

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

API 47-39-06348 W County KANAWHA District BIG SANDY
Quad CLENDENIN - 299 Pad Name _____ Field/Pool Name _____
Farm name DANIEL & LAURA BODKINS Well Number OSBORNE 2A
Operator (as registered with the OOG) RAVEN RIDGE ENERGY, LLC
Address 3230 PENNSYLVANIA AVENUE City CHARLESTON State WV Zip 25302

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing N/A Easting N/A
Landing Point of Curve Northing N/A Easting N/A
Bottom Hole Northing N/A Easting N/A

Elevation (ft) 846' 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)
SOAP

Date permit issued 12/28/2012 Date drilling commenced 3/25/2013 Date drilling ceased 3/30/2013
Date completion activities began 12/5/2013 Date completion activities ceased 12/30/2013
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 150' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,100 - 1,600 Void(s) encountered (Y/N) depths N
Coal depth(s) ft NONE OF RECORD Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) NO

Reviewed by:

API 47-39 - 06348 Farm name DANIEL & LAURA BODKINS Well number OSBORNE 2A

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	14 1/4"	13 3/8"	30'	NEW	J55 - 42LBS		YES - CEMENTED BY RIG
Surface	12 1/4"	9 5/8"	378'	NEW	LS - 17LBS	80'	YES
Coal							
Intermediate 1	8 3/4"	7"	1654'	NEW	J55 - 23LBS		YES
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	1988'	NEW	J55 - 10.5LBS		YES
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class I	10 - Cemented by Hand				Ground Level	8
Surface	Class I	150	15.6	1.18	31.6	Ground Level	8
Coal							
Intermediate 1	Class I	240	15.6	1.18	50.4	Ground Level	8
Intermediate 2							
Intermediate 3							
Production	Class I	150	14.2	1.29	34.5	Ground Level	8
Tubing							

Drillers TD (ft) ²⁰¹⁷ _____ Loggers TD (ft) ²⁰¹² _____
 Deepest formation penetrated WEIR Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

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 _____

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	6/27/2013	1816'	1822'	5	WEIR
2	6/27/2013	1832'	1836'	4	WEIR
3	6/27/2013	1838'	1858'	20	WEIR
4	6/27/2013	1860'	1880'	20	WEIR
5	6/27/2013	1886'	1891	PLUG	FRAC PLUG
6	6/27/2013	1896'	1916'	20	WEIR
7	6/27/2013	1926'	1946'	20	WEIR

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	7/22/13	29	2420	2375	1555	0	892	0
2	7/22/13	31	2996	3027	1627	0	750	0
3	12/12/13	28.8	2428	3052	1891	7500	962	0

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>
<u>WEIR</u>	<u>1816' - 1880'</u> TVD _____ MD _____
<u>WEIR</u>	<u>1896' - 1946'</u> _____
_____	_____
_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 50 psi Bottom Hole _____ psi DURATION OF TEST 12 hrs
 OPEN FLOW Gas 2 mcfpd Oil 1 bpd NGL _____ bpd Water 5 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 ₂ S, ETC)
SAND/SHALE	0	1270'	0		
UPPER SALT SANDS	1270'	1350'			
SHALE	1350'	1400'			
LOWER SALT SANDS	1400'	1520'			
SAND/SHALE	1520'	1566'			
LITTLE LIME	1566'	1606'			
BIG LIME	1606'	1704'			
INJUN	1704'	1714'			
SAND/SHALE	1714'	1800'			
WEIR	1800'	1948'			
SAND/SHALE	1948'	2017'			

Please insert additional pages as applicable.

Drilling Contractor Petty Oilfield Services
 Address 7752 Lynne Avenue City Hamlin State WV Zip 25523

Logging Company Weatherford (Cement Bond) - Nabors (Open Hole)
 Address 286 Weatherford Blvd / 82 Elkins Road City Buckhannon State WV Zip 26201

Cementing Company Allied Oil & Gas Services/Universal Well Services
 Address 100 Hope Street City Clarksburg State WV Zip 26301

Stimulating Company Producers Service Corporation
 Address 109 Graham Street City Zanesville State OH Zip 4370

Please insert additional pages as applicable.

Completed by Danielle N. Boggs Telephone 304-344-9291
 Signature Danielle N. Boggs Title Operations Manager Date 2/25/2015

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