1

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

API <u>47</u> .061	01674	County Monongali	a Dis	strict Clay	
Quad Blacksville, WV		Pad Name Coastal		eld/Pool Name B	Blacksville
Farm name Coastal For	rest Resources	Company	w	ell Number <u>1H</u>	
Operator (as registered w	ith the OOG) No	rtheast Natural Er	ergy LLC		
Address 707 Virginia S		City Charle	eston	State WV	Zip _25301
As Drilled location NA To Landing Point o	op hole Nortl	Attach an as-drilled p ning <u>4395375.2</u> ning 4395315.5		eviation survey 568196.5 567873.6	
-		ing 4397012.0	Easting	566560.1	
Elevation (ft) 1,420' Permit Type		Type of Well 🔹 N ntal 🔹 Horizontal	-	Type of Report Depth Type	□Interim BFinal □ Deep B Shallow
Type of Operation Co	nvert 🗆 Deepe	n 🛢 Drill 🗆 Pl	ug Back 🛛 🗆 Redrillin	g 🗆 Rework	Stimulate
Well Type  Brine Disp	osal ⊡ CBM ■	Gas 🗆 Oil 🗖 Secon	dary Recovery 🗆 Solut	ion Mining 🗆 St	orage 🗆 Other
Type of Completion	Rotary			NGL Oil	
Drilling Media Surface			Intermediate hole	e El Air 🗆 Muc	1
Production hole Mud Type(s) and Additi Synthelic Based Mud for horiz	ve(s)	sh Water □ Brine SE 365, CALCIUM CHLOI	RIDE POWDER, G-SEAL PL	US, HRP, LIME, M-I	WATE (BARITE), M-I-X II MEDIUM
MEGADRIL P SYSTEM, MEGADR	RIL P SYSTEM RENTAL,	MEGAMUL, SAFE-CARB 25	), VERSATHIN HF, VERSAWET	, VG-PLUS, VINSEAL M	IEDIUM, WALNUT NUT PLUG MEDIUM
Date permit issued7	/18/2014	Date drilling commer	<sub>iced</sub> 10/16/2014	Date drilling	ceased 2/13/2015
Date completion activitie	s began6	/05/2015	Date completion activiti	es ceased	6/25/2015
Verbal plugging (Y/N) _	Date	permission granted _		Granted by	
Please note: Operator is	required to submit	a plugging application	on within 5 days of verb	al permission to p	blug
Freshwater depth(s) ft	1,24	3' 0	pen mine(s) (Y/N) dept	:hs	Ν
Salt water depth(s) ft	0.540	' V	oid(s) encountered (Y()	depths	N
Coal depth(s) ft	600 ; 1,20		avern(s) encountered() Office		N
Is coal being mined in ar	ea (Y/N)	N			Reviewed by:

.

10/30/2015

#### WR-35 Rev. 8/23/13

# API 47-061 - 01674 Farm name Coastal Forest Resources Company Well number 1H

.5	Size 24	Depth 40'	Used N	wt/ft	Depth(s)	Provide details below*
		40'	N			
.5				N/A	N/A	Y to Surface
- 1	13 3/8	1,376'	N	54.5	N/A	Y to 40 bbls
25	9 5/8	2,766'	N	40	N/A	Y to 10 bbls
5	5.5	15,885'	N	20	N/A	Estimated Top at 2000'
		· · · ·	1			
	5					

Comment Details

CEMENT woc Class/Type Number Slurry Yield Volume Cement DATA (ft<sup>2</sup>) of Cement Top (MD) of Sacks wt (ppg) ( ft 3/sks) (hrs) Conductor 4,500 psi ready mix 36.4 .75 27.27 CTS 48 Surface Class A 1,038 15.2 1.27 1,271 CTS 8 Coal Intermediate I CTS 860 1,074 Class A 15.2 1.26 8 Intermediate 2 Intermediate 3 Production 50:50 Premium NE-1.3% (R-3.3% MPA 170 3,293 1.17 2,661 Estimated 2,000' 48 14.5 Tubing Drillers TD (ft) 15,908 Loggers TD (ft) 15,883

Kick off depth (ft) 6,939			<del></del>	
Check all wireline logs run	🗆 caliper	🗆 density	deviated/directional	□ induction

		2	□ neutron	🗆 resisti	vity	🛢 gamma ray	temperature	□sonic
Well cored	🗆 Yes		No Convention	nal S	idewall	I	Were cuttings collected	∎Yes □ No
DESCRIBE Surface: bow spring			ALIZER PLACEME	NT USED	FORE	EACH CASING	STRING	
Intermediate: bow	spring centra	alizers e	very 3rd joint or aprox 120'					
Production: Hard	bodied spiral	centrali	zers every other joint or aprox 60	from TD to KO	P then bow	spring from KOP to 9	v/8° every forth joint or aprox 140'	
WAS WEL	L COMF	LET	ED AS SHOT HOLE	🛢 Yes	o No	DETAIL	S 36 Stages, 40 Shots per Slage	•
_								Received
WAS WEL	L COMP	LET	ED OPEN HOLE?	🗆 Yes 🖪	No	DETAILS	Offic	e of Oil & Gas
			·					DCT 07 2015
							l	

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

#### WR-35 Rev. 8/23/13

## API 47-061 \_ 01674

Farm name\_Coastal Forest Resources Company\_Well number\_1H

#### PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
					*Please See Attachment
			<b></b>		
			ļ		

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)
						<u> </u>		
			,					
			<u></u>	1			Re	eived
							Office o	eived f Oil & Gas
							ULI	072015

Please insert additional pages as applicable.

WR-35

API 47- 061	01674	-	Farm	name_Coastal I	Forest Re	sources Comp	any Well r	umbe	er_1H
PRODUCING	FORMAT	ION(S	)	DEPTHS					
Marcellus				8,207.07'	TVD	15,908'	MD		
			-						
			_						
Please insert ad	lditional pa	ages as	applicable.						
GAS TEST	🗆 Build u	p 🗆 l	Drawdown	Open Flow		OIL TEST	Flow 🗆	Pum	р
SHUT-IN PRE	SSURE	Surfa	ce 4046	psi Botto	m Hole_	psi	DURAT	TON	OF TEST 48 hrs
OPEN FLOW	Gas 5379	mcfp	Oil d	NGL		Water bpd			URED BY ■ Orifice  □ Pilot
LITHOLOGY/ FORMATION	TOP DEPTH II NAME T	N FT	BOTTOM DEPTH IN FI TVD	TOP DEPTH IN FT MD	BOTTO DEPTH IN MD	FT DESCRIBE			D RECORD QUANTITYAND TER, BRINE, OIL, GAS, H₂S, ETC)
	0			0					See Attachment
	1				A	-	_		
					-			_	
		1		-	<u></u>			-	
		-							
		1							
-	1					-			
Please insert ad	lditional pa	iges as	applicable.						
Drilling Contra	ctor Pione	er 63							a and
Address 1250 N	IE Loop 410	Suite 10	00	City	San Anto	nio	State	TX	Zip
Logging Comp	any Baker	Hughe	S		-		ar 3.	140.1	00004
Address 837 Ph	ilippi Pike	-		City	Clarksbur	9	State	WV	Zip 26301 Received
Cementing Con		ker Hug	hes		Oladaba			WV	Office of Oil & Gas
Address 837 Ph		1		City	Clarksbur	g	State	VVV	DCT 07 2015
Stimulating Co		chlumb	erger	01	Weston	-	State	WV	Zip <u>26452</u>
Address 1080 U Please insert ad		ages as	applicable.	City			State		Zip
		1		-		Talashas	e 304.203.	8059	
Completed by	Zack Aille		1	Title G		ager - Operations	6 00 1.200.	5000	10/6/2015

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

		<u>L1</u>	<u>- 0</u>	14	<u>, 7</u>	ų	T		1	1	<b>.</b>	r		<b>T</b>	r		<b>-</b>	1
Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S,	etc)	sand/shale/silt	red rock	sand/shale/silt	limestone	sandstone	sand/shale	shale	sand/shale	shale	sandstone/shale	shale	shale	limestone	shale	shale	limestone	shale
	Top Depth in FT MD Bottom Depth in FT MD											8151	8219	8297	8510	8647	8668	
	Top Depth in FT MD											7916	8151	8219	8297	8510	8647	8668
Bottom Depth in FT	DVT	345	355	2344	2502	2620	2995	3125	3722	6500	7755	7923	7968	8028	8131	8173	8180	
	Top Depth in FT Name TVD	0	345	355	2344	2502	2620	2995	3125	3722	6500	7755	7923	7968	8028	8131	8173	8180
	Lithology/Formation	Sand/Shale/Silt	Red Rock	Sand/Shale/Silt	Limestone	Big Injun	Sand/Shale	Shale	Sand/Shale	Shale	Shandstone/Shale	Burkett	Geneseo	Tully	Hamilton	Marcellus	Cherry Valley	Lower Marcellus

Received Office of Oil & Gas

R T (CSV version)		ť.
ACTUAL WELLPATH REPORT (CSV version	er Hughes	oftware System: WellArchitect <sup>e</sup> 4.0.1
ACTUAL WE	Prepared by Baker Hughes	Software System

REFERENCE WELLPATH INENTIFICATION

**NORTHEAST NATURAL ENERGY, LLC** 

Monongalia County, WV

Monongalia **Coastal Pad** 

KEFEKENCE WELLPATH IDENTIFICATION										
KEFEKENCE W	Operator	Area	Field	Facility	Slot	Well	Wellbore	Welipath	Sidetrack	

REPORT SETUP INFORMATION DataBase/Source file Convergence at slot Projection System Report Generated North Reference Software System Scale User

0.45\* West

0.9999942

Grid

NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet

Coastal 1H AWP Proj: 15908'

(onon)

Coastal 1H AWB

Coastal 1H

Slot 01

WELLPATH LOCATION

Facility Reference Pt Field Reference Pt Slot Location

1777686 440640.7 39\*42'28.180\*10'41.690"W

439860 39\*42'19.8 80\*12'16.137"W

Northing Latitude Longitude

Local North Local East Easting

WANorthEast/ev3940.xml

13/Feb/2015 at 13:48 WellArchitect<sup>e</sup> 4.0.1

Gotfbrai

[US ft]

[US ft]

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0 1770298 1770298

0

439860 39\*42'19.8 80\*12'16.137"W

Pioneer 63 (RKB) to Mud Line at Slot (Slot 01) Pioneer 63 (RKB) to Facility Vertical Datum Pioneer 63 (RKB) to Mean Sea Level **Horizontal Reference Point Vertical Reference Point** Field Vertical Reference MD Reference Point Calculation method WELLPATH DATUM Section Azimuth Section Origin

Minimum curvature Pioneer 63 (RKB) Pioneer 63 (RKB) N 0.00, E 0.00 ft Mean Sea Level 1438.00ft 18.00ft 18.00ft 323.00\* ğ

Office of Cil & Gas Received

OCT 07 2015

WELLPATH DATA t = interpolated/extrapolated station

0 [1)100ft] Closure Di: Closure Dii DLS 0 Ξ 0 E 439860 39\*42'19.837"N 80\*12'16.137"W Longitude Grid East Grid North Latitude [US ft] 0 1770298 (US ft) East (ft) 0 Vert Sect North [ft] [ft] 0 0 Inclination Azimuth TVD Ξ 58.87 Ξ 0 Ξ 0 ₽₹

61.01674



EASE & WE	Hommesto	I NATURAL I	ENER	DATE 18-	OCT-14 F.	2 # 10011	109854			A. SUPV.	Brian Lo		
COASTAL	#1H - API 470	61016740000		CLAY				_	Mo	onongalia	West Virg		
Clarksburg	1			DRILLING C	ONTRACTOR	RIG #				OF JOE			
SIZE	& TYPE OF PL	UGS	LIST-	CSG-HARDW	ARE	MECHANIC	AL BARRI	ERS	MD	TVD	HANGER	TYPES	MD TVD
3-3/8" Top	Cem Plug, N	itr our Dhe		, Texas-Not									
10-070 TOP	Centring, I	iu cvi, r ne		, Auto Fill, 1									
				triate rind r		1	Р	HYSICA	LSLUF	RY PRO	PERTIES		-
												1	1
MATERIAL	LS FURNISHE	DBYBI		LAB	REPORT NO.	SACKS OF	SLURRY WGT PPG	YLD		WATER GPS	PUMP TIME HR:MIN	Bbi SLURRY	Bbl
	co i oranonici				ne on no.	CEMENT		FT	1				WATER
H2O		-					8.34					18	
6% GEL W	/FLAKE						8.5					2	
H2O		-					8.34	-			-	1	-
PREM NE-	1 + 2% CACL					1,038	15.2	1	.27	5.7	7 04:14	22	5 136.6
Available Mi	x Water	500	Bb	I. Available	e Displ. Fluid	500	BI	bl.		TOT	TAL	44	5 136.6
	HOLE		1 marine		TBG-CSG-	and the second second		- marine		- June -	and the second s	R DEPTHS	
SIZE 17.5	% EXCESS 30	DEPTH 1400		OD WGT 13.38 54	1.5 CSG	E MD 136		GRAD	E	SHOE 13	66	1321	STAGE
		1400	12.02				- designed and the	0-00	TOP O				
	LAST CASING	M	TVD	BRAND & TY	T-BR PL-LINE	EPTH TOP	RF. DEPTH	SIZ	TOP C	HREAD	TYPE	WELL FLUI	WGT.
1D OD 1 23. 24	95. CSG		40 40	DRAND & IT		CPINI IOP	PIM		375 8		OTHER		WGI.
DISPL. VO	Liber.	DIC		CAL 0		X PSI OP. M		-	-				MIX
DISPL VU	LOWIE	DIS	PL FLUID	CAL. P	SI CAL MA			AX TBG	-	1	IAX CSG F		WATER
	LICER	TYPE	MC	T RIMP D	LIG TOPE	V SO P	SI DATI		orstor				
VOLUME	UOM	TYPE	WG		1000	and the balance			perator			750 T	
VOLUME 206	BBLS				500	0	0	ED Or	oerator (		2184 O		ANK
VOLUME 206		SETTING TO	OL, RUNNING	CSG, ETC. P	500	0			(		2184		
VOLUME 206 XPLANATIO	BBLS	SETTING TO PRESSURE	OL, RUNNING	ECSG, ETC. P	RIOR TO CEM	0 ENTING:	0	0	EXI	PLANAT	2184 ION		
VOLUME 206	BBLS	SETTING TO PRESSURE RE - PSI	OL, RUNNING	CSG, ETC. P	500	0 ENTING: SAFETY MI	0 EETING: B.	0 J CREW	EXI	PLANAT	2184 ION		
VOLUME 206 XPLANATIO	BBLS	SETTING TO PRESSURE	OL, RUNNING IRATE DETAIL RATE	сsg, етс. р L вы. fluid	RIOR TO CEM	0 ENTING:	0 EETING: B.	J CREW 3140 PS	EXI	PLANAT	2184 ION		
VOLUME 206 XPLANATIO	BBLS	SETTING TO PRESSURE RE - PSI	OL, RUNNING IRATE DETAIL RATE	сsg, етс. р L вы. fluid	RIOR TO CEM	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE OI	0 EETING: B. 3 NG WELL -	0 J CREW 3140 PS RIG ON	EXI X C	PLANAT CO. REP. BJ	2184 ON X X Re	750 1	ANK
VOLUME 206 XPLANATIO TIME HR:MIN.	BBLS	SETTING TO PRESSURE RE - PSI	OL, RUNNING IRATE DETAIL RATE	сsg, етс. р L вы. fluid	RIOR TO CEM	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE OI	0 EETING: B. 3 NG WELL -	0 J CREW 3140 PS RIG ON	EXI X C	PLANAT CO. REP. BJ	2184 ON X X Re	750 1	ANK
VOLUME 206 XPLANATIO TIME HR:MIN. 16:30	BBLS	SETTING TO PRESSURE RE - PSI	OL, RUNNING IRATE DETAIL RATE	сsg, етс. р L вы. fluid	RIOR TO CEM	0 ENTING: SAFETY ME TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU	0 EETING: B. 3 NG WELL - N LOCATIO EETING V	J CREW 3140 PS RIG ON VITH BH		PLANAT O. REP. BJ	2184 ION IX IX Re fice c	750 T Ceive	ank d ≩ Gas
VOLUME 206 EXPLANATIO TIME HR:MIN. 16:30 16:40	BBLS	SETTING TO PRESSURE RE - PSI	OL, RUNNING IRATE DETAIL RATE	сsg, етс. р L вы. fluid	RIOR TO CEM	0 ENTING: SAFETY ME TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU	0 EETING: B. 3 NG WELL - N LOCATIO EETING V	J CREW 3140 PS RIG ON VITH BH		PLANAT O. REP. BJ	2184 ION IX IX Re fice c	750 T Ceive	ank d ≩ Gas
VOLUME 206 EXPLANATIO TIME HR:MIN. 16:30 16:40 17:00	BBLS DN: TROUBLE : PRESSUI PIPE 85	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM	S CSG, ETC. P Bbl. FLUID PUMPED	RIOR TO CEM	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL	0 EETING: B. S NG WELL - N LOCATIO EETING V IIPMENT& EETING V	0 J CREW 3140 PS RIG ON VITH BI RIG IN VITH RI		PLANAT O. REP. BJ	2184 ION IX IX Re fice c	750 T Ceive	ank d Gas
VOLUME 206 XPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51	BBLS PRESSUI PIPE 85 0	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2	ECSG, ETC. P Bbl. FLUID PUMPED 5 .1	RIOR TO CEM FLUID TYPE H2O H2O	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI	0 EETING: B. 3 NG WELL - N LOCATIN EETING V EETING V EETING V E TEST 31	0 J CREW 3140 PS RIG ON VITH BH RIG IN VITH RI 40 PSI		PLANAT O. REP. BJ	2184 ION IX IX Re fice c	750 T Ceive	ank d ≩ Gas
VOLUME 206 EXPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53	BBLS PRESSUI PIPE 85 0 212	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6	5 Bbl. FLUID PUMPED 5 .1 180	FLUID TYPE H2O H2O H2O	0 ENTING: SAFETY ME TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL	0 EETING: B. 3 NGWELL - N LOCATIO EETING V IPMENT& EETING V E TEST 31 E WITH H	0 J CREW 3140 PS RIG ON VITH BH RIG IN VITH RI 40 PSI 20		PLANAT O. REP. BJ	2184 ION IX IX Re fice c	750 T Ceive	ank d ≩ Gas
VOLUME 206 EXPLANATIO TIME HR:MN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20	BBLS PRESSU PIPE 85 0 212 166	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.6	SCSG, ETC. P Bbl. FLUID PUMPED 5 .11 180 25	FLUID TYPE H2O H2O H2O GEL	0 ENTING: SAFETY ME TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W	0 EETING: B. 3 NG WELL - N LOCATIO EETING V EETING V EETING V E TEST 31 E WITH H ITH FLAKI	0 J CREW 3140 PS RIG ON VITH BH RIG IN VITH RI 40 PSI 20		PLANAT O. REP. BJ	2184 ION IX IX Re fice c	750 T Ceive	ank d Gas
VOLUME 206 XPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20 20:29	BBLS BRESU PRESSU PIPE 85 0 212 166 165	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.6 5.5	5 55 CSG, ETC. P Bbl. FLUID PUMPED 5 .1 180 25 10	FLUID TYPE H2O H2O H2O GEL H2O	0 ENTING: SAFETY ME TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W H2O SPAC	0 EETING: B. 3 NG WELL - N LOCATIO EETING V EETING V EETING V E TEST 31 E WITH H ITH FLAKI ER	0 J CREW 3140 PS RIG ON VITH BH RIG IN VITH RI 40 PSI 20 E	EXI X C II CRE	PLANAT CO. REP. BJ	2184 INN IX Re fice c	750 T Ceived f Oil { 0 7 201	Gas
VOLUME 206 XPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20 20:29 20:29 20:29	BBLS PRESSU PIPE 85 0 212 166 165 342	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.5 5.6	5 55 CSG, ETC. P Bbl. FLUID PUMPED 5 .1 180 25 10	FLUID TYPE H2O H2O H2O GEL	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W H2O SPAC 1038 SACK	0 EETING: B. 3 NG WELL - N LOCATIO EETING V IPMENT& EETING V E TEST 31 E WITH H ITH FLAKI ER S OF PRE	0 J CREW 3140 PS RIG ON VITH BI- RIG IN VITH RI 40 PSI 20 E E EM NE-1	EXI X C I I CRE G CRE	PLANAT CO. REP. BJ W Of EW & CO	2184 ON IX Re fice c 0.MAN	750 T Ceived f Oil { 0 7 201	Gas
VOLUME 206 XPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20 20:29 20:29 20:29 20:40	BBLS PRESSU PIPE 85 0 212 166 165 342 344	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.6 5.6 5.6 5.6 5.6	5 55 CSG, ETC. P Bbl. FLUID PUMPED 5 .1 180 25 10	FLUID TYPE H2O H2O H2O GEL H2O	0 ENTING: SAFETY MB TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W H2O SPAC 1038 SACK CIRCULAT	0 EETING: B. 3 NG WELL - N LOCATIN EETING V EETING V EIIN V E	0 J CREW 3140 PS RIG N VITH BI RIG IN VITH RI 40 PSI 20 E E M NE-1 T 293 B	EXI X C I I CRE G CRE	PLANAT CO. REP. BJ W Of EW & CO	2184 ON IX Re fice c 0.MAN	750 T Ceived f Oil { 0 7 201	Gas
VOLUME 206 EXPLANATIO EXPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20 20:29 20:29 20:29 20:40 21:10	BBLS PRESSU PRESSU PIPE 85 0 212 166 165 342 344 0	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.5 5.6 5.6 5.6 5.6 0	5 5 5 5 5 1 180 25 10 225	RIOR TO CEM FLUID TYPE H2O H2O GEL H2O CEMENT	0 ENTING: SAFETY ME TEST LINES CIRCULATII ARRIVE OF SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W H2O SPAC 1038 SACK CIRCULAT SHUT DOW	0 EETING: B. 3 NG WELL - N LOCATIN EETING V EETING V EITING V EITI	0 J CREW 3140 PS RIG N VITH BI RIG IN VITH RI 40 PSI 20 E E M NE-1 T 293 B	EXI X C I I CRE G CRE	PLANAT CO. REP. BJ W Of EW & CO	2184 ON IX Re fice c 0.MAN	750 T Ceived f Oil { 0 7 201	Gas 5
VOLUME 206 XPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20 20:29 20:29 20:29 20:29 20:40 21:10 21:12	BBLS PRESSU PRESSU PIPE 85 0 212 166 165 342 344 0 515	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.5 5.6 5.6 5.6 5.6 5.6 5.6 0 6	5 5 5 5 5 1 180 25 10 225	FLUID TYPE H2O H2O H2O GEL H2O CEMENT H2O	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W H2O SPAC 1038 SACK CIRCULAT SHUT DOW DISPLACE	0 EETING: B. 5 NG WELL - N LOCATIN EETING V EETING V EETING V E TEST 31 E WITH H ITH FLAKI ER ITH FLAKI ER IS OF PRE E WELL A VN / DROF MENT	0 J CREW 3140 PS RIG N VITH BI RIG IN VITH RI 40 PSI 20 E E M NE-1 T 293 B	EXI X C I I CRE G CRE	PLANAT CO. REP. BJ W Of EW & CO	2184 ON IX Re fice c 0.MAN	750 T Ceived f Oil { 0 7 201	Gas
VOLUME 206 XPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20 20:29 20:29 20:29 20:29 20:29 20:29 20:29 20:29 20:40 21:10 21:12 21:50	BBLS PRESSU PIPE 85 0 212 166 165 342 344 0 515 960	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.5 5.6 5.6 5.6 5.6 0	5 5 5 5 5 1 180 25 10 225	RIOR TO CEM FLUID TYPE H2O H2O GEL H2O CEMENT	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE ON SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W H2O SPAC 1038 SACK CIRCULAT SHUT DOW DISPLACE LAND PLU	0 EETING: B. S NG WELL - N LOCATIN EETING V EETING V EETING V EETING V E TEST 31 E WITH H ITH FLAKI ER S OF PRE E WELL A VN / DROF MENT G	0 J CREW 3140 PS RIG ON VITH BH RIG IN VITH RI 40 PSI 20 E E M NE-1 T 293 E P LUG	EXI X C I I CRE G CRE	PLANAT CO. REP. BJ W Of EW & CO	2184 ON IX Re fice c 0.MAN	750 T Ceived f Oil { 0 7 201	Gas
VOLUME 206 EXPLANATIO TIME HR:MIN. 16:30 16:40 17:00 19:25 19:50 19:51 19:53 20:20 20:29 20:29 20:29 20:29 20:40 21:10 21:12	BBLS PRESSU PRESSU PIPE 85 0 212 166 165 342 344 0 515	SETTING TO PRESSURE RE - PSI	OL, RUNNING RATE DETAIL RATE BPM 5 .2 6.6 5.5 5.6 5.6 5.6 5.6 5.6 5.6 0 6	5 5 5 5 5 1 180 25 10 225	FLUID TYPE H2O H2O H2O GEL H2O CEMENT H2O	0 ENTING: SAFETY MI TEST LINES CIRCULATII ARRIVE OI SAFETY M SPOT EQU SAFETY M LINE FILL PRESSURI LOAD HOL 6% GEL W H2O SPAC 1038 SACK CIRCULAT SHUT DOW DISPLACE	0 EETING: B. 3 NG WELL - N LOCATIN EETING V EETING V EITING V EITING V EETING V EITING V EETING V EETING V EITING V EITI	0 J CREW 3140 PS RIG N VITH BI- RIG IN VITH RI 40 PSI 20 E E M NE-1 T 293 E P LUG RE. / EN	EXI X C I II CRE G CRE	PLANAT CO. REP. BJ W Of EW & CO	2184 INN IX IX Refice c	750 T Ceiver f Oil { 0 7 201	Gas

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CUSTOMER NORTHE	AST NATURAL I	ENER	DATE 22-OCT	-14 F.R.	. # 848	610104		SE	RV. SUPV.	Scott J (	Carson		
LEASE & WELL NAME COASTAL 1H - API 4	7061018740000	1	BLACKSVILL	E						RISH-BLOC West Virgi			
DISTRICT Clarksburg		r	PERFORMAN		RIG #				TYPE OF JOB Intermediate				
SIZE & TYPE OF	PLUGS	LIST-C	SG-HARDWARE		MECHA	NICAL	BARRIER	S MD	TVD	HANGER	TYPES	MD	TVD
BJ Cement Plug, Rub	ber, Bottom 9-	Guide Shoe,	Cement Nose,	9-5/8 i	NONE				1	NONE			
		Float Collar, /	Al Flap, 9-5/8 -	- 8rd	1.								1
					1	-	PHY	SICAL SL	URRY PRO	PERTIES	_		1.20
MATERIALS FURNIS	HED BY BJ		LAB REF	PORT NO.	SACKS OF CEMENT	W	URRY /GT PG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bb SLURF		Bbi MIX WATER
H2O						5	8.34				1	65	
GEL/FLAKE							8.45					25	
H2O						1	8.34			1		10	
PREMIUM NE-1 2%C	ALCIUM		N/A		86	0	15.2	1.26	5.7	6 04:17	1	93	117.9
H2O							8.34				2	06	
300# SUGAR ON SID	)E						0					0	
Available Mix Water	500	Bbl.	Available Dis	pl. Fluid	5	00	Bbl.		тот	TAL	5	99	117.9
HOLE			and the second second	BG-CSG-D.						COLLAR	DEPTHS	s	1
SIZE % EXCES 12.25 30	2835	8.835 9.6	the second second	TYPE CSG		766	TVD G	RADE	SHOE	66 FL	0AT 2722	ST	AGE
LAST CASI		attraction of the second			and a	252				100			-
ID OD WGT T			KR-CMT RET-BI	Card Street Stre	РТН ТС	PERF. I	BTM		CONN	TYPE	VELL FLU		WGT.
13. 13.38 55. CSG	137			DL			DIW.	9.625		KCL WA	FER		8.
DISPL. VOLUME	DISF	PL. FLUID	CAL PSI	CAL. MAX	PSI OP.	MAX	MAX	TBG PSI	N	AX CSG P	SI		MIX
VOLUME UOM	TYPE	WGT.	BUMP PLUG	TO REV	. SQ.	PSI	RATED	Operat	or RAT	ED OF	erator	W	ATER
206 BBLS	120	8.3	4 970		0	0		D	0 :	3160	1800	TAN	ĸ

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

		PRESSURE	RATE DETAI	-		EXPLANATION
TIME	PRESSU	RE - PSI	RATE	Bbl. FLUID	FLUID	SAFETY MEETING: BJ CREW X CO. REP. X
HR:MIN	PIPE	ANNULUS	BPM	PUMPED	TYPE	TEST LINES 3600 PSI
						CIRCULATING WELL - RIG X BJ X
21:30						ARRIVE AT LOCATION 10-21-2014 LOCATION TIME 22:00
02:30						PRE-JOB RIG-IN SAFETY MEETING
02:45						RIG-IN
04:30						PRE-JOB SAFETY MEETING
04:54	120		5	5	H2O	LINE-FILL
04:55	0				H2O	PRESSURE TEST 3600# Received
04:56	140		5.5	165	H2O	BREAK CIRCULATION Office of Oil & Ge
05:26	300		5.2	25	GEL/FLAK	PRE-FLUSH
05:30	280		5.4	10	H2O	SPACER OCT 0 7 2015
05:32	265		5.4	191	SLURRY	15.2# PREMIUM NE-1 2%CALCIUM
06:07	0					SHUT-DOWN RELEASE PLUG
06:08	500		5.6	208	H2O	START DISPLACEMENT
06:45	1460					SHUT-DOWN
06:47	0					BLEED-OFF PRESSURE 1.5BBL. RETURN
06:48	0					CLOSE-IN CEMENT HEAD
06:50						POST-JOB RIG OUT SAFETY MEETING
07:00						RIG-OUT

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	PRESSURE	RATE DETAIL	-				EXPLANA	TION	1
PRESSU	URE - PSI ANNULUS	RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	TEST LINES	3600 P	PSI		-
PSI TO BUMP PLUG	TEST FLOAT EQUIP.		PUMPED		SPOT TOP OUT CEMENT	1			
								Receive Office of Oh OCT 07 20	ine Program
	PIPE PSI TO BUMP	PRESSURE - PSI PIPE AINNULUS PSI TO TEST BUMP FLOAT PLUG EQUIP.	PRESSURE - PSI PIPE ANNULUS BPM PSI TO TEST BBL.CMT BUMP FLOAT RETURNS/ PLUG EQUIP. REVERSED	PIPE ANNULUS BPM PUMPED PSI TO TEST BBL.CMT BUMP FLOAT RETURNS/ PLUG EQUIP. REVERSED PUMPED	PRESSURE     - PSI     RATE     Bbi. FLUID     FLUID       PIPE     AINNULUS     BPM     PUMPED     TYPE       PSI TO     TEST     BBL.CMT     TOTAL     PSI       BUMP     FLOAT     RETURNS/     BBL.     BBL.       PLUG     EQUIP.     REVERSED     PUMPED     CSG	PRESSURE - PSI     RATE     Bbl. FLUID     FLUID     SAFETY MEI       PIPE     AINNULUS     BPM     PUMPED     FLUID     TYPE     TEST LINES       PSI TO     TEST     BBL.CMT     TOTAL     PSI     SPOT       BUMP     FLOAT     RETURNS/     BBL.     LEFT ON     SPOT       PLUG     EQUIP.     REVERSED     PUMPED     CSG     CEMENT	PRESSURE - PSI     RATE     Bbl. FLUID     FLUID     SAFETY MEETING: BJ CREW       PIPE     AINNULUS     BPM     PUMPED     TYPE     SAFETY MEETING: BJ CREW       PIPE     AINNULUS     BPM     PUMPED     TYPE     TEST LINES     3600 F       PSI TO     TEST     BBL.CMT     TOTAL     PSI     SPOT     SPOT       BUMP     FLOAT     RETURNS/     BBL.     LEFT ON     TOP OUT     SERVICE SUP       PLUG     EQUIP.     REVERSED     PUMPED     CSG     CEMENT     SERVICE SUP	PRESSURE - PSI     RATE     Bbi. FLUID     FLUID     FLUID     SAFETY MEETING: BJ CREW     X     CO. REP       PIPE     ANNULUS     PPM     PUMPED     TYPE     SAFETY MEETING: BJ CREW     X     CO. REP       PIPE     ANNULUS     PM     PUMPED     TYPE     SAFETY MEETING: BJ CREW     X     CO. REP       PIPE     ANNULUS     POMPED     TYPE     SAFETY MEETING: BJ CREW     X     CO. REP       PSI TO     TEST     BBL.CMT     TOTAL     PSI     CIRCULATING WELL - RIG     X     BJ       PSI TO     TEST     BBL.CMT     TOTAL     PSI     LEFT ON     SPOT     SERVICE SUPERVISOR SIGN       PLUG     EQUIP.     REVERSED     PUMPED     CSG     CEMENT     SERVICE SUPERVISOR SIGN	PRESSURE - PSI       RATE       Bbi. FLUID       FLUID       SAFETY MEETING: BJ CREW       X       CO, REP.       X         PIPE       AINNULUS       BPM       PUMPED       TYPE       SAFETY MEETING: BJ CREW       X       CO, REP.       X         PSI TO       TEST       BBL.CMT       TOTAL       PSI       SPOT       SPOT       SERVICE SUPERVISOR SIGNATURE:         PLUG       EQUIP.       REVERSED       PUMPED       CSG       CEMENT       SERVICE SUPERVISOR SIGNATURE:

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CEMENT JOB REPORT



EASE & WE	NORTH		1	1000	-	DATE 14			R.# 10011	139371		RV. SUPV.						
COASTAL			5740000			LOCATION					CC	Monongalia						
Clarksburg		other to a property of the				DRILLING		ACTOR	RIG #		T	TYPE OF JOB Long String						
	& TYPE O	E PI UGS	3 1	-	1197.	CSG-HARD	1000		MECHANI	CALBARRIE	00 10		INCOM	NEED .	-			
45.200 7.5			Louis		1.1.1			. harrow	MECHANI	CAL DARNE	RS MD		HANGER	TPES D	MD TVD			
atch Down	Plug & A	ssembly,	,5-1/2	Float	Collar,	Auto Fill, 5	-1/2 - B	UTTRI										
									-	Pl	HYSICAL SL	URRY PROF	ERTIES		1			
MATERIA	S FURNI	SHED BY	' BJ			LA	REPOR	RT NO.	SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbi SLURRY	Bbi MIX WATER			
ULTRABON	D						_			13		Ì	i	50	d			
MULTIBON	D								223	13	1.26	5.85		50				
PREM NE-1	+.2% MF	A-170+.	35% R-3	3					3,070	14.5	1.17	5.14	-	640				
H2O										8.34				353				
200 LB SUC	BAR			-						0				000	1			
Available Mi	x Water		1200		Bbl	Availab	e Disri	Fluid	500		1.			1093	406.9			
	HOLE			1		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		G-CSG-E				TOT			400.9			
SIZE	% EXCE	SS	DEPTH	ID	1	DD WG		TYPE		TVD	GRADE	SHOE	COLLAR	OAT	STAGE			
8.75	10		6500	4.7		5.5	20 CS		1590			Set Live in			- CLOSE			
1	AST CAS	ING				PKR-CMT R	ET-BR F	L-LINE	R PE	RF. DEPTH	TOP	CONN	W	ELL FLUIC	)			
	DD         WGT         TYPE         MD         TVD           625         40         CSG         2766         2766					BRAND & T	PE	D	EPTH TOP			THREAD	TYPE	WGT.				
8.8 9.625	40 CSC	Ċ	276	276	6		_				5.5	BUTT	SYNTHE	TIC MUD	11.9			
DISPL. VO	LUME		DISP	L FLU	ID	CAL.	SI C	AL MAX	PSI OP. M	AX MA	X TBG PSI	MA	X CSG P	51	MIX			
Volumer	UOM TYPE WGT										WATER							
VOLUME	OOM		ITPE	- 1	WGT	BUMPF	LUG	TO RE	V. SQ. P	SI RATE	D Operat	or RATE	D Op	erator	WATER			
356		H2O	ITPE				LUG 700	TO RE	V. SQ. P	SI RATE	D Operat		D Op		ANK			
	BBLS		SUGAR					TO RE										
356	BBLS	200 LB	SUGAR		8.	34 4 0	700		0									
	BBLS	200 LB	SUGAR	L, RUN	8.	34 4 0	700		0									
356	BBLS	200 LB	SUGAR		8.	34 4 0 CSG, ETC. F	700		0		0	0 100	000					
356 XPLANATION	BBLS	200 LB LE SETT PRI	SUGAR ING TOO	ATED	8. INING	34 4 0 CSG, ETC. F	700	O CEME	0 ENTING:	0	0	0 100	000 N					
356	BBLS N: TROUB	200 LB LE SETT PRI SSURE - I	SUGAR ING TOO SSURE/R PSI		8. INING ETAIL	34 4 0 CSG, ETC. F	700 RIOR T		0 ENTING: SAFETY ME	0 ETING: BJ	0 EREW X	0 100	000 N					
356 XPLANATION	BBLS	200 LB LE SETT PRI SSURE - I	SUGAR ING TOO	RATED	8. INING ETAIL	34 4 0 CSG, ETC. F Bbi. FLUID	700 RIOR T		0 ENTING:	0 ETING: BJ	0 CREW X 4400 PSI	0 100 XPLANATIO CO.REP.	000 N					
356 XPLANATION	BBLS N: TROUB	200 LB LE SETT PRI SSURE - I	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ETAIL	34 4 0 CSG, ETC. F Bbi. FLUID	700 RIOR T	O CEME	0 ENTING: SAFETY MI TEST LINES	0 ETING: BJ 5 5 NG WELL -	0 CREW X i400 PSI RIG X	0 100 EXPLANATIO CO. REP. [ BJ	000 N X					
356 XPLANATION TIME HR:MIN.	BBLS N: TROUB	200 LB LE SETT PRI SSURE - I	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ETAIL	34 4 0 CSG, ETC. F Bbi. FLUID	700 RIOR T	O CEME	0 ENTING: SAFETY MI TEST LINES CIRCULATIN	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO	0 CREW X i400 PSI RIG X	0 100 EXPLANATIO CO. REP. [ BJ	000 N X					
356 XPLANATION HR:MIN. 04:30 08:00 08:30	BBLS N: TROUB	200 LB LE SETT PRI SSURE - I	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ETAIL	34 4 0 CSG, ETC. F Bbi. FLUID	700 RIOR T	O CEME	0 SAFETY MI TEST LINES CIRCULATIN ARRIVE ON	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT	0 CREW X 6400 PSI RIG X N (LOC TIM	0 100 EXPLANATIO CO. REP. [ BJ	000 N X					
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35	BBLS N: TROUB	200 LB LE SETT PRI SSURE - I	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ETAIL	34 4 0 CSG, ETC. F Bbi. FLUID	700 RIOR T	O CEME	O SAFETY MI TEST LINES CIRCULATIN ARRIVE ON SPOT EQU	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT	0 CREW X 6400 PSI RIG X N (LOC TIM	0 100 EXPLANATIO CO. REP. [ BJ	000 N X					
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45	BBLS N: TROUB	200 LB LE SETT PRI SSURE - I	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ETAIL	34 4 0 CSG, ETC. F Bbi. FLUID	700 RIOR T	O CEME	0 SAFETY MI TEST LINES CIRCULATII ARRIVE ON SPOT EQU PRE RIG IN RIG IN SAFETY MI	0 ETING: BJ 5 5 NG WELL - 1 LOCATIO IPMENT I SAFETY M EETING WI	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO	0 100 EXPLANATIO CO. REP. [ BJ [ ME 0500)	000	5000 T/				
356 XPLANATION HR:MIN. 04:30 08:30 08:30 08:35 10:45 11:00	BBLS N: TROUB PRES PIPE	200 LB PRE SSURE - 1 ANI	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ( DETAIL M	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED	FLIOR T	O CEME	0 SAFETY MI TEST LINES CIRCULATI ARRIVE ON SPOT EQU PRE RIG IN RIG IN SAFETY MI RIG HEAD	0 ETING: BJ 5 5 NG WELL - 1 LOCATIO IPMENT I SAFETY M EETING WI	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO	0 100 EXPLANATIO CO. REP. [ BJ [ ME 0500)	000	5000 T/				
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:00 11:30	BBLS N: TROUB PRES PIPE	200 LB PRE SSURE - 1 ANI	SUGAR ING TOO SSURE/R PSI	RATED	8. INING O ETAIL E M	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED	FLI FLI TY	O CEME	O SAFETY MI TEST LINES CIRCULATH ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG IN SAFETY MI RIG HEAD. LINE FILL	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT I SAFETY N EETING WI AND MANIF	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO	0 100 EXPLANATIO CO. REP. [ BJ [ ME 0500)	000	5000 T/				
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:00 11:30 11:40	BBLS N: TROUB PRES PIPE	200 LB PRI SSURE - ANI 0 00 00 00 00 00 00 0	SUGAR ING TOO SSURE/R PSI	RATED	8. INING C	34 4 0 CSG, ETC. F Bbi. FLUID PUMPED 5 1	700 PRIOR T FL TY H20 H20	O CEME	O SAFETY MI TEST LINES CIRCULATII ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT I SAFETY N EETING WI AND MANIF TEST	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO	0 100 EXPLANATIO CO. REP. [ BJ ] ME 0500)		5000 T/				
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:00 11:30	BBLS N: TROUB PRES PIPE	200 LB PRE SSURE - 1 ANI	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ( EETAIL E M 3 1 5	34 4 0 CSG, ETC. F Bbi. FLUID PUMPED 5 1	700 PRIOR T FL TY H20 H20		O SAFETY MI TEST LINES CIRCULATH ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG IN SAFETY MI RIG HEAD. LINE FILL	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT I SAFETY N EETING WI AND MANIF TEST ID 265 LBS.	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO	0 100 EXPLANATIO CO. REP. [ BJ ] ME 0500)	2000	5000 T/	Receiv			
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:00 11:30 11:40	BBLS N: TROUB PRES PIPE	200 LB PRI SSURE - ANI 0 00 00 00 00 00 00 0	SUGAR ING TOO SSURE/R PSI	RATED	8. INING C	34 4 0 CSG, ETC. F Bbi. FLUID PUMPED 5 1 50	FLI TY H20 H20 ULTF		O SAFETY MI TEST LINES CIRCULATH ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE ULTRABON	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT I SAFETY N EETING WI AND MANIF TEST ID 265 LBS. ID	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO	0 100 EXPLANATIO CO. REP. [ BJ ] ME 0500)	2000	5000 T/	Receiv			
356 XPLANATION HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:00 11:30 11:40 11:45	BBLS N: TROUB PRES PIPE 30 30 544 60 93	200 LB ILE SETT PRI SSURE - 1 ANI 00 00 00 00 00 00 00	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ( ETAIL E M 3 3 1 5 5 5 5.4	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED 50 50	FLI TY H20 H20 ULTF		O SAFETY MI TEST LINES CIRCULATH ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE ULTRABON ULTRABON	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT SAFETY N EETING WI AND MANIF ETEST ID 265 LBS. ID D	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO FOLD IN /BBL BARI	0 100 EXPLANATIO CO. REP. [ BJ ] ME 0500) DMER AND FE+125 GA	2000	5000 T/	Receiv			
356 XPLANATION HR:MIN. 04:30 08:00 08:35 10:45 11:00 11:30 11:40 11:45 11:55	BBLS N: TROUB PRES PIPE	200 LB LE SETT PRE SSURE - 1 ANI 00 00 00 00 00 00 00	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ( ETAIL 8 M 3 3 1 5 5	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED 50 50 638	700 PRIOR T FL TY H20 H20 ULTF MUL		0 SAFETY ME TEST LINES CIRCULATIN ARRIVE ON SPOT EQU PRE RIG IN SAFETY ME RIG IN SAFETY ME RIG HEAD LINE FILL PRESSURE ULTRABON ULTRABON MULTIBON PREM NE-1 SHUT DOW	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT I SAFETY M EETING WI AND MANIF ETING WI AND MANIF I D 265 LBS ID D +.2% MPA /N WASH C	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO FOLD IN /BBL BARI /BBL BARI	0 100 EXPLANATIO CO. REP. [ BJ [ ME 0500) DMER AND DMER AND TE+125 GA R-3	2000	5000 T/				
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:45 11:00 11:40 11:45 11:55 12:05 14:40 14:45	BBLS PRES PIPE	200 LB  LE SETT  PRI  SSURE -  ANI  0  0  0  0  0  0  0  0  0  0  0  0  0	SUGAR ING TOO SSURE/R PSI	RATED	8. INING 0 ETAIL E M 3 1 5 5 5 5 4 3	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED 50 50 638	700 RIOR T FL TY H20 H20 H20 ULTF MUL SLUF H20		O ENTING: SAFETY MI TEST LINES CIRCULATI ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE ULTRABON MULTIBON PREM NE-1 SHUT DOW DROP PLU	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT SAFETY M ETING WI AND MANIF ETING WI AND MANIF ETIST ID 265 LBS ID D +.2% MPA (N WASH C 3	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO FOLD IN /BBL BARI /BBL BARI /BBL BARI /BBL BARI	0 100 EXPLANATIO CO. REP. [ BJ ] ME 0500) DMER AND TE+125 GA R-3	000 N X X RIG CRE L S-5+50	5000 T/	Receiv			
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:45 11:45 11:45 11:55 12:05 14:40 14:45 14:50	BBLS PRES PIPE 30 544 60 92 80 80	200 LB  LE SETT  PRE  SSURE -  ANI  0  0  0  0  0  0  0  0  0  0  0  0  0	SUGAR ING TOO SSURE/R PSI	RATED	8. INING ( ETAIL E M 3 3 1 5 5 5 5.4	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 50 638 5	700 RIOR T FL TY L H20 H20 ULTF MUL SLUF H20 H20 H20		O SAFETY MI TEST LINES CIRCULATI ARRIVE ON SPOT EQU PRE RIG IN RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE ULTRABON MULTABON MULTABON MULTBON PREM NE-1 SHUT DOW DROP PLUU START DIS	0 ETING: BJ 3 5 NG WELL - 1 LOCATIO IPMENT SAFETY M EETING WI AND MANIF ETING WI AND MANIF	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO FOLD IN /BBL BARI /BBL BARI /BBL BARI /BBL BARI	0 100 EXPLANATIO CO. REP. [ BJ ] ME 0500) DMER AND TE+125 GA R-3	000 N X X RIG CRE L S-5+50	5000 T/	Receiv			
356 XPLANATION HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:00 11:45 11:45 11:45 11:45 11:55 12:05 14:40 14:45 14:50 15:50	BBLS PRES PIPE	200 LB  LE SETT  PRE  SSURE -  ANI  0  0  0  0  0  0  0  0  0  0  0  0  0	SUGAR ING TOO SSURE/R PSI	RATED	8. INING 0 ETAIL E M 3 1 5 5 5 5 4 3	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED 50 50 638	700 RIOR T FL TY L H20 H20 ULTF MUL SLUF H20 H20 H20		O SAFETY MI TEST LINES CIRCULATI ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE ULTRABON ULTRABON MULTIBON PREM NE-1 SHUT DOW DROP PLUU START DIS PLUG DOW	0 ETING: BJ 5 S NG WELL - 1 LOCATIO IPMENT I SAFETY M EETING WI AND MANIF ETING WI AND MANIF	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO FOLD IN /BBL BARI /BBL BARI /BBL BARI /DUT LINES	0 100 EXPLANATIO CO. REP. [ BJ 1 ME 0500) DMER AND TE+125 GA R-3 RETARD H	200	SOOO T/	Receiv			
356 XPLANATION HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:00 11:45 11:45 11:45 11:45 11:55 12:05 14:40 14:45 14:50 15:50	BBLS PRES PIPE 30 544 60 92 80 80	200 LB  LE SETT  PRE  SSURE -  ANI  0  0  0  0  0  0  0  0  0  0  0  0  0	SUGAR ING TOO SSURE/R PSI	RATED	8. INING 0 ETAIL E M 3 1 5 5 5 5 4 3	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 50 638 5	700 RIOR T FL TY L H20 H20 ULTF MUL SLUF H20 H20 H20		O SAFETY MI TEST LINES CIRCULATI ARRIVE ON SPOT EQU PRE RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE ULTRABON ULTRABON MULTIBON PREM NE-1 SHUT DOW DROP PLUU START DIS PLUG DOW	0 ETING: BJ 5 S NG WELL - 1 LOCATIO IPMENT I SAFETY M EETING WI AND MANIF ETING WI AND MANIF	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO FOLD IN /BBL BARI /BBL BARI /BBL BARI /DUT LINES	0 100 EXPLANATIO CO. REP. [ BJ 1 ME 0500) DMER AND TE+125 GA R-3 RETARD H	200	SOOO T/	Receiv			
356 XPLANATION TIME HR:MIN. 04:30 08:00 08:30 08:35 10:45 11:45 11:45 11:45 11:55 12:05 14:40 14:45 14:50	BBLS PRES PIPE 30 544 60 92 80 80	200 LB  LE SETT  PRE  SSURE -  ANI  0  0  0  0  0  0  0  0  0  0  0  0  0	SUGAR ING TOO SSURE/R PSI	RATED	8. INING 0 ETAIL E M 3 1 5 5 5 5 4 3	34 4 0 CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 50 638 5	700 RIOR T FL TY L H20 H20 ULTF MUL SLUF H20 H20 H20		O SAFETY MI TEST LINES CIRCULATI ARRIVE ON SPOT EQU PRE RIG IN RIG IN SAFETY MI RIG HEAD LINE FILL PRESSURE ULTRABON MULTABON MULTABON MULTBON PREM NE-1 SHUT DOW DROP PLUU START DIS	0 ETING: BJ 5 S S S S S S S S S S S S S S S S S S	0 CREW X 5400 PSI RIG X N (LOC TIM MEETING TH CUSTO FOLD IN /BBL BARI /BBL BARI /DUT LINES VT(10 BBL FLOATS H	0 100 EXPLANATIO CO. REP. [ BJ 1 ME 0500) DMER AND TE+125 GA R-3 RETARD H	200	SOOO T/	Recei			

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		······	RATE DETAIL		• 1991 Lunca		EXPLANAT	
TIME HR:MIN.	PRESSI PIPE	ANNULUS	RATE BPM	BIDI. FLUID PUMPED	FLUID TYPE	TEST LINES	ETING: BJ CREW X CO. REP. 5400 PSI IG WELL - RIG X BJ	[X]
BUMPED	PSI TO BUMP PLUG	TEST PLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	total BBL. Pumped	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNA	
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		Perfora	ation Reco	rd	
Stage	Report Date	Perforated	Perforated to	Number of	Formation
Number	Report Date	from MD ft	MD ft	Perforations	Pormation
1	6/9/2015	15788	15631	40	Marcellus Shale
2	6/11/2015	15589	15432	40	Marcellus Shale
3	6/11/2014	15390	15233	40	<b>Marcellus Shale</b>
4	6/11/2015	15191	15037	40	<b>Marcellus Shale</b>
5	6/12/2015	14993	14835	40	Marcellus Shale
6	6/12/2015	14794	14631	40	Marcellus Shale
7	6/12/2015	14595	14438	40	Marcellus Shale
8	6/12/2015	14396	14242	40	<b>Marcellus Shale</b>
9	6/13/2015	14197	14040	40	Marcellus Shale
10	6/13/2015	13998	13841	40	Marcellus Shale
11	6/14/2015	13799	13642	40	Marcellus Shale
12	6/14/2015	13600	13443	40	<b>Marcellus Shale</b>
13	6/15/2015	13401	13244	40	Marcellus Shale
14	6/15/2015	13202	13049	40	Marcellus Shale
15	6/15/2015	13004	12846	40	Marcellus Shale
16	6/15/2015	12805	12651	40	Marcellus Shale
17	6/16/2015	12606	12449	40	<b>Marcellus Shale</b>
18	6/16/2015	12407	12248	40	Marcellus Shale
19	6/16/2015	12208	12051	40	Marcellus Shale
20	6/17/2015	12009	11852	40	<b>Marcellus Shale</b>
21	6/17/2015	11810	11653	40	Marcellus Shale
22	6/17/2015	11611	11454	40	<b>Marcellus</b> Shale
23	6/18/2015	11412	11255	40	Marcellus Shale
24	6/18/2015	11213	11056	40	<b>Marcellus Shale</b>
25	6/18/2015	11015	10857	40	Marcellus Shale
26	6/18/2015	10816	10658	40	Marcellus Shale
27	6/19/2015	10617	10460	40	Marcellus Shale
28	6/22/2015	10418	10261	40	<b>Marcellus Shale</b>
29	6/22/2015	10219	10062	40	Marcellus Shale
30	6/22/2015	10020	9863	40	Marcellus Shale
31	6/23/2015	9821	9666	40	Marcellus Shale
32	6/23/2015	9622	9465	40	Marcellus Shale
33	6/23/2015	9423	9266	40	<b>Marcellus Shale</b>
34	6/24/2015	9224	9067	40	Marcellus Shale
35	6/24/2015	9026	8868	40	<b>Marcellus Shale</b>
36	6/25/2015	8827	8669	40	<b>Marcellus Shale</b>

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			Stimula	ation Rec	ord		
Stage Number	Report Date	Avg Treating Rate (BPM)	Avg Treating Pressure (psi)	Breakdown Pressure (psi)	ISIP (psi)	Total Proppant Amount (lbs)	Total Clean Fluic (Bbls)
1	6/9/2015	57	8,955	7,630	4,402	300,720	9,591
2	6/11/2015	87	9,065	5,826	5,200	302,440	7,090
3	6/11/2014	79	8,919	7,423	5,629	298,620	6,465
4	6/11/2015	82	8,533	6,720	5,427	301,980	5,060
5	6/12/2015	95	8,900	6,770	5,065	301,860	5,486
6	6/12/2015	81	8,525	6,891	4,520	302,980	4,933
7	6/12/2015	80	8,532	7,529	4,644	240,200	4,405
8	6/12/2015	94	9,023	8,662	4,710	300,320	5,502
9	6/13/2015	96	8,870	7,664	4,433	300,580	5,223
10	6/13/2015	84	9,107	7,400	4,975	305,920	5,842
11	6/14/2015	95	9,031	7,236	4,705	300,440	4,885
12	6/14/2015	75	8,762	7,677	5,434	300,740	5,937
13	6/15/2015	81	9,035	8,466	5,373	299,980	6,409
14	6/15/2015	83	8,553	8,315	4,407	303,140	5,080
15	6/15/2015	84	8,651	6,991	4,409	299,980	5,348
16	6/15/2015	90	8,774	6,394	4,254	301,200	5,776
17	6/16/2015	91	8,902	6,990	4,342	299,220	5,659
18	6/16/2015	84	8,489	7,024	4,550	301,920	4,994
19	6/16/2015	94	8,640	7,217	4,465	300,720	4,814
20	6/17/2015	91	8,895	7,721	4,453	251,100	4,697
21	6/17/2015	84	8,475	7,543	4,540	305,160	4,878
22	6/17/2015	82	8,715	7,335	4,540	306,180	5,102
23	6/18/2015	92	8,479	7,460	4,685	300,900	4,949
24	6/18/2015	82	8,548	8,083	4,747	297,860	4,984
25	6/18/2015	92	8,596	8,198	4,624	204,520	4,838
26	6/18/2015	91	8,707	7,421	6,426	301,800	4,787
27	6/19/2015	81	8,437	7,109	4,680	298,240	4,769
28	6/22/2015	89	8,754	7,576	5,316	246,500	4,290
29	6/22/2015	88	8,379	8,033	4,645	395,620	6,359
30	6/22/2015	85	8,422	7,236	5,251	400,460	6,258
31	6/23/2015	83	8,848	8,051	4,852	298,920	4,789
32	6/23/2015	90	8,536	7,082	5,007	301,980	4,821
33	6/23/2015	94	8,583	4,780	5,339	400,640	8,595
34	6/24/2015	88	8,438	7,434	5,437	403,700	8,609
35	6/24/2015	92	8,484	7,600	5,160	302,340	4,833
36	6/25/2015	94	8,761	7,797	5,093	299,680	4,716

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mposition:	Hydraulic Fracturing Fluid Composition:
0	Total Base Non Water Volume:
8,953,560	Total Base Water Volume (gal):
8,219	True Vertical Depth:
ON	Federal/Tribal Well:
NAD83	Datum:
39.70551000	Latitude:
-80.20448200	Longitude:
Coastal 1H	Well Name and Number
Northeast Natural Energy LLC	Operator Name:
47-061-01674-00-00	API Number:
Monongalia	County:
West Virginia	State:
6/25/2015	Job End Date:
6/8/2015	Job Start Date:







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Comments												
Maximum Ingredient Concentration in HF Fluid (% by mass)**	on-MSDS.		86.13305	13.66574	0.12954	0.02341	0.01728	0.01508	0.00479	0.00185	0.00125	0.00114
Maximum Ingredient Concentration in Additive (% by mass)**	nts shown below are No			98.54897	0.93414	0.16885	0,12463	0.10873	0.03452	0.01335	00600.0	0.00820
Chemical Abstract Service Number (CAS #)	eets (MSDS). Ingredier		NA	14808-60-7	7647-01-0	7783-20-2	38193-60-1	8000-30-0	111-30-8	136793-29-8	7727-54-0	57-13-6
Ingredients	pear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.		Water (Including Mix Water Supplied by Client)*	Quartz, Crystalline silica	Hydrochloric acid	Ammonium sulfate	Acrylamide, 2-acrylamido-2- methylpropanesulfonic acid, sodium salt polymer	Guar gum	Glutaraldehyde	Polymer of 2-acrylamido-2- methylpropanesulfonic acid sodium salt and methyl acrylate	Diammonium peroxidisulphate	Jrea
Purpose	R 1910.1200(i) and app	Corrosion Inhibitor, Scale Inhibitor, Biocide, Acid, Breaker, Gelling Agent, Friction Reducer, Iron Control Agent, Fluid Loss Additive , Propping Age			U CL							
Supplier	ngredients shown above are subject to 29 CFR 1910.1200(i) and ap	Schlumberger	Hannin .	DANBOAH	108 61 CH & C		001 07 2015					
Trade Name	Ingredients shown abo	Proppant Transport			5							

otris-, 58171-29-9 0.00816 0.00113 n salt	ylbenzyl 88424-85-1 0.00616 0.0085	6381-77-7 0.00612 0.00085	67-56-1 0.00361 0.00050	sphate 7601-54-9 0.00359 0.00050	61790-12-3 0.00227 0.00032	t (impurity) 7631-86-9 0.00198 0.00027	7757-82-6 0.00191 0.00027	ith 68527-49-1 0.00188 0.00026	ate 25038-72-6 0.00117 0.00016	107-21-1 0.00102 0.00014	hoxylated 88951-67-7 0.00089 0.00012	64-17-5 0.00074 0.00010	107-19-7 0.00059 0.00008	79-06-1 0.00041 0.00006	84-02-8 0.00021 0.00003	629-73-2 0.00020 0.00003	and silicones 63148-62-9 0.00012 0.00002	112-88-9 0.00010 0.00001	Dodecamethylcyclohexasiloxane640-97-6	7758-98-7	20-00-0	asiloxane 556-67-2 0.00001	nes, 67762-90-7 0.00002 oducts with	ene) 9002-84-0 0.00002	
Ethanol, 2,2,2"-nitrilotris-, 1,1,1"-tris(dihydrogen phosphate), sodium salt	Alkyl(c12-16) dimethylbenzyl ammonium chloride	Sodium erythorbate	Methanol	Trisodium ortho phosphate	Fatty acids, tall-oil	Non-crystalline silica (impurity)	Sodium sulfate	Thiourea, polymer with formaldehyde and 1- phenylethanone	Vinylidene chloride/methylacrylate copolymer	Ethylene Glycol	Alcohols, C14-15, ethoxylated	Ethanol	Propargyl alcohol	2-propenamid	Tetrasodium ethylenediaminetetraacetate	Hexadec-1-ene	Dimethyl siloxanes and silicones	1-Octadecene (C18)	Dodecamethylcyclohe	Copper(II) sulfate	Formaldehyde	Octamethylcyclotetrasiloxane	Siloxanes and silicones, dimethyl, reaction products with silica	poly(tetrafluoroethylene)	December of the second se

\*\* 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)

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