

**ANTERO RESOURCES CORPORATION**  
 Location: Ritchie County, WV  
 Field: Ritchie  
 Facility: Mulvay Pad  
 Slot: Slot #01  
 Well: Niley Unit 3H ST01  
 Wellbore: Niley Unit 3H ST01 PWB



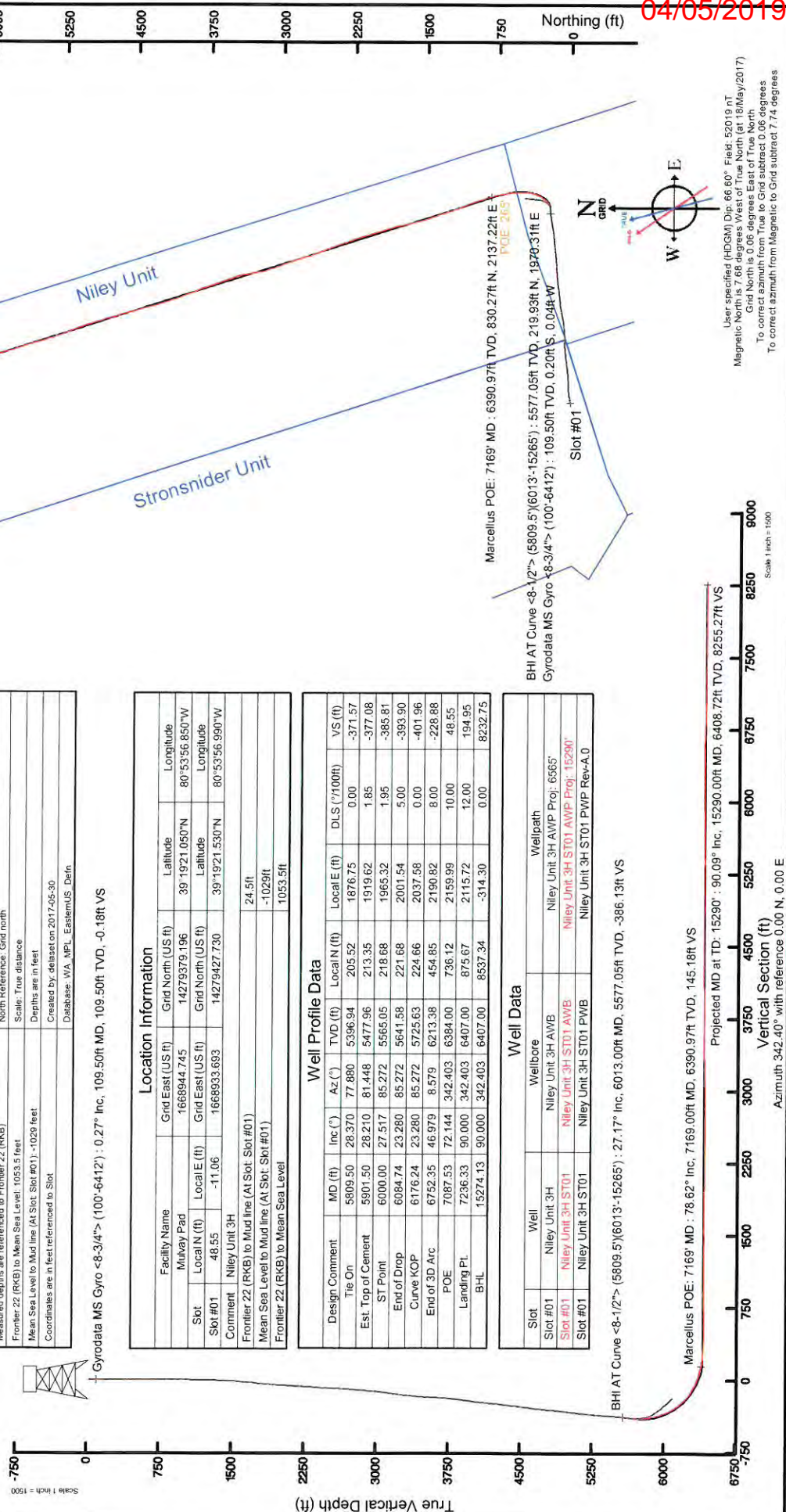
API: 47-085-10252-0000  
 BHI Job #: 8562680  
 Rig: Frontier 22  
 Duration: 05/26/2017-05/28/2017

Plot reference wellpath is Niley Unit 3H ST01 PWB Rev-A.0	Grid System: NAD2011 UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	* = Wellpath was transformed from a different geocentric datum
Measured depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Frontier 22 (RKB) to Mean Sea Level: 1053.5 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot Slot #01): -1029 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: delast on 2017-05-30
	Database: WA_APL_EasternUS_Defn

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Mulvay Pad	1668944.745	14279379.196	80°53'56.850"W
Slot	Local E (ft)	Local N (ft)	Local E (ft)
Slot #01	48.55	-11.06	14279427.730
Comment	Niley Unit 3H		
Frontier 22 (RKB) to Mud line (At Slot Slot #01)	24.5ft		
Mean Sea Level to Mud line (At Slot Slot #01)	-1029ft		
Frontier 22 (RKB) to Mean Sea Level	1053.5ft		

Well Profile Data					
Design Comment	MD (ft)	Inc (°)	Az (°)	Local N (ft)	Local E (ft)
Tie On	5809.50	28.370	77.880	5396.94	205.52
Est. Top of Cement	5901.50	28.210	81.448	5477.96	213.35
ST Point	6000.00	27.517	85.272	5565.05	218.68
End of Drop	6084.74	23.280	85.272	5641.58	221.68
Curve KOP	6176.24	23.280	85.272	5725.63	224.66
End of 3D Arc	6752.35	46.979	8.579	6213.38	454.85
POE	7087.53	72.144	342.403	6384.00	736.12
Landing Pt.	7236.33	90.000	342.403	6407.00	875.67
BHL	15274.13	90.000	342.403	6407.00	8537.34

Well Data		
Slot	Well	Wellbore
Slot #01	Niley Unit 3H	Niley Unit 3H AWP
Slot #01	Niley Unit 3H ST01	Niley Unit 3H ST01 AWP
Slot #01	Niley Unit 3H ST01	Niley Unit 3H ST01 PWB



User specified (HDGM) Dip: 66.60° Field: 52019 nT  
 Magnetic North is 7.68 degrees West of True North (at 18/May/2017)  
 Grid North is 0.06 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.06 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.74 degrees



# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'

Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Mulvay Pad
Slot	Slot #01
Well	Niley Unit 3H ST01
Wellbore	Niley Unit 3H ST01 AWB
Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999601
Convergence at slot	0.06° East
Software System	WellArchitect® 5.0
User	Delaset
Report Generated	30/May/2017 at 14:40
Database/Source file	WA_MPL_EasternUS_Defn\Niley_Unit_3H_ST01_AWP_Proj_15290_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	48.55	-11.06	1668933.69	14279427.73	39°19'21.530"N	80°53'56.990"W
Facility Reference Pt			1668944.75	14279379.20	39°19'21.050"N	80°53'56.850"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	Frontier 22 (RKB)
MD Reference Pt	Frontier 22 (RKB)
Field Vertical Reference	Mean Sea Level
	Frontier 22 (RKB) to Facility Vertical Datum
	Frontier 22 (RKB) to Mean Sea Level
	Frontier 22 (RKB) to Mud Line at Slot (Slot #01)
	Section Origin
	Section Azimuth
	24.50ft
	1053.50ft
	24.50ft
	N 0.00, E 0.00 ft
	342.40°

04/05/2019



# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'

Page 2 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #01
ANTERO RESOURCES CORPORATION	Ritchie County, WV	Ritchie	Multivay Pad	Well	Niley Unit 3H ST01
				Wellbore	Niley Unit 3H ST01 AWB
				Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD

## WELLPATH DATA (178 stations) † = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
0.00†	0.000	190.330	0.00	0.00	0.00	0.00	1668933.69	14279427.73	39°19'21.530"N	80°53'56.990"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	190.330	24.50	0.00	0.00	0.00	1668933.69	14279427.73	39°19'21.530"N	80°53'56.990"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.270	190.330	109.50	-0.18	-0.20	-0.04	1668933.66	14279427.53	39°19'21.528"N	80°53'56.990"W	0.20	190.330	0.32	0.32	-199.61	Syrodata MS Gyro <-8.3/4"> (100'-64.12')
209.50	0.330	245.220	209.50	-0.42	-0.55	-0.34	1668933.35	14279427.18	39°19'21.525"N	80°53'56.994"W	0.65	211.717	0.28	0.06	54.89	
309.50	0.330	247.270	309.50	-0.48	-0.78	-0.87	1668932.83	14279426.95	39°19'21.522"N	80°53'57.001"W	1.17	227.959	0.01	0.00	2.05	
409.50	0.290	206.220	409.50	-0.69	-1.12	-1.24	1668932.45	14279426.61	39°19'21.519"N	80°53'57.006"W	1.67	228.010	0.22	-0.04	-41.05	
509.50	0.380	198.980	509.49	-1.14	-1.66	-1.64	1668932.05	14279426.27	39°19'21.514"N	80°53'57.009"W	2.21	221.399	0.10	0.09	-7.24	
609.50	0.560	188.330	609.49	-1.85	-2.46	-1.64	1668932.05	14279425.07	39°19'21.506"N	80°53'57.011"W	2.96	213.756	0.20	0.18	-10.65	
709.50	1.520	93.070	709.48	-2.75	-3.01	-0.39	1668933.30	14279424.72	39°19'21.500"N	80°53'56.995"W	3.04	187.354	1.67	0.96	-95.26	
809.50	4.240	71.000	809.34	-3.13	-1.88	4.43	1668938.12	14279425.85	39°19'21.511"N	80°53'56.934"W	4.81	112.979	2.89	2.72	-22.07	
909.50	5.970	71.680	908.94	-2.98	0.96	12.86	1668946.55	14279428.69	39°19'21.539"N	80°53'56.826"W	12.90	85.737	1.73	1.73	0.68	
1009.50	7.600	76.760	1008.24	-3.41	4.11	24.24	1668957.92	14279431.84	39°19'21.570"N	80°53'56.682"W	24.59	80.380	1.74	1.63	5.08	
1109.50	8.500	76.310	1107.25	-4.42	7.37	37.86	1668971.53	14279435.10	39°19'21.602"N	80°53'56.508"W	38.57	78.981	0.90	0.90	-0.45	
1209.50	9.860	76.060	1205.97	-5.47	11.18	53.35	1668987.02	14279438.91	39°19'21.640"N	80°53'56.311"W	54.51	78.160	1.36	1.36	-0.25	
1309.50	11.700	80.200	1304.20	-7.39	14.97	71.65	1669005.32	14279442.70	39°19'21.677"N	80°53'56.078"W	73.20	78.197	2.00	1.84	4.14	
1409.50	13.980	82.260	1401.70	-10.84	18.33	93.62	1669027.27	14279446.05	39°19'21.710"N	80°53'55.799"W	95.39	78.924	2.33	2.28	2.06	
1509.50	16.540	85.710	1498.17	-16.18	21.02	119.78	1669053.43	14279448.74	39°19'21.736"N	80°53'55.466"W	121.61	80.048	2.72	2.56	3.45	
1609.50	17.270	86.620	1593.84	-23.11	22.96	148.80	1669082.43	14279450.68	39°19'21.755"N	80°53'55.096"W	150.56	81.229	0.78	0.73	0.91	
1709.50	17.830	88.050	1689.19	-30.88	24.35	178.92	1669112.54	14279452.07	39°19'21.769"N	80°53'54.713"W	180.57	82.249	0.71	0.56	1.43	
1809.50	18.420	89.170	1784.23	-39.57	25.10	210.01	1669143.82	14279452.82	39°19'21.776"N	80°53'54.317"W	211.51	83.184	0.69	0.59	1.12	
1909.50	17.730	86.070	1879.29	-47.73	26.38	241.00	1669174.60	14279454.10	39°19'21.788"N	80°53'53.923"W	242.44	83.754	1.18	-0.69	-3.10	
2009.50	18.410	86.100	1974.36	-55.07	28.49	271.95	1669205.53	14279456.21	39°19'21.809"N	80°53'53.529"W	273.44	84.019	0.68	0.68	0.03	
2109.50	19.240	86.680	2069.01	-62.87	30.52	304.15	1669237.72	14279458.24	39°19'21.828"N	80°53'53.119"W	305.68	84.269	0.85	0.83	0.58	
2209.50	17.600	83.210	2163.89	-69.77	33.26	335.62	1669269.17	14279460.98	39°19'21.855"N	80°53'52.719"W	337.26	84.340	1.97	-1.64	-3.47	
2309.50	16.760	81.070	2259.43	-74.78	37.29	364.87	1669298.42	14279466.00	39°19'21.895"N	80°53'52.347"W	366.77	84.165	1.05	-0.84	-2.14	
2409.50	17.090	84.110	2355.10	-79.94	41.04	393.73	1669327.27	14279468.75	39°19'21.931"N	80°53'51.979"W	395.87	84.050	0.94	0.33	3.04	
2509.50	16.290	84.270	2450.88	-85.81	43.94	422.30	1669355.83	14279471.66	39°19'21.960"N	80°53'51.616"W	424.58	84.059	0.80	-0.80	0.16	
2609.50	15.060	79.450	2547.17	-90.28	47.72	449.03	1669382.55	14279475.43	39°19'21.997"N	80°53'51.276"W	451.56	83.933	1.79	-1.23	-4.82	
2709.50	16.090	82.300	2643.49	-94.26	51.96	475.54	1669409.04	14279479.67	39°19'22.038"N	80°53'50.938"W	478.37	83.784	1.28	1.03	2.85	
2809.50	18.170	85.630	2739.06	-100.21	55.00	504.82	1669438.31	14279482.71	39°19'22.068"N	80°53'50.566"W	507.81	83.782	2.30	2.08	3.33	



# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'  
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #01
Operator	ANTERO RESOURCES CORPORATION	Well	Niley Unit 3H ST01
Area	Ritchie County, WV	Wellbore	Niley Unit 3H ST01 AWB
Field	Ritchie	Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD
Facility	Mulvay Pad		

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
2909.50	19.530	84.800	2833.69	-107.37	57.71	537.02	1669470.49	14279485.41	39°19'22.094"N	80°53'50.156"W	540.11	83.867	1.39	1.36	-0.83	
3009.50	21.070	84.720	2927.48	-114.80	60.88	571.56	1669505.03	14279488.58	39°19'22.125"N	80°53'49.716"W	574.80	83.920	1.54	1.54	-0.08	
3109.50	24.030	88.550	3019.83	-124.30	63.05	609.83	1669543.28	14279490.75	39°19'22.146"N	80°53'49.229"W	613.08	84.098	3.30	2.96	3.83	
3209.50	25.940	89.410	3110.46	-136.36	63.79	652.06	1669585.49	14279491.49	39°19'22.153"N	80°53'48.632"W	655.17	84.413	1.94	1.91	0.86	
3309.50	26.550	87.400	3200.16	-148.54	65.03	696.25	1669629.67	14279492.73	39°19'22.165"N	80°53'48.130"W	699.28	84.664	1.08	1.01	-2.01	
3409.50	25.710	85.710	3289.94	-159.32	67.66	740.21	1669673.61	14279495.36	39°19'22.190"N	80°53'47.570"W	743.30	84.777	1.12	-0.84	-1.69	
3509.50	27.090	84.290	3379.51	-169.01	71.55	784.50	1669717.88	14279499.25	39°19'22.228"N	80°53'47.007"W	787.76	84.789	1.52	1.38	-1.42	
3609.50	29.590	81.150	3467.52	-177.46	77.62	831.56	1669764.92	14279505.31	39°19'22.288"N	80°53'46.408"W	835.18	84.668	2.91	2.50	-3.14	
3709.50	27.940	77.760	3555.18	-183.40	86.38	878.86	1669812.20	14279514.08	39°19'22.374"N	80°53'45.806"W	883.09	84.386	2.32	-1.65	-3.39	
3809.50	27.360	79.320	3643.76	-188.36	95.61	924.34	1669857.66	14279523.30	39°19'22.465"N	80°53'45.227"W	929.27	84.095	0.93	-0.58	1.56	
3909.50	31.480	83.020	3732.41	-193.87	104.25	969.80	1669903.10	14279531.94	39°19'22.550"N	80°53'44.648"W	975.38	83.864	0.42	0.41	-0.17	
4009.50	32.650	84.940	3904.08	-212.09	117.37	1071.40	1670004.67	14279545.05	39°19'22.678"N	80°53'43.355"W	1077.81	83.749	1.55	1.17	1.92	
4209.50	32.300	84.080	3988.44	-223.35	122.50	1124.85	1670058.09	14279550.18	39°19'22.728"N	80°53'42.675"W	1131.50	83.785	0.58	-0.35	-0.86	
4309.50	32.010	81.870	4073.10	-233.12	129.00	1177.66	1670110.88	14279556.68	39°19'22.792"N	80°53'42.003"W	1184.71	83.749	1.21	-0.29	-2.21	
4409.50	30.510	82.950	4158.58	-242.13	135.87	1229.10	1670162.30	14279563.54	39°19'22.859"N	80°53'41.348"W	1236.58	83.692	1.60	-1.50	1.08	
4509.50	29.650	81.250	4245.12	-250.59	142.75	1278.74	1670211.92	14279570.42	39°19'22.926"N	80°53'40.717"W	1286.68	83.630	1.21	-0.86	-1.70	
4609.50	26.050	84.570	4335.53	-259.02	148.59	1325.06	1670258.22	14279576.26	39°19'22.984"N	80°53'40.127"W	1333.37	83.602	3.92	-3.60	3.32	
4709.50	24.440	88.460	4423.98	-269.38	151.22	1367.61	1670300.75	14279578.89	39°19'23.009"N	80°53'39.586"W	1375.94	83.600	2.31	-1.61	3.89	
4809.50	25.860	86.060	4514.50	-280.25	153.28	1410.05	1670343.17	14279583.91	39°19'23.029"N	80°53'39.046"W	1418.35	83.796	1.75	1.42	-2.40	
4909.50	27.180	86.330	4603.97	-290.90	156.24	1454.60	1670387.71	14279588.91	39°19'23.058"N	80°53'38.479"W	1462.97	83.869	1.33	1.32	0.27	
5009.50	26.230	84.910	4693.31	-301.19	159.66	1499.40	1670432.50	14279587.33	39°19'23.091"N	80°53'37.908"W	1507.88	83.922	1.14	-0.95	-1.42	
5109.50	26.790	84.420	4782.79	-310.67	163.81	1543.85	1670476.92	14279591.48	39°19'23.132"N	80°53'37.343"W	1552.51	83.943	0.60	0.56	-0.49	
5209.50	26.960	83.240	4871.99	-319.62	168.67	1588.79	1670521.84	14279596.34	39°19'23.179"N	80°53'36.771"W	1597.72	83.940	0.56	0.17	-1.18	
5309.50	28.780	84.250	4960.39	-328.83	173.75	1635.25	1670566.29	14279601.41	39°19'23.229"N	80°53'36.180"W	1644.46	83.935	1.88	1.82	1.01	
5409.50	29.270	85.260	5047.83	-339.21	178.19	1683.57	1670616.58	14279605.84	39°19'23.272"N	80°53'35.565"W	1692.97	83.958	0.69	0.49	1.01	
5509.50	28.850	83.570	5135.24	-349.33	182.91	1731.91	1670664.90	14279610.56	39°19'23.318"N	80°53'34.950"W	1741.54	83.971	0.92	-0.42	-1.69	
5609.50	29.860	82.500	5222.40	-358.37	188.86	1780.56	1670713.54	14279616.51	39°19'23.376"N	80°53'34.330"W	1790.55	83.945	1.14	1.01	-1.07	
5709.50	29.340	80.100	5309.36	-366.02	196.32	1829.38	1670762.34	14279623.97	39°19'23.450"N	80°53'33.709"W	1839.88	83.875	1.29	-0.52	-2.40	
5809.50	28.370	77.880	5396.94	-371.57	205.52	1876.75	1670809.69	14279633.17	39°19'23.540"N	80°53'33.106"W	1887.97	83.750	1.45	-0.97	-2.22	





# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'

Page 5 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #01
ANTERO RESOURCES CORPORATION	Well	Niley Unit 3H ST01
Ritchie County, WV	Wellbore	Niley Unit 3H ST01 AWB
Ritchie	Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD
Mulvey Pad		

## WELLPATH DATA (178 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
7294.00	87.170	342.590	6406.99	268.96	949.13	2102.54	1671035.39	14280376.48	39°19'30.887"N	80°53'30.222"W	2306.84	65.705	6.77	6.19	-2.74	
7342.00	87.170	341.150	6409.36	316.89	994.69	2087.62	1671020.47	14280422.02	39°19'31.337"N	80°53'30.411"W	2312.48	64.524	3.00	0.00	-3.00	
7389.00	88.120	339.720	6411.29	363.83	1038.94	2071.89	1671004.75	14280466.25	39°19'31.775"N	80°53'30.610"W	2317.79	63.869	3.65	2.02	-3.04	
7436.00	88.890	339.450	6412.52	410.75	1082.97	2055.50	1670988.37	14280510.26	39°19'32.210"N	80°53'30.818"W	2323.34	62.217	1.74	1.64	-0.57	
7531.00	89.200	338.730	6414.10	505.58	1171.70	2021.60	1670954.49	14280598.96	39°19'33.088"N	80°53'31.248"W	2336.61	59.904	0.83	0.33	-0.76	
7626.00	90.430	341.930	6414.41	600.50	1261.14	1989.63	1670922.53	14280688.37	39°19'33.972"N	80°53'31.654"W	2355.66	57.631	3.61	1.29	3.37	
7721.00	91.080	341.850	6413.16	695.49	1351.43	1960.10	1670893.91	14280778.61	39°19'34.865"N	80°53'32.028"W	2380.83	55.415	0.69	0.68	-0.08	
7816.00	90.370	341.220	6411.95	790.47	1441.53	1930.02	1670862.04	14280868.68	39°19'35.756"N	80°53'32.410"W	2408.94	53.244	1.00	-0.75	-0.66	
7911.00	90.060	342.560	6411.60	885.46	1531.82	1900.49	1670833.42	14280958.93	39°19'36.648"N	80°53'32.784"W	2440.97	51.131	1.45	-0.33	1.41	
8006.00	90.060	345.810	6411.50	980.41	1623.21	1874.60	1670807.54	14281050.29	39°19'37.552"N	80°53'33.112"W	2479.71	49.111	3.42	0.00	3.42	
8101.00	90.150	346.920	6411.32	1075.18	1715.53	1852.21	1670785.16	14281142.57	39°19'38.465"N	80°53'33.396"W	2524.62	47.194	1.17	0.09	1.17	
8196.00	89.720	345.720	6411.43	1169.95	1807.83	1829.74	1670762.70	14281234.84	39°19'39.377"N	80°53'33.680"W	2572.20	45.345	1.34	-0.45	-1.26	
8291.00	89.690	343.150	6411.92	1264.88	1899.34	1804.25	1670737.22	14281326.31	39°19'40.282"N	80°53'34.003"W	2619.70	43.529	2.71	-0.03	-2.71	
8386.00	89.820	343.250	6412.33	1359.87	1990.29	1776.79	1670709.77	14281417.22	39°19'41.181"N	80°53'34.351"W	2668.00	41.756	0.17	0.14	0.11	
8481.00	89.630	343.060	6412.78	1454.86	2081.21	1749.26	1670682.26	14281508.10	39°19'42.080"N	80°53'34.700"W	2718.70	40.047	0.28	-0.20	-0.20	
8576.00	91.570	342.980	6411.79	1549.85	2172.06	1721.52	1670654.53	14281598.92	39°19'42.978"N	80°53'35.052"W	2771.55	38.400	2.04	2.04	-0.08	
8671.00	90.920	341.520	6409.72	1644.82	2262.51	1692.57	1670625.58	14281689.33	39°19'43.873"N	80°53'35.419"W	2825.55	36.800	1.68	-0.68	-1.54	
8766.00	89.600	340.190	6409.29	1739.78	2352.25	1661.41	1670594.44	14281779.04	39°19'44.760"N	80°53'35.814"W	2879.82	35.234	1.97	-1.39	-1.40	
8861.00	89.050	340.820	6410.41	1834.72	2441.80	1629.71	1670562.75	14281868.55	39°19'45.645"N	80°53'36.216"W	2935.70	33.720	0.88	-0.58	0.66	
8956.00	89.140	338.330	6411.91	1929.59	2530.81	1596.57	1670529.62	14281957.52	39°19'46.526"N	80°53'36.637"W	2992.33	32.246	2.62	0.09	-2.62	
9050.00	89.020	340.040	6413.42	2023.43	2618.66	1563.17	1670496.24	14282045.34	39°19'47.394"N	80°53'37.060"W	3049.73	30.834	1.82	-0.13	1.82	
9145.00	89.260	342.340	6414.85	2118.39	2708.57	1532.54	1670465.62	14282135.21	39°19'48.283"N	80°53'37.449"W	3112.08	29.502	2.43	0.25	2.42	
9240.00	89.880	342.390	6415.56	2213.38	2799.10	1503.76	1670436.85	14282225.71	39°19'49.178"N	80°53'37.814"W	3177.46	28.246	0.65	0.65	0.05	
9335.00	89.910	342.230	6415.74	2308.38	2889.61	1474.90	1670408.00	14282316.18	39°19'50.073"N	80°53'38.160"W	3244.25	27.040	0.17	0.03	-0.17	
9430.00	90.000	338.910	6415.81	2403.32	2979.19	1443.30	1670376.41	14282405.72	39°19'50.969"N	80°53'38.580"W	3310.39	25.848	3.50	0.09	-3.49	
9526.00	89.780	339.790	6415.99	2499.18	3069.02	1409.44	1670342.57	14282495.52	39°19'51.847"N	80°53'39.010"W	3377.19	24.667	0.94	-0.23	0.92	
9620.00	89.780	342.890	6416.36	2593.16	3158.06	1379.37	1670312.51	14282584.53	39°19'52.728"N	80°53'39.391"W	3446.16	23.595	3.30	0.00	3.30	
9715.00	90.340	347.960	6416.26	2687.99	3249.98	1355.47	1670288.62	14282676.40	39°19'53.636"N	80°53'39.694"W	3521.31	22.640	5.37	0.59	5.34	
9809.00	90.430	351.100	6415.62	2781.25	3342.40	1338.40	1670263.55	14282768.79	39°19'54.550"N	80°53'39.910"W	3600.41	21.823	3.34	0.10	3.34	
9904.00	90.740	346.440	6414.65	2875.63	3435.55	1319.90	1670253.06	14282861.90	39°19'55.471"N	80°53'40.144"W	3680.37	21.016	4.92	0.33	-4.91	



# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'

Page 6 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #01
ANTERO RESOURCES CORPORATION	Well	Niley Unit 3H ST01
Ritchie County, WV	Wellbore	Niley Unit 3H ST01 AWB
Ritchie	Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD
Mulvey Pad		

## WELLPATH DATA (178 stations)

MD ft	Inclination °	Azimuth °	TVD ft	Vert Sect ft	North ft	East ft	Grid East JUS ft	Grid North JUS ft	Latitude	Longitude	Closure Dist ft	Closure Dir °	DLS ft/100ft	Build Rate ft/100ft	Turn Rate ft/100ft	Comments
9999.00	90.550	340.610	6413.58	2970.57	3526.60	1292.97	1670226.15	14282952.92	39°19'56.37"N	80°53'40.485"W	3756.16	20.135	6.14	-0.20	-6.14	
10093.00	90.990	338.780	6412.32	3064.45	3614.75	1280.36	1670193.54	14283041.03	39°19'57.243"N	80°53'40.899"W	3828.17	19.222	2.00	0.47	-1.95	
10188.00	91.110	341.750	6410.58	3159.36	3704.14	1228.29	1670161.49	14283130.39	39°19'58.127"N	80°53'41.306"W	3902.48	18.345	3.13	0.13	3.13	
10283.00	91.140	340.790	6408.71	3254.32	3794.10	1197.79	1670131.00	14283220.30	39°19'59.016"N	80°53'41.893"W	3978.67	17.521	1.01	0.03	-1.01	
10377.00	90.820	338.140	6407.27	3348.18	3882.10	1164.82	1670098.05	14283308.28	39°19'59.886"N	80°53'42.111"W	4053.09	16.702	2.87	-0.55	-2.82	
10472.00	90.520	339.160	6406.32	3442.97	3970.58	1130.24	1670063.48	14283396.72	39°20'00.761"N	80°53'42.550"W	4128.31	15.889	1.08	-0.11	1.07	
10567.00	90.820	340.030	6405.38	3537.85	4059.61	1097.12	1670030.37	14283485.71	39°20'01.641"N	80°53'42.970"W	4205.25	15.123	0.92	0.11	0.92	
10662.00	90.490	341.720	6404.46	3632.81	4149.36	1066.00	1669999.26	14283575.43	39°20'02.529"N	80°53'43.365"W	4284.10	14.408	1.78	-0.14	1.78	
10757.00	90.580	343.190	6403.57	3727.80	4239.94	1037.36	1669970.64	14283665.96	39°20'03.424"N	80°53'43.728"W	4364.99	13.748	1.55	0.09	1.55	
10852.00	89.850	343.360	6403.22	3822.79	4330.92	1010.02	1669943.31	14283756.91	39°20'04.324"N	80°53'44.074"W	4447.13	13.127	0.79	-0.77	0.18	
10947.00	90.430	344.640	6402.98	3917.75	4422.23	983.84	1669917.13	14283848.19	39°20'05.227"N	80°53'44.406"W	4530.35	12.543	1.48	0.61	1.35	
11042.00	90.030	345.300	6402.60	4012.65	4513.98	959.20	1669892.51	14283939.90	39°20'06.134"N	80°53'44.718"W	4614.77	11.997	0.81	-0.42	0.69	
11136.00	90.150	343.990	6402.45	4106.58	4604.62	934.31	1669867.63	14284030.51	39°20'07.030"N	80°53'45.034"W	4698.46	11.470	1.40	0.13	-1.39	
11231.00	90.030	343.080	6402.31	4201.56	4695.73	907.38	1669840.71	14284121.57	39°20'07.931"N	80°53'45.375"W	4782.59	10.937	0.97	-0.13	-0.96	
11326.00	90.000	343.500	6402.28	4296.55	4786.72	880.07	1669813.41	14284212.53	39°20'08.830"N	80°53'45.722"W	4866.95	10.418	0.44	-0.03	0.44	
11420.00	90.030	344.440	6402.26	4390.51	4877.06	854.11	1669787.46	14284302.83	39°20'09.724"N	80°53'46.051"W	4951.28	9.933	1.00	0.03	1.00	
11515.00	90.180	343.590	6402.08	4485.47	4968.38	827.95	1669761.31	14284394.12	39°20'10.627"N	80°53'46.382"W	5036.90	9.461	0.91	0.16	-0.89	
11610.00	90.250	341.100	6401.73	4580.46	5058.90	799.14	1669732.51	14284484.60	39°20'11.521"N	80°53'46.748"W	5121.63	8.977	2.62	0.07	-2.62	
11705.00	89.880	338.810	6401.62	4675.37	5148.14	766.58	1669699.97	14284573.81	39°20'12.404"N	80°53'47.161"W	5204.90	8.469	2.44	-0.39	-2.41	
11800.00	89.910	338.870	6401.79	4770.19	5236.74	732.29	1669666.69	14284662.37	39°20'13.280"N	80°53'47.596"W	5287.69	7.960	0.07	0.03	0.06	
11894.00	89.850	340.160	6401.99	4864.06	5324.79	699.39	1669632.81	14284750.38	39°20'14.151"N	80°53'48.013"W	5370.53	7.483	1.37	-0.06	1.37	
11989.00	89.970	342.980	6402.14	4959.04	5414.91	669.36	1669602.79	14284840.47	39°20'15.042"N	80°53'48.394"W	5456.12	7.047	2.97	0.13	2.97	
12084.00	89.910	343.750	6402.24	5054.03	5505.93	642.17	1669575.60	14284931.45	39°20'15.942"N	80°53'48.739"W	5543.25	6.652	0.81	-0.06	0.81	
12179.00	89.970	343.770	6402.34	5149.00	5597.14	615.60	1669549.04	14285022.63	39°20'16.843"N	80°53'49.076"W	5630.89	6.276	0.07	0.06	0.06	
12273.00	90.000	341.740	6402.36	5243.00	5686.91	587.73	1669521.19	14285112.36	39°20'17.731"N	80°53'49.429"W	5717.20	5.900	2.16	0.03	-2.16	
12368.00	89.820	342.320	6402.51	5338.99	5775.23	558.12	1669491.58	14285203.64	39°20'18.634"N	80°53'49.805"W	5805.12	5.517	0.63	-0.19	0.60	
12463.00	90.250	345.340	6402.45	5432.95	5868.50	531.94	1669465.42	14285293.87	39°20'19.526"N	80°53'50.136"W	5892.56	5.179	3.25	0.46	3.21	
12558.00	90.580	349.000	6401.77	5527.81	5961.11	510.85	1669444.34	14285386.45	39°20'20.442"N	80°53'50.404"W	5982.96	4.898	3.87	0.35	3.85	
12652.00	90.340	351.590	6401.01	5620.70	6053.07	495.01	1669428.50	14285479.05	39°20'21.358"N	80°53'50.604"W	6073.96	4.675	2.77	-0.26	2.76	
12747.00	90.880	342.760	6400.16	5715.28	6146.29	473.94	1669407.44	14285571.55	39°20'22.272"N	80°53'50.871"W	6164.53	4.409	9.30	0.36	-9.29	

04/05/2019



# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'

Page 7 of 9



04/05/2019

REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #01
Operator	ANTERO RESOURCES CORPORATION	Well	Niley Unit 3H ST01
Area	Ritchie County, WV	Wellbore	Niley Unit 3H ST01 AWB
Field	Ritchie	Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD
Facility	Mulvay Pad		

WELLPATH DATA (178 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
ft	°	°	ft	ft	ft	ft	US ft	US ft	°	°	ft	°	ft/100ft	ft/100ft	ft/100ft	
12841.00	90.920	339.000	6398.85	5809.22	6235.08	443.16	1669376.67	14285660.30	39°20'23.150"N	80°53'51.261"W	6250.80	4.065	4.01	0.26	-4.00	
12936.00	90.850	340.160	6397.55	5904.09	6324.10	410.02	1669343.55	14285749.29	39°20'24.031"N	80°53'51.882"W	6337.37	3.710	1.25	-0.28	1.22	
13031.00	90.850	341.420	6396.47	5999.05	6413.80	378.76	1669312.30	14285838.96	39°20'24.918"N	80°53'52.078"W	6424.97	3.380	1.33	0.00	1.33	
13125.00	90.180	340.640	6395.79	6093.02	6502.89	348.21	1669281.76	14285927.81	39°20'25.796"N	80°53'52.466"W	6512.01	3.065	0.97	-0.50	-0.83	
13220.00	90.340	339.580	6395.36	6187.94	6592.02	315.88	1669249.45	14286017.11	39°20'26.680"N	80°53'52.876"W	6599.59	2.743	1.13	0.17	-1.12	
13315.00	90.120	340.270	6394.98	6282.85	6681.25	283.28	1669216.86	14286106.30	39°20'27.562"N	80°53'53.290"W	6687.25	2.428	0.76	-0.23	0.73	
13410.00	90.220	340.930	6394.70	6377.80	6770.85	251.72	1669185.31	14286195.87	39°20'28.448"N	80°53'53.690"W	6775.53	2.129	0.70	0.11	0.69	
13504.00	89.020	341.840	6395.17	6471.78	6859.93	221.72	1669155.32	14286284.91	39°20'29.329"N	80°53'54.071"W	6863.51	1.851	1.45	-0.19	0.97	
13599.00	89.020	343.050	6396.65	6566.77	6950.50	193.07	1669126.68	14286375.44	39°20'30.224"N	80°53'54.434"W	6953.18	1.591	1.29	-0.19	1.27	
13694.00	88.520	340.590	6398.69	6661.73	7040.72	163.44	1669097.06	14286465.63	39°20'31.116"N	80°53'54.810"W	7042.62	1.330	2.64	-0.53	-2.59	
13789.00	88.580	340.140	6401.09	6756.64	7130.17	131.53	1669065.17	14286555.04	39°20'32.001"N	80°53'55.215"W	7131.38	1.057	0.48	0.06	-0.47	
13885.00	87.940	339.570	6404.01	6852.50	7220.26	98.48	1669032.13	14286645.09	39°20'32.891"N	80°53'55.634"W	7220.93	0.781	0.89	-0.67	-0.59	
13980.00	89.140	342.180	6406.43	6947.43	7309.97	67.37	1669001.03	14286734.77	39°20'33.778"N	80°53'56.029"W	7310.29	0.528	3.02	1.26	2.75	
14075.00	89.170	343.530	6407.83	7042.41	7400.74	39.37	1668973.04	14286825.50	39°20'34.676"N	80°53'56.384"W	7400.85	0.305	1.42	0.03	1.42	
14170.00	89.660	343.610	6408.80	7137.39	7491.86	12.50	1668946.19	14286916.58	39°20'35.577"N	80°53'56.725"W	7491.87	0.096	0.52	0.52	0.08	
14264.00	89.720	339.970	6409.31	7231.37	7581.13	-16.87	1668916.83	14287005.82	39°20'36.459"N	80°53'57.097"W	7581.15	359.872	3.87	0.06	-3.87	
14359.00	89.600	336.350	6409.87	7326.09	7669.30	-52.21	1668881.51	14287093.95	39°20'37.331"N	80°53'57.546"W	7669.48	359.610	3.81	-0.13	-3.81	
14454.00	89.630	338.930	6410.51	7420.75	7757.15	-88.34	1668845.38	14287181.76	39°20'38.200"N	80°53'58.004"W	7757.65	359.348	2.72	0.03	2.72	
14548.00	90.030	341.830	6410.79	7514.68	7845.68	-119.30	1668813.84	14287270.26	39°20'39.075"N	80°53'58.405"W	7846.59	359.124	3.11	0.43	3.09	
14642.00	90.250	342.190	6410.56	7608.68	7935.08	-148.93	1668784.82	14287359.63	39°20'39.959"N	80°53'58.773"W	7936.48	358.925	0.45	0.23	0.38	
14737.00	90.220	342.540	6410.17	7703.68	8025.62	-177.71	1668756.05	14287450.13	39°20'40.854"N	80°53'59.138"W	8027.58	358.731	0.37	-0.03	0.37	
14832.00	90.090	343.510	6409.91	7798.67	8116.48	-205.45	1668728.32	14287540.95	39°20'41.753"N	80°53'59.490"W	8119.08	358.550	1.03	-0.14	1.02	
14927.00	90.150	343.460	6409.71	7893.65	8207.56	-232.46	1668701.33	14287631.99	39°20'42.653"N	80°53'59.832"W	8210.85	358.378	0.08	0.06	-0.05	
15022.00	90.180	344.790	6409.44	7988.61	8298.93	-258.44	1668675.36	14287723.33	39°20'43.556"N	80°54'00.162"W	8302.95	358.216	1.40	0.03	1.40	
15117.00	90.180	346.690	6409.14	8083.44	8391.00	-281.84	1668651.97	14287815.36	39°20'44.467"N	80°54'00.458"W	8395.73	358.076	2.00	0.00	2.00	
15212.00	90.150	349.220	6408.87	8177.99	8483.90	-301.66	1668632.15	14287908.23	39°20'45.385"N	80°54'00.709"W	8489.26	357.964	2.66	-0.03	2.66	
15265.00	90.090	350.670	6408.76	8230.53	8536.08	-310.92	1668622.90	14287960.39	39°20'45.901"N	80°54'00.826"W	8541.75	357.914	2.74	-0.11	2.74	
15290.00	90.090	350.670	6408.72	8255.27	8560.75	-314.97	1668618.85	14287985.05	39°20'46.145"N	80°54'00.878"W	8566.55	357.893	0.00	0.00	0.00	Projected MD at TD: 15290'





# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'

Page 8 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #01
ANTERO RESOURCES CORPORATION	Well	Niley Unit 3H ST01
Area	Wellbore	Niley Unit 3H ST01 AWB
Field	Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD
Facility		

## HOLE & CASING SECTIONS - Ref Wellbore: Niley Unit 3H ST01 AWB Ref Wellpath: Niley Unit 3H ST01 AWP Proj: 15290'

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	24.50	104.50	80.00	24.50	104.50	0.00	0.00	-0.17	-0.03
17.5in Open Hole	104.50	572.50	468.00	104.50	572.49	-0.17	-0.03	-2.12	-1.58
13.375in Casing Surface	24.50	572.50	548.00	24.50	572.49	0.00	0.00	-2.12	-1.58
12.25in Open Hole	572.50	2532.50	1960.00	572.49	2472.98	-2.12	-1.58	44.64	428.66
9.625in Casing Intermediate	24.50	2532.50	2508.00	24.50	2472.98	0.00	0.00	44.64	428.66
8.75in Open Hole	2532.50	5809.50	3277.00	2472.98	5396.94	44.64	428.66	205.52	1876.75
8.5in Open Hole	5809.50	15290.00	9480.50	5396.94	6408.72	205.52	1876.75	8560.75	-314.97
5.5in Casing Production	24.50	15290.00	15265.50	24.50	6408.72	0.00	0.00	8560.75	-314.97

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Niley Unit 3H POE - Rev-1	6384.00	736.12	2159.99	1671092.81	14280163.55	39°19'28.781"N	80°53'29.494"W	point
Niley Unit 3H BHL - Rev-2	6407.00	8537.34	-314.30	1668619.52	14287961.65	39°20'45.913"N	80°54'00.869"W	point
Niley Unit 3H LP Rev-1	6407.00	875.67	2115.72	1671048.57	14280303.05	39°19'30.161"N	80°53'30.055"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Niley Unit 3H ST01 AWB Ref Wellpath: Niley Unit 3H ST01 AWP Proj: 15290'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
24.50	5809.50	Gyrodata standard - Drop gyro or Multi-shot	
5809.50	15265.00	BHI AutoTrak Curve (Short)	Niley Unit 3H AWB
15265.00	15290.00	Blind Drilling (std)	Niley Unit 3H ST01 AWB



# Actual Wellpath Report

Niley Unit 3H ST01 AWP Proj: 15290'  
Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	Slot	Slot #01	
ANTERO RESOURCES CORPORATION			
Area: Ritchie County, WV	Well	Niley Unit 3H ST01	
Field: Ritchie	Wellbore	Niley Unit 3H ST01 AWB	
Facility: Mulvay Pad	Sidetrack from	Niley Unit 3H AWP Proj: 6565' at 5809.50 MD	

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-085-10252-0000            BHI Job #: 8562680            Rig: Frontier 22            Duration: 05/26/2017-05/28/2017            Gyrodatta MS Gyro &lt;8-3/4"&gt; (100'-6412')            BHI AT Curve &lt;8-1/2"&gt; (5809.5')(6013'-15265')            Sycamore: 6605' MD            Middlesex: 6761' MD            Burket: 6963' MD            Tully: 7052' MD            Marcellus POE: 7169' MD            Projected MD at TD: 15290'</p>