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west virginia department of environmental protection

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Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

## PERMIT MODIFICATION APPROVAL

October 23, 2013

NOBLE ENERGY, INC.  
333 TECHNOLOGY DRIVE, SUITE 110  
CANONSBURG, PA 15317

Re: Permit Modification Approval for API Number 5101639 , Well #: SHL 13BHS

**Casing Extended**

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

for  
Gene Smith

Regulatory/Compliance Manager  
Office of Oil and Gas



July 25, 2013

West Virginia Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345


Re: SHL 13 API# 47-5101638 – 47-05101639 -47-05101655 – 47-05101640-47-05101641  
47-05101642- 47-05101643

Dear Laura:

Enclosed please find modifications to the casing string for the above referenced well. We would like to extend the 13 3/8" to 1200' if order to try and avoid red rock issues. This change has been approved by the state inspector. This well is located in Marshall County, WV.

Should you have any questions, or desire any additional information, please do not hesitate to contact me at 724-820-3061 or via email at [dswiger@nobleenergyinc.com](mailto:dswiger@nobleenergyinc.com).

Sincerely,



Dee Swiger

Regulatory Analyst

DS/

Enclosures:

Received

JUL 29 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

Received

JUL 29 013

Office of Oil and Gas  
WV Dept. of Environmental Protection

10/25/2013

MOD

20)

**CASING AND TUBING PROGRAM**

SHL13 BHS

47-051-01639

<u>TYPE</u>	<u>Size</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft.</u>	<u>FOOTAGE: For Drilling</u>	<u>INTERVALS: Left in Well</u>	<u>CEMENT: Fill -up (Cu. Ft.)</u>
Conductor	30"	N	J55	94.0	40'	40'	CTS
Fresh Water	20"	N	J55	94.0	400'	400'	CTS
Coal	13 3/8"	N	J55	54.5	1200'	1200'	CTS
Intermediate	9 5/8"	N	J55	36.0	3218'	3218'	CTS
Production	5 1/2"	N	P110	20.0	13620'	13620'	TOC 200' above 9.625" shoe
Tubing							
Liners							

*WPH*  
7-25-13

<u>TYPE</u>	<u>Size</u>	<u>Wellbore Diameter</u>	<u>Wall Thickness</u>	<u>Burst Pressure</u>	<u>Cement Type</u>	<u>Cement Yield</u>
Conductor	30"	36"	.25		Type 1	CTS
Fresh Water	20"	26"	.438	2730	Type 1	1.18
Coal	13 3/8"	17 1/2"	.380	2730	Type 1	1.18
Intermediate	9 5/8"	12 3/8"	.352	3520	Class A	1.19
Production	5 1/2"	8 3/4"	.361	12640	Class A	1.27
Tubing						
Liners						

**PACKERS**

Kind:				<b>Received</b>
Sizes:				JUL 29 2013
Depths Set:				

**Received**

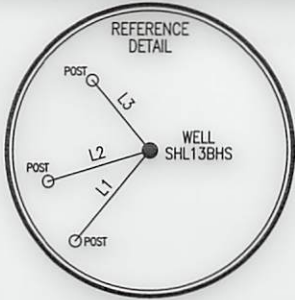
Office of Oil and Gas  
WV Dept. of Environmental Protection

JUL 29 2013



Well is located on topo map 13,683' feet south of Latitude: 40° 02' 30"

Well is located on topo map 10,019' feet west of Longitude: 80° 30' 00"



SURFACE HOLE LOCATION (SHL)	APPROX. LANDING POINT	BOTTOM HOLE LOCATION (BHL)
<b>UTM 17-NAD83</b> N:4428321.88 E:539642.81	<b>UTM 17-NAD83</b> N:4428313.46 E:539408.86	<b>UTM 17-NAD83</b> N:4429880.49 E:538272.02
NAD27, WV NORTH N:549502.43 E:1709845.75	NAD27, WV NORTH N:549487.67 E:1709077.58	NAD27, WV NORTH N:554692.36 E:1705433.22

LINE	BEARING	DISTANCE
L1	S 39°46'05" W	252.77'
L2	S 73°05'50" W	231.48'
L3	N 40°06'24" W	195.94'

NOTES:

1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 625' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. 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.

**LEGEND**

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- WATER SOURCE
- LEASE NUMBER BASED ON ATTACHED WW-6A1
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE
- WELLS WITHIN 3000'**
- EXISTING WELLS
- PLUGGED WELLS



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

FILE #: SHL13BHS  
 DRAWING #: SHL13BHS  
 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

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP

OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304

DATE: APRIL 17, 2013

OPERATOR'S WELL #: SHL13BHS

API WELL #: 47 51 1639 H6A  
STATE COUNTY PERMIT

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

WATERSHED: TURKEY RUN ELEVATION: 1288.91'

COUNTY/DISTRICT: MARSHALL / SAND HILL QUADRANGLE: VALLEY GROVE, WV 7.5'

SURFACE OWNER: PAUL H. & ANNETTE A. HEMSLEY ACREAGE: 121.65±

OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-6A1 ACREAGE: 386.088±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6781± TMD: 13620±

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

10/25/2013