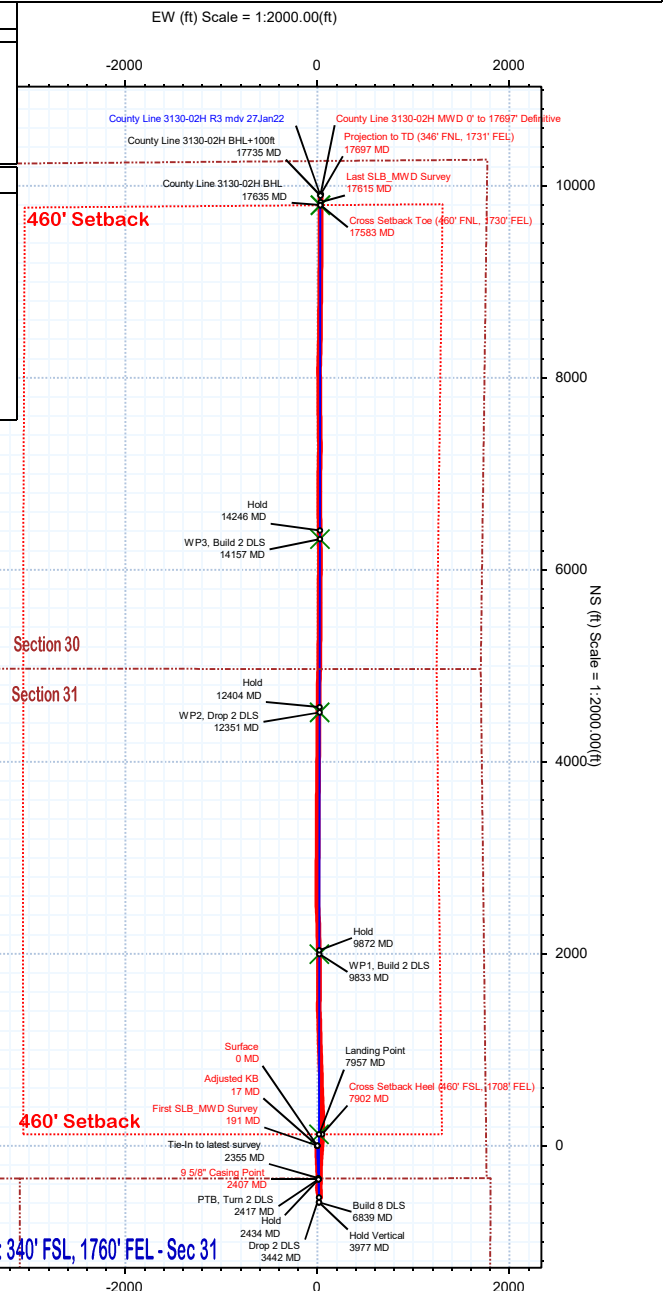
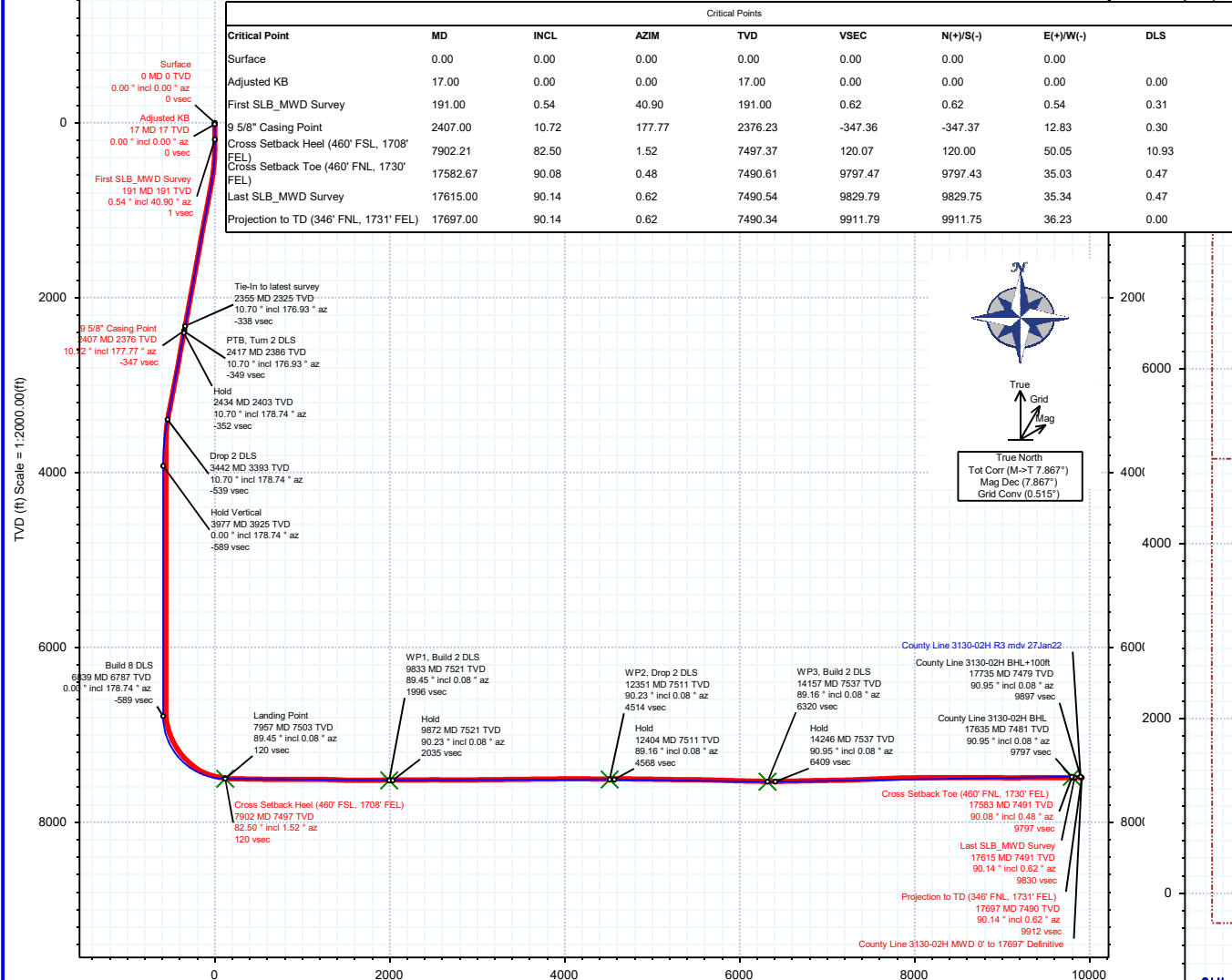


<b>Borehole:</b>	<b>Well:</b>	<b>Field:</b>	<b>Structure:</b>
<b>Original Hole</b>	<b>County Line 3130-02H</b>	<b>CO, Weld County (NAD 83 NZ) - 2019</b>	<b>Verdad Resources 31-01N-65W (County Line Pad)</b>

Gravity & Magnetic Parameters				Surface Location				NAD83 Colorado State Plane, Northern Zone, US Feet				Miscellaneous			
Model:	HJGM 2021	Dip:	66.228°	Date:	27-Jan-2022	Lat:	N 40 0 5.25	Northing:	1244379.577US	Grid Conv:	0.5146°	Slot:	County Line 3130-02H	TVD Ref:	KB 21ft(5058ft above MSL)
MagDec:	7.867°	FS:	51621.713nT	Gravity FS:	998.983mgn (9.80665 Based)	Lon:	W 104 42 12.80	Easting:	3223118.63US	Scale Fact:	0.99996626	Plan:	County Line 3130-02H MWD 0' to 1769' Definitive		

Northing:		1244379.56602065		Easting:		3223118.62726856		Latitude:		N 40 5 25		Longitude:		W 104 42 12.80		VSec Azimuth:		0.08		
Target Description		Surface Location																		
		Grid Coord																		
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	Local	Coord	E(+)/W(-)										
County Line Pad - Sec 31-30 - CL	N 40 5 5.24	W 104 42 16.28	1244376.89	3222848.38	5058.00	-0.63	-0.25	-270.27												
County Line Pad - Sec 31-30 - 460' SB	N 40 5 5.24	W 104 42 13.00	1244379.39	3223103.61	5058.00	-0.06	-0.04	-15.02												
County Line Pad - Sec 31-30-06-07	N 40 5 5.24	W 104 42 16.28	1244376.89	3222848.38	5058.00	-0.63	-0.25	-270.27												
County Line 3130-02H BHL	N 40 4 42.07	W 104 42 12.38	1254176.54	3223063.44	7481.00	9797.46	31.95	25.43												
County Line 3130-02H WP2	N 40 4 49.85	W 104 42 12.45	1244499.65	3223136.85	7503.00	1119.92	19.30	32.81												
County Line 3130-02H WP2	N 40 4 49.85	W 104 42 12.38	124893.45	3223103.51	7511.00	4514.03	45.14	25.43												
County Line 3130-02H WP1	N 40 2 24.97	W 104 42 12.52	1246375.61	3223122.62	7521.00	1996.03	19.96	21.92												
County Line 3130-02H WP3	N 40 1 7.70	W 104 42 12.45	1250699.34	3223089.81	7537.00	6320.03	63.20	27.95												

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Adjusted KB	17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00
First SLB_MWD Survey	191.00	0.54	40.90	191.00	0.62	0.62	0.54	0.31
9 5/8" Casing Point	2407.00	10.72	177.77	2376.23	-347.36	-347.37	12.83	0.30
Cross Setback Heel (460' FSL, 1708' FEL)	7902.21	82.50	1.52	7497.37	120.07	120.00	50.05	10.93
Cross Setback Toe (460' FNL, 1730' FEL)	17582.67	90.08	0.48	7490.61	9797.47	9797.43	35.03	0.47
Last SLB_MWD Survey	17615.00	90.14	0.62	7490.54	9829.79	9829.75	35.34	0.47
Projection to TD (346' FNL, 1731' FEL)	17697.00	90.14	0.62	7490.34	9911.79	9911.75	36.23	0.00



## County Line 3130-02H MWD 0' to 17697' Definitive Survey Geodetic Report

(Def Survey)

**Report Date:** February 02, 2022 - 11:30 AM  
**Client:** Verdad Resources LLC  
**Field:** CO, Weld County (NAD 83 NZ) - 2019  
**Structure / Slot:** Verdad Resources 31-01N-65W (County Line Pad) / County Line 3130-02H  
**Well:** County Line 3130-02H  
**Borehole:** Original Hole  
**UWI / API#:** Unknown / 05-123-51180  
**Survey Name:** County Line 3130-02H MWD 0' to 17697' Definitive  
**Survey Date:** January 27, 2022  
**Tort / AHD / DDI / ERD Ratio:** 242.894 ° / 11038.734 ft / 6.799 / 1.465  
**Coordinate Reference System:** NAD83 Colorado State Plane, Northern Zone, US Feet  
**Location Lat / Long:** N 40° 0' 5.24520", W 104° 42' 12.80484"  
**Location Grid N/E Y/X:** N 1244379.566 ftUS, E 3223118.627 ftUS  
**CRS Grid Convergence Angle:** 0.5146 °  
**Grid Scale Factor:** 0.99996626  
**Version / Patch:** 2.10.824.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 0.080 ° (True North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** KB 21ft  
**TVD Reference Elevation:** 5058.000 ft above MSL  
**Seabed / Ground Elevation:** 5037.000 ft above MSL  
**Magnetic Declination:** 7.867 °  
**Total Gravity Field Strength:** 998.9825mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 51621.713 nT  
**Magnetic Dip Angle:** 66.228 °  
**Declination Date:** January 27, 2022  
**Magnetic Declination Model:** HDGM 2021  
**North Reference:** True North  
**Grid Convergence Used:** 0.0000 °  
**Total Corr Mag North→True North:** 7.8668 °  
**Local Coord Referenced To:** Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	1244379.57	3223118.63	40.001457	-104.703557
Adjusted KB	17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	1244379.57	3223118.63	40.001457	-104.703557
First SLB_MWD Survey	191.00	0.54	40.90	191.00	0.62	0.62	0.54	0.31	1244380.19	3223119.16	40.001459	-104.703555
	222.00	0.31	58.61	222.00	0.77	0.77	0.70	0.85	1244380.35	3223119.32	40.001459	-104.703554
	252.00	0.32	83.45	252.00	0.83	0.83	0.86	0.45	1244380.40	3223119.48	40.001459	-104.703554
	283.00	0.60	119.89	283.00	0.76	0.75	1.08	1.26	1244380.33	3223119.70	40.001459	-104.703553
	311.00	1.01	152.77	310.99	0.46	0.46	1.32	2.15	1244380.04	3223119.95	40.001458	-104.703552
	342.00	1.62	159.07	341.98	-0.19	-0.19	1.60	2.02	1244379.39	3223120.23	40.001456	-104.703551
	372.00	2.10	171.56	371.97	-1.13	-1.13	1.84	2.09	1244378.45	3223120.47	40.001454	-104.703550
	402.00	2.64	174.46	401.94	-2.36	-2.36	1.98	1.84	1244377.22	3223120.63	40.001451	-104.703550
	432.00	3.47	172.35	431.90	-3.95	-3.95	2.17	2.79	1244375.64	3223120.83	40.001446	-104.703549
	462.00	4.51	177.52	461.83	-6.02	-6.03	2.34	3.66	1244373.56	3223121.03	40.001440	-104.703549
	492.00	5.29	177.96	491.72	-8.58	-8.59	2.44	2.60	1244371.00	3223121.15	40.001433	-104.703548
	522.00	6.18	177.02	521.57	-11.58	-11.58	2.58	2.98	1244368.01	3223121.31	40.001425	-104.703548
	552.00	7.42	178.46	551.35	-15.13	-15.13	2.71	4.17	1244364.46	3223121.48	40.001415	-104.703547
	582.00	8.27	179.65	581.07	-19.22	-19.23	2.78	2.88	1244360.37	3223121.58	40.001404	-104.703547
	612.00	8.92	181.63	610.74	-23.70	-23.71	2.73	2.38	1244355.88	3223121.57	40.001392	-104.703547
	642.00	9.66	180.53	640.34	-28.55	-28.55	2.64	2.54	1244351.04	3223121.52	40.001379	-104.703547
	672.00	10.03	181.08	669.90	-33.68	-33.68	2.56	1.27	1244345.91	3223121.49	40.001365	-104.703548
	702.00	10.00	181.26	699.44	-38.89	-38.89	2.46	0.14	1244340.70	3223121.43	40.001350	-104.703548
	732.00	10.22	181.25	728.98	-44.16	-44.16	2.34	0.73	1244335.43	3223121.37	40.001336	-104.703549
	762.00	10.27	180.23	758.50	-49.49	-49.49	2.27	0.63	1244330.10	3223121.34	40.001321	-104.703549
	792.00	10.60	180.44	788.00	-54.93	-54.93	2.24	1.11	1244324.66	3223121.36	40.001306	-104.703549
	822.00	10.46	180.25	817.50	-60.41	-60.41	2.21	0.48	1244319.18	3223121.38	40.001291	-104.703549
	852.00	10.57	181.23	846.99	-65.88	-65.88	2.14	0.70	1244313.71	3223121.36	40.001276	-104.703549
	882.00	10.40	181.49	876.49	-71.34	-71.34	2.01	0.59	1244308.25	3223121.28	40.001261	-104.703550
	912.00	10.48	181.31	906.00	-76.77	-76.78	1.87	0.29	1244302.81	3223121.19	40.001246	-104.703550
	942.00	10.51	181.63	935.50	-82.24	-82.24	1.73	0.22	1244297.35	3223121.10	40.001231	-104.703551
	972.00	10.57	179.78	964.99	-87.72	-87.73	1.67	1.15	1244291.86	3223121.08	40.001216	-104.703551
	1002.00	10.82	179.02	994.47	-93.29	-93.29	1.73	0.96	1244286.30	3223121.19	40.001201	-104.703551
	1032.00	10.98	178.73	1023.93	-98.96	-98.97	1.84	0.56	1244280.62	3223121.35	40.001185	-104.703550
	1062.00	10.89	177.59	1053.38	-104.65	-104.65	2.02	0.78	1244274.94	3223121.59	40.001170	-104.703550
	1092.00	10.60	177.88	1082.86	-110.24	-110.24	2.24	0.98	1244269.35	3223121.86	40.001154	-104.703549
	1122.00	10.81	177.92	1112.33	-115.81	-115.81	2.45	0.70	1244263.79	3223122.11	40.001139	-104.703548
	1152.00	10.94	177.68	1141.80	-121.46	-121.47	2.66	0.46	1244258.13	3223122.38	40.001124	-104.703547
	1182.00	11.04	178.19	1171.25	-127.18	-127.18	2.87	0.46	1244252.42	3223122.64	40.001108	-104.703547
	1212.00	10.76	177.04	1200.70	-132.84	-132.85	3.10	1.18	1244246.75	3223122.92	40.001092	-104.703546
	1242.00	10.26	176.92	1230.20	-138.31	-138.31	3.39	1.67	1244241.29	3223123.26	40.001077	-104.703545
	1272.00	10.34	177.69	1259.72	-143.67	-143.67	3.64	0.53	1244235.94	3223123.56	40.001063	-104.703544
	1302.00	10.09	177.90	1289.24	-148.98	-148.99	3.85	0.84	1244230.62	3223123.81	40.001048	-104.703543
	1332.00	10.04	177.40	1318.78	-154.22	-154.23	4.06	0.34	1244225.39	3223124.08	40.001034	-104.703542
	1362.00	10.01	178.08	1348.32	-159.44	-159.44	4.27	0.41	1244220.17	3223124.33	40.001019	-104.703542
	1392.00	9.90	177.21	1377.87	-164.62	-164.63	4.48	0.62	1244214.99	3223124.59	40.001005	-104.703541
	1422.00	10.02	177.45	1407.42	-169.80	-169.81	4.72	0.42	1244209.81	3223124.88	40.000991	-104.703540
	1452.00	10.26	177.16	1436.95	-175.08	-175.09	4.97	0.82	1244204.54	3223125.17	40.000976	-104.703539
	1482.00	10.30	176.74	1466.47	-180.42	-180.43	5.26	0.28	1244199.20	3223125.51	40.000962	-104.703538
	1512.00	10.33	176.46	1495.98	-185.79	-185.79	5.58	0.19	1244193.84	3223125.87	40.000947	-104.703537
	1542.00	10.47	176.90	1525.49	-191.19	-191.20	5.89	0.54	1244188.43	3223126.23	40.000932	-104.703536
	1572.00	10.59	176.79	1554.98	-196.67	-196.67	6.19	0.41	1244182.96	3223126.59	40.000917	-104.703535
	1602.00	10.69	177.85	1584.47	-202.20	-202.21	6.45	0.73	1244177.43	3223126.89	40.000902	-104.703534
	1632.00	10.74	177.66	1613.95	-207.77	-207.78	6.67	0.20	1244171.86	3223127.16	40.000887	-104.703533
	1662.00	10.32	177.17	1643.44	-213.25	-213.26	6.92	1.43	1244166.39	3223127.46	40.000872	-104.703532
	1692.00	9.78	177.16	1672.98	-218.48	-218.49	7.17	1.80	1244161.16	3223127.76	40.000857	-104.703531
	1722.00	9.84	177.18	1702.54	-223.58	-223.59	7.43	0.20	1244156.06	3223128.06	40.000843	-104.703530
	1752.00	9.97	175.96	1732.09	-228.73	-228.74	7.74	0.82	1244150.91	3223128.42	40.000829	-104.703529
	1782.00	10.02	175.69	1761.64	-233.92	-233.94	8.12	0.23	1244145.72	3223128.84	40.000815	-104.703528
	1812.00	10.26	176.49	1791.17	-239.19	-239.20	8.48	0.93	1244140.46	3223129.25	40.000800	-104.703527
	1842.00	10.34	177.27	1820.69	-244.55	-244.56	8.77	0.54	1244135.10	3223129.59	40.000786	-104.703526
	1872.00	10.30	178.17	1850.20	-249.92	-249.93	8.98	0.55	1244129.73	3223129.85	40.000771	-104.703525
	1902.00	10.46	178.51	1879.71	-255.32	-255.33	9.14	0.57	1244124.33	3223130.06	40.000756	-104.703524
	1932.00	10.59	178.96	1909.21	-260.80	-260.81	9.26	0.51	1244118.86	3223130.23	40.000741	-104.703524
	1962.00	10.73	178.76	1938.69	-266.35	-266.36	9.37	0.48	1244113.31	3223130.39	40.000726	-104.703523
	1992.00	10.73	178.63	1968.16	-271.93	-271.94	9.50	0.08	1244107.73	3223130.56	40.000710	-104.703523
	2022.00	10.45	178.71	1997.65	-277.44	-277.46	9.62	0.93	1244102.22	3223130.74	40.000695	-104.703523
	2052.00	9.91	177.86	2027.18	-282.74	-282.76	9.78	1.87	1244096.92	3223130.95	40.000681	-104.703522
	2082.00	9.95	177.19	2056.73	-287.91	-287.92	10.00	0.41	1244091.75	3223131.22	40.000667	-104.703521
	2112.00	10.01	177.50	2086.28	-293.10	-293.12	10.25	0.27	1244086.56	3223131.50	40.000652	-104.703520
	2142.00	10.35	177.01	2115.80	-298.40	-298.41	10.50	1.17	1244081.27	3223131.81	40.000638	-104.703519
	2172.00	10.47	176.93	2145.31	-303.81	-303.83	10.79	0.40	1244075.86	3223132.14	40.000623	-104.703518
	2202.00	10.72	177.45	2174.80	-309.32	-309.34	11.06	0.89	1244070.35	3223132.46	40.000608	-104.703517
	2232.00	10.55	177.85	2204.28	-314.85	-314.87	11.28	0.62	1244064.82	3223132.74	40.000593	-104.703517
	2262.00	10.68	177.42	2233.77	-320.37	-320.39	11.51	0.51	1244059.30	3223133.02	40.000578	-104.703516
	2292.00	10.78	177.10	2263.25	-325.95	-325.97	11.78	0.39	1244053.73	3223133.33	40.000562	-104.703515
	2322.00	10.79	177.08	2292.72	-331.56	-331.58	12.06	0.04	1244048.12	3223133.67	40.000547	-104.703514
	2355.00	10.70	176.93	2325.14	-337.70	-337.72	12.39	0.29	1244041.98	3223134.04	40.000530	-104.703514

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
9 5/8" Casing Point	2407.00	10.72	177.77	2376.23	-347.36	-347.37	12.83	0.30	1244032.33	3223134.58	40.000503	-104.703511
	2498.00	10.76	179.23	2465.64	-364.31	-364.33	13.28	0.30	1244015.38	3223135.17	40.000457	-104.703510
	2588.00	10.97	178.39	2554.02	-381.27	-381.29	13.63	0.29	1243998.43	3223135.68	40.000410	-104.703508
	2678.00	9.22	185.39	2642.63	-397.01	-397.03	13.19	2.37	1243982.68	3223135.38	40.000367	-104.703510
	2767.00	9.75	192.79	2730.42	-411.47	-411.48	10.85	1.49	1243968.21	3223133.17	40.000327	-104.703518
	2856.00	10.95	191.03	2817.97	-427.12	-427.13	7.57	1.40	1243952.54	3223130.03	40.000285	-104.703530
	2946.00	10.97	177.24	2906.34	-444.07	-444.07	6.34	2.91	1243935.58	3223128.96	40.000238	-104.703534
	3035.00	11.17	169.77	2993.69	-461.00	-461.02	8.28	1.63	1243918.66	3223131.05	40.000191	-104.703527
	3125.00	10.48	169.44	3082.09	-477.63	-477.64	11.33	0.76	1243902.06	3223134.25	40.000146	-104.703516
	3214.00	11.23	170.31	3169.49	-494.12	-494.14	14.27	0.85	1243885.59	3223137.34	40.000101	-104.703506
	3304.00	11.76	168.01	3257.69	-511.72	-511.75	17.65	0.78	1243868.01	3223140.87	40.000052	-104.703494
	3393.00	10.59	175.61	3345.01	-528.74	-528.77	20.16	2.11	1243851.01	3223143.54	40.000005	-104.703485
	3483.00	8.27	164.23	3433.79	-543.22	-543.25	22.56	3.29	1243836.56	3223146.06	39.999966	-104.703476
	3572.00	4.60	162.46	3522.22	-552.78	-552.81	25.37	4.13	1243827.02	3223148.96	39.999939	-104.703466
	3662.00	1.16	143.32	3612.09	-556.95	-556.99	27.00	3.91	1243822.86	3223150.63	39.999928	-104.703461
	3751.00	0.02	337.93	3701.08	-557.66	-557.69	27.54	1.33	1243822.16	3223151.17	39.999926	-104.703459
	3841.00	0.07	31.90	3791.08	-557.59	-557.63	27.56	0.07	1243822.23	3223151.19	39.999926	-104.703459
	3931.00	0.13	256.85	3881.08	-557.56	-557.60	27.49	0.21	1243822.25	3223151.13	39.999926	-104.703459
	4021.00	0.08	343.84	3971.08	-557.53	-557.57	27.38	0.16	1243822.29	3223151.01	39.999926	-104.703459
	4110.00	0.07	62.72	4060.08	-557.45	-557.48	27.41	0.10	1243822.37	3223151.04	39.999927	-104.703459
	4200.00	0.05	25.60	4150.08	-557.39	-557.43	27.47	0.04	1243822.43	3223151.10	39.999927	-104.703459
	4289.00	0.07	101.10	4239.08	-557.36	-557.40	27.54	0.08	1243822.45	3223151.17	39.999927	-104.703459
	4379.00	0.08	96.21	4329.08	-557.38	-557.42	27.66	0.01	1243822.44	3223151.29	39.999927	-104.703458
	4468.00	0.08	152.26	4418.08	-557.44	-557.48	27.75	0.08	1243822.37	3223151.38	39.999927	-104.703458
	4557.00	0.09	186.50	4507.08	-557.57	-557.61	27.77	0.06	1243822.25	3223151.40	39.999926	-104.703458
	4647.00	0.07	166.20	4597.08	-557.70	-557.74	27.77	0.04	1243822.12	3223151.41	39.999926	-104.703458
	4736.00	0.04	205.17	4686.08	-557.78	-557.82	27.77	0.06	1243822.04	3223151.41	39.999926	-104.703458
	4826.00	0.07	248.36	4776.08	-557.83	-557.87	27.71	0.05	1243821.99	3223151.35	39.999926	-104.703458
	4915.00	0.04	284.35	4865.08	-557.84	-557.88	27.64	0.05	1243821.98	3223151.27	39.999926	-104.703458
	5004.00	0.05	19.71	4954.08	-557.80	-557.84	27.62	0.07	1243822.02	3223151.25	39.999926	-104.703458
	5094.00	0.04	16.86	5044.08	-557.74	-557.78	27.64	0.01	1243822.08	3223151.28	39.999926	-104.703458
	5184.00	0.14	220.38	5134.08	-557.79	-557.83	27.58	0.19	1243822.02	3223151.21	39.999926	-104.703458
	5273.00	0.10	8.73	5223.08	-557.80	-557.84	27.52	0.26	1243822.02	3223151.16	39.999926	-104.703459
	5362.00	0.03	92.33	5312.08	-557.73	-557.77	27.56	0.11	1243822.09	3223151.19	39.999926	-104.703459
	5451.00	0.04	268.52	5401.08	-557.73	-557.77	27.55	0.08	1243822.09	3223151.19	39.999926	-104.703459
	5541.00	0.07	178.79	5491.08	-557.78	-557.82	27.52	0.09	1243822.03	3223151.16	39.999926	-104.703459
	5630.00	0.05	241.03	5580.08	-557.86	-557.90	27.49	0.07	1243821.96	3223151.13	39.999926	-104.703459
	5720.00	0.05	28.23	5670.08	-557.84	-557.88	27.48	0.10	1243821.97	3223151.11	39.999926	-104.703459
	5809.00	0.10	153.39	5759.08	-557.88	-557.92	27.53	0.15	1243821.94	3223151.17	39.999925	-104.703459
	5898.00	0.05	161.74	5848.08	-557.99	-558.03	27.58	0.06	1243821.83	3223151.22	39.999925	-104.703458
	5988.00	0.08	55.18	5938.08	-557.99	-558.03	27.64	0.12	1243821.83	3223151.28	39.999925	-104.703458
	6077.00	0.15	160.73	6027.08	-558.06	-558.10	27.73	0.21	1243821.76	3223151.37	39.999925	-104.703458
	6166.00	0.12	116.74	6116.08	-558.21	-558.25	27.85	0.12	1243821.61	3223151.49	39.999925	-104.703457
	6256.00	0.04	237.95	6206.08	-558.27	-558.31	27.91	0.16	1243821.55	3223151.55	39.999924	-104.703457
	6345.00	0.07	236.39	6295.08	-558.32	-558.36	27.84	0.03	1243821.50	3223151.48	39.999924	-104.703458
	6435.00	0.06	61.97	6385.08	-558.33	-558.37	27.84	0.14	1243821.49	3223151.48	39.999924	-104.703458
	6524.00	0.01	270.12	6474.08	-558.31	-558.34	27.87	0.08	1243821.51	3223151.51	39.999924	-104.703457
	6614.00	0.12	92.43	6564.08	-558.31	-558.35	27.95	0.15	1243821.51	3223151.59	39.999924	-104.703457
	6703.00	0.02	333.19	6653.08	-558.30	-558.34	28.04	0.15	1243821.52	3223151.68	39.999924	-104.703457
	6792.00	0.11	71.52	6742.08	-558.26	-558.30	28.12	0.13	1243821.56	3223151.76	39.999924	-104.703457
	6799.90	0.08	333.69	6749.98	-558.25	-558.29	28.12	1.88	1243821.57	3223151.76	39.999924	-104.703457
	6882.00	8.10	2.38	6831.81	-552.41	-552.45	28.34	9.77	1243827.41	3223151.92	39.999940	-104.703456
	6971.00	15.39	358.82	6918.89	-534.32	-534.36	28.35	8.23	1243845.50	3223151.78	39.999990	-104.703456
	7061.00	20.47	358.09	7004.49	-506.64	-506.68	27.58	5.65	1243873.17	3223150.76	40.000066	-104.703458
	7150.00	28.30	359.13	7085.49	-469.94	-469.98	26.74	8.82	1243909.86	3223149.59	40.000167	-104.703461
	7239.00	31.92	359.92	7162.46	-425.30	-425.34	26.39	4.10	1243954.50	3223148.83	40.000289	-104.703463
	7328.00	40.52	1.16	7234.20	-372.76	-372.80	26.94	9.69	1244007.04	3223148.91	40.000434	-104.703461
	7418.00	46.86	0.19	7299.25	-310.63	-310.67	27.64	7.08	1244069.17	3223149.05	40.000604	-104.703458
	7507.00	50.96	1.55	7357.73	-243.58	-243.62	28.68	4.76	1244136.22	3223149.49	40.000788	-104.703455
	7597.00	60.20	3.11	7408.55	-169.48	-169.52	31.75	10.36	1244210.34	3223151.90	40.000992	-104.703444
	7686.00	68.98	4.14	7446.70	-89.33	-89.37	36.86	9.93	1244290.53	3223156.28	40.001212	-104.703425
	7775.00	77.37	4.69	7472.44	-4.45	-4.49	43.41	9.45	1244375.44	3223162.08	40.001445	-104.703402
	7865.00	78.52	2.35	7491.23	83.39	83.33	48.81	2.84	1244463.32	3223166.69	40.001686	-104.703383
Cross Setback Heel (460' FSL, 1708' FEL)	7902.21	82.50	1.52	7497.37	120.07	120.00	50.05	10.93	1244500.01	3223167.59	40.001786	-104.703378
	7954.00	88.04	0.38	7501.64	171.66	171.58	50.90	10.93	1244551.59	3223167.98	40.001928	-104.703375
	8044.00	89.31	0.09	7503.72	261.63	261.56	51.27	1.44	1244641.56	3223167.54	40.002175	-104.703374
	8133.00	89.16	358.29	7504.91	350.61	350.54	50.01	2.03	1244730.53	3223165.49	40.002419	-104.703378
	8222.00	88.83	357.12	7506.47	439.51	439.45	46.45	1.36	1244819.40	3223161.13	40.002663	-104.703391
	8312.00	89.44	358.04	7507.83	529.42	529.36	42.65	1.23	1244909.27	3223156.52	40.002910	-104.703405
	8401.00	88.92	357.43	7509.10	618.33	618.28	39.14	0.90	1244998.15	3223152.21	40.003154	-104.703417
	8490.00	90.03	0.07	7509.91	707.30	707.25	37.20	3.22	1245087.09	3223149.47	40.003398	-104.703424
	8580.00	89.58	357.38	7510.21	797.26	797.21	35.20	3.03	1245177.04	3223146.67	40.003645	-104.703431
	8669.00	89.88	358.06	7510.62	886.19	886.14	31.66	0.83	1245265.93	3223142.33	40.003890	-104.703444
	8758.00	89.93	358.05	7510.77	975.13	975.09	28.64	0.06	1245354.84	3223138.50	40.004134	-104.703455
	8848.00	89.89	358.49	7510.91	1065.08	1065.05	25.92	0.50	1245444.77	3223134.98	40.004381	-104.703464
	8937.00	90.01	358.71	7510.98	1154.05	1154.02	23.75	0.28	1245533.71	3223132.01	40.004625	-104.703472
	9026.00	90.01	0.19	7510.97	1243.05	1243.02	22.89	1.66	1245622.69	3223130.35	40.004869	-104.703475
	9116.00	88.25	355.75	7512.35	1332.95	1332.92	19.70	5.31	1245712.56	3223126.36	40.005116	-104.703487
	9205.00	87.05	359.82	7516.00	1421.78	1421.76	16.26	4.76	1245801.36	3223122.12	40.005360	-104.703499
	9295.00	89.09	0.74	7519.03	1511.73	1511.70	16.70	2.49				

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	11708.00	90.29	0.08	7504.57	3924.29	3924.28	9.11	0.61	1248303.63	3223092.49	40.012230	-104.703524
	11798.00	89.97	0.73	7504.36	4014.29	4014.28	9.74	0.81	1248393.63	3223092.32	40.012477	-104.703522
	11888.00	90.20	0.56	7504.23	4104.29	4104.27	10.76	0.32	1248483.63	3223092.52	40.012724	-104.703519
	11977.00	90.18	359.88	7503.94	4193.28	4193.27	11.10	0.76	1248572.62	3223092.07	40.012968	-104.703517
	12066.00	89.33	359.49	7504.32	4282.28	4282.27	10.61	1.05	1248661.61	3223090.78	40.013212	-104.703519
	12156.00	89.88	359.92	7504.94	4372.28	4372.27	10.16	0.77	1248751.59	3223089.51	40.013459	-104.703521
	12245.00	90.45	1.05	7504.69	4461.27	4461.26	10.91	1.42	1248840.59	3223089.47	40.013704	-104.703518
	12335.00	90.12	1.11	7504.24	4551.26	4551.24	12.61	0.37	1248930.58	3223090.36	40.013951	-104.703512
	12424.00	90.28	0.58	7503.93	4640.25	4640.23	13.93	0.62	1249019.57	3223090.88	40.014195	-104.703507
	12514.00	89.24	359.85	7504.30	4730.24	4730.23	14.27	1.41	1249109.56	3223090.41	40.014442	-104.703506
	12603.00	89.41	1.88	7505.34	4819.23	4819.21	15.61	2.29	1249198.55	3223090.96	40.014686	-104.703501
	12692.00	89.31	2.17	7506.34	4908.17	4908.15	18.76	0.34	1249287.51	3223093.31	40.014930	-104.703490
	12782.00	88.73	0.48	7507.88	4998.13	4998.11	20.85	1.98	1249377.48	3223094.58	40.015177	-104.703482
	12871.00	89.28	0.46	7509.43	5087.11	5087.09	21.58	0.62	1249466.46	3223094.52	40.015422	-104.703480
	12961.00	89.09	0.63	7510.71	5177.10	5177.08	22.43	0.29	1249556.45	3223094.56	40.015669	-104.703477
	13050.00	89.93	0.39	7511.48	5266.10	5266.07	23.23	0.98	1249645.43	3223094.56	40.015913	-104.703474
	13140.00	88.92	0.67	7512.38	5356.06	5356.06	24.07	1.16	1249735.44	3223094.59	40.016160	-104.703471
	13229.00	89.75	0.40	7513.41	5445.08	5445.05	24.90	0.98	1249824.42	3223094.62	40.016404	-104.703468
	13319.00	89.42	359.38	7514.05	5535.07	5535.04	24.73	1.19	1249914.41	3223093.64	40.016651	-104.703469
	13408.00	88.05	359.40	7516.01	5624.04	5624.02	23.79	1.55	1250003.37	3223091.90	40.016895	-104.703472
	13498.00	88.48	0.57	7518.74	5714.00	5713.97	23.77	1.38	1250093.32	3223091.07	40.017142	-104.703472
	13588.00	88.45	0.78	7521.15	5803.96	5803.93	24.83	0.24	1250183.28	3223091.32	40.017389	-104.703468
	13677.00	88.47	0.72	7523.54	5892.92	5892.89	25.99	0.07	1250272.25	3223091.69	40.017634	-104.703464
	13767.00	88.56	1.17	7525.88	5982.85	5982.85	27.48	0.50	1250362.21	3223092.37	40.017880	-104.703459
	13856.00	88.50	359.48	7528.16	6071.85	6071.82	27.98	1.90	1250451.17	3223092.07	40.018125	-104.703457
	13946.00	89.07	359.73	7530.07	6161.83	6161.79	27.36	0.69	1250541.14	3223090.64	40.018372	-104.703459
	14035.00	88.83	358.93	7531.71	6250.80	6250.77	26.31	0.93	1250630.10	3223088.80	40.018616	-104.703463
	14125.00	89.08	359.89	7533.35	6340.78	6340.75	25.39	1.10	1250720.06	3223087.06	40.018863	-104.703466
	14214.00	91.60	359.64	7532.83	6429.77	6429.74	25.02	2.84	1250809.04	3223085.90	40.019107	-104.703468
	14303.00	90.98	358.65	7530.82	6518.73	6518.71	23.69	1.31	1250897.99	3223083.77	40.019351	-104.703472
	14393.00	91.11	359.31	7529.17	6608.70	6608.68	22.09	0.75	1250987.94	3223081.36	40.019598	-104.703478
	14482.00	90.89	359.39	7527.62	6697.68	6697.66	21.08	0.27	1251076.90	3223079.55	40.019843	-104.703482
	14572.00	91.40	359.45	7525.82	6787.66	6787.64	20.17	0.57	1251166.87	3223077.83	40.020090	-104.703485
	14661.00	91.07	0.60	7523.90	6876.64	6876.61	20.20	1.35	1251255.84	3223077.07	40.020334	-104.703485
	14751.00	91.03	0.99	7522.26	6966.61	6966.59	21.45	0.43	1251345.82	3223077.51	40.020581	-104.703480
	14840.00	91.07	1.37	7520.62	7055.58	7055.56	23.28	0.44	1251434.79	3223078.54	40.020825	-104.703474
	14930.00	91.09	1.15	7518.92	7145.52	7145.52	25.27	0.25	1251524.77	3223079.72	40.021072	-104.703467
	15019.00	91.09	0.95	7517.23	7234.52	7234.49	26.90	0.22	1251613.74	3223080.55	40.021316	-104.703461
	15109.00	92.56	359.16	7514.36	7324.47	7324.43	26.99	2.58	1251703.69	3223079.83	40.021563	-104.703461
	15199.00	92.36	359.38	7510.50	7414.37	7414.34	25.84	0.33	1251793.58	3223077.88	40.021810	-104.703465
	15288.00	92.04	359.68	7507.09	7503.30	7503.28	25.11	0.50	1251882.50	3223076.35	40.022054	-104.703467
	15378.00	91.88	358.36	7504.00	7593.23	7593.21	23.58	1.48	1251972.41	3223074.01	40.022301	-104.703473
	15467.00	92.59	359.99	7500.53	7682.15	7682.13	22.29	2.00	1252061.31	3223071.92	40.022545	-104.703477
	15557.00	92.48	0.17	7496.54	7772.06	7772.04	22.42	0.23	1252151.21	3223071.24	40.022792	-104.703477
	15646.00	91.59	358.97	7493.38	7861.00	7860.98	21.75	1.68	1252240.14	3223069.77	40.023036	-104.703479
	15736.00	90.44	359.36	7491.78	7950.97	7950.95	20.44	1.35	1252330.10	3223067.65	40.023283	-104.703484
	15825.00	90.72	359.26	7490.88	8039.96	8039.94	19.37	0.34	1252419.07	3223065.78	40.023527	-104.703488
	15915.00	89.84	1.74	7490.44	8129.95	8129.93	20.15	2.93	1252509.06	3223065.76	40.023774	-104.703485
	16004.00	89.74	1.97	7490.77	8218.91	8218.88	23.04	0.28	1252598.03	3223067.85	40.024019	-104.703475
	16094.00	90.08	0.77	7490.91	8308.88	8308.85	25.19	1.39	1252688.01	3223069.19	40.024266	-104.703467
	16183.00	89.92	0.89	7490.91	8397.87	8397.84	26.48	0.22	1252777.01	3223069.68	40.024510	-104.703462
	16273.00	89.96	0.20	7491.00	8487.87	8487.84	27.33	0.77	1252867.01	3223069.72	40.024757	-104.703459
	16362.00	90.99	359.83	7490.25	8576.86	8576.83	27.35	1.23	1252955.99	3223068.95	40.025001	-104.703459
	16451.00	90.11	1.13	7489.40	8665.86	8665.82	28.10	1.76	1253044.98	3223068.90	40.025245	-104.703457
	16541.00	90.11	1.02	7489.22	8755.84	8755.81	29.79	0.12	1253134.98	3223069.78	40.025492	-104.703451
	16630.00	89.93	0.51	7489.19	8844.80	8844.80	30.98	0.61	1253223.97	3223070.17	40.025737	-104.703446
	16720.00	88.80	0.48	7490.19	8934.83	8934.79	31.75	1.26	1253313.96	3223070.13	40.025984	-104.703444
	16809.00	89.65	0.24	7491.40	9023.82	9023.78	32.31	0.99	1253402.95	3223069.89	40.026228	-104.703442
	16899.00	90.13	0.67	7491.57	9113.81	9113.78	33.03	0.71	1253492.95	3223069.80	40.026475	-104.703439
	16988.00	90.24	0.96	7491.28	9202.81	9202.77	34.29	0.35	1253581.94	3223070.27	40.026719	-104.703434
	17078.00	90.40	359.95	7490.78	9292.76	9292.76	35.00	1.13	1253671.93	3223070.17	40.026966	-104.703432
	17168.00	89.86	359.93	7490.58	9382.76	9382.76	34.91	0.61	1253761.93	3223069.26	40.027213	-104.703432
	17257.00	89.81	359.62	7490.84	9471.80	9471.76	34.56	0.35	1253850.92	3223068.11	40.027458	-104.703434
	17346.00	90.16	359.88	7490.87	9560.80	9560.76	34.17	0.49	1253939.90	3223066.93	40.027702	-104.703435
	17436.00	90.09	0.26	7490.67	9650.80	9650.76	34.28	0.43	1254029.90	3223066.23	40.027949	-104.703435
	17526.00	89.96	0.25	7490.63	9740.80	9740.76	34.67	0.14	1254119.89	3223065.81	40.028196	-104.703433
Cross Setback Toe (460' FNL, 1730' FEL)	17582.67	90.08	0.48	7490.61	9797.47	9797.43	35.03	0.47	1254176.57	3223065.67	40.028352	-104.703432
Last SLB_MWD Survey	17615.00	90.14	0.62	7490.54	9829.79	9829.75	35.34	0.47	1254208.89	3223065.69	40.028441	-104.703431
Projection to TD (346' FNL, 1731' FEL)	17697.00	90.14	0.62	7490.34	9911.79	9911.75	36.23	0.00	1254290.89	3223065.84	40.028666	-104.703428

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 3 \*\*\* 3-D 97.071% Confidence 3.0000 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	17.000	1/98.425	13.500	9.625 B001Mb_MWD+HRGM-Depth Only	Original Hole / County Line 3130-02H MWD 0' to 17697' Definitive
	1	17.000	21.000	Act Stns	13.500	9.625 B001Mb_MWD+HRGM-Depth Only	Original Hole / County Line 3130-02H MWD 0' to 17697' Definitive
	1	21.000	2355.000	Act Stns	13.500	9.625 B001Mb_MWD+HRGM	Original Hole / County Line 3130-02H MWD 0' to 17697' Definitive
	1	2355.000	17697.000	Act Stns	8.500	5.500 B001Mb_MWD+HRGM	Original Hole / County Line 3130-02H MWD 0' to 17697' Definitive