



---

west virginia department of environmental protection

---

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

June 12, 2013

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

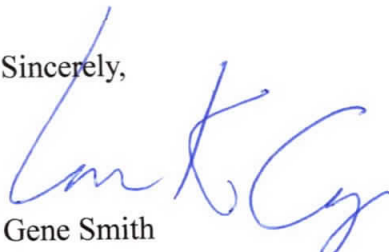
Re: Permit Modification Approval for API Number 5101628 , Well #: MNDS9EHS  
**extended surface casing and shortened intermediate casing**

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



---

west virginia department of environmental protection

---

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

June 12, 2013

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

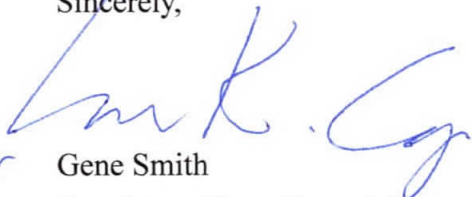
Re: Permit Modification Approval for API Number 5101628 , Well #: MNDS9EHS  
**shortened intermediate casing**

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



Dee Swiger  
Regulatory Analyst

June 10, 2013  
West Virginia Department of Environmental Protection  
Office of Oil and Gas,  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Re: Drilling Permit Modifications – Well “MNDS9BHS / MNDS9CHS / MND9DHS/ MNDS9EHS /MNDS9FHS”

Dear Gene and Bill,

Gene per our conversation this morning, Please find modification for the above listed permits. We would like to extend the surface casing to 1200' on each well and the intermediate casing to 2500' or 100' below the Big Injuin. These wells are located in Marshall County, WV.

If any further information or correspondence is required, please contact me at Office (724)820-3061 Cell 412-310-8967 or [Dswiger@nobleenergyinc.com](mailto:Dswiger@nobleenergyinc.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Dee Swiger', written over the printed name.

Dee Swiger

DS/

Enclosure(s):

AP # 47-51-01628

20)

**CASING AND TUBING PROGRAM**

LKC  
6-12-13

| <u>TYPE</u>  | <u>Size</u> | <u>New<br/>or<br/>Used</u> | <u>Grade</u> | <u>Weight per<br/>ft.</u> | <u>FOOTAGE:<br/>For Drilling</u> | <u>INTERVALS:<br/>Left in Well</u> | <u>CEMENT:<br/>Fill -up (Cu. Ft.)</u>          |
|--------------|-------------|----------------------------|--------------|---------------------------|----------------------------------|------------------------------------|--|
| Conductor    | 20"         | N                          | LS           | 52                        | 40'                              | 40'                                | CTS / 15.6 ppg Yield 1.2                       |
| Fresh Water  | 13 3/8"     | N                          | J55          | 54.5                      | 1200'                            | 1200'                              | CTS / 15.6 ppg Yield 1.2                       |
| Coal         | 13 3/8"     | N                          | J55          | 54.5                      | 1200'                            | 1200'                              | CTS / 15.6 ppg Yield 1.2                       |
| Intermediate | 9 5/8"      | N                          | J55          | 36.0                      | 2500' or 100' below Big Injain   | 2500' or 100' below Big Injain     | CTS / 15.6 ppg Yield 1.19                      |
| Production   | 5 1/2"      | N                          | P110         | 20.0                      | 15971'                           | 15971'                             | 14.8 ppg yield 1.27 TOC 200' above 9 5/8" shoe |
| Tubing       |             |                            |              |                           |                                  |                                    |  |
| Liners       |             |                            |              |                           |                                  |                                    |  |

We would like to drill through all the freshwater and coal bearing zones before running casing. we plan to drill no more than 100' below the deepest freshwater and/or coal bearing zone(s) and run casing which will be circulated with cement to the surface.

| <u>TYPE</u>  | <u>Size</u> | <u>Wellbore<br/>Diameter</u> | <u>Wall<br/>Thickness</u> | <u>Burst<br/>Pressure</u> | <u>Cement<br/>Type</u> | <u>Cement Yield</u> |
|--------------|-------------|------------------------------|---------------------------|---------------------------|------------------------|---------------------|
| Conductor    | 20"         | 26"                          | .5                        |                           | Type 1                 | 1.2                 |
| Fresh Water  | 13 3/8"     | 17 1/2"                      | .380                      | 2730                      | Type 1                 | 1.2                 |
| Coal         | 13 3/8"     | 17 1/2"                      | .380                      | 2730                      | Type 1                 | 1.2                 |
| Intermediate | 9 5/8"      | 12 3/8"                      | .352                      | 3520                      | Class A                | 1.19                |
| Production   | 5 1/2"      | 8 3/4" & 8 1/2"              | .361                      | 12,630                    | Class A                | 1.27                |
| Tubing       |             |                              |                           |                           |                        |                     |
| Liners       |             |                              |                           |                           |                        |                     |

**PACKERS**

|             |  |  |  |  |
|-------------|--|--|--|--|
| Kind:       |  |  |  |  |
| Sizes:      |  |  |  |  |
| Depths Set: |  |  |  |  |

Received

JUN 12 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection