

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

API 47-095-02194 County Tyler District Centerville  
Quad Shirley Pad Name SHR Field/Pool Name N/A  
Farm name Noble Energy, Inc. Well Number SHR 3 CHS  
Operator (as registered with the OOG) Noble Energy, Inc.  
Address 1000 Noble Energy Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4362756.80 Easting 514373.59  
Landing Point of Curve Northing 4362589.65 Easting 514391.54  
Bottom Hole Northing 43660118.11 Easting 515338.10

Elevation (ft) 751 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)  
Synthetic Oil Based

Date permit issued 8/26/2014 Date drilling commenced 9/22/2014 Date drilling ceased 4/12/2015  
Date completion activities began Not completed Date completion activities ceased na  
Verbal plugging (Y/N) N Date permission granted NA Granted by NA

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

Freshwater depth(s) ft 342 Open mine(s) (Y/N) depths N  
Salt water depth(s) ft none noted for offsets Void(s) encountered (Y/N) depths N  
Coal depth(s) ft NA Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) No

**APPROVED**

NAME: Justin Superior  
DATE: 1/25/17

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Reviewed by:

WV Department of  
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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	24"	20"	40	New	H-40		
Surface	17 1/2"	13 3/8"	463.4	New	K-55		Y
Coal							
Intermediate 1	13 3/8"	9 5/8"	2189.9	New	HCK-55		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5 1/2"	15,361.1	New	P-110		Y
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Class A	431	15.6	1.18	508.58		8
Coal							
Intermediate 1	Class A	860	15.6	1.18	1014.8		8
Intermediate 2							
Intermediate 3							
Production	Class A	2240	14.50	1.26	2822.4		8
Tubing							

Drillers TD (ft) 15,381      Loggers TD (ft) 15,366  
 Deepest formation penetrated Marcellus      Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_  
 Kick off depth (ft) 5731

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 No centralizers used on conductor.  
4 Centralizers used on the Surface String 27 Centralizers on Intermediate String (Bow string centralizers on first two joints then every third joint to 100' from surface).  
 265 Centralizers on Production String (rigid bow string every joint to KOP, rigid bow spring every third joint from KOP to top of cement).

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WAS WELL COMPLETED AS SHOT HOLE     Yes     No      DETAILS \_\_\_\_\_  
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WAS WELL COMPLETED OPEN HOLE?     Yes     No      DETAILS \_\_\_\_\_  
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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)
	well not complete				Well not complete No data available

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)
								Well not complete no data available

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)

DEPTHS

Marcellus 6339 TVD 15381 MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas \_\_\_\_\_ Oil \_\_\_\_\_ NGL \_\_\_\_\_ Water \_\_\_\_\_  
mcfpd bpd bpd bpd  
GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		

Please insert additional pages as applicable.

Drilling Contractor Precision Drilling Company  
Address 5400 D big Tyler road City Charleston State WV Zip 25313

Logging Company Baker Hughes  
Address 400 Technology Drive City Canonsburg State PA Zip 15317

Cementing Company Schlumberger  
Address 4600 J. Barry Ct., Suite 200 City Canonsburg State PA Zip 15317

Stimulating Company \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please insert additional pages as applicable.

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Completed by Regina Logue Telephone 724-820-3559  
Signature Regina Logue Title Regulatory Analyst Date 1/17/17

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

**SHR 3 CHS**

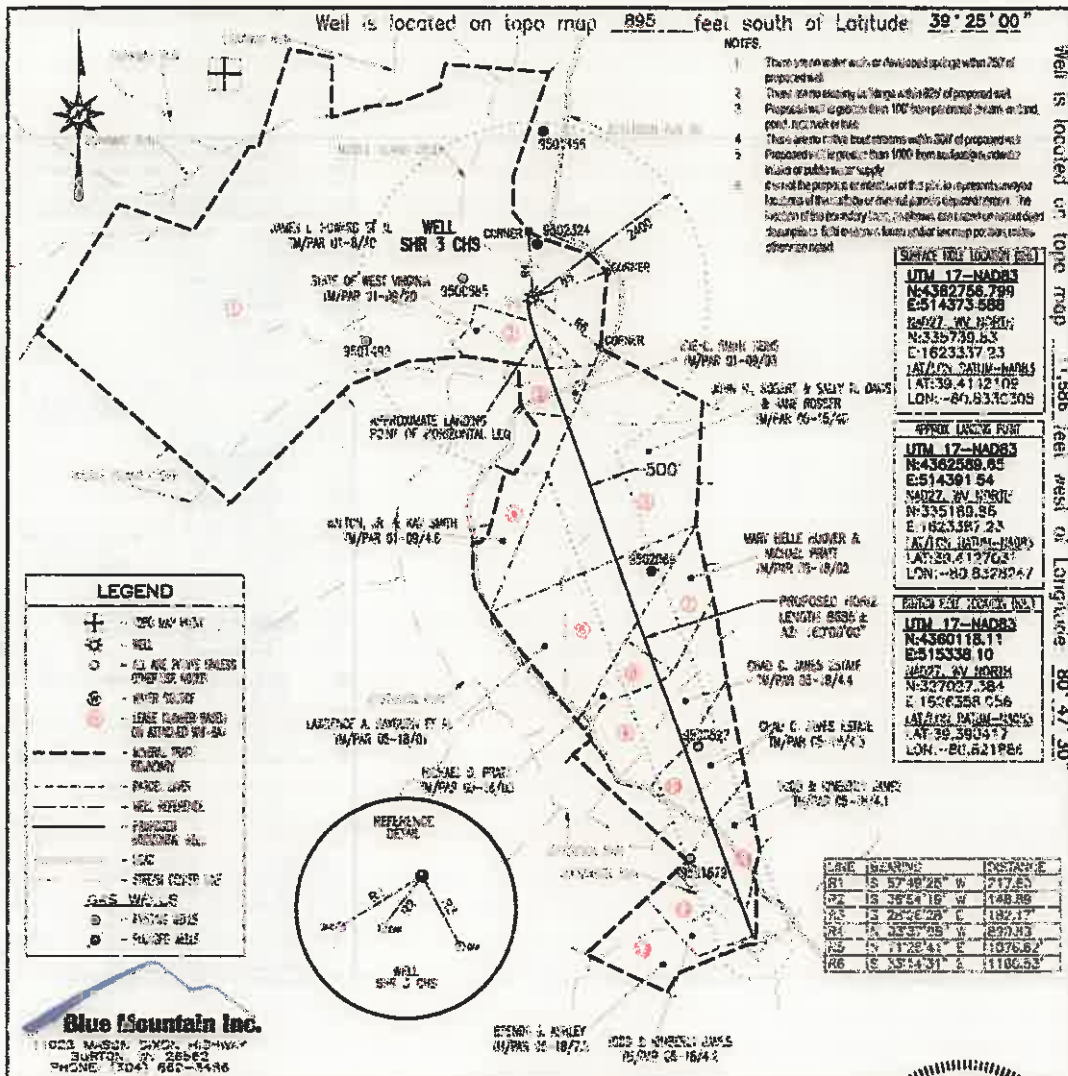
<b>Formations</b>	<b>Top</b>	<b>Base</b>
Shale	0	766
Pittsburgh Coal	766	775
Shale and Sandstone	775	1222
Dunkard Sand	1222	1233
Shale	1233	1404
Gas Sand	1404	1443
Shale	1443	1535
1st Salt Sand	1535	1559
Shale	1559	1568
2nd Salt Sand	1568	1613
Shale	1613	1696
Maxton Sand	1696	1708
Shale	1708	1751
Big Lime	1751	1831
Big Injun	1831	2025
Price	2025	2383
Murrysville	2383	2397
Shale	2397	2594
50' Sand	2594	2596
Shale	2596	2649
30' Sand	2649	2658
Shale	2658	2700
Gordon Stray	2700	2715
Shale	2715	2751
Gordon	2751	2764
Shale	2764	2860
Fifth Sand	2860	2894
Shale	2894	3300
Speechley Sand	3300	3328
Shale	3328	4336
Warren Sand	4336	4345
Shale	4345	5003
Java Shale	5003	5174
Pipe Creek Shale	5174	5231
Angola Shale	5231	5856
Rhinestreet	5856	6272
Cashaqua	6272	6363
Middlesex	6363	6396
West River	6396	6440
Burkett	6440	6472
Tully Limestone	6472	6503
Hamilton	6503	6614
Marcellus	6614	6664
Onondaga	6664	6667

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**01/27/2017**



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

FILE # SHR 3 CHS  
DRAWING # SHR 3 CHS  
SCALE: 1" = 200'  
MINIMUM DEGREE OF ACCURACY: 1/2500  
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1495.61'

Signed: [Signature]  
R.P.E.: L.L.S. P.S. No. 2000

**GEORGE D. SIX**  
LICENSED  
No. 2000  
STATE OF WEST VIRGINIA  
PROFESSIONAL SURVEYOR

PLACE SEAL HERE

DATE: JUNE 10, 2014  
OPERATOR'S WELL #: SHR 3 CHS  
API WELL #: 47 95  
STATE: WV COUNTY: CLAY PERMIT: 02 0000

WATERSHED: HEADWATERS MOBLE ISLAND CREEK ELEVATION: 750±  
COUNTY/DISTRICT: TYLER / CENTERVILLE QUADRANGLE: SHRLEY, WY 75'  
SURFACE OWNER: Noble Energy, Inc. ACREAGE: 342.81±  
OIL & GAS ROYALTY OWNER: SEE ATTACHED W7-6A ACREAGE: 1608.44±

WELL TYPE:  Oil  Waste Disposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY):

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TWB: 6,350± TWB: 15,450±

WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVEN M. GREEN  
Address: 333 TECHNOLOGY DRIVE, SUITE 116 Address: 500 VIRGINIA STREET EAST, UNITED CENTER STATE 590  
City: CANDLERBURG State: PA Zip Code: 15317 City: CHARLESTON State: WV Zip Code: 25301

01/27/2017