

CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD Survey Geodetic Report

(Def Survey)

Report Date: August 09, 2022 - 03:41 PM
 Client: CNX
 Field: WV Monongalia County (NAD 27)
 Structure / Slot: CNX WDTN-5 Pad / WDTN-5Z-HSM
 Well: WDTN-5Z-HSM
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD
 Survey Date: July 31, 2022
 Tort / AHD / DDI / ERD Ratio: 291.757 ° / 10140.534 ft / 6.758 / 1.256
 Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet
 Location Lat / Long: N 39° 42' 23.98501", W 80° 20' 14.41522"
 Location Grid N/E Y/X: N 440591.914 ftUS, E 1764419.253 ftUS
 CRS Grid Convergence Angle: -0.5340 °
 Grid Scale Factor: 0.99994173
 Version / Patch: 2.10.832.2

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 325.000 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: KB
 TVD Reference Elevation: 1418.000 ft above MSL
 Seabed / Ground Elevation: 1389.000 ft above MSL
 Magnetic Declination: -8.914 °
 Total Gravity Field Strength: 999.3311mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 51823.676 nT
 Magnetic Dip Angle: 66.404 °
 Declination Date: July 31, 2022
 Magnetic Declination Model: HDGM 2022
 North Reference: Grid North
 Grid Convergence Used: -0.5340 °
 Total Corr Mag North->Grid North: -8.3799 °
 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 (°)	Longitude (°)
SHL	0.00	0.00	0.00	0.00	-1418.00	0.00	0.00	0.00	N/A	N/A	N/A	440591.91	1764419.25	39.70666250	-80.33733756
	100.00	0.12	232.87	100.00	-1318.00	0.00	-0.06	-0.08	0.12	0.12	0.00	440591.85	1764419.17	39.70666233	-80.33733786
	125.00	0.09	198.75	125.00	-1293.00	-0.02	-0.10	-0.11	0.27	-0.12	-136.48	440591.82	1764419.14	39.70666223	-80.33733795
	150.00	0.13	214.92	150.00	-1268.00	-0.04	-0.14	-0.13	0.20	0.16	64.68	440591.77	1764419.12	39.70666212	-80.33733803
	175.00	0.22	197.92	175.00	-1243.00	-0.08	-0.21	-0.16	0.41	0.36	-68.00	440591.71	1764419.09	39.70666193	-80.33733814
	200.00	0.18	221.87	200.00	-1218.00	-0.11	-0.28	-0.21	0.37	-0.16	95.80	440591.63	1764419.05	39.70666172	-80.33733828
	225.00	0.09	271.60	225.00	-1193.00	-0.11	-0.31	-0.25	0.56	-0.36	198.92	440591.60	1764419.00	39.70666164	-80.33733844
	250.00	0.10	303.68	250.00	-1168.00	-0.08	-0.30	-0.29	0.21	0.04	128.32	440591.61	1764418.96	39.70666167	-80.33733858
	275.00	0.15	304.27	275.00	-1143.00	-0.03	-0.27	-0.33	0.20	0.20	2.36	440591.65	1764418.92	39.70666176	-80.33733874
	300.00	0.18	309.48	300.00	-1118.00	0.04	-0.23	-0.39	0.13	0.12	20.84	440591.69	1764418.86	39.70666188	-80.33733895
	325.00	0.19	314.14	325.00	-1093.00	0.12	-0.17	-0.45	0.07	0.04	18.64	440591.74	1764418.80	39.70666202	-80.33733916
	350.00	0.16	317.79	350.00	-1068.00	0.19	-0.12	-0.50	0.13	-0.12	14.60	440591.80	1764418.75	39.70666217	-80.33733935
	375.00	0.13	342.60	375.00	-1043.00	0.26	-0.06	-0.54	0.28	-0.12	99.24	440591.85	1764418.72	39.70666231	-80.33733947
	400.00	0.18	352.46	400.00	-1018.00	0.32	0.00	-0.55	0.23	0.20	39.44	440591.92	1764418.70	39.70666250	-80.33733952
	425.00	0.15	12.08	425.00	-993.00	0.37	0.07	-0.55	0.25	-0.12	78.48	440591.99	1764418.70	39.70666269	-80.33733951
	450.00	0.12	35.47	450.00	-968.00	0.41	0.13	-0.53	0.25	-0.12	93.56	440592.04	1764418.73	39.70666284	-80.33733944
	475.00	0.09	24.86	475.00	-943.00	0.42	0.17	-0.50	0.14	-0.12	-42.44	440592.08	1764418.75	39.70666295	-80.33733936
	500.00	0.05	32.41	500.00	-918.00	0.44	0.19	-0.49	0.16	-0.16	30.20	440592.11	1764418.76	39.70666302	-80.33733931
	525.00	0.09	91.90	525.00	-893.00	0.43	0.20	-0.46	0.31	0.16	237.96	440592.12	1764418.79	39.70666304	-80.33733922
	550.00	0.11	85.10	550.00	-868.00	0.41	0.20	-0.42	0.09	0.08	-27.20	440592.12	1764418.83	39.70666305	-80.33733906
	575.00	0.15	93.55	575.00	-843.00	0.37	0.20	-0.36	0.18	0.16	33.80	440592.12	1764418.89	39.70666305	-80.33733886
	600.00	0.08	69.56	600.00	-818.00	0.35	0.21	-0.31	0.33	-0.28	-95.96	440592.12	1764418.94	39.70666306	-80.33733869
	625.00	0.03	86.14	625.00	-793.00	0.34	0.21	-0.29	0.21	-0.20	66.32	440592.13	1764418.96	39.70666308	-80.33733861
	650.00	0.07	118.79	650.00	-768.00	0.32	0.21	-0.27	0.19	0.16	130.60	440592.12	1764418.98	39.70666306	-80.33733853
	675.00	0.06	118.34	675.00	-743.00	0.30	0.19	-0.25	0.04	-0.04	-1.80	440592.11	1764419.01	39.70666303	-80.33733845
	700.00	0.06	152.37	700.00	-718.00	0.27	0.17	-0.23	0.14	0.00	136.12	440592.09	1764419.02	39.70666298	-80.33733838
	725.00	0.15	100.59	725.00	-693.00	0.24	0.16	-0.19	0.49	0.36	-207.12	440592.07	1764419.06	39.70666293	-80.33733825
	750.00	0.31	102.99	750.00	-668.00	0.16	0.14	-0.09	0.64	0.64	9.60	440592.05	1764419.16	39.70666287	-80.33733790
	775.00	0.33	97.22	775.00	-643.00	0.07	0.11	0.04	0.15	0.08	-23.08	440592.03	1764419.30	39.70666281	-80.33733741
	800.00	0.31	90.63	800.00	-618.00	-0.02	0.10	0.18	0.17	-0.08	-26.36	440592.02	1764419.44	39.70666279	-80.33733691
	825.00	0.30	82.44	825.00	-593.00	-0.09	0.11	0.32	0.18	-0.04	-32.76	440592.02	1764419.57	39.70666281	-80.33733644
	850.00	0.22	86.03	850.00	-568.00	-0.15	0.12	0.43	0.33	-0.32	14.36	440592.04	1764419.68	39.70666285	-80.33733604
	875.00	0.17	106.67	875.00	-543.00	-0.20	0.11	0.51	0.34	-0.20	82.56	440592.03	1764419.77	39.70666283	-80.33733575
	900.00	0.30	100.54	900.00	-518.00	-0.28	0.09	0.61	0.53	0.52	-24.52	440592.01	1764419.87	39.70666277	-80.33733539
	925.00	0.32	101.32	925.00	-493.00	-0.37	0.07	0.75	0.08	0.08	3.12	440591.98	1764420.00	39.70666270	-80.33733492
	950.00	0.30	98.77	950.00	-468.00	-0.47	0.04	0.88	0.10	-0.08	-10.20	440591.96	1764420.13	39.70666264	-80.33733444
	975.00	0.27	107.49	975.00	-443.00	-0.56	0.01	1.00	0.21	-0.12	34.88	440591.93	1764420.25	39.70666257	-80.33733401
	1000.00	0.20	103.70	1000.00	-418.00	-0.64	-0.01	1.10	0.29	-0.28	-15.16	440591.90	1764420.35	39.70666250	-80.33733366
	1025.00	0.20	103.24	1025.00	-393.00	-0.71	-0.03	1.18	0.01	0.00	-1.84	440591.88	1764420.44	39.70666244	-80.33733336
	1050.00	0.21	82.08	1049.99	-368.01	-0.76	-0.04	1.27	0.30	0.04	-84.64	440591.88	1764420.52	39.70666243	-80.33733305
	1075.00	0.24	74.90	1074.99	-343.01	-0.80	-0.02	1.37	0.16	0.12	-28.72	440591.90	1764420.62	39.70666249	-80.33733271
	1100.00	0.22	68.07	1099.99	-318.01	-0.83	0.01	1.46	0.14	-0.08	-27.32	440591.93	1764420.71	39.70666258	-80.33733237

WV Department of Environmental Protection

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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 (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)
	1125.00	0.13	93.52	1124.99	-293.01	-0.86	0.03	1.53	0.47	-0.36	101.80	440591.94	1764420.79	39.70666263	-80.33733211
	1150.00	0.11	81.29	1149.99	-268.01	-0.88	0.03	1.59	0.13	-0.08	-48.92	440591.95	1764420.84	39.70666263	-80.33733193
	1175.00	0.15	78.27	1174.99	-243.01	-0.91	0.04	1.64	0.16	0.16	-12.08	440591.96	1764420.89	39.70666266	-80.33733173
	1200.00	0.14	36.66	1199.99	-218.01	-0.91	0.07	1.69	0.41	-0.04	-166.44	440591.99	1764420.95	39.70666275	-80.33733155
	1225.00	0.08	20.61	1224.99	-193.01	-0.89	0.11	1.72	0.27	-0.24	-64.20	440592.03	1764420.97	39.70666286	-80.33733147
	1250.00	0.04	329.87	1249.99	-168.01	-0.87	0.14	1.72	0.25	-0.16	-202.96	440592.05	1764420.97	39.70666293	-80.33733146
	1275.00	0.05	261.98	1274.99	-143.01	-0.86	0.14	1.70	0.20	0.04	-271.56	440592.06	1764420.96	39.70666294	-80.33733151
	1300.00	0.13	251.11	1299.99	-118.01	-0.85	0.13	1.67	0.33	0.32	-43.48	440592.05	1764420.92	39.70666291	-80.33733165
	1325.00	0.25	337.21	1324.99	-93.01	-0.78	0.17	1.62	1.10	0.48	344.40	440592.09	1764420.87	39.70666303	-80.33733182
	1443.00	0.34	250.36	1442.99	24.99	-0.44	0.29	1.19	0.35	0.08	-73.60	440592.21	1764420.44	39.70666334	-80.33733335
	1537.00	0.82	352.07	1536.99	118.99	0.23	0.87	0.83	1.01	0.51	108.20	440592.78	1764420.09	39.70666491	-80.33733463
	1631.00	2.02	1630.96	1629.99	212.96	1.45	2.92	1.64	1.60	1.28	43.66	440594.83	1764420.50	39.70667056	-80.33733318
	1724.00	3.24	42.25	1723.86	305.86	2.64	6.24	4.31	1.38	1.31	9.83	440598.15	1764423.56	39.70667974	-80.33732246
	1818.00	4.71	42.42	1817.63	399.63	4.07	11.05	8.70	1.56	1.56	0.18	440602.97	1764427.95	39.70669307	-80.33730702
	1912.00	5.10	42.98	1911.29	493.29	5.78	16.96	14.15	0.42	0.41	0.60	440608.87	1764433.40	39.70670943	-80.33728794
	2005.00	4.26	53.08	2003.98	585.98	6.75	22.06	19.73	1.26	-0.90	10.86	440613.97	1764438.98	39.70672357	-80.33726818
	2098.00	4.15	72.47	2096.73	678.73	5.86	25.15	25.70	1.53	-0.12	20.85	440617.06	1764444.95	39.70673220	-80.33724706
	2192.00	5.22	73.63	2190.42	772.42	3.47	27.38	33.05	1.14	1.14	1.23	440619.29	1764452.30	39.70673851	-80.33722103
	2286.00	7.19	73.32	2283.86	865.86	0.26	30.27	42.78	2.10	2.10	-0.33	440622.18	1764462.03	39.70674670	-80.33718651
	2379.00	5.83	73.43	2376.26	958.26	-3.07	33.29	52.89	1.46	-1.46	0.12	440625.20	1764472.14	39.70675524	-80.33715071
	2473.00	5.97	79.86	2469.76	1051.76	-6.63	35.51	62.27	0.72	0.15	6.84	440627.42	1764481.52	39.70676158	-80.33711742
	2566.00	5.59	78.40	2562.29	1144.29	-10.46	37.27	71.47	0.44	-0.41	-1.57	440629.19	1764490.72	39.70676666	-80.33708479
	2660.00	6.03	80.32	2655.81	1237.81	-14.39	39.02	80.82	0.51	0.47	2.04	440630.94	1764500.07	39.70677170	-80.33705161
	2754.00	5.59	81.71	2749.32	1331.32	-18.56	40.52	90.22	0.49	-0.47	1.48	440632.43	1764509.47	39.70677603	-80.33701826
	2847.00	5.73	81.79	2841.87	1423.87	-22.69	41.83	99.30	0.15	0.15	0.09	440633.74	1764518.55	39.70677988	-80.33698605
	2941.00	5.74	79.75	2935.40	1517.40	-26.77	43.34	108.57	0.22	0.01	-2.17	440635.25	1764527.82	39.70678425	-80.33695315
	2984.00	5.31	76.91	2978.20	1560.20	-28.42	44.17	112.62	1.18	-1.00	-6.60	440636.08	1764531.87	39.70678664	-80.33693877
	3046.00	4.72	72.60	3039.96	1621.96	-30.26	45.58	117.85	1.13	-0.95	-6.95	440637.49	1764537.10	39.70679065	-80.33692023
	3139.00	8.39	67.93	3132.34	1714.34	-32.93	49.28	127.79	3.98	3.95	-5.02	440641.19	1764547.04	39.70680105	-80.33688502
	3232.00	12.88	77.19	3223.73	1805.73	-38.37	54.13	144.20	5.15	4.83	9.96	440646.04	1764563.44	39.70681478	-80.33682688
	3325.00	15.24	84.88	3313.94	1895.94	-48.38	57.52	166.49	3.23	2.54	8.27	440649.43	1764585.73	39.70682466	-80.33674779
	3418.00	17.81	88.99	3403.10	1985.10	-62.42	58.86	192.89	3.03	2.76	4.42	440650.77	1764612.13	39.70682902	-80.33665401
	3512.00	18.10	95.56	3492.53	2074.53	-79.95	57.70	221.79	2.18	0.31	6.99	440649.61	1764641.03	39.70682657	-80.33655123
	3605.00	18.99	100.11	3580.70	2162.70	-100.07	53.64	251.07	1.83	0.96	4.89	440645.55	1764670.31	39.70681618	-80.33644704
	3698.00	21.03	99.97	3668.08	2250.08	-122.58	48.10	282.41	2.19	2.19	-0.15	440640.01	1764701.64	39.70680176	-80.33633550
	3791.00	25.56	101.67	3753.48	2335.48	-148.98	41.15	318.51	4.92	4.87	1.83	440633.06	1764737.74	39.70678360	-80.33620697
	3884.00	29.45	103.44	3835.95	2417.95	-180.70	31.77	360.41	4.27	4.18	1.90	440623.68	1764779.64	39.70675893	-80.33605774
	3977.00	31.17	103.85	3916.24	2498.24	-215.93	20.69	406.02	1.86	1.85	0.44	440612.61	1764825.25	39.70672969	-80.33589529
	4070.00	34.24	102.90	3994.49	2576.49	-253.47	9.09	454.90	3.35	3.30	-1.02	440601.00	1764874.13	39.70669908	-80.33572118
	4163.00	37.54	104.10	4069.82	2651.82	-294.31	-3.66	507.90	3.63	3.55	1.29	440588.26	1764927.12	39.70666544	-80.33553240
	4256.00	39.90	104.18	4142.38	2724.38	-338.31	-17.87	564.30	2.54	2.54	0.09	440574.05	1764983.52	39.70662787	-80.33533147
	4353.00	39.41	102.82	4217.06	2799.06	-384.67	-32.32	624.49	1.03	-0.51	-1.40	440559.59	1765043.71	39.70658973	-80.33511709
	4446.00	38.52	99.71	4289.37	2871.37	-426.93	-43.76	681.83	2.31	-0.96	-3.34	440548.16	1765101.04	39.70655980	-80.33491294
	4539.00	40.62	101.04	4361.06	2943.06	-469.10	-54.44	740.09	2.43	2.26	1.43	440537.48	1765159.30	39.70653196	-80.33470552
	4633.00	40.94	102.23	4432.24	3014.24	-513.73	-66.83	800.23	0.89	0.34	1.27	440525.09	1765219.43	39.70649950	-80.33449140
	4727.00	42.25	105.98	4502.55	3084.55	-560.90	-82.05	860.72	2.99	1.39	3.99	440509.87	1765279.92	39.70645924	-80.33427592
	4821.00	42.79	105.46	4571.83	3153.83	-610.07	-99.26	921.87	0.69	0.57	-0.55	440492.66	1765341.07	39.70641355	-80.33405802
	4914.00	42.09	103.31	4640.46	3222.46	-657.71	-114.86	982.65	1.73	-0.75	-2.31	440477.06	1765401.84	39.70637228	-80.33384150
	5007.00	39.07	102.99	4711.09	3293.09	-702.78	-128.63	1041.55	3.26	-3.25	-0.34	440463.29	1765460.74	39.70633599	-80.33363171
	5101.00	37.24	98.92	4785.02	3367.02	-744.53	-139.70	1098.53	3.31	-1.95	-4.33	440452.22	1765517.72	39.70630705	-80.33342885
	5195.00	36.59	100.29	4860.18	3442.18	-784.16	-149.11	1154.18	1.13	-0.71	1.46	440442.81	1765573.37	39.70628263	-80.33323075
	5290.00	37.79	103.22	4935.88	3517.88	-825.98	-160.82	1210.37	2.26	1.28	3.08	440431.10	1765629.55	39.70625191	-80.33303068
	5383.00	40.20	104.99	5008.15	3590.15	-870.22	-175.11	1267.11	2.85	2.59	1.90	440416.82	1765686.29	39.70621414	-80.33282856
	5480.00	39.69	102.53	5082.52	3664.52	-917.05	-189.92	1327.59	1.71	-0.53	-2.54	440402.00	1765746.76	39.70617501	-80.33261313
	5573.00	39.23	104.32	5154.33	3736.33	-961.26	-203.64	1385.08	1.32	-0.49	-1.92	440388.29	1765804.25	39.70613881	-80.33240838
	5670.00	38.30	102.64	5227.62	3809.62	-1005.33	-217.37	1442.30	1.49	-0.99	-1.79	440374.56	1765861.47	39.70610259	-80.33220455
	5761.00	38.86	104.02	5301.11	3883.11	-1049.12	-230.89	1499.34	1.09	0.60	1.47	440361.04	1765918.50	39.70606693	-80.33200140
	5856.00	38.44	103.18	5375.30	3957.30	-1093.62	-244.84	1557.01	0.71	-0.44	-0.88	440347.09	1765976.17	39.70603009	-80.33179600
	5950.00	36.35	101.33	5449.98	4031.98	-1135.56	-256.98	1612.78	2.52	-2.22	-1.97	440334.95	1766031.94	39.70599819	-80.33159739
	6048.00	35.69	100.11	5480.71	4062.71	-1151.56	-261.14	1634.74	2.57	-1.74	-3.21	440330.79	1766053.89	39.70598733	-80.33151923
	6081.00	36.80	100.03	5555.72	4137.72	-1190.48	-270.75	1688.87	1.19	1.19	-0.09	440321.18	1766108.02	39.70596231	-80.33132651
	6270.00	38.82	102.84	5705.04	4287.04	-1274.46	-293.78	1802.39	1.40	1.07	1.49	440298.16	1766221.54	39.70590198	-80.33092231
	6365.00	40.93	102.89	5777.94	4359.94	-1319.62	-307.34	1861.77	2.22	2.22	0.05	440284.60	1766280.91	39.70586626	-80.33071086
	6459.00	40.84	102.32	5849.01	4431.01	-1365.06	-320.76	1921.81	0.41	-0.10	-0.61	440271.17	1766340.95	39.70583093	-80.33049703
	6647.00	40.99	102.29	5991.08	4573.08	-1455.56	-347.01	2042.11	0.08	0.08	-0.02	440244.93	1766461.24	39.70576194	-80.33006863
	6740.00	40.91	102.82	6061.32	4643.32	-1500.53	-360.25	2101.61	0.38	-0.09	0.57	440231.68	1766520.73	39.70572708	

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 (°)	Longitude (°)
	7208.00	40.90	102.33	6414.62	4996.62	-1725.98	-425.47	2401.51	0.15	0.10	0.18	440166.47	1766820.62	39.70555655	-80.32878878
	7302.00	40.88	103.73	6485.69	5067.69	-1771.72	-439.34	2461.46	0.98	-0.02	1.49	440152.60	1766880.56	39.70551909	-80.32857529
	7395.00	40.99	103.11	6555.94	5137.94	-1817.30	-453.48	2520.73	0.45	0.12	-0.67	440138.46	1766939.83	39.70548177	-80.32836419
	7489.00	41.02	103.18	6626.88	5208.88	-1863.24	-467.51	2580.79	0.06	0.03	0.07	440124.43	1766999.89	39.70544478	-80.32815028
	7584.00	40.54	103.55	6698.82	5280.82	-1909.62	-481.85	2641.16	0.57	-0.51	0.81	440110.09	1767060.25	39.70540694	-80.32793527
	7676.00	40.49	104.53	6768.76	5350.76	-1954.75	-496.35	2699.14	0.69	-0.05	1.07	440095.59	1767118.23	39.70536861	-80.32772874
	7770.00	40.28	105.68	6840.36	5422.36	-2001.47	-512.22	2757.94	0.82	-0.22	1.22	440079.72	1767177.02	39.70532653	-80.32751926
	7864.00	39.33	105.53	6912.57	5494.57	-2047.98	-528.41	2815.89	1.02	-1.01	-0.16	440063.54	1767234.98	39.70528356	-80.32731275
	7957.00	39.69	105.33	6984.32	5566.32	-2093.59	-544.15	2872.93	0.41	0.39	-0.22	440047.80	1767292.01	39.70524178	-80.32710954
	8052.00	39.50	105.36	7057.53	5639.53	-2140.20	-560.17	2931.32	0.20	-0.20	0.03	440031.77	1767350.40	39.70519927	-80.32690151
	8146.00	37.15	96.66	7131.32	5713.32	-2182.13	-571.39	2988.39	6.26	-2.50	-9.26	440020.55	1767407.46	39.70516991	-80.32669832
	8240.00	32.05	80.13	7208.84	5790.84	-2211.67	-570.41	3041.31	11.32	-5.43	-17.59	440021.54	1767460.37	39.70517396	-80.32651030
	8334.00	27.17	67.24	7290.63	5872.63	-2226.84	-557.81	3085.74	8.51	-5.19	-13.71	440034.14	1767504.81	39.70520966	-80.32635280
	8427.00	23.86	54.19	7374.61	5956.61	-2231.08	-538.57	3120.61	6.99	-3.56	-14.03	440053.38	1767539.68	39.70526336	-80.32622950
	8522.00	23.65	37.85	7461.66	6043.66	-2225.18	-512.25	3147.91	6.91	-0.22	-17.20	440079.69	1767566.98	39.70533630	-80.32613333
	8616.00	26.93	30.63	7546.66	6128.66	-2210.83	-479.03	3170.34	4.78	3.49	-7.68	440112.91	1767589.40	39.70542806	-80.32605471
	8711.00	35.70	26.03	7627.75	6209.75	-2188.48	-435.52	3193.51	9.56	9.23	-4.84	440156.42	1767612.57	39.70554808	-80.32597378
	8804.00	43.31	14.97	7699.54	6281.54	-2154.73	-380.18	3213.71	11.12	8.18	-11.89	440211.76	1767632.77	39.70570053	-80.32590379
	8898.00	46.96	4.14	7765.94	6347.94	-2107.27	-314.65	3224.54	9.03	3.88	-11.52	440277.28	1767643.60	39.70588068	-80.32586745
	8991.00	52.60	357.85	7826.00	6408.00	-2049.79	-243.74	3225.61	7.96	6.06	-6.76	440348.19	1767644.67	39.70607537	-80.32586597
	9084.00	57.23	352.94	7879.47	6461.47	-1984.16	-167.95	3219.41	6.59	4.98	-5.28	440423.97	1767638.47	39.70628327	-80.32589047
	9178.00	64.15	349.07	7925.47	6507.47	-1910.51	-87.08	3206.52	8.19	7.36	-4.12	440504.84	1767625.58	39.70650495	-80.32593895
	9271.00	66.68	339.27	7964.24	6546.24	-1830.75	-5.88	3183.42	9.96	2.72	-10.54	440586.04	1767602.48	39.70672728	-80.32602370
	9366.00	72.81	336.06	7997.12	6579.12	-1743.83	76.49	3149.52	7.19	6.45	-3.38	440668.40	1767568.57	39.70695253	-80.32614684
	9460.00	79.21	329.38	8019.85	6601.85	-1653.54	157.43	3107.70	9.69	6.81	-7.11	440749.34	1767526.77	39.70717367	-80.32629813
	9554.00	86.89	325.64	8031.22	6613.22	-1560.41	236.05	3057.61	9.07	8.17	-3.98	440827.95	1767476.67	39.70738823	-80.32647874
	9648.00	89.02	323.96	8034.58	6616.58	-1466.48	312.80	3003.46	2.89	2.27	-1.79	440904.70	1767422.53	39.70759756	-80.32667368
	9741.00	90.18	324.59	8035.23	6617.23	-1373.49	388.30	2949.16	1.42	1.25	0.68	440980.19	1767368.23	39.70780344	-80.32686913
	9835.00	90.03	324.64	8035.06	6617.06	-1279.49	464.94	2894.73	0.17	-0.16	0.05	441056.82	1767313.81	39.70801245	-80.32706509
	9927.00	89.95	324.02	8035.07	6617.07	-1187.50	539.68	2841.08	0.68	-0.09	-0.67	441131.56	1767260.16	39.70821626	-80.32725820
	10021.00	90.22	324.56	8034.93	6616.93	-1093.51	616.00	2786.22	0.64	0.29	0.57	441207.88	1767205.30	39.70842440	-80.32745569
	10116.00	90.45	324.62	8034.38	6616.38	-998.51	693.43	2731.17	0.25	0.24	0.06	441285.30	1767150.26	39.70863556	-80.32765385
	10209.00	89.86	324.88	8034.12	6616.12	-905.51	769.38	2677.50	0.69	-0.63	0.28	441361.24	1767096.59	39.70884269	-80.32784710
	10302.00	90.14	325.29	8034.12	6616.12	-812.51	845.64	2624.27	0.53	0.30	0.44	441437.50	1767043.36	39.70905068	-80.32803878
	10396.00	91.17	324.42	8033.05	6615.05	-718.52	922.49	2570.16	1.43	1.10	-0.93	441514.35	1766989.26	39.70926030	-80.32823359
	10490.00	91.06	324.61	8031.22	6613.22	-624.54	999.02	2515.61	0.23	-0.12	0.20	441590.87	1766934.71	39.70946900	-80.32843000
	10584.00	90.72	324.42	8029.76	6611.76	-530.56	1075.55	2461.05	0.41	-0.36	-0.20	441667.40	1766880.15	39.70967771	-80.32862641
	10677.00	90.00	324.81	8029.18	6611.18	-437.56	1151.37	2407.19	0.88	-0.77	0.42	441743.21	1766826.30	39.70988448	-80.32882029
	10771.00	89.89	324.16	8029.27	6611.27	-343.57	1227.88	2352.59	0.70	-0.12	-0.69	441819.72	1766771.70	39.71009313	-80.32901688
	10865.00	90.01	324.78	8029.35	6611.35	-249.57	1304.38	2297.96	0.67	0.13	0.66	441896.21	1766717.08	39.71030175	-80.32921353
	10960.00	90.64	324.31	8028.81	6610.81	-154.58	1381.76	2242.86	0.83	0.66	-0.49	441973.59	1766661.97	39.71051278	-80.32941192
	11054.00	91.54	324.94	8027.02	6609.02	-60.60	1458.39	2188.45	1.17	0.96	0.67	442050.22	1766607.58	39.71072176	-80.32960781
	11148.00	91.31	324.74	8024.68	6606.68	33.37	1535.22	2134.34	0.32	-0.24	-0.21	442127.04	1766553.46	39.71093129	-80.32980266
	11242.00	90.92	323.53	8022.85	6604.85	127.34	1611.38	2079.27	1.35	-0.41	-1.29	442203.20	1766498.40	39.71113897	-80.33000086
	11336.00	90.58	322.42	8021.62	6603.62	221.27	1686.42	2022.68	1.23	-0.36	-1.18	442278.23	1766441.81	39.71134353	-80.33020448
	11429.00	90.63	324.91	8020.64	6602.64	314.24	1761.33	1967.58	2.68	0.05	2.68	442353.13	1766386.72	39.71154776	-80.33040276
	11523.00	90.03	325.36	8020.10	6602.10	408.23	1838.45	1913.85	0.80	-0.64	0.48	442430.26	1766332.99	39.71175812	-80.33059628
	11616.00	89.96	324.61	8020.11	6602.11	501.23	1914.62	1860.49	0.81	-0.08	-0.81	442506.42	1766279.63	39.71196586	-80.33078844
	11710.00	90.16	326.11	8020.01	6602.01	595.23	1991.95	1807.06	1.61	0.21	1.60	442583.75	1766226.20	39.71217680	-80.33098088
	11805.00	90.08	324.61	8019.81	6601.81	690.22	2070.11	1753.06	1.58	-0.08	-1.58	442661.90	1766172.21	39.71238998	-80.33117537
	11898.00	89.48	324.86	8020.17	6602.17	783.22	2146.04	1699.36	0.70	-0.65	0.27	442737.83	1766118.52	39.71259706	-80.33136871
	11992.00	90.34	325.01	8020.32	6602.32	877.22	2222.98	1645.36	0.93	0.91	0.16	442814.76	1766064.52	39.71280690	-80.33156318
	12086.00	90.07	324.97	8019.98	6601.98	971.22	2299.97	1591.43	0.29	-0.29	-0.04	442891.75	1766010.59	39.71301688	-80.33175739
	12180.00	90.03	324.62	8019.90	6601.90	1065.22	2376.78	1537.24	0.37	-0.04	-0.37	442968.55	1765956.40	39.71322635	-80.33195253
	12273.00	90.27	326.56	8019.65	6601.65	1158.21	2453.50	1484.69	2.10	0.26	2.09	443045.27	1765903.85	39.71343563	-80.33214184
	12368.00	89.59	325.51	8019.77	6601.77	1253.19	2532.29	1431.61	1.32	-0.72	-1.11	443124.05	1765850.78	39.71365057	-80.33233308
	12462.00	90.15	324.29	8019.98	6601.98	1347.19	2609.20	1377.57	1.43	0.60	-1.30	443200.95	1765796.74	39.71386031	-80.33252772
	12555.00	89.58	325.62	8020.20	6602.20	1440.19	2685.33	1324.16	1.56	-0.61	1.43	443277.08	1765743.34	39.71406796	-80.33272003
	12649.00	89.22	324.57	8021.19	6603.19	1534.18	2762.42	1270.38	1.18	-0.38	-1.12	443354.16	1765689.56	39.71427819	-80.33291374
	12742.00	88.40	324.85	8023.12	6605.12	1627.16	2838.31	1216.66	0.93	-0.88	0.30	443430.05	1765635.84	39.71448517	-80.33310716
	12836.00	87.93	325.42	8026.13	6608.13	1721.11	2915.40	1162.96	0.79	-0.50	0.61	443507.14	1765582.14	39.71469541	-80.33330059
	12929.00	88.12	325.65	8029.33	6611.33	1814.05	2992.03	1110.36	0.32	0.20	0.25	443583.76	1765529.55	39.71490444	-80.33349007
	13022.00	86.90	325.00	8033.37	6615.37	1906.96	3068.44	1057.50	1.49	-1.31	-0.70	443660.16	1765476.69	39.71511284	-80.33368047
	13115.00	86.37	325.27	8038.83	6620.83	1999.80	3144.61	1004.43	0.64	-0.57	-0.29	443736.33	1765423.62	39.71532060	-80.33387162
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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 (°)	Longitude (°)
	13958.00	89.29	324.97	8071.82	6653.82	2842.01	3829.46	514.15	2.44	0.76	2.32	444421.15	1764933.37	39.71718813	-80.33563691
	14052.00	89.37	323.62	8072.92	6654.92	2936.00	3905.79	459.29	1.44	0.09	-1.44	444497.47	1764878.52	39.71739625	-80.33583441
	14146.00	89.68	324.56	8073.70	6655.70	3029.98	3981.92	404.16	1.05	0.33	1.00	444573.59	1764823.39	39.71760383	-80.33603289
	14241.00	90.06	325.36	8073.92	6655.92	3124.98	4059.70	349.62	0.93	0.40	0.84	444651.37	1764768.85	39.71781596	-80.33622934
	14336.00	90.08	324.25	8073.80	6655.80	3219.98	4137.33	294.87	1.17	0.02	-1.17	444729.00	1764714.10	39.71802767	-80.33642653
	14429.00	89.55	325.03	8074.10	6656.10	3312.97	4213.18	241.05	1.01	-0.57	0.84	444804.84	1764660.29	39.71823450	-80.33662034
Deepest TVD	14522.00	89.95	325.14	8074.51	6656.51	3405.97	4289.43	187.82	0.45	0.43	0.12	444881.09	1764607.06	39.71844248	-80.33681207
	14616.00	90.53	324.72	8074.11	6656.11	3499.97	4366.37	133.81	0.76	0.62	-0.45	444958.02	1764553.03	39.71865229	-80.33700660
	14709.00	90.22	324.39	8073.50	6655.50	3592.96	4442.13	79.88	0.49	-0.33	-0.35	445033.78	1764499.13	39.71885889	-80.33720081
	14802.00	90.13	324.53	8073.22	6655.22	3685.96	4517.81	25.82	0.18	-0.10	0.15	445109.45	1764445.07	39.71906525	-80.33739547
	14896.00	91.00	324.90	8072.29	6654.29	3779.95	4594.53	-28.48	1.01	0.93	0.39	445186.17	1764390.78	39.71927448	-80.33759101
	14988.00	90.95	324.42	8070.73	6652.73	3871.94	4669.57	-81.68	0.52	-0.05	-0.52	445261.20	1764337.57	39.71947911	-80.33778262
	15081.00	91.11	326.43	8069.06	6651.06	3964.92	4746.13	-134.45	2.17	0.17	2.16	445337.75	1764284.81	39.71968792	-80.33797272
	15174.00	90.76	325.73	8067.54	6649.54	4057.89	4823.29	-186.34	0.84	-0.38	-0.75	445414.91	1764232.93	39.71989841	-80.33815973
	15268.00	91.35	323.31	8065.81	6647.81	4151.86	4899.82	-240.88	2.65	0.63	-2.57	445491.43	1764178.38	39.72010709	-80.33835615
	15361.00	90.49	325.73	8064.31	6646.31	4244.84	4975.53	-294.85	2.76	-0.92	2.60	445567.15	1764124.42	39.72031356	-80.33855050
	15455.00	91.50	324.95	8062.68	6644.68	4338.82	5052.84	-348.30	1.36	1.07	-0.83	445644.45	1764070.97	39.72052441	-80.33874306
	15548.00	91.35	324.65	8060.37	6642.37	4431.79	5128.81	-401.89	0.36	-0.16	-0.32	445720.41	1764017.39	39.72073159	-80.33893608
Final Survey	15611.00	91.57	324.23	8058.76	6640.76	4494.77	5180.04	-438.52	0.75	0.35	-0.67	445771.64	1763980.76	39.72087129	-80.33906797
Projection to TD	15638.00	91.57	324.23	8058.02	6640.02	4521.75	5201.94	-454.29	0.00	0.00	0.00	445793.54	1763964.99	39.72093100	-80.33912478

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 3 *** 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	29.000	1/98.425	17.500	13.375	A020Ga_GYRO-NS-Depth Only	Original Borehole / CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD
	1	29.000	29.000	Act Stns	17.500	13.375	A020Ga_GYRO-NS-Depth Only	Original Borehole / CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD
	1	29.000	1443.000	Act Stns	17.500	13.375	A020Ga_GYRO-NS	Original Borehole / CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD
	1	1443.000	2960.000	Act Stns	12.250	9.625	A001Mb_MWD	Original Borehole / CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD
	1	2960.000	5950.000	Act Stns	8.750	5.500	A001Mb_MWD	Original Borehole / CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD
	1	5950.000	15638.000	Act Stns	8.500	5.500	B006Mb_MWD+IGRF	Original Borehole / CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD

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...CNX WDTN-5 Pad\WDTN-5Z-HSM\Original Borehole\CNX WDTN-5Z-HSM Surveys 0ft to 15638ft MD