



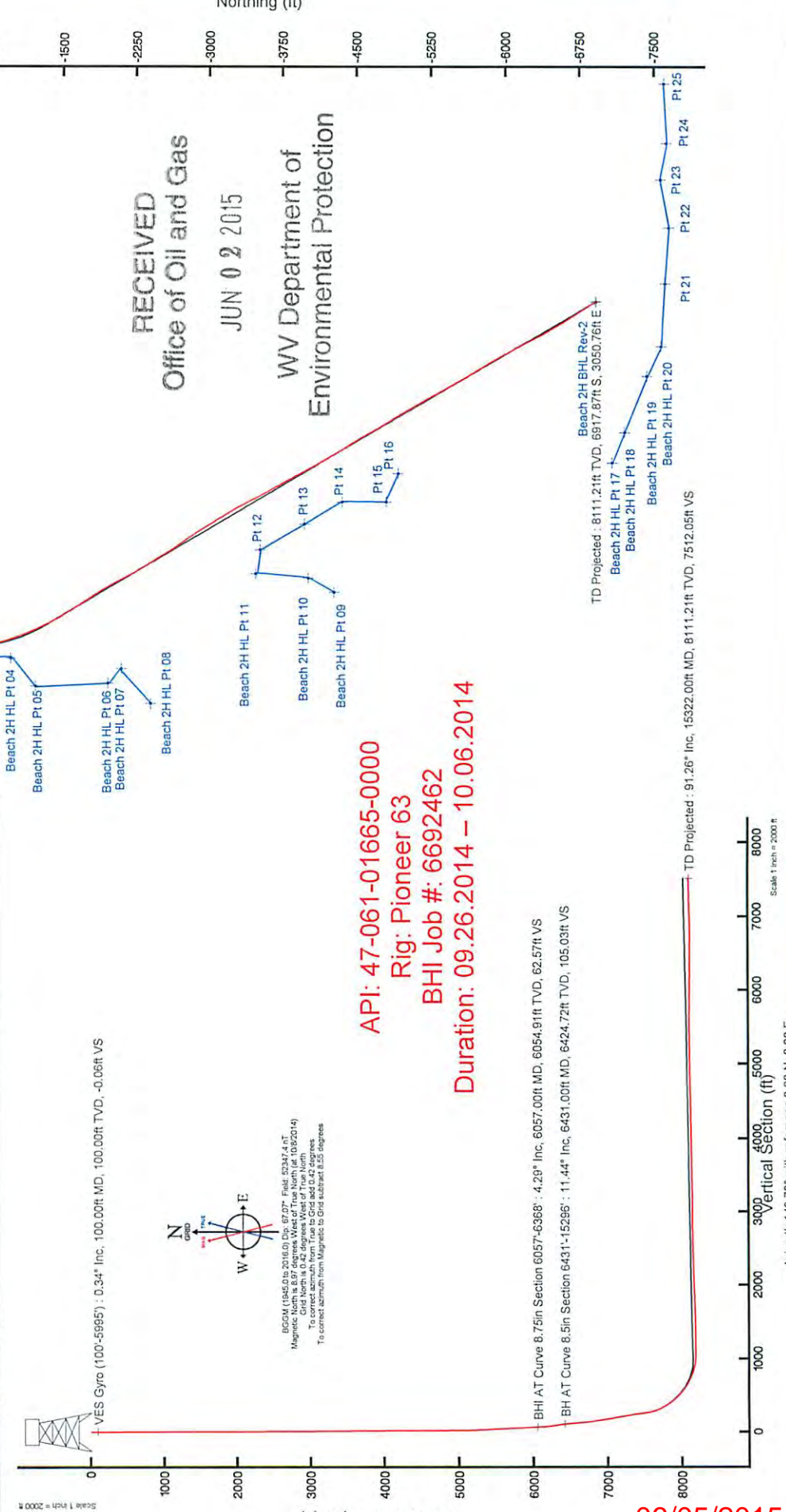
NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV
 Field: Monongalia
 Facility: Beach Pad

Slot: 02
 Well: Beach 2H
 Wellbore: Beach_2H_PWB

Plot reference wellbore is Beach 2H PWB Rev-B.0
 True vertical depths are referenced to Pioneer 63 (RKB)
 Measured depths are referenced to Pioneer 63 (RKB)
 Pioneer 63 (RKB) to Mean Sea Level: 1376.7 feet
 Mean Sea Level to Mud line (At Slot: 02): -1358.7 feet
 Coordinates are in feet referenced to Slot.
 Created by: gottfrid on 10/9/2014

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Beach Pad	1784915.100	439301.800	80°09'09.060"W
Slot	Local E (ft)	Grid North (US ft)	Longitude
02	0.00	439301.800	80°09'09.060"W
Pioneer 63 (RKB) to Mud line (At Slot: 02)	18ft		
Pioneer 63 (RKB) to Mean Sea Level	-1358.7ft		



CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER		DATE 13-JUL-14	F.R. # 10011082407	SERV. SUPV. Scott J Carson	
LEASE & WELL NAME BEACH #2H - API 47061016850000		LOCATION CLAY		COUNTY-PARISH-BLOCK Monongalia West Virginia	
DISTRICT Clarksburg		DRILLING CONTRACTOR RIG # PRECISION # 1		TYPE OF JOB Surface	
SIZE & TYPE OF PLUGS		RET. CSG. HARDWARE		MECHANICAL BARRIERS	
BJ Cement Plug, Rubber, Top 13-3/8		Float Collar, Auto Fill, 13-3/8 - 8rd		NONE	
		Guide Shoe, Cement Nose 13-3/8 I			
MATERIALS FURNISHED BY BJ		LAB REPORT NO.		PHYSICAL SLURRY PROPERTIES	
H2O				SACKS OF CEMENT	Bbl SLURRY
GEL/FLAKE				SLURRY WGT PPG	Bbl MIX WATER
H2O				SLURRY YLD FT3	
PREMIUM NE-1 W/2% CACL		N/A		WATER GPS	
H2O				PUMP TIME HR:MIN	
400 # SUGAR ON SIDE					
Available Mix Water 500 Bbl.		Available Displ. Fluid 500 Bbl.		TOTAL	640 137.07
HOLE		TBC (SG-D.P)		COLLAR DEPTHS	
SIZE	% EXCESS	DEPTH	ID	OD	WGT
17.5	30	1345	12.62	13.38	64.5
			CSG	MD	TVD
				1285	1285
				GRADE	SHOE
				J-65	1285
				FLOAT	STAGE
					1242
					1
LAST CASING		PKR ONLY RET OR PL LINER		PERF. DEPTH	
ID	OD	WGT	TYPE	MD	TVD
23	24	94.6	CSG	60	60
		BRAND & TYPE		DEPTH	TOP
		NO PACKER		BTM	
				SIZE	THREAD
				13.375	8 RD
				WELL FLUID	WGT
				OTHER	0
DISPL. VOLUME		DISPL. FLUID		CALC. PSI	
VOLUME	UOM	TYPE	WGT	MAX. PSI	TOP MAX.
192	BBLs	H2O	8.34	456	0
				TO REV.	SO. PSI
				0	0
				MAX. TBC PSI	MAX. CSG PSI
				0	0
				Operator	Operator
				1284	900
				MIX WATER	TANK
Circulation Prior to Job					
Circulated Well: Rtg <input type="checkbox"/> BJ <input checked="" type="checkbox"/>		Circulation Time:		Circulation Rate: BPM	
Mud Density In: LBS/GAL		Mud Density Out: LBS/GAL		PV & YP Mud In:	
Gas Present: NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>		Units:		PV & YP Mud Out:	
				Solids Present at End of Circulation: NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>	
Displacement and Mud Removal					
Displaced By: Rtg <input type="checkbox"/> BJ <input type="checkbox"/>		Amount Bled Back After Job: BBLs			
Returns During Job: <input type="checkbox"/> NONE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FULL		Method Used to Verify Returns:			
Cement Returns at Surface: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Were Returns Planned at Surface: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES			
Pipe Movement: <input type="checkbox"/> ROTATION <input type="checkbox"/> RECIPROCATION <input type="checkbox"/> NONE <input type="checkbox"/> UNABLE DUE TO STUCK PIPE					
Centralizers: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES		Quantity:		Type: <input type="checkbox"/> BOW <input type="checkbox"/> RIGID	
Job Pumped Through: <input type="checkbox"/> CHOKE MANIFOLD <input type="checkbox"/> SQUEEZE MANIFOLD <input type="checkbox"/> MANIFOLD <input type="checkbox"/> NO MANIFOLD					
Plugs					
Number of Attempts by BJ:		Competition:		Wiper Balls Used: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	
Plug Catcher Used: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES				Quantity:	
Was There a Bottom: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES				Parabow Used: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	
				Top of Plug: FT	
				Bottom of Plug: FT	
Squeezes (Update Original Treatment Report for Primary Job)					
BLOCK SQUEEZE <input type="checkbox"/>		SHOE SQUEEZE <input type="checkbox"/>		TOP OF LINER SQUEEZE <input type="checkbox"/>	
				PLANNED <input type="checkbox"/> UNPLANNED <input type="checkbox"/>	
Liner Packer: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES		Bond Log: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES		PSI Applied: LBS/GAL	
				Fluid Weight: LBS/GAL	
Casing Test (Update Original Treatment Report for Primary Job)					
Casing Test Pressure: PSI		With LBS/GAL		Mud Time Held: Hours Minutes	
EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:					

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Shoe Test (Update Original Treatment Report for Primary Job)

Depth Drilled out of Shoe: FT	Target EMW: LBS/GAL	Actual EMW: LBS/GAL
Number of Times Tests Conducted:	Mud Weight When Test was Conducted:	LBS/GAL
Problems Before Job (i.e. Running Casing, Circulating Well, ETC)		
Problems During Job (i.e. Lost Returns, Equipment Failure, Bulk Delivery, Foaming, ETC)		
Problems After Job (i.e. Gas at Surface, Float Equipment Failed, ETC)		

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES	3900 PSI
						CIRCULATING WELL - RIG	BJ <input checked="" type="checkbox"/>
17:30						ARRIVE AT LOCATION 7-12-2014 LOCATION TIME 1800	
18:30						PRE JOB RIG IN SAFETY MEETING	
19:45						RIG IN	
23:15						PRE JOB SAFETY MEETING	
23:53	114		5	5	H2O	LINE FILL	
23:58					H2O	PRESSURE TEST TO 3900 PSI	
23:57	190		5.5	195	H2O	WATER AHEAD	
00:23	134		5	25	GEL/FLAKE	GEL SPACER W/FLAKE	
00:38	132		6.7	10	H2O	WATER SPACER	
00:40	200		5	227	SLURRY	15.2# PREMIUM NE W/2% CALCIUM (1ST 30 BBL W/50# FLAKE)	
01:25	0					SHUT DOWN / RELEASE PLUG	
01:27	350		7.2	181	H2O	DISPLACEMENT	
01:52	888					PLUG DOWN	
01:56	0					RELEASE PRESS, CHECK FLOAT	
02:00						POST JOB SAFETY MEETING	
02:13						RIG OUT	

BUMPED PLUG	PSI TO BUMP PLUG	YES/NO FLOAT EQUIP.	BBL. GMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	Service Supervisor Signature:
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	466	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	60	653	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

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CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER		DATE 16-JUL-14	F.R.# 10011062859		SERV. SUPV. Scott J Carson								
LEASE & WELL NAME BEACH 2H - API 47061016850000		LOCATION BLACKSVILLE			COUNTY-PARISH-BLOCK Monongalia West Virginia								
DISTRICT Clarksburg		DRILLING CONTRACTOR RIG # PERFORMANCE DRILLING			TYPE OF JOB Intermediate								
SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE		MECHANICAL BARRIERS		MD TVD HANGER TYPES MD TVD							
BJ Cement Plug, Rubber, Top 9-5/8		Guide Shoe, Cement Nose, 9-5/8 In Float Collar, AI Flap, 9-5/8 - 8rd		NONE		NONE							
PHYSICAL SLURRY PROPERTIES													
MATERIALS FURNISHED BY BJ		LAB REPORT NO.		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT							
H2O					8.34								
GEL W/ FLAKE					8.45								
H2O					8.34								
PREM NE 1 1.5% CACL		N/A		852	15.2	1.26							
H2O					8.34								
400# SUGAR ON THE SIDE					0								
Available Mix Water		600 Bbl.		Available Displ. Fluid		600 Bbl.							
				TOTAL		730 116.79							
HOLE			TBG-CSG-D.P.				COLLAR DEPTHS						
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLCAT	STAGE	
12.25	30	2588	8.835	9.825	40	CSG	2547	2547	J-5S	2547	2500	1	
LAST CASING			PKR-OMT RET-BR PL-LINER				PERF. DEPTH		TOP CONN		WELL FLUID		
ID	OD	WGT	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.
13.13.30	54.6	CSG		1278	1278	NO PACKER				9.625	6 RD	FRESH WATER	8.34
12.25		OPEN HOLE		2588	2588								
DISPL. VOLUME		DISPL. FLUID		CAL. PSI	CAL. MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		MIX WATER		
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	TANK		
189	BBLs	H2O	8.34	890	0	0	0	0	3160	1600	TANK		

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL					EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>
	PIPE	ANNULUS				
22:12						TEST LINES 2950 PSI
02:00						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input checked="" type="checkbox"/>
02:30						ARRIVED ON LOC. ON 7/15/2014
02:50						PRE RIG IN SAFETY MEETING
04:20						SPOT EQUIP.
04:40				6	H2O	RIG IN
04:42	0		.5	.25	H2O	PRE JOB SAFETY MEETING
04:45	270		7.3	200	H2O	LINE FILL
05:10	170		5.7	25	6% GEL	PRESS. TEST TO 2950 PSI
05:13	165		5.7	10	H2O	PUMP H2O
05:15	285		5.3	191	CEMENT	6% GEL W/FLAKE
05:57	925		8.7	189	H2O	H2O SPACER
06:25	1450					CEMENT SLURRY 15.2# 1.26 5.76
06:30	0					SHUT DOWN / DROP PLUG
06:34						DISPLACEMENT
						LAND PLUG AND HOLD 600 PSI OVER W.P.
						RELEASE PRESSURE / CHECK FLOAT
						POST JOB SAFETY MEETING

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PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	BBL. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPR	ANNULUS				TEST LINES	2050 PSI
06:48						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input checked="" type="checkbox"/>	
						RIG OUT	
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL. CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	860	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	28	816	0	Y <input checked="" type="checkbox"/> N	<i>[Signature]</i>

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CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER	DATE 08-OCT-14	F.R.# 10011106403	SERV. SUPV. Brian Lough
LEASE & WELL NAME BEACH 2H - API 47081016850000	LOCATION MONONGALIA		COUNTY-PARISH-BLOCK Monongalia West Virginia
DISTRICT Clarksburg	DRILLING CONTRACTOR RIG # PERFORMANCE 1		TYPE OF JOB Long String

SIZE & TYPE OF PLUGS	LIST CSG HARDWARE	MECHANICAL BARRIERS	MD	TVD	HANGER TYPES	MD	TVD
5-1/2" Top Cem Plug, Nitri cvr, Phen	Gulde Shoe, Cement Nose, 5-1/2 I						
	Float Collar, AI Flap, 5-1/2 - 8rd						

MATERIALS FURNISHED BY BJ		LAB REPORT NO.	PHYSICAL SLURRY PROPERTIES							
			SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER	
H2O				8.34					5	
ULTRA FLUSH HV				13					100	
50/50 POZ-PREM NE-1+.25%R-3+.3%MPA-170			2,926	14.6	1.17	6.14	05:54		676	337.70
SUGAR WATER				8.34					10	
H2O				8.34					336	
Available Mix Water		750 Bbl.	Available Displ. Fluid		750 Bbl.	TOTAL			1028	337.70

HOLE			TRG CSG D.P						COLLAR DEPTHS			
SIZE	W/ X H X H99	DEPTH	ID	OD	WGT	TYPE	MD	TVD	GRADE	6HOE	FLOAT	STAGE
8.6	10	15322	4.778	6.6	20	OSG	15276		J-55	15278	15219	

LAST CASING				PKR CMT RET BR PL LINER			PERF DEPTH		TOP CONN		WELL FLUID		
ID	OD	WGT	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT
8.9	9.625	36	OSG	2561	2551					6.6	BUTT	SYNTHETIC MUD	12.6

DISPL VOLUME		DISPL FLUID		CAL PSI		CAL MAX PSI		OP MAX		MAX TRG PSI		MAX CSG PSI		MIX WATER
VOLUME	UOM	TYPE	WGT	BUMP PLUG	TO REV	80 PSI	RATED	Operator	RATED	Operator	RATED	Operator		
338	BBLs	H2O	8.34	2600	0	0	0	0	7352	5500	TANK			

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL					EXPLANATION			
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>		
	PIPE	ANNULUS				TEST LINES	6500 PSI	CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>
17:00								ARRIVE ON LOCATION. JOB TIME 1730
18:00								SAFETY MEETING WITH BHI CREW
18:30								SPOT EQUIPMENT AND RIG IN
23:30								SAFETY MEETING WITH RIG CREW AND CO.MAN
00:24	650		5	6	H2O			LINE FILL
00:28	0		.2	2	H2O			PRESSURE TEST TO 6050 PSI
00:31	676		4	100	FLUSH			ULTRA FLUSH HV
01:13	1000		5.7	575	CEMENT			2926 SACKS-50/50 POZ-PREM NE-1+.25%R-3+.3%MPA-170,44 LBS PER SACK- 68 TEMP f
02:53	250		8	10	H2O			SHUT DOWN / WASH LINES / DROP PLUG
02:55	975		5	10	RETARDE			SUGAR WATER
03:00	4200		6	385	H2O			FRESH WATER DISPLACEMENT
04:00	4650		.2		H2O			LAND PLUG.
04:05	0							RELEASE PRESSURE / CHECK FLOATS
04:06								END JOB / SAFETY MEETING WITH BHI CREW

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	3500	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0	1040	0	Y <input type="checkbox"/> N	

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Actual Wellpath Report
 Beach 2H AWP Proj: 15522'
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REFERENCE WELL INFORMATION	
Operator	NORtheast NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad
Slot	02
Well	Beach 2H
Wellbore	Beach 2H AWE

REPORT INFORMATION	
Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US Feet
North Reference	Grid
Scale	0.999942
Convergence at slot	0.42° West
Software System	WellArchitect® 4.0.1
User	Gotfrol
Report Generated	10/9/2014 at 2:52:07 PM
Database/Source File	W\ANorthEast\Beach_2H_AWP.xml

WELL PATH INFORMATION			
Local coordinates		Grid coordinates	
North (ft)	East (ft)	Northing (US ft)	Latitude
0.00	0.00	439301.80	39°42'13.411"N
		1784915.10	80°09'02.060"W
		1777685.71	39°42'28.114"N
			80°10'41.690"W

MEASUREMENT DATA	
Calculation method	Pioneer 65 (RKB) to GL
Horizontal Reference Pt	Pioneer 65 (RKB) to Mean Sea Level
Vertical Reference Pt	Pioneer 65 (RKB) to Mud Line at Slot (02)
MD Reference Pt	Section Origin
Field Vertical Reference	Section Azimuth
	18.00ft
	1376.70ft
	18.00ft
	N 0.00, E 0.00 ft
	149.70°

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Actual Wellpath Report
 Beach 2H AWP Proj: 15322
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Operator	NORTHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad
Slot	02
Well	Beach 2H
Wellbore	Beach 2H AWB

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Leap/Slide	Closeup Dist [ft]	Closeup Dir [°]	DLS [ft/200ft]
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1784915.10	439301.80	39°42'15.41"N	80°09'09.060"W		0.00	0.00	0.00
18.00	0.00	0.00	18.00	18.00	0.00	0.00	1784915.10	439301.80	39°42'15.41"N	80°09'09.060"W		0.00	0.00	0.00
118.00	0.00	44.520	118.00	118.00	-0.10	0.25	1784915.36	439302.06	39°42'15.41"N	80°09'09.027"W		0.37	44.520	0.42
218.00	0.20	59.510	218.00	218.00	-0.19	0.68	1784915.78	439302.42	39°42'15.41"N	80°09'09.027"W		0.92	47.613	0.22
318.00	0.50	65.940	318.00	318.00	-0.17	1.07	1784915.92	439302.56	39°42'15.41"N	80°09'09.045"W		1.30	52.853	0.09
418.00	0.60	101.480	418.00	418.00	-0.04	1.50	1784916.50	439302.73	39°42'15.42"N	80°09'09.045"W		1.77	58.258	0.22
518.00	0.120	112.650	518.00	518.00	0.13	0.85	1784916.84	439302.56	39°42'15.42"N	80°09'09.035"W		1.94	65.850	0.05
618.00	0.180	67.470	617.99	617.99	0.24	0.83	1784917.08	439302.88	39°42'15.42"N	80°09'09.035"W		2.17	66.572	0.13
718.00	0.130	78.800	717.99	717.99	0.20	0.97	1784917.52	439302.77	39°42'15.42"N	80°09'09.027"W		2.43	66.582	0.07
818.00	0.130	92.000	817.99	817.99	-0.49	0.93	1784917.53	439302.79	39°42'15.42"N	80°09'09.027"W		2.60	68.502	0.07
918.00	0.110	152.630	917.99	917.99	0.59	0.89	1784917.79	439302.69	39°42'15.42"N	80°09'09.027"W		2.83	71.702	0.18
1018.00	0.180	107.910	1017.99	1017.99	0.80	0.76	1784917.98	439302.56	39°42'15.419"N	80°09'09.027"W		2.98	75.310	0.13
1118.00	0.100	112.650	1117.99	1117.99	0.99	0.67	1784918.21	439302.47	39°42'15.418"N	80°09'09.027"W		3.19	77.785	0.08
1218.00	0.120	214.750	1217.99	1217.99	1.10	0.55	1784918.23	439302.35	39°42'15.417"N	80°09'09.020"W		3.18	79.971	0.17
1318.00	0.220	202.920	1317.99	1317.99	0.26	0.30	1784918.10	439302.20	39°42'15.419"N	80°09'09.024"W		3.02	84.933	0.10
1418.00	0.130	213.850	1417.99	1417.99	1.42	0.64	1784917.97	439301.84	39°42'15.412"N	80°09'09.024"W		2.87	88.285	0.09
1518.00	0.100	219.710	1517.99	1517.99	1.50	-0.13	1784917.83	439301.67	39°42'15.410"N	80°09'09.035"W		2.75	92.613	0.05
1618.00	0.250	208.870	1617.99	1617.99	1.64	-0.39	1784917.69	439301.41	39°42'15.407"N	80°09'09.027"W		2.61	96.668	0.16
1718.00	0.150	116.510	1717.99	1717.99	1.87	-0.65	1784917.69	439301.15	39°42'15.409"N	80°09'09.027"W		2.67	104.043	0.21
1818.00	0.100	185.850	1817.99	1817.99	0.08	-0.38	1784917.53	439300.90	39°42'15.403"N	80°09'09.025"W		2.82	106.522	0.15
1918.00	0.130	190.200	1917.99	1917.99	2.22	-1.01	1784917.77	439300.79	39°42'15.401"N	80°09'09.025"W		2.85	110.711	0.02
2018.00	0.270	235.770	2017.99	2017.99	2.32	-1.25	1784917.56	439300.55	39°42'15.399"N	80°09'09.039"W		2.76	117.051	0.20
2118.00	0.440	293.630	2117.99	2117.99	2.38	-1.61	1784917.05	439300.19	39°42'15.399"N	80°09'09.035"W		2.55	126.594	0.17
2218.00	0.630	215.230	2217.98	2217.98	2.65	-2.29	1784916.45	439299.51	39°42'15.389"N	80°09'09.045"W		2.65	149.992	0.25
2318.00	0.580	212.520	2317.98	2317.98	3.01	-2.95	1784915.93	439298.63	39°42'15.389"N	80°09'09.027"W		2.72	159.020	0.06
2418.00	0.520	203.840	2417.97	2417.97	3.61	-4.02	1784915.37	439297.78	39°42'15.371"N	80°09'09.057"W		4.03	176.146	0.11
2518.00	0.530	206.390	2517.97	2517.97	4.14	-4.87	1784914.87	439296.93	39°42'15.363"N	80°09'09.062"W		4.87	181.479	0.04
2618.00	0.680	211.550	2617.95	2617.95	4.63	-5.80	1784914.45	439296.00	39°42'15.354"N	80°09'09.068"W		5.84	186.388	0.14
2718.00	0.740	214.720	2717.95	2717.95	5.24	-6.84	1784913.77	439294.95	39°42'15.349"N	80°09'09.077"W		6.97	190.985	0.07
2818.00	0.490	204.940	2817.95	2817.95	5.93	-7.92	1784913.18	439293.68	39°42'15.335"N	80°09'09.084"W		7.97	193.930	0.05

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Operator	NORTHEAST NATURAL ENERGY, LLC	
Area	Monongalia County, WV	
Field	Monongalia	
Facility	Beach 2H	
	Well	Beach 2H AWP
	Wellbore	Beach 2H AWP

MD [ft]	Inclination [°]	Asmth [ft]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closest Dist [ft]	DLS P100H
2918.00	0.590	229.750	2917.95	6.01	-8.44	-2.53	1784912.57	432265.56	39°42'15.338"N	80°09'09.092"W	8.81	196.631
3018.00	0.610	213.920	3017.94	6.33	-9.22	-3.22	1784911.88	432262.39	39°42'15.330"N	80°09'09.101"W	9.76	199.258
3118.00	0.650	191.500	3117.93	6.89	-10.22	-4.53	1784911.47	432257.53	39°42'15.310"N	80°09'09.105"W	10.84	199.559
3218.00	0.640	166.940	3217.95	7.87	-11.24	-6.84	1784911.46	432250.36	39°42'15.300"N	80°09'09.105"W	11.83	197.855
3318.00	0.620	145.940	3317.97	9.13	-12.47	-9.25	1784911.85	432239.33	39°42'15.288"N	80°09'09.101"W	12.88	194.601
3418.00	0.590	125.870	3417.92	9.82	-13.41	-11.33	1784911.97	432238.39	39°42'15.280"N	80°09'09.099"W	13.57	193.530
3518.00	0.530	106.140	3517.92	10.54	-13.88	-12.88	1784912.25	432237.92	39°42'15.274"N	80°09'09.095"W	14.17	191.629
3618.00	0.550	88.040	3617.95	11.31	-14.51	-14.41	1784912.69	432237.29	39°42'15.269"N	80°09'09.090"W	14.71	189.431
3718.00	0.550	72.040	3717.91	12.83	-15.75	-15.54	1784913.45	432235.05	39°42'15.255"N	80°09'09.079"W	15.83	185.699
3818.00	0.560	59.440	3817.91	13.57	-16.25	-16.31	1784913.79	432235.55	39°42'15.250"N	80°09'09.076"W	16.30	184.594
3918.00	0.570	49.540	3917.91	13.96	-16.65	-16.82	1784914.28	432235.15	39°42'15.247"N	80°09'09.069"W	16.67	183.872
4018.00	0.490	42.170	4017.90	14.32	-16.89	-17.12	1784914.98	432234.91	39°42'15.244"N	80°09'09.060"W	16.89	180.405
4118.00	0.550	36.940	4117.88	15.07	-17.81	-18.07	1784915.86	432234.36	39°42'15.240"N	80°09'09.049"W	16.98	177.065
4218.00	0.510	33.090	4217.89	15.35	-18.30	-18.69	1784916.79	432234.50	39°42'15.245"N	80°09'09.037"W	16.88	174.265
4318.00	0.720	29.190	4317.89	15.68	-18.56	-19.03	1784917.83	432235.04	39°42'15.246"N	80°09'09.024"W	15.78	170.630
4418.00	0.650	26.740	4417.88	16.06	-19.30	-19.94	1784919.04	432235.50	39°42'15.250"N	80°09'09.008"W	16.77	166.425
4518.00	0.750	21.850	4517.87	16.37	-19.97	-20.81	1784920.23	432235.84	39°42'15.254"N	80°09'08.993"W	16.77	162.197
4618.00	0.850	16.550	4617.85	16.54	-20.58	-21.58	1784921.29	432236.22	39°42'15.254"N	80°09'08.975"W	16.64	158.002
4718.00	1.020	14.980	4717.86	16.82	-21.15	-22.40	1784922.50	432236.65	39°42'15.262"N	80°09'08.954"W	16.86	153.986
4818.00	1.850	8.180	4817.83	17.57	-21.73	-23.02	1784924.72	432237.07	39°42'15.265"N	80°09'08.936"W	17.59	146.878
4918.00	2.430	5.540	4917.77	19.01	-23.17	-24.33	1784928.20	432237.45	39°42'15.270"N	80°09'08.922"W	19.44	137.648
5018.00	3.440	3.440	5017.64	21.86	-24.70	-26.17	1784935.27	432237.10	39°42'15.267"N	80°09'08.927"W	22.57	128.565
5118.00	4.160	1.040	5117.55	24.06	-25.95	-27.55	1784945.38	432236.57	39°42'15.265"N	80°09'08.925"W	25.72	120.002
5218.00	4.160	1.040	5217.55	30.33	-27.43	-30.28	1784955.38	432235.37	39°42'15.241"N	80°09'08.871"W	34.94	119.531
5318.00	3.850	1.150	5317.01	35.59	-29.65	-32.65	1784959.95	432234.12	39°42'15.219"N	80°09'08.837"W	41.78	118.107
5418.00	3.380	1.120	5416.81	40.61	-31.12	-34.65	1784957.75	432232.68	39°42'15.199"N	80°09'08.819"W	48.04	117.410
5518.00	2.210	1.130	5516.65	45.20	-32.33	-37.95	1784955.05	432231.47	39°42'15.179"N	80°09'08.445"W	53.77	116.507
5618.00	1.850	1.150	5616.65	50.00	-33.07	-40.66	1784955.95	432230.44	39°42'15.159"N	80°09'08.425"W	59.01	116.039

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Operator	NORtheast NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad
Well	Beach 2H
Wellbore	Beach 2H AWP
Slot	02

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid North (ft)	Longitude	Chore Dkt (ft)	Chore Dir (°)	DLS (ft/100ft)
918.00	3.892	110.220	5916.26	53.23	-59.37	1784974.47	432972.53	89°09'08.208"W	66.20	116.240	0.44
4013.00	4.050	106.680	6011.63	60.17	-31.35	1784980.71	432970.48	89°09'08.215"W	72.72	115.253	0.31
6957.00	4.296	110.170	6094.91	62.57	-33.36	1784983.74	432969.44	89°09'08.179"W	75.88	115.238	0.79
9121.00	3.752	108.240	6118.75	64.01	-33.85	1784988.00	432967.95	89°09'08.125"W	80.38	114.910	0.80
5184.00	5.752	115.040	6201.57	71.45	-46.33	1784990.42	432965.59	89°09'08.092"W	88.37	121.510	6.59
6246.00	10.050	181.080	6242.97	71.90	-46.31	1784990.42	432965.59	89°09'08.092"W	88.37	121.510	6.59
6507.00	11.050	178.490	6302.98	87.58	-57.39	1784990.48	432964.41	89°09'08.091"W	94.74	127.284	1.57
6568.00	10.550	188.610	6362.86	97.08	-63.76	1784992.30	432963.05	89°09'08.098"W	101.53	132.625	3.25
6491.00	11.440	205.700	6424.72	105.03	-80.03	1784985.23	432961.73	89°09'08.143"W	107.11	138.384	3.53
6595.00	13.650	221.050	6552.00	121.01	-93.41	1784978.53	432960.39	89°09'08.093"W	116.09	145.233	6.35
6553.00	17.480	225.290	6547.88	115.74	-103.80	1784964.88	432958.01	89°09'08.168"W	116.09	145.233	6.35
6623.00	21.850	227.490	6609.07	120.73	-118.84	1784981.02	432956.06	89°09'08.590"W	124.15	165.183	6.82
6685.00	26.110	233.180	6665.71	125.90	-135.75	1784983.34	432954.06	89°09'08.677"W	136.84	172.763	6.89
6748.00	30.690	238.080	6721.11	131.91	-155.74	1784910.03	432946.07	89°09'09.111"W	155.83	181.883	7.27
6875.00	31.690	225.540	6829.32	146.87	-200.79	1784861.60	432941.02	89°09'09.726"W	207.80	194.919	1.50
6923.00	31.670	224.510	6883.13	154.75	-224.17	1784833.30	432937.64	89°09'10.024"W	227.00	196.935	0.86
7001.00	31.710	224.570	6916.74	163.13	-247.56	1784814.79	432934.26	89°09'10.321"W	227.11	202.050	0.89
7065.00	31.690	224.860	6989.52	171.27	-270.48	1784791.69	432931.34	89°09'10.614"W	237.31	204.526	0.63
7189.00	31.700	222.810	7096.75	189.50	-318.31	1784745.99	432926.51	89°09'11.055"W	237.80	207.983	0.63
7257.00	31.800	222.260	7150.33	199.59	-342.74	1784725.58	432923.08	89°09'11.459"W	247.00	209.158	0.49
7315.00	30.470	221.760	7204.05	209.18	-365.82	1784701.80	432919.90	89°09'11.756"W	247.11	210.172	2.25
7379.00	30.480	221.560	7259.43	219.22	-391.15	1784680.24	432916.67	89°09'12.059"W	247.11	210.983	0.15
7455.00	29.040	223.380	7369.23	238.40	-427.35	1784659.20	432913.47	89°09'12.360"W	247.11	211.944	0.84
7508.00	29.020	224.960	7424.32	246.58	-459.20	1784641.85	432910.25	89°09'12.660"W	247.11	212.947	2.01
7632.00	28.930	224.170	7480.30	254.51	-481.24	1784626.02	432907.03	89°09'12.959"W	247.11	213.939	1.23
7695.00	29.000	225.060	7535.42	262.30	-502.83	1784574.48	432903.78	89°09'13.257"W	247.11	214.914	0.25
7742.00	29.000	225.060	7590.54	270.09	-524.83	1784522.92	432899.51	89°09'13.555"W	247.11	215.888	0.81

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REFERENCE WELL PATH IDENTIFICATION	
Operator	NORTHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sec (ft)	Roach (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Clearance Dia (ft)	Clearance Dia (m)	DLS (ft/100ft)
7823.00	32.090	205.230	7543.39	288.22	-554.03	-376.83	1784538.29	438747.80	39°42'05.90"N	80°09'13.80"W	670.04	214.272	8.15
7883.00	34.770	199.800	7696.58	308.94	-585.94	-390.36	1784594.77	438713.39	39°42'09.57"N	80°09'14.00"W	704.07	213.672	6.99
7946.00	38.000	194.660	7746.70	334.19	-631.62	-401.39	1784513.74	438689.28	39°42'08.35"N	80°09'14.13"W	739.94	212.851	7.11
8009.00	41.550	190.260	7795.12	363.79	-680.96	-410.03	1784505.09	438640.38	39°42'08.85"N	80°09'14.25"W	777.81	211.814	7.17
8072.00	45.220	185.830	7842.52	397.27	-732.28	-418.71	1784497.42	438585.66	39°42'09.45"N	80°09'14.37"W	815.68	210.777	7.22
8136.00	42.770	177.970	7887.95	434.31	-747.13	-417.71	1784497.42	438554.71	39°42'07.99"N	80°09'14.53"W	855.97	209.209	8.96
8199.00	46.590	170.910	7932.75	474.55	-791.14	-413.29	1784501.84	438510.71	39°42'07.56"N	80°09'14.57"W	892.58	207.533	10.01
8262.00	50.240	166.380	7974.57	519.09	-827.30	-404.01	1784511.11	438464.53	39°42'07.10"N	80°09'14.15"W	929.65	205.758	7.68
8325.00	53.390	163.940	8013.95	566.48	-864.85	-397.48	1784523.64	438417.01	39°42'06.63"N	80°09'13.98"W	967.58	203.858	4.72
8388.00	57.030	162.830	8052.79	615.62	-903.72	-386.10	1784555.02	438358.53	39°42'06.16"N	80°09'13.92"W	1006.52	201.958	7.57
8441.00	61.900	161.480	8092.26	665.44	-943.78	-369.10	1784555.02	438316.08	39°42'05.69"N	80°09'13.76"W	1049.49	200.067	7.79
8514.00	66.290	160.570	8130.27	724.76	-1029.13	-341.75	1784573.37	438269.74	39°42'05.11"N	80°09'13.59"W	1095.88	198.203	5.52
8577.00	67.700	159.050	8165.40	781.62	-1093.54	-321.81	1784593.31	438228.53	39°42'04.53"N	80°09'13.42"W	1139.72	196.401	4.43
8640.00	71.650	157.600	8198.77	840.20	-1148.39	-299.91	1784615.20	438185.48	39°42'04.04"N	80°09'13.25"W	1185.91	194.616	8.15
8704.00	77.030	156.630	8230.47	909.02	-1205.29	-277.00	1784639.24	438141.59	39°42'03.56"N	80°09'13.08"W	1234.66	192.832	7.83
8767.00	80.700	155.450	8258.59	962.38	-1261.77	-259.77	1784664.35	438090.11	39°42'03.07"N	80°09'12.91"W	1285.44	191.241	6.07
8830.00	85.730	154.090	8283.01	1025.18	-1318.34	-244.10	1784691.01	437983.54	39°42'02.58"N	80°09'12.74"W	1337.25	189.647	8.23
8893.00	91.230	152.110	8294.67	1088.02	-1374.51	-195.72	1784719.39	437927.55	39°42'02.10"N	80°09'11.57"W	1388.39	188.104	9.15
8956.00	91.700	151.050	8299.33	1150.95	-1429.97	-165.83	1784745.23	437819.92	39°42'01.56"N	80°09'11.40"W	1439.55	186.615	2.03
9019.00	93.930	149.860	8300.68	1213.59	-1485.21	-135.88	1784771.25	437712.25	39°42'01.07"N	80°09'11.23"W	1490.73	185.126	3.69
9083.00	89.970	148.460	8297.11	1277.05	-1539.29	-101.20	1784813.50	437604.61	39°42'00.59"N	80°09'11.06"W	1542.61	183.762	0.92
9146.00	89.880	146.700	8292.79	1340.59	-1593.06	-68.10	1784864.70	437497.03	39°41'59.65"N	80°09'10.89"W	1594.53	182.459	0.53
9209.00	89.880	147.350	8287.93	1403.92	-1646.63	-35.31	1784919.79	437389.29	39°41'58.15"N	80°09'10.72"W	1647.05	181.259	1.46
9272.00	89.880	146.570	8282.58	1466.85	-1699.64	-1.20	1784973.00	437281.26	39°41'56.61"N	80°09'10.55"W	1699.64	180.040	2.05
9335.00	89.880	145.800	8276.83	1529.58	-1752.33	32.82	1785024.21	437172.85	39°41'55.07"N	80°09'10.38"W	1752.33	178.819	2.48
9399.00	91.970	147.330	8270.53	1591.70	-1805.21	67.85	1785072.94	437064.70	39°41'53.54"N	80°09'10.21"W	1805.21	177.619	2.48
9462.00	92.000	147.690	8263.62	1656.62	-1859.27	101.74	1785120.63	436956.64	39°41'52.00"N	80°09'10.04"W	1859.27	176.419	2.48
9525.00	92.120	148.050	8256.13	1719.54	-1912.54	135.30	1785167.38	436848.58	39°41'50.46"N	80°09'09.87"W	1912.54	175.219	2.48
9588.00	92.030	152.990	8248.61	1783.48	-1967.97	167.18	1785212.27	436740.52	39°41'48.92"N	80°09'09.70"W	1967.97	174.019	2.48
9651.00	92.100	153.350	8240.83	1848.48	-2024.59	201.06	1785256.16	436632.46	39°41'47.38"N	80°09'09.53"W	2024.59	172.819	2.48
9714.00	92.170	153.710	8232.61	1913.48	-2082.21	234.94	1785300.05	436524.40	39°41'45.84"N	80°09'09.36"W	2082.21	171.619	2.48
9777.00	92.240	154.070	8224.00	1978.48	-2140.83	268.82	1785343.94	436416.34	39°41'44.30"N	80°09'09.19"W	2140.83	170.419	2.48
9840.00	92.310	154.430	8215.00	2043.48	-2199.45	302.70	1785387.83	436308.28	39°41'42.76"N	80°09'09.02"W	2199.45	169.219	2.48
9903.00	92.380	154.790	8205.99	2108.48	-2258.07	336.58	1785431.72	436200.22	39°41'41.22"N	80°09'08.85"W	2258.07	168.019	2.48
9966.00	92.450	155.150	8196.99	2173.48	-2316.69	370.46	1785475.61	436092.16	39°41'39.68"N	80°09'08.68"W	2316.69	166.819	2.48
10029.00	92.520	155.510	8187.99	2238.48	-2375.31	404.34	1785519.50	435984.10	39°41'38.14"N	80°09'08.51"W	2375.31	165.619	2.48
10092.00	92.590	155.870	8178.99	2303.48	-2433.93	438.22	1785563.39	435876.04	39°41'36.60"N	80°09'08.34"W	2433.93	164.419	2.48
10155.00	92.660	156.230	8169.99	2368.48	-2492.55	472.10	1785607.28	435767.98	39°41'35.06"N	80°09'08.17"W	2492.55	163.219	2.48
10218.00	92.730	156.590	8160.99	2433.48	-2551.17	505.98	1785651.17	435659.92	39°41'33.52"N	80°09'08.00"W	2551.17	162.019	2.48
10281.00	92.800	156.950	8151.99	2498.48	-2609.79	539.86	1785695.06	435551.86	39°41'31.98"N	80°09'07.83"W	2609.79	160.819	2.48
10344.00	92.870	157.310	8142.99	2563.48	-2668.41	573.74	1785738.95	435443.80	39°41'30.44"N	80°09'07.66"W	2668.41	159.619	2.48
10407.00	92.940	157.670	8133.99	2628.48	-2727.03	607.62	1785782.84	435335.74	39°41'28.90"N	80°09'07.49"W	2727.03	158.419	2.48
10470.00	93.010	158.030	8124.99	2693.48	-2785.65	641.50	1785826.73	435227.68	39°41'27.36"N	80°09'07.32"W	2785.65	157.219	2.48
10533.00	93.080	158.390	8115.99	2758.48	-2844.27	675.38	1785870.62	435119.62	39°41'25.82"N	80°09'07.15"W	2844.27	156.019	2.48
10596.00	93.150	158.750	8106.99	2823.48	-2902.89	709.26	1785914.51	435011.56	39°41'24.28"N	80°09'06.98"W	2902.89	154.819	2.48
10659.00	93.220	159.110	8097.99	2888.48	-2961.51	743.14	1785958.40	434903.50	39°41'22.74"N	80°09'06.81"W	2961.51	153.619	2.48
10722.00	93.290	159.470	8088.99	2953.48	-3020.13	777.02	1786002.29	434795.44	39°41'21.20"N	80°09'06.64"W	3020.13	152.419	2.48
10785.00	93.360	159.830	8079.99	3018.48	-3078.75	810.90	1786046.18	434687.38	39°41'19.66"N	80°09'06.47"W	3078.75	151.219	2.48
10848.00	93.430	160.190	8070.99	3083.48	-3137.37	844.78	1786090.07	434579.32	39°41'18.12"N	80°09'06.30"W	3137.37	150.019	2.48
10911.00	93.500	160.550	8061.99	3148.48	-3195.99	878.66	1786133.96	434471.26	39°41'16.58"N	80°09'06.13"W	3195.99	148.819	2.48
10974.00	93.570	160.910	8052.99	3213.48	-3254.61	912.54	1786177.85	434363.20	39°41'15.04"N	80°09'05.96"W	3254.61	147.619	2.48
11037.00	93.640	161.270	8043.99	3278.48	-3313.23	946.42	1786221.74	434255.14	39°41'13.50"N	80°09'05.79"W	3313.23	146.419	2.48
11100.00	93.710	161.630	8034.99	3343.48	-3371.85	980.30	1786265.63	434147.08	39°41'11.96"N	80°09'05.62"W	3371.85	145.219	2.48
11163.00	93.780	161.990	8025.99	3408.48	-3430.47	1014.18	1786309.52	434039.02	39°41'10.42"N	80°09'05.45"W	3430.47	144.019	2.48
11226.00	93.850	162.350	8016.99	3473.48	-3489.09	1048.06	1786353.41	433930.96	39°41'08.88"N	80°09'05.28"W	3489.09	142.819	2.48
11289.00	93.920	162.710	8007.99	3538.48	-3547.71	1081.94	1786397.30	433822.90	39°41'07.34"N	80°09'05.11"W	3547.71	141.619	2.48
11352.00	94.000	163.070	7998.99	3603.48	-3606.33	1115.82	1786441.19	433714.84	39°41'05.80"N	80°09'04.94"W	3606.33	140.419	2.48
11415.00	94.070	163.430	7989.99	3668.48	-3664.95	1149.70	1786485.08	433606.78	39°41'04.26"N	80°09'04.77"W	3664.95	139.219	2.48
11478.00	94.140	163.790	7980.99	3733.48	-3723.57	1183.58	1786528.97	433498.72	39°41'02.72"N	80°09'04.60"W	3723.57	138.019	2.48
11541.00	94.210	164.150	7971.99	3798.48	-3782.19	1217.46	1786572.86	433390.66	39°41'01.18"N	80°09'04.43"W	3782.19	136.819	2.48
11604.00	94.280	164.510	7962.99	3863.48	-3840.81	1251.34	1786616.75	433282.60	39°40'59.64"N	80°09'04.26"W	3840.81	135.619	2.48
11667.00	94.350	164.870	7953.99	3928.48	-3899.43	1285.22	1786660.64	433174.54	39°40'58.10"N	80°09'04.09"W	3899.43	134.419	2.48
11730.00	94.420	165.230	7944.99	3993.48	-3958.05	1319.10	1786704.53	433066.48	39°40'56.56"N	80°09'03.92"W	3958.05	133.219	2.48
11793.00	94.490	165.590	7935.99	4058.48	-4016.67	1352.98	1786748.42	432958.42	39°40'55.02"N	80°09'03.75"W	4016.67	132.019	2.48
11856.00	94.560	165.950	7926.99	4123.48	-4075.29	1386.86	1786792.31	432850.36	39°40'53.48"N	80°09'03.58"W	4075.29	130.819	2.48



Actual Wellpath Report
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REFERENCE WELL PATH IDENTIFICATION	
Operator	NORTHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad

MD (ft)	Incubation (ft)	Asphalt (ft)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Lastface	Leapface	Closeout Dir (ft)	Closeout Dir (ft)	DLS (ft/100ft)
9715.00	92.430	152.740	8180.16	1920.29	-2079.21	226.17	1785141.26	437222.72	39°41'54.876"N	80°09'05.874"W	2881.47	173.792	1.74
9718.00	92.180	151.990	8177.63	1924.11	-2135.47	254.43	1785149.49	437165.46	39°41'54.329"N	80°09'05.607"W	2150.57	173.206	1.56
9841.00	91.410	152.010	8175.65	2034.97	-2191.56	283.01	1785198.10	437110.37	39°41'53.773"N	80°09'05.236"W	2209.75	172.642	3.31
9903.00	92.000	150.950	8173.81	2085.91	-2246.01	312.61	1785227.99	437055.51	39°41'52.297"N	80°09'04.852"W	2267.65	172.076	1.58
10029.00	91.450	146.950	8169.92	2224.83	-2334.36	376.53	1785302.00	436947.69	39°41'52.699"N	80°09'04.468"W	2326.22	171.510	1.58
10092.00	92.000	147.130	8168.01	2285.73	-2407.09	411.13	1785325.25	436884.85	39°41'51.652"N	80°09'04.084"W	2384.24	170.944	4.25
10152.00	92.000	148.380	8165.87	2345.65	-2457.80	443.18	1785348.25	436824.14	39°41'51.159"N	80°09'03.576"W	2441.96	170.305	0.56
10218.00	92.000	148.870	8163.53	2411.50	-2514.12	477.52	1785392.59	436767.85	39°41'50.599"N	80°09'03.068"W	2497.44	169.779	2.08
10282.00	92.000	149.000	8161.00	2479.56	-2568.25	509.57	1785424.74	436715.01	39°41'49.972"N	80°09'02.560"W	2553.06	169.245	0.71
10344.00	91.510	148.830	8159.34	2537.50	-2621.80	542.78	1785457.85	436660.16	39°41'49.349"N	80°09'02.052"W	2608.68	168.719	0.92
10408.00	90.530	144.050	8158.18	2601.31	-2674.50	578.07	1785494.13	436607.46	39°41'48.622"N	80°09'01.544"W	2664.30	168.193	4.61
10470.00	91.000	144.000	8157.32	2663.03	-2724.96	615.22	1785530.29	436557.11	39°41'47.895"N	80°09'01.036"W	2719.92	167.787	4.62
10533.00	91.110	146.040	8156.13	2722.53	-2776.65	651.08	1785566.12	436509.31	39°41'47.168"N	80°09'00.528"W	2775.54	167.381	1.30
10595.00	90.530	146.220	8155.00	2782.94	-2828.37	688.73	1785601.00	436463.02	39°41'46.441"N	80°08'59.999"W	2831.16	166.974	2.29
10659.00	90.120	146.880	8154.82	2857.61	-2881.53	720.83	1785635.91	436418.04	39°41'45.714"N	80°08'59.491"W	2886.78	166.568	0.92
10722.00	90.830	149.010	8154.30	2914.57	-2934.94	754.28	1785669.34	436374.04	39°41'44.987"N	80°08'58.983"W	2942.40	166.162	1.21
10785.00	90.740	148.150	8153.43	2977.55	-2988.69	787.15	1785702.18	436331.29	39°41'44.260"N	80°08'58.475"W	2998.02	165.756	3.56
10849.00	90.120	147.980	8152.95	3041.52	-3043.00	820.59	1785735.04	436290.58	39°41'43.533"N	80°08'57.967"W	3053.64	165.350	1.40
10912.00	88.250	148.220	8152.00	3099.50	-3097.67	853.93	1785767.89	436250.82	39°41'42.806"N	80°08'57.459"W	3109.26	164.944	1.00
10974.00	90.180	149.250	8151.63	3166.50	-3149.83	888.38	1785800.92	436212.16	39°41'42.079"N	80°08'56.951"W	3164.88	164.538	0.86
11037.00	90.490	147.780	8151.26	3229.49	-3203.63	918.65	1785833.70	436174.47	39°41'41.352"N	80°08'56.443"W	3220.50	164.132	1.96
11100.00	91.910	150.490	8151.94	3292.46	-3257.68	950.97	1785866.01	436137.81	39°41'40.625"N	80°08'55.935"W	3276.12	163.726	2.77
11163.00	91.690	150.000	8149.96	3355.38	-3313.15	980.77	1785898.81	436102.10	39°41'39.898"N	80°08'55.427"W	3331.74	163.320	4.86
11226.00	91.000	152.860	8149.50	3402.17	-3365.11	1038.75	1785931.78	436067.44	39°41'39.171"N	80°08'54.919"W	3387.36	162.914	4.03
11355.00	90.950	151.000	8148.22	3452.05	-3407.21	1067.40	1785964.44	436033.78	39°41'38.444"N	80°08'54.411"W	3442.98	162.508	0.22
11418.00	90.870	151.000	8145.27	3495.97	-3457.19	1096.03	1786001.05	436000.12	39°41'37.717"N	80°08'53.903"W	3500.60	162.102	0.28
11478.00	91.030	151.200	8144.25	3493.93	-3502.60	1125.89	1786041.05	435966.46	39°41'36.990"N	80°08'53.395"W	3558.22	161.696	1.69
11538.00	90.530	150.530	8143.23	3491.89	-3547.61	1155.83	1786081.05	435932.80	39°41'36.263"N	80°08'52.887"W	3615.84	161.290	1.27

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 Beach 2H AWP Proj: 153227
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Operator	NORTHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad

MD ID	Inclinometer ID	Altitude (ft)	TVD (ft)	Vert Sec (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Chore Dia (ft)	Chore Dir (ft)	DLS (ft/100ft)
11665.00	90.950	151.150	8142.01	3796.35	-3704.01	1186.92	1786101.95	435598.01	39°41'38.891"N	80°08'55.353"W	162.252	162.252	0.49
11666.00	90.950	151.140	8140.97	3859.18	-3759.18	1217.31	1786132.54	435542.84	39°41'38.548"N	80°08'53.159"W	162.257	162.257	0.03
11752.00	90.950	151.140	8139.91	3923.75	-3815.59	1247.90	1786165.93	435486.64	39°41'37.795"N	80°08'52.742"W	4014.28	4014.28	0.94
11795.00	90.850	152.080	8138.80	3985.74	-3870.98	1277.56	1786199.29	435431.07	39°41'37.297"N	80°08'52.355"W	4076.34	4076.34	0.55
11858.00	90.950	151.710	8136.85	4112.61	-3935.26	1335.60	1786231.62	435375.98	39°41'36.690"N	80°08'51.977"W	4200.58	4200.58	0.81
11985.00	90.970	151.430	8135.84	4176.57	-4003.53	1397.06	1786262.08	435320.51	39°41'35.598"N	80°08'51.197"W	161.299	161.299	0.44
12045.00	90.970	150.370	8134.85	4239.55	-4075.57	1497.70	1786292.71	435265.48	39°41'35.056"N	80°08'50.800"W	4325.61	4325.61	1.68
12111.00	90.830	150.030	8133.89	4302.54	-4148.25	1429.00	1786324.02	435210.32	39°41'34.518"N	80°08'50.399"W	4587.47	4587.47	0.56
12177.00	90.950	150.250	8132.93	4365.52	-4220.86	1490.53	1786355.35	435155.20	39°41'33.980"N	80°08'49.998"W	4849.33	4849.33	0.57
12200.00	90.920	150.080	8131.88	4428.52	-4297.50	1491.72	1786386.72	435100.15	39°41'33.443"N	80°08'49.583"W	4511.26	4511.26	0.24
12200.00	91.020	150.450	8130.81	4491.51	-4312.19	1522.98	1786417.58	435045.05	39°41'32.904"N	80°08'49.178"W	160.548	160.548	0.58
12263.00	91.010	148.410	8129.70	4554.49	-4365.41	1555.00	1786447.03	434990.00	39°41'32.371"N	80°08'48.765"W	4635.05	4635.05	3.21
12428.00	90.850	148.000	8128.65	4617.48	-4419.95	1588.20	1786476.50	434935.11	39°41'31.844"N	80°08'48.353"W	4696.64	4696.64	0.65
12522.00	90.950	149.390	8126.53	4743.40	-4527.03	1654.38	1786505.58	434880.11	39°41'31.321"N	80°08'47.940"W	4758.19	4758.19	0.59
12515.00	90.990	150.290	8125.52	4806.39	-4581.49	1686.25	1786534.26	434825.00	39°41'30.791"N	80°08'47.527"W	4819.72	4819.72	2.08
12677.00	90.890	150.260	8124.56	4868.38	-4635.33	1716.97	1786563.16	434770.00	39°41'30.265"N	80°08'47.115"W	4881.25	4881.25	1.43
12740.00	91.020	150.300	8123.51	4931.37	-4689.03	1748.20	1786592.19	434715.00	39°41'29.738"N	80°08'46.703"W	4943.10	4943.10	0.05
12865.00	90.890	148.580	8121.34	5057.34	-4798.97	1811.48	1786621.26	434660.00	39°41'29.218"N	80°08'46.291"W	5005.26	5005.26	0.22
12900.00	90.830	147.583	8120.37	5121.30	-4853.22	1845.40	1786650.39	434605.00	39°41'28.701"N	80°08'45.879"W	5129.47	5129.47	3.22
12995.00	90.950	148.050	8119.37	5184.25	-4906.53	1878.96	1786679.55	434550.00	39°41'28.181"N	80°08'45.467"W	5191.81	5191.81	1.22
13065.00	90.970	148.390	8118.32	5247.23	-4960.06	1912.15	1786708.71	434495.00	39°41'27.666"N	80°08'45.055"W	5254.00	5254.00	0.76
13135.00	90.850	149.870	8116.30	5375.21	-5070.46	1978.89	1786737.87	434440.00	39°41'27.151"N	80°08'44.643"W	5316.38	5316.38	0.57
13247.00	91.050	149.810	8115.25	5438.20	-5124.92	2008.54	1786767.03	434385.00	39°41'26.636"N	80°08'44.231"W	5378.72	5378.72	0.54
13310.00	90.220	150.110	8114.55	5501.19	-5179.46	2040.08	1786796.19	434330.00	39°41'26.121"N	80°08'43.819"W	5442.21	5442.21	0.54
13373.00	90.120	151.460	8114.37	5564.13	-5224.44	2070.83	1786825.35	434275.00	39°41'25.606"N	80°08'43.407"W	5504.45	5504.45	0.52
13450.00	90.850	150.660	8113.48	5627.12	-5279.90	2101.58	1786854.51	434220.00	39°41'25.091"N	80°08'42.995"W	5566.75	5566.75	1.40
13527.00	90.850	150.660	8112.59	5690.01	-5335.36	2132.33	1786883.67	434165.00	39°41'24.576"N	80°08'42.583"W	5629.18	5629.18	2.15

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WV Department of
Environmental Protection

06/05/2015



Actual Wellpath Report
 Beach 2H AWP Proj: 15322
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Operator	NORtheast NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach 2H AWP

MD (ft)	Inclination (°)	Asimuth (°)	TVD (ft)	Vert. Sec. (ft)	North (ft)	East (ft)	Grid East (US BT)	Grid North (US BT)	Latitude	Longitude	Clearance Dist (ft)	Clearance Dir (°)	DLS (ft/100ft)
13500.00	89.170	150.780	5892.12	5892.12	-5846.77	2132.17	1787047.15	435955.25	39°41'22.723"N	80°08'41.280"W	575.623	158.259	1.49
13560.00	89.140	150.870	5755.10	5755.10	-5401.78	2162.88	1787077.85	435960.35	39°41'22.182"N	80°08'40.892"W	581.870	158.179	0.15
13620.00	89.110	151.000	5618.09	5618.09	-4956.59	2193.92	1787108.88	435965.54	39°41'21.642"N	80°08'40.490"W	588.113	158.097	0.22
13680.00	89.260	150.120	5481.08	5481.08	-4511.21	2225.31	1787140.27	435970.92	39°41'21.105"N	80°08'40.083"W	594.357	158.012	0.26
13740.00	89.170	149.090	5344.07	5344.07	-4066.01	2256.70	1787171.66	435976.30	39°41'20.569"N	80°08'39.672"W	600.600	157.926	0.25
13800.00	89.140	148.770	5207.07	5207.07	-3620.82	2288.10	1787203.05	435981.68	39°41'20.033"N	80°08'39.255"W	606.843	157.836	0.40
13860.00	89.170	148.910	5070.05	5070.05	-3175.63	2319.50	1787234.44	435987.06	39°41'19.498"N	80°08'38.837"W	613.087	157.743	0.50
13920.00	89.200	149.100	4933.04	4933.04	-2730.44	2350.90	1787265.83	435992.44	39°41'18.967"N	80°08'38.420"W	619.330	157.653	0.23
14000.00	89.200	149.100	4796.03	4796.03	-2285.25	2382.30	1787297.22	435997.82	39°41'18.440"N	80°08'37.993"W	625.573	157.560	1.75
14120.00	89.630	150.140	4659.02	4659.02	-1840.06	2413.70	1787328.61	436003.20	39°41'17.913"N	80°08'37.566"W	631.816	157.470	0.20
14190.00	89.650	150.620	4522.01	4522.01	-1394.87	2445.10	1787360.00	436008.58	39°41'17.387"N	80°08'37.140"W	638.059	157.384	1.35
14260.00	89.750	151.070	4385.00	4385.00	-949.68	2476.50	1787391.39	436013.96	39°41'16.861"N	80°08'36.714"W	644.302	157.298	0.76
14330.00	89.690	151.380	4248.00	4248.00	-504.49	2507.90	1787422.78	436019.34	39°41'16.335"N	80°08'36.288"W	650.545	157.212	0.67
14390.00	89.550	152.050	4111.00	4111.00	-59.30	2539.30	1787454.17	436024.72	39°41'15.809"N	80°08'35.862"W	656.788	157.126	0.56
14470.00	89.720	152.000	4000.00	4000.00	-616.00	2444.79	1787485.56	436030.10	39°41'15.283"N	80°08'35.436"W	663.031	157.040	0.30
1451.00	89.690	152.110	3900.00	3900.00	-670.00	2350.28	1787516.95	436035.48	39°41'14.757"N	80°08'35.010"W	669.274	156.954	1.05
14570.00	89.910	152.250	3800.00	3800.00	-724.00	2255.77	1787548.34	436040.86	39°41'14.231"N	80°08'34.584"W	675.517	156.868	0.15
14630.00	89.960	152.240	3700.00	3700.00	-778.00	2161.26	1787579.73	436046.24	39°41'13.705"N	80°08'34.158"W	681.760	156.782	0.40
14690.00	89.740	152.500	3600.00	3600.00	-832.00	2066.75	1787611.12	436051.62	39°41'13.179"N	80°08'33.732"W	688.003	156.696	0.40
14760.00	91.820	149.830	3500.00	3500.00	-886.00	1972.24	1787642.51	436057.00	39°41'12.653"N	80°08'33.306"W	694.246	156.610	2.83
14820.00	91.320	150.150	3400.00	3400.00	-940.00	1877.73	1787673.90	436062.38	39°41'12.127"N	80°08'32.880"W	700.489	156.524	0.34
14890.00	91.320	150.070	3300.00	3300.00	-994.00	1783.22	1787705.29	436067.76	39°41'11.601"N	80°08'32.454"W	706.732	156.438	0.14
14950.00	91.350	147.220	3197.99	3197.99	-1048.00	1688.71	1787736.68	436073.14	39°41'11.075"N	80°08'32.028"W	712.975	156.352	4.45
15030.00	91.350	146.760	3095.98	3095.98	-1102.00	1594.20	1787768.07	436078.52	39°41'10.549"N	80°08'31.602"W	719.218	156.266	2.06
15110.00	91.420	147.400	2993.97	2993.97	-1156.00	1500.69	1787800.46	436083.90	39°41'10.023"N	80°08'31.176"W	725.461	156.180	1.02
15200.00	91.320	147.940	2891.96	2891.96	-1210.00	1407.18	1787832.85	436089.28	39°41'09.497"N	80°08'30.750"W	731.704	156.094	0.37
15280.00	91.320	147.830	2789.95	2789.95	-1264.00	1313.67	1787865.24	436094.66	39°41'08.971"N	80°08'30.324"W	737.947	156.008	0.17
15360.00	91.320	147.830	2687.94	2687.94	-1318.00	1220.16	1787897.63	436100.04	39°41'08.445"N	80°08'29.898"W	744.190	155.922	0.06

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 Beach 2H AWP Proj: 15322
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REFERENCE WELL IDENTIFICATION	
Operator	NORTHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monogalia
Facility	Beach Pad
Slot	02
Well	Beach 2H
Wellbore	Beach 2H AWB

WELLPATH DATA (211 stations)													
MD (ft)	Inclination (°)	Asimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Clearance Dist (ft)	Clearance Dir (°)	BLS (ft)
15322.00	91.260	347.550	811.211	7812.95	-6917.87	3030.76	1787965.68	453384.55	39°41'07.262"N	80°03'29.396"W	7560.69	156.203	770061
													0.00

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Bench 2H AWP Proj: 15322
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Operator	NORTHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Bench Pad
Slot	02
Well	Bench 2H
Wellbore	Bench 2H AWP

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Bench 2H HL Rev-2		8036.73	-6918.84	304.271	178793.63	432363.38	39°41'07.252"N	80°06'29.422"W	point
Bench 2H LP Rev-1		8150.00	-13118.31	-223.70	178486.41	437985.57	39°42'02.366"N	80°09'11.864"W	point
Bench 2H HL Pt 01		8215.00	-8.68	-1653.63	1785261.57	439293.12	39°42'12.197"N	80°09'16.574"W	point
Bench 2H HL Pt 02		8215.00	-520.98	-539.57	1784925.57	438968.84	39°42'12.197"N	80°09'16.574"W	point
Bench 2H HL Pt 03		8215.00	-417.72	-535.29	1784359.14	438884.10	39°42'11.249"N	80°09'16.135"W	point
Bench 2H HL Pt 04		8215.00	-969.74	-536.22	1784388.91	438332.12	39°42'03.295"N	80°09'19.257"W	point
Bench 2H HL Pt 05		8215.00	-1219.03	-840.51	1784074.64	438051.54	39°41'56.013"N	80°09'19.257"W	point
Bench 2H HL Pt 06		8215.00	-1937.01	-811.27	1784103.85	437344.91	39°41'54.669"N	80°09'17.578"W	point
Bench 2H HL Pt 07		8215.00	-2094.02	-665.40	1784249.74	437207.91	39°41'54.669"N	80°09'17.578"W	point
Bench 2H HL Pt 08		8215.00	-2594.74	-1020.23	1783894.85	436907.20	39°41'51.671"N	80°09'21.891"W	point
Bench 2H HL Pt 09		8215.00	-4276.43	101.01	1783016.10	435025.63	39°41'53.158"N	80°09'07.571"W	point

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Bench 2H HL Pt 10		8215.00	-4014.24	244.94	1785160.03	435387.70	39°41'55.757"N	80°09'05.554"W	point
Bench 2H HL Pt 11		8215.00	-3477.02	239.72	1785204.38	435352.01	39°41'41.070"N	80°09'05.031"W	point
Bench 2H HL Pt 12		8215.00	-3321.62	534.77	1785449.84	435730.29	39°41'40.647"N	80°09'01.892"W	point
Bench 2H HL Pt 13		8215.00	-3975.98	800.32	1785715.37	435326.06	39°41'36.176"N	80°08'58.453"W	point
Bench 2H HL Pt 14		8215.00	-4361.41	1025.10	1785940.14	434940.65	39°41'32.352"N	80°08'55.542"W	point
Bench 2H HL Pt 15		8215.00	-4634.70	1025.31	1785940.35	434497.39	39°41'28.002"N	80°08'55.488"W	point
Bench 2H HL Pt 16		8215.00	-4928.04	1312.10	1786227.12	434374.06	39°41'26.803"N	80°08'51.818"W	point
Bench 2H HL Pt 17		8215.00	-7084.74	1419.84	1786334.85	433217.49	39°41'05.897"N	80°08'50.242"W	point
Bench 2H HL Pt 18		8215.00	-7211.31	1727.35	1786642.35	433090.93	39°41'04.258"N	80°08'46.297"W	point
Bench 2H HL Pt 19		8215.00	-7633.86	2294.28	1787209.24	431862.39	39°41'02.089"N	80°08'39.025"W	point
Bench 2H HL Pt 20		8215.00	-7830.14	2595.57	1787510.51	431722.12	39°41'00.857"N	80°08'35.138"W	point

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Name	MD [ft]	IVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Beach 2H HL Pt 21		8215.00	-7618.34	3226.82	1780151.72	451683.92	39°41'00.352"N	80°08'26.032"W	point
Beach 2H HL Pt 22		8215.00	-7655.08	3805.65	1788723.52	451647.18	39°41'00.050"N	80°08'19.653"W	point
Beach 2H HL Pt 23		8215.00	-7571.12	4950.35	1789205.19	451731.14	39°41'00.889"N	80°08'13.482"W	point
Beach 2H HL Pt 24		8215.00	-7633.36	4659.52	1789574.34	451683.90	39°41'00.304"N	80°08'08.754"W	point
Beach 2H HL Pt 25		8213.00	-7605.48	5163.04	1790135.72	451694.78	39°41'00.622"N	80°08'00.962"W	point

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REFERENCE WELL PATH IDENTIFICATION	
Operator	NORHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad
Slot	02
Well	Beach 2H
Wellbore	Beach 2H AWE

WELLPATH COMPOSITION - Ref Wellbore: Beach 2H AWE		Ref Wellpath: Beach 2H AWP Proj: 15322		Positional Uncertainty Model	
Start MD [ft]	End MD [ft]			Log Name/Comment	Wellbore
18.00	6013.00	Generic gyro - north-south	(Standard)	01_VES Gyro (100-5935)	
6013.00	6363.00	NewTmk (AT Curve Short Spaced)		02_BH AT Curve 8.75m Station 6057-6148	Beach 2H AWE
6363.00	15296.00	NewTmk (AT Curve Short Spaced)		03_BH AT Curve 8.5m Station 6431-15296	Beach 2H AWE
15296.00	15322.00	Blind Drilling (50)		Projection to bit	Beach 2H AWE

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REFERENCE WELL PATH IDENTIFICATION	
Operator	NORTHEAST NATURAL ENERGY, LLC
Area	Monongalia County, WV
Field	Monongalia
Facility	Beach Pad
Slot	D2
Well	Beach 2H
Wellbore	Beach 2H AWP

COMMENTS

Wellpath general comments
 API: 47-051-01665-0000
 Rig: Proser 6S
 BSEI Job #: 682462
 Duration: 09/26/2014 - 10/06/2014
 VES Gyro (100'-5995')
 BEI AT Curve 8.75in Section 6057-6368
 BEI AT Curve 8.5in Section 6431-15298
 TD Projected: 15322

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