

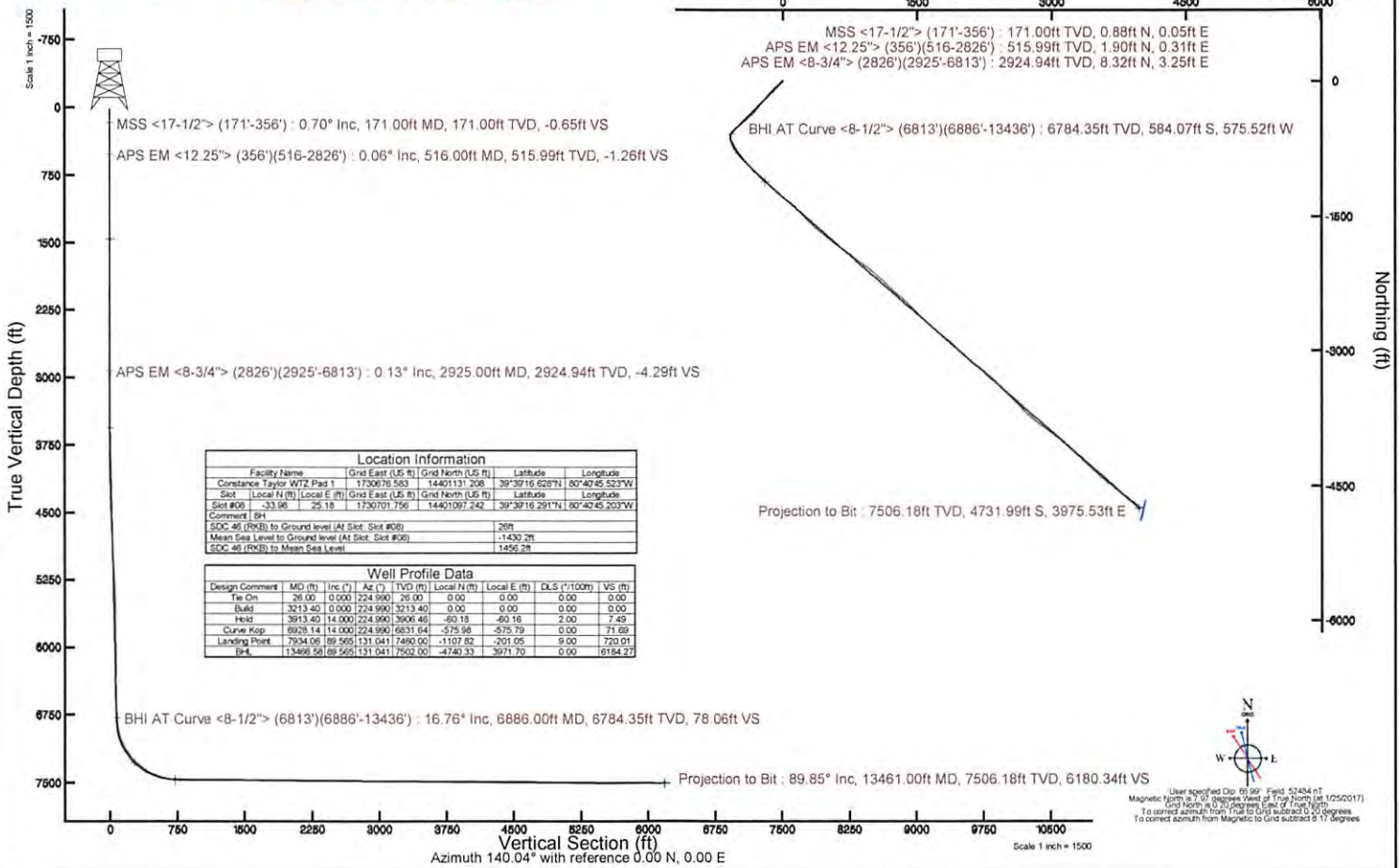
# SOUTHWESTERN ENERGY

Location: Wetzel County, WV Slot: Slot #08  
 Field: Wetzel Well: Constance Taylor WTZ 8H  
 Facility: Constance Taylor WTZ Pad Wellbore: Constance Taylor WTZ 8H PWB

API: 47-103-03150-0000  
 Job#: 8346860  
 Rig: SDC-46  
 Duration: 01/31/17 - 02/08/17



Plot reference wellpath is Constance Taylor WTZ 8H PWB Rev C 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 #08): -1430.2 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: amarc on 2017-02-13
	Database: WA_MPL_EASTERNUS_Defn



Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Constance Taylor WTZ Pad 1	1730670.563	1440113.708	39°32'16.628"N	80°42'45.503"W
Slot (Local N (ft)   Local E (ft))	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #08 (-33.96   25.18)	1730701.756	14401097.242	39°39'16.291"N	80°40'45.203"W
Comment	Bit			
SDC 46 (RKB) to Ground level (At Slot Slot #08)	26ft			
Mean Sea Level to Ground level (At Slot Slot #08)	-1430.2ft			
SDC 46 (RKB) to Mean Sea Level	1456.2ft			

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	224.990	26.00	0.00	0.00	0.00	0.00
Build	3213.40	0.000	224.990	3213.40	0.00	0.00	0.00	0.00
Heel	3913.40	14.000	224.990	3068.46	-60.19	40.16	2.00	7.49
Curve Kop	8928.14	14.000	224.990	6631.64	-575.98	-575.79	0.00	71.69
Landing Point	7934.06	89.855	131.041	7490.00	-1107.62	-201.05	9.00	720.01
Bit	13466.58	89.855	131.041	7502.00	-4740.33	3971.70	0.00	6184.27



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# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #08
Area	Wetzel County, WV	Well	Constance Taylor WTZ 8H
Field	Wetzel	Wellbore	Constance Taylor WTZ 8H 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	2/13/2017 at 9:03:01 AM
Convergence at slot	0.21° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Constance_Taylor_WTZ_8H_AWB_Proj_13461_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-33.98	25.18	1730701.76	14401097.24	39°39'16.291"N	80°40'45.203"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 #08)	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	140.04°

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# Actual Wellpath Report

Constance Taylor Wtz 8H AWB Proj: 13461'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #08
Area	Wetzel County, WV	Well	Constance Taylor Wtz 8H
Field	Wetzel	Wellbore	Constance Taylor Wtz 8H AWB
Facility	Constance Taylor Wtz Pad 1		

WELLPATH DATA (159 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	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	3.080	0.00	0.00	0.00	0.00	1730701.76	14401097.24	39°39'16.291"N	80°40'45.203"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	3.080	26.00	0.00	0.00	0.00	1730701.76	14401097.24	39°39'16.291"N	80°40'45.203"W	0.00	0.000	0.00	0.00	0.00
171.00	0.700	3.080	171.00	-0.65	0.88	0.05	1730701.80	14401098.13	39°39'16.300"N	80°40'45.202"W	0.89	3.080	0.48	0.48	2.12
264.00	0.200	25.680	263.99	-1.13	1.60	0.15	1730701.90	14401098.84	39°39'16.307"N	80°40'45.201"W	1.60	5.307	0.56	-0.54	24.30
356.00	0.100	8.080	355.99	-1.25	1.82	0.23	1730701.98	14401099.06	39°39'16.309"N	80°40'45.200"W	1.84	7.173	0.12	-0.11	-19.13
516.00	0.060	137.540	515.99	-1.26	1.90	0.31	1730702.06	14401099.14	39°39'16.310"N	80°40'45.199"W	1.92	9.141	0.09	-0.03	80.91
608.00	0.100	178.030	607.99	-1.15	1.78	0.34	1730702.10	14401099.02	39°39'16.309"N	80°40'45.198"W	1.82	10.821	0.07	0.04	44.01
701.00	0.180	181.450	700.99	-0.97	1.56	0.34	1730702.10	14401098.80	39°39'16.307"N	80°40'45.198"W	1.59	12.324	0.09	0.09	3.68
794.00	0.130	197.740	793.99	-0.81	1.31	0.30	1730702.06	14401098.55	39°39'16.304"N	80°40'45.199"W	1.34	13.074	0.07	-0.05	17.52
887.00	0.060	127.970	886.99	-0.70	1.18	0.31	1730702.07	14401098.42	39°39'16.303"N	80°40'45.199"W	1.22	14.747	0.13	-0.08	-75.02
979.00	0.200	150.390	978.99	-0.50	1.01	0.43	1730702.18	14401098.25	39°39'16.301"N	80°40'45.197"W	1.10	22.955	0.16	0.15	24.37
1072.00	0.070	37.390	1071.99	-0.35	0.91	0.54	1730702.30	14401098.16	39°39'16.300"N	80°40'45.196"W	1.06	30.693	0.25	-0.14	-121.51
1165.00	0.030	114.020	1164.99	-0.34	0.95	0.60	1730702.35	14401098.19	39°39'16.301"N	80°40'45.195"W	1.12	32.267	0.07	-0.04	82.40
1258.00	0.030	238.130	1257.99	-0.32	0.93	0.60	1730702.36	14401098.17	39°39'16.300"N	80°40'45.195"W	1.10	32.966	0.06	0.00	133.45
1350.00	0.050	58.220	1349.99	-0.32	0.93	0.61	1730702.37	14401098.18	39°39'16.301"N	80°40'45.195"W	1.12	33.319	0.09	0.02	-195.55
1443.00	0.300	38.410	1442.99	-0.37	1.15	0.80	1730702.56	14401098.39	39°39'16.303"N	80°40'45.192"W	1.40	34.905	0.27	0.27	-21.30
1536.00	0.310	38.650	1535.99	-0.46	1.53	1.11	1730702.86	14401098.78	39°39'16.306"N	80°40'45.188"W	1.89	35.853	0.01	0.01	0.26
1629.00	0.370	27.410	1628.99	-0.63	2.00	1.40	1730703.16	14401099.24	39°39'16.311"N	80°40'45.185"W	2.44	35.106	0.10	0.06	-12.09
1721.00	0.380	16.830	1720.99	-0.91	2.55	1.63	1730703.38	14401099.79	39°39'16.316"N	80°40'45.182"W	3.03	32.542	0.08	0.01	-11.50
1814.00	0.390	5.870	1813.98	-1.30	3.16	1.75	1730703.51	14401100.40	39°39'16.322"N	80°40'45.180"W	3.61	28.964	0.08	0.01	-11.78
1908.00	0.430	345.640	1907.98	-1.84	3.82	1.70	1730703.45	14401101.06	39°39'16.329"N	80°40'45.181"W	4.18	23.923	0.16	0.04	-21.52
2000.00	0.670	353.260	1999.98	-2.60	4.69	1.55	1730703.30	14401101.93	39°39'16.338"N	80°40'45.183"W	4.94	18.251	0.27	0.26	8.28
2093.00	0.880	354.900	2092.97	-3.64	5.94	1.42	1730703.17	14401103.18	39°39'16.350"N	80°40'45.184"W	6.11	13.436	0.23	0.23	1.76
2186.00	0.660	348.570	2185.96	-4.70	7.18	1.25	1730703.01	14401104.42	39°39'16.362"N	80°40'45.186"W	7.29	9.878	0.25	-0.24	-6.81
2278.00	0.750	333.140	2277.95	-5.75	8.24	0.87	1730702.63	14401105.47	39°39'16.373"N	80°40'45.191"W	8.28	6.051	0.23	0.10	-16.77
2371.00	0.140	334.910	2370.95	-6.45	8.88	0.55	1730702.31	14401106.12	39°39'16.379"N	80°40'45.195"W	8.90	3.543	0.66	-0.66	1.90
2464.00	0.140	125.540	2463.95	-6.45	8.92	0.59	1730702.35	14401106.16	39°39'16.379"N	80°40'45.195"W	8.94	3.811	0.29	0.00	161.97
2556.00	0.460	83.690	2555.95	-6.14	8.89	1.05	1730702.81	14401106.13	39°39'16.379"N	80°40'45.189"W	8.96	6.750	0.40	0.35	-45.49
2649.00	0.380	77.060	2648.95	-5.79	9.00	1.72	1730703.48	14401106.24	39°39'16.380"N	80°40'45.180"W	9.17	10.841	0.10	-0.09	-7.13
2742.00	0.470	105.250	2741.94	-5.34	8.97	2.39	1730704.15	14401106.21	39°39'16.380"N	80°40'45.172"W	9.29	14.933	0.24	0.10	30.31

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# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY		Slot #08
Area	Wetzel County, WV		Well
Field	Wetzel		Wellbore
Facility	Constance Taylor WTZ Pad 1		Constance Taylor WTZ 8H AWB

WELLPATH DATA (159 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]
2826.00	0.410	136.810	2825.94	-4.76	8.66	2.93	1730704.69	14401105.90	39°39'16.377"N	80°40'45.165"W	9.14	18.693	0.29	-0.07	37.57
2925.00	0.130	135.080	2924.94	-4.29	8.32	3.25	1730705.01	14401105.56	39°39'16.373"N	80°40'45.161"W	8.94	21.342	0.28	-0.28	-1.75
3018.00	0.050	49.980	3017.94	-4.19	8.28	3.36	1730705.11	14401105.52	39°39'16.373"N	80°40'45.159"W	8.93	22.086	0.15	-0.09	-91.51
3111.00	0.150	337.500	3110.94	-4.30	8.41	3.34	1730705.10	14401105.65	39°39'16.374"N	80°40'45.159"W	9.05	21.665	0.15	0.11	-77.94
3203.00	1.380	238.250	3202.93	-4.58	7.94	2.35	1730704.11	14401105.18	39°39'16.370"N	80°40'45.172"W	8.28	16.512	1.53	1.34	-107.88
3296.00	3.280	237.990	3295.85	-5.10	5.94	-0.85	1730700.90	14401103.18	39°39'16.350"N	80°40'45.213"W	6.00	351.823	2.04	2.04	-0.28
3389.00	4.350	234.880	3388.64	-5.77	2.50	-6.00	1730695.76	14401099.75	39°39'16.316"N	80°40'45.279"W	6.50	292.668	1.17	1.15	-3.34
3484.00	6.050	231.670	3483.25	-6.22	-2.67	-12.87	1730688.89	14401094.57	39°39'16.265"N	80°40'45.367"W	13.14	258.262	1.81	1.79	-3.38
3577.00	7.360	232.030	3575.61	-6.56	-9.38	-21.41	1730680.35	14401087.87	39°39'16.199"N	80°40'45.477"W	23.37	246.344	1.41	1.41	0.39
3670.00	9.150	231.260	3667.64	-6.93	-17.67	-31.87	1730669.89	14401079.58	39°39'16.118"N	80°40'45.611"W	36.45	240.996	1.93	1.92	-0.83
3762.00	9.980	224.370	3758.37	-6.29	-27.95	-43.16	1730658.62	14401069.30	39°39'16.017"N	80°40'45.756"W	51.42	237.072	1.54	0.90	-7.49
3855.00	11.330	226.850	3849.76	-4.99	-39.96	-55.46	1730646.32	14401057.30	39°39'15.898"N	80°40'45.913"W	68.35	234.227	1.53	1.45	2.67
3948.00	12.610	226.570	3940.74	-3.87	-53.18	-69.49	1730632.29	14401044.08	39°39'15.768"N	80°40'46.094"W	87.51	232.573	1.38	1.38	-0.30
4040.00	13.820	224.320	4030.30	-2.16	-67.95	-84.46	1730617.32	14401029.32	39°39'15.623"N	80°40'46.286"W	108.40	231.184	1.43	1.32	-2.45
4133.00	13.940	222.530	4120.58	0.41	-84.15	-99.80	1730602.00	14401013.12	39°39'15.463"N	80°40'46.482"W	130.54	229.861	0.48	0.13	-1.92
4226.00	14.790	222.600	4210.68	3.41	-101.15	-115.41	1730586.40	14400996.14	39°39'15.296"N	80°40'46.683"W	153.46	228.767	0.91	0.91	0.08
4318.00	15.220	225.710	4299.54	5.84	-118.22	-132.00	1730569.81	14400979.07	39°39'15.128"N	80°40'46.896"W	177.20	228.151	0.99	0.47	3.38
4411.00	14.030	221.460	4389.53	8.44	-135.20	-148.20	1730553.61	14400962.10	39°39'14.960"N	80°40'47.104"W	200.60	227.627	1.72	-1.28	-4.57
4503.00	14.510	221.610	4478.69	11.80	-152.17	-163.24	1730538.58	14400945.13	39°39'14.793"N	80°40'47.297"W	223.17	227.010	0.52	0.52	0.16
4596.00	14.090	219.520	4568.81	15.57	-169.61	-178.18	1730523.65	14400927.69	39°39'14.621"N	80°40'47.488"W	246.00	226.411	0.72	-0.45	-2.25
4689.00	14.080	220.060	4659.01	19.60	-187.01	-192.66	1730509.17	14400910.31	39°39'14.450"N	80°40'47.674"W	268.50	225.854	0.14	-0.01	0.58
4781.00	13.380	218.410	4748.38	23.69	-203.91	-206.48	1730495.36	14400893.41	39°39'14.283"N	80°40'47.852"W	290.20	225.358	0.87	-0.76	-1.79
4874.00	13.650	220.210	4838.81	27.73	-220.72	-220.25	1730481.59	14400876.60	39°39'14.118"N	80°40'48.029"W	311.81	224.938	0.54	0.29	1.94
4967.00	14.250	221.210	4929.07	31.36	-237.72	-234.87	1730466.97	14400859.62	39°39'13.950"N	80°40'48.216"W	334.18	224.656	0.70	0.65	1.08
5059.00	13.710	219.760	5018.34	35.04	-254.61	-249.31	1730452.55	14400842.73	39°39'13.784"N	80°40'48.402"W	356.35	224.397	0.70	-0.59	-1.58
5152.00	13.000	213.300	5108.83	40.02	-271.83	-262.10	1730439.76	14400825.52	39°39'13.614"N	80°40'48.566"W	377.61	223.956	1.78	-0.76	-6.95
5245.00	13.740	213.390	5199.31	46.20	-289.80	-273.92	1730427.94	14400807.56	39°39'13.437"N	80°40'48.718"W	398.77	223.387	0.80	0.80	0.10
5338.00	14.350	223.940	5289.54	50.59	-307.32	-288.00	1730413.87	14400790.04	39°39'13.264"N	80°40'48.899"W	421.17	223.141	2.83	0.66	11.34
5430.00	13.720	220.030	5378.80	53.70	-323.88	-302.93	1730398.95	14400773.49	39°39'13.101"N	80°40'49.090"W	443.47	223.085	1.24	-0.68	-4.25
5523.00	13.560	220.300	5469.18	57.46	-340.64	-317.07	1730384.81	14400756.73	39°39'12.936"N	80°40'49.272"W	465.37	222.948	0.19	-0.17	0.29

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# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	SOUTHWESTERN ENERGY		Slot	Slot #08
Area	Wetzel County, WV		Well	Constance Taylor WTZ 8H
Field	Wetzel		Wellbore	Constance Taylor WTZ 8H AWB
Facility	Constance Taylor WTZ Pad 1			

## WELLPATH DATA (159 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]
5616.00	14.010	226.300	5559.50	60.04	-356.74	-332.26	1730369.62	14400740.65	39°39'12.777"N	80°40'49.467"W	487.50	222.966	1.61	0.48	6.45
5709.00	13.670	230.140	5649.80	60.75	-371.56	-348.84	1730353.05	14400725.83	39°39'12.632"N	80°40'49.680"W	509.65	223.194	1.05	-0.37	4.13
5802.00	15.030	231.720	5739.90	60.38	-386.07	-366.74	1730335.16	14400711.32	39°39'12.489"N	80°40'49.909"W	532.49	223.529	1.52	1.46	1.70
5897.00	16.360	228.810	5831.36	60.31	-402.51	-386.48	1730315.43	14400694.89	39°39'12.327"N	80°40'50.162"W	558.02	223.836	1.63	1.40	-3.06
5990.00	16.210	224.960	5920.63	61.74	-420.33	-405.51	1730296.41	14400677.08	39°39'12.152"N	80°40'50.406"W	584.05	223.972	1.17	-0.16	-4.14
6083.00	15.500	225.880	6010.09	63.79	-438.16	-423.60	1730278.32	14400659.25	39°39'11.976"N	80°40'50.638"W	609.45	224.032	0.81	-0.76	0.99
6175.00	14.450	233.250	6098.97	64.04	-453.59	-441.63	1730260.30	14400643.83	39°39'11.824"N	80°40'50.870"W	633.07	224.234	2.36	-1.14	8.01
6268.00	13.940	229.440	6189.13	63.50	-467.82	-459.44	1730242.50	14400629.61	39°39'11.684"N	80°40'51.098"W	655.69	224.482	1.14	-0.55	-4.10
6361.00	13.780	232.660	6279.43	63.12	-481.82	-476.75	1730225.19	14400615.61	39°39'11.546"N	80°40'51.320"W	677.82	224.697	0.85	-0.17	3.46
6454.00	15.350	233.460	6369.44	61.87	-495.87	-495.45	1730206.50	14400601.57	39°39'11.408"N	80°40'51.560"W	700.97	224.976	1.70	1.69	0.86
6547.00	16.440	232.700	6458.88	60.53	-511.17	-515.81	1730186.15	14400586.27	39°39'11.258"N	80°40'51.821"W	726.19	225.259	1.19	1.17	-0.82
6639.00	16.560	223.340	6547.11	61.46	-528.60	-535.17	1730166.80	14400568.85	39°39'11.086"N	80°40'52.069"W	752.21	225.354	2.89	0.13	-10.17
6732.00	15.740	215.640	6636.45	66.14	-548.49	-551.61	1730150.36	14400548.97	39°39'10.890"N	80°40'52.280"W	777.90	225.163	2.46	-0.88	-8.28
6813.00	16.110	213.960	6714.34	71.98	-566.74	-564.29	1730137.68	14400530.72	39°39'10.710"N	80°40'52.443"W	799.76	224.876	0.73	0.46	-2.07
6886.00	16.760	211.950	6784.35	78.06	-584.07	-575.52	1730126.46	14400513.40	39°39'10.539"N	80°40'52.587"W	819.98	224.577	1.18	0.89	-2.75
6933.00	14.570	210.460	6829.61	82.14	-594.92	-582.11	1730119.88	14400502.56	39°39'10.432"N	80°40'52.672"W	832.33	224.376	4.74	-4.66	-3.17
6979.00	14.620	197.120	6874.13	87.24	-605.46	-586.75	1730115.24	14400492.02	39°39'10.328"N	80°40'52.732"W	843.12	224.101	7.29	0.11	-29.00
7025.00	16.160	182.960	6918.50	95.09	-617.41	-588.79	1730113.20	14400480.08	39°39'10.210"N	80°40'52.758"W	853.15	223.641	8.80	3.35	-30.78
7072.00	18.460	174.840	6963.37	105.99	-631.35	-588.46	1730113.53	14400466.14	39°39'10.072"N	80°40'52.755"W	863.07	222.986	7.09	4.89	-17.28
7118.00	21.030	170.610	7006.67	119.08	-646.75	-586.46	1730115.53	14400450.74	39°39'09.920"N	80°40'52.730"W	873.05	222.201	6.39	5.59	-9.20
7164.00	24.650	167.760	7049.06	134.68	-664.28	-583.07	1730118.91	14400433.23	39°39'09.747"N	80°40'52.688"W	883.88	221.275	8.23	7.87	-6.20
7211.00	28.480	163.400	7091.09	153.65	-684.60	-577.79	1730124.19	14400412.91	39°39'09.546"N	80°40'52.621"W	895.84	220.164	9.14	8.15	-9.28
7257.00	31.590	158.530	7130.91	175.16	-706.33	-570.25	1730131.73	14400391.19	39°39'09.331"N	80°40'52.525"W	907.79	218.915	8.59	6.76	-10.59
7303.00	34.870	153.610	7169.39	199.38	-729.34	-559.99	1730141.99	14400368.19	39°39'09.103"N	80°40'52.395"W	919.52	217.517	9.23	7.13	-10.70
7350.00	38.730	148.580	7207.03	226.99	-753.93	-546.34	1730155.63	14400343.61	39°39'08.860"N	80°40'52.222"W	931.08	215.929	10.41	8.21	-10.70
7396.00	43.680	143.500	7241.64	257.11	-779.00	-529.38	1730172.59	14400318.54	39°39'08.611"N	80°40'52.006"W	941.85	214.198	12.98	10.76	-11.04
7442.00	48.360	139.470	7273.58	290.18	-804.86	-508.74	1730193.21	14400292.70	39°39'08.355"N	80°40'51.744"W	952.16	212.297	11.96	10.17	-8.76
7489.00	51.410	137.710	7303.86	326.10	-831.80	-484.96	1730216.98	14400265.77	39°39'08.088"N	80°40'51.441"W	962.85	210.243	7.09	6.49	-3.74
7535.00	52.940	136.590	7332.07	362.39	-858.44	-460.25	1730241.69	14400239.14	39°39'07.824"N	80°40'51.126"W	974.03	208.198	3.84	3.33	-2.43
7582.00	56.070	134.800	7359.36	400.54	-885.81	-433.52	1730268.41	14400211.78	39°39'07.552"N	80°40'50.786"W	986.20	206.077	7.35	6.66	-3.81



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# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461

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Operator	Area	Field	Facility
SOUTHWESTERN ENERGY	Wetzel County, WV	Wetzel	Constance Taylor WTZ Pad 1
Slot #08	Well	Wellbore	Constance Taylor WTZ 8H AWB

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)
7628.00	61.330	7383.25	439.62	-913.19	-405.34	1730296.57	14400184.41	39°39'07.281"N	80°40'50.427"W	999.11	203.935	11.65	11.43	-2.61	
7674.00	67.160	7403.23	480.74	-941.55	-375.17	1730326.74	14400156.06	39°39'06.999"N	80°40'50.042"W	1013.54	201.725	12.76	12.67	-1.61	
7721.00	71.530	7419.80	524.32	-971.19	-342.70	1730359.20	14400126.43	39°39'06.705"N	80°40'49.628"W	1029.88	199.436	9.48	9.30	-1.96	
7767.00	73.980	7433.44	567.79	-1000.49	-309.96	1730391.92	14400097.15	39°39'06.415"N	80°40'49.211"W	1047.40	197.213	5.35	5.33	-0.50	
7813.00	75.420	7445.58	611.72	-1030.13	-276.95	1730424.92	14400067.51	39°39'06.120"N	80°40'48.790"W	1066.71	195.048	3.26	3.13	0.93	
7860.00	80.480	7455.39	657.32	-1061.45	-243.32	1730458.53	14400036.21	39°39'05.810"N	80°40'48.362"W	1088.98	192.911	11.29	10.77	3.47	
7906.00	84.020	7461.59	702.66	-1093.25	-210.68	1730491.16	14400004.43	39°39'05.494"N	80°40'47.946"W	1113.36	190.908	7.96	7.70	2.07	
7952.00	86.740	7465.29	748.27	-1125.25	-177.85	1730523.97	14399972.44	39°39'05.177"N	80°40'47.528"W	1139.22	188.982	6.23	5.91	-1.96	
7999.00	90.120	7466.58	794.98	-1157.84	-144.02	1730557.79	14399939.86	39°39'04.854"N	80°40'47.097"W	1166.76	187.090	7.21	7.19	0.47	
8091.00	89.910	7466.56	886.31	-1220.74	-76.89	1730624.90	14399876.98	39°39'04.230"N	80°40'46.241"W	1223.16	183.604	1.98	-0.23	-1.97	
8184.00	89.940	7466.68	978.01	-1281.15	-6.19	1730695.56	14399816.60	39°39'03.630"N	80°40'45.340"W	1281.16	180.277	3.69	0.03	-3.69	
8277.00	90.000	7466.73	1069.27	-1339.59	66.15	1730767.88	14399758.18	39°39'03.050"N	80°40'44.418"W	1341.22	177.173	0.30	0.06	0.29	
8370.00	90.000	7466.73	1160.95	-1399.89	136.94	1730838.64	14399697.90	39°39'02.452"N	80°40'43.516"W	1406.57	174.413	2.91	0.00	2.91	
8462.00	89.850	7466.85	1252.51	-1464.52	202.36	1730904.03	14399633.30	39°39'01.811"N	80°40'42.682"W	1478.43	172.133	6.24	-0.16	6.24	
8555.00	89.420	7467.44	1345.36	-1532.42	265.91	1730967.56	14399565.43	39°39'01.137"N	80°40'41.873"W	1555.31	170.156	1.42	-0.46	-1.34	
8648.00	89.380	7468.41	1437.89	-1597.45	332.35	1731033.98	14399500.42	39°39'00.492"N	80°40'41.027"W	1631.66	168.247	4.05	-0.04	-4.05	
8741.00	89.350	7469.44	1529.85	-1659.07	402.00	1731104.57	14399438.83	39°38'59.881"N	80°40'40.139"W	1707.08	166.380	2.15	-0.03	-2.15	
8833.00	89.350	7470.49	1620.88	-1717.56	473.00	17311274.25	14399380.36	39°38'59.300"N	80°40'39.234"W	1781.50	164.603	2.22	0.00	-2.22	
8926.00	89.290	7471.59	1711.41	-1775.53	545.71	1731247.25	14399322.41	39°38'58.725"N	80°40'38.307"W	1857.50	162.915	0.23	-0.06	0.23	
9019.00	89.320	7472.72	1802.11	-1831.88	619.68	1731321.19	14399266.09	39°38'58.165"N	80°40'37.364"W	1933.85	161.311	2.95	0.03	-2.95	
9111.00	89.290	7473.84	1891.35	-1885.92	694.12	1731395.60	14399212.06	39°38'57.628"N	80°40'36.415"W	2009.60	159.794	0.11	-0.03	0.11	
9204.00	89.540	7474.79	1981.43	-1940.13	769.68	1731471.13	14399157.87	39°38'57.090"N	80°40'35.451"W	2087.23	158.361	0.84	0.27	-0.80	
9296.00	89.200	7475.80	2070.55	-1993.80	844.39	1731545.82	14399104.22	39°38'56.557"N	80°40'34.499"W	2165.24	157.047	0.94	-0.37	0.87	
9389.00	89.570	7476.80	2160.84	-2048.71	919.45	1731620.85	14399049.34	39°38'56.012"N	80°40'33.542"W	2245.57	155.830	0.45	0.40	0.20	
9482.00	89.660	7477.42	2252.19	-2107.68	991.31	1731692.67	14398990.39	39°38'55.426"N	80°40'32.626"W	2329.16	154.811	6.66	0.10	6.66	
9575.00	89.880	7477.79	2344.20	-2169.53	1060.75	1731762.09	14398928.57	39°38'54.813"N	80°40'31.741"W	2414.96	153.945	1.69	0.24	-1.68	
9667.00	89.910	7477.96	2435.27	-2231.00	1129.19	1731830.50	14398867.12	39°38'54.203"N	80°40'30.869"W	2500.49	153.154	2.22	0.03	2.22	
9760.00	89.600	7478.36	2527.62	-2294.76	1196.90	1731898.18	14398803.39	39°38'53.570"N	80°40'30.006"W	2588.14	152.454	0.78	-0.33	0.71	
9853.00	89.480	7479.11	2619.72	-2357.12	1265.87	1731967.13	14398741.05	39°38'52.951"N	80°40'29.127"W	2675.53	151.762	3.21	-0.13	-3.20	
9945.00	89.540	7479.89	2710.45	-2416.89	1335.81	1732037.04	14398681.30	39°38'52.358"N	80°40'28.236"W	2761.47	151.071	0.26	0.07	-0.25	

## WELLPATH DATA (159 stations)



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# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #08
Area	Wetzel County, WV	Well	Constance Taylor WTZ 8H
Field	Wetzel	Wellbore	Constance Taylor WTZ 8H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (159 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]
10038.00	89.450	135.580	7480.71	2802.71	-2480.28	1403.81	1732105.01	14398617.94	39°38'51.729"N	80°40'27.369"W	2849.99	150.491	5.57	-0.10	5.57
10131.00	89.660	136.680	7481.44	2895.49	-2547.32	1468.26	1732169.43	14398550.92	39°38'51.064"N	80°40'26.549"W	2940.17	150.041	1.20	0.23	1.18
10224.00	89.690	134.670	7481.96	2988.22	-2613.85	1533.23	1732234.39	14398484.42	39°38'50.404"N	80°40'25.721"W	3030.35	149.605	2.16	0.03	-2.16
10316.00	89.850	132.500	7482.33	3079.63	-2677.27	1599.87	1732301.00	14398421.02	39°38'49.775"N	80°40'24.872"W	3118.87	149.139	2.37	0.17	-2.36
10409.00	89.170	130.140	7483.13	3171.54	-2738.67	1669.71	1732370.81	14398359.65	39°38'49.166"N	80°40'23.982"W	3207.53	148.630	2.64	-0.73	-2.54
10498.00	89.380	129.100	7484.26	3259.07	-2795.42	1738.26	1732439.33	14398302.92	39°38'48.603"N	80°40'23.108"W	3291.79	148.126	1.19	0.24	-1.17
10591.00	89.320	129.440	7485.31	3350.42	-2854.28	1810.25	1732511.29	14398244.08	39°38'48.018"N	80°40'22.191"W	3379.93	147.616	0.37	-0.06	0.37
10684.00	89.200	132.510	7486.51	3442.24	-2915.25	1880.45	1732581.47	14398183.14	39°38'47.413"N	80°40'21.296"W	3469.12	147.176	3.30	-0.13	3.30
10777.00	89.350	134.530	7487.69	3534.63	-2979.28	1947.88	1732648.87	14398119.13	39°38'46.778"N	80°40'20.437"W	3559.54	146.823	2.18	0.16	2.17
10870.00	89.230	132.330	7488.84	3627.00	-3043.21	2015.41	1732716.37	14398055.23	39°38'46.144"N	80°40'19.577"W	3650.07	146.485	2.37	-0.13	-2.37
10962.00	89.350	129.240	7489.98	3717.78	-3103.29	2085.05	1732785.99	14397995.17	39°38'45.547"N	80°40'18.689"W	3738.70	146.103	3.36	0.13	-3.36
11055.00	89.450	126.830	7490.96	3808.74	-3160.59	2158.29	1732859.20	14397937.90	39°38'44.979"N	80°40'17.756"W	3827.21	145.672	2.59	0.11	-2.59
11148.00	89.200	127.840	7492.05	3899.45	-3216.98	2232.23	1732933.11	14397881.52	39°38'44.419"N	80°40'16.813"W	3915.59	145.244	1.12	-0.27	1.09
11241.00	89.510	132.060	7493.10	3990.99	-3276.68	2303.51	1733004.36	14397821.85	39°38'43.826"N	80°40'15.905"W	4005.34	144.893	4.55	0.33	4.54
11333.00	89.480	133.520	7493.91	4082.25	-3339.18	2371.01	1733071.84	14397759.38	39°38'43.206"N	80°40'15.045"W	4095.34	144.623	1.59	-0.03	1.59
11426.00	89.480	134.350	7494.75	4174.71	-3403.70	2437.98	1733138.78	14397694.88	39°38'42.566"N	80°40'14.192"W	4186.76	144.387	0.89	0.00	0.89
11519.00	89.420	135.960	7495.65	4267.37	-3469.63	2503.56	1733204.33	14397628.97	39°38'41.912"N	80°40'13.357"W	4278.57	144.187	1.73	-0.06	1.73
11612.00	89.570	136.370	7496.47	4360.15	-3536.71	2567.97	1733268.72	14397561.92	39°38'41.247"N	80°40'12.536"W	4370.68	144.017	0.47	0.16	0.44
11704.00	89.690	134.970	7497.06	4451.88	-3602.52	2632.25	1733332.98	14397496.14	39°38'40.594"N	80°40'11.718"W	4461.72	143.846	1.53	0.13	-1.52
11797.00	89.510	134.110	7497.71	4544.45	-3667.75	2698.54	1733399.23	14397430.93	39°38'39.947"N	80°40'10.873"W	4553.52	143.656	0.94	-0.19	-0.92
11889.00	89.630	131.370	7498.40	4635.69	-3730.18	2766.10	1733466.77	14397368.53	39°38'39.327"N	80°40'10.013"W	4643.87	143.441	2.98	0.13	-2.98
11982.00	89.940	127.050	7498.75	4727.01	-3788.96	2838.14	1733538.78	14397309.77	39°38'38.744"N	80°40'09.094"W	4734.05	143.165	4.66	0.33	-4.65
12074.00	89.600	126.250	7499.12	4816.51	-3843.87	2911.95	1733612.56	14397254.88	39°38'38.198"N	80°40'08.153"W	4822.33	142.854	0.94	-0.37	-0.87
12167.00	89.660	126.620	7499.72	4906.90	-3899.11	2986.77	1733687.35	14397199.67	39°38'37.650"N	80°40'07.200"W	4911.60	142.547	0.40	0.06	0.40
12260.00	89.690	129.110	7500.25	4997.80	-3956.18	3060.18	1733760.74	14397142.61	39°38'37.083"N	80°40'06.264"W	5001.61	142.277	2.68	0.03	2.68
12353.00	89.750	131.030	7500.70	5089.39	-4016.05	3131.35	1733831.87	14397082.77	39°38'36.489"N	80°40'05.357"W	5092.54	142.056	2.07	0.06	2.06
12445.00	89.780	130.580	7501.08	5180.19	-4076.17	3200.99	1733901.48	14397022.68	39°38'35.892"N	80°40'04.470"W	5182.80	141.858	0.49	0.03	-0.49
12538.00	89.780	132.650	7501.44	5272.19	-4137.93	3270.51	1733970.98	14396960.94	39°38'35.279"N	80°40'03.584"W	5274.34	141.678	2.23	0.00	2.23
12631.00	89.780	133.370	7501.79	5364.49	-4201.36	3338.51	1734038.96	14396897.53	39°38'34.650"N	80°40'02.717"W	5366.30	141.528	0.77	0.00	0.77
12724.00	89.600	133.330	7502.30	5456.85	-4265.20	3406.14	1734106.56	14396833.71	39°38'34.016"N	80°40'01.856"W	5458.36	141.390	0.20	-0.19	-0.04



# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #08
Area	Wetzel County, WV	Well	Constance Taylor WTZ 8H
Field	Wetzel	Wellbore	Constance Taylor WTZ 8H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (159 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]
12816.00	89.720	134.160	7502.84	5548.29	-4328.81	3472.60	1734172.99	14396770.13	39°38'33.385"N	80°40'01.009"W	5549.56	141.263	0.91	0.13	0.90
12909.00	89.850	130.550	7503.19	5640.44	-4391.46	3541.32	1734241.68	14396707.51	39°38'32.764"N	80°40'00.134"W	5641.44	141.117	3.88	0.14	-3.88
13002.00	89.600	126.910	7503.64	5731.62	-4449.63	3613.85	1734314.19	14396649.36	39°38'32.186"N	80°39'59.210"W	5732.29	140.918	3.92	-0.27	-3.91
13095.00	89.600	126.120	7504.29	5822.04	-4504.97	3688.59	1734388.90	14396594.04	39°38'31.636"N	80°39'58.257"W	5822.41	140.690	0.85	0.00	-0.85
13188.00	89.660	127.780	7504.89	5912.62	-4560.87	3762.91	1734463.19	14396538.16	39°38'31.081"N	80°39'57.309"W	5912.79	140.476	1.79	0.06	1.78
13281.00	89.720	127.440	7505.39	6003.43	-4617.63	3836.58	1734536.83	14396481.43	39°38'30.518"N	80°39'56.370"W	6003.49	140.278	0.37	0.06	-0.37
13374.00	89.690	129.530	7505.87	6094.54	-4675.50	3909.38	1734609.60	14396423.58	39°38'29.943"N	80°39'55.443"W	6094.55	140.100	2.25	-0.03	2.25
13436.00	89.850	131.030	7506.12	6155.64	-4715.58	3956.67	1734656.88	14396383.51	39°38'29.545"N	80°39'54.840"W	6155.65	140.001	2.43	0.26	2.42
13461.00	89.850	131.030	7506.18	6180.34	-4731.99	3975.53	1734675.73	14396367.11	39°38'29.382"N	80°39'54.600"W	6180.34	139.965	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Constance Taylor WTZ 8H AWB Ref Wellpath: Constance Taylor WTZ 8H AWB Proj: 13461'									
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	492.00	466.00	26.00	491.99	0.00	0.00	1.91	0.29
13.375in Casing Surface	26.00	472.00	446.00	26.00	471.99	0.00	0.00	1.92	0.28
12.25in Open Hole	492.00	2902.00	2410.00	491.99	2901.94	1.91	0.29	8.37	3.21
9.625in Casing Intermediate	26.00	2880.00	2854.00	26.00	2879.94	0.00	0.00	8.43	3.15
8.75in Open Hole	2902.00	6890.00	3988.00	2901.94	6788.19	8.37	3.21	-585.05	-576.13
8.5in Open Hole	6890.00	13461.00	6571.00	6788.19	7506.18	-585.05	-576.13	-4731.99	3975.53

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# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #08
Area	Wetzel County, WV	Well	Constance Taylor WTZ 8H
Field	Wetzel	Wellbore	Constance Taylor WTZ 8H 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 8H Lease Lines	1456.20	0.00	0.00	1730701.76	14401097.24	39°39'16.291"N	80°40'45.203"W	polygon
Constance Taylor WTZ 8H LP Rev-3	7455.00	-1107.82	-201.05	1730500.78	14399989.86	39°39'05.350"N	80°40'47.824"W	point
Constance Taylor WTZ 8H LP Rev-4	7460.00	-1107.82	-201.05	1730500.78	14399989.86	39°39'05.350"N	80°40'47.824"W	point
Constance Taylor WTZ 8H BHL Rev-3	7500.00	-4740.33	3971.70	1734671.90	14396358.77	39°38'29.300"N	80°39'54.649"W	point
Constance Taylor WTZ 8H BHL Rev-4	7502.00	-4740.33	3971.70	1734671.90	14396358.77	39°38'29.300"N	80°39'54.649"W	point

WELLPATH COMPOSITION - Ref Wellbore: Constance Taylor WTZ 8H AWB    Ref Wellpath: Constance Taylor WTZ 8H AWB Proj: 13461'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	356.00	OWSG EMS rev2 - Standard	01 MSS <17-1/2"> (171'-356')	Constance Taylor WTZ 8H AWB
356.00	2826.00	BHI NaviTrak (Axial)	02 APS EM <12.25"> (356')(516-2826')	Constance Taylor WTZ 8H AWB
2826.00	6813.00	BHI NaviTrak (Axial)	03 APS EM <8-3/4"> (2826')(2925'-6813')	Constance Taylor WTZ 8H AWB
6813.00	13436.00	BHI AutoTrak Curve (Short)	04 BHI AT Curve <8-1/2"> (6813')(6886'-13436')	Constance Taylor WTZ 8H AWB
13436.00	13461.00	Blind Drilling (std)	Projection to bit	Constance Taylor WTZ 8H AWB

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# Actual Wellpath Report

Constance Taylor WTZ 8H AWB Proj: 13461'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #08
Area	Wetzel County, WV	Well	Constance Taylor WTZ 8H
Field	Wetzel	Wellbore	Constance Taylor WTZ 8H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
171.00	0.700	3.080	171.00	MSS <17-1/2"> (171'-356')
516.00	0.060	137.540	515.99	APS EM <12.25"> (356')(516-2826')
2925.00	0.130	135.080	2924.94	APS EM <8-3/4"> (2826')(2925'-6813')
6886.00	16.760	211.950	6784.35	BHI AT Curve <8-1/2"> (6813')(6886'-13436')
13461.00	89.850	131.030	7506.18	Projection to Bit

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-103-03150-0000            Job#: 8346860            Rig: SDC-46            Duration : 01/31/17 - 02/08/17            MSS &lt;17-1/2"&gt; (171'-356')            APS EM &lt;12.25"&gt; (356')(516-2826')            APS EM &lt;8-3/4"&gt; (2826')(2925'-6813')            BHI AT Curve &lt;8-1/2"&gt; (6813')(6886'-13436')            Projected MD at TD: 13461'</p>

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