



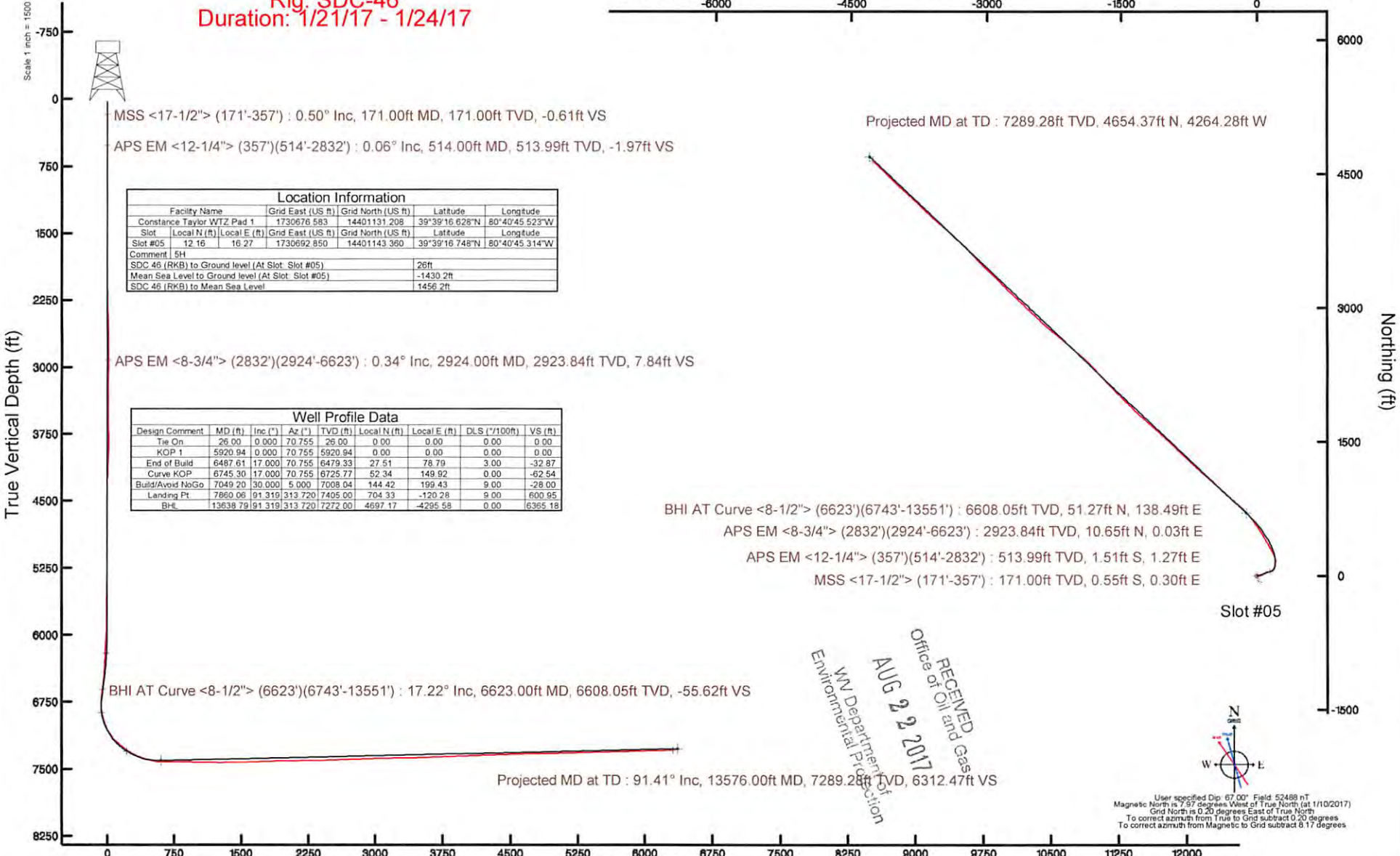
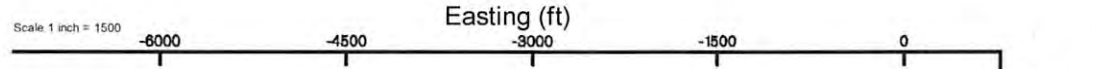
SOUTHWESTERN ENERGY

Location: Wetzel County, WV Slot: Slot #05
 Field: Wetzel Well: Constance Taylor WTZ 5H
 Facility: Constance Taylor WTZ Pad 1 Wellbore: Constance Taylor WTZ 5H PWB

Plot reference wellpath is Constance Taylor WTZ 5H PWB Rev-0.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 46 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to SDC 46 (RKB)	North Reference: Grid north
SDC 46 (RKB) to Mean Sea Level: 1456.2 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: Slot #05) -1430.2 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: amarc on 2017-01-26
	Database: WA_MPL_EASTERNU8_Defn



API: 47-103-03149-0000
 Job #: 8356871
 Rig: SDC-46
 Duration: 1/21/17 - 1/24/17



MSS <17-1/2"> (171'-357') : 0.50° Inc, 171.00ft MD, 171.00ft TVD, -0.61ft VS
 APS EM <12-1/4"> (357')(514'-2832') : 0.06° Inc, 514.00ft MD, 513.99ft TVD, -1.97ft VS

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Constance Taylor WTZ Pad 1	1730676.563	14401131.208	39°39'16.628"N	80°40'45.523"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #05	12.16	16.27	1730692.850	14401143.360
Comment: 5H			39°39'16.748"N	80°40'45.314"W
SDC 46 (RKB) to Ground Level (At Slot: Slot #05)				26ft
Mean Sea Level to Ground level (At Slot: Slot #05)				-1430.2ft
SDC 46 (RKB) to Mean Sea Level				1456.2ft

APS EM <8-3/4"> (2832')(2924'-6623') : 0.34° Inc, 2924.00ft MD, 2923.84ft TVD, 7.84ft VS

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	26.00	0.000	70.755	26.00	0.00	0.00	0.00	0.00
KOP 1	5920.94	0.000	70.755	5920.94	0.00	0.00	0.00	0.00
End of Build	6487.61	17.000	70.755	6479.33	27.51	78.79	3.00	-32.87
Curve KOP	6745.30	17.000	70.755	6725.77	52.34	149.92	0.00	-62.54
Build/Avoid NoGo	7049.20	30.000	5.000	7008.04	144.42	199.43	9.00	-28.00
Landing Pt	7860.06	91.319	313.720	7405.00	704.33	-120.28	9.00	600.95
BH-	13638.79	91.319	313.720	7272.00	4697.17	-4295.58	0.00	6365.18

BHI AT Curve <8-1/2"> (6623')(6743'-13551') : 6608.05ft TVD, 51.27ft N, 138.49ft E
 APS EM <8-3/4"> (2832')(2924'-6623') : 2923.84ft TVD, 10.65ft N, 0.03ft E
 APS EM <12-1/4"> (357')(514'-2832') : 513.99ft TVD, 1.51ft S, 1.27ft E
 MSS <17-1/2"> (171'-357') : 171.00ft TVD, 0.55ft S, 0.30ft E

BHI AT Curve <8-1/2"> (6623')(6743'-13551') : 17.22° Inc, 6623.00ft MD, 6608.05ft TVD, -55.62ft VS

Projected MD at TD : 91.41° Inc, 13576.00ft MD, 7289.28ft TVD, 6312.47ft VS



User specified Dip: 67.00° Field: 52488 nT
 Magnetic North is 7.97 degrees West of True North (at 1/10/2017)
 Grid North is 0.20 degrees East of True North
 To correct azimuth from True to Grid subtract 0.20 degrees
 To correct azimuth from Magnetic to Grid subtract 8.17 degrees

RECEIVED
 Office of Oil and Gas
 AUG 22 2017
 WV Department of Environmental Protection

Vertical Section (ft)
 Azimuth 317.56° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Amarcar
Scale	0.999609	Report Generated	1/26/2017 at 9:32:17 AM
Convergence at slot	0.21° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Constance_Taylor_WTZ_5H_AWP_Proj_13576_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	12.16	16.27	1730692.85	14401143.36	39°39'16.748"N	80°40'45.314"W
Facility Reference Pt			1730676.58	14401131.21	39°39'16.628"N	80°40'45.523"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 46 (RKB) to Facility Vertical Datum	1456.20ft
Horizontal Reference Pt	Slot	SDC 46 (RKB) to Mean Sea Level	1456.20ft
Vertical Reference Pt	SDC 46 (RKB)	SDC 46 (RKB) to Ground Level at Slot (Slot #05)	26.00ft
MD Reference Pt	SDC 46 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	317.56°

RECEIVED
 Office of Oil and Gas
 AUG 22 2017
 WV Department of
 Environmental Protection



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 2 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station													
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	151.280	0.00	0.00	0.00	0.00	1730692.85	14401143.36	39°39'16.748"N	80°40'45.314"W	0.00	0.00	0.00
26.00	0.00	151.280	26.00	0.00	0.00	0.00	1730692.85	14401143.36	39°39'16.748"N	80°40'45.314"W	0.00	0.00	0.00
171.00	0.500	151.280	171.00	-0.61	-0.55	0.30	1730693.15	14401142.81	39°39'16.742"N	80°40'45.311"W	0.34	0.34	104.33
264.00	0.400	112.180	264.00	-1.30	-1.03	0.80	1730693.65	14401142.33	39°39'16.737"N	80°40'45.304"W	0.34	-0.11	-42.04
357.00	0.200	144.580	356.99	-1.76	-1.29	1.19	1730694.04	14401142.07	39°39'16.735"N	80°40'45.299"W	0.27	-0.22	34.84
514.00	0.060	271.490	513.99	-1.97	-1.51	1.27	1730694.12	14401141.85	39°39'16.733"N	80°40'45.298"W	0.15	-0.09	80.83
607.00	0.120	174.230	606.99	-2.02	-1.60	1.23	1730694.08	14401141.76	39°39'16.732"N	80°40'45.299"W	0.15	0.06	-104.58
699.00	0.100	21.210	698.99	-2.06	-1.63	1.27	1730694.12	14401141.73	39°39'16.731"N	80°40'45.298"W	0.23	-0.02	-166.33
792.00	0.100	114.060	791.99	-2.10	-1.58	1.37	1730694.22	14401141.78	39°39'16.732"N	80°40'45.297"W	0.16	0.00	99.84
885.00	0.030	209.570	884.99	-2.18	-1.64	1.44	1730694.29	14401141.72	39°39'16.731"N	80°40'45.296"W	0.12	-0.08	102.70
977.00	0.090	51.880	976.99	-2.19	-1.61	1.48	1730694.33	14401141.75	39°39'16.732"N	80°40'45.296"W	0.13	0.07	-171.40
1070.00	0.210	60.720	1069.99	-2.23	-1.49	1.69	1730694.54	14401141.88	39°39'16.733"N	80°40'45.293"W	0.13	0.13	9.51
1163.00	0.210	62.790	1162.99	-2.32	-1.32	1.99	1730694.84	14401142.04	39°39'16.734"N	80°40'45.289"W	0.01	0.00	2.23
1256.00	0.000	351.830	1255.99	-2.36	-1.25	2.14	1730694.99	14401142.11	39°39'16.735"N	80°40'45.287"W	0.23	-0.23	-67.52
1348.00	0.150	69.300	1347.99	-2.41	-1.20	2.25	1730695.10	14401142.16	39°39'16.736"N	80°40'45.286"W	0.16	0.16	75.33
1441.00	0.340	60.610	1440.99	-2.52	-1.03	2.61	1730695.46	14401142.34	39°39'16.737"N	80°40'45.281"W	0.21	0.20	-9.34
1534.00	0.380	35.860	1533.99	-2.52	-0.64	3.03	1730695.88	14401142.72	39°39'16.741"N	80°40'45.276"W	0.17	0.04	-26.61
1627.00	0.510	58.270	1626.99	-2.53	-0.17	3.56	1730696.41	14401143.19	39°39'16.746"N	80°40'45.269"W	0.23	0.14	24.10
1719.00	0.800	56.150	1718.98	-2.70	0.40	4.44	1730697.29	14401143.76	39°39'16.751"N	80°40'45.258"W	0.32	0.32	-2.30
1812.00	1.180	35.700	1811.97	-2.60	1.54	5.54	1730698.39	14401144.90	39°39'16.763"N	80°40'45.243"W	0.55	0.41	-21.99
1905.00	0.920	1.520	1904.95	-1.87	3.06	6.12	1730698.97	14401146.42	39°39'16.778"N	80°40'45.236"W	0.72	-0.28	-36.75
1997.00	0.740	342.340	1996.94	-0.80	4.37	5.96	1730698.81	14401147.73	39°39'16.791"N	80°40'45.238"W	0.36	-0.20	-20.85
2090.00	1.090	345.170	2089.93	0.53	5.80	5.55	1730698.40	14401149.15	39°39'16.805"N	80°40'45.243"W	0.38	0.38	3.04
2183.00	1.540	346.390	2182.91	2.41	7.87	5.03	1730697.88	14401151.22	39°39'16.825"N	80°40'45.250"W	0.48	0.48	1.31
2275.00	0.950	337.050	2274.88	4.21	9.77	4.44	1730697.29	14401153.13	39°39'16.844"N	80°40'45.257"W	0.68	-0.64	-10.15
2368.00	1.080	300.630	2367.87	5.78	10.93	3.39	1730696.23	14401154.28	39°39'16.855"N	80°40'45.271"W	0.69	0.14	-39.16
2461.00	0.470	283.870	2460.86	6.93	11.46	2.26	1730695.11	14401154.82	39°39'16.861"N	80°40'45.285"W	0.69	-0.66	-18.02
2554.00	0.030	185.450	2553.86	7.24	11.53	1.89	1730694.74	14401154.89	39°39'16.861"N	80°40'45.290"W	0.51	-0.47	-105.83
2646.00	0.120	85.140	2645.86	7.16	11.52	1.98	1730694.83	14401154.87	39°39'16.861"N	80°40'45.289"W	0.14	0.10	-109.03
2739.00	0.100	160.410	2738.86	7.03	11.45	2.11	1730694.96	14401154.80	39°39'16.861"N	80°40'45.287"W	0.15	-0.02	80.94

Office of Oiled Gas
WV Department of Environmental Protection
AUG 22 2017



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations)													
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2832.00	1.280	257.070	2831.85	7.46	11.14	1.12	1730693.97	14401154.49	39°39'16.858"N	80°40'45.300"W	1.39	1.27	103.94
2924.00	0.340	198.960	2923.84	7.84	10.65	0.03	1730692.88	14401154.01	39°39'16.853"N	80°40'45.314"W	1.24	-1.02	-63.16
3019.00	0.220	345.510	3018.84	7.87	10.56	-0.11	1730692.74	14401153.92	39°39'16.852"N	80°40'45.315"W	0.57	-0.13	154.26
3112.00	0.450	257.890	3111.84	8.21	10.66	-0.51	1730692.34	14401154.01	39°39'16.853"N	80°40'45.320"W	0.53	0.25	-94.22
3205.00	0.100	194.770	3204.84	8.35	10.50	-0.89	1730691.96	14401153.86	39°39'16.851"N	80°40'45.325"W	0.45	-0.38	-67.87
3294.00	0.260	312.050	3293.84	8.51	10.56	-1.06	1730691.79	14401153.92	39°39'16.852"N	80°40'45.327"W	0.36	0.18	131.78
3387.00	0.370	18.870	3386.84	8.86	10.99	-1.12	1730691.74	14401154.34	39°39'16.856"N	80°40'45.328"W	0.39	0.12	71.85
3480.00	0.450	359.790	3479.84	9.28	11.64	-1.02	1730691.83	14401154.99	39°39'16.863"N	80°40'45.327"W	0.17	0.09	-20.52
3572.00	0.420	345.120	3571.83	9.84	12.32	-1.11	1730691.74	14401155.68	39°39'16.869"N	80°40'45.328"W	0.12	-0.03	-15.95
3665.00	0.620	339.280	3664.83	10.61	13.12	-1.37	1730691.48	14401156.48	39°39'16.877"N	80°40'45.331"W	0.22	0.22	-6.29
3758.00	1.070	341.810	3757.82	11.87	14.42	-1.82	1730691.03	14401157.77	39°39'16.890"N	80°40'45.337"W	0.49	0.48	2.72
3851.00	0.770	249.750	3850.81	12.90	15.03	-2.68	1730690.17	14401158.38	39°39'16.896"N	80°40'45.348"W	1.44	-0.32	-98.99
3943.00	2.500	177.310	3942.78	11.59	12.81	-3.17	1730689.69	14401156.16	39°39'16.874"N	80°40'45.354"W	2.59	1.88	-78.74
4036.00	2.740	163.050	4035.68	8.02	8.66	-2.42	1730690.43	14401152.01	39°39'16.833"N	80°40'45.345"W	0.74	0.26	-15.33
4129.00	2.330	171.510	4128.59	4.45	4.66	-1.49	1730691.36	14401148.02	39°39'16.794"N	80°40'45.333"W	0.60	-0.44	9.10
4221.00	1.500	136.160	4220.54	1.69	1.94	-0.38	1730692.47	14401145.30	39°39'16.767"N	80°40'45.319"W	1.53	-0.90	-38.42
4314.00	0.640	119.980	4313.52	-0.02	0.80	0.91	1730693.76	14401144.16	39°39'16.755"N	80°40'45.303"W	0.97	-0.92	-17.40
4407.00	0.530	84.580	4406.52	-0.77	0.59	1.79	1730694.64	14401143.95	39°39'16.753"N	80°40'45.292"W	0.40	-0.12	-38.06
4500.00	0.530	126.770	4499.52	-1.45	0.37	2.56	1730695.41	14401143.73	39°39'16.751"N	80°40'45.282"W	0.41	0.00	45.37
4592.00	0.440	98.890	4591.51	-2.15	0.06	3.25	1730696.10	14401143.42	39°39'16.748"N	80°40'45.273"W	0.27	-0.10	-30.30
4685.00	0.980	59.550	4684.51	-2.59	0.41	4.29	1730697.14	14401143.77	39°39'16.751"N	80°40'45.260"W	0.75	0.58	-42.30
4777.00	1.320	63.840	4776.49	-3.05	1.27	5.92	1730698.76	14401144.63	39°39'16.760"N	80°40'45.239"W	0.38	0.37	4.66
4870.00	1.760	56.430	4869.45	-3.57	2.54	8.07	1730700.92	14401145.89	39°39'16.772"N	80°40'45.211"W	0.52	0.47	-7.97
4963.00	0.500	348.400	4962.44	-3.45	3.72	9.18	1730702.02	14401147.08	39°39'16.784"N	80°40'45.197"W	1.76	-1.35	-73.15
5056.00	0.710	342.000	5055.43	-2.57	4.67	8.92	1730701.76	14401148.03	39°39'16.793"N	80°40'45.200"W	0.24	0.23	-6.88
5151.00	1.120	342.400	5150.42	-1.19	6.11	8.45	1730701.30	14401149.47	39°39'16.808"N	80°40'45.206"W	0.43	0.43	0.42
5244.00	0.100	158.510	5243.41	-0.44	6.90	8.21	1730701.06	14401150.26	39°39'16.816"N	80°40'45.209"W	1.31	-1.10	189.37
5337.00	1.680	153.580	5336.40	-1.83	5.61	8.85	1730701.69	14401148.97	39°39'16.803"N	80°40'45.201"W	1.70	1.70	-5.30
5429.00	2.060	129.210	5428.35	-4.76	3.35	10.73	1730703.57	14401146.71	39°39'16.780"N	80°40'45.177"W	0.95	0.41	-26.49
5522.00	1.470	107.810	5521.31	-7.45	1.93	13.16	1730706.00	14401145.29	39°39'16.766"N	80°40'45.146"W	0.94	-0.63	-23.01

RECEIVED
 WV Department of
 Environmental Protection
 AUG 22 2017



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 4 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations)													
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5615.00	0.960	108.230	5614.29	-9.17	1.32	15.03	1730707.88	14401144.68	39°39'16.760"N	80°40'45.122"W	0.55	-0.55	0.45
5708.00	0.500	139.440	5707.28	-10.25	0.77	16.04	1730708.88	14401144.13	39°39'16.755"N	80°40'45.109"W	0.64	-0.49	33.56
5800.00	0.280	93.360	5799.28	-10.81	0.45	16.52	1730709.37	14401143.81	39°39'16.751"N	80°40'45.103"W	0.40	-0.24	-50.09
5893.00	0.970	100.520	5892.27	-11.61	0.30	17.52	1730710.37	14401143.66	39°39'16.750"N	80°40'45.090"W	0.75	0.74	7.70
5986.00	4.350	79.920	5985.16	-14.12	0.77	21.77	1730714.61	14401144.13	39°39'16.754"N	80°40'45.036"W	3.72	3.63	-22.15
6079.00	7.780	73.030	6077.62	-18.72	3.23	31.27	1730724.11	14401146.58	39°39'16.778"N	80°40'44.914"W	3.76	3.69	-7.41
6172.00	9.960	66.200	6169.51	-24.00	8.31	44.65	1730737.48	14401151.67	39°39'16.828"N	80°40'44.743"W	2.60	2.34	-7.34
6265.00	10.770	60.100	6260.99	-28.45	15.89	59.54	1730752.37	14401159.24	39°39'16.902"N	80°40'44.552"W	1.47	0.87	-6.56
6359.00	12.340	58.860	6353.09	-32.33	25.46	75.75	1730768.57	14401168.81	39°39'16.997"N	80°40'44.345"W	1.69	1.67	-1.32
6452.00	14.120	63.480	6443.62	-37.39	35.67	94.41	1730787.22	14401179.01	39°39'17.097"N	80°40'44.106"W	2.22	1.91	4.97
6544.00	16.280	71.390	6532.40	-45.68	44.79	116.68	1730809.48	14401188.14	39°39'17.186"N	80°40'43.821"W	3.25	2.35	8.60
6623.00	17.220	75.410	6608.05	-55.62	51.27	138.49	1730831.29	14401194.61	39°39'17.249"N	80°40'43.541"W	1.89	1.19	5.09
6743.00	13.580	62.270	6723.76	-67.50	62.31	168.17	1730860.95	14401205.65	39°39'17.357"N	80°40'43.161"W	4.18	-3.03	-10.95
6789.00	13.790	44.480	6768.47	-68.58	68.74	176.79	1730869.57	14401212.07	39°39'17.421"N	80°40'43.051"W	9.13	0.46	-38.67
6835.00	17.350	36.270	6812.78	-66.94	78.18	184.70	1730877.47	14401221.51	39°39'17.514"N	80°40'42.949"W	9.08	7.74	-17.85
6882.00	19.370	23.390	6857.41	-62.37	90.99	191.94	1730884.71	14401234.32	39°39'17.640"N	80°40'42.856"W	9.62	4.30	-27.40
6928.00	20.440	13.060	6900.67	-54.70	105.82	196.79	1730889.56	14401249.14	39°39'17.786"N	80°40'42.794"W	7.98	2.33	-22.46
6975.00	21.620	8.800	6944.54	-44.63	122.38	199.96	1730892.74	14401265.69	39°39'17.950"N	80°40'42.752"W	4.11	2.51	-9.06
7021.00	26.410	6.250	6986.55	-32.56	140.93	202.38	1730895.15	14401284.24	39°39'18.133"N	80°40'42.720"W	10.65	10.41	-5.54
7070.00	30.280	359.750	7029.68	-16.20	164.13	203.51	1730896.28	14401307.43	39°39'18.362"N	80°40'42.705"W	10.09	7.90	-13.27
7117.00	32.680	348.040	7069.80	3.53	188.42	200.83	1730893.60	14401331.71	39°39'18.603"N	80°40'42.738"W	13.95	5.11	-24.91
7163.00	35.570	338.630	7107.90	26.74	213.05	193.37	1730886.14	14401356.33	39°39'18.846"N	80°40'42.832"W	13.07	6.28	-20.46
7209.00	39.730	333.570	7144.32	53.37	238.69	181.94	1730874.72	14401381.96	39°39'19.100"N	80°40'42.977"W	11.26	9.04	-11.00
7256.00	44.470	331.330	7179.18	83.82	266.61	167.35	1730860.13	14401409.86	39°39'19.376"N	80°40'43.163"W	10.58	10.09	-4.77
7302.00	48.470	331.030	7210.86	116.23	295.82	151.27	1730844.06	14401439.06	39°39'19.666"N	80°40'43.367"W	8.71	8.70	-0.65
7348.00	51.390	330.810	7240.47	150.47	326.58	134.17	1730826.96	14401469.81	39°39'19.970"N	80°40'43.584"W	6.36	6.35	-0.48
7395.00	54.840	330.410	7268.67	187.09	359.33	115.72	1730808.52	14401502.55	39°39'20.295"N	80°40'43.818"W	7.37	7.34	-0.85
7441.00	58.170	330.000	7294.06	224.52	392.61	96.66	1730789.47	14401535.82	39°39'20.624"N	80°40'44.061"W	7.28	7.24	-0.89
7487.00	60.920	329.560	7317.37	263.27	426.87	76.70	1730769.52	14401570.06	39°39'20.964"N	80°40'44.314"W	6.03	5.98	-0.96
7534.00	64.070	328.560	7339.07	304.11	462.62	55.26	1730748.09	14401605.80	39°39'21.318"N	80°40'44.587"W	6.96	6.70	-2.13

One MED and Gas
 WV Department of
 Environmental Protection
 AUG 22 2017



Actual Wellpath Report

Constance Taylor Wtz 5H AWP Proj: 13576'
Page 5 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor Wtz 5H
Field	Wetzel	Wellbore	Constance Taylor Wtz 5H AWB
Facility	Constance Taylor Wtz Pad 1		

WELLPATH DATA (164 stations)													
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7580.00	68.450	327.190	7357.59	345.53	498.26	32.87	1730725.71	14401641.43	39°39'21.671"N	80°40'44.871"W	9.90	9.52	-2.98
7627.00	71.070	326.440	7373.85	389.05	535.17	8.73	1730701.58	14401678.32	39°39'22.036"N	80°40'45.178"W	5.77	5.57	-1.60
7673.00	72.300	325.500	7388.30	432.25	571.35	-15.70	1730677.15	14401714.49	39°39'22.395"N	80°40'45.489"W	3.30	2.67	-2.04
7719.00	75.280	324.420	7401.14	476.05	607.51	-41.06	1730651.80	14401750.63	39°39'22.753"N	80°40'45.812"W	6.86	6.48	-2.35
7766.00	79.820	321.970	7411.27	521.70	644.24	-68.56	1730624.32	14401787.35	39°39'23.117"N	80°40'46.162"W	10.92	9.66	-5.21
7812.00	83.830	319.790	7417.81	567.15	679.56	-97.28	1730595.61	14401822.65	39°39'23.467"N	80°40'46.527"W	9.90	8.72	-4.74
7905.00	91.850	315.320	7421.32	659.98	748.05	-159.94	1730532.97	14401891.12	39°39'24.146"N	80°40'47.325"W	9.87	8.62	-4.81
7951.00	90.120	313.700	7420.53	705.91	780.29	-192.74	1730500.19	14401923.35	39°39'24.466"N	80°40'47.743"W	5.15	-3.76	-3.52
7997.00	89.880	312.560	7420.53	751.77	811.74	-226.31	1730466.63	14401954.78	39°39'24.778"N	80°40'48.171"W	2.53	-0.52	-2.48
8044.00	90.030	311.150	7420.56	798.54	843.10	-261.31	1730431.64	14401986.13	39°39'25.089"N	80°40'48.617"W	3.02	0.32	-3.00
8090.00	89.780	311.220	7420.64	844.25	873.39	-295.93	1730397.03	14402016.41	39°39'25.390"N	80°40'49.058"W	0.56	-0.54	0.15
8136.00	88.980	311.300	7421.14	889.97	903.73	-330.51	1730362.47	14402046.73	39°39'25.691"N	80°40'49.499"W	1.75	-1.74	0.17
8183.00	89.320	313.960	7421.84	936.79	935.55	-365.08	1730327.91	14402078.54	39°39'26.006"N	80°40'49.940"W	5.70	0.72	5.66
8229.00	88.860	312.710	7422.57	982.66	967.11	-398.54	1730294.47	14402110.10	39°39'26.319"N	80°40'50.366"W	2.90	-1.00	-2.72
8275.00	89.050	311.940	7423.41	1028.46	998.08	-432.54	1730260.48	14402141.05	39°39'26.627"N	80°40'50.799"W	1.72	0.41	-1.67
8322.00	88.980	311.820	7424.21	1075.22	1029.45	-467.53	1730225.50	14402172.41	39°39'26.938"N	80°40'51.245"W	0.30	-0.15	-0.26
8368.00	88.950	312.120	7425.04	1120.99	1060.21	-501.72	1730191.32	14402203.15	39°39'27.243"N	80°40'51.681"W	0.66	-0.07	0.65
8461.00	88.890	312.010	7426.80	1213.55	1122.51	-570.75	1730122.32	14402265.43	39°39'27.861"N	80°40'52.561"W	0.13	-0.06	-0.12
8554.00	90.990	313.020	7426.89	1306.18	1185.35	-639.30	1730053.80	14402328.25	39°39'28.485"N	80°40'53.434"W	2.51	2.26	1.09
8647.00	90.860	312.850	7425.39	1398.87	1248.69	-707.38	1729985.75	14402391.56	39°39'29.113"N	80°40'54.302"W	0.23	-0.14	-0.18
8739.00	90.990	313.350	7423.91	1490.58	1311.54	-774.54	1729918.61	14402454.39	39°39'29.737"N	80°40'55.158"W	0.56	0.14	0.54
8832.00	92.030	313.910	7421.46	1583.32	1375.69	-841.83	1729851.35	14402518.51	39°39'30.373"N	80°40'56.015"W	1.27	1.12	0.60
8925.00	91.940	314.260	7418.24	1676.10	1440.35	-908.60	1729784.61	14402583.15	39°39'31.014"N	80°40'56.866"W	0.39	-0.10	0.38
9017.00	92.000	313.530	7415.07	1767.85	1504.10	-974.85	1729718.38	14402646.87	39°39'31.647"N	80°40'57.710"W	0.80	0.07	-0.79
9110.00	91.750	312.320	7412.03	1860.50	1567.40	-1042.91	1729650.35	14402710.15	39°39'32.275"N	80°40'58.578"W	1.33	-0.27	-1.30
9202.00	90.800	312.760	7409.98	1952.12	1629.59	-1110.68	1729582.60	14402772.31	39°39'32.892"N	80°40'59.441"W	1.14	-1.03	0.48
9295.00	90.890	311.010	7408.61	2044.65	1691.67	-1179.91	1729513.40	14402834.37	39°39'33.507"N	80°41'00.324"W	1.88	0.10	-1.88
9388.00	90.950	311.810	7407.12	2137.10	1753.18	-1249.65	1729443.69	14402895.85	39°39'34.118"N	80°41'01.213"W	0.86	0.06	0.86
9481.00	90.950	313.790	7405.58	2229.76	1816.35	-1317.87	1729375.49	14402959.00	39°39'34.745"N	80°41'02.082"W	2.13	0.00	2.13
9573.00	90.950	315.520	7404.05	2321.63	1881.00	-1383.31	1729310.09	14403023.62	39°39'35.386"N	80°41'02.916"W	1.88	0.00	1.88

RECEIVED
 WV Department of
 Environmental Protection
 AUG 22 2017
 Oil and Gas



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
9666.00	90.920	317.310	7402.53	2414.60	1948.36	-1447.41	1729246.01	14403090.95	39°39'36.054"N	80°41'03.733"W	1.92	-0.03	1.92
9759.00	92.280	313.880	7399.94	2507.49	2014.76	-1512.45	1729180.99	14403157.33	39°39'36.712"N	80°41'04.561"W	3.97	1.46	-3.69
9851.00	92.340	315.710	7396.23	2599.30	2079.52	-1577.68	1729115.79	14403222.07	39°39'37.354"N	80°41'05.392"W	1.99	0.07	1.99
9944.00	92.120	317.460	7392.61	2692.22	2147.03	-1641.55	1729051.95	14403289.54	39°39'38.024"N	80°41'06.206"W	1.90	-0.24	1.88
10037.00	92.030	317.810	7389.24	2785.15	2215.69	-1704.17	1728989.35	14403358.18	39°39'38.705"N	80°41'07.004"W	0.39	-0.10	0.38
10130.00	92.150	315.610	7385.85	2878.08	2283.34	-1767.90	1728925.65	14403425.80	39°39'39.375"N	80°41'07.815"W	2.37	0.13	-2.37
10222.00	92.120	315.470	7382.42	2969.96	2348.96	-1832.29	1728861.28	14403491.40	39°39'40.026"N	80°41'08.636"W	0.16	-0.03	-0.15
10315.00	91.480	312.520	7379.50	3062.72	2413.52	-1899.15	1728794.44	14403555.93	39°39'40.666"N	80°41'09.488"W	3.24	-0.69	-3.17
10408.00	91.080	310.900	7377.42	3155.21	2475.38	-1968.56	1728725.06	14403617.76	39°39'41.280"N	80°41'10.373"W	1.79	-0.43	-1.74
10497.00	91.140	311.930	7375.70	3243.68	2534.24	-2035.29	1728658.36	14403676.60	39°39'41.864"N	80°41'11.223"W	1.16	0.07	1.16
10590.00	90.860	311.440	7374.07	3336.18	2596.08	-2104.73	1728588.94	14403738.42	39°39'42.478"N	80°41'12.108"W	0.61	-0.30	-0.53
10683.00	90.860	310.920	7372.68	3428.59	2657.30	-2174.72	1728518.98	14403799.62	39°39'43.085"N	80°41'13.001"W	0.56	0.00	-0.56
10775.00	91.910	309.890	7370.46	3519.84	2716.92	-2244.75	1728448.98	14403859.21	39°39'43.677"N	80°41'13.893"W	1.60	1.14	-1.12
10868.00	91.940	309.940	7367.33	3611.97	2776.56	-2316.04	1728377.71	14403918.83	39°39'44.269"N	80°41'14.802"W	0.06	0.03	0.05
10961.00	92.340	313.680	7363.86	3704.42	2838.50	-2385.30	1728308.48	14403980.75	39°39'44.883"N	80°41'15.685"W	4.04	0.43	4.02
11054.00	91.910	314.300	7360.41	3797.17	2903.05	-2452.17	1728241.65	14404045.27	39°39'45.523"N	80°41'16.537"W	0.81	-0.46	0.67
11146.00	91.850	312.130	7357.39	3888.85	2966.01	-2519.17	1728174.66	14404108.20	39°39'46.148"N	80°41'17.391"W	2.36	-0.07	-2.36
11239.00	92.060	313.620	7354.22	3981.48	3029.25	-2587.29	1728106.58	14404171.42	39°39'46.775"N	80°41'18.259"W	1.62	0.23	1.60
11332.00	92.090	315.710	7350.85	4074.30	3094.58	-2653.38	1728040.51	14404236.72	39°39'47.423"N	80°41'19.102"W	2.25	0.03	2.25
11425.00	92.000	312.780	7347.53	4167.07	3159.42	-2719.96	1727973.96	14404301.54	39°39'48.066"N	80°41'19.950"W	3.15	-0.10	-3.15
11517.00	91.910	316.100	7344.39	4258.87	3223.78	-2785.60	1727908.35	14404365.88	39°39'48.705"N	80°41'20.787"W	3.61	-0.10	3.61
11610.00	92.030	316.390	7341.19	4351.79	3290.92	-2849.87	1727844.09	14404432.99	39°39'49.320"N	80°41'21.606"W	0.34	0.13	0.31
11703.00	91.910	313.580	7338.00	4444.63	3356.62	-2915.61	1727778.39	14404498.66	39°39'50.022"N	80°41'22.443"W	3.02	-0.13	-3.02
11796.00	91.630	314.090	7335.12	4537.39	3421.00	-2982.66	1727711.36	14404563.01	39°39'50.660"N	80°41'23.298"W	0.63	-0.30	0.55
11888.00	91.790	314.290	7332.38	4629.19	3485.10	-3048.60	1727645.45	14404627.09	39°39'51.296"N	80°41'24.138"W	0.28	0.17	0.22
11981.00	91.390	317.090	7329.80	4722.10	3551.61	-3113.53	1727580.54	14404693.58	39°39'51.956"N	80°41'24.965"W	3.04	-0.43	3.01
12073.00	91.450	318.150	7327.52	4814.07	3619.55	-3175.52	1727518.58	14404761.49	39°39'52.629"N	80°41'25.755"W	1.15	0.07	1.15
12166.00	91.450	313.860	7325.16	4906.98	3686.42	-3240.08	1727454.04	14404828.33	39°39'53.292"N	80°41'26.578"W	4.61	0.00	-4.61
12259.00	91.350	312.220	7322.89	4999.66	3749.87	-3308.03	1727386.12	14404891.76	39°39'53.922"N	80°41'27.444"W	1.77	-0.11	-1.76
12351.00	91.540	313.510	7320.57	5091.32	3812.43	-3375.44	1727318.73	14404954.30	39°39'54.542"N	80°41'28.303"W	1.42	0.21	1.40

RECEIVED
 Department of Oil and Gas
 Environmental Protection
 AUG 22 2017



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 7 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations)													
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12444.00	91.450	311.940	7318.14	5183.96	3875.51	-3443.74	1727250.47	14405017.35	39°39'55.168"N	80°41'29.174"W	1.69	-0.10	-1.69
12537.00	91.420	311.000	7315.82	5276.40	3937.07	-3513.40	1727180.83	14405078.89	39°39'55.779"N	80°41'30.062"W	1.01	-0.03	-1.01
12629.00	91.600	311.540	7313.39	5367.82	3997.74	-3582.52	1727111.74	14405139.53	39°39'56.381"N	80°41'30.943"W	0.62	0.20	0.59
12722.00	91.540	313.960	7310.84	5460.45	4060.84	-3650.78	1727043.50	14405202.60	39°39'57.007"N	80°41'31.813"W	2.60	-0.06	2.60
12815.00	91.480	314.100	7308.39	5553.24	4125.45	-3717.62	1726976.69	14405267.19	39°39'57.647"N	80°41'32.665"W	0.16	-0.06	0.15
12908.00	91.380	314.530	7306.07	5646.06	4190.40	-3784.15	1726910.19	14405332.12	39°39'58.291"N	80°41'33.513"W	0.47	-0.11	0.46
13000.00	91.510	314.170	7303.75	5737.89	4254.69	-3849.91	1726844.45	14405396.38	39°39'58.929"N	80°41'34.351"W	0.42	0.14	-0.39
13093.00	91.450	311.970	7301.35	5830.56	4318.18	-3917.82	1726776.56	14405459.84	39°39'59.559"N	80°41'35.217"W	2.37	-0.06	-2.37
13186.00	91.420	312.680	7299.02	5923.15	4380.78	-3986.56	1726707.86	14405522.42	39°40'00.180"N	80°41'36.093"W	0.76	-0.03	0.76
13279.00	91.420	316.180	7296.71	6015.97	4445.85	-4052.94	1726641.50	14405587.47	39°40'00.825"N	80°41'36.939"W	3.76	0.00	3.76
13372.00	91.540	314.530	7294.31	6108.86	4511.99	-4118.27	1726576.20	14405653.58	39°40'01.481"N	80°41'37.771"W	1.78	0.13	-1.77
13465.00	91.350	314.140	7291.97	6201.69	4576.97	-4184.77	1726509.73	14405718.53	39°40'02.125"N	80°41'38.619"W	0.47	-0.20	-0.42
13551.00	91.410	314.290	7289.90	6287.51	4636.92	-4246.39	1726448.13	14405778.46	39°40'02.720"N	80°41'39.404"W	0.19	0.07	0.17
13576.00	91.410	314.290	7289.28	6312.47	4654.37	-4264.28	1726430.25	14405795.91	39°40'02.893"N	80°41'39.632"W	0.00	0.00	0.00

HOLE & CASING SECTIONS									
- Ref Wellbore: Constance Taylor WTZ 5H AWB Ref Wellpath: Constance Taylor WTZ 5H AWP Proj: 13576'									
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)
17.5in Open Hole	26.00	485.00	459.00	26.00	484.99	0.00	0.00	-1.50	1.29
13.375in Casing Surface	26.00	470.00	444.00	26.00	469.99	0.00	0.00	-1.49	1.30
12.25in Open Hole	485.00	2901.00	2416.00	484.99	2900.84	-1.50	1.29	10.78	0.13
9.625in Casing Intermediate	26.00	2881.00	2855.00	26.00	2880.84	0.00	0.00	10.89	0.31
8.75in Open Hole	2901.00	6700.00	3799.00	2900.84	6682.07	10.78	0.13	57.88	158.62
8.5in Open Hole	6700.00	13576.00	6876.00	6682.07	7289.28	57.88	158.62	4654.37	-4264.28

RECEIVED
 Office of Oil and Gas
 WV Department of Environmental Protection
 AUG 22 2017



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 8 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Constance Taylor WTZ 5H BHL Rev-4	7272.00	4697.17	-4295.59	1726398.95	14405838.69	39°40'03.317"N	80°41'40.031"W	point
Constance Taylor WTZ 5H LP Rev-4	7405.00	704.33	-120.28	1730572.62	14401847.41	39°39'23.713"N	80°40'46.820"W	point

WELLPATH COMPOSITION - Ref Wellbore: Constance Taylor WTZ 5H AWB Ref Wellpath: Constance Taylor WTZ 5H AWP Proj: 13576'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	357.00	OWSG EMS rev2 + HRGM	01_MSS <17-1/2"> (171'-357')	Constance Taylor WTZ 5H AWB
357.00	2832.00	BHI NaviTrak (Axial)	02_APS EM <12-1/4"> (357')(514'-2832')	Constance Taylor WTZ 5H AWB
2832.00	6623.00	BHI NaviTrak (Axial)	03_APS EM <8-3/4"> (2832')(2924'-6623')	Constance Taylor WTZ 5H AWB
6623.00	13551.00	BHI AutoTrak Curve (Short)	04_BHI AT Curve <8-1/2"> (6623')(6743'-13551')	Constance Taylor WTZ 5H AWB
13551.00	13576.00	Blind Drilling (std)	Projection to bit	Constance Taylor WTZ 5H AWB

RECEIVED
 Office of Oil and Gas
 AUG 22 2017
 WV Department of
 Environmental Protection



Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'
Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
171.00	0.500	151.280	171.00	MSS <17-1/2"> (171'-357')
514.00	0.060	271.490	513.99	APS EM <12-1/4"> (357')(514'-2832')
2924.00	0.340	198.960	2923.84	APS EM <8-3/4"> (2832')(2924'-6623')
6623.00	17.220	75.410	6608.05	BHI AT Curve <8-1/2"> (6623')(6743'-13551')
13576.00	91.410	314.290	7289.28	Projected MD at TD

COMMENTS
<p>Wellpath general comments API: 47-103-03149-0000 Job #: 8356871 Rig: SDC-46 Duration: 1/21/17 - 1/24/17 MSS <17-1/2"> (171'-357') APS EM <12-1/4"> (357')(514'-2832') APS EM <8-3/4"> (2832')(2924'-6623') BHI AT Curve <8-1/2"> (6623')(6743'-13551') Projection to Bit: 13576' MD.</p>

RECEIVED
 Office of Oil and Gas
 AUG 22 2017
 WV Department of
 Environmental Protection