

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

API 47 - 061 - 01676 County Monongalia District Clay  
Quad Blacksville, WV Pad Name Coastal Field/Pool Name \_\_\_\_\_  
Farm name Coastal Forest Resources Company Well Number 9H  
Operator (as registered with the OOG) Northeast Natural Energy LLC  
Address 707 Virginia Street, E., Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4395409.5 Easting 568208.6  
Landing Point of Curve Northing 4395666.6 Easting 568570.2  
Bottom Hole Northing 4396860.8 Easting 567638.6

Elevation (ft) 1,420' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine

Mud Type(s) and Additive(s)  
Synthetic Based Mud for horizontal section, BIO-BASE 365, CALCIUM CHLORIDE POWDER, G-SEAL PLUS, HRP, LIME, M-I WATE (BARITE), M-I-X II MEDIUM,  
MEGADRIL P SYSTEM, MEGADRIL P SYSTEM RENTAL, MEGAMUL, SAFE-CARB 250, VERSATHIN HF, VERSAWET, VG-PLUS, VINSEAL MEDIUM, WALNUT NUT PLUG MEDIUM

Date permit issued 07/18/2014 Date drilling commenced 12/28/2014 Date drilling ceased 4/22/2015  
Date completion activities began 12/28/2015 Date completion activities ceased 1/4/2016  
Verbal plugging (Y/N) \_\_\_\_\_ Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 1,243' Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft 2,510' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 600', 1,200' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

RECEIVED  
Office of Oil and Gas  
MAY 17 2016  
WV Department of  
Environmental Protection

Reviewed by:

AX 05/18/14

API 47-061 - 01676 Farm name Coastal Forest Resources Company Well number 9H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	30	24	50'	N	N/A	N/A	Y to surface
Surface	17.5	13 3/8	1,385'	N	54.5	N/A	Y 30 bbls
Coal							
Intermediate 1	12.25	9 5/8	2,777'	N	40	N/A	N
Intermediate 2							
Intermediate 3							
Production	8.5	5.5	14,089'	N	20	N/A	Estimated top 2000'
Tubing							
Packer type and depth set							

Comment Details All jobs went well, except intermediate. Ran cement bond log. TOC @1,000' which is inside the surface string. Due to clearance issues top off job could not be performed.  
Local DEP and NNE decided best not to perforate and squeeze.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	4,500 psi ready mix	36.4		.75	27.27	CTS	48
Surface	Class A	1063	15.2	1.27	1,271	CTS	8
Coal							
Intermediate 1	Class A	903	15.2	1.26	1,074	CTS	8
Intermediate 2							
Intermediate 3							
Production	50/50 Premium NE - 1.3% R-3.3% MPA 170	2683	14.5	1.17	2,661	Estimated 2,000'	48
Tubing							

Drillers TD (ft) 14,112' Loggers TD (ft) 14,087'  
Deepest formation penetrated Marcellus Plug back to (ft) N/A  
Plug back procedure \_\_\_\_\_

Kick off depth (ft) 6,303'

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

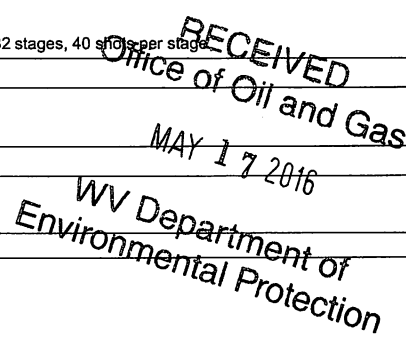
DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

Surface: bow spring centralizers every 3rd joint or aprox 120'  
Intermediate: bow spring centralizers every 3rd joint or aprox 120'  
Production: Hard bodied spiral centralizers every other joint or aprox 80' from TD to KOP then bow spring from KOP to 9 5/8" every forth joint or aprox 140'

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS 32 stages, 40 shots per stage

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_



API 47- 061 - 01676 Farm name Coastal Forest Resources Company Well number 9H

**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
					Please See Attachment

Please insert additional pages as applicable.

**STIMULATION INFORMATION PER STAGE**

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
						Please	See	Attachment

RECEIVED  
Office of Oil and Gas  
MAY 17 2016  
WV Department of  
Environmental Protection

Please insert additional pages as applicable.

API 47- 061 - 01676 Farm name Coastal Forest Resources Company Well number 9H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	8,198.94'	TVD	14,112' MD

Please insert additional pages as applicable. **Well has not been turned in line.**

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas \_\_\_\_\_ mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	0		0		Please See Attachment

Please insert additional pages as applicable.

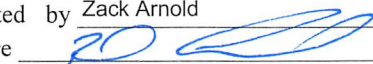
Drilling Contractor Pioneer 63  
Address 1250 NE Loop 410 Suite 1000 City San Antonio State TX Zip 78209

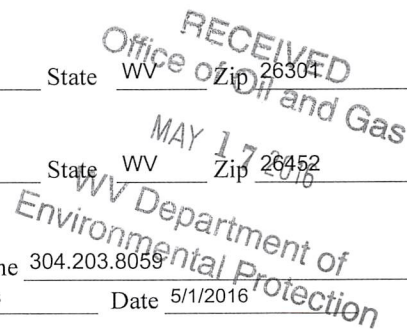
Logging Company Baker Hughes  
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Cementing Company Baker Hughes  
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Stimulating Company Schlumberger  
Address 1080 US-33 City Weston State WV Zip 26452

Please insert additional pages as applicable.

Completed by Zack Arnold Telephone 304.203.8059  
Signature  Title General Manager - Operations Date 5/1/2016



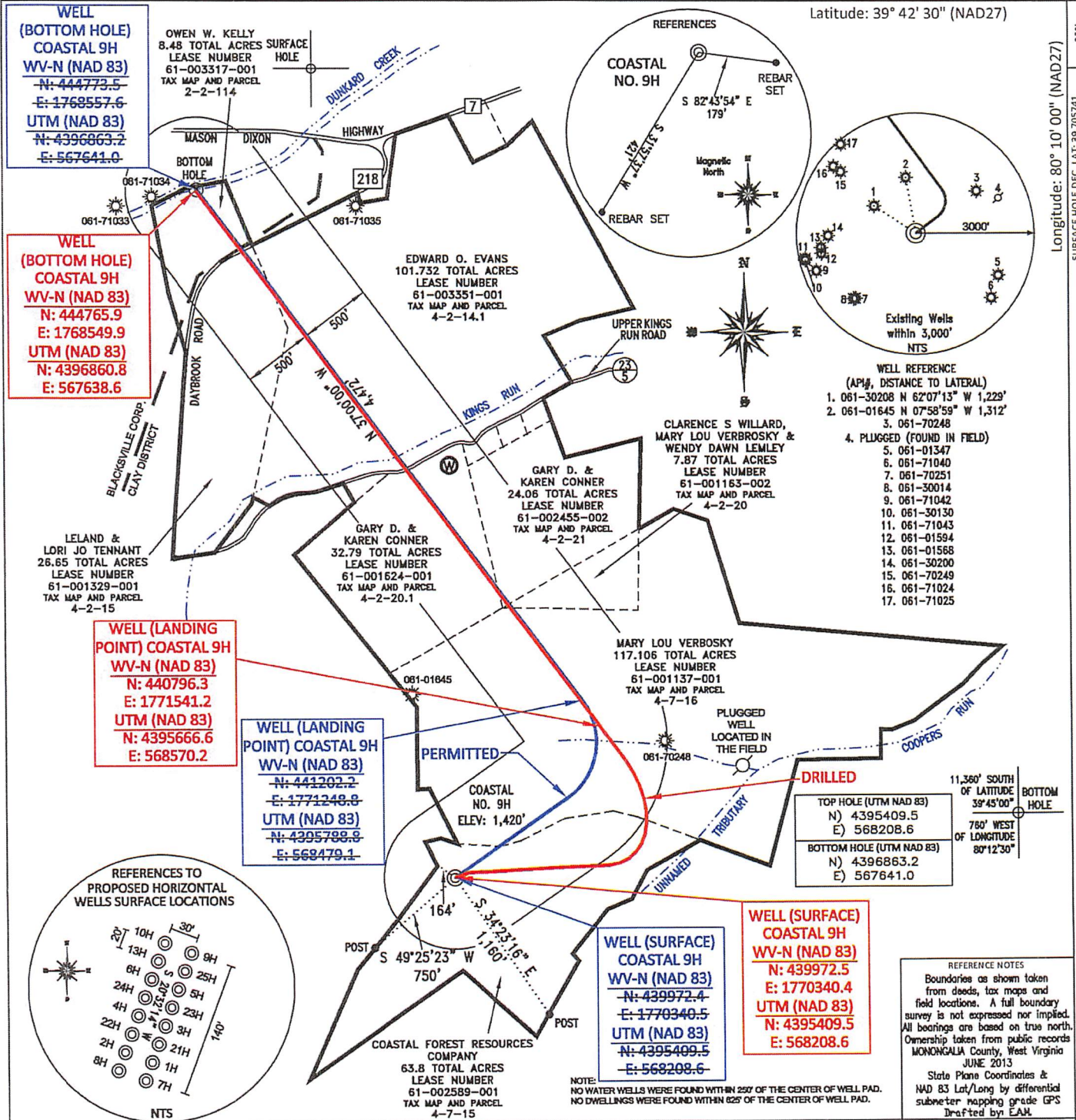
SURFACE HOLE DEC. LONG: 80.204542  
SURVEYED LONG: 80° 12' 16.4"

10.670'

Latitude: 39° 42' 30" (NAD27)

Longitude: 80° 10' 00" (NAD27)

SURFACE HOLE DEC. LAT: 39.705741  
SURVEYED LAT: 39° 42' 20.7"



**WELL (BOTTOM HOLE) COASTAL 9H WV-N (NAD 83)**  
N: 444773.5  
E: 1768557.6  
UTM (NAD 83)  
N: 4396863.2  
E: 567641.0

**WELL (BOTTOM HOLE) COASTAL 9H WV-N (NAD 83)**  
N: 444765.9  
E: 1768549.9  
UTM (NAD 83)  
N: 4396860.8  
E: 567638.6

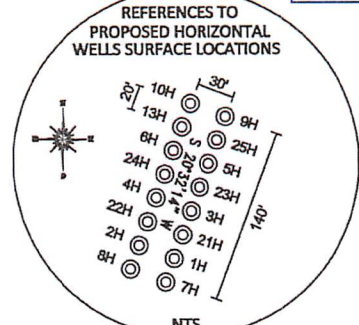
**WELL (LANDING POINT) COASTAL 9H WV-N (NAD 83)**  
N: 440796.3  
E: 1771541.2  
UTM (NAD 83)  
N: 4395666.6  
E: 568570.2

**WELL (LANDING POINT) COASTAL 9H WV-N (NAD 83)**  
N: 441202.2  
E: 1771248.8  
UTM (NAD 83)  
N: 4395788.8  
E: 568479.1

**WELL (SURFACE) COASTAL 9H WV-N (NAD 83)**  
N: 439972.4  
E: 1770340.5  
UTM (NAD 83)  
N: 4395409.5  
E: 568208.6

**WELL (SURFACE) COASTAL 9H WV-N (NAD 83)**  
N: 439972.5  
E: 1770340.4  
UTM (NAD 83)  
N: 4395409.5  
E: 568208.6

- WELL REFERENCE (API#, DISTANCE TO LATERAL)**
- 061-30208 N 62°07'13" W 1,229'
  - 061-01645 N 07°58'59" W 1,312'
  - 061-70248
  - PLUGGED (FOUND IN FIELD)
  - 061-01347
  - 061-71040
  - 061-70251
  - 061-30014
  - 061-71042
  - 061-30130
  - 061-71043
  - 061-01594
  - 061-01588
  - 061-30200
  - 061-70249
  - 061-71024
  - 061-71025

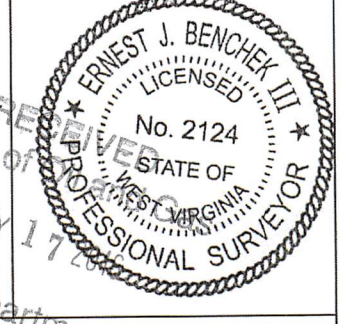


**11,360' SOUTH OF LATITUDE 39°43'00"**  
TOP HOLE (UTM NAD 83)  
N) 4395409.5  
E) 568208.6  
**760' WEST OF LONGITUDE 80°12'30"**  
BOTTOM HOLE (UTM NAD 83)  
N) 4396863.2  
E) 567641.0

**REFERENCE NOTES**  
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records MONONGALIA County, West Virginia JUNE 2013  
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS  
Drafted by EAM

FILE #: NNE12  
DRAWING #: 2352  
SCALE: PLAT: 1" = 1000'  
TRK: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: 1/200  
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.  
Signed: [Signature]  
L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
**WVDEP OFFICE OF OIL & GAS**  
601 57TH STREET  
CHARLESTON, WV 25304

DATE: OCTOBER 5, 2015  
OPERATOR'S WELL #: COASTAL NO. 9H, AS-DRILLED  
API WELL #: 47 61  
STATE COUNTY PERMIT

Well Type:  Oil  Waste Diposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow

WATERSHED: DUNKARD CREEK ELEVATION: 1,420'  
COUNTY/DISTRICT: MONONGALIA / CLAY QUADRANGLE: BLACKSVILLE  
SURFACE OWNER: COASTAL FOREST RESOURCES COMPANY ACREAGE: 63.8 +/-  
OIL & GAS ROYALTY OWNER: WACO OIL AND GAS, ET AL ACREAGE: 382.758 +/-  
LEASE NUMBERS:

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): \_\_\_\_\_

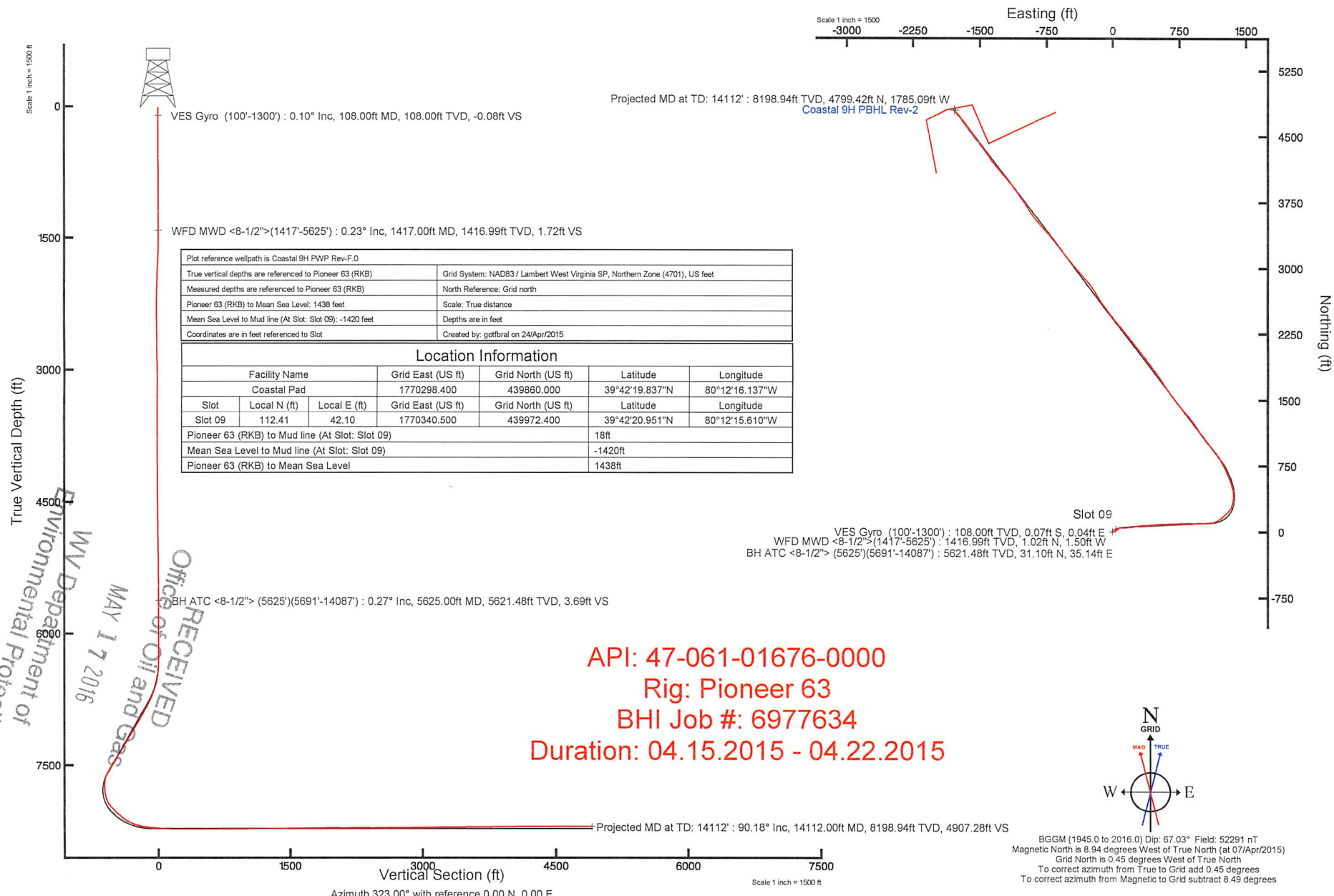
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 8,198.94' TMD: 14,112'  
WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC DESIGNATED AGENT: JOHN ADAMS  
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
CITY: CHARLESTON STATE: WV ZIP CODE: 25301 CITY: CHARLESTON STATE: WV ZIP CODE: 25301



# NORTHEAST NATURAL ENERGY, LLC

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

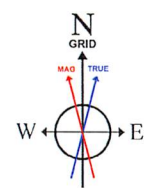
Slot: Slot 09  
 Well: Coastal 9H  
 Wellbore: Coastal 9H PWB



Plot reference wellpath is Coastal 9H PWP Rev-F.0		Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet
True vertical depths are referenced to Pioneer 63 (RKB)		North Reference: Grid north
Measured depths are referenced to Pioneer 63 (RKB)		Scale: True distance
Pioneer 63 (RKB) to Mean Sea Level: 1438 feet		Depths are in feet
Mean Sea Level to Mud line (At Slot: Slot 09): -1420 feet		Coordinates are in feet referenced to Slot
Created by: gottfral on 24/Apr/2015		

Location Information						
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Coastal Pad		1770298.400	439860.000	39°42'19.837"N	80°12'16.137"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 09	112.41	42.10	1770340.500	439972.400	39°42'20.951"N	80°12'15.610"W
Pioneer 63 (RKB) to Mud line (At Slot: Slot 09)				18ft		
Mean Sea Level to Mud line (At Slot: Slot 09)				-1420ft		
Pioneer 63 (RKB) to Mean Sea Level				1438ft		

API: 47-061-01676-0000  
 Rig: Pioneer 63  
 BHI Job #: 6977634  
 Duration: 04.15.2015 - 04.22.2015



BGGM (1945.0 to 2016.0) Dip: 67.03° Field: 52291 nT  
 Magnetic North is 8.94 degrees West of True North (at 07/Apr/2015)  
 Grid North is 0.45 degrees West of True North  
 To correct azimuth from True to Grid add 0.45 degrees  
 To correct azimuth from Magnetic to Grid subtract 8.49 degrees

Azimuth 323.00° with reference 0.00 N, 0.00 E

**ACTUAL WELLPATH REPORT (CSV version)**  
 Prepared by Baker Hughes  
 Software System: WellArchitect® 4.0.1

**REFERENCE WELLPATH IDENTIFICATION**

Operator: NORTHEAST NATURAL ENERGY, LLC  
 Area: Monongalia County, WV  
 Field: Monongalia  
 Facility: Coastal Pad  
 Slot: Slot 09  
 Well: Coastal 9H  
 Wellbore: Coastal 9H AWB  
 Wellpath: Coastal 9H AWP Proj: 14112'  
 Sidetrack: (none)

**REPORT SETUP INFORMATION**

Projection System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet  
 North Reference: Grid  
 Scale: 0.999942  
 Convergence at slot: 0.45° West  
 Software System: WellArchitect® 4.0.1  
 User: Gotfbral  
 Report Generated: 24/Apr/2015 at 08:53  
 DataBase/Source file: WANorthEast/ev7677.xml

**WELLPATH LOCATION**

	Local North [ft]	Local East [ft]	Easting [US ft]	Northing [US ft]	Latitude	Longitude
Slot Location	112.41	42.1	1770340.5	439972.4	39°42'20.951" N	80°12'15.610" W
Facility Reference Pt			1770298.4	439860	39°42'19.837" N	80°12'16.137" W
Field Reference Pt			1777685.7	440640.65	39°42'28.114" N	80°10'41.690" W

**WELLPATH DATUM**

Calculation method: Minimum curvature  
 Horizontal Reference Point: Slot  
 Vertical Reference Point: Pioneer 63 (RKB)  
 MD Reference Point: Pioneer 63 (RKB)  
 Field Vertical Reference: Mean Sea Level  
 Pioneer 63 (RKB) to Facility Vertical Datum: 18.00ft  
 Pioneer 63 (RKB) to Mean Sea Level: 1438.00ft  
 Pioneer 63 (RKB) to Mud Line at Slot (Slot 09): 18.00ft  
 Section Origin: N 0.00, E 0.00 ft  
 Section Azimuth: 323.00°

**WELLPATH DATA** † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Di [ft]	Closure Di [°]	Closure Di DLS [°/100ft]
†	0	0	153.03	0	0	0	1770340.5	439972.4	39°42'20.951" N	80°12'15.610" W	0	0	0
	18	0	153.03	18	0	0	1770340.5	439972.4	39°42'20.951" N	80°12'15.610" W	0	0	0
	108	0.1	153.03	108	-0.08	-0.07	1770340.54	439972.33	39°42'20.950" N	80°12'15.609" W	0.08	153.03	0.11
	208	0.19	206.32	208	-0.24	-0.3	1770340.5	439972.1	39°42'20.948" N	80°12'15.610" W	0.3	179.675	0.15
	308	0.24	270.21	308	-0.19	-0.44	1770340.22	439971.96	39°42'20.947" N	80°12'15.613" W	0.53	212.34	0.23
	408	0.21	49.88	408	-0.05	-0.33	1770340.15	439972.07	39°42'20.948" N	80°12'15.614" W	0.48	227.134	0.42
	508	0.16	55.73	508	-0.05	-0.13	1770340.4	439972.27	39°42'20.950" N	80°12'15.611" W	0.16	216.454	0.05
	608	0.36	324.23	608	0.26	0.2	1770340.34	439972.6	39°42'20.953" N	80°12'15.612" W	0.26	321.44	0.4
	708	0.22	322.69	708	0.77	0.61	1770340.04	439973.01	39°42'20.957" N	80°12'15.616" W	0.77	322.894	0.14

**RECEIVED**  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection

808	0.24	293.65	808	1.14	0.85	-0.77	1770339.73	439973.25	39°42'20.959"N	80°12'15.620"W	1.15	317.743	0.12
908	0.25	290.58	907.99	1.51	1.01	-1.17	1770339.33	439973.41	39°42'20.961"N	80°12'15.625"W	1.54	310.857	0.02
1008	0.24	296.57	1007.99	1.88	1.18	-1.56	1770338.94	439973.58	39°42'20.963"N	80°12'15.630"W	1.96	307.124	0.03
1108	0.13	83.75	1107.99	2.01	1.29	-1.63	1770338.87	439973.69	39°42'20.964"N	80°12'15.631"W	2.08	308.214	0.36
1208	0.05	143.67	1207.99	1.91	1.26	-1.5	1770339	439973.66	39°42'20.963"N	80°12'15.629"W	1.96	310.2	0.11
1308	0.19	152.57	1307.99	1.7	1.08	-1.39	1770339.11	439973.48	39°42'20.962"N	80°12'15.628"W	1.76	307.819	0.14
1417	0.23	297.53	1416.99	1.72	1.02	-1.5	1770339	439973.42	39°42'20.961"N	80°12'15.629"W	1.82	304.2	0.37
1438	0.46	13.5	1437.99	1.81	1.12	-1.52	1770338.98	439973.52	39°42'20.962"N	80°12'15.629"W	1.89	306.442	2.2
1471	1.05	27.87	1470.99	2.03	1.52	-1.35	1770339.15	439973.92	39°42'20.966"N	80°12'15.627"W	2.03	318.399	1.86
1538	3.31	50.72	1537.94	2.36	3.29	0.44	1770340.94	439975.69	39°42'20.983"N	80°12'15.604"W	3.32	7.546	3.55
1633	7.94	68.53	1632.46	0.71	7.43	8.67	1770349.17	439979.83	39°42'21.025"N	80°12'15.499"W	11.42	49.412	5.15
1731	8.59	69.16	1729.44	-3.13	12.51	21.81	1770362.31	439984.91	39°42'21.076"N	80°12'15.332"W	25.14	60.163	0.67
1764	7.83	72.78	1762.1	-4.58	14.05	26.26	1770366.76	439986.45	39°42'21.092"N	80°12'15.275"W	29.78	61.849	2.78
1794	7.68	75.21	1791.83	-6.03	15.17	30.15	1770370.65	439987.57	39°42'21.103"N	80°12'15.225"W	33.75	63.294	1.2
1826	7.51	75.22	1823.55	-7.63	16.25	34.24	1770374.74	439988.65	39°42'21.114"N	80°12'15.173"W	37.9	64.615	0.53
1857	6.47	75.45	1854.32	-9.06	17.2	37.89	1770378.39	439989.6	39°42'21.124"N	80°12'15.127"W	41.61	65.58	3.36
1889	4.99	76.42	1886.16	-10.3	17.98	40.99	1770381.48	439990.38	39°42'21.132"N	80°12'15.087"W	44.76	66.311	4.63
1920	3.73	72.31	1917.07	-11.17	18.61	43.26	1770383.75	439991	39°42'21.138"N	80°12'15.058"W	47.09	66.727	4.19
1952	2.83	77.07	1949.01	-11.84	19.1	45.02	1770385.52	439991.5	39°42'21.143"N	80°12'15.036"W	48.9	67.012	2.94
1984	2.63	75.74	1980.98	-12.45	19.46	46.5	1770387	439991.85	39°42'21.147"N	80°12'15.017"W	50.41	67.295	0.66
2016	2.87	79.02	2012.94	-13.08	19.79	48	1770388.5	439992.19	39°42'21.150"N	80°12'14.997"W	51.92	67.594	0.9
2047	3.38	79.26	2043.89	-13.83	20.11	49.66	1770390.16	439992.51	39°42'21.154"N	80°12'14.976"W	53.57	67.956	1.65
2110	3.35	85.12	2106.79	-15.63	20.61	53.32	1770393.81	439993.01	39°42'21.159"N	80°12'14.930"W	57.16	68.866	0.55
2206	1.63	96.51	2202.69	-18.06	20.69	57.47	1770397.97	439993.09	39°42'21.160"N	80°12'14.876"W	61.08	70.196	1.86
2301	0.44	288.89	2297.68	-18.69	20.66	58.47	1770398.96	439993.06	39°42'21.160"N	80°12'14.864"W	62.01	70.539	2.17
2363	1.25	282.14	2359.67	-17.98	20.88	57.58	1770398.08	439993.28	39°42'21.162"N	80°12'14.875"W	61.25	70.07	1.31
2458	0.76	315.52	2454.66	-16.57	21.55	56.13	1770396.62	439993.94	39°42'21.168"N	80°12'14.894"W	60.12	68.999	0.78
2553	0.67	66.85	2549.66	-16.08	22.21	56.19	1770396.69	439994.61	39°42'21.175"N	80°12'14.893"W	60.43	68.431	1.24
2648	0.62	63.9	2644.65	-16.31	22.66	57.17	1770397.66	439995.06	39°42'21.179"N	80°12'14.880"W	61.49	68.379	0.06
2742	0.55	36.25	2738.65	-16.27	23.25	57.89	1770398.39	439995.64	39°42'21.185"N	80°12'14.871"W	62.38	68.122	0.31
2764	0.48	12.37	2760.65	-16.18	23.42	57.97	1770398.47	439995.82	39°42'21.187"N	80°12'14.870"W	62.52	68.001	1.02
2846	0.72	332.5	2842.64	-15.45	24.21	57.81	1770398.3	439996.61	39°42'21.195"N	80°12'14.872"W	62.67	67.273	0.57
2909	1.03	321.19	2905.63	-14.5	25.01	57.27	1770397.77	439997.4	39°42'21.203"N	80°12'14.879"W	62.49	66.413	0.56
2972	0.88	325.67	2968.62	-13.45	25.85	56.64	1770397.14	439998.24	39°42'21.211"N	80°12'14.888"W	62.26	65.472	0.27
3035	0.95	331.64	3031.62	-12.45	26.71	56.12	1770396.62	439999.1	39°42'21.219"N	80°12'14.894"W	62.15	64.553	0.19
3098	0.58	313.63	3094.61	-11.62	27.39	55.64	1770396.14	439999.78	39°42'21.226"N	80°12'14.900"W	62.02	63.796	0.69
3161	0.54	242.34	3157.61	-11.25	27.47	55.15	1770395.65	439999.87	39°42'21.227"N	80°12'14.907"W	61.61	63.524	1.04
3224	0.49	255.85	3220.61	-11.1	27.26	54.62	1770395.12	439999.66	39°42'21.225"N	80°12'14.913"W	61.05	63.476	0.21
3286	0.55	257.76	3282.6	-10.87	27.14	54.08	1770394.57	439999.53	39°42'21.223"N	80°12'14.920"W	60.5	63.353	0.1
3349	0.56	253.81	3345.6	-10.64	26.99	53.49	1770393.98	439999.38	39°42'21.222"N	80°12'14.928"W	59.91	63.227	0.06
3413	0.52	256.7	3409.6	-10.41	26.83	52.9	1770393.4	439999.23	39°42'21.220"N	80°12'14.935"W	59.32	63.106	0.08
3476	0.48	252.71	3472.6	-10.21	26.69	52.37	1770392.87	439999.09	39°42'21.219"N	80°12'14.942"W	58.78	62.998	0.08
3539	0.42	244.43	3535.59	-10.07	26.51	51.91	1770392.41	439998.91	39°42'21.217"N	80°12'14.948"W	58.29	62.949	0.14
3602	0.51	233.53	3598.59	-10.02	26.24	51.48	1770391.98	439998.64	39°42'21.214"N	80°12'14.954"W	57.78	62.988	0.2
3665	0.51	232.9	3661.59	-10.02	25.91	51.03	1770391.53	439998.31	39°42'21.211"N	80°12'14.959"W	57.23	63.083	0.01
3729	0.54	235.3	3725.59	-10.01	25.56	50.55	1770391.05	439997.96	39°42'21.208"N	80°12'14.965"W	56.65	63.176	0.06
3792	0.42	239.08	3788.58	-9.97	25.28	50.11	1770390.61	439997.67	39°42'21.205"N	80°12'14.971"W	56.13	63.234	0.2
3856	0.24	249.13	3852.58	-9.91	25.11	49.79	1770390.28	439997.51	39°42'21.203"N	80°12'14.975"W	55.76	63.237	0.29
3919	0.31	238.44	3915.58	-9.86	24.97	49.52	1770390.01	439997.37	39°42'21.202"N	80°12'14.979"W	55.46	63.238	0.14
3983	0.22	254.95	3979.58	-9.79	24.85	49.25	1770389.75	439997.25	39°42'21.200"N	80°12'14.982"W	55.16	63.227	0.18
4046	0.24	263.8	4042.58	-9.68	24.8	49	1770389.5	439997.2	39°42'21.200"N	80°12'14.985"W	54.92	63.153	0.06
4109	0.37	273.28	4105.58	-9.48	24.8	48.67	1770389.17	439997.2	39°42'21.200"N	80°12'14.989"W	54.62	62.997	0.22
4172	0.29	287.98	4168.58	-9.22	24.86	48.31	1770388.81	439997.26	39°42'21.200"N	80°12'14.994"W	54.34	62.77	0.18
4235	0.39	300.65	4231.58	-8.89	25.02	47.98	1770388.48	439997.42	39°42'21.202"N	80°12'14.998"W	54.11	62.458	0.2
4298	0.51	292	4294.58	-8.45	25.23	47.53	1770388.03	439997.63	39°42'21.204"N	80°12'15.004"W	53.82	62.037	0.22
4361	0.44	301.53	4357.57	-7.99	25.47	47.07	1770387.56	439997.86	39°42'21.206"N	80°12'15.010"W	53.52	61.584	0.17

RECEIVED  
Office of Oil and Gas  
MAY 17 2016  
WV Department of  
Environmental Protection



4425	0.65	292.14	4421.57	-7.45	25.73	46.52	1770387.02	439998.13	39°42'21.209"N	80°12'15.017"W	53.16	61.053	0.36
4488	0.65	290.89	4484.57	-6.84	25.99	45.86	1770386.35	439998.39	39°42'21.211"N	80°12'15.026"W	52.71	60.454	0.02
4552	0.77	288.86	4548.56	-6.17	26.26	45.11	1770385.61	439998.66	39°42'21.214"N	80°12'15.035"W	52.2	59.793	0.19
4616	0.67	285.19	4612.56	-5.52	26.5	44.34	1770384.84	439998.9	39°42'21.216"N	80°12'15.045"W	51.66	59.138	0.17
4679	0.69	287.37	4675.55	-4.92	26.71	43.63	1770384.12	439999.11	39°42'21.218"N	80°12'15.054"W	51.15	58.524	0.05
4742	0.73	296.85	4738.55	-4.26	27	42.91	1770383.4	439999.4	39°42'21.221"N	80°12'15.063"W	50.7	57.815	0.2
4805	0.75	288.71	4801.54	-3.55	27.32	42.16	1770382.65	439999.72	39°42'21.224"N	80°12'15.073"W	50.23	57.057	0.17
4867	0.96	287.18	4863.54	-2.8	27.6	41.28	1770381.77	440000	39°42'21.227"N	80°12'15.084"W	49.65	56.23	0.34
4930	0.89	293.25	4926.53	-1.95	27.95	40.32	1770380.82	440000.35	39°42'21.230"N	80°12'15.097"W	49.06	55.272	0.19
4993	0.99	291.18	4989.52	-1.06	28.34	39.37	1770379.86	440000.74	39°42'21.234"N	80°12'15.109"W	48.5	54.25	0.17
5057	1.11	282.63	5053.51	-0.12	28.67	38.24	1770378.74	440001.07	39°42'21.237"N	80°12'15.123"W	47.8	53.139	0.31
5120	0.82	284.07	5116.5	0.7	28.92	37.21	1770377.71	440001.32	39°42'21.240"N	80°12'15.136"W	47.13	52.149	0.46
5183	0.59	284.71	5179.49	1.31	29.11	36.46	1770376.96	440001.51	39°42'21.241"N	80°12'15.146"W	46.66	51.397	0.37
5246	0.56	295.76	5242.49	1.83	29.33	35.87	1770376.37	440001.72	39°42'21.244"N	80°12'15.154"W	46.33	50.732	0.18
5310	0.56	298.19	5306.49	2.4	29.61	35.31	1770375.81	440002.01	39°42'21.246"N	80°12'15.161"W	46.08	50.02	0.04
5373	0.35	328.87	5369.49	2.87	29.92	34.94	1770375.44	440002.32	39°42'21.249"N	80°12'15.166"W	46	49.428	0.5
5435	0.28	19.84	5431.49	3.14	30.22	34.9	1770375.39	440002.62	39°42'21.252"N	80°12'15.166"W	46.16	49.103	0.45
5499	0.23	17.43	5495.48	3.3	30.49	34.99	1770375.48	440002.89	39°42'21.255"N	80°12'15.165"W	46.41	48.925	0.08
5562	0.32	14.25	5558.48	3.48	30.78	35.07	1770375.57	440003.18	39°42'21.258"N	80°12'15.164"W	46.66	48.721	0.14
5625	0.27	12.49	5621.48	3.69	31.1	35.14	1770375.64	440003.5	39°42'21.261"N	80°12'15.163"W	46.93	48.493	0.08
5691	0.29	12.37	5687.48	3.9	31.42	35.21	1770375.71	440003.81	39°42'21.264"N	80°12'15.162"W	47.19	48.262	0.03
5735	0.03	156.9	5731.48	3.96	31.51	35.24	1770375.74	440003.91	39°42'21.265"N	80°12'15.162"W	47.28	48.196	0.72
5799	0	81.51	5795.48	3.94	31.5	35.25	1770375.75	440003.9	39°42'21.265"N	80°12'15.162"W	47.27	48.215	0.05
5862	0.07	277.34	5858.48	3.97	31.5	35.21	1770375.71	440003.9	39°42'21.265"N	80°12'15.162"W	47.25	48.18	0.11
5925	0.07	291.09	5921.48	4.03	31.52	35.14	1770375.63	440003.92	39°42'21.265"N	80°12'15.163"W	47.2	48.103	0.03
5988	0.03	71.23	5984.48	4.06	31.54	35.12	1770375.61	440003.94	39°42'21.265"N	80°12'15.164"W	47.2	48.069	0.15
6050	0	81.51	6046.48	4.05	31.55	35.13	1770375.63	440003.94	39°42'21.265"N	80°12'15.163"W	47.22	48.077	0.05
6113	0.03	109.95	6109.48	4.04	31.54	35.15	1770375.64	440003.94	39°42'21.265"N	80°12'15.163"W	47.22	48.095	0.05
6176	0.03	235.3	6172.48	4.02	31.53	35.15	1770375.65	440003.92	39°42'21.265"N	80°12'15.163"W	47.21	48.11	0.08
6239	0.06	256.48	6235.48	4.04	31.51	35.1	1770375.6	440003.91	39°42'21.265"N	80°12'15.164"W	47.17	48.088	0.05
6303	4.52	72.6	6299.42	3.21	32.26	37.48	1770377.98	440004.65	39°42'21.273"N	80°12'15.133"W	49.45	49.283	7.16
6366	10.83	66.02	6361.82	1.04	35.41	45.26	1770385.76	440007.8	39°42'21.304"N	80°12'15.034"W	57.47	51.966	10.1
6429	12.94	70.72	6423.47	-2.44	40.14	57.33	1770397.83	440012.54	39°42'21.352"N	80°12'14.880"W	69.99	55.001	3.68
6492	16.23	81.96	6484.44	-8.86	43.7	72.71	1770413.21	440016.1	39°42'21.389"N	80°12'14.684"W	84.84	58.992	6.87
6556	22.25	89.98	6544.85	-20.49	44.96	93.71	1770434.2	440017.36	39°42'21.403"N	80°12'14.415"W	103.94	64.369	10.25
6619	27.51	89.88	6601.98	-36.41	44.99	120.2	1770460.7	440017.39	39°42'21.405"N	80°12'14.076"W	128.35	69.478	8.35
6683	33.02	86.06	6657.24	-54.81	46.22	152.41	1770492.9	440018.62	39°42'21.420"N	80°12'13.664"W	159.27	73.128	9.12
6746	39.54	82.93	6708.01	-74.2	49.88	189.48	1770529.97	440022.27	39°42'21.459"N	80°12'13.190"W	195.93	75.252	10.76
6809	45.27	80.71	6754.51	-94.63	55.96	231.5	1770571.99	440028.36	39°42'21.522"N	80°12'12.653"W	238.17	76.41	9.4
6871	46.29	80.96	6797.75	-115.37	63.04	275.37	1770615.85	440035.44	39°42'21.595"N	80°12'12.093"W	282.49	77.106	1.67
6935	46.28	84.28	6841.98	-138.23	68.98	321.23	1770661.71	440041.38	39°42'21.658"N	80°12'11.507"W	328.55	77.881	3.75
6998	46.31	86.55	6885.52	-162.64	72.62	366.62	1770707.1	440045.02	39°42'21.697"N	80°12'10.926"W	373.74	78.796	2.61
7061	46.13	86.42	6929.11	-187.74	75.41	412.02	1770752.5	440047.8	39°42'21.728"N	80°12'10.346"W	418.87	79.629	0.32
7124	46.37	85.71	6972.67	-212.57	78.53	457.42	1770797.9	440050.93	39°42'21.762"N	80°12'09.765"W	464.12	80.258	0.9
7187	46.35	86.09	7016.15	-237.33	81.79	502.9	1770843.37	440054.19	39°42'21.798"N	80°12'09.183"W	509.51	80.762	0.44
7250	46.31	88.08	7059.65	-262.87	84.11	548.41	1770888.87	440056.5	39°42'21.825"N	80°12'08.601"W	554.82	81.28	2.29
7313	46.36	88.54	7103.15	-289.21	85.45	593.96	1770934.42	440057.85	39°42'21.841"N	80°12'08.019"W	600.07	81.813	0.53
7377	46.35	88.24	7147.32	-316.03	86.75	640.25	1770980.71	440059.15	39°42'21.858"N	80°12'07.427"W	646.1	82.283	0.34
7439	46.26	87.42	7190.16	-341.63	88.45	685.05	1771025.51	440060.85	39°42'21.878"N	80°12'06.854"W	690.73	82.643	0.97
7502	46.26	87.13	7233.71	-367.26	90.62	730.51	1771070.97	440063.01	39°42'21.903"N	80°12'06.272"W	736.11	82.929	0.33
7565	45.94	87.84	7277.4	-392.97	92.61	775.86	1771116.32	440065	39°42'21.926"N	80°12'05.692"W	781.37	83.193	0.96
7628	46.34	88.79	7321.05	-419.23	93.94	821.27	1771161.72	440066.34	39°42'21.943"N	80°12'05.111"W	826.62	83.474	1.26
7691	46.22	90.58	7364.59	-446.42	94.19	866.79	1771207.24	440066.59	39°42'21.949"N	80°12'04.529"W	871.9	83.798	2.06
7754	46.35	90.94	7408.13	-474.31	93.59	912.33	1771252.77	440065.98	39°42'21.946"N	80°12'03.946"W	917.11	84.143	0.46
7817	46.42	89.4	7451.59	-501.86	93.45	957.93	1771298.38	440065.85	39°42'21.949"N	80°12'03.363"W	962.48	84.428	1.77
7880	46.28	88.51	7495.08	-528.63	94.29	1003.51	1771343.95	440066.68	39°42'21.960"N	80°12'02.780"W	1007.93	84.633	1.05

RECEIVED  
Office of Oil and Gas  
MAY 17 2016  
WV Department of  
Environmental Protection

7943	45.37	87.71	7538.98	-554.62	95.77	1048.67	1771389.11	440068.17	39°42'21.978"N	80°12'02.202"W	1053.03	84.782	1.71
8006	45.29	86.48	7583.27	-579.73	98.04	1093.41	1771433.85	440070.44	39°42'22.004"N	80°12'01.630"W	1097.8	84.876	1.39
8069	43.42	74.66	7628.39	-600.11	105.16	1136.72	1771477.15	440077.55	39°42'22.078"N	80°12'01.076"W	1141.57	84.715	13.43
8132	42.57	60.99	7674.57	-611.09	121.26	1176.32	1771516.75	440093.65	39°42'22.240"N	80°12'00.571"W	1182.55	84.115	14.84
8196	39.55	52.15	7722.87	-613.8	144.28	1211.38	1771551.81	440116.67	39°42'22.470"N	80°12'00.125"W	1219.94	83.208	10.22
8260	39.57	48.16	7772.21	-611.78	170.39	1242.66	1771583.09	440142.78	39°42'22.731"N	80°11'59.727"W	1254.29	82.193	3.97
8323	44.23	46.04	7819.1	-607.42	199.04	1273.45	1771613.87	440171.43	39°42'23.016"N	80°11'59.336"W	1288.91	81.116	7.73
8387	48.2	39.57	7863.4	-599.16	232.96	1304.74	1771645.16	440205.34	39°42'23.354"N	80°11'58.939"W	1325.37	79.877	9.57
8450	48.69	26.97	7905.28	-583.29	272.24	1330.49	1771670.91	440244.62	39°42'23.744"N	80°11'58.614"W	1358.05	78.436	14.97
8514	49.19	16.04	7947.39	-558.14	317.01	1348.11	1771688.53	440289.39	39°42'24.188"N	80°11'58.393"W	1384.88	76.767	12.89
8577	51.21	6.69	7987.77	-526	364.38	1357.57	1771697.99	440336.76	39°42'24.657"N	80°11'58.276"W	1405.62	74.976	11.84
8640	51.78	359.03	8027.03	-488.2	413.55	1360.02	1771700.43	440385.93	39°42'25.143"N	80°11'58.250"W	1421.5	73.087	9.55
8703	51.61	350.72	8066.12	-446.28	462.72	1355.61	1771696.03	440345.09	39°42'25.628"N	80°11'58.311"W	1432.41	71.153	10.35
8767	54.42	345.18	8104.64	-399.95	512.67	1344.9	1771685.32	440485.03	39°42'26.121"N	80°11'58.453"W	1439.3	69.134	8.19
8830	62.14	341.64	8137.74	-349.75	563.95	1329.55	1771669.97	440536.32	39°42'26.627"N	80°11'58.655"W	1444.21	67.015	13.15
8893	68.74	338.84	8163.92	-295.05	617.83	1310.16	1771650.58	440590.19	39°42'27.158"N	80°11'58.908"W	1448.52	64.753	11.23
8956	73.84	336.69	8184.12	-237.37	673.03	1287.57	1771627.99	440645.39	39°42'27.702"N	80°11'59.203"W	1452.86	62.403	8.72
9019	78.79	334.19	8199.03	-177.62	728.68	1262.12	1771602.55	440701.04	39°42'28.250"N	80°11'59.534"W	1457.37	60	8.75
9083	84.02	331.61	8208.59	-115.3	784.98	1233.3	1771573.73	440757.34	39°42'28.804"N	80°11'59.908"W	1461.93	57.524	9.09
9145	85.84	329.03	8214.07	-54.06	838.63	1202.72	1771543.15	440810.98	39°42'29.332"N	80°12'00.305"W	1466.24	55.113	5.08
9207	85.84	323.58	8218.57	7.65	890.06	1168.43	1771508.86	440862.41	39°42'29.837"N	80°12'00.749"W	1468.82	52.701	8.77
9271	85.78	319.95	8223.25	71.46	940.19	1128.94	1771469.37	440912.53	39°42'30.330"N	80°12'01.259"W	1469.17	50.212	5.66
9332	85.87	319.05	8227.69	132.18	986.45	1089.42	1771429.86	440958.79	39°42'30.784"N	80°12'01.769"W	1469.67	47.84	1.48
9395	91.2	322.5	8229.3	195.08	1035.21	1049.62	1771390.06	441007.55	39°42'31.263"N	80°12'02.284"W	1474.24	45.396	10.08
9458	90.12	326.7	8228.57	258.04	1086.55	1013.14	1771353.58	441058.89	39°42'31.767"N	80°12'02.755"W	1485.61	42.998	6.88
9522	89.66	326.61	8228.7	321.91	1140.02	977.96	1771318.4	441112.35	39°42'32.293"N	80°12'03.211"W	1502.01	40.625	0.73
9585	89.94	325.59	8228.92	384.81	1192.31	942.82	1771283.26	441164.63	39°42'32.807"N	80°12'03.666"W	1520.03	38.335	1.68
9648	89.82	324.39	8229.05	447.77	1243.9	906.68	1771247.12	441216.23	39°42'33.314"N	80°12'04.133"W	1539.27	36.088	1.91
9711	90.15	321.87	8229.07	510.77	1294.3	868.88	1771209.33	441266.62	39°42'33.809"N	80°12'04.622"W	1558.9	33.874	4.03
9774	90.43	319.68	8228.75	573.72	1343.1	829.04	1771169.49	441315.42	39°42'34.288"N	80°12'05.137"W	1578.36	31.685	3.5
9837	90.31	320.46	8228.34	636.63	1391.41	788.61	1771129.06	441363.73	39°42'34.763"N	80°12'05.659"W	1599.35	29.543	1.25
9900	90.18	321.03	8228.07	699.58	1440.19	748.74	1771089.2	441412.51	39°42'35.242"N	80°12'06.174"W	1623.2	27.47	0.93
9963	90.46	322.85	8227.72	762.57	1489.79	709.91	1771050.37	441462.1	39°42'35.729"N	80°12'06.676"W	1650.29	25.478	2.92
10026	90.28	323.49	8227.31	825.57	1540.22	672.14	1771012.6	441512.53	39°42'36.224"N	80°12'07.164"W	1680.49	23.576	1.06
10090	90.37	324.75	8226.95	889.55	1592.07	634.64	1770975.1	441564.38	39°42'36.734"N	80°12'07.649"W	1713.9	21.733	1.97
10153	90.68	325.91	8226.37	952.5	1643.88	598.8	1770939.26	441616.18	39°42'37.243"N	80°12'08.113"W	1749.55	20.015	1.91
10216	90.71	327.18	8225.61	1015.37	1696.44	564.07	1770904.54	441668.74	39°42'37.760"N	80°12'08.562"W	1787.76	18.392	2.02
10280	90.83	326.56	8224.75	1079.22	1750.03	529.1	1770869.57	441722.33	39°42'38.287"N	80°12'09.015"W	1828.26	16.822	0.99
10343	90.74	324.24	8223.88	1142.15	1801.88	493.33	1770833.8	441774.17	39°42'38.796"N	80°12'09.478"W	1868.19	15.312	3.68
10406	90.37	322.92	8223.27	1205.14	1852.57	455.93	1770796.4	441824.86	39°42'39.294"N	80°12'09.962"W	1907.85	13.826	2.18
10469	90.58	322.92	8222.75	1268.14	1902.83	417.95	1770758.42	441875.12	39°42'39.788"N	80°12'10.453"W	1948.19	12.388	0.33
10533	90.37	324.61	8222.22	1332.13	1954.45	380.12	1770720.6	441926.73	39°42'40.295"N	80°12'10.942"W	1991.07	11.006	2.66
10596	90.86	322.72	8221.54	1395.12	2005.19	342.79	1770683.27	441977.47	39°42'40.794"N	80°12'11.425"W	2034.28	9.701	3.1
10659	90.55	321.75	8220.77	1458.11	2054.99	304.21	1770644.7	442027.27	39°42'41.283"N	80°12'11.923"W	2077.39	8.421	1.62
10723	90.77	322	8220.03	1522.09	2105.34	264.71	1770605.19	442077.61	39°42'41.777"N	80°12'12.434"W	2121.91	7.166	0.52
10786	90.8	323.66	8219.17	1585.08	2155.53	226.65	1770567.13	442127.8	39°42'42.271"N	80°12'12.926"W	2167.41	6.002	2.64
10850	90.68	322.67	8218.34	1649.08	2206.75	188.28	1770528.77	442179.02	39°42'42.774"N	80°12'13.422"W	2214.77	4.877	1.56
10913	90.77	321.3	8217.54	1712.06	2256.38	149.49	1770489.98	442228.64	39°42'43.261"N	80°12'13.923"W	2261.33	3.79	2.18
10977	90.4	320.75	8216.89	1776.02	2306.13	109.23	1770449.73	442278.39	39°42'43.750"N	80°12'14.443"W	2308.72	2.712	1.04
11040	90.25	318.56	8216.53	1838.91	2354.14	68.45	1770408.95	442326.4	39°42'44.221"N	80°12'14.970"W	2355.14	1.666	3.48
11103	91.39	322.4	8215.63	1901.83	2402.73	28.37	1770368.87	442374.98	39°42'44.698"N	80°12'15.488"W	2402.89	0.677	6.36
11167	89.63	324.18	8215.06	1965.82	2454.03	-9.88	1770330.62	442426.28	39°42'45.202"N	80°12'16.022"W	2454.05	359.769	3.91
11230	90.06	324.45	8215.23	2028.8	2505.2	-46.63	1770293.87	442477.45	39°42'45.705"N	80°12'16.558"W	2505.63	358.934	0.81
11292	89.08	323.47	8215.7	2090.79	2555.33	-83.1	1770257.4	442527.58	39°42'46.198"N	80°12'17.092"W	2556.68	358.137	2.24
11355	90.92	325.02	8215.7	2153.77	2606.45	-119.91	1770220.59	442578.69	39°42'46.700"N	80°12'17.606"W	2609.21	357.366	3.82
11419	89.6	328.52	8215.41	2217.62	2659.98	-154.98	1770185.53	442632.22	39°42'47.226"N	80°12'18.160"W	2664.49	356.666	5.84

RECEIVED  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection

11482	90.31	330.29	8215.46	2280.22	2714.2	-187.04	1770153.47	442686.44	39°42'47.760"N	80°12'18.275"W	2720.64	356.058	3.03
11545	89.82	326.03	8215.39	2342.95	2767.71	-220.27	1770120.24	442739.94	39°42'48.286"N	80°12'18.706"W	2776.46	355.45	6.81
11608	89.85	320.99	8215.57	2405.93	2818.34	-257.72	1770082.79	442790.57	39°42'48.783"N	80°12'19.190"W	2830.1	354.775	8
11672	90.12	318.71	8215.58	2469.83	2867.26	-298.99	1770041.53	442839.49	39°42'49.264"N	80°12'19.723"W	2882.81	354.047	3.59
11736	89.91	318.58	8215.57	2533.65	2915.3	-341.27	1769999.25	442887.52	39°42'49.735"N	80°12'20.269"W	2935.21	353.323	0.39
11799	90.89	318.84	8215.13	2596.47	2962.64	-382.84	1769957.68	442934.86	39°42'50.200"N	80°12'20.806"W	2987.27	352.637	1.61
11862	90.37	319.08	8214.43	2659.31	3010.15	-424.21	1769916.32	442982.37	39°42'50.666"N	80°12'21.340"W	3039.89	351.978	0.91
11926	90.49	319.9	8213.95	2723.18	3058.81	-465.78	1769874.75	443031.02	39°42'51.144"N	80°12'21.877"W	3094.07	351.342	1.29
11989	90.15	320.93	8213.6	2786.12	3107.36	-505.92	1769834.61	443079.57	39°42'51.620"N	80°12'22.395"W	3148.27	350.753	1.72
12052	90.62	323.02	8213.18	2849.1	3156.88	-544.73	1769795.81	443129.19	39°42'52.108"N	80°12'22.897"W	3203.63	350.21	3.4
12114	90.86	322.26	8212.38	2911.1	3206.26	-582.35	1769758.19	443178.46	39°42'52.592"N	80°12'23.389"W	3258.71	349.706	1.29
12178	91.32	321.33	8211.16	2975.07	3256.54	-621.92	1769718.62	443228.74	39°42'53.085"N	80°12'23.895"W	3315.39	349.188	1.62
12241	91.11	321.35	8209.82	3038.03	3305.72	-661.27	1769679.27	443277.92	39°42'53.568"N	80°12'24.403"W	3371.21	348.688	0.33
12304	90.62	320.27	8208.87	3100.97	3354.54	-701.07	1769639.47	443326.74	39°42'54.048"N	80°12'24.917"W	3427.02	348.196	1.88
12366	90.49	318.42	8208.27	3162.84	3401.58	-741.46	1769599.08	443373.77	39°42'54.510"N	80°12'25.439"W	3481.45	347.703	2.99
12429	90.28	318.54	8207.85	3225.64	3448.74	-783.22	1769557.33	443420.94	39°42'54.972"N	80°12'25.978"W	3536.56	347.205	0.38
12492	90.43	320.43	8207.46	3288.52	3496.64	-824.15	1769516.4	443468.83	39°42'55.443"N	80°12'26.506"W	3592.45	346.738	3.01
12554	90.46	320.99	8206.98	3350.47	3544.62	-863.41	1769477.15	443516.81	39°42'55.914"N	80°12'27.044"W	3648.26	346.31	0.9
12618	90.58	324.1	8206.4	3414.46	3595.42	-902.32	1769438.23	443567.6	39°42'56.413"N	80°12'27.517"W	3706.91	345.912	4.86
12681	90.58	327.27	8205.76	3477.38	3647.44	-937.83	1769402.73	443619.62	39°42'56.924"N	80°12'27.976"W	3766.08	345.58	5.03
12744	90.49	328.99	8205.17	3540.12	3700.94	-971.09	1769369.47	443673.12	39°42'57.450"N	80°12'28.407"W	3826.22	345.298	2.73
12808	90.49	325.61	8204.62	3603.93	3754.79	-1005.66	1769334.9	443726.96	39°42'57.980"N	80°12'28.859"W	3887.13	345.006	5.28
12871	90.49	325.3	8204.08	3666.87	3806.68	-1041.38	1769299.18	443778.85	39°42'58.490"N	80°12'29.318"W	3946.55	344.7	0.49
12935	90.52	325.57	8203.52	3730.81	3859.38	-1077.69	1769262.87	443831.55	39°42'59.008"N	80°12'29.787"W	4007.02	344.398	0.42
12998	90.4	324.61	8203.01	3793.76	3911.04	-1113.74	1769226.82	443883.2	39°42'59.515"N	80°12'30.254"W	4066.53	344.105	1.54
13060	90.52	321.7	8202.52	3855.75	3960.65	-1150.92	1769189.65	443932.81	39°43'00.003"N	80°12'30.735"W	4124.48	343.797	4.7
13123	90.49	320.14	8201.96	3918.71	4009.55	-1190.63	1769149.94	443981.71	39°43'00.483"N	80°12'31.248"W	4182.59	343.611	2.48
13187	90.74	319.68	8201.27	3982.61	4058.51	-1231.84	1769108.73	444030.66	39°43'00.963"N	80°12'31.780"W	4241.34	343.116	0.82
13250	90.49	320.83	8200.6	4045.53	4106.95	-1272.12	1769068.46	444079.1	39°43'01.439"N	80°12'32.300"W	4299.45	342.79	1.87
13313	90.37	321.03	8200.13	4108.49	4155.86	-1311.83	1769028.75	444128.01	39°43'01.919"N	80°12'32.814"W	4357.98	342.481	0.37
13376	90.62	323.22	8199.58	4171.48	4205.58	-1350.5	1768990.08	444177.73	39°43'02.408"N	80°12'33.313"W	4417.1	342.197	3.5
13438	90.22	326.9	8199.13	4233.43	4256.39	-1386	1768954.58	444228.54	39°43'02.907"N	80°12'33.773"W	4476.37	341.963	5.97
13502	90.03	324.88	8198.99	4297.34	4309.38	-1421.89	1768918.7	444281.52	39°43'03.428"N	80°12'34.237"W	4537.9	341.74	3.17
13565	90.12	323.93	8198.9	4360.32	4360.61	-1458.56	1768882.03	444332.75	39°43'03.931"N	80°12'34.712"W	4598.08	341.506	1.51
13628	89.6	322.83	8199.06	4423.32	4411.17	-1496.14	1768844.45	444383.31	39°43'04.428"N	80°12'35.198"W	4657.99	341.265	1.93
13690	89.91	322.04	8199.32	4485.31	4460.32	-1533.94	1768806.66	444432.45	39°43'04.911"N	80°12'35.687"W	4716.71	341.022	1.37
13754	89.97	322.67	8199.39	4549.31	4510.99	-1573.03	1768767.57	444483.12	39°43'05.409"N	80°12'36.192"W	4777.39	340.776	0.99
13817	90.06	323.93	8199.37	4612.31	4561.5	-1610.68	1768729.92	444533.63	39°43'05.905"N	80°12'36.679"W	4837.52	340.552	2.01
13880	89.91	324	8199.39	4675.3	4612.45	-1647.74	1768692.86	444584.57	39°43'06.405"N	80°12'37.158"W	4897.93	340.341	0.26
13943	89.91	323.58	8199.49	4738.29	4663.28	-1684.95	1768655.65	444635.4	39°43'06.905"N	80°12'37.640"W	4958.35	340.134	0.67
14006	90.25	323.64	8199.4	4801.29	4714	-1722.33	1768618.27	444686.11	39°43'07.403"N	80°12'38.123"W	5018.78	339.929	0.55
14069	90.31	323.69	8199.09	4864.28	4764.75	-1759.66	1768580.95	444736.86	39°43'07.902"N	80°12'38.606"W	5079.29	339.73	0.12
14087	90.18	323.76	8199.02	4882.28	4779.26	-1770.31	1768570.3	444751.37	39°43'08.044"N	80°12'38.744"W	5096.6	339.675	0.82
14112	90.18	323.76	8198.94	4907.28	4799.42	-1785.09	1768555.52	444771.53	39°43'08.242"N	80°12'38.935"W	5120.64	339.598	0

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	Comment
Coastal 9H HL Pt 1			1438	4087.13	-1985.57	1768355.05	444059.28	39°43'01.1	80°12'41.428"W	point
Coastal 9H HL Pt 2			1438	4691.5	-2098.83	1768241.8	444663.62	39°43'07.1	80°12'42.939"W	point
Coastal 9H HL Pt 3			1438	4810.06	-1865.23	1768475.38	444782.17	39°43'08.3	80°12'39.961"W	point
Coastal 9H HL Pt 4			1438	4861.97	-1579.68	1768760.92	444834.08	39°43'08.8	80°12'36.312"W	point
Coastal 9H HL Pt 5			1438	4415.42	-1395.95	1768944.63	444387.55	39°43'04.4	80°12'33.916"W	point
Coastal 9H HL Pt 6			1438	4780.3	-650.3	1769690.24	444752.41	39°43'08.1	80°12'24.411"W	point
Coastal 9H LP Rev-2			8222	830.59	1209.24	1771549.67	440802.94	39°42'29.2	80°12'00.221"W	point
Coastal 9H PBHL Rev-2			8222	4801.39	-1783.01	1768557.6	444773.5	39°43'08.2	80°12'38.908"W	point

RECEIVED  
Office of Oil and Gas  
MAY 17 2016  
WV Department of  
Environmental Protection

WELLPATH COMPOSITION	Ref Wellbore: Coastal 9H AWB	Ref Wellpath: Coastal 9H AWP Proj: 14112'	
Log Name/Comment	Start MD [ft]	End MD [ft]	Pos Unc Model
O2_VES Gyro (100'-1300')	18	1308	Generic gyro - northseeking (Standard)
O3_WFD MWD <8-1/2">(1417'-5625')	1308	5625	ISCWSA MWD, Rev. 2 (Standard)
O4_BH ATC <8-1/2"> (5625')(5691'-14087')	5625	14087	NavTrak (AT Curve Short Spaced)
Projection to bit	14087	14112	Blind Drilling (std)

**COMMENTS**

Wellpath general comments  
 API: 47-061-01676-0000  
 Rig: Pioneer 63  
 BHI Job #: 6977634  
 Duration: 04.15.2015 - 04.22.2015  
 VES Gyro (100'-1300')  
 WFD MWD <8-1/2">(1417'-5625')"  
 BH ATC <8-1/2"> (5625')(5691'-14087')"  
 Projected MD at TD: 14112'

RECEIVED  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection

# CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER			DATE 30-DEC-14		F.R. # 848610106		SERV. SUPV. Scott J Carson							
LEASE & WELL NAME COASTAL 9H - API 47061016760000			LOCATION BLACKSVILLE			COUNTY-PARISH-BLOCK Monongalia West Virginia								
DISTRICT Clarksburg			DRILLING CONTRACTOR RIG # PERFORMANCE 2			TYPE OF JOB Surface								
SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE			MECHANICAL BARRIERS		MD	TVD	HANGER TYPES		MD	TVD		
BJ Cement Plug, Rubber, Top 13-3/8		Float Collar, AI Flap, 13-3/8 - 8rd			NONE				NONE					
		Guide Shoe, Cement Nose 13-3/8 i												
PHYSICAL SLURRY PROPERTIES														
MATERIALS FURNISHED BY BJ			LAB REPORT NO.			SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER		
H2O							8.34				180			
GEL/FLAKE							8.45				25			
H2O							8.34				10			
PREMIUM NE-1 1% CALCIUM 75LB FLAKE			N/A			1,063	15.2	1.26	5.76	03:00	238	145.45		
H2O							8.34				207			
200# SUGAR ON SIDE							0				0			
Available Mix Water			500 Bbl.			Available Displ. Fluid			500 Bbl.			TOTAL	660	145.45
HOLE			TBG-CSG-D.P.						COLLAR DEPTHS					
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE		
17.5	30	1420	12.62	13.38	54.5	CSG	1385	1385	J-55	1385	1342	1		
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.
23.	24	95.	CSG	50	50	NO PACKER					13.375	8RD	OTHER	0
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			
207	BBLS	H2O		8.34	480	0	0	0	0	1384	1000	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 3600 PSI								
						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input checked="" type="checkbox"/>								
19:30						ARRIVE AT LOCATION 12-29-2014 LOCATION TIME 22:00								
01:00						PRE-JOB RIG-IN SAFETY MEETING 12-30-2014								
01:15						RIG-IN								
02:45						PRE-JOB SAFETY MEETING								
03:13	100		5	5	H2O	LINE-FILL								
03:14	0				H2O	PRESSURE TEST 3600#								
03:16	150		7.2	180	H2O	WATER AHEAD								
03:40	120		5.3	25	GEL/FLAKE	PRE-FLUSH								
03:47	130		5.6	10	H2O	SPACER								
03:49	250		5.4	225	SLURRY	15.2 PREMIUM NE-1 1% CALCIUM 75LB FLAKE								
04:30	0					SHUT-DOWN RELEASE-PLUG								
04:31	350		5.6	209	H2O	START DISPLACEMENT								
05:08	870					SHUT-DOWN PLUG-DOWN								
05:13	0					BLEED-OFF PRESSURE 1BBL. RETURN								
05:14						CLOSE-IN CEMENT HEAD								
05:15						POST-JOB RIG-OUT SAFETY MEETING								
05:30						RIG-OUT								

RECEIVED  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection

# CEMENT JOB REPORT



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 3600 PSI	
						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input checked="" type="checkbox"/>	
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	480	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	30	667	0	Y <input checked="" type="checkbox"/> N	

RECEIVED  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection

# CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER			DATE 11-JAN-15		F.R. # 10011131592		SERV. SUPV. Brian Lough						
LEASE & WELL NAME COASTAL 9H - API 47061016760000			LOCATION DAYBROOK			COUNTY-PARISH-BLOCK Monongalia West Virginia							
DISTRICT Clarksburg			DRILLING CONTRACTOR RIG # PERFORMANCE 2			TYPE OF JOB Intermediate							
SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE			MECHANICAL BARRIERS		MD	TVD	HANGER TYPES		MD	TVD	
9-5/8" Top Cem Plug, Nitrile cvr, Phe		700-LAP-PVTS Float Collar, 9-5/8 in											
		Guide Shoe, Cement Nose, 9-5/8 i											
PHYSICAL SLURRY PROPERTIES													
MATERIALS FURNISHED BY BJ				LAB REPORT NO.		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER	
PROCESSED WATER							8.45				250		
6% GEL (500 LBS) W/ FLAKE (25 LBS)							8.5				25		
FRESH WATER							8.34				10		
CLASS A (PREM NE-1) W/ FLAKE ADDED (75 LBS)						903	15.2	1.24	5.74	03:00	199	123.15	
FRESH WATER							8.34				207		
150 LBS OF SUGAR ON THE SIDE							8.4				20		
FRESH WATER							8.34				182		
Available Mix Water			300 Bbl.		Available Displ. Fluid			300 Bbl.		TOTAL		893 123.15	
HOLE			TBG-CSG-D.P.					COLLAR DEPTHS					
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE	
12.25	30	2830	8.835	9.625	40	CSG	2777		J-55	2777	2731		
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.
13.	13.38	55.	CSG	1385						9.625	8 RND	OTHER	0
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			
207	BBLS	FRESH WATER	8.34	974	0	0	0	0	3160	1300	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 4575 PSI							
						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input checked="" type="checkbox"/>							
11:30						ARRIVE ON LOCATION. JOB TIME 1300 HOURS							
15:10						SPOT EQUIPMENT							
15:20						SAFETY MEETING WITH BHI CREW							
15:40						RIG INTO WELL & TANKS							
16:21				250		PUMP PROCESSED H2O TO GET CASING IN HOLE							
17:00				182		PUMP FRESH H2O TO FINISH GETTING CASING DOWN							
18:10						CASING DOWN. SHUT DOWN & RIG IN HEAD & MANIFOLD							
18:15						SAFETY MEETING WITH RIG CREW & CO.MAN							
18:38	85		5	5	H2O	LINE FILL							
18:40	0		.5	.3	H2O	PRESSURE TEST BHI IRON TO 4575 PSI							
18:42	110		5.4	25	GEL	6% GEL(500 LBS) W/ FLAKE ADDED (25 LBS)							
18:49	115		5.5	7	H2O	FRESH WATER SPACER							
18:51	245		5.5	194	CEMENT	903 SACKS OF CLASS A (PREM NE-1) WITH FLAKE ADDED ON THE FLY. TEMP 49 DEGREES							
19:30						SHUT DOWN / DROP PLUG							
19:32	1000		5	210	H2O	FRESH WATER DISPLACEMENT							

RECEIVED  
 Department of Environmental Protection  
 January 17 2016

# CEMENT JOB REPORT



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	4575 PSI
						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input checked="" type="checkbox"/>	
20:18	1325		3		H2O	LAND PLUG.	
20:21	0					RELEASE PRESSURE / CHECK FLOATS. 1.5 BBLs H2O RETURN TO PUMPER	
20:22						END JOB.	
						SERVICE SUPERVISOR SIGNATURE:	
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	974	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0	893	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

RECEIVED  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection



# CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL EN			DATE 23-APR-15		F.R. # 10011151669		SERV. SUPV. Kevin Paugh								
LEASE & WELL NAME COASTAL #9H - API 47061016760000			LOCATION CLAY				COUNTY-PARISH-BLOCK Monongalia West Virginia								
DISTRICT Clarksburg			DRILLING CONTRACTOR RIG # PIONEER 63				TYPE OF JOB Long String								
SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE			MECHANICAL BARRIERS		MD	TVD	HANGER TYPES		MD	TVD			
Latch Down Plug & Assembly, 5-1/2		Float Collar, Auto Fill, 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	
UltraBond 10									13			50			
MultiBond								221	13	1.27	5.87	50	30.90		
50:50 Poz (Fly Ash):Class A								2,683	14.5	1.17	5.15	550	322.29		
Sugar Water AFTER Plug									8.34			20			
Fresh Water									8.34			293.87			
SUGAR									0			0			
Available Mix Water		1500		Bbl.		Available Displ. Fluid		600		Bbl.		TOTAL		963.87	353.19
HOLE			TBG-CSG-D.P.						COLLAR DEPTHS						
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE			
8.5		14089	4.778	5.5	20	CSG	14089	8200							
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.		
8.8	9.63	40	CSG	2777	2777					5.5	8 RD	SYNTHETIC MUD	12.6		
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			
313	BBLs	Fresh Water SUGAR		8.34 0	450C	0	0	0	0	1000C	600C	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 500C PSI									
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>									
23:00						ARRIVE ON LOCATION (LOC TIME 0100)									
23:05						SPOT EQUIPMENT									
23:10						PRE RIG IN SAFETY MEETING									
00:00						RIG IN									
01:30						SAFETY MEETING WITH CUSTOMER									
01:50	200		5	5	H2O	LINE FILL									
01:55	860C		1	1	H2O	PRESSURE TEST									
02:00	533		4	50	ULTRABOND	SPACER									
02:15	673		5.6	50	MULTIBOND	SPACER									
02:25	114C		7	550	SLURRY	50/50 PREM NE-1 +.3% R-3 + .2% MPA-170									
03:45						SHUT DOWN WASH LINES									
03:50						DROP PLUG									
03:52	198C		7	20	SUGAR V	TREATED DISPLACEMENT									
03:55	244C		7	293	H2O	DISPLACEMENT									
04:45	449C					PLUG DOWN									
04:50						HELD 5 MIN AND RELEASED FLOATS HELD									
04:55						PRE RIG DOWN SAFETY MEETING									

RECEIVED  
 Office of Oil and Gas  
 WV Department of  
 Environmental Protection  
 MAY 17 2016  
 J8004

# CEMENT JOB REPORT



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 500C PSI	
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>	
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	<u>SERVICE SUPERVISOR SIGNATURE:</u>
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	4500	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0	1015	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

RECEIVED  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection

## Perforation Record

Stage Number	Report Date	Perforated from MD ft	Perforated to MD ft	Number of Perforations	Formation
1	12/28/2015	13,995	13,876	40	Marcellus Shale
2	12/28/2015	13,835	13,727	40	Marcellus Shale
3	12/28/2015	13,699	13,577	40	Marcellus Shale
4	12/28/2015	13,549	13,427	40	Marcellus Shale
5	12/29/2015	13,394	13,277	40	Marcellus Shale
6	12/29/2015	13,249	13,132	40	Marcellus Shale
7	12/29/2015	13,100	12,978	40	Marcellus Shale
8	12/29/2015	12,950	12,824	40	Marcellus Shale
9	12/29/2015	12,802	12,678	40	Marcellus Shale
10	12/30/2015	12,651	12,529	40	Marcellus Shale
11	12/30/2015	12,501	12,379	40	Marcellus Shale
12	12/31/2015	12,353	12,229	40	Marcellus Shale
13	12/31/2015	12,201	12,082	40	Marcellus Shale
14	12/31/2015	12,052	11,930	40	Marcellus Shale
15	12/31/2015	11,890	11,780	40	Marcellus Shale
16	1/1/2016	11,752	11,630	40	Marcellus Shale
17	1/1/2016	11,602	11,481	40	Marcellus Shale
18	1/1/2016	11,453	11,331	40	Marcellus Shale
19	1/2/2016	11,303	11,181	40	Marcellus Shale
20	1/2/2016	11,149	11,032	40	Marcellus Shale
21	1/2/2016	11,004	10,882	40	Marcellus Shale
22	1/2/2016	10,854	10,732	40	Marcellus Shale
23	1/3/2016	10,704	10,582	40	Marcellus Shale
24	1/3/2016	10,554	10,433	40	Marcellus Shale
25	1/3/2016	10,405	10,283	40	Marcellus Shale
26	1/4/2016	10,255	10,133	40	Marcellus Shale
27	1/4/2016	10,105	9,984	40	Marcellus Shale
28	1/4/2016	9,951	9,834	40	Marcellus Shale
29	1/4/2016	9,806	9,684	40	Marcellus Shale
30	1/4/2016	9,656	9,534	40	Marcellus Shale
31	1/4/2016	9,506	9,385	40	Marcellus Shale
32	1/4/2016	9,357	9,235	40	Marcellus Shale

# Stimulation Record

Stage Number	Report Date	Avg Treating Rate (BPM)	Avg Treating Pressure (psi)	Breakdown Pressure (psi)	ISIP (psi)	Total Proppant Amount (lbs)	Total Clean Fluid (Bbls)
1	12/28/2015	91.9	8,989	7,731	6,618	229,423	5,177
2	12/28/2015	92.8	9,012	7,642	5,806	225,880	4,959
3	12/28/2015	89	8,688	7,286	5,806	224,500	4,538
4	12/28/2015	88	8,907	7,406	6,207	228,820	4,581
5	12/29/2015	89	8,925	7,433	6,048	224,920	4,638
6	12/29/2015	95	8,986	7,502	6,022	225,000	4,676
7	12/29/2015	94	9,032	7,769	6,116	223,660	4,802
8	12/29/2015	90	8,977	7,762	5,630	225,700	4,692
9	12/29/2015	91	8,801	7,317	5,890	227,760	4,784
10	12/30/2015	91	9,095	7,636	5,961	222,780	5,036
11	12/30/2015	99	9,092	6,349	5,992	224,520	4,817
12	12/31/2015	89	9,075	7,242	6,055	225,660	4,645
13	12/31/2015	93	9,149	7,372	5,898	226,020	4,932
14	12/31/2015	95	9,129	7,869	6,335	224,040	4,521
15	12/31/2015	92	9,105	7,725	6,055	225,320	5,021
16	1/1/2016	92	9,104	7,656	6,551	224,860	4,690
17	1/1/2016	99.8	9,036	7,226	6,271	224,340	4,801
18	1/1/2016	97	9,067	7,379	6,365	224,820	4,613
19	1/2/2016	98	9,133	7,593	6,490	225,640	4,633
20	1/2/2016	95	9,212	7,202	6,271	225,540	5,045
21	1/2/2016	97.2	9,079	7,281	6,302	224,160	4,502
22	1/2/2016	84	9,040	7,426	6,676	225,240	4,666
23	1/3/2016	88	9,115	7,325	6,551	225,180	4,644
24	1/3/2016	99.5	9,133	7,431	6,520	226,200	4,541
25	1/3/2016	98	9,146	7,576	6,302	226,560	4,693
26	1/4/2016	89	9,024	7,579	6,147	224,680	4,492
27	1/4/2016	93	9,096	7,465	6,302	225,880	4,576
28	1/4/2016	96	9,074	7,526	6,676	225,420	4,531
29	1/4/2016	92.9	9,073	8,295	6,459	224,560	4,473
30	1/4/2016	91.5	9,004	7,783	6,241	229,820	4,547
31	1/4/2016	94.4	9,073	7,436	6,520	224,680	4,486
32	1/4/2016	89	9,099	8,193	6,116	222,560	4,458

# Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	12/21/2015
Job End Date:	1/4/2016
State:	West Virginia
County:	Monongalia
API Number:	47-061-01676-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Coastal 9H
Longitude:	-80.20433600
Latitude:	39.70582000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	8,233
Total Base Water Volume (gal):	6,543,600
Total Base Non Water Volume:	0

## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Proppant Transport	Schlumberger	Corrosion Inhibitor, Scale Inhibitor, Biocide, AntiFoam Agent, Acid, Friction Reducer, Iron Control Agent, Fluid Loss Additive , Propping Agent					
			Water (Including Mix Water Supplied by Client)*	NA		87.84510	
			Quartz, Crystalline silica	14808-60-7	98.82330	12.01187	
			Hydrochloric acid	7647-01-0	0.79394	0.09650	
			Ammonium sulfate	7783-20-2	0.15303	0.01860	
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.11295	0.01373	
			Glutaraldehyde	111-30-8	0.04187	0.00509	
			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8	0.01210	0.00147	
			Ethanol, 2,2',2"-nitritoltris-, 1,1',1"-tris(dihydrogen phosphate), sodium salt	68171-29-9	0.01149	0.00140	

		Alkyl(c12-16) dimethylbenzyl ammonium chloride	68424-85-1	0.00748	0.00091
		Urea	57-13-6	0.00743	0.00090
		Sodium erythorbate	6381-77-7	0.00516	0.00063
		Trisodium ortho phosphate	7601-54-9	0.00505	0.00061
		Methanol	67-56-1	0.00319	0.00039
		Fatty acids, tall-oil	61790-12-3	0.00193	0.00023
		Polypropylene glycol	25322-69-4	0.00176	0.00021
		Sodium sulfate	7757-82-6	0.00173	0.00021
		Thiourea, polymer with formaldehyde and 1-phenylethanone	68527-49-1	0.00159	0.00019
		Silicon Dioxide	7631-86-9	0.00155	0.00019
		Ethylene Glycol	107-21-1	0.00144	0.00017
		Ethanol	64-17-5	0.00090	0.00011
		Alcohols, C14-15, ethoxylated (7EO)	68951-67-7	0.00076	0.00009
		Propargyl alcohol	107-19-7	0.00050	0.00006
		2-Propenamid (impurity)	79-06-1	0.00037	0.00004
		Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00019	0.00002
		Hexadec-1-ene	629-73-2	0.00017	0.00002
		1-Octadecene (C18)	112-88-9	0.00008	0.00001
		Dimethyl siloxanes and silicones	63148-62-9	0.00011	0.00001
		Dodecamethylcyclohexasiloxane	540-97-6		
		Octamethylcyclotetrasiloxane	556-67-2	0.00001	
		Siloxanes and silicones, dimethyl, reaction products with silica	67762-90-7	0.00001	
		Formaldehyde	50-00-0	0.00001	
		Copper(II) sulfate	7758-98-7		
		Decamethyl cyclopentasiloxane	541-02-6	0.00001	

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

Lithology/Formation	Top Depth in FT TVD	Bottom Depth in FT TVD	Top Depth in FT MD	Bottom Depth in FT MD	Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Sand/Shale	0	40			sand/shale
Red Rock	40	590			red rock
Sand/Shale/Silt	590	831			sand/shale/silt
Sand/Shale	831	2400			sand/shale
Limestone	2400	2563			limestone
Sand/Shale	2563	2825			sand/shale
Shale	2825	6399			shale
Sandstone/Shale	6399	7757			sandstone/shale
Burkett	7757	7940	7982	8193	shale
Geneseo	7940	7990	8193	8264	shale
Tully	7990	8041	8264	8341	limestone
Hamilton	8041	8121	8341	8550	shale
Marcellus	8121	8189	8350	8711	shale
Cherry Valley	8189	8193	8711	8736	limestone
Lower Marcellus	8193		8736		shale

**RECEIVED**  
 Office of Oil and Gas  
 MAY 17 2016  
 WV Department of  
 Environmental Protection