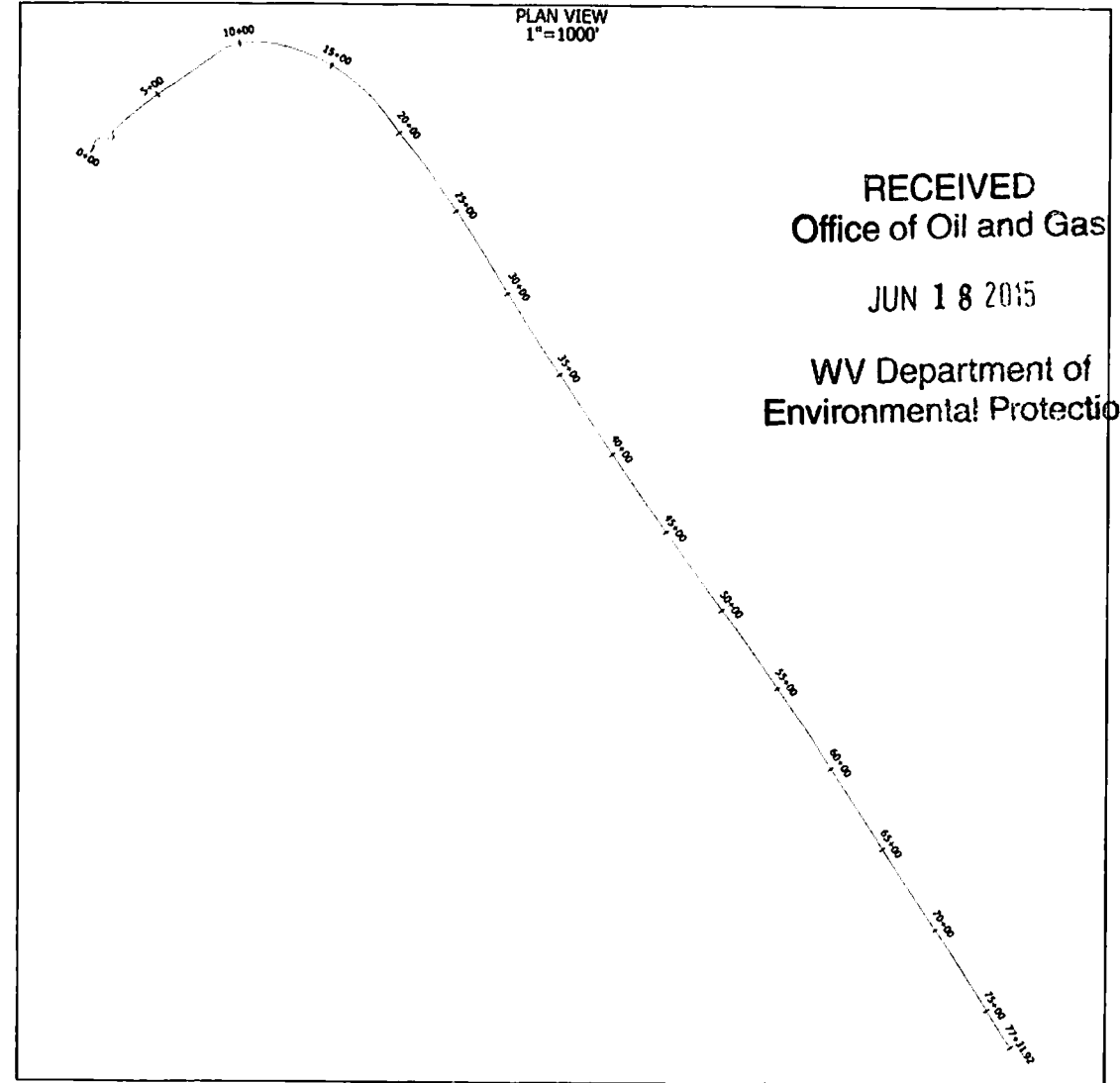
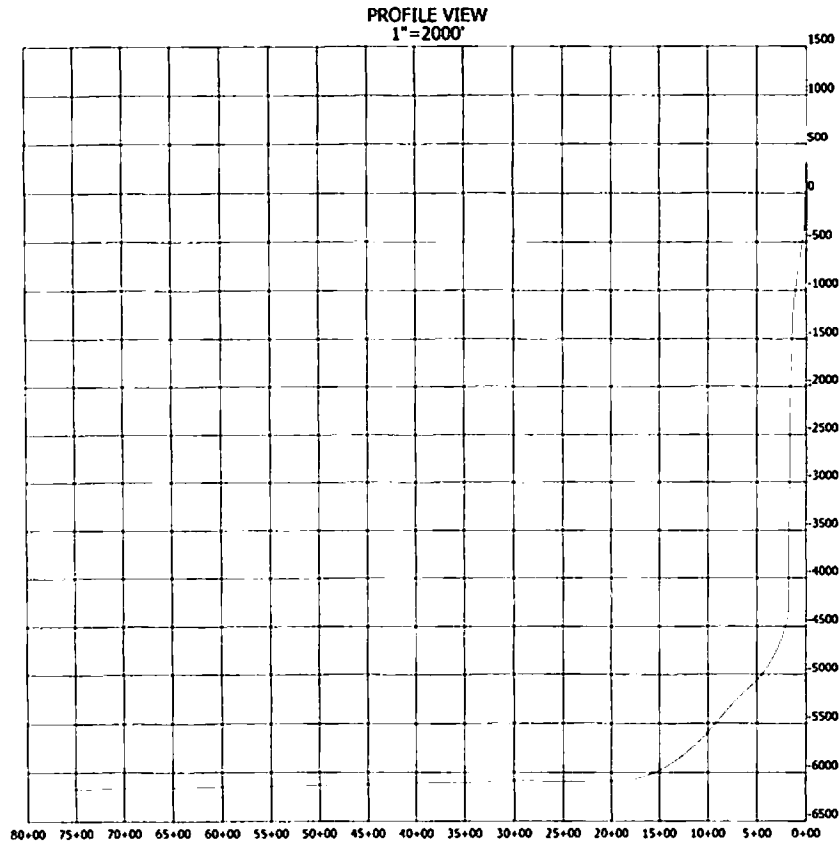


# PLAN AND PROFILE VIEW FOR WVDNR #1413 API #47-103-02998

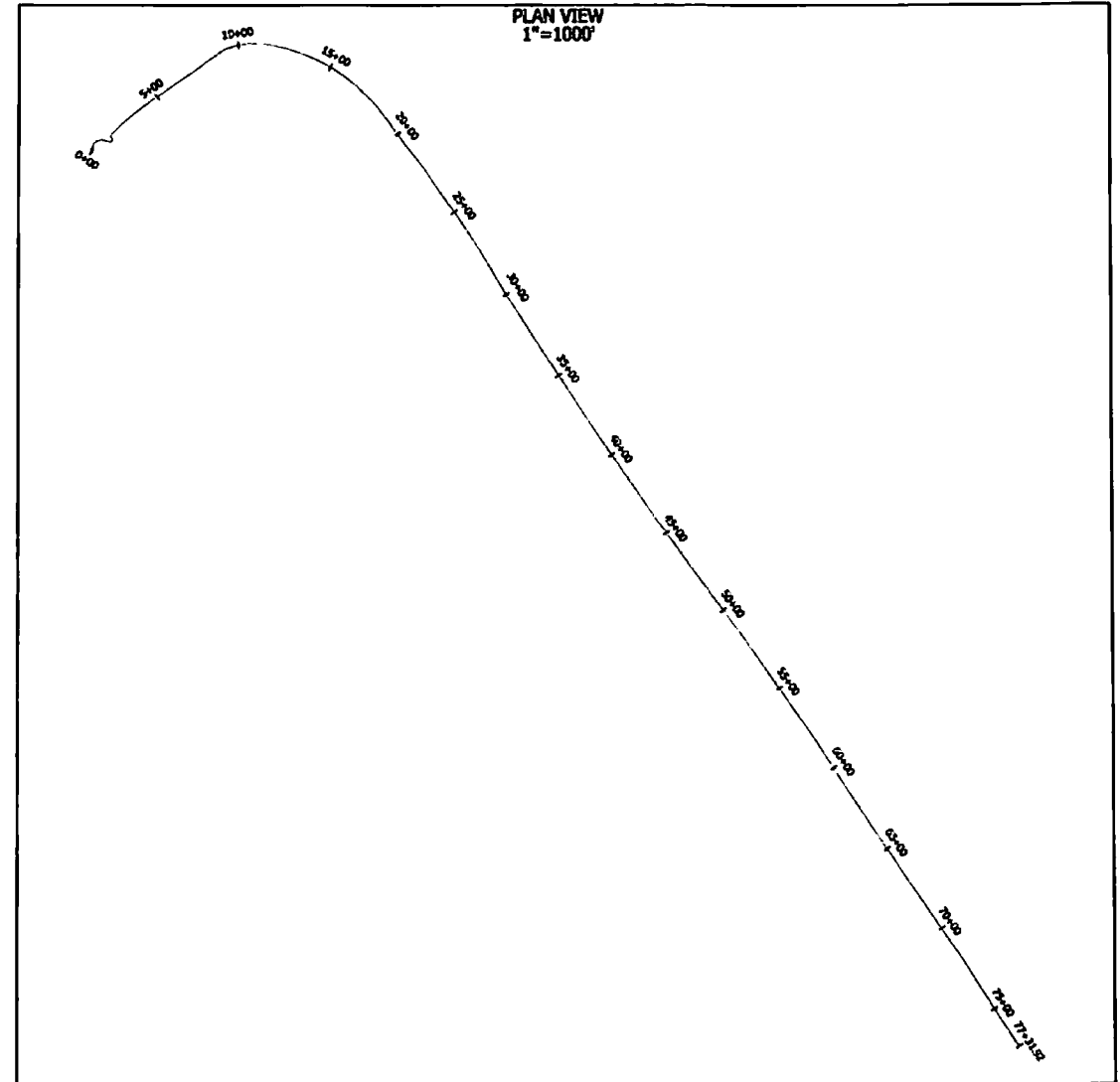
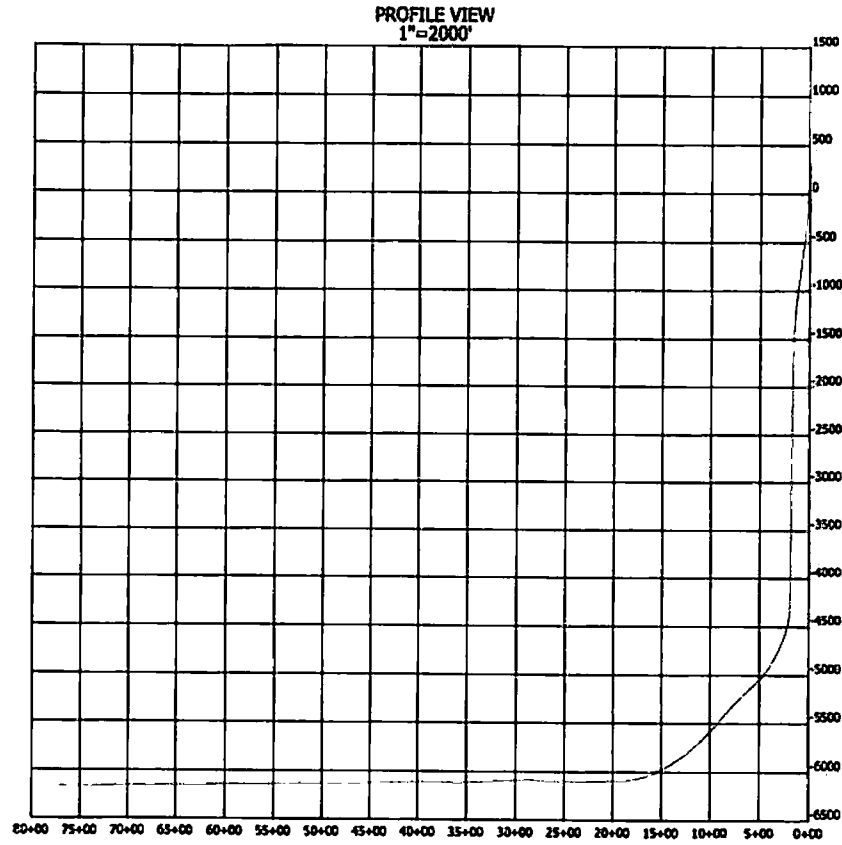


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NOTES

1. AS DRILLED DATA WAS PROVIDED BY TRIAD HUNTER.
2. HSM IS NOT CERTIFYING THIS DATA AND IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA THAT HAS BEEN PROVIDED.

# PLAN AND PROFILE VIEW FOR WVDNR #1413 API #47-103-02998



### NOTES

1. AS DRILLED DATA WAS PROVIDED BY TRIAD HUNTER.
2. HSM IS NOT CERTIFYING THIS DATA AND IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA THAT HAS BEEN PROVIDED.

## Triad Hunter WVDNR #1413 Gyro+MWD 0ft to update Survey Geodetic Report

(Def Survey)



Report Date: October 13, 2014 - 08:21 AM  
 Client: Triad Hunter  
 Field: WV Wetzel County (NAD 27)  
 Structure / Slot: Triad Hunter WVDNR Pad / WVDNR #1413  
 Well: WVDNR #1413  
 Borehole: Original Borehole  
 UWI / API#: Unknown / Unknown  
 Survey Name: Triad Hunter WVDNR #1413 Gyro+MWD 0ft to update  
 Survey Date: July 18, 2014  
 Tort / AHD / DDI / ERD Ratio: 282.698 ° / 7733.725 ft / 6.610 / 1.013  
 Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet  
 Location Lat / Long: N 39° 30' 18.61122", W 80° 39' 27.26639"  
 Location Grid N/E Y/X: N 368208.000 ftUS, E 1673381.000 ftUS  
 CRS Grid Convergence Angle: -0.7383 °  
 Grid Scale Factor: 0.99994296  
 Version / Patch: 2.7.1043.0

Survey / DLS Computation: Minimum Curvature / Lubinski  
 Vertical Section Azimuth: 133.973 ° (Grid North)  
 Vertical Section Origin: 0.000 ft, 0.000 ft  
 TVD Reference Datum: KB  
 TVD Reference Elevation: 1482.000 ft above MSL  
 Seabed / Ground Elevation: 1460.000 ft above MSL  
 Magnetic Declination: -7.967 °  
 Total Gravity Field Strength: 999.2977mgn (9.80665 Based)  
 Gravity Model: GARM  
 Total Magnetic Field Strength: 52613.073 nT  
 Magnetic Dip Angle: 67.079 °  
 Declination Date: July 18, 2014  
 Magnetic Declination Model: HDGM 2013  
 North Reference: Grid North  
 Grid Convergence Used: -0.7383 °  
 Total Corr Mag North->Grid North: -7.2283 °  
 Local Coord Referenced To: Well Head

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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 ° ' ")
SHL	0.00	0.00	62.00	0.00	-1482.00	0.00	0.00	0.00	N/A	N/A	N/A	368208.00	1673381.00	N 39 30 18.61	W 80 39 27.27
	100.00	0.15	120.89	100.00	-1382.00	0.13	-0.07	0.11	0.15	0.15	0.00	368207.93	1673381.11	N 39 30 18.61	W 80 39 27.26
	200.00	0.06	111.40	200.00	-1282.00	0.30	-0.15	0.27	0.09	-0.09	-9.49	368207.85	1673381.27	N 39 30 18.61	W 80 39 27.26
	300.00	0.19	105.11	300.00	-1182.00	0.50	-0.22	0.48	0.13	0.13	-6.29	368207.78	1673381.48	N 39 30 18.61	W 80 39 27.26
	400.00	0.21	128.99	400.00	-1082.00	0.82	-0.37	0.78	0.09	0.02	23.88	368207.63	1673381.78	N 39 30 18.61	W 80 39 27.26
	500.00	0.14	108.35	500.00	-982.00	1.12	-0.53	1.04	0.09	-0.07	-20.64	368207.47	1673382.04	N 39 30 18.61	W 80 39 27.25
	600.00	0.08	213.51	600.00	-882.00	1.24	-0.62	1.12	0.18	-0.06	105.16	368207.38	1673382.12	N 39 30 18.61	W 80 39 27.25
	700.00	0.03	130.96	700.00	-782.00	1.28	-0.70	1.10	0.08	-0.05	-82.55	368207.30	1673382.10	N 39 30 18.60	W 80 39 27.25
	800.00	0.12	124.65	800.00	-682.00	1.41	-0.78	1.21	0.09	0.09	-6.31	368207.22	1673382.21	N 39 30 18.60	W 80 39 27.25
	900.00	0.13	135.23	900.00	-582.00	1.63	-0.92	1.37	0.03	0.01	10.58	368207.08	1673382.37	N 39 30 18.60	W 80 39 27.25
	1000.00	0.23	159.78	1000.00	-482.00	1.92	-1.19	1.52	0.12	0.10	24.55	368206.81	1673382.52	N 39 30 18.60	W 80 39 27.25
	1100.00	0.40	189.64	1100.00	-382.00	2.30	-1.72	1.53	0.23	0.17	29.86	368206.28	1673382.53	N 39 30 18.59	W 80 39 27.25
	1200.00	0.24	185.26	1199.99	-282.01	2.62	-2.27	1.46	0.16	-0.16	-4.38	368205.73	1673382.46	N 39 30 18.59	W 80 39 27.25
	1230.00	0.25	183.23	1229.99	-252.01	2.71	-2.40	1.45	0.04	0.03	-6.77	368205.60	1673382.45	N 39 30 18.59	W 80 39 27.25
	1358.00	0.52	225.59	1357.99	-124.01	2.87	-3.08	1.02	0.29	0.21	33.09	368204.92	1673382.02	N 39 30 18.58	W 80 39 27.25
	1453.00	0.29	299.07	1452.99	-29.01	2.63	-3.27	0.50	0.55	-0.24	77.35	368204.73	1673381.50	N 39 30 18.58	W 80 39 27.26
	1548.00	1.91	12.19	1547.97	65.97	1.56	-1.60	0.62	1.94	1.71	76.97	368206.40	1673381.62	N 39 30 18.60	W 80 39 27.26
	1647.00	3.66	9.89	1646.85	164.85	-1.08	3.12	1.51	1.77	1.77	-2.32	368211.12	1673382.51	N 39 30 18.64	W 80 39 27.25
	1742.00	5.49	9.10	1741.54	259.54	-5.38	10.60	2.75	1.93	1.93	-0.83	368218.60	1673383.75	N 39 30 18.72	W 80 39 27.23
	1838.00	7.08	17.02	1836.96	354.96	-10.68	20.79	5.21	1.88	1.66	8.25	368228.79	1673386.21	N 39 30 18.82	W 80 39 27.20
	1933.00	8.35	29.61	1931.11	449.11	-15.05	32.39	10.33	2.22	1.34	13.25	368240.38	1673391.33	N 39 30 18.93	W 80 39 27.14

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 ° ' ")
	2027.00	7.87	40.42	2024.17	542.17	-17.14	43.22	17.88	1.70	-0.51	11.50	368251.22	1673398.88	N 39 30 19.04	W 80 39 27.05
	2122.00	7.55	57.98	2118.33	636.33	-16.04	51.48	27.39	2.49	-0.34	18.46	368259.48	1673408.39	N 39 30 19.12	W 80 39 26.93
	2218.00	7.02	73.85	2211.58	729.58	-11.68	56.36	38.14	2.21	-0.56	16.90	368264.35	1673419.14	N 39 30 19.17	W 80 39 26.79
	2310.00	7.17	88.00	2304.87	822.87	-4.74	58.16	49.52	1.86	0.16	15.05	368266.16	1673430.52	N 39 30 19.19	W 80 39 26.64
	2404.00	8.02	96.74	2398.04	916.04	4.56	57.60	61.90	1.52	0.90	9.30	368265.59	1673442.89	N 39 30 19.19	W 80 39 26.49
	2498.00	7.19	104.90	2491.22	1009.22	14.92	55.31	74.10	1.45	-0.88	8.68	368263.31	1673455.09	N 39 30 19.17	W 80 39 26.33
	2591.00	5.85	111.60	2583.62	1101.62	24.39	52.07	84.13	1.65	-1.44	7.20	368260.07	1673465.12	N 39 30 19.14	W 80 39 26.20
	2686.00	5.01	102.72	2678.19	1196.19	32.41	49.38	92.67	1.25	-0.88	-9.35	368257.37	1673473.67	N 39 30 19.11	W 80 39 26.09
	2781.00	3.65	89.88	2772.92	1290.92	38.13	48.47	99.75	1.75	-1.43	-13.52	368256.47	1673480.74	N 39 30 19.10	W 80 39 26.00
	2876.00	2.26	76.58	2867.79	1385.79	41.31	48.91	104.59	1.62	-1.46	-14.00	368256.91	1673485.59	N 39 30 19.11	W 80 39 25.94
	2970.00	1.47	62.36	2961.74	1479.74	42.69	49.90	107.46	0.97	-0.84	-15.13	368257.90	1673488.46	N 39 30 19.12	W 80 39 25.90
	3066.00	1.46	16.83	3057.71	1575.71	42.52	51.64	108.91	1.18	-0.01	-47.43	368259.64	1673489.90	N 39 30 19.14	W 80 39 25.89
	3161.00	1.84	0.27	3152.68	1670.68	40.92	54.32	109.27	0.64	0.40	-17.43	368262.32	1673490.26	N 39 30 19.16	W 80 39 25.88
	3256.00	1.58	11.82	3247.63	1765.63	39.17	57.13	109.54	0.45	-0.27	12.16	368265.13	1673490.53	N 39 30 19.19	W 80 39 25.88
	3351.00	1.32	4.63	3342.60	1860.60	37.78	59.50	109.90	0.33	-0.27	-7.57	368267.50	1673490.89	N 39 30 19.21	W 80 39 25.87
	3413.00	1.22	8.67	3404.59	1922.59	36.94	60.87	110.05	0.22	-0.16	6.52	368268.87	1673491.05	N 39 30 19.23	W 80 39 25.87
	3537.00	1.06	7.80	3528.56	2046.56	35.50	63.31	110.41	0.13	-0.13	-0.70	368271.31	1673491.40	N 39 30 19.25	W 80 39 25.87
	3633.00	0.62	357.20	3624.55	2142.55	34.60	64.71	110.50	0.48	-0.46	-11.04	368272.70	1673491.50	N 39 30 19.26	W 80 39 25.87
	3727.00	0.51	3.17	3718.55	2236.55	33.95	65.63	110.50	0.13	-0.12	6.35	368273.63	1673491.50	N 39 30 19.27	W 80 39 25.87
	3822.00	0.39	353.33	3813.55	2331.55	33.43	66.38	110.49	0.15	-0.13	-10.36	368274.37	1673491.48	N 39 30 19.28	W 80 39 25.87
	3917.00	0.41	359.89	3908.54	2426.54	32.94	67.04	110.45	0.05	0.02	6.91	368275.03	1673491.44	N 39 30 19.29	W 80 39 25.87
	4011.00	0.36	352.39	4002.54	2520.54	32.48	67.67	110.41	0.08	-0.05	-7.98	368275.66	1673491.40	N 39 30 19.29	W 80 39 25.87
	4105.00	0.36	324.31	4096.54	2614.54	31.95	68.20	110.20	0.19	0.00	-29.87	368276.20	1673491.19	N 39 30 19.30	W 80 39 25.87
	4200.00	0.42	351.23	4191.54	2709.54	31.38	68.79	109.97	0.20	0.06	28.34	368276.78	1673490.97	N 39 30 19.31	W 80 39 25.87
	4295.00	0.32	350.90	4286.54	2804.54	30.89	69.39	109.88	0.11	-0.11	-0.35	368277.39	1673490.87	N 39 30 19.31	W 80 39 25.88
	4390.00	0.49	341.78	4381.53	2899.53	30.32	70.04	109.71	0.19	0.18	-9.60	368278.04	1673490.70	N 39 30 19.32	W 80 39 25.88
	4483.00	0.52	330.90	4474.53	2992.53	29.57	70.79	109.38	0.11	0.03	-11.70	368278.78	1673490.37	N 39 30 19.32	W 80 39 25.88
	4578.00	0.55	331.20	4569.52	3087.52	28.72	71.56	108.95	0.03	0.03	0.32	368279.56	1673489.94	N 39 30 19.33	W 80 39 25.89
	4672.00	0.37	318.31	4663.52	3181.52	27.99	72.19	108.53	0.22	-0.19	-13.71	368280.18	1673489.52	N 39 30 19.34	W 80 39 25.89
	4767.00	0.42	311.37	4758.52	3276.52	27.33	72.64	108.06	0.07	0.05	-7.31	368280.64	1673489.06	N 39 30 19.34	W 80 39 25.90
	4862.00	0.37	302.65	4853.52	3371.52	26.68	73.04	107.55	0.08	-0.05	-9.18	368281.04	1673488.54	N 39 30 19.35	W 80 39 25.91
	4951.00	0.27	312.03	4942.52	3460.52	26.19	73.34	107.15	0.13	-0.11	10.54	368281.33	1673488.14	N 39 30 19.35	W 80 39 25.91
	5047.00	0.52	299.37	5038.51	3556.51	25.55	73.70	106.60	0.27	0.26	-13.19	368281.70	1673487.59	N 39 30 19.35	W 80 39 25.92
	5142.00	0.60	285.27	5133.51	3651.51	24.69	74.04	105.74	0.17	0.08	-14.84	368282.04	1673486.74	N 39 30 19.36	W 80 39 25.93
	5237.00	0.66	299.00	5228.50	3746.50	23.73	74.44	104.79	0.17	0.06	14.45	368282.44	1673485.78	N 39 30 19.36	W 80 39 25.94
	5332.00	0.67	315.81	5323.50	3841.50	22.64	75.10	103.92	0.20	0.01	17.69	368283.10	1673484.91	N 39 30 19.37	W 80 39 25.95
	5427.00	0.75	318.12	5418.49	3936.49	21.47	75.96	103.12	0.09	0.08	2.43	368283.96	1673484.11	N 39 30 19.38	W 80 39 25.96
	5522.00	0.73	319.96	5513.48	4031.48	20.25	76.89	102.31	0.03	-0.02	1.94	368284.89	1673483.31	N 39 30 19.38	W 80 39 25.97
	5616.00	0.59	297.93	5607.48	4125.48	19.19	77.58	101.50	0.31	-0.15	-23.44	368285.57	1673482.49	N 39 30 19.39	W 80 39 25.98
	5711.00	0.58	339.26	5702.47	4220.47	18.28	78.25	100.90	0.43	-0.01	43.51	368286.25	1673481.89	N 39 30 19.40	W 80 39 25.99
	5805.00	1.25	6.53	5796.46	4314.46	17.23	79.72	100.85	0.83	0.71	29.01	368287.71	1673481.84	N 39 30 19.41	W 80 39 25.99
	5900.00	10.16	41.73	5890.90	4408.90	16.27	87.02	106.55	9.65	9.38	37.05	368295.01	1673487.55	N 39 30 19.48	W 80 39 25.92
	5995.00	15.66	44.08	5983.47	4501.47	15.96	102.49	121.06	5.81	5.79	2.47	368310.49	1673502.05	N 39 30 19.64	W 80 39 25.74
	6091.00	19.73	45.58	6074.91	4592.91	16.44	123.15	141.65	4.27	4.24	1.54	368331.15	1673522.64	N 39 30 19.85	W 80 39 25.48
	6186.00	23.78	47.76	6163.12	4681.12	18.15	147.27	167.29	4.35	4.26	2.32	368355.26	1673548.28	N 39 30 20.09	W 80 39 25.16



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 ° ' ")
	6281.00	27.90	49.93	6248.61	4766.61	21.72	174.46	198.50	4.45	4.34	2.28	368382.45	1673579.48	N 39 30 20.36	W 80 39 24.76
	6376.00	29.19	52.34	6332.06	4850.06	27.40	202.93	233.85	1.82	1.36	2.54	368410.91	1673614.83	N 39 30 20.65	W 80 39 24.32
	6470.00	31.74	52.90	6413.08	4931.08	34.57	231.85	271.72	2.73	2.71	0.60	368439.84	1673652.70	N 39 30 20.94	W 80 39 23.84
	6566.00	41.19	53.12	6490.20	5008.20	43.54	266.13	317.25	9.84	9.84	0.23	368474.12	1673698.23	N 39 30 21.28	W 80 39 23.26
	6661.00	47.39	55.49	6558.17	5076.17	55.50	304.75	371.13	6.75	6.53	2.49	368512.73	1673752.11	N 39 30 21.67	W 80 39 22.58
	6756.00	46.21	55.07	6623.20	5141.20	69.08	344.19	428.06	1.28	-1.24	-0.44	368552.17	1673809.03	N 39 30 22.07	W 80 39 21.86
	6850.00	45.03	54.79	6688.94	5206.94	81.85	382.79	483.04	1.27	-1.26	-0.30	368590.77	1673864.01	N 39 30 22.46	W 80 39 21.17
	6945.00	43.72	54.07	6756.85	5274.85	93.92	421.43	537.08	1.48	-1.38	-0.76	368629.41	1673918.05	N 39 30 22.84	W 80 39 20.48
	7040.00	41.46	53.77	6826.78	5344.78	105.02	459.29	589.04	2.39	-2.38	-0.32	368667.26	1673970.01	N 39 30 23.23	W 80 39 19.83
	7135.00	40.03	53.42	6898.76	5416.76	115.39	496.09	638.95	1.52	-1.51	-0.37	368704.06	1674019.91	N 39 30 23.60	W 80 39 19.20
	7230.00	39.86	60.78	6971.63	5489.63	129.22	529.17	690.08	4.98	-0.18	7.75	368737.14	1674071.04	N 39 30 23.93	W 80 39 18.55
	7325.00	42.92	77.14	7043.10	5561.10	155.80	551.30	748.37	11.81	3.22	17.22	368759.27	1674129.33	N 39 30 24.15	W 80 39 17.81
	7419.00	45.01	86.81	7110.84	5628.84	195.96	560.29	812.84	7.47	2.22	10.29	368768.26	1674193.79	N 39 30 24.25	W 80 39 16.99
	7514.00	47.41	94.99	7176.63	5694.63	246.04	559.12	881.29	6.71	2.53	8.61	368767.08	1674262.24	N 39 30 24.25	W 80 39 16.12
	7607.00	50.64	101.46	7237.64	5755.64	303.02	548.99	950.69	6.29	3.47	6.96	368756.95	1674331.64	N 39 30 24.16	W 80 39 15.23
	7702.00	53.80	106.07	7295.85	5813.85	367.90	531.07	1023.56	5.08	3.33	4.85	368739.04	1674404.50	N 39 30 23.99	W 80 39 14.30
	7796.00	56.20	111.09	7349.79	5867.79	437.44	506.50	1096.49	5.06	2.55	5.34	368714.47	1674477.43	N 39 30 23.76	W 80 39 13.36
	7891.00	58.85	114.90	7400.81	5918.81	512.26	475.17	1170.22	4.38	2.79	4.01	368683.14	1674551.15	N 39 30 23.46	W 80 39 12.42
	7985.00	62.39	122.26	7446.96	5964.96	591.16	435.95	1242.02	7.79	3.77	7.83	368643.92	1674622.95	N 39 30 23.08	W 80 39 11.49
	8080.00	68.20	126.32	7486.67	6004.67	676.19	387.30	1313.24	7.24	6.12	4.27	368595.28	1674694.16	N 39 30 22.61	W 80 39 10.58
	8175.00	74.59	131.25	7516.98	6034.98	765.78	330.90	1383.31	8.33	6.73	5.19	368538.88	1674764.23	N 39 30 22.06	W 80 39 9.67
	8269.00	79.01	136.48	7538.45	6056.45	857.24	267.49	1449.23	7.17	4.70	5.56	368475.48	1674830.14	N 39 30 21.44	W 80 39 8.82
	8364.00	83.84	142.22	7552.62	6070.62	950.69	196.26	1510.35	7.84	5.08	6.04	368404.24	1674891.26	N 39 30 20.74	W 80 39 8.03
	8459.00	91.03	144.79	7556.87	6074.87	1044.22	120.01	1566.75	8.04	7.57	2.71	368328.01	1674947.66	N 39 30 20.00	W 80 39 7.30
	8553.00	89.35	141.49	7556.56	6074.56	1137.00	44.82	1623.13	3.94	-1.79	-3.51	368252.81	1675004.03	N 39 30 19.26	W 80 39 6.57
	8647.00	88.15	140.74	7558.61	6076.61	1230.25	-28.33	1682.12	1.51	-1.28	-0.80	368179.67	1675063.02	N 39 30 18.54	W 80 39 5.80
	8741.00	90.72	144.47	7559.54	6077.54	1323.15	-102.99	1739.19	4.82	2.73	3.97	368105.01	1675120.09	N 39 30 17.81	W 80 39 5.06
	8836.00	90.34	146.82	7558.66	6076.66	1416.18	-181.41	1792.79	2.51	-0.40	2.47	368026.60	1675173.69	N 39 30 17.05	W 80 39 4.37
	8931.00	86.77	143.82	7561.05	6079.05	1509.26	-259.49	1846.81	4.91	-3.76	-3.16	367948.53	1675227.71	N 39 30 16.28	W 80 39 3.66
	9025.00	90.93	146.23	7562.94	6080.94	1601.47	-336.47	1900.67	5.11	4.43	2.56	367871.55	1675281.56	N 39 30 15.53	W 80 39 2.97
	9120.00	92.96	145.81	7559.72	6077.72	1694.32	-415.20	1953.73	2.18	2.14	-0.44	367792.82	1675334.62	N 39 30 14.76	W 80 39 2.28
	9215.00	94.81	148.88	7553.28	6071.28	1786.52	-494.99	2004.87	3.77	1.95	3.23	367713.04	1675385.75	N 39 30 13.97	W 80 39 1.61
	9309.00	92.13	149.37	7547.59	6065.59	1877.08	-575.51	2053.01	2.90	-2.85	0.52	367632.52	1675433.89	N 39 30 13.18	W 80 39 0.98
	9403.00	89.31	148.83	7546.41	6064.41	1967.80	-656.15	2101.28	3.05	-3.00	-0.57	367551.88	1675482.15	N 39 30 12.39	W 80 39 0.35
	9497.00	87.22	148.57	7549.25	6067.25	2058.67	-736.43	2150.09	2.24	-2.22	-0.28	367471.61	1675530.96	N 39 30 11.61	W 80 38 59.72
	9592.00	87.56	148.76	7553.58	6071.58	2150.47	-817.49	2199.44	0.41	0.36	0.20	367390.56	1675580.31	N 39 30 10.81	W 80 38 59.08
	9686.00	86.80	148.06	7558.21	6076.21	2241.39	-897.46	2248.62	1.10	-0.81	-0.74	367310.59	1675629.49	N 39 30 10.03	W 80 38 58.44
	9779.00	88.86	147.76	7561.73	6079.73	2331.58	-976.19	2297.99	2.24	2.22	-0.32	367231.86	1675678.85	N 39 30 9.26	W 80 38 57.79
	9874.00	87.56	146.10	7564.69	6082.69	2424.11	-1055.76	2349.80	2.22	-1.37	-1.75	367152.30	1675730.66	N 39 30 8.48	W 80 38 57.12
	9969.00	86.05	145.64	7569.99	6087.99	2516.92	-1134.27	2403.01	1.66	-1.58	-0.48	367073.79	1675783.87	N 39 30 7.71	W 80 38 56.43
	10063.00	88.28	146.39	7574.64	6092.64	2608.73	-1212.12	2455.49	2.50	2.37	0.60	366995.95	1675836.34	N 39 30 6.94	W 80 38 55.74
	10158.00	92.92	147.66	7573.64	6091.64	2701.25	-1291.79	2507.18	5.06	4.88	0.84	366916.29	1675888.03	N 39 30 6.16	W 80 38 55.07
	10253.00	91.55	147.30	7569.94	6087.94	2793.55	-1371.83	2558.21	1.49	-1.44	-0.38	366836.25	1675939.06	N 39 30 5.38	W 80 38 54.41
	10347.00	89.48	145.85	7569.09	6087.09	2885.27	-1450.27	2609.98	2.69	-2.20	-1.54	366757.82	1675990.83	N 39 30 4.61	W 80 38 53.74
	10442.00	88.93	146.00	7570.41	6088.41	2978.20	-1528.95	2663.20	0.60	-0.58	0.16	366679.14	1676044.05	N 39 30 3.84	W 80 38 53.04

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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 ° ' ")
	10537.00	87.28	145.83	7573.55	6091.55	3071.09	-1607.59	2716.41	1.75	-1.74	-0.18	366600.51	1676097.25	N 39 30 3.07	W 80 38 52.35
	10631.00	87.73	144.83	7577.65	6095.65	3163.16	-1684.82	2769.83	1.17	0.48	-1.08	366523.28	1676150.67	N 39 30 2.31	W 80 38 51.66
	10725.00	88.56	145.64	7580.69	6098.69	3255.30	-1762.00	2823.40	1.23	0.88	0.86	366446.10	1676204.24	N 39 30 1.56	W 80 38 50.86
	10820.00	88.42	145.58	7583.19	6101.19	3348.32	-1840.37	2877.04	0.16	-0.15	-0.06	366367.74	1676257.87	N 39 30 0.79	W 80 38 50.27
	10915.00	88.69	145.23	7585.59	6103.59	3441.40	-1918.55	2930.96	0.47	0.28	-0.37	366289.57	1676311.79	N 39 30 0.02	W 80 38 49.56
	11009.00	89.07	144.78	7587.42	6105.42	3533.65	-1995.54	2984.86	0.63	0.40	-0.48	366212.58	1676365.69	N 39 29 59.27	W 80 38 48.86
	11104.00	89.79	144.43	7588.37	6106.37	3627.01	-2072.97	3039.88	0.84	0.76	-0.37	366135.15	1676420.70	N 39 29 58.51	W 80 38 48.15
	11199.00	90.55	144.29	7588.09	6106.09	3720.45	-2150.18	3095.24	0.81	0.80	-0.15	366057.95	1676476.06	N 39 29 57.75	W 80 38 47.43
	11293.00	88.69	144.42	7588.71	6106.71	3812.91	-2226.56	3150.02	1.98	-1.98	0.14	365981.57	1676530.83	N 39 29 57.01	W 80 38 46.72
	11388.00	89.31	144.10	7590.37	6108.37	3906.37	-2303.66	3205.50	0.73	0.65	-0.34	365904.48	1676586.31	N 39 29 56.25	W 80 38 46.00
	11481.00	90.03	144.19	7590.90	6108.90	3997.90	-2379.03	3259.97	0.78	0.77	0.10	365829.11	1676640.78	N 39 29 55.51	W 80 38 45.29
	11576.00	88.87	144.47	7591.82	6109.82	4091.35	-2456.20	3315.36	1.26	-1.22	0.29	365751.94	1676696.17	N 39 29 54.76	W 80 38 44.57
	11670.00	88.45	144.33	7594.01	6112.01	4183.77	-2532.62	3370.07	0.47	-0.45	-0.15	365675.53	1676750.87	N 39 29 54.01	W 80 38 43.86
	11765.00	89.35	144.96	7595.84	6113.84	4277.11	-2610.08	3425.03	1.16	0.95	0.66	365598.07	1676805.82	N 39 29 53.25	W 80 38 43.15
	11860.00	88.97	145.79	7597.23	6115.23	4370.22	-2688.25	3479.00	0.96	-0.40	0.87	365519.91	1676859.79	N 39 29 52.49	W 80 38 42.45
	11954.00	86.91	145.95	7600.61	6118.61	4462.14	-2766.00	3531.70	2.20	-2.19	0.17	365442.16	1676912.49	N 39 29 51.72	W 80 38 41.76
	12048.00	87.66	145.31	7605.06	6123.06	4554.10	-2843.50	3584.71	1.05	0.80	-0.68	365364.67	1676965.50	N 39 29 50.96	W 80 38 41.08
	12143.00	88.66	145.44	7608.11	6126.11	4647.17	-2921.63	3638.66	1.06	1.05	0.14	365286.54	1677019.44	N 39 29 50.20	W 80 38 40.37
	12238.00	89.17	145.41	7609.91	6127.91	4740.28	-2999.84	3692.56	0.54	0.54	-0.03	365208.34	1677073.34	N 39 29 49.43	W 80 38 39.67
	12332.00	91.34	147.68	7609.49	6127.49	4832.00	-3078.26	3744.37	3.34	2.31	2.41	365129.93	1677125.15	N 39 29 48.66	W 80 38 39.00
	12427.00	90.28	146.92	7608.15	6126.15	4924.43	-3158.19	3795.69	1.37	-1.12	-0.80	365050.00	1677176.47	N 39 29 47.88	W 80 38 38.33
	12522.00	88.93	146.53	7608.81	6126.81	5017.08	-3237.61	3847.81	1.48	-1.42	-0.41	364970.58	1677228.58	N 39 29 47.10	W 80 38 37.66
	12617.00	87.39	146.45	7611.86	6129.86	5109.77	-3316.78	3900.23	1.62	-1.62	-0.08	364891.42	1677281.00	N 39 29 46.33	W 80 38 36.97
	12711.00	88.04	146.11	7615.60	6133.60	5201.54	-3394.90	3952.37	0.78	0.69	-0.36	364813.30	1677333.14	N 39 29 45.56	W 80 38 36.30
	12806.00	88.83	146.62	7618.20	6136.20	5294.29	-3473.97	4004.97	0.99	0.83	0.54	364734.24	1677385.73	N 39 29 44.79	W 80 38 35.61
	12901.00	89.21	146.52	7619.82	6137.82	5386.99	-3553.24	4057.30	0.41	0.40	-0.11	364654.97	1677438.06	N 39 29 44.01	W 80 38 34.93
	12996.00	89.97	146.49	7620.50	6138.50	5479.72	-3632.46	4109.73	0.80	0.80	-0.03	364575.76	1677490.48	N 39 29 43.23	W 80 38 34.25
	13091.00	90.48	146.16	7620.13	6138.13	5572.52	-3711.52	4162.40	0.64	0.54	-0.35	364496.70	1677543.16	N 39 29 42.46	W 80 38 33.57
	13186.00	88.83	145.42	7620.70	6138.70	5665.50	-3790.07	4215.81	1.90	-1.74	-0.78	364418.15	1677596.56	N 39 29 41.69	W 80 38 32.87
	13280.00	89.28	145.15	7622.25	6140.25	5757.66	-3867.33	4269.33	0.56	0.48	-0.29	364340.90	1677650.08	N 39 29 40.93	W 80 38 32.18
	13375.00	90.14	145.35	7622.73	6140.73	5850.83	-3945.39	4323.48	0.93	0.91	0.21	364262.85	1677704.23	N 39 29 40.17	W 80 38 31.47
	13469.00	90.28	145.01	7622.39	6140.39	5943.03	-4022.55	4377.16	0.39	0.15	-0.36	364185.68	1677757.90	N 39 29 39.41	W 80 38 30.78
	13564.00	87.90	146.28	7623.90	6141.90	6036.05	-4100.97	4430.76	2.84	-2.51	1.34	364107.28	1677811.49	N 39 29 38.64	W 80 38 30.08
	13659.00	88.18	147.06	7627.15	6145.15	6128.67	-4180.29	4482.92	0.87	0.29	0.82	364027.95	1677863.66	N 39 29 37.87	W 80 38 29.40
	13754.00	87.39	147.21	7630.82	6148.82	6221.10	-4260.03	4534.44	0.85	-0.83	0.16	363948.22	1677915.17	N 39 29 37.08	W 80 38 28.73
	13849.00	89.73	147.89	7633.21	6151.21	6313.41	-4340.16	4585.39	2.56	2.46	0.72	363868.09	1677966.12	N 39 29 36.30	W 80 38 28.07
	13944.00	90.31	147.61	7633.17	6151.17	6405.68	-4420.51	4636.08	0.68	0.61	-0.29	363787.75	1678016.81	N 39 29 35.51	W 80 38 27.41
	14039.00	91.65	147.87	7631.55	6149.55	6497.93	-4500.83	4686.78	1.44	1.41	0.27	363707.44	1678067.51	N 39 29 34.72	W 80 38 26.75
	14134.00	88.76	146.41	7631.21	6149.21	6590.42	-4580.62	4738.32	3.41	-3.04	-1.54	363627.65	1678119.04	N 39 29 33.94	W 80 38 26.08
Final Survey	14168.00	89.00	146.58	7631.87	6149.87	6623.61	-4608.96	4757.09	0.86	0.71	0.50	363599.31	1678137.80	N 39 29 33.66	W 80 38 25.84
Projection to TD	14230.00	89.00	146.58	7632.95	6150.95	6684.11	-4660.70	4791.23	0.00	0.00	0.00	363547.57	1678171.95	N 39 29 33.16	W 80 38 25.39

Survey Type: Non-Def Survey

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (NS ° ' '')	Longitude (EW ° ' '')
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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	Original Borehole / Triad Hunter WVDNR #1413 Gyro+MWD 0ft to update
	1	22.000	1230.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Triad Hunter WVDNR #1413 Gyro+MWD 0ft to
	1	1230.000	14230.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Triad Hunter WVDNR #1413 Gyro+MWD 0ft to

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