



CNX GAS COMPANY, LLC

Location: Marshall County, WV
 Field: Marshall
 Facility: MAL-6 Pad

Slot: Slot F
 Well: MAL-6F-HSU ST01
 Wellbore: MAL-6F-HSU ST01 PWB

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BH AT Curve $\langle -8-1/2^\circ \rangle$ (108366)(109339-18232) : 10935.10H TVD, 35.56H S, 61.74H E
 VES Gyro $\langle -12-1/4^\circ \rangle$ (100--10836) : 100.00H TVD, 0.15H S, 0.05H E
 SIB MWD $\langle -7-7/8^\circ \rangle$ (108366)(10926-12124) : 10921.91H TVD, 31.35H S, 65.29H E
 Pilot TD - 12194' MD : 12183.53H TVD, 57.87H S, 168.56H E

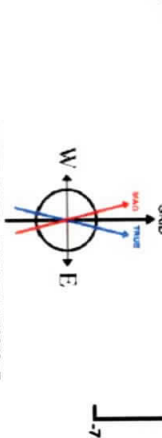
Post reference string in MAL-6F-HSU ST01 PWB Rev-C 1
 True vertical depths are referenced to Patterson 003 (RKB)
 Master Sea Level to Slot Sea (at Slot F) : 1344.23H
 Master Sea Level to Mean Sea (at Slot F) : 1344.23H
 Coordinates are in feet referenced to Slot

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude
MAL-6 Pad	1705926.000	524252.820	39°56'04.722"N
Slot	Local E (ft)	Grid North (US ft)	Latitude
-8.45	-26.95	524244.370	39°56'04.635"N
			Longitude
			80°32'55.643"W
			29H
			-1344.23H
			1373.23H

Well Profile Data			
Design Comment	MD (ft)	Inc (°)	Az (°)
The On	10936.00	7.750	110.480
Next Svy	10926.00	8.740	107.530
Substrack Pt.	10973.00	8.730	106.641
Curve KOP	11160.33	2.968	248.820
Landing Pt.	12295.50	90.000	140.968
On Arrivin	12453.31	90.000	145.000
BHL	18259.84	90.000	145.000

Well Data			
Slot	Well	Wellbore	Wellpath
Slot F	MAL-6F-HSU PWB	MAL-6F-HSU PWB AWB	MAL-6F-HSU PWB AWB PWB
Slot F	MAL-6F-HSU ST01	MAL-6F-HSU ST01 AWB	MAL-6F-HSU ST01 AWB PWB
Slot F	MAL-6F-HSU ST01	MAL-6F-HSU ST01 PWB	MAL-6F-HSU ST01 PWB Rev-C 1

API: 47-051-02008-0001
 BH Job #: 109526039-A
 Rig: Patterson 563
 Duration: 3/19/2019-3/26/2019



BH AT Curve $\langle -8-1/2^\circ \rangle$ (108366)(109339-18232) : 6.85° Inc, 10939.00H MD, 10935.10H TVD, 64.38H VS
 SIB MWD $\langle -7-7/8^\circ \rangle$ (108366)(10926-12124) : 8.74° Inc, 10926.00H MD, 10921.91H TVD, 63.13H VS
 Pilot TD - 12194' MD : 0.30° Inc, 12194.00H MD, 12183.53H TVD, 144.08H VS
 Projected MD at TD: 18257' : 89.02° Inc, 18257.00H MD, 12031.98H TVD, 6679.50H VS



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot F
Area	Marshall County, WV	Well	MAJ-6F-HSU ST01
Field	Marshall	Wellbore	MAJ-6F-HSU ST01 AWB
Facility	MAJ-6 Pad	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Edsaryar
Scale	0.999955	Report Generated	28/Mar/2019 at 11:11
Convergence at slot	0.67° West	Database/Source file	WA_MPL_EASTERNUSS_Defn\MAJ-6F-HSU ST01 AWP Proj_18257.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-8.45	-26.95	1705900.01	524244.37	39°56'04.635"N	80°32'55.643"W
Facility Reference Pt			1705926.96	524252.82	39°56'04.722"N	80°32'55.298"W
Field Reference Pt			1704323.48	525162.98	39°56'13.531"N	80°33'16.019"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 563 (RKB) to Facility Vertical Datum	1373.23ft
Horizontal Reference Pt	Slot	Patterson 563 (RKB) to Mean Sea Level	1373.23ft
Vertical Reference Pt	Patterson 563 (RKB)	Patterson 563 (RKB) to Mud Line at Slot (Slot F)	29.00ft
MD Reference Pt	Patterson 563 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	145.00°



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot F
Operator	CNX GAS COMPANY, LLC	Well	MAJ-6F-HSU ST01
Area	Marshall County, WV	Wellbore	MAJ-6F-HSU ST01 AWB
Field	Marshall	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD
Facility	MAJ-6 Pad		

WELLPATH DATA (190 stations) † = interpolated/extrapolated station															
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	(ft/100ft)	(ft/100ft)	(ft/100ft)
0.00†	0.000	162.330	0.00	0.00	0.00	0.00	1705900.01	524244.37	39°56'04.635"N	80°32'55.643"W	0.00	0.000	0.00	0.00	0.00
29.00	0.000	162.330	29.00	0.00	0.00	0.00	1705900.01	524244.37	39°56'04.635"N	80°32'55.643"W	0.00	0.000	0.00	0.00	0.00
100.00	0.250	162.330	100.00	0.15	-0.15	0.05	1705900.06	524244.22	39°56'04.634"N	80°32'55.642"W	0.15	162.330	0.35	0.35	228.63
200.00	0.190	165.230	200.00	0.51	-0.52	0.16	1705900.17	524243.85	39°56'04.630"N	80°32'55.641"W	0.54	163.222	0.06	-0.06	2.90
300.00	0.070	54.190	300.00	0.67	-0.64	0.25	1705900.25	524243.73	39°56'04.629"N	80°32'55.640"W	0.69	158.883	0.22	-0.12	-111.04
400.00	0.070	297.140	400.00	0.61	-0.58	0.24	1705900.25	524243.79	39°56'04.630"N	80°32'55.640"W	0.63	157.196	0.12	0.00	-117.05
500.00	0.030	248.960	500.00	0.55	-0.56	0.16	1705900.17	524243.81	39°56'04.630"N	80°32'55.641"W	0.58	163.658	0.05	-0.04	-48.18
600.00	0.430	81.320	600.00	0.71	-0.51	0.51	1705900.52	524243.86	39°56'04.630"N	80°32'55.636"W	0.72	135.048	0.46	0.40	-167.64
700.00	0.170	77.600	700.00	0.93	-0.42	1.03	1705901.04	524243.95	39°56'04.631"N	80°32'55.630"W	1.11	112.385	0.26	-0.26	-3.72
800.00	0.120	23.180	800.00	0.94	-0.29	1.21	1705901.22	524244.08	39°56'04.632"N	80°32'55.627"W	1.25	103.654	0.14	-0.05	-54.42
900.00	0.310	75.380	900.00	0.98	-0.13	1.52	1705901.53	524244.24	39°56'04.634"N	80°32'55.624"W	1.52	94.901	0.25	0.19	52.20
1000.00	0.350	97.160	999.99	1.27	-0.10	2.08	1705902.09	524244.27	39°56'04.634"N	80°32'55.616"W	2.08	92.744	0.13	0.04	21.78
1100.00	0.490	112.630	1099.99	1.84	-0.30	2.78	1705902.79	524244.07	39°56'04.633"N	80°32'55.607"W	2.79	96.211	0.18	0.14	15.47
1200.00	0.490	84.350	1199.99	2.41	-0.42	3.60	1705903.61	524243.95	39°56'04.631"N	80°32'55.597"W	3.62	96.733	0.24	0.00	-28.28
1300.00	0.420	104.200	1299.98	2.90	-0.47	4.38	1705904.39	524243.90	39°56'04.631"N	80°32'55.587"W	4.40	96.159	0.17	-0.07	19.85
1400.00	0.470	125.930	1399.98	3.56	-0.80	5.07	1705905.08	524243.57	39°56'04.628"N	80°32'55.578"W	5.13	99.008	0.17	0.05	21.73
1500.00	0.180	97.650	1499.98	4.06	-1.06	5.55	1705905.56	524243.31	39°56'04.625"N	80°32'55.572"W	5.66	100.852	0.32	-0.29	-28.28
1600.00	0.330	152.290	1599.98	4.45	-1.34	5.84	1705905.85	524243.03	39°56'04.623"N	80°32'55.568"W	6.00	102.921	0.27	0.15	54.64
1700.00	0.640	142.660	1699.98	5.29	-2.04	6.32	1705906.33	524242.33	39°56'04.616"N	80°32'55.562"W	6.64	107.896	0.32	0.31	-9.63
1800.00	0.500	127.320	1799.97	6.27	-2.75	7.00	1705907.01	524241.62	39°56'04.609"N	80°32'55.553"W	7.52	111.429	0.21	-0.14	-15.34
1900.00	0.750	135.130	1899.96	7.33	-3.48	7.81	1705907.82	524240.89	39°56'04.602"N	80°32'55.542"W	8.55	113.994	0.26	0.25	7.81
2000.00	1.060	152.450	1999.95	8.89	-4.76	8.70	1705908.71	524239.61	39°56'04.589"N	80°32'55.531"W	9.92	118.686	0.41	0.31	17.32
2100.00	0.940	142.940	2099.94	10.63	-6.24	9.62	1705909.63	524238.14	39°56'04.575"N	80°32'55.519"W	11.47	122.942	0.20	-0.12	-9.51
2200.00	1.070	148.810	2199.92	12.38	-7.69	10.60	1705910.61	524236.68	39°56'04.560"N	80°32'55.506"W	13.09	125.953	0.17	0.13	5.87
2300.00	1.100	147.560	2299.90	14.27	-9.30	11.60	1705911.61	524235.07	39°56'04.545"N	80°32'55.493"W	14.87	128.715	0.04	0.03	-1.25
2400.00	1.110	146.830	2399.88	16.20	-10.92	12.64	1705912.65	524233.45	39°56'04.529"N	80°32'55.479"W	16.71	130.812	0.02	0.01	-0.73
2500.00	1.250	152.650	2499.87	18.07	-12.54	13.59	1705913.60	524231.83	39°56'04.513"N	80°32'55.467"W	18.50	132.696	0.12	-0.06	5.82
2600.00	1.220	145.690	2599.85	20.04	-14.24	14.62	1705914.62	524230.13	39°56'04.496"N	80°32'55.453"W	20.40	134.246	0.22	0.17	-6.96
2700.00	0.980	152.030	2699.83	21.96	-15.87	15.62	1705915.63	524228.50	39°56'04.480"N	80°32'55.440"W	22.27	135.462	0.27	-0.24	6.34
2800.00	0.970	151.700	2799.81	23.65	-17.37	16.42	1705916.43	524227.00	39°56'04.465"N	80°32'55.430"W	23.90	136.614	0.01	-0.01	-0.33



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Area	Marshall County, WV	Well	MAJ-6F-HSU ST01
Field	Marshall	Wellbore	MAJ-6F-HSU ST01 AWB
Facility	MAJ-6 Pad	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD

WELLPATH DATA (190 stations)

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
ft	°	°	ft	ft	ft	ft	US ft	US ft			ft	°	ft/100ft	ft/100ft	ft/100ft
2900.00	0.820	152.940	2899.80	25.20	-18.75	17.15	1705917.15	524225.62	39°56'04.452"N	80°32'55.420"W	25.41	137.564	0.15	-0.15	1.24
3000.00	0.840	159.210	2999.79	26.62	-20.08	17.73	1705917.74	524224.29	39°56'04.439"N	80°32'55.412"W	26.79	138.548	0.09	0.02	6.27
3100.00	0.470	173.110	3099.79	27.69	-21.17	18.04	1705918.05	524223.20	39°56'04.428"N	80°32'55.408"W	27.81	139.561	0.40	-0.37	13.90
3200.00	0.340	181.430	3199.78	28.29	-21.87	18.08	1705918.09	524222.50	39°56'04.421"N	80°32'55.408"W	28.38	140.418	0.14	-0.13	8.32
3300.00	0.400	184.240	3299.78	28.80	-22.52	18.05	1705918.06	524221.85	39°56'04.415"N	80°32'55.408"W	28.86	141.285	0.06	0.06	2.81
3400.00	0.490	169.010	3399.78	29.46	-23.28	18.11	1705918.11	524221.09	39°56'04.407"N	80°32'55.407"W	29.50	142.133	0.15	0.09	-15.23
3500.00	2.940	220.960	3499.73	30.47	-25.64	16.51	1705916.51	524218.73	39°56'04.384"N	80°32'55.427"W	30.49	147.231	2.67	2.45	51.95
3600.00	3.210	221.510	3599.58	31.75	-29.67	12.97	1705912.98	524214.70	39°56'04.343"N	80°32'55.472"W	32.38	156.394	0.27	0.27	0.55
3700.00	2.030	254.240	3699.48	31.82	-32.25	9.41	1705909.42	524212.12	39°56'04.318"N	80°32'55.517"W	33.60	163.738	1.86	-1.18	32.73
3800.00	1.840	269.880	3799.43	30.31	-32.74	6.10	1705906.11	524211.63	39°56'04.312"N	80°32'55.560"W	33.30	169.448	0.56	-0.19	15.64
3900.00	1.580	262.330	3899.38	28.76	-32.92	3.13	1705903.14	524211.45	39°56'04.310"N	80°32'55.598"W	33.07	174.576	0.34	-0.26	-7.55
4000.00	1.530	267.170	3999.35	27.42	-33.17	0.43	1705900.44	524211.20	39°56'04.307"N	80°32'55.633"W	33.18	179.263	0.14	-0.05	4.84
4100.00	1.140	272.350	4099.32	26.11	-33.20	-1.90	1705898.11	524211.17	39°56'04.307"N	80°32'55.662"W	33.25	183.276	0.41	-0.39	5.18
4200.00	0.580	291.540	4199.31	25.08	-32.97	-3.37	1705896.64	524211.40	39°56'04.309"N	80°32'55.681"W	33.14	185.828	0.62	-0.56	19.19
4300.00	0.640	304.180	4299.30	24.14	-32.47	-4.30	1705895.71	524211.90	39°56'04.314"N	80°32'55.693"W	32.76	187.540	0.15	0.06	12.64
4400.00	0.440	296.340	4399.30	23.28	-31.99	-5.10	1705894.91	524212.38	39°56'04.319"N	80°32'55.704"W	32.39	189.066	0.21	-0.20	-7.84
4500.00	0.560	289.140	4499.29	22.54	-31.66	-5.91	1705894.10	524212.71	39°56'04.322"N	80°32'55.714"W	32.21	190.574	0.14	-0.12	-7.20
4600.00	0.460	319.320	4599.29	21.75	-31.19	-6.63	1705893.38	524213.18	39°56'04.326"N	80°32'55.724"W	31.89	192.005	0.28	-0.10	30.18
4700.00	0.570	306.960	4699.28	20.88	-30.59	-7.29	1705892.72	524213.78	39°56'04.332"N	80°32'55.732"W	31.45	193.409	0.16	0.11	-12.36
4800.00	0.540	332.530	4799.28	19.94	-29.87	-7.91	1705892.10	524214.50	39°56'04.339"N	80°32'55.740"W	30.90	194.826	0.25	-0.03	25.57
4900.00	0.650	303.650	4899.28	18.94	-29.14	-8.60	1705891.41	524215.23	39°56'04.346"N	80°32'55.749"W	30.38	196.437	0.32	0.11	-28.88
5000.00	0.710	325.770	4999.27	17.79	-28.31	-9.42	1705890.59	524216.06	39°56'04.354"N	80°32'55.760"W	29.84	198.398	0.27	0.06	22.12
5100.00	0.860	311.690	5099.26	16.44	-27.30	-10.33	1705889.68	524217.07	39°56'04.364"N	80°32'55.771"W	29.19	200.718	0.24	0.15	-14.08
5200.00	0.650	316.480	5199.25	15.15	-26.39	-11.28	1705888.73	524217.98	39°56'04.373"N	80°32'55.784"W	28.70	203.137	0.22	-0.21	4.79
5300.00	0.870	331.690	5299.24	13.84	-25.31	-12.03	1705887.98	524219.06	39°56'04.384"N	80°32'55.794"W	28.03	205.416	0.30	0.22	15.21
5400.00	0.750	340.050	5399.23	12.45	-24.03	-12.51	1705887.40	524220.34	39°56'04.386"N	80°32'55.801"W	27.14	207.621	0.17	-0.12	8.36
5500.00	1.260	14.820	5499.22	11.11	-22.35	-12.55	1705887.46	524222.02	39°56'04.413"N	80°32'55.801"W	25.64	209.392	0.77	0.51	34.77
5600.00	1.120	17.180	5599.20	9.80	-20.35	-11.98	1705888.03	524224.02	39°56'04.433"N	80°32'55.794"W	23.62	210.487	0.15	-0.14	2.36
5700.00	1.780	47.920	5699.16	9.01	-18.38	-10.54	1705889.47	524225.99	39°56'04.452"N	80°32'55.776"W	21.19	209.837	1.00	0.66	30.74
5800.00	1.560	49.670	5799.12	8.69	-16.46	-8.35	1705891.66	524227.91	39°56'04.472"N	80°32'55.748"W	18.46	206.906	0.23	-0.22	1.75



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REFERENCE WELLPATH IDENTIFICATION									
Operator	CNX GAS COMPANY, LLC								
Area	Marshall County, WV								
Field	Marshall								
Facility	MAJ-6 Pad								
Slot	MAJ-6F-HSU ST01								
Well	Wellbore								
Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD								

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(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)			(ft)	(°)	(ft/100ft)	(ft/100ft)	(ft/100ft)
5900.00	1.440	128.200	5899.10	9.77	-16.35	-6.33	1705893.68	524228.02	39°56'04.473"N	80°32'55.722"W	17.54	201.149	1.90	-0.12	78.53
6000.00	2.210	157.750	5999.05	12.85	-18.92	-4.61	1705895.40	524225.45	39°56'04.448"N	80°32'55.699"W	19.47	193.694	1.19	0.77	29.55
6100.00	0.760	177.280	6099.01	15.29	-21.36	-3.85	1705896.16	524223.01	39°56'04.424"N	80°32'55.689"W	21.71	190.209	1.52	-1.45	19.53
6200.00	0.500	287.220	6199.01	15.51	-21.90	-4.23	1705895.78	524222.47	39°56'04.418"N	80°32'55.694"W	22.30	190.941	1.04	-0.26	109.94
6300.00	0.260	292.610	6299.01	14.97	-21.68	-4.86	1705895.15	524222.69	39°56'04.420"N	80°32'55.702"W	22.22	192.632	0.24	-0.24	5.39
6400.00	0.100	130.660	6399.00	14.87	-21.65	-5.00	1705895.01	524222.72	39°56'04.421"N	80°32'55.704"W	22.22	193.010	0.36	-0.16	-161.95
6500.00	0.140	198.850	6499.00	15.02	-21.82	-4.98	1705895.03	524222.55	39°56'04.419"N	80°32'55.704"W	22.38	192.844	0.14	0.04	68.19
6600.00	0.110	155.230	6599.00	15.19	-22.02	-4.97	1705895.04	524222.35	39°56'04.417"N	80°32'55.704"W	22.58	192.728	0.10	-0.03	-43.62
6700.00	0.200	71.580	6699.00	15.33	-22.06	-4.77	1705895.24	524222.28	39°56'04.416"N	80°32'55.700"W	22.58	192.013	0.22	0.09	-83.65
6800.00	0.150	227.840	6799.00	15.40	-22.09	-4.70	1705895.31	524222.31	39°56'04.416"N	80°32'55.699"W	22.58	191.759	0.38	0.09	-158.34
6900.00	0.240	69.500	6899.00	15.47	-22.10	-4.60	1705895.41	524222.27	39°56'04.416"N	80°32'55.699"W	22.58	191.759	0.38	0.09	-158.34
7000.00	0.290	96.670	6999.00	15.69	-22.06	-4.15	1705895.86	524222.31	39°56'04.417"N	80°32'55.693"W	22.45	190.663	0.13	0.05	27.17
7100.00	0.590	113.020	7099.00	16.29	-22.29	-3.43	1705896.58	524222.08	39°56'04.415"N	80°32'55.684"W	22.55	188.744	0.24	0.30	16.35
7200.00	0.380	126.850	7199.00	17.04	-22.69	-2.69	1705897.32	524221.68	39°56'04.411"N	80°32'55.674"W	22.85	186.759	0.24	-0.21	13.83
7300.00	0.460	108.280	7298.99	17.68	-23.02	-2.04	1705897.97	524221.36	39°56'04.408"N	80°32'55.666"W	23.11	185.072	0.16	0.08	-18.57
7400.00	0.340	145.230	7398.99	18.30	-23.39	-1.49	1705898.52	524220.99	39°56'04.404"N	80°32'55.659"W	23.43	183.651	0.28	-0.12	36.95
7500.00	0.260	138.050	7498.99	18.82	-23.80	-1.17	1705898.84	524220.57	39°56'04.400"N	80°32'55.655"W	23.83	182.818	0.09	-0.08	-7.18
7600.00	0.160	105.120	7598.99	19.15	-24.00	-0.88	1705899.13	524220.37	39°56'04.398"N	80°32'55.651"W	24.02	182.112	0.15	-0.10	-32.93
7700.00	0.290	19.910	7698.99	19.12	-23.80	-0.66	1705899.35	524220.57	39°56'04.400"N	80°32'55.648"W	23.81	181.598	0.32	0.13	-85.21
7800.00	0.350	43.620	7798.99	18.91	-23.34	-0.37	1705899.64	524221.03	39°56'04.400"N	80°32'55.644"W	23.35	180.901	0.14	0.06	23.71
7900.00	0.230	39.200	7898.99	18.80	-22.97	-0.03	1705899.98	524221.41	39°56'04.408"N	80°32'55.640"W	22.97	180.074	0.12	-0.12	-4.42
8000.00	0.290	351.550	7998.98	18.51	-22.56	0.06	1705900.07	524221.81	39°56'04.412"N	80°32'55.639"W	22.56	179.847	0.22	0.06	-47.65
8100.00	0.260	328.360	8098.98	18.06	-22.12	-0.10	1705899.91	524222.25	39°56'04.417"N	80°32'55.641"W	22.12	180.249	0.11	-0.03	-23.19
8200.00	0.220	324.160	8198.98	17.64	-21.77	-0.33	1705899.68	524222.60	39°56'04.420"N	80°32'55.644"W	21.77	180.862	0.04	-0.04	-4.20
8300.00	0.450	324.730	8298.98	17.06	-21.29	-0.67	1705899.34	524223.08	39°56'04.425"N	80°32'55.654"W	21.30	181.794	0.23	0.23	0.57
8400.00	0.510	338.150	8398.98	16.23	-20.56	-1.06	1705898.91	524223.81	39°56'04.432"N	80°32'55.654"W	20.59	182.949	0.13	0.06	13.42
8500.00	0.410	347.270	8498.97	15.47	-19.80	-1.30	1705898.75	524224.58	39°56'04.439"N	80°32'55.657"W	19.84	183.768	0.12	-0.10	9.12
8600.00	0.310	311.970	8598.97	14.87	-19.27	-1.58	1705898.43	524225.11	39°56'04.445"N	80°32'55.660"W	19.33	184.699	0.24	-0.10	-35.30
8700.00	0.260	316.930	8698.97	14.39	-18.92	-1.94	1705898.07	524225.45	39°56'04.448"N	80°32'55.665"W	19.02	185.854	0.06	-0.05	4.96
8800.00	0.360	320.140	8798.97	13.85	-18.51	-2.30	1705897.71	524225.86	39°56'04.452"N	80°32'55.670"W	18.65	187.070	0.10	0.10	3.21



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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot F
Operator	CNX GAS COMPANY, LLC	Well	MAJ-6F-HSU ST01
Area	Marshall County, WV	Wellbore	MAJ-6F-HSU ST01 AWB
Field	Marshall	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD
Facility	MAJ-6 Pad		

WELLPATH DATA (190 stations)															
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	("/100ft)	("/100ft)	("/100ft)
8900.00	0.470	308.160	8898.97	13.14	-18.02	-2.82	1705897.19	524226.35	39°56'04.457"N	80°32'55.677"W	18.24	188.895	0.14	0.11	-11.98
9000.00	0.300	313.960	8998.96	12.49	-17.58	-3.33	1705966.68	524226.79	39°56'04.461"N	80°32'55.683"W	17.90	190.727	0.17	0.17	5.80
9100.00	0.090	98.190	9098.96	12.29	-17.41	-3.44	1705966.57	524226.96	39°56'04.463"N	80°32'55.685"W	17.75	191.180	0.38	-0.21	144.23
9200.00	0.180	202.780	9198.96	12.43	-17.57	-3.42	1705966.52	524226.80	39°56'04.461"N	80°32'55.684"W	17.90	191.030	0.22	0.09	104.59
9300.00	0.120	67.550	9298.96	12.53	-17.67	-3.39	1705966.68	524226.70	39°56'04.460"N	80°32'55.684"W	17.99	190.854	0.28	-0.06	-135.23
9400.00	0.150	340.660	9398.96	12.43	-17.51	-3.34	1705966.68	524226.86	39°56'04.462"N	80°32'55.683"W	17.82	190.784	0.19	0.03	-86.89
9500.00	0.190	86.690	9498.96	12.39	-17.38	-3.21	1705966.80	524226.99	39°56'04.463"N	80°32'55.682"W	17.67	190.476	0.27	0.04	106.03
9600.00	0.100	143.020	9598.96	12.57	-17.44	-2.99	1705967.02	524226.93	39°56'04.463"N	80°32'55.679"W	17.69	189.746	0.16	-0.09	56.33
9700.00	0.520	133.390	9698.96	13.10	-17.82	-2.61	1705967.40	524226.55	39°56'04.459"N	80°32'55.674"W	18.01	188.342	0.42	0.42	-9.63
9800.00	0.650	123.500	9798.96	14.07	-18.44	-1.81	1705969.20	524226.55	39°56'04.459"N	80°32'55.663"W	18.53	185.605	0.16	0.13	-9.89
9900.00	0.850	108.490	9898.95	15.19	-18.99	-0.63	1705969.38	524225.38	39°56'04.447"N	80°32'55.648"W	19.00	181.910	0.28	0.20	-15.01
10000.00	1.390	105.090	9998.93	16.72	-19.54	1.24	1705901.25	524224.83	39°56'04.442"N	80°32'55.624"W	19.58	176.366	0.54	0.54	-3.40
10100.00	1.640	107.580	10098.89	18.79	-20.29	3.78	1705903.79	524224.08	39°56'04.435"N	80°32'55.592"W	20.64	169.457	0.26	0.25	2.49
10200.00	1.960	108.030	10198.84	21.29	-21.25	6.77	1705906.78	524223.12	39°56'04.426"N	80°32'55.553"W	22.30	162.338	0.32	0.32	0.45
10300.00	2.480	102.650	10298.77	24.25	-22.25	10.50	1705910.51	524222.12	39°56'04.417"N	80°32'55.505"W	24.61	154.734	0.56	0.52	-5.38
10400.00	2.810	96.810	10398.66	27.49	-23.02	15.05	1705915.06	524221.35	39°56'04.409"N	80°32'55.446"W	27.50	146.825	0.43	0.33	-5.84
10500.00	3.640	98.130	10498.50	31.29	-23.76	20.63	1705920.63	524220.61	39°56'04.403"N	80°32'55.375"W	31.46	139.038	0.83	0.83	1.32
10600.00	4.860	92.970	10598.23	36.07	-24.43	28.00	1705928.01	524219.94	39°56'04.397"N	80°32'55.280"W	37.16	131.103	1.28	1.22	-5.16
10700.00	6.000	92.980	10697.78	41.89	-24.92	37.45	1705937.46	524219.45	39°56'04.393"N	80°32'55.159"W	44.98	123.640	1.14	1.14	4.91
10800.00	6.940	97.890	10797.14	49.22	-26.02	48.65	1705948.66	524218.35	39°56'04.384"N	80°32'55.015"W	55.17	118.138	1.09	0.94	4.91
10836.00	7.750	110.480	10832.85	52.70	-27.17	53.08	1705953.09	524217.20	39°56'04.373"N	80°32'54.958"W	59.63	117.104	4.99	2.25	34.97
10939.00	6.850	159.590	10935.10	64.38	-35.36	61.74	1705961.74	524209.01	39°56'04.293"N	80°32'54.845"W	71.15	119.803	5.93	-0.87	47.68
11034.00	10.670	219.460	11029.15	72.23	-47.49	58.12	1705958.12	524196.88	39°56'04.173"N	80°32'54.890"W	75.05	129.254	9.82	4.02	63.02
11129.00	6.270	235.580	11123.11	74.54	-57.22	48.24	1705948.25	524187.16	39°56'04.075"N	80°32'55.015"W	74.84	139.865	5.22	-4.63	16.97
11223.00	2.460	232.070	11216.82	74.59	-61.36	42.41	1705943.02	524183.01	39°56'04.034"N	80°32'55.089"W	74.59	145.357	4.06	-4.05	-3.73
11318.00	4.960	147.800	11311.66	78.80	-66.00	42.99	1705942.00	524176.28	39°56'03.977"N	80°32'55.081"W	78.85	146.955	5.59	2.63	-88.71
11413.00	14.030	132.710	11405.27	94.19	-77.49	53.67	1705953.67	524166.97	39°56'03.877"N	80°32'54.943"W	94.19	145.265	9.82	9.55	-15.88
11508.00	20.400	134.150	11495.97	121.73	-96.77	74.03	1705974.04	524147.61	39°56'03.688"N	80°32'54.678"W	121.84	142.583	6.72	6.71	1.52
11603.00	28.450	142.280	11582.42	160.67	-126.26	99.80	1705999.81	524118.12	39°56'03.399"N	80°32'54.343"W	160.94	141.674	9.16	8.47	8.56
11697.00	36.780	141.340	11661.53	211.21	-166.01	131.14	1706031.14	524078.37	39°56'03.010"N	80°32'53.935"W	211.56	141.694	8.88	8.86	-1.00



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REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot F
Area	Marshall County, WV	Well	MAJ-6F-HSU ST01
Field	Marshall	Wellbore	MAJ-6F-HSU ST01 AWB
Facility	MAJ-6 Pad	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MID

WELLPATH DATA (190 stations)															
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	(°/100ft)	(°/100ft)	(°/100ft)
11792.00	44.410	138.190	11733.62	272.69	-213.07	171.13	1706071.13	524031.31	39°56'02.549"N	80°32'53.414"W	273.28	141.230	8.31	8.03	-3.32
11887.00	52.900	138.810	11796.32	343.49	-266.45	218.32	1706118.32	523977.93	39°56'02.027"N	80°32'52.801"W	344.47	140.670	8.95	8.94	0.65
11981.00	61.360	140.680	11847.29	422.04	-326.69	269.24	1706169.24	523917.70	39°56'01.438"N	80°32'52.138"W	423.34	140.506	9.15	9.00	1.99
12076.00	70.140	141.840	11886.28	508.39	-394.20	323.37	1706223.36	523850.19	39°56'00.777"N	80°32'51.433"W	509.86	140.637	9.31	9.24	1.22
12171.00	78.710	142.730	11911.76	599.71	-466.53	379.29	1706279.28	523777.86	39°56'00.069"N	80°32'50.705"W	601.26	140.889	9.07	9.02	0.94
12265.00	86.120	142.480	11924.16	692.74	-540.51	435.84	1706333.82	523703.89	39°55'59.344"N	80°32'49.968"W	694.33	141.119	7.89	7.88	-0.27
12360.00	88.310	141.570	11928.77	787.49	-615.30	494.22	1706394.20	523629.10	39°55'58.612"N	80°32'49.207"W	789.20	141.228	2.50	2.31	-0.96
12455.00	88.280	139.950	11931.60	882.19	-688.84	554.28	1706454.27	523555.56	39°55'57.892"N	80°32'48.425"W	884.16	141.178	1.70	1.71	-0.03
12550.00	88.370	140.620	11934.38	976.83	-761.89	614.96	1706514.94	523482.52	39°55'57.177"N	80°32'47.635"W	979.10	141.091	0.71	0.69	0.71
12656.00	89.050	141.510	11936.76	1082.55	-844.32	681.56	1706576.90	523400.09	39°55'56.370"N	80°32'46.015"W	1085.08	141.089	1.06	0.64	0.84
12750.00	89.050	142.500	11938.32	1176.41	-918.38	739.41	1706639.39	523326.03	39°55'55.645"N	80°32'45.015"W	1179.05	141.162	1.05	0.00	1.05
12845.00	88.980	143.450	11939.96	1271.33	-994.22	796.61	1706696.58	523250.20	39°55'54.902"N	80°32'45.269"W	1273.99	141.297	1.00	-0.07	1.00
12940.00	89.020	144.530	11943.20	1366.30	-1071.05	852.45	1706752.42	523173.37	39°55'54.149"N	80°32'44.541"W	1368.88	141.484	1.14	0.04	1.14
13034.00	89.050	146.670	11943.20	1460.28	-1148.60	905.55	1706805.52	523095.83	39°55'53.389"N	80°32'43.848"W	1467.63	141.748	2.28	0.03	2.28
13129.00	88.920	147.820	11944.88	1555.19	-1228.48	956.94	1706856.90	523015.95	39°55'52.606"N	80°32'43.176"W	1557.21	142.083	1.22	-0.14	1.21
13224.00	89.050	147.770	11946.56	1650.06	-1308.85	1007.56	1706907.52	522935.58	39°55'51.817"N	80°32'42.514"W	1651.75	142.411	0.15	0.14	-0.05
13319.00	89.020	147.220	11948.16	1744.96	-1388.95	1058.60	1706958.57	522855.48	39°55'51.032"N	80°32'41.847"W	1746.38	142.687	0.58	-0.03	-0.58
13414.00	88.990	146.690	11949.81	1839.89	-1468.57	1110.40	1707010.36	522775.86	39°55'50.251"N	80°32'41.170"W	1841.11	142.907	0.56	-0.03	-0.56
13508.00	89.010	148.820	11951.45	1933.76	-1548.06	1160.54	1707060.50	522696.38	39°55'49.471"N	80°32'40.515"W	1934.77	143.142	2.27	0.02	2.27
13603.00	88.890	147.380	11953.19	2028.60	-1628.70	1210.73	1707110.69	522615.75	39°55'48.680"N	80°32'39.859"W	2029.42	143.374	1.52	-0.13	-1.52
13698.00	88.950	145.830	11954.98	2123.54	-1708.00	1263.01	1707162.96	522536.45	39°55'47.902"N	80°32'39.176"W	2124.25	143.518	1.63	0.06	-1.63
13792.00	88.960	144.660	11956.71	2217.52	-1785.21	1316.59	1707216.54	522459.24	39°55'47.145"N	80°32'38.477"W	2218.19	143.591	1.24	0.00	-1.24
13887.00	89.080	144.720	11958.34	2312.51	-1862.72	1371.49	1707271.44	522381.73	39°55'46.386"N	80°32'37.760"W	2313.16	143.636	0.15	0.14	0.06
13982.00	89.110	145.760	11959.84	2407.49	-1940.76	1425.65	1707325.59	522303.70	39°55'45.621"N	80°32'37.054"W	2408.11	143.700	1.10	0.03	1.09
14077.00	89.020	145.930	11961.39	2502.47	-2019.36	1478.98	1707378.92	522225.10	39°55'44.850"N	80°32'36.358"W	2503.04	143.781	0.20	-0.09	0.18
14171.00	89.020	145.240	11963.00	2596.45	-2096.96	1532.09	1707432.03	522147.57	39°55'44.080"N	80°32'35.664"W	2596.98	143.846	0.73	0.00	-0.73
14266.00	89.020	144.360	11964.62	2691.44	-2174.52	1586.85	1707486.78	522069.96	39°55'43.329"N	80°32'34.950"W	2691.95	143.880	0.93	0.00	-0.93
14361.00	89.020	144.880	11966.25	2786.42	-2251.96	1641.84	1707541.78	521992.51	39°55'42.570"N	80°32'34.232"W	2786.93	143.905	0.55	0.00	0.55
14456.00	88.920	145.320	11967.96	2881.41	-2329.86	1696.19	1707596.12	521914.62	39°55'41.807"N	80°32'33.523"W	2881.89	143.945	0.47	-0.11	0.46
14550.00	89.260	146.630	11969.45	2975.38	-2407.76	1748.78	1707648.71	521836.73	39°55'41.043"N	80°32'32.837"W	2975.82	144.009	1.44	0.36	1.39



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REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot F
Area	Marshall County, WV	Well	MAJ-6F-HSU ST01
Field	Marshall	Wellbore	MAJ-6F-HSU ST01 AWB
Facility	MAJ-6 Pad	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD

WELLPATH DATA (190 stations)

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
ft	°	°	ft	ft	ft	ft	US ft	US ft			ft	°	ft/100ft	ft/100ft	ft/100ft
14645.00	89.020	145.340	11970.88	3070.35	-2486.49	1801.92	1707701.84	521758.00	39°55'40.271"N	80°32'32.143"W	3070.76	144.070	1.38	-0.25	-1.36
14739.00	88.980	144.290	11972.52	3164.33	-2563.30	1856.07	1707755.99	521681.19	39°55'39.518"N	80°32'31.436"W	3164.73	144.092	1.12	-0.04	-1.12
14833.00	88.980	143.810	11974.19	3258.31	-2639.39	1911.25	1707811.17	521605.11	39°55'38.773"N	80°32'30.717"W	3258.72	144.091	0.51	0.00	-0.51
14928.00	89.050	144.510	11975.82	3353.28	-2716.39	1966.86	1707866.78	521528.11	39°55'38.018"N	80°32'29.992"W	3353.70	144.093	0.74	0.07	0.74
15022.00	88.950	143.780	11977.46	3447.26	-2792.56	2021.91	1707927.83	521451.94	39°55'37.272"N	80°32'29.214"W	3447.67	144.094	0.55	-0.11	-0.78
15116.00	89.200	143.330	11978.98	3541.21	-2868.17	2077.91	1707977.66	521376.33	39°55'36.531"N	80°32'28.546"W	3541.67	144.080	0.55	0.27	-0.48
15211.00	88.990	143.160	11980.48	3636.16	-2944.27	2134.59	1708034.50	521300.23	39°55'35.785"N	80°32'27.805"W	3636.65	144.058	0.28	-0.22	-0.18
15306.00	89.050	143.690	11982.11	3731.11	-3020.55	2191.19	1708091.09	521223.96	39°55'35.038"N	80°32'27.067"W	3731.63	144.042	0.56	0.06	0.56
15399.00	88.950	145.300	11983.73	3824.09	-3096.25	2245.19	1708145.09	521148.27	39°55'34.296"N	80°32'26.363"W	3824.61	144.053	1.73	-0.11	1.73
15494.00	89.080	146.980	11985.36	3919.05	-3175.12	2298.11	1708198.01	521069.40	39°55'33.523"N	80°32'25.672"W	3919.53	144.103	1.77	0.14	1.77
15588.00	88.990	148.100	11986.95	4012.94	-3254.42	2348.55	1708248.45	520990.10	39°55'32.745"N	80°32'25.013"W	4013.35	144.184	1.20	-0.10	1.19
15683.00	89.020	148.080	11988.60	4107.79	-3335.06	2398.76	1708298.66	520909.47	39°55'31.954"N	80°32'24.356"W	4108.12	144.274	0.04	0.03	-0.02
15777.00	88.950	148.830	11990.26	4201.60	-3415.15	2447.93	1708347.83	520829.38	39°55'31.168"N	80°32'23.713"W	4201.86	144.368	0.80	-0.07	0.80
15871.00	89.020	148.320	11991.93	4295.41	-3495.35	2496.93	1708396.83	520749.18	39°55'30.381"N	80°32'23.073"W	4295.60	144.460	0.55	0.07	-0.54
15965.00	89.020	145.690	11993.53	4389.33	-3574.17	2548.11	1708448.00	520670.36	39°55'29.608"N	80°32'22.404"W	4389.48	144.514	2.80	0.00	-2.80
16060.00	89.050	142.950	11995.13	4484.30	-3651.32	2603.51	1708503.39	520593.22	39°55'28.852"N	80°32'21.682"W	4484.46	144.510	2.88	0.03	-2.88
16154.00	89.050	143.120	11996.69	4578.23	-3726.42	2660.02	1708559.91	520518.13	39°55'28.116"N	80°32'20.945"W	4578.42	144.480	0.18	0.00	0.18
16248.00	89.020	142.160	11998.28	4672.13	-3801.12	2717.06	1708616.94	520443.43	39°55'27.385"N	80°32'20.202"W	4672.36	144.443	1.02	-0.03	-1.02
16342.00	89.050	141.580	11999.86	4765.98	-3875.05	2775.09	1708674.97	520369.50	39°55'26.661"N	80°32'19.446"W	4766.25	144.392	0.62	0.03	-0.62
16437.00	89.020	143.370	12001.46	4860.87	-3950.38	2832.94	1708732.82	520294.17	39°55'25.923"N	80°32'18.693"W	4861.18	144.355	1.88	-0.03	1.88
16531.00	88.980	144.930	12003.10	4954.84	-4026.56	2887.98	1708787.86	520218.00	39°55'25.176"N	80°32'17.975"W	4955.16	144.351	1.66	-0.04	1.66
16626.00	89.020	145.650	12004.76	5049.83	-4104.64	2942.77	1708841.94	520139.92	39°55'24.411"N	80°32'17.269"W	5050.13	144.368	0.76	0.04	0.76
16721.00	88.980	145.500	12006.42	5144.81	-4182.99	2995.57	1708895.64	520061.57	39°55'23.643"N	80°32'16.568"W	5145.10	144.391	0.16	-0.04	-0.16
16815.00	89.140	146.700	12007.96	5238.78	-4261.00	3048.19	1708948.06	519983.57	39°55'22.878"N	80°32'15.884"W	5239.04	144.421	1.29	0.17	1.28
16909.00	89.080	146.500	12009.42	5332.73	-4339.47	3099.93	1708999.79	519905.11	39°55'22.109"N	80°32'15.208"W	5332.97	144.460	0.22	-0.06	-0.21
17004.00	89.080	146.820	12010.94	5427.68	-4418.82	3152.13	1709052.00	519828.76	39°55'21.339"N	80°32'14.554"W	5427.88	144.498	0.34	0.00	0.34
17098.00	88.950	146.700	12012.56	5521.62	-4497.73	3203.63	1709103.51	519747.15	39°55'20.559"N	80°32'13.854"W	5521.80	144.537	0.19	-0.14	-0.13
17193.00	88.980	146.560	12014.27	5616.56	-4576.75	3255.95	1709155.76	519667.83	39°55'19.781"N	80°32'13.171"W	5616.72	144.572	0.15	0.03	-0.15
17287.00	89.140	147.420	12015.82	5710.49	-4655.57	3307.10	1709206.96	519588.02	39°55'19.008"N	80°32'12.503"W	5710.62	144.612	0.93	0.17	0.91
17382.00	89.020	145.620	12017.34	5805.44	-4734.79	3359.50	1709259.35	519509.80	39°55'18.232"N	80°32'11.818"W	5805.56	144.643	1.90	-0.13	-1.89



Actual Wellpath Report

MAJ-6F-HSU ST01 AWP Proj: 18257'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot F
Area	Marshall County, WV	Well	MAJ-6F-HSU ST01
Field	Marshall	Wellbore	MAJ-6F-HSU ST01 AWP
Facility	MAJ-6 Pad	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD

WELLPATH DATA (190 stations)															
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]	[°]	[°]	[ft]	[°]	[ft/100ft]	[ft/100ft]	[°/100ft]
17477.00	89.080	144.090	12018.92	5900.43	-4812.46	3414.17	1709314.03	519432.13	39°55'17.470"N	80°32'11.105"W	5900.54	144.646	1.61	0.06	-1.61
17571.00	89.140	142.320	12020.38	5994.37	-4887.72	3470.47	1709370.32	519356.88	39°55'16.733"N	80°32'10.372"W	5994.50	144.624	1.88	0.06	-1.88
17666.00	89.050	142.190	12021.88	6089.25	-4962.83	3528.61	1709428.46	519281.77	39°55'15.997"N	80°32'09.614"W	6089.40	144.587	0.17	-0.09	-0.14
17761.00	89.170	142.330	12023.35	6184.13	-5037.95	3586.75	1709486.60	519206.65	39°55'15.262"N	80°32'08.857"W	6184.32	144.551	0.19	0.13	0.15
17855.00	88.800	140.290	12025.02	6277.91	-5111.31	3645.50	1709545.34	519133.30	39°55'14.543"N	80°32'08.092"W	6278.15	144.503	2.21	-0.39	-2.17
17950.00	89.020	143.140	12026.83	6372.73	-5185.85	3704.34	1709604.18	519058.76	39°55'13.813"N	80°32'07.326"W	6373.01	144.461	3.01	0.23	3.00
18045.00	89.020	147.500	12028.45	6467.69	-5263.95	3758.38	1709658.21	518980.67	39°55'13.048"N	80°32'06.621"W	6467.96	144.474	4.59	0.00	4.59
18140.00	89.080	147.420	12030.03	6562.59	-5344.02	3809.47	1709709.30	518900.60	39°55'12.262"N	80°32'05.954"W	6562.82	144.517	0.11	0.06	-0.08
18232.00	89.020	146.820	12031.55	6654.51	-5421.27	3859.41	1709759.24	518823.35	39°55'11.505"N	80°32'05.301"W	6654.72	144.553	0.66	-0.07	-0.65
18257.00	89.020	146.820	12031.98	6679.50	-5442.19	3873.09	1709772.92	518802.43	39°55'11.299"N	80°32'05.123"W	6679.69	144.561	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: MAJ-6F-HSU ST01 AWP

Ref Wellpath: MAJ-6F-HSU ST01 AWP Proj: 18257'

String/Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start E/W	End N/S	End E/W
	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]
36in Open Hole	29.00	94.00	65.00	29.00	94.00	0.00	0.00	-0.12	0.04
30in Conductor	29.00	94.00	65.00	29.00	94.00	0.00	0.00	-0.12	0.04
24in Open Hole	94.00	895.00	801.00	94.00	895.00	-0.12	0.04	-0.14	1.49
18.625in Casing Surface	29.00	895.00	866.00	29.00	895.00	0.00	0.00	-0.14	1.49
17.5in Open Hole	895.00	3208.00	2313.00	895.00	3207.78	-0.14	1.49	-21.92	18.08
13.375in Casing Intermediate	29.00	3208.00	3179.00	29.00	3207.78	0.00	0.00	-21.92	18.08
12.25in Open Hole	3208.00	10836.00	7628.00	3207.78	10832.85	-21.92	18.08	-27.17	53.08
9.625in Casing Intermediate	29.00	10836.00	10807.00	29.00	10832.85	0.00	0.00	-27.17	53.08
12.25in Open Hole	10836.00	10936.00	100.00	10832.85	10932.13	-27.17	53.08	-35.03	61.61
9.625in Casing Intermediate	10836.00	10923.00	87.00	10832.85	10919.21	-27.17	53.08	-33.65	60.97
8.5in Open Hole	10936.00	18257.00	7321.00	10932.13	12031.98	-35.03	61.61	-5442.19	3873.09
5.5in Casing Production	29.00	18257.00	18228.00	29.00	12031.98	0.00	0.00	-5442.19	3873.09



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REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot F
Area	Marshall County, WV	Well	MAJ-6F-HSU ST01
Field	Marshall	Wellbore	MAJ-6F-HSU ST01 AWB
Facility	MAJ-6 Pad	Sidetrack from	MAJ-6F-HSU Pilot AWP Proj: 12194' at 10836.00 MD

TARGETS	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape
MAJ-6F-HSU BHL Rev-5	11926.00	-5438.34	3876.91	1709776.74	518806.28	39°55'11.338"N	80°32'05.074"W	point
MAJ-6F-HSU LP Rev-7	11926.00	-555.67	451.96	1706351.95	523688.73	39°55'59.196"N	80°32'49.758"W	point
MAJ-6 Lease Lines	12028.23	18.32	-35.52	1705864.49	524282.69	39°56'04.812"N	80°32'56.102"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: MAJ-6F-HSU ST01 AWB Ref Wellpath: MAJ-6F-HSU ST01 AWP Proj: 18257'			
Start MD	End MD	Positional Uncertainty Model	Log Name/Comment
29.00	10836.00	VESS1 GyroFlex v4	03 VES Gyro <12-1/4" > (100'-10836')
10836.00	18232.00	BH1 Auto Trak Curve (Short)	05 BH AT Curve <8-1/2" > (10836'-(10939'-18232'))
18232.00	18257.00	Blind Drilling (Std)	Projection to bit



Actual Wellpath Report

MAJ-6F-HSU ST01 AWP Proji: 18257'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot F
Area	Marshall County, WV	Well	MAJ-6F-HSU ST01
Field	Marshall	Wellbore	MAJ-6F-HSU ST01 AWB
Facility	MAJ-6 Pad	Sidetrack from	MAJ-6F-HSU Pilot AWP Proji: 12194' at 10836.00 MD

COMMENTS

Wellpath general comments
API: 47-051-02008-0001
BH Job #: 109526039-A
Rig: Patterson 563
Duration: 3/19/2019-3/26/2019
VES Gyro <12-1/4"> (100-10836')
BH AT Curve <8-1/2"> (10836')(10939-18232)
Projected MD at TD: 18257'