# 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	_ 01686	County Mononga	lia D	istrict Clay	
Quad Blacksville, V				ield/Pool Name B	lacksville
Farm name Coastal I	Forest Resources	Company		Well Number 5H	
Operator (as registered	d with the OOG) No	rtheast Natural E	nergy LLC		
Address 707 Virgini		City Char		State WV	Zip 25301
As Drilled location	Top hole North	ing 4395397.7		ng 568204.6	
Landing Poir		ing 4395494.8 ing 4397100.4		g 568229.4 g 566998.3	
Во	nom nom	5		5	
Elevation (ft) $\frac{1,420}{}$	GL	Type of Well	New 🗆 Existing	Type of Report	alnterim □Final
Permit Type 🗆 De	viated   Horizor	ntal 🗂 Horizonta	I 6A 🗆 Vertical	Depth Type	□ Deep ■ Shallow
Type of Operation	Convert   Deeper	n 🖷 Drill 🗆 P	lug Back □ Redrilli	ing 🗆 Rework	□ Stimulate
Well Type   Rrine D	disposal □ CRM ■ C	as ⊓Oil ⊓Seco	ndary Recovery III Soli	ution Mining	orage 🗆 Other
••	-		•		
Type of Completion	□ Single □ Multiple	Fluids Produce	d □ Brine □Gas	□ NGL □ Oil	□ Other
Drilled with   Cable	e ■ Rotary				
Drilling Media Surfa	ace hole	Mud □Fresh Wate	Intermediate ho	le ≣Air □Mud	□ Fresh Water □ Brine
Production hole   A	ir A Mud 🗆 Fres	h Water 🗆 Brine			
Mud Type(s) and Add Synthetic Based Mud for h		E 365, CALCIUM CHLO	RIDE POWDER, G-SEAL P	LUS, HRP, LIME, M-1 V	VATE (BARITE), M-I-X II MEDIU!
MEGADRIL P SYSTEM, MEG	ADRIL P SYSTEM RENTAL,	MEGAMUL, SAFE-CARB 2	50, VERSATHIN HF, VERSAWE	T, VG-PLUS, VINSEAL M	EDIUM, WALNUT NUT PLUG MEDIU
Date permit issued	10/28/2014	Data deilling gomma	nced 12/14/2014	Date drilling	ceased 4/7/2015
			Date completion activi		ccascu
Date completion activ					
Verbal plugging (Y/N	)Date	bermission granted		Granted by	
Please note: Operator	is required to submit	a plugging applicat	on within 5 days of ver	rbal permission to p	olug
Freshwater depth(s) f	1,24	3'	Open mine(s) (Y/N) de	pths	N
Salt water depth(s) ft			Void(s) encountered (Y		N
Coal depth(s) ft	0001 4 00		Cavern(s) encounter		N
Is coal being mined in		N		Oil & Gas	
15 war being mined in				7 2015	Reviewed by:

API 47-061 -Farm name\_Coastal Forest Resources Company\_Well number\_5H 01686 CASING Hole Casing New or Grade Basket Did cement circulate (Y/N) **STRINGS** \* Provide details below\* Size Size wt/ft Depth Used Depth(s) Conductor Y to surface 30 24 50' Ν N/A N/A Surface 17.5 13 3/8 Ν 54.5 N/A Y 45 bbls 1,387' Coal Intermediate 1 9 5/8 12.25 2,794' Ν 40 N/A Y 15 bbls Intermediate 2 Intermediate 3 Production 8.5 5.5 15,373' Ν 20 N/A Tubing Packer type and depth set Comment Details CEMENT Class/Type Number Slurry Yield Volume Cement WOC (ft.<sup>1</sup>) ( ft ³/sks) Top (MD) (hrs) DATA of Cement of Sacks wt (ppg) Conductor CTS 48 4,500 psi ready mix 36.4 .75 27.27 Surface 1.27 CTS 8 Class A 1,192 15.2 1,271 Coal Intermediate 1 CTS 1,074 Class A 906 15.2 1.26 8 Intermediate 2 Intermediate 3 Production Estimated 2.000' 48 1.17 2,661 50/50 Premium NE + 1 3% R-3 3% MPA 1 2,960 14.5 Tubing Loggers TD (ft) 15,360 Drillers TD (ft) 15,385 Deepest formation penetrated Marcellus Plug back to (ft) N/A Plug back procedure Kick off depth (ft) 6.495' ☐ deviated/directional induction Check all wireline logs run □ caliper □ density □ neutron □ resistivity 🗎 gamma ray □ temperature □sonic Were cuttings collected ■ Yes □ No Conventional Sidewall Well cored ☐ Yes ■ No DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Surface: bow spring controlizers overy 3rd joint of aprox 120° Intermediate: bow spring centralizers every 3rd joint or oprox 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° DETAILS This well has not yet been completed □ Yes 📱 No WAS WELL COMPLETED AS SHOT HOLE Received Office of Oil & Gas WAS WELL COMPLETED OPEN HOLE? □ Yes 📱 No DETAILS OCT 07 2015 TYPE OF TRACER(S) USED \_\_ WERE TRACERS USED | Yes No

API	47- 061 _ 01686	Farm name Coastal Forest Resources Company	Well number <sup>5H</sup>
/N I	*/	raint name	wen number

## PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
					This well has not yet been completed
					,
				_	

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)
		:						
					.,			
		-						
	,						Recel	/ad
			-			Of	ira oi ()	il & Gas
						<u> </u>		
							OCT 07	2015
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Please insert additional pages as applicable.

WR-35 Rev. 8/23/13

01686		Farm	name_Coastal F	orest Re	sources Compa	well	number	. 5H
FORMATI	ON(S)		<u>DEPTHS</u> 8,203.49'	_TVD	15,385'	MD		
litional pag	ges as ap	plicable,		-		_		
□ Build up	□ Dra	awdown	□ Open Flow		OIL TEST	Flow D	Pump	
SURE	Surface		psi Botto	m Hole_	psi	DURA	TION C	OF TESThrs
Gas								
	FT DE	PTH IN FT	DEPTH IN FT	DEPTH IN	FT DESCRIBE			
0		TVD	0	MD	THEOFF			See Attached
-	-							
	-							
litional pag	ges as ap	plicable.						
tor Pionee	r 63							and a standard
Loop 410 S	uite 1000		City	San Anton	oio	State	TX	Zip _78209
ny Baker I	Hughes							
ippi Pike			City	Clarksbur	g	State	WV	Zip _26301
pany CalF	rac Well	Services						
			City	Denver		State	СО	Zip <u>80202</u>
nnany								Received
			City			State		zipOffice of Oil & G
litional pag	ges as ap	plicable.						OCT 07 2015
Zack Arnol	d				Telephone	304.203	.8059	001 01 2013
2/		7	Title G	eneral Man	ager - Operations		Date 1	0/6/2015
	Build up SSURE Gas  TOP DEPTH IN NAME TY 0  Bitional pagetor Pionee E Loop 410 S  ny Baker H ippi Pike pany Calf Street, Suite npany  litional pagetor Street, Suite	Build up Dra SSURE Surface  Gas mefpd  TOP I DEPTH IN FT DE NAME TVD  0  Gittional pages as ap stor Pioneer 63 E Loop 410 Suite 1000  my Baker Hughes ippi Pike  pany CalFrac Well Street, Suite #1445	ditional pages as applicable.  Build up Drawdown  SURE Surface  Gas Oil  mcfpd  TOP BOTTOM  DEPTH IN FT DEPTH IN FT  NAME TVD TVD  0  ditional pages as applicable.  tor Pioneer 63 E Loop 410 Suite 1000  my Baker Hughes ippi Pike  pany CalFrac Well Services Street, Suite #1445  mpany  ditional pages as applicable.	ditional pages as applicable.  Build up Drawdown Deen Flow  SURE Surface Psi Botto  Gas Oil NGL  TOP BOTTOM TOP  DEPTH IN FT DEPTH IN FT DEPTH IN FT  NAME TVD TVD MD  0 0 0  ditional pages as applicable.  Stor Pioneer 63  E Loop 410 Suite 1000 City  Top Bottom Top Depth IN FT  NAME TVD TVD MD  City  Top Bottom Top Depth IN FT  NAME TVD TVD MD  City  Top Bottom Top Depth IN FT  NAME TVD TVD MD  City  Top Bottom Top Depth IN FT  NAME TVD TVD MD  City  Top Bottom Top Depth IN FT  NAME TVD TVD MD  City  Top Bottom Top Depth IN FT  NAME TVD TVD MD  City  Top Bottom Top Depth IN FT  NAME TVD TVD MD  City  Top Depth IN FT  Top Depth IN FT  NAME TVD TVD MD  City  Top Depth IN FT  Top Depth IN FT	ditional pages as applicable.  Build up Drawdown Deen Flow  SURE Surface Psi Bottom Hole  Gas Oil NGL  mcfpd BOTTOM TOP BOTTOM  TOP BOTTOM TOP BOTTOM  NAME TVD TVD MD MD  0 0 0  Depth IN FT Depth IN	ditional pages as applicable.  Build up Drawdown Den Flow OIL TEST Described Den Bottom Hole Den Bottom Den Bottom Den Bottom Den Bottom Den Hole Den Bottom Hole Den Bottom Hole Den Bottom Den Hole Den Bottom Hole Den Bottom Den Hole Den Bottom Hole Den Hole Den Bottom Hole Den Bottom Hole Den Hole Den Bottom Hole Den Bottom Hole Den Bottom Hole Den Hole Den Bottom Hole Den Bottom Hole Den Bottom Hole Den Hole Den Bottom Hole Den Bottom Hole Den Hole Den Bottom Hole Den Hole Den Bottom Hole Den Hole D	Build up   Drawdown   Open Flow   OIL TEST   Flow   ESURE   Surface   psi   Bottom Hole   psi   DURA'	Build up

					Describe rock type and record quantity and type of fluid
Lithology/Formation	Top Depth in FT Name TVD	Bottom Depth in FT TVD	Top Depth in FT MD	Bottom Depth in FT MD	(freshwater, brine, oil, gas, H2S, etc)
Sand/Shale/Silt	0	40			sand/shale/silt
Red Rock	40	120			red rock
Sand/Shale/Silt	120	2407			sand/shale/silt
Limestone	2407	2495			limestone
Big Injun	2495	2625			sandstone
Sand/Shale	2625	3140			sand/shale
Shale	3140	5140			shale
Grey Shale	5140	5488			shale
Shale	5488	5898			shale
Sandstone/Shale	5898	7754			shale/sandstone
Burkett	7754	7928	8152	8370	shale
Geneseo	7928	7974	8370	8434	shale
Tully	7974	8016	8434	8511	limestone
Hamilton	8016	8131	8511	8716	shale
Marcellus	8131	8187	8716	8861	shale
Cherry Valley	8187	8191	8861	8872	limestone
Lower Marcellus	8191		8872		shale

Office of Oil & Gas

#### сомменть

Wellpath general comments
AN: 47-061-01686-0000
Rig: Planeer 63
BHI Inb 8: 6977540
Duration: 01.30.2015 - 04.07.2015
VES Gyno 100'-6300'
BHI ATC <-8-1/2> (6308\*)(6308'-15360\*)\*
Projected MD at TD: 15385'





# TREATMENT SUMMARY

 Cutomer Rep:
 JIm
 Calfrac Rep: William Wamsley 101533 S2 SF

 LSD:
 Coastal 5H WV
 Calfrac Service Line: CEMENT

 Customer:
 Northeast Natural Energy
 Job Date: 12/16/2014

 48 Donley Street Suite 601
 Job Type: Surface

 Morgantown, WV
 Program Number: CAEL2015JH

 26501
 Service Order #: 180783

					Comment Type:	General	1100000
TIME	REMARKS	Press. 1	Press. 2	Pumped	In Formation	Total	Rate
		(psi)	(psi)	(bbi)	(bbl)	(bbl)	(bpm)
23:30	Arrive on location						
23:30	Sign In with Customer Rep						
	Waiting on rig						
23:45	Pre-rig in safety meeting				7.8		
24:00:00	Spot equipment						
24:00:00	Start Rig In		1				
1:00	Finish Rig In			I N	i i		
	Granted access to the floor						
	Start Rig In (2)						
	Finish Rig In (2)						
	Waiting on rig						
01:30	Start Batching Spacer						
01:45	Finish Batching Spacer						
01:00	Pre-job safety meeting					-	
01:46	Fill lines	70		6		6	3
	Pressure test	3946					
01:55	Circulate well	57		223		229	4
02:01	Control (moved rector)			25		254	4
02:49	Pump Spacer (1)	77		236		490	4
03:00	Pump tail slurry	153		230		430	
04:00	Shut down pumps/Clean lines		1				
	Wash out pumps and lines						
04:04	Drop top plug					700	
04:10	Start displacement	60		213		703	4
04:42	Spacer returns at surface	295					
04:57	Cement returns at surface	410	9				
05:00	Slow pump rate						
05:04	Bump plug	1071					
05:09	Bleed off pressure and check floats						
05:15	Wash up cement pump						
06:00	Start Rig Out						
07:00	Finish Rig Out				The same of		
07:00	Exit location			3			
							111
			25 bbl	spacer return			
			45 bbl	cement return			1
			bump 1071 psi				
			1 bbl h2o	return			
			TOUTIEU	(500)	7		1
						The second	
				1			1
				8			
			1		3		
			1		-	pres.	
						Rece	war.
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EASE & WE	LL NAME	AST NATURAL I		-	E 20-D			27.27.67			-	RV. SUPV.	TU Um to It.	75.7		
		061016860000		100.7	BLACKSVI	LLE					0.00	Monongalia				
DISTRICT				DRI	LING C	ONTRACTOR	RIG#				TYF	E OF JOI	3			
Clarksburg	TVDE	n uce		1		MNCE #2	MEG	CHANICAL	DARRIE	ne		Intermediate		R TYPES	145	70.40
SIZE	R TYPE OF	PLUGS		LIST-CSG-	HARDWA	ARE	MEC	CHANICAL	BARRIE	KS	MD	IVD	HANGE	K I TPES	MD	TVD
9-5/8" Top Ce	m Plug, N	itri cvr, Phen		Collar, Al Fla												
			Guide	Shoe, Cem	ent Nose	, 9-5/8 i				. 4						
							1		PI	IYSIC	AL SL	URRY PRO	PERTIE	S		
MATERIAL	.S FURNIS	HED BY BJ			LAB	REPORT NO.	SAC	F \	LURRY WGT PPG	SLU YL F		WATER GPS	PUN TIM HR:M	Е В	ibl RRY	BbI MIX WATER
PROCESSE	D H2O								8.34						359	
FRESH H2O									8.34						10	
6% GEL (50	LBS) W/	CELLO FLAK	E (25 LBS	)					8.5						25	
FRESH H2O	THE REAL PROPERTY.	1000							8.34						9	
CLASS A (PI	REM NE-1	NEAT W/ CE	LLO FLA	Œ (75				906	15.2		1.25	5.7	5 03:5	)	195	119.92
FRESH H2O									8.34						209	
		N THE SIDE							8.34						25	
Available Mi	Tean -	500		Bbl.	vailable	Displ. Fluid		500	Bb	i.		TO	TAL		832	119.92
	HOLE					TBG-CSG-	D.P.	***				10		AR DEPTI		
SIZE	% EXCES	SS DEPT	H ID	OD	WGT.			MD	TVD	GRA	DE	SHOE	JOLL	FLOAT	_	STAGE
12.25	30	28-		9.625	-	40 CSG		2791		J-55		27	91	2748	3	
1	AST CASI	NG		PKR	CMT RE	T-BR PL-LINE	R	PERF.	DEPTH	M	ТОР	CONN		WELL F	LUID	
ID OD V	The second second second second		ND TVE	BRA	ND & TY	PE D	EPTH	TOP	BTM			THREAD	TYPE			WGT.
13. 13.38	55. CSG	1	387								9.625	8 RND	OTHER	2		0
DISPL. VO	LUME	D	ISPL. FLU	ID	CAL. PS	GAL. MA	X PSI	OP. MAX	MA	х тв	G PSI		MAX CS	PSI		MIX WATER
VOLUME	NOM	TY	PE	WGT.	BUMP PL	UG TO RE	V.	SQ. PSI	RATE	D	Operate	or RA	TED	Operator		WATER
208	BBLS	FRESH H2O		8.34	110	00	0	0	)	0		0	3160	1500	TAN	NK .
EXPLANATIO	N: TROUB	LE SETTING	A POWN		, ETC. P	RIOR TO CEN	IENTIN	IG:				VOLANA:				
		PRESSU	RE/RATE I	DETAIL												
			A SAME	191300								XPLANA				
TIME HR:MIN		SURE - PSI	RAT		FLUID	FLUID TYPE		ETY MEET	2 0 0 kg 10 mg c		w X	an and				
TIME HR:MIN.	PRES	SURE - PSI ANNULU	- 00		FLUID MPED	FLUID TYPE	TEST	LINES	3	3850	w X	an and				
			- 00				TEST		WELL -	3850 RIG	w X	CO. REP	X			
HR:MIN.			- 00				CIRC	T LINES ULATING	WELL -	3850 RIG	w X	CO. REP	X	2	none	in on a
HR:MIN. 08:30			- 00				CIRC ARRIV	T LINES CULATING VE ON LO	WELL - OCATION MENT	8850 RIG JOB	W X PSI TIME	BJ 0900 HOL	X X JRS	0	nnp	niners pt
08:30 12:30			- 00				CIRC ARRIV SPOT SAFE	T LINES CULATING VE ON LO T EQUIPM	WELL - OCATION MENT TING WIT	RIG L JOB	W X PSI TIME	BJ 0900 HOL	X X JRS	mo-	ninp	in espera
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08:30 12:30 12:48 13:05 14:40	PIPE	ANNULU 00 0	- 00	PM PU	MPED	TYPE	CIRCO ARRIVES POTE SAFE RIG III PUMP PIPE	T LINES CULATING VE ON LO T EQUIPM ETY MEET NTO WEL N SWAGE P PROCES DOWN. S	WELL - DOCATION MENT TING WIT L & TAN E & HOSE SSED H2 SHUT DO	RIG L JOB H BHI KS E TO I	W X PSI TIME I CREV	BJ 0900 HOU V PIPE DOV	X X JRS OVN	001	*	+
08:30 12:30 12:48 13:05 14:40 15:10 16:04 16:30	PIPE 50	ANNULU  00 0 0	- 00	7	359	PROCESS	CIRCO ARRIVES SPOTE SAFE RIG III PUMF PIPE SAFE	T LINES CULATING VE ON LC T EQUIPM TY MEET NTO WEL N SWAGE P PROCES DOWN. S	WELL - DOCATION MENT TING WIT L & TAN E & HOSE SSED H2 SHUT DO	RIG L JOB H BHI KS E TO I	W X PSI TIME I CREV	BJ 0900 HOU V PIPE DOV	X X JRS OVN	001	*	+
08:30 12:30 12:48 13:05 14:40 15:10 16:04 16:30 16:40	PIPE	00 0 0 0	- 00	7 5	359 359	PROCESS H2O	CIRCO ARRIV SPOT SAFE RIG II RIG II PUMF PIPE SAFE LINE	TLINES CULATING VE ON LC TEQUIPM CTY MEET NTO WEL N SWAGE P PROCES DOWN. S CTY MEET FILL	WELL - DICATION MENT TING WIT L & TAN E & HOSE SSED H2 SHUT DO	RIG I. JOB H BHI KS E TO I	W X PSI I CREV	BJ 0900 HOU V PIPE DOV	X X JRS OVN	001	*	•
08:30 12:30 12:48 13:05 14:40 15:10 16:04 16:30 16:40 16:45	5C 12	00 0 0 0 25 0	- 00	7 52	359 359	PROCESS H2O H2O	CIRCO ARRIV SPOT SAFE RIG II RIG II PUMF PIPE SAFE LINE PRES	T LINES CULATING CULA	WELL - DICATION MENT TING WIT L & TAN E & HOSE SSED H2 SHUT DO TING WIT	RIG I. JOB H BHI KS E TO I O WN 8 H RIG	W X PSI TIME I CREV PUMP RIG II G CREV	BJ 0900 HOU V PIPE DOW N HEAD & W & CO. M	X X X X X X X X X X X X X X X X X X X	001	*	+
08:30 12:30 12:48 13:05 14:40 15:10 16:04 16:30 16:40 16:45 16:47	5C 12	00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- 00	7 5 .2 5	359 3 3 .2 25	PROCESS H2O H2O GEL	CIRCO ARRIV SPOT SAFE RIG II PUMF PIPE SAFE LINE PRES 6% G	T LINES CULATING CULATING CULATING T EQUIPM CTY MEET NTO WEL N SWAGE P PROCES DOWN. S CTY MEET FILL SSURE TE SEL(500 LE	WELL - DOCATION MENT TING WIT L & TAN E & HOSE SSED H2 SHUT DO TING WIT EST TO 3 BS) W/ C	RIG L JOB H BHI KS E TO I WN 8 H RIG 850 P	W X PSI TIME I CREV PUMP RIG II G CREV	BJ 0900 HOU V PIPE DOW N HEAD & W & CO. M	X X X X X X X X X X X X X X X X X X X	001	*	+
08:30 12:30 12:48 13:05 14:40 15:10 16:04 16:30 16:40 16:45	50 12 13	00 0 0 0 25 0	- 00	7 52	359 3 3 .2 25	PROCESS H2O H2O	CIRC ARRIV SPOT SAFE RIG II RIG II PUMF PIPE SAFE LINE PRES 6% G FRES	TLINES CULATING CULAT	WELL - DOCATION MENT TING WIT L & TAN E & HOSE SSED H2 SHUT DO TING WIT EST TO 3 BS) W/ C R SPACE ASS A (F	RIG RIG JOB H BH KS E TO I CO WWN 8 850 P EELLO ER	W X PSI STIME STIME STIME RIGHT REPUMP REPUM	BJ 0900 HOU V PIPE DOV N HEAD 8 W & CO. M	X JURS OVN MANIFOMAN ADDED	OCT OLD	07	•
08:30 12:30 12:48 13:05 14:40 15:10 16:04 16:30 16:40 16:45 16:47 16:51	50 12 13	ANNULU  00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- 00	7 5 .2 5 3.6	359 3 3 .2 25	PROCESS H2O H2O GEL H2O	CIRC ARRIV SPOT SAFE RIG II PUMF PIPE SAFE LINE PRES 6% G FRES 906 S ON T	TLINES CULATING CULAT	WELL - DOCATION MENT TING WIT L & TAN E & HOSE SSED H2 SHUT DO TING WIT EST TO 3 BS) W/ C R SPACE ASS A (F 75 LBS) -	RIG RIG I. JOB H BHI KS E TO I FO WWN 8 850 P EELLO ER PREM	W X PSI STIME STIME STIME RIGIT REV PUMP RIGIT REV PIMP RIGIT RIGI	BJ 0900 HOU V PIPE DOV N HEAD 8 W & CO. M	X JURS OVN MANIFOMAN ADDED	OCT OLD	07	•
08:30 12:30 12:48 13:05 14:40 15:10 16:04 16:30 16:40 16:45 16:47 16:51	50 12 13	00 0 0 0 0 25 0 0 0 0 0 0 0 0 0 0 0 0 0	- 00	7 5 .2 5 3.6	359 3 3 .2 25	PROCESS H2O H2O GEL H2O	CIRCO ARRIVES PORTON ON THE SHUT	TLINES CULATING CULAT	WELL - DOCATION MENT TING WIT L & TAN E & HOSE SSED H2 CHUT DO TING WIT EST TO 3 BS) W/ C R SPACE ASS A (F75 LBS) - DROP P	RIG RIG I. JOB H BHI KS E TO I FO WWN 8 850 P EELLO ER PREM	W X PSI STIME STIME STIME RIGIT REV PUMP RIGIT REV PIMP RIGIT RIGI	BJ 0900 HOU V PIPE DOV N HEAD 8 W & CO. M	X JURS OVN MANIFOMAN ADDED	OCT OLD	07	•





		PRESSURE	RATE DETAIL	-				EXPLANAT	ION
TIME	PRESSU	RE - PSI	RATE	Bbl. FLUID	FLUID	SAFETY MEI	ETING: BJ CREW X	CO. REP.	X
HR:MIN.	PIPE	ANNULUS	ВРМ	PUMPED	TYPE	TEST LINES	3850 PSI		
						CIRCULATIN	G WELL - RIG	BJ	X
18:05	1550		4		H2O	LAND PLUG			
18:08	0					RELEASE PR	ESSURE TO PUMPE	R	
18:09						END JOB. 15	BBLS SLURRY RETU	JRN TO HAI	F ROUND
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED 792	PSI LEFT ON CSG	SPOT TOP OUT CEMENT Y	SERVICE SUPERV	ISOR SIGNA	TURE:

Received
Office of Oil & Gas
0CT 07 2015





	NORTHEA	STNATUR	ALEN	DATE 08-	APR-15 F.F	₹.# 1001	1148542	SE	RV. SUPV.	Kevin P	augh	
EASE & WEL	L NAME #5H - API 4	706101686	60000	LOCATION CLAY				C	DUNTY-PAR Monongalia			
ISTRICT Clarksburg	1			DRILLING C	ONTRACTOR R 63	RIG#		TY	PE OF JOB Long String			
SIZE 8	TYPE OF PL	UGS	LIST-	CSG-HARDW	ARE	MECHANIC	CAL BARRIE	RS MD	TVD	HANGER	TYPES	MD TVD
atch Down	Plug & Ass	sembly 5	/Zloat Colla	r Auto Fill	5-1/2 - 8rd							
	r lag a r la	outility, o	TETOUT O OIL	1	o ne olo		рн	YSICAL SI	URRY PRO	PERTIES		
MATERIAL	.S FURNISHE	D BY BJ		LAB	REPORT NO.	SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURR	
UltraBond 1	10						13					50
MultiBond							13					50
00000000000000000000000000000000000000	(Fly Ash):C	lass A				2,960	14.5	1.17	5.1	5	618.	
	er AFTER F	Section 1				2,000	8.34	1.11	0.11			20
Fresh Wate		9					8.34				32	
Sugar 230							0.54				3,	0
	37.707	1500	PL	1 Available	Dient Fluid	350		1	***	A1	1062.	
Available Mix		1300	Bb	i. Available	Displ. Fluid		, 50		тот			
SIZE	HOLE % EXCESS	DEPTH	ID	OD WGT	TBG-CSG-I		TVD	GRADE	SHOE		DEPTHS	STAGE
8.5	10	1537			20 CSG	153			Onoc		.20	VIAGE
L	AST CASING				T-BR PL-LINE	R PE	RF. DEPTH		CONN	·	VELL FLU	ID
ID OD W	GT TYPE		D TVD	BRAND & TY		EPTH TOP			THREAD	TYPE		WGT.
8.8 9.63	40 CSG	27	94 2794							SYNTHE	ETIC MI	JD 12.5
	110		2.5									1,510
DISPL. VOL			SPL. FLUID	CAL. P	SI CAL. MA	X PSI OP. M	AX MA	X TBG PSI		AX CSG P		MIX
DISPL. VOL	UME	DIS	SPL. FLUID E WG	T. BUMP PI	UG TO RE	V. SQ. P	SI RATE	D Opera	M tor RAT	AX CSG P	SI	MIX WATER
DISPL. VOLUME 344	UOM BBLS Free	TYP esh Water gar 230 lb	BPL. FLUID E WG	T. BUMP PI	UG TO RE	0 SQ. P			M tor RAT	AX CSG P	SI	MIX
VOLUME 344	UOM BBLS Free	TYP esh Water gar 230 lb	BPL. FLUID  E WG	T. BUMP PI 1.34 49 0 5 CSG, ETC. F	UG TO RE	0 SQ. P	SI RATE	D Opera	M tor RAT	AX CSG PED O	SI	MIX WATER
VOLUME 344	UME UOM BBLS Free Su	DISTYPES NATE OF THE SETTING TO PRESSURE	SPL. FLUID  E WG  8  S  DOL, RUNNING	T. BUMP PI 3.34 49 0 5 CSG, ETC. F	OC TO RE	O SQ. P	SI RATE	O Opera	M M RAT 0 10	AX CSG PED O	SI	MIX WATER
VOLUME 344	UOM BBLS Free	DISTYPES NATE OF THE SETTING TO PRESSURE	E WG S S DOL, RUNNING	T. BUMP PI 1.34 49 0 5 CSG, ETC. F	UG TO RE	O SQ. P	O RATE	O Opera	M M RAT 0 10	AX CSG PED OD	SI	MIX WATER
DISPL. VOLUME 344  XPLANATION	BBLS Free Sun: TROUBLE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	E WG  S  DOL, RUNNING  E/RATE DETAIL	T. BUMP PI	RIOR TO CEM	O SAFETY M TEST LINE	O RATE	O Opera  O CREW X  5000 PSI	M M RAT 0 10	AX CSG PED O	SI	MIX WATER
VOLUME  344  XPLANATION  TIME  HR:MIN.  04:30	BBLS Free Sun: TROUBLE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	E WG  S  DOL, RUNNING  E/RATE DETAIL	T. BUMP PI	RIOR TO CEM	O SAFETY M TEST LINE CIRCULATION ARRIVE (	EETING: BJ S S S S NG WELL - DN LOCAT	O Opera  O CREW X  OOC PSI  RIG X	M M RAT 0 10	AX CSG PED OD	SI	MIX WATER
VOLUME  344  XPLANATION  TIME  HR:MIN.	BBLS Free Sun: TROUBLE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	E WG  S  DOL, RUNNING  E/RATE DETAIL	T. BUMP PI	RIOR TO CEM	SAFETY MENTING:  SAFETY MENTINE:  CIRCULATI ARRIVE ( SPOT EQ	EETING: BJ S 5 NG WELL - ON LOCAT UIPMENT	O Opera  O V V V V V V V V V V V V V V V V V V	Motor RAT  0 10  EXPLANATION  CO. REP.  BJ	AX CSG PED OD	perator 4000	MIX WATER TANK
VOLUME  344  XPLANATION  TIME HR:MIN.  04:30 07:30 07:50	BBLS Free Sun: TROUBLE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	E WG  S  DOL, RUNNING  E/RATE DETAIL	T. BUMP PI	RIOR TO CEM	MENTING:  SAFETY M TEST LINE CIRCULATI ARRIVE C SPOT EQ PRE RIG	EETING: BJ S S S S NG WELL - DN LOCAT	O Opera  O V V V V V V V V V V V V V V V V V V	Motor RAT  0 10  EXPLANATION  CO. REP.  BJ	AX CSG PED OF	perator 400C	MIX WATER TANK
TIME HR:MIN. 04:30 07:30 07:50 08:00	BBLS Free Sun: TROUBLE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	E WG  S  DOL, RUNNING  E/RATE DETAIL	T. BUMP PI	RIOR TO CEM	MENTING:  SAFETY M TEST LINE CIRCULATI ARRIVE ( SPOT EQ PRE RIG RIG IN	EETING: BJ S 5 NG WELL - DN LOCAT UIPMENT IN SAFET	O Opera  O CREW X  5000C PSI RIG X  FION  Y MEETI	Modern RAT 0 10 10 10 10 10 10 10 10 10 10 10 10 1	AX CSG PED OF	perator 4000	MIX WATER TANK
TIME HR:MIN. 04:30 07:30 07:50 08:00 10:00	UOM BBLS Fre Sun: TROUBLE  PRESSUI PIPE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	S WG  E WG  E S  DOL, RUNNING  E/RATE DETAIL  RATE BPM	G CSG, ETC. F BBI. FLUID PUMPED	PRIOR TO CEM	SAFETY MENTING:  SAFETY MENTING:  SAFETY MENTING:  SAFETY MENTING:  SPOT EQ  PRE RIG  RIG IN  SAFETY MENTING:	EETING: BJ S 5 NG WELL - DN LOCAT UIPMENT IN SAFET	O Opera  O CREW X  5000C PSI RIG X  FION  Y MEETI	Modern RAT 0 10 10 10 10 10 10 10 10 10 10 10 10 1	AX CSG PED OF	perator 4000	MIX WATER TANK  Receive
TIME HR:MIN. 04:30 07:50 08:00 10:00 10:30	BBLS Fre Sun TROUBLE  PRESSUI PIPE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	SPL. FLUID  E WG  8  S  DOL, RUNNING  FRATE DETAIL  RATE BPM	G CSG, ETC. F Bbi. FLUID PUMPED	FLUID TYPE	SAFETY M TEST LINE CIRCULATI ARRIVE ( SPOT EQ PRE RIG RIG IN SAFETY II	EETING: BJ S 5 NG WELL - ON LOCAT UIPMENT IN SAFET	O Opera  O CREW X  5000C PSI RIG X  FION  Y MEETI	Modern RAT 0 10 10 10 10 10 10 10 10 10 10 10 10 1	AX CSG PED OF	perator 4000	MIX WATER TANK
TIME HR:MIN. 04:30 07:50 08:00 10:30 10:35	DUME UOM BBLS Fre Su N: TROUBLE PRESSU PIPE  150 680C	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	SPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5  1	BUMP PI	FLUID TYPE  H20 H20	SAFETY MENTING:	EETING: BJ S 5 NG WELL - ON LOCAT UIPMENT IN SAFET	O Opera  O CREW X  5000C PSI RIG X  FION  Y MEETI	Modern RAT 0 10 10 10 10 10 10 10 10 10 10 10 10 1	AX CSG PED OF	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN. 04:30 07:50 08:00 10:30 10:35 10:37	PRESSUI PIPE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	SPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5  1 4.5	BUMP PI	FLUID TYPE  H20 H20 ULTRABC	SAFETY MENTING:  SAFETY MENTING:  SAFETY MENTINE CIRCULATION ARRIVE CONTROL SPOT EQUIPMENT RIGIN SAFETY MENTINE FILL PRESSUI SPACER	EETING: BJ S	O Opera  O CREW X  5000C PSI RIG X  FION  Y MEETI	Modern RAT 0 10 10 10 10 10 10 10 10 10 10 10 10 1	AX CSG PED OF	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN. 04:30 07:50 08:00 10:30 10:35 10:37 10:50	PRESSUI PIPE 150 680C 700 810	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	SPL. FLUID  E WG  8  SOOL, RUNNING  E/RATE DETAIL  RATE BPM  5  1  4.5 5.6	BUMP PI	FLUID TYPE  H20 H20 ULTRABC MULTIBO	MENTING:  SAFETY M TEST LINE CIRCULATI ARRIVE C SPOT EQ PRE RIG RIG IN SAFETY I LINE FILL PRESSUI SPACER SPACER	EETING: BJS S S SING WELL - ON LOCAT UIPMENT IN SAFET MEETING RE TEST	O Opera  O OPERA  O OPERA  O OPERA  O O O O O O OPERA  O O O O O O O O OPERA  O O O O O O O O O O O O O O O O O O O	EXPLANATION OF THE PROPERTY OF	AX CSG PED OF	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN. 04:30 07:30 07:50 08:00 10:35 10:35 10:50 11:00 11:00	PRESSUI PIPE	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	SPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5  1 4.5	BUMP PI	FLUID TYPE  H20 H20 ULTRABC	SAFETY M TEST LINE CIRCULATI ARRIVE C SPOT EQ PRE RIG RIG IN SAFETY I LINE FILL PRESSUI SPACER SPACER PREM NE	EETING: BJ S S S NG WELL - ON LOCAT UIPMENT IN SAFET MEETING RE TEST	O Opera  O OPERA  O OPERA  O OPERA  O O O O O O OPERA  O O O O O O O O OPERA  O O O O O O O O O O O O O O O O O O O	EXPLANATION OF THE PROPERTY OF	AX CSG PED OF	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN. 04:30 07:50 08:00 10:30 10:35 10:37 10:50 11:00 12:20	PRESSUI PIPE  150 680C 700 810 1166	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	SPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5  1  4.5  5.6  6.5	T. BUMP PI 3.34 49 0 G CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 50 610	FLUID TYPE  H20 H20 ULTRABC MULTIBO SLURRY	SAFETY M TEST LINE CIRCULATI ARRIVE C SPOT EQ PRE RIG RIG IN SAFETY I LINE FILL PRESSUI SPACER SPACER PREM NE DROP PL	EETING: BJ S 5 NG WELL - DN LOCAT UIPMENT IN SAFET MEETING RE TEST	O Opera  O O	Motor RAT  0 10  EXPLANATIO  CO. REP.  BJ  NG  G AND CU	AX CSG PED OF ON XX	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN. 04:30 07:50 08:00 10:35 10:37 10:50 11:00 12:20 12:30	PRESSUI PIPE  150 680C 700 810 1166	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	BPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5 1 4.5 5.6 6.5	T. BUMP PI 3.34 49 0 G CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 51 610	FLUID TYPE  H20 H20 ULTRABC MULTIBO SLURRY SUGAR H	SAFETY M TEST LINE CIRCULATI ARRIVE C SPOT EQ PRE RIG RIG IN SAFETY I LINE FILL PRESSUI SPACER SPACER PREM NE DROP PL 20 BBL S	EETING: BJ S 5 NG WELL - ON LOCAT UIPMENT IN SAFET MEETING RE TEST	O Opera  O O	EXPLANATION OF THE PLACEM	AX CSG PED OF OOD OO	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN. 04:30 07:50 08:00 10:30 10:35 10:37 10:50 11:00 12:20 12:30 12:40	UME UOM BBLS Fre Sull PIPE 150 680C 700 810 1166 140C 180C	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	SPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5  1  4.5  5.6  6.5	T. BUMP PI 3.34 49 0 G CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 51 610	FLUID TYPE  H20 H20 ULTRABC MULTIBO SLURRY	MENTING:  SAFETY M TEST LINE CIRCULATI ARRIVE C SPOT EQ PRE RIG RIG IN SAFETY I LINE FILL PRESSUI SPACER SPACER PREM NE DROP PL 20 BBL S 321 BBL I	EETING: BJ S NG WELL - ON LOCAT UIPMENT IN SAFET MEETING RE TEST  E-1 +.3% R UG UGAR WA	O Opera  O O	EXPLANATION OF THE PLACEM	AX CSG PED OF OOD OO	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN.  04:30 07:30 07:50 08:00 10:00 10:35 10:37 10:50 11:00 12:20 12:30 12:40 13:25	PRESSUI PIPE  150 680C 700 810 1166	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	BPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5 1 4.5 5.6 6.5	T. BUMP PI 3.34 49 0 G CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 51 610	FLUID TYPE  H20 H20 ULTRABC MULTIBO SLURRY SUGAR H	SAFETY M TEST LINE CIRCULATI ARRIVE C SPOT EQ PRE RIG RIG IN SAFETY I LINE FILL PRESSUI SPACER SPACER PREM NE DROP PL 20 BBL S 321 BBL S	EETING: BJ S S S NG WELL - DN LOCAT UIPMENT IN SAFET MEETING RE TEST E-1 +.3% R UG UGAR WA	O Opera  O O	Motor RAT  0 10  EXPLANATIO  CO. REP.  BJ  MPA-170  PLACEMI  SPLACEMI  SPLAC	DN X STOME	perator 4000	MIX WATER TANK  Receiv
TIME HR:MIN. 04:30 07:50 08:00 10:00 10:35 10:37 10:50 11:00 12:20 12:30 12:40	UME UOM BBLS Fre Sull PIPE 150 680C 700 810 1166 140C 180C	DISTYP esh Water gar 230 lb SETTING TO PRESSURE RE - PSI	BPL. FLUID  E WG  8  S  DOL, RUNNING  E/RATE DETAIL  RATE BPM  5 1 4.5 5.6 6.5	T. BUMP PI 3.34 49 0 G CSG, ETC. F Bbl. FLUID PUMPED 5 1 50 51 610	FLUID TYPE  H20 H20 ULTRABC MULTIBO SLURRY SUGAR H	SAFETY M TEST LINE CIRCULATI ARRIVE ( SPOT EQ PRE RIG RIG IN SAFETY I LINE FILL PRESSUI SPACER SPACER PREM NE DROP PL 20 BBL S 321 BBL I PLUG DO RELEASE	EETING: BJ S NG WELL - ON LOCAT UIPMENT IN SAFET MEETING RE TEST  E-1 +.3% R UG UGAR WA	O Opera  O O	Mor RAT  0 10  EXPLANATIO  CO. REP.  BJ  NG  G AND CU  PLACEM  SPLACEM  ATS HELD	DN X STOME	perator 4000	MIX WATER TANK  Receiv



		PRESSURE	RATE DETAIL				EXPLANATION
TIME	PRESS	URE - PSI	RATE	Bbl. FLUID	FLUID	SAFETY ME	ETING: BJ CREW X CO. REP. X
HR:MIN.	PIPE	ANNULUS	ВРМ	PUMPED	TYPE	TEST LINES	500C PSI
						CIRCULATIN	G WELL - RIG X BJ X
BUMPED	PSI TO BUMP	TEST FLOAT	BBL.CMT RETURNS/	TOTAL BBL.	PSI LEFT ON	SPOT TOP OUT	SERVICE SUPERVISOR SIGNATURE:
PLUG	PLUG	EQUIP.	REVERSED	PUMPED	CSG	CEMENT	
YN	4200	YN	0	1034	0	YN	

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Office of Oil & G



