Schlumberger

Final Well Report

Well: MIP 3H ST01

Field: WV Monongalia County (NAD 83)

Rig: PATTERSON #254

Schlumberger,Default

Prepared For

Client: NORTHEAST NATURAL ENERGY LLC

Report Prepared By:	Ivan Kolar	Date:	23-Sep-2015
Quality Check By:		Date:	23-Sep-2015
Approved By:	Ziad Akkaoui	Date:	23-Sep-2015

Schlumberger

September 23, 2015

Northeast Natural Energy LLC

Re: Client	Northeast Natural Energy LLC
Well	MIP 3H ST01
Rig	Patterson 254
County	Monongalia, WV
Job #	15NEB1139

Please find enclosed a copy of the End of Well Report (EOWR) provided by our Directional Drilling Services from 09/17/2015 through 09/22/2015. This report consists of color planned vs. actual well drawings, proposed and actual surveys, daily drilling reports, BHAs, and a Pathfinder office support personnel sheet for the above referenced well.

Should your office require further information, please feel free to contact your sales representative, Matthew Shannon or myself.

Sincerely,

Ivan Kolar
Schlumberger Drilling Engineer
4600 Barry Court, Suite 200
Canonsburg, PA 15317
Phone 1 724 820 3349

Northeast Natural

Borehole:	Well:	Field:	Structure:
ST01	MIP 3H	WV Monongalia County (NAD 83)	Patterson 254

Gravity & Magnetic Parameters

Model:	HDGM 2015	Dip:	66.851°	Date:	15-Sep-2015
MagDec:	-9.548°	FS:	52522.053nT	Gravity FS:	999.345mgn (9.80665 Based)

Surface Location NAD83 West Virginia State Plane, Northern Zone, US Feet

Lat:	N 39 36 6.42	Northing:	401656.6ftUS	Grid Conv:	-0.3037°
Lon:	W 79 58 34.04	Easting:	1834344.9ftUS	Scale Fact:	0.99994083

Miscellaneous

Slot:	MIP 3H	TVD Ref:	KB(1082ft above MSL)
Plan:	Northeast Natural MIP 3H ST01 6312ft to Update		

Surface Location

Northing: 401656.6 Easting: 1834344.9 Latitude: N 39 36 6.42 Longitude: W 79 58 34.04 VSec Azimuth: 319.774

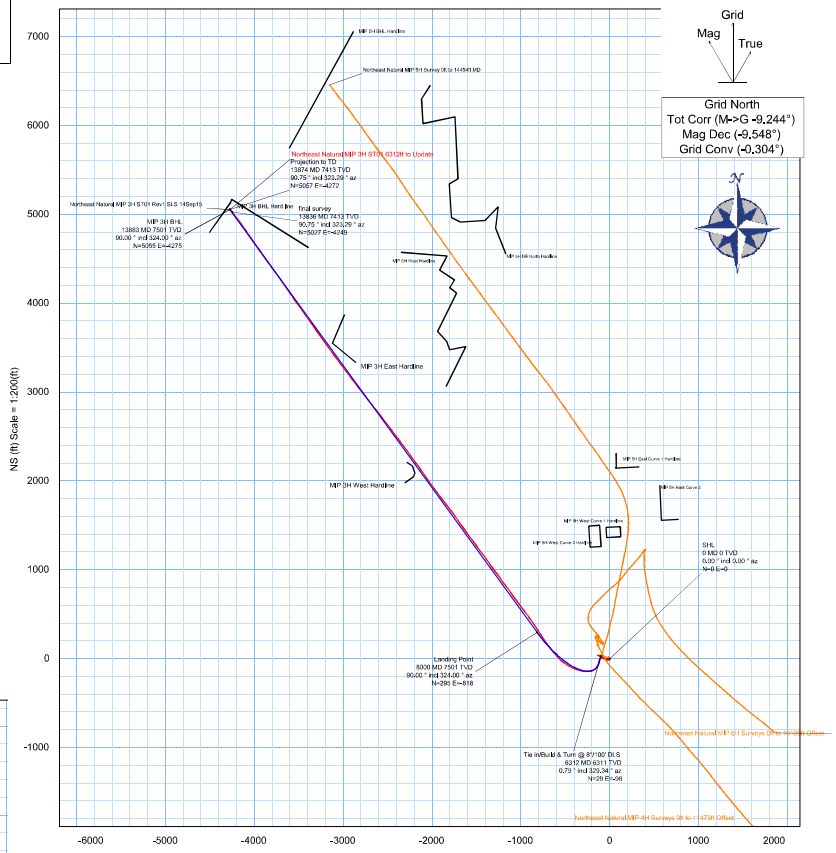
Target Description			Grid Coord					Local Coord	
Target Name	Shape	Dimension	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)
MIP 5H East Curve 2	Polyline	N/A	N 39 36 6.60	W 79 58 34.15	401674.90	1834336.90	1082.00	19.14	18.30	-8.00
MIP 5H BHL Hardline	Polyline	N/A	N 39 36 6.60	W 79 58 34.15	401674.90	1834336.90	1082.00	19.14	18.30	-8.00
MIP 5H West Curve 2 Hardline	Polyline	N/A	N 39 36 6.60	W 79 58 34.15	401674.90	1834336.90	1082.00	19.14	18.30	-8.00
MIP 5H NE North Hardline	Polyline	N/A	N 39 36 6.60	W 79 58 34.15	401674.90	1834336.90	1082.00	19.14	18.30	-8.00
MIP 5H West Curve 1 Hardline	Polyline	N/A	N 39 36 6.60	W 79 58 34.15	401674.90	1834336.90	1082.00	19.14	18.30	-8.00
MIP 5H West Hardline	Polyline	N/A	N 39 36 6.60	W 79 58 34.15	401674.90	1834336.90	1082.00	19.14	18.30	-8.00
MIP 3H West Hardline	Polyline	N/A	N 39 36 6.42	W 79 58 34.04	401656.60	1834344.90	1082.00	0.00	0.00	0.00
MIP 5H East Curve 1 Hardline	Polyline	N/A	N 39 36 6.60	W 79 58 34.15	401674.90	1834336.90	1082.00	19.14	18.30	-8.00
MIP 3H East Hardline	Polyline	N/A	N 39 36 6.42	W 79 58 34.04	401656.60	1834344.90	1082.00	0.00	0.00	0.00
MIP 3H BHL Hard line	Polyline	N/A	N 39 36 6.42	W 79 58 34.04	401656.60	1834344.90	1082.00	0.00	0.00	0.00

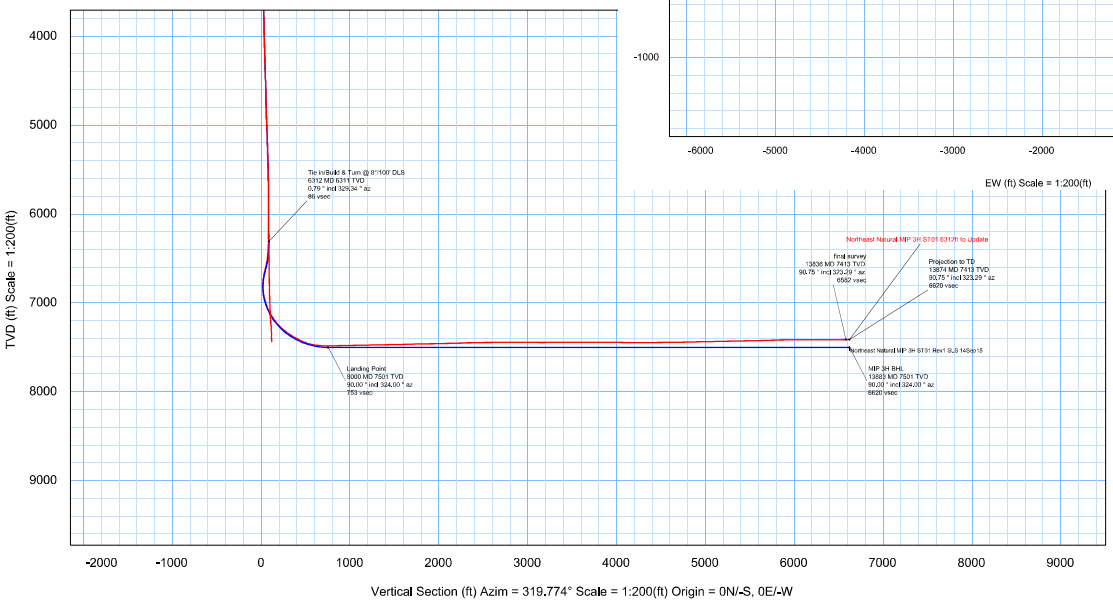
PART	Seq.	Survey Tool/ Survey Tool Code	VendorTool	Hole Size (in)	Casing Size (in)	MD From (ft)	MD To (ft)	Frequency	Survey Error (Low Side) (ft)	Survey Error (High Side) (ft)	Comments/ Contingency
1	1	SLB_NSG+MSHOT+Depth Only		17.5	13.375	0	24	Act Strs	0.73	0.73	
1	2	SLB_NSG+MSHOT		17.5	13.375	24	530	Act Strs	1.87	1.34	
1	3	SLB_NSG+MSHOT		12.25	9.625	530	1770	Act Strs	5.24	2.99	
1	4	SLB_NSG+MSHOT		8.75	5.5	1770	6212	Act Strs	13.44	2.85	
1	5	SLB_MWD+STD		8.75	5.5	6212	13836	Act Strs	178.55	12.2	
1	6	SLB_BLIND+TREND		8.75	5.5	13836	13874	Act Strs	183.97	15.55	

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie in/Build & Turn @ 8°/100' DLS	6212.00	0.02	357.71	6210.58	84.57	27.77	-98.12	
final survey	13836.00	90.75	323.29	7413.04	6582.28	5026.82	-4249.42	0.76
Projection to TD	13874.00	90.75	323.29	7412.54	6620.21	5057.28	-4272.13	0.00

Northeast Natural MIP 3H ST01 6312ft to Update
Northeast Natural MIP 4H Surveys 0ft to 7278 Offset - Plugged
Northeast Natural MIP 3H ST01 Rev1 SLB 14Sep15
Northeast Natural MIP 5H Survey 0ft to 14454ft MD
Northeast Natural MIP 3H Dyn-MWD 0ft to update
Northeast Natural MIP 5H Surveys 0ft to 10169ft Offset
Northeast Natural MIP 4H Surveys 0ft to 11473ft Offset
MIP 5H East Curve 2
MIP 5H BHL Hardline
MIP 5H West Curve 2 Hardline
MIP 5H NE North Hardline
MIP 5H West Curve 1 Hardline
MIP 5H West Hardline
MIP 3H West Hardline
MIP 5H East Curve 1 Hardline
MIP 3H East Hardline
MIP 3H BHL Hard line





CONTROLLED

Plan ref	Northeast Natural MIP 3H ST01 6312ft to Update
Drawing ref	
Copy number	of 3
Date	22-Sep-2015
Drawn By	S, Shannon
Copy number	for

Schlumberger

Northeast Natural MIP 3H ST01 0ft to 13874ft MD Survey Geodetic Report

northeast NATURAL ENERGY

(Def Survey)

Report Date:	September 22, 2015 - 07:13 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Northeast Natural	**Vertical Section Azimuth:**	319.774 ° (Grid North)
Field:	WV Monongalia County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Northeast Natural MIP Pad / MIP 3H	**TVD Reference Datum:**	KB
Well:	MIP 3H	**TVD Reference Elevation:**	1082.000 ft above MSL
Borehole:	ST01	**Seabed / Ground Elevation:**	1058.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	-9.548 °
Survey Name:	Northeast Natural MIP 3H ST01 6212ft to 13874ft MD	**Total Gravity Field Strength:**	999.3447mgn (9.80665 Based)
Survey Date:	September 15, 2015	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	212.053 ° / 6998.604 ft / 6.440 / 0.935	**Total Magnetic Field Strength:**	52522.053 nT
Coordinate Reference System:	NAD83 West Virginia State Plane, Northern Zone, US Feet	**Magnetic Dip Angle:**	66.851 °
Location Lat / Long:	N 39° 36' 6.42007", W 79° 58' 34.04266"	**Declination Date:**	September 15, 2015
Location Grid N/E Y/X:	N 401656.600 ftUS, E 1834344.900 ftUS	**Magnetic Declination Model:**	HDGM 2015
CRS Grid Convergence Angle:	-0.3037 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99994083	**Grid Convergence Used:**	-0.3037 °
Version / Patch:	2.7.1043.0	**Total Corr Mag North->Grid North:**	-9.2445 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	-1082.00	0.00	0.00	0.00	N/A	N/A	N/A	401656.60	1834344.90	N 39 36 6.42	W 79 58 34.04
	112.00	0.42	156.90	112.00	-970.00	-0.39	-0.38	0.16	0.38	0.38	0.00	401656.22	1834345.06	N 39 36 6.42	W 79 58 34.04
	212.00	0.63	185.61	211.99	-870.01	-1.13	-1.26	0.25	0.33	0.21	28.71	401655.34	1834345.15	N 39 36 6.41	W 79 58 34.04
	312.00	0.69	182.45	311.99	-770.01	-1.95	-2.41	0.17	0.07	0.06	-3.16	401654.19	1834345.07	N 39 36 6.40	W 79 58 34.04
	412.00	0.88	231.58	411.98	-670.02	-2.37	-3.49	-0.46	0.68	0.19	49.13	401653.11	1834344.44	N 39 36 6.39	W 79 58 34.05
	512.00	0.28	276.25	511.97	-570.03	-2.17	-3.94	-1.30	0.71	-0.60	44.67	401652.66	1834343.60	N 39 36 6.38	W 79 58 34.06
	612.00	0.29	271.92	611.97	-470.03	-1.82	-3.90	-1.80	0.02	0.01	-4.33	401652.70	1834343.10	N 39 36 6.38	W 79 58 34.07
	712.00	0.44	270.09	711.97	-370.03	-1.40	-3.90	-2.43	0.15	0.15	-1.83	401652.70	1834342.47	N 39 36 6.38	W 79 58 34.07
	812.00	0.45	262.83	811.97	-270.03	-0.94	-3.94	-3.21	0.06	0.01	-7.26	401652.66	1834341.69	N 39 36 6.38	W 79 58 34.08
	912.00	0.41	227.92	911.97	-170.03	-0.74	-4.23	-3.86	0.26	-0.04	-34.91	401652.37	1834341.04	N 39 36 6.38	W 79 58 34.09
	1012.00	0.63	235.53	1011.96	-70.04	-0.69	-4.78	-4.58	0.23	0.22	7.61	401651.82	1834340.32	N 39 36 6.37	W 79 58 34.10
	1112.00	0.82	250.18	1111.95	29.95	-0.39	-5.34	-5.71	0.26	0.19	14.65	401651.26	1834339.19	N 39 36 6.37	W 79 58 34.12
	1212.00	0.94	258.21	1211.94	129.94	0.25	-5.75	-7.18	0.17	0.12	8.03	401650.85	1834337.72	N 39 36 6.36	W 79 58 34.13
	1312.00	1.08	248.39	1311.93	229.93	0.94	-6.26	-8.86	0.22	0.14	-9.82	401650.34	1834336.04	N 39 36 6.36	W 79 58 34.16
	1412.00	1.12	246.63	1411.91	329.91	1.53	-7.00	-10.64	0.05	0.04	-1.76	401649.60	1834334.27	N 39 36 6.35	W 79 58 34.18
	1512.00	1.14	243.23	1511.89	429.89	2.04	-7.83	-12.42	0.07	0.02	-3.40	401648.77	1834332.48	N 39 36 6.34	W 79 58 34.20
	1612.00	1.12	216.81	1611.87	529.87	2.05	-9.06	-13.89	0.52	-0.02	-26.42	401647.54	1834331.01	N 39 36 6.33	W 79 58 34.22
	1712.00	0.67	208.16	1711.86	629.86	1.62	-10.36	-14.76	0.47	-0.45	-8.65	401646.24	1834330.14	N 39 36 6.32	W 79 58 34.23
	1812.00	0.72	248.96	1811.85	729.85	1.61	-11.10	-15.62	0.49	0.05	40.80	401645.50	1834329.28	N 39 36 6.31	W 79 58 34.24
	1912.00	0.70	221.83	1911.84	829.84	1.73	-11.78	-16.61	0.33	-0.02	-27.13	401644.82	1834328.29	N 39 36 6.30	W 79 58 34.25
	2012.00	0.45	231.01	2011.84	929.84	1.66	-12.49	-17.32	0.27	-0.25	9.18	401644.12	1834327.58	N 39 36 6.30	W 79 58 34.26
	2112.00	0.39	257.87	2111.84	1029.84	1.82	-12.80	-17.96	0.20	-0.06	26.86	401643.80	1834326.94	N 39 36 6.29	W 79 58 34.27
	2212.00	0.38	279.40	2211.83	1129.83	2.24	-12.82	-18.62	0.14	-0.01	21.53	401643.78	1834326.28	N 39 36 6.29	W 79 58 34.28
	2312.00	0.83	288.12	2311.83	1229.83	3.11	-12.54	-19.64	0.46	0.45	8.72	401644.06	1834325.26	N 39 36 6.30	W 79 58 34.29
	2412.00	1.12	285.37	2411.81	1329.81	4.53	-12.06	-21.27	0.29	0.29	-2.75	401644.54	1834323.63	N 39 36 6.30	W 79 58 34.31
	2512.00	0.95	283.79	2511.80	1429.80	6.01	-11.60	-23.02	0.17	-0.17	-1.58	401645.00	1834321.88	N 39 36 6.30	W 79 58 34.34
	2612.00	0.94	287.25	2611.78	1529.78	7.37	-11.16	-24.61	0.06	-0.01	3.46	401645.44	1834320.30	N 39 36 6.31	W 79 58 34.36
	2712.00	1.09	300.82	2711.77	1629.77	8.96	-10.43	-26.21	0.28	0.15	13.57	401646.17	1834318.70	N 39 36 6.32	W 79 58 34.38
	2812.00	1.20	282.59	2811.75	1729.75	10.69	-9.71	-28.04	0.38	0.11	-18.23	401646.89	1834316.86	N 39 36 6.32	W 79 58 34.40
	2912.00	1.33	286.36	2911.72	1829.72	12.50	-9.16	-30.18	0.15	0.13	3.77	401647.44	1834314.72	N 39 36 6.33	W 79 58 34.43
	3012.00	1.39	289.94	3011.70	1929.70	14.52	-8.42	-32.43	0.10	0.06	3.58	401648.18	1834312.47	N 39 36 6.34	W 79 58 34.46
	3112.00	1.47	266.38	3111.66	2029.66	16.33	-8.09	-34.85	0.59	0.08	-23.56	401648.51	1834310.05	N 39 36 6.34	W 79 58 34.49
	3212.00	1.31	297.88	3211.64	2129.64	18.16	-7.63	-37.14	0.77	-0.16	31.50	401648.97	1834307.76	N 39 36 6.34	W 79 58 34.52
	3312.00	1.57	286.93	3311.61	2229.61	20.37	-6.70	-39.47	0.38	0.26	-10.95	401649.90	1834305.44	N 39 36 6.35	W 79 58 34.55
	3412.00	1.22	288.22	3411.58	2329.58	22.43	-5.97	-41.79	0.35	-0.35	1.29	401650.63	1834303.12	N 39 36 6.36	W 79 58 34.58
	3512.00	1.43	294.24	3511.55	2429.55	24.46	-5.12	-43.94	0.25	0.21	6.02	401651.48	1834300.97	N 39 36 6.37	W 79 58 34.60
	3612.00	1.63	293.51	3611.51	2529.51	26.86	-4.04	-46.38	0.20	0.20	-0.73	401652.56	1834298.53	N 39 36 6.38	W 79 58 34.63
	3712.00	1.30	286.90	3711.48	2629.48	29.09	-3.15	-48.77	0.37	-0.33	-6.61	401653.45	1834296.14	N 39 36 6.39	W 79 58 34.67
	3812.00	1.26	285.87	3811.46	2729.46	30.96	-2.51	-50.91	0.05	-0.04	-1.03	401654.09	1834293.99	N 39 36 6.39	W 79 58 34.69
	3912.00	1.45	299.91	3911.43	2829.43	33.06	-1.58	-53.06	0.38	0.19	14.04	401655.02	1834291.84	N 39 36 6.40	W 79 58 34.72
	4012.00	1.62	301.18	4011.39	2929.39	35.59	-0.22	-55.37	0.17	0.17	1.27	401656.38	1834289.53	N 39 36 6.41	W 79 58 34.75
	4112.00	1.35	301.72	4111.36	3029.36	38.05	1.13	-57.58	0.27	-0.27	0.54	401657.73	1834287.32	N 39 36 6.43	W 79 58 34.78
	4212.00	1.83	295.88	4211.32	3129.32	40.63	2.45	-60.02	0.51	0.48	-5.84	401659.05	1834284.88	N 39 36 6.44	W 79 58 34.81
	4312.00	1.81	297.96	4311.27	3229.27	43.56	3.88	-62.85	0.07	-0.02	2.08	401660.48	1834282.05	N 39 36 6.46	W 79 58 34.85
	4412.00	1.87	293.98	4411.22	3329.22	46.49	5.29	-65.74	0.14	0.06	-3.98	401661.89	1834279.17	N 39 36 6.47	W 79 58 34.88
	4512.00	1.95	292.56	4511.16	3429.16	49.47	6.60	-68.80	0.09	0.08	-1.42	401663.20	1834276.10	N 39 36 6.48	W 79 58 34.92
	4612.00	1.96	286.72	4611.10	3529.10	52.42	7.75	-72.01	0.20	0.01	-5.84	401664.35	1834272.90	N 39 36 6.49	W 79 58 34.96
	4712.00	1.69	281.17	4711.05	3629.05	55.00	8.53	-75.09	0.32	-0.27	-5.55	401665.13	1834269.81	N 39 36 6.50	W 79 58 35.00
	4812.00	1.84	279.39	4811.01	3729.01	57.38	9.07	-78.12	0.16	0.15	-1.78	401665.67	1834266.78	N 39 36 6.51	W 79 58 35.04
	4912.00	1.90	291.08	4910.95	3828.95	60.06	9.93	-81.25	0.39	0.06	11.69	401666.53	1834263.65	N 39 36 6.51	W 79 58 35.08
	5012.00	2.30	301.03	5010.89	3928.89	63.41	11.56	-84.52	0.54	0.40	9.95	401668.16	1834260.38	N 39 36 6.53	W 79 58 35.12
	5112.00	2.25	306.39	5110.81	4028.81	67.22	13.76	-87.82	0.22	-0.05	5.36	401670.36	1834257.09	N 39 36 6.55	W 79 58 35.17
	5212.00	1.88	304.40	5210.74	4128.74	70.71	15.85	-90.75	0.38	-0.37	-1.99	401672.45	1834254.15	N 39 36 6.57	W 79 58 35.20
	5312.00	1.49	305.76	5310.70	4228.70	73.56	17.54	-93.16	0.39	-0.39	1.36	401674.14	1834251.74	N 39 36 6.59	W 79 58 35.23
	5412.00	1.57	317.94	5410.66	4328.66	76.19	19.32	-95.14	0.33	0.08	12.18	401675.92	1834249.77	N 39 36 6.61	W 79 58 35.26
	5512.00	1.42	317.22	5510.63	4428.63	78.79	21.24	-96.89	0.15	-0.15	-0.72	401677.84	1834248.01	N 39 36 6.62	W 79 58 35.28
	5612.00	1.12	333.06	5610.60	4528.60	80.98	23.02	-98.18	0.46	-0.30	15.84	401679.62	1834246.73	N 39 36 6.64	W 79 58 35.30
	5712.00	0.52	323.22	5710.59	4628.59	82.39	24.26	-98.89	0.61	-0.60	-9.84	401680.86	1834246.01	N 39 36 6.65	W 79 58 35.31
	5812.00	0.72	2.11	5810.59	4728.59	83.30	25.25	-99.14	0.45	0.20	38.89	401681.85	1834245.76	N 39 36 6.66	W 79 58 35.31
	5912.00	0.51	60.49	5910.58	4828.58	83.69	26.10	-98.73	0.63	-0.21	58.38	401682.69	1834246.17	N 39 36 6.67	W 79 58 35.31
	6012.00	0.32	13.28	6010.58	4928.58	83.77	26.59	-98.28	0.38	-0.19	-47.21	401683.19	1834246.63	N 39 36 6.68	W 79 58 35.30
	6112.00	0.27	14.02	6110.58	5028.58	84.07	27.09	-98.16	0.05	-0.05	0.74	401683.69	1834246.75	N 39 36 6.68	W 79 58 35.30
Tie in/Build & Turn @ 8°/100' DLS	6212.00	0.52	357.71	6210.58	5128.58	84.57	27.77	-98.12	0.27	0.25	-16.31	401684.37	1834246.79	N 39 36 6.69	W 79 58 35.30
	6259.00	1.32	179.82	6257.57	5175.57	84.32	27.44	-98.13	3.91	1.70	-378.49	401684.04	1834246.78	N 39 36 6.69	W 79 58 35.30
	6355.00	9.41	200.86	6353.08	5271.08	79.67	18.99	-100.92	8.53	8.43	21.92	401675.59	1834243.98	N 39 36 6.60	W 79 58 35.33
	6450.00	10.38	213.06	6446.67	5364.67	73.46	4.56	-108.36	2.43	1.02	12.84	401661.16	1834236.55	N 39 36 6.46	W 79 58 35.43
	6544.00	17.24	195.08	6537.94	5455.94	63.08	-16.02	-116.61	8.53	7.30	-19.13	401640.58	1834228.29	N 39 36 6.26	W 79 58 35.53
	6639.00	21.28	186.82	6627.62	5545.62	43.30	-46.75	-122.33	5.12	4.25	-8.69	401609.85	1834222.58	N 39 36 5.95	W 79 58 35.60
	6733.00	19.43	208.22	6715.87	5633.87	25.91	-77.51	-131.76	8.11	-1.97	22.77	401579.09	1834213.15	N 39 36 5.65	W 79 58 35.72
	6828.00	23.30	227.97	6804.44	5722.44	19.50	-104.06	-153.22	8.55	4.07	20.79	401552.55	1834191.69	N 39 36 5.38	W 79 58 35.99
	6922.00	27.44	243.12	6889.45	5807.45	23.92	-126.33	-186.40	8.16	4.40	16.12	401530.28	1834158.51	N 39 36 5.16	W 79 58 36.42
	7017.00	29.02	262.98	6973.33	5891.33	41.64	-139.07	-228.89	9.99	1.66	20.91	401517.54	1834116.02	N 39 36 5.03	W 79 58 36.96
	7111.00	31.22	272.68	7054.68	5972.68	70.73	-140.72	-275.89	5.68	2.34	10.32	401515.89	1834069.03	N 39 36 5.01	W 79 58 37.56
	7206.00	36.32	281.48	7133.68	6051.68	109.62	-133.96	-328.12	7.43	5.37	9.26	401522.65	1834016.80	N 39 36 5.08	W 79 58 38.23
	7302.00	40.89	291.21	7208.75	6126.75	159.60	-116.91	-385.36	7.90	4.76	10.14	401539.70	1833959.56	N 39 36 5.24	W 79 58 38.96
	7396.00	48.36	296.42	7275.62	6193.62	218.98	-90.10	-445.60	8.84	7.95	5.54	401566.50	1833899.32	N 39 36 5.51	W 79 58 39.73
	7491.00	54.69	305.18	7334.77	6252.77	289.23	-51.89	-509.22	9.81	6.66	9.22	401604.71	1833835.71	N 39 36 5.88	W 79 58 40.54
	7586.00	60.67	315.50	7385.64	6303.64	368.26	0.12	-570.10	11.12	6.29	10.86	401656.72	1833774.84	N 39 36 6.39	W 79 58 41.33
	7680.00	65.42	320.01	7428.25	6346.25	451.95	62.16	-626.34	6.62	5.05	4.80	401718.75	1833718.60	N 39 36 7.00	W 79 58 42.05
	7776.00	74.39	322.89	7461.21	6379.21	541.96	132.62	-682.41	9.76	9.34	3.00	401789.22	1833662.53	N 39 36 7.69	W 79 58 42.77
	7871.00	84.42	325.25	7478.66	6396.66	634.95	208.15	-737.10	10.84	10.56	2.48	401864.74	1833607.84	N 39 36 8.44	W 79 58 43.47
	7966.00	89.16	327.68	7483.97	6401.97	729.12	287.19	-789.48	5.60	4.99	2.56	401943.77	1833555.47	N 39 36 9.22	W 79 58 44.15
	8061.00	91.71	325.82	7483.25	6401.25	823.40	366.63	-841.56	3.32	2.68	-1.96	402023.20	1833503.39	N 39 36 10.00	W 79 58 44.82
	8156.00	91.01	324.72	7481.00	6399.00	917.94	444.68	-895.67	1.37	-0.74	-1.16	402101.25	1833449.29	N 39 36 10.77	W 79 58 45.52
	8251.00	91.54	322.60	7478.88	6396.88	1012.69	521.18	-951.94	2.30	0.56	-2.23	402177.75	1833393.01	N 39 36 11.52	W 79 58 46.24

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	8346.00	90.66	323.35	7477.06	6395.06	1107.52	597.01	-1009.14	1.22	-0.93	0.79	402253.57	1833335.82	N 39 36 12.27	W 79 58 46.98
	8441.00	91.28	324.41	7475.45	6393.45	1202.26	673.73	-1065.13	1.29	0.65	1.12	402330.29	1833279.84	N 39 36 13.02	W 79 58 47.70
	8535.00	91.10	324.27	7473.50	6391.50	1295.94	750.09	-1119.92	0.24	-0.19	-0.15	402406.65	1833225.05	N 39 36 13.77	W 79 58 48.40
	8630.00	91.28	323.32	7471.53	6389.53	1390.69	826.73	-1176.02	1.02	0.19	-1.00	402483.28	1833168.95	N 39 36 14.53	W 79 58 49.12
	8725.00	90.92	323.60	7469.70	6387.70	1485.47	903.04	-1232.57	0.48	-0.38	0.29	402559.59	1833112.41	N 39 36 15.28	W 79 58 49.85
	8819.00	91.01	324.20	7468.12	6386.12	1579.22	978.98	-1287.95	0.65	0.10	0.64	402635.52	1833057.03	N 39 36 16.03	W 79 58 50.56
	8913.00	92.15	324.34	7465.53	6383.53	1672.89	1055.26	-1342.82	1.22	1.21	0.15	402711.80	1833002.17	N 39 36 16.78	W 79 58 51.27
	9008.00	91.28	324.06	7462.69	6380.69	1767.56	1132.28	-1398.36	0.96	-0.92	-0.29	402788.81	1832946.62	N 39 36 17.54	W 79 58 51.98
	9101.00	90.48	322.17	7461.26	6379.26	1860.39	1206.65	-1454.17	2.21	-0.86	-2.03	402863.17	1832890.82	N 39 36 18.27	W 79 58 52.70
	9196.00	90.92	324.34	7460.10	6378.10	1955.20	1282.76	-1511.00	2.33	0.46	2.28	402939.28	1832833.99	N 39 36 19.02	W 79 58 53.43
	9291.00	91.71	323.86	7457.92	6375.92	2049.90	1359.70	-1566.69	0.97	0.83	-0.51	403016.21	1832778.31	N 39 36 19.78	W 79 58 54.15
	9386.00	91.45	323.89	7455.30	6373.30	2144.63	1436.40	-1622.67	0.28	-0.27	0.03	403092.91	1832722.32	N 39 36 20.53	W 79 58 54.87
	9480.00	91.63	324.29	7452.77	6370.77	2238.32	1512.51	-1677.79	0.47	0.19	0.43	403169.01	1832667.22	N 39 36 21.28	W 79 58 55.58
	9575.00	91.80	324.90	7449.93	6367.93	2332.95	1589.90	-1732.80	0.67	0.18	0.64	403246.41	1832612.21	N 39 36 22.04	W 79 58 56.29
	9670.00	90.84	322.95	7447.74	6365.74	2427.67	1666.66	-1788.72	2.29	-1.01	-2.05	403323.16	1832556.29	N 39 36 22.80	W 79 58 57.01
	9765.00	90.57	322.42	7446.57	6364.57	2522.54	1742.21	-1846.31	0.63	-0.28	-0.56	403398.70	1832498.71	N 39 36 23.54	W 79 58 57.75
	9860.00	90.92	322.92	7445.33	6363.33	2617.41	1817.74	-1903.91	0.64	0.37	0.53	403474.23	1832441.11	N 39 36 24.28	W 79 58 58.49
	9954.00	90.13	322.97	7444.47	6362.47	2711.26	1892.76	-1960.55	0.84	-0.84	0.05	403549.24	1832384.47	N 39 36 25.02	W 79 58 59.22
	10049.00	90.22	324.03	7444.18	6362.18	2806.05	1969.12	-2017.06	1.12	0.09	1.12	403625.60	1832327.97	N 39 36 25.77	W 79 58 59.95
	10143.00	89.52	325.14	7444.40	6362.40	2899.72	2045.73	-2071.53	1.40	-0.74	1.18	403702.20	1832273.50	N 39 36 26.53	W 79 59 0.65
	10238.00	90.13	324.89	7444.69	6362.69	2994.32	2123.56	-2126.00	0.69	0.64	-0.26	403780.03	1832219.03	N 39 36 27.29	W 79 59 1.35
	10332.00	89.08	324.25	7445.33	6363.33	3087.99	2200.15	-2180.49	1.31	-1.12	-0.68	403856.62	1832164.55	N 39 36 28.05	W 79 59 2.05
	10426.00	90.40	323.91	7445.76	6363.76	3181.72	2276.27	-2235.63	1.45	1.40	-0.36	403932.73	1832109.41	N 39 36 28.80	W 79 59 2.76
	10521.00	90.04	323.18	7445.40	6363.40	3276.51	2352.68	-2292.08	0.86	-0.38	-0.77	404009.14	1832052.96	N 39 36 29.55	W 79 59 3.49
	10616.00	90.22	322.93	7445.18	6363.18	3371.36	2428.61	-2349.18	0.32	0.19	-0.26	404085.06	1831995.87	N 39 36 30.30	W 79 59 4.22
	10710.00	90.13	323.54	7444.89	6362.89	3465.19	2503.91	-2405.44	0.66	-0.10	0.65	404160.36	1831939.61	N 39 36 31.04	W 79 59 4.95
	10805.00	90.04	323.20	7444.75	6362.75	3560.00	2580.15	-2462.12	0.37	-0.09	-0.36	404236.59	1831882.93	N 39 36 31.79	W 79 59 5.68
	10899.00	90.40	322.42	7444.39	6362.39	3653.87	2655.03	-2518.94	0.91	0.38	-0.83	404311.47	1831826.12	N 39 36 32.53	W 79 59 6.41
	10993.00	89.78	322.35	7444.24	6362.24	3747.77	2729.49	-2576.31	0.66	-0.66	-0.07	404385.92	1831768.75	N 39 36 33.26	W 79 59 7.14
	11088.00	90.31	321.45	7444.17	6362.17	3842.70	2804.25	-2634.93	1.10	0.56	-0.95	404460.68	1831710.13	N 39 36 33.99	W 79 59 7.90
	11183.00	89.43	321.53	7444.38	6362.38	3937.66	2878.59	-2694.08	0.93	-0.93	0.08	404535.01	1831650.98	N 39 36 34.73	W 79 59 8.66
	11277.00	88.99	321.68	7445.68	6363.68	4031.60	2952.25	-2752.46	0.49	-0.47	0.16	404608.67	1831592.61	N 39 36 35.45	W 79 59 9.41
	11372.00	88.99	322.59	7447.36	6365.36	4126.50	3027.24	-2810.76	0.96	0.00	0.96	404683.65	1831534.31	N 39 36 36.19	W 79 59 10.16
	11466.00	89.43	323.04	7448.65	6366.65	4220.36	3102.12	-2867.56	0.67	0.47	0.48	404758.53	1831477.51	N 39 36 36.93	W 79 59 10.89
	11561.00	90.84	323.22	7448.43	6366.43	4315.20	3178.12	-2924.56	1.50	1.48	0.19	404834.52	1831420.52	N 39 36 37.67	W 79 59 11.63
	11656.00	90.57	322.73	7447.26	6365.26	4410.04	3253.96	-2981.76	0.59	-0.28	-0.52	404910.36	1831363.32	N 39 36 38.42	W 79 59 12.36
	11751.00	90.84	322.39	7446.09	6364.09	4504.92	3329.38	-3039.51	0.46	0.28	-0.36	404985.77	1831305.57	N 39 36 39.16	W 79 59 13.10
	11845.00	90.48	323.37	7445.01	6363.01	4598.77	3404.33	-3096.24	1.11	-0.38	1.04	405060.72	1831248.85	N 39 36 39.90	W 79 59 13.83
	11940.00	91.45	324.81	7443.41	6361.41	4693.49	3481.26	-3151.95	1.83	1.02	1.52	405137.64	1831193.15	N 39 36 40.66	W 79 59 14.55
	12034.00	91.10	324.90	7441.32	6359.32	4787.10	3558.10	-3206.04	0.38	-0.37	0.10	405214.48	1831139.05	N 39 36 41.41	W 79 59 15.25
	12129.00	91.28	324.96	7439.34	6357.34	4881.69	3635.84	-3260.62	0.20	0.19	0.06	405292.21	1831084.48	N 39 36 42.18	W 79 59 15.95
	12224.00	90.92	324.68	7437.52	6355.52	4976.30	3713.47	-3315.34	0.48	-0.38	-0.29	405369.84	1831029.76	N 39 36 42.94	W 79 59 16.66
	12319.00	91.28	324.72	7435.69	6353.69	5070.94	3790.99	-3370.23	0.38	0.38	0.04	405447.36	1830974.88	N 39 36 43.71	W 79 59 17.36
	12413.00	91.28	324.55	7433.59	6351.59	5164.57	3867.62	-3424.62	0.18	0.00	-0.18	405523.99	1830920.49	N 39 36 44.46	W 79 59 18.06
	12508.00	91.01	324.35	7431.70	6349.70	5259.24	3944.90	-3479.84	0.35	-0.28	-0.21	405601.26	1830865.27	N 39 36 45.22	W 79 59 18.77
	12603.00	91.36	324.98	7429.73	6347.73	5353.87	4022.38	-3534.77	0.76	0.37	0.66	405678.74	1830810.34	N 39 36 45.99	W 79 59 19.48
	12697.00	91.28	324.43	7427.57	6345.57	5447.50	4099.08	-3589.07	0.59	-0.09	-0.59	405755.43	1830756.05	N 39 36 46.74	W 79 59 20.18
	12792.00	91.19	325.29	7425.52	6343.52	5542.10	4176.75	-3643.74	0.91	-0.09	0.91	405833.10	1830701.39	N 39 36 47.50	W 79 59 20.88
	12886.00	90.92	325.39	7423.79	6341.79	5635.64	4254.06	-3697.19	0.31	-0.29	0.11	405910.40	1830647.94	N 39 36 48.27	W 79 59 21.57
	12981.00	91.80	323.86	7421.53	6339.53	5730.27	4331.49	-3752.17	1.86	0.93	-1.61	405987.83	1830592.96	N 39 36 49.03	W 79 59 22.28
	13075.00	91.98	324.14	7418.43	6336.43	5823.97	4407.50	-3807.39	0.35	0.19	0.30	406063.83	1830537.75	N 39 36 49.78	W 79 59 22.99
	13170.00	90.75	324.86	7416.17	6334.17	5918.61	4484.82	-3862.54	1.50	-1.29	0.76	406141.14	1830482.60	N 39 36 50.54	W 79 59 23.70
	13264.00	90.75	324.73	7414.94	6332.94	6012.25	4561.62	-3916.72	0.14	0.00	-0.14	406217.94	1830428.42	N 39 36 51.29	W 79 59 24.40
	13359.00	89.78	324.91	7414.50	6332.50	6106.88	4639.26	-3971.46	1.04	-1.02	0.19	406295.58	1830373.69	N 39 36 52.06	W 79 59 25.10
	13454.00	89.69	325.04	7414.94	6332.94	6201.48	4717.06	-4025.98	0.17	-0.09	0.14	406373.37	1830319.17	N 39 36 52.82	W 79 59 25.81
	13549.00	89.96	325.61	7415.23	6333.23	6296.04	4795.19	-4080.03	0.66	0.28	0.60	406451.49	1830265.12	N 39 36 53.59	W 79 59 26.50
	13643.00	90.92	323.98	7414.51	6332.51	6389.67	4871.99	-4134.21	2.01	1.02	-1.73	406528.29	1830210.94	N 39 36 54.35	W 79 59 27.20
	13738.00	90.04	323.07	7413.71	6331.71	6484.46	4948.37	-4190.69	1.33	-0.93	-0.96	406604.67	1830154.47	N 39 36 55.10	W 79 59 27.93
final survey	13836.00	90.75	323.29	7413.04	6331.04	6582.28	5026.82	-4249.42	0.76	0.72	0.22	406683.11	1830095.74	N 39 36 55.87	W 79 59 28.68
Projection to TD	13874.00	90.75	323.29	7412.54	6330.54	6620.21	5057.28	-4272.13	0.00	0.00	0.00	406713.57	1830073.03	N 39 36 56.17	W 79 59 28.97

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	24.000	Act Stns	17.500	13.375	SLB_NSG+MSHOT-Depth Only	Original Borehole / Northeast Natural MIP 3H Gyro+MWD 0ft to update
	1	24.000	530.000	Act Stns	17.500	13.375	SLB_NSG+MSHOT	Original Borehole / Northeast Natural MIP 3H Gyro+MWD 0ft to
	1	530.000	1770.000	Act Stns	12.250	9.625	SLB_NSG+MSHOT	Original Borehole / Northeast Natural MIP 3H Gyro+MWD 0ft to
	1	1770.000	6212.000	Act Stns	8.750	5.500	SLB_NSG+MSHOT	Original Borehole / Northeast Natural MIP 3H Gyro+MWD 0ft to
	1	6212.000	13836.000	Act Stns	8.750	5.500	SLB_MWD-STD	ST01 / Northeast Natural MIP 3H ST01 6212ft to 13874ft MD
	1	13836.000	13874.000	Act Stns	8.750	5.500	SLB_BLIND+TREND	ST01 / Northeast Natural MIP 3H ST01 6212ft to 13874ft MD

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

BHA # 1 on Run # 1 - BHA Summary Information

TIME IN - OUT		Rotary Hours	68.58	Start Depth	6230	RPM Range	Flow Rate
Start Time	**End Time**	**Total Circu. Hours**	89.08	**End Depth**	13874	10-120	403-460
17-Sep-15	22-Sep-15	**Slide Hours**	0.00	**Percent Rotary**	100%	**TVD Depth In**	**TVD Depth Out**
@ 14:15	@ 08:00	**Below Rotary Hour**	113.75	**Percent Slide**	0%	6,228.00	7,412.00

Total Drilled	7,644.00	**Avg. Total ROP**	111.46	**Incl.**		**Azimuth**	
Total Rotary Drilled	7,644.00	**Avg. Rotary ROP**	111.46	**IN**	**OUT**	**IN**	**OUT**
Total Drilled Sliding	0.00	**Avg. Slide ROP**		0.79	90.75	329.04	323.29

SPP	2,688-3,325	**wt. SOW**	50-152	**PUW**	132-216	**RSW**	129-155	**Rea. POOH**	Well Total Depth

Bit Data

Smith-SLB	8.75" SDi613 MPXG					
Bit Type	PDC					
TFA	.557					
JETS	11	11	11	11	11	
	11					
Bit Coding	**IADC #**					
IR	**OR**	**DL**	**LOC**	**BS**	**G**	**ODL**
1	1	CT	H		I	NOTD
Bit Drop	549 PSI @ 403 GPM					

Motor Data

DFF 7/8L 5.0S 0.29rpg 8 5/8" Stab					
Model	DynaForce	**Pad OD**	8.63		
MFG	Pathfinder	**Stator / Rot**	7:8		
Bend	0.00	**Motor Diff**	353		
Bit to Bend	0.00	**Output**	0.29		
NB Stab	8.63	**Rotor Jet**			
Sensor Offsets					
D&I	34.79				
WellDefined	27.48				
Cont D&I	9.1				

Mud Data

Type	Synthetic Oil Base			**BHT**	
WT	12.6	**Gas**		**Solids**	22.43
Vis	67	**Sand**		**T**	118
PV	28	**PH**		**Chlor**	41,000
YP	12	**WL**		**Oil%**	70

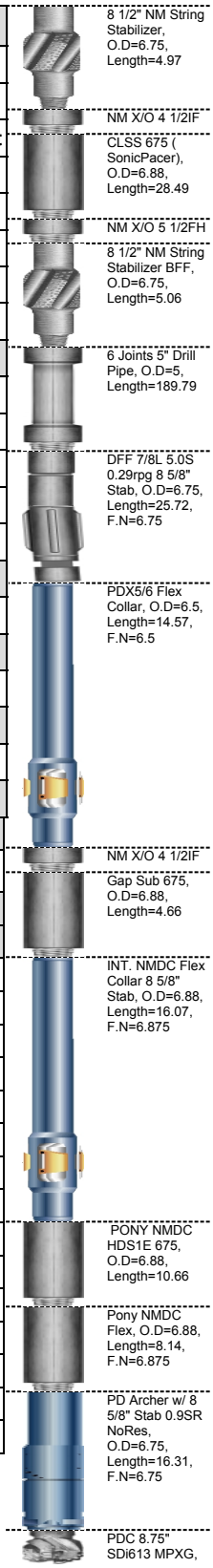
PUMPS	**PUMP1**	**PUMP2**
NAME		
Model		
Type	Triplex	Triplex
Liner	5.5	5.5
Stroke	12	12
Output	3.52	3.52

Comments

We successfully kicked off the cement plug, drilled curve and lateral with one BHA.

BHA Detail

#	Description	Serial #	I.D	O.D	Length	Sum	Top Conn
1	PDC 8.75" SDi613 MPXG	JK6176		8.75	0.75	0.75	4 1/2 in REG PIN
2	PD Archer w/ 8 5/8" Stab 0.9SR NoRes	059		6.75	16.31	17.06	4 1/2 in IF BOX
3	Pony NMDC Flex	Y67S004DA	3.13	6.88	8.14	25.2	5 1/2 in FH BOX
4	PONY NMDC HDS1E 675	Y67V044	3.13	6.88	10.66	35.86	5 1/2 in FH BOX
5	INT. NMDC Flex Collar 8 5/8" Stab	Y67T002M	3.13	6.88	16.07	51.93	5 1/2 in FH BOX
6	Gap Sub 675	Y67G0059	3.13	6.88	4.66	56.59	5 1/2 in FH BOX
7	NM X/O 4 1/2IF BOX-5 1/2FH PIN	DR18531	2.81	6.75	3.02	59.61	4 1/2 in IF BOX
8	PDX5/6 Flex Collar	8492-03	3.25	6.5	14.57	74.18	4 1/2 in IF BOX
9	DFF 7/8L 5.0S 0.29rpg 8 5/8" Stab	FS70B0051		6.75	25.72	99.9	4 1/2 in IF BOX
10	6 Joints 5" Drill Pipe	RIG	2.75	5	189.79	289.69	4 1/2 in IF BOX
11	8 1/2" NM String Stabilizer BFF	DR22670	2.75	6.75	5.06	294.75	4 1/2 in IF BOX
12	NM X/O 5 1/2FH BOX-4 1/2IF PIN	DR30833	3.25	6.88	4.24	298.99	5 1/2 in FH BOX
13	CLSS 675 (SonicPacer)	A67C128D	3.5	6.88	28.49	327.48	5 1/2 in FH BOX
14	NM X/O 4 1/2IF BOX-5 1/2FH PIN	DR30835	3.5	6.88	5.51	332.99	4 1/2 in IF BOX
15	8 1/2" NM String Stabilizer	DR22677	2.81	6.75	4.97	337.96	4 1/2 in IF BOX



Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Wednesday, September, 16 2015

From: Sep-15-2015 00:00 To: Sep-16-2015 00:00

DRILLING SUMMARY

Start Depth	0	**Rotary Hours**	
End Depth	0	**Total Circu. Hours**	
Total Drilled		**Avg. Total ROP**	
Total Rotary Drilled		**Avg. Rotary ROP**	
Total Sliding Drilled		**Avg. Slide ROP**	
Slide Hours		**Percent Rotary**	
Below Rotary Hrs		**Percent Slide**	

DRILLING PARAMETERS

WOB Rot		**PU**		**Slack Off**	
WOB Slid		**SPP**		**Flow Rate**	
RAB		**SPM**			

MUD DATA

Type				**PV**		**SOLID**	
Weight		**Gas**		**YP**		**BHT°**	
Viscosity		**Sand**		**PH**		**Flow T°**	
Chlorides		**WL**				**Oil%**	

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
DD - Cell Manager	Perry, John
DD	Sagne, Babacar
MLWD	Olson, Aaron J
MLWD	Hamrick, Anthony Joseph

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	**Set Depth**
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

FORECAST NEXT 24

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
15-Sep-15	00:00	00:00	24	0	0	Standby	

Run Statistics Calculated from DD Journal

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Thursday, September, 17 2015

From: Sep-16-2015 00:00 To: Sep-17-2015 00:00

DRILLING SUMMARY

Start Depth	0	**Rotary Hours**	
End Depth	0	**Total Circu. Hours**	
Total Drilled		**Avg. Total ROP**	
Total Rotary Drilled		**Avg. Rotary ROP**	
Total Sliding Drilled		**Avg. Slide ROP**	
Slide Hours		**Percent Rotary**	
Below Rotary Hrs		**Percent Slide**	

DRILLING PARAMETERS

WOB Rot		**PU**		**Slack Off**	
WOB Slid		**SPP**		**Flow Rate**	
RAB		**SPM**			

MUD DATA

Type				**PV**		**SOLID**	
Weight		**Gas**		**YP**		**BHT°**	
Viscosity		**Sand**		**PH**		**Flow T°**	
Chlorides		**WL**				**Oil%**	

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
DD - Cell Manager	Perry, John
DD	Sagne, Babacar
MLWD	Olson, Aaron J
MLWD	Hamrick, Anthony Joseph

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	**Set Depth**
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

Resume cementing previous well, Skid & NU BOP

FORECAST NEXT 24

Test BOP, PU BHA001

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
16-Sep-15	00:00	00:00	24	0	0	Standby	Skid rig / NU BOP

Run Statistics Calculated from DD Journal

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Friday, September, 18 2015

From: Sep-17-2015 00:00 To: Sep-18-2015 00:00

DRILLING SUMMARY

Start Depth	0	**Rotary Hours**	0.00
End Depth	0	**Total Circu. Hours**	2.58
Total Drilled	0	**Avg. Total ROP**	
Total Rotary Drilled	0	**Avg. Rotary ROP**	
Total Sliding Drilled	0	**Avg. Slide ROP**	
Slide Hours	0.00	**Percent Rotary**	
Below Rotary Hrs	9.75	**Percent Slide**	

DRILLING PARAMETERS

WOB Rot		**PU**		**Slack Off**	
WOB Slid		**SPP**		**Flow Rate**	
RAB		**SPM**			

MUD DATA

Type	Synthetic Oil Base			**PV**		**SOLID**	
Weight	12.30	**Gas**		**YP**		**BHT°**	
Viscosity	91	**Sand**		**PH**		**Flow T°**	
Chlorides		**WL**				**Oil%**	

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
MLWD	Hamrick, Anthony Joseph
DD	Sagne, Babacar
MLWD	Olson, Aaron J
DD - Cell Manager	Perry, John

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	Set Depth
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

Test BOP, PU BHA001, TIH, Condition mud

FORECAST NEXT 24

Wash to KOP, build curve

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
17-Sep-15	00:00	12:45	12.75	0	0	Standby	Attended Standby While Test BOP
17-Sep-15	12:45	14:15	1.5	0	0	Pick Up BHA	Pick Up BHA 1
17-Sep-15	14:15	18:20	4.08	0	2136	TIH	TIH 21 stands
17-Sep-15	18:20	18:30	0.17	2136	2136	Circulating	Test tools
17-Sep-15	18:30	19:15	0.75	2136	3305	TIH	TIH 15 stands
17-Sep-15	19:15	19:25	0.17	3305	3305	Circulating	Fill pipe
17-Sep-15	19:25	20:00	0.58	3305	4787	TIH	TIH 15 stands
17-Sep-15	20:00	20:10	0.17	4787	4787	Circulating	Fill pipe
17-Sep-15	20:10	20:55	0.75	4787	5843	TIH	TIH to 5843'
17-Sep-15	20:55	21:35	0.67	5843	5856	Circulating	Attempt to wash down
17-Sep-15	21:35	22:35	1	5856	5856	Other – Inhole	Change shaker screens

Run Statistics Calculated from DD Journal

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
17-Sep-15	22:35	00:00	1.42	5856	5856	Circulating	Condition mud

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Saturday, September, 19 2015

From: Sep-18-2015 00:00 To: Sep-19-2015 00:00

DRILLING SUMMARY

Start Depth	5,856	**Rotary Hours**	17.58
End Depth	7,124	**Total Circu. Hours**	22.83
Total Drilled	894	**Avg. Total ROP**	37.25
Total Rotary Drilled	894	**Avg. Rotary ROP**	50.84
Total Sliding Drilled	0	**Avg. Slide ROP**	
Slide Hours	0.00	**Percent Rotary**	100%
Below Rotary Hrs	24.00	**Percent Slide**	0%

DRILLING PARAMETERS

WOB Rot	12.70	**PU**	141.33	**Slack Off**	135.33
WOB Slid		**SPP**	2,697.33	**Flow Rate**	403.00 - 460.00
RAB	137.67	**SPM**	128.40		

MUD DATA

Type	Synthetic Oil Base			**PV**		**SOLID**	
Weight	12.30	**Gas**		**YP**		**BHT°**	
Viscosity	91	**Sand**		**PH**		**Flow T°**	
Chlorides		**WL**				**Oil%**	

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
DD - Cell Manager	Perry, John
DD	Sagne, Babacar
MLWD	Hamrick, Anthony Joseph
MLWD	Olson, Aaron J

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	**Set Depth**
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

TIH, build curve

FORECAST NEXT 24

Build curve to LP, drill lateral

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
18-Sep-15	00:00	00:30	0.5	5856	5856	Circulating	Condition Mud
18-Sep-15	00:30	02:10	1.67	5856	6109	Circulating	Wash andDrill Sporatic Cement From 5856'-6109'
18-Sep-15	02:10	03:25	1.25	6109	6230	Drilling Cement	Drlg Cement 6109 - 6230
18-Sep-15	03:25	03:40	0.25	6230	6230	Downlink Ops	Downlink To RSS
18-Sep-15	03:40	05:45	2.08	6230	6295	Rotating	SIdetrack Off Cement Plug
18-Sep-15	05:45	05:50	0.08	6295	6295	MWD Survey & Conn.	C/S @ 6259' Inc 1.32° Az 179.82°
18-Sep-15	05:50	06:00	0.17	6295	6295	Rig Repair - Inhole	Repair Mud Pump
18-Sep-15	06:00	07:15	1.25	6295	6350	Rotating	
18-Sep-15	07:15	07:20	0.08	6350	6350	MWD Survey	Check @ 6314' Inc 6.33° Az 202.14°
18-Sep-15	07:20	07:35	0.25	6350	6350	Downlink Ops	Downlink To RSS
18-Sep-15	07:35	08:25	0.83	6350	6393	Rotating	

Run Statistics Calculated from DD Journal

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
18-Sep-15	08:25	08:35	0.17	6393	6393	MWD Survey & Conn.	C/S @ 6355' Inc 9.41° Az 200.86°
18-Sep-15	08:35	09:25	0.83	6393	6441	Rotating	
18-Sep-15	09:25	09:30	0.08	6441	6441	MWD Survey	Check @ 6405'
18-Sep-15	09:30	10:20	0.83	6441	6488	Rotating	
18-Sep-15	10:20	10:25	0.08	6488	6488	MWD Survey & Conn.	C/S @ 6450' Inc 10.38° Az 213.06°
18-Sep-15	10:25	11:35	1.17	6488	6582	Rotating	
18-Sep-15	11:35	11:45	0.17	6582	6582	MWD Survey & Conn.	C/S @ 17.24° Az 195.08°
18-Sep-15	11:45	12:40	0.92	6582	6677	Rotating	
18-Sep-15	12:40	12:45	0.08	6677	6677	MWD Survey & Conn.	C/S @ 6639' Inc 21.19° Az 186.82°
18-Sep-15	12:45	13:35	0.83	6677	6723	Rotating	
18-Sep-15	13:35	13:40	0.08	6723	6723	MWD Survey	Check @ 6686' Inc 20.93° Az 194.19°
18-Sep-15	13:40	13:55	0.25	6723	6735	Rotating	
18-Sep-15	13:55	14:05	0.17	6735	6735	Downlink Ops	Downlink To RSS
18-Sep-15	14:05	15:20	1.25	6735	6771	Rotating	
18-Sep-15	15:20	15:30	0.17	6771	6771	MWD Survey & Conn.	C/S @ 6733' Inc 19.43° Az 208.22°
18-Sep-15	15:30	16:35	1.08	6771	6817	Rotating	
18-Sep-15	16:35	16:40	0.08	6817	6817	MWD Survey	Check @ 6780' Inc 21.98° Az 218.49°
18-Sep-15	16:40	17:30	0.83	6817	6866	Rotating	
18-Sep-15	17:30	18:00	0.5	6866	6866	Rig Service-Inhole	Rig Service
18-Sep-15	18:00	18:05	0.08	6866	6866	MWD Survey & Conn.	C/S @ 6828' Inc 23.30° Az 227.97°
18-Sep-15	18:05	18:15	0.17	6866	6866	Downlink Ops	DL RSS
18-Sep-15	18:15	20:35	2.33	6866	6959	Rotating	
18-Sep-15	20:35	20:45	0.17	6959	6959	MWD Survey & Conn.	C/S @ 6922' Inc 27.44° Az 243.12°
18-Sep-15	20:45	22:35	1.83	6959	7053	Rotating	
18-Sep-15	22:35	22:45	0.17	7053	7053	MWD Survey & Conn.	C/S @ 7017' Inc 29.02° Az 262.98°
18-Sep-15	22:45	00:00	1.25	7053	7124	Rotating	

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Sunday, September, 20 2015

From: Sep-19-2015 00:00 To: Sep-20-2015 00:00

DRILLING SUMMARY

Start Depth	7,124	**Rotary Hours**	19.75
End Depth	8,856	**Total Circu. Hours**	22.08
Total Drilled	1,732	**Avg. Total ROP**	72.17
Total Rotary Drilled	1,732	**Avg. Rotary ROP**	87.70
Total Sliding Drilled	0	**Avg. Slide ROP**	
Slide Hours	0.00	**Percent Rotary**	100%
Below Rotary Hrs	24.00	**Percent Slide**	0%

DRILLING PARAMETERS

WOB Rot	19.60	**PU**	155.29	**Slack Off**	148.21
WOB Slid		**SPP**	3,075.60	**Flow Rate**	460.00 - 460.00
RAB	151.29	**SPM**	130.00		

MUD DATA

Type	Synthetic Oil Base			**PV**	24	**SOLID**	22.00
Weight	12.40	**Gas**		**YP**	14	**BHT°**	
Viscosity	60	**Sand**		**PH**		**Flow T°**	120.00
Chlorides	45,000	**WL**	7.20			**Oil%**	69.00

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
DD - Cell Manager	Perry, John
DD	Sagne, Babacar
MLWD	Olson, Aaron J
MLWD	Hamrick, Anthony Joseph

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	Set Depth
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

Build curve to LP, drill lateral

FORECAST NEXT 24

Drill lateral

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
19-Sep-15	00:00	00:20	0.33	7124	7148	Rotating	
19-Sep-15	00:20	00:30	0.17	7148	7148	MWD Survey & Conn.	C/S @ 7111' Inc 31.22° Az 272.68°
19-Sep-15	00:30	02:05	1.58	7148	7242	Rotating	
19-Sep-15	02:05	02:10	0.08	7242	7242	Circulating	SPRs
19-Sep-15	02:10	02:15	0.08	7242	7242	MWD Survey & Conn.	C/S @ 7206' Inc 36.32° Az 281.48°
19-Sep-15	02:15	03:40	1.42	7242	7338	Rotating	
19-Sep-15	03:40	03:50	0.17	7338	7338	MWD Survey & Conn.	C/S @ 7302' Inc 40.89° Az 291.21°
19-Sep-15	03:50	03:55	0.08	7338	7338	Other – Inhole	Calibrate Hookload
19-Sep-15	03:55	05:30	1.58	7338	7433	Rotating	
19-Sep-15	05:30	05:40	0.17	7433	7433	MWD Survey & Conn.	C/S @ 7396' Inc 48.36° Az 296.42°
19-Sep-15	05:40	05:50	0.17	7433	7433	Downlink Ops	DL RSS

Run Statistics Calculated from DD Journal

Schlumberger

Job Number: 15NEB1139
Company Name: NORTHEAST NATURAL ENERGY LLC
Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
Well Location: Lat: 39.6018, Long: -79.9762
Well State: WV

Well County: Monongalia
Well Field: WV Monongalia County (NAD 83)
Well Country: UNITED STATES
Lead DD: Perry, John
Co. Man: Jamie Czerneski

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
19-Sep-15	05:50	07:05	1.25	7433	7529	Rotating	
19-Sep-15	07:05	07:10	0.08	7529	7529	MWD Survey & Conn.	C/S @ 7491' Inc 54.69° Az 305.18°
19-Sep-15	07:10	08:25	1.25	7529	7624	Rotating	
19-Sep-15	08:25	08:30	0.08	7624	7624	MWD Survey & Conn.	C/S @ 7586' Inc 60.67° Az 315.50°
19-Sep-15	08:30	10:15	1.75	7624	7718	Rotating	
19-Sep-15	10:15	10:20	0.08	7718	7718	MWD Survey & Conn.	C/S @ 7680' Inc 65.42° Az 320.01°
19-Sep-15	10:20	12:05	1.75	7718	7814	Rotating	
19-Sep-15	12:05	12:05	0	7814	7814	MWD Survey & Conn.	C/S @ 7776' Inc 74.39° Az 322.89°
19-Sep-15	12:05	13:30	1.42	7814	7909	Rotating	
19-Sep-15	13:30	13:35	0.08	7909	7909	MWD Survey & Conn.	C/S @ 7871' Inc 84.42° Az 325.25°
19-Sep-15	13:35	13:45	0.17	7909	7915	Rotating	
19-Sep-15	13:45	13:55	0.17	7915	7915	Downlink Ops	Downlink To RSS
19-Sep-15	13:55	14:40	0.75	7915	7959	Rotating	
19-Sep-15	14:40	14:45	0.08	7959	7959	MWD Survey	Check @ 7921' Inc 87.14° Az 326.94
19-Sep-15	14:45	15:10	0.42	7959	7959	Downlink Ops	Downlink To RSS
19-Sep-15	15:10	16:05	0.92	7959	8004	Rotating	
19-Sep-15	16:05	16:30	0.42	8004	8004	Rig Service-Inhole	Rig Service
19-Sep-15	16:30	16:35	0.08	8004	8004	MWD Survey & Conn.	C/S @ 7966' Inc 89.16° Az 327.68°
19-Sep-15	16:35	17:20	0.75	8004	8004	Rig Repair - Inhole	X/O Generators
19-Sep-15	17:20	18:20	1	8004	8099	Rotating	
19-Sep-15	18:20	18:25	0.08	8099	8099	MWD Survey & Conn.	C/S @ 8061' Inc 91.70° Az 325.80°
19-Sep-15	18:25	19:05	0.67	8099	8194	Rotating	
19-Sep-15	19:05	19:15	0.17	8194	8194	MWD Survey & Conn.	C/S @ 8156' Inc 91.01° Az 324.72°
19-Sep-15	19:15	20:00	0.75	8194	8289	Rotating	
19-Sep-15	20:00	20:05	0.08	8289	8289	MWD Survey & Conn.	C/S @ 8251' Inc 91.54° Az 322.60°
19-Sep-15	20:05	20:40	0.58	8289	8384	Rotating	
19-Sep-15	20:40	20:45	0.08	8384	8384	MWD Survey & Conn.	C/S @ 8346' Inc 90.66° Az 323.35°
19-Sep-15	20:45	21:20	0.58	8384	8479	Rotating	
19-Sep-15	21:20	21:25	0.08	8479	8479	MWD Survey & Conn.	C/S @ 8441' Inc 91.28° Az 324.41°
19-Sep-15	21:25	21:40	0.25	8479	8529	Rotating	
19-Sep-15	21:40	21:55	0.25	8529	8529	Circulating	Power outage in MWD shack
19-Sep-15	21:55	22:05	0.17	8529	8573	Rotating	
19-Sep-15	22:05	22:15	0.17	8573	8573	MWD Survey & Conn.	C/S @ 8535' Inc 91.10° Az 324.27°
19-Sep-15	22:15	22:40	0.42	8573	8668	Rotating	
19-Sep-15	22:40	22:45	0.08	8668	8668	MWD Survey & Conn.	C/S @ 8630' Inc 91.28° Az 323.32°
19-Sep-15	22:45	23:20	0.58	8668	8763	Rotating	
19-Sep-15	23:20	23:25	0.08	8763	8763	MWD Survey & Conn.	C/S @ 8725' Inc 99.92° Az 323.60°
19-Sep-15	23:25	00:00	0.58	8763	8856	Rotating	

Run Statistics Calculated from DD Journal

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Monday, September, 21 2015

From: Sep-20-2015 00:00 To: Sep-21-2015 00:00

DRILLING SUMMARY

Start Depth	8,856	**Rotary Hours**	18.75
End Depth	12,072	**Total Circu. Hours**	19.83
Total Drilled	3,216	**Avg. Total ROP**	134.00
Total Rotary Drilled	3,216	**Avg. Rotary ROP**	171.52
Total Sliding Drilled	0	**Avg. Slide ROP**	
Slide Hours	0.00	**Percent Rotary**	100%
Below Rotary Hrs	24.00	**Percent Slide**	0%

DRILLING PARAMETERS

WOB Rot	23.00	**PU**	170.25	**Slack Off**	141.38
WOB Slid		**SPP**	3,517.67	**Flow Rate**	460.00 - 460.00
RAB	151.38	**SPM**	130.00		

MUD DATA

Type	Synthetic Oil Base			**PV**	28	**SOLID**	22.43
Weight	12.70	**Gas**		**YP**	12	**BHT°**	
Viscosity	67	**Sand**		**PH**		**Flow T°**	118.00
Chlorides	41,000	**WL**	6.70			**Oil%**	70.00

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
MLWD	Hamrick, Anthony Joseph
MLWD	Olson, Aaron J
DD	Sagne, Babacar
DD - Cell Manager	Perry, John

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	Set Depth
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

Drill lateral

FORECAST NEXT 24

Drill lateral to TD, CBU

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
20-Sep-15	00:00	00:05	0.08	8856	8856	MWD Survey & Conn.	C/S @ 8819' Inc 91.01° Az 324.20°
20-Sep-15	00:05	00:10	0.08	8856	8856	Downlink Ops	DL RSS
20-Sep-15	00:10	00:55	0.75	8856	8951	Rotating	
20-Sep-15	00:55	01:00	0.08	8951	8951	MWD Survey & Conn.	C/S @ 8913' Inc 92.15° Az 324.34°
20-Sep-15	01:00	01:40	0.67	8951	9046	Rotating	
20-Sep-15	01:40	01:50	0.17	9046	9046	MWD Survey & Conn.	C/S @ 9008' Inc 91.28° Az 324.06°
20-Sep-15	01:50	02:30	0.67	9046	9139	Rotating	
20-Sep-15	02:30	02:40	0.17	9139	9139	Circulating	SPRs
20-Sep-15	02:40	02:50	0.17	9139	9139	MWD Survey & Conn.	C/S @ 9101' Inc 90.48° Az 322.17°
20-Sep-15	02:50	03:20	0.5	9139	9234	Rotating	
20-Sep-15	03:20	03:25	0.08	9234	9234	MWD Survey & Conn.	C/S @ 9196' Inc 90.92° Az 324.34°

Run Statistics Calculated from DD Journal

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
20-Sep-15	03:25	04:05	0.67	9234	9329	Rotating	
20-Sep-15	04:05	04:15	0.17	9329	9329	MWD Survey & Conn.	C/S @ 9291' Inc 92.15° Az 324.34°
20-Sep-15	04:15	04:40	0.42	9329	9424	Rotating	
20-Sep-15	04:40	04:45	0.08	9424	9424	MWD Survey & Conn.	C/S @ 9386' Inc 91.45° Az 323.89°
20-Sep-15	04:45	05:15	0.5	9424	9517	Rotating	
20-Sep-15	05:15	05:20	0.08	9517	9517	MWD Survey & Conn.	C/S @ 9480' Inc 91.63° Az 324.29°
20-Sep-15	05:20	06:05	0.75	9517	9613	Rotating	
20-Sep-15	06:05	06:10	0.08	9613	9613	MWD Survey & Conn.	C/S @ 9575' Inc 91.80° Az 324.90°
20-Sep-15	06:10	06:50	0.67	9613	9708	Rotating	2 Downlinks While Drilling
20-Sep-15	06:50	06:55	0.08	9708	9708	MWD Survey & Conn.	C/S @ 9670' Inc 90.84° Az 322.95°
20-Sep-15	06:55	07:30	0.58	9708	9803	Rotating	
20-Sep-15	07:30	07:35	0.08	9803	9803	MWD Survey & Conn.	C/S @ 9765' Inc 90.57° Az 322.42°
20-Sep-15	07:35	08:10	0.58	9803	9898	Rotating	
20-Sep-15	08:10	08:15	0.08	9898	9898	MWD Survey & Conn.	C/S @ 9860' Inc 90.92° Az 322.92°
20-Sep-15	08:15	08:40	0.42	9898	9992	Rotating	
20-Sep-15	08:40	08:45	0.08	9992	9992	MWD Survey & Conn.	C/S @ 9954' Inc 90.13° Az 332.97°
20-Sep-15	08:45	09:20	0.58	9992	10087	Rotating	
20-Sep-15	09:20	09:25	0.08	10087	10087	MWD Survey & Conn.	C/S @ 10049' Inc 90.22° Az 324.03°
20-Sep-15	09:25	09:30	0.08	10087	10087	Circulating	Slow Pump Rate
20-Sep-15	09:30	09:55	0.42	10087	10181	Rotating	
20-Sep-15	09:55	10:00	0.08	10181	10181	MWD Survey & Conn.	C/S @ 10143' Inc 89.52° Az 325.14°
20-Sep-15	10:00	10:50	0.83	10181	10276	Rotating	
20-Sep-15	10:50	10:55	0.08	10276	10276	MWD Survey & Conn.	C/S @ 10238' Inc 90.13° Az 324.89°
20-Sep-15	10:55	11:25	0.5	10276	10370	Rotating	
20-Sep-15	11:25	11:30	0.08	10370	10370	Circulating	Slow Pump Rate
20-Sep-15	11:30	11:35	0.08	10370	10370	MWD Survey & Conn.	C/S @ 10332' Inc 89.08° Az 324.25°
20-Sep-15	11:35	12:15	0.67	10370	10464	Rotating	
20-Sep-15	12:15	12:20	0.08	10464	10464	MWD Survey & Conn.	C/S @ 10426' Inc 90.40° Az 323.91°
20-Sep-15	12:20	12:45	0.42	10464	10559	Rotating	
20-Sep-15	12:45	12:50	0.08	10559	10559	MWD Survey & Conn.	C/S @ 10521' Inc 90.04° Az 323.18°
20-Sep-15	12:50	13:20	0.5	10559	10654	Rotating	
20-Sep-15	13:20	13:25	0.08	10654	10654	MWD Survey & Conn.	C/S @ 10616' Inc 90.22° Az 322.93°
20-Sep-15	13:25	13:50	0.42	10654	10748	Rotating	
20-Sep-15	13:50	14:00	0.17	10748	10748	MWD Survey & Conn.	C/S @ 10710' Inc 90.13° Az 323.54°
20-Sep-15	14:00	14:25	0.42	10748	10843	Rotating	
20-Sep-15	14:25	14:30	0.08	10843	10843	MWD Survey & Conn.	C/S @ 10805' Inc 90.04° Az 323.20°
20-Sep-15	14:30	14:55	0.42	10843	10937	Rotating	
20-Sep-15	14:55	15:00	0.08	10937	10937	MWD Survey & Conn.	C/S @ 10899' Inc 90.40° Az 322.42°
20-Sep-15	15:00	15:30	0.5	10937	11031	Rotating	
20-Sep-15	15:30	15:35	0.08	11031	11031	MWD Survey & Conn.	C/S @ 10993' Inc 89.78° Az 322.35°
20-Sep-15	15:35	16:10	0.58	11031	11126	Rotating	
20-Sep-15	16:10	16:15	0.08	11126	11126	Circulating	Slow Pump Rate

Run Statistics Calculated from DD Journal

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
20-Sep-15	16:15	16:55	0.67	11126	11126	Other – Inhole	Rig Service
20-Sep-15	16:55	17:00	0.08	11126	11126	MWD Survey & Conn.	C/S @ 11088' Inc 90.31° Az 321.45°
20-Sep-15	17:00	17:30	0.5	11126	11221	Rotating	
20-Sep-15	17:30	17:35	0.08	11221	11221	MWD Survey & Conn.	C/S @ 11183' Inc 89.43° Az 321.53°
20-Sep-15	17:35	18:05	0.5	11221	11315	Rotating	
20-Sep-15	18:05	18:10	0.08	11315	11315	MWD Survey & Conn.	C/S @ 11277' Inc 88.99° Az 321.68°
20-Sep-15	18:10	18:45	0.58	11315	11410	Rotating	
20-Sep-15	18:45	18:50	0.08	11410	11410	MWD Survey & Conn.	C/S @ 11372' Inc 88.99° Az 322.59°
20-Sep-15	18:50	19:20	0.5	11410	11505	Rotating	
20-Sep-15	19:20	19:30	0.17	11505	11505	MWD Survey & Conn.	C/S @ 11466' Inc 89.43° Az 323.04°
20-Sep-15	19:30	19:40	0.17	11505	11546	Rotating	
20-Sep-15	19:40	19:55	0.25	11546	11546	Downlink Ops	DL RSS
20-Sep-15	19:55	20:15	0.33	11546	11599	Rotating	
20-Sep-15	20:15	20:20	0.08	11599	11599	MWD Survey & Conn.	C/S @ 11561' Inc 90.84° Az 323.22°
20-Sep-15	20:20	21:05	0.75	11599	11694	Rotating	
20-Sep-15	21:05	21:15	0.17	11694	11694	MWD Survey & Conn.	C/S @ 11656' Inc 90.57° Az 322.73°
20-Sep-15	21:15	21:40	0.42	11694	11789	Rotating	
20-Sep-15	21:40	21:45	0.08	11789	11789	MWD Survey & Conn.	C/S @ 11751' Inc 90.84° Az 322.39°
20-Sep-15	21:45	22:20	0.58	11789	11883	Rotating	
20-Sep-15	22:20	22:25	0.08	11883	11883	MWD Survey & Conn.	C/S @ 11845' Inc 90.48° Az 323.37°
20-Sep-15	22:25	22:35	0.17	11883	11883	Downlink Ops	DL RSS
20-Sep-15	22:35	23:00	0.42	11883	11978	Rotating	
20-Sep-15	23:00	23:05	0.08	11978	11978	MWD Survey & Conn.	C/S @ 11940' Inc 91.48° Az 324.81°
20-Sep-15	23:05	23:40	0.58	11978	12072	Rotating	
20-Sep-15	23:40	23:50	0.17	12072	12072	Circulating	SPRs
20-Sep-15	23:50	00:00	0.17	12072	12072	MWD Survey & Conn.	C/S @ 12034' Inc 91.10° Az 324.90°

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Tuesday, September, 22 2015

From: Sep-21-2015 00:00 To: Sep-22-2015 00:00

DRILLING SUMMARY

Start Depth	12,072	**Rotary Hours**	12.50
End Depth	13,874	**Total Circu. Hours**	20.25
Total Drilled	1,802	**Avg. Total ROP**	75.08
Total Rotary Drilled	1,802	**Avg. Rotary ROP**	144.16
Total Sliding Drilled	0	**Avg. Slide ROP**	
Slide Hours	0.00	**Percent Rotary**	100%
Below Rotary Hrs	24.00	**Percent Slide**	0%

DRILLING PARAMETERS

WOB Rot	24.55	**PU**	200.25	**Slack Off**	66.50
WOB Slid		**SPP**	3,927.27	**Flow Rate**	460.00 - 460.00
RAB	145.25	**SPM**	130.00		

MUD DATA

Type	Synthetic Oil Base			**PV**	28	**SOLID**	22.43
Weight	12.70	**Gas**	6,500.0	**YP**	12	**BHT°**	
Viscosity	67	**Sand**		**PH**		**Flow T°**	118.00
Chlorides	41,000	**WL**	6.70			**Oil%**	70.00

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
DD - Cell Manager	Perry, John
DD	Sagne, Babacar
MLWD	Olson, Aaron J
MLWD	Hamrick, Anthony Joseph

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	**Set Depth**
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

Drill lateral to TD, CBU

FORECAST NEXT 24

POOH, Demob

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
21-Sep-15	00:00	00:30	0.5	12072	12167	Rotating	
21-Sep-15	00:30	00:35	0.08	12167	12167	MWD Survey & Conn.	C/S @ 12129' Inc 91.28° Az 324.96°
21-Sep-15	00:35	01:05	0.5	12167	12262	Rotating	
21-Sep-15	01:05	01:10	0.08	12262	12262	MWD Survey & Conn.	C/S @ 12224' Inc 90.92° Az 324.68°
21-Sep-15	01:10	01:40	0.5	12262	12357	Rotating	
21-Sep-15	01:40	01:45	0.08	12357	12357	MWD Survey & Conn.	C/S @ 12319' Inc 91.28° Az 324.72°
21-Sep-15	01:45	02:10	0.42	12357	12451	Rotating	
21-Sep-15	02:10	02:15	0.08	12451	12451	MWD Survey & Conn.	C/S @ 12413' Inc 91.28° Az 324.55°
21-Sep-15	02:15	02:45	0.5	12451	12546	Rotating	
21-Sep-15	02:45	02:50	0.08	12546	12546	MWD Survey & Conn.	C/S @ 12508' Inc 91.01° Az 324.35°
21-Sep-15	02:50	03:20	0.5	12546	12641	Rotating	

Run Statistics Calculated from DD Journal

Schlumberger

Job Number: 15NEB1139
Company Name: NORTHEAST NATURAL ENERGY LLC
Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
Well Location: Lat: 39.6018, Long: -79.9762
Well State: WV

Well County: Monongalia
Well Field: WV Monongalia County (NAD 83)
Well Country: UNITED STATES
Lead DD: Perry, John
Co. Man: Jamie Czerneski

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
21-Sep-15	03:20	03:25	0.08	12641	12641	MWD Survey & Conn.	C/S @ 12603' Inc 91.36° Az 324.98°
21-Sep-15	03:25	03:55	0.5	12641	12735	Rotating	
21-Sep-15	03:55	04:00	0.08	12735	12735	MWD Survey & Conn.	C/S @ 12697' Inc 91.28° Az 324.43°
21-Sep-15	04:00	04:40	0.67	12735	12830	Rotating	
21-Sep-15	04:40	04:45	0.08	12830	12830	MWD Survey & Conn.	C/S @ 12792' Inc 91.19° Az 325.29°
21-Sep-15	04:45	05:20	0.58	12830	12924	Rotating	
21-Sep-15	05:20	05:25	0.08	12924	12924	MWD Survey & Conn.	C/S @ 12886' Inc 90.92° Az 325.39°
21-Sep-15	05:25	05:55	0.5	12924	13019	Rotating	
21-Sep-15	05:55	06:05	0.17	13019	13019	MWD Survey & Conn.	C/S @ 12981' Inc 91.80° Az 323.86°
21-Sep-15	06:05	06:45	0.67	13019	13113	Rotating	
21-Sep-15	06:45	06:50	0.08	13113	13113	Circulating	Slow Pump Rate
21-Sep-15	06:50	06:55	0.08	13113	13113	MWD Survey & Conn.	C/S @ 13075' Inc 91.98° Az 324.14°
21-Sep-15	06:55	07:55	1	13113	13208	Rotating	
21-Sep-15	07:55	08:00	0.08	13208	13208	MWD Survey & Conn.	C/S @ 13170' Inc 90.75° Az 324.86°
21-Sep-15	08:00	08:40	0.67	13208	13302	Rotating	
21-Sep-15	08:40	08:50	0.17	13302	13302	MWD Survey & Conn.	C/S @ 13264' Inc 90.75° Az 324.73°
21-Sep-15	08:50	09:30	0.67	13302	13397	Rotating	
21-Sep-15	09:30	09:35	0.08	13397	13397	MWD Survey & Conn.	C/S @ 13359' Inc 89.78° Az 324.91°
21-Sep-15	09:35	10:20	0.75	13397	13492	Rotating	
21-Sep-15	10:20	10:25	0.08	13492	13492	MWD Survey & Conn.	C/S @ 13454' Inc 89.69° Az 325.04°
21-Sep-15	10:25	11:15	0.83	13492	13587	Rotating	
21-Sep-15	11:15	11:20	0.08	13587	13587	MWD Survey & Conn.	C/S @ 13549' Inc 98.96° Az 325.61°
21-Sep-15	11:20	12:40	1.33	13587	13681	Rotating	
21-Sep-15	12:40	12:45	0.08	13681	13681	MWD Survey & Conn.	C/S @ 13643' Inc 90.92° Az 323.98°
21-Sep-15	12:45	13:15	0.5	13681	13776	Rotating	
21-Sep-15	13:15	13:20	0.08	13776	13776	MWD Survey & Conn.	C/S @ 13738' Inc 90.04° Az 323.07°
21-Sep-15	13:20	14:10	0.83	13776	13871	Rotating	
21-Sep-15	14:10	14:15	0.08	13871	13871	Connection - No Survey	Connection @ 13871'
21-Sep-15	14:15	14:20	0.08	13871	13874	Rotating	Well TD @ 13874'
21-Sep-15	14:20	14:25	0.08	13874	13874	MWD Survey	Final Svy @ 13836' Inc 90.75° 323.29°
21-Sep-15	14:25	17:25	3	13874	13874	Circulating	Circulate Prior to POOH
21-Sep-15	17:25	18:10	0.75	13874	13874	Rig Service-Inhole	Rig Service
21-Sep-15	18:10	22:00	3.83	13874	13874	Circulating	
21-Sep-15	22:00	00:00	2	13874	13874	POOH	

Run Statistics Calculated from DD Journal

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_

Daily Report for Wednesday, September, 23 2015

From: Sep-22-2015 00:00 To: Sep-23-2015 00:00

DRILLING SUMMARY

Start Depth	0	**Rotary Hours**	0.00
End Depth	0	**Total Circu. Hours**	1.50
Total Drilled	0	**Avg. Total ROP**	
Total Rotary Drilled	0	**Avg. Rotary ROP**	
Total Sliding Drilled	0	**Avg. Slide ROP**	
Slide Hours	0.00	**Percent Rotary**	
Below Rotary Hrs	8.00	**Percent Slide**	

DRILLING PARAMETERS

WOB Rot		**PU**		**Slack Off**	
WOB Slid		**SPP**		**Flow Rate**	
RAB		**SPM**			

MUD DATA

Type	Synthetic Oil Base			**PV**	28	**SOLID**	22.43
Weight	12.60	**Gas**	5,000.0	**YP**	12	**BHT°**	
Viscosity	67	**Sand**		**PH**		**Flow T°**	118.00
Chlorides	41,000	**WL**	6.70			**Oil%**	70.00

PERSONNEL

Directional Company	
Company Man	Jamie Czerneski
MLWD	Hamrick, Anthony Joseph
MLWD	Olson, Aaron J
DD - Cell Manager	Perry, John
DD	Sagne, Babacar

Incl. In	0.79	**Azm. In**	329.04	**Incl. Out**	90.75	**Azm. Out**	323.29
Max Inclination:	92.15						

CASING

Size	**Set Depth**
9.625	1,760

DAILY COST

Daily Cost:

Cumulative Cost:

Signature:

BHA & COMMENTS

Drill lateral to TD, CBU

FORECAST NEXT 24

POOH, Demob

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
22-Sep-15	00:00	01:00	1	13874	7969	POOH	
22-Sep-15	01:00	01:45	0.75	7969	7969	Circulating	Circulate at bottom of curve
22-Sep-15	01:45	01:55	0.17	7969	7714	POOH	
22-Sep-15	01:55	02:40	0.75	7714	7714	Circulating	
22-Sep-15	02:40	08:00	5.33	7714	300	POOH	POOH For TD
22-Sep-15	08:00	08:15	0.25	300	300	Lay Down BHA	Lay Down Sonic
22-Sep-15	08:15	08:30	0.25	300	100	POOH	
22-Sep-15	08:30	09:15	0.75	100	0	Lay Down BHA	Lay Down BHA

Run Statistics Calculated from DD Journal

Schlumberger

Job Number: 15NEB1139
Company Name: NORTHEAST NATURAL ENERGY LLC
Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
Well Location: Lat: 39.6018, Long: -79.9762
Well State: WV

Well County: Monongalia
Well Field: WV Monongalia County (NAD 83)
Well Country: UNITED STATES
Lead DD: Perry, John
Co. Man: Jamie Czerneski

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_2: lbm/bbl ● PRE_2: lbf/100ft2 ● VIS_1: s/qt ● VIS_2: cP ● HHP: h

Motor Information			
Desc:	DFF 7/8L 5.0S 0.29rpg 8 5/8" Stab		
Bent Hsg/Sub:	0.00	**Bit to Bend:**	0.00
Pad OD:	6.75	**NB Stab:**	8.63

Rotary Steerable Information			
Desc:	PD Archer w/ 8 5/8" Stab 0.9SR NoRes		
Strike Ring:		**Stabilized CC:**	No
		Control Stab OD:	

Steering Sheet / DD Journal Report for BHA # 1 on Run # 1 for Job # 15NEB1139

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	Survey Depth (MD)	INC	AZM	DLS	Note
1	18-Sep	Rotating	03:40	05:45	02:05	6230	6295	65	8	31.20	10	4	403		228M			6,295.00	4.309	196.91	8.533	SIdetrack Off Cement P
1	18-Sep	Rotating	06:00	07:15	01:15	6295	6350	55	8	44.00	10	4	460	2700				6,350.00	8.984	200.70	8.533	
1	18-Sep	Rotating	07:35	08:25	00:50	6350	6393	43	8	51.60	10	4	460	2700				6,393.00	9.745	206.02	2.426	
1	18-Sep	Rotating	08:35	09:25	00:50	6393	6441	48	8	57.60	10	4	460	2700				6,441.00	10.270	212.01	2.426	
1	18-Sep	Rotating	09:30	10:20	00:50	6441	6488	47	11	56.40	10	4	460	2700				6,488.00	12.998	203.57	8.526	
1	18-Sep	Rotating	10:25	11:35	01:10	6488	6582	94	17	80.57	10	4	460	2700				6,582.00	18.811	191.37	5.120	
1	18-Sep	Rotating	11:45	12:40	00:55	6582	6677	95	20	103.64	40	6	460	2700				6,677.00	20.222	195.00	8.113	
1	18-Sep	Rotating	12:45	13:35	00:50	6677	6723	46	20	55.20	40	6	460	2700				6,723.00	19.500	205.79	8.113	
1	18-Sep	Rotating	13:40	13:55	00:15	6723	6735	12	17	48.00	20	6	460	2700				6,735.00	19.486	208.70	8.545	
1	18-Sep	Rotating	14:05	15:20	01:15	6735	6771	36	10	28.80	20	5	460	2700				6,771.00	20.698	216.94	8.545	
1	18-Sep	Rotating	15:30	16:35	01:05	6771	6817	46	10	42.46	20	5	460	2700				6,817.00	22.743	226.03	8.545	
1	18-Sep	Rotating	16:40	17:30	00:50	6817	6866	49	10	58.80	20	5	460	2700				6,866.00	24.785	234.66	8.159	
1	18-Sep	Rotating	18:15	20:35	02:20	6866	6959	93	14	39.86	20	5	460	2688				6,959.00	27.713	251.08	9.986	
1	18-Sep	Rotating	20:45	22:35	01:50	6959	7053	94	14	51.27	20	5	460	2688				7,053.00	29.778	266.85	5.676	
1	18-Sep	Rotating	22:45	00:00	01:15	7053	7124	71	14	56.80	20	5	460	2688				7,124.00	31.880	274.03	7.427	
1	19-Sep	Rotating	00:00	00:20	00:20	7124	7148	24	14	72.00	20	5	460	2688				7,148.00	33.132	276.39	7.427	
1	19-Sep	Rotating	00:30	02:05	01:35	7148	7242	94	18	59.37	10	5	460	2688				7,242.00	37.939	285.36	7.904	

Schlumberger

Job Number: 15NEB1139
Company Name: NORTHEAST NATURAL ENERGY LLC
Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
Well Location: Lat: 39.6018, Long: -79.9762
Well State: WV

Well County: Monongalia
Well Field: WV Monongalia County (NAD 83)
Well Country: UNITED STATES
Lead DD: Perry, John
Co. Man: Jamie Czerneski

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_2: lbm/bbl ● PRE_2: lbf/100ft2 ● VIS_1: s/qt ● VIS_2: cP ● HHP: h

Steering Sheet / DD Journal Report for BHA # 1 on Run # 1 for Job # 15NEB1139

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	Survey Depth (MD)	INC	AZM	DLS	Note
1	19-Sep	Rotating	02:15	03:40	01:25	7242	7338	96	18	67.76	20	8	460	3120				7,338.00	43.723	293.37	8.844	
1	19-Sep	Rotating	03:55	05:30	01:35	7338	7433	95	18	60.00	20	8	460	3120				7,433.00	50.748	300.02	9.814	
1	19-Sep	Rotating	05:50	07:05	01:15	7433	7529	96	18	76.80	30	8	460	3120				7,529.00	56.981	309.47	11.121	
1	19-Sep	Rotating	07:10	08:25	01:15	7529	7624	95	18	76.00	30	8	460	3120				7,624.00	62.574	317.37	6.619	
1	19-Sep	Rotating	08:30	10:15	01:45	7624	7718	94	18	53.71	30	8	460	3120				7,718.00	68.966	321.19	9.758	
1	19-Sep	Rotating	10:20	12:05	01:45	7718	7814	96	18	54.86	30	8	460	3120				7,814.00	78.401	323.85	10.836	
1	19-Sep	Rotating	12:05	13:30	01:25	7814	7909	95	18	67.06	30	8	460	3200				7,909.00	86.317	326.23	5.605	
1	19-Sep	Rotating	13:35	13:45	00:10	7909	7915	6	18	36.00	30	8	460	3200				7,915.00	86.616	326.38	5.605	
1	19-Sep	Rotating	13:55	14:40	00:45	7915	7959	44	18	58.67	20	8	460	3200				7,959.00	88.812	327.50	5.605	
1	19-Sep	Rotating	15:10	16:05	00:55	7959	8004	45	18	49.09	20	8	460	3200				8,004.00	90.182	326.94	3.322	
1	19-Sep	Rotating	17:20	18:20	01:00	8004	8099	95	18	95.00	20	8	460	3200				8,099.00	91.432	325.38	1.372	
1	19-Sep	Rotating	18:25	19:05	00:40	8099	8194	95	18	142.50	50	9	460	3120				8,194.00	91.224	323.87	2.300	
1	19-Sep	Rotating	19:15	20:00	00:45	8194	8289	95	22	126.67	50	10	460	3120				8,289.00	91.190	322.90	1.217	
1	19-Sep	Rotating	20:05	20:40	00:35	8289	8384	95	22	162.86	80	10	460	3120				8,384.00	90.910	323.77	1.293	
1	19-Sep	Rotating	20:45	21:20	00:35	8384	8479	95	24	162.86	80	10	460	3190				8,479.00	91.209	324.35	0.243	
1	19-Sep	Rotating	21:25	21:40	00:15	8479	8529	50	24	200.00	80	10	460	3190				8,529.00	91.113	324.28	0.243	
1	19-Sep	Rotating	21:55	22:05	00:10	8529	8573	44	24	264.00	100	10	460	3190				8,573.00	91.174	323.89	1.018	
1	19-Sep	Rotating	22:15	22:40	00:25	8573	8668	95	22	228.00	100	11	460	3230				8,668.00	91.138	323.43	0.480	
1	19-Sep	Rotating	22:45	23:20	00:35	8668	8763	95	22	162.86	60	10	460	3230				8,763.00	90.958	323.84	0.645	
1	19-Sep	Rotating	23:25	00:00	00:35	8763	8856	93	22	159.43	100	10	460	3230				8,856.00	91.460	324.26	1.222	
1	20-Sep	Rotating	00:10	00:55	00:45	8856	8951	95	22	126.67	100	10	460	3230				8,951.00	91.804	324.23	0.962	

Schlumberger

Job Number: 15NEB1139
Company Name: NORTHEAST NATURAL ENERGY LLC
Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
Well Location: Lat: 39.6018, Long: -79.9762
Well State: WV

Well County: Monongalia
Well Field: WV Monongalia County (NAD 83)
Well Country: UNITED STATES
Lead DD: Perry, John
Co. Man: Jamie Czerneski

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_2: lbm/bbl ● PRE_2: lbf/100ft2 ● VIS_1: s/qt ● VIS_2: cP ● HHP: h

Steering Sheet / DD Journal Report for BHA # 1 on Run # 1 for Job # 15NEB1139

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	Survey Depth (MD)	INC	AZM	DLS	Note
1	20-Sep	Rotating	01:00	01:40	00:40	8951	9046	95	22	142.50	100	10	460	3360				9,046.00	90.955	323.29	2.207	
1	20-Sep	Rotating	01:50	02:30	00:40	9046	9139	93	24	139.50	100	10	460	3360				9,139.00	90.658	323.04	2.331	
1	20-Sep	Rotating	02:50	03:20	00:30	9139	9234	95	24	190.00	100	10	460	3360				9,234.00	91.238	324.15	0.973	
1	20-Sep	Rotating	03:25	04:05	00:40	9234	9329	95	24	142.50	100	10	460	3315				9,329.00	91.608	323.87	0.276	
1	20-Sep	Rotating	04:15	04:40	00:25	9329	9424	95	24	228.00	100	10	460	3375				9,424.00	91.524	324.05	0.466	
1	20-Sep	Rotating	04:45	05:15	00:30	9424	9517	93	24	186.00	100	10	460	3375				9,517.00	91.698	324.53	0.666	
1	20-Sep	Rotating	05:20	06:05	00:45	9517	9613	96	24	128.00	100	10	460	3375				9,613.00	91.418	324.12	2.287	
1	20-Sep	Rotating	06:10	06:50	00:40	9613	9708	95	22	142.50	100	12	460	3375				9,708.00	90.734	322.74	0.626	2 Downlinks While Drilli
1	20-Sep	Rotating	06:55	07:30	00:35	9708	9803	95	22	162.86	100	12	460	3375				9,803.00	90.712	322.62	0.642	
1	20-Sep	Rotating	07:35	08:10	00:35	9803	9898	95	22	162.86	100	12	460	3375				9,898.00	90.602	322.94	0.842	
1	20-Sep	Rotating	08:15	08:40	00:25	9898	9992	94	22	225.60	100	12	460	3375				9,992.00	90.168	323.39	1.120	
1	20-Sep	Rotating	08:45	09:20	00:35	9992	10087	95	23	162.86	100	12	460	3375				10,087.00	89.939	324.48	1.396	
1	20-Sep	Rotating	09:30	09:55	00:25	10087	10181	94	23	225.60	100	12	460	3375				10,181.00	89.766	325.04	0.694	
1	20-Sep	Rotating	10:00	10:50	00:50	10181	10276	95	23	114.00	100	13	460	3600				10,276.00	89.707	324.63	1.308	
1	20-Sep	Rotating	10:55	11:25	00:30	10276	10370	94	23	188.00	100	13	460	3600				10,370.00	89.615	324.11	1.450	
1	20-Sep	Rotating	11:35	12:15	00:40	10370	10464	94	23	141.00	100	13	460	3600				10,464.00	90.258	323.62	0.857	
1	20-Sep	Rotating	12:20	12:45	00:25	10464	10559	95	22	228.00	100	13	460	3720				10,559.00	90.114	323.08	0.324	
1	20-Sep	Rotating	12:50	13:20	00:30	10559	10654	95	22	190.00	100	13	460	3720				10,654.00	90.185	323.18	0.656	
1	20-Sep	Rotating	13:25	13:50	00:25	10654	10748	94	22	225.60	100	13	460	3720				10,748.00	90.096	323.40	0.370	
1	20-Sep	Rotating	14:00	14:25	00:25	10748	10843	95	22	228.00	100	13	460	3720				10,843.00	90.187	322.89	0.914	
1	20-Sep	Rotating	14:30	14:55	00:25	10843	10937	94	22	225.60	100	13	460	3720				10,937.00	90.151	322.39	0.664	

Schlumberger

Job Number: 15NEB1139
Company Name: NORTHEAST NATURAL ENERGY LLC
Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
Well Location: Lat: 39.6018, Long: -79.9762
Well State: WV

Well County: Monongalia
Well Field: WV Monongalia County (NAD 83)
Well Country: UNITED STATES
Lead DD: Perry, John
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UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_2: lbm/bbl ● PRE_2: lbf/100ft2 ● VIS_1: s/qt ● VIS_2: cP ● HHP: h

Steering Sheet / DD Journal Report for BHA # 1 on Run # 1 for Job # 15NEB1139

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	Survey Depth (MD)	INC	AZM	DLS	Note
1	20-Sep	Rotating	15:00	15:30	00:30	10937	11031	94	22	188.00	100	13	460	3720				11,031.00	89.994	321.99	1.099	
1	20-Sep	Rotating	15:35	16:10	00:35	11031	11126	95	22	162.86	100	13	460	3720				11,126.00	89.960	321.48	0.930	
1	20-Sep	Rotating	17:00	17:30	00:30	11126	11221	95	22	190.00	100	13	460	3720				11,221.00	89.254	321.59	0.495	
1	20-Sep	Rotating	17:35	18:05	00:30	11221	11315	94	22	188.00	100	13	460	3720				11,315.00	88.991	322.04	0.958	
1	20-Sep	Rotating	18:10	18:45	00:35	11315	11410	95	24	162.86	100	13	460	3720				11,410.00	89.169	322.77	0.670	
1	20-Sep	Rotating	18:50	19:20	00:30	11410	11505	95	24	190.00	100	14	460	3720				11,505.00	90.010	323.11	1.496	
1	20-Sep	Rotating	19:30	19:40	00:10	11505	11546	41	24	246.00	100	14	460	3720				11,546.00	90.619	323.19	1.496	
1	20-Sep	Rotating	19:55	20:15	00:20	11546	11599	53	24	159.00	100	14	460	3720				11,599.00	90.734	323.02	0.589	
1	20-Sep	Rotating	20:20	21:05	00:45	11599	11694	95	24	126.67	100	14	460	3800				11,694.00	90.680	322.59	0.457	
1	20-Sep	Rotating	21:15	21:40	00:25	11694	11789	95	24	228.00	100	14	460	3800				11,789.00	90.696	322.79	1.111	
1	20-Sep	Rotating	21:45	22:20	00:35	11789	11883	94	24	161.14	100	14	460	3800				11,883.00	90.870	323.95	1.827	
1	20-Sep	Rotating	22:35	23:00	00:25	11883	11978	95	24	228.00	100	14	460	3800				11,978.00	91.310	324.85	0.384	
1	20-Sep	Rotating	23:05	23:40	00:35	11978	12072	94	24	161.14	100	14	460	3800				12,072.00	91.174	324.92	0.200	
1	21-Sep	Rotating	00:00	00:30	00:30	12072	12167	95	24	190.00	100	14	460	3800				12,167.00	91.138	324.85	0.480	
1	21-Sep	Rotating	00:35	01:05	00:30	12167	12262	95	25	190.00	100	14	460	3800				12,262.00	91.066	324.70	0.381	
1	21-Sep	Rotating	01:10	01:40	00:30	12262	12357	95	24	190.00	100	14	460	3800				12,357.00	91.282	324.65	0.181	
1	21-Sep	Rotating	01:45	02:10	00:25	12357	12451	94	26	225.60	100	15	460	3800				12,451.00	91.174	324.47	0.354	
1	21-Sep	Rotating	02:15	02:45	00:30	12451	12546	95	24	190.00	100	15	460	3925				12,546.00	91.152	324.60	0.759	
1	21-Sep	Rotating	02:50	03:20	00:30	12546	12641	95	24	190.00	100	15	460	3925				12,641.00	91.329	324.76	0.591	
1	21-Sep	Rotating	03:25	03:55	00:30	12641	12735	94	24	188.00	100	15	460	3925				12,735.00	91.246	324.77	0.910	
1	21-Sep	Rotating	04:00	04:40	00:40	12735	12830	95	24	142.50	100	16	460	3925				12,830.00	91.082	325.33	0.306	

Schlumberger

Job Number: 15NEB1139
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Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
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Well State: WV

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UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_2: lbm/bbl ● PRE_2: lbf/100ft2 ● VIS_1: s/qt ● VIS_2: cP ● HHP: h

Steering Sheet / DD Journal Report for BHA # 1 on Run # 1 for Job # 15NEB1139

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	Survey Depth (MD)	INC	AZM	DLS	Note
1	21-Sep	Rotating	04:45	05:20	00:35	12830	12924	94	24	161.14	100	16	460	4030				12,924.00	91.274	324.78	1.858	
1	21-Sep	Rotating	05:25	05:55	00:30	12924	13019	95	24	190.00	100	16	460	4030				13,019.00	91.874	323.97	0.354	
1	21-Sep	Rotating	06:05	06:45	00:40	13019	13113	94	24	141.00	100	16	460	4030				13,113.00	91.490	324.43	1.500	
1	21-Sep	Rotating	06:55	07:55	01:00	13113	13208	95	24	95.00	100	16	460	4030				13,208.00	90.752	324.81	0.138	
1	21-Sep	Rotating	08:00	08:40	00:40	13208	13302	94	24	141.00	100	16	460	4030				13,302.00	90.364	324.80	1.039	
1	21-Sep	Rotating	08:50	09:30	00:40	13302	13397	95	24	142.50	100	16	460	4030				13,397.00	89.746	324.96	0.166	
1	21-Sep	Rotating	09:35	10:20	00:45	13397	13492	95	24	126.67	100	16	460	4030				13,492.00	89.800	325.27	0.664	
1	21-Sep	Rotating	10:25	11:15	00:50	13492	13587	95	25	114.00	100	16	460	4030				13,587.00	90.350	324.95	2.012	
1	21-Sep	Rotating	11:20	12:40	01:20	13587	13681	94	25	70.50	100	16	460	4030				13,681.00	90.570	323.62	1.333	
1	21-Sep	Rotating	12:45	13:15	00:30	13681	13776	95	25	190.00	100	16	460	4030				13,776.00	90.317	323.16	0.758	
1	21-Sep	Rotating	13:20	14:10	00:50	13776	13871	95	25	114.00	120	16	460	4030				13,871.00	90.752	323.29	0.000	
1	21-Sep	Rotating	14:15	14:20	00:05	13871	13874	3	25	36.00	100	16	460	4030				13,874.00	90.752	323.29	0.000	Well TD @ 13874'

Total Drilled:	7644	**Avg. On Bottom ROP:**	111.46		**DEPTH% - TIME%**
Total Rotary Drilled:	7644	**Avg. Rotary ROP:**	111.46	**Percent Rotary:**	100% - 100%
Total Drilled Sliding:	0	**Avg. Slide ROP:**		**Percent Slide:**	0% - 0%

Job Number: 15NEB1139
Company Name: NORTHEAST NATURAL ENERGY LLC
Rig Name: PATTERSON #254
Well Name: MIP 3H ST01
Well Location: Lat: 39.6018, Long: -79.9762
Well State: WV

Well County: Monongalia
Well Field: WV Monongalia County (NAD 83)
Well Country: UNITED STATES
Lead DD: Perry, John
Co. Man: Jamie Czerneski

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_2: lbm/bbl ● PRE_2: lbf/100ft2 ● VIS_1: s/qt ● VIS_2: cP ● HHP: h

BHA Summary Report JOB - 15NEB1139

	TIME IN - OUT			DEPTHs		TVD DEPTHs		Footage / Hours			ROP			RPM	FLOW	Inclination		Azimuth		Weight Ranges		
#	Time In	Time Out	Hrs	IN	Out	IN	OUT	Rotary	Slide	Total	Avg	Rotary	Slide	RPM	FLOW	IN	OUT	IN	OUT	SO	PU	RAB
1	17-Sep-15 14:15	22-Sep-15 08:00	113.75	6230	13874	6228	7412	7644 / 68.58	0 / 0.00	7644 / 68.58	111.46	111.46		10-120	403-460	0.79	90.75	329.04	323.29	50-152	132-216	129-155

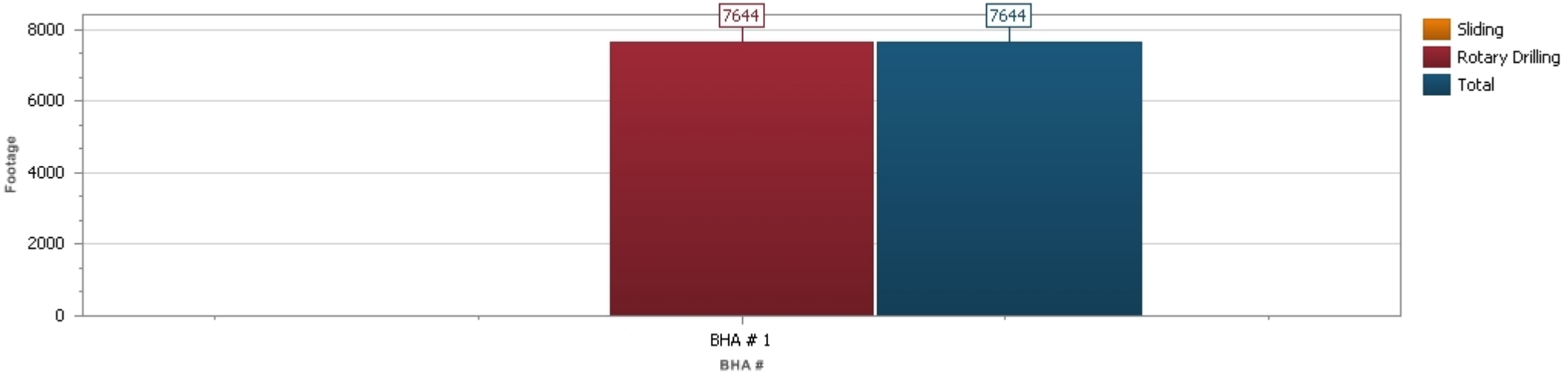
PDC 8.75" SDi613 MPXG, O.D=8.75, Length=0.75 | PD Archer w/ 8 5/8" Stab 0.9SR NoRes, O.D=6.75, Length=16.31, F.N=6.75 | Pony NMDC Flex, O.D=6.88, Length=8.14, F.N=6.875 | PONY NMDC HDS1E 675, O.D=6.88, Length=10.66 | INT. NMDC Flex Collar 8 5/8" Stab, O.D=6.88, Length=16.07, F.N=6.875 | Gap Sub 675, O.D=6.88, Length=4.66 | NM X/O 4 1/2IF BOX-5 1/2FH PIN, O.D=6.75, Length=3.02, F.N=6.75 | PDX5/6 Flex Collar, O.D=6.5, Length=14.57, F.N=6.5 | DFF 7/8L 5.0S 0.29rpg 8 5/8" Stab, O.D=6.75, Length=25.72, F.N=6.75 | 6 Joints 5" Drill Pipe, O.D=5, Length=189.79 | 8 1/2" NM String Stabilizer BFF, O.D=6.75, Length=5.06 | NM X/O 5 1/2FH BOX-4 1/2IF PIN, O.D=6.88, Length=4.24 | CLSS 675 (SonicPacer), O.D=6.88, Length=28.49 | NM X/O 4 1/2IF BOX-5 1/2FH PIN, O.D=6.88, Length=5.51

Schlumberger

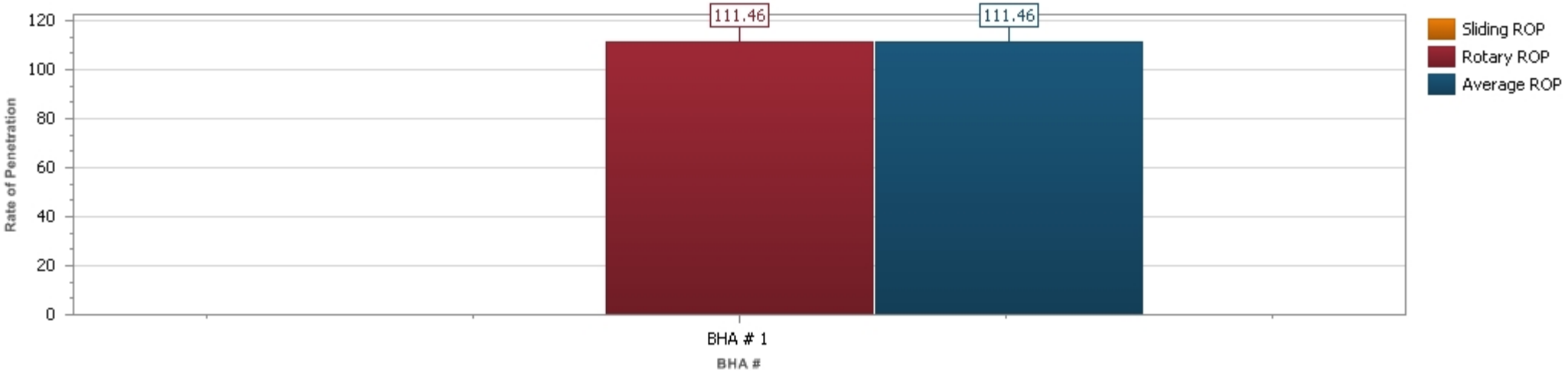
Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

UOM: DEN: lbm/galUS ● DEP: ft ● DIA: in ● FLO: galUS/min ● INC: deg ● MAS: klbm ● PRE: psi ● TEM: degF ● TOR: kft.lbf ● VOL: galUS ● DLS: deg/100ft ● CON: ppm ● CON_2: lbm/bbl ● PRE_2: lbf/100ft2 ● VIS_1: s/qt ● VIS_2: cP ● HHP: h

Footage Drilled for BHA



ROP vs BHA



Schlumberger

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
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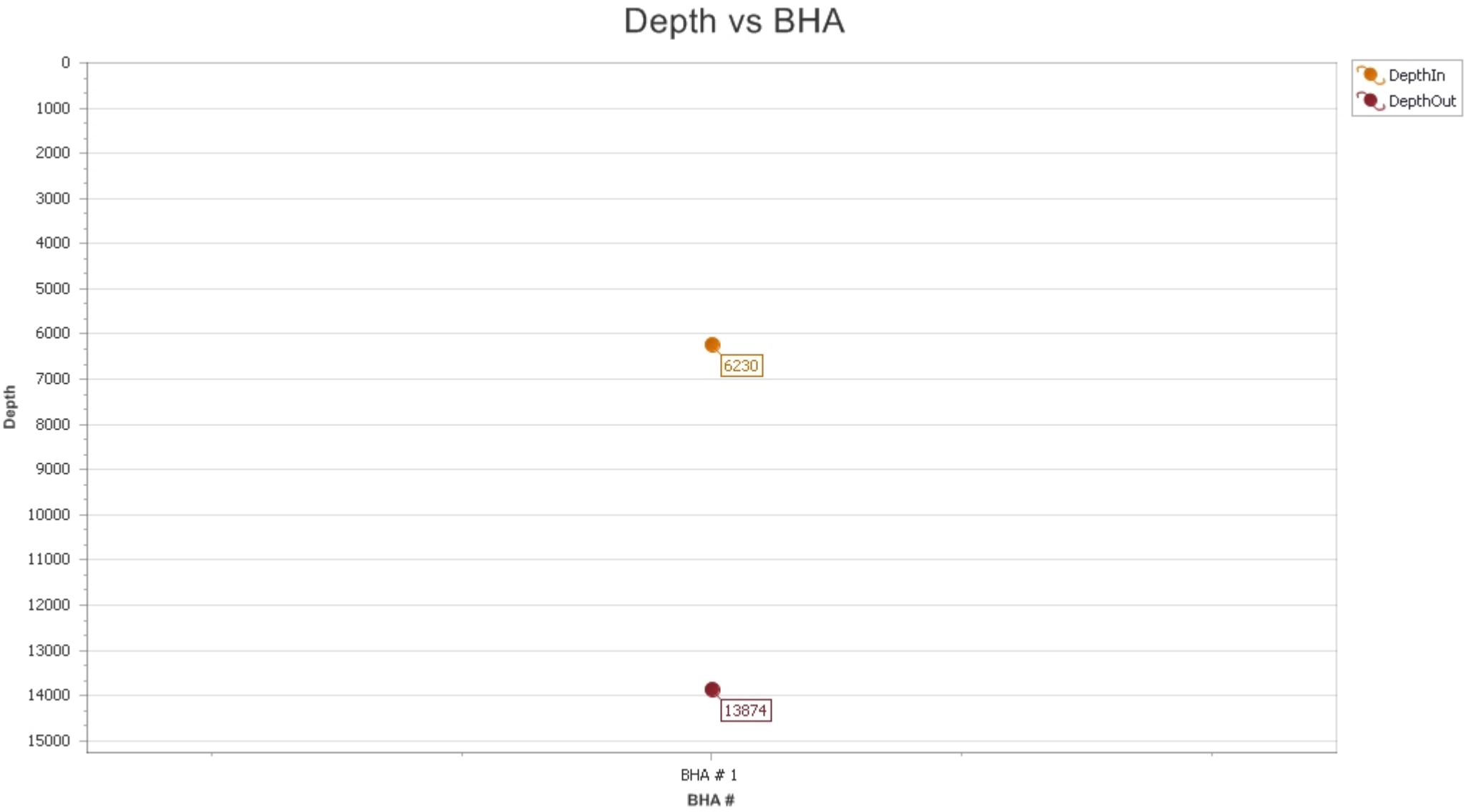

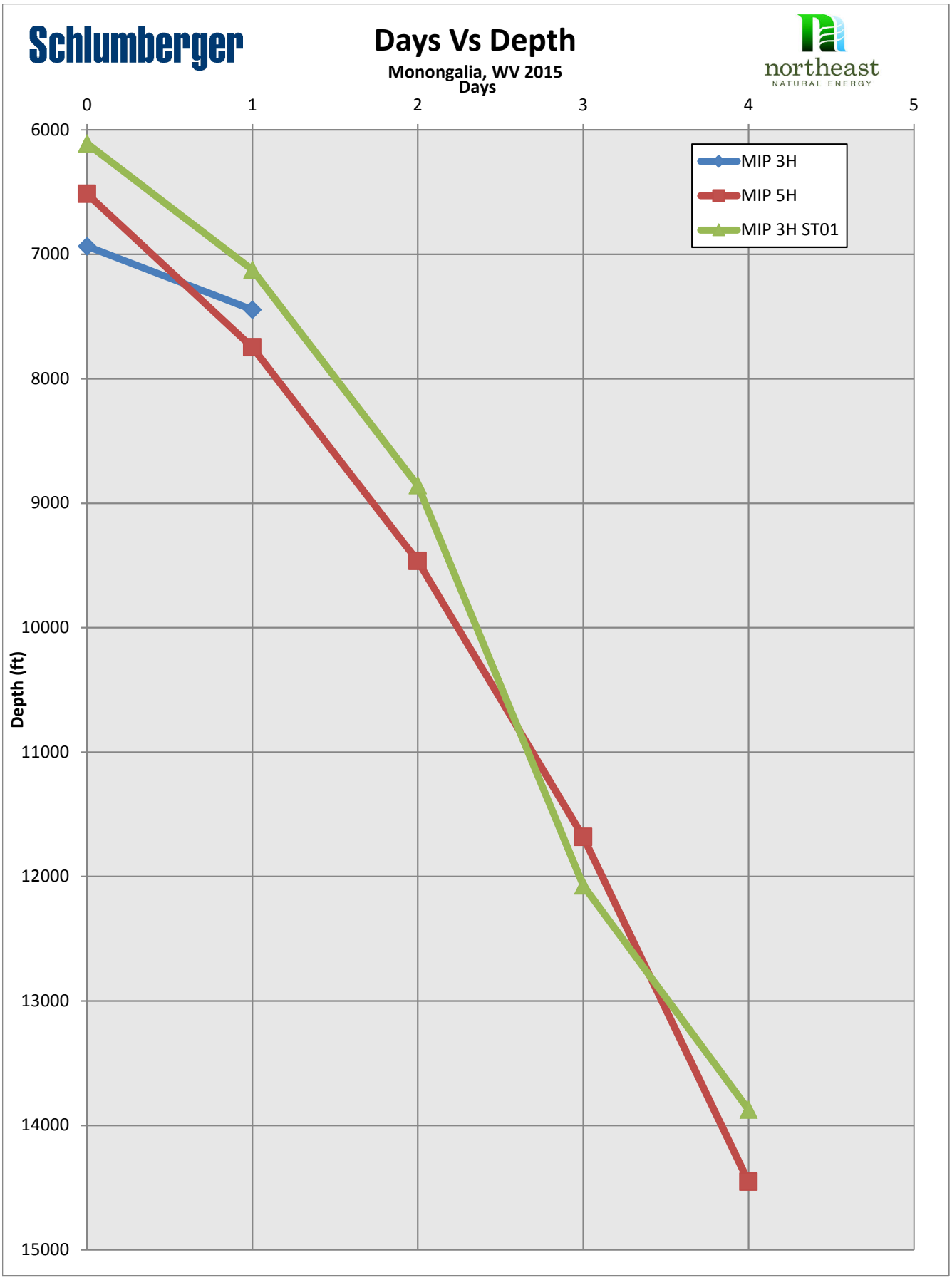
Schlumberger
Days Vs Depth
Monongalia, WV 2015
Days
northeast
NATURAL ENERGY
0
1
2
3
4
5
6000
7000
8000
9000
10000
11000
12000
13000
14000
15000
Depth (ft)
MIP 3H
MIP 5H
MIP 3H ST01

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
Rig Name:	PATTERSON #254	**Well Country:**	UNITED STATES
Well Name:	MIP 3H ST01	**Lead DD:**	Perry, John
Well Location:	Lat: 39.6018, Long: -79.9762	**Co. Man:**	Jamie Czerneski
Well State:	WV		

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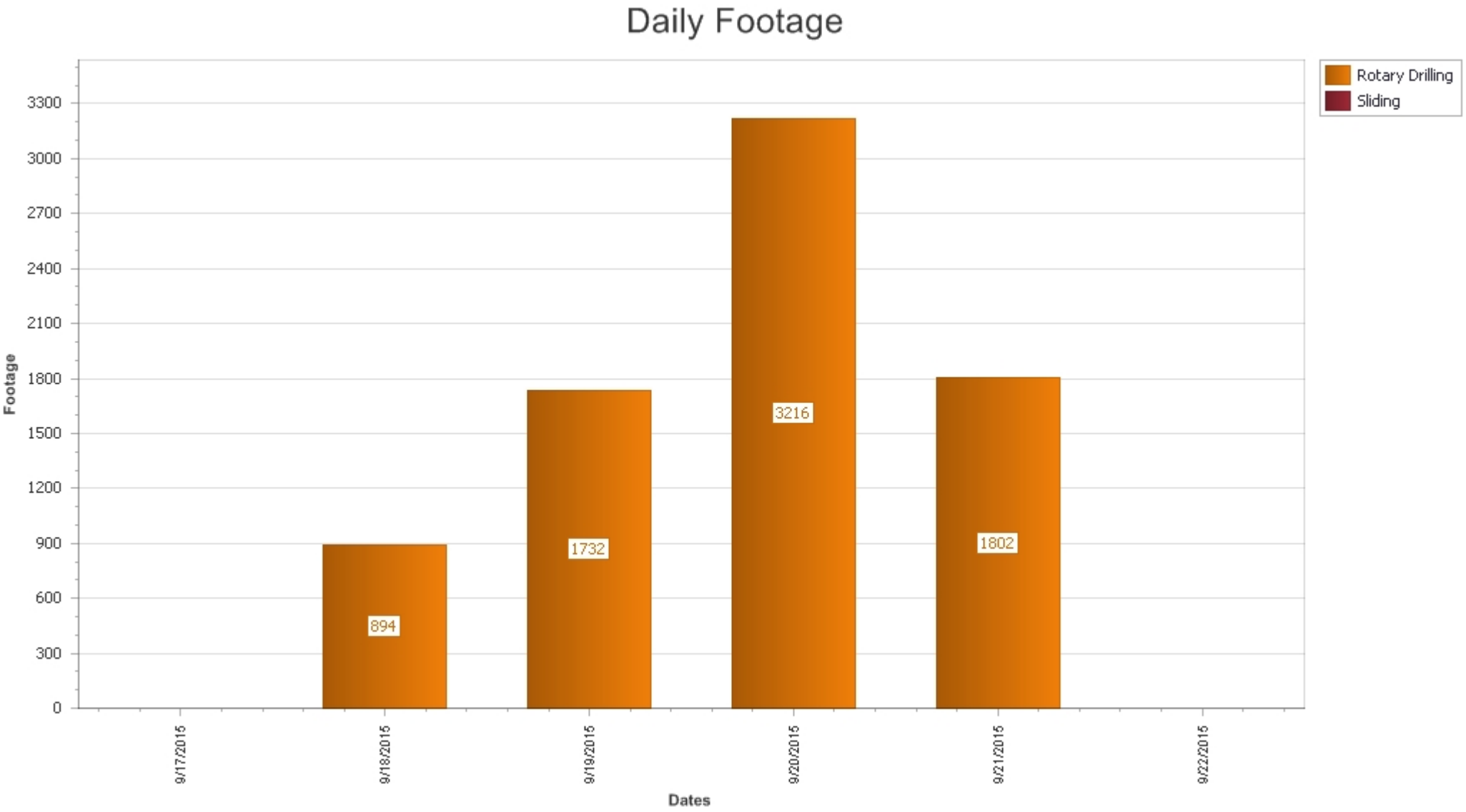

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Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
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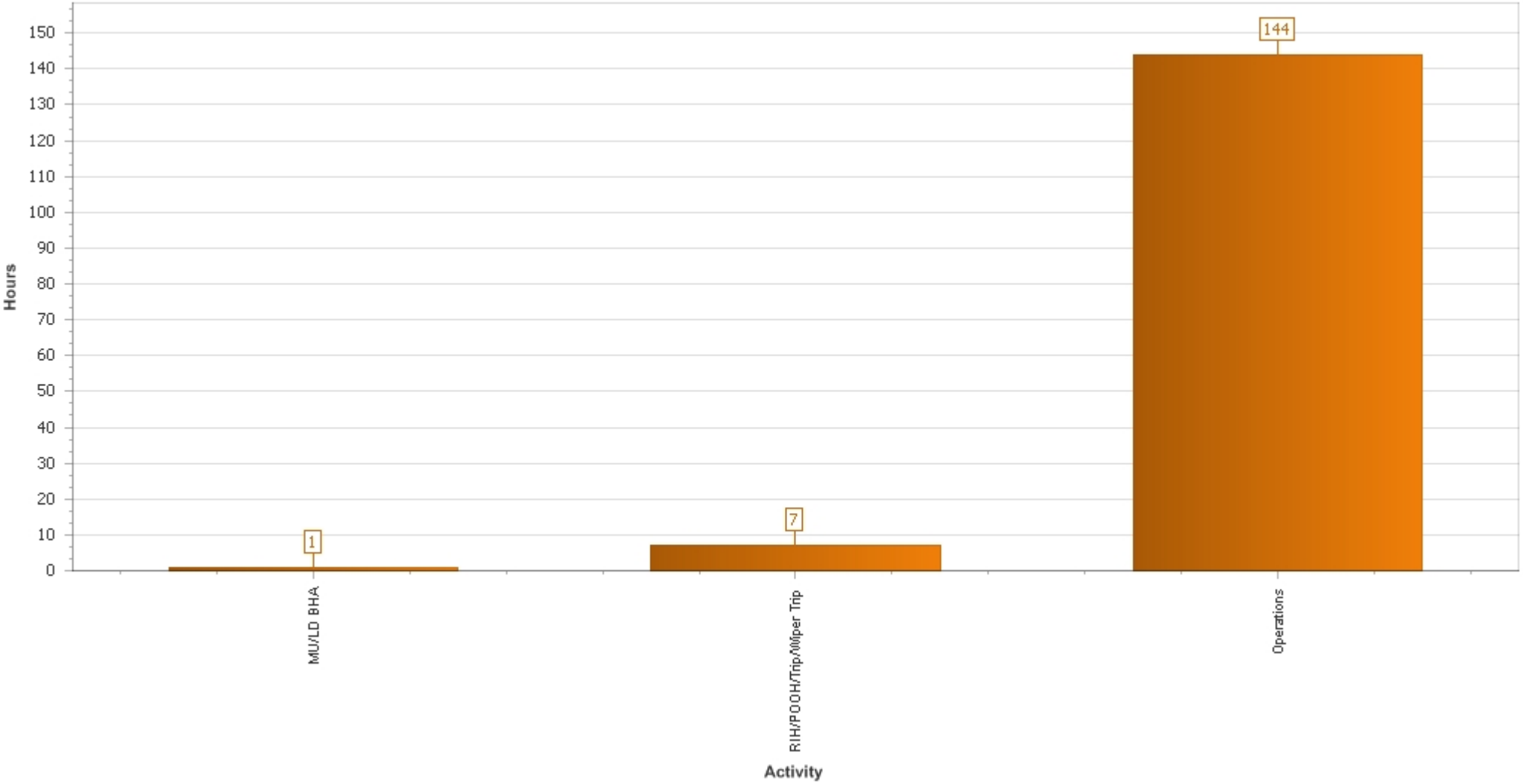
Activity Histograph



Schlumberger

Job Number:	15NEB1139	**Well County:**	Monongalia
Company Name:	NORTHEAST NATURAL ENERGY LLC	**Well Field:**	WV Monongalia County (NAD 83)
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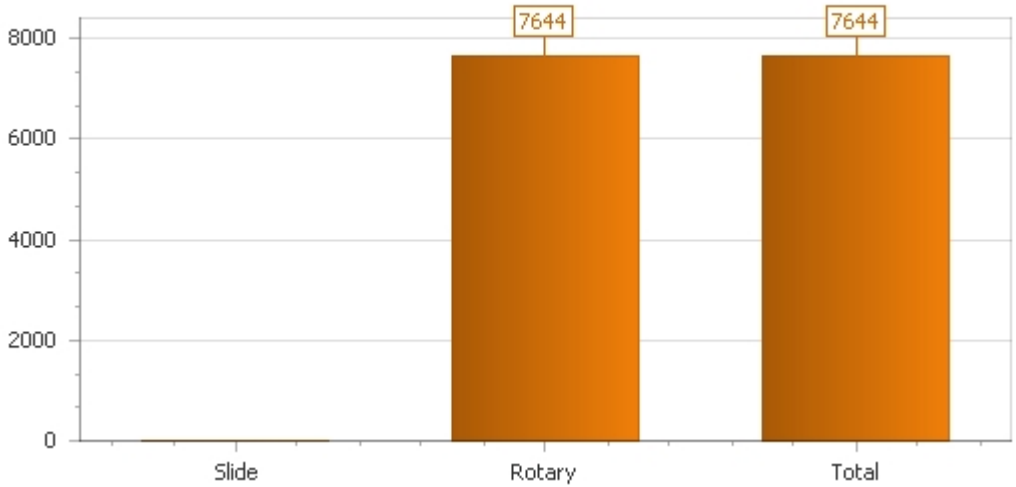
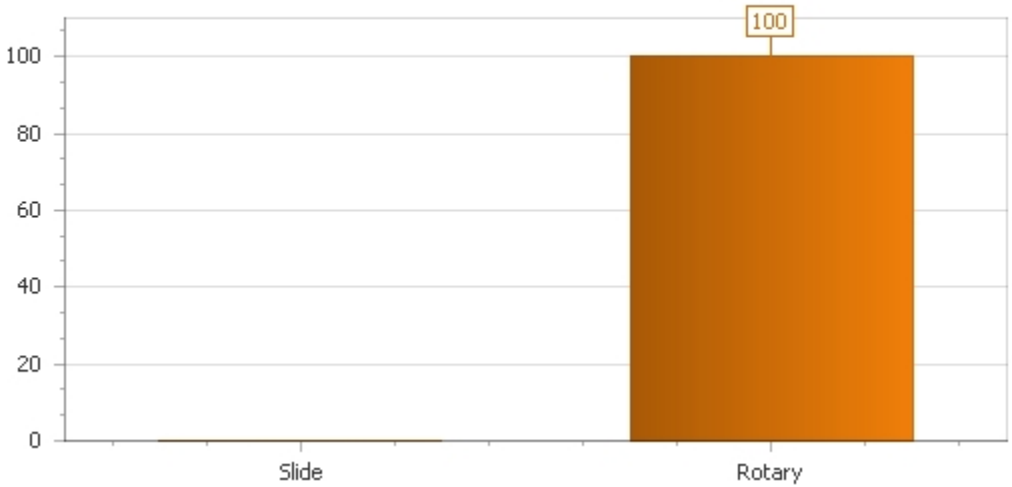
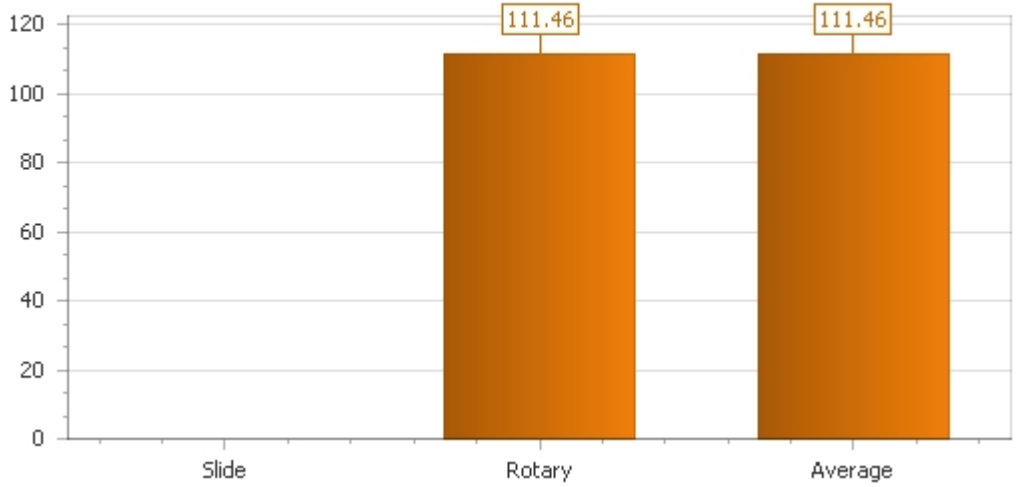
Totals for Footage Drilled



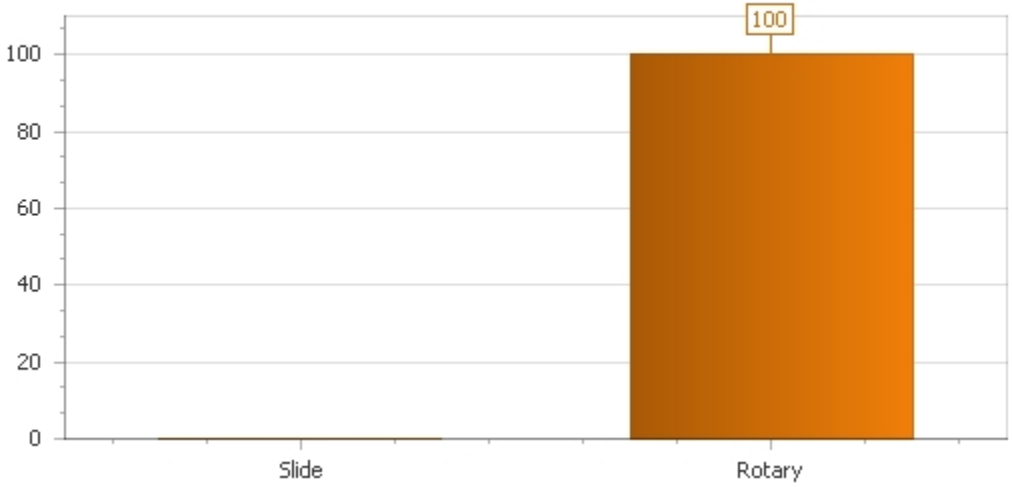
Percentage of Footage



Rate of Penetration



Percentage of Total Time



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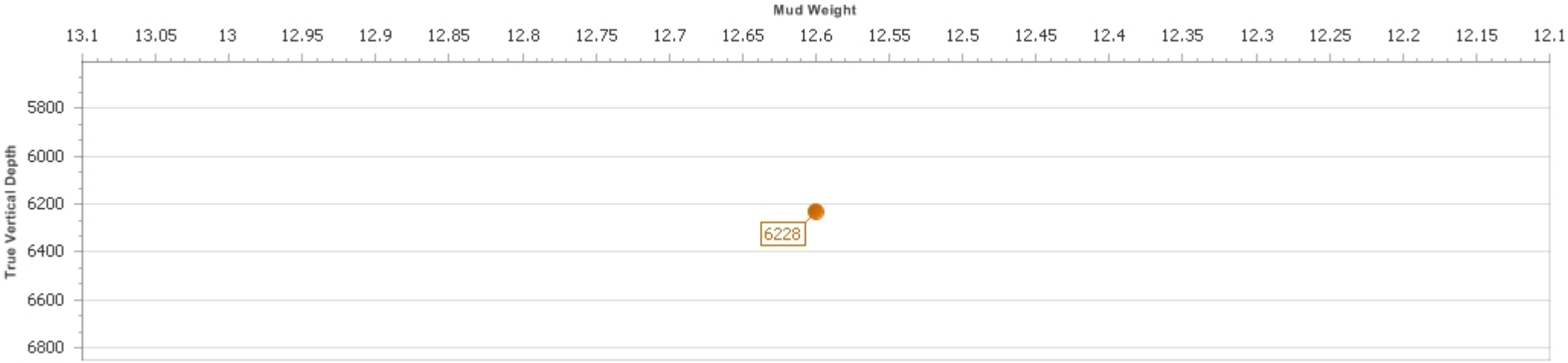
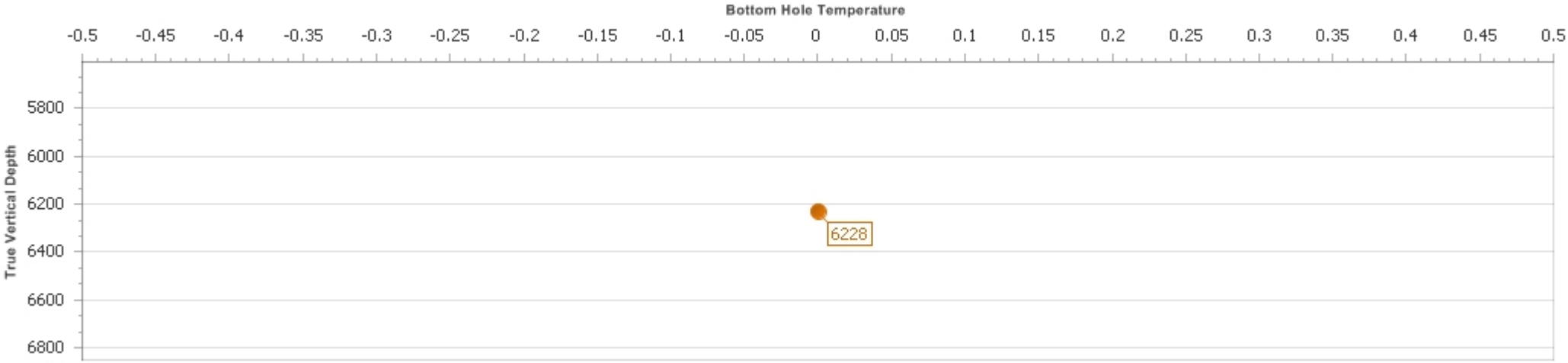
Mud Weight vs TVD Depth



Bottom Hole Temp vs TVD Depth