

SOUTHWESTERN ENERGY

Location: Brooke County, WV
 Field: Brooke
 Facility: Worthley BRK Pad

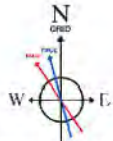
Slot: Slot #10H
 Well: Worthley BRK 10H
 Wellbore: Worthley BRK 10H PWB



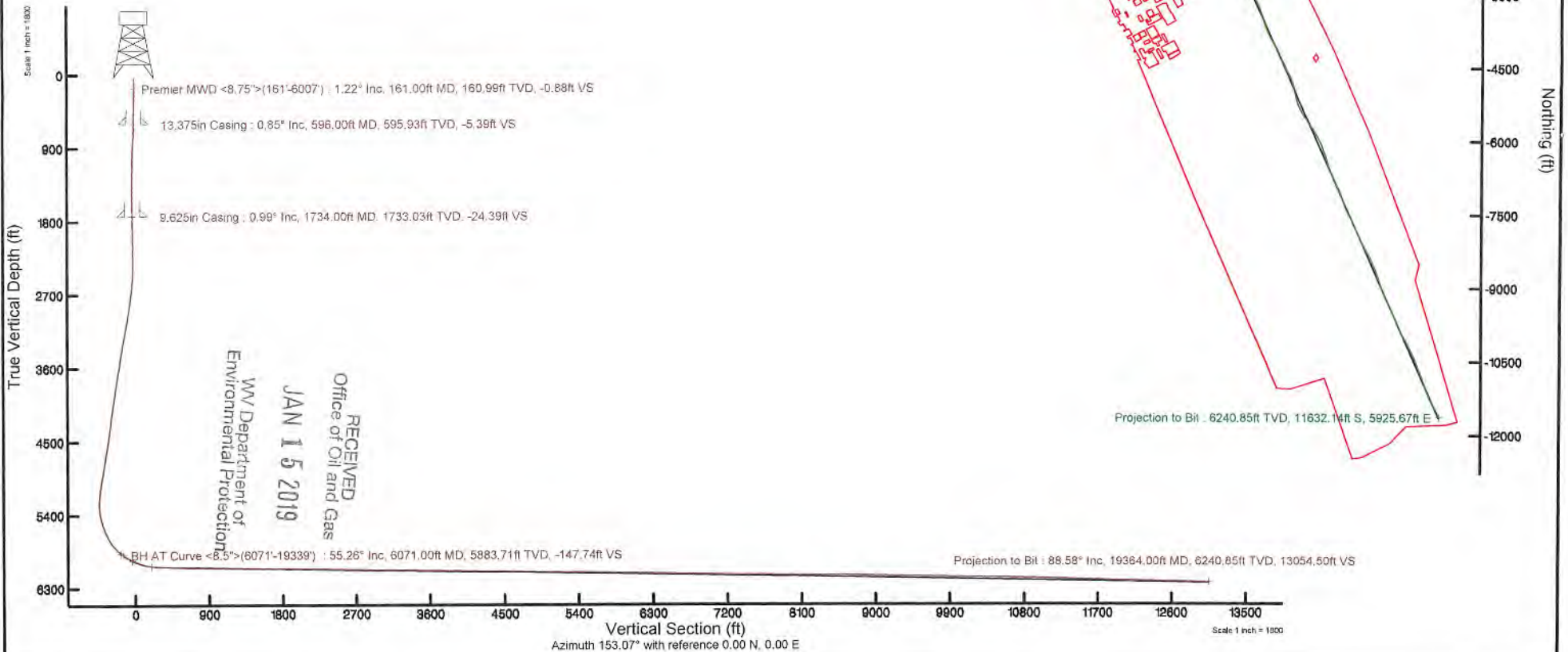
Comments	
API: 47-009-00249-0000	
BH Job #: 9242226	
Rig: SDC 41	
Duration: 07/13/2018 - 07/15/2018	

Plot reference wellpath is Worthley BRK 10H PWP Rev-A.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 41 (KB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to SDC 41 (KB)	North Reference: Grid north
SDC 41 (KB) to Mean Sea Level: 1183 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: Slot #10H) = 157 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: thomsuzc on 2018-07-30
	Database: WA, Pennsylvania

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Worthley BRK Pad	1764646.294	14605439.176	40°12'55.014"N	80°33'18.013"W
Slot	Local N (ft)	Local E (ft)	Latitude	Longitude
Slot #10H	-10.68	8.98	40°12'54.908"N	80°33'17.898"W
SDC 41 (KB) to Ground level (At Slot: Slot #10H)				26ft
Mean Sea Level to Ground level (At Slot: Slot #10H)				-1157ft
SDC 41 (KB) to Mean Sea Level				1183ft



User specified Dip: 67.65° Field: 52624-NT
 Magnetic North is 6.37 degrees West of True North (at 7/12/2018)
 Grid North is 0.29 degrees East of True North
 To correct azimuth from True to Grid subtract 0.29 degrees
 To correct azimuth from Magnetic to Grid subtract 6.66 degrees



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #10H
Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Thomsuzc
Scale	0.999618	Report Generated	7/30/2018 at 9:07:00 AM
Convergence at slot	0.29° East	Database/Source file	WA_Pennsylvania/Worthley_BRK_10H_AWP_Proj_19364_MD.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-10.68	8.98	1764655.27	14605428.50	40°12'54.908"N	80°33'17.898"W
Facility Reference Pt			1764646.29	14605439.18	40°12'55.014"N	80°33'18.013"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 41 (KB) to Facility Vertical Datum	1183.00ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1183.00ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level at Slot (Slot #10H)	26.00ft
MD Reference Pt	SDC 41 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	153.07°

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Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

WELLPATH DATA (223 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	25.420	0.00	0.00	0.00	0.00	1764655.27	14605428.50	40°12'54.908"N	80°33'17.898"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	25.420	26.00	0.00	0.00	0.00	1764655.27	14605428.50	40°12'54.908"N	80°33'17.898"W	0.00	0.000	0.00	0.00	0.00
161.00	1.220	25.420	160.99	-0.88	1.30	0.62	1764655.89	14605429.80	40°12'54.921"N	80°33'17.890"W	1.44	25.420	0.90	0.90	18.83
222.00	1.130	25.410	221.98	-1.64	2.43	1.15	1764656.42	14605430.93	40°12'54.932"N	80°33'17.883"W	2.69	25.418	0.15	-0.15	-0.02
315.00	1.090	38.240	314.98	-2.57	3.95	2.09	1764657.36	14605432.45	40°12'54.947"N	80°33'17.871"W	4.47	27.932	0.27	-0.04	13.80
434.00	0.810	17.280	433.94	-3.65	5.64	3.05	1764658.31	14605434.14	40°12'54.964"N	80°33'17.858"W	6.41	28.353	0.37	-0.24	-17.61
495.00	0.830	12.920	494.94	-4.30	6.49	3.27	1764658.54	14605434.98	40°12'54.972"N	80°33'17.855"W	7.26	26.772	0.11	0.03	-7.15
537.00	0.680	6.380	536.93	-4.74	7.03	3.37	1764658.64	14605435.53	40°12'54.977"N	80°33'17.854"W	7.79	25.598	0.41	-0.36	-15.57
619.00	0.910	8.040	618.93	-5.68	8.16	3.51	1764658.78	14605436.65	40°12'54.988"N	80°33'17.852"W	8.88	23.297	0.28	0.28	2.02
710.00	2.130	11.480	709.89	-7.60	10.53	3.95	1764659.22	14605439.03	40°12'55.012"N	80°33'17.846"W	11.25	20.583	1.34	1.34	3.78
800.00	4.140	16.480	799.75	-11.27	15.29	5.21	1764660.47	14605443.78	40°12'55.059"N	80°33'17.830"W	16.15	18.805	2.25	2.23	5.56
891.00	4.970	20.700	890.46	-16.31	22.12	7.53	1764662.80	14605450.61	40°12'55.126"N	80°33'17.799"W	23.37	18.798	0.98	0.91	4.64
981.00	3.660	22.360	980.21	-20.81	28.43	10.00	1764665.27	14605456.92	40°12'55.188"N	80°33'17.767"W	30.13	19.383	1.46	-1.46	1.84
1072.00	1.550	22.970	1071.11	-23.50	32.25	11.59	1764666.85	14605460.73	40°12'55.226"N	80°33'17.747"W	34.27	19.764	2.32	-2.32	0.67
1162.00	0.810	28.850	1161.09	-24.65	33.93	12.37	1764667.83	14605462.41	40°12'55.243"N	80°33'17.736"W	36.11	20.028	0.83	-0.82	6.31
1253.00	0.920	33.970	1252.08	-25.36	35.10	13.08	1764668.35	14605463.58	40°12'55.254"N	80°33'17.727"W	37.46	20.445	0.15	0.12	5.85
1346.00	1.010	39.370	1345.07	-26.06	36.35	14.02	1764669.29	14605464.83	40°12'55.267"N	80°33'17.715"W	38.96	21.093	0.14	0.10	5.81
1439.00	0.830	44.210	1438.05	-26.60	37.47	15.01	1764670.27	14605465.95	40°12'55.277"N	80°33'17.702"W	40.36	21.833	0.21	-0.19	5.20
1531.00	0.530	75.830	1530.05	-26.73	38.05	15.89	1764671.15	14605466.53	40°12'55.283"N	80°33'17.691"W	41.23	22.664	0.51	-0.33	34.37
1624.00	0.660	146.380	1623.04	-26.10	37.71	16.60	1764671.86	14605466.19	40°12'55.280"N	80°33'17.682"W	41.20	23.783	0.75	0.14	75.88
1685.00	1.030	134.140	1684.04	-25.23	37.03	17.19	1764672.45	14605465.52	40°12'55.273"N	80°33'17.674"W	40.83	24.899	0.67	0.61	-20.07
1731.00	0.990	150.540	1730.03	-24.44	36.40	17.68	1764672.94	14605464.88	40°12'55.267"N	80°33'17.668"W	40.47	25.909	0.63	-0.09	35.65
1822.00	1.030	168.650	1821.02	-22.87	34.91	18.23	1764673.49	14605463.40	40°12'55.252"N	80°33'17.661"W	39.38	27.571	0.35	0.04	19.90
1912.00	0.910	169.960	1911.00	-21.41	33.41	18.51	1764673.78	14605461.90	40°12'55.237"N	80°33'17.657"W	38.20	28.987	0.14	-0.13	1.46
2003.00	0.900	171.290	2001.99	-20.04	32.00	18.75	1764674.01	14605460.48	40°12'55.223"N	80°33'17.654"W	37.08	30.368	0.03	-0.01	1.48
2096.00	1.010	174.910	2094.98	-18.58	30.46	18.93	1764674.19	14605458.95	40°12'55.208"N	80°33'17.652"W	35.86	31.861	0.13	0.12	3.89
2189.00	1.010	173.470	2187.96	-17.05	28.83	19.10	1764674.36	14605457.32	40°12'55.192"N	80°33'17.650"W	34.58	33.521	0.03	0.00	-1.55
2278.00	1.280	59.060	2276.95	-16.39	28.58	20.04	1764675.30	14605457.05	40°12'55.180"N	80°33'17.638"W	34.89	35.054	2.17	0.30	-128.55
2371.00	3.260	41.250	2369.88	-17.44	31.08	22.67	1764677.93	14605459.57	40°12'55.214"N	80°33'17.604"W	38.47	36.109	2.23	2.13	-19.15
2462.00	4.980	31.580	2461.64	-20.50	36.45	26.49	1764681.75	14605464.94	40°12'55.267"N	80°33'17.554"W	45.06	36.006	2.01	1.87	-10.51

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Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

WELLPATH DATA (223 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]	
2556.00	6.890	23.740	2554.14	-26.15	45.00	30.85	1764686.11	14605473.48	40°12'55.351"N	80°33'17.497"W	54.56	34.434	2.23	2.05	-8.43	
2648.00	8.490	19.860	2645.31	-34.29	56.44	35.38	1764690.63	14605484.91	40°12'55.464"N	80°33'17.438"W	66.61	32.082	1.83	1.74	-4.22	
2741.00	10.550	17.740	2737.02	-45.05	71.00	40.31	1764695.56	14605499.48	40°12'55.608"N	80°33'17.374"W	81.65	29.581	2.25	2.22	-2.28	
2834.00	12.150	19.160	2828.20	-57.89	88.36	46.11	1764701.36	14605516.82	40°12'55.779"N	80°33'17.298"W	99.67	27.559	1.75	1.72	1.53	
2927.00	13.070	21.360	2918.96	-71.68	107.40	53.15	1764708.40	14605535.86	40°12'55.967"N	80°33'17.206"W	119.83	26.332	1.12	0.99	2.37	
3020.00	14.690	24.070	3009.24	-86.10	127.96	61.79	1764717.04	14605556.41	40°12'56.169"N	80°33'17.093"W	142.10	25.777	1.88	1.74	2.91	
3113.00	17.050	27.750	3098.69	-101.40	150.80	72.95	1764728.20	14605579.24	40°12'56.395"N	80°33'16.948"W	167.52	25.817	2.76	2.54	3.96	
3205.00	17.150	25.740	3186.62	-117.43	174.95	85.12	1764740.36	14605603.38	40°12'56.633"N	80°33'16.789"W	194.56	25.946	0.65	0.11	-2.18	
3298.00	16.310	23.500	3275.69	-134.06	199.28	96.29	1764751.52	14605627.70	40°12'56.872"N	80°33'16.644"W	221.32	25.789	1.14	-0.90	-2.41	
3391.00	15.190	20.500	3365.20	-150.62	222.67	105.76	1764760.99	14605651.08	40°12'57.103"N	80°33'16.520"W	246.51	25.407	1.49	-1.20	-3.23	
3484.00	13.740	24.540	3455.25	-165.74	244.13	114.62	1764769.84	14605672.53	40°12'57.315"N	80°33'16.405"W	269.69	25.150	1.90	-1.56	4.34	
3576.00	14.420	27.570	3544.48	-179.20	264.22	124.46	1764779.68	14605692.62	40°12'57.513"N	80°33'16.277"W	292.07	25.222	1.09	0.74	3.29	
3669.00	15.640	27.760	3634.30	-193.17	285.58	135.65	1764790.87	14605713.97	40°12'57.723"N	80°33'16.131"W	316.16	25.408	1.31	1.31	0.20	
3761.00	14.480	24.850	3723.14	-207.46	306.99	146.27	1764801.48	14605735.37	40°12'57.934"N	80°33'15.993"W	340.06	25.475	1.50	-1.26	-3.16	
3854.00	14.850	25.570	3813.11	-221.91	328.29	156.29	1764811.50	14605756.67	40°12'58.144"N	80°33'15.862"W	363.60	25.458	0.44	0.40	0.77	
3949.00	15.700	30.460	3904.76	-236.25	350.36	168.07	1764823.27	14605778.72	40°12'58.362"N	80°33'15.709"W	388.58	25.627	1.62	0.89	5.15	
4042.00	14.650	27.950	3994.51	-249.79	371.59	179.96	1764835.16	14605799.95	40°12'58.571"N	80°33'15.554"W	412.87	25.840	1.33	-1.13	-2.70	
4134.00	13.810	23.770	4083.69	-263.44	391.92	189.84	1764845.03	14605820.27	40°12'58.771"N	80°33'15.426"W	435.47	25.845	1.44	-0.91	-4.54	
4227.00	14.900	27.660	4173.79	-277.40	412.67	199.86	1764855.05	14605841.01	40°12'58.976"N	80°33'15.295"W	458.52	25.842	1.56	1.17	4.18	
4320.00	16.230	32.910	4263.38	-290.86	434.17	212.47	1764867.66	14605862.50	40°12'59.188"N	80°33'15.131"W	483.37	26.076	2.08	1.43	5.65	
4413.00	15.280	30.490	4352.89	-303.99	455.64	225.75	1764880.94	14605883.97	40°12'59.399"N	80°33'14.958"W	508.50	26.357	1.24	-1.02	-2.60	
4505.00	14.270	27.110	4441.85	-317.17	476.18	237.07	1764892.25	14605904.50	40°12'59.602"N	80°33'14.811"W	531.93	26.467	1.44	-1.10	-3.67	
4598.00	13.840	24.880	4532.06	-330.78	496.48	246.98	1764902.15	14605924.79	40°12'59.802"N	80°33'14.682"W	554.51	26.448	0.74	-0.46	-2.40	
4691.00	13.880	24.750	4622.36	-344.58	516.70	256.33	1764911.50	14605945.00	40°13'00.001"N	80°33'14.560"W	576.78	26.385	0.05	0.04	-0.14	
4783.00	16.760	32.070	4711.09	-358.25	537.97	267.99	1764923.16	14605966.26	40°13'00.211"N	80°33'14.409"W	601.02	26.481	3.76	3.13	7.96	
4876.00	17.140	30.850	4800.05	-372.47	561.09	282.14	1764937.30	14605989.38	40°13'00.439"N	80°33'14.225"W	628.03	26.695	0.56	0.41	-1.31	
4969.00	16.140	27.430	4889.15	-387.31	584.33	295.12	1764950.28	14606012.61	40°13'00.668"N	80°33'14.056"W	654.63	26.796	1.50	-1.08	-3.68	
5062.00	15.270	23.640	4978.68	-402.62	607.03	305.99	1764961.14	14606035.29	40°13'00.891"N	80°33'13.914"W	679.79	26.752	1.45	-0.94	-4.08	
5154.00	14.540	30.830	5067.59	-416.47	628.04	316.76	1764971.91	14606056.30	40°13'01.099"N	80°33'13.774"W	703.40	26.765	2.16	-0.79	7.82	
5247.00	14.580	38.980	5157.62	-427.48	647.17	330.11	1764985.26	14606075.42	40°13'01.287"N	80°33'13.601"W	726.50	27.026	2.20	0.04	8.76	

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Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

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5294.00	14.930	47.860	5203.07	-431.48	655.83	338.32	1764993.46	14606084.08	40°13'01.372"N	80°33'13.494"W	737.95	27.288	4.86	0.74	18.89
5340.00	15.270	57.700	5247.49	-433.61	663.04	347.84	1765002.98	14606091.29	40°13'01.443"N	80°33'13.371"W	748.75	27.682	5.61	0.74	21.39
5386.00	14.460	69.090	5291.96	-433.57	668.33	358.33	1765013.46	14606096.58	40°13'01.495"N	80°33'13.236"W	758.33	28.198	6.58	-1.76	24.76
5433.00	14.040	84.570	5337.53	-430.87	670.97	369.49	1765024.62	14606099.21	40°13'01.520"N	80°33'13.092"W	765.98	28.841	8.13	-0.89	32.94
5479.00	13.810	97.700	5382.19	-425.70	670.76	380.49	1765035.61	14606099.00	40°13'01.517"N	80°33'12.950"W	771.16	29.564	6.87	-0.50	28.54
5525.00	15.330	112.030	5426.72	-417.99	667.74	391.57	1765046.69	14606095.98	40°13'01.487"N	80°33'12.807"W	774.08	30.388	8.48	3.30	31.15
5572.00	16.430	124.670	5471.94	-407.45	661.63	402.80	1765057.91	14606089.87	40°13'01.426"N	80°33'12.663"W	774.60	31.333	7.70	2.34	26.89
5618.00	18.310	136.480	5515.86	-394.80	652.68	413.13	1765068.24	14606080.93	40°13'01.337"N	80°33'12.530"W	772.45	32.332	8.67	4.09	25.67
5665.00	19.230	147.990	5560.37	-380.01	640.76	422.32	1765077.43	14606069.02	40°13'01.219"N	80°33'12.413"W	767.42	33.388	8.11	1.96	24.49
5711.00	21.040	156.810	5603.57	-364.22	626.75	429.59	1765084.69	14606055.00	40°13'01.080"N	80°33'12.320"W	759.84	34.428	7.67	3.93	19.17
5757.00	25.050	160.270	5645.89	-346.31	609.98	436.13	1765091.23	14606038.25	40°13'00.914"N	80°33'12.237"W	749.86	35.564	9.20	8.72	7.52
5804.00	29.180	160.940	5687.72	-325.08	589.78	443.23	1765098.33	14606018.05	40°13'00.714"N	80°33'12.146"W	737.76	36.926	8.81	8.79	1.43
5850.00	33.430	159.470	5727.01	-301.37	567.30	451.34	1765106.44	14605995.58	40°13'00.492"N	80°33'12.043"W	724.94	38.506	9.39	9.24	-3.20
5896.00	38.060	158.670	5764.34	-274.65	542.21	460.95	1765116.04	14605970.50	40°13'00.243"N	80°33'11.921"W	711.67	40.369	10.12	10.07	-1.74
5943.00	43.190	158.080	5800.00	-244.19	513.78	472.23	1765127.32	14605942.08	40°12'59.962"N	80°33'11.778"W	697.83	42.587	10.95	10.91	-1.26
5989.00	47.330	153.310	5832.38	-211.57	484.04	485.71	1765140.80	14605912.36	40°12'59.667"N	80°33'11.606"W	685.72	45.099	11.63	9.00	-10.37
6007.00	48.910	152.770	5844.40	-198.17	472.10	491.79	1765146.87	14605900.42	40°12'59.549"N	80°33'11.528"W	681.71	46.170	9.06	8.78	-3.00
6071.00	55.260	149.830	5883.71	-147.74	427.87	516.07	1765171.14	14605856.20	40°12'59.111"N	80°33'11.218"W	670.37	50.338	10.56	9.92	-4.59
6117.00	57.040	146.980	5909.33	-109.67	395.34	536.09	1765191.15	14605823.69	40°12'58.788"N	80°33'10.962"W	666.10	53.593	6.44	3.87	-6.20
6210.00	64.520	142.520	5954.72	-29.47	329.19	582.98	1765238.02	14605757.57	40°12'58.132"N	80°33'10.362"W	669.50	60.547	9.06	8.04	-4.80
6303.00	72.340	140.670	5988.88	55.21	261.50	636.69	1765291.71	14605689.90	40°12'57.460"N	80°33'09.674"W	688.30	67.671	8.61	8.41	-1.99
6396.00	78.000	141.940	6012.68	143.19	191.35	692.86	1765347.86	14605619.78	40°12'56.765"N	80°33'08.955"W	718.80	74.561	6.23	6.09	1.37
6488.00	83.960	146.710	6027.10	232.94	117.58	745.78	1765400.77	14605546.04	40°12'56.033"N	80°33'08.277"W	754.99	81.040	8.26	6.48	5.18
6581.00	88.980	148.960	6032.83	325.34	39.03	795.17	1765450.14	14605467.52	40°12'55.254"N	80°33'07.646"W	796.13	87.190	5.91	5.40	2.42
6674.00	88.000	152.990	6035.28	418.22	-42.24	840.27	1765495.22	14605386.27	40°12'54.449"N	80°33'07.070"W	841.33	92.878	4.46	-1.05	4.33
6767.00	88.030	155.730	6038.50	511.13	-126.03	880.49	1765535.42	14605302.52	40°12'53.619"N	80°33'06.557"W	889.46	98.146	2.94	0.03	2.95
6860.00	87.660	155.340	6042.00	603.98	-210.62	918.97	1765573.89	14605217.97	40°12'52.781"N	80°33'06.066"W	942.80	102.908	0.58	-0.40	-0.42
6952.00	88.620	158.190	6044.99	695.73	-295.10	955.25	1765610.15	14605133.51	40°12'51.944"N	80°33'05.604"W	999.79	107.167	3.27	1.04	3.10
7045.00	88.980	159.840	6046.93	788.21	-381.91	988.54	1765643.43	14605046.74	40°12'51.085"N	80°33'05.180"W	1059.75	111.123	1.82	0.39	1.77
7138.00	89.480	157.860	6048.18	880.72	-468.63	1022.09	1765676.97	14604960.05	40°12'50.226"N	80°33'04.754"W	1124.41	114.832	2.20	0.54	-2.13

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #10H
Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

WELLPATH DATA (223 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]
7230.00	89.290	153.690	6049.17	972.59	-552.51	1059.83	1765714.69	14604876.20	40°12'49.395"N	80°33'04.273"W	1195.20	117.534	4.54	-0.21	-4.53
7323.00	89.110	151.260	6050.47	1065.57	-634.97	1102.80	1765757.65	14604793.78	40°12'48.578"N	80°33'03.724"W	1272.54	119.932	2.62	-0.19	-2.61
7416.00	88.980	151.750	6052.02	1158.52	-716.69	1147.17	1765801.99	14604712.09	40°12'47.769"N	80°33'03.158"W	1352.64	121.995	0.55	-0.14	0.53
7509.00	89.450	153.700	6053.30	1251.51	-799.34	1189.78	1765844.59	14604629.47	40°12'46.950"N	80°33'02.614"W	1433.36	123.895	2.16	0.51	2.10
7602.00	89.380	155.920	6054.25	1344.46	-883.48	1229.36	1765884.15	14604545.36	40°12'46.118"N	80°33'02.109"W	1513.89	125.703	2.39	-0.08	2.39
7695.00	89.170	160.200	6055.42	1437.07	-969.72	1264.09	1765918.88	14604459.15	40°12'45.262"N	80°33'01.667"W	1593.20	127.493	4.61	-0.23	4.60
7787.00	89.200	162.810	6056.73	1528.06	-1056.95	1293.27	1765948.04	14604371.95	40°12'44.399"N	80°33'01.297"W	1670.24	129.258	2.84	0.03	2.84
7880.00	89.850	166.530	6057.50	1619.14	-1146.62	1317.85	1765972.62	14604282.32	40°12'43.512"N	80°33'00.986"W	1746.85	131.026	4.06	0.70	4.00
7973.00	90.370	166.290	6057.32	1709.63	-1237.02	1339.71	1765994.46	14604191.96	40°12'42.617"N	80°33'00.710"W	1823.47	132.718	0.62	0.56	-0.26
8065.00	90.400	160.350	6056.71	1800.12	-1325.11	1366.10	1766020.84	14604103.90	40°12'41.745"N	80°33'00.375"W	1903.19	134.127	6.46	0.03	-6.46
8158.00	89.780	156.320	6056.56	1892.71	-1411.52	1400.43	1766055.16	14604017.52	40°12'40.890"N	80°32'59.939"W	1988.36	135.226	4.38	-0.67	-4.33
8251.00	89.200	155.390	6057.39	1985.60	-1496.38	1438.47	1766093.18	14603932.70	40°12'40.049"N	80°32'59.454"W	2075.65	136.130	1.18	-0.62	-1.00
8343.00	89.290	155.180	6058.60	2077.52	-1579.94	1476.93	1766131.63	14603849.16	40°12'39.222"N	80°32'58.964"W	2162.76	136.930	0.25	0.10	-0.23
8436.00	89.170	154.380	6059.85	2170.47	-1664.07	1516.55	1766171.24	14603765.07	40°12'38.388"N	80°32'58.458"W	2251.46	137.656	0.87	-0.13	-0.86
8529.00	89.290	152.370	6061.15	2263.45	-1747.20	1558.22	1766212.89	14603681.97	40°12'37.565"N	80°32'57.927"W	2341.10	138.272	2.16	0.06	-2.16
8621.00	89.170	151.220	6062.43	2355.42	-1828.26	1601.70	1766256.35	14603600.94	40°12'36.762"N	80°32'57.372"W	2430.64	138.779	1.25	-0.07	-1.25
8714.00	89.260	152.080	6063.71	2448.38	-1910.10	1645.86	1766300.49	14603519.13	40°12'35.951"N	80°32'56.808"W	2521.37	139.250	0.93	0.10	0.92
8807.00	89.230	154.450	6064.93	2541.37	-1993.15	1687.69	1766342.31	14603436.12	40°12'35.128"N	80°32'56.274"W	2611.69	139.744	2.55	-0.03	2.55
8900.00	89.320	157.360	6066.11	2634.23	-2078.03	1725.65	1766380.25	14603351.27	40°12'34.287"N	80°32'55.790"W	2701.12	140.293	3.13	0.10	3.13
8993.00	89.140	157.620	6067.36	2726.95	-2163.93	1761.25	1766415.84	14603265.40	40°12'33.436"N	80°32'55.337"W	2790.09	140.857	0.34	-0.19	0.28
9085.00	89.320	158.370	6068.60	2818.60	-2249.22	1795.72	1766450.30	14603180.14	40°12'32.592"N	80°32'54.899"W	2878.12	141.397	0.84	0.20	0.82
9178.00	89.170	159.650	6069.82	2911.09	-2336.04	1829.03	1766483.59	14603093.36	40°12'31.732"N	80°32'54.475"W	2966.89	141.941	1.39	-0.16	1.38
9271.00	89.320	159.800	6071.05	3003.46	-2423.27	1861.25	1766515.80	14603006.16	40°12'30.869"N	80°32'54.065"W	3055.57	142.473	0.23	0.16	0.16
9364.00	89.290	158.450	6072.17	3095.93	-2510.16	1894.39	1766548.93	14602919.31	40°12'30.008"N	80°32'53.644"W	3144.77	142.959	1.45	-0.03	-1.45
9456.00	89.170	156.660	6073.41	3187.64	-2595.18	1929.51	1766584.03	14602834.32	40°12'29.167"N	80°32'53.197"W	3233.88	143.369	1.95	-0.13	-1.95
9549.00	89.200	154.830	6074.73	3280.52	-2679.96	1967.70	1766622.22	14602749.57	40°12'28.327"N	80°32'52.710"W	3324.76	143.713	1.97	0.03	-1.97
9642.00	89.350	152.960	6075.91	3373.50	-2763.46	2008.62	1766663.12	14602666.10	40°12'27.500"N	80°32'52.188"W	3416.32	143.988	2.02	0.16	-2.01
9735.00	89.260	152.450	6077.04	3466.49	-2846.10	2051.27	1766705.75	14602583.50	40°12'26.681"N	80°32'51.644"W	3508.27	144.219	0.56	-0.10	-0.55
9827.00	89.260	151.830	6078.23	3558.47	-2927.43	2094.25	1766748.72	14602502.20	40°12'25.875"N	80°32'51.095"W	3599.41	144.420	0.67	0.00	-0.67
9917.00	89.170	153.170	6079.46	3648.46	-3007.25	2135.81	1766790.26	14602422.41	40°12'25.084"N	80°32'50.565"W	3688.53	144.617	1.49	-0.10	1.49

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #10H
Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

WELLPATH DATA (223 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]	
10006.00	89.230	155.130	6080.70	3737.43	-3087.33	2174.61	1766829.04	14602342.35	40°12'24.291"N	80°32'50.070"W	3776.31	144.841	2.20	0.07	2.20	
10099.00	89.290	156.320	6081.90	3830.32	-3172.10	2212.84	1766867.26	14602257.62	40°12'23.451"N	80°32'49.583"W	3867.67	145.101	1.28	0.06	1.28	
10192.00	89.320	157.380	6083.03	3923.11	-3257.61	2249.40	1766903.80	14602172.15	40°12'22.604"N	80°32'49.118"W	3958.76	145.375	1.14	0.03	1.14	
10284.00	89.380	159.920	6084.08	4014.66	-3343.28	2282.88	1766937.28	14602086.51	40°12'21.756"N	80°32'48.692"W	4048.34	145.674	2.76	0.07	2.76	
10377.00	89.080	161.270	6085.33	4106.85	-3430.99	2313.78	1766968.16	14601998.83	40°12'20.888"N	80°32'48.299"W	4138.27	146.005	1.49	-0.32	1.45	
10470.00	89.080	162.950	6086.82	4198.68	-3519.47	2342.34	1766996.71	14601910.38	40°12'20.012"N	80°32'47.937"W	4227.68	146.355	1.81	0.00	1.81	
10562.00	89.020	162.990	6088.34	4289.29	-3607.43	2369.28	1767023.64	14601822.46	40°12'19.141"N	80°32'47.595"W	4315.91	146.704	0.08	-0.07	0.04	
10655.00	89.140	159.360	6089.84	4381.34	-3695.43	2399.28	1767053.63	14601734.49	40°12'18.270"N	80°32'47.215"W	4405.99	147.006	3.90	0.13	-3.90	
10748.00	89.110	155.610	6091.26	4474.03	-3781.31	2434.89	1767089.22	14601648.64	40°12'17.420"N	80°32'46.761"W	4497.44	147.221	4.03	-0.03	-4.03	
10841.00	88.950	152.440	6092.83	4567.00	-3864.90	2475.61	1767129.93	14601565.09	40°12'16.592"N	80°32'46.242"W	4589.78	147.359	3.41	-0.17	-3.41	
10933.00	88.920	152.140	6094.54	4658.97	-3946.33	2518.38	1767172.68	14601483.69	40°12'15.785"N	80°32'45.696"W	4681.43	147.456	0.33	-0.03	-0.33	
11026.00	88.920	150.140	6096.30	4751.90	-4027.76	2563.26	1767217.54	14601402.29	40°12'14.978"N	80°32'45.123"W	4774.22	147.527	2.15	0.00	-2.15	
11119.00	88.950	153.370	6098.03	4844.84	-4109.66	2607.26	1767261.52	14601320.42	40°12'14.166"N	80°32'44.562"W	4866.94	147.608	3.47	0.03	3.47	
11212.00	88.890	157.290	6099.78	4937.74	-4194.14	2646.06	1767300.31	14601235.97	40°12'13.330"N	80°32'44.067"W	4959.08	147.752	4.21	-0.06	4.22	
11304.00	89.020	155.280	6101.46	5029.57	-4278.36	2683.05	1767337.29	14601151.79	40°12'12.496"N	80°32'43.596"W	5050.06	147.907	2.19	0.14	-2.18	
11397.00	89.020	154.850	6103.05	5122.50	-4362.68	2722.25	1767376.48	14601067.50	40°12'11.660"N	80°32'43.096"W	5142.33	148.036	0.46	0.00	-0.46	
11490.00	89.080	155.980	6104.59	5215.41	-4447.23	2760.94	1767415.15	14600982.98	40°12'10.823"N	80°32'42.603"W	5234.56	148.167	1.22	0.06	1.22	
11583.00	89.010	154.010	6106.14	5308.34	-4531.50	2800.24	1767454.44	14600898.74	40°12'09.988"N	80°32'42.102"W	5326.90	148.286	2.12	-0.08	-2.12	
11676.00	89.050	152.100	6107.71	5401.32	-4614.39	2842.38	1767496.55	14600815.89	40°12'09.167"N	80°32'41.565"W	5419.56	148.368	2.05	0.04	-2.05	
11769.00	88.920	156.220	6109.36	5494.27	-4698.06	2882.90	1767537.06	14600732.25	40°12'08.338"N	80°32'41.048"W	5512.06	148.465	4.43	-0.14	4.43	
11861.00	89.080	158.190	6110.97	5586.01	-4782.85	2918.53	1767572.68	14600647.48	40°12'07.498"N	80°32'40.594"W	5602.99	148.608	2.15	0.17	2.14	
11954.00	89.050	163.300	6112.49	5678.14	-4870.61	2949.19	1767603.32	14600559.76	40°12'06.630"N	80°32'40.205"W	5693.91	148.805	5.49	-0.03	5.49	
12047.00	89.080	166.470	6114.01	5769.14	-4960.37	2973.43	1767627.56	14600470.04	40°12'05.741"N	80°32'39.899"W	5783.30	149.060	3.41	0.03	3.41	
12139.00	88.980	169.070	6115.56	5858.11	-5050.26	2992.92	1767647.04	14600380.18	40°12'04.852"N	80°32'39.653"W	5870.49	149.348	2.83	-0.11	2.83	
12232.00	89.110	165.970	6117.11	5948.15	-5141.04	3013.01	1767667.12	14600289.43	40°12'03.954"N	80°32'39.400"W	5958.90	149.627	3.34	0.14	-3.38	
12325.00	89.050	157.840	6118.61	6039.95	-5229.36	3041.87	1767695.97	14600201.15	40°12'03.080"N	80°32'39.034"W	6049.72	149.814	8.74	-0.06	-8.74	
12418.00	89.050	155.110	6120.15	6132.77	-5314.61	3078.98	1767733.06	14600115.94	40°12'02.236"N	80°32'38.562"W	6142.08	149.914	2.94	0.00	-2.94	
12511.00	89.050	151.510	6121.69	6225.74	-5397.67	3120.74	1767774.81	14600032.90	40°12'01.413"N	80°32'38.029"W	6234.89	149.965	3.87	0.00	-3.87	
12603.00	88.950	147.720	6123.30	6317.54	-5477.01	3167.26	1767821.31	14599953.60	40°12'00.626"N	80°32'37.435"W	6326.86	149.960	4.12	-0.11	-4.12	
12696.00	89.020	145.870	6124.95	6409.96	-5554.81	3218.18	1767872.21	14599875.83	40°11'59.855"N	80°32'36.784"W	6419.70	149.914	1.99	0.08	-1.99	

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12788.00	88.650	145.690	6126.82	6501.20	-5630.87	3269.90	1767923.92	14599799.80	40°11'59.101"N	80°32'36.122"W	6511.45	149.856	0.45	-0.40	-0.20
12881.00	88.950	149.400	6128.77	6593.73	-5709.31	3319.79	1767973.78	14599721.38	40°11'58.323"N	80°32'35.485"W	6604.33	149.823	4.00	0.32	3.99
12974.00	88.980	149.380	6130.45	6686.53	-5789.34	3367.14	1768021.11	14599641.39	40°11'57.530"N	80°32'34.880"W	6697.32	149.817	0.04	0.03	-0.02
13067.00	88.950	149.870	6132.13	6779.34	-5869.56	3414.16	1768068.11	14599561.20	40°11'56.735"N	80°32'34.279"W	6790.30	149.815	0.53	-0.03	0.53
13159.00	88.620	152.020	6134.08	6871.25	-5949.96	3458.62	1768112.76	14599480.83	40°11'55.938"N	80°32'33.709"W	6882.26	149.830	2.36	-0.36	2.34
13252.00	88.920	155.380	6136.07	6964.21	-6033.30	3500.01	1768153.94	14599397.52	40°11'55.112"N	80°32'33.184"W	6975.01	149.881	3.63	0.32	3.61
13344.00	88.860	159.480	6137.86	7055.91	-6118.22	3535.31	1768189.22	14599312.63	40°11'54.271"N	80°32'32.734"W	7066.19	149.979	4.46	-0.07	4.46
13437.00	88.980	160.230	6139.61	7148.24	-6205.51	3567.33	1768221.23	14599225.37	40°11'53.407"N	80°32'32.327"W	7157.81	150.107	0.82	0.13	0.81
13530.00	88.770	161.250	6141.44	7240.39	-6293.29	3598.00	1768251.89	14599137.63	40°11'52.538"N	80°32'31.938"W	7249.22	150.243	1.12	-0.23	1.10
13623.00	89.230	162.430	6143.06	7332.29	-6381.64	3626.98	1768280.86	14599049.31	40°11'51.663"N	80°32'31.570"W	7340.33	150.388	1.36	0.49	1.27
13715.00	90.580	164.430	6143.21	7422.78	-6469.82	3653.22	1768307.08	14598961.17	40°11'50.791"N	80°32'31.238"W	7429.97	150.549	2.62	1.47	2.17
13808.00	90.340	160.030	6142.46	7514.57	-6558.35	3681.59	1768335.45	14598872.67	40°11'49.914"N	80°32'30.878"W	7521.05	150.692	4.74	-0.26	-4.73
13900.00	89.600	155.090	6142.51	7606.26	-6643.36	3716.70	1768370.54	14598787.69	40°11'49.073"N	80°32'30.432"W	7612.37	150.775	5.43	-0.80	-5.37
13993.00	89.540	155.730	6143.21	7699.18	-6727.92	3755.40	1768409.23	14598703.16	40°11'48.235"N	80°32'29.939"W	7705.06	150.831	0.69	-0.06	0.69
14085.00	89.540	155.410	6143.95	7791.09	-6811.68	3793.45	1768447.26	14598619.43	40°11'47.405"N	80°32'29.454"W	7796.75	150.886	0.35	0.00	-0.35
14178.00	89.510	154.080	6144.72	7884.04	-6895.79	3833.12	1768486.92	14598535.36	40°11'46.572"N	80°32'28.948"W	7889.53	150.932	1.43	-0.03	-1.43
14271.00	89.480	155.180	6145.54	7977.00	-6979.82	3872.97	1768526.75	14598451.37	40°11'45.740"N	80°32'28.440"W	7982.34	150.975	1.18	-0.03	1.18
14364.00	89.320	158.890	6146.51	8069.76	-7065.43	3909.25	1768563.01	14598365.79	40°11'44.892"N	80°32'27.979"W	8074.80	151.045	3.99	-0.17	3.99
14456.00	89.600	161.610	6147.38	8161.02	-7152.00	3940.33	1768594.08	14598279.25	40°11'44.035"N	80°32'27.584"W	8165.62	151.148	2.97	0.30	2.96
14549.00	89.570	160.100	6148.06	8253.16	-7239.85	3970.83	1768624.57	14598191.43	40°11'43.165"N	80°32'27.197"W	8257.30	151.257	1.62	-0.03	-1.62
14641.00	90.310	158.050	6148.15	8344.65	-7325.78	4003.68	1768657.41	14598105.53	40°11'42.314"N	80°32'26.779"W	8348.45	151.343	2.37	0.80	-2.23
14734.00	90.860	154.100	6147.20	8437.50	-7410.77	4041.39	1768695.11	14598020.58	40°11'41.473"N	80°32'26.299"W	8441.11	151.395	4.29	0.59	-4.25
14827.00	89.260	152.610	6147.10	8530.49	-7493.89	4083.09	1768736.79	14597937.49	40°11'40.649"N	80°32'25.767"W	8534.05	151.416	2.35	-1.72	-1.60
14919.00	88.830	154.550	6148.64	8622.47	-7576.26	4124.02	1768777.71	14597855.15	40°11'39.833"N	80°32'25.245"W	8625.97	151.439	2.16	-0.47	2.11
15012.00	88.800	157.080	6150.56	8715.34	-7661.07	4162.11	1768815.78	14597770.37	40°11'38.993"N	80°32'24.760"W	8718.67	151.486	2.72	-0.03	2.72
15105.00	88.950	156.480	6152.39	8808.12	-7746.52	4198.77	1768852.43	14597684.95	40°11'38.147"N	80°32'24.293"W	8811.26	151.541	0.66	0.16	-0.65
15197.00	88.920	155.320	6154.10	8899.99	-7830.49	4236.33	1768889.97	14597601.02	40°11'37.315"N	80°32'23.815"W	8902.98	151.586	1.26	-0.03	-1.26
15290.00	88.920	155.850	6155.85	8992.89	-7915.16	4274.76	1768928.39	14597516.38	40°11'36.476"N	80°32'23.325"W	8995.74	151.628	0.57	0.00	0.57
15383.00	88.890	155.250	6157.63	9085.78	-7999.80	4313.25	1768966.86	14597431.77	40°11'35.638"N	80°32'22.835"W	9088.51	151.668	0.65	-0.03	-0.65
15475.00	88.980	154.110	6159.34	9177.73	-8082.95	4352.59	1769006.18	14597348.66	40°11'34.814"N	80°32'22.334"W	9180.36	151.698	1.24	0.10	-1.24

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #10H
Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

WELLPATH DATA (223 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]	
15588.00	89.200	151.370	6160.81	9270.71	-8165.60	4395.17	1769048.75	14597266.04	40°11'33.995"N	80°32'21.790"W	9273.33	151.708	2.96	0.24	-2.95	
15881.00	88.860	150.700	6162.39	9363.64	-8246.96	4440.20	1769093.77	14597184.71	40°11'33.189"N	80°32'21.215"W	9366.31	151.702	0.81	-0.37	-0.72	
15754.00	89.110	152.430	6164.04	9456.59	-8328.72	4484.48	1769138.03	14597102.98	40°11'32.379"N	80°32'20.650"W	9459.29	151.700	1.88	0.27	1.86	
15847.00	89.080	154.540	6165.51	9549.57	-8411.92	4525.99	1769179.52	14597019.81	40°11'31.554"N	80°32'20.121"W	9552.23	151.718	2.27	-0.03	2.27	
15939.00	89.110	156.110	6166.96	9641.48	-8495.51	4564.39	1769217.91	14596936.26	40°11'30.727"N	80°32'19.632"W	9644.03	151.752	1.71	0.03	1.71	
16032.00	89.050	158.230	6168.45	9734.23	-8581.21	4600.47	1769253.97	14596850.59	40°11'29.878"N	80°32'19.173"W	9736.60	151.804	2.28	-0.06	2.28	
16125.00	89.200	159.350	6169.87	9826.75	-8667.90	4634.11	1769287.60	14596763.94	40°11'29.019"N	80°32'18.745"W	9828.91	151.870	1.21	0.16	1.20	
16217.00	89.110	159.100	6171.23	9918.21	-8753.91	4666.74	1769320.21	14596677.96	40°11'28.168"N	80°32'18.330"W	9920.15	151.938	0.29	-0.10	-0.27	
16310.00	88.950	160.390	6172.80	10010.56	-8841.14	4698.93	1769352.39	14596590.76	40°11'27.304"N	80°32'17.921"W	10012.28	152.010	1.40	-0.17	1.39	
16403.00	89.170	161.960	6174.33	10102.62	-8929.15	4728.93	1769382.39	14596502.78	40°11'26.433"N	80°32'17.541"W	10104.09	152.094	1.70	0.24	1.68	
16496.00	89.200	161.430	6175.65	10194.56	-9017.44	4758.14	1769411.58	14596414.53	40°11'25.559"N	80°32'17.170"W	10195.78	152.181	0.57	0.03	-0.57	
16589.00	89.570	158.220	6176.65	10286.89	-9104.71	4790.21	1769443.64	14596327.29	40°11'24.695"N	80°32'16.763"W	10287.95	152.250	3.47	0.40	-3.45	
16681.00	88.920	154.100	6177.86	10378.73	-9188.84	4827.38	1769480.80	14596243.19	40°11'23.862"N	80°32'16.290"W	10379.71	152.285	4.53	-0.71	-4.48	
16774.00	88.950	154.150	6179.59	10471.70	-9272.50	4867.96	1769521.36	14596159.56	40°11'23.033"N	80°32'15.772"W	10472.64	152.301	0.06	0.03	0.05	
16867.00	88.830	155.560	6181.39	10564.64	-9356.67	4907.47	1769560.85	14596075.43	40°11'22.199"N	80°32'15.269"W	10565.53	152.323	1.52	-0.13	1.52	
16960.00	88.860	155.740	6183.27	10657.52	-9441.38	4946.81	1769599.17	14595990.75	40°11'21.360"N	80°32'14.781"W	10658.36	152.352	0.20	0.03	0.19	
17053.00	88.920	155.290	6185.07	10750.42	-9526.00	4984.34	1769637.70	14595906.16	40°11'20.522"N	80°32'14.290"W	10751.20	152.380	0.49	0.06	-0.48	
17145.00	88.860	155.350	6186.85	10842.33	-9609.58	5022.75	1769676.09	14595822.61	40°11'19.694"N	80°32'13.800"W	10843.06	152.405	0.09	-0.07	0.07	
17238.00	88.920	156.870	6188.65	10935.18	-9694.59	5060.41	1769713.73	14595737.63	40°11'18.852"N	80°32'13.321"W	10935.85	152.436	1.64	0.06	1.63	
17330.00	88.920	159.100	6190.39	11026.82	-9779.86	5094.88	1769748.19	14595652.40	40°11'18.007"N	80°32'12.882"W	11027.40	152.482	2.42	0.00	2.42	
17423.00	88.460	157.610	6192.51	11119.40	-9866.28	5129.18	1769782.48	14595566.01	40°11'17.152"N	80°32'12.446"W	11119.89	152.531	1.68	-0.49	-1.60	
17516.00	88.620	152.380	6194.89	11212.28	-9950.51	5168.46	1769821.74	14595481.82	40°11'16.317"N	80°32'11.946"W	11212.74	152.552	5.62	0.17	-5.62	
17609.00	88.430	150.320	6197.28	11305.21	-10032.09	5213.03	1769866.30	14595400.27	40°11'15.509"N	80°32'11.377"W	11305.69	152.542	2.22	-0.20	-2.22	
17701.00	88.370	151.210	6199.85	11397.09	-10112.34	5257.95	1769911.20	14595320.05	40°11'14.714"N	80°32'10.804"W	11397.61	152.528	0.97	-0.07	0.97	
17794.00	88.310	152.230	6202.54	11490.03	-10194.20	5301.99	1769955.22	14595238.22	40°11'13.902"N	80°32'10.242"W	11490.56	152.521	1.10	-0.06	1.10	
17887.00	88.310	153.430	6205.29	11582.99	-10276.90	5344.44	1769997.65	14595155.55	40°11'13.083"N	80°32'09.700"W	11583.51	152.524	1.29	0.00	1.29	
17980.00	88.430	155.600	6207.93	11675.91	-10360.82	5384.43	1770037.64	14595071.67	40°11'12.252"N	80°32'09.191"W	11676.41	152.539	2.34	0.13	2.33	
18072.00	88.340	157.490	6210.52	11767.70	-10445.18	5421.04	1770074.22	14594987.34	40°11'11.416"N	80°32'08.725"W	11768.15	152.571	2.06	-0.10	2.05	
18165.00	88.340	158.890	6213.24	11860.29	-10531.48	5455.57	1770108.75	14594901.07	40°11'10.561"N	80°32'08.286"W	11860.66	152.615	1.51	-0.03	1.51	
18258.00	88.360	159.500	6215.54	11952.73	-10618.39	5488.60	1770141.76	14594814.19	40°11'09.701"N	80°32'07.866"W	11953.03	152.666	0.88	0.59	0.66	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #10H
Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

WELLPATH DATA (223 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]
18351.00	88.740	157.270	6217.49	12045.30	-10704.82	5522.84	1770175.99	14594727.79	40°11'08.845"N	80°32'07.431"W	12045.54	152.710	2.40	-0.13	-2.40
18444.00	88.800	159.240	6219.48	12137.90	-10791.18	5557.29	1770210.42	14594641.46	40°11'07.990"N	80°32'06.993"W	12138.08	152.752	2.12	0.06	2.12
18536.00	88.710	159.840	6221.48	12229.29	-10877.36	5589.44	1770242.56	14594555.32	40°11'07.137"N	80°32'06.584"W	12229.42	152.803	0.66	-0.10	0.65
18629.00	88.800	161.380	6223.50	12321.46	-10965.06	5620.31	1770273.42	14594467.65	40°11'06.268"N	80°32'06.192"W	12321.54	152.862	1.66	0.10	1.66
18722.00	88.860	161.440	6225.40	12413.46	-11053.19	5649.95	1770303.05	14594379.56	40°11'05.396"N	80°32'05.816"W	12413.50	152.926	0.09	0.06	0.06
18815.00	88.830	157.380	6227.28	12505.85	-11140.21	5682.64	1770335.73	14594292.57	40°11'04.534"N	80°32'05.401"W	12505.87	152.974	4.36	-0.03	-4.37
18907.00	88.710	155.270	6229.25	12597.68	-11224.45	5719.57	1770372.65	14594208.37	40°11'03.700"N	80°32'04.931"W	12597.69	152.998	2.30	-0.13	-2.29
19000.00	88.550	152.990	6231.48	12690.63	-11308.10	5760.14	1770413.19	14594124.75	40°11'02.871"N	80°32'04.414"W	12690.64	153.007	2.46	-0.17	-2.45
19093.00	88.460	152.930	6233.90	12783.60	-11390.90	5802.40	1770455.44	14594041.98	40°11'02.051"N	80°32'03.875"W	12783.60	153.006	0.12	-0.10	-0.06
19186.00	88.520	153.170	6236.35	12876.56	-11473.77	5844.54	1770497.56	14593959.14	40°11'01.230"N	80°32'03.338"W	12876.57	153.007	0.27	0.06	0.26
19278.00	88.550	152.980	6238.71	12968.53	-11555.77	5886.18	1770539.19	14593877.17	40°11'00.417"N	80°32'02.807"W	12968.54	153.007	0.21	0.03	-0.21
19339.00	88.580	152.480	6240.23	13029.51	-11609.98	5914.12	1770567.12	14593822.98	40°10'59.880"N	80°32'02.450"W	13029.52	153.006	0.82	0.05	-0.82
19364.00	88.580	152.480	6240.85	13054.50	-11632.14	5925.67	1770578.66	14593800.83	40°10'59.661"N	80°32'02.303"W	13054.51	153.005	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Worthley BRK 10H AWB Ref Wellpath: Worthley BRK 10H AWP Proj: 19364'MD									
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	596.00	570.00	26.00	595.93	0.00	0.00	7.81	3.46
13.375in Casing	26.00	596.00	570.00	26.00	595.93	0.00	0.00	7.81	3.46
12.25in Open Hole	596.00	1734.00	1138.00	595.93	1733.03	7.81	3.46	36.35	17.71
9.625in Casing	26.00	1734.00	1708.00	26.00	1733.03	0.00	0.00	36.35	17.71
8.75in Open Hole	1734.00	6080.00	4346.00	1733.03	5888.81	36.35	17.71	421.48	519.82
8.5in Open Hole	6080.00	19364.00	13284.00	5888.81	6240.85	421.48	519.82	-11632.14	5925.67

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #10H
Area	Brooke County, WV	Well	Worthley BRK 10H
Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Worthley BRK 10H LP Rev-3	6034.00	38.24	778.81	1765433.78	14605466.73	40°12'55.247"N	80°33'07.857"W	point
Worthley BRK 10H LP Rev-2	6034.70	271.59	675.06	1765330.07	14605699.99	40°12'57.558"N	80°33'09.179"W	point
Worthley BRK 10H BHL Rev-2	6249.00	-11639.55	5912.06	1770565.06	14593793.42	40°10'59.588"N	80°32'02.479"W	point

WELLPATH COMPOSITION - Ref Wellbore: Worthley BRK 10H AWB Ref Wellpath: Worthley BRK 10H AWP Proj: 19364'MD					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
26.00	6007.00	OWSG MWD rev2 + HRGM	01_Premier MWD <8.75">(161'-6007')	Worthley BRK 10H AWB	
6007.00	19339.00	BHI AutoTrak Curve (Short)	02_BH AT Curve <8.5"> (6007')(6071'-19339')	Worthley BRK 10H AWB	
19339.00	19364.00	Blind Drilling (std)	Projection to bit	Worthley BRK 10H AWB	

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REFERENCE WELLPATH IDENTIFICATION			
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Field	Brooke	Wellbore	Worthley BRK 10H AWB
Facility	Worthley BRK Pad		

COMMENTS
<p>Wellpath general comments API: 47-009-00249-0000 BH Job #: 9242226 Rig: SDC 41 Duration: 07/13/2018 - 07/15/2018</p>

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