



Triad Hunter

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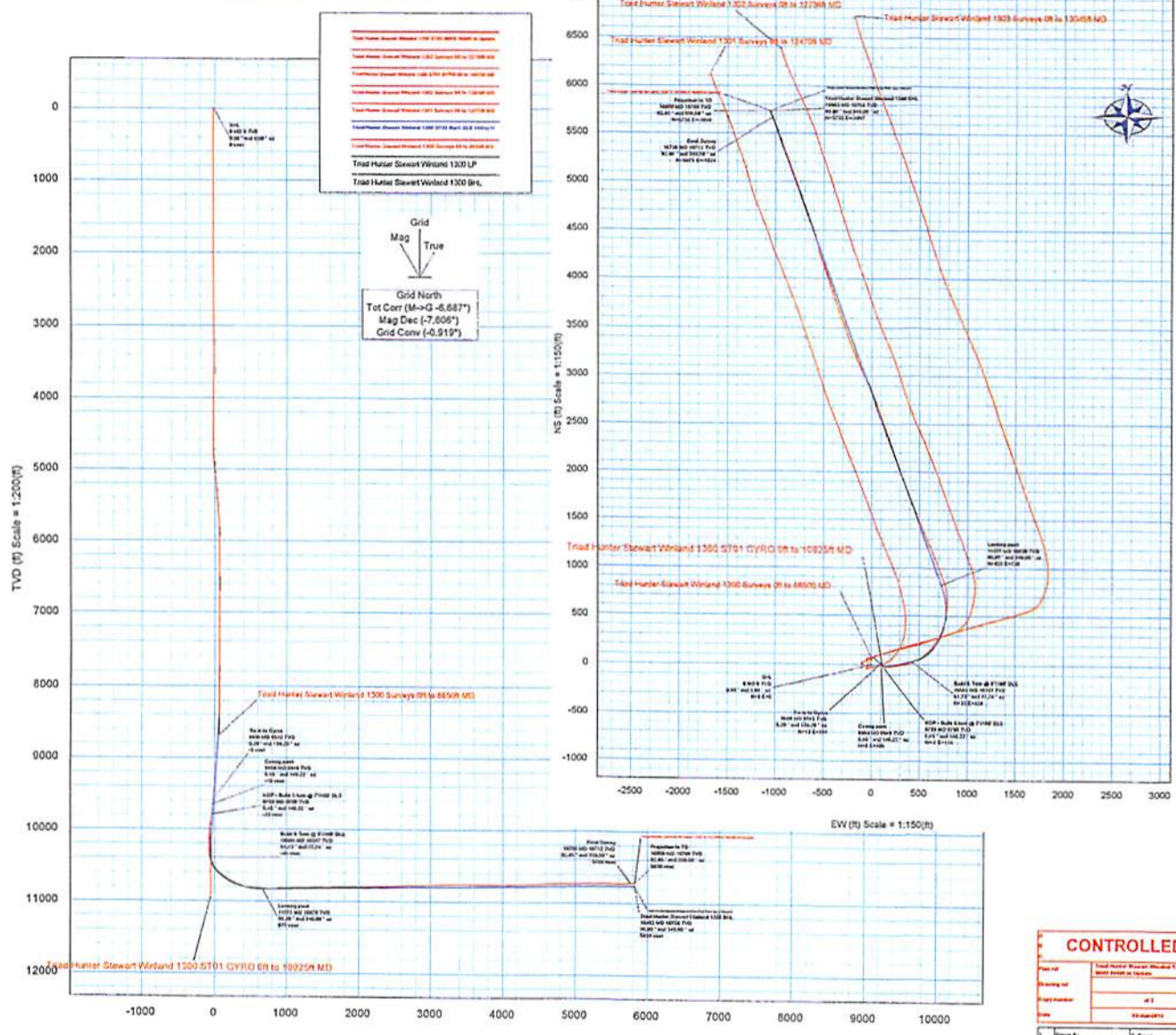
Borehole: ST02	Well: Triad Hunter Stewart Winland 1300	Field: WV Tyler County (NAD 27)	Structure: Alpha Hunter #7
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Gravity & Magnetic Parameters Model: HOGM 2013 Dip: 67.01° Date: 12 May 2014 MagDec: -7.606° FS: 62207.2584T Gravity FS: 989.335mgals (9.80665 Based)	Surface Location NAD27 West Virginia State Plane, Northern Zone, US Feet Lat: N 39 30 33.71 Northing: 2798965.28 Grid Cont: -0.8198° Lon: W 80 58 24.87 Easting: 1693447.05 Scale Fact: 0.9994328	Well/Structure Well: Triad Hunter Stewart Winland Start: Stewart Winland TVD Ref: KB(2011 above MSL) Plot: 1300 Triad Hunter Stewart Winland 1300 ST02 SHVD 9600ft to Update
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Well		Easting		Northing		Longitude		Latitude		Elev. Above		M.S.L.	
Well	Code	Well	Code	Well	Code	Well	Code	Well	Code	Well	Code	Well	Code
Triad Hunter Stewart Winland 1300 SHVD	SHVD	1693447.05	2798965.28	80 58 24.87	39 30 33.71	1693447.05	2798965.28	80 58 24.87	39 30 33.71	9600	9600	9600	9600

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Vertical Section (ft) Azim = 349.552° Scale = 1:200(ft) Origin = 0N-S, 0E-W

CONTROLLED

Well: Triad Hunter Stewart Winland 1300 SHVD

Structure: Alpha Hunter #7

Date: 12 May 2014

Drawn By: J. Brown



Triad Hunter Stewart Winalnd 1300 ST02 Surveys 9600ft to 16800ft MD
Survey Geodetic Report
(Def Survey)

Report Date:	June 03, 2014 - 10:57 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Triad Hunter	Vertical Section Azimuth:	349.552 ° (Grid North)
Field:	WV Tyler County (NAD 27)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Triad Hunter Stewart Winland Pad / Triad Hunter Stewart Winland 1300	TVD Reference Datum:	KB
Well:	Triad Hunter Stewart Winland 1300	TVD Reference Elevation:	928.000 ft above MSL
Borehole:	ST02	Seabed / Ground Elevation:	906.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	-7.608 °
Survey Name:	Triad Hunter Stewart Winalnd 1300 ST02 Surveys 9600ft to 16800ft MD	Total Gravity Field Strength:	999.3382mgn (9.80665 Based)
Survey Date:	May 12, 2014	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	253.553 ° / 6751.211 ft / 6.424 / 0.624	Total Magnetic Field Strength:	52307.259 nT
Coordinate Reference System:	NAD27 West Virginia State Plane, Northern Zone, US Feet	Magnetic Dip Angle:	67.018 °
Location Lat / Long:	N 39° 30' 33.71307", W 80° 56' 24.96768"	Declination Date:	May 12, 2014
Location Grid N/E Y/X:	N 370889.000 ftUS, E 1593647.000 ftUS	Magnetic Declination Model:	HDGM 2013
CRS Grid Convergence Angle:	-0.9186 °	North Reference:	Grid North
Grid Scale Factor:	0.9999428	Grid Convergence Used:	-0.9186 °
Version / Patch:	2.7.1043.0	Total Corr Mag North->Grid North:	-6.6873 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° '' ''')	Longitude (E/W ° '' ''')
SHL	0.00	0.00	0.00	0.00	-928.00	0.00	0.00	0.00	N/A	N/A	N/A	370889.00	1593647.00	N 39 30 33.71	W 80 56 24.97
	100.00	0.11	66.81	100.00	-828.00	0.02	0.04	0.09	0.11	0.11	0.00	370889.04	1593647.09	N 39 30 33.71	W 80 56 24.97
	200.00	0.08	3.15	200.00	-728.00	0.11	0.15	0.18	0.10	-0.03	-63.66	370889.15	1593647.18	N 39 30 33.71	W 80 56 24.97
	300.00	0.01	320.43	300.00	-628.00	0.19	0.22	0.18	0.07	-0.07	-42.72	370889.22	1593647.18	N 39 30 33.72	W 80 56 24.97
	400.00	0.08	290.21	400.00	-528.00	0.23	0.25	0.11	0.07	0.07	-30.22	370889.25	1593647.11	N 39 30 33.72	W 80 56 24.97
	500.00	0.08	231.05	500.00	-428.00	0.23	0.23	-0.01	0.08	0.00	-59.16	370889.23	1593646.99	N 39 30 33.72	W 80 56 24.97
	600.00	0.01	204.67	600.00	-328.00	0.19	0.18	-0.07	0.07	-0.07	-26.38	370889.18	1593646.93	N 39 30 33.71	W 80 56 24.97
	700.00	0.11	179.76	700.00	-228.00	0.09	0.08	-0.07	0.10	0.10	-24.91	370889.08	1593646.93	N 39 30 33.71	W 80 56 24.97
	800.00	0.05	169.01	800.00	-128.00	-0.05	-0.06	-0.06	0.06	-0.06	-10.75	370888.94	1593646.94	N 39 30 33.71	W 80 56 24.97
	900.00	0.08	187.69	900.00	-28.00	-0.16	-0.17	-0.07	0.04	0.03	18.68	370888.83	1593646.93	N 39 30 33.71	W 80 56 24.97
	1000.00	0.14	225.43	1000.00	72.00	-0.29	-0.33	-0.16	0.09	0.06	37.74	370888.67	1593646.84	N 39 30 33.71	W 80 56 24.97
	1100.00	0.17	258.91	1100.00	172.00	-0.36	-0.44	-0.39	0.09	0.03	33.48	370888.56	1593646.61	N 39 30 33.71	W 80 56 24.97
	1200.00	0.20	236.30	1200.00	272.00	-0.43	-0.57	-0.69	0.08	0.03	-22.61	370888.43	1593646.31	N 39 30 33.71	W 80 56 24.98
	1300.00	0.30	261.51	1300.00	372.00	-0.49	-0.70	-1.09	0.15	0.10	25.21	370888.30	1593645.91	N 39 30 33.71	W 80 56 24.98
	1400.00	0.27	238.20	1400.00	472.00	-0.57	-0.87	-1.55	0.12	-0.03	-23.31	370888.13	1593645.45	N 39 30 33.70	W 80 56 24.99
	1500.00	0.30	228.92	1499.99	571.99	-0.79	-1.16	-1.95	0.05	0.03	-9.28	370887.84	1593645.05	N 39 30 33.70	W 80 56 24.99
	1600.00	0.21	234.83	1599.99	671.99	-1.00	-1.44	-2.29	0.09	-0.09	5.91	370887.56	1593644.71	N 39 30 33.70	W 80 56 25.00
	1700.00	0.16	218.43	1699.99	771.99	-1.17	-1.66	-2.53	0.07	-0.05	-16.40	370887.34	1593644.47	N 39 30 33.70	W 80 56 25.00
	1800.00	0.16	240.00	1799.99	871.99	-1.31	-1.83	-2.74	0.06	0.00	21.57	370887.17	1593644.26	N 39 30 33.69	W 80 56 25.00

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%/100ft)	BR (%/100ft)	TR (%/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	1900.00	0.10	223.12	1899.99	971.99	-1.41	-1.97	-2.92	0.07	-0.06	-16.88	370887.03	1593644.08	N 39 30 33.69	W 80 56 25.00
	2000.00	0.08	230.91	1999.99	1071.99	-1.49	-2.08	-3.03	0.02	-0.02	7.79	370886.92	1593643.97	N 39 30 33.69	W 80 56 25.01
	2100.00	0.07	255.37	2099.99	1171.99	-1.53	-2.14	-3.15	0.03	-0.01	24.46	370886.86	1593643.85	N 39 30 33.69	W 80 56 25.01
	2200.00	0.05	240.09	2199.99	1271.99	-1.55	-2.17	-3.24	0.03	-0.02	-15.28	370886.83	1593643.76	N 39 30 33.69	W 80 56 25.01
	2300.00	0.10	244.84	2299.99	1371.99	-1.59	-2.23	-3.36	0.05	0.05	4.75	370886.77	1593643.64	N 39 30 33.69	W 80 56 25.01
	2400.00	0.06	296.21	2399.99	1471.99	-1.58	-2.25	-3.49	0.08	-0.04	51.37	370886.75	1593643.51	N 39 30 33.69	W 80 56 25.01
	2500.00	0.08	300.31	2499.99	1571.99	-1.50	-2.19	-3.59	0.02	0.02	4.10	370886.81	1593643.41	N 39 30 33.69	W 80 56 25.01
	2600.00	0.05	307.42	2599.99	1671.99	-1.42	-2.13	-3.69	0.03	-0.03	7.11	370886.87	1593643.31	N 39 30 33.69	W 80 56 25.01
	2700.00	0.12	345.99	2699.99	1771.99	-1.28	-2.00	-3.75	0.09	0.07	38.57	370887.00	1593643.25	N 39 30 33.69	W 80 56 25.02
	2800.00	0.17	6.97	2799.99	1871.99	-1.04	-1.75	-3.75	0.07	0.05	20.98	370887.25	1593643.25	N 39 30 33.70	W 80 56 25.02
	2900.00	0.18	6.28	2899.99	1971.99	-0.75	-1.44	-3.72	0.01	0.01	-0.69	370887.56	1593643.28	N 39 30 33.70	W 80 56 25.01
	3000.00	0.28	1.94	2999.99	2071.99	-0.36	-1.04	-3.69	0.10	0.10	-4.34	370887.96	1593643.31	N 39 30 33.70	W 80 56 25.01
	3100.00	0.37	9.92	3099.99	2171.99	0.18	-0.48	-3.63	0.10	0.09	7.98	370888.52	1593643.37	N 39 30 33.71	W 80 56 25.01
	3200.00	0.17	334.12	3199.99	2271.99	0.63	-0.03	-3.64	0.25	-0.20	-35.80	370888.97	1593643.36	N 39 30 33.71	W 80 56 25.01
	3300.00	0.18	300.26	3299.99	2371.99	0.88	0.18	-3.84	0.10	0.01	-33.86	370889.18	1593643.16	N 39 30 33.71	W 80 56 25.02
	3400.00	0.10	267.22	3399.99	2471.99	0.99	0.26	-4.06	0.11	-0.08	-33.04	370889.26	1593642.94	N 39 30 33.71	W 80 56 25.02
	3500.00	0.11	218.26	3499.99	2571.99	0.94	0.18	-4.21	0.09	0.01	-48.96	370889.18	1593642.79	N 39 30 33.71	W 80 56 25.02
	3600.00	0.15	220.92	3599.99	2671.99	0.79	0.00	-4.35	0.04	0.04	2.66	370889.00	1593642.65	N 39 30 33.71	W 80 56 25.02
	3700.00	0.20	202.47	3699.99	2771.99	0.56	-0.26	-4.51	0.07	0.05	-18.45	370888.74	1593642.49	N 39 30 33.71	W 80 56 25.03
	3800.00	0.28	122.61	3799.99	2871.99	0.25	-0.55	-4.37	0.31	0.08	-79.86	370888.45	1593642.63	N 39 30 33.71	W 80 56 25.02
	3900.00	0.26	103.20	3899.98	2971.98	-0.01	-0.73	-3.94	0.09	-0.02	-19.41	370888.27	1593643.06	N 39 30 33.71	W 80 56 25.02
	4000.00	0.29	128.99	3999.98	3071.98	-0.29	-0.94	-3.52	0.13	0.03	25.79	370888.06	1593643.48	N 39 30 33.70	W 80 56 25.01
	4100.00	0.27	110.01	4099.98	3171.98	-0.60	-1.18	-3.11	0.09	-0.02	-18.98	370887.82	1593643.89	N 39 30 33.70	W 80 56 25.01
	4200.00	0.35	115.58	4199.98	3271.98	-0.90	-1.40	-2.61	0.09	0.08	5.57	370887.60	1593644.39	N 39 30 33.70	W 80 56 25.00
	4300.00	0.45	120.21	4299.98	3371.98	-1.34	-1.73	-1.99	0.11	0.10	4.63	370887.27	1593645.01	N 39 30 33.70	W 80 56 24.99
	4400.00	0.41	108.82	4399.98	3471.98	-1.77	-2.04	-1.32	0.09	-0.04	-11.39	370886.96	1593645.68	N 39 30 33.69	W 80 56 24.98
	4500.00	0.39	357.36	4499.97	3571.97	-1.60	-1.81	-0.99	0.66	-0.02	-111.46	370887.19	1593646.01	N 39 30 33.69	W 80 56 24.98
	4600.00	0.65	357.58	4599.97	3671.97	-0.71	-0.91	-1.03	0.26	0.26	0.22	370888.09	1593645.97	N 39 30 33.70	W 80 56 24.98
	4700.00	0.76	35.81	4699.96	3771.96	0.31	0.20	-0.67	0.47	0.11	38.23	370889.20	1593646.33	N 39 30 33.71	W 80 56 24.98
	4800.00	3.43	355.21	4799.89	3871.89	3.75	3.72	-0.53	2.90	2.67	-40.60	370892.72	1593646.47	N 39 30 33.75	W 80 56 24.98
	4900.00	4.96	357.34	4899.62	3971.82	11.01	11.02	-0.98	1.54	1.53	2.13	370900.02	1593646.02	N 39 30 33.82	W 80 56 24.98
	5000.00	5.27	1.72	4999.22	4071.22	19.78	19.92	-1.04	0.50	0.31	4.38	370908.92	1593645.96	N 39 30 33.91	W 80 56 24.99
	5100.00	5.56	10.83	5098.78	4170.78	28.79	29.27	0.00	0.91	0.29	9.11	370918.27	1593647.00	N 39 30 34.00	W 80 56 24.97
	5200.00	5.37	14.40	5198.32	4270.32	37.55	38.56	2.08	0.39	-0.19	3.57	370927.56	1593649.08	N 39 30 34.09	W 80 56 24.95
	5300.00	4.72	18.53	5297.94	4369.94	45.39	47.00	4.55	0.74	-0.65	4.13	370935.99	1593651.55	N 39 30 34.18	W 80 56 24.92
	5400.00	4.60	18.39	5397.60	4469.60	52.50	54.70	7.12	0.12	-0.12	-0.14	370943.70	1593654.12	N 39 30 34.25	W 80 56 24.89
	5500.00	4.59	18.23	5497.28	4569.28	59.53	62.31	9.64	0.02	-0.01	-0.16	370951.31	1593656.64	N 39 30 34.33	W 80 56 24.86
	5600.00	4.01	22.74	5597.00	4669.00	65.96	69.33	12.24	0.67	-0.58	4.51	370958.33	1593659.24	N 39 30 34.40	W 80 56 24.83
	5700.00	2.68	24.87	5696.83	4768.83	70.80	74.68	14.58	1.34	-1.33	2.13	370963.68	1593661.58	N 39 30 34.45	W 80 56 24.80
	5800.00	1.40	8.40	5796.76	4868.76	73.86	78.01	15.74	1.40	-1.28	-16.47	370967.01	1593662.74	N 39 30 34.49	W 80 56 24.78
	5900.00	0.64	4.41	5896.75	4968.75	75.56	79.78	15.96	0.76	-0.76	-3.99	370968.77	1593662.96	N 39 30 34.50	W 80 56 24.78
	6000.00	0.57	286.74	5996.74	5068.74	76.33	80.48	15.53	0.76	-0.07	-77.67	370969.47	1593662.53	N 39 30 34.51	W 80 56 24.79
	6100.00	0.65	281.56	6096.74	5168.74	76.77	80.73	14.50	0.10	0.08	-5.18	370969.73	1593661.49	N 39 30 34.51	W 80 56 24.80
	6200.00	0.78	275.49	6196.73	5268.73	77.16	80.91	13.26	0.15	0.13	-6.07	370969.91	1593660.26	N 39 30 34.51	W 80 56 24.82
	6300.00	0.40	279.63	6296.72	5368.72	77.47	81.03	12.24	0.38	-0.38	4.14	370970.03	1593659.24	N 39 30 34.52	W 80 56 24.83

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6400.00	0.24	42.24	6396.72	5468.72	77.72	81.25	12.04	0.57	-0.16	122.61	370970.24	1593659.04	N 39 30 34.52	W 80 56 24.83
	6500.00	0.30	60.20	6496.72	5568.72	77.93	81.53	12.41	0.10	0.06	17.96	370970.53	1593659.40	N 39 30 34.52	W 80 56 24.83
	6600.00	0.32	77.60	6596.72	5668.72	78.03	81.72	12.91	0.10	0.02	17.40	370970.72	1593659.90	N 39 30 34.52	W 80 56 24.82
	6700.00	0.28	80.25	6696.72	5768.72	78.03	81.82	13.42	0.04	-0.04	2.65	370970.82	1593660.42	N 39 30 34.52	W 80 56 24.81
	6800.00	0.22	64.45	6796.72	5868.72	78.08	81.95	13.83	0.09	-0.06	-15.80	370970.94	1593660.83	N 39 30 34.53	W 80 56 24.81
	6900.00	0.17	73.73	6896.72	5968.72	78.15	82.07	14.15	0.06	-0.05	9.28	370971.07	1593661.15	N 39 30 34.53	W 80 56 24.80
	7000.00	0.22	132.03	6996.72	6068.72	78.01	81.99	14.43	0.19	0.05	58.30	370970.98	1593661.43	N 39 30 34.53	W 80 56 24.80
	7100.00	0.32	194.80	7096.72	6168.72	77.60	81.59	14.50	0.29	0.10	62.77	370970.58	1593661.50	N 39 30 34.52	W 80 56 24.80
	7200.00	0.40	209.22	7196.71	6268.71	77.08	81.01	14.26	0.12	0.08	14.42	370970.01	1593661.26	N 39 30 34.52	W 80 56 24.80
	7300.00	0.42	242.04	7296.71	6368.71	76.70	80.54	13.77	0.23	0.02	32.82	370969.53	1593660.77	N 39 30 34.51	W 80 56 24.81
	7400.00	0.32	245.11	7396.71	6468.71	76.52	80.25	13.19	0.10	-0.10	3.07	370969.24	1593660.19	N 39 30 34.51	W 80 56 24.82
	7500.00	0.14	238.75	7496.71	6568.71	76.41	80.07	12.83	0.18	-0.18	-6.36	370969.06	1593659.83	N 39 30 34.51	W 80 56 24.82
	7600.00	0.29	241.11	7596.71	6668.71	76.29	79.88	12.51	0.15	0.15	2.36	370968.88	1593659.51	N 39 30 34.50	W 80 56 24.82
	7700.00	0.40	231.36	7696.71	6768.71	76.04	79.54	12.01	0.12	0.11	-9.75	370968.54	1593659.01	N 39 30 34.50	W 80 56 24.83
	7800.00	0.49	240.22	7796.70	6868.70	75.74	79.11	11.37	0.11	0.09	8.86	370968.11	1593658.37	N 39 30 34.50	W 80 56 24.84
	7900.00	0.42	294.83	7896.70	6968.70	75.81	79.05	10.67	0.42	-0.07	54.61	370968.05	1593657.67	N 39 30 34.50	W 80 56 24.85
	8000.00	0.21	291.63	7996.70	7068.70	76.12	79.27	10.16	0.21	-0.21	-3.20	370968.27	1593657.16	N 39 30 34.50	W 80 56 24.85
	8100.00	0.17	305.19	8096.70	7168.70	76.32	79.43	9.87	0.06	-0.04	13.56	370968.42	1593656.87	N 39 30 34.50	W 80 56 24.86
	8200.00	0.28	313.42	8196.70	7268.70	76.62	79.68	9.57	0.11	0.11	8.23	370968.67	1593656.57	N 39 30 34.50	W 80 56 24.86
	8300.00	0.79	127.42	8296.70	7368.70	76.31	79.43	9.94	1.07	0.51	174.00	370968.42	1593656.94	N 39 30 34.50	W 80 56 24.86
	8400.00	3.31	118.69	8396.62	7468.62	73.97	77.62	13.02	2.53	2.52	-8.73	370968.62	1593660.02	N 39 30 34.48	W 80 56 24.82
	8500.00	6.78	116.22	8496.22	7568.22	68.63	73.63	20.85	3.48	3.47	-2.47	370962.62	1593667.85	N 39 30 34.44	W 80 56 24.72
	8600.00	6.59	119.37	8595.54	7667.54	61.43	68.21	31.15	0.41	-0.19	3.15	370957.20	1593678.15	N 39 30 34.39	W 80 56 24.58
	8700.00	4.51	129.73	8695.07	7767.07	54.73	62.88	39.18	2.30	-2.08	10.36	370951.87	1593686.17	N 39 30 34.34	W 80 56 24.48
	8800.00	4.50	130.60	8794.76	7866.76	48.66	57.81	45.18	0.07	-0.01	0.87	370946.81	1593692.18	N 39 30 34.29	W 80 56 24.40
	8900.00	4.87	132.73	8894.43	7966.43	42.21	52.38	51.27	0.41	0.37	2.13	370941.38	1593698.27	N 39 30 34.24	W 80 56 24.32
	9000.00	4.95	125.58	8994.06	8066.06	35.71	46.99	57.90	0.62	0.08	-7.15	370935.99	1593704.90	N 39 30 34.19	W 80 56 24.24
	9100.00	5.24	129.81	9093.67	8165.67	29.09	41.55	64.92	0.47	0.29	4.23	370930.55	1593711.91	N 39 30 34.13	W 80 56 24.15
	9200.00	5.31	124.90	9193.24	8265.24	22.29	35.98	72.22	0.46	0.07	-4.91	370924.98	1593719.22	N 39 30 34.08	W 80 56 24.05
	9300.00	5.33	125.73	9292.81	8364.81	15.65	30.62	79.79	0.08	0.02	0.83	370919.62	1593726.78	N 39 30 34.03	W 80 56 23.96
	9400.00	5.31	123.87	9392.38	8464.38	9.06	25.33	87.40	0.17	-0.02	-1.86	370914.33	1593734.39	N 39 30 33.98	W 80 56 23.86
Tie in to Gyros	9500.00	5.33	130.80	9491.95	8563.95	2.21	19.72	94.76	0.64	0.02	6.93	370908.72	1593741.75	N 39 30 33.92	W 80 56 23.76
	9600.00	5.20	136.20	9591.53	8663.53	-5.20	13.41	101.41	0.51	-0.13	5.40	370902.41	1593748.40	N 39 30 33.86	W 80 56 23.68
	9716.00	6.06	145.08	9706.97	8778.97	-15.16	4.60	108.55	1.05	0.74	7.66	370893.60	1593755.55	N 39 30 33.78	W 80 56 23.58
	9760.00	6.63	145.73	9750.70	8822.70	-19.60	0.59	111.31	1.31	1.30	1.48	370889.59	1593758.31	N 39 30 33.74	W 80 56 23.55
	9804.00	10.13	114.69	9794.25	8866.25	-24.16	-3.12	116.26	12.73	7.95	-70.55	370885.88	1593763.26	N 39 30 33.70	W 80 56 23.48
	9847.00	14.25	110.07	9836.27	8908.27	-29.02	-6.52	124.67	9.84	9.58	-10.74	370882.48	1593771.67	N 39 30 33.67	W 80 56 23.38
	9891.00	16.27	106.39	9878.72	8950.72	-34.56	-10.12	135.67	5.09	4.59	-8.36	370878.88	1593782.67	N 39 30 33.63	W 80 56 23.23
	9934.00	18.68	103.09	9919.73	8991.73	-40.03	-13.38	148.16	6.06	5.60	-7.67	370875.62	1593795.15	N 39 30 33.60	W 80 56 23.07
	9978.00	20.23	97.26	9961.22	9033.22	-45.15	-15.94	162.57	5.64	3.52	-13.25	370873.06	1593809.56	N 39 30 33.58	W 80 56 22.89
	10022.00	19.75	92.24	10002.57	9074.57	-49.10	-17.19	177.55	4.05	-1.09	-11.41	370871.81	1593824.54	N 39 30 33.57	W 80 56 22.70
	10087.00	19.93	87.87	10063.72	9135.72	-53.12	-17.21	199.60	2.30	0.26	-6.72	370871.80	1593846.58	N 39 30 33.57	W 80 56 22.42
	10131.00	21.50	88.15	10104.87	9176.87	-55.41	-16.67	215.15	3.58	3.57	0.64	370872.33	1593862.14	N 39 30 33.58	W 80 56 22.22
	10174.00	24.31	82.41	10144.48	9216.48	-57.03	-15.24	231.80	8.34	6.53	-13.35	370873.76	1593878.79	N 39 30 33.60	W 80 56 22.01
	10218.00	27.57	80.44	10184.05	9256.05	-57.64	-12.35	250.83	7.66	7.41	-4.48	370876.65	1593897.81	N 39 30 33.63	W 80 56 21.77

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	10261.00	32.08	80.73	10221.34	9293.34	-58.03	-8.86	271.92	10.49	10.49	0.67	370880.14	1593918.91	N 39 30 33.67	W 80 56 21.50
	10305.00	36.69	80.84	10257.64	9329.64	-58.56	-4.88	296.44	10.48	10.48	0.25	370884.12	1593943.43	N 39 30 33.71	W 80 56 21.19
	10348.00	40.16	78.69	10291.33	9363.33	-58.64	-0.12	322.73	8.65	8.07	-5.00	370888.88	1593969.71	N 39 30 33.76	W 80 56 20.85
	10392.00	43.89	77.26	10324.01	9396.01	-57.82	6.03	351.53	8.75	8.48	-3.25	370895.03	1593998.51	N 39 30 33.83	W 80 56 20.48
	10435.00	47.51	74.32	10354.04	9426.04	-55.78	13.61	381.35	9.74	8.42	-6.84	370902.60	1594028.32	N 39 30 33.91	W 80 56 20.11
	10479.00	51.32	71.93	10382.66	9454.66	-52.02	23.32	413.31	9.59	8.66	-5.43	370912.32	1594060.28	N 39 30 34.01	W 80 56 19.70
	10523.00	53.05	66.99	10409.65	9481.65	-45.91	35.53	445.83	9.70	3.93	-11.23	370924.52	1594092.81	N 39 30 34.13	W 80 56 19.29
	10566.00	53.26	63.96	10435.43	9507.43	-37.54	49.81	477.13	5.66	0.49	-7.05	370938.81	1594124.10	N 39 30 34.28	W 80 56 18.89
	10610.00	53.16	60.84	10461.79	9533.79	-27.15	66.13	508.35	5.68	-0.23	-7.09	370955.13	1594155.32	N 39 30 34.45	W 80 56 18.50
	10654.00	54.14	55.85	10487.88	9559.88	-14.33	84.73	538.50	9.40	2.23	-11.34	370973.72	1594185.47	N 39 30 34.64	W 80 56 18.12
	10697.00	54.84	50.46	10512.87	9584.87	1.23	105.71	566.49	10.33	1.63	-12.53	370994.70	1594213.45	N 39 30 34.85	W 80 56 17.76
	10741.00	55.47	47.27	10538.01	9610.01	19.65	129.46	593.68	6.12	1.43	-7.25	371018.45	1594240.64	N 39 30 35.09	W 80 56 17.42
	10785.00	56.47	43.40	10562.64	9634.64	40.16	155.09	619.60	7.63	2.27	-8.80	371044.08	1594266.56	N 39 30 35.34	W 80 56 17.10
	10828.00	57.68	39.20	10586.02	9658.02	62.50	182.20	643.40	8.67	2.81	-9.77	371071.19	1594290.36	N 39 30 35.62	W 80 56 16.80
	10872.00	58.76	35.99	10609.20	9681.20	87.51	211.84	666.21	6.67	2.45	-7.30	371100.82	1594313.17	N 39 30 35.91	W 80 56 16.51
	10916.00	59.99	30.93	10631.62	9703.62	114.78	243.41	687.07	10.28	2.80	-11.50	371132.40	1594334.03	N 39 30 36.23	W 80 56 16.25
	10959.00	60.49	29.18	10652.97	9724.97	143.16	275.72	705.76	3.72	1.16	-4.07	371164.71	1594352.72	N 39 30 36.55	W 80 56 16.02
	11003.00	60.62	25.88	10674.60	9746.60	173.36	309.69	723.47	6.54	0.30	-7.50	371198.67	1594370.42	N 39 30 36.89	W 80 56 15.80
	11046.00	61.34	22.01	10695.47	9767.47	204.38	344.05	738.72	8.05	1.67	-9.00	371233.03	1594385.68	N 39 30 37.23	W 80 56 15.61
	11090.00	62.04	18.46	10716.34	9788.34	237.69	380.39	752.11	7.28	1.59	-8.07	371269.37	1594399.07	N 39 30 37.59	W 80 56 15.45
	11134.00	62.89	14.85	10736.68	9808.68	272.42	417.76	763.29	7.53	1.93	-8.20	371306.74	1594410.24	N 39 30 37.96	W 80 56 15.32
	11177.00	65.34	12.18	10755.46	9827.46	307.76	455.37	772.32	7.98	5.70	-6.21	371344.34	1594419.27	N 39 30 38.34	W 80 56 15.21
	11221.00	68.54	9.99	10772.69	9844.69	345.42	495.09	780.09	8.59	7.27	-4.98	371384.06	1594427.04	N 39 30 38.73	W 80 56 15.12
	11264.00	73.49	7.06	10786.68	9858.68	383.86	535.29	786.10	13.19	11.51	-6.81	371424.26	1594433.05	N 39 30 39.13	W 80 56 15.05
	11308.00	77.71	5.09	10797.62	9869.62	424.71	577.66	790.60	10.53	9.59	-4.48	371466.62	1594437.55	N 39 30 39.55	W 80 56 15.00
	11352.00	81.76	2.02	10805.46	9877.46	466.70	620.85	793.28	11.48	9.20	-6.98	371509.82	1594440.23	N 39 30 39.97	W 80 56 14.97
	11395.00	84.01	358.26	10810.79	9882.79	508.64	663.51	793.38	10.13	5.23	-8.74	371552.47	1594440.33	N 39 30 40.40	W 80 56 14.98
	11439.00	85.77	356.42	10814.71	9886.71	552.05	707.29	791.34	5.77	4.00	-4.18	371596.24	1594438.30	N 39 30 40.83	W 80 56 15.02
	11483.00	85.60	351.61	10818.02	9890.02	595.78	750.91	788.77	10.91	-0.39	-10.93	371639.87	1594433.72	N 39 30 41.26	W 80 56 15.08
	11526.00	86.36	346.39	10821.04	9893.04	638.66	793.00	778.59	12.24	1.77	-12.14	371681.95	1594425.54	N 39 30 41.67	W 80 56 15.20
	11569.00	87.08	343.17	10823.50	9895.50	681.43	834.42	767.32	7.66	1.67	-7.49	371723.37	1594414.27	N 39 30 42.08	W 80 56 15.35
	11613.00	88.32	340.97	10825.26	9897.26	725.02	876.24	753.78	5.74	2.82	-5.00	371765.19	1594400.74	N 39 30 42.49	W 80 56 15.53
	11656.00	88.49	340.24	10826.46	9898.46	767.48	916.79	739.51	1.74	0.40	-1.70	371805.73	1594386.47	N 39 30 42.89	W 80 56 15.72
	11700.00	92.27	338.72	10826.17	9898.17	810.79	957.99	724.09	9.26	8.59	-3.45	371846.93	1594371.05	N 39 30 43.29	W 80 56 15.93
	11745.00	93.34	339.56	10823.97	9895.97	855.00	999.99	708.09	3.02	2.38	1.87	371888.93	1594355.04	N 39 30 43.71	W 80 56 16.14
	11788.00	93.85	339.03	10821.27	9893.27	897.23	1040.13	692.91	1.71	1.19	-1.23	371929.07	1594339.87	N 39 30 44.10	W 80 56 16.34
	11832.00	94.09	338.68	10818.22	9890.22	940.36	1081.07	677.08	0.96	0.55	-0.80	371970.00	1594324.04	N 39 30 44.50	W 80 56 16.55
	11875.00	92.55	338.63	10815.73	9887.73	982.51	1121.05	661.46	3.58	-3.58	-0.12	372009.98	1594308.42	N 39 30 44.90	W 80 56 16.76
	11919.00	92.58	338.57	10813.77	9885.77	1025.67	1161.98	645.42	0.15	0.07	-0.14	372050.91	1594292.38	N 39 30 45.30	W 80 56 16.97
	11963.00	92.10	338.05	10811.97	9883.97	1068.79	1202.83	629.17	1.61	-1.09	-1.18	372091.75	1594276.13	N 39 30 45.70	W 80 56 17.19
	12006.00	89.93	335.76	10811.21	9883.21	1110.73	1242.37	612.31	7.34	-5.05	-5.33	372131.29	1594259.27	N 39 30 46.09	W 80 56 17.41
	12093.00	92.47	337.53	10809.39	9881.39	1195.50	1322.21	577.83	3.56	2.92	2.03	372211.13	1594224.79	N 39 30 46.87	W 80 56 17.87
	12181.00	92.06	336.12	10805.91	9877.91	1261.27	1403.05	543.22	1.67	-0.47	-1.60	372291.96	1594190.19	N 39 30 47.66	W 80 56 18.32
	12268.00	93.27	336.86	10801.86	9873.86	1365.93	1482.74	508.56	1.63	1.39	0.85	372371.65	1594155.53	N 39 30 48.45	W 80 56 18.78
	12355.00	92.03	336.97	10797.84	9869.84	1450.73	1562.68	474.48	1.43	-1.43	0.13	372451.59	1594121.45	N 39 30 49.23	W 80 56 19.23

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	12442.00	91.07	337.03	10795.49	9867.49	1535.62	1642.74	440.50	1.11	-1.10	0.07	372531.64	1594087.48	N 39 30 50.02	W 80 56 19.68
	12529.00	89.90	338.59	10794.75	9866.75	1620.79	1723.29	407.65	2.24	-1.34	1.79	372612.18	1594054.62	N 39 30 50.81	W 80 56 20.12
	12616.00	89.83	338.85	10794.95	9866.95	1706.24	1804.35	376.07	0.31	-0.08	0.30	372693.25	1594023.05	N 39 30 51.60	W 80 56 20.54
	12703.00	91.37	340.27	10794.04	9866.04	1791.91	1885.87	345.69	2.41	1.77	1.63	372774.76	1593992.67	N 39 30 52.40	W 80 56 20.94
	12791.00	91.34	340.21	10791.96	9863.96	1878.72	1988.66	315.95	0.08	-0.03	-0.07	372857.55	1593962.93	N 39 30 53.22	W 80 56 21.34
	12878.00	91.58	340.80	10789.75	9861.75	1964.61	2050.65	286.92	0.73	0.28	0.68	372939.53	1593933.91	N 39 30 54.02	W 80 56 21.73
	12965.00	90.34	340.85	10788.29	9860.29	2050.59	2132.81	258.35	1.43	-1.43	0.06	373021.68	1593905.34	N 39 30 54.83	W 80 56 22.11
	13053.00	91.79	342.55	10786.65	9858.65	2137.75	2216.34	230.73	2.54	1.65	1.93	373105.21	1593877.72	N 39 30 55.65	W 80 56 22.48
	13140.00	91.92	342.65	10783.84	9855.84	2224.06	2299.31	204.73	0.19	0.15	0.11	373188.18	1593851.71	N 39 30 56.47	W 80 56 22.83
	13227.00	92.34	341.79	10780.60	9852.60	2310.29	2382.10	178.18	1.10	0.48	-0.99	373270.96	1593825.17	N 39 30 57.28	W 80 56 23.18
	13314.00	91.79	341.11	10777.47	9849.47	2396.37	2464.52	150.52	1.00	-0.63	-0.78	373353.38	1593797.51	N 39 30 58.09	W 80 56 23.55
	13402.00	91.75	341.30	10774.75	9846.75	2483.39	2547.79	122.18	0.22	-0.05	0.22	373436.64	1593769.17	N 39 30 58.91	W 80 56 23.93
	13489.00	91.34	339.07	10772.40	9844.40	2569.19	2629.61	92.70	2.61	-0.47	-2.56	373518.45	1593739.70	N 39 30 59.71	W 80 56 24.32
	13576.00	91.38	337.32	10770.34	9842.34	2654.46	2710.36	60.40	2.01	0.05	-2.01	373599.20	1593707.39	N 39 31 0.51	W 80 56 24.75
	13663.00	91.41	335.88	10768.22	9840.22	2739.22	2790.17	25.85	1.66	0.03	-1.66	373679.01	1593672.65	N 39 31 1.29	W 80 56 25.21
	13751.00	90.21	336.33	10766.98	9838.98	2824.80	2870.62	-9.79	1.46	-1.36	0.51	373759.45	1593637.21	N 39 31 2.08	W 80 56 25.68
	13838.00	91.13	336.62	10765.96	9837.96	2909.54	2950.38	-44.51	1.11	1.06	0.33	373839.21	1593602.49	N 39 31 2.86	W 80 56 26.14
	13925.00	91.96	337.05	10763.61	9835.61	2994.37	3030.34	-78.72	1.07	0.95	0.49	373919.16	1593568.28	N 39 31 3.65	W 80 56 26.59
	14012.00	92.61	336.74	10760.15	9832.15	3079.19	3110.30	-112.83	0.83	0.75	-0.36	373999.11	1593534.17	N 39 31 4.43	W 80 56 27.04
	14100.00	93.10	337.09	10755.76	9827.76	3164.95	3191.15	-147.30	0.68	0.56	0.40	374079.96	1593499.71	N 39 31 5.22	W 80 56 27.50
	14187.00	92.10	337.44	10751.82	9823.82	3249.87	3271.31	-180.88	1.22	-1.15	0.40	374160.11	1593466.13	N 39 31 6.01	W 80 56 27.94
	14274.00	91.00	339.40	10749.46	9821.46	3335.20	3352.17	-212.87	2.58	-1.26	2.25	374240.98	1593434.15	N 39 31 6.81	W 80 56 28.37
	14361.00	89.55	339.95	10749.04	9821.04	3420.90	3433.75	-243.09	1.78	-1.67	0.63	374322.55	1593403.93	N 39 31 7.61	W 80 56 28.77
	14449.00	89.86	339.96	10749.50	9821.50	3507.67	3516.42	-273.25	0.35	0.35	0.01	374405.21	1593373.77	N 39 31 8.42	W 80 56 29.17
	14536.00	89.24	341.05	10750.18	9822.18	3593.58	3598.43	-302.28	1.44	-0.71	1.25	374487.22	1593344.74	N 39 31 9.23	W 80 56 29.56
	14623.00	89.45	340.90	10751.18	9823.18	3679.60	3680.67	-330.64	0.30	0.24	-0.17	374569.45	1593316.38	N 39 31 10.03	W 80 56 29.94
	14711.00	90.48	341.43	10751.23	9823.23	3766.66	3763.96	-359.05	1.32	1.17	0.60	374652.74	1593287.97	N 39 31 10.85	W 80 56 30.32
	14798.00	89.42	340.96	10751.31	9823.31	3852.74	3846.31	-387.09	1.33	-1.22	-0.54	374735.09	1593259.93	N 39 31 11.66	W 80 56 30.69
	14885.00	89.93	341.21	10751.80	9823.80	3938.79	3928.61	-415.29	0.65	0.59	0.29	374817.38	1593231.73	N 39 31 12.47	W 80 56 31.07
	14972.00	90.41	341.14	10751.54	9823.54	4024.86	4010.96	-443.37	0.56	0.55	-0.08	374899.72	1593203.66	N 39 31 13.28	W 80 56 31.45
	15060.00	90.86	341.61	10750.57	9822.57	4111.96	4094.35	-471.47	0.74	0.51	0.53	374983.10	1593175.56	N 39 31 14.10	W 80 56 31.82
	15147.00	91.65	342.09	10748.66	9820.66	4198.15	4177.00	-498.56	1.06	0.91	0.55	375065.75	1593148.47	N 39 31 14.91	W 80 56 32.18
	15234.00	91.89	342.28	10745.97	9817.97	4284.39	4259.78	-525.17	0.35	0.28	0.22	375148.53	1593121.86	N 39 31 15.73	W 80 56 32.54
	15322.00	92.23	341.87	10742.81	9814.81	4371.59	4343.46	-552.23	0.61	0.39	-0.47	375232.20	1593094.80	N 39 31 16.55	W 80 56 32.90
	15409.00	91.24	341.70	10740.18	9812.18	4457.75	4426.06	-579.42	1.15	-1.14	-0.20	375314.80	1593067.62	N 39 31 17.36	W 80 56 33.27
	15496.00	91.65	341.46	10737.98	9809.98	4543.88	4508.58	-606.90	0.55	0.47	-0.28	375397.31	1593040.14	N 39 31 18.17	W 80 56 33.63
	15584.00	92.20	341.65	10735.03	9807.03	4630.97	4592.01	-634.72	0.66	0.63	0.22	375480.74	1593012.31	N 39 31 18.99	W 80 56 34.01
	15671.00	91.41	341.50	10732.28	9804.28	4717.09	4674.51	-662.21	0.92	-0.91	-0.17	375563.23	1592984.83	N 39 31 19.80	W 80 56 34.37
	15759.00	91.72	341.63	10729.88	9801.88	4804.20	4757.96	-690.03	0.38	0.35	0.15	375646.68	1592957.01	N 39 31 20.62	W 80 56 34.75
	15846.00	89.38	341.39	10729.05	9801.05	4890.34	4840.46	-717.61	2.70	-2.69	-0.28	375729.17	1592929.43	N 39 31 21.43	W 80 56 35.11
	15933.00	90.03	341.36	10729.49	9801.49	4976.45	4922.90	-745.40	0.75	0.75	-0.03	375811.61	1592901.64	N 39 31 22.24	W 80 56 35.49
	16020.00	90.76	341.21	10728.89	9800.89	5062.54	5005.30	-773.31	0.86	0.84	-0.17	375894.00	1592873.73	N 39 31 23.05	W 80 56 35.86
	16107.00	91.00	340.39	10727.56	9799.56	5148.52	5087.45	-801.92	0.98	0.28	-0.94	375976.15	1592845.13	N 39 31 23.86	W 80 56 36.24
	16194.00	90.82	339.50	10726.18	9798.18	5234.29	5169.16	-831.75	1.04	-0.21	-1.02	376057.86	1592815.30	N 39 31 24.66	W 80 56 36.64
	16281.00	91.37	338.72	10724.51	9796.51	5319.83	5250.43	-862.77	1.10	0.63	-0.90	376139.12	1592784.28	N 39 31 25.46	W 80 56 37.05

CONFIDENTIAL

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	16369.00	90.21	339.34	10723.30	9795.30	5406.34	5332.59	-894.26	1.49	-1.32	0.70	376221.27	1592752.80	N 39 31 28.27	W 80 56 37.47
	16456.00	90.89	339.15	10722.47	9794.47	5491.93	5413.94	-925.09	0.81	0.78	-0.22	376302.62	1592721.97	N 39 31 27.07	W 80 56 37.88
	16543.00	91.82	339.59	10720.41	9792.41	5577.54	5495.34	-955.73	1.18	1.07	0.51	376384.01	1592691.33	N 39 31 27.87	W 80 56 38.29
	16616.00	92.10	338.91	10717.91	9789.91	5649.32	5563.56	-981.58	1.01	0.38	-0.93	376452.23	1592665.48	N 39 31 28.54	W 80 56 38.63
	16676.00	92.75	339.34	10715.37	9787.37	5708.27	5619.57	-1002.94	1.30	1.08	0.72	376508.24	1592644.12	N 39 31 29.09	W 80 56 38.91
Final Survey	16735.00	92.85	339.50	10712.49	9784.49	5766.29	5674.74	-1023.65	0.32	0.17	0.27	376563.40	1592623.41	N 39 31 29.63	W 80 56 39.19
Projection to TD	16800.00	92.85	339.50	10709.26	9781.26	5830.21	5735.55	-1046.39	0.00	0.00	0.00	376624.21	1592600.67	N 39 31 30.23	W 80 56 39.49

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
 Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	22.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	ST01 / Triad Hunter Stewart Winland 1300 ST01 GYRO 0ft to 10925ft MD
	1	22.000	9600.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT	ST01 / Triad Hunter Stewart Winland 1300 ST01 GYRO 0ft to
	1	9600.000	16735.000	Act Stns	30.000	30.000	SLB_MWD-STD	ST02 / Triad Hunter Stewart Winland 1300 ST02 Surveys
	1	16735.000	16800.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	ST02 / Triad Hunter Stewart Winland 1300 ST02 Surveys