

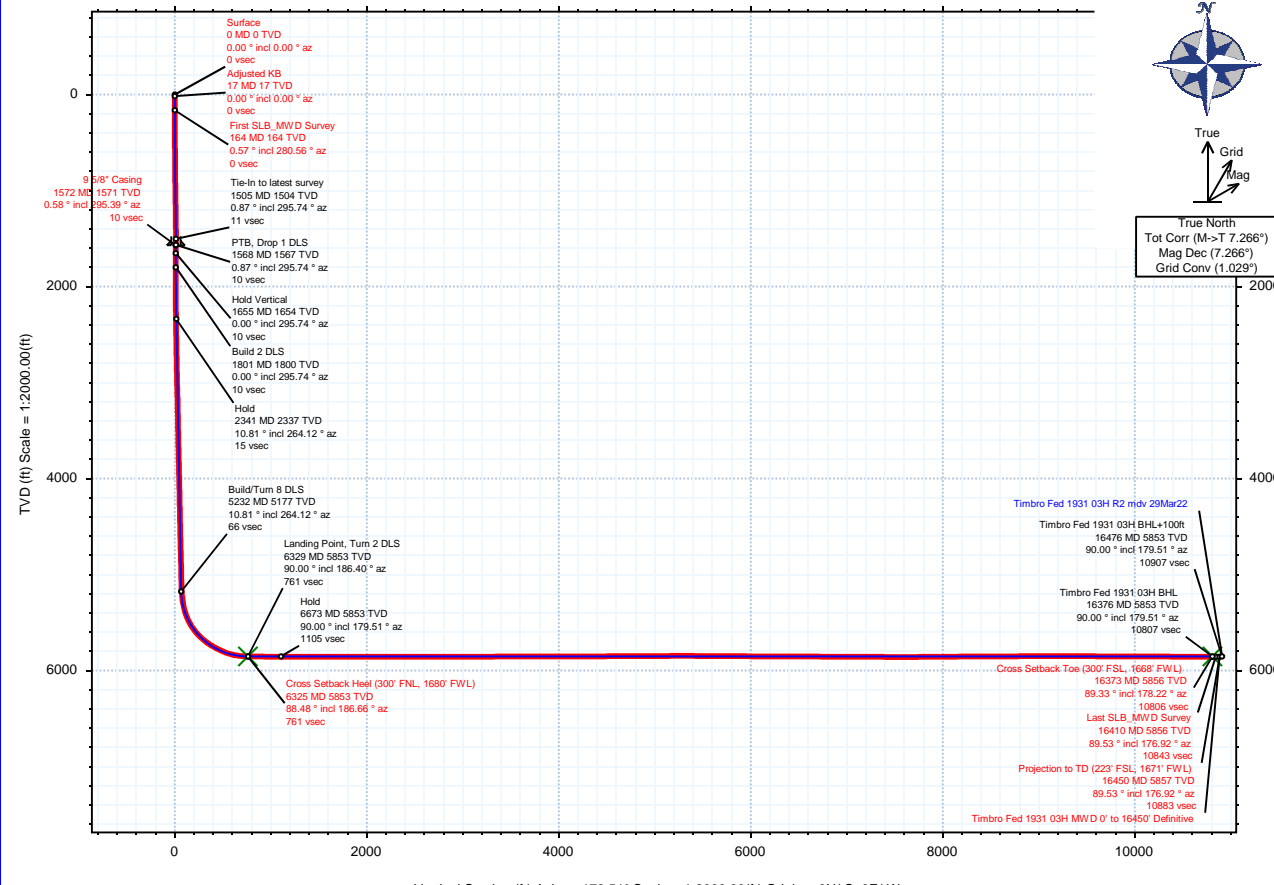
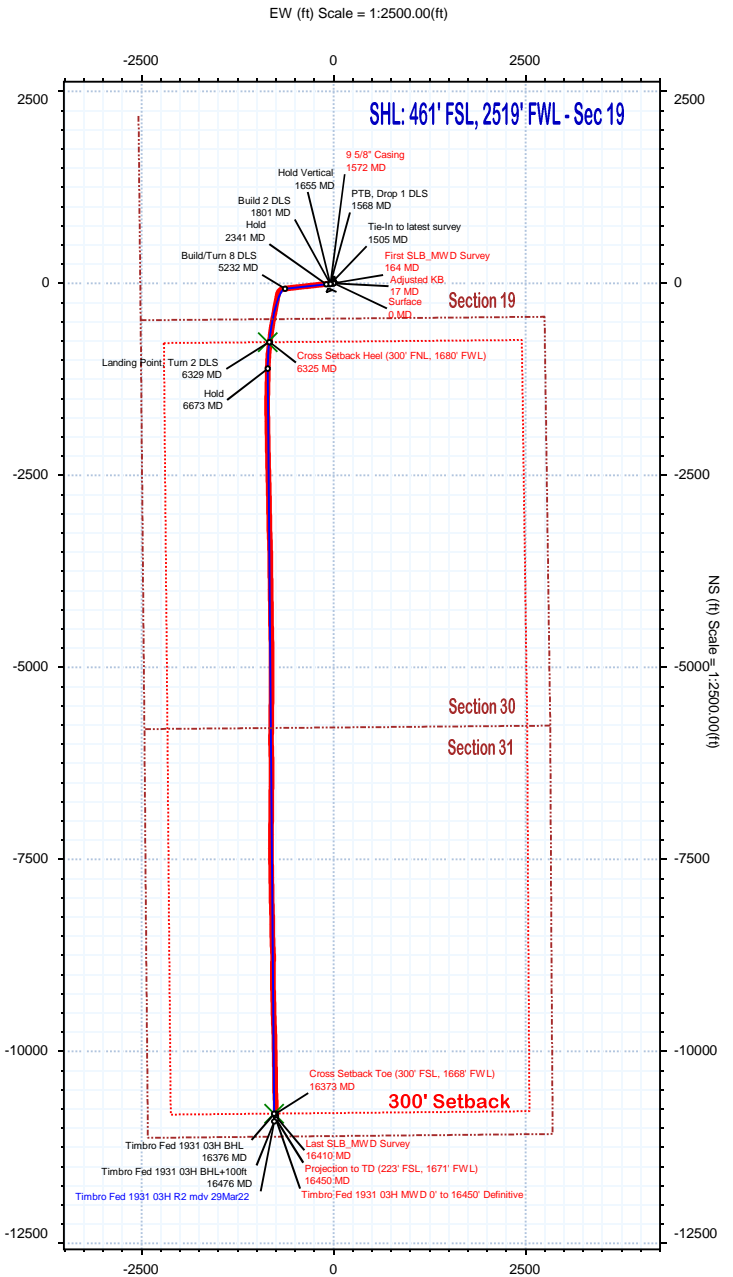
<b>Borehole:</b> Timbro Fed 1931 03H	<b>Well:</b> Timbro Fed 1931 03H	<b>Field:</b> CO, Weld County (NAD 83 NZ) - 2019	<b>Structure:</b> Verdad Resources 19-09N-58W (Timbro Fed 1931 Pad)
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<b>Gravity &amp; Magnetic Parameters</b>				<b>Surface Location</b>				<b>NAD83 Colorado State Plane, Northern Zone, US Feet</b>				<b>Miscellaneous</b>			
Model:	Hdgm 2022	Dip:	66.924°	Date:	29-Mar-2022	Lat:	N 40 43 49.60	Northing:	1512908.1ftUS	Grid Conv:	1.029°	Slot:	03H	TVD Ref:	RKB = 21ft(4845ft above MSL)
MagDec:	7.266°	FS:	52142.357mT	Gravity FS:	999.089mgn (9.80665 Based)	Lon:	W 103 54 27.05	Easting:	3441338.03ftUS	Scale Fact:	0.99999185	Plan:	Timbro Fed 1931 03H MWD 0' to 16450' Definitive		

Surface Location									
Northing:		Easting:		Latitude:		Longitude:		VSec Azimuth:	
1512908.096		3441338.027		N 40 43 49.60		W 103 54 27.05		179.51	
Target Description		Grid Coord		Local Coord					
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)	
Timbro Fed 1931 Pad Sec 30-31 - 300' SB	N 40 43 49.60	W 103 54 27.44	1512907.34	3441308.05	4845.00	-0.04	-0.22	-29.99	
Timbro Fed 1931 Pad Sec 30-31	N 40 43 49.60	W 103 54 27.44	1512907.34	3441308.05	4845.00	-0.04	-0.22	-29.99	
Timbro Fed 1931 Pad Sec 30-31 - CL	N 40 43 49.60	W 103 54 27.44	1512907.34	3441308.05	4845.00	-0.04	0.22	-29.99	
Timbro Fed 1931 03H LP	N 40 43 42.01	W 103 54 38.23	1512124.45	3440491.74	5853.00	760.94	-768.33	-860.23	
Timbro Fed 1931 03H BHL	N 40 42 2.74	W 103 54 37.11	1502081.61	3440757.87	5853.00	10807.41	-10814.43	-774.49	

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	164.00	0.57	280.56	164.00	-0.14	0.13	-0.72	0.39	
9 5/8" Casing	1572.00	0.58	295.39	1571.14	10.41	-10.79	-44.22	0.43	
Cross Setback Heel (300' FNL, 1680' FWL)	6325.33	88.48	186.66	5852.96	761.46	-768.60	-831.98	4.79	
Cross Setback Toe (300' FSL, 1668' FWL)	16373.12	89.33	178.22	5856.09	10806.05	-10812.90	-754.26	3.57	
Last SLB_MWD Survey	16410.00	89.53	176.92	5856.46	10842.91	-10849.75	-752.70	3.57	
Projection to TD (223' FSL, 1671' FWL)	16450.00	89.53	176.92	5856.79	10882.87	-10889.69	-750.55	0.00	



Vertical Section (ft) Azim = 179.51° Scale = 1:2000.00(ft) Origin = 0N-/S, 0E-/W

# Timbro Fed 1931 03H MWD 0' to 16450' Definitive Survey Geodetic Report

(Def Survey)

**Report Date:** April 04, 2022 - 11:20 AM  
**Client:** Verdad Resources  
**Field:** CO, Weld County (NAD 83 NZ) - 2019  
**Structure / Slot:** Verdad Resources 19-09N-58W (Timbro Fed 1931 Pad) / 03H  
**Well:** Timbro Fed 1931 03H  
**Borehole:** Timbro Fed 1931 03H  
**UWI / API#:** Unknown / 05-123-51207  
**Survey Name:** Timbro Fed 1931 03H MWD 0' to 16450' Definitive  
**Survey Date:** March 29, 2022  
**Tort / AHD / DDI / ERD Ratio:** 262.204 ° / 11525.447 ft / 6.929 / 1.967  
**Coordinate Reference System:** NAD83 Colorado State Plane, Northern Zone, US Feet  
**Location Lat / Long:** N 40° 43' 49.59768", W 103° 54' 27.05219"  
**Location Grid N/E Y/X:** N 1512908.096 ftUS, E 3441338.027 ftUS  
**CRS Grid Convergence Angle:** 1.0290 °  
**Grid Scale Factor:** 0.99999185  
**Version / Patch:** 2.10.826.8

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 179.510 ° (True North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** RKB = 21ft  
**TVD Reference Elevation:** 4845.000 ft above MSL  
**Seabed / Ground Elevation:** 4824.000 ft above MSL  
**Magnetic Declination:** 7.266 °  
**Total Gravity Field Strength:** 999.0892mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 52142.357 nT  
**Magnetic Dip Angle:** 66.924 °  
**Declination Date:** March 29, 2022  
**Magnetic Declination Model:** HDGM 2022  
**North Reference:** True North  
**Grid Convergence Used:** 0.0000 °  
**Total Corr Mag North->True North:** 7.2656 °  
**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	1512908.10	3441338.03	40.730444	-103.907514
Adjusted KB	17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	1512908.10	3441338.03	40.730444	-103.907514
First SLB_MWD Survey	164.00	0.57	280.56	164.00	-0.14	0.13	-0.72	0.39	1512908.22	3441337.31	40.730444	-103.907517
	221.00	0.59	279.72	220.99	-0.25	0.24	-1.29	0.04	1512908.31	3441336.74	40.730444	-103.907519
	251.00	0.64	278.30	250.99	-0.30	0.29	-1.60	0.17	1512908.35	3441336.42	40.730445	-103.907520
	281.00	0.83	279.30	280.99	-0.36	0.35	-1.99	0.63	1512908.41	3441336.04	40.730445	-103.907522
	313.00	0.78	278.10	312.99	-0.43	0.41	-2.43	0.16	1512908.47	3441335.59	40.730445	-103.907523
	343.00	0.97	272.25	342.98	-0.48	0.45	-2.89	0.70	1512908.50	3441335.13	40.730445	-103.907525
	373.00	1.11	262.91	372.98	-0.46	0.43	-3.43	0.73	1512908.46	3441334.59	40.730445	-103.907527
	403.00	1.42	257.05	402.97	-0.34	0.31	-4.08	1.12	1512908.33	3441333.94	40.730445	-103.907529
	433.00	1.46	261.32	432.96	-0.21	0.17	-4.82	0.38	1512908.18	3441333.21	40.730444	-103.907532
	463.00	1.55	264.49	462.95	-0.12	0.07	-5.60	0.41	1512908.06	3441332.43	40.730444	-103.907535
	493.00	1.66	257.91	492.94	0.01	-0.06	-6.43	0.71	1512907.92	3441331.60	40.730444	-103.907538
	523.00	2.00	253.17	522.92	0.24	-0.30	-7.35	1.24	1512907.66	3441330.68	40.730443	-103.907541
	553.00	1.97	251.04	552.91	0.55	-0.62	-8.34	0.27	1512907.32	3441329.70	40.730442	-103.907545
	583.00	1.99	248.66	582.89	0.90	-0.98	-9.32	0.28	1512906.95	3441328.73	40.730441	-103.907548
	613.00	1.88	249.42	612.87	1.25	-1.34	-10.26	0.38	1512906.57	3441327.79	40.730440	-103.907552
	643.00	1.77	252.07	642.86	1.56	-1.66	-11.16	0.46	1512906.24	3441326.90	40.730439	-103.907555
	673.00	1.76	253.77	672.84	1.83	-1.93	-12.05	0.18	1512905.95	3441326.02	40.730439	-103.907558
	703.00	1.75	254.10	702.83	2.07	-2.18	-12.93	0.05	1512905.68	3441325.14	40.730438	-103.907561
	733.00	1.65	253.75	732.81	2.31	-2.43	-13.78	0.34	1512905.42	3441324.29	40.730437	-103.907564
	763.00	1.61	254.79	762.80	2.54	-2.66	-14.61	0.17	1512905.17	3441323.47	40.730436	-103.907567
	793.00	1.67	257.83	792.79	2.73	-2.86	-15.44	0.35	1512904.96	3441322.64	40.730436	-103.907570
	823.00	1.98	258.40	822.78	2.92	-3.06	-16.37	1.04	1512904.74	3441321.71	40.730435	-103.907574
	853.00	2.17	256.40	852.76	3.15	-3.30	-17.43	0.68	1512904.49	3441320.65	40.730435	-103.907577
	883.00	2.29	252.13	882.73	3.46	-3.62	-18.56	0.68	1512904.15	3441319.54	40.730434	-103.907581
	913.00	2.25	250.25	912.71	3.83	-4.00	-19.68	0.28	1512903.74	3441318.42	40.730433	-103.907586
	943.00	2.14	247.70	942.69	4.23	-4.41	-20.75	0.49	1512903.31	3441317.36	40.730432	-103.907589
	973.00	2.20	247.46	972.67	4.66	-4.84	-21.80	0.20	1512902.86	3441316.31	40.730431	-103.907593
	1003.00	2.20	244.21	1002.64	5.12	-5.31	-22.85	0.42	1512902.37	3441315.27	40.730429	-103.907597
	1033.00	2.11	242.76	1032.62	5.61	-5.82	-23.86	0.35	1512901.85	3441314.27	40.730428	-103.907601
	1063.00	2.22	245.43	1062.60	6.10	-6.31	-24.88	0.50	1512901.34	3441313.26	40.730426	-103.907604
	1093.00	2.33	247.12	1092.58	6.57	-6.79	-25.97	0.43	1512900.84	3441312.18	40.730425	-103.907608
	1123.00	2.47	254.49	1122.55	6.97	-7.20	-27.16	1.13	1512900.41	3441311.00	40.730424	-103.907612
	1153.00	2.60	254.36	1152.52	7.31	-7.56	-28.44	0.43	1512900.03	3441309.73	40.730423	-103.907617
	1183.00	2.74	253.39	1182.49	7.69	-7.95	-29.78	0.49	1512899.62	3441308.40	40.730422	-103.907622
	1213.00	2.79	254.31	1212.45	8.08	-8.35	-31.17	0.22	1512899.19	3441307.01	40.730421	-103.907627
	1243.00	2.94	252.81	1242.42	8.49	-8.77	-32.61	0.56	1512898.74	3441305.58	40.730420	-103.907632
	1273.00	3.04	255.42	1272.38	8.91	-9.20	-34.11	0.56	1512898.28	3441304.09	40.730419	-103.907638
	1303.00	3.19	254.21	1302.33	9.32	-9.63	-35.69	0.55	1512897.83	3441302.52	40.730417	-103.907643
	1333.00	3.53	254.99	1332.28	9.77	-10.09	-37.38	1.14	1512897.33	3441300.83	40.730416	-103.907649
	1363.00	3.27	255.97	1362.23	10.21	-10.54	-39.10	0.89	1512896.85	3441299.12	40.730415	-103.907656
	1393.00	2.50	255.07	1392.19	10.57	-10.92	-40.56	2.57	1512896.45	3441297.67	40.730414	-103.907661
	1423.00	1.91	258.07	1422.17	10.83	-11.19	-41.69	2.00	1512896.16	3441296.55	40.730413	-103.907665
	1453.00	1.29	269.19	1452.15	10.93	-11.30	-42.51	2.30	1512896.04	3441295.72	40.730413	-103.907668
	1483.00	1.02	279.44	1482.15	10.89	-11.26	-43.11	1.13	1512896.07	3441295.12	40.730413	-103.907670
	1505.00	0.87	295.74	1504.15	10.78	-11.15	-43.46	1.39	1512896.16	3441294.78	40.730413	-103.907671
9 5/8" Casing	1572.00	0.58	295.39	1571.14	10.41	-10.79	-44.22	0.43	1512896.52	3441294.00	40.730414	-103.907674
	1697.00	0.05	283.15	1696.14	10.12	-10.50	-44.85	0.43	1512896.79	3441293.38	40.730415	-103.907676
	1785.00	0.70	271.72	1784.14	10.09	-10.48	-45.42	0.75	1512896.80	3441292.80	40.730415	-103.907678
	1874.00	2.27	260.97	1873.10	10.33	-10.74	-47.71	1.79	1512896.50	3441290.52	40.730414	-103.907687
	1964.00	4.15	269.98	1962.96	10.57	-11.02	-52.73	2.15	1512896.13	3441285.51	40.730414	-103.907705
	2053.00	5.85	271.38	2051.62	10.39	-10.91	-60.48	1.92	1512896.10	3441277.75	40.730414	-103.907733
	2142.00	8.01	268.61	2139.96	10.34	-10.95	-71.21	2.46	1512895.87	3441267.02	40.730414	-103.907771
	2232.00	9.29	269.06	2228.94	10.50	-11.22	-84.74	1.42	1512895.35	3441253.50	40.730413	-103.907820
	2322.00	10.64	267.55	2317.58	10.84	-11.70	-100.30	1.53	1512894.60	3441237.95	40.730412	-103.907876
	2411.00	10.80	266.01	2405.03	11.63	-12.63	-116.82	0.37	1512893.37	3441221.45	40.730409	-103.907936
	2501.00	11.17	262.59	2493.38	13.19	-14.34	-133.88	0.83	1512891.36	3441204.43	40.730404	-103.907998
	2590.00	11.05	263.95	2580.71	15.06	-16.35	-150.90	0.32	1512889.04	3441187.44	40.730399	-103.908059
	2680.00	11.31	267.28	2669.00	16.24	-17.68	-168.29	0.77	1512887.40	3441170.08	40.730395	-103.908122
	2770.00	11.79	260.79	2757.19	17.98	-19.57	-186.19	1.54	1512885.19	3441152.22	40.730390	-103.908186
	2859.00	11.10	266.05	2844.42	19.87	-21.62	-203.71	1.41	1512882.83	3441134.74	40.730384	-103.908249
	2948.00	11.77	263.33	2931.65	21.37	-23.26	-221.27	0.96	1512880.87	3441117.22	40.730380	-103.908313
	3038.00	11.20	261.98	3019.85	23.50	-25.55	-239.04	0.69	1512878.26	3441099.49	40.730374	-103.908377
	3127.00	11.54	261.19	3107.10	25.92	-28.12	-256.40	0.42	1512875.38	3441082.17	40.730367	-103.908440
	3216.00	11.31	264.87	3194.34	27.92	-30.26	-273.89	0.86	1512872.92	3441064.73	40.730361	-103.908503
	3305.00	11.70	262.59	3281.55	29.71	-32.21	-291.53	0.68	1512870.66	3441047.12	40.730355	-103.908566
	3395.00	11.35	262.70	3369.74	31.86	-34.51	-309.37	0.39	151286			

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	4289.00	11.26	261.50	4246.32	49.64	-53.78	-483.86	0.98	151284.64	3440855.22	40.730296	-103.909260
	4379.00	11.52	266.45	4334.55	51.34	-55.64	-501.52	1.12	151284.46	3440837.59	40.730291	-103.909324
	4468.00	11.45	262.91	4421.77	52.83	-57.28	-519.16	0.80	151284.11	3440819.98	40.730287	-103.909388
	4558.00	10.91	263.39	4510.06	54.77	-59.36	-536.49	0.60	151283.91	3440802.70	40.730281	-103.909450
	4648.00	11.40	262.18	4598.36	56.81	-61.55	-553.76	0.60	151283.61	3440785.47	40.730275	-103.909513
	4737.00	11.37	263.17	4685.60	58.90	-63.79	-571.19	0.23	151283.06	3440768.09	40.730269	-103.909575
	4827.00	11.24	262.65	4773.86	60.93	-65.97	-588.69	0.18	151283.57	3440750.62	40.730263	-103.909639
	4916.00	11.08	262.58	4861.18	63.00	-68.18	-605.77	0.18	151282.95	3440733.58	40.730257	-103.909700
	5006.00	11.01	263.02	4949.51	65.01	-70.34	-622.88	0.12	151282.65	3440716.52	40.730251	-103.909762
	5095.00	11.25	262.33	5036.84	67.06	-72.54	-639.92	0.30	151282.04	3440699.52	40.730245	-103.909823
	5184.00	11.30	263.42	5124.12	69.07	-74.69	-657.19	0.25	151282.61	3440682.29	40.730239	-103.909886
	5274.00	13.78	248.20	5211.99	73.91	-79.69	-675.91	4.57	151281.62	3440663.66	40.730225	-103.909953
	5364.00	15.35	233.01	5299.12	84.89	-90.84	-695.39	4.57	151280.78	3440644.39	40.730194	-103.910024
	5453.00	19.29	210.36	5384.17	104.55	-110.65	-712.25	8.70	151278.68	3440627.88	40.730140	-103.910084
	5543.00	24.83	194.89	5467.61	135.59	-141.79	-724.65	8.87	151275.32	3440616.05	40.730055	-103.910129
	5632.00	34.13	190.96	5545.01	178.17	-184.46	-734.22	10.66	151271.09	3440607.25	40.729937	-103.910164
	5721.00	42.06	190.17	5615.00	232.02	-238.39	-744.24	8.93	151265.38	3440598.19	40.729789	-103.910200
	5811.00	50.16	190.58	5677.35	295.66	-302.14	-755.93	9.01	151259.43	3440587.65	40.729614	-103.910242
	5901.00	57.87	191.07	5730.19	367.02	-373.61	-769.61	8.58	151252.73	3440575.26	40.729418	-103.910291
	5990.00	63.08	191.07	5774.03	442.86	-449.59	-784.48	5.85	151244.50	3440561.76	40.729210	-103.910345
	6079.00	69.27	189.74	5809.97	522.77	-529.63	-799.15	7.09	151236.21	3440548.52	40.728990	-103.910398
	6169.00	77.32	188.16	5835.82	607.74	-614.71	-812.53	9.10	151227.80	3440536.68	40.728757	-103.910446
	6258.00	85.26	186.91	5849.28	694.78	-701.85	-824.04	9.03	151219.57	3440526.73	40.728517	-103.910488
Cross Setback Heel (300' FNL, 1680' FWL)	6325.33	88.48	186.66	5852.96	761.46	-768.60	-831.98	4.79	1512124.69	3440519.99	40.728334	-103.910516
	6348.00	89.56	186.57	5853.35	783.95	-791.12	-834.59	4.79	1512102.13	3440517.79	40.728272	-103.910526
	6437.00	89.38	186.33	5854.17	872.30	-879.55	-844.59	0.34	1512013.53	3440509.38	40.728030	-103.910562
	6527.00	89.62	184.05	5854.96	961.84	-969.17	-852.73	2.54	1511923.78	3440502.84	40.727784	-103.910591
	6616.00	89.75	181.56	5855.44	1050.69	-1058.06	-857.09	2.81	1511834.83	3440500.08	40.727540	-103.910607
	6705.00	90.03	181.04	5855.61	1139.65	-1147.03	-859.11	0.66	1511745.83	3440499.66	40.727295	-103.910614
	6795.00	90.96	180.93	5855.61	1229.62	-1237.02	-860.65	0.15	1511655.83	3440499.73	40.727048	-103.910620
	6884.00	90.50	181.25	5855.26	1318.58	-1326.00	-862.35	0.71	1511566.83	3440499.64	40.726804	-103.910626
	6974.00	89.84	181.57	5854.99	1408.53	-1415.98	-864.56	0.82	1511476.84	3440499.04	40.726557	-103.910634
	7064.00	89.82	181.11	5855.26	1498.48	-1505.95	-866.67	0.52	1511386.84	3440498.55	40.726310	-103.910641
	7153.00	89.58	179.90	5855.73	1587.47	-1594.94	-867.45	1.38	1511297.85	3440499.37	40.726066	-103.910644
	7242.00	89.78	178.54	5856.23	1676.46	-1683.93	-866.24	1.55	1511208.90	3440502.17	40.725822	-103.910640
	7332.00	90.25	178.99	5856.20	1766.45	-1773.91	-864.30	0.72	1511118.97	3440505.73	40.725575	-103.910633
	7421.00	89.93	179.53	5856.06	1855.45	-1862.90	-863.16	0.71	1511030.01	3440508.47	40.725331	-103.910629
	7511.00	89.80	178.81	5856.27	1945.45	-1952.89	-861.86	0.81	1510940.06	3440511.39	40.725084	-103.910624
	7600.00	89.94	179.00	5856.47	2034.45	-2041.88	-860.16	0.26	1510851.12	3440514.68	40.724839	-103.910618
	7690.00	90.39	178.78	5856.21	2124.44	-2131.86	-858.41	0.56	1510761.19	3440518.05	40.724592	-103.910611
	7779.00	90.62	179.15	5855.42	2213.43	-2220.84	-856.80	0.49	1510672.25	3440521.25	40.724348	-103.910606
	7868.00	89.66	178.86	5855.20	2302.43	-2309.83	-855.26	1.13	1510583.31	3440524.39	40.724104	-103.910600
	7958.00	89.74	178.26	5855.67	2392.41	-2399.80	-853.00	0.67	1510493.39	3440528.27	40.723857	-103.910592
	8137.00	90.35	179.19	5855.53	2571.39	-2578.75	-849.02	0.62	1510314.54	3440535.46	40.723666	-103.910577
	8226.00	89.64	179.27	5855.53	2660.39	-2667.74	-847.82	0.81	1510225.59	3440538.26	40.723421	-103.910573
	8316.00	90.15	177.46	5855.70	2750.37	-2757.70	-845.24	2.09	1510135.69	3440542.45	40.723175	-103.910564
	8405.00	90.29	179.22	5855.36	2839.35	-2846.66	-844.66	1.99	1510046.80	3440546.63	40.722930	-103.910555
	8494.00	89.78	179.25	5855.30	2928.34	-2935.65	-841.47	0.57	1509957.84	3440549.42	40.722686	-103.910550
	8584.00	90.29	178.99	5855.24	3018.34	-3025.64	-840.09	0.63	1509867.89	3440552.41	40.722439	-103.910545
	8673.00	89.95	179.33	5855.05	3107.34	-3114.63	-838.79	0.54	1509778.94	3440555.31	40.722195	-103.910541
	8762.00	90.22	177.73	5854.77	3206.31	-3293.56	-834.20	0.91	1509690.12	3440563.11	40.721940	-103.910524
	8852.00	90.18	178.25	5854.46	3376.28	-3383.51	-831.05	0.58	1509510.25	3440567.88	40.721697	-103.910513
	8941.00	89.89	178.23	5854.41	3465.25	-3472.46	-828.32	0.32	1509421.35	3440572.20	40.720913	-103.910503
	9120.00	90.36	179.79	5854.21	3554.25	-3543.45	-826.79	1.83	1509332.41	3440575.34	40.720668	-103.910497
	9210.00	89.98	179.49	5853.94	3644.25	-3635.45	-826.22	0.54	1509242.44	3440577.52	40.720421	-103.910495
	9299.00	90.24	178.89	5853.77	3733.24	-3724.44	-824.97	0.73	1509153.49	3440580.37	40.720177	-103.910491
	9389.00	90.05	179.75	5853.55	3823.24	-3810.43	-823.91	0.98	1509063.53	3440583.05	40.719930	-103.910487
	9478.00	89.90	178.36	5853.59	3912.24	-3901.41	-822.44	1.57	1508974.58	3440586.11	40.719686	-103.910481
	9567.00	90.13	180.01	5853.54	4001.23	-4088.39	-819.90	0.93	1508795.69	3440591.87	40.719435	-103.910472
	9746.00	90.23	178.88	5853.26	4180.23	-4173.38	-819.04	1.27	1508706.72	3440594.32	40.719190	-103.910469
	9836.00	90.39	179.27	5852.78	4270.22	-4277.37	-817.59	0.46	1508616.78	3440597.39	40.718943	-103.910464
	9925.00	90.45	179.36	5852.13	4359.22	-4366.36	-816.52	0.13	1508527.82	3440600.05	40.718695	-103.910460
	10015.00	90.34	179.41	5851.52	4449.22	-4456.35	-815.56	0.13	1508437.86	3440602.63	40.718447	-103.910457
	10104.00	90.04	178.40	5851.22	4538.21	-4545.34	-814.86	1.19	1508348.92	3440605.93	40.718200	-103.910450
	10194.00	89.94	178.83	5851.24	4628.20	-4635.31	-811.68	0.49	1508259.00	3440609.73	40.717953	-103.910443
	10283.00	90.09	178.76	5851.22	4717.19	-4724.29	-809.81	0.19	1508170.07	3440613.20	40.717707	-103.910436
	10373.00	90.56	180.24	5850.70	4807.19	-4814.28	-809.02	1.72	1508080.11	3440616.50	40.717460	-103.910433
	10462.00	90.48	179.81	5849.90	4896.18	-4903.28	-808.06	0.50	1507991.13	3440617.16	40.717213	-103.910433
	10551.00	90.53	179.94	5849.11	4985.18	-4992.28	-808.86	0.16	1507902.15	3440618.96	40.716966	-103.910432
	10641.00	90.29	180.28	5848.47	5074.17	-5083.27	-809.03	0.47	1507812.17	3440620.40	40.716719	-103.910433
	10731.00	90.42	179.69	5847.92	5163.16	-5172.27	-809.00	0.67	1507722.18	3440622.04	40.716472	-103.910433
	10820.00	90.05	179.78	5847.56	5252.16	-5262.27	-808.59	0.43	1507632.21	3440624.06	40.716225	-103.910431
	10909.00	89.78	180.93	5847.89	5341.15	-5350.27	-809.14	1.32	1507542.22	3440626.11	40.715978	-103.910433
	10999.00	89.51	180.96	5848.25	5430.12	-5440.25	-810.62	0.31	1507452.22	3440626.24	40.715731	-103.910439
	11089.00	89.83	180.13	5848.77	5523.10	-5530.24	-811.48	0.98	1507362.23	3440626.00	40.715484	-103.910442
	11178.00	89.92	181.45	5848.97	5612.08	-5619.23	-812.71	1.48	1507272.23	3440626.37	40.715237	-103.910446
	11268.00	89.22	178.87	5849.65	5702.06	-5709.22	-812.96	2.96	1507182.25	3440627.73	40.714990	-103.910447
	11357.00	89.95	181.49	5850.29	5791.04	-5798.21	-813.23	3.05	1507092.27	3440629.05	40.714743	-103.910448

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	14039.00	90.05	177.80	5853.46	8472.53	-8479.69	-799.99	3.75	1504415.50	3440690.45	40.707169	-103.910400
	14129.00	90.75	178.23	5852.82	8562.50	-8569.63	-796.88	0.91	1504325.63	3440695.18	40.706922	-103.910389
	14218.00	90.05	177.46	5852.20	8651.46	-8658.56	-793.53	1.17	1504236.77	3440700.12	40.706678	-103.910377
	14308.00	90.55	178.18	5851.72	8741.42	-8748.50	-790.11	0.97	1504146.91	3440705.16	40.706431	-103.910364
	14398.00	90.79	182.45	5850.66	8831.38	-8838.47	-790.60	4.75	1504056.95	3440706.28	40.706184	-103.910366
	14487.00	90.14	179.63	5849.93	8920.34	-8927.44	-792.21	3.26	1503967.96	3440706.26	40.705940	-103.910372
	14576.00	90.88	180.98	5849.14	9009.32	-9016.43	-792.69	1.74	1503878.97	3440707.39	40.705696	-103.910374
	14666.00	89.55	179.27	5848.81	9099.31	-9106.43	-792.89	2.40	1503788.99	3440708.81	40.705449	-103.910374
	14755.00	89.59	178.27	5849.47	9188.30	-9195.40	-790.98	1.13	1503700.07	3440712.31	40.705205	-103.910367
	14845.00	90.21	178.81	5849.63	9278.29	-9285.37	-788.68	0.91	1503610.15	3440716.22	40.704958	-103.910359
	14934.00	89.59	177.92	5849.78	9367.27	-9374.33	-786.14	1.21	1503521.25	3440720.36	40.704714	-103.910350
	15024.00	89.78	179.03	5850.28	9457.25	-9464.30	-783.75	1.25	1503431.34	3440724.36	40.704467	-103.910341
	15113.00	89.45	178.56	5850.88	9546.24	-9553.28	-781.88	0.65	1503342.41	3440727.83	40.704222	-103.910334
	15202.00	89.80	177.81	5851.46	9635.22	-9642.23	-779.06	0.92	1503253.53	3440732.25	40.703978	-103.910324
	15292.00	89.55	177.64	5851.97	9725.17	-9732.16	-775.49	0.34	1503163.68	3440737.43	40.703731	-103.910311
	15381.00	90.11	178.23	5852.24	9814.14	-9821.10	-772.29	0.91	1503074.81	3440742.24	40.703487	-103.910300
	15471.00	89.55	179.25	5852.51	9904.13	-9911.08	-770.30	1.30	1502984.89	3440745.83	40.703240	-103.910293
	15560.00	90.15	179.55	5852.74	9993.12	-10000.07	-769.37	0.76	1502895.92	3440748.36	40.702996	-103.910289
	15650.00	89.46	180.16	5853.05	10083.12	-10090.07	-769.15	1.02	1502806.95	3440750.21	40.702749	-103.910288
	15739.00	89.30	176.68	5854.01	10172.09	-10179.02	-766.69	3.91	1502717.06	3440754.26	40.702505	-103.910280
	15829.00	90.08	179.74	5854.49	10262.05	-10268.96	-763.88	3.51	1502627.18	3440758.68	40.702258	-103.910269
	15918.00	89.76	179.03	5854.61	10351.05	-10357.95	-762.92	0.87	1502538.22	3440761.24	40.702014	-103.910266
	16007.00	90.09	180.08	5854.73	10440.05	-10446.95	-762.24	1.24	1502449.25	3440763.52	40.701769	-103.910264
	16097.00	89.62	178.80	5854.96	10530.05	-10536.94	-761.36	1.52	1502359.29	3440766.01	40.701522	-103.910260
	16186.00	89.48	176.28	5855.86	10618.98	-10625.85	-757.55	2.84	1502270.46	3440771.42	40.701278	-103.910247
	16276.00	90.41	180.65	5855.75	10708.95	-10715.80	-755.14	4.97	1502180.58	3440775.44	40.701032	-103.910238
	16365.00	89.28	178.51	5855.99	10797.94	-10804.79	-754.49	2.72	1502091.61	3440777.69	40.700787	-103.910236

Cross Setback

Toe (300' FSL,

1668' FWL)

Last SLB\_MWD

Survey

Projection to TD

(223' FSL, 1671'

FWL)

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 (in)	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	Timbro Fed 1931 03H / Timbro Fed 1931 03H MWD 0' to 16450' Definitive
	1	17.000	21.000	Act Stns	13.500	9.625	B001Mb_MWD+HRGM-Depth Only	Timbro Fed 1931 03H / Timbro Fed 1931 03H MWD 0' to 16450' Definitive
	1	21.000	1505.000	Act Stns	13.500	9.625	B001Mb_MWD+HRGM	Timbro Fed 1931 03H / Timbro Fed 1931 03H MWD 0' to 16450'
	1	1505.000	16450.000	Act Stns	8.500	5.500	B001Mb_MWD+HRGM	Timbro Fed 1931 03H / Timbro Fed 1931 03H MWD 0' to 16450'