

# ANTERO RESOURCES CORPORATION

Location: Tyler County, WV  
 Slot: Slot #05  
 Field: Pheasant Unit 2H  
 Facility: Stonefly Pad Wellbore: Pheasant Unit 2H PWB

Projected MD at TD: 19265' : 6275.41ft TVD, 12024.08ft N, 3738.69ft W

Plot reference wellpath is Pheasant Unit 2H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 22 (RKB)	Scale: True distance
Frontier 22 (RKB) to Mean Sea Level: 1006.5 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #05): -982 feet	Created by: mccrenib on 2018-05-11
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERNUS_Defn

## Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Stonefly Pad	1662255.770	14314034.380	39°25'03.770"N	80°55'21.620"W
Slot	Local N (ft)	Local E (ft)	Grid North (US ft)	Grid East (US ft)
Slot #05	66.76	-19.68	14314101.113	14314101.113
Comment	Pheasant Unit 2H			
Frontier 22 (RKB) to Ground level (At Slot: Slot #05)	24.5ft			
Mean Sea Level to Ground level (At Slot: Slot #05)	-982ft			
Frontier 22 (RKB) to Mean Sea Level	1006.5ft			

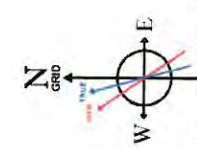
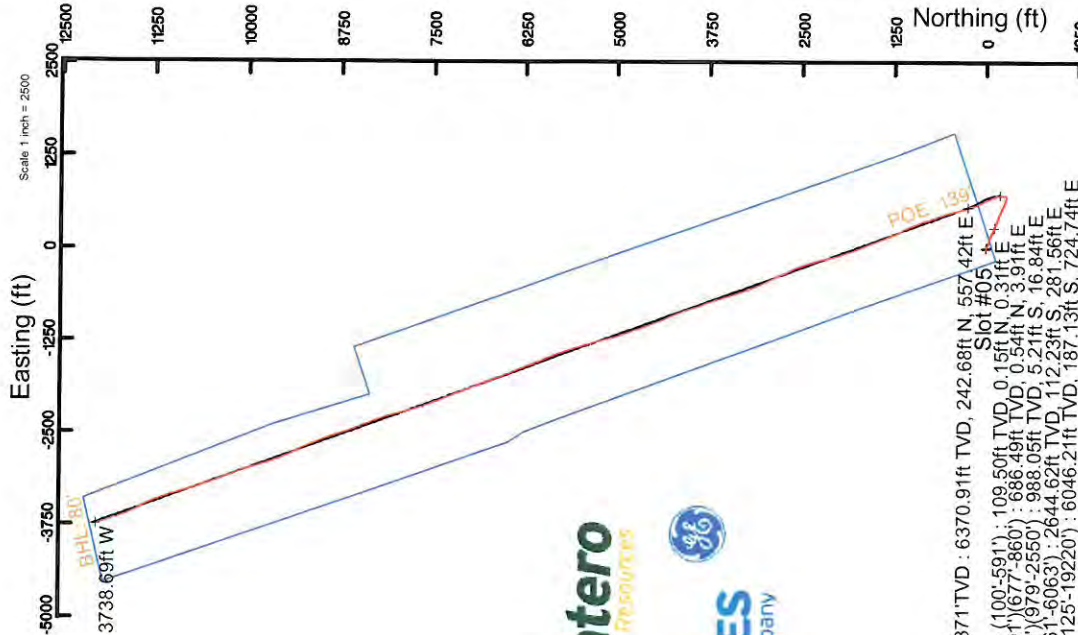
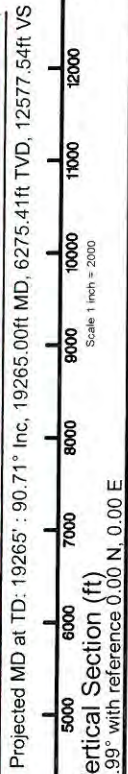
API: 47-095-02435-0000  
 BH Job #: 8989987  
 Rig: Frontier 22  
 Duration: 02/02/2018-2/5/2018



Slot	Well	Wellbore	Wellpath
Slot #05	Pheasant Unit 2H	Pheasant Unit 2H AWP	Pheasant Unit 2H AWP Proj: 19265
Slot #05	Pheasant Unit 2H	Pheasant Unit 2H PWB	Pheasant Unit 2H PWP Rev-A.0

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6072.50	26.830	2.490	6000.14	-212.29	724.54	9.31	-447.40
Proj. To Bottom	6145.30	33.800	0.960	6063.12	-175.48	725.96	9.61	-413.17
End of 3D Arc	6543.81	67.220	328.954	6316.52	104.54	628.39	10.24	-116.80
POE	6685.96	72.995	339.990	6365.00	224.98	571.13	8.35	15.96
Landing Pt.	6689.62	90.000	339.990	6395.00	413.54	502.46	8.35	216.64
BHL	19277.09	90.000	339.990	6395.00	12053.24	-3736.29	0.00	12604.12

BH AT Curve <8-1/2"> (6072.5)(6125'-19220') : 30.48° Inc, 6125.00ft MD, 6046.21ft TVD, -423.83ft VS  
 POE Marcellus: 6706°MD / 6371°TVD : 74.22° Inc, 6706.00ft MD, 6370.91ft TVD, -37.29ft VS



User specified Dip: 66.64° Field: 51925 nT  
 Magnetic North is 7.65 degrees West of True North (at 1/31/2018)  
 To correct azimuth from True to Grid subtract 0.05 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.70 degrees

04/05/2019



# Actual Wellpath Report

Pheasant Unit 2H AWP Proj: 19265'  
Page 1 of 12



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Pheasant Unit 2H
Field	Tyler	Wellbore	Pheasant Unit 2H AWB
Facility	Stonefly Pad		

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999601
Convergence at slot	0.05° East
Software System	WellArchitect® 5.1
User	Mccrerrib
Report Generated	5/11/2018 at 1:58:26 PM
Database/Source file	WA_MPL_EASTERNUS_Defm/Pheasant_Unit_2H_AWP_Proj_19265_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	66.76	-19.68	1662236.10	14314101.11	39°25'04.430"N	80°55'21.870"W
Facility Reference Pt			1662255.77	14314034.38	39°25'03.770"N	80°55'21.620"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 Ground Level at Slot (Slot #05)
	Section Origin
	Section Azimuth
	1006.50ft
	1006.50ft
	24.50ft
	N 0.00, E 0.00 ft
	339.99°

04/05/2019



# Actual Wellpath Report

Pheasant Unit 2H AWP Proj: 19265'

Page 2 of 12



REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Stoneyly Pad
Slot	Slot #05
Well	Pheasant Unit 2H
Wellbore	Pheasant Unit 2H AWB

WELLPATH DATA (229 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 (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
0.00†	0.000	63.980	0.00	0.00	0.00	0.00	1662236.10	14314101.11	39°25'04.430"N	80°55'21.870"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	63.980	24.50	0.00	0.00	0.00	1662236.10	14314101.11	39°25'04.430"N	80°55'21.870"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.460	63.980	109.50	0.04	0.15	0.31	1662236.41	14314101.26	39°25'04.431"N	80°55'21.866"W	0.34	63.980	0.54	0.54	75.27	Gyrodata MS Gyro <17-112'> (100-591)
209.50	0.500	88.940	209.50	-0.06	0.33	1.10	1662237.20	14314101.45	39°25'04.433"N	80°55'21.856"W	1.15	73.169	0.21	0.04	24.96	
309.50	0.450	85.570	309.49	-0.31	0.37	1.93	1662238.03	14314101.49	39°25'04.434"N	80°55'21.845"W	1.97	79.091	0.06	-0.09	-3.37	
409.50	0.330	73.030	409.49	-0.43	0.49	2.60	1662238.70	14314101.60	39°25'04.435"N	80°55'21.837"W	2.64	79.392	0.15	-0.12	-12.54	
509.50	0.130	68.460	509.49	-0.44	0.61	2.98	1662239.08	14314101.73	39°25'04.436"N	80°55'21.832"W	3.04	78.386	0.20	-0.20	-4.57	
600.50	0.340	83.950	600.49	-0.51	0.68	3.34	1662239.44	14314101.79	39°25'04.437"N	80°55'21.827"W	3.41	78.526	0.24	0.23	17.02	
686.50	0.470	118.590	686.49	-0.83	0.54	3.91	1662240.00	14314101.65	39°25'04.435"N	80°55'21.820"W	3.94	82.177	0.32	0.15	40.28	Gyrodata MS Gyro <12-114'> (591)(677-860)
776.50	1.480	120.390	776.47	-2.01	-0.23	5.23	1662241.33	14314100.89	39°25'04.428"N	80°55'21.803"W	5.24	92.492	1.12	1.12	2.00	
869.50	3.090	113.450	869.40	-4.65	-1.83	8.57	1662244.67	14314099.28	39°25'04.412"N	80°55'21.761"W	8.76	102.073	1.75	1.73	-7.46	
988.50	5.520	111.480	988.05	-10.65	-5.21	16.84	1662252.93	14314095.91	39°25'04.378"N	80°55'21.655"W	17.63	107.178	2.05	2.04	-1.66	WVFD EM <12-114'> (860)(979-2550)
1082.50	6.380	113.420	1081.54	-17.24	-8.94	25.84	1662261.93	14314092.18	39°25'04.341"N	80°55'21.541"W	27.34	109.079	0.94	0.91	2.06	
1176.50	7.240	112.350	1174.88	-24.82	-13.27	36.11	1662272.19	14314087.85	39°25'04.299"N	80°55'21.410"W	38.47	110.171	0.92	0.91	-1.14	
1271.50	7.700	109.600	1269.07	-32.91	-17.68	47.64	1662283.72	14314083.44	39°25'04.255"N	80°55'21.263"W	50.82	110.356	0.61	0.48	-2.88	
1365.50	8.490	106.260	1362.14	-41.03	-21.73	60.24	1662296.31	14314079.39	39°25'04.215"N	80°55'21.103"W	64.04	109.839	0.98	0.84	-3.55	
1460.50	9.050	108.370	1456.03	-49.82	-26.05	74.06	1662310.13	14314075.07	39°25'04.172"N	80°55'20.927"W	78.51	109.379	0.68	0.59	2.22	
1554.50	10.200	109.560	1548.70	-59.71	-31.17	88.92	1662324.98	14314069.96	39°25'04.121"N	80°55'20.737"W	94.22	109.316	1.24	1.22	1.27	
1649.50	10.630	113.000	1642.14	-71.05	-37.41	104.91	1662340.97	14314063.72	39°25'04.059"N	80°55'20.534"W	111.38	109.624	0.80	0.45	3.62	
1744.50	11.120	114.630	1735.43	-83.46	-44.65	121.30	1662357.35	14314056.48	39°25'03.988"N	80°55'20.325"W	129.26	110.207	0.61	0.52	1.72	
1839.50	11.250	113.350	1828.63	-96.26	-52.14	138.14	1662374.18	14314049.00	39°25'03.914"N	80°55'20.110"W	147.65	110.678	0.30	0.14	-1.35	
1934.50	11.540	113.380	1921.75	-109.15	-59.58	155.37	1662391.41	14314041.55	39°25'03.840"N	80°55'19.891"W	166.40	110.981	0.31	0.31	0.03	
2028.50	12.960	114.510	2013.61	-123.01	-67.69	173.61	1662409.64	14314033.45	39°25'03.759"N	80°55'19.659"W	186.34	111.302	1.55	1.53	1.20	
2122.50	13.180	116.420	2105.17	-138.18	-76.84	192.81	1662428.83	14314024.30	39°25'03.669"N	80°55'19.414"W	207.56	111.729	0.51	0.21	2.03	
2217.50	10.690	116.510	2198.11	-152.42	-85.60	210.40	1662446.41	14314015.55	39°25'03.582"N	80°55'19.190"W	227.14	112.138	2.62	-2.62	0.09	
2311.50	9.740	112.220	2290.62	-164.09	-92.49	225.56	1662461.57	14314008.66	39°25'03.514"N	80°55'18.997"W	243.79	112.297	1.29	-1.01	-4.56	
2405.50	10.970	110.100	2383.09	-175.20	-98.57	241.32	1662477.32	14314002.58	39°25'03.454"N	80°55'18.796"W	260.68	112.219	1.37	1.31	-2.26	
2500.50	9.650	110.080	2476.55	-186.15	-104.41	257.29	1662493.28	14313996.74	39°25'03.386"N	80°55'18.593"W	277.67	112.089	1.39	-1.39	-0.02	
2559.50	8.490	108.060	2534.81	-192.02	-107.46	266.07	1662502.06	14313993.69	39°25'03.366"N	80°55'18.481"W	286.95	111.993	2.04	-1.97	-3.42	
2670.50	8.300	106.130	2644.52	-201.80	-112.23	281.56	1662517.55	14313988.93	39°25'03.318"N	80°55'18.284"W	303.10	111.732	0.31	-0.17	-1.74	WVFD EM <8-3/4'> (2550)(2661-6063)

















# Actual Wellpath Report

Pheasant Unit 2H AWP Proj: 19265'  
Page 9 of 12



REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Stonefly Pad
Slot	Slot #05
Well	Pheasant Unit 2H
Wellbore	Pheasant Unit 2H AWB

WELLPATH DATA (229 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
17607.00	90.310	340.890	6292.67	10922.40	10471.28	-3165.68	1659071.69	14324568.19	39°26'47.947"N	80°56'02.109"W	10939.34	343.179	2.00	0.00	2.00	
17702.00	90.370	341.190	6292.11	11017.39	10561.12	-3196.55	1659040.83	14324657.99	39°26'48.836"N	80°56'02.501"W	11034.27	343.160	0.32	0.06	0.32	
17798.00	90.430	340.260	6291.44	11113.37	10651.74	-3228.24	1659009.16	14324748.57	39°26'49.731"N	80°56'02.904"W	11130.18	343.139	0.97	0.06	-0.97	
17893.00	90.400	341.910	6290.75	11208.35	10741.60	-3259.03	1658978.37	14324838.40	39°26'50.620"N	80°56'03.296"W	11225.12	343.122	1.74	-0.03	1.74	
17988.00	90.490	343.640	6290.01	11303.23	10832.33	-3287.16	1658950.26	14324929.10	39°26'51.517"N	80°56'03.654"W	11320.11	343.119	1.82	0.06	1.82	
18084.00	90.740	344.650	6288.98	11398.97	10924.68	-3313.39	1658924.04	14325021.40	39°26'52.430"N	80°56'03.987"W	11416.09	343.128	1.08	0.26	1.05	
18179.00	90.680	341.240	6287.80	11493.83	11015.48	-3341.24	1658896.20	14325112.17	39°26'53.327"N	80°56'04.342"W	11511.07	343.126	3.59	-0.06	-3.59	
18274.00	90.680	340.780	6286.68	11588.80	11105.30	-3372.16	1658865.30	14325201.96	39°26'54.215"N	80°56'04.735"W	11606.00	343.109	0.48	0.00	-0.48	
18369.00	90.680	340.460	6285.55	11683.79	11194.91	-3403.68	1658833.79	14325291.53	39°26'55.101"N	80°56'05.136"W	11700.90	343.089	0.34	0.00	-0.34	
18464.00	90.620	336.540	6284.47	11778.73	11283.28	-3438.49	1658798.99	14325379.86	39°26'55.975"N	80°56'05.579"W	11795.57	343.052	4.13	-0.06	-4.13	
18558.00	90.490	333.440	6283.56	11872.36	11368.45	-3478.22	1658759.27	14325465.00	39°26'56.817"N	80°56'06.084"W	11888.64	342.988	3.30	-0.14	-3.30	
18653.00	90.620	332.550	6282.64	11966.65	11453.09	-3521.35	1658716.16	14325549.60	39°26'57.654"N	80°56'06.633"W	11982.20	342.909	0.95	0.14	-0.94	
18747.00	90.580	334.500	6281.66	12060.04	11537.22	-3563.26	1658674.27	14325633.70	39°26'58.486"N	80°56'07.167"W	12074.94	342.837	2.07	-0.04	2.07	
18842.00	90.740	337.260	6280.56	12154.78	11623.91	-3602.07	1658635.47	14325720.36	39°26'59.343"N	80°56'07.661"W	12169.23	342.783	2.91	0.17	2.91	
18937.00	90.770	341.100	6279.31	12249.75	11712.68	-3635.83	1658601.73	14325809.09	39°27'00.220"N	80°56'08.090"W	12264.02	342.755	4.04	0.03	4.04	
19032.00	90.520	341.250	6278.24	12344.72	11802.60	-3666.48	1658571.09	14325898.97	39°27'01.109"N	80°56'08.480"W	12358.98	342.743	0.31	-0.26	0.16	
19126.00	90.770	341.100	6277.18	12438.69	11891.56	-3696.81	1658540.77	14325987.90	39°27'01.989"N	80°56'08.866"W	12452.94	342.731	0.31	0.27	-0.16	
19220.00	90.710	343.160	6275.97	12532.61	11981.01	-3725.65	1658511.94	14326077.32	39°27'02.873"N	80°56'09.233"W	12546.92	342.726	2.19	-0.06	2.19	
19265.00	90.710	343.160	6275.41	12577.54	12024.08	-3738.69	1658498.91	14326120.37	39°27'03.299"N	80°56'09.399"W	12591.91	342.728	0.00	0.00	0.00	Projected MD at TD: 19265'



# Actual Wellpath Report

Pheasant Unit 2H AWP Proj: 19265'  
Page 10 of 12



**REFERENCE WELLPATH IDENTIFICATION**

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WW	Well	Pheasant Unit 2H
Field	Tyler	Wellbore	Pheasant Unit 2H AWB
Facility	Stonefly Pad		

**HOLE & CASING SECTIONS - Ref Wellbore: Pheasant Unit 2H AWB Ref Wellpath: Pheasant Unit 2H AWP Proj: 19265'**

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	0.13	0.27
17.5in Open Hole	104.50	626.50	522.00	104.50	626.49	0.13	0.27	0.68	3.50
13.375in Casing Surface	24.50	626.50	602.00	24.50	626.49	0.00	0.00	0.68	3.50
12.25in Open Hole	626.50	2642.50	2016.00	626.49	2616.92	0.68	3.50	-111.09	277.67
9.625in Casing Intermediate	24.50	2642.50	2618.00	24.50	2616.92	0.00	0.00	-111.09	277.67
8.75in Open Hole	2642.50	6145.50	3503.00	2616.92	6063.72	-111.09	277.67	-176.50	724.23
8.5in Open Hole	6145.50	19265.00	13119.50	6063.72	6275.41	-176.50	724.23	12024.08	-3738.69
5.5in Casing Production	24.50	19265.00	19240.50	24.50	6275.41	0.00	0.00	12024.08	-3738.69

**TARGETS**

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Pheasant Unit 2H POE Rev-1	6365.00	224.98	571.13	1662807.00	14314326.00	39°25'06.649"N	80°55'14.590"W	point
Pheasant Unit 2H BHL Rev-3	6395.00	12053.23	-3736.29	1658501.31	14326149.51	39°27'03.587"N	80°56'09.368"W	point
Pheasant Unit 2H LP Rev-1	6395.00	413.54	502.46	1662738.36	14314514.49	39°25'08.513"N	80°55'15.463"W	point

04/05/2019



# Actual Wellpath Report

Pheasant Unit 2H AWP Proj: 19265'

Page 11 of 12



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Pheasant Unit 2H
Field	Tyler	Wellbore	Pheasant Unit 2H AWB
Facility	Stonefly Pad		

WELLPATH COMPOSITION - Ref Wellbore: Pheasant Unit 2H AWB Ref Wellpath: Pheasant Unit 2H AWP Proj: 19265'			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
24.50	600.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodatta MS Gyro <17-1/2">(100'-591')
600.50	869.50	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodatta MS Gyro <12-1/4">(591')(677'-860')
869.50	2559.50	ISCVSA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(860')(979'-2550')
2559.50	6072.50	ISCVSA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2550')(2661'-6063')
6072.50	19220.00	BHI Auto Trak Curve (Short)	05 BH AT Curve <8-1/2">(6072.5')(6125'-19220')
19220.00	19265.00	Blind Drilling (std)	Protection to bit
			Pheasant Unit 2H AWB
			Pheasant Unit 2H AWB
			Pheasant Unit 2H AWB
			Pheasant Unit 2H AWB
			Pheasant Unit 2H AWB
			Pheasant Unit 2H AWB

04/05/2019



# Actual Wellpath Report

Pheasant Unit 2H AWP Proj: 19265'

Page 12 of 12



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Tyler County, WV	Well	Pheasant Unit 2H
Field	Tyler	Wellbore	Pheasant Unit 2H AWB
Facility	Stonefly Pad		

COMMENTS
<p><b>Wellpath general comments</b></p> <p>API: 47-095-02435-0000</p> <p>BH Job #: 8989987</p> <p>Rig: Frontier 22</p> <p>Duration: 02/02/2018-2/5/2018</p> <p>Gyrodata MS Gyro &lt;17-1/2"&gt; (100'-591')</p> <p>Gyrodata MS Gyro &lt;12-1/4"&gt; (591')(677'-860')</p> <p>WFD EM &lt;12-1/4"&gt; (860')(979'-2550')</p> <p>WFD EM &lt;8-3/4"&gt; (2550')(2661'-6063')</p> <p>BH AT Curve &lt;8-1/2"&gt; (6072.5')(6125'-19220')</p> <p>Sycamore: 6158'MD / 6074'TVD</p> <p>Middlesex: 6381'MD / 6236'TVD</p> <p>Burket: 6559'MD / 6321'TVD</p> <p>Tully: 6631'MD / 6348'TVD</p> <p>POE Marcellus: 6706'MD / 6371'TVD</p> <p>Projected MD at TD: 19265'</p>

04/05/2019

5/11/2018