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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

August 20, 2014

NOBLE ENERGY, INC.  
333 TECHNOLOGY DRIVE, SUITE 116  
CANONSBURG, PA 15317

Re: Permit Modification Approval for API Number 5101763 , Well #: MND 6 FHS

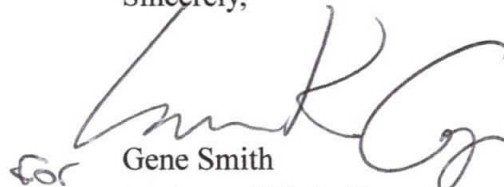
Added 16" casing

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,

  
Gene Smith  
Assistant Chief of Permitting  
Office of Oil and Gas

51-01763MOD



Office of Oil & Gas  
601 57<sup>th</sup> street, SE  
Charleston, WV 25304-2345

August 14, 2014

Re: Casing Program Modification MND 6 Wells

To Office of Oil and Gas:

Enclosed please find a request to modify the casing programs adding a second conductor string due to hitting an unexpected layer of River Pebble for the Following wells:

MND 6 AHS API# 47-051-01746  
MND 6 BHS API# 47-051-01744  
MND 6 CHS API# 47-051-01745  
MND 6 DHS API # 47-051-01762  
MND 6 EHS API # 47-051-01761  
MND 6 FHS API # 47-051-01763  
MND 6 MHS API # 47-051-01765

Office of Oil and Gas Inspector, Jim Nicholson has given verbal approval and signed the revised WW-6B.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Dee Swiger', written over a light blue circular stamp.

Dee Swiger  
Regulatory Analyst III

DS/  
Enclosures:

RECEIVED  
Office of Oil and Gas

AUG 18 2014

WV Department of  
Environmental Protection

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: Noble Energy, Inc.

|                  |                 |                 |                       |
|------------------|-----------------|-----------------|-----------------------|
| <u>494501907</u> | <u>Marshall</u> | <u>Franklin</u> | <u>Powhatan Point</u> |
|------------------|-----------------|-----------------|-----------------------|

  
Operator ID County District Quadrangle

2) Operator's Well Number: MND 6 FHS Well Pad Name: MND 6

3) Farm Name/Surface Owner: Consolidation Coal Company Public Road Access: CR 7/4-Fish Creek Rd

4) Elevation, current ground: 722' Elevation, proposed post-construction: 721'

5) Well Type (a) Gas  Oil  Underground Storage   
Other

(b) If Gas Shallow  Deep   
Horizontal

*John 4/29/14*

6) Existing Pad: Yes or No No-but has been permitted

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):  
Marcellus at 5895' and 55' in thickness. Anticipated pressure at 3927#.

8) Proposed Total Vertical Depth: 5940'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14,859'

11) Proposed Horizontal Leg Length: 10,044'

12) Approximate Fresh Water Strata Depths: 128' and 265'

13) Method to Determine Fresh Water Depths: Offset well data

14) Approximate Saltwater Depths: None noted in offsets

15) Approximate Coal Seam Depths: 284' to 294'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated, drilling in pillar-mine maps attached

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes  No

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**MAY 08 2014**  
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**Environmental Protection**

(a) If Yes, provide Mine Info: Name: 1082' to nearest active mining  
Depth: Base at 294' at deepest point  
Seam: Pittsburgh  
Owner: Murray American Energy (Previously Consol)

JIN 8/13/14

18)

**CASING AND TUBING PROGRAM**

APL 97-051-01763

| <b>TYPE</b>  | <b>Size</b> | <b>New or Used</b> | <b>Grade</b> | <b>Weight per ft. (lb/ft)</b> | <b>FOOTAGE: For Drilling</b> | <b>INTERVALS: Left in Well</b> | <b>CEMENT: Fill-up (Cu. Ft.)</b>  |
|--------------|-------------|--------------------|--------------|-------------------------------|------------------------------|--------------------------------|-----------------------------------|
| Conductor 1  | 20"         | New                | LS           | 117#                          | 40'                          | 40'                            | CTS                               |
| Conductor 2  | 16"         | New                | LP           | 65.5#                         | 120'                         | 120'                           | CTS                               |
| Coal / F.W.  | 13 3/8"     | New                | LS           | 94#                           | 694'                         | 694'                           | CTS                               |
| Intermediate | 9 5/8"      | New                | J-55         | 36#                           | 2017'                        | 2017'                          | CTS                               |
| Production   | 5 1/2"      | New                | P110         | 20#                           | 14,859'                      | 14,859'                        | TOC 200' above 9 5/8" casing shoe |
| Tubing       |             |                    |              |                               |                              |                                |                                   |
| Liners       |             |                    |              |                               |                              |                                |                                   |

| <b>TYPE</b>  | <b>Size</b> | <b>Wellbore Diameter</b> | <b>Wall Thickness</b> | <b>Burst Pressure</b> | <b>Cement Type</b> | <b>Cement Yield (cu. ft./k)</b> |
|--------------|-------------|--------------------------|-----------------------|-----------------------|--------------------|---------------------------------|
| Conductor 1  | 20"         | 26"                      | .375                  |                       | GTS                |                                 |
| Conductor 2  | 16"         | 18"                      | .375                  |                       | GTS                |                                 |
| Coal / F.W.  | 13 3/8"     | 17 1/2"                  | .380                  | 2730                  | Type 1/Class A     | 1.2                             |
| Intermediate | 9 5/8"      | 12 3/8"                  | .352                  | 3520                  | Type 1/Class A     | 1.19                            |
| Production   | 5 1/2"      | 8 3/4" & 8 1/2"          | .361                  | 12,640                | Type 1/Class A     | 1.27                            |
| Tubing       |             |                          |                       |                       |                    |                                 |
| Liners       |             |                          |                       |                       |                    |                                 |

**PACKERS**

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

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Environmental Protection

WW-6B  
(9/13)

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 5,940 feet. Drill Horizontal leg - stimulate and produce the Marcellus Formation. If we should encounter an unanticipated void we will install casing at a minimum of 20' below the void but not more than 100' below the void, set a basket and grout to surface.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals. See attached list. Maximum pressure not to exceed 10,000 lb.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 9.6

22) Area to be disturbed for well pad only, less access road (acres): 7.3

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing. Surface casing will have bow spring centralizers on first 2 joints then every third joint to 100' from surface. Intermediate casing will have bow spring centralizers on first 2 joints then every third joint to 100' from surface. Production string will have a rigid bow spring every joint to KOP, rigid bow spring every third joint from KOP to top of cement.

24) Describe all cement additives associated with each cement type:

Conductor-1.15% CaCl \*Surface and Coal (Intermediate)- Class A Portland Cement CaCl 2%, 2% Accelerator, 0.2% Antifoam and 0.125#/sk Flake. Excess Yield=1.18 Production- 14.8 ppg class A 25:75:0 System +2.6% Cement extender, 0.7% Fluid Loss additive, 0.45% high temp retarder, 0.2% friction reducer 15% Excess Yield=1.27 TOC greater or equal to 200' above 9.625" shoe.

\*Surface and Coal string WVDEP approved variance attached.

25) Proposed borehole conditioning procedures:

Conductor-The hole is drilled w/air and casing is run on air. Apart from insuring the hole is clean via air circulation at TD, there are no other conditioning procedures. Surface-The hole is drilled w/air and casing is run on air. Fill with KCl water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement. The hole is drilled and cased w/air or on Freshwater based mud. Once casing is at setting depth, the hole is filled w/KCl water and a minimum of one hole volume is circulated prior to pumping cement. Intermediate-Once surface pipe is set and cemented, intermediate hole is drilled either on air or SOBMs and filled with KCl water once drilled to TD. Production-The hole is drilled with SOBMs and once to TD, circulated at maximum allowable pump rate for at least 6x bottoms up. Once on bottom with casing, circulate a minimum of one hole volume prior to pumping cement.

\*Note: Attach additional sheets as needed.

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MAY 08 2014  
WV Department of Environmental Protection

JIN 8/13/14



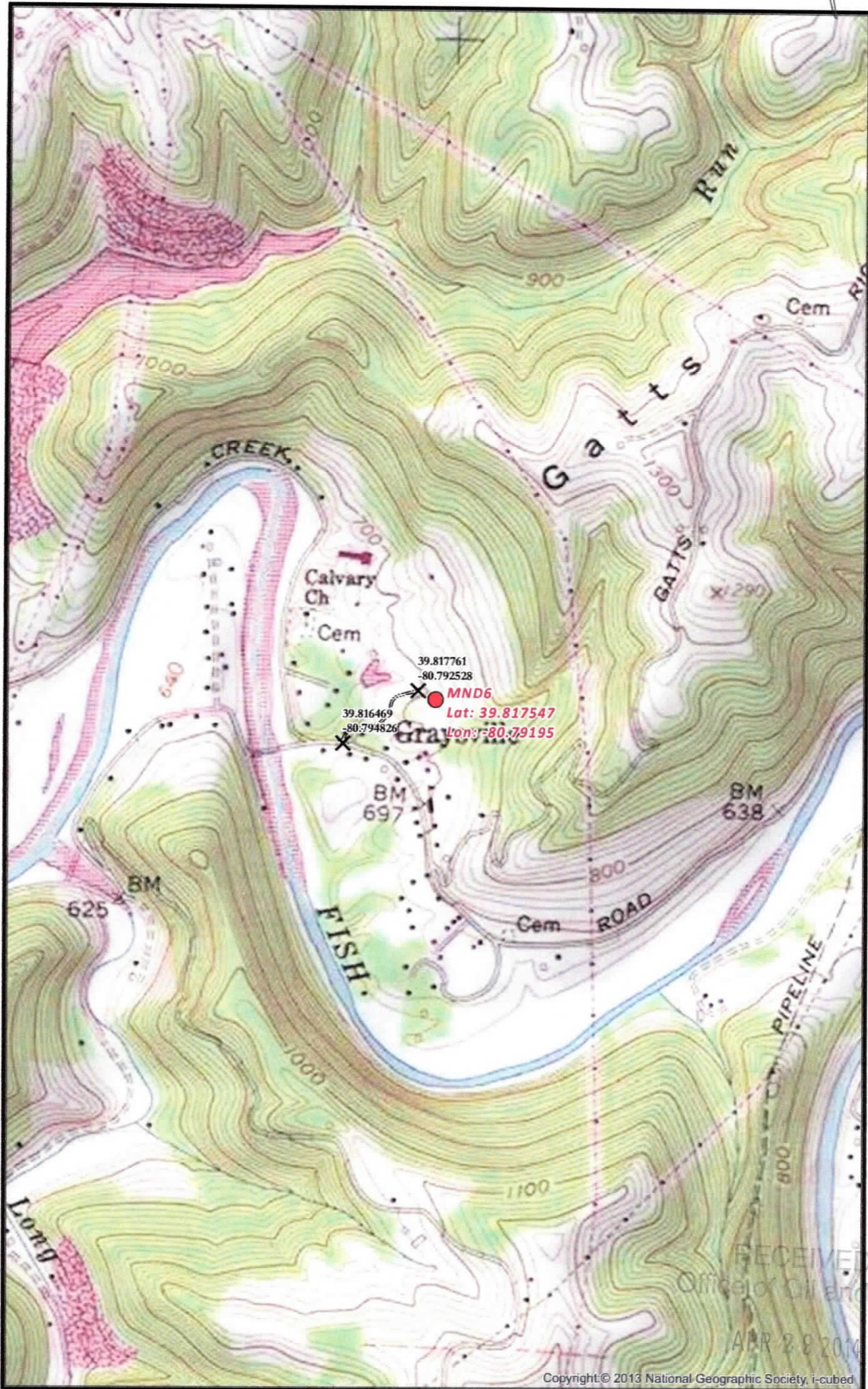
**DRILLING WELL PLAN**  
**MND-6F-HS (Marcellus HZ)**  
**Marcellus Shale Horizontal**  
**Marshall County, WV**

| Ground Elevation    |                            | MND-6F SHL (Lat/Long) |       | MND-6F LP (Lat/Long) |                        | MND-6F BHL (Lat/Long)   |  | CENTRALIZERS   |  | CONDITIONING   |  | COMMENTS |  |
|---------------------|----------------------------|-----------------------|-------|----------------------|------------------------|---|--|--|--|--|--|----------|--|
| Azim                |                            | 722°                  |       | 325°                 |                        |   |  |  |  |  |  |          |  |
| HOLE                | CASING                     | GEOLOGY               | TOP   | BASE                 | MUD                    | CEMENT  |  |  |  |  |  |          |  |
| 26                  | 20" 94#                    | Conductor             | 40    | 40                   | AIR                    | To Surface  |  | N/A  |  | Ensure the hole is clean at TD.  | Stabilize surface fill/soil. Conductor casing = 0.438" wall thickness  |          |  |
| 18                  | 16"                        | Conductor #2          | 120   | 120                  | Auger                  | To Surface  |  | N/A  |  | Ensure the hole is clean at TD.  | Stabilize surface soil.  |          |  |
| 17 1/2              | 13-3/8" 54.5# J-55 BTC     | Pittsburgh Coal       | 284   | 294                  | AIR                    | 15.6 ppg Type 1 + 2% CaCl <sub>2</sub> , 0.25# Lost Circ 30% Excess Yield = 1.18  |  | Bow Spring on first 2 joints then every third joint to 100' form surface |  | Fill with KCl water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement.                                 | Intermediate casing = 0.380" wall thickness Burst=2730 psi   |          |  |
| 12 3/8              | 9-5/8" 36# K-55 BTC        | 2nd Salt Sand         | 1377  | 1413                 |                        | 15.6ppg Class A +0.4% Ret. 0.15% Disp. 0.2% Antifoam, 0.125#/sk Lost Circ 20% Excess Yield=1.19   |  | Bow Spring centralizers every third joint to 100' feet from surface.     |  | Fill with KCl water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement.                                 | Casing to be ran 250' below the 5th Sand. Intermediate casing = 0.352" wall thickness Burst=3520 psi                               |          |  |
| 8.75" Vertical      | 5-1/2" 23# HCP-110 TYP BTC | Price Formation       | 1717  | 2232                 | AIR                    | To Surface  |  | Rigid Bow Spring every third joint from KOP to TOC                       |  | Once at TD, circulate at max allowable pump rate for at least 6x bottoms up. Once on bottom with casing, circulate a minimum of one hole volume prior to pumping cement. | Production casing = 0.361" wall thickness Burst=12640 psi Note: Actual centralizer schedules may be changed due to hole conditions |          |  |
| 8.75" Curve         | 5-1/2" 23# HCP-110 TYP BTC | Int. Casing           | 2017  | 2017                 | 8.0ppg - 9.0ppg SOBM   | 14.8ppg Class A 25:75:0 System +2.6% Cement extender, 0.7% Fluid Loss additive, 0.45% high temp retarder, 0.2% friction reducer 10% Excess Yield=1.27 |  | Rigid Bow Spring every joint to KOP                                      |  |  |  |          |  |
| 175" - 8.5" Lateral |                            | Speechley             | 3019  | 3065                 | 12.0ppg - 12.5ppg SOBM | TOC >= 200' above 9.625" shoe   |  |  |  |  |  |          |  |
|                     |                            | Java                  | 4570  | 4665                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Pipe Creek            | 4665  | 4752                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Angola                | 4752  | 5334                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Rheinstreet           | 5334  | 5655                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Cashiaqua             | 5655  | 5727                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Middlesex             | 5727  | 5750                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | West River            | 5750  | 5811                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Burkett               | 5811  | 5836                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Tully Limestone       | 5836  | 5860                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Hamilton              | 5860  | 5895                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | Marcellus             | 5895  | 5950                 |                        |   |  |  |  |  |  |          |  |
|                     |                            | TD                    | 14859 | 5940                 | 12.0ppg - 12.5ppg SOBM |   |  |  |  |  |  |          |  |
|                     |                            | Onondaga              | 5950  | 5950                 |                        |   |  |  |  |  |  |          |  |

LP @ 5940' TVD / 6845' MD  
 8.75' / 8.5' Hole - Cemented Long String  
 5-1/2" 20# HCP-110 TYP BTC  
 +/8014' ft Lateral  
 TD @ +/5940' TVD  
 +/14859' MD  
 X=centralizers

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 WV Department of Environmental Protection  
 AUG 18 2014

51-01763 plot spotted



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**MND6 SITE SAFETY PLAN**  
- SITE WELL LOCATION -

X Access Road Intersection    ● Well Pad Center  
----- Proposed Access Road

0 500 1,000 2,000 Feet

Scale 1" = 1,000'

Projection: NAD\_1983\_StatePlane\_Virginia\_North\_FIPS\_4701  
Units: Feet US

**noble energy**

Disclaimer: All data is licensed for use by Noble Energy Inc. use only.

Date: 12/10/2013  
Author: Christopher Glover

1/6

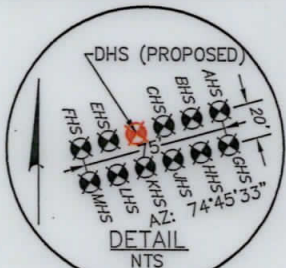
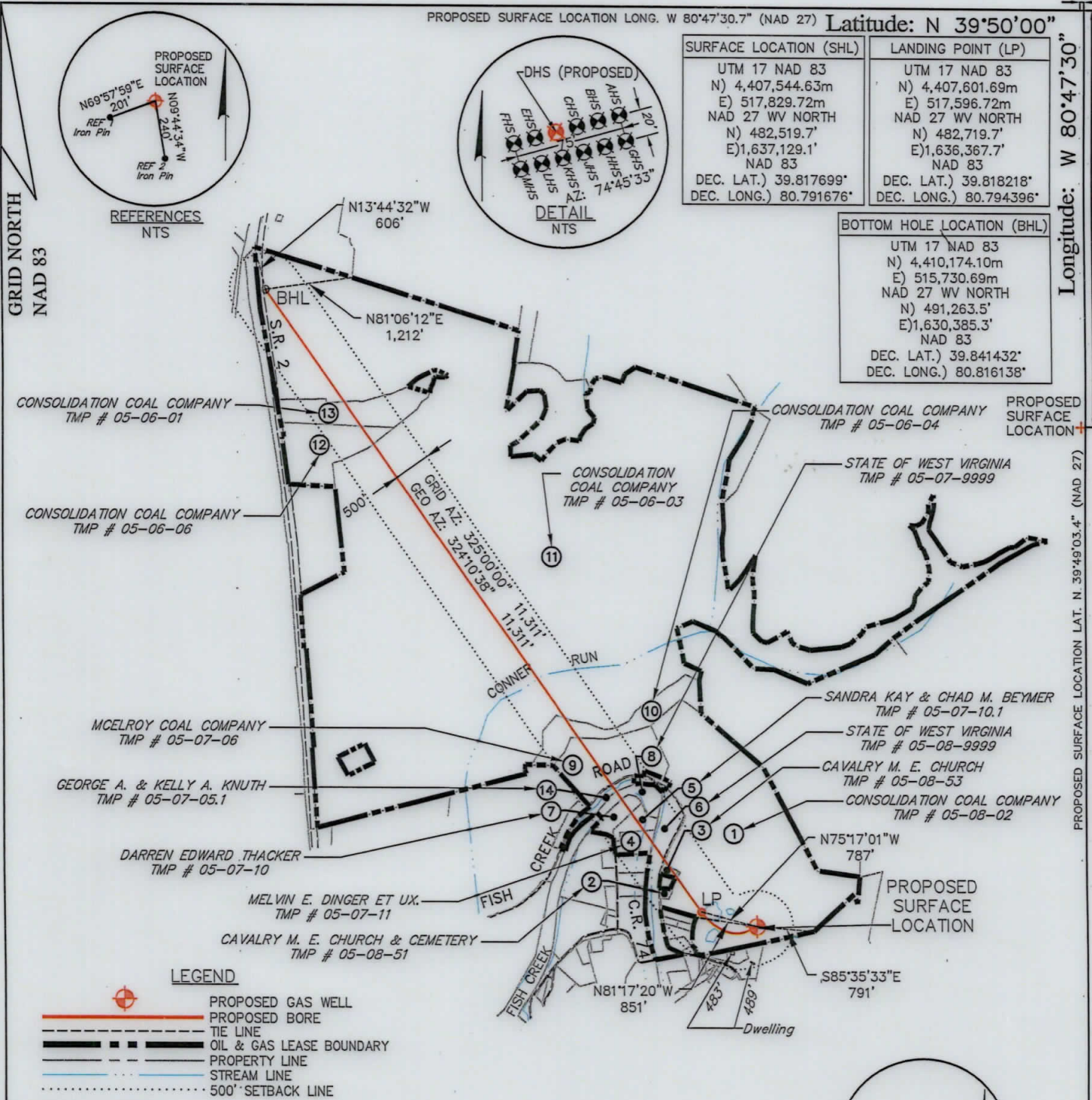
Document Path: G:\Denver\GIS-Denver\Projects\District\_30\Appalachia\MXD\EH\SR\Permitting\Moundsville\MND6\030\_PA\_WV\_MND6\_Well\_Location.mxd

PROPOSED SURFACE LOCATION LONG. W 80°47'30.7" (NAD 27) Latitude: N 39°50'00"

Longitude: W 80°47'30"

5,739

PROPOSED SURFACE LOCATION LAT. N 39°49'03.4" (NAD 27)



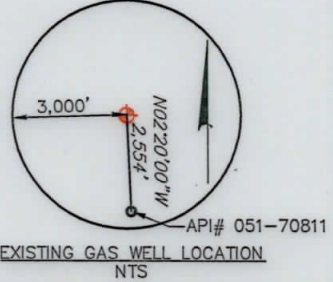
| SURFACE LOCATION (SHL) | LANDING POINT (LP)     |
|------------------------|------------------------|
| UTM 17 NAD 83          | UTM 17 NAD 83          |
| N) 4,407,544.63m       | N) 4,407,601.69m       |
| E) 517,829.72m         | E) 517,596.72m         |
| NAD 27 WV NORTH        | NAD 27 WV NORTH        |
| N) 482,519.7'          | N) 482,719.7'          |
| E) 1,637,129.1'        | E) 1,636,367.7'        |
| NAD 83                 | NAD 83                 |
| DEC. LAT.) 39.817699°  | DEC. LAT.) 39.818218°  |
| DEC. LONG.) 80.791676° | DEC. LONG.) 80.794396° |

| BOTTOM HOLE LOCATION (BHL) |
|----------------------------|
| UTM 17 NAD 83              |
| N) 4,410,174.10m           |
| E) 515,730.69m             |
| NAD 27 WV NORTH            |
| N) 491,263.5'              |
| E) 1,630,385.3'            |
| NAD 83                     |
| DEC. LAT.) 39.841432°      |
| DEC. LONG.) 80.816138°     |

- LEGEND**
- PROPOSED GAS WELL
  - PROPOSED BORE
  - TIE LINE
  - OIL & GAS LEASE BOUNDARY
  - PROPERTY LINE
  - STREAM LINE
  - 500' SETBACK LINE

**GENERAL NOTES:**

1. THE LOCATION OF BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORD DEED, PLATS, AND TAX MAPS BEST FIT TO FOUND FIELD EVIDENCE AND AERIAL PHOTOS, UNLESS OTHERWISE NOTED.
2. THIS PLAT DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY OF THE INDIVIDUAL PARCELS.
3. THERE ARE NO EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF PROPOSED WELL.
4. PROPOSED WELL IS GREATER THAN 100' FROM PERENNIAL STREAM, WETLAND, POND, RESERVOIR OR LAKE.
5. THERE ARE NO NATIVE TROUT STREAMS WITHIN 300' OF PROPOSED WELL.
6. THERE ARE TWO DWELLINGS LOCATED WITHIN 650' OF PROPOSED WELLBORE.
7. THE SURROUNDING LANDS ARE BEING SERVED BY PUBLIC WATER BY THE GRAND VIEW DOOLIN WATER SYSTEM PROVIDED BY MARSHALL COUNTY PUBLIC HEALTH AND SANITATION DIVISION.



FILE #: 093842010

DRAWING #: 093842010\_SV-Plat

SCALE: PLAT & TICK: 1" = 2,000'

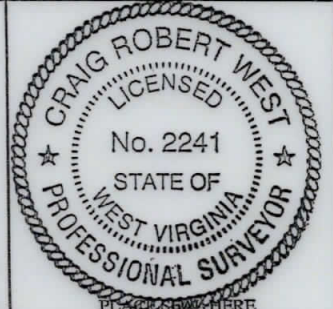
MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: NGS (CORS)

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED: Craig R. West

R.P.E.: \_\_\_\_\_ L.L.S.: 2241



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

OFFICE OF OIL & GAS

601 57TH STREET

CHARLESTON, WV 25304



DATE: FEBRUARY 24, 2014

OPERATOR'S WELL #: MND 6 DHS

API WELL #: 47 051 01763 H6A

STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  WASTE DISPOSAL  LIQUID INJECTION  PRODUCTION  STORAGE  DEEP  SHALLOW

WATERSHED: FISH CREEK ELEVATION: 722'

COUNTY/DISTRICT: MARSHALL / FRANKLIN QUADRANGLE: POWHATAN POINT, OHIO-W.VA

SURFACE OWNER: CONSOLIDATION COAL COMPANY ACREAGE: 136.587±

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY LLC and NOBLE ENERGY, INC. ACREAGE: \_\_\_\_\_

CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PERFORATE NEW FORMATION  PLUG & ABANDON

DRILL  PLUG OFF OLD FORMATION  CLEAN OUT & REPLUG  OTHER CHANGE (SPECIFY): \_\_\_\_\_

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 5,940 ft. TMD: 16,882 ft.

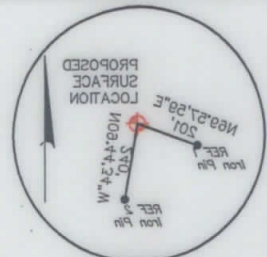
WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVE M. GREEN

ADDRESS: 333 TECHNOLOGY DRIVE, SUITE 116 ADDRESS: 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 590

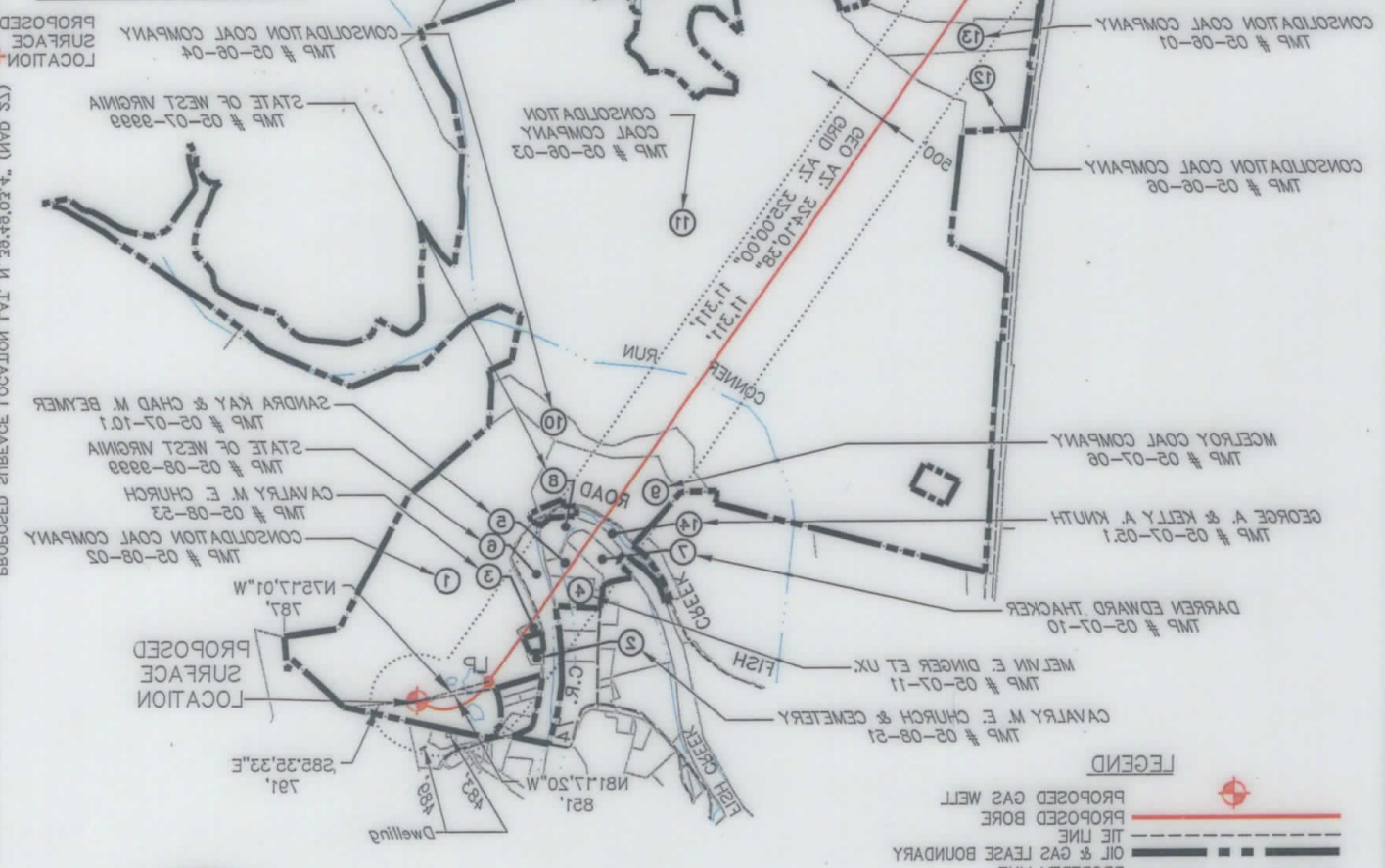
CITY: CANONSBURG STATE: PA ZIP CODE: 15317 CITY: CHARLESTON STATE: WV ZIP CODE: 25301



83 DAVD  
HTKID NOKLH



| SURFACE LOCATION (SHL) |                     | BOTTOM HOLE LOCATION (BHL) |                     |
|------------------------|---------------------|----------------------------|---------------------|
| DEC. LONG. 80.291676   | DEC. LAT. 39.817699 | DEC. LONG. 80.816138       | DEC. LAT. 39.841432 |
| NAD 83                 | E(1) 637.1291       | NAD 83                     | E(1) 630.2823       |
| N 482.5197             | NAD 27 W NORTH      | N 481.2822                 | NAD 27 W NORTH      |
| E 517.82972m           | (N) 410.17410m      | E 512.73069m               | (N) 410.17410m      |
| (N) 4407.54463m        | UTM 17 NAD 83       | (N) 4407.54463m            | UTM 17 NAD 83       |



**GENERAL NOTES:**

1. THE LOCATION OF BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORD DEED, PLATS, AND TAX MAPS BEST FIT TO FOUND FIELD EVIDENCE AND AERIAL PHOTOS, UNLESS OTHERWISE NOTED.
2. THIS PLAT DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY OF THE INDIVIDUAL PARCELS.
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5. THERE ARE NO NATIVE TROUT STREAMS WITHIN 300' OF PROPOSED WELL.
6. THERE ARE TWO DWELLINGS LOCATED WITHIN 650' OF PROPOSED WELLBORE.
7. THE SURROUNDING LANDS ARE SERVED BY PUBLIC WATER BY THE GRAND VIEW DOOIN WATER SYSTEM PROVIDED BY MARSHALL COUNTY PUBLIC HEALTH AND SANITATION DIVISION.

EXISTING GAS WELL LOCATION  
NTS

API# 051-70811

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

*C.R. West*  
SIGNED: \_\_\_\_\_  
R.P.E.: \_\_\_\_\_  
L.L.S.: 5241

FILE # 093842010  
DRAWING # 093842010\_2V-Plat  
SCALE: PLAT & TGC: 1" = 2,000'  
MINIMUM DEGREE  
OF ACCURACY: 1/500  
PROVEN SOURCE  
OF ELEVATION: NGS (COR2)

CITY: CANSBURG STATE: PA ZIP CODE: 15217  
WELL OPERATOR: NOBLE ENERGY, INC.  
ADDRESS: 333 TECHNOLOGY DRIVE, SUITE 118  
DESIGNATED AGENT: STEVE M. GREEN  
ESTIMATED DEPTH: TVD: 2,940 ft. TMD: 16,882 ft.  
OTHER CHANGE (SPECIFY):

TARGET FORMATION: MARCELLUS  
WELL TYPE:  OIL  GAS  WASTE DISPOSAL  LIQUID INJECTION  PRODUCTION  STORAGE  DEEP  SHALLOW

SURFACE OWNER: CONSOLIDATION COAL COMPANY  
COUNTY/DISTRICT: MARSHALL / FRANKLIN  
WATERSHED: FISH CREEK

API WELL #: 47  
OPERATOR'S WELL #: MND 6 DHS  
DATE: FEBRUARY 24, 2014

CITY: CHARLESTON STATE: WV ZIP CODE: 25301  
ADDRESS: 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 500  
WELL OPERATOR: NOBLE ENERGY, INC.