

CNX WDTN19RHSM Surveys 0ft to 24683ft MD Survey Geodetic Report

(Def Survey)

Report Date: September 27, 2022 - 01:09 PM
Client: CNX
Field: WV Monongalia County (NAD 27)
Structure / Slot: CNX WDTN19 Pad / WDTN19RHSM
Well: WDTN19RHSM
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: CNX WDTN19RHSM Surveys 0ft to 24683ft MD
Survey Date: September 16, 2022
Tort / AHD / DDI / ERD Ratio: 294.510 ° / 17713 663 ft / 7.206 / 2.212
Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet
Location Lat / Long: N 39° 41' 35.53040", W 80° 20' 7.60588"
Location Grid N/E Y/X: N 435684.651 RUS, E 1764905.807 fTUS
CRS Grid Convergence Angle: -0.5328 °
Grid Scale Factor: 0.99994143
Version / Patch: 2.10.833.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 145.150 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB
TVD Reference Elevation: 1293.000 ft above MSL
Seabed / Ground Elevation: 1264.000 ft above MSL
Magnetic Declination: -8.911 °
Total Gravity Field Strength: 999.3417mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 51803.507 nT
Magnetic Dip Angle: 66.369 °
Declination Date: September 18, 2022
Magnetic Declination Model: HDGM 2022
North Reference: Grid North
Grid Convergence Used: -0.5328 °
Total Corr Mag North->Grid North: -8.3780 °
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 (°)
Surface	0.00	0.00	0.00	0.00	-1293.00	0.00	0.00	0.00	N/A	N/A	N/A	435684.65	1764905.81	39.69320289	-80.33544608
	100.00	0.11	345.89	100.00	-1193.00	-0.09	0.09	-0.02	0.11	0.00	0.00	435684.74	1764905.78	39.69320314	-80.33544616
	200.00	0.11	327.28	200.00	-1093.00	-0.28	0.27	-0.10	0.04	0.00	-18.61	435684.92	1764905.71	39.69320362	-80.33544644
	300.00	0.23	26.16	300.00	-993.00	-0.47	0.53	-0.06	0.20	0.12	58.88	435685.18	1764905.74	39.69320434	-80.33544632
	400.00	0.20	91.56	400.00	-893.00	-0.46	0.70	0.20	0.23	-0.03	65.40	435685.35	1764906.01	39.69320482	-80.33544539
	500.00	0.22	223.13	500.00	-793.00	-0.32	0.56	0.24	0.38	0.02	131.57	435685.21	1764906.05	39.69320443	-80.33544523
	600.00	0.19	135.08	600.00	-693.00	-0.12	0.30	0.23	0.29	-0.03	-88.05	435684.95	1764906.04	39.69320372	-80.33544527
	700.00	0.23	115.61	700.00	-593.00	0.22	0.10	0.53	0.08	0.04	-19.47	435684.75	1764906.33	39.69320317	-80.33544420
	800.00	0.40	174.11	800.00	-493.00	0.70	-0.34	0.74	0.34	0.17	58.50	435684.31	1764906.55	39.69320198	-80.33544342
	900.00	0.32	210.97	899.99	-393.01	1.12	-0.92	0.64	0.24	-0.08	36.86	435683.73	1764906.44	39.69320037	-80.33544378
	1000.00	0.32	165.97	999.99	-293.01	1.50	-1.43	0.56	0.24	0.00	-45.00	435683.22	1764906.37	39.69319897	-80.33544404
	1100.00	0.43	189.70	1099.99	-193.01	2.03	-2.08	0.57	0.19	0.11	23.73	435682.58	1764906.37	39.69319721	-80.33544400
Final Gyro	1154.00	0.57	213.67	1153.99	-139.01	2.27	-2.50	0.38	0.46	0.26	44.39	435682.15	1764906.19	39.69319604	-80.33544464
	1264.00	0.27	202.99	1263.99	-29.01	2.61	-3.19	-0.02	0.28	-0.27	-9.71	435681.46	1764905.78	39.69319412	-80.33544605
	1358.00	0.11	253.39	1357.99	64.99	2.70	-3.42	-0.20	0.23	-0.17	53.62	435681.23	1764905.61	39.69319349	-80.33544666
	1452.00	0.15	303.07	1451.98	158.98	2.55	-3.38	-0.38	0.12	0.04	52.85	435681.27	1764905.42	39.69319360	-80.33544733
	1546.00	0.23	323.98	1545.98	252.98	2.25	-3.16	-0.60	0.11	0.09	22.24	435681.49	1764905.21	39.69319420	-80.33544810
	1640.00	0.35	339.84	1639.98	346.98	1.79	-2.74	-0.81	0.15	0.13	16.87	435681.91	1764905.00	39.69319535	-80.33544886
	1735.00	0.24	340.01	1734.98	441.98	1.31	-2.28	-0.98	0.12	-0.12	0.18	435682.37	1764904.83	39.69319661	-80.33544947
	1829.00	0.22	308.50	1828.98	535.98	0.95	-1.98	-1.19	0.13	-0.02	-33.52	435682.67	1764904.62	39.69319742	-80.33545022
	1923.00	0.24	286.95	1922.98	629.98	0.62	-1.81	-1.51	0.09	0.02	-22.93	435682.84	1764904.29	39.69319787	-80.33545140
	2016.00	0.38	306.58	2015.98	722.98	0.18	-1.57	-1.95	0.19	0.15	21.11	435683.09	1764903.86	39.69319852	-80.33545295
	2110.00	0.31	320.03	2109.98	816.98	-0.37	-1.19	-2.36	0.11	-0.07	14.31	435683.46	1764903.44	39.69319956	-80.33545443
	2204.00	0.51	343.57	2203.98	910.98	-1.02	-0.59	-2.64	0.27	0.21	25.04	435684.06	1764903.16	39.69320119	-80.33545545
	2297.00	0.96	341.46	2296.97	1003.97	-2.16	0.54	-3.01	0.48	0.48	-2.27	435685.19	1764902.80	39.69320430	-80.33545679
	2392.00	1.99	340.63	2391.93	1098.93	-4.52	2.85	-3.81	1.08	1.08	-0.87	435687.50	1764902.00	39.69321062	-80.33545971
	2486.00	0.67	13.85	2485.91	1192.91	-6.45	4.92	-4.22	1.57	-1.40	35.34	435689.58	1764901.59	39.69321630	-80.33546123
	2580.00	1.45	149.40	2579.90	1286.90	-5.63	4.45	-3.46	2.10	0.83	143.14	435689.10	1764902.34	39.69321500	-80.33545853
	2675.00	1.69	173.67	2674.86	1381.86	-3.20	2.03	-2.68	0.76	0.25	26.60	435686.68	1764903.13	39.69320839	-80.33545567
	2768.00	0.31	197.26	2767.85	1474.85	-1.84	0.43	-2.60	1.52	-1.48	25.37	435685.08	1764903.20	39.69320399	-80.33545534
	2862.00	0.31	27.33	2861.85	1568.85	-1.80	0.41	-2.56	0.66	0.00	-180.78	435685.06	1764903.25	39.69320395	-80.33545519
	2956.00	0.37	62.74	2955.85	1662.85	-1.88	0.77	-2.18	0.23	0.06	37.67	435685.42	1764903.63	39.69320496	-80.33545383
	3063.00	0.57	66.30	3062.84	1769.84	-1.73	1.15	-1.38	0.19	0.19	3.33	435685.80	1764904.43	39.69320600	-80.33545102
	3157.00	2.88	90.64	3156.79	1863.79	-0.27	1.31	1.41	2.52	2.46	25.89	435685.96	1764907.22	39.69320651	-80.33544111
	3251.00	3.63	86.34	3250.64	1957.64	2.64	1.47	6.74	0.84	0.80	-4.57	435686.12	1764912.55	39.69320710	-80.33542218
	3345.00	5.17	83.54	3344.36	2051.36	6.20	2.14	13.92	1.65	1.64	-2.98	435686.79	1764919.72	39.69320911	-80.33539669
	3439.00	5.86	77.85	3437.93	2144.93	10.06	3.62	22.82	0.94	0.73	-6.05	435688.28	1764928.62	39.69321342	-80.33536512
	3533.00	5.53	92.57	3531.47	2238.47	14.67	4.43	32.03	1.59	-0.35	15.66	435689.08	1764937.84	39.69321587	-80.33533240
	3628.00	4.94	88.56	3626.07	2333.07	19.70	4.33	40.70	0.73	-0.62	-4.22	435688.98	1764946.50	39.69321581	-80.33530182
	3721.00	5.30	73.30	3718.71	2425.71	23.25	5.66	48.81	1.51	0.39	-16.41	435690.31	1764954.62	39.69321968	-80.33527282
	3814.00	7.06	56.54	3811.17	2518.17	24.92	9.88	57.80	2.53	1.89	-15.87	435694.53	1764963.61	39.69323149	-80.33524101
	3908.00	8.15	42.74	3904.35	2611.35	23.83	17.79	67.26	2.50	1.16	-16.81	435702.44	1764973.06	39.69325344	-80.33520769

...CNX WDTN19 Pad\WDTN19RHSM\Original Borehole\CNX WDTN19RHSM Surveys 0ft to 24683ft MD

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 (°)
	4001.00	9.24	39.89	3996.28	2703.28	20.45	28.36	76.52	1.26	1.17	-3.06	435713.01	1764982.32	39.69328270	-80.33517513
	4096.00	9.21	34.02	4090.05	2797.05	15.70	40.52	85.66	0.99	-0.03	-6.18	435725.16	1764991.46	39.69331630	-80.33514303
	4189.00	10.26	32.71	4181.71	2888.71	9.86	53.65	94.30	1.15	1.13	-1.41	435738.30	1765000.10	39.69335258	-80.33511277
	4282.00	10.10	36.52	4273.25	2980.25	4.09	67.18	103.63	0.74	-0.17	4.10	435751.82	1765009.43	39.69338994	-80.33508007
	4375.00	9.33	32.27	4364.92	3071.92	-1.45	80.10	112.51	1.13	-0.83	-4.57	435764.75	1765018.31	39.69342566	-80.33504895
	4468.00	10.94	30.35	4456.46	3163.46	-8.08	94.09	120.99	1.77	1.73	-2.06	435778.74	1765026.79	39.69346428	-80.33501926
	4566.00	9.46	31.79	4552.91	3259.91	-15.17	108.97	129.94	1.53	-1.51	1.47	435793.61	1765035.73	39.69350533	-80.33498798
	4658.00	9.71	37.09	4643.63	3350.63	-20.58	121.58	138.60	1.00	0.27	5.76	435806.22	1765044.40	39.69354019	-80.33495762
	4751.00	9.82	33.22	4735.28	3442.28	-25.97	134.47	147.67	0.72	0.12	-4.16	435819.11	1765053.47	39.69357580	-80.33492580
	4844.00	10.07	29.88	4826.88	3533.88	-32.43	148.17	156.04	0.71	0.27	-3.81	435832.81	1765061.84	39.69361362	-80.33489651
	4938.00	10.39	35.07	4919.39	3626.39	-38.87	162.25	164.98	1.07	0.34	5.73	435846.89	1765070.78	39.69365250	-80.33486521
	5030.00	11.27	38.38	5009.75	3716.75	-44.32	176.09	175.33	1.17	0.96	3.80	435860.73	1765080.13	39.69369075	-80.33482890
	5124.00	10.76	29.44	5102.03	3809.03	-50.77	190.93	185.35	1.89	-0.54	-9.51	435875.57	1765091.14	39.69373175	-80.33479379
	5217.00	11.84	27.70	5193.22	3900.22	-58.94	206.94	194.05	1.22	1.16	-1.87	435891.58	1765099.85	39.69377592	-80.33476340
	5310.00	12.85	35.20	5284.08	3991.08	-66.86	223.84	204.45	2.04	1.09	8.06	435908.47	1765110.24	39.69382257	-80.33472701
	5403.00	11.52	38.69	5374.98	4081.98	-73.02	239.54	216.21	1.63	-1.43	3.75	435924.17	1765122.01	39.69386597	-80.33468572
	5496.00	10.41	46.68	5466.29	4173.29	-76.89	252.55	228.13	2.02	-1.19	8.59	435937.19	1765133.93	39.69390200	-80.33464380
	5589.00	10.45	43.53	5557.75	4264.75	-79.83	264.43	240.06	0.61	0.04	-3.39	435949.07	1765145.85	39.69393492	-80.33460183
	5681.00	9.53	38.91	5648.36	4355.36	-83.64	276.41	250.59	1.33	-1.00	-5.02	435961.04	1765156.38	39.69396806	-80.33456481
	5774.00	8.88	40.25	5740.16	4447.16	-87.64	287.88	260.06	0.74	-0.70	1.44	435972.51	1765165.85	39.69399979	-80.33453153
	5868.00	8.60	33.54	5833.07	4540.07	-92.09	299.27	268.63	1.12	-0.30	-7.14	435983.90	1765174.42	39.69403129	-80.33450145
Last 3rd Party MWD	5946.00	9.64	24.84	5910.09	4617.09	-97.54	310.06	274.60	2.21	1.33	-11.15	435994.69	1765180.39	39.69406106	-80.33448060
First SLB_MWD	5997.00	9.69	21.85	5960.36	4667.36	-102.05	317.92	277.99	0.99	0.10	-5.86	436002.55	1765183.78	39.69408272	-80.33446881
	6090.00	10.01	13.92	6052.00	4759.00	-111.67	333.03	282.85	1.50	0.34	-8.53	436017.66	1765188.64	39.69412432	-80.33445205
	6184.00	10.23	18.75	6144.54	4851.54	-122.01	348.86	287.49	0.93	0.23	5.14	436031.89	1765193.28	39.69416791	-80.33443605
	6277.00	11.04	28.91	6235.95	4942.95	-130.85	364.48	294.45	2.19	0.87	10.92	436049.11	1765200.24	39.69421096	-80.33441184
	6369.00	10.42	37.18	6326.34	5033.34	-137.31	378.82	303.74	1.80	-0.67	8.99	436063.45	1765209.53	39.69425056	-80.33437931
	6463.00	9.99	36.88	6418.86	5125.86	-142.49	392.11	313.77	0.46	-0.46	-0.32	436076.74	1765219.56	39.69428731	-80.33434411
	6557.00	9.86	36.28	6511.45	5218.45	-147.65	405.12	323.43	0.18	-0.14	-0.64	436089.75	1765229.21	39.69432327	-80.33431023
	6650.00	9.83	36.29	6603.08	5310.08	-152.79	417.94	332.84	0.03	-0.03	0.01	436102.57	1765238.62	39.69435870	-80.33427722
	6743.00	9.87	36.57	6694.71	5401.71	-157.90	430.74	342.28	0.07	0.04	0.30	436115.37	1765248.07	39.69439408	-80.33424407
	6835.00	9.90	36.49	6785.34	5492.34	-162.94	443.43	351.69	0.04	0.03	-0.09	436128.06	1765257.47	39.69442916	-80.33421108
	6928.00	10.01	36.56	6876.94	5583.94	-168.07	456.35	361.25	0.12	0.12	0.08	436140.98	1765267.04	39.69446487	-80.33417751
	7020.00	9.82	35.88	6967.57	5674.57	-173.21	469.13	370.62	0.24	-0.21	-0.74	436153.76	1765276.40	39.69450019	-80.33414467
	7113.00	9.90	35.96	7059.20	5766.20	-178.46	482.03	379.96	0.09	0.09	0.09	436166.85	1765285.74	39.69453583	-80.33411189
	7207.00	9.97	35.96	7151.79	5858.79	-183.79	495.16	389.48	0.07	0.07	0.00	436179.78	1765295.27	39.69457211	-80.33407849
KOP	7300.00	10.28	62.40	7243.39	5950.39	-185.39	505.52	401.57	4.97	0.33	28.43	436190.14	1765307.35	39.69460088	-80.33403588
	7394.00	12.40	92.33	7335.62	6042.62	-178.22	509.00	419.10	6.57	3.26	31.84	436193.62	1765324.89	39.69461087	-80.33397369
	7487.00	18.40	106.69	7425.28	6132.28	-160.67	504.38	443.17	7.60	6.45	15.44	436189.00	1765348.95	39.69459879	-80.33388802
	7581.00	26.47	113.55	7512.10	6219.10	-131.16	491.72	476.65	9.01	8.59	7.30	436176.34	1765382.43	39.69456490	-80.33376865
	7674.00	32.74	121.41	7592.95	6299.95	-90.43	470.30	517.17	7.92	6.74	8.45	436154.93	1765422.94	39.69450714	-80.33362397
	7768.00	41.44	126.63	7667.88	6374.88	-37.55	438.43	563.92	9.84	9.26	5.55	436123.05	1765469.70	39.69442083	-80.33345677
	7860.00	49.65	128.49	7732.26	6439.26	25.01	398.37	615.89	9.04	8.92	2.02	436083.00	1765521.66	39.69431220	-80.33327081
	7954.00	57.78	130.38	7787.85	6494.85	97.90	350.24	674.31	8.80	8.65	2.01	436034.87	1765580.08	39.69418154	-80.33306161
	8046.00	64.93	132.61	7831.93	6538.93	176.31	296.74	734.71	8.06	7.77	2.42	435981.38	1765640.47	39.69403623	-80.33284525
	8140.00	71.54	134.29	7866.77	6573.77	261.75	236.72	798.03	7.22	7.03	1.79	435921.36	1765703.79	39.69387306	-80.33261828
	8235.00	77.22	135.53	7892.34	6599.34	351.75	172.15	862.79	6.11	5.98	1.31	435856.79	1765768.54	39.69369744	-80.33238605
	8328.00	82.56	136.98	7908.66	6615.66	442.17	106.02	926.06	5.94	5.74	1.56	435790.67	1765831.81	39.69351753	-80.33215904
	8421.00	83.83	137.01	7919.68	6626.68	533.58	38.49	989.04	1.37	1.37	0.03	435723.14	1765894.79	39.69333375	-80.33193303
Landing Point	8515.00	86.63	136.52	7927.49	6634.49	626.24	-29.75	1053.20	3.02	2.98	-0.52	435654.91	1765958.95	39.69314806	-80.33170280
	8609.00	87.70	136.74	7932.14	6639.14	719.09	-97.99	1117.68	1.16	1.14	0.23	435586.66	1766023.41	39.69296235	-80.33147148
	8702.00	87.68	136.77	7935.89	6642.89	811.02	-165.68	1181.34	0.04	-0.02	0.03	435518.98	1766087.07	39.69277815	-80.33124304
	8799.00	87.65	136.41	7939.84	6646.84	906.86	-236.09	1247.94	0.37	-0.03	-0.37	435448.58	1766153.68	39.69258656	-80.33100407
	8890.00	87.07	137.65	7944.03	6651.03	996.85	-302.60	1309.90	1.50	-0.64	1.36	435382.07	1766215.63	39.69240554	-80.33078172
	8984.00	87.10	136.57	7948.81	6655.81	1089.80	-371.38	1373.80	1.15	0.03	-1.15	435313.29	1766279.52	39.69221835	-80.33055244
	9078.00	87.53	137.76	7953.22	6660.22	1182.79	-440.24	1437.63	1.34	0.46	1.27	435244.44	1766343.35	39.69203095	-80.33032335
	9171.00	87.00	137.81	7957.65	6664.65	1274.92	-509.04	1500.05	0.57	-0.57	0.05	435175.64	1766405.77	39.69184367	-80.33009931
	9265.00	87.23	137.74	7962.39	6669.39	1368.02	-578.56	1563.14	0.26	0.24	-0.07	435106.13	1766468.85	39.69165443	-80.32987286
	9359.00	86.88	137.91	7967.21	6674.21	1461.13	-648.13	1626.17	0.41	-0.37	0.18	435036.56	1766531.88	39.69146504	-80.32964662
	9452.00	89.49	137.35	7970.16	6677.16	1553.27	-716.80	1688.81	2.87	2.81	-0.60	434967.51	1766594.51	39.69127812	-80.32942181
	9545.00	89.01	137.24	7971.38	6678.38	1645.39	-785.13	1751.88	0.53	-0.52	-0.12	434899.57	1766657.57	39.69109213	-80.32919548
	9639.00	89.35	138.10	7972.72	6679.72	1738.58	-854.62	1815.17	0.98	0.36	0.91	434830.09	1766720.87	39.69090298	-80.32896831
	9733.00	87.37	138.53	7975.41	6682.41	1831.87	-924.78	1877.65	2.16	-2.11	0.46	434759.92	1766783.35	39.69071194	-80.32874400
	9827.00	86.74	137.37	7980.24	6687.24	1925.01	-994.49	1940.53	1.40	-0.67	-1.23	434690.22	1766846.22	39.69052218	-80.32851831
	9920.00	86.54	137.36	7985.69	6692.69	2016.99	-1062.79	2003.41	0.22	-0.22	-0.01	434621.92	1766909.10	39.69033627	-80.32829264
	10014.00	86.43	1												

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 (°)
	10480.00	91.34	138.76	8006.50	6713.50	2571.80	-1477.59	2378.62	0.36	0.19	0.30	434207.15	1767284.29	39.68920707	-80.32694591
	10574.00	90.95	139.09	8004.63	6711.63	2665.23	-1548.44	2440.37	0.55	-0.42	0.35	434136.30	1767346.03	39.68901414	-80.32672421
	10666.00	90.93	139.24	8003.12	6710.12	2756.72	-1618.04	2500.51	0.16	-0.02	0.16	434066.71	1767406.17	39.68882458	-80.32650824
	10758.00	90.30	138.51	8002.13	6709.13	2848.16	-1687.34	2561.01	1.05	-0.69	-0.80	433997.41	1767466.67	39.68863587	-80.32629101
	10854.00	90.22	136.74	8001.69	6708.69	2943.33	-1758.26	2625.71	1.85	-0.08	-1.85	433926.50	1767531.36	39.68844283	-80.32605881
	10947.00	88.87	138.92	8002.43	6709.43	3035.56	-1827.17	2688.14	2.76	-1.46	2.35	433857.59	1767593.79	39.68825522	-80.32583475
	11041.00	88.54	139.17	8004.56	6711.56	3129.00	-1898.14	2749.75	0.44	-0.35	0.27	433786.62	1767655.39	39.68806195	-80.32561356
	11135.00	88.49	138.99	8007.00	6714.00	3222.44	-1969.14	2811.30	0.20	-0.05	-0.19	433715.63	1767716.94	39.68786860	-80.32539254
	11228.00	90.04	138.13	8008.19	6715.19	3314.81	-2038.85	2872.85	1.90	1.66	-0.93	433645.93	1767778.48	39.68767880	-80.32517159
	11322.00	89.82	138.33	8008.30	6715.30	3408.13	-2108.95	2935.47	0.32	-0.23	0.22	433575.83	1767841.10	39.68748793	-80.32494681
	11416.00	89.31	138.26	8009.01	6716.01	3501.45	-2179.13	2998.00	0.55	-0.54	-0.07	433505.65	1767903.63	39.68729685	-80.32472234
Deepest TVD	11509.00	90.24	138.58	8009.37	6716.37	3593.81	-2248.70	3059.72	1.05	0.99	0.34	433436.09	1767965.34	39.68710743	-80.32450080
	11603.00	91.02	137.47	8008.34	6715.34	3687.08	-2318.58	3122.58	1.44	0.83	-1.18	433366.21	1768028.19	39.68691718	-80.32427519
	11697.00	91.46	137.57	8006.31	6713.31	3780.22	-2387.89	3186.04	0.49	0.48	0.10	433296.90	1768091.66	39.68672850	-80.32404745
	11791.00	91.82	137.98	8003.62	6710.62	3873.41	-2457.47	3249.19	0.58	0.38	0.44	433227.33	1768154.80	39.68653908	-80.32382083
	11885.00	92.22	137.68	8000.31	6707.31	3966.59	-2527.10	3312.25	0.53	0.43	-0.32	433157.70	1768217.86	39.68634953	-80.32359451
	11978.00	92.21	138.26	7996.72	6703.72	4058.79	-2596.13	3374.47	0.62	-0.01	0.62	433088.68	1768280.07	39.68616160	-80.32337120
	12072.00	92.06	138.05	7993.22	6700.22	4152.02	-2666.10	3437.14	0.27	-0.16	-0.22	433018.71	1768342.73	39.68597108	-80.32314627
	12165.00	92.06	141.18	7989.87	6696.87	4244.52	-2736.89	3497.35	3.36	0.00	3.37	432947.93	1768404.94	39.68577829	-80.32293004
	12258.00	91.86	140.33	7986.69	6693.69	4337.19	-2808.86	3556.15	0.94	-0.22	-0.92	432875.96	1768461.74	39.68558217	-80.32271878
	12351.00	92.03	142.08	7983.53	6690.53	4429.91	-2881.30	3614.39	1.89	0.19	1.88	432803.52	1768519.97	39.68538479	-80.32250953
	12446.00	91.73	143.65	7980.41	6687.41	4524.78	-2956.99	3671.70	1.68	-0.32	1.65	432727.84	1768577.29	39.68517844	-80.32230342
	12539.00	91.84	144.50	7977.52	6684.52	4617.72	-3032.26	3726.25	0.92	0.12	0.91	432652.57	1768631.83	39.68497318	-80.32210719
	12634.00	92.73	144.97	7973.73	6680.73	4712.64	-3109.77	3781.05	1.07	0.94	0.50	432575.07	1768686.63	39.68476180	-80.32190996
	12728.00	92.71	145.67	7969.26	6676.26	4806.53	-3186.98	3834.47	0.74	0.74	0.74	432497.86	1768740.05	39.68455117	-80.32171765
	12821.00	91.65	143.89	7965.73	6672.73	4899.46	-3262.90	3888.06	2.22	-1.14	-1.91	432421.95	1768793.64	39.68434411	-80.32152479
	12915.00	91.86	144.65	7962.85	6669.85	4993.40	-3339.17	3942.93	0.84	0.84	0.81	432345.68	1768848.49	39.68413610	-80.32132740
	13009.00	91.34	145.26	7960.22	6667.22	5087.36	-3416.10	3996.88	0.85	-0.56	0.64	432268.76	1768902.44	39.68392627	-80.32113322
	13196.00	91.61	145.57	7955.41	6662.41	5274.30	-3570.00	4102.99	0.22	0.17	0.17	432114.86	1768908.55	39.68375064	-80.32095123
	13289.00	91.53	144.57	7952.86	6659.86	5367.26	-3646.22	4156.22	1.08	-0.08	-1.07	432038.65	1768961.77	39.68352954	-80.32075965
	13384.00	92.76	145.70	7949.31	6656.31	5462.19	-3724.11	4210.49	1.75	1.29	1.18	431960.77	1769016.04	39.68330860	-80.32056432
	13478.00	92.53	144.78	7944.98	6651.98	5556.09	-3801.25	4264.03	1.01	-0.25	-0.98	431883.63	1769069.58	39.68309587	-80.32037160
	13571.00	91.88	145.16	7941.41	6648.41	5649.02	-3877.35	4317.37	0.81	-0.70	0.42	431807.54	1769122.92	39.68286811	-80.31997962
	13664.00	91.50	144.63	7938.66	6645.66	5741.98	-3953.40	4370.82	0.70	-0.40	-0.57	431731.49	1769176.37	39.68264067	-80.31978725
	13757.00	90.76	144.39	7936.83	6643.83	5834.96	-4029.11	4424.80	0.84	-0.26	0.84	431655.79	1769230.34	39.68242519	-80.31959303
	13851.00	91.64	144.99	7934.86	6641.86	5928.93	-4105.80	4479.12	1.13	0.93	0.64	431579.10	1769284.66	39.68220450	-80.31939757
	13944.00	91.46	145.06	7932.34	6639.34	6021.90	-4181.97	4532.41	0.20	-0.19	0.07	431502.93	1769337.94	39.68193724	-80.31920577
	14038.00	91.51	144.81	7929.90	6636.90	6115.86	-4258.89	4586.40	0.27	-0.05	-0.26	431426.02	1769391.93	39.68162745	-80.31901148
	14131.00	90.88	144.58	7927.97	6634.97	6208.84	-4334.76	4640.14	0.72	-0.68	-0.25	431350.15	1769445.66	39.68142050	-80.31881812
	14225.00	92.19	144.93	7925.46	6632.46	6302.80	-4411.50	4694.36	1.44	1.39	0.38	431273.41	1769499.88	39.68121119	-80.31862304
	14319.00	91.34	145.24	7922.56	6629.56	6396.76	-4488.55	4748.13	0.96	-0.90	0.33	431196.37	1769553.65	39.68100103	-80.31842947
	14413.00	91.65	144.61	7920.11	6627.11	6490.72	-4565.45	4802.13	0.75	0.33	-0.67	431119.47	1769607.65	39.68079127	-80.31823515
	14507.00	91.25	143.97	7917.74	6624.74	6584.68	-4641.75	4856.98	0.80	-0.43	-0.68	431043.18	1769662.49	39.68058318	-80.31803783
	14601.00	91.66	144.91	7915.35	6622.35	6678.64	-4718.20	4911.62	1.10	0.44	1.00	430966.74	1769717.13	39.68037469	-80.31784122
	14695.00	91.42	145.42	7912.82	6619.82	6772.61	-4795.33	4965.30	0.59	-0.25	0.54	430889.61	1769770.80	39.68016430	-80.31764805
	14789.00	91.27	143.17	7910.61	6617.61	6866.57	-4871.63	5020.14	2.40	-0.16	-2.40	430813.32	1769825.64	39.67995620	-80.31745074
	14884.00	90.52	146.00	7909.13	6616.13	6961.54	-4949.03	5075.18	3.09	-0.79	2.99	430735.92	1769880.68	39.67974509	-80.31725271
	14976.00	90.37	145.52	7908.42	6615.42	7053.53	-5025.09	5126.94	0.55	-0.16	-0.52	430659.87	1769932.44	39.67953760	-80.31706637
	15070.00	90.42	147.11	7907.77	6614.77	7147.51	-5103.30	5179.07	1.69	0.06	1.69	430581.66	1770004.56	39.67932419	-80.31687865
	15164.00	89.88	146.79	7907.52	6614.52	7241.46	-5182.09	5230.34	0.68	-0.58	-0.35	430502.87	1770058.83	39.67911091	-80.31669397
	15257.00	90.02	146.04	7907.61	6614.61	7334.44	-5259.56	5281.79	0.82	0.15	-0.81	430425.41	1770117.28	39.67889779	-80.31650869
	15349.00	89.72	146.64	7907.83	6614.83	7426.42	-5336.14	5332.78	0.74	-0.33	0.66	430348.84	1770178.27	39.67868886	-80.31632506
	15442.00	90.31	146.40	7907.81	6614.81	7519.39	-5413.71	5384.08	0.69	0.64	-0.26	430271.27	1770239.56	39.67847719	-80.31614031
	15536.00	90.32	146.33	7907.29	6614.29	7613.37	-5491.97	5436.15	0.08	0.02	-0.08	430193.02	1770301.63	39.67826365	-80.31595282
	15630.00	90.39	146.69	7906.70	6613.70	7707.34	-5570.36	5488.02	0.40	0.07	0.39	430114.63	1770363.49	39.67804974	-80.31576603
	15724.00	90.32	146.78	7906.12	6613.12	7801.30	-5648.96	5539.58	0.12	-0.08	0.09	430036.04	1770425.05	39.67783527	-80.31558033
	15819.00	90.94	146.34	7905.08	6612.08	7896.26	-5728.22	5591.93	0.80	0.66	-0.46	429956.78	1770487.39	39.67761897	-80.31539181
	15912.00	90.68	147.67	7903.77	6610.77	7989.20	-5806.21	5642.56	1.46	-0.28	1.43	429878.79	1770548.03	39.67740613	-80.31520941
	16006.00	89.70	146.61	7903.46	6610.46	8083.15	-5885.17	5693.57	1.54	-1.04	-1.13	429799.84	1770599.03	39.67719065	-80.31502568
	16099.00	90.53	144.44	7903.27	6610.27	8176.14	-5961.83	5746.21	2.50	0.89	-2.33	429723.18	1770651.67	39.67698151	-80.31483621
	16194.00	90.42	145.05	7902.48	6609.48	8271.13	-6039.40	5801.04	0.65	-0.11	0.64	429645.61	1770706.50	39.67676893	-80.31463891
	16288.00	90.44	145.49	7901.78	6608.78	8365.13	-6116.85	5854.59	0.48	0.02	0.47	429568.37	1770760.05	39.67655920	-80.31444618
	16381.00	90.33	146.27	7901.15	6608.15	8458.12	-6193.64	5906.76	0.84	-0.12	0.83	429491.38	1770812.21	39.67634914	-80.31425840
	16475.00	90.46	144.18	7900.50	6607.50	8552.11	-6270.85	5960.37	2						

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 (°M)
	17323.00	89.85	144.91	7896.75	6603.75	9400.06	-6963.79	6449.12	0.86	-0.13	-0.85	428721.29	1771354.54	39.67424844	-80.31230696
	17417.00	89.92	144.47	7896.94	6603.94	9494.06	-7040.49	6503.46	0.48	0.07	-0.47	428644.58	1771408.87	39.67403922	-80.31211150
	17511.00	89.82	144.00	7897.16	6604.16	9588.04	-7116.76	6558.40	0.51	-0.11	-0.50	428568.32	1771463.81	39.67383121	-80.31191387
	17604.00	89.88	143.58	7897.41	6604.41	9681.02	-7191.80	6613.34	0.45	0.07	-0.44	428493.29	1771518.75	39.67362658	-80.31171630
	17697.00	89.30	144.99	7898.08	6605.08	9774.00	-7267.30	6667.63	1.63	-0.62	-1.51	428417.79	1771573.03	39.67342065	-80.31152103
	17791.00	89.35	144.79	7899.19	6606.19	9867.99	-7344.19	6721.69	0.21	0.05	-0.20	428340.90	1771627.09	39.67321091	-80.31132654
	17885.00	89.85	144.23	7899.85	6606.85	9961.98	-7420.73	6776.26	0.80	0.54	-0.60	428264.37	1771681.65	39.67300216	-80.31113024
	17979.00	90.05	144.90	7899.94	6606.94	10055.98	-7497.32	6830.75	0.74	0.21	0.71	428187.79	1771736.15	39.67279326	-80.31093419
	18072.00	89.90	144.49	7899.98	6606.98	10148.98	-7573.21	6884.50	0.47	-0.16	-0.44	428111.89	1771789.89	39.67258624	-80.31074084
	18166.00	89.90	144.77	7900.14	6607.14	10242.97	-7649.87	6938.91	0.30	0.00	0.30	428035.25	1771844.30	39.67237717	-80.31054510
	18260.00	89.89	145.33	7900.31	6607.31	10336.97	-7726.91	6992.76	0.60	-0.01	0.60	427958.21	1771898.15	39.67216700	-80.31035135
	18353.00	89.72	144.25	7900.63	6607.63	10429.97	-7802.90	7046.38	1.18	-0.18	-1.16	427882.23	1771951.76	39.67195974	-80.31015845
	18447.00	89.80	144.67	7901.02	6608.02	10523.96	-7879.38	7101.02	0.45	0.09	0.45	427805.74	1772006.40	39.67175112	-80.30996191
	18540.00	89.73	145.35	7901.40	6608.40	10616.96	-7955.57	7154.35	0.74	-0.08	0.73	427729.56	1772059.72	39.67154328	-80.30977004
	18633.00	89.81	145.15	7901.78	6608.78	10709.96	-8031.99	7207.36	0.23	0.09	-0.22	427653.15	1772112.73	39.67133483	-80.30957930
	18728.00	89.94	145.25	7901.98	6608.98	10804.96	-8109.99	7261.58	0.17	0.14	0.11	427575.15	1772166.94	39.67112202	-80.30938421
	18821.00	89.60	144.45	7902.36	6609.36	10897.95	-8186.03	7315.12	0.93	-0.37	-0.86	427499.11	1772220.48	39.67091460	-80.30919160
	18915.00	89.21	144.42	7903.33	6610.33	10991.94	-8262.49	7369.79	0.42	-0.41	-0.03	427422.66	1772275.15	39.67070605	-80.30899496
	19009.00	89.92	143.53	7904.05	6611.05	11085.92	-8338.51	7425.07	1.21	0.76	-0.95	427346.84	1772330.43	39.67049873	-80.30879616
	19102.00	90.05	144.99	7904.07	6611.07	11178.90	-8414.00	7479.39	1.58	0.14	1.57	427271.16	1772384.75	39.67029286	-80.30860079
	19196.00	88.98	144.12	7904.87	6611.87	11272.89	-8490.57	7533.90	1.47	-1.14	-0.93	427194.59	1772439.25	39.67008399	-80.30840472
	19289.00	89.85	143.69	7905.82	6612.82	11365.86	-8565.72	7588.69	1.04	0.94	-0.46	427119.45	1772494.03	39.66987906	-80.30820772
	19383.00	89.82	145.00	7906.09	6613.09	11459.85	-8642.09	7643.48	1.39	-0.03	1.39	427043.08	1772548.82	39.66967075	-80.30801066
	19476.00	89.58	144.36	7906.57	6613.57	11552.85	-8717.97	7697.25	0.74	-0.25	-0.69	426967.21	1772602.59	39.66946377	-80.30781724
	19570.00	89.93	145.12	7906.97	6613.97	11646.84	-8794.72	7751.51	0.89	0.37	0.81	426890.46	1772656.85	39.66925442	-80.30762203
	19663.00	89.55	145.46	7907.39	6614.39	11739.84	-8871.17	7804.47	0.55	-0.06	0.37	426814.02	1772709.80	39.66904585	-80.30743149
	19756.00	89.61	144.40	7908.07	6615.07	11832.84	-8947.29	7857.90	1.14	0.41	-1.14	426737.91	1772763.23	39.66883822	-80.30723928
	19851.00	89.90	145.07	7908.48	6615.48	11927.83	-9024.85	7912.75	0.76	0.31	0.70	426660.35	1772818.08	39.66862665	-80.30704198
	19944.00	89.86	144.90	7908.67	6615.67	12020.83	-9101.02	7966.11	0.18	-0.04	-0.18	426584.19	1772871.44	39.66841887	-80.30685000
	20038.00	89.95	144.92	7908.83	6615.83	12114.83	-9177.93	8020.15	0.09	0.09	0.02	426507.27	1772925.47	39.66820906	-80.30665561
	20131.00	89.45	145.66	7909.32	6616.32	12207.83	-9254.38	8073.10	0.96	-0.54	0.79	426430.83	1772978.42	39.66800050	-80.30646508
	20224.00	89.41	145.15	7910.25	6617.25	12300.82	-9330.93	8125.91	0.55	-0.50	-0.55	426354.28	1773031.22	39.66779165	-80.30627508
	20319.00	89.88	145.91	7910.84	6617.84	12395.82	-9409.25	8179.68	0.95	0.04	0.80	426275.98	1773084.99	39.66757799	-80.30608159
	20414.00	89.47	145.81	7911.38	6618.38	12490.81	-9487.87	8233.00	0.45	-0.44	-0.11	426197.36	1773138.31	39.66736347	-80.30588969
	20509.00	89.87	146.17	7911.92	6618.92	12585.80	-9566.61	8286.14	0.57	0.42	0.38	426118.62	1773191.45	39.66714861	-80.30569843
	20603.00	89.76	146.54	7912.23	6619.23	12679.78	-9644.87	8338.22	0.41	-0.11	0.40	426040.37	1773243.52	39.66693508	-80.30551095
	20698.00	89.51	145.88	7912.83	6619.83	12774.76	-9723.81	8391.06	0.75	-0.27	-0.70	425961.43	1773296.36	39.66671965	-80.30532077
	20793.00	90.04	146.26	7913.21	6620.21	12869.74	-9802.64	8444.08	0.60	0.56	0.40	425882.61	1773349.38	39.66650457	-80.30512991
	20887.00	89.68	146.04	7913.44	6620.44	12963.73	-9880.70	8496.45	0.44	-0.28	-0.24	425804.55	1773401.74	39.66629155	-80.30494145
	20981.00	89.88	146.79	7913.80	6620.80	13057.71	-9959.01	8548.45	0.82	0.30	0.80	425726.25	1773453.74	39.66607787	-80.30475425
	21076.00	89.88	145.49	7914.00	6621.00	13152.69	-10037.89	8601.38	1.37	0.00	-1.37	425647.37	1773506.67	39.66586262	-80.30456373
	21171.00	89.28	146.28	7914.70	6621.70	13247.68	-10116.54	8654.66	1.05	-0.63	0.83	425568.73	1773559.94	39.66564803	-80.30437199
	21266.00	89.74	146.14	7915.52	6622.52	13342.66	-10195.49	8707.49	0.51	0.49	-0.14	425489.78	1773612.77	39.66543259	-80.30418184
	21360.00	90.02	146.35	7915.72	6622.72	13436.64	-10273.64	8759.72	0.37	0.30	0.21	425411.63	1773664.99	39.66521932	-80.30399385
	21455.00	89.98	145.75	7915.71	6622.71	13531.63	-10352.45	8812.77	0.63	-0.04	-0.62	425332.83	1773718.04	39.66500429	-80.30380290
	21549.00	90.31	145.02	7915.47	6622.47	13625.63	-10429.81	8866.17	0.85	0.34	-0.78	425255.47	1773771.44	39.66479323	-80.30361080
	21644.00	89.97	146.15	7915.24	6622.24	13720.62	-10508.18	8919.85	1.24	-0.36	1.19	425177.10	1773825.12	39.66457940	-80.30341762
	21739.00	89.91	145.20	7915.34	6622.34	13815.62	-10586.64	8973.42	1.01	-0.06	-1.01	425098.65	1773878.68	39.66436534	-80.30322487
	21834.00	89.69	146.34	7915.67	6622.67	13910.61	-10665.18	9026.86	1.23	-0.23	1.21	425020.11	1773932.12	39.66415103	-80.30303259
	21929.00	89.72	144.97	7916.16	6623.16	14005.60	-10743.62	9080.45	1.45	0.02	-1.45	424941.68	1773985.71	39.66393703	-80.30283975
	22024.00	89.58	145.28	7916.75	6623.75	14100.60	-10821.55	9134.77	0.36	-0.15	0.33	424863.75	1774040.03	39.66372442	-80.30264433
	22118.00	89.91	147.00	7917.17	6624.17	14194.58	-10899.61	9187.14	1.87	0.35	1.84	424785.70	1774092.39	39.66351143	-80.30245585
	22212.00	89.55	144.28	7917.62	6624.62	14288.57	-10977.20	9240.18	2.92	-0.38	-2.90	424708.12	1774145.43	39.66329972	-80.30226500
	22307.00	89.99	144.94	7917.99	6624.99	14383.56	-11054.65	9295.20	0.83	0.46	0.69	424630.67	1774200.44	39.66308846	-80.30207614
	22402.00	90.02	144.86	7917.99	6624.99	14478.56	-11132.37	9349.82	0.08	0.02	-0.08	424552.95	1774255.06	39.66287643	-80.30187067
	22496.00	89.92	145.50	7918.04	6625.04	14572.56	-11209.54	9403.49	0.69	-0.11	0.68	424475.79	1774308.73	39.66266589	-80.30167760
	22591.00	89.70	144.40	7918.36	6625.36	14667.56	-11287.32	9458.05	1.18	-0.23	-1.16	424398.02	1774363.28	39.66245373	-80.30148138
	22686.00	90.47	144.53	7918.22	6625.22	14762.55	-11364.63	9513.26	0.82	0.81	0.14	424320.71	1774418.49	39.66224285	-80.30128284
	22781.00	89.49	144.21	7918.25	6625.25	14857.54	-11441.84	9568.59	1.08	-1.03	-0.34	424243.50	1774473.82	39.66203223	-80.30108386
	22876.00	90.45	145.05	7918.31	6625.31	14952.53	-11519.31	9623.58	1.34	1.00	0.88	424166.04	1774528.81	39.66182092	-80.30088611
	22970.00	90.25	144.92	7917.73	6624.73	15046.53	-11596.29	9677.52	0.25	-0.20	-0.14	424089.06	1774582.74	39.66161090	-80.30069211
	23065.00	90.38	145.03	7917.21	6624.21	15141.53	-11674.09	9732.04	0.18	0.13	0.12	424011.27	1774637.26	39.66139868	-80.30049599
	23160.00	89.72	144.42	7917.12	6624.12	15236.53	-11751.64	9786.91	0.94	-0.69	-0.65	423933.72	1774692.12	39.66118712	-80.30029868
	23255.00	90.18	1												

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 (°)
	24106.00	90.95	144.41	7904.02	6611.02	16182.33	-12521.52	10336.41	0.72	-0.71	-0.10	423163.89	1775241.59	39.65908708	-80.29832274
	24201.00	90.41	144.33	7902.89	6609.89	16277.31	-12598.73	10391.75	0.58	-0.58	-0.08	423086.69	1775296.93	39.65887648	-80.29812378
	24295.00	90.75	143.48	7901.94	6608.94	16371.29	-12674.68	10447.12	0.98	0.36	-0.91	423010.74	1775352.30	39.65866932	-80.29792472
	24390.00	90.61	143.55	7900.82	6607.82	16466.24	-12751.05	10503.61	0.16	-0.15	0.08	422934.37	1775408.78	39.65846103	-80.29772171
	24485.00	90.41	144.98	7899.98	6606.98	16561.22	-12828.16	10559.09	1.52	-0.21	1.50	422857.27	1775464.26	39.65825071	-80.29752224
	24579.00	90.15	143.95	7899.52	6606.52	16655.21	-12904.65	10613.72	1.12	-0.27	-1.09	422780.78	1775518.89	39.65804206	-80.29732580
Last SLB_MWD	24655.00	90.20	143.16	7899.28	6606.28	16731.18	-12965.79	10658.87	1.04	0.06	-1.04	422719.84	1775564.03	39.65787532	-80.29716355
PTB	24683.00	90.20	143.16	7899.18	6606.18	16759.17	-12988.20	10675.65	0.02	0.00	-0.02	422697.24	1775580.81	39.65781421	-80.29710322

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 WDTN19RHSM Surveys 0ft to 24683ft MD
	1	29.000	29.000	Act Sns	17.500	13.375	A020Ga_GYRO-NS-Depth Only	Original Borehole / CNX WDTN19RHSM Surveys 0ft to 24683ft MD
	1	29.000	1154.000	Act Sns	17.500	13.375	A020Ga_GYRO-NS	Original Borehole / CNX WDTN19RHSM Surveys 0ft to
	1	1154.000	3100.000	Act Sns	12.250	9.625	A001Mb_MWD	Original Borehole / CNX WDTN19RHSM Surveys 0ft to
	1	3100.000	5946.000	Act Sns	8.750	5.500	A001Mb_MWD	Original Borehole / CNX WDTN19RHSM Surveys 0ft to
	1	5946.000	24683.000	Act Sns	8.500	5.500	B006Mb_MWD+IGRF	Original Borehole / CNX WDTN19RHSM Surveys 0ft to

...CNX WDTN19 Pad\WDTN19RHSM\Original Borehole\CNX WDTN19RHSM Surveys 0ft to 24683ft MD