

SOUTHWESTERN ENERGY



Location: Brooke County, WV
 Field: Brooke
 Facility: Linda Greathouse BRK PatWellbore
 Slot: Slot #206
 Well: Linda Greathouse BRK 206H
 Pilot-reference wellpath is Linda Greathouse BRK 206H WVP Rev-A. Grid System: NAD83 / UTM Zone 17 North, US feet
 True vertical depths are referenced to SDC 41 (KB)
 Measured depths are referenced to SDC 41 (KB)
 SDC 41 (KB) to Mean Sea Level: 1165.1 feet
 Mean Sea Level to Ground level (At Slot: Slot #206): -1139.1 feet
 Coordinates are in feet referenced to Slot

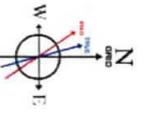
Created by: atelen on 2019-10-02
 Database: WA_MPL_EASTERNNUS_Dein

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude
Linda Greathouse BRK Pad	1750140.330	14601304.330	40°12'14.821"N
Slot	Local N (ft)	Local E (ft)	Longitude
Slot #206	-7.06	11.58	80°36'25.304"W
Comment: slot 1 on plat	1750151.902	14601297.870	40°12'14.751"N
SDC 41 (KB) to Ground level (At Slot: Slot #206)			80°36'25.156"W
Mean Sea Level to Ground level (At Slot: Slot #206)			26ft
SDC 41 (KB) to Mean Sea Level			-1139.1ft

Comments

API: 47-009-00278-0000
 BH Job #: 110008542A
 Rig: SDC 41
 Duration: 09/25/2019 - 09/30/2019

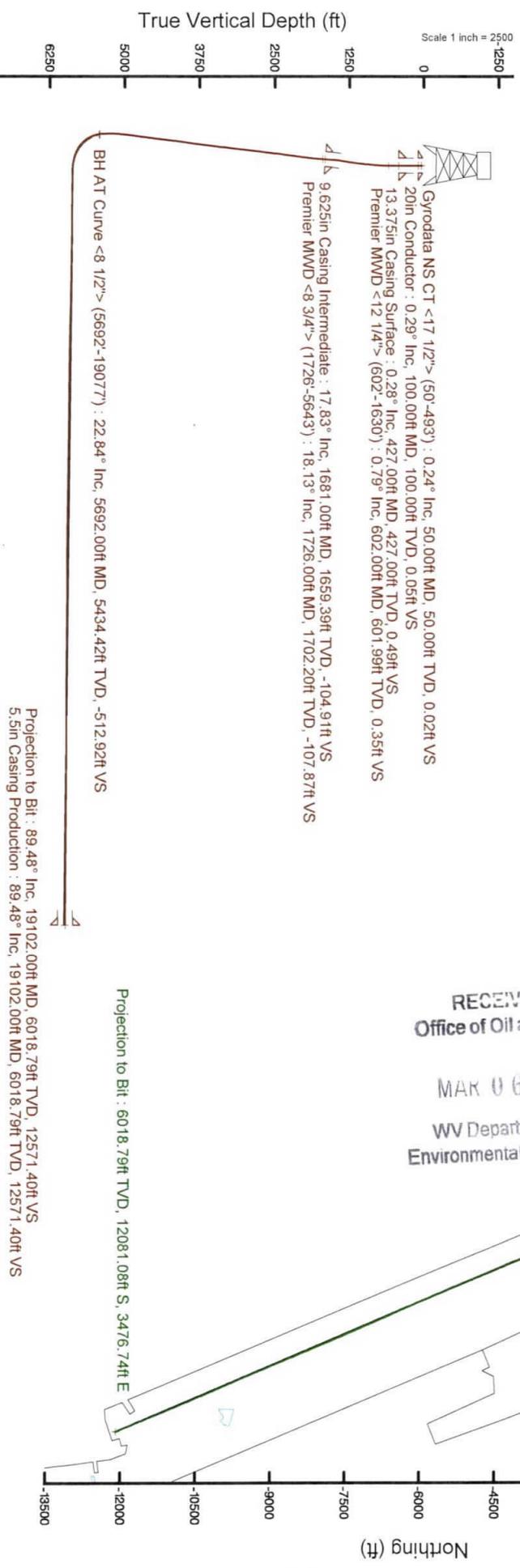
User specified Dip: 67.47° Field: S2469 at
 Magnetic North Pole: 86.00° East of True North
 Grid North is 0.25 degrees East of True North
 To correct azimuth from True to Grid subtract 0.25 degrees
 To correct azimuth from Magnetic to Grid subtract 67.49 degrees



Gyrodata NS CT <17 1/2"> (50'-493') : 50.00ft TVD, 0.00ft N, 0.05ft E
 Premier MWD <12 1/4"> (602'-1630') : 601.99ft TVD, 0.38ft N, 2.59ft E
 Premier MWD <8 3/4"> (1726'-5643') : 1702.20ft TVD, 59.20ft N, 184.37ft W
 BH AT Curve <8 1/2"> (5692'-19077') : 5434.42ft TVD, 99.52ft N, 1509.27ft W

Gyrodata NS CT <17 1/2"> (50'-493') : 0.24° Inc, 50.00ft MD, 50.00ft TVD, 0.02ft VS
 20in Conductor : 0.29° Inc, 100.00ft MD, 100.00ft TVD, 0.05ft VS
 13.375in Casing Surface : 0.28° Inc, 427.00ft MD, 427.00ft TVD, 0.49ft VS
 Premier MWD <12 1/4"> (602'-1630') : 0.79° Inc, 602.00ft MD, 601.99ft TVD, 0.35ft VS
 9.625in Casing Intermediate : 17.83° Inc, 1681.00ft MD, 1659.39ft TVD, -104.91ft VS
 Premier MWD <8 3/4"> (1726'-5643') : 18.13° Inc, 1726.00ft MD, 1702.20ft TVD, -107.87ft VS

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Vertical Section (ft)
 Azimuth 163.95° with reference 0.00 N, 0.00 E

Scale 1 inch = 2500



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #206
Area	Brooke County, WV	Well	Linda Greathouse BRK 206H
Field	Brooke	Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Atenjen
Scale	0.999614	Report Generated	10/2/2019 at 9:31:45 AM
Convergence at slot	0.25° East	Database/Source file	WA_MPL_EASTERNUSS_Defn/Linda_Greathouse_BRK_206H_AWP_Proj_191021.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-7.06	11.58	1750151.90	14601297.87	40°12'14.751"N	80°36'25.156"W
Facility Reference Pt			1750140.33	14601304.93	40°12'14.821"N	80°36'25.304"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	1165.10ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1165.10ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level at Slot (Slot #206)	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	163.95°



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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY		Slot	Slot #206
Area	Brooke County, WV		Well	Linda Greathouse BRK 206H
Field	Brooke		Wellbore	Linda Greathouse BRK 206H AWP
Facility	Linda Greathouse BRK Pad			

WELLPATH DATA (216 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)
0.00†	0.000	92.420	0.00	0.00	0.00	0.00	1750151.90	14601297.87	40°12'14.751"N	80°36'25.156"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	92.420	26.00	0.00	0.00	0.00	1750151.90	14601297.87	40°12'14.751"N	80°36'25.156"W	0.00	0.000	0.00	0.00	0.00
50.00	0.240	92.420	50.00	0.02	0.00	0.05	1750151.95	14601297.87	40°12'14.751"N	80°36'25.155"W	0.05	92.420	1.00	1.00	385.08
100.00	0.290	73.440	100.00	0.05	0.03	0.28	1750152.18	14601297.90	40°12'14.751"N	80°36'25.142"W	0.28	83.898	0.20	0.10	-37.96
150.00	0.360	98.250	150.00	0.11	0.04	0.55	1750152.45	14601297.91	40°12'14.751"N	80°36'25.148"W	0.55	85.548	0.31	0.14	49.62
200.00	0.280	87.740	200.00	0.21	0.03	0.83	1750152.73	14601297.90	40°12'14.751"N	80°36'25.145"W	0.83	88.253	0.20	-0.16	-21.02
250.00	0.250	90.500	250.00	0.27	0.03	1.06	1750152.96	14601297.90	40°12'14.751"N	80°36'25.142"W	1.06	88.425	0.07	-0.06	5.52
300.00	0.290	91.070	300.00	0.33	0.03	1.30	1750153.20	14601297.90	40°12'14.751"N	80°36'25.139"W	1.30	88.857	0.08	0.08	1.14
350.00	0.210	88.320	350.00	0.39	0.03	1.52	1750153.42	14601297.90	40°12'14.751"N	80°36'25.136"W	1.52	89.009	0.16	-0.16	-5.50
400.00	0.230	91.760	400.00	0.45	0.03	1.71	1750153.61	14601297.90	40°12'14.751"N	80°36'25.134"W	1.71	89.134	0.05	0.04	6.88
450.00	0.320	100.080	450.00	0.54	0.00	1.94	1750153.85	14601297.87	40°12'14.751"N	80°36'25.131"W	1.94	90.051	0.20	0.18	16.64
493.00	0.460	124.750	492.99	0.73	-0.12	2.20	1750154.11	14601297.75	40°12'14.750"N	80°36'25.127"W	2.21	93.144	0.50	0.33	57.37
602.00	0.790	1.950	601.99	0.35	0.38	2.59	1750154.49	14601298.25	40°12'14.755"N	80°36'25.122"W	2.62	81.643	1.02	0.30	-112.66
695.00	2.370	324.360	694.95	-2.07	2.58	1.49	1750153.39	14601300.45	40°12'14.776"N	80°36'25.136"W	2.98	29.990	1.95	1.70	-40.42
787.00	4.140	324.970	786.80	-7.00	6.85	-1.52	1750150.38	14601304.72	40°12'14.819"N	80°36'25.175"W	7.02	347.460	1.92	1.92	0.66
878.00	5.620	314.170	877.47	-13.98	12.64	-6.61	1750145.30	14601310.51	40°12'14.876"N	80°36'25.240"W	14.27	332.418	1.91	1.63	-11.87
970.00	7.020	304.630	968.91	-22.24	18.98	-14.46	1750137.44	14601316.84	40°12'14.939"N	80°36'25.341"W	23.86	322.690	1.90	1.52	-10.37
1063.00	8.550	299.080	1061.05	-31.53	25.57	-25.18	1750126.73	14601323.43	40°12'15.005"N	80°36'25.479"W	35.89	315.437	1.83	1.65	-5.97
1156.00	10.210	294.240	1152.81	-41.76	32.31	-38.74	1750113.18	14601330.17	40°12'15.072"N	80°36'25.653"W	50.45	309.832	1.97	1.78	-5.20
1247.00	12.600	292.550	1242.01	-53.17	39.43	-55.26	1750096.66	14601337.29	40°12'15.143"N	80°36'25.866"W	67.89	305.509	2.65	2.63	-1.86
1339.00	14.680	290.170	1331.41	-66.32	47.30	-75.48	1750076.46	14601345.15	40°12'15.222"N	80°36'26.126"W	89.07	302.075	2.34	2.26	-2.59
1432.00	16.420	285.920	1421.00	-80.25	54.97	-99.18	1750052.76	14601352.82	40°12'15.298"N	80°36'26.431"W	113.40	298.997	2.24	1.87	-4.57
1524.00	16.260	275.380	1509.31	-91.84	59.75	-124.51	1750027.44	14601357.59	40°12'15.347"N	80°36'26.707"W	138.11	295.633	3.22	-0.17	-11.46
1617.00	17.150	269.610	1598.39	-100.30	60.87	-155.19	1750000.77	14601358.72	40°12'15.359"N	80°36'27.101"W	162.98	291.931	2.02	0.96	-6.20
1630.00	17.490	268.140	1610.80	-101.30	60.80	-155.06	1749966.60	14601357.05	40°12'15.358"N	80°36'27.151"W	166.55	291.410	4.26	2.62	-11.31
1726.00	18.130	265.680	1702.20	-107.87	59.20	-184.37	1749967.60	14601355.64	40°12'15.344"N	80°36'27.528"W	193.64	287.802	1.03	0.67	-2.56
1816.00	20.210	264.770	1787.20	-113.64	56.73	-213.82	1749938.17	14601354.58	40°12'15.321"N	80°36'27.908"W	221.22	284.860	2.33	2.31	-1.01
1908.00	21.930	267.340	1873.05	-120.60	54.49	-246.81	1749905.19	14601352.33	40°12'15.300"N	80°36'28.333"W	252.75	282.449	2.12	1.87	2.79
2000.00	22.770	270.300	1958.14	-129.59	53.78	-281.78	1749870.24	14601351.63	40°12'15.295"N	80°36'28.784"W	286.86	280.806	1.53	0.91	3.22
2092.00	22.430	271.700	2043.08	-139.95	54.40	-317.12	1749834.90	14601352.24	40°12'15.302"N	80°36'29.240"W	321.75	279.733	0.69	-0.37	1.52



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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #206
Area	Brooke County, WV	Well	Linda Greathouse BRK 206H
Field	Brooke	Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (216 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]
2185.00	21.340	274.940	2129.38	-151.42	56.38	-351.72	1749800.32	14601354.23	40°12'15.323"N	80°36'29.685"W	356.21	279.107	1.75	-1.17	3.48
2278.00	21.370	272.630	2215.99	-162.91	58.61	-385.50	1749766.55	14601356.46	40°12'15.347"N	80°36'30.121"W	389.93	278.645	0.91	0.03	-2.48
2369.00	20.440	273.450	2301.00	-173.53	60.33	-417.93	1749734.14	14601358.18	40°12'15.366"N	80°36'30.538"W	422.26	278.214	1.07	-1.02	0.90
2462.00	18.720	277.080	2388.62	-184.81	63.15	-448.95	1749703.13	14601360.89	40°12'15.395"N	80°36'30.938"W	453.37	278.006	2.26	-1.85	3.90
2555.00	18.410	277.860	2476.78	-196.62	67.00	-478.31	1749673.78	14601364.84	40°12'15.434"N	80°36'31.316"W	482.98	277.973	0.43	-0.33	0.84
2646.00	18.890	273.490	2563.01	-207.38	69.86	-507.25	1749644.85	14601367.70	40°12'15.463"N	80°36'31.689"W	512.04	277.841	1.62	0.53	-4.80
2739.00	18.610	276.210	2651.08	-218.03	72.38	-537.03	1749615.08	14601370.22	40°12'15.490"N	80°36'32.073"W	541.88	277.676	0.99	-0.30	2.92
2832.00	17.910	274.670	2739.39	-228.71	75.15	-566.03	1749586.09	14601372.99	40°12'15.518"N	80°36'32.446"W	571.00	277.563	0.91	-0.75	-1.66
2925.00	19.360	273.790	2827.52	-239.00	77.33	-595.67	1749556.47	14601375.17	40°12'15.541"N	80°36'32.828"W	600.67	277.397	1.59	1.56	-0.95
3017.00	18.940	271.980	2914.42	-248.80	78.86	-625.81	1749526.34	14601376.69	40°12'15.557"N	80°36'33.216"W	630.75	277.182	0.79	-0.46	-1.97
3110.00	19.710	270.690	3002.18	-257.99	79.57	-656.57	1749495.59	14601377.40	40°12'15.566"N	80°36'33.613"W	661.37	276.910	0.95	0.83	-1.39
3203.00	19.800	273.620	3089.71	-267.81	80.75	-687.97	1749464.20	14601378.59	40°12'15.579"N	80°36'34.018"W	692.70	276.694	1.07	0.10	3.15
3296.00	18.890	273.430	3177.46	-278.13	82.64	-718.72	1749433.46	14601380.48	40°12'15.599"N	80°36'34.414"W	723.46	276.560	0.98	-0.98	-0.20
3388.00	19.230	273.080	3264.42	-288.06	84.35	-748.72	1749403.48	14601382.19	40°12'15.617"N	80°36'34.800"W	753.45	276.428	0.39	0.37	-0.38
3481.00	19.240	275.870	3352.23	-298.80	86.74	-779.25	1749372.95	14601384.58	40°12'15.642"N	80°36'35.194"W	784.07	276.352	0.99	0.01	3.00
3574.00	20.120	277.180	3439.80	-310.83	90.31	-810.37	1749341.85	14601388.14	40°12'15.679"N	80°36'35.594"W	815.38	276.359	1.06	0.95	1.41
3666.00	18.910	274.470	3526.51	-322.30	93.45	-840.93	1749311.30	14601391.28	40°12'15.711"N	80°36'35.988"W	846.11	276.341	1.64	-1.32	-2.95
3759.00	18.630	273.740	3614.56	-332.61	95.59	-870.78	1749281.46	14601393.42	40°12'15.733"N	80°36'36.373"W	876.01	276.265	0.39	-0.30	-0.78
3852.00	18.790	273.290	3702.65	-342.60	97.42	-900.55	1749251.70	14601395.25	40°12'15.753"N	80°36'36.756"W	905.81	276.174	0.23	0.17	-0.48
3945.00	19.550	274.870	3790.49	-353.12	99.60	-931.01	1749221.25	14601397.43	40°12'15.776"N	80°36'37.149"W	936.32	276.106	0.99	0.82	1.70
4036.00	20.270	276.470	3876.05	-364.59	102.67	-961.84	1749190.43	14601400.50	40°12'15.807"N	80°36'37.546"W	967.31	276.093	0.99	0.79	1.76
4129.00	20.200	277.210	3963.31	-377.10	106.50	-993.78	1749158.51	14601404.33	40°12'15.847"N	80°36'37.957"W	999.47	276.117	0.29	-0.08	0.80
4221.00	20.590	276.540	4049.55	-389.59	110.33	-1025.61	1749126.69	14601408.16	40°12'15.886"N	80°36'38.367"W	1031.53	276.140	0.49	0.42	-0.73
4314.00	20.730	276.600	4136.57	-402.21	114.09	-1058.21	1749094.31	14601411.91	40°12'15.924"N	80°36'38.787"W	1064.34	276.153	0.15	0.15	0.06
4405.00	20.260	273.550	4221.81	-413.70	116.91	-1089.93	1749062.39	14601414.74	40°12'15.954"N	80°36'39.196"W	1096.19	276.123	1.28	-0.52	-3.35
4498.00	19.960	272.470	4309.14	-424.14	118.60	-1121.86	1749030.47	14601416.42	40°12'15.972"N	80°36'39.607"W	1128.11	276.035	0.51	-0.32	-1.16
4591.00	19.650	271.350	4396.64	-433.86	119.65	-1153.35	1748998.99	14601417.47	40°12'15.983"N	80°36'40.013"W	1159.54	275.923	0.53	-0.33	-1.20
4683.00	18.980	273.660	4483.46	-443.53	120.97	-1183.75	1748968.61	14601418.79	40°12'15.998"N	80°36'40.405"W	1189.91	275.835	1.10	-0.73	2.51
4776.00	19.830	274.820	4571.18	-454.25	123.26	-1214.56	1748937.81	14601421.08	40°12'16.022"N	80°36'40.802"W	1220.80	275.795	1.00	0.91	1.25
4869.00	20.250	275.450	4658.55	-465.77	126.11	-1246.30	1748906.08	14601423.93	40°12'16.051"N	80°36'41.211"W	1252.67	275.778	0.51	0.45	0.68



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REFERENCE WELLPATH IDENTIFICATION

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Area	Brooke County, WV		Well	Linda Greathouse BRK 206H
Field	Brooke		Wellbore	Linda Greathouse BRK 206H AWP
Facility	Linda Greathouse BRK Pad			

WELLPATH DATA (216 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]
4961.00	20.180	275.600	4744.88	-477.46	129.17	-1277.94	1748874.45	14601426.99	40°12'16.083"N	80°36'41.618"W	1284.46	275.712	0.09	-0.08	0.16
5054.00	20.160	274.580	4832.18	-489.02	132.02	-1309.88	1748842.53	14601429.84	40°12'16.112"N	80°36'42.030"W	1316.52	275.755	0.38	-0.02	-1.10
5147.00	20.020	273.310	4919.52	-499.95	134.22	-1341.75	1748810.67	14601433.04	40°12'16.136"N	80°36'42.440"W	1348.45	275.712	0.49	-0.15	-1.37
5238.00	19.400	272.640	5005.19	-509.95	135.81	-1372.40	1748780.03	14601435.63	40°12'16.153"N	80°36'42.835"W	1379.10	275.652	0.73	-0.68	-0.74
5328.00	18.950	273.740	5090.19	-519.69	137.45	-1401.91	1748750.53	14601438.27	40°12'16.170"N	80°36'43.216"W	1408.64	275.600	0.64	-0.50	-1.22
5420.00	17.660	268.230	5177.54	-528.19	138.00	-1430.77	1748721.69	14601435.81	40°12'16.177"N	80°36'43.588"W	1437.41	275.509	2.34	-1.40	-5.99
5512.00	17.370	247.970	5265.36	-530.21	132.41	-1457.48	1748694.99	14601430.23	40°12'16.123"N	80°36'43.932"W	1463.48	275.191	6.60	-0.32	-22.02
5605.00	19.940	236.850	5353.49	-524.09	118.53	-1483.63	1748668.84	14601416.35	40°12'15.987"N	80°36'44.270"W	1488.36	274.568	4.71	2.76	-11.96
5643.00	21.490	233.340	5389.04	-519.74	110.83	-1494.64	1748657.84	14601408.65	40°12'15.911"N	80°36'44.412"W	1498.75	274.241	5.22	4.08	-9.24
5682.00	22.840	231.330	5434.42	-512.92	99.52	-1509.27	1748643.22	14601397.36	40°12'15.800"N	80°36'44.601"W	1512.55	273.773	3.16	2.76	-4.10
5784.00	26.290	212.640	5518.20	-492.57	71.16	-1534.24	1748618.25	14601369.00	40°12'15.521"N	80°36'44.925"W	1535.89	272.656	9.19	3.75	-20.32
5876.00	32.220	193.990	5598.60	-457.78	30.08	-1551.21	1748601.29	14601327.94	40°12'15.116"N	80°36'45.146"W	1551.50	271.111	14.75	6.45	-20.27
5969.00	41.380	178.380	5673.15	-406.33	-24.94	-1556.36	1748596.15	14601272.94	40°12'14.572"N	80°36'45.215"W	1556.56	269.082	14.01	9.85	-16.78
6061.00	48.470	171.540	5738.29	-342.63	-89.52	-1550.42	1748602.08	14601208.39	40°12'13.934"N	80°36'45.142"W	1553.00	266.696	9.32	7.71	-7.43
6153.00	60.550	169.190	5791.61	-268.32	-163.20	-1537.80	1748614.70	14601134.73	40°12'13.205"N	80°36'44.984"W	1546.43	263.942	13.29	13.13	-2.55
6246.00	71.720	168.580	5829.17	-183.72	-246.52	-1521.41	17486631.09	14601051.45	40°12'12.381"N	80°36'44.777"W	1541.25	260.796	12.03	12.01	-0.66
6337.00	78.160	165.460	5852.81	-96.03	-332.08	-1501.65	1748650.84	14600965.91	40°12'11.535"N	80°36'44.527"W	1537.93	257.530	7.81	7.08	-3.43
6430.00	87.040	155.480	5864.81	-4.19	-418.78	-1470.81	1748681.66	14600879.26	40°12'10.677"N	80°36'44.135"W	1529.27	254.107	14.29	9.55	-10.73
6523.00	88.980	153.330	5868.04	87.46	-502.59	-1430.66	1748721.79	14600795.47	40°12'09.847"N	80°36'43.622"W	1516.37	250.644	3.11	2.09	-2.31
6615.00	89.200	153.810	5869.50	177.94	-584.96	-1389.72	1748762.72	14600713.13	40°12'09.031"N	80°36'43.099"W	1507.81	247.173	0.57	0.24	0.52
6708.00	89.140	155.220	5870.84	269.67	-668.90	-1349.71	1748802.72	14600629.23	40°12'08.200"N	80°36'42.588"W	1506.37	243.637	1.52	-0.06	1.52
6799.00	89.020	155.320	5872.31	359.61	-751.55	-1311.64	1748840.77	14600546.61	40°12'07.381"N	80°36'42.102"W	1511.70	240.188	0.17	-0.13	0.11
6891.00	89.260	154.980	5873.69	450.52	-835.02	-1272.99	1748879.41	14600463.17	40°12'06.555"N	80°36'41.609"W	1522.42	236.737	0.45	0.26	-0.37
6984.00	89.080	155.100	5875.43	542.39	-919.32	-1233.74	1748918.64	14600378.90	40°12'05.720"N	80°36'41.108"W	1538.60	233.308	0.23	-0.19	0.13
7076.00	89.110	156.380	5876.49	633.43	-1003.19	-1195.95	1748956.84	14600295.07	40°12'04.820"N	80°36'40.626"W	1560.99	230.009	1.39	0.03	1.39
7169.00	89.200	157.480	5877.86	725.74	-1088.74	-1159.51	1748992.84	14600209.55	40°12'04.043"N	80°36'40.161"W	1590.54	226.803	1.19	0.10	1.18
7266.00	89.110	150.970	5879.29	821.27	-1176.03	-1117.36	1749034.98	14600122.29	40°12'03.178"N	80°36'39.623"W	1622.20	223.534	6.71	-0.09	-6.71
7355.00	89.050	153.090	5880.72	908.33	-1254.62	-1075.63	1749076.69	14600043.73	40°12'02.400"N	80°36'39.089"W	1652.59	220.607	2.38	-0.07	2.38
7447.00	89.170	154.360	5882.15	998.86	-1337.11	-1034.90	1749117.40	14599961.28	40°12'01.583"N	80°36'38.569"W	1690.82	217.739	1.39	0.13	1.38
7540.00	88.740	153.760	5883.84	1090.46	-1420.72	-994.23	1749158.06	14599877.70	40°12'00.755"N	80°36'38.050"W	1734.05	214.985	0.79	-0.46	-0.65



Actual Wellpath Report

Linda Greathouse BRK 206H AWP Proj: 19102

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #206
Operator	SOUTHWESTERN ENERGY	Well	Linda Greathouse BRK 206H
Area	Brooke County, WV	Wellbore	Linda Greathouse BRK 206H AWP
Field	Brooke		
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (216 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
7633.00	88.830	155.590	5885.82	1182.22	-1504.76	-954.46	1749197.81	14599793.69	40°11'59.923"N	80°36'37.542"W	1781.94	212.387	1.97	0.10	1.97
7726.00	88.860	156.320	5887.69	1274.30	-1589.67	-916.58	1749235.68	14599708.81	40°11'59.082"N	80°36'37.058"W	1834.99	209.967	0.79	0.03	0.78
7818.00	89.050	159.220	5889.37	1365.74	-1674.81	-881.78	1749270.47	14599623.71	40°11'58.239"N	80°36'36.615"W	1892.76	207.767	3.16	0.21	3.15
7911.00	89.480	157.040	5890.56	1458.25	-1761.11	-847.14	1749305.29	14599537.45	40°11'57.385"N	80°36'36.173"W	1954.26	205.689	2.39	0.46	-2.34
8003.00	88.920	157.940	5891.85	1549.65	-1846.09	-811.92	1749340.09	14599452.50	40°11'56.543"N	80°36'35.724"W	2016.74	203.740	1.15	-0.61	0.98
8096.00	88.740	158.030	5893.75	1642.13	-1932.29	-777.07	1749375.13	14599366.33	40°11'55.690"N	80°36'35.280"W	2082.68	201.908	0.22	-0.19	0.10
8188.00	88.980	156.540	5895.58	1733.49	-2017.13	-741.55	1749410.64	14599281.52	40°11'54.850"N	80°36'34.827"W	2149.12	200.185	1.64	0.26	-1.62
8281.00	89.420	156.730	5896.88	1825.72	-2102.50	-704.67	1749447.50	14599196.19	40°11'54.005"N	80°36'34.357"W	2217.45	198.529	0.52	0.47	0.20
8374.00	88.550	156.110	5898.52	1917.90	-2187.72	-667.48	1749484.68	14599111.00	40°11'53.161"N	80°36'33.882"W	2287.28	196.967	1.15	-0.94	-0.67
8465.00	88.250	156.940	5901.06	2008.10	-2271.15	-631.24	1749520.91	14599027.60	40°11'52.335"N	80°36'33.420"W	2357.25	195.533	0.97	-0.33	0.91
8557.00	90.120	161.470	5902.37	2099.75	-2357.13	-598.59	1749553.54	14598941.66	40°11'51.484"N	80°36'33.004"W	2431.94	194.249	5.33	2.03	4.92
8649.00	88.650	156.140	5903.36	2191.34	-2442.86	-565.35	1749586.77	14598855.95	40°11'50.635"N	80°36'32.580"W	2507.43	193.030	6.01	-1.60	-5.79
8741.00	88.830	156.920	5905.38	2282.55	-2527.23	-528.72	1749623.39	14598771.62	40°11'49.800"N	80°36'32.113"W	2581.95	191.816	0.87	0.20	0.85
8834.00	88.340	157.680	5907.68	2374.89	-2613.00	-492.84	1749659.26	14598685.88	40°11'48.951"N	80°36'31.656"W	2659.07	190.681	0.97	-0.53	0.82
8926.00	88.460	158.170	5910.25	2466.35	-2698.22	-458.28	1749693.80	14598600.69	40°11'48.107"N	80°36'31.215"W	2736.86	189.639	0.55	0.13	0.53
9018.00	88.340	157.600	5912.82	2557.80	-2783.42	-423.65	1749728.41	14598515.53	40°11'47.264"N	80°36'30.774"W	2815.48	188.654	0.63	-0.13	-0.62
9110.00	88.400	158.080	5915.44	2649.24	-2868.59	-388.97	1749763.09	14598430.39	40°11'46.421"N	80°36'30.332"W	2894.84	187.722	0.53	0.07	0.52
9203.00	88.740	157.820	5917.76	2741.70	-2954.76	-354.06	1749797.98	14598344.26	40°11'45.568"N	80°36'29.887"W	2975.90	186.833	0.46	0.37	-0.28
9296.00	88.950	158.310	5919.63	2834.19	-3041.01	-319.33	1749832.70	14598258.04	40°11'44.714"N	80°36'29.444"W	3057.73	185.995	0.57	0.23	0.53
9389.00	88.920	158.500	5921.36	2926.74	-3127.47	-285.11	1749866.90	14598171.62	40°11'43.858"N	80°36'29.008"W	3140.44	185.209	0.21	-0.03	0.20
9480.00	88.650	158.100	5923.29	3017.27	-3212.00	-251.47	1749900.53	14598087.12	40°11'43.021"N	80°36'28.579"W	3221.83	184.477	0.53	-0.30	-0.44
9572.00	89.110	158.670	5925.09	3108.82	-3297.51	-217.59	1749934.40	14598001.64	40°11'42.175"N	80°36'28.148"W	3304.68	183.775	0.80	0.50	0.62
9663.00	89.230	158.060	5926.41	3199.38	-3382.09	-184.04	1749967.93	14597917.09	40°11'41.337"N	80°36'27.720"W	3387.10	183.115	0.68	0.13	-0.67
9756.00	89.260	157.620	5927.63	3291.84	-3468.22	-148.96	1750003.00	14597831.00	40°11'40.485"N	80°36'27.273"W	3471.41	182.459	0.47	0.03	-0.47
9848.00	89.230	158.530	5928.84	3383.31	-3553.55	-114.61	1750037.33	14597745.70	40°11'39.640"N	80°36'26.835"W	3555.40	181.847	0.99	-0.03	0.99
9941.00	89.290	158.240	5930.04	3475.95	-3640.01	-80.36	1750071.57	14597659.28	40°11'38.784"N	80°36'26.399"W	3640.89	181.265	0.32	0.06	-0.31
10034.00	89.110	157.690	5931.34	3568.39	-3726.21	-45.47	1750106.45	14597573.11	40°11'37.931"N	80°36'25.954"W	3726.48	180.699	0.62	-0.19	-0.59
10127.00	89.170	158.520	5932.74	3660.89	-3812.49	-10.79	1750141.11	14597486.86	40°11'37.077"N	80°36'25.512"W	3812.50	180.162	0.89	0.06	0.89
10219.00	89.350	158.390	5933.93	3752.46	-3898.05	22.99	1750174.88	14597401.33	40°11'36.230"N	80°36'25.082"W	3898.12	179.662	0.24	0.20	-0.14
10312.00	89.380	158.610	5934.96	3845.04	-3984.57	57.07	1750208.95	14597314.84	40°11'35.373"N	80°36'24.648"W	3984.98	179.179	0.24	0.03	0.24



Actual Wellpath Report

Linda Greathouse BRK 206H AWP Proj: 19102'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #206
Area	Brooke County, WV	Well	Linda Greathouse BRK 206H
Field	Brooke	Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (216 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]
10404.00	89.320	158.830	5936.00	3936.65	-4070.30	90.46	1750242.32	14597222.15	40°11'34.525"N	80°36'24.222"W	4071.30	178.127	0.25	-0.07	0.24
10497.00	89.140	156.470	5937.25	4029.07	-4156.30	125.82	1750277.67	14597143.19	40°11'33.673"N	80°36'23.771"W	4158.20	178.266	2.54	-0.19	-2.54
10590.00	89.230	156.840	5938.57	4121.31	-4241.67	162.67	1750314.50	14597057.84	40°11'32.828"N	80°36'23.302"W	4244.79	177.804	0.41	0.10	0.40
10683.00	89.260	156.410	5939.80	4213.54	-4327.03	199.56	1750351.38	14596872.52	40°11'31.983"N	80°36'22.831"W	4331.63	177.359	0.46	0.03	-0.46
10775.00	89.290	156.730	5940.96	4304.77	-4411.44	236.14	1750387.95	14596888.14	40°11'31.147"N	80°36'22.364"W	4417.76	176.936	0.35	0.03	0.35
10868.00	89.200	156.430	5942.19	4397.00	-4496.77	273.10	1750424.90	14596802.84	40°11'30.302"N	80°36'21.893"W	4505.06	176.525	0.34	-0.10	-0.32
10961.00	89.170	157.260	5943.51	4489.27	-4582.27	309.66	1750461.45	14596717.38	40°11'29.456"N	80°36'21.427"W	4592.72	176.134	0.89	-0.03	0.89
11053.00	89.170	156.770	5944.84	4580.59	-4666.96	345.59	1750497.35	14596632.72	40°11'28.617"N	80°36'20.969"W	4679.74	175.765	0.53	0.00	-0.53
11145.00	89.080	157.010	5946.25	4671.88	-4751.56	381.69	1750533.45	14596548.15	40°11'27.780"N	80°36'20.508"W	4766.87	175.407	0.28	-0.10	0.26
11238.00	89.200	156.610	5947.65	4764.15	-4837.04	418.31	1750570.05	14596462.71	40°11'26.933"N	80°36'20.041"W	4855.10	175.057	0.45	0.13	-0.43
11331.00	89.230	156.820	5948.92	4856.40	-4922.46	455.07	1750606.79	14596377.32	40°11'26.088"N	80°36'19.573"W	4943.45	174.718	0.23	0.03	0.23
11423.00	89.200	157.890	5950.18	4947.78	-5007.36	490.49	1750642.20	14596292.46	40°11'25.247"N	80°36'19.121"W	5031.32	174.406	1.16	-0.03	1.16
11515.00	89.140	157.950	5951.51	5039.26	-5092.60	525.07	1750676.76	14596207.25	40°11'24.403"N	80°36'18.680"W	5119.60	174.113	0.09	-0.07	0.07
11607.00	89.140	157.010	5952.89	5130.97	-5177.57	560.30	1750711.98	14596122.31	40°11'23.562"N	80°36'18.231"W	5207.80	173.824	1.02	0.00	-1.02
11700.00	89.110	156.690	5954.31	5222.94	-5263.08	596.86	1750748.53	14596036.84	40°11'22.716"N	80°36'17.765"W	5296.81	173.530	0.35	-0.03	-0.34
11792.00	89.200	156.820	5955.67	5314.21	-5347.60	633.16	1750784.82	14595952.35	40°11'21.879"N	80°36'17.302"W	5384.95	173.248	0.17	0.10	0.14
11885.00	89.140	156.970	5957.02	5406.49	-5433.13	669.65	1750821.29	14595866.85	40°11'21.032"N	80°36'16.837"W	5474.24	172.974	0.17	-0.06	0.16
11978.00	89.050	156.670	5958.49	5498.76	-5518.61	706.25	1750857.88	14595781.40	40°11'20.186"N	80°36'16.370"W	5563.62	172.707	0.34	-0.10	-0.32
12070.00	89.050	156.230	5960.01	5589.96	-5602.94	743.01	1750894.62	14595697.11	40°11'19.351"N	80°36'15.902"W	5651.99	172.446	0.48	0.00	-0.48
12163.00	89.140	157.100	5961.48	5682.20	-5688.32	779.84	1750931.44	14595611.76	40°11'18.505"N	80°36'15.432"W	5741.53	172.194	0.94	0.10	0.94
12256.00	89.110	155.810	5962.90	5774.39	-5773.56	816.99	1750968.57	14595526.55	40°11'17.661"N	80°36'14.958"W	5831.08	171.946	1.39	-0.03	-1.39
12349.00	89.260	157.300	5964.22	5866.61	-5858.88	853.98	1751005.55	14595441.27	40°11'16.817"N	80°36'14.486"W	5920.79	171.707	1.61	0.16	1.60
12441.00	89.510	156.540	5965.21	5957.91	-5943.51	890.05	1751041.60	14595356.67	40°11'15.979"N	80°36'14.027"W	6009.78	171.483	0.87	0.27	-0.83
12534.00	89.080	156.810	5966.36	6050.15	-6028.90	926.87	1751078.41	14595271.31	40°11'15.133"N	80°36'13.557"W	6099.73	171.260	0.55	-0.46	0.29
12626.00	89.600	156.870	5967.42	6141.44	-6113.48	963.05	1751114.58	14595186.76	40°11'14.296"N	80°36'13.096"W	6188.87	171.048	0.57	0.57	0.07
12719.00	89.480	155.380	5968.16	6233.53	-6198.52	1000.69	1751152.20	14595101.76	40°11'13.454"N	80°36'12.616"W	6278.77	170.829	1.61	-0.13	-1.60
12812.00	89.480	156.300	5969.01	6325.63	-6283.36	1038.75	1751190.25	14595016.94	40°11'12.614"N	80°36'12.130"W	6368.65	170.613	0.99	0.00	0.99
12905.00	89.720	157.130	5969.66	6417.89	-6368.79	1075.51	1751226.99	14594931.56	40°11'11.768"N	80°36'11.661"W	6458.96	170.415	0.93	0.26	0.89
12996.00	89.690	156.600	5970.12	6508.19	-6452.47	1111.26	1751262.73	14594847.91	40°11'10.939"N	80°36'11.205"W	6547.46	170.228	0.58	-0.03	-0.58
13089.00	89.510	155.030	5970.77	6600.25	-6537.30	1149.36	1751300.82	14594763.11	40°11'10.099"N	80°36'10.719"W	6637.57	170.028	1.70	-0.19	-1.69



Actual Wellpath Report

Linda Greathouse BRK 206H AWP Proj: 19102
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY		Slot	Slot #206
Area	Brooke County, WV		Well	Linda Greathouse BRK 206H
Field	Brooke		Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad			

WELLPATH DATA (216 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
13182.00	89.750	155.770	5971.37	6692.22	-6621.86	1188.07	1751339.52	14594678.58	40°11'09.262"N	80°36'10.226"W	6727.59	169.828	0.84	0.26	0.80
13275.00	90.030	157.520	5971.55	6784.46	-6707.23	1224.94	1751376.37	14594593.24	40°11'08.417"N	80°36'09.755"W	6818.17	169.650	1.91	0.30	1.88
13366.00	89.940	156.660	5971.58	6874.80	-6791.05	1260.37	1751411.78	14594509.45	40°11'07.587"N	80°36'09.304"W	6907.02	169.486	0.95	-0.10	-0.95
13459.00	89.780	156.740	5971.80	6967.06	-6876.47	1297.15	1751448.55	14594424.07	40°11'06.741"N	80°36'08.835"W	6997.74	169.317	0.19	-0.17	-0.09
13551.00	89.820	156.860	5972.12	7058.35	-6961.03	1333.39	1751484.78	14594339.54	40°11'05.904"N	80°36'08.373"W	7087.59	169.156	0.14	0.04	0.13
13644.00	89.750	156.760	5972.47	7150.62	-7046.51	1370.01	1751521.38	14594254.09	40°11'05.058"N	80°36'07.906"W	7178.46	168.998	0.13	-0.08	-0.11
13737.00	89.540	156.930	5973.05	7242.91	-7132.02	1406.58	1751557.94	14594168.62	40°11'04.211"N	80°36'07.440"W	7269.40	168.843	0.29	-0.23	0.18
13830.00	89.380	156.570	5973.93	7335.17	-7217.46	1443.29	1751594.63	14594083.21	40°11'03.365"N	80°36'06.972"W	7360.36	168.692	0.42	-0.17	-0.39
13922.00	89.200	156.570	5975.07	7426.40	-7301.87	1479.87	1751631.20	14593998.83	40°11'02.529"N	80°36'06.505"W	7450.33	168.543	0.20	-0.20	0.00
14015.00	89.480	156.180	5976.14	7518.58	-7387.07	1517.14	1751668.45	14593913.67	40°11'01.686"N	80°36'06.030"W	7541.26	168.394	0.52	0.30	-0.42
14107.00	89.450	157.300	5977.00	7609.85	-7471.59	1553.47	1751704.77	14593829.18	40°11'00.849"N	80°36'05.567"W	7631.38	168.255	1.22	-0.03	1.22
14200.00	89.380	156.870	5977.95	7702.18	-7557.25	1589.68	1751740.96	14593743.56	40°11'00.001"N	80°36'05.105"W	7722.63	168.121	0.47	-0.08	-0.46
14292.00	89.480	157.310	5978.86	7793.51	-7641.98	1625.49	1751776.76	14593658.85	40°10'59.162"N	80°36'04.649"W	7812.95	167.992	0.49	0.11	0.48
14385.00	89.260	157.240	5979.88	7885.88	-7727.76	1661.41	1751812.67	14593573.11	40°10'58.313"N	80°36'04.191"W	7904.34	167.867	0.25	-0.24	-0.08
14477.00	89.350	157.210	5981.00	7977.24	-7812.58	1697.03	1751848.27	14593488.32	40°10'57.473"N	80°36'03.737"W	7994.77	167.745	0.10	0.10	-0.03
14570.00	89.510	157.480	5981.92	8069.62	-7898.40	1732.85	1751884.07	14593402.54	40°10'56.623"N	80°36'03.280"W	8086.25	167.626	0.34	0.17	0.29
14663.00	89.450	157.730	5982.77	8162.04	-7984.38	1768.28	1751919.49	14593316.59	40°10'55.772"N	80°36'02.829"W	8177.85	167.512	0.28	-0.06	0.27
14755.00	89.450	157.260	5983.65	8253.46	-8069.37	1803.49	1751954.69	14593231.63	40°10'54.931"N	80°36'02.380"W	8268.45	167.402	0.51	0.00	-0.51
14848.00	89.450	157.190	5984.54	8345.81	-8155.12	1839.49	1751990.68	14593145.92	40°10'54.082"N	80°36'01.921"W	8360.00	167.289	0.08	0.00	-0.08
14941.00	89.350	157.310	5985.52	8438.17	-8240.88	1875.45	1752026.62	14593060.19	40°10'53.233"N	80°36'01.463"W	8451.59	167.179	0.17	-0.11	0.13
15034.00	89.350	157.270	5986.57	8530.54	-8326.66	1911.35	1752062.51	14592974.44	40°10'52.383"N	80°36'01.005"W	8543.22	167.072	0.04	0.00	-0.04
15125.00	89.510	157.880	5987.48	8620.97	-8410.77	1946.06	1752097.21	14592890.36	40°10'51.551"N	80°36'00.563"W	8632.98	166.972	0.69	0.18	0.67
15218.00	89.850	157.480	5988.00	8713.41	-8496.81	1981.38	1752132.52	14592804.36	40°10'50.699"N	80°36'00.113"W	8724.77	166.874	0.56	0.37	-0.43
15311.00	90.000	158.210	5988.32	8805.88	-8582.94	2016.46	1752167.93	14592718.26	40°10'49.846"N	80°36'59.666"W	8816.63	166.779	0.80	0.16	0.78
15403.00	89.720	157.910	5988.35	8899.87	-8668.27	2050.83	1752201.93	14592632.96	40°10'49.001"N	80°36'59.228"W	8907.57	166.689	0.45	-0.30	-0.33
15496.00	90.120	157.780	5988.47	8989.87	-8754.41	2085.90	1752236.99	14592546.86	40°10'48.149"N	80°36'58.781"W	8999.48	166.598	0.45	0.43	-0.14
15588.00	89.780	157.070	5988.56	9081.27	-8839.34	2121.26	1752272.34	14592461.96	40°10'47.308"N	80°36'58.331"W	9090.31	166.505	0.91	-0.37	-0.84
15681.00	89.630	157.070	5989.03	9173.59	-8924.97	2157.54	1752308.60	14592376.36	40°10'46.460"N	80°36'57.868"W	9182.05	166.410	0.17	-0.16	0.06
15773.00	89.690	157.350	5989.58	9264.95	-9009.79	2193.18	1752344.23	14592291.58	40°10'45.620"N	80°36'57.414"W	9272.88	166.319	0.31	0.07	0.30
15865.00	89.600	157.050	5990.15	9356.31	-9094.60	2228.83	1752379.86	14592206.80	40°10'44.781"N	80°36'56.960"W	9363.73	166.230	0.34	-0.10	-0.33



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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #206
Area	Brooke County, WV	Well	Linda Greathouse BRK 206H
Field	Brooke	Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (216 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]
15958.00	89.690	157.220	5990.73	9448.65	-9180.29	2264.96	1752415.99	14592121.15	40°10'43.932"N	80°35'56.499"W	9455.57	166.141	0.21	0.10	0.18
16050.00	89.600	158.140	5991.30	9540.10	-9265.39	2299.90	1752450.91	14592036.08	40°10'43.090"N	80°35'56.054"W	9546.57	166.060	1.00	-0.10	1.00
16143.00	89.660	156.880	5991.90	9632.51	-9351.31	2335.47	1752482.44	14591960.19	40°10'42.239"N	80°35'55.601"W	9638.54	165.977	1.36	0.06	-1.35
16236.00	89.690	157.560	5992.42	9724.87	-9437.07	2371.46	1752526.47	14591864.47	40°10'41.390"N	80°35'55.142"W	9730.47	165.894	0.76	0.03	0.76
16327.00	89.780	157.520	5992.85	9815.30	-9521.17	2406.20	1752557.17	14591780.39	40°10'40.557"N	80°35'54.699"W	9820.52	165.817	0.13	0.10	-0.08
16420.00	89.540	156.720	5993.40	9907.64	-9606.85	2442.36	1752593.31	14591694.75	40°10'39.709"N	80°35'54.239"W	9912.46	165.736	0.90	-0.26	-0.86
16513.00	89.570	155.650	5994.12	9999.78	-9691.93	2479.91	1752630.85	14591609.70	40°10'38.867"N	80°35'53.760"W	10004.17	165.647	1.15	0.03	-1.15
16606.00	89.660	156.770	5994.74	10091.93	-9777.03	2517.42	1752668.35	14591524.64	40°10'38.024"N	80°35'53.281"W	10095.92	165.561	1.21	0.10	1.20
16666.00	89.570	157.190	5995.35	10181.27	-9859.86	2552.62	1752703.53	14591441.84	40°10'37.204"N	80°35'52.833"W	10184.92	165.485	0.48	-0.10	0.47
16789.00	89.660	156.710	5995.97	10273.57	-9945.43	2589.03	1752739.93	14591356.30	40°10'36.357"N	80°35'52.369"W	10276.90	165.408	0.53	0.10	-0.52
16882.00	89.350	156.100	5996.78	10365.76	-10030.65	2626.25	1752777.14	14591271.11	40°10'35.513"N	80°35'51.894"W	10368.76	165.328	0.74	-0.33	-0.66
16973.00	89.320	156.420	5997.83	10455.94	-10113.95	2662.89	1752813.75	14591187.85	40°10'34.688"N	80°35'51.427"W	10458.63	165.249	0.35	-0.03	0.35
17066.00	89.290	157.520	5998.96	10548.24	-10199.53	2699.27	1752850.12	14591102.30	40°10'33.841"N	80°35'50.964"W	10550.66	165.177	1.18	-0.03	1.18
17159.00	89.600	158.240	5999.86	10640.71	-10285.68	2734.28	1752885.12	14591016.19	40°10'33.988"N	80°35'50.517"W	10642.91	165.113	0.84	0.33	0.77
17251.00	89.320	157.120	6000.73	10732.16	-10370.78	2769.22	1752920.05	14590931.12	40°10'32.145"N	80°35'50.072"W	10734.13	165.050	1.25	-0.30	-1.22
17344.00	89.630	157.390	6001.58	10824.52	-10456.54	2805.18	1752955.99	14590845.39	40°10'31.296"N	80°35'49.614"W	10826.28	164.983	0.44	0.33	0.29
17437.00	89.660	156.810	6002.16	10916.85	-10542.21	2841.36	1752992.16	14590759.75	40°10'30.448"N	80°35'49.153"W	10918.40	164.916	0.62	0.03	-0.62
17530.00	89.480	156.730	6002.86	11009.12	-10627.67	2878.04	1753028.83	14590674.33	40°10'29.602"N	80°35'48.685"W	11010.47	164.847	0.21	-0.19	-0.09
17621.00	89.510	156.600	6003.66	11099.38	-10711.22	2914.09	1753064.86	14590590.81	40°10'28.775"N	80°35'48.226"W	11100.55	164.781	0.15	0.03	-0.14
17714.00	89.660	158.030	6004.33	11191.75	-10797.02	2949.95	1753100.71	14590505.04	40°10'27.925"N	80°35'47.769"W	11192.76	164.719	1.55	0.16	1.54
17806.00	89.290	158.000	6005.17	11283.26	-10882.33	2984.39	1753135.14	14590419.77	40°10'27.081"N	80°35'47.330"W	11284.13	164.664	0.40	-0.40	-0.03
17899.00	89.170	157.360	6006.42	11375.69	-10968.35	3019.71	1753170.44	14590333.78	40°10'26.229"N	80°35'46.880"W	11376.44	164.607	0.70	-0.13	-0.69
17987.00	89.050	157.940	6007.79	11463.15	-11049.73	3053.17	1753203.88	14590252.43	40°10'25.423"N	80°35'46.404"W	11463.79	164.554	0.67	-0.14	0.66
18080.00	89.450	157.860	6009.01	11555.62	-11135.89	3088.15	1753238.86	14590166.30	40°10'24.570"N	80°35'46.008"W	11556.16	164.500	0.44	0.43	-0.09
18173.00	89.510	157.530	6009.85	11648.07	-11221.93	3123.45	1753274.14	14590080.30	40°10'23.718"N	80°35'45.559"W	11648.50	164.446	0.36	0.06	-0.35
18266.00	89.510	157.650	6010.65	11740.49	-11307.90	3158.90	1753309.58	14589994.36	40°10'22.867"N	80°35'45.107"W	11740.84	164.392	0.13	0.00	0.13
18358.00	89.320	157.600	6011.59	11831.93	-11392.97	3193.92	1753344.58	14589909.32	40°10'22.025"N	80°35'44.661"W	11832.20	164.340	0.21	-0.21	-0.05
18451.00	89.480	157.850	6012.56	11924.37	-11479.03	3229.17	1753379.82	14589823.30	40°10'21.173"N	80°35'44.212"W	11924.58	164.288	0.32	0.17	0.27
18544.00	89.690	157.790	6013.23	12016.84	-11565.14	3264.28	1753414.91	14589737.22	40°10'20.320"N	80°35'43.765"W	12016.99	164.238	0.23	0.23	-0.06
18636.00	89.420	157.910	6013.95	12108.31	-11650.35	3298.97	1753449.59	14589652.04	40°10'19.477"N	80°35'43.323"W	12108.42	164.190	0.32	-0.29	0.13



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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #206
Area	Brooke County, WV	Well	Linda Greathouse BRK 206H
Field	Brooke	Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (216 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]
18729.00	89.420	157.720	6014.891	12200.78	-11736.46	3334.08	1753484.69	14589565.96	40°10'18.624"N	80°35'42.876"W	12200.85	164.141	0.20	0.00	-0.20
18820.00	89.420	157.500	6015.81	12291.22	-11820.60	3368.74	1753519.34	14589481.86	40°10'17.791"N	80°35'42.434"W	12291.25	164.093	0.24	0.00	-0.24
18913.00	89.420	157.240	6016.75	12383.60	-11906.43	3404.52	1753555.10	14589386.06	40°10'16.942"N	80°35'41.978"W	12383.61	164.043	0.28	0.00	-0.28
19006.00	89.290	157.340	6017.80	12475.96	-11992.22	3440.43	1753590.99	14589310.31	40°10'16.092"N	80°35'41.521"W	12475.97	163.992	0.18	-0.14	0.11
19077.00	89.480	158.030	6018.56	12546.54	-12057.90	3467.38	1753617.94	14589244.66	40°10'15.442"N	80°35'41.177"W	12546.54	163.957	1.01	0.27	0.97
19102.00	89.480	158.030	6018.791	12571.40	-12081.08	3476.74	1753627.29	14589221.48	40°10'15.212"N	80°35'41.058"W	12571.40	163.945	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Linda Greathouse BRK 206H AWB Ref Wellpath: Linda Greathouse BRK 206H AWP Proj: 19102

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]
20in Conductor	26.00	100.00	74.00	26.00	100.00	0.00	0.00	0.03	0.28
17.5in Open Hole	100.00	493.00	393.00	100.00	492.99	0.03	0.28	-0.12	2.20
13.375in Casing Surface	26.00	427.00	401.00	26.00	427.00	0.00	0.00	0.02	1.83
12.25in Open Hole	493.00	1681.00	1188.00	492.99	1659.39	-0.12	2.20	60.11	-170.51
9.625in Casing Intermediate	26.00	1681.00	1655.00	26.00	1659.39	0.00	0.00	60.11	-170.51
8.75in Open Hole	1681.00	5713.00	4032.00	1659.39	5453.73	60.11	-170.51	94.11	-1515.49
8.5in Open Hole	5713.00	19102.00	13389.00	5453.73	6018.79	94.11	-1515.49	-12081.08	3476.74
5.5in Casing Production	26.00	19102.00	19076.00	26.00	6018.79	0.00	0.00	-12081.08	3476.74

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Operator	SOUTHWESTERN ENERGY	Slot	Slot #206
Area	Brooke County, WV	Well	Linda Greathouse BRK 206H
Field	Brooke	Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Linda Greathouse BRK 206H LP Rev-3	5870.00	-466.97	-1417.84	1748734.61	14600831.08	40°12'10.198"N	80°36'43.455"W	point
Linda Greathouse BRK 206H BHL Rev-3	6030.27	-12080.86	3476.59	1753627.14	14589221.70	40°10'15.215"N	80°35'41.060"W	point

WELLPATH COMPOSITION - Ref Wellbore: Linda Greathouse BRK 206H AWB Ref Wellpath: Linda Greathouse BRK 206H AWP Proj: 19102

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	493.00	Gyrodatta standard - Continuous gyro	01_Gyrodatta NS CT <17 1/2"> (50'-493')	Linda Greathouse BRK 206H AWB
493.00	1630.00	OWSG MWD rev2 + HRGM	02_Premier MWD <12 1/4"> (602'-1630')	Linda Greathouse BRK 206H AWB
1630.00	5643.00	OWSG MWD rev2 + HRGM	03_Premier MWD <8 3/4"> (1726'-5643')	Linda Greathouse BRK 206H AWB
5643.00	19077.00	BH AutoTrak Curve (Short)	04_BH AT Curve <8 1/2"> (5692'-19077')	Linda Greathouse BRK 206H AWB
19077.00	19102.00	Blind Drilling (std)	Projection to bit	Linda Greathouse BRK 206H AWB



Actual Wellpath Report

Linda Greathouse BRK 206H AWP Proj: 19102

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #206
Area	Brooke County, WV	Well	Linda Greathouse BRK 206H
Field	Brooke	Wellbore	Linda Greathouse BRK 206H AWB
Facility	Linda Greathouse BRK Pad		

COMMENTS

Wellpath general comments
 API: 47-009-00278-0000
 BH Job #: 110008542A
 Rig: SDC 41
 Duration: 09/25/2019 - 09/30/2019