2.42	-3.05	0.38	456141.72	636734.07	N 32 15 13.08 W 104	1 29 06
	1499.00	0.19	337.87	1498.99	-2.68	2.73	-3.11	0.08	456142.03	636734.01	N 32 15 13.08 W 104	1 29 06
	1592.00	0.12	314.42	1591.99	-2.89	2.94	-3.24	0.10	456142.24	636733.88	N 32 15 13.08 W 104	1 29 06
	1688.00	0.15	26.50	1687.99	-3.07	3.12	-3.26	0.17	456142.42	636733.86	N 32 15 13.08 W 104	1 29 06
	1782.00	0.06	226.18	1781.99	-3.15	3.20	-3.24	0.22	456142.50	636733.88	N 32 15 13.08 W 104	1 29 06
	1876.00	0.17	299.68	1875.99	-3.18	3.23	-3.39	0.17	456142.53	636733.73	N 32 15 13.08 W 104	1 29 06
	1971.00	0.18	303.57	1970.99	-3.33	3.39	-3.64	0.02	456142.68	636733.48	N 32 15 13.08 W 104	1 29 07
	2065.00	0.23	315.64	2064.99	-3.54	3.60	-3.89	0.07	456142.90	636733.23	N 32 15 13.09 W 104	1 29 07
	2159.00	0.13	302.83	2158.99	-3.73	3.79	-4.12	0.11	456143.09	636733.00	N 32 15 13.09 W 104	1 29 07
	2254.00	0.17	204.40	2253.98	-3.66	3.72	-4.26	0.24	456143.02	636732.86	N 32 15 13.09 W 104	1 29 07
	2348.00	0.15	333.38	2347.98	-3.64	3.71	-4.38	0.31	456143.01	636732.74	N 32 15 13.09 W 104	1 29 07
	2442.00	0.19	98.03	2441.98	-3.73	3.80	-4.28	0.32	456143.10	636732.84	N 32 15 13.09 W 104	1 29 07
	2633.00	0.05	242.35	2632.98	-3.65	3.71	-4.04	0.12	456143.01	636733.08	N 32 15 13.09 W 104	1 29 07
	2728.00	0.08	114.22	2727.98	-3.60	3.67	-4.01	0.12	456142.97	636733.11	N 32 15 13.09 W 104	1 29 07
	2822.00	0.20	196.92	2821.98	-3.42	3.48	-4.00	0.22	456142.78	636733.12	N 32 15 13.09 W 104	1 29 07
	3012.00	0.07	257.61	3011.98	-3.07	3.14	-4.21	0.09	456142.44	636732.91	N 32 15 13.08 W 104	1 29 07
	3201.00	0.16	4.78	3200.98	-3.31	3.38	-4.30	0.10	456142.68	636732.82	N 32 15 13.08 W 104	1 29 07
	3296.00	0.15	329.03	3295.98	-3.55	3.62	-4.36	0.10	456142.92	636732.76	N 32 15 13.09 W 104	1 29 07
	3390.00	0.16	3.73	3389.98	-3.78	3.85	-4.41	0.10	456143.15	636732.71	N 32 15 13.09 W 104	1 29 08
	3581.00	0.18	320.89	3580.98	-4.28	4.35	-4.58	0.07	456143.65	636732.54	N 32 15 13.09 W 104	1 29 08
	3781.00	0.11	0.01	3780.98	-4.71	4.79	-4.78	0.06	456144.09	636732.34	N 32 15 13.10 W 104	1 29 08
	3965.00	0.12	129.88	3964.98	-4.77	4.84	-4.63	0.11	456144.14	636732.49	N 32 15 13.10 W 104	1 29 08
	4059.00	0.12	152.36	4058.98	-4.62	4.69	-4.51	0.05	456143.99	636732.61	N 32 15 13.10 W 104	1 29 08
	4153.00	0.04	147.60	4152.98	-4.50	4.58	-4.45	0.09	456143.88	636732.67	N 32 15 13.10 W 104	1 29 08
	4342.00	0.15	210.91	4341.98	-4.24	4.31	-4.54	0.07	456143.61	636732.58	N 32 15 13.09 W 104	1 29 08
	4438.00	0.13	241.24	4437.98	-4.07	4.15	-4.70	0.08	456143.45	636732.42	N 32 15 13.09 W 104	1 29 08
	4627.00	0.03	320.81	4626.98	-4.00	4.08	-4.92	0.07	456143.38	636732.20	N 32 15 13.09 W 104	1 29 08
	4816.00	0.06	164.95	4815.98	-3.95	4.03	-4.93	0.05	456143.33	636732.20	N 32 15 13.09 W 104	1 29 08
	4911.00	0.03	115.40	4910.98	-3.89	3.97	-4.89	0.05	456143.27	636732.23	N 32 15 13.09 W 104	1 29 08
	5011.00	0.05	317.70	5010.98	-3.91	3.99	-4.90	0.08	456143.29	636732.22	N 32 15 13.09 W 104	1 29 08
	5105.00	0.02	292.81	5104.98	-3.95	4.03	-4.94	0.04	456143.32	636732.18	N 32 15 13.09 W 104	1 29 08
	5200.00	0.02	236.99	5199.98	-3.94	4.02	-4.97	0.02	456143.32	636732.15	N 32 15 13.09 W 104	1 29 08
	5294.00	0.01	340.85	5293.98	-3.94	4.02	-4.98	0.03	456143.32	636732.14	N 32 15 13.09 W 104	1 29 08
	5484.00	0.05	10.86	5483.98	-4.04	4.12	-4.97	0.02	456143.42	636732.15	N 32 15 13.09 W 104	1 29 08
	5579.00	0.11	266.21	5578.98	-4.07	4.15	-5.06	0.14	456143.45	636732.06	N 32 15 13.09 W 104	1 29 08
	5673.00	0.08	28.09	5672.98	-4.12	4.21	-5.12	0.18	456143.50	636732.00	N 32 15 13.09 W 104	1 29 08
	5768.00	0.04	197.07	5767.98	-4.15	4.23	-5.09	0.13	456143.53	636732.03	N 32 15 13.09 W 104	1 29 08
	5862.00	0.03	355.51	5861.98	-4.14	4.23	-5.11	0.07	456143.52	636732.01	N 32 15 13.09 W 104	1 29 08
	5956.00	0.05	239.76	5955.98	-4.15	4.23	-5.14	0.07	456143.53	636731.98	N 32 15 13.09 W 104	1 29 08
	6051.00	0.13	293.52	6050.98	-4.17	4.25	-5.28	0.11	456143.55	636731.84	N 32 15 13.09 W 104	1 29 09
	6145.00	0.02	116.43	6144.98	-4.20	4.29	-5.36	0.16	456143.59	636731.76	N 32 15 13.09 W 104	1 29 09
	6240.00	0.06	146.94	6239.98	-4.15	4.24	-5.32	0.05	456143.54	636731.80	N 32 15 13.09 W 104	1 29 09
	6429.00	0.11	267.27	6428.98	-4.06	4.15	-5.45	0.08	456143.45	636731.67	N 32 15 13.09 W 104	1 29 09
	6618.00	0.06	307.48	6617.98	-4.11	4.20	-5.71	0.04	456143.50	636731.41	N 32 15 13.09 W 104	1 29 09
	6807.00	0.19	85.86	6806.98	-4.19	4.28	-5.47	0.13	456143.58	636731.65	N 32 15 13.09 W 104	1 29 09
	6901.00	0.17	51.93	6900.98	-4.29	4.38	-5.21	0.11	456143.68	636731.91	N 32 15 13.09 W 104	1 29 08
	6996.00	0.15	32.18	6995.98	-4.49	4.57	-5.03	0.06	456143.87	636732.09	N 32 15 13.10 W 104	1 29 08
	7090.00	0.18	220.36	7089.98	-4.48	4.56	-5.06	0.35	456143.86	636732.06	N 32 15 13.10 W 104	1 29 08
	7185.00	0.18	347.50	7184.98	-4.51	4.59	-5.19	0.34	456143.89	636731.93	N 32 15 13.10 W 104	1 29 08
	7373.00	0.62	324.59	7372.97	-5.62	5.71	-5.84	0.24	456145.01	636731.28	N 32 15 13.11 W 104	1 29 09
	7468.00	1.53	321.26	7467.96	-7.01	7.12	-6.93	0.96	456146.42	636730.19	N 32 15 13.12 W 104	1 29 10
	7562.00	2.38	332.04	7561.90	-9.68	9.82	-8.63	0.98	456149.12	636728.49	N 32 15 13.15 W 104	1 29 12
	7656.00	2.66	336.61	7655.81	-13.38	13.55	-10.41	0.37	456152.85	636726.71	N 32 15 13.19 W 104	1 29 14
	7751.00	2.26	337.18	7750.72	-17.10	17.30	-12.02	0.42	456156.60	636725.10	N 32 15 13.22 W 104	1 29 16
	7846.00	2.81	342.25	7845.63	-21.02	21.24	-13.45	0.62	456160.54	636723.67	N 32 15 13.26 W 104	1 29 18
	7941.00	4.13	330.73	7940.45	-26.19	26.44	-15.84	1.56	456165.74	636721.29	N 32 15 13.31 W 104	1 29 21
	8035.00	3.90	332.13	8034.22	-31.92	32.22	-18.98	0.27	456171.52	636718.14	N 32 15 13.37 W 104	1 29 24
	8224.00	5.90	317.82	8222.53	-44.64	45.10	-28.51	1.23	456184.40	636708.61	N 32 15 13.50 W 104	1 29 35
	8412.00	8.66	311.32	8409.00	-60.88	61.51	-45.63	1.53	456200.91	636691.49	N 32 15 13.66 W 104	1 29 55
	8507.00	9.03	310.17	8502.87	-70.23	71.14	-56.70	0.43	456210.44	636680.42	N 32 15 13.76 W 104	1 29 68
	8601.00	9.98	315.03	8595.58	-80.57	81.67	-68.10					

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 ° ' ")
KOP Actual	8884.00	9.69	343.32	8874.69	-119.50	120.99	-92.40	1.75	456260.28	636644.73	N 32 15 14.25 W 104	1 30.10
	8978.00	10.32	340.46	8967.26	-134.83	136.50	-97.48	0.85	456275.79	636639.65	N 32 15 14.40 W 104	1 30.15
	9073.00	10.05	330.33	9060.77	-150.04	151.73	-104.43	1.90	456291.01	636632.70	N 32 15 14.56 W 104	1 30.24
	9108.00	9.86	324.64	9095.24	-155.08	155.82	-107.68	2.86	456296.11	636629.45	N 32 15 14.61 W 104	1 30.27
	9173.00	9.87	325.83	9159.28	-164.13	165.97	-114.03	0.31	456305.26	636623.10	N 32 15 14.70 W 104	1 30.35
	9268.00	9.66	293.46	9252.98	-173.86	175.89	-125.92	5.71	456315.17	636611.21	N 32 15 14.80 W 104	1 30.48
	9363.00	14.86	262.79	9345.87	-175.19	177.54	-145.35	8.59	456316.82	636591.78	N 32 15 14.81 W 104	1 30.71
	9458.00	20.12	226.92	9436.70	-162.08	164.80	-169.46	12.36	456304.09	636567.68	N 32 15 14.69 W 104	1 30.99
	9552.00	27.06	199.02	9523.06	-130.39	133.41	-188.31	13.80	456272.70	636548.82	N 32 15 14.38 W 104	1 31.21
	9557.00	27.61	198.70	9527.50	-128.20	131.24	-189.06	11.42	456270.53	636548.08	N 32 15 14.36 W 104	1 31.22
100' FNL Crossed	9647.00	37.64	194.49	9603.21	-81.51	84.75	-202.66	11.42	456224.04	636534.48	N 32 15 13.90 W 104	1 31.38
	9742.00	42.75	194.42	9675.75	-21.92	25.40	-217.95	5.38	456164.70	636519.18	N 32 15 13.31 W 104	1 31.56
Wolfcamp Intersection	9749.15	42.76	193.58	9681.00	-17.19	20.69	-219.13	7.95	456159.99	636518.01	N 32 15 13.26 W 104	1 31.57
	9836.00	43.36	183.50	9744.53	41.43	-37.80	-227.88	7.95	456101.50	636509.26	N 32 15 12.68 W 104	1 31.68
	9930.00	48.97	181.27	9809.62	109.18	-105.51	-230.64	6.21	456033.80	636506.50	N 32 15 12.01 W 104	1 31.71
	10023.00	61.88	179.99	9862.28	185.59	-181.92	-231.42	13.93	455997.40	636505.72	N 32 15 11.26 W 104	1 31.72
	10117.00	74.67	177.78	9897.01	272.67	-269.04	-229.64	13.78	455870.29	636507.49	N 32 15 10.40 W 104	1 31.71
	10210.00	88.78	177.21	9910.36	364.30	-360.75	-225.62	15.18	455778.58	636511.51	N 32 15 9.49 W 104	1 31.66
	10274.00	89.71	177.14	9911.20	428.16	-424.66	-222.47	1.46	455714.67	636514.67	N 32 15 8.86 W 104	1 31.63
	10314.00	90.39	176.68	9911.17	468.06	-464.60	-220.31	2.05	455674.73	636516.82	N 32 15 8.46 W 104	1 31.60
	10409.00	90.22	178.13	9910.66	562.88	-559.50	-216.01	1.54	455579.94	636521.12	N 32 15 7.52 W 104	1 31.56
	10503.00	90.56	179.66	9910.02	656.82	-653.48	-214.20	1.67	455485.87	636524.30	N 32 15 6.59 W 104	1 31.54
	10598.00	90.25	178.69	9909.35	751.77	-748.47	-212.83	1.07	455390.89	636526.68	N 32 15 4.71 W 104	1 31.53
	10693.00	90.87	178.45	9908.42	846.68	-843.43	-210.46	0.70	455295.94	636530.35	N 32 15 3.77 W 104	1 31.46
	10788.00	91.32	177.12	9906.61	941.52	-938.34	-206.79	1.48	455201.04	636535.37	N 32 15 2.84 W 104	1 31.41
	10882.00	90.49	176.75	9905.12	1035.28	-1032.19	-201.77	0.97	455107.19	636541.14	N 32 15 1.91 W 104	1 31.34
	10977.00	90.49	176.28	9904.31	1130.00	-1127.02	-195.99	0.49	455012.38	636546.94	N 32 15 0.97 W 104	1 31.28
	11072.00	90.22	176.72	9903.72	1224.72	-1221.84	-190.19	0.54	454917.57	636553.60	N 32 15 0.04 W 104	1 31.21
	11166.00	87.91	175.16	9905.25	1318.34	-1315.58	-183.54	2.97	454823.83	636560.86	N 32 14 59.11 W 104	1 31.12
	11260.00	89.29	175.97	9907.55	1411.90	-1409.27	-176.27	1.70	454730.15	636565.39	N 32 14 57.23 W 104	1 31.07
	11355.00	92.04	178.60	9906.45	1506.69	-1504.14	-171.77	4.01	454635.29	636564.53	N 32 14 56.30 W 104	1 31.08
	11450.00	92.01	181.25	9903.09	1601.60	-1599.07	-171.65	2.79	454540.36	636568.28	N 32 14 55.36 W 104	1 31.09
	11544.00	90.29	179.91	9901.20	1695.58	-1693.04	-172.60	2.32	454446.40	636566.61	N 32 14 54.42 W 104	1 31.07
	11639.00	91.46	179.19	9899.75	1790.54	-1788.02	-171.85	1.45	454351.43	636566.92	N 32 14 53.49 W 104	1 31.07
	11734.00	90.67	179.21	9897.99	1885.48	-1883.00	-170.53	0.83	454256.46	636561.68	N 32 14 52.56 W 104	1 31.14
	11828.00	90.84	180.41	9896.75	1979.45	-1976.98	-170.22	1.29	454162.48	636551.25	N 32 14 51.62 W 104	1 31.28
	11923.00	89.70	185.91	9896.30	2074.34	-2071.80	-175.45	5.91	454067.67	636541.07	N 32 14 50.69 W 104	1 31.38
	12018.00	90.73	186.70	9895.94	2168.92	-2166.22	-185.88	1.37	453973.25	636532.81	N 32 14 49.75 W 104	1 31.48
	12113.00	90.77	185.61	9894.70	2263.51	-2260.67	-196.07	1.15	453878.82	636526.09	N 32 14 48.81 W 104	1 31.56
	12208.00	89.94	184.36	9894.11	2358.26	-2355.30	-204.32	1.58	453784.19	636520.45	N 32 14 47.89 W 104	1 31.63
	12303.00	90.19	183.76	9894.00	2453.12	-2450.06	-211.05	0.68	453689.44	636520.45	N 32 14 46.95 W 104	1 31.68
	12397.00	89.91	183.12	9893.92	2547.03	-2543.89	-216.69	0.74	453595.62	636516.31	N 32 14 46.01 W 104	1 31.72
	12492.00	89.50	181.87	9894.41	2641.99	-2638.80	-220.82	1.38	453500.72	636513.80	N 32 14 45.08 W 104	1 31.73
	12587.00	89.26	181.16	9895.44	2736.98	-2733.76	-223.34	0.79	453405.76	636512.49	N 32 14 44.14 W 104	1 31.73
	12681.00	89.23	180.44	9896.68	2830.97	-2827.74	-224.65	0.77	453311.79	636512.83	N 32 14 43.20 W 104	1 31.72
	12776.00	89.02	179.15	9898.13	2925.94	-2922.73	-224.31	1.38	453216.81	636514.58	N 32 14 42.26 W 104	1 31.70
	12871.00	88.81	178.74	9899.93	3020.86	-3017.70	-222.56	0.48	453121.85	636516.60	N 32 14 41.32 W 104	1 31.68
	12966.00	90.22	178.77	9900.73	3115.79	-3112.67	-220.50	1.48	453026.89	636520.72	N 32 14 40.39 W 104	1 31.65
	13061.00	89.98	178.87	9900.57	3210.73	-3207.65	-218.54	0.27	452931.92	636522.79	N 32 14 39.45 W 104	1 31.63
	13155.00	89.78	178.54	9900.76	3304.66	-3301.62	-216.41	0.41	452837.95	636524.41	N 32 14 38.51 W 104	1 31.62
	13250.00	89.71	178.97	9901.19	3399.59	-3396.60	-214.35	0.46	452742.98	636526.57	N 32 14 37.57 W 104	1 31.60
	13345.00	90.02	179.07	9901.41	3494.54	-3491.59	-212.73	0.34	452648.00	636529.87	N 32 14 36.64 W 104	1 31.56
	13440.00	88.98	178.33	9902.24	3589.46	-3586.56	-210.57	1.34	452553.04	636534.30	N 32 14 35.70 W 104	1 31.51
	13534.00	89.47	177.64	9903.51	3683.33	-3680.49	-207.27	0.90	452459.12	636539.59	N 32 14 34.76 W 104	1 31.45
	13629.00	90.22	177.02	9903.77	3778.14	-3775.38	-202.84	1.02	452364.23	636545.64	N 32 14 33.82 W 104	1 31.39
	13724.00	89.57	176.59	9903.94	3872.89	-3870.23	-197.55	0.82	452269.38	636549.69	N 32 14 32.88 W 104	1 31.34
	13819.00	89.91	176.11	9904.37	3967.59	-3965.04	-191.50	0.62	452174.59	636550.33	N 32 14 31.95 W 104	1 31.34
	13914.00	89.71	179.00	9904.69	4062.42	-4059.94	-187.45	3.05	452079.69	636553.09	N 32 14 29.13 W 104	1 31.32
	14008.00	89.81	180.22	9905.08	4156.39	-4153.94	-186.81	1.30	451985.70	636554.12	N 32 14 28.19 W 104	1 31.31
	14103.00	89.88	179.39	9905.34	4251.37	-4248.94	-186.48	0.88	451890.71	636553.93	N 32 14 27.25 W 104	1 31.31
	14293.00	89.64	179.14	9905.80	4346.29	-4343.82	-184.05	0.13	451700.75	636555.66	N 32 14 26.32 W 104	1 31.32
	14388.00	89.54	179.62	9906.32	4436.26	-4433.91	-183.02	0.60	451605.76	636552.94	N 32 14 25.38 W 104	1 31.33
	14483.00	90.19	180.61	9906.54	4531.25	-4528.31	-182.21	1.25	451510.77	636552.71	N 32 14 24.44 W 104	1 31.34
	14577.00	90.22	179.72	9906.20	4626.24	-4623.29	-181.49	1.54	451416.78	636552.23	N 32 14 23.50 W 104	1 31.34
	14672.00	90.57	181.14	9905.55	4721.24	-4718.29	-184.19	2.19	451321.80	636549.52	N 32 14 22.57 W 104	1 31.37
	14767.00	89.98	179.14	9905.09	4816.21	-4813.26	-184.42	2.86	451226.81	636547.37	N 32 14 21.64 W 104	1 31.38
	14862.00	88.54	181.44	9906.32	4911.21	-4908.26	-184.42	2.19	451131.84	636548.31	N 32 14 20.70 W 104	1 31.40
	14956.00	90.88	180.76	9906.80	5006.19	-5003.24	-184.90	2.86	451037.87	636547.19	N 32 14 19.77 W 104	1 31.41
	15050.00	90.53	180.34	9905.64	5101.18	-5098.23	-186.71	2.59	450943.89	636545.18	N 32 14 18.84 W 104	1 31.40
	15145.00	90.46	181.05	9904.82	5196.17	-5193.22	-186.76	0.75	450848.91	636549.48	N 32 14 17.90 W 104	1 31.38
	15239.00	90.15	180.00	9904.32	5291.17	-5288.22	-188.76	1.16	450754.92	636548.87	N 32 14 16.96 W 104	1 31.41
	15333.00	90.15	177.96	9904.07	5386.16	-5383.21	-189.62	1.02	450660.95	636547.52	N 32 14 16.02 W 104	1 31.42
	15428.00	90.53	180.46	9903.51	5481.10	-5478.15	-187.95	2.17	450566.98	636546.72	N 32 14 15.09 W 104	1 31.44
	15523.00	89.57	181.50	9903.43	5576.05	-5573.10	-186.64	2.66	450472.01	636546.12	N 32 14 14.15 W 104	1 31.45
	15618.00	90.53	180.13	9903.34	5671.05	-5668.10	-188.27	1.49	450376.02	636547.78	N 32 14 13.22 W 104	1 31.43
	15712.00	90.33	180.84	9902.64	5766.05	-5763.10	-189.62	1.76	450282.04	636546.		

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 ° ' ")
	18738.00	89.83	179.44	9909.03	8884.60	-8883.01	-169.95	0.04	447257.02	636567.18	N 32 13 45.16	W 104 1 31.30
	18832.00	90.01	179.61	9909.16	8978.57	-8977.01	-169.17	0.26	447163.03	636567.96	N 32 13 44.23	W 104 1 31.29
	18927.00	89.83	179.70	9909.29	9073.54	-9072.01	-168.60	0.21	447068.04	636568.53	N 32 13 43.29	W 104 1 31.29
	19022.00	89.66	180.08	9909.71	9168.53	-9167.01	-168.42	0.44	446973.05	636568.71	N 32 13 42.35	W 104 1 31.29
	19117.00	89.90	179.92	9910.08	9263.52	-9262.01	-168.42	0.30	446878.06	636568.71	N 32 13 41.41	W 104 1 31.29
	19211.00	89.90	180.28	9910.24	9357.51	-9356.01	-168.58	0.38	446794.07	636568.55	N 32 13 40.48	W 104 1 31.30
	19305.00	89.83	180.80	9910.46	9451.50	-9450.00	-169.47	0.56	446690.08	636567.66	N 32 13 39.55	W 104 1 31.31
	19400.00	89.77	180.49	9910.80	9546.50	-9545.00	-170.54	0.33	446595.09	636566.59	N 32 13 38.61	W 104 1 31.33
	19495.00	91.11	181.80	9910.07	9641.49	-9639.97	-172.44	1.97	446500.13	636564.70	N 32 13 37.67	W 104 1 31.35
	19590.00	89.83	179.99	9909.29	9736.48	-9734.95	-173.92	2.33	446405.15	636563.21	N 32 13 36.73	W 104 1 31.37
	19685.00	90.04	180.09	9909.39	9831.47	-9829.95	-173.99	0.24	446310.16	636563.15	N 32 13 35.79	W 104 1 31.38
	19779.00	89.90	180.05	9909.44	9925.46	-9923.95	-174.10	0.15	446216.17	636563.03	N 32 13 34.86	W 104 1 31.38
	19873.00	91.00	180.37	9908.71	10019.45	-10017.94	-174.45	1.22	446122.18	636562.89	N 32 13 33.93	W 104 1 31.39
Final MWD	19966.00	89.83	179.97	9908.03	10112.44	-10110.94	-174.72	1.33	446029.20	636562.41	N 32 13 33.01	W 104 1 31.40
Proj to TD	20010.00	89.83	179.97	9908.16	10156.43	-10154.94	-174.70	0.00	445985.20	636562.43	N 32 13 32.57	W 104 1 31.40

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	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 33H Gyro + MWD 0-20010'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 33H Gyro + MWD 0-20010'MD
	1	26.500	443.800	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Height CC 6-7 Federal Com 33H Gyro +
	1	443.800	20010.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Height CC 6-7 Federal Com 33H Gyro +

...Original Borehole\Oxy Height CC 6-7 Federal Com 33H Gyro + MWD 0-20010'MD