



# XTO ENERGY INC

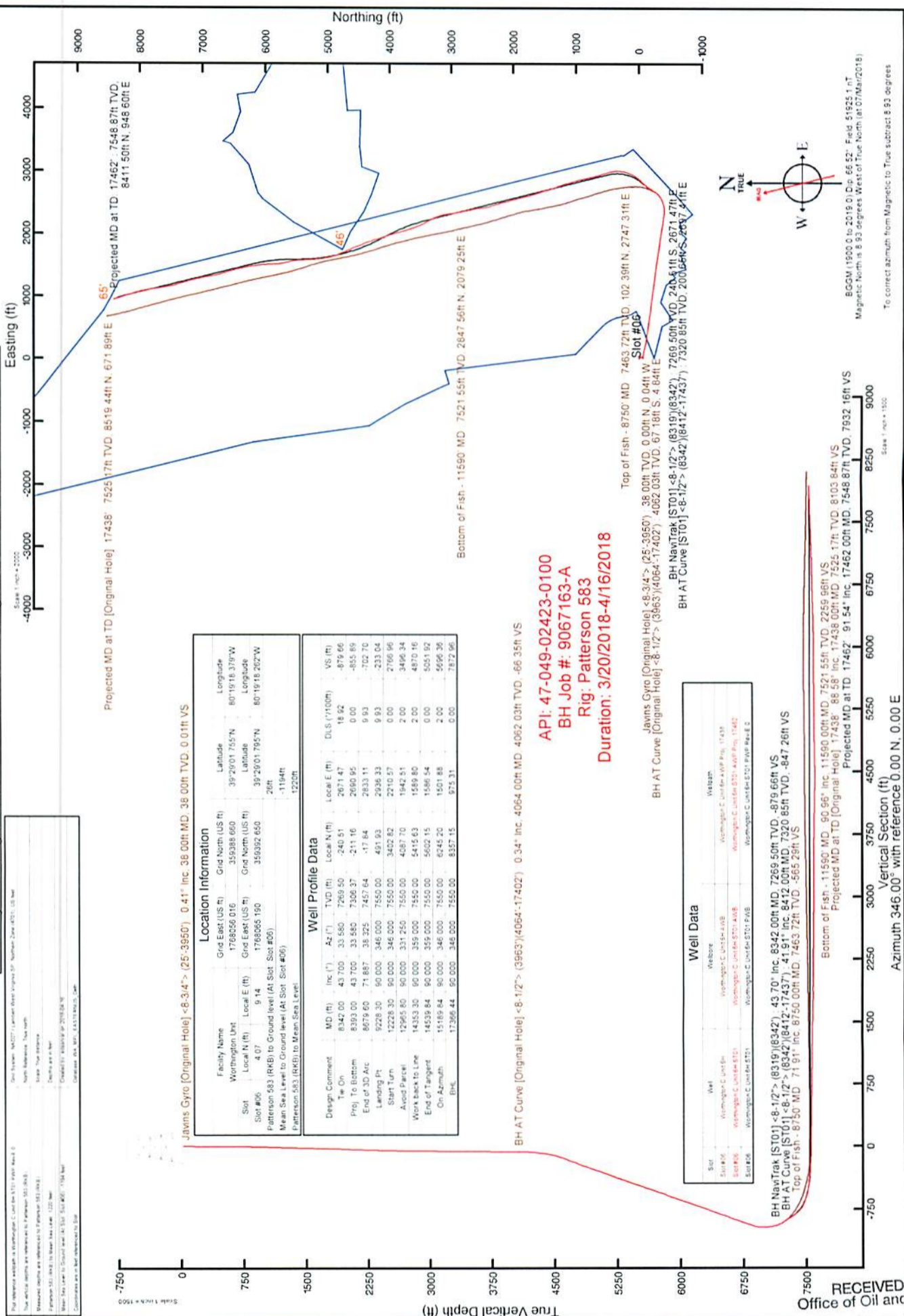
Location: Marion County, WV  
 Field: Marion  
 Facility: Worthington Unit  
 Wellbore: Worthington C Unit 6H ST01 PWB

Slot: Slot #06

Well: Worthington C Unit 6H ST01

Wellbore: Worthington C Unit 6H ST01 PWB

For additional well logs, see Worthington C Unit 6H ST01 PWB Rev 0  
 This vertical section is referenced to Patterson 583 (RKB)  
 Elevation datum is referenced to Patterson 583 (RKB)  
 Elevation 583 (RKB) to Mean Sea Level: 1227 feet  
 Mean Sea Level to Ground level (At Slot #06): 1194 feet  
 Elevation 583 (RKB) to Mean Sea Level: 1227 feet  
 Coordinates are in feet referenced to S83



Javins Gyro [Original Hole] <8-3/4"> (25-3950') 0.41" inc. 38.00ft MD, 38.00ft TVD, 0.01ft VS

Location Information			
Facility Name	Worthington Unit	Grid East (US ft)	Grid North (US ft)
Local N (ft)	4.07	1788056.016	359388.600
Local E (ft)	9.14	1788056.190	359392.650
Slot #06			
Patterson 583 (RKB) to Ground level (At Slot #06)	26ft		
Mean Sea Level to Ground level (At Slot #06)	-1194ft		
Patterson 583 (RKB) to Mean Sea Level	1227ft		

Well Profile Data			
Design Comment	MD (ft)	Inc. (")	Az (°)
Tie On	8342.00	43.700	33.580
Proj. To Bottom	8393.00	43.700	33.580
End of 3D Arc	8679.60	71.887	38.325
Landing Pt	9228.30	90.000	346.000
Start Turn	12228.30	90.000	346.000
Avoid Parcel	12965.80	90.000	331.250
Work back to Line	14353.30	90.000	359.000
End of Tangent	15189.84	90.000	346.000
On Azimuth	17396.44	90.000	346.000
BHL			

BH AT Curve [Original Hole] <8-1/2"> (3963') (4064'-17402') 0.34" inc. 4064.00ft MD, 4062.03ft TVD, -66.35ft VS

API: 47-049-02423-0100  
 BH Job #: 9067163-A  
 Rig: Patterson 583  
 Duration: 3/20/2018-4/16/2018

Javins Gyro [Original Hole] <8-3/4"> (25-3950') 0.41" inc. 38.00ft TVD, 0.04ft W

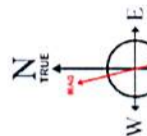
BH AT Curve [Original Hole] <8-1/2"> (3963') (4064'-17402') 0.34" inc. 4062.03ft TVD, 0.04ft W

Well Data			
Well	Wellbore	Wellhead	Wellhead
Slot #06	Worthington C Unit 6H	Worthington C Unit 6H AWP Pkg. 17.438	Worthington C Unit 6H AWP Pkg. 17.438
Slot #06	Worthington C Unit 6H ST01 PWB	Worthington C Unit 6H ST01 PWB	Worthington C Unit 6H ST01 PWB
Slot #06	Worthington C Unit 6H ST01 PWB	Worthington C Unit 6H ST01 PWB	Worthington C Unit 6H ST01 PWB

BH NavTrak [ST01] <8-1/2"> (8319') (8342') 43.70" inc. 8342.00ft MD, 7269.50ft TVD, -879.66ft VS  
 BH AT Curve [ST01] <8-1/2"> (8342') (8412'-17437') 41.91" inc. 8412.00ft MD, 7320.85ft TVD, -847.26ft VS  
 Top of Fish - 8750' MD, 71.91" inc. 8750.00ft MD, 7463.72ft TVD, -565.28ft VS

Bottom of Fish - 11560' MD, 80.66" inc. 11560.00ft MD, 7521.55ft TVD, 2259.68ft VS  
 Projected MD at TD [Original Hole] 17438' 88.56" inc. 17438.00ft MD, 7525.17ft TVD, 8103.84ft VS  
 Projected MD at TD [Original Hole] 17462' 91.54" inc. 17462.00ft MD, 7548.87ft TVD, 7932.16ft VS

Vertical Section (ft)  
 Azimuth 346.00° with reference 0.00 N, 0.00 E



BGGM 11500.0 to 2019.0 Dip: 66.52° Field: 51925.1 nT  
 Magnetic North is 8.93 degrees West of True North (at 07/Mar/2018)  
 To correct azimuth from Magnetic to True subtract 8.93 degrees

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# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Edsaryar
Scale	0.999944	Report Generated	16/Apr/2018 at 20:45
Convergence at slot	0.52° West	Database/Source file	WA_MPL_EASTERNUS_Defn/Worthington_C_Unit_6H_ST01_AWP_Proj_17462_.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	4.07	9.14	1768065.19	359392.65	39°29'01.795"N	80°19'18.262"W
Facility Reference Pt			1768056.02	359388.66	39°29'01.755"N	80°19'18.379"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 583 (RKB) to Facility Vertical Datum	26.00ft
Horizontal Reference Pt	Slot	Patterson 583 (RKB) to Mean Sea Level	1220.00ft
Vertical Reference Pt	Patterson 583 (RKB)	Patterson 583 (RKB) to Ground Level at Slot (Slot #06)	26.00ft
MD Reference Pt	Patterson 583 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	346.00°

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Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWP
Facility	Worthington Unit	Sidetrack from: Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD	

## WELLPATH DATA (238 stations) † = interpolated/extrapolated station

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	("/100ft)	("/100ft)	(°/100ft)
0.00H	0.000	269.000	0.00	0.00	0.00	0.00	1768065.19	359392.65	39°29'01.795"N	80°19'18.262"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	269.000	26.00	0.00	0.00	0.00	1768065.19	359392.65	39°29'01.795"N	80°19'18.262"W	0.00	0.000	0.00	0.00	0.00
38.00	0.410	269.000	38.00	0.01	0.00	-0.04	1768065.15	359392.65	39°29'01.795"N	80°19'18.263"W	0.04	269.000	3.42	3.42	-758.33
63.00	0.390	269.400	63.00	0.05	0.00	-0.22	1768064.97	359392.65	39°29'01.795"N	80°19'18.265"W	0.22	269.157	0.08	-0.08	1.60
88.00	0.480	254.200	88.00	0.07	-0.03	-0.40	1768064.79	359392.62	39°29'01.795"N	80°19'18.267"W	0.40	265.378	0.58	0.36	-60.80
113.00	0.560	234.300	113.00	0.02	-0.13	-0.60	1768064.59	359392.52	39°29'01.794"N	80°19'18.270"W	0.62	257.620	0.78	0.32	-79.60
138.00	0.630	230.300	138.00	-0.09	-0.29	-0.81	1768064.38	359392.37	39°29'01.792"N	80°19'18.272"W	0.86	250.167	0.33	0.28	-16.00
163.00	0.670	230.600	162.99	-0.21	-0.47	-1.03	1768064.16	359392.19	39°29'01.790"N	80°19'18.275"W	1.13	245.312	0.16	0.16	1.20
188.00	0.580	229.800	187.99	-0.33	-0.65	-1.24	1768063.95	359391.91	39°29'01.789"N	80°19'18.278"W	1.40	242.397	0.36	-0.36	-3.20
213.00	0.550	234.900	212.99	-0.43	-0.80	-1.43	1768063.75	359391.87	39°29'01.787"N	80°19'18.280"W	1.64	240.884	0.23	-0.12	20.40
238.00	0.350	237.400	237.99	-0.49	-0.91	-1.59	1768063.59	359391.76	39°29'01.786"N	80°19'18.283"W	1.83	240.348	0.80	-0.80	10.00
263.00	0.460	239.300	262.99	-0.55	-1.00	-1.74	1768063.44	359391.67	39°29'01.785"N	80°19'18.284"W	2.01	240.184	0.44	0.44	7.60
288.00	0.430	238.500	287.99	-0.61	-1.10	-1.91	1768063.27	359391.57	39°29'01.784"N	80°19'18.287"W	2.20	240.072	0.12	-0.12	-3.20
313.00	0.450	242.700	312.99	-0.66	-1.19	-2.08	1768063.10	359391.48	39°29'01.783"N	80°19'18.289"W	2.40	240.118	0.15	0.08	16.80
338.00	0.410	233.800	337.99	-0.71	-1.29	-2.24	1768062.94	359391.38	39°29'01.782"N	80°19'18.291"W	2.58	239.998	0.31	-0.16	-35.60
363.00	0.380	247.800	362.99	-0.76	-1.38	-2.39	1768062.79	359391.30	39°29'01.782"N	80°19'18.293"W	2.75	240.031	0.40	-0.12	56.00
388.00	0.580	250.000	387.99	-0.78	-1.45	-2.58	1768062.60	359391.22	39°29'01.781"N	80°19'18.295"W	2.96	240.672	0.80	0.80	8.80
413.00	0.580	245.500	412.99	-0.82	-1.55	-2.82	1768062.36	359391.13	39°29'01.780"N	80°19'18.298"W	3.21	241.228	0.18	0.00	-18.00
438.00	0.700	244.300	437.98	-0.87	-1.67	-3.07	1768062.11	359391.01	39°29'01.779"N	80°19'18.301"W	3.49	241.517	0.48	0.48	-4.80
463.00	0.750	244.900	462.98	-0.94	-1.80	-3.35	1768061.82	359390.88	39°29'01.777"N	80°19'18.305"W	3.81	241.774	0.20	0.20	2.40
488.00	0.790	242.300	487.98	-1.01	-1.95	-3.66	1768061.52	359390.73	39°29'01.776"N	80°19'18.309"W	4.14	241.919	0.21	0.16	-10.40
513.00	1.100	242.700	512.98	-1.10	-2.14	-4.02	1768061.15	359390.55	39°29'01.774"N	80°19'18.313"W	4.56	241.974	1.24	1.24	1.60
538.00	1.120	245.700	537.97	-1.20	-2.35	-4.46	1768060.71	359390.34	39°29'01.772"N	80°19'18.319"W	5.04	242.190	0.25	0.08	12.00
563.00	1.310	246.100	562.97	-1.30	-2.57	-4.94	1768060.23	359390.13	39°29'01.770"N	80°19'18.325"W	5.57	242.544	0.76	0.76	1.60
588.00	1.440	246.200	587.96	-1.40	-2.81	-5.49	1768059.68	359389.89	39°29'01.767"N	80°19'18.332"W	6.17	242.895	0.52	0.52	0.40
613.00	1.650	244.200	612.95	-1.53	-3.09	-6.10	1768059.06	359389.61	39°29'01.765"N	80°19'18.340"W	6.84	243.115	0.87	0.84	-8.00
663.00	1.450	219.200	662.93	-2.05	-3.90	-7.15	1768058.01	359388.82	39°29'01.757"N	80°19'18.353"W	8.14	241.406	1.40	-0.40	-50.00
713.00	0.930	210.600	712.92	-2.72	-4.74	-7.76	1768057.39	359387.99	39°29'01.748"N	80°19'18.361"W	9.09	238.587	1.10	-1.04	-17.20
763.00	1.240	179.000	762.91	-3.54	-5.63	-7.95	1768057.19	359387.10	39°29'01.740"N	80°19'18.364"W	9.74	234.720	1.32	0.62	-63.20
813.00	1.970	126.500	812.89	-4.73	-6.68	-7.25	1768057.88	359386.04	39°29'01.729"N	80°19'18.355"W	9.86	227.358	3.13	1.46	-105.00

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# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## WELLPATH DATA (238 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)
863.00	2.330	117.100	862.86	-6.06	-7.65	-5.66	1768059.46	359385.05	39°29'01.720"N	80°19'18.334"W	9.52	216.470	1.01	0.72	-18.80
913.00	2.070	112.900	912.82	-7.27	-8.47	-3.92	1768061.19	359384.22	39°29'01.711"N	80°19'18.312"W	9.33	204.842	0.61	-0.52	-8.40
963.00	2.390	110.600	962.78	-8.40	-9.19	-2.11	1768062.99	359383.48	39°29'01.704"N	80°19'18.289"W	9.43	192.950	0.66	0.64	-4.60
1013.00	2.410	121.400	1012.74	-9.74	-10.10	-0.24	1768064.86	359382.55	39°29'01.695"N	80°19'18.265"W	10.10	181.356	0.90	0.04	21.60
1063.00	2.460	108.300	1062.70	-11.06	-10.98	1.68	1768066.77	359381.65	39°29'01.687"N	80°19'18.241"W	11.11	171.320	1.12	0.10	-26.20
1113.00	3.170	109.000	1112.64	-12.39	-11.77	4.00	1768069.08	359380.84	39°29'01.679"N	80°19'18.211"W	12.43	161.219	1.42	1.42	1.40
1163.00	2.760	116.700	1162.57	-13.93	-12.76	6.39	1768071.46	359379.83	39°29'01.669"N	80°19'18.181"W	14.27	153.420	1.14	-0.82	15.40
1213.00	3.320	108.000	1212.50	-15.48	-13.75	8.84	1768073.90	359378.82	39°29'01.659"N	80°19'18.149"W	16.35	147.270	1.45	1.12	-17.40
1263.00	3.240	106.800	1262.42	-16.97	-14.61	11.57	1768076.62	359377.94	39°29'01.651"N	80°19'18.115"W	18.63	141.623	0.21	-0.16	-2.40
1313.00	2.590	105.400	1312.35	-18.25	-15.32	14.01	1768079.06	359377.21	39°29'01.644"N	80°19'18.084"W	20.76	137.550	1.31	-1.30	-2.80
1363.00	2.340	116.700	1362.31	-19.47	-16.07	16.01	1768081.05	359376.43	39°29'01.636"N	80°19'18.058"W	22.69	135.113	1.09	-0.50	22.60
1413.00	1.950	125.700	1412.27	-20.78	-17.03	17.61	1768082.65	359375.46	39°29'01.627"N	80°19'18.038"W	24.50	134.034	1.03	-0.78	18.00
1463.00	2.160	120.700	1462.24	-22.10	-18.01	19.11	1768084.14	359374.47	39°29'01.617"N	80°19'18.018"W	26.26	133.290	0.55	0.42	-10.00
1513.00	1.810	118.300	1512.21	-23.29	-18.86	20.62	1768085.64	359373.60	39°29'01.609"N	80°19'17.999"W	27.95	132.451	0.72	-0.70	-4.80
1563.00	1.810	121.800	1562.18	-24.39	-19.65	21.99	1768086.99	359372.80	39°29'01.601"N	80°19'17.982"W	29.49	131.792	0.22	0.00	7.00
1613.00	1.670	123.500	1612.16	-25.49	-20.47	23.26	1768088.27	359371.97	39°29'01.593"N	80°19'17.965"W	30.99	131.344	0.30	-0.28	3.40
1663.00	2.140	121.500	1662.13	-26.69	-21.36	24.67	1768089.66	359371.07	39°29'01.584"N	80°19'17.948"W	32.63	130.889	0.95	0.94	-4.00
1713.00	2.290	121.600	1712.10	-28.07	-22.37	26.32	1768091.30	359370.04	39°29'01.574"N	80°19'17.927"W	34.54	130.369	0.30	0.30	0.20
1763.00	2.060	134.600	1762.06	-29.55	-23.53	27.81	1768092.78	359368.87	39°29'01.563"N	80°19'17.908"W	36.42	130.234	1.09	-0.46	26.00
1813.00	2.160	167.600	1812.03	-31.26	-25.08	28.65	1768093.61	359367.31	39°29'01.547"N	80°19'17.897"W	38.07	131.198	2.40	0.20	66.00
1863.00	2.370	183.000	1861.99	-33.19	-27.03	28.80	1768093.74	359365.36	39°29'01.528"N	80°19'17.895"W	39.49	133.188	1.28	0.42	30.80
1913.00	2.330	196.200	1911.95	-35.06	-29.04	28.46	1768093.38	359363.35	39°29'01.508"N	80°19'17.899"W	40.66	135.578	1.08	-0.08	26.40
1963.00	2.660	184.300	1961.90	-37.04	-31.17	28.09	1768092.99	359361.22	39°29'01.487"N	80°19'17.904"W	41.96	137.979	1.22	0.66	-23.80
2013.00	2.580	198.900	2011.85	-39.09	-33.39	27.64	1768092.52	359359.01	39°29'01.465"N	80°19'17.910"W	43.35	140.388	1.34	-0.16	29.20
2063.00	3.360	221.100	2061.78	-40.87	-35.56	26.31	1768091.17	359356.85	39°29'01.444"N	80°19'17.927"W	44.24	143.506	2.75	1.56	44.40
2113.00	3.700	226.000	2111.69	-42.52	-37.79	24.18	1768089.03	359354.65	39°29'01.422"N	80°19'17.954"W	44.86	147.379	0.91	0.68	9.80
2163.00	4.000	227.800	2161.58	-44.15	-40.08	21.73	1768086.55	359352.38	39°29'01.399"N	80°19'17.985"W	45.59	151.532	0.65	0.60	3.60
2213.00	4.290	225.700	2211.44	-45.91	-42.56	19.10	1768083.90	359349.92	39°29'01.375"N	80°19'18.019"W	46.65	155.826	0.65	0.58	-4.20
2263.00	3.110	228.700	2261.34	-47.48	-44.76	16.74	1768081.52	359347.74	39°29'01.353"N	80°19'18.049"W	47.79	159.488	2.39	-2.36	6.00
2313.00	2.880	221.500	2311.27	-48.81	-46.59	14.89	1768079.66	359345.92	39°29'01.335"N	80°19'18.072"W	48.92	162.274	0.88	-0.46	-14.40

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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)
2363.00	1.500	197.000	2361.23	-50.09	-48.16	13.87	1768078.62	359344.37	39°29'01.319"N	80°19'18.085"W	50.12	163.934	3.28	-2.76	-49.00
2413.00	1.720	176.700	2411.21	-51.38	-49.54	13.72	1768078.46	359342.99	39°29'01.306"N	80°19'18.087"W	51.40	164.517	1.21	0.44	-40.60
2463.00	1.390	168.700	2461.20	-52.73	-50.88	13.88	1768078.61	359341.65	39°29'01.292"N	80°19'18.085"W	52.74	164.737	0.79	-0.66	-16.00
2513.00	1.170	156.000	2511.18	-53.84	-51.94	14.21	1768078.92	359340.58	39°29'01.282"N	80°19'18.081"W	53.85	164.699	0.72	-0.44	-25.40
2563.00	1.080	131.100	2561.17	-54.72	-52.72	14.77	1768079.48	359339.80	39°29'01.274"N	80°19'18.074"W	54.75	164.346	0.99	-0.18	-49.80
2613.00	0.990	136.000	2611.17	-55.49	-53.34	15.43	1768080.13	359339.18	39°29'01.268"N	80°19'18.065"W	55.52	163.867	0.25	-0.18	9.80
2663.00	0.620	159.600	2661.16	-56.13	-53.90	15.82	1768080.52	359338.61	39°29'01.262"N	80°19'18.060"W	56.18	163.641	0.98	-0.74	47.20
2713.00	0.530	168.100	2711.16	-56.63	-54.38	15.96	1768080.66	359338.13	39°29'01.258"N	80°19'18.059"W	56.68	163.640	0.25	-0.18	17.00
2763.00	0.430	172.800	2761.16	-57.05	-54.79	16.04	1768080.72	359337.72	39°29'01.254"N	80°19'18.058"W	57.09	163.688	0.21	-0.20	9.40
2813.00	0.620	193.400	2811.16	-57.47	-55.24	16.00	1768080.68	359337.27	39°29'01.249"N	80°19'18.058"W	57.51	163.851	0.53	0.38	41.20
2863.00	0.540	188.100	2861.15	-57.93	-55.74	15.90	1768080.58	359336.77	39°29'01.244"N	80°19'18.059"W	57.96	164.079	0.19	-0.16	-10.60
2913.00	0.650	201.700	2911.15	-58.38	-56.24	15.76	1768080.44	359336.28	39°29'01.239"N	80°19'18.061"W	58.40	164.342	0.36	0.22	27.20
2963.00	0.390	204.000	2961.15	-58.74	-56.66	15.59	1768080.26	359335.86	39°29'01.235"N	80°19'18.063"W	58.76	164.616	0.52	-0.52	4.60
3013.00	0.890	209.500	3011.14	-59.16	-57.15	15.33	1768079.99	359335.37	39°29'01.230"N	80°19'18.067"W	59.17	164.986	1.01	1.00	11.00
3063.00	0.940	208.100	3061.14	-59.75	-57.85	14.94	1768079.60	359334.67	39°29'01.223"N	80°19'18.072"W	59.75	165.516	0.11	0.10	-2.80
3113.00	1.020	208.700	3111.13	-60.38	-58.60	14.54	1768079.19	359333.92	39°29'01.216"N	80°19'18.077"W	60.38	166.068	0.16	0.16	1.20
3163.00	1.110	210.200	3161.12	-61.05	-59.41	14.08	1768078.72	359333.12	39°29'01.208"N	80°19'18.083"W	61.05	166.668	0.19	0.18	3.00
3213.00	1.060	216.000	3211.11	-61.70	-60.20	13.56	1768078.20	359332.33	39°29'01.200"N	80°19'18.089"W	61.71	167.303	0.24	-0.10	11.60
3263.00	1.110	235.800	3261.10	-62.16	-60.85	12.89	1768077.52	359331.69	39°29'01.194"N	80°19'18.098"W	62.20	168.038	0.75	0.10	39.60
3313.00	1.020	236.100	3311.10	-62.48	-61.37	12.12	1768076.75	359331.18	39°29'01.189"N	80°19'18.108"W	62.55	168.927	0.18	-0.18	0.60
3363.00	1.280	218.000	3361.09	-62.97	-62.06	11.41	1768076.03	359330.49	39°29'01.182"N	80°19'18.117"W	63.10	169.583	0.89	0.52	-36.20
3413.00	1.060	226.200	3411.08	-63.55	-62.82	10.73	1768075.34	359329.74	39°29'01.174"N	80°19'18.125"W	63.73	170.306	0.55	-0.44	16.40
3463.00	0.420	221.700	3461.07	-63.88	-63.27	10.27	1768074.89	359329.29	39°29'01.170"N	80°19'18.131"W	64.10	170.777	1.28	-1.28	-9.00
3513.00	0.540	211.800	3511.07	-64.15	-63.61	10.03	1768074.64	359328.95	39°29'01.166"N	80°19'18.134"W	64.40	171.041	0.29	0.24	-19.80
3563.00	0.730	246.700	3561.07	-64.36	-63.94	9.61	1768074.22	359328.63	39°29'01.163"N	80°19'18.140"W	64.66	171.450	0.84	0.38	69.80
3613.00	0.910	242.800	3611.06	-64.51	-64.25	8.97	1768073.57	359328.33	39°29'01.160"N	80°19'18.148"W	64.87	172.055	0.38	0.36	-7.80
3663.00	0.530	239.600	3661.06	-64.66	-64.54	8.41	1768073.01	359328.04	39°29'01.157"N	80°19'18.155"W	65.09	172.573	0.76	-0.76	-6.40
3713.00	0.770	211.100	3711.05	-64.96	-64.95	8.04	1768072.64	359327.63	39°29'01.153"N	80°19'18.160"W	65.44	172.943	0.79	0.48	-57.00
3763.00	0.970	231.800	3761.05	-65.37	-65.50	7.53	1768072.12	359327.09	39°29'01.148"N	80°19'18.166"W	65.93	173.438	0.74	0.40	41.40
3813.00	0.540	256.300	3811.04	-65.55	-65.82	6.97	1768071.56	359326.78	39°29'01.145"N	80°19'18.173"W	66.18	173.952	1.06	-0.86	49.00

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# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## WELLPATH DATA (238 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]
3863.00	0.440	251.100	3861.04	-65.56	-65.93	6.56	1768071.15	359326.66	39°29'01.144"N	80°19'18.178"W	66.26	174.316	0.22	-0.20	-10.40
3913.00	0.760	248.900	3911.04	-65.62	-66.11	6.07	1768070.66	359326.49	39°29'01.142"N	80°19'18.185"W	66.39	174.753	0.64	0.64	-4.40
3963.00	0.790	229.600	3961.04	-65.81	-66.46	5.50	1768070.08	359326.15	39°29'01.138"N	80°19'18.192"W	66.68	175.269	0.52	0.06	-38.60
4064.00	0.340	206.620	4062.03	-66.35	-67.18	4.84	1768069.41	359325.44	39°29'01.131"N	80°19'18.201"W	67.35	175.883	0.49	-0.45	-22.75
4158.00	6.470	92.800	4155.83	-68.10	-67.69	10.01	1768074.58	359324.88	39°29'01.126"N	80°19'18.135"W	68.42	171.591	7.04	6.52	-121.09
4253.00	14.990	93.370	4249.09	-73.32	-68.67	27.65	1768092.21	359323.73	39°29'01.116"N	80°19'17.910"W	74.03	158.069	8.97	8.97	0.60
4347.00	20.460	98.190	4338.60	-83.16	-71.73	56.07	1768120.60	359320.42	39°29'01.086"N	80°19'17.547"W	91.04	141.986	6.02	5.82	5.13
4442.00	22.790	98.700	4426.90	-96.54	-76.88	90.70	1768155.17	359314.95	39°29'01.035"N	80°19'17.105"W	118.89	130.286	2.46	2.45	0.54
4537.00	29.280	101.500	4512.22	-113.66	-84.30	131.69	1768196.10	359307.15	39°29'00.962"N	80°19'16.583"W	156.36	122.624	6.95	6.83	2.95
4631.00	39.280	103.570	4589.80	-137.39	-95.89	183.28	1768247.57	359295.09	39°29'00.847"N	80°19'15.925"W	206.85	117.620	10.71	10.64	2.20
4725.00	43.650	101.560	4660.22	-165.17	-109.38	244.02	1768308.18	359281.04	39°29'00.714"N	80°19'15.150"W	267.41	114.145	4.86	4.65	-2.14
4820.00	43.580	99.390	4729.01	-192.32	-121.30	308.45	1768372.50	359268.54	39°29'00.596"N	80°19'14.328"W	331.44	111.467	1.58	-0.07	-2.28
4915.00	43.530	97.740	4797.86	-217.43	-131.05	373.18	1768437.13	359258.20	39°29'00.500"N	80°19'13.503"W	395.52	109.350	1.20	-0.05	-1.74
5010.00	43.560	98.630	4866.72	-242.15	-140.36	437.96	1768501.82	359248.29	39°29'00.408"N	80°19'12.677"W	459.90	107.771	0.65	0.03	0.94
5105.00	43.540	98.010	4935.57	-267.00	-149.84	502.72	1768566.49	359238.23	39°29'00.314"N	80°19'11.851"W	524.57	106.597	0.45	-0.02	-0.65
5199.00	43.530	97.440	5003.72	-290.97	-158.54	566.88	1768630.56	359228.94	39°29'00.228"N	80°19'11.032"W	588.63	105.625	0.42	-0.01	-0.61
5294.00	43.770	97.620	5072.45	-315.04	-167.13	631.89	1768695.48	359219.75	39°29'00.143"N	80°19'10.203"W	653.62	104.815	0.28	0.25	0.19
5388.00	43.840	98.470	5140.29	-339.46	-176.24	696.31	1768759.82	359210.06	39°29'00.053"N	80°19'09.382"W	718.27	104.203	0.63	0.07	0.90
5483.00	43.810	98.320	5208.83	-364.52	-185.84	761.39	1768824.81	359199.86	39°28'59.958"N	80°19'08.552"W	783.74	103.717	0.11	-0.03	-0.16
5578.00	43.790	97.490	5277.40	-389.05	-194.89	826.52	1768889.84	359190.22	39°28'59.869"N	80°19'07.721"W	849.18	103.268	0.61	-0.02	-0.87
5672.00	43.830	97.250	5345.24	-412.76	-203.23	891.05	1768954.30	359181.29	39°28'59.786"N	80°19'06.898"W	913.94	102.848	0.18	0.04	-0.26
5767.00	43.720	96.690	5413.83	-436.28	-211.21	956.29	1769019.45	359172.72	39°28'59.708"N	80°19'06.066"W	979.34	102.455	0.42	-0.12	-0.59
5861.00	43.830	97.450	5481.71	-459.66	-219.21	1020.83	1769083.91	359164.12	39°28'59.628"N	80°19'05.243"W	1044.10	102.120	0.57	0.12	0.81
5955.00	43.780	97.640	5549.55	-483.56	-227.76	1085.33	1769148.33	359154.99	39°28'59.544"N	80°19'04.420"W	1108.97	101.852	0.15	-0.05	0.20
6050.00	43.790	97.430	5618.13	-507.69	-236.38	1150.50	1769213.41	359145.77	39°28'59.459"N	80°19'03.589"W	1174.53	101.610	0.15	0.01	-0.22
6145.00	43.820	97.350	5686.69	-531.67	-244.84	1215.71	1769278.54	359136.72	39°28'59.375"N	80°19'02.757"W	1240.12	101.387	0.07	0.03	-0.08
6240.00	43.820	97.990	5755.24	-555.96	-253.61	1280.90	1769343.64	359127.35	39°28'59.288"N	80°19'01.926"W	1305.77	101.200	0.47	0.00	0.67
6334.00	43.820	99.040	5823.06	-580.88	-263.25	1345.27	1769407.92	359117.12	39°28'59.193"N	80°19'01.105"W	1370.78	101.072	0.77	0.00	1.12
6429.00	43.760	98.720	5891.64	-606.44	-273.40	1410.22	1769472.77	359106.38	39°28'59.093"N	80°19'00.277"W	1436.48	100.972	0.24	-0.06	-0.34
6523.00	43.810	98.080	5959.50	-631.23	-282.90	1474.57	1769537.02	359096.29	39°28'58.999"N	80°18'59.456"W	1501.46	100.860	0.47	0.05	-0.68

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# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## WELLPATH DATA (238 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)
6617.00	43.780	97.310	6027.35	-655.28	-291.61	1539.03	1769601.40	359086.99	39°28'58.913"N	80°18'58.634"W	1566.42	100.729	0.57	-0.03	-0.82
6710.00	43.810	97.340	6094.48	-678.68	-299.82	1602.87	1769665.16	359078.20	39°28'58.831"N	80°18'57.820"W	1630.67	100.595	0.04	0.03	0.03
6805.00	43.760	97.530	6163.07	-702.71	-308.32	1668.06	1769730.26	359069.10	39°28'58.747"N	80°18'56.988"W	1696.31	100.472	0.15	-0.05	0.20
6899.00	43.850	97.390	6230.91	-726.51	-316.77	1732.57	1769794.69	359060.06	39°28'58.664"N	80°18'56.166"W	1761.29	100.361	0.14	0.10	-0.15
6993.00	43.760	97.840	6298.75	-750.48	-325.39	1797.07	1769859.10	359050.85	39°28'58.579"N	80°18'55.343"W	1826.29	100.263	0.34	-0.10	0.48
7088.00	43.820	97.700	6367.32	-774.86	-334.28	1862.20	1769924.15	359041.37	39°28'58.491"N	80°18'54.512"W	1891.97	100.177	0.12	0.06	-0.15
7183.00	43.830	98.290	6435.86	-799.50	-343.43	1927.35	1769989.20	359031.62	39°28'58.400"N	80°18'53.682"W	1957.71	100.103	0.43	0.01	0.62
7276.00	43.720	99.120	6503.02	-824.33	-353.17	1990.95	1770052.71	359021.31	39°28'58.304"N	80°18'52.870"W	2022.03	100.069	0.63	-0.12	0.89
7370.00	43.780	98.630	6570.92	-849.60	-363.20	2055.17	1770116.83	359010.69	39°28'58.205"N	80°18'52.051"W	2087.01	100.022	0.37	0.06	-0.52
7466.00	43.840	98.470	6640.20	-875.09	-373.08	2120.89	1770182.45	359000.21	39°28'58.107"N	80°18'51.213"W	2153.45	99.977	0.13	0.06	-0.17
7560.00	43.780	97.770	6708.03	-899.59	-382.27	2185.31	1770246.78	358990.43	39°28'58.016"N	80°18'50.392"W	2218.49	99.922	0.52	-0.06	-0.74
7655.00	43.800	97.720	6776.61	-923.94	-391.13	2250.45	1770311.84	358980.98	39°28'57.928"N	80°18'49.561"W	2284.19	99.860	0.04	0.02	-0.05
7751.00	43.770	97.310	6845.92	-948.31	-399.82	2316.31	1770377.61	358971.69	39°28'57.843"N	80°18'48.721"W	2350.56	99.793	0.30	-0.03	-0.43
7845.00	43.910	88.610	6913.78	-967.26	-403.17	2381.20	1770442.47	358967.75	39°28'57.809"N	80°18'47.893"W	2415.09	99.610	6.41	0.15	-9.26
7940.00	43.830	75.110	6982.42	-973.95	-393.89	2446.07	1770507.41	358976.42	39°28'57.901"N	80°18'47.066"W	2477.58	99.148	9.84	-0.08	-14.21
8035.00	43.790	69.660	7051.00	-969.81	-374.01	2508.70	1770570.22	358995.73	39°28'58.097"N	80°18'46.267"W	2536.43	98.479	3.97	-0.04	-5.74
8130.00	43.840	61.170	7119.61	-957.75	-346.69	2568.40	1770630.16	359022.50	39°28'58.367"N	80°18'45.506"W	2591.69	97.688	6.18	0.05	-8.94
8224.00	44.270	45.340	7187.37	-932.61	-307.82	2620.41	1770682.53	359060.90	39°28'58.752"N	80°18'44.842"W	2638.43	96.700	11.70	0.46	-16.84
8319.00	47.830	31.660	7253.46	-890.98	-254.40	2662.59	1770725.19	359113.93	39°28'59.279"N	80°18'44.304"W	2674.72	95.458	11.01	3.75	-14.40
8342.00	43.700	33.580	7269.50	-879.66	-240.51	2671.47	1770734.19	359127.73	39°28'59.417"N	80°18'44.191"W	2682.27	95.145	18.92	-17.96	8.35
8412.00	41.910	32.530	7320.85	-847.26	-200.65	2697.41	1770760.50	359167.34	39°28'59.811"N	80°18'43.860"W	2704.87	94.254	2.75	-2.56	-1.50
8507.00	53.060	37.670	7384.97	-801.72	-143.65	2737.82	1770801.42	359223.97	39°29'00.374"N	80°18'43.345"W	2741.59	93.004	12.39	11.74	5.41
8602.00	66.660	41.800	7432.58	-753.42	-80.77	2790.35	1770854.53	359286.36	39°29'00.995"N	80°18'42.675"W	2791.52	91.658	14.80	14.32	4.35
8697.00	77.370	42.300	7461.87	-703.04	-13.78	2850.79	1770915.57	359352.79	39°29'01.657"N	80°18'41.904"W	2850.83	90.277	11.28	11.27	0.53
8793.00	75.030	34.140	7484.80	-646.01	59.37	2908.44	1770973.88	359425.41	39°29'02.380"N	80°18'41.168"W	2909.05	88.831	8.61	-2.44	-8.50
8888.00	77.510	24.120	7507.40	-578.73	139.88	2953.26	1771019.43	359505.50	39°29'03.176"N	80°18'40.597"W	2956.57	87.288	10.57	2.61	-10.55
8982.00	81.540	11.190	7524.56	-500.21	227.76	2981.16	1771048.13	359593.12	39°29'04.044"N	80°18'40.241"W	2989.85	85.631	14.19	4.29	-13.76
9076.00	83.930	0.520	7536.48	-412.64	320.38	2990.63	1771058.46	359685.64	39°29'04.960"N	80°18'40.120"W	3007.75	83.885	11.54	2.54	-11.35
9171.00	86.030	353.370	7544.80	-319.79	414.81	2985.58	1771054.27	359780.11	39°29'05.893"N	80°18'40.184"W	3014.26	82.090	7.82	2.21	-7.53
9266.00	86.090	343.540	7551.35	-225.22	507.56	2966.64	1771036.18	359873.02	39°29'06.810"N	80°18'40.426"W	3009.74	80.291	10.32	0.06	-10.35

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# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## WELLPATH DATA (238 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]
9361.00	86.980	340.430	7557.09	-130.64	597.72	2937.32	1771007.68	359963.45	39°29'07.701"N	80°18'40.799"W	2997.51	78.498	3.40	0.94	-3.27
9456.00	89.450	344.680	7560.05	-35.88	688.28	2908.86	1770980.05	360054.26	39°29'08.596"N	80°18'41.162"W	2989.18	76.688	5.17	2.60	4.47
9551.00	89.380	349.730	7561.02	59.06	780.89	2887.83	1770959.87	360147.04	39°29'09.511"N	80°18'41.430"W	2991.55	74.869	5.32	-0.07	5.32
9647.00	89.380	347.590	7562.06	154.95	875.00	2868.96	1770941.96	360241.32	39°29'10.442"N	80°18'41.671"W	2999.42	73.039	2.23	0.00	-2.23
9742.00	89.350	344.000	7563.11	249.92	967.08	2845.65	1770919.40	360333.60	39°29'11.352"N	80°18'41.968"W	3005.49	71.230	3.78	-0.03	-3.78
9836.00	89.320	344.220	7564.20	343.87	1057.48	2819.91	1770894.49	360424.23	39°29'12.245"N	80°18'42.296"W	3011.67	69.444	0.24	-0.03	0.23
9931.00	89.320	343.040	7565.33	438.78	1148.62	2793.14	1770868.56	360515.61	39°29'13.146"N	80°18'42.637"W	3020.09	67.646	1.24	0.00	-1.24
10026.00	88.950	339.950	7566.77	533.46	1238.69	2763.00	1770839.24	360605.94	39°29'14.036"N	80°18'43.022"W	3027.95	65.853	3.28	-0.39	-3.25
10121.00	88.920	338.820	7568.53	627.81	1327.59	2729.55	1770806.61	360695.14	39°29'14.915"N	80°18'43.448"W	3035.28	64.063	1.19	-0.03	-1.19
10215.00	89.260	345.810	7570.03	721.55	1417.08	2701.02	1770778.90	360784.88	39°29'15.799"N	80°18'43.812"W	3050.18	62.316	7.44	0.36	7.44
10310.00	89.540	343.960	7571.02	816.52	1508.78	2676.25	1770754.97	360876.80	39°29'16.706"N	80°18'44.128"W	3072.25	60.587	1.97	0.29	-1.95
10404.00	88.950	339.800	7572.26	910.25	1598.09	2647.03	1770726.57	360966.37	39°29'17.588"N	80°18'44.500"W	3092.03	58.879	4.47	-0.63	-4.43
10499.00	88.920	343.450	7574.03	1004.94	1688.22	2617.09	1770697.46	361056.76	39°29'18.479"N	80°18'44.882"W	3114.36	57.175	3.84	-0.03	3.84
10593.00	89.080	346.620	7575.67	1098.90	1779.00	2592.82	1770674.02	361147.76	39°29'19.376"N	80°18'45.192"W	3144.45	55.545	3.38	0.17	3.37
10688.00	88.980	346.110	7577.28	1193.88	1871.31	2570.43	1770652.48	361240.26	39°29'20.289"N	80°18'45.477"W	3179.45	53.945	0.55	-0.11	-0.54
10782.00	89.080	344.740	7578.87	1287.86	1962.27	2546.78	1770629.66	361331.43	39°29'21.188"N	80°18'45.779"W	3215.06	52.386	1.46	0.11	-1.46
10877.00	89.170	345.190	7580.32	1382.84	2054.01	2522.14	1770605.86	361423.38	39°29'22.094"N	80°18'46.093"W	3252.71	50.841	0.48	0.09	0.47
10972.00	88.400	345.040	7582.33	1477.80	2145.80	2497.74	1770582.31	361515.39	39°29'23.002"N	80°18'46.404"W	3292.90	49.334	0.83	-0.81	-0.16
11066.00	89.110	344.550	7584.38	1571.76	2236.49	2473.09	1770558.49	361606.29	39°29'23.898"N	80°18'46.718"W	3334.38	47.876	0.92	0.76	-0.52
11160.00	88.860	341.510	7586.04	1665.61	2326.37	2445.66	1770531.99	361696.42	39°29'24.786"N	80°18'47.068"W	3375.39	46.432	3.24	-0.27	-3.23
11255.00	88.980	345.590	7587.83	1760.48	2417.44	2418.77	1770505.83	361787.73	39°29'25.687"N	80°18'47.411"W	3419.72	45.016	4.30	0.13	4.29
11349.00	90.710	356.960	7588.09	1853.93	2510.20	2404.54	1770492.45	361880.61	39°29'26.603"N	80°18'47.592"W	3476.05	43.768	12.23	1.84	12.10
11444.00	88.890	350.470	7588.42	1948.01	2604.57	2394.14	1770482.92	361975.07	39°29'27.536"N	80°18'47.725"W	3537.76	42.589	7.09	-1.92	-6.83
11539.00	88.710	346.700	7590.41	2042.88	2697.66	2375.35	1770464.98	362068.31	39°29'28.456"N	80°18'47.964"W	3594.39	41.365	3.97	-0.19	-3.97
11633.00	90.000	348.750	7591.47	2136.82	2789.50	2355.37	1770445.84	362160.32	39°29'29.364"N	80°18'48.219"W	3650.90	40.177	2.58	1.37	2.18
11728.00	89.450	348.380	7591.92	2231.72	2882.61	2336.53	1770427.86	362253.60	39°29'30.284"N	80°18'48.459"W	3710.64	39.027	0.70	-0.58	-0.39
11822.00	89.910	352.780	7592.45	2325.40	2975.32	2321.15	1770413.33	362346.44	39°29'31.200"N	80°18'48.655"W	3773.63	37.959	4.71	0.49	4.68
11917.00	88.740	351.990	7593.57	2419.80	3069.47	2308.57	1770401.60	362440.70	39°29'32.131"N	80°18'48.816"W	3840.72	36.947	1.49	-1.23	-0.83
12011.00	90.280	344.860	7594.37	2513.65	3161.49	2289.72	1770383.59	362532.88	39°29'33.040"N	80°18'49.056"W	3903.57	35.914	7.76	1.64	-7.59
12106.00	89.170	337.760	7594.83	2608.27	3251.42	2259.30	1770354.00	362623.08	39°29'33.929"N	80°18'49.444"W	3959.31	34.794	7.56	-1.17	-7.47

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# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #06
XTO ENERGY INC	Worthington C Unit 6H ST01
Area	Marion County, WV
Field	Marion
Facility	Worthington Unit
	Sidetrack from
	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## WELLPATH DATA (238 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]
12200.00	89.320	331.490	7596.07	2700.37	3336.31	2219.04	1770314.52	362708.33	39°29'34.768"N	80°18'49.957"W	4006.88	33.629	6.67	0.16	-6.67
12295.00	88.920	330.990	7597.53	2792.22	3419.58	2173.33	1770269.58	362792.01	39°29'35.591"N	80°18'50.540"W	4051.77	32.438	6.67	-0.42	-0.53
12390.00	89.140	336.980	7599.14	2885.09	3504.90	2131.69	1770228.73	362877.70	39°29'36.435"N	80°18'51.071"W	4102.25	31.308	6.31	0.23	6.31
12484.00	89.720	340.270	7600.07	2978.29	3592.42	2097.44	1770195.28	362965.52	39°29'37.300"N	80°18'51.508"W	4159.89	30.279	3.55	0.62	3.50
12579.00	89.570	341.660	7600.66	3072.92	3682.22	2066.46	1770165.12	363055.60	39°29'38.187"N	80°18'51.903"W	4222.44	29.301	1.47	-0.16	1.46
12673.00	89.940	344.300	7601.06	3166.78	3772.09	2038.94	1770138.43	363145.72	39°29'39.075"N	80°18'52.254"W	4287.89	28.393	2.84	0.39	2.81
12768.00	89.720	346.240	7601.35	3261.77	3863.97	2014.79	1770115.12	363237.80	39°29'39.983"N	80°18'52.562"W	4357.71	27.539	2.05	-0.23	2.04
12863.00	89.910	343.290	7601.65	3356.73	3955.62	1989.83	1770091.00	363329.67	39°29'40.889"N	80°18'52.880"W	4427.90	26.704	3.11	0.20	-3.11
12958.00	89.910	340.800	7601.80	3451.50	4045.98	1960.55	1770062.55	363420.30	39°29'41.782"N	80°18'53.254"W	4495.97	25.853	2.62	0.00	-2.62
13052.00	90.050	342.040	7601.83	3545.20	4135.08	1930.59	1770033.41	363509.66	39°29'42.663"N	80°18'53.636"W	4563.56	25.027	1.33	0.16	1.32
13147.00	89.630	344.060	7602.08	3640.07	4225.95	1902.90	1770006.55	363600.77	39°29'43.561"N	80°18'53.989"W	4634.62	24.242	2.17	-0.45	2.13
13242.00	88.860	340.960	7603.34	3734.87	4316.54	1874.36	1769978.84	363691.61	39°29'44.456"N	80°18'54.353"W	4705.92	23.472	3.36	-0.81	-3.26
13337.00	88.950	336.930	7605.15	3829.11	4405.16	1840.24	1769945.54	363780.54	39°29'45.332"N	80°18'54.788"W	4774.09	22.673	4.24	0.09	-4.24
13431.00	89.140	339.310	7606.72	3922.21	4492.37	1805.22	1769911.31	363868.06	39°29'46.194"N	80°18'55.235"W	4841.51	21.892	2.54	0.20	2.53
13526.00	89.200	337.890	7608.10	4016.40	4580.81	1770.56	1769877.47	363956.81	39°29'47.068"N	80°18'55.677"W	4911.08	21.132	1.50	0.06	-1.49
13620.00	88.830	336.290	7609.71	4109.25	4667.38	1733.97	1769841.68	364043.70	39°29'47.924"N	80°18'56.143"W	4979.06	20.380	1.75	-0.39	-1.70
13715.00	88.950	337.510	7611.55	4203.04	4754.74	1696.71	1769805.22	364131.40	39°29'48.788"N	80°18'56.619"W	5048.41	19.639	1.29	0.13	1.28
13809.00	88.830	338.550	7613.37	4296.11	4841.90	1661.55	1769770.86	364218.87	39°29'49.649"N	80°18'57.067"W	5119.06	18.940	1.11	-0.13	1.11
13904.00	89.720	345.610	7614.58	4390.82	4932.23	1632.34	1769742.48	364309.45	39°29'50.542"N	80°18'57.440"W	5195.32	18.312	7.49	0.94	7.43
13998.00	90.710	350.390	7614.22	4484.73	5024.14	1612.80	1769723.78	364401.54	39°29'51.450"N	80°18'57.689"W	5276.66	17.797	5.19	1.05	5.09
14093.00	90.920	353.140	7612.87	4579.23	5118.15	1599.20	1769711.04	364495.66	39°29'52.379"N	80°18'57.862"W	5362.17	17.352	2.90	0.22	2.89
14188.00	90.950	354.750	7611.32	4673.31	5212.60	1589.18	1769701.88	364590.19	39°29'53.313"N	80°18'57.990"W	5449.47	16.955	1.69	0.03	1.69
14281.00	91.110	355.400	7609.65	4765.13	5305.24	1581.19	1769694.75	364682.90	39°29'54.228"N	80°18'58.092"W	5535.86	16.596	0.72	0.17	0.70
14376.00	91.050	358.250	7607.86	4858.41	5400.07	1575.93	1769680.36	364777.76	39°29'55.166"N	80°18'58.159"W	5625.33	16.259	3.00	-0.06	3.00
14470.00	90.340	354.290	7606.72	4950.88	5493.84	1569.82	1769665.10	364871.59	39°29'56.092"N	80°18'58.237"W	5713.72	15.947	4.28	-0.76	-4.21
14565.00	90.400	348.100	7606.10	5045.44	5587.68	1555.28	1769671.43	364965.54	39°29'57.020"N	80°18'58.422"W	5800.09	15.554	6.32	0.06	-6.32
14659.00	90.370	346.650	7605.47	5139.41	5679.40	1534.74	1769651.72	365057.44	39°29'57.926"N	80°18'58.684"W	5883.11	15.122	1.54	-0.03	-1.54
14754.00	90.370	352.910	7604.86	5234.15	5772.84	1517.89	1769635.73	365151.03	39°29'58.850"N	80°18'58.899"W	5969.06	14.732	6.59	0.00	6.59
14848.00	90.310	357.520	7604.30	5326.91	5866.49	1510.05	1769628.75	365244.74	39°29'59.775"N	80°18'58.999"W	6057.72	14.435	4.90	-0.06	4.90
14943.00	90.400	355.910	7603.71	5420.25	5961.33	1504.61	1769624.17	365339.62	39°30'00.713"N	80°18'59.066"W	6148.27	14.165	1.70	0.09	-1.69

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# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## WELLPATH DATA (238 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 (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)
15038.00	90.220	355.220	7603.20	5513.93	6056.04	1497.27	1769617.70	365434.39	39°30'01.649"N	80°18'59.162"W	6238.38	13.887	0.75	-0.19	-0.73
15132.00	90.430	352.090	7602.66	5607.08	6149.45	1486.88	1769608.16	365527.89	39°30'02.572"N	80°18'59.294"W	6326.66	13.593	3.34	0.22	-3.33
15227.00	90.310	351.980	7602.05	5701.55	6243.53	1473.71	1769595.86	365622.08	39°30'03.502"N	80°18'59.462"W	6415.10	13.281	0.17	-0.13	-0.12
15321.00	90.490	348.590	7601.39	5795.27	6336.17	1457.86	1769580.85	365714.85	39°30'04.417"N	80°18'59.664"W	6501.72	12.957	3.61	0.19	-3.61
15416.00	90.220	347.000	7600.81	5890.22	6429.02	1437.77	1769561.62	365807.87	39°30'05.335"N	80°18'59.920"W	6587.83	12.606	1.70	-0.28	-1.67
15510.00	90.080	343.350	7600.58	5984.19	6519.87	1413.72	1769538.41	365898.94	39°30'06.233"N	80°19'00.227"W	6671.38	12.234	3.89	-0.17	-3.88
15605.00	90.860	342.360	7599.81	6079.05	6610.65	1385.72	1769511.24	365989.96	39°30'07.130"N	80°19'00.584"W	6754.32	11.839	1.34	0.84	-1.04
15700.00	91.290	342.790	7598.03	6173.86	6701.27	1357.28	1769483.02	366080.84	39°30'08.026"N	80°19'00.947"W	6837.34	11.450	0.64	0.45	0.45
15795.00	91.020	349.940	7596.11	6268.78	6793.51	1334.90	1769452.09	366173.28	39°30'08.938"N	80°19'01.233"W	6923.42	11.117	7.53	-0.28	7.53
15889.00	91.750	349.830	7593.84	6362.53	6886.03	1318.40	1769424.44	366265.93	39°30'09.852"N	80°19'01.443"W	7011.10	10.839	0.79	0.78	-0.12
15984.00	92.180	348.600	7590.58	6457.32	6979.29	1300.63	1769429.53	366359.35	39°30'10.774"N	80°19'01.670"W	7099.45	10.556	1.37	0.45	-1.29
16079.00	92.250	346.800	7586.91	6552.21	7072.04	1280.41	1769410.16	366452.27	39°30'11.690"N	80°19'01.928"W	7187.01	10.262	1.89	0.07	-1.89
16173.00	91.940	346.950	7583.48	6646.13	7163.52	1259.08	1769389.66	366543.94	39°30'12.595"N	80°19'02.200"W	7273.33	9.969	0.37	-0.33	0.16
16268.00	91.850	342.540	7580.33	6741.04	7255.10	1234.10	1769365.53	366635.74	39°30'13.500"N	80°19'02.518"W	7359.31	9.654	4.64	-0.09	-4.64
16362.00	90.890	341.490	7578.09	6834.78	7344.48	1205.09	1769337.33	366725.37	39°30'14.383"N	80°19'02.888"W	7442.69	9.318	1.51	-1.02	-1.12
16457.00	90.830	343.530	7576.66	6929.59	7435.07	1176.54	1769309.62	366816.22	39°30'15.278"N	80°19'03.252"W	7527.59	8.992	2.15	-0.06	2.15
16552.00	91.720	349.320	7574.54	7024.52	7527.35	1154.26	1769288.18	366908.69	39°30'16.191"N	80°19'03.537"W	7615.34	8.718	6.16	0.94	6.09
16647.00	91.850	351.170	7571.58	7119.21	7620.93	1138.17	1769272.95	367002.41	39°30'17.115"N	80°19'03.742"W	7705.45	8.494	1.95	0.14	1.95
16741.00	91.880	351.860	7568.53	7212.72	7713.85	1124.31	1769259.94	367095.45	39°30'18.034"N	80°19'03.919"W	7795.36	8.293	0.73	0.03	0.73
16836.00	91.630	351.370	7565.62	7307.22	7807.79	1110.46	1769246.95	367189.51	39°30'18.962"N	80°19'04.095"W	7886.36	8.095	0.58	-0.26	-0.52
16930.00	91.510	349.110	7563.04	7400.92	7900.39	1094.53	1769231.87	367282.24	39°30'19.877"N	80°19'04.298"W	7975.85	7.888	2.41	-0.13	-2.40
17024.00	91.570	345.830	7560.51	7494.85	7992.11	1074.15	1769212.33	367374.13	39°30'20.784"N	80°19'04.558"W	8063.97	7.655	3.49	0.06	-3.49
17119.00	91.510	342.400	7557.96	7589.75	8083.43	1048.16	1769187.18	367465.69	39°30'21.687"N	80°19'04.890"W	8151.11	7.388	3.61	-0.06	-3.61
17213.00	91.570	342.640	7555.43	7683.54	8173.06	1019.94	1769159.78	367555.56	39°30'22.572"N	80°19'05.250"W	8236.45	7.113	0.26	0.06	0.26
17308.00	91.450	342.610	7552.93	7778.34	8263.59	991.58	1769132.25	367646.45	39°30'23.468"N	80°19'05.612"W	8322.97	6.842	0.13	-0.13	-0.03
17403.00	91.540	343.850	7550.45	7873.20	8354.62	964.18	1769105.68	367737.62	39°30'24.367"N	80°19'05.961"W	8410.07	6.583	1.31	0.09	1.31
17497.00	91.540	345.020	7549.54	7907.17	8387.36	955.06	1769096.86	367770.44	39°30'24.690"N	80°19'06.078"W	8441.56	6.496	3.44	0.00	3.44
17462.00	91.540	345.020	7548.87	7932.16	8411.50	948.60	1769090.63	367794.63	39°30'24.929"N	80°19'06.160"W	8464.82	6.434	0.00	0.00	0.00



# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## HOLE & CASING SECTIONS - Ref Wellbore: Worthington C Unit 6H ST01 AWB Ref Wellpath: Worthington C Unit 6H ST01 AWP Proj: 17462'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	End N/S [ft]	Start E/W [ft]	End E/W [ft]
12.25in Open Hole	26.00	3220.00	3194.00	26.00	3218.11	0.00	0.00	0.00	-60.30
9.625in Casing Intermediate	26.00	3220.00	3194.00	26.00	3218.11	0.00	0.00	0.00	-60.30
8.75in Open Hole	3220.00	4025.00	805.00	3218.11	4023.03	-60.30	-66.94	13.49	5.00
8.5in Open Hole	4025.00	8319.00	4294.00	4023.03	7253.46	-66.94	-254.40	5.00	2662.59
8.5in Open Hole	8319.00	17462.00	9143.00	7253.46	7548.87	-254.40	8411.50	2662.59	948.60
5.5in Casing Production	26.00	17462.00	17436.00	26.00	7548.87	0.00	8411.50	0.00	948.60

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Worthington C 6H BHL Rev-4	7550.00	8357.15	975.31	1769116.84	367740.04	39°30'24.392"N	80°19'05.819"W	point
Worthington C 6H LP Rev-4	7550.00	491.93	2936.33	1771005.73	359857.68	39°29'06.655"N	80°18'40.812"W	point
Worthington C 6H Avoid Point	7600.00	4761.94	1744.18	1769852.75	364138.16	39°29'48.859"N	80°18'56.013"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Worthington C Unit 6H ST01 AWB Ref Wellpath: Worthington C Unit 6H ST01 AWP Proj: 17462'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	3963.00	BHI Generic gyro - northseeking (Standard)	01_Javins Gyro <8-3/4'>(25'-39.50')	Worthington C Unit 6H AWB
3963.00	8319.00	BHI AutoTrak Curve (Short)	02_BH AT Curve <8-1/2'> (3963')(4064'-17402')	Worthington C Unit 6H AWB
8319.00	8342.00	BHI NaviTrak (Axial)	03_BH NaviTrak <8-1/2'>(8319')(8342')	Worthington C Unit 6H ST01 AWB
8342.00	17437.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8-1/2'> (8342')(8412'-17437')	Worthington C Unit 6H ST01 AWB
17437.00	17462.00	Blind Drilling (std)	Projection to bit	Worthington C Unit 6H ST01 AWB

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Office of Oil and Gas  
OCT 26 2018  
WV Department of  
Environmental Protection



# Actual Wellpath Report

Worthington C Unit 6H ST01 AWP Proj: 17462'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Slot	Slot #06
Area	Marion County, WV	Well	Worthington C Unit 6H ST01
Field	Marion	Wellbore	Worthington C Unit 6H ST01 AWB
Facility	Worthington Unit	Sidetrack from	Worthington C Unit 6H AWP Proj: 17438' at 8319.00 MD

## COMMENTS

Wellpath general comments  
API: 47-049-02423-0100  
BH Job #: 9067163-A  
Rig: Patterson 583  
Duration: 3/20/2018-4/16/2018  
Javins Gyro [OH] <8-3/4"> (25'-3950')  
BH AT Curve [OH] <8-1/2"> (3963')(4064'-17402')  
BH NaviTrak [ST01] <8-1/2"> (8319')(8342')  
BH AT Curve [ST01] <8-1/2"> (8342')(8412'-17437')  
Projected MD at TD: 17462'