

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

API 47 - 095 - 02198 County Tyler District Centerville
Quad Shirley Pad Name SHR Field/Pool Name N/A
Farm name Noble Energy, Inc. Well Number SHR 3 GHS
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 4362751.64 Easting 514360.98
Landing Point of Curve Northing 4362591.24 Easting 514096.52
Bottom Hole Northing 4360018.39 Easting 515081.89

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 9/24/2014 Date drilling ceased 3/20/2015
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

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Freshwater depth(s) ft 342 Open mine(s) (Y/N) depths JAN 17 2017
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 WV Department of Environmental Protection
Is coal being mined in area (Y/N) No

APPROVED

NAME: [Signature]
DATE: 1/25/17

01/27/2017

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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				
Surface	17 1/2"	13 3/8"	467.1	New	J-55		Y
Coal							
Intermediate 1	13 3/8"	9 5/8"	2176.4	New	K-55		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5 1/2"	15,889.0	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Class A	431	15.6	1.18	508.6		8
Coal							
Intermediate 1	Class A	850	15.6	1.18	1003.0		8
Intermediate 2							
Intermediate 3							
Production	Class A	2240	14.50	1.26	2822.4	1628.0	8
Tubing							

Drillers TD (ft) 15,916 Loggers TD (ft) 15,891
 Deepest formation penetrated Marcellus Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) 5141

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.
5 Centralizers used on the Surface String 28 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).

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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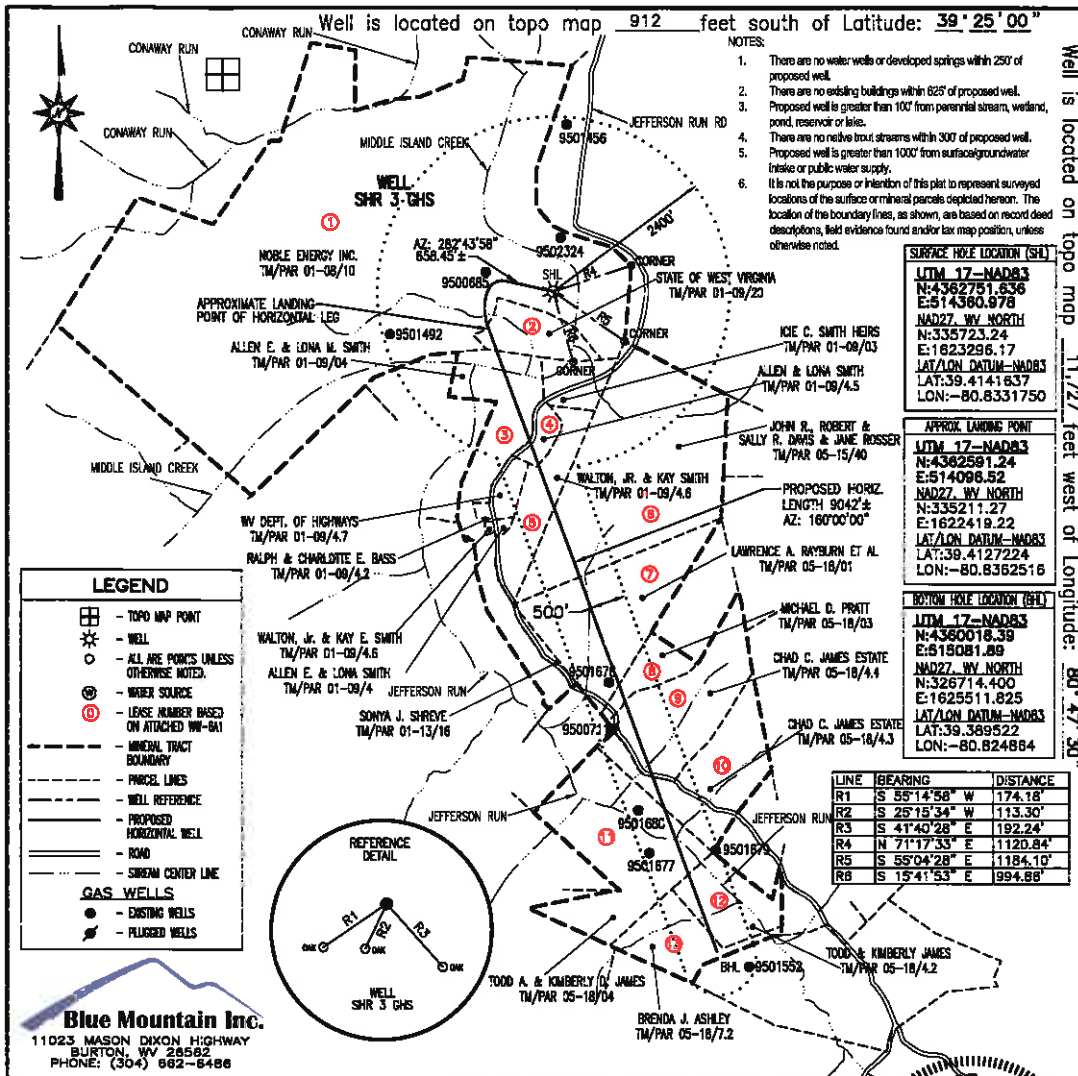
SHR 3 GHS Formations	Top	Base
Shale	0	766
Pittsburgh Coal	766	775
Shale and Sandstone	775	1222
Dunkard Sand	1222	1233
Shale	1233	1404
Gas Sand	1404	1443
Shale	1443	1535
1st Salt Sand	1535	1559
Shale	1559	1568
2nd Salt Sand	1568	1613
Shale	1613	1696
Maxton Sand	1696	1708
Shale	1708	1751
Big Lime	1751	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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FILE #: SHR 3 GHS

DRAWING #: SHR 3 GHS

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY: 1/2500

PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.8'

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.

Signed: *George D. Six*

R.P.E.: _____ L.L.S.: P.S. No. 2000

DATE: JUNE 12, 2014

OPERATOR'S WELL #: SHR 3 GHS

API WELL #: 47 95

STATE COUNTY PERMIT

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

WATERSHED: HEADWATERS MIDDLE ISLAND CREEK ELEVATION: 751 ±

COUNTY/DISTRICT: TYLER / CENTERVILLE QUADRANGLE: SHIRLEY, WV 7.5'

SURFACE OWNER: NOBLE ENERGY INC. ACREAGE: 542.81 ±

OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-8A1 ACREAGE: 1113.2 ±

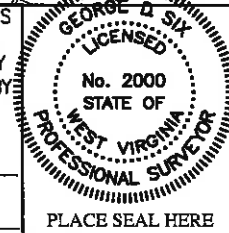
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,359' ± TMD: 16,135' ±

WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVEN M. WY

Address: 333 TECHNOLOGY DRIVE, SUITE 116 Address: 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 116

City: CANONSBURG State: PA Zip Code: 15317 City: CHARLESTON State: WV Zip Code: 25301



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