



CNX GAS COMPANY, LLC

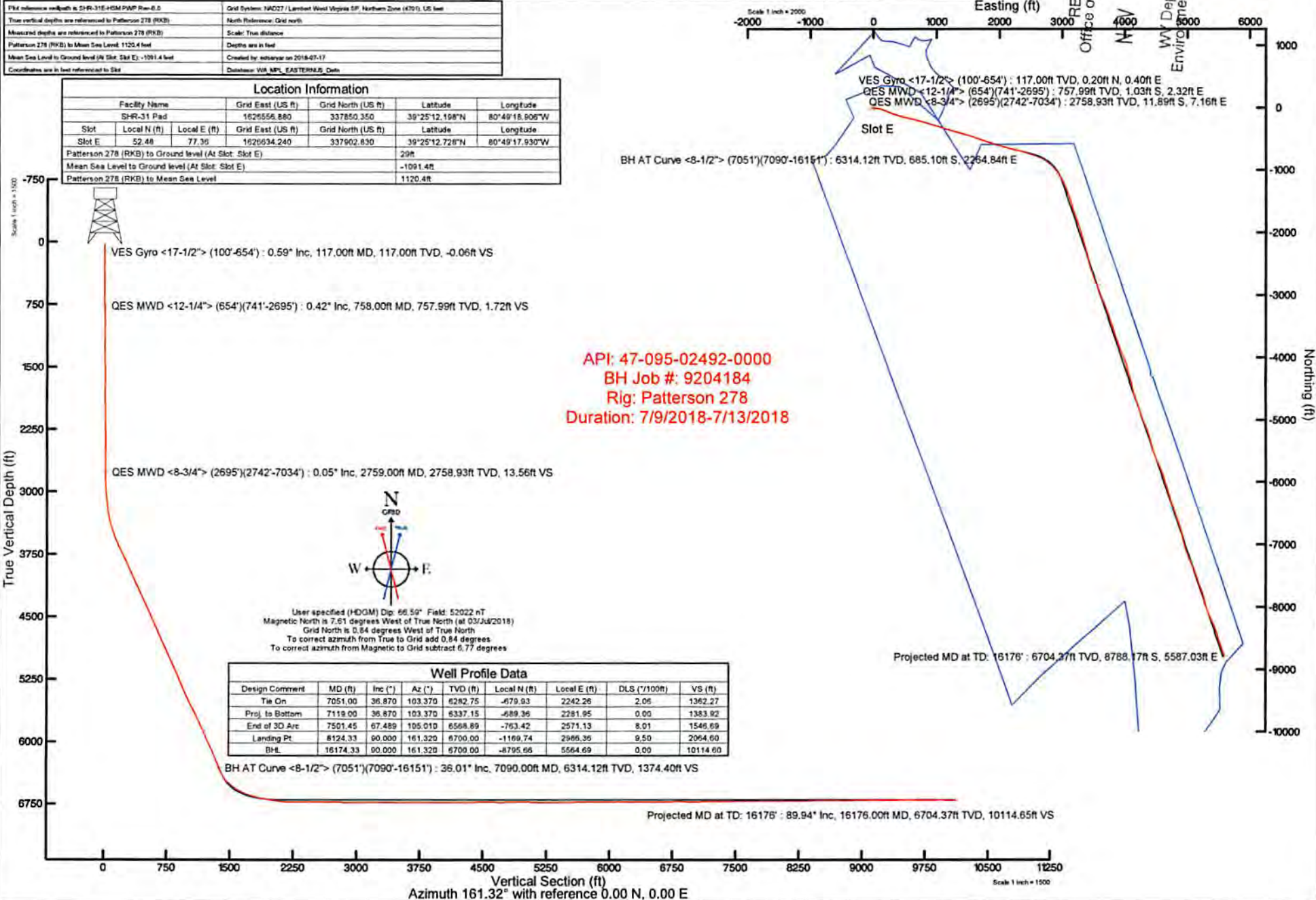
Location: Tyler County, WV
 Field: Tyler
 Facility: SHR-31 Pad

Slot: Slot E
 Well: SHR-31E-HSM
 Wellbore: SHR-31E-HSM PWB

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 WV Department of Environmental Protection
 HAKER HUGHES
 a GE company

File reference wellbore is SHR-31E-HSM PWB Rev-0.0	Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (470), US feet
True vertical depths are referenced to Patterson 278 (RKB)	North Reference: Grid north
Measured depths are referenced to Patterson 278 (RKB)	Scale: True distance
Patterson 278 (RKB) to Mean Sea Level: 1125.4 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot Slot E): -1091.4 feet	Created by: schreyer on 2018-07-17
Coordinates are in feet referenced to Slot	Database: VBA MPL EASTERNUS Data

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SHR-31 Pad	1626556.880	337850.350	39°25'12.198"N	80°49'16.906"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot E	52.48	77.36	1626634.240	337902.830	39°25'12.728"N
Patterson 278 (RKB) to Ground level (At Slot Slot E)			29ft		
Mean Sea Level to Ground level (At Slot Slot E)			-1091.4ft		
Patterson 278 (RKB) to Mean Sea Level			1120.4ft		



API: 47-095-02492-0000
 BH Job #: 9204184
 Rig: Patterson 278
 Duration: 7/9/2018-7/13/2018



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 1 of 10

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department of
Environmental Protection

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

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	0.999947	Report Generated	17/Jul/2018 at 11:36
Convergence at slot	0.84° West	Database/Source file	WA_MPL_EASTERNUS_Defn/SHR-31E-HSM_AWP_Proj_16176_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	52.48	77.36	1626634.24	337902.83	39°25'12.728"N	80°49'17.930"W
Facility Reference Pt			1626556.88	337850.35	39°25'12.198"N	80°49'18.906"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 278 (RKB) to Facility Vertical Datum	1120.40ft
Horizontal Reference Pt	Slot	Patterson 278 (RKB) to Mean Sea Level	1120.40ft
Vertical Reference Pt	Patterson 278 (RKB)	Patterson 278 (RKB) to Ground Level at Slot (Slot E)	29.00ft
MD Reference Pt	Patterson 278 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.32°



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176

Page 2 of 10



RECEIVED
Office of Oil and Gas
NOV 7 2018
Environmental Protection
Department of



Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

WELLPATH DATA (184 stations) † = interpolated/extrapolated station															
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Buidl Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)	(ft)	(ft)	(ft)	(ft)	(/100ft)	(/100ft)	(/100ft)
0.00	0.00	63.100	0.00	0.00	0.00	0.00	1626634.24	337902.83	39°25'12.728"N	80°49'17.930"W	0.00	0.00	0.00	0.00	0.00
29.00	0.00	63.100	29.00	0.00	0.00	0.00	1626634.24	337902.83	39°25'12.728"N	80°49'17.930"W	0.00	0.00	0.00	0.00	0.00
117.00	0.590	63.100	117.00	-0.06	0.20	0.40	1626634.64	337903.03	39°25'12.730"N	80°49'17.925"W	0.45	0.67	0.67	0.67	71.70
217.00	0.240	17.740	217.00	-0.31	0.64	0.93	1626635.17	337903.47	39°25'12.735"N	80°49'17.919"W	1.13	0.45	-0.35	-0.45	-45.36
317.00	0.390	99.880	316.99	-0.31	0.78	1.33	1626635.57	337903.61	39°25'12.736"N	80°49'17.913"W	1.54	0.43	0.15	-0.15	82.14
417.00	0.380	112.900	416.99	0.07	0.59	1.97	1626636.21	337903.42	39°25'12.734"N	80°49'17.905"W	2.05	0.09	-0.01	-0.01	13.02
517.00	0.160	215.410	516.99	0.37	0.35	2.19	1626636.43	337903.18	39°25'12.732"N	80°49'17.902"W	2.22	0.44	-0.22	-0.22	102.51
617.00	0.420	187.500	616.99	0.78	-0.13	2.06	1626636.30	337902.70	39°25'12.727"N	80°49'17.904"W	2.07	0.29	0.26	0.26	-27.91
671.00	0.360	154.530	670.99	1.13	-0.48	2.11	1626636.35	337902.35	39°25'12.724"N	80°49'17.903"W	2.16	0.42	-0.11	-0.11	-61.06
758.00	0.420	163.270	757.99	1.72	-1.03	2.32	1626636.56	337901.80	39°25'12.718"N	80°49'17.901"W	2.54	0.10	0.07	0.07	10.05
843.00	0.280	177.330	842.99	2.23	-1.50	2.52	1626636.76	337901.33	39°25'12.714"N	80°49'17.898"W	2.94	0.20	-0.16	-0.16	-18.75
927.00	0.380	170.480	926.98	2.71	-1.95	2.68	1626636.92	337900.88	39°25'12.709"N	80°49'17.896"W	3.31	0.20	0.12	0.12	27.56
1014.00	0.230	150.640	1013.98	3.16	-2.39	2.81	1626637.05	337900.44	39°25'12.705"N	80°49'17.894"W	3.69	0.21	-0.17	-0.17	-22.80
1100.00	0.420	146.610	1099.98	3.64	-2.80	3.07	1626637.31	337900.03	39°25'12.701"N	80°49'17.891"W	4.16	0.22	0.22	0.22	-4.69
1184.00	0.330	149.550	1183.98	4.17	-3.27	3.36	1626637.60	337899.56	39°25'12.697"N	80°49'17.887"W	4.69	0.11	-0.11	-0.11	3.50
1269.00	0.460	148.580	1268.98	4.74	-3.77	3.66	1626637.90	337899.06	39°25'12.692"N	80°49'17.883"W	5.26	0.15	0.15	0.15	-1.14
1354.00	0.440	176.300	1353.98	5.39	-4.39	3.86	1626638.10	337898.44	39°25'12.686"N	80°49'17.880"W	5.84	0.25	-0.02	-0.02	32.61
1438.00	0.580	166.940	1437.97	6.13	-5.12	3.98	1626638.22	337897.71	39°25'12.678"N	80°49'17.879"W	6.49	0.19	0.17	0.17	-11.14
1526.00	0.640	166.670	1525.97	7.06	-6.03	4.19	1626638.43	337896.80	39°25'12.669"N	80°49'17.876"W	7.35	0.07	0.07	0.07	-0.31
1612.00	0.520	164.050	1611.96	7.93	-6.88	4.41	1626638.65	337895.95	39°25'12.661"N	80°49'17.873"W	8.17	0.14	-0.14	-0.14	-3.05
1697.00	0.610	165.460	1696.96	8.76	-7.69	4.63	1626638.87	337895.14	39°25'12.653"N	80°49'17.870"W	8.97	0.11	0.11	0.11	1.66
1781.00	0.510	160.400	1780.95	9.58	-8.47	4.87	1626639.11	337894.36	39°25'12.645"N	80°49'17.867"W	9.77	0.13	-0.12	-0.12	-6.02
1865.00	0.810	151.470	1864.95	10.54	-9.34	5.28	1626639.52	337893.49	39°25'12.637"N	80°49'17.861"W	10.73	0.38	0.36	0.36	-10.63
1949.00	0.700	148.280	1948.94	11.63	-10.30	5.83	1626640.07	337892.53	39°25'12.627"N	80°49'17.854"W	11.84	0.14	-0.13	-0.13	-3.80
2034.00	0.340	149.340	2033.94	12.38	-10.96	6.23	1626640.47	337891.87	39°25'12.621"N	80°49'17.849"W	12.61	0.42	-0.42	-0.42	1.25
2121.00	0.250	146.360	2120.94	12.82	-11.34	6.47	1626640.71	337891.49	39°25'12.617"N	80°49'17.846"W	13.06	0.10	-0.10	-0.10	-3.43
2204.00	0.290	153.870	2203.94	13.20	-11.68	6.66	1626640.90	337891.15	39°25'12.614"N	80°49'17.843"W	13.45	0.06	0.05	0.05	9.05
2288.00	0.170	107.270	2287.94	13.48	-11.91	6.87	1626641.11	337890.92	39°25'12.612"N	80°49'17.840"W	13.75	0.25	-0.14	-0.14	-55.48
2373.00	0.140	130.690	2372.93	13.65	-12.01	7.07	1626641.31	337890.82	39°25'12.611"N	80°49'17.838"W	13.94	0.08	-0.04	-0.04	27.55
2457.00	0.050	312.220	2456.93	13.70	-12.06	7.12	1626641.36	337890.77	39°25'12.610"N	80°49'17.837"W	14.00	0.23	-0.11	-0.11	-212.46



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 3 of 10

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

WELLPATH DATA (184 stations)															
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2543.00	0.160	8.670	2542.93	13.56	-11.91	7.11	1626641.35	337890.92	39°25'12.612"N	80°49'17.837"W	13.87	149.152	0.16	0.13	65.64
2629.00	0.070	251.320	2628.93	13.46	-11.81	7.08	1626641.32	337891.02	39°25'12.613"N	80°49'17.838"W	13.77	149.048	0.23	-0.10	-136.45
2712.00	0.110	123.390	2711.93	13.52	-11.87	7.10	1626641.34	337890.96	39°25'12.612"N	80°49'17.838"W	13.83	149.110	0.20	0.05	-154.13
2759.00	0.050	83.570	2758.93	13.56	-11.89	7.16	1626641.40	337890.94	39°25'12.612"N	80°49'17.837"W	13.88	148.952	0.17	-0.13	-84.72
2844.00	1.860	119.710	2843.92	14.60	-12.57	8.39	1626642.63	337890.26	39°25'12.605"N	80°49'17.821"W	15.12	146.269	2.14	2.13	42.52
2930.00	5.790	108.260	2929.71	18.25	-14.62	13.73	1626647.97	337888.21	39°25'12.586"N	80°49'17.753"W	20.06	136.809	4.63	4.57	-13.31
3015.00	9.480	102.600	3013.94	24.46	-17.50	24.64	1626658.87	337885.34	39°25'12.559"N	80°49'17.613"W	30.22	125.382	4.43	4.34	-6.66
3101.00	13.290	97.300	3098.24	32.47	-20.30	41.36	1626675.60	337882.53	39°25'12.534"N	80°49'17.400"W	46.07	116.141	4.59	4.43	-6.16
3187.00	15.860	94.910	3181.47	41.51	-22.56	62.87	1626697.11	337880.27	39°25'12.515"N	80°49'17.125"W	66.80	109.738	3.07	2.99	-2.78
3270.00	17.880	97.480	3260.89	51.67	-25.19	86.81	1626721.05	337877.64	39°25'12.492"N	80°49'16.819"W	90.39	106.181	2.59	2.43	3.10
3355.00	20.750	106.790	3341.12	66.16	-31.24	114.18	1626748.41	337871.59	39°25'12.436"N	80°49'16.470"W	118.37	105.303	4.94	3.38	10.95
3440.00	24.200	111.830	3419.66	86.23	-42.07	144.78	1626779.01	337860.76	39°25'12.334"N	80°49'16.078"W	150.77	106.204	4.65	4.06	5.93
3525.00	27.520	112.500	3496.13	110.48	-56.07	179.10	1626813.33	337846.76	39°25'12.200"N	80°49'15.638"W	187.67	107.383	3.92	3.91	0.79
3610.00	31.260	112.440	3570.18	137.92	-72.01	217.64	1626851.87	337830.83	39°25'12.048"N	80°49'15.144"W	229.24	108.307	4.40	4.40	-0.07
3695.00	34.320	112.520	3641.63	168.22	-89.61	260.17	1626894.40	337813.23	39°25'11.881"N	80°49'14.599"W	275.17	109.005	3.60	3.60	0.09
3778.00	37.840	110.230	3708.70	199.63	-107.38	305.69	1626939.91	337795.46	39°25'11.712"N	80°49'14.015"W	324.00	109.355	4.54	4.24	-2.76
3863.00	38.990	107.160	3775.31	231.67	-124.29	355.71	1626989.93	337778.55	39°25'11.552"N	80°49'13.375"W	376.80	109.260	2.62	1.35	-3.61
3947.00	39.460	104.810	3840.38	261.87	-138.91	406.77	1627040.99	337763.93	39°25'11.415"N	80°49'12.722"W	429.83	108.855	1.86	0.56	-2.80
4031.00	39.810	103.690	3905.07	291.00	-152.10	458.70	1627092.92	337750.74	39°25'11.292"N	80°49'12.058"W	483.26	108.344	0.95	0.42	-1.33
4118.00	39.680	104.040	3971.97	320.92	-165.42	512.71	1627146.92	337737.41	39°25'11.168"N	80°49'11.367"W	538.73	107.882	0.30	-0.15	0.40
4203.00	39.940	103.270	4037.26	350.03	-178.27	565.59	1627199.80	337724.57	39°25'11.049"N	80°49'10.691"W	593.02	107.495	0.66	0.31	-0.91
4286.00	39.910	104.280	4100.92	378.61	-190.95	617.32	1627251.53	337711.89	39°25'10.931"N	80°49'10.029"W	646.18	107.188	0.78	-0.04	1.22
4372.00	40.960	105.720	4166.37	409.55	-205.40	671.19	1627305.40	337697.44	39°25'10.796"N	80°49'09.340"W	701.92	107.015	1.63	1.22	1.67
4459.00	39.340	105.100	4232.87	440.99	-220.31	725.27	1627359.47	337682.53	39°25'10.657"N	80°49'08.649"W	757.99	106.897	1.92	-1.86	-0.71
4545.00	38.840	105.380	4299.62	471.25	-234.56	777.59	1627411.79	337668.28	39°25'10.523"N	80°49'07.979"W	812.20	106.786	0.62	-0.58	0.33
4631.00	38.090	106.850	4366.96	501.77	-249.40	828.98	1627463.17	337653.44	39°25'10.384"N	80°49'07.322"W	865.68	106.744	1.38	-0.87	1.71
4716.00	37.730	107.490	4434.02	532.36	-264.82	878.88	1627513.07	337638.03	39°25'10.239"N	80°49'06.683"W	917.91	106.768	0.63	-0.42	0.75
4800.00	37.840	107.110	4500.41	562.59	-280.12	928.02	1627562.21	337622.72	39°25'10.095"N	80°49'06.054"W	969.37	106.797	0.31	0.13	-0.45
4886.00	36.980	107.030	4568.72	593.12	-295.46	977.96	1627612.15	337607.39	39°25'09.950"N	80°49'05.415"W	1021.62	106.811	1.00	-1.00	-0.09
4971.00	36.490	106.870	4636.84	622.74	-310.28	1026.59	1627660.78	337592.56	39°25'09.811"N	80°49'04.793"W	1072.46	106.817	0.59	-0.58	-0.19



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 4 of 10

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

WELLPATH DATA (184 stations)															
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Bulld Rate (°/100ft)	Turn Rate (°/100ft)
5056.00	36.980	107.300	4704.96	652.45	-325.22	1075.19	1627709.37	337577.63	39°25'09.670"N	80°49'04.171"W	1123.30	106.829	0.65	0.58	0.51
5142.00	37.720	107.130	4773.32	683.04	-340.66	1125.02	1627759.20	337562.19	39°25'09.525"N	80°49'03.533"W	1175.47	106.846	0.87	0.86	-0.20
5227.00	37.960	107.350	4840.45	713.63	-356.11	1174.83	1627809.00	337546.73	39°25'09.380"N	80°49'02.895"W	1227.61	106.863	0.32	0.28	0.26
5311.00	38.150	106.780	4906.59	743.88	-371.31	1224.32	1627858.50	337531.54	39°25'09.237"N	80°49'02.262"W	1279.39	106.871	0.48	0.23	-0.68
5394.00	37.880	106.140	4971.98	773.30	-385.79	1273.35	1627907.52	337517.06	39°25'09.101"N	80°49'01.635"W	1330.51	106.856	0.58	-0.33	-0.77
5478.00	37.830	105.960	5038.31	802.67	-400.05	1322.88	1627957.05	337502.81	39°25'08.967"N	80°49'01.001"W	1382.05	106.826	0.14	-0.06	-0.21
5564.00	37.990	106.750	5106.16	833.00	-414.92	1373.59	1628007.75	337487.93	39°25'08.827"N	80°49'00.352"W	1434.89	106.808	0.59	0.19	0.92
5647.00	37.540	106.650	5171.77	862.43	-429.53	1422.27	1628056.43	337473.32	39°25'08.690"N	80°48'59.729"W	1485.72	106.805	0.55	-0.54	-0.12
5732.00	35.400	105.550	5240.13	891.26	-443.55	1470.81	1628104.97	337459.30	39°25'08.558"N	80°48'59.108"W	1536.23	106.782	2.63	-2.52	-1.29
5816.00	36.000	106.600	5308.34	919.21	-457.13	1517.91	1628152.06	337445.73	39°25'08.431"N	80°48'58.506"W	1585.25	106.760	1.02	0.71	1.25
5903.00	35.110	108.580	5379.12	949.12	-472.41	1566.13	1628200.28	337430.45	39°25'08.287"N	80°48'57.888"W	1635.82	106.785	1.67	-1.02	2.28
5989.00	36.480	111.140	5448.88	980.47	-489.51	1613.42	1628247.57	337413.35	39°25'08.125"N	80°48'57.283"W	1686.04	106.878	2.36	1.59	2.98
6073.00	38.390	110.440	5515.58	1012.92	-507.62	1661.15	1628295.30	337395.23	39°25'07.953"N	80°48'56.671"W	1736.98	106.992	2.33	2.27	-0.83
6157.00	39.610	108.590	5580.86	1045.60	-525.27	1710.98	1628345.12	337377.59	39°25'07.786"N	80°48'56.033"W	1789.79	107.066	2.01	1.45	-2.20
6242.00	39.590	107.920	5646.35	1078.15	-542.24	1762.43	1628396.57	337360.62	39°25'07.625"N	80°48'55.374"W	1843.96	107.101	0.50	-0.02	-0.79
6326.00	39.060	107.580	5711.33	1109.77	-558.47	1813.13	1628447.27	337344.39	39°25'07.472"N	80°48'54.725"W	1897.19	107.120	0.68	-0.63	-0.40
6411.00	37.750	107.360	5777.94	1140.91	-574.32	1863.49	1628497.63	337328.54	39°25'07.323"N	80°48'54.081"W	1949.99	107.129	1.55	-1.54	-0.26
6497.00	36.550	106.690	5846.48	1171.23	-589.53	1913.15	1628547.29	337313.33	39°25'07.180"N	80°48'53.445"W	2001.92	107.127	1.47	-1.40	-0.78
6581.00	36.870	106.510	5913.83	1200.23	-603.88	1961.27	1628595.40	337298.98	39°25'07.045"N	80°48'52.829"W	2052.13	107.114	0.40	0.38	-0.21
6666.00	39.130	106.180	5980.80	1230.26	-618.60	2011.49	1628645.61	337284.26	39°25'06.907"N	80°48'52.187"W	2104.46	107.094	2.67	2.66	-0.39
6751.00	39.200	105.820	6046.71	1260.80	-633.40	2063.09	1628697.21	337269.47	39°25'06.768"N	80°48'51.527"W	2158.13	107.067	0.28	0.08	-0.42
6838.00	38.530	105.200	6114.45	1291.48	-648.00	2115.69	1628749.81	337254.87	39°25'06.631"N	80°48'50.854"W	2212.70	107.029	0.89	-0.77	-0.71
6926.00	37.690	104.260	6183.69	1321.39	-661.81	2168.21	1628802.33	337241.06	39°25'06.502"N	80°48'50.182"W	2266.97	106.974	1.16	-0.95	-1.07
7008.00	37.750	103.540	6248.55	1348.40	-673.86	2216.91	1628851.03	337229.00	39°25'06.390"N	80°48'49.559"W	2317.06	106.907	0.54	0.07	-0.88
7051.00	36.870	103.370	6282.75	1362.27	-679.93	2242.26	1628876.38	337222.94	39°25'06.334"N	80°48'49.235"W	2343.08	106.869	2.06	-2.05	-0.40
7090.00	36.010	102.420	6314.12	1374.40	-685.10	2264.84	1628898.95	337217.77	39°25'06.286"N	80°48'48.947"W	2366.19	106.830	2.64	-2.21	-2.44
7162.00	40.140	103.270	6370.79	1397.62	-694.98	2308.12	1628942.23	337207.89	39°25'06.195"N	80°48'48.393"W	2410.48	106.757	5.78	5.74	1.18
7256.00	49.830	106.540	6437.21	1434.46	-712.20	2372.20	1629006.31	337190.66	39°25'06.034"N	80°48'47.574"W	2476.80	106.711	10.60	10.31	3.48
7349.00	60.120	108.270	6490.51	1479.31	-735.02	2444.74	1629078.85	337167.85	39°25'05.819"N	80°48'46.645"W	2552.85	106.734	11.17	11.06	1.86
7443.00	64.320	108.160	6534.31	1529.23	-761.01	2523.72	1629157.83	337141.86	39°25'05.573"N	80°48'45.634"W	2635.97	106.780	4.47	4.47	-0.12



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 5 of 10

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWP
Facility	SHR-31 Pad		

WELLPATH DATA (184 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
7537.00	67.840	109.160	6572.42	1581.34	-788.51	2605.12	1629239.21	337114.36	39°25'05.313"N	80°48'44.592"W	2721.83	106.840	3.87	3.74	1.06
7631.00	70.240	119.800	6606.13	1641.32	-824.87	2684.83	1629318.92	337078.00	39°25'04.966"N	80°48'43.570"W	2808.69	107.079	10.87	2.55	11.32
7725.00	73.290	128.480	6635.59	1712.40	-874.96	2758.60	1629392.68	337027.91	39°25'04.481"N	80°48'42.621"W	2894.03	107.598	9.35	3.24	9.23
7819.00	73.470	135.190	6662.51	1790.76	-935.00	2825.66	1629459.74	336967.88	39°25'03.898"N	80°48'41.755"W	2976.34	108.309	6.84	0.19	7.14
7913.00	80.130	139.290	6683.97	1874.26	-1002.17	2887.71	1629521.79	336900.71	39°25'03.243"N	80°48'40.952"W	3056.67	109.139	8.26	7.09	4.36
8007.00	82.500	147.530	6698.18	1962.60	-1076.72	2943.03	1629577.11	336826.17	39°25'02.514"N	80°48'40.233"W	3133.81	110.095	9.02	2.52	8.77
8101.00	79.790	150.330	6712.66	2053.30	-1156.26	2990.96	1629625.04	336746.64	39°25'01.735"N	80°48'39.608"W	3206.68	111.136	4.12	-2.88	2.98
8195.00	86.670	157.920	6723.75	2145.79	-1240.15	3031.60	1629665.68	336662.75	39°25'00.912"N	80°48'39.075"W	3275.45	112.248	10.85	7.32	8.07
8289.00	89.880	158.320	6726.58	2239.59	-1327.33	3066.61	1629700.68	336575.58	39°25'00.055"N	80°48'38.612"W	3341.54	113.404	3.44	3.41	0.43
8383.00	89.850	159.450	6726.80	2333.50	-1415.01	3100.47	1629734.54	336487.89	39°24'59.193"N	80°48'38.165"W	3408.11	114.531	1.20	-0.03	1.20
8477.00	89.850	162.600	6727.04	2427.49	-1503.89	3131.03	1629765.10	336399.02	39°24'58.320"N	80°48'37.759"W	3473.48	115.656	3.35	0.00	3.35
8571.00	89.850	162.490	6727.29	2521.47	-1593.57	3159.23	1629793.30	336309.35	39°24'57.437"N	80°48'37.383"W	3538.39	116.767	0.12	0.00	-0.12
8665.00	90.090	161.430	6727.34	2615.46	-1682.94	3188.34	1629822.40	336219.98	39°24'56.558"N	80°48'36.995"W	3605.25	117.827	1.16	0.26	-1.13
8759.00	89.600	159.270	6727.59	2709.44	-1771.46	3219.95	1629854.01	336131.46	39°24'55.688"N	80°48'36.576"W	3675.07	118.818	2.36	-0.52	-2.30
8853.00	89.350	161.760	6728.45	2803.42	-1860.07	3251.30	1629885.36	336042.86	39°24'54.817"N	80°48'36.160"W	3745.77	119.774	2.66	-0.27	2.65
8947.00	89.290	164.080	6729.57	2897.37	-1949.91	3278.90	1629912.96	335953.03	39°24'53.933"N	80°48'35.792"W	3814.89	120.739	2.47	-0.06	2.47
9041.00	89.570	163.800	6730.51	2991.27	-2040.24	3304.91	1629938.96	335862.70	39°24'53.044"N	80°48'35.444"W	3883.94	121.689	0.42	0.30	-0.30
9135.00	90.620	163.640	6730.35	3085.18	-2130.47	3331.26	1629965.31	335772.48	39°24'52.156"N	80°48'35.091"W	3954.26	122.600	1.13	1.12	-0.17
9230.00	88.860	162.230	6730.78	3180.14	-2221.28	3359.13	1629993.19	335681.67	39°24'51.263"N	80°48'34.719"W	4027.14	123.475	2.37	-1.85	-1.48
9325.00	89.570	165.220	6732.08	3275.03	-2312.45	3385.75	1630019.80	335590.51	39°24'50.366"N	80°48'34.363"W	4100.09	124.333	3.23	0.75	3.15
9418.00	90.740	169.200	6731.83	3367.52	-2403.12	3406.33	1630040.39	335499.84	39°24'49.473"N	80°48'34.084"W	4168.71	125.202	4.46	1.26	4.28
9512.00	91.110	167.390	6730.31	3460.81	-2495.15	3425.40	1630059.45	335407.81	39°24'48.566"N	80°48'33.824"W	4237.82	126.071	1.97	0.39	-1.93
9606.00	90.370	161.730	6729.10	3554.61	-2585.72	3450.41	1630084.47	335317.26	39°24'47.674"N	80°48'33.489"W	4311.76	126.848	6.07	-0.79	-6.02
9700.00	89.450	158.400	6729.25	3648.58	-2674.07	3482.46	1630116.51	335228.91	39°24'46.806"N	80°48'33.064"W	4390.69	127.520	3.68	-0.98	-3.54
9794.00	89.690	158.220	6729.95	3742.44	-2761.41	3517.20	1630151.25	335141.57	39°24'45.948"N	80°48'32.605"W	4471.70	128.136	0.32	0.26	-0.19
9888.00	89.570	158.710	6730.56	3836.32	-2848.85	3551.70	1630185.75	335054.14	39°24'45.089"N	80°48'32.150"W	4553.08	128.733	0.54	-0.13	0.52
9981.00	89.630	159.880	6731.21	3929.26	-2935.84	3584.58	1630218.63	334967.15	39°24'44.234"N	80°48'31.715"W	4633.40	129.318	1.26	0.06	1.26
10075.00	90.370	158.880	6731.21	4023.21	-3023.81	3617.69	1630251.73	334879.18	39°24'43.369"N	80°48'31.277"W	4714.99	129.890	1.32	0.79	-1.06
10169.00	90.180	154.880	6730.76	4116.90	-3110.25	3654.59	1630288.63	334792.75	39°24'42.520"N	80°48'30.790"W	4798.92	130.400	4.26	-0.20	-4.26
10263.00	89.940	157.120	6730.66	4210.49	-3196.11	3692.82	1630326.86	334706.89	39°24'41.677"N	80°48'30.288"W	4883.86	130.876	2.40	-0.26	2.38



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 6 of 10

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

WELLPATH DATA (184 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10357.00	89.880	162.010	6730.81	4304.42	-3284.17	3725.63	1630359.66	334618.84	39°24'40.812"N	80°48'29.853"W	4966.50	131.396	5.20	-0.06	5.20
10451.00	91.570	162.120	6729.62	4398.40	-3373.59	3754.57	1630388.60	334529.42	39°24'39.932"N	80°48'29.468"W	5047.57	131.941	1.80	1.80	0.12
10545.00	89.940	161.270	6728.38	4492.39	-3462.82	3784.09	1630418.12	334440.20	39°24'39.055"N	80°48'29.075"W	5129.38	132.462	1.96	-1.73	-0.90
10639.00	89.850	162.100	6728.55	4586.38	-3552.06	3813.63	1630447.66	334350.96	39°24'38.177"N	80°48'28.682"W	5211.61	132.966	0.89	-0.10	0.88
10733.00	89.660	163.150	6728.95	4680.36	-3641.77	3841.70	1630475.73	334261.26	39°24'37.294"N	80°48'28.308"W	5293.50	133.470	1.14	-0.20	1.12
10827.00	90.550	161.640	6728.78	4774.34	-3731.36	3870.13	1630504.16	334171.67	39°24'36.413"N	80°48'27.929"W	5375.96	133.954	1.86	0.95	-1.61
10921.00	90.650	157.450	6727.79	4868.27	-3819.41	3902.97	1630536.99	334083.63	39°24'35.548"N	80°48'27.495"W	5460.87	134.380	4.46	0.11	-4.46
11015.00	89.690	156.530	6727.52	4962.00	-3905.93	3939.71	1630573.74	333997.11	39°24'34.698"N	80°48'27.011"W	5547.76	134.753	1.41	-1.02	-0.98
11109.00	88.980	156.380	6728.61	5055.65	-3992.10	3977.26	1630611.28	333910.95	39°24'33.852"N	80°48'26.516"W	5635.20	135.107	0.77	-0.76	-0.16
11203.00	88.460	161.290	6730.71	5149.51	-4079.71	4011.18	1630645.20	333823.34	39°24'32.991"N	80°48'26.068"W	5721.33	135.485	5.25	-0.55	5.22
11297.00	90.090	167.320	6731.90	5243.33	-4170.15	4036.59	1630670.61	333732.91	39°24'32.101"N	80°48'25.728"W	5803.81	135.932	6.64	1.73	6.41
11391.00	90.490	164.620	6731.42	5337.01	-4261.34	4059.38	1630693.40	333641.72	39°24'31.203"N	80°48'25.420"W	5885.37	136.390	2.90	0.43	-2.87
11485.00	90.000	162.320	6731.02	5430.93	-4351.45	4086.12	1630720.14	333551.62	39°24'30.316"N	80°48'25.063"W	5969.21	136.801	2.50	-0.52	-2.45
11579.00	90.890	166.250	6730.29	5524.79	-4441.91	4111.58	1630745.59	333461.16	39°24'29.426"N	80°48'24.722"W	6052.74	137.212	4.29	0.95	4.18
11673.00	91.170	167.330	6728.60	5618.34	-4533.41	4133.05	1630767.07	333369.67	39°24'28.525"N	80°48'24.431"W	6134.65	137.645	1.19	0.30	1.15
11767.00	91.290	162.750	6726.58	5712.10	-4624.18	4157.31	1630791.32	333278.91	39°24'27.631"N	80°48'24.106"W	6218.22	138.043	4.87	0.13	-4.87
11861.00	90.000	159.880	6725.52	5806.08	-4713.21	4187.41	1630821.43	333189.88	39°24'26.756"N	80°48'23.706"W	6304.66	138.381	3.35	-1.37	-3.05
11955.00	89.780	161.130	6725.70	5900.07	-4801.81	4218.78	1630852.79	333101.28	39°24'25.885"N	80°48'23.290"W	6391.84	138.698	1.35	-0.23	1.33
12049.00	89.940	161.620	6725.93	5994.07	-4890.89	4248.81	1630882.81	333012.21	39°24'25.009"N	80°48'22.891"W	6478.67	139.019	0.55	0.17	0.52
12143.00	90.250	160.560	6725.78	6088.06	-4979.82	4279.27	1630913.27	332923.29	39°24'24.134"N	80°48'22.486"W	6565.87	139.327	1.17	0.33	-1.13
12237.00	90.150	158.880	6725.45	6182.02	-5067.99	4311.85	1630945.85	332835.12	39°24'23.267"N	80°48'22.055"W	6654.06	139.609	1.79	-0.11	-1.79
12331.00	89.690	158.220	6725.58	6275.91	-5155.47	4346.22	1630980.22	332747.64	39°24'22.408"N	80°48'21.601"W	6743.04	139.868	0.86	-0.49	-0.70
12425.00	88.710	161.930	6726.89	6369.86	-5243.82	4378.25	1631012.25	332659.30	39°24'21.539"N	80°48'21.176"W	6831.30	140.140	4.08	-1.04	3.95
12519.00	90.220	166.320	6727.77	6463.72	-5334.21	4403.95	1631037.95	332568.91	39°24'20.650"N	80°48'20.832"W	6917.27	140.457	4.94	1.61	4.67
12613.00	91.140	164.580	6726.66	6557.47	-5425.18	4427.56	1631061.56	332477.94	39°24'19.754"N	80°48'20.515"W	7002.57	140.782	2.09	0.98	-1.85
12707.00	90.710	162.760	6725.14	6651.37	-5515.38	4453.99	1631087.99	332387.76	39°24'18.867"N	80°48'20.161"W	7089.24	141.077	1.99	-0.46	-1.94
12800.00	90.710	159.270	6723.99	6744.35	-5603.30	4484.24	1631118.23	332299.84	39°24'18.002"N	80°48'19.760"W	7176.72	141.330	3.75	0.00	-3.75
12894.00	89.780	153.110	6723.58	6837.92	-5689.25	4522.17	1631156.16	332213.89	39°24'17.158"N	80°48'19.261"W	7267.57	141.520	6.63	-0.99	-6.55
12988.00	89.750	156.110	6723.97	6931.27	-5774.16	4562.47	1631196.46	332128.98	39°24'16.325"N	80°48'18.732"W	7359.15	141.686	3.19	-0.03	3.19
13082.00	90.120	162.120	6724.08	7025.16	-5861.95	4595.96	1631229.95	332041.21	39°24'15.462"N	80°48'18.289"W	7448.84	141.902	6.41	0.39	6.39



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 7 of 10

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

WELLPATH DATA (184 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
13176.00	90.770	162.770	6723.35	7119.13	-5951.56	4624.31	1631258.30	331951.59	39°24'14.580"N	80°48'17.911"W	7536.94	142.153	0.98	0.69	0.69
13270.00	90.550	162.860	6722.26	7213.10	-6041.36	4652.08	1631286.07	331861.80	39°24'13.697"N	80°48'17.541"W	7624.96	142.402	0.25	-0.23	0.10
13364.00	91.350	161.740	6720.70	7307.07	-6130.90	4680.66	1631314.64	331772.27	39°24'12.816"N	80°48'17.160"W	7713.40	142.640	1.46	0.85	-1.19
13458.00	90.340	163.360	6719.32	7401.03	-6220.56	4708.84	1631342.82	331682.61	39°24'11.934"N	80°48'16.785"W	7801.83	142.875	2.03	-1.07	1.72
13552.00	90.460	163.440	6718.66	7494.97	-6310.64	4735.70	1631369.68	331592.54	39°24'11.048"N	80°48'16.426"W	7889.93	143.114	0.15	0.13	0.09
13646.00	90.740	162.430	6717.68	7588.92	-6400.49	4763.28	1631397.26	331502.69	39°24'10.164"N	80°48'16.058"W	7978.42	143.343	1.11	0.30	-1.07
13740.00	90.550	158.390	6716.62	7682.89	-6489.03	4794.79	1631428.76	331414.16	39°24'09.293"N	80°48'15.640"W	8068.30	143.539	4.30	-0.20	-4.30
13834.00	89.940	158.250	6716.22	7776.76	-6576.38	4829.51	1631463.49	331326.81	39°24'08.435"N	80°48'15.182"W	8159.22	143.707	0.67	-0.65	-0.15
13928.00	89.910	162.000	6716.34	7870.72	-6664.76	4861.46	1631495.44	331238.43	39°24'07.566"N	80°48'14.758"W	8249.42	143.892	3.99	-0.03	3.99
14022.00	89.910	165.940	6716.49	7964.60	-6755.09	4887.42	1631521.39	331148.11	39°24'06.677"N	80°48'14.411"W	8337.75	144.114	4.19	0.00	4.19
14116.00	90.030	168.290	6716.54	8058.11	-6846.72	4908.38	1631542.35	331056.49	39°24'05.775"N	80°48'14.127"W	8424.35	144.363	2.50	0.13	2.50
14210.00	90.220	166.740	6716.33	8151.56	-6938.49	4928.70	1631562.67	330964.72	39°24'04.871"N	80°48'13.851"W	8510.86	144.612	1.66	0.20	-1.65
14304.00	90.460	163.120	6715.77	8245.36	-7029.24	4953.13	1631587.10	330873.97	39°24'03.977"N	80°48'13.523"W	8599.06	144.830	3.86	0.26	-3.85
14398.00	90.800	161.060	6714.74	8339.34	-7118.68	4982.04	1631616.00	330784.54	39°24'03.098"N	80°48'13.139"W	8688.86	145.014	2.22	0.36	-2.19
14492.00	90.770	158.730	6713.45	8433.29	-7206.93	5014.34	1631648.31	330696.29	39°24'02.230"N	80°48'12.711"W	8779.72	145.171	2.48	-0.03	-2.48
14586.00	90.920	155.690	6712.07	8527.03	-7293.57	5050.75	1631684.71	330609.65	39°24'01.379"N	80°48'12.231"W	8871.66	145.298	3.24	0.16	-3.23
14681.00	90.370	156.810	6711.00	8621.65	-7380.52	5089.00	1631722.96	330522.71	39°24'00.525"N	80°48'11.728"W	8964.94	145.413	1.31	-0.58	1.18
14775.00	90.030	162.180	6710.67	8715.57	-7468.53	5121.92	1631755.88	330434.71	39°23'59.660"N	80°48'11.292"W	9056.11	145.558	5.72	-0.36	5.71
14869.00	90.990	162.320	6709.83	8809.55	-7558.05	5150.57	1631784.53	330345.19	39°23'58.780"N	80°48'10.911"W	9146.18	145.727	1.03	1.02	0.15
14963.00	90.340	157.680	6708.74	8903.49	-7646.35	5182.71	1631816.67	330256.89	39°23'57.912"N	80°48'10.485"W	9237.28	145.871	4.98	-0.69	-4.94
15057.00	90.150	158.670	6708.34	8997.35	-7733.62	5217.66	1631851.61	330169.64	39°23'57.054"N	80°48'10.024"W	9329.14	145.994	1.07	-0.20	1.05
15151.00	90.060	163.690	6708.16	9091.32	-7822.56	5247.97	1631881.93	330080.70	39°23'56.180"N	80°48'09.621"W	9419.86	146.143	5.34	-0.10	5.34
15245.00	90.680	166.730	6707.56	9185.09	-7913.43	5271.97	1631905.92	329989.83	39°23'55.285"N	80°48'09.299"W	9508.74	146.328	3.30	0.66	3.23
15339.00	91.540	162.310	6705.74	9278.90	-8003.98	5297.04	1631930.99	329899.29	39°23'54.394"N	80°48'08.963"W	9598.04	146.503	4.79	0.91	-4.70
15433.00	90.400	159.720	6704.14	9372.88	-8092.85	5327.62	1631961.56	329810.43	39°23'53.520"N	80°48'08.557"W	9689.05	146.643	3.01	-1.21	-2.76
15527.00	90.250	155.840	6703.61	9466.68	-8179.85	5363.16	1631997.10	329723.43	39°23'52.665"N	80°48'08.088"W	9781.28	146.749	4.13	-0.16	-4.13
15621.00	90.090	154.890	6703.33	9560.17	-8265.29	5402.34	1632036.28	329637.99	39°23'51.827"N	80°48'07.573"W	9874.23	146.831	1.02	-0.17	-1.01
15715.00	88.980	158.110	6704.10	9653.82	-8351.48	5439.81	1632073.76	329551.81	39°23'50.980"N	80°48'07.080"W	9966.89	146.921	3.62	-1.18	3.43
15809.00	90.180	163.580	6704.78	9747.78	-8440.24	5470.64	1632104.58	329463.05	39°23'50.108"N	80°48'06.671"W	10058.11	147.050	5.96	1.28	5.82
15903.00	90.550	163.510	6704.19	9841.70	-8530.39	5497.27	1632131.21	329372.91	39°23'49.220"N	80°48'06.315"W	10148.27	147.201	0.40	0.39	-0.07



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 8 of 10

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 WV Department of
 Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

WELLPATH DATA (184 stations)															
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Bulld Rate (°/100ft)	Turn Rate (°/100ft)
15997.00	90.000	159.640	6703.73	9935.68	-8619.55	5526.97	1632160.91	329283.75	39°23'48.344"N	80°48'05.921"W	10239.34	147.331	4.16	-0.59	-4.12
16091.00	89.570	160.720	6704.09	10029.66	-8707.98	5558.85	1632192.78	329195.33	39°23'47.474"N	80°48'05.498"W	10331.01	147.447	1.24	-0.46	1.15
16151.00	89.940	160.590	6704.34	10089.66	-8764.59	5578.72	1632212.65	329138.72	39°23'46.918"N	80°48'05.235"W	10389.43	147.523	0.65	0.62	-0.22
16176.00	89.940	160.590	6704.37	10114.65	-8788.17	5587.03	1632220.96	329115.14	39°23'46.686"N	80°48'05.125"W	10413.78	147.554	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: SHR-31E-HSM AWB Ref Wellpath: SHR-31E-HSM AWP Proj: 16176'									
String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	Start E/W (ft)	End N/S (ft)	End E/W (ft)
24in Open Hole	29.00	129.00	100.00	29.00	129.00	0.00	0.00	0.26	0.51
20in Conductor	29.00	129.00	100.00	29.00	129.00	0.00	0.00	0.26	0.51
17.5in Open Hole	129.00	706.00	577.00	129.00	705.99	0.26	0.51	-0.69	2.20
13.375in Casing Surface	29.00	706.00	677.00	29.00	705.99	0.00	0.00	-0.69	2.20
12.25in Open Hole	706.00	2740.00	2034.00	705.99	2739.93	-0.69	2.20	-11.89	7.14
9.625in Casing Intermediate	29.00	2740.00	2711.00	29.00	2739.93	0.00	0.00	-11.89	7.14
8.75in Open Hole	2740.00	7119.00	4379.00	2739.93	6337.33	-11.89	7.14	-688.89	2281.81
8.5in Open Hole	7119.00	16176.00	9057.00	6337.33	6704.37	-688.89	2281.81	-8788.17	5587.03
5.5in Casing Production	29.00	16176.00	16147.00	29.00	6704.37	0.00	0.00	-8788.17	5587.03



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'

Page 9 of 10

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWB
Facility	SHR-31 Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SHR-31E-HSM BHL Rev-4	6700.00	-8795.66	5564.69	1632198.63	329107.65	39°23'46.609"N	80°48'05.408"W	point
SHR-31E-HSM LP Rev-4	6700.00	-1169.74	2986.36	1629620.43	336733.16	39°25'01.601"N	80°48'39.664"W	point
SHR-31E-HSM LP Plat	6706.40	-1097.77	2962.02	1629596.10	336805.12	39°25'02.309"N	80°48'39.987"W	point
SHR-31 Unleased Tract	6950.40	-33.72	-71.92	1626562.32	337869.11	39°25'12.385"N	80°49'18.840"W	polygon
SHR-31 Lease Line Rev-2	7000.40	-33.72	-71.92	1626562.32	337869.11	39°25'12.385"N	80°49'18.840"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: SHR-31E-HSM AWB				Ref Wellpath: SHR-31E-HSM AWP Proj: 16176'	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
29.00	671.00	VESSI GyroFlex v4	01 VES Gyro <17-1/2"> (100'-654')	SHR-31E-HSM AWB	
671.00	2712.00	OWSG MWD rev2 - Standard	02 QES MWD <12-1/4"> (654')(741'-2695')	SHR-31E-HSM AWB	
2712.00	7051.00	OWSG MWD rev2 - Standard	03 QES MWD <8-3/4"> (2695')(2742'-7034')	SHR-31E-HSM AWB	
7051.00	16151.00	BHI AutoTrak Curve (Short)	04 BH AT Curve <8-1/2"> (7051')(7090'-16151')	SHR-31E-HSM AWB	
16151.00	16176.00	Blind Drilling (std)	Projection to bit	SHR-31E-HSM AWB	



Actual Wellpath Report

SHR-31E-HSM AWP Proj: 16176'
Page 10 of 10

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department of
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	CNX GAS COMPANY, LLC	Slot	Slot E
Area	Tyler County, WV	Well	SHR-31E-HSM
Field	Tyler	Wellbore	SHR-31E-HSM AWP
Facility	SHR-31 Pad		

COMMENTS

Wellpath general comments
 API: 47-095-02492-0000
 BH Job #: 9204184
 Rig: Patterson 278
 Duration: 7/9/2018-7/13/2018
 VES Gyro <17-1/2"> (100'-654')
 OES MWD <12-1/4"> (654')(741'-2695')
 OES MWD <8-3/4"> (2695')(2742'-7034')
 BH AT Curve <8-1/2"> (7051')(7090'-16151')
 Projected MD at TD: 16176'