



# Verdad Resources LLC



Borehole:		Well:	Field:	Structure:
Original Hole		County Line 3107-11H	CO, Weld County (NAD 83 NZ) - 2019	Verdad Resources 31-01N-65W (County Line Pad)

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	HDGM 2021	Dip:	66.23°	Date:	11-Jan-2022	Lat:	N 40 0 5.24	Northings:	1244377.73RUS	Grid Conv:	0.5142°
MagDec:	7.87°	FS:	51626.263NT	Gravity FS:	998.982mgn (9.80665 Based)	Lon:	W 104 42 15.12	Easting:	3222938.36RUS	Scale Fact:	0.99996626
				Surface Location				Miscellaneous			
				NAD83 Colorado State Plane, Northern Zone, US Feet				TVD Ref:			
								KB 21ft(5058ft above MSL)			
								Plan:			
								County Line 3107-11H MWD 0' to 17260' Definitive			

Northing: 1244377.72898077		Easting: 3222938.3615115		Latitude: N 40 0 5.24		Longitude: W 104 42 15.12		VSec Azimuth:		180.02		EW (ft) Scale = 1:2000.00(ft)
Target Description				Grid Coord						Local Coord		
Target Name		Latitude	Longitude	Northing	Easting	TVD	VSec	N+/S(-)	E+/W(-)			
County Line Pad - Sec 31-30 - CL		N 40 0 5.24	W 104 42 16.28	1244376.89	3222848.38	5058.00	0.07	-0.04	-89.99			
County Line Pad - Sec 01-12 - CL		N 40 0 5.24	W 104 42 17.05	1244376.31	3222788.38	5058.00	0.07	-0.07	-150.00			
County Line Pad - Sec 06-07 - SB		N 40 0 5.24	W 104 42 16.28	1244376.89	3222848.38	5058.00	0.07	-0.04	-89.99			
County Line Pad - Sec 01-12		N 40 0 5.24	W 104 42 17.05	1244376.31	3222788.38	5058.00	0.12	-0.07	-150.00			
County Line Pad - Sec 31-30 - SB		N 40 0 5.24	W 104 42 13.00	1244378.40	3223103.61	5058.00	-0.24	1.18	-665.27			
County Line Pad - Sec 01-12 - 460' SB		N 40 0 5.24	W 104 42 17.05	1244376.31	3222788.38	5058.00	0.12	-0.07	-150.00			
County Line Pad - Sec 06-07 - CL		N 40 0 5.24	W 104 42 16.28	1244376.89	3222848.38	5058.00	0.07	-0.04	-89.99			
County Line Pad - Sec 31-30-06-07		N 40 0 5.24	W 104 42 16.28	1244376.89	3222848.38	5058.00	-0.07	-0.04	-89.99			
County Line 3107-11H BHL		N 39 58 25.52	W 104 42 4.31	1234295.48	3223870.92	10090.28	7315.89	-10090.58	842.08			
County Line 3107-11H LP		N 39 59 57.34	W 104 42 3.49	1243586.43	3223850.69	7341.00	799.17	-799.48	905.22			

PTB, Drop 1 DLS 1746 MID

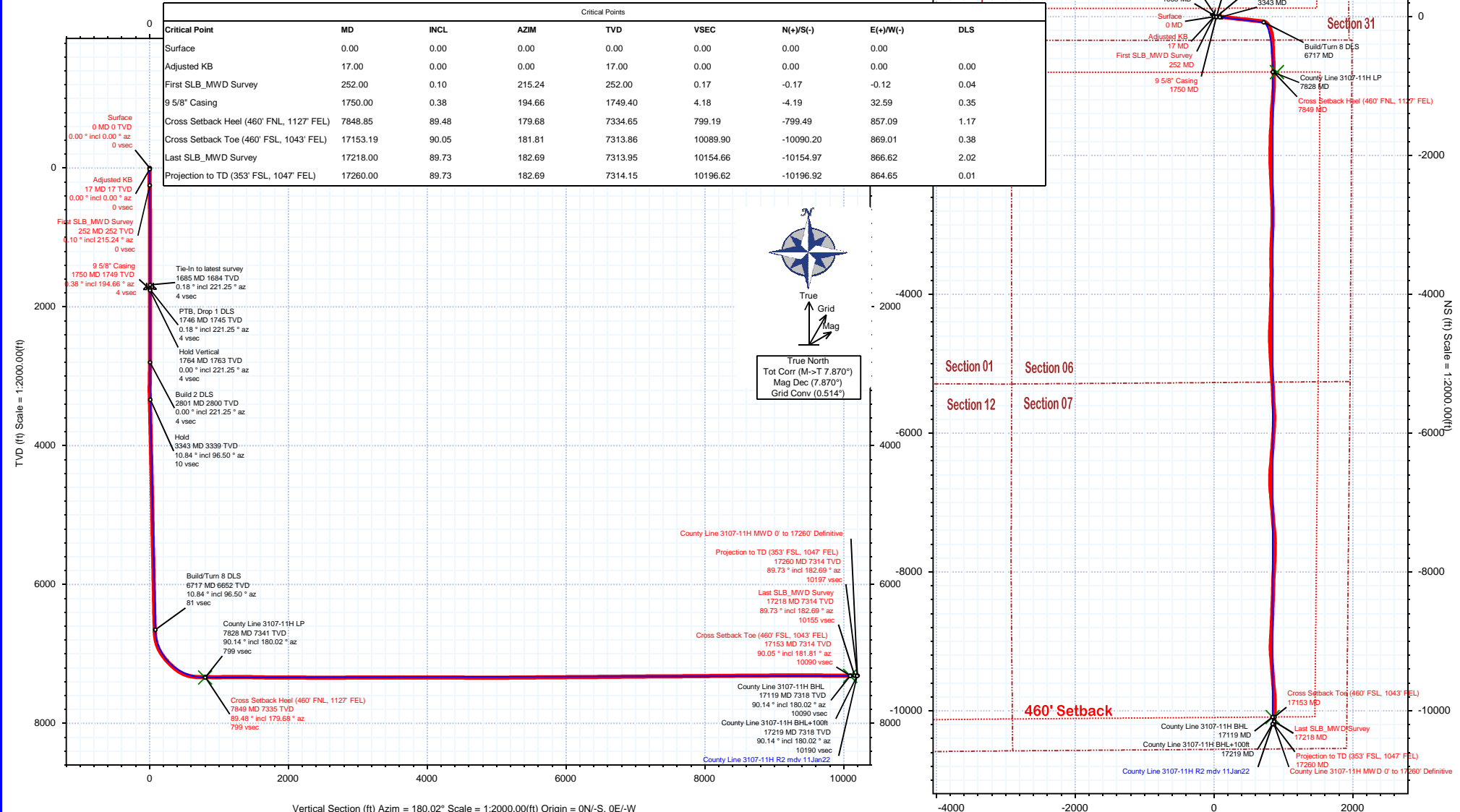
Hold Vertical 1764 MID

Build 2 DLS 2801 MID

Hold

Tie-In to latest survey 4.31

**SHL: 340' FSL, 1940' FEL - Sec 31**



## County Line 3107-11H MWD 0' to 17260' Definitive Survey Geodetic Report

(Def Survey)

**Report Date:** January 24, 2022 - 10:48 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 3107-11H  
**Well:** County Line 3107-11H  
**Borehole:** Original Hole  
**UWI / API#:** Unknown / 05-123-51170  
**Survey Name:** County Line 3107-11H MWD 0' to 17260' Definitive  
**Survey Date:** January 11, 2022  
**Tort / AHD / DDI / ERD Ratio:** 309.015 ° / 10906.475 ft / 6.899 / 1.485  
**Coordinate Reference System:** NAD83 Colorado State Plane, Northern Zone, US Feet  
**Location Lat / Long:** N 40° 0' 5.24304", W 104° 42' 15.12144"  
**Location Grid N/E Y/X:** N 1244377.729 ftUS, E 3222938.362 ftUS  
**CRS Grid Convergence Angle:** 0.5142 °  
**Grid Scale Factor:** 0.99996626  
**Version / Patch:** 2.10.826.8

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 180.020 ° (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:** 7.870 °  
**Total Gravity Field Strength:** 998.9824mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 51626.263 nT  
**Magnetic Dip Angle:** 66.230 °  
**Declination Date:** January 11, 2022  
**Magnetic Declination Model:** HDGM 2021  
**North Reference:** True North  
**Grid Convergence Used:** 0.0000 °  
**Total Corr Mag North→True North:** 7.8702 °  
**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	1244377.73	3222938.36	40.001456	-104.704200
Adjusted KB	17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	1244377.73	3222938.36	40.001456	-104.704200
First SLB_MWD Survey	252.00	0.10	215.24	252.00	0.17	-0.17	-0.12	0.04	1244377.56	3222938.24	40.001456	-104.704201
	283.00	0.17	153.06	283.00	0.23	-0.23	-0.11	0.49	1244377.50	3222938.25	40.001456	-104.704201
	311.00	0.33	97.04	311.00	0.28	-0.28	-0.01	0.98	1244377.45	3222938.35	40.001456	-104.704200
	343.00	0.53	111.34	343.00	0.34	-0.34	0.22	0.70	1244377.39	3222938.58	40.001455	-104.704200
	373.00	0.57	118.93	373.00	0.47	-0.47	0.47	0.28	1244377.27	3222938.84	40.001455	-104.704199
	403.00	0.91	115.78	402.99	0.64	-0.64	0.82	1.14	1244377.10	3222939.19	40.001455	-104.704197
	433.00	1.07	128.56	432.99	0.92	-0.92	1.25	0.91	1244376.82	3222939.62	40.001454	-104.704196
	463.00	1.34	117.25	462.98	1.25	-1.25	1.78	1.20	1244376.49	3222940.16	40.001453	-104.704194
	493.00	1.84	124.38	492.97	1.69	-1.69	2.49	1.79	1244376.06	3222940.87	40.001452	-104.704191
	523.00	2.34	119.11	522.95	2.26	-2.26	3.43	1.78	1244375.50	3222941.81	40.001450	-104.704188
	553.00	2.52	112.91	552.93	2.81	-2.81	4.57	1.06	1244374.96	3222942.96	40.001449	-104.704184
	583.00	2.47	113.69	582.90	3.33	-3.33	5.77	0.20	1244374.45	3222944.16	40.001447	-104.704180
	613.00	2.47	105.36	612.87	3.76	-3.76	6.98	1.20	1244374.03	3222945.38	40.001446	-104.704175
	643.00	2.26	103.88	642.84	4.07	-4.07	8.18	0.73	1244373.73	3222946.58	40.001445	-104.704171
	673.00	2.28	107.14	672.82	4.39	-4.39	9.33	0.44	1244373.42	3222947.73	40.001444	-104.704167
	703.00	2.42	102.52	702.79	4.70	-4.70	10.51	0.78	1244373.12	3222948.92	40.001443	-104.704163
	733.00	2.55	99.43	732.77	4.95	-4.95	11.79	0.62	1244372.89	3222950.20	40.001443	-104.704158
	763.00	2.52	95.99	762.74	5.12	-5.13	13.11	0.52	1244372.72	3222951.51	40.001442	-104.704154
	793.00	2.55	89.21	792.71	5.18	-5.19	14.43	1.00	1244372.67	3222952.84	40.001442	-104.704149
	823.00	2.26	92.90	822.68	5.20	-5.21	15.69	1.10	1244372.66	3222954.09	40.001442	-104.704144
	853.00	2.30	99.15	852.66	5.33	-5.33	16.87	0.84	1244372.55	3222955.28	40.001442	-104.704140
	883.00	2.42	96.33	882.63	5.49	-5.50	18.10	0.56	1244372.39	3222956.50	40.001441	-104.704136
	913.00	2.16	97.19	912.61	5.63	-5.64	19.29	0.87	1244372.26	3222957.70	40.001441	-104.704132
	943.00	2.16	92.86	942.59	5.73	-5.74	20.41	0.54	1244372.17	3222958.82	40.001441	-104.704128
	973.00	2.08	91.56	972.57	5.77	-5.78	21.52	0.31	1244372.14	3222959.93	40.001441	-104.704124
	1003.00	2.19	98.96	1002.55	5.88	-5.89	22.63	0.99	1244372.05	3222961.04	40.001440	-104.704120
	1033.00	2.15	100.21	1032.52	6.07	-6.08	23.75	0.21	1244371.87	3222962.17	40.001440	-104.704116
	1063.00	2.06	93.22	1062.50	6.20	-6.21	24.84	0.91	1244371.75	3222963.26	40.001439	-104.704112
	1093.00	1.97	92.52	1092.49	6.25	-6.26	25.90	0.31	1244371.70	3222964.31	40.001439	-104.704108
	1123.00	1.91	89.83	1122.47	6.27	-6.28	26.91	0.36	1244371.69	3222965.33	40.001439	-104.704104
	1153.00	1.70	87.31	1152.45	6.25	-6.26	27.86	0.75	1244371.72	3222966.27	40.001439	-104.704101
	1183.00	1.36	83.28	1182.44	6.18	-6.19	28.65	1.19	1244371.79	3222967.07	40.001439	-104.704098
	1213.00	1.31	74.00	1212.43	6.05	-6.06	29.34	0.74	1244371.93	3222967.75	40.001440	-104.704096
	1243.00	1.25	66.83	1242.43	5.82	-5.84	29.97	0.57	1244372.16	3222968.38	40.001440	-104.704093
	1273.00	1.10	70.68	1272.42	5.60	-5.61	30.54	0.56	1244372.39	3222968.95	40.001441	-104.704091
	1303.00	0.82	67.31	1302.42	5.42	-5.43	31.01	0.95	1244372.57	3222969.42	40.001441	-104.704090
	1333.00	0.66	54.64	1332.41	5.24	-5.25	31.35	0.76	1244372.76	3222969.76	40.001442	-104.704089
	1363.00	0.57	41.86	1362.41	5.03	-5.04	31.59	0.55	1244372.97	3222969.99	40.001443	-104.704088
	1393.00	0.55	33.02	1392.41	4.80	-4.81	31.77	0.30	1244373.21	3222970.17	40.001443	-104.704087
	1423.00	0.57	26.58	1422.41	4.54	-4.55	31.91	0.22	1244373.46	3222970.31	40.001444	-104.704086
	1453.00	0.69	48.52	1452.41	4.29	-4.30	32.11	0.89	1244373.72	3222970.51	40.001445	-104.704086
	1483.00	0.51	55.80	1482.41	4.09	-4.11	32.36	0.65	1244373.91	3222970.76	40.001445	-104.704085
	1513.00	0.37	48.35	1512.40	3.95	-3.97	32.54	0.50	1244374.06	3222970.94	40.001446	-104.704084
	1543.00	0.15	46.11	1542.40	3.86	-3.87	32.64	0.73	1244374.15	3222971.04	40.001446	-104.704084
	1573.00	0.10	177.55	1572.40	3.86	-3.87	32.67	0.76	1244374.15	3222971.07	40.001446	-104.704084
	1603.00	0.22	99.91	1602.40	3.90	-3.91	32.73	0.74	1244374.11	3222971.13	40.001446	-104.704084
	1633.00	0.03	26.55	1632.40	3.90	-3.91	32.79	0.71	1244374.11	3222971.19	40.001446	-104.704083
	1663.00	0.15	291.22	1662.40	3.88	-3.89	32.76	0.52	1244374.13	3222971.15	40.001446	-104.704083
	1685.00	0.18	221.25	1684.40	3.90	-3.91	32.71	0.87	1244374.12	3222971.10	40.001446	-104.704084
9 5/8" Casing	1750.00	0.38	194.66	1749.40	4.18	-4.19	32.59	0.35	1244373.83	3222970.98	40.001445	-104.704084
	1781.00	0.48	190.07	1780.40	4.40	-4.42	32.54	0.35	1244373.61	3222970.94	40.001444	-104.704084
	1871.00	0.09	38.24	1870.40	4.72	-4.73	32.52	0.62	1244373.29	3222970.92	40.001443	-104.704084
	1960.00	0.05	253.97	1959.40	4.67	-4.68	32.53	0.15	1244373.34	3222970.93	40.001444	-104.704084
	2049.00	0.09	80.22	2048.40	4.67	-4.68	32.56	0.15	1244373.34	3222970.96	40.001444	-104.704084
	2139.00	0.06	135.25	2138.40	4.69	-4.70	32.66	0.08	1244373.32	3222971.06	40.001443	-104.704084
	2228.00	0.07	158.24	2227.40	4.78	-4.79	32.72	0.03	1244373.23	3222971.12	40.001443	-104.704084
	2318.00	0.04	199.25	2317.40	4.87	-4.88	32.73	0.06	1244373.15	3222971.13	40.001443	-104.704084
	2407.00	0.05	291.63	2406.40	4.88	-4.90	32.68	0.07	1244373.13	3222971.08	40.001443	-104.704084
	2496.00	0.10	333.74	2495.40	4.80	-4.81	32.61	0.08	1244373.21	3222971.02	40.001443	-104.704084
	2586.00	0.11	322.46	2585.40	4.67	-4.68	32.53	0.02	1244373.34	3222970.93	40.001444	-104.704084
	2675.00	0.07	220.71	2674.40	4.64	-4.65	32.44	0.15	1244373.37	3222970.84	40.001444	-104.704085
	2765.00	0.14	90.08	2764.40	4.68	-4.69	32.52	0.22	1244373.33	3222970.92	40.001444	-104.704084
	2854.00	3.61	86.30	2853.34	4.50	-4.51	35.42	3.89	1244373.53	3222973.82	40.001444	-104.704074
	2944.00	5.89	79.69	2943.03	3.49	-3.50	42.79	2.60	1244374.61	3222981.18	40.001447	-104.704048
	3033.00	7.89	81.15	3031.38	1.73	-1.75	53.32	2.26	1244376.46	3222991.69	40.001452	-104.704010
	3122.00	9.76	85.77	3119.32	0.23	-0.25	66.87	2.25	1244378.08	3223005.23	40.001456	-104.703962
	3212.00	9.83	91.88	3208.01	-0.09	0.06	82.16	1.16	1244378.53	3223020.51	40.001457	-104.703907
	3301.00	11.65	95.73	3295.45	1.05	-1.09	98.69	2.20	1244377.53	3223037.05	40.001453	-104.703848
	3390.00	10.38	98.59	3382.81	3.14	-3.18	115.56	1.55	1244375.58	3223053.94	40.001448	-104.703788
	3480.00	9.40	98.43	3471.47	5.42	-5.47	130.85	1.09	1244373.43	3223069.25	40.001441	-104.703733
	3569.00	10.62	97.55	3559.12	7.56	-7.61	146.17	1.37	1244371.43	3223084.58	40.001436	-104.703679
	3658.00	10.56	96.44	3646.60	9.55	-9.61	162.40	0.24	1244369.58	3223100.83	40.001430	-104.703621
	3748.00	10.33	94.73	3735.11	11.13	-11.20	178.63	0.43	1244368.14	3223117.08	40.001426	-104.703563
	3837.00	10.31	99.14	3822.67	13.05	-13.12	194.44	0.89	1244366.36	3223132.91	40.001420	-104.703506

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	3927.00	10.47	97.49	3911.20	15.39	-15.46	210.50	0.38	1244364.16	3223148.99	40.001414	-104.703449
	4016.00	10.57	98.12	3998.70	17.59	-17.67	226.60	0.17	1244362.09	3223165.10	40.001408	-104.703392
	4105.00	10.33	95.19	4086.23	19.46	-19.55	242.63	0.65	1244360.36	3223181.15	40.001403	-104.703334
	4195.00	10.37	97.04	4174.76	21.18	-21.27	258.71	0.37	1244358.78	3223197.24	40.001398	-104.703277
	4284.00	10.53	97.36	4262.29	23.20	-23.29	274.73	0.19	1244356.90	3223213.27	40.001392	-104.703220
	4374.00	10.79	96.13	4350.73	25.15	-25.25	291.26	0.38	1244355.10	3223229.83	40.001387	-104.703161
	4463.00	10.80	97.72	4438.16	27.15	-27.26	307.80	0.33	1244353.24	3223246.39	40.001382	-104.703102
	4552.00	9.27	98.45	4525.79	29.32	-29.43	323.15	1.73	1244351.20	3223261.75	40.001376	-104.703047
	4641.00	10.54	96.20	4613.47	31.24	-31.36	338.33	1.50	1244349.41	3223276.95	40.001370	-104.702993
	4731.00	10.58	96.28	4701.94	33.03	-33.15	354.73	0.05	1244347.76	3223293.36	40.001365	-104.702934
	4820.00	10.42	96.24	4789.45	34.79	-34.92	370.85	0.19	1244346.14	3223309.50	40.001361	-104.702877
	4909.00	10.43	95.14	4876.98	36.38	-36.52	386.87	0.22	1244344.68	3223325.53	40.001356	-104.702819
	4999.00	10.54	94.22	4965.48	37.71	-37.85	403.19	0.23	1244343.50	3223341.86	40.001352	-104.702761
	5088.00	10.72	96.51	5052.96	39.24	-39.39	419.53	0.51	1244342.11	3223358.22	40.001348	-104.702703
	5178.00	10.24	94.08	5141.45	40.76	-40.91	435.83	0.72	1244340.74	3223374.52	40.001344	-104.702645
	5267.00	10.61	95.24	5228.99	42.06	-42.22	451.88	0.48	1244339.57	3223390.58	40.001340	-104.702587
	5357.00	10.67	97.12	5317.44	43.85	-44.01	468.40	0.39	1244337.93	3223407.12	40.001336	-104.702528
	5446.00	10.58	95.69	5404.91	45.67	-45.84	484.70	0.31	1244336.24	3223423.44	40.001331	-104.702470
	5535.00	10.46	97.11	5492.42	47.48	-47.65	500.85	0.32	1244334.58	3223439.60	40.001326	-104.702413
	5625.00	9.96	96.98	5580.99	49.43	-49.61	516.68	0.55	1244332.76	3223455.44	40.001320	-104.702356
	5714.00	10.20	97.03	5668.62	51.32	-51.51	532.14	0.27	1244331.00	3223470.92	40.001315	-104.702301
	5803.00	10.25	97.66	5756.20	53.34	-53.53	547.81	0.14	1244329.12	3223486.61	40.001309	-104.702245
	5893.00	10.43	95.08	5844.74	55.12	-55.31	563.86	0.55	1244327.48	3223502.68	40.001305	-104.702188
	5982.00	10.51	96.07	5932.26	56.68	-56.89	579.96	0.22	1244326.05	3223518.78	40.001300	-104.702130
	6071.00	10.56	96.67	6019.76	58.48	-58.69	596.13	0.14	1244324.39	3223534.97	40.001295	-104.702073
	6160.00	10.25	96.12	6107.30	60.27	-60.48	612.10	0.37	1244322.74	3223550.96	40.001290	-104.702016
	6249.00	10.52	95.65	6194.84	61.91	-62.13	628.06	0.31	1244321.24	3223566.93	40.001286	-104.701959
	6339.00	10.36	96.05	6283.35	63.56	-63.79	644.28	0.19	1244319.73	3223583.16	40.001281	-104.701901
	6428.00	10.59	96.81	6370.87	65.37	-65.60	660.36	0.30	1244318.06	3223599.26	40.001276	-104.701843
	6518.00	10.38	97.10	6459.36	67.35	-67.58	676.61	0.24	1244316.22	3223615.53	40.001271	-104.701785
	6607.00	10.39	97.18	6546.91	69.34	-69.58	692.53	0.02	1244314.37	3223631.47	40.001265	-104.701728
	6697.00	10.62	95.92	6635.40	71.20	-71.45	708.83	0.36	1244312.65	3223647.78	40.001260	-104.701670
	6786.00	13.80	112.86	6722.40	76.17	-76.42	726.78	5.35	1244307.84	3223665.77	40.001247	-104.701606
	6876.00	18.88	126.40	6808.77	88.98	-89.24	748.41	7.02	1244295.21	3223687.51	40.001211	-104.701529
	6965.00	26.01	141.97	6891.05	112.94	-113.21	772.07	10.37	1244271.46	3223711.39	40.001146	-104.701445
	7055.00	32.96	153.09	6969.40	150.38	-150.66	795.35	9.81	1244234.22	3223735.00	40.001043	-104.701361
	7144.00	38.71	162.14	7041.57	198.53	-198.82	814.87	8.77	1244186.24	3223754.95	40.000911	-104.701292
	7233.00	42.72	167.78	7109.04	254.56	-254.85	829.81	6.10	1244130.34	3223770.39	40.000757	-104.701239
	7323.00	47.13	174.62	7172.79	317.30	-317.59	839.37	7.27	1244067.70	3223780.52	40.000585	-104.701204
	7412.00	53.06	178.97	7229.88	385.41	-385.70	843.08	7.64	1243999.62	3223784.83	40.000398	-104.701191
	7502.00	62.50	178.89	7277.81	461.44	-461.74	844.50	10.49	1243923.61	3223786.94	40.000189	-104.701186
	7591.00	73.66	176.85	7310.99	543.81	-544.11	847.61	12.72	1243841.27	3223790.79	39.999963	-104.701175
	7681.00	83.00	175.36	7329.17	631.65	-631.94	853.61	10.50	1243753.49	3223797.58	39.999722	-104.701154
	7770.00	90.22	180.23	7334.44	720.34	-720.64	857.02	9.77	1243664.84	3223801.78	39.999478	-104.701141
Cross Setback Heel (460' FNL, 1127' FEL)	7848.85	89.48	179.68	7334.65	799.19	-799.49	857.09	1.17	1243585.99	3223802.56	39.999262	-104.701141
	7860.00	89.37	179.60	7334.76	810.34	-810.63	857.16	1.17	1243574.85	3223802.73	39.999231	-104.701141
	7949.00	89.18	178.49	7335.88	899.31	-899.61	858.64	1.27	1243485.89	3223805.01	39.998987	-104.701136
	8039.00	90.44	180.96	7336.17	989.30	-989.60	859.07	3.09	1243395.91	3223806.25	39.998740	-104.701134
	8128.00	90.19	184.60	7335.68	1078.18	-1078.48	854.75	4.09	1243307.00	3223802.73	39.998496	-104.701150
	8218.00	89.90	183.27	7335.61	1167.97	-1168.27	848.58	1.51	1243217.16	3223797.36	39.998249	-104.701172
	8307.00	91.29	185.45	7334.69	1256.70	-1257.00	841.81	2.91	1243128.38	3223791.39	39.998006	-104.701196
	8397.00	89.10	183.64	7334.38	1346.41	-1346.71	834.68	3.15	1243038.62	3223785.07	39.997760	-104.701221
	8486.00	89.57	181.46	7335.41	1435.32	-1435.61	830.73	2.50	1242949.69	3223781.91	39.997515	-104.701235
	8576.00	89.13	180.98	7336.43	1525.29	-1525.58	828.81	0.72	1242859.70	3223780.80	39.997269	-104.701242
	8665.00	88.54	186.81	7338.24	1614.03	-1614.32	822.78	6.59	1242770.92	3223775.56	39.997025	-104.701264
	8754.00	88.67	180.66	7340.42	1702.77	-1703.06	816.98	6.91	1242682.13	3223770.56	39.996781	-104.701284
	8843.00	89.91	181.27	7341.52	1791.75	-1792.04	815.48	1.56	1242593.15	3223769.86	39.996537	-104.701290
	8933.00	89.93	181.97	7341.64	1881.72	-1882.00	812.94	0.77	1242503.17	3223768.13	39.996290	-104.701299
	9022.00	90.23	180.61	7341.52	1970.69	-1970.98	810.94	1.57	1242414.18	3223766.93	39.996046	-104.701306
	9112.00	89.80	178.63	7341.50	2060.69	-2060.97	811.55	2.25	1242324.20	3223768.34	39.995799	-104.701304
	9201.00	89.62	177.21	7341.95	2149.62	-2149.91	814.78	1.61	1242235.30	3223772.38	39.995555	-104.701292
	9291.00	89.74	177.64	7342.45	2239.53	-2239.81	818.83	0.50	1242145.43	3223777.23	39.995308	-104.701278
	9381.00	89.91	177.35	7342.72	2329.44	-2329.73	822.76	0.38	1242055.56	3223781.97	39.995061	-104.701264
	9470.00	89.62	177.77	7343.08	2418.36	-2418.65	826.55	0.58	1241966.68	3223786.55	39.994817	-104.701250
	9560.00	90.18	176.72	7343.24	2508.25	-2508.54	830.87	1.32	1241876.84	3223791.68	39.994570	-104.701235
	9649.00	89.92	177.20	7343.17	2597.12	-2597.41	835.59	0.61	1241788.01	3223797.20	39.994326	-104.701218
	9739.00	90.41	178.33	7342.91	2687.05	-2687.34	839.10	1.36	1241698.12	3223801.52	39.994079	-104.701206
	9828.00	89.99	179.07	7342.59	2776.03	-2776.32	841.12	0.96	1241609.17	3223804.34	39.993835	-104.701198
	9918.00	90.68	179.24	7342.06	2866.01	-2866.31	842.45	0.78	1241519.20	3223806.47	39.993588	-104.701194
	10007.00	90.51	180.63	7341.14	2955.01	-2955.30	842.55	1.58	1241430.21	3223807.37	39.993344	-104.701193
	10097.00	90.28	182.67	7340.53	3044.96	-3045.26	839.96	2.28	1241340.24	3223805.58	39.993097	-104.701203
	10186.00	90.18	183.08	7340.17	3133.85	-3134.14	835.49	0.48	1241251.32	3223801.92	39.992853	-104.701219
	10276.00	90.05	182.07	7340.00	3223.76	-3224.05	831.45	1.14	1241161.38	3223798.68	39.992606	-104.701233
	10365.00	89.78	182.27	7340.13	3312.70	-3312.99	828.09	0.38	1241072.42	3223796.12	39.992362	-104.701245
	10455.00	89.94	181.61	7340.35	3402.65	-3402.94	825.05	0.76	1240982.46	3223793.88	39.992115	-104.701256
	10544.00	90.18	180.04	7340.26	3491.64	-3491.92	823.77	1.78	1240893.46	3223793.40	39.991871	-104.701260
	10634.00	90.24	177.65	7339.93	3581.61	-3581.90	825.58	2.66	1240803.51	3223796.02	39.991624	-104.701254
	10723.00	89.84	178.69	7339.87	3670.56	-3670.85	828.42	1.25	1240714.59	3223799.66	39.991380	-104.701244
	10813.00	90.34	183.32	7339.73	3760.52	-3760.81	826.84	5.18	1240624.62	3223798.89	39	

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	13410.00	90.41	184.88	7333.53	6353.91	-6354.20	829.42	0.14	1238031.45	3223824.74	39.984013	-104.701241
	13500.00	90.62	185.41	7332.72	6443.55	-6443.84	821.35	0.64	1237941.75	3223817.48	39.983767	-104.701269
	13589.00	89.75	184.40	7332.43	6532.22	-6532.51	813.74	1.49	1237853.02	3223810.66	39.983524	-104.701297
	13679.00	91.06	182.53	7331.79	6622.05	-6622.33	808.30	2.54	1237763.15	3223806.02	39.983277	-104.701316
	13768.00	91.01	177.92	7330.18	6711.01	-6711.29	807.94	5.18	1237674.20	3223806.47	39.983033	-104.701317
	13858.00	90.38	175.34	7329.10	6800.84	-6801.12	813.23	2.96	1237584.42	3223812.56	39.982787	-104.701298
	13947.00	90.42	175.18	7328.48	6889.53	-6889.82	820.59	0.19	1237495.80	3223820.72	39.982543	-104.701272
	14037.00	90.63	175.52	7327.66	6979.23	-6979.52	827.89	0.45	1237406.17	3223828.82	39.982297	-104.701246
	14126.00	90.61	174.94	7326.69	7067.91	-7068.20	835.29	0.65	1237317.56	3223837.02	39.982054	-104.701220
	14216.00	90.53	175.39	7325.79	7157.58	-7157.88	842.87	0.51	1237227.96	3223845.40	39.981807	-104.701193
	14305.00	90.73	175.56	7324.82	7246.30	-7246.59	849.89	0.29	1237139.31	3223853.22	39.981564	-104.701168
	14395.00	90.57	175.48	7323.80	7336.01	-7336.31	856.92	0.19	1237049.66	3223861.05	39.981318	-104.701143
	14484.00	90.62	174.47	7322.87	7424.66	-7424.97	864.72	1.14	1236961.09	3223869.64	39.981074	-104.701115
	14574.00	89.77	176.59	7322.57	7514.38	-7514.69	871.73	2.55	1236871.44	3223877.46	39.980828	-104.701090
	14663.00	90.06	180.76	7322.71	7603.34	-7603.64	873.78	4.70	1236782.51	3223880.31	39.980584	-104.701082
	14753.00	90.39	180.85	7322.35	7693.33	-7693.63	872.51	0.37	1236692.51	3223879.85	39.980337	-104.701087
	14842.00	90.37	182.29	7321.76	7782.29	-7782.60	870.07	1.62	1236603.53	3223878.21	39.980092	-104.701096
	14932.00	90.58	183.29	7321.01	7872.18	-7872.48	865.69	1.13	1236513.61	3223874.63	39.979846	-104.701111
	15021.00	90.54	183.11	7320.14	7961.04	-7961.34	860.72	0.21	1236424.72	3223870.46	39.979602	-104.701129
	15111.00	90.59	182.99	7319.25	8050.91	-8051.21	855.94	0.14	1236334.81	3223866.48	39.979355	-104.701146
	15200.00	90.52	181.70	7318.39	8139.83	-8140.13	852.30	1.45	1236245.87	3223863.64	39.979111	-104.701159
	15290.00	90.43	180.97	7317.64	8229.80	-8230.10	850.20	0.81	1236155.88	3223862.35	39.978864	-104.701167
	15379.00	90.50	181.90	7316.92	8318.77	-8319.07	847.96	1.05	1236066.90	3223860.92	39.978620	-104.701175
	15469.00	90.66	182.15	7316.01	8408.71	-8409.01	844.78	0.33	1235976.94	3223858.54	39.978373	-104.701186
	15558.00	90.42	182.26	7315.17	8497.64	-8497.94	841.35	0.29	1235887.99	3223855.91	39.978129	-104.701198
	15648.00	90.58	181.61	7314.39	8587.59	-8587.88	838.32	0.73	1235798.02	3223853.68	39.977882	-104.701209
	15738.00	90.27	182.50	7313.72	8677.53	-8677.82	835.08	1.04	1235708.06	3223851.25	39.977635	-104.701221
	15827.00	90.41	183.22	7313.20	8766.42	-8766.71	830.64	0.82	1235619.14	3223847.61	39.977391	-104.701237
	15916.00	90.23	182.49	7312.70	8855.31	-8855.59	826.21	0.85	1235530.22	3223843.97	39.977147	-104.701252
	16006.00	90.10	183.64	7312.44	8945.18	-8945.46	821.40	1.28	1235440.32	3223839.97	39.976900	-104.701270
	16095.00	90.32	181.75	7312.11	9034.08	-9034.36	817.22	2.13	1235351.39	3223836.59	39.976656	-104.701284
	16185.00	90.39	178.87	7311.55	9124.06	-9124.35	816.72	3.20	1235261.40	3223836.90	39.976409	-104.701286
	16274.00	90.31	174.34	7311.00	9212.88	-9213.17	821.99	5.10	1235172.64	3223842.97	39.976165	-104.701267
	16364.00	89.67	175.45	7311.02	9302.52	-9302.81	830.00	1.42	1235083.08	3223851.78	39.975919	-104.701239
	16453.00	89.98	176.60	7311.29	9391.30	-9391.59	836.17	1.35	1234994.35	3223858.75	39.975676	-104.701217
	16542.00	89.76	175.04	7311.48	9480.06	-9480.35	842.65	1.77	1234905.66	3223866.03	39.975432	-104.701194
	16632.00	90.22	176.39	7311.50	9569.80	-9570.10	849.37	1.59	1234815.98	3223873.55	39.975186	-104.701170
	16721.00	89.20	173.75	7311.95	9658.46	-9658.76	857.02	3.19	1234727.39	3223881.99	39.974942	-104.701143
	16811.00	89.45	175.22	7313.02	9748.03	-9748.33	865.68	1.66	1234637.90	3223891.45	39.974696	-104.701112
	16901.00	90.06	176.93	7313.40	9837.81	-9838.12	871.85	2.02	1234548.18	3223898.43	39.974450	-104.701090
	16990.00	89.58	180.71	7313.68	9926.78	-9927.08	873.68	4.29	1234459.24	3223901.06	39.974206	-104.701083
	17080.00	90.08	182.08	7313.95	10016.75	-10017.05	871.49	1.62	1234369.26	3223899.67	39.973959	-104.701091
Cross Setback Toe (460' FSL, 1043' FEL)	17153.19	90.05	181.81	7313.86	10089.90	-10090.20	869.01	0.38	1234296.09	3223897.85	39.973758	-104.701100
	17169.00	90.04	181.75	7313.85	10105.70	-10106.00	868.52	0.38	1234280.29	3223897.50	39.973714	-104.701102
Last SLB_MWD Survey	17218.00	89.73	182.69	7313.95	10154.66	-10154.97	866.62	2.02	1234231.31	3223896.05	39.973580	-104.701108
Projection to TD (353' FSL, 1047' FEL)	17260.00	89.73	182.69	7314.15	10196.62	-10196.92	864.65	0.01	1234189.34	3223894.45	39.973465	-104.701115

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 3107- 11H MWD 0' to 17260' Definitive
	1	17.000	21.000	Act Stns	13.500	9.625	B001Mb_MWD+HRGM-Depth Only	Original Hole / County Line 3107- 11H MWD 0' to 17260' Definitive
	1	21.000	1685.000	Act Stns	13.500	9.625	B001Mb_MWD+HRGM	Original Hole / County Line 3107- 11H MWD 0' to 17260' Definitive
	1	1685.000	17260.000	Act Stns	8.500	5.500	B001Mb_MWD+HRGM	Original Hole / County Line 3107- 11H MWD 0' to 17260' Definitive