

PVA

True North  
Tot Corr (M->T 8.305°)  
Mag Dec (8.305°)  
Grid Conv (0.495°)

TVD (ft) Scale = 1:2000.00(ft)

Vertical Section (ft) Azim = 103.944° Scale = 1:2000.00(ft) Origin = 0N/-S, 0E/-W

EW (ft) Scale = 1:2000.00(ft)

NS (ft) Scale = 1:2000.00(ft)

Surface Location									
Northing: 1425547.803		Easting: 3212989.959		Latitude: N 40 29 56.42		Longitude: W 104 44 2.85		V'Sec Azimuth: 103.944	
Target Description	Latitude	Longitude	Northing	Easting	TVD	V'Sec	N(+)/S(-)	E(+)/W(-)	Local Coord
Fagerberg 3C-18-M T1	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T2	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T3	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T4	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T5	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T6	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T7	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T8	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T9	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T10	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T11	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T12	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T13	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T14	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T15	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T16	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T17	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T18	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T19	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T20	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T21	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T22	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T23	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T24	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T25	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T26	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T27	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T28	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T29	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T30	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T31	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T32	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T33	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T34	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T35	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T36	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T37	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T38	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T39	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T40	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T41	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T42	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T43	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T44	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T45	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T46	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T47	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T48	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T49	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T50	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T51	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T52	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T53	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T54	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T55	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T56	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T57	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T58	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T59	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T60	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T61	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T62	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T63	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T64	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T65	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T66	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T67	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T68	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T69	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T70	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T71	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T72	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T73	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T74	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T75	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T76	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T77	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T78	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T79	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T80	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T81	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T82	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T83	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T84	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T85	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T86	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T87	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	4820.00	-4.83	20.04	0.00	
Fagerberg 3C-18-M T88	N 40 29 56.62	W 104 44 2.85	1425567.84	3212989.79	482				

# Fagerberg 3C-18-M MWD 0' to 15562' Definitive Survey Geodetic Report

(Def Survey)

**Report Date:** June 15, 2016 - 10:17 AM  
**Client:** Synergy  
**Field:** CO, Weld County (NAD 83 NZ)  
**Structure / Slot:** Synergy 12-06N-66W (Fagerberg 32-12 Pad) - PD 462 / Fagerberg 3C-18-M  
**Well:** Fagerberg 3C-18-M  
**Borehole:** Original Hole  
**UWI / API#:** Unknown / 05-123-43184  
**Survey Name:** Fagerberg 3C-18-M MWD 0' to 15562' Definitive  
**Survey Date:** June 07, 2016  
**Tort / AHD / DDI / ERD Ratio:** 239.127 ° / 10285.693 ft / 6.723 / 1.421  
**Coordinate Reference System:** NAD83 Colorado State Plane, Northern Zone, US Feet  
**Location Lat / Long:** N 40° 29' 56.41800", W 104° 44' 2.85000"  
**Location Grid N/E Y/X:** N 1425547.803 ftUS, E 3212989.959 ftUS  
**CRS Grid Convergence Angle:** 0.4949 °  
**Grid Scale Factor:** 0.99996621  
**Version / Patch:** 2.9.370.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 103.944 ° (True North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** KB 20ft  
**TVD Reference Elevation:** 4820.000 ft above MSL  
**Seabed / Ground Elevation:** 4800.000 ft above MSL  
**Magnetic Declination:** 8.305 °  
**Total Gravity Field Strength:** 999.0448mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 52581.822 nT  
**Magnetic Dip Angle:** 67.039 °  
**Declination Date:** June 07, 2016  
**Magnetic Declination Model:** HDGM 2016  
**North Reference:** True North  
**Grid Convergence Used:** 0.0000 °  
**Total Corr Mag North→True North:** 8.3053 °  
**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 Begin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	1425547.80	3212989.96	40.499005	-104.734125
SLB_MWD Survey	141.00	0.80	59.00	141.00	0.70	0.51	0.85	0.57	1425548.32	3212990.80	40.499006	-104.734122
	234.00	2.90	94.45	233.94	3.48	0.66	3.76	2.47	1425548.50	3212993.71	40.499007	-104.734111
	329.00	5.15	97.93	328.70	10.09	-0.11	10.37	2.38	1425547.78	3213000.33	40.499005	-104.734088
	422.00	7.80	103.62	421.10	20.56	-2.17	20.64	2.94	1425545.81	3213010.62	40.498999	-104.734051
	515.00	9.90	111.79	512.99	34.79	-6.63	34.20	2.63	1425541.47	3213024.22	40.498987	-104.734002
	609.00	11.05	120.27	605.43	51.45	-14.17	49.49	2.04	1425534.06	3213039.57	40.498966	-104.733947
	702.00	11.76	127.20	696.60	68.71	-24.40	64.74	1.66	1425523.97	3213054.91	40.498938	-104.733892
	795.00	12.40	136.28	787.55	85.86	-37.34	79.20	2.16	1425511.15	3213069.47	40.498902	-104.733840
	888.00	12.55	150.63	878.37	101.24	-53.38	91.06	3.33	1425495.22	3213081.47	40.498858	-104.733798
	983.00	12.41	165.90	971.15	113.12	-72.28	98.61	3.47	1425476.38	3213089.19	40.498807	-104.733770
	1077.00	12.36	181.81	1062.99	119.99	-92.13	100.76	3.62	1425456.55	3213091.50	40.498752	-104.733763
	1170.00	14.11	190.91	1153.53	122.68	-113.21	98.29	2.92	1425435.45	3213089.22	40.498694	-104.733772
	1263.00	16.20	193.54	1243.29	123.37	-136.96	93.11	2.37	1425411.66	3213084.25	40.498629	-104.733790
	1356.00	17.62	194.36	1332.27	123.36	-163.21	86.58	1.54	1425385.36	3213077.94	40.498557	-104.733814
	1449.00	18.19	194.63	1420.76	123.08	-190.88	79.43	0.62	1425357.62	3213071.03	40.498481	-104.733839
	1542.00	19.16	194.91	1508.87	122.65	-219.67	71.84	1.05	1425328.77	3213063.69	40.498402	-104.733867
	1635.00	19.10	195.75	1596.73	121.92	-249.07	63.78	0.30	1425299.31	3213055.88	40.498321	-104.733896
	1696.00	18.82	196.67	1654.42	121.13	-268.10	58.25	0.68	1425280.23	3213050.52	40.498269	-104.733916
9 5/8" Casing Point	1751.00	18.13	196.70	1706.59	120.30	-284.79	53.24	1.24	1425263.49	3213045.66	40.498223	-104.733934
	1760.00	18.02	196.70	1715.14	120.16	-287.47	52.44	1.24	1425260.81	3213044.88	40.498216	-104.733936
	1855.00	17.91	195.80	1805.51	118.98	-315.60	44.24	0.31	1425232.61	3213036.92	40.498139	-104.733966
	1950.00	19.31	187.03	1895.56	120.40	-345.25	38.34	3.29	1425202.91	3213031.27	40.498057	-104.733987
	2043.00	19.01	185.53	1983.41	124.47	-375.59	35.00	0.62	1425172.54	3213028.20	40.497974	-104.733999
	2135.00	18.73	184.48	2070.46	129.09	-405.23	32.40	0.47	1425142.88	3213025.85	40.497893	-104.734009
	2228.00	17.92	185.11	2158.74	133.74	-434.37	29.96	0.90	1425113.72	3213023.67	40.497813	-104.734017
	2320.00	17.77	183.13	2246.32	138.55	-462.49	27.93	0.68	1425085.59	3213021.88	40.497736	-104.734025
	2413.00	18.29	188.42	2334.76	142.62	-491.09	25.02	1.85	1425056.96	3213019.22	40.497657	-104.734035
	2506.00	17.68	187.56	2423.21	145.60	-519.53	21.03	0.72	1425028.49	3213015.47	40.497579	-104.734049
	2600.00	17.66	185.26	2512.78	149.34	-547.88	17.84	0.74	1425000.11	3213012.53	40.497501	-104.734061
	2691.00	17.81	184.22	2599.45	153.77	-575.51	15.55	0.38	1424972.47	3213010.48	40.497425	-104.734069
	2784.00	17.95	182.27	2687.97	159.07	-604.01	13.94	0.66	1424943.96	3213009.11	40.497347	-104.734075
	2878.00	18.26	188.39	2777.32	163.43	-633.05	11.21	2.05	1424914.90	3213006.64	40.497267	-104.734085
	2972.00	18.73	187.33	2866.47	166.59	-662.58	7.14	0.61	1424885.33	3213002.82	40.497186	-104.734099
	3065.00	19.24	187.14	2954.41	170.12	-692.60	3.33	0.56	1424855.29	3212999.27	40.497104	-104.734113
	3157.00	18.70	185.75	3041.41	174.02	-722.32	-0.03	0.76	1424825.54	3212996.17	40.497022	-104.734125
	3250.00	18.79	185.27	3129.48	178.41	-752.07	-2.90	0.19	1424795.77	3212993.55	40.496941	-104.734135
	3343.00	18.95	188.35	3217.48	182.14	-781.92	-6.47	1.08	1424765.89	3212990.25	40.496859	-104.734148
	3435.00	17.77	187.41	3304.80	185.20	-810.62	-10.45	1.32	1424737.15	3212986.52	40.496780	-104.734163
	3527.00	17.20	185.75	3392.55	188.73	-838.07	-13.62	0.83	1424709.67	3212983.58	40.496705	-104.734174
	3620.00	16.52	182.72	3481.55	193.26	-864.96	-15.62	1.19	1424682.77	3212981.81	40.496631	-104.734181
	3713.00	16.80	183.87	3570.65	198.19	-891.58	-17.16	0.47	1424656.14	3212980.50	40.496558	-104.734187
	3805.00	16.99	187.18	3658.68	202.10	-918.18	-19.74	1.06	1424629.52	3212978.15	40.496485	-104.734196
	3898.00	15.87	186.58	3747.88	205.33	-944.30	-22.89	1.21	1424603.38	3212975.22	40.496413	-104.734207
	3992.00	18.19	187.75	3837.75	208.56	-971.61	-26.35	2.50	1424576.04	3212972.00	40.496338	-104.734220
	4085.00	20.09	188.33	3925.60	211.68	-1001.80	-30.62	2.05	1424545.81	3212967.99	40.496255	-104.734235
	4177.00	21.29	187.93	4011.67	214.98	-1033.98	-35.21	1.31	1424513.60	3212963.68	40.496167	-104.734252
	4272.00	22.20	187.30	4099.91	218.86	-1068.86	-39.87	0.99	1424478.67	3212959.32	40.496071	-104.734268
	4365.00	21.63	186.29	4186.19	223.18	-1103.33	-43.99	0.74	1424444.18	3212955.50	40.495977	-104.734283
	4458.00	21.09	186.43	4272.80	227.65	-1136.99	-47.74	0.58	1424410.48	3212952.04	40.495884	-104.734297
	4553.00	20.65	185.76	4361.57	232.26	-1170.65	-51.34	0.53	1424376.80	3212948.74	40.495792	-104.734310
	4646.00	19.82	185.51	4448.83	236.91	-1202.65	-54.50	0.90	1424344.77	3212945.85	40.495704	-104.734321
	4739.00	19.54	185.69	4536.40	241.45	-1233.82	-57.55	0.31	1424313.58	3212943.06	40.495618	-104.734332
	4831.00	18.84	185.75	4623.28	245.78	-1263.91	-60.57	0.75	1424283.47	3212940.31	40.495536	-104.734343
	4924.00	18.23	184.40	4711.46	250.33	-1293.36	-63.19	0.80	1424253.99	3212937.95	40.495455	-104.734352
	5018.00	17.12	183.49	4801.02	255.28	-1321.83	-65.16	1.22	1424225.50	3212936.22	40.495377	-104.734359
	5111.00	16.31	185.72	4890.09	259.63	-1348.49	-67.29	1.11	1424198.83	3212934.32	40.495304	-104.734367
	5204.00	16.79	185.41	4979.24	263.49	-1374.86	-69.86	0.52	1424172.44	3212931.98	40.495231	-104.734376
	5298.00	16.77	184.17	5069.23	267.81	-1401.90	-72.12	0.38	1424145.39	3212929.95	40.495157	-104.734384
	5391.00	17.16	182.86	5158.18	272.73	-1428.99	-73.79	0.59	1424118.29	3212928.52	40.495083	-104.734390
	5484.00	15.26	181.21	5247.48	278.06	-1454.93	-74.73	2.11	1424092.34	3212927.80	40.495011	-104.734394
	5576.00	15.45	179.97	5336.20	283.69	-1479.28	-74.98	0.41	1424067.98	3212927.76	40.494945	-104.734395
	5669.00	15.93	181.92	5425.74	289.34	-1504.42	-75.40	0.77	1424042.85	3212927.56	40.494876	-104.734396
	5762.00	16.11	180.10	5515.13	295.08	-1530.07	-75.85	0.57	1424017.19	3212927.33	40.494805	-104.734398
	5857.00	17.69	186.33	5606.03	300.15	-1557.60	-77.46	2.53	1423989.65	3212925.95	40.494730	-104.734404
	5951.00	15.76	188.96	5696.05	303.15	-1584.40	-81.03	2.21	1423962.82	3212922.62	40.494656	-104.734416
	6045.00	17.93	187.69	5786.01	305.84	-1611.36	-84.95	2.35	1423935.83	3212918.93	40.494582	-104.734430
	6137.00	18.61	186.99	5873.37	309.16	-1639.97	-88.63	0.78	1423907.19	3212915.49	40.494504	-104.734444
	6231.00	15.40	183.30	5963.25	313.28	-1667.33	-91.18	3.60	1423879.81	3212913.19	40.494428	-104.734453
	6325.00	17.45	182.69	6053.41	318.34	-1693.87	-92.56	2.19	1423853.26	3212912.03	40.494356	-104.734458
	6418.00	18.94	183.57	6141.76	323.77	-1722.87	-94.15	1.63	1423824.25	3212910.69	40.494276	-104.734464
	6510.00	19.28	183.75	6228.69	329.15	-1752.92	-96.08	0.37	1423794.18	3212909.03	40.494193	-104.734470
	6603.00	19.52	182.67	6316.41	334.91	-1783.75	-97.80	0.46	1423763.33	3212907.57	40.494109	-104.734477
	6697.00	18.45	182.62	6405.30	340.90	-1814.30	-99.21	1.14	1423732.78	3212906.42	40.494025	-104.734482

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	6887.00	17.13	178.72	6586.33	353.98	-1871.96	-100.05	0.83	1423675.11	3212906.08	40.493867	-104.734485
	6981.00	20.18	166.66	6675.41	365.06	-1901.60	-95.99	5.22	1423645.51	3212910.39	40.493785	-104.734470
	7074.00	24.58	153.45	6761.44	384.99	-1934.55	-83.63	7.15	1423612.68	3212923.04	40.493695	-104.734426
	7168.00	28.94	140.44	6845.43	416.01	-1969.61	-60.38	7.75	1423577.81	3212946.59	40.493599	-104.734342
	7263.00	34.91	126.71	6926.13	459.65	-2003.66	-23.87	9.86	1423544.08	3212983.40	40.493505	-104.734211
	7358.00	38.65	116.08	7002.28	513.80	-2032.99	24.64	7.76	1423515.18	3213032.15	40.493425	-104.734036
	7452.00	47.42	107.07	7070.99	577.24	-2056.12	84.26	11.38	1423492.57	3213091.97	40.493361	-104.733822
	7545.00	55.09	94.69	7129.28	649.34	-2069.34	155.27	13.23	1423479.96	3213163.09	40.493325	-104.733567
	7617.00	56.80	87.58	7169.63	707.44	-2070.48	214.85	8.52	1423479.33	3213222.67	40.493322	-104.733353
	7640.00	58.69	86.13	7181.91	726.03	-2069.41	234.27	9.77	1423480.56	3213242.08	40.493325	-104.733283
	7671.00	62.82	83.06	7197.05	751.54	-2066.85	261.19	15.89	1423483.36	3213268.98	40.493332	-104.733186
	7702.00	68.33	82.94	7209.87	777.89	-2063.42	289.19	17.75	1423487.03	3213296.95	40.493341	-104.733085
	7734.00	73.41	82.73	7220.35	806.08	-2059.65	319.18	15.89	1423491.06	3213326.90	40.493352	-104.732977
	7765.00	77.63	83.30	7228.10	834.11	-2056.00	348.96	13.75	1423494.97	3213356.65	40.493362	-104.732870
	7796.00	81.68	84.35	7233.67	862.74	-2052.72	379.28	13.49	1423498.51	3213386.93	40.493371	-104.732761
	7827.00	86.77	85.80	7236.79	891.91	-2050.08	409.99	17.04	1423501.42	3213417.63	40.493378	-104.732651
	7858.00	90.21	87.49	7237.60	921.50	-2048.26	440.92	12.36	1423503.50	3213448.54	40.493383	-104.732540
	7889.00	91.03	87.80	7237.27	951.25	-2046.99	471.90	2.84	1423505.04	3213479.50	40.493386	-104.732428
	8018.00	90.65	87.94	7235.38	1075.19	-2042.19	600.79	0.32	1423510.95	3213608.34	40.493399	-104.731965
	8111.00	91.07	88.95	7233.98	1164.80	-2039.66	693.75	1.18	1423514.28	3213701.27	40.493406	-104.731631
	8206.00	91.27	90.41	7232.04	1256.85	-2039.13	788.72	1.55	1423515.63	3213796.23	40.493408	-104.731289
	8298.00	91.27	90.19	7230.00	1346.23	-2039.62	880.70	0.24	1423515.94	3213886.21	40.493407	-104.730959
	8392.00	91.44	92.43	7227.78	1437.92	-2041.76	974.64	2.39	1423514.61	3213982.16	40.493401	-104.730621
	8486.00	91.51	92.63	7225.36	1530.03	-2045.91	1068.52	0.23	1423511.27	3214076.07	40.493389	-104.730283
	8579.00	91.31	92.54	7223.07	1621.18	-2050.10	1161.40	0.24	1423507.88	3214168.98	40.493378	-104.729949
	8672.00	91.03	92.33	7221.17	1712.29	-2054.06	1254.29	0.38	1423504.73	3214261.90	40.493367	-104.729615
	8767.00	91.44	92.27	7219.12	1805.32	-2057.87	1349.19	0.44	1423501.74	3214356.83	40.493356	-104.729274
	8860.00	91.44	92.64	7216.79	1896.42	-2061.85	1442.08	0.40	1423498.56	3214449.74	40.493345	-104.728940
	8953.00	91.37	92.25	7214.51	1987.53	-2065.82	1534.97	0.43	1423495.40	3214542.65	40.493335	-104.728606
	9046.00	91.41	92.14	7212.25	2078.55	-2069.38	1627.87	0.13	1423492.64	3214635.58	40.493325	-104.728272
	9140.00	91.34	91.74	7209.99	2170.47	-2072.56	1721.79	0.43	1423490.27	3214729.52	40.493316	-104.727935
	9234.00	90.72	91.17	7208.30	2262.23	-2074.94	1815.74	0.90	1423488.69	3214823.49	40.493309	-104.727597
	9326.00	90.41	91.48	7207.40	2352.01	-2077.07	1907.71	0.48	1423487.36	3214915.47	40.493304	-104.727266
	9420.00	90.14	91.46	7206.95	2443.79	-2079.48	2001.68	0.29	1423485.76	3215009.45	40.493297	-104.726928
	9515.00	89.62	90.90	7207.15	2536.44	-2081.44	2096.66	0.80	1423484.62	3215104.44	40.493292	-104.726587
	9609.00	89.21	91.05	7208.10	2628.03	-2083.04	2190.64	0.46	1423483.84	3215198.43	40.493287	-104.726249
	9700.00	89.35	91.76	7209.25	2716.86	-2085.27	2281.61	0.80	1423482.39	3215289.41	40.493281	-104.725922
	9795.00	89.21	91.60	7210.44	2809.68	-2088.05	2376.56	0.22	1423480.43	3215384.38	40.493273	-104.725580
	9889.00	89.45	91.81	7211.54	2901.54	-2090.85	2470.51	0.34	1423478.44	3215478.35	40.493266	-104.725243
	9983.00	89.96	91.38	7212.03	2993.36	-2093.47	2564.47	0.71	1423476.64	3215572.32	40.493258	-104.724905
	10076.00	90.17	89.77	7211.92	3083.84	-2094.40	2657.46	1.75	1423476.51	3215665.32	40.493256	-104.724570
	10169.00	90.14	89.40	7211.67	3173.93	-2093.73	2750.46	0.40	1423477.98	3215758.30	40.493258	-104.724236
	10262.00	89.90	89.64	7211.64	3264.00	-2092.95	2843.46	0.36	1423479.57	3215851.28	40.493260	-104.723902
	10356.00	89.83	89.14	7211.86	3354.99	-2091.95	2937.45	0.54	1423481.38	3215945.26	40.493262	-104.723564
	10448.00	89.76	89.24	7212.19	3443.95	-2090.65	3029.44	0.13	1423483.47	3216037.23	40.493266	-104.723233
	10543.00	89.78	89.24	7212.57	3535.84	-2089.39	3124.43	0.02	1423485.55	3216132.21	40.493269	-104.722892
	10638.00	89.85	89.35	7212.87	3627.75	-2088.22	3219.42	0.14	1423487.54	3216227.18	40.493273	-104.722550
	10730.00	89.88	89.55	7213.09	3716.82	-2087.33	3311.42	0.22	1423489.22	3216319.16	40.493275	-104.722219
	10824.00	89.71	89.15	7213.43	3807.79	-2086.27	3405.41	0.46	1423491.10	3216413.14	40.493278	-104.721881
	10918.00	89.82	89.88	7213.81	3898.82	-2085.47	3499.41	0.79	1423492.71	3216507.12	40.493280	-104.721543
	11011.00	89.78	89.58	7214.14	3988.98	-2085.03	3592.41	0.33	1423493.95	3216600.11	40.493281	-104.721209
	11105.00	89.82	89.61	7214.47	4080.04	-2084.37	3686.40	0.05	1423495.42	3216694.09	40.493283	-104.720871
	11198.00	90.40	89.84	7214.29	4170.19	-2083.92	3779.40	0.67	1423496.67	3216787.08	40.493284	-104.720537
	11294.00	89.75	90.03	7214.16	4263.34	-2083.81	3875.40	0.71	1423497.61	3216883.07	40.493284	-104.720192
	11398.00	89.75	92.02	7214.62	4364.70	-2085.67	3979.38	1.91	1423496.65	3216987.06	40.493279	-104.719818
	11484.00	90.13	92.87	7214.71	4448.97	-2089.34	4065.30	1.08	1423493.72	3217073.01	40.493269	-104.719509
	11577.00	90.40	92.00	7214.28	4540.10	-2093.29	4158.21	0.98	1423490.57	3217165.95	40.493258	-104.719175
	11672.00	90.30	91.99	7213.70	4633.04	-2096.60	4253.15	0.11	1423488.09	3217260.91	40.493249	-104.718833
	11766.00	90.30	91.83	7213.20	4724.97	-2099.73	4347.10	0.17	1423485.77	3217354.88	40.493240	-104.718496
	11861.00	90.54	89.77	7212.51	4817.48	-2101.06	4442.08	2.18	1423485.26	3217449.86	40.493237	-104.718154
	11955.00	91.54	89.76	7210.80	4908.60	-2100.68	4536.07	1.06	1423486.46	3217543.84	40.493238	-104.717816
	12048.00	91.57	89.79	7208.28	4998.74	-2100.31	4629.03	0.05	1423487.62	3217636.79	40.493239	-104.717482
	12141.00	91.40	89.82	7205.87	5088.89	-2099.99	4722.00	0.19	1423488.74	3217729.75	40.493240	-104.717148
	12234.00	91.06	89.28	7203.87	5178.95	-2099.26	4814.97	0.69	1423490.28	3217822.71	40.493242	-104.716813
	12329.00	90.57	89.55	7202.52	5270.90	-2098.29	4909.96	0.59	1423492.07	3217917.68	40.493244	-104.716472
	12422.00	90.88	89.27	7201.34	5360.92	-2097.34	5002.95	0.45	1423493.83	3218010.65	40.493247	-104.716138
	12515.00	91.29	89.30	7199.58	5450.87	-2096.18	5095.92	0.44	1423495.79	3218103.61	40.493250	-104.715803
	12608.00	90.12	88.73	7198.44	5540.73	-2094.58	5188.90	1.40	1423498.19	3218196.57	40.493254	-104.715469
	12702.00	90.68	89.03	7197.78	5631.49	-2092.74	5282.88	0.68	1423500.84	3218290.53	40.493259	-104.715131
	12795.00	90.71	89.48	7196.65	5721.45	-2091.53	5375.86	0.48	1423502.85	3218383.49	40.493262	-104.714797
	12889.00	90.88	89.51	7195.35	5812.46	-2090.70	5469.85	0.18	1423504.49	3218477.47	40.493265	-104.714459
	12983.00	90.71	89.23	7194.04	5903.43	-2089.67	5563.84	0.35	1423506.34	3218571.44	40.493267	-104.714121
	13077.00	90.38	89.36	7193.15	5994.37	-2088.51	5657.83	0.38	1423508.31	3218665.41	40.493271	-104.713783
	13171.00	90.34	88.78	7192.56	6085.22	-2086.99	5751.81	0.62	1423510.64	3218759.37	40.493275	-104.713445
	13265.00	90.33	88.98	7192.01	6175.99	-2085.15	5845.79	0.21	1423513.29	3218853.33	40.493280	-104.713107
	13359.00	89.40	88.35	7192.23	6266.66	-2082.96	5939.76	1.19	1423516.29	3218947.28	40.493286	-104.712769
	13453.00	89.19	89.26	7193.39	6357.39	-2081.00	6033.74	0.99	1423519.07	3219041.23	40.493291	-104.712432
	13548.00	88.68	89.39	7195.15	6449.30	-2079.88	6128.71	0.55	1423521.01	3219136		

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
Survey Error Model: Survey Program:	ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma											
Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey				
	1	0.000	20.000	1/98.425	13.500	9.625	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Hole / Fagerberg 3C-18- M MWD 0' to 15562' Definitive				
	1	20.000	20.000	Act Stns	13.500	9.625	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Hole / Fagerberg 3C-18- M MWD 0' to 15562' Definitive				
	1	20.000	1751.000	Act Stns	13.500	9.625	NAL_MWD_PLUS_0.5_DEG	Original Hole / Fagerberg 3C-18- M MWD 0' to 15562' Definitive				
	1	1751.000	15521.000	Act Stns	8.750	5.500	NAL_MWD_PLUS_0.5_DEG	Original Hole / Fagerberg 3C-18- M MWD 0' to 15562' Definitive				
	1	15521.000	15562.000	Act Stns	8.750	5.500	SLB_BLIND+TREND	Original Hole / Fagerberg 3C-18- M MWD 0' to 15562' Definitive				