## DW/

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

API <u>47</u> - <u>059</u> - <u>02244</u> County <u>MING</u>	O District LEE	
Quad _DELBARTON Pad Name		
Farm name_CAMBRA, SUSAN & FRANK		
Operator (as registered with the OOG)QUALITY NATU		
Address P.O. BOX 480 City A		Zip <u>41601</u>
As Drilled location NAD 83/UTM Attach an as-drille Top hole Northing		
Landing Point of Curve Northing		
Bottom Hole Northing		
Elevation (ft) 997.9 GL Type of Well	■New □ Existing Type of Report	□Interim
Permit Type   Deviated   Horizontal   Horizon	ntal 6A 📕 Vertical Depth Type	□ Deep ■ Shallow
Type of Operation □ Convert □ Deepen ■ Drill □	Plug Back   Redrilling   Rework	□ Stimulate
Well Type □ Brine Disposal □ CBM ■ Gas □ Oil □ Sec	condary Recovery	age 🗆 Other
Type of Completion □ Single ■ Multiple Fluids Produ  Drilled with □ Cable ■ Rotary	aced □ Brine ■Gas □ NGL □ Oil □	□ Other
Drilling Media Surface hole ■ Air □ Mud □Fresh Wa	ater Intermediate hole  Air  Mud	□ Fresh Water □ Brine
Production hole ■ Air □ Mud □ Fresh Water □ Brin	e	
Mud Type(s) and Additive(s) N/A	Office	egeived of Oil and Gas
	N	10V 0 2 2015
Date permit issued 4/24/2014 Date drilling community  Date completion activities began 9/8/2015	menced 7/14/2015 Date drill Ve	
Verbal plugging (Y/N) N Date permission grante	d Granted by	
Please note: Operator is required to submit a plugging applic		ıg
Freshwater depth(s) ftNONE ENCOUNTERED	Open mine(s) (Y/N) depths	N
Salt water depth(s) ft NONE ENCOUNTERED	Void(s) encountered (Y/N) depths	N
Coal depth(s) ft 132-135', 180-183'	Cavern(s) encountered (Y/N) depths	N
Is seed being mined in area (V/N)		

WR-35 Rev. 8/23/13									Page 2 of 4
API 47- <u>059</u>	- 02244	Farm na	me_CAMBR	RA, SUS	SAN & FRAN	IK Well nu	mber <u>222</u>	4	
CASING STRINGS	Hole Size	Casing Size	Depth	New Use			sket oth(s)		ent circulate (Y/N) le details below*
Conductor	17 1/2"	13 3/8"	42'	Ne	ew	LS			
Surface	12 1/4"	9 5/8"	277'	Ne	ew .	LS 79	9', 237'		Yes - 4 bbls
Coal									
Intermediate I	8 7/8"	7"	2242'	Ne	ew	LS	NONE	`	es - 11 bbls
Intermediate 2									
Intermediate 3									
Production	6 3/8"	4 1/2"	4255'	Ne	ew L	65		No	- 500' up in 7"
Tubing									•
Packer type and do	epth set				1	I			
CEMENT	Class/Type	Numbe		ınıy	Yield	Volume	Cemen		woc
DATA Conductor	of Cement Class A	of Sack	s wt (j	ppg)	( ft <sup>3</sup> /sks)	(ft. <sup>3</sup> .)	<u>Top (M</u>	D)	(hrs)
Surface	Class A	100	15	5	1.18	118	Surface		8
Coal	Class A	100	- 13	,,,,	1.10	110	Suriac	,6	
Intermediate 1	Class A	100, 10	60 15.6,	12.3	1.18, 1.84	118, 294.4	Surfac	<u>, </u>	8
Intermediate 2	Class A	100, 10	15.0,	12.3	1.10, 1.04	110, 254.4	Suriac		<u> </u>
Intermediate 3									
Production	Class A	150	13	6	1.90	285	500' up i	in 7"	8
Tubing	Oldoo / t	100	<del>-  </del>	,.0	1.00	200	, , , , , , , , , , , , , , , , , , ,		
Plug back pro	tion penetrated cedure	HARRELL SHALE		_ Plug	gers TD (ft) 125 back to (ft)				
Check all wire	line logs run	■ caliper ■ neutron	density resistivit		deviated/directi gamma ray		action perature	<b>≜</b> sonic	:
Well cored	Yes A No	□ Convention	onal □ Sid	lewall	W	ere cuttings co		Yes □	
	HE CENTRAL 70, 3086.90, 2920 10, 2753.	IZER PLACEMI 30 and 2586.30	ENT USED F	OR EAC	CH CASING S	TRING <u>4087.7</u>			
WAS WELL O	COMPLETED	AS SHOT HOLE	E □ Yes	B No	DETAILS				
WAS WELL	COMPLETED	OPEN HOLE?	□ Yes 🛔	No	DETAILS _				

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

WR-35 Rev. 8/23/13								Page <u>4</u> of <u>4</u>
API 47- 059	_ 02244	Farm	name_CAMBRA,	SUSAN & F	RANK	Well number	2224	
PRODUCING DEFENSION OF THE PRODUCING DEFENSION O	FORMATION(S		<u>DEPTHS</u> 3063-3136' 3136-4188'	_TVD _	11	MD		
Please insert ad	ditional pages a	s applicable.						
	□ Build up □		■ Open Flow	(	DIL TEST 🗆	Flow □ Pump	,	
	SSURE Surfa		psi Botto	m Hole	psi	DURATION (	OF TEST 96	hrs
OPEN FLOW	Gas	Oil	NGL		Water	GAS MEASU	JRED BY	□ Pilot
LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN F MD		ROCK TYPE AND LUID (FRESHWAT	access and a second second second	NTITYAND L, GAS, H <sub>2</sub> S, ETC)
SEE ATTACHED	0		0					
No. of the	JUBA -							1
250 100 3	100							
Please insert ac	  ditional pages a	s applicable.						
	actor MOUNTAIN	2.5	City	BARBOUR	VILLE	State KY	Zip _4090	6
Logging Comp	any WEATHERI	FORD						
Address			City	LONDON		State KY	Zip <u>4074</u>	1
Cementing Con Address 580 HA	mpany <u>C &amp; J EN</u> AWTHORN DR	ERGY SERVI	CES	NORTON		State VA	Zip 2427	3
Stimulating Co	ompany C&JE	ENERGY SERV	VIES .					
Address 580 HA	AWTHORN DR dditional pages a		City	NORTON		State VA	Zip _2427	3
						606 974 9044	Call SOS E44	2 1015
Completed by Signature	Darrell Fluharty		Title F	ield Superviso		606-874-8041 Date	10-30-2	2015
Signature			True	•		Date_		

API 47- 059 - 02244 Farm name CAMBRA, SUSAN & FRANK Well number 2224

## PERFORATION RECORD

Stage		Perforated from	Perforated to	Number of	
No.	Perforation date	MD ft.	MD ft.	Perforations	Formation(s)
1	9/8/2015	3955	4185	57	SHALE
2	9/14/2015	3065	3081	24	BEREA
	-				
		<del></del>		_	
-					
		,		-	
	-				
				<u> </u>	

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)
1	9/14/15	93	2890	3055	1410	NONE	NONE	SOGMSCHN2/12 bbj HCI
2	9/14/15	97	3103	3129	1371	NONE	QQ ME C	Nitrogen/other (units)  Stormscr NZ/12 bbj HCl  Stormscr NZ/12 bbj HCl
		•	·					ļ
							NU	V 0 2 2015
								epartment of nental Protection
							WVD	Protection
							Environn	neritar i rotos
			<u>.</u>					
	]					l		

Please insert additional pages as applicable.

API# 47-5902244

**WELL #2224** 

WELL #2224			API# 47-5902	<u> </u>	
			700	DOTTO! 4	DESCRIBE ROCK TYPE AND RECORD
	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H2S,
LITHOLOGY/ FORMATION	NAME TVD	TVD	MD	MD	ETC)
FILL	0	20			
SAND	20	90			
SAND/SHALE	90	132			
COAL	132	135			
SAND/SHALE	135	180			
COAL	180	183			
SAND	183	300			
SAND/SHALE	300	480			
SAND	480	510			
SAND/SHALE	510	750			
SAND	750	1050			
SAND/SHALE	1050	1140			
SAND	1140	1170			
SAND/SHALE	1170	1505			
SAND	1505	1670			
SAND/SHALE/RED ROCK	1670	1860			
RED ROCK/SHALE/SLATE	1860	2025			
SAND LIME	2025	2100			REGEIVED
RED ROCK/SAND/SLATE	2100	2153			Office of Oil and Gas
LITTLE LIME	2153	2235			NOV 0 2 2015
BIG LIME	2235	2470			MAA 0 % 5012
INJUN	2470	2530			WV Department of
WEIR	2530	3025			Environmental Protection
COFFEE SHALE	3025	3065			
BEREA	3065	3118			
BROWN SHALE	3118	3170			
GRAY SHALE	3170	3370			
BROWN SHALE	3370	3485			
GRAY SHALE	3485	3855			
BROWN SHALE	3855	4170			
HARRELL SHALE	4170	4296	,		<u>.</u>