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

API 47-095-02110 County Tyler District Centerville
Quad Shirley Pad Name SHR 1 Field/Pool Name _____
Farm name Noble Energy, Inc35.46705924 Well Number SHR 1BHS
Operator (as registered with the OOG) Noble Energy, Inc
Address 333 Technology Drive Suite 110 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 4362816.01 Easting 513240.98
Landing Point of Curve Northing 4362428.08 Easting 512591.51
Bottom Hole Northing 4360042.76 Easting 513506.84

Elevation (ft) 1013.30' 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 5/22/2013 Date drilling commenced 9/5/2013 Date drilling ceased 2/28/2014
Date completion activities began 4/10/2014 Date completion activities ceased 7/10/2014
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

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

Freshwater depth(s) ft 321', 351', 599' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1501' Void(s) encountered (Y/N) depths N
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

RECEIVED
Office of Oil and Gas

Reviewed by: _____

SEP 15 2014

10/03/2014

API 47-095 - 02110 Farm name Noble Energy, Inc35.46705924 Well number SHR 1BHS

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	120	N	J-55 133#		
Surface	17-1/2	13-3/8	718	N	J-55 54.5#		Y
Coal							
Intermediate 1	12-3/8	9-5/8	2418	N	J-55 36#		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4	5-1/2	15998	N	P-110 20#		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	Type 1	610	15.6	1.2	130	0	8
Coal							
Intermediate 1	Class A	934	15.6	1.2	197	0	8
Intermediate 2							
Intermediate 3							
Production	Class A	2025	14.8	1.41	508	0	8-3/4
Tubing							

Drillers TD (ft) ¹⁶⁰³¹ _____ Loggers TD (ft) _____
 Deepest formation penetrated Marcellus Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) ⁶⁵³⁷ _____

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 Surface: 6 Centralizers, On every 3 joints of casing;
 Intermediate: 38 Centralizers, On every 3 joints of casing, Production: 275 Centralizers, On every 3rd joint of casing from surface to Top of Curve, then every joint to TD

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 _____

API 47- 095 - 02110 Farm name Noble Energy, Inc35.46705924 Well number SHR 1BHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
		Please See Attached			

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)
			Please See Attached					

Please insert additional pages as applicable.

PERFORMANCE RECORD

API: 47-095-02110

Farm name: Noble Energy, Inc

Well Name: SHR 1B-HS

Stage No.	Perf Date	Top Perf	Bottom Perf	# of Perfs	Formation
Toe Sleeve	3/26/2014	15868	15870	0	Marcellus
1	4/9/2014	15596	15848	48	Marcellus
2	4/10/2014	15285	15535	40	Marcellus
3	4/12/2014	14985	15235	40	Marcellus
4	4/13/2014	14685	14935	40	Marcellus
5	4/14/2014	14385	14635	40	Marcellus
6	4/15/2014	14085	14335	40	Marcellus
7	4/17/2014	13785	14035	40	Marcellus
8	4/17/2014	13485	13735	40	Marcellus
9	4/19/2014	13185	13435	40	Marcellus
10	4/20/2014	12885	13135	40	Marcellus
11	4/20/2014	12585	12835	40	Marcellus
12	4/22/2014	12285	12535	40	Marcellus
13	4/22/2014	11985	12235	40	Marcellus
14	4/23/2014	11685	11935	40	Marcellus
15	4/24/2014	11385	11635	40	Marcellus
16	4/24/2014	11085	11335	40	Marcellus
17	4/25/2014	10785	11035	40	Marcellus
18	4/25/2014	10485	10735	40	Marcellus
19	4/26/2014	10185	10435	40	Marcellus
20	4/26/2014	9885	10135	40	Marcellus
21	4/27/2014	9585	9835	40	Marcellus
22	4/27/2014	9285	9535	40	Marcellus
23	4/28/2014	8985	9235	40	Marcellus
24	4/28/2014	8685	8935	40	Marcellus
25	4/28/2014	8385	8635	40	Marcellus
26	4/29/2014	8085	8335	48	Marcellus
27	4/30/2014	7785	8035	40	Marcellus
28	4/30/2014	7485	7735	40	Marcellus

API 47- 095 - 02110 Farm name Noble Energy, Inc35.46705924 Well number SHR 1BHS

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6554.5'</u> TVD	<u>16031'</u> 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 _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ 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 ₂ 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 Precisions Drilling Rig #542
 Address 10350 Richmond Ave City Houston State TX Zip 77042

Logging Company Diversified Well Logging
 Address 440 Pennsylvania 519 City Eighty Four State PA Zip 15330

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

Stimulating Company FTS International
 Address 6000 Town Center Boulevard, Suite 120 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Regina Logue Telephone 724-820-3559
 Signature Regina Logue Title Regulatory Analyst Date 9/11/14

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

SHR 1B

47-095-02110

Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale	0	1205	0	1205	
Shale and Sandstone	1205	1928	1205	1928	
Big Lime	1928	2056	1928	2056	
Big Injun	2056	2163	2056	2163	
Price	2163	2314	2163	3509	
Weir	2314	2418	2314	2418	
Shale	2418	2505	2418	2505	
Berea	2505	2513	2505	2513	
Shale	2513	2694	2513	2695	
Sandstone	2694	2796	2695	2798	
Shale	2796	2932	2798	2937	
Sandstone	2932	2950	2937	2955	
Shale	2950	3424	2955	3457	
Warren	3424	3470	3457	3509	
Shale and Sandstone	3470	3822	3509	3931	
Lower Huron	3822	4580	3931	4875	
Sandstone	4580	4618	4875	4922	
Shale	4618	4812	4922	5167	
Sandstone	4812	4868	5167	5236	
Shale	4868	4992	5236	5391	
Benson	4992	5036	5391	5447	
Shale	5036	5236	5447	5697	
Alexander	5236	5294	5697	5767	
Shale	5294	6235	5767	6923	
Cashaqua	6235	6346	6923	7079	
Middlesex	6346	6380	7079	7133	
West River	6380	6448	7133	7261	
Burkett	6448	6482	7261	7351	
Tully	6482	6485	7351	7361	
Hamilton	6485	6502	7361	7423	
Marcellus	6502	6566	7423	not encountered	Gas
Onondaga	6566	6573	not encountered	not encountered	
Huntersville	6573	not encountered	not encountered	not encountered	

10/03/2014

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/10/2014
Job End Date:	4/30/2014
State:	West Virginia
County:	Tyler
API Number:	47-095-02110-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	SHR 1B
Longitude:	-80.84635700
Latitude:	39.41468100
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,554
Total Base Water Volume (gal):	11,386,867
Total Base Non Water Volume:	0



95-02110

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Operator	Carrier	Water	7732-18-5	100.00000	86.49478	
40/70 White	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	10.09690	
100 Mesh Sand	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	2.55042	
Hydrochloric Acid (HCl)	FTSI	Acid	Water	7732-18-5	92.50000	0.65744	
			Hydrogen Chloride	7647-01-0	7.50000	0.05331	
FRW-600	FTSI	Friction Reducer	Acrylamide Polymer	Trade Secret	75.00000	0.04311	
			Hydrotreated light distillate	64742-47-8	20.00000	0.01150	
			Ammonium acetate	631-61-8	5.00000	0.00287	
CS-500 SI	FTSI	Scale inhibitor	Water	7732-18-5	55.00000	0.02597	
			Acrylic Polymer	Proprietary	24.00000	0.01133	
			Ethylene glycol	107-21-1	10.00000	0.00472	
			Sodium chloride	7647-14-5	6.00000	0.00283	
			Sodium Polyacrylate	9003-04-7	5.00000	0.00236	

CI-3240	FTSI	Biocide				
			Water	7732-18-5	53.00000	0.02030
			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione.	533-74-4	24.00000	0.00919
			Sodium Hydroxide	1310-73-2	23.00000	0.00881
FE-100L	FTSI	Iron control				
			Citric acid	77-92-9	55.00000	0.00124
			Water	7732-18-5	45.00000	0.00101
CI-150	FTSI	Acid Corrosion Inhibitor				
			Isopropanol	67-63-0	24.70000	0.00031
			Organic amine resin salt	Proprietary	24.00000	0.00030
			Ethylene Glycol	107-21-1	20.00000	0.00025
			Alkylene Oxide Block Polymer	Proprietary	10.00000	0.00013
			Water	7732-18-5	5.00000	0.00006
			Quaternary ammonium compound	Proprietary	5.00000	0.00006
			Aromatic aldehyde	Proprietary	5.00000	0.00006
			Dimethylformamide	68-12-2	5.00000	0.00006
			Diethylene glycol	111-46-6	1.00000	0.00001
			Fatty Acid Salt	Proprietary	0.10000	0.00000
			Fatty Acid	Proprietary	0.10000	0.00000
			Aliphatic alcohol	Proprietary	0.10000	0.00000
NE-100	FTSI	Non-emulsifier				
			Water	7732-18-5	71.50000	0.00045
			2-Butoxyethanol	111-76-2	10.00000	0.00006
			2-Propanol	67-63-0	10.00000	0.00006
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00003
			Unsulphonated Matter	Proprietary	1.00000	0.00001
			Benzene, C10-16 Alkyl Derivatives	68648-87-3	1.00000	0.00001
			Sulfur Dioxide	7446-09-5	1.00000	0.00001
			Sulfuric Acid	7664-93-9	0.50000	0.00000

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

95-02110

SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
 N:4362816.011
 E:513240.980
NAD27, WV NORTH
 N:335995.777
 E:1619624.056

Well is located on topo map 726' feet south of Latitude: 39° 25' 00"

APPROX. EXISTING POINT
 UTM 17-NAD83
 N:4362428.09
 E:512591.51
NAD27, WV NORTH
 N:334358.41
 E:1617471.60

SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
 N:4362816.01
 E:513240.98
NAD27, WV NORTH
 N:335995.777
 E:1619624.056

LEGEND

- TOPO MAP POINT
- PROPOSED GAS WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- WATER SOURCE
- SURFACE BOUNDARY
- LEASE BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE
- AS DRILLED

WELLS WITHIN 3000'

- EXISTING WELLS
- PLUGGED WELLS



TRACT	LESSOR
1	DAVID L. MAPLE, ET AL
2	CARL W. ASH, ET AL
3	BLACKROCK ENTERPRISES, LLC
4	CARL W. ASH, ET AL
5	PETER D. JARRETT, ET AL
6	CRAIG UNDERWOOD, ET AL
7	ROBERT HOWARD SMITH, ET AL
8	DONNA HISSOM, ET AL
9	LARESSA D. FARRELL, ET AL
10	LARESSA D. FARRELL, ET AL

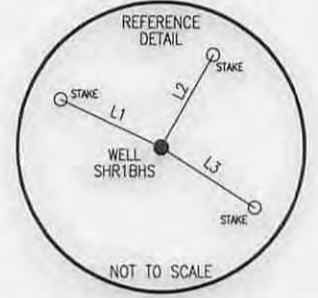
Blue Mountain Inc.
 11023 MASON DIXON HIGHWAY
 BURTON, WV 26562
 PHONE: (304) 662-6486

BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
 N:4360041.99
 E:513505.33
NAD27, WV NORTH
 N:326878.32
 E:1620339.60

BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
 N:4360042.76
 E:513506.84
NAD27, WV NORTH
 N:326880.760
 E:1620344.610

NOTES:

- There are no water wells or developed springs within 250' of proposed well.
- There are no existing buildings within 625' of proposed well.
- Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
- There are no native trout streams within 300' of proposed well.
- Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
- It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

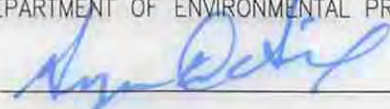


LINE	BEARING	DISTANCE
L1	S 64°57'14" E	231.67'
L2	S 29°40'35" W	218.73'
L3	N 57°13'36" W	231.62'

Well is located on topo map 3,634' feet west of Longitude: 80° 50' 00"

FILE #: SHR1BHS-AS DRILLED
 DRAWING #: SHR1BHS-AS DRILLED
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304



DATE: AUGUST 26, 2014
 OPERATOR'S WELL #: SHR1BHS-AS DRILLED
 API WELL #: 47 95 02110H6A
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: MIDDLE ISLAND CREEK ELEVATION: 1010.07'

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

SURFACE OWNER: NOBLE ENERGY, INC. ACREAGE: 580.207±

OIL & GAS ROYALTY OWNER: SEE TABLE IN DRAWING ACREAGE: 1046.806±

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: TVD: 6,621'± TMD: 16,186'±

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

10/03/2014