

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

API 47-39-02777W County Kanawha District Union
Quad Pocatalico Pad Name _____ Field/Pool Name Braden
Farm name Braden, Richard W. Well Number #1
Operator (as registered with the OOG) Shale Gas Production, LLC
Address 929 Charleston Road City Spencer State WV Zip 25276

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 519577 NAD83 4253180 UTM NAD83 Easting 1757785 NAD83 0436407 UTM NAD83
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 798 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)

Date permit issued 05/19/2014 Date drilling commenced 5/16/17 Date drilling ceased 6/6/17 8/14/2014
Date completion activities began 9/24/2014 Date completion activities ceased 9/24/2014
Verbal plugging (Y/N) NO 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 30 FT Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1210 FT Void(s) encountered (Y/N) depths No
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

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Reviewed by:
R.F.

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12/19/2014

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CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor							
Surface	N/A	9 5/8"	292	Existing	H40	N/A	N/A CTS
Coal							
Intermediate 1	N/A	7"	2320	Existing	K55 20#	N/A	N/A 185 cuft
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	4115	New	11.6 #	2	
Tubing	N/A	2 3/8"	4275	Existing	J55 4.6 #	N/A	N/A
Packer type and depth set							

Comment Details clean out existing hole, cemented 4 1/2" production casing, and removed tubing from hole.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³) BBL	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	N/A	N/A	N/A	N/A	N/A	CTS	N/A
Coal							
Intermediate 1	N/A	N/A	N/A	N/A	N/A	CTS	N/A
Intermediate 2							
Intermediate 3							
Production	Strongite 250	150	12.3	2.41	58.0	727	24hrs
Tubing							

Drillers TD (ft) 4130 Loggers TD (ft) 4130
 Deepest formation penetrated Brown Shale 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 _____
9 5/8" N/A
7" N/A
4 1/2" 3 centralizers

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	9/24/2014	3714	4038	40	brown, gray, and brown shale
2	9/24/2014	3308	3680	35	soft, brown, and gray shale

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)	20% HCL Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	9/24/2014	50262 SCF	2504	2690	1291	N/A	875 gallons	1000826 SCF
2	9/24/2014	50880 SCF	2534	2640	1848	N/A	850 gallons	1001364 SCF

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Please insert additional pages as applicable.

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Table with columns: PRODUCING FORMATION(S), DEPTHS, and values: soft shale, brown shale, gray shale, brown shale, 3308, 3315, 3345, 3700, 3705, 3905, 3990, 4038, MD, gray shale, brown shale.

SHUT-IN PRESSURE Surface 420 psi Bottom Hole psi DURATION OF TEST 24 hrs
GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
OPEN FLOW Gas 94 mcfpd Oil bpd NGL bpd Water bpd GAS MEASURED BY Estimated Orifice Pilot

Table with columns: LITHOLOGY/FORMATION, TOP DEPTH IN FT, BOTTOM DEPTH IN FT, TOP DEPTH IN FT, BOTTOM DEPTH IN FT, DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H2S, ETC).

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Please insert additional pages as applicable. see attachment A for formation info

Drilling Contractor Kanawha Valley Drilling Address 929 Charleston Road City Spencer State WV Zip 25276

Logging Company Nabors Completion and Production Services Co Address 515 West Greens Road, Suite 100 City Houston State TX Zip 77067

Cementing Company Universal Well Services Address Rt 5 Hall Road City Buckhannon State WV Zip 26201

Stimulating Company Universal Well Services Address Rt 5 Hall Road City Buckhannon State WV Zip 26201

Completed by Ryan Fields Telephone 304-927-5033 Signature Ryan Fields Title office assistant Date 10/28/2014

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

Formation	TOP (TVD)	BOTTOM (TVD)	TOP (MD)	BOTTOM (MD)	Remarks
			0	0	
Top Soil	0	5	0	5	
Red Rock	5	15	5	15	
Sand	15	30	15	30	
Slate	30	295	30	295	30', water
Slate and Sand	295	365	295	365	
Sand	365	485	365	485	
Slate and Shale	485	1120	485	1120	
Salt Sand	1120	1485	1120	1485	1210', water
Slate	1485	1695	1485	1695	
Big Lime	1695	1830	1695	1830	
Big Injun	1830	1880	1830	1880	
Slate	1880	2285	1880	2285	
Berea	2285	2300	2285	2300	
Slate	2300	2789	2300	2789	
Soft Shale	2789	3315	2789	3315	
Brown Shale	3315	3345	3315	3345	
Grey Shale	3345	3700	3345	3700	
Brown Shale	3700	3905	3700	3905	
Grey Shale	3905	3990	3905	3990	
Brown Shale	3990	4050	3990	4050	
Grey Shale	4050	4190	4050	4190	
Brown Shale	4190	4220	4190	4220	
Grey Shale	4220	4307	4220	4307	

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