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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

June 29, 2015

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-9502262, issued to NOBLE ENERGY, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

  
James Martin  
Chief

Operator's Well No: PEN 31 F  
Farm Name: NOBLE ENERGY INC.  
**API Well Number: 47-9502262**  
**Permit Type: Horizontal 6A Well**  
Date Issued: 06/29/2015

**Promoting a healthy environment.**

**07/03/2015**

# PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

## CONDITIONS

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1. Operator shall take additional measures with this permitted activity to avoid communication with offset wells. Such additional measures are described in the attached addendum. This addendum is part of the terms of the well work permit, and includes a description of depth and completed formations of offset wells. Also included is a description of monitoring activities that will take place during fracturing operations of the permitted well work.
1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACOE). Through this permit, you are hereby being advised to consult with USACOE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

## PERMIT CONDITIONS

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

|                              |
|------------------------------|
| <b>Noble Energy Addendum</b> |
|------------------------------|

Pennsboro PEN-31 site proposed well procedures

- Intermediate casing will extend below the Alexander and be cemented to surface.
- Operators of all deep offset wells within a 1,000' perimeter of the pad will be contacted per the table below:

Offset Deep Wells (Benson or deeper):

| API        | TVD  | Surface Owner             | Current Operator        | TVDSS | Formation      |
|------------|------|---------------------------|-------------------------|-------|----------------|
| 4708507848 | 4975 | Don/Virginia Comer        | Consol Gas Co           | -4003 | Benson         |
| 4709501425 | 4962 | Franklin Simonton et al 2 | Consol Gas Co           | -4027 | Benson         |
| 4709501424 | 4972 | Franklin Simonton et al 1 | Consol Gas Co           | -4068 | Benson         |
| 4709501488 | 5102 | John/N Williams 1         | Consol Gas Co           | -4077 | Benson         |
| 4708507852 | 5112 | Don/Virginia Comer        | Consol Gas Co           | -4103 | Benson         |
| 4709501370 | 5230 | D E Williams              | Consol Gas Co           | -4142 | Benson         |
| 4708507851 | 5070 | Don/Virginia Comer        | Consol Gas Co           | -4183 | Benson         |
| 4708507716 | 5306 | Edward Mullooly           | Energy Corp of America  | -4184 | Benson         |
| 4708507535 | 5385 | C W Mutschelknaus         | Consol Gas Co           | -4273 | Angola Fm      |
| 4709501061 | 5995 | W & J A Markle            | Alliance Petroleum Corp | -4807 | Rhinestreet Sh |
| 4708507028 | 5993 | E & G Freeland            | Alliance Petroleum Corp | -4972 | Rhinestreet Sh |

- Noble will contact these operators prior to fracturing, offer to assess the surface pressure handling capabilities of their equipment, offer recommendations for upgrading prior to fracing operations, and offer to monitor their wells during active frac operations.

Description of Monitoring:

Pressure transducers, and/or visual monitoring of existing pressure gauges will be utilized. For the deepest wells in the Rhinestreet, we may recommend shutting in the wells for pressure monitoring.

- Well communication would likely occur in one of two forms: a) higher than expected pressure in an offset well, or b) the offset well is watered out and reads zero pressure.
- If we observe elevated pressures (within 500 psi of the surface equipment reported maximum operating pressure) we will immediately cease pumping the current frac stage and discuss conditions with the operator before resuming pumping.

Contingency:

- 1) Offset wells watering out – We are recommending that an affected offset operator wait for Noble to complete operations on the lateral that was being fraced during the event (including flowback), to alleviate any potential pressure surges before the offset operator intervenes to swab the affected well and bring it back on production.



STATE OF WEST VIRGINIA **09502262**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: Noble Energy, Inc. 494501907 095-Tyler Meade Pennsboro  
Operator ID County District Quadrangle

2) Operator's Well Number: PEN 31 F Well Pad Name: PEN 03/31

3) Farm Name/Surface Owner: Noble Energy, Inc. Public Road Access: Stone Road - County Rt. 6/3

4) Elevation, current ground: 1085' Elevation, proposed post-construction: 1099'

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

(b) If Gas Shallow  Deep   
Horizontal

*Michael Loff*  
*3/23/15*

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):  
Marcellus 6291' - 6350' / 59' Thick / 4191psi

8) Proposed Total Vertical Depth: 6,331

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 13,596'

11) Proposed Horizontal Leg Length: 6,465'

12) Approximate Fresh Water Strata Depths: 454'

13) Method to Determine Fresh Water Depths: nearest offset well

14) Approximate Saltwater Depths: None

15) Approximate Coal Seam Depths: None

16) Approximate Depth to Possible Void (coal mine, karst, other): None

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

(a) If Yes, provide Mine Info: Name: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

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18)

**CASING AND TUBING PROGRAM**

| TYPE         | Size (in) | New or Used | Grade  | Weight per ft. (lb/ft) | FOOTAGE: For Drilling (ft) | INTERVALS: Left in Well (ft) | CEMENT: Fill-up (Cu. Ft./CTS)                         |
|--------------|-----------|-------------|--------|------------------------|----------------------------|------------------------------|---|
| Conductor    | 20"       | New         | LS     | 94                     | 40' ±                      | 40' ±                        | Surface to TD ±                                       |
| Fresh Water  | 13 3/8"   | New         | J-55   | 54.5                   | 600' ±                     | 600' ±                       | CTS 30% excess Yield = 1.18                           |
| Coal         |           |             |        |                        |                            |                              |   |
| Intermediate | 9 5/8"    | New         | HCK-55 | 36.0                   | 5345' ±                    | 5345' ±                      | CTS 30% excess Yield = 1.18                           |
| Production   | 5 1/2"    | New         | P-110  | 20.0                   | 13,596'                    | 13,596'                      | 10% excess Yield = 1.32<br>TOC=200' above 9.625" shoe |
| Tubing       |           |             |        |                        |                            |                              |   |
| Liners       |           |             |        |                        |                            |                              |   |

| TYPE         | Size (in) | Wellbore Diameter (in) | Wall Thickness (in) | Burst Pressure (psi) | Max. Associated Surface Pressure (psi) | Cement Type | Cement Yield (cu. ft./k)                              |
|--------------|-----------|------------------------|---------------------|----------------------|--|-------------|---|
| Conductor    | 20"       | 26"                    | 0.438               |                      |  | Type III    | surface to TD ±                                       |
| Fresh Water  | 13 3/8"   | 17.5"                  | 0.380               | 2730                 | 1200                                   | Class A     | 30% excess Yield = 1.18                               |
| Coal         |           |                        |                     |                      |  |             |   |
| Intermediate | 9 5/8"    | 12.38"                 | 0.352               | 3520                 |  | Class A     | 30% excess Yield = 1.18 to surface                    |
| Production   | 5 1/2"    | 8.75"-8.5"             | 0.361               | 12,640               |  | Class A     | 10% excess Yield = 1.32<br>TOC=200' above 9.625" shoe |
| Tubing       |           |                        |                     |                      |  |             |   |
| Liners       |           |                        |                     |                      |  |             |   |

**PACKERS**

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

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 6331 feet. Drill Horizontal leg - stimulate and produce the Marcellus Formation. Should we encounter formation issues, set the 13 3/8 into next competent formation but not deeper than elevation. Should we encounter a unanticipated void we will install a minimum of 20' of casing 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. our maximum pressure is not to exceed 10,000 lbs. Please refer to attached list.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 20.961

22) Area to be disturbed for well pad only, less access road (acres): 7.948

23) Describe centralizer placement for each casing string:

Conductor - No centralizers used. Fresh Water/Surface - Bow spring centralizers on first two joints then every third joint to 100' from surface. Intermediate - Bow Springs centralizers every third joint to 100' from Surface. Production - Rigid bow springs every third joint from KOP to TOC, rigid bow springs every joint to KOP.

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

See attached sheet - Conductor - Type III Surface to TD. Fresh Water - 15.6 ppg Class A, (CA-100) 0.25 lb/sk Lost Circ 30% Excess Yield = 1.18 To Surface. Intermediate - 15.6ppg Class A (CLC-CPF)+0.25% bwoc cellophane flakes 30% Excess Yield=1.18 To Surface. Production - 14.5ppg 75/25 Class A/Poz +/- 2% extender, +/-0.4% fluid loss additive, +/-0.4% retarder, +/-0.4% dispersant, +/-0.2% antifoam, +/- 0.1% antisetling 10% Excess Yield=1.32 TOC >= 200' above 9.625" shoe.

25) Proposed borehole conditioning procedures:

Conductor - The hole is drilled w/ air and casing is run in air. Apart from insuring the hole is clean via air circulation at TD, there are no other conditioning procedures. Fresh Water/Surface -The hole is drilled w/air and casing is run in air. Once casing is at setting depth, fill with KCl water circulate a minimum of one hole volume prior to pumping cement. Intermediate - Once surface casing is set and cemented Intermediate hole is drilled either on air or SOBM and filled w/ KCl water once filled w/ KCl water once drilled to TD. The well is conditioned with KCl circulation prior to running casing. Once casing is at setting depth, the well is circulated a minimum of one hole volume prior to pumping cement. Production - The hole is drilled with synthetic oil base mud and once at TD the hole is circulated at maximum allowable drilling pump rate for at least 6X bottoms up. Once on bottom with casing, circulate a minimum of one hole volume prior to pumping cement.

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\*Note: Attach additional sheets as needed.

| Fresh Water Protection String: |                          | Cement Additives                |                                      |
|--------------------------------|--------------------------|---------------------------------|--------------------------------------|
| Allied Material Name           | Additive (Material) Type | Additive (Material) Description | CAS #                                |
| 2CAC (Class A Common)          | Base Cement              | Grey powder                     | 65997-15-1                           |
| 2A-100                         | Accelerator              | White, flake                    | 10043-52-4<br>7447-40-7<br>7732-18-5 |
| 2LC-CPF (Cellophane Flakes)    | Lost Circulation Aid     | White and colored flake         | 7647-14-5<br>Non-Hazardous           |

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**DRILLING WELL PLAN**  
**PEN-31F HS**  
**Marcellus Shale Horizontal**  
**Marshall County, WV**

| Ground Elevation |  | 1085'                      |   | PEN-31F SHL  |  | 1576610.778N 311708.126E     |  |  |  |   |  |
|------------------|--|----------------------------|---|--|--|------------------------------|--|--|--|---|--|
| Azim             |  | 139°                       |   | PEN-31F LP   |  | 1578903.906N 313430.219E     |  |  |  |   |  |
| Azim             |  | 139°                       |   | PEN-31F BHL  |  | 1583060.849N 308476.146E     |  |  |  |   |  |
| WELLBORE DIAGRAM | HOLE   | CASING                     | GEOLOGY   | TOP  | BASE   | MUD                          | CEMENT   | CENTRALIZERS   | CONDITIONING   | COMMENTS  |  |
|                  | 26   | 20" 94#                    | Conductor   | 40   | 40   | AIR                          | Type III Surface to TD   | N/A  | Ensure the hole is clean at TD.  | Conductor casing = 0.438" wall thickness  |  |
|                  | 17 1/2   | 13-3/8" 54.5# J-55 BTC     | FW Shows  | 454  | 454  | Air or Fresh Water Based Mud | 15.6 ppg Class A, 0.25 lb/sk Lost Circ 30% Excess Yield = 1.18 To Surface  | Bow Spring on first 2 joints then every third joint to 100' form surface | Fill with <3% KCl water once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement.   | Surface casing = 0.380" wall thickness<br>Burst=2730 psi  |  |
|                  | 12 3/8   | 9-5/8" 36# HCK-55 BTC      | Surface Casing<br>Big Lime<br>Big Injun<br>Benson<br>Alexander  | 600<br>1973<br>2028<br>4955<br>5177                                  | 600<br>2028<br>5017<br>5245<br>5345                          | Air or 8.0 SOB               | 15.6ppg Class A +0.25% hvoc cellophane flakes 30% Excess Yield=1.18 To Surface   | Bow spring centralizers every third joint to 100' feet from surface.     | Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement.   | Intermediate casing = 0.352" wall thickness<br>Burst=3520 psi   |  |
|                  | 8.75" Vertical   | 5-1/2" 20# HCP-110 TXP BTC | Rheinstreet<br>Cashaqua<br>Middlesex<br>West River<br>Burkett<br>Tully Limestone<br>Hamilton<br>Marcellus | 5755<br>6081<br>6173<br>6202<br>6246<br>6289<br>6290<br>6291<br>6350 | 6081<br>6173<br>6202<br>6246<br>6289<br>6290<br>6291<br>6350 | 11.0ppg-12.0ppg SOB          | 14.5ppg 75/25 Class A/Poz +/- 2% extender, +/-0.4% fluid loss additive, +/-0.4% 0.4% retarder, +/-0.2% antifloam, +/- 0.1% antisepting 10% Excess Yield=1.32 TOC >= 200' above 9.625" shoe | 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<br>Burst=12640 psi<br>Note:Actual centralizer schedules may be changed due to hole conditions |  |
|                  | 8.75" Curve  |                            | Target<br>Onondaga  | 6326<br>6350   | 6326<br>6336   |                              |  |  | Rigid Bow Spring every joint to KOP  |   |  |
|                  | 8.75" - 8.5" Lateral   |                            |   |  |  |                              |  |  |  |   |  |
|                  | 8.75 / 8.5 Hole - Cemented Long String<br>5-1/2" 20# HCP-110 TXP BTC |                            |   |  |  |                              |  |  |  |   |  |
|                  | TD @ +/-6331' TVD<br>+/-13596' MD<br>X=centralizers                  |                            |   |  |  |                              |  |  |  |   |  |

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Noble Energy, Inc. OP Code 494501907

Watershed (HUC 10) huc-10 Middle Island Creek Quadrangle Pennsboro

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: \_\_\_\_\_

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number See attached sheet )
- Reuse (at API Number at next anticipated well )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

*MAG*  
*3/23/15*

Will closed loop system be used? If so, describe: yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air/water based mud through coal string then SOBm

-If oil based, what type? Synthetic, petroleum, etc. Synthetic

Additives to be used in drilling medium? Calcium Chloride Powder, Carbo Tec, Carbo Gel2, Carbo Tec S, Ecco-Block, Lime, MIL-Carb TM, Mil-Clean, Mil-Seal, Next base eC, Next Drill, Next Hold, Next Mui, Omni Cote, Mil Bar, Next Mui HT, Soda Ash, Potassium Chloride

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. landfill - see attached sheet

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

-Landfill or offsite name/permit number? See attached sheet

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Dee Swiger*  
Company Official (Typed Name) Dee Swiger  
Company Official Title Regulatory Analyst III

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Subscribed and sworn before me this 26<sup>th</sup> day of march, 2015

*Regina Logue*  
My commission expires 07/07/2018

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
Public Regina Logue, Notary Public  
New Sewickley Twp, Beaver County  
My Commission Expires 07/07/2018  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Noble Energy, Inc.

Proposed Revegetation Treatment: Acres Disturbed 20.961 Prevegetation pH 6.0

Lime 2-3 Tons/acre or to correct to pH \_\_\_\_\_

10-20-20 or equal

Fertilizer type \_\_\_\_\_

Fertilizer amount 500 lbs/acre

Mulch Hay or Straw at 2 Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

| Seed Type     | lbs/acre |
|---------------|----------|
| Tall Fescue   | 40       |
| Ladino Clover | 5        |

| Seed Type     | lbs/acre |
|---------------|----------|
| Tall Fescue   | 40       |
| Ladino Clover | 5        |

\*\*alternative seed mixtures are shown on the Site Design.

Attach:  
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Michael Hoff

Comments: Pre seed and mulch all cut area, maintain all E & S during operation.

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Title: Oil and Gas Inspector

Date: 3/23/15

Field Reviewed?  Yes  No

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# Cuttings Disposal/Site Water

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## Cuttings –Haul off Company:

Eap Industries, Inc. DOT # 0876278  
1575 Smith Two State Rd. Atlasburg, PA 15004  
1-888-294-5227

Waste Management  
200 Rangos Lane  
Washington, PA 15301  
724-222-3272

Environmental Coordination Services & Recycling (ECS&R)  
3237 US Highway 19  
Cochranon, PA 16314  
814-425-7773

## Disposal Locations:

|   |  |
|---|--|
| Apex Environnemental, LLC Permit # 06-08438<br>11 County Road 78<br>Amsterdam, OH 43903<br>740-543-4389 | Northern A-1 Environnemental Services Permit ID MID020906814<br>3947 US 131 North, PO Box 1030<br>Kalkaska, MI 49646<br>231-258-9961 |
|---|--|

Westmoreland Waste, LLC Permit # 100277  
111 Conner Lane  
Belle Vernon, PA 15012  
724-929-7694

Sycamore Landfill Inc. Permit #R30-079001 05-2010  
4301 Sycamore Ridge Road  
Hurricane, WV 25526  
304-562-2611

Max Environnemental Technologies, Inc. Facility Permit # PAD004835146 / 301071  
233 Max Lane  
Yukon, PA 25968  
724-722-3500

Max Environnemental Technologies, Inc. Facility Permit # PAD05087072 / 301359  
200 Max Drive  
Bulger, PA 15019  
724-796-1571

Waste Management Kelly Run Permit # 100663  
1901 Park Side Drive  
Elizabeth, PA 15037  
412-384-7569

Waste Management South Hills (Arnoni) Permit # 100592  
3100 Hill Road  
Library, PA 15129  
724-348-7013  
412-384-7569

Waste Management Arden Permit # 100172  
200 Rangos Lane  
Washington, PA 15301  
724-222-3272

Waste Management Meadowfill Permit # 1032  
1488 Dawson Drive  
Bridgeport, WV 26330

Brooke County Landfill Permit # SWF-103-97 / WV 0109029  
Rd 2 Box 410  
Colliers, WV 26035  
304-748-0014

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Wetzel County Landfill Permit # SWF-1021-97 / WV 0109185  
Rt 1 Box 156A  
New Martinsville, WV 26035  
304-455-3800

Energy Solutions, LLC Permit # UT 2300249  
423 West 300 South  
Suite 200  
Salt Lake City, UT 84101

Energy Solutions Services, Inc. Permit # R-73006-L24  
1560 Bear Creek Road  
Oak Ridge, TN 37830

**Water Haul off Companies:**

Dynamic Structures, Clear Creek DOT # 720485  
3790 State Route 7  
New Waterford, OH 44445  
330-892-0164

**Disposal Locations:**

Solidification  
Waste Management, Arden Landfill Permit # 100172  
200 Rangos Lane  
Washington, PA 15301  
724-225-1589

Solidification/Incineration  
Soil Remediation, Inc. Permit # 02-20753  
6065 Arrel-Smith Road  
Lowelville, OH 44436  
330-536-6825

Adams #1 (Buckeye Brine, LLC)  
Permit # 34-031-2-7177  
23986 Airport Road  
Coshocton, OH 43812  
740-575-4484  
512-478-6545

Adams #2 (Buckeye Brine, LLC)  
2205 Westover Road  
Austin Tx 78703  
Permit # 34-031-2-7178  
740-575-4484  
512-478-6545

Adams #3 (Buckeye Brine, LLC)  
Permit #34-031-2-7241-00-00  
2630 Exposition, Suite 117  
Austin, TX 78703  
512-478-6545

Mozena #1 Well (SWIW # 13)  
Permit # 34-157-2-5511-00-00  
5367 E. State Street  
Newcomerstown, OH 43832  
740-763-3966

Goff SWD #1 (SWIW # 27)  
Permit # 34-119-2-8776-000  
300 Cherrington Pkwy, Suite 200  
Coraopolis, PA 15108  
412-329-7275

Nichlos 1-A (SWIW #13)  
Permit # 3862  
300 Cherrington Pkwy, Suite 200  
Coraopolis, PA 15108  
412-329-7275

Groselle (SWIW #34)  
Permit # 4096  
Rt. 88  
Garrettsville, OH  
713-275-4816

Kemble 1-D Well  
Permit # 8780  
7675 East Pike  
Norwich, Oh 43767  
614-648-8898  
740-796-6495

**Received**  
**Office of Oil & Gas**  
**APR 30 2015**

07/03/2015



09502262



# Site Safety Plan

**Noble Energy, Inc.**

**Pen 03/31 Well Pad**

*PHS*

**March 2015: Version 1**

**For Submission to  
West Virginia Department of Environmental Protection,  
Office of Oil and Gas**

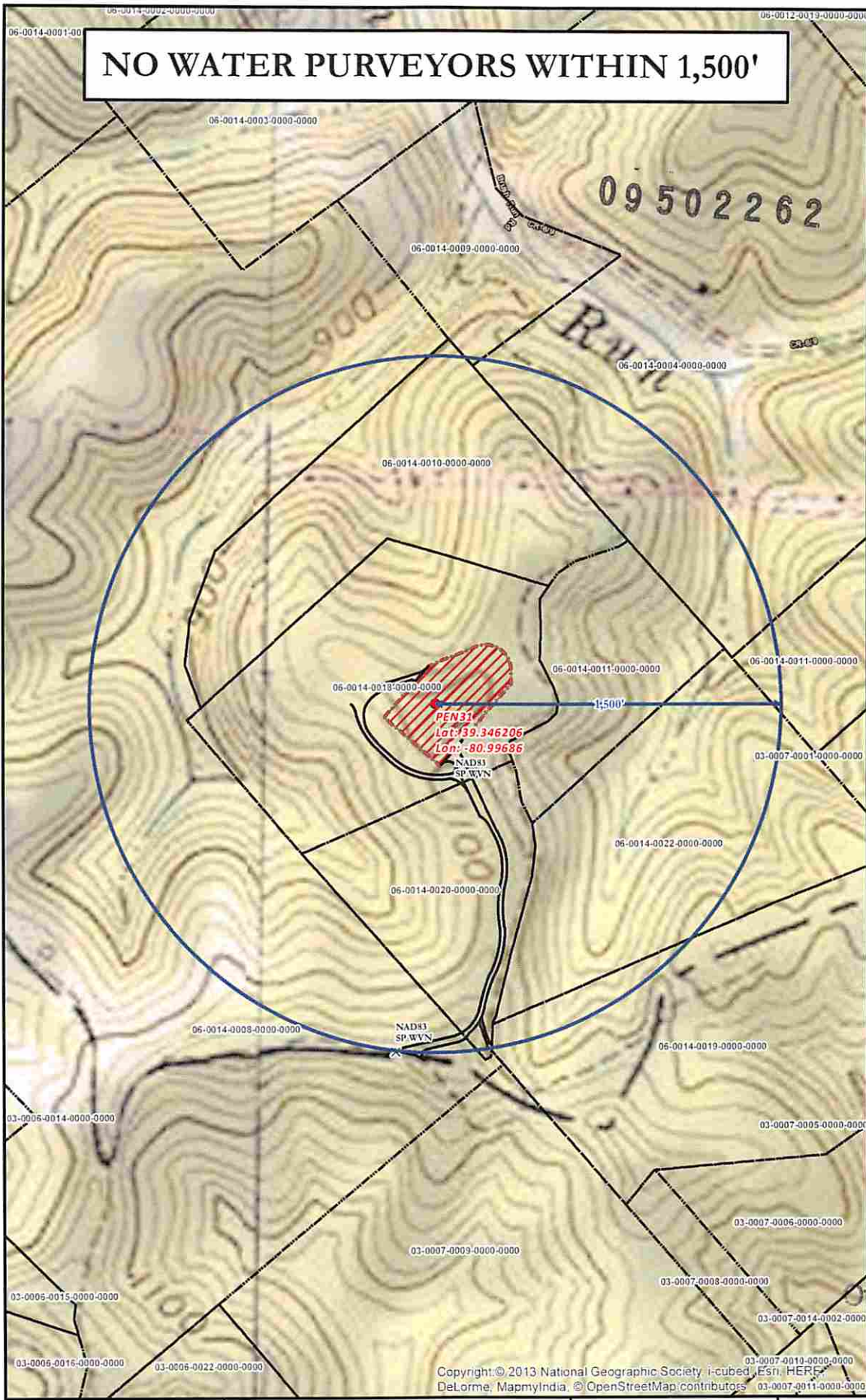
Noble Energy, Inc.  
Appalachia Offices  
1000 Noble Energy Drive  
Canonsburg, PA 15317-9504

*Michael D. Doff  
3/23/15*

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# NO WATER PURVEYORS WITHIN 1,500'



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**PEN 31 SITE SAFETY PLAN**  
- WATER WELL PURVEYORS -



Date: 4/9/2015  
Author: Christopher Glover

- Well Pad
- Cistern
- Water Well
- Access Road
- Well Pad Boundary
- Surface Parcels (Resolved)
- 1500' Water Wells Buffer

Projection: NAD 1927 StatePlane West Virginia North FIPS 4701  
Units: Foot US  
\*\*Disclaimer: All data is licensed for use by Noble Energy Inc. use only.\*\*

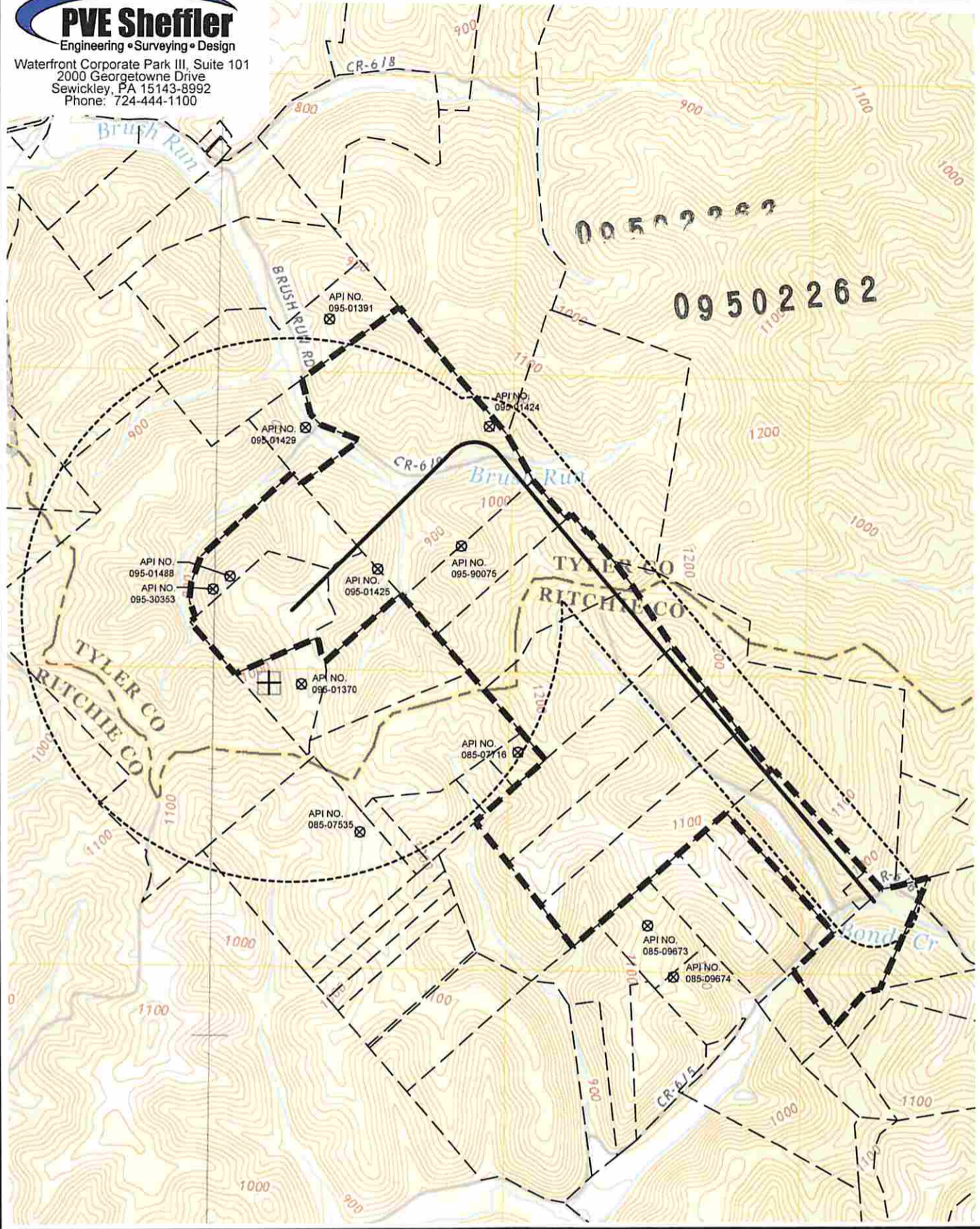
6/07/03/2015  
6



**PVE Sheffler**  
 Engineering • Surveying • Design  
 Waterfront Corporate Park III, Suite 101  
 2000 Georgetowne Drive  
 Sewickley, PA 15143-8992  
 Phone: 724-444-1100

Well is located on topo map 10,484 feet south of Latitude: 39° 22' 30"

Well is located on topo map 10,929 feet west of Longitude: 80° 57' 30"



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



DATE: APRIL 10, 2015  
 OPERATOR'S WELL #: PEN31F  
 API WELL # 47 095  
 STATE COUNTY PERMIT

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

**Received**  
 Office of Oil & Gas  
 APR 10 2015

WATERSHED: OUTLET MIDDLE ISLAND CREEK ELEVATION: 1114.88'  
 COUNTY/DISTRICT: TYLER / MEADE QUADRANGLE: PENNSBORO, WV  
 SURFACE OWNER: NOBLE ENERGY INC. ACREAGE: 29.84 AC.  
 OIL & GAS ROYALTY OWNER: BARBARA & BUDDIE BUNNER, ET AL. ACREAGE: 29.84 AC.

**07/03/2015**

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,331 ± TMD: 13,596 ±  
 WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: JESSICA ALSOP  
 Address: 1000 NOBLE ENERGY DRIVE Address: 301 GOLDEN EAGLE DRIVE  
 City CANONSBURG State PA Zip Code 15317 City MORGANTOWN State WV Zip Code 26508





Waterfront Corporate Park III, Suite 101  
2000 Georgetowne Drive  
Sewickley, PA 15143-8992  
Phone: 724-444-1100

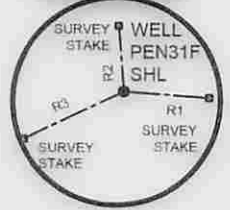
Well is located on topo map 10,484 feet south of Latitude: 39° 22' 30"

| LINE | BEARING     | DISTANCE |
|------|-------------|----------|
| R1   | N85°43'15"W | 446.29'  |
| R2   | S04°36'04"E | 343.18'  |
| R3   | N84°57'29"E | 574.06'  |
| R4   | N43°14'00"E | 941.54'  |
| R5   | S38°07'22"W | 569.97'  |

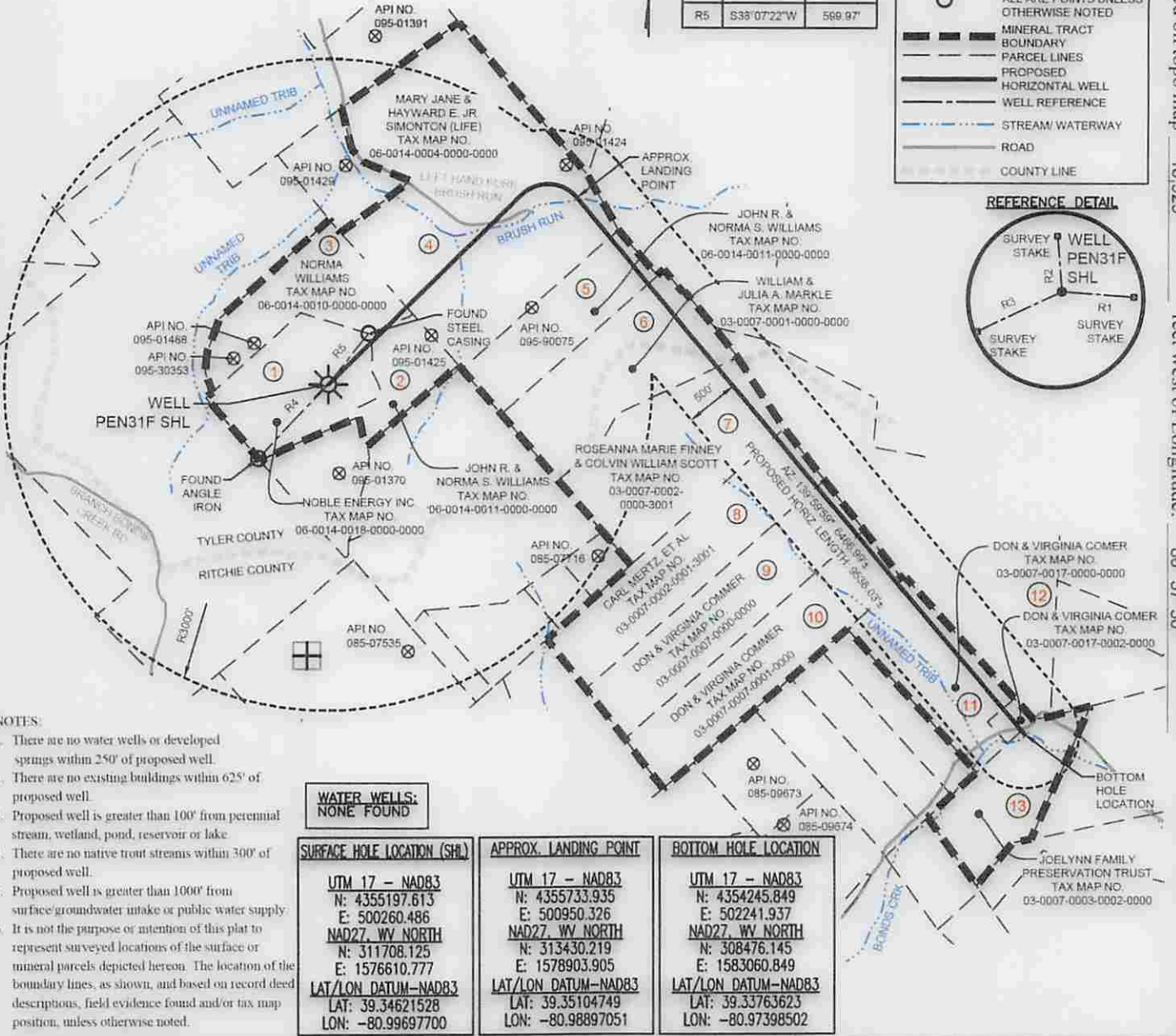
**LEGEND**

- TOPO MAP POINT
- PROPOSED WELL
- WATER SOURCE
- LEASED NUMBER BASED ON ATTACHED WW6A1
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- PROPOSED HORIZONTAL WELL
- WELL REFERENCE
- STREAM/WATERWAY
- ROAD
- COUNTY LINE

**REFERENCE DETAIL**



Well is located on topo map 10,929 feet west of Longitude: 80° 57' 30"



**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, and based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

**WATER WELLS:  
NONE FOUND**

**SURFACE HOLE LOCATION (SHL)**

UTM 17 - NAD83  
N: 4355197.613  
E: 500260.486  
NAD27, WV NORTH  
N: 311708.125  
E: 1576610.777  
LAT/LON DATUM-NAD83  
LAT: 39.34621528  
LON: -80.99697700

**APPROX. LANDING POINT**

UTM 17 - NAD83  
N: 4355733.935  
E: 500950.326  
NAD27, WV NORTH  
N: 313430.219  
E: 1578903.905  
LAT/LON DATUM-NAD83  
LAT: 39.35104749  
LON: -80.98897051

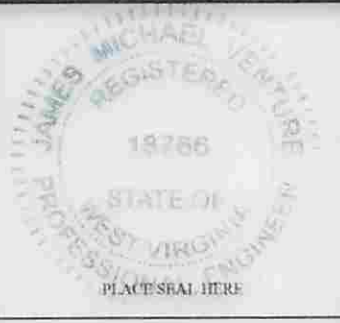
**BOTTOM HOLE LOCATION**

UTM 17 - NAD83  
N: 4354245.849  
E: 502241.937  
NAD27, WV NORTH  
N: 308476.145  
E: 1583060.849  
LAT/LON DATUM-NAD83  
LAT: 39.33763623  
LON: -80.97398502

FILE #: PEN31F  
DRAWING #: PEN31F  
SCALE: 1"=1500'  
MINIMUM DEGREE OF ACCURACY: 1/2500  
PROVEN SOURCE OF ELEVATION: USGS MONUMENT V 131: 772.87'

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: [Signature]  
R.P.E.: 18766 L.L.S.: P.S. NO. \_\_\_\_\_



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



DATE: APRIL 10, 2015  
OPERATOR'S WELL #: PEN31F  
API WELL # 47 095 02262  
STATE COUNTY PERMIT

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

WATERSHED: OUTLET MIDDLE ISLAND CREEK ELEVATION: 1114.88'  
COUNTY/DISTRICT: TYLER / MEADE QUADRANGLE: PENNSBORO, WV  
SURFACE OWNER: NOBLE ENERGY INC. ACREAGE: 29.84 AC.  
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CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,331 ± TMD: 13,596 ±  
WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: JESSICA ALSOP  
Address: 1000 NOBLE ENERGY DRIVE Address: 301 GOLDEN EAGLE DRIVE  
City CANONSBURG State PA Zip Code 15317 City MORGANTOWN State WV Zip Code 26508

07/03/2015

WW-6A1  
(3/13)

Operator's Well No. PEN31 FHS

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

| Lease Name or Number                            | Grantor, Lessor, etc.                        | Grantee, Lessee, etc.   | Royalty                                | Book/Page          |
|---|--|---|--|--------------------|
| 1. Q079293001<br>Tax Map 06-14-18               | Barbara & Buddie Bunner                      | Noble Energy Inc<br>(See attached for additional Lessors)                             | not less than 1/8                      | 432/181            |
| 2. Q070902001<br>Q070902002<br>Tax Map 06-14-11 | Richard L Clark<br>John R & Norma S Williams | Noble Energy Inc<br>Chesterfield Energy Corp<br>(See attached for Leasehold chain)    | not less than 1/8<br>not less than 1/8 | 404/217<br>290/307 |
| 3. Q070902002<br>Tax Map 06-14-10               | John R & Norma S Williams                    | Chesterfield Energy Corp<br>(See attached for Leasehold chain)                        | not less than 1/8                      | 290/307            |
| 4.<br>Tax Map 06-4-4                            | Hayward E Jr & Linda Simonton                | Chesterfield Energy Corp<br>(See attached for additional Lessors and Leasehold chain) | not less than 1/8                      | 280/477            |

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

WV Division of Water and Waste Management  
WV Division of Natural Resources WV Division of Highways  
U.S. Army Corps of Engineers  
U.S. Fish and Wildlife Service  
County Floodplain Coordinator

**Received**  
**Office of Oil & Gas**  
**APR 30 2015**

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Noble Energy Inc

By: \_\_\_\_\_

Its: \_\_\_\_\_

Operations Landman



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|-----------------------------------|----------------------------|---|-------------------|-----------|
| 5. Q070902002<br>Tax Map 06-14-11 | John R & Norma S Williams  | Chesterfield Energy Corp<br>(See attached for Leasehold chain)                | not less than 1/8 | 290/307   |
| 6.<br>Tax Map 03-7-1              | William B & Julie A Markle | J & J Enterprises Inc<br>(See attached for Leasehold chain)                   | not less than 1/8 | 169/308   |
| 7.<br>Tax Map 03-7-2              | Gary A Toth                | Noble Energy Inc<br>(See attached for additional Lessors and Leasehold chain) | not less than 1/8 | 274/565   |
| 8.<br>Tax Map 03-7-2.1            | Gary A Toth                | Noble Energy Inc<br>(See attached for additional Lessors and Leasehold chain) | not less than 1/8 | 274/565   |

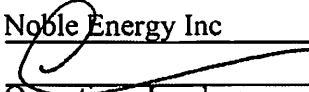
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Well Operator: Noble Energy Inc  
By:   
Its: Operations Landman

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| Lease Name or Number               | Grantor, Lessor, etc.             | Grantee, Lessee, etc.   | Royalty           | Book/Page |
|------------------------------------|-----------------------------------|---|-------------------|-----------|
| 9. DV016722<br>Tax Map 03-7-7      | R E & Betty Lee Markle            | Consolidated Gas Supply Corporation<br>(See attached for Leasehold chain) | not less than 1/8 | 112/556   |
| 10. DV016722<br>Tax Map 03-7-7.1   | R E & Betty Lee Markle            | Consolidated Gas Supply Corporation<br>(See attached for Leasehold chain) | not less than 1/8 | 112/556   |
| 11. DV016722<br>Tax Map 03-7-17    | R E & Betty Lee Markle            | Consolidated Gas Supply Corporation<br>(See attached for Leasehold chain) | not less than 1/8 | 112/556   |
| 12. DV016722<br>Tax Map 03-7-17.2  | R E & Betty Lee Markle            | Consolidated Gas Supply Corporation<br>(See attached for Leasehold chain) | not less than 1/8 | 112/556   |
| 13. Q076562000<br>Tax Map 03-7-3.2 | Joelynn Family Preservation Trust | Noble Energy Inc  | not less than 1/8 | 266/832   |

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Well Operator: Noble Energy Inc  
By: [Signature]  
Its: Operations Landman

09502262

| PEN31 FHS   | LEASEHOLD CHAIN                      | GRANTOR/LESSOR                       | GRANTEE/LESSEE                       | ROYALTY | BOOK/PAGE  |
|-------------|--------------------------------------|--------------------------------------|--------------------------------------|---------|------------|
| ITEM NUMBER |                                      |                                      |                                      |         |            |
| 1           | Spartan Exploration Co               | Acadian Energy Resources             | Acadian Energy Resources             | 0%      | 369/405    |
| *6-14-18    | Acadian Energy Resources LLC         | Tenaska Resources LLC                | Tenaska Resources LLC                | 0%      | 370/809    |
|             | Acadian Energy Resources LLC         | TSAR - WV LLC                        | TSAR - WV LLC                        | 0%      | 382/434    |
|             | Tenaska Resources LLC                | Chesapeake Resources LLC             | Chesapeake Appalachia LLC            | 0%      | 403/414    |
|             | TSAR - WV LLC                        | Chesapeake Appalachia LLC            | Chesapeake Appalachia LLC            | 0%      | 403/414    |
|             | Chesapeake Appalachia LLC            | Statoil USA Onshore Properties Inc   | Statoil USA Onshore Properties Inc   | 0%      | 412/126    |
|             | Chesapeake Appalachia LLC            | Noble Energy Inc                     | Noble Energy Inc                     |         |            |
|             | Statoil USA Onshore Properties Inc   | CNX Gas Company LLC                  | CNX Gas Company LLC                  | 0%      | 424/185    |
| 2           | Chesterfield Energy Corporation      | Dominion Appalachian Development Inc | Dominion Appalachian Development Inc | 0%      | Withdrawal |
| *6-14-11    | Dominion Appalachian Development Inc | Dominion Appalachian Development LLC | Dominion Appalachian Development LLC | 0%      | Conversion |
|             | Dominion Appalachian Development LLC | CNX Gas Company LLC                  | CNX Gas Company LLC                  | 0%      | Merger     |
|             | CNX Gas Company LLC                  | Noble Energy Inc                     | Noble Energy Inc                     | 0%      | 388/286    |
| 3           | Chesterfield Energy Corporation      | Dominion Appalachian Development Inc | Dominion Appalachian Development Inc | 0%      | Withdrawal |
| *6-14-10    | Dominion Appalachian Development Inc | Dominion Appalachian Development LLC | Dominion Appalachian Development LLC | 0%      | Conversion |
|             | Dominion Appalachian Development LLC | CNX Gas Company LLC                  | CNX Gas Company LLC                  | 0%      | Merger     |
|             | CNX Gas Company LLC                  | Noble Energy Inc                     | Noble Energy Inc                     | 0%      | 388/286    |
| 4           | Anvil Oil & Gas Company              | Chesterfield Energy Corporation      | Chesterfield Energy Corporation      | 0%      | 286/310    |
| *6-14-4     | Chesterfield Energy Corporation      | Dominion Appalachian Development Inc | Dominion Appalachian Development Inc | 0%      | Withdrawal |
|             | Dominion Appalachian Development Inc | Dominion Appalachian Development LLC | Dominion Appalachian Development LLC | 0%      | Conversion |
|             | Dominion Appalachian Development LLC | CNX Gas Company LLC                  | CNX Gas Company LLC                  | 0%      | Merger     |
|             | CNX Gas Company LLC                  | Noble Energy Inc                     | Noble Energy Inc                     | 0%      | 388/286    |
| 5           | Chesterfield Energy Corporation      | Dominion Appalachian Development Inc | Dominion Appalachian Development Inc | 0%      | Withdrawal |
| *6-14-11    | Dominion Appalachian Development Inc | Dominion Appalachian Development LLC | Dominion Appalachian Development LLC | 0%      | Conversion |
|             | Dominion Appalachian Development LLC | CNX Gas Company LLC                  | CNX Gas Company LLC                  | 0%      | Merger     |
|             | CNX Gas Company LLC                  | Noble Energy Inc                     | Noble Energy Inc                     | 0%      | 388/286    |

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|          |   |   |   |    |                |
|----------|---|---|---|----|----------------|
| 6        | J & J Enterprises Inc                     | Equitable Resources Energy Company        | Equitable Resources Energy Company        | 0% | 208/132        |
| *3-7-1   | Equitable Resources Energy Company        | Enervest East Limited Partnership         | Enervest East Limited Partnership         | 0% | 222/273        |
|          | Enervest East Limited Partnership         | Houston Exploration Company               | Houston Exploration Company               | 0% | 234/890        |
|          | Houston Exploration Company               | Seneca-Upshur Petroleum Inc               | Seneca-Upshur Petroleum Inc               | 0% | 236/650        |
|          | Seneca-Upshur Petroleum Inc               | Seneca-Upshur Petroleum LLC               | Seneca-Upshur Petroleum LLC               | 0% | 311/863        |
|          | J & J Enterprises Inc                     | Eastern American Energy Corporation       | Eastern American Energy Corporation       | 0% | 231/732        |
|          | Eastern American Energy Corporation       | Energy Corporation of America             | Energy Corporation of America             | 0% | 306/836        |
|          | Energy Corporation of America             | Antero Resources Appalachian Corporation  | Antero Resources Appalachian Corporation  | 0% | 398/416        |
|          | Seneca-Upshur Petroleum LLC               | Antero Resources Appalachian Corporation  | Antero Resources Appalachian Corporation  | 0% | 258/987        |
|          | Antero Resources Appalachian Corporation  | Antero Resources Corporation              | Antero Resources Corporation              | 0% | Change of name |
|          | Antero Resources Corporation              | Noble Energy Inc                          | Noble Energy Inc                          | 0% | 281/393        |
|          | Antero Resources Corporation              | CNX Gas Company LLC                       | CNX Gas Company LLC                       | 0% | 281/393        |
| 7        | Antero Resources Appalachian Corporation  | Antero Resources Corporation              | Antero Resources Corporation              | 0% | Change of name |
| *3-7-2   | Antero Resources Corporation              | Noble Energy Inc                          | Noble Energy Inc                          | 0% | 281/393        |
| 8        | Antero Resources Appalachian Corporation  | Antero Resources Corporation              | Antero Resources Corporation              | 0% | Change of name |
| *3-7-2.1 | Antero Resources Corporation              | Noble Energy Inc                          | Noble Energy Inc                          | 0% | 281/393        |
| 9        | Consolidated Gas Supply Corporation       | Consolidated Gas Transmission Corporation | Consolidated Gas Transmission Corporation | 0% | 169/756        |
| *3-7-7   | Consolidated Gas Transmission Corporation | CNG Development Company                   | CNG Development Company                   | 0% | 176/601        |
|          | CNG Development Company                   | CNG Producing Company                     | CNG Producing Company                     | 0% | 211/100        |
|          | CNG Producing Company                     | Dominion Exploration & Production Inc     | Dominion Exploration & Production Inc     | 0% | 58/366         |
|          | Dominion Exploration & Production Inc     | Dominion Transmission Inc                 | Dominion Transmission Inc                 | 0% | Change of name |
|          | Dominion Transmission Inc                 | Consol Gas Company                        | Consol Gas Company                        | 0% | 251/621        |
|          | Consol Gas Company                        | CNX Gas Company LLC                       | CNX Gas Company LLC                       | 0% | 6/634          |
|          | CNX Gas Company LLC                       | Noble Energy Inc                          | Noble Energy Inc                          | 0% | Merger         |
|          |   |   |   | 0% | 6/634          |
|          |   |   |   | 0% | Merger         |
|          |   |   |   | 0% | 254/811        |

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Office of Oil & Gas  
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|            |   |   |    |                           |
|------------|---|---|----|---------------------------|
| 10         | Consolidated Gas Supply Corporation       | Consolidated Gas Transmission Corporation | 0% | 169/756                   |
| 3-7-1      | Consolidated Gas Transmission Corporation | CNG Development Company                   | 0% | 176/601                   |
|            | CNG Development Company                   | CNG Producing Company                     | 0% | 211/100                   |
|            | CNG Producing Company                     | Dominion Exploration & Production Inc     | 0% | 58/366                    |
|            | Dominion Exploration & Production Inc     | Dominion Transmission Inc                 | 0% | Change of name<br>251/621 |
|            | Dominion Transmission Inc                 | Consol Gas Company                        | 0% | 6/634                     |
|            | Consol Gas Company                        | CNX Gas Company LLC                       | 0% | Merger<br>6/634           |
|            | CNX Gas Company LLC                       | Noble Energy Inc                          | 0% | Merger<br>254/811         |
| 11         | Consolidated Gas Supply Corporation       | Consolidated Gas Transmission Corporation | 0% | 169/756                   |
| *3-7-17    | Consolidated Gas Transmission Corporation | CNG Development Company                   | 0% | 176/601                   |
|            | CNG Development Company                   | CNG Producing Company                     | 0% | 211/100                   |
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|            | Dominion Transmission Inc                 | Consol Gas Company                        | 0% | 6/634                     |
|            | Consol Gas Company                        | CNX Gas Company LLC                       | 0% | Merger<br>6/634           |
|            | CNX Gas Company LLC                       | Noble Energy Inc                          | 0% | Merger<br>254/811         |
| 12         | Consolidated Gas Supply Corporation       | Consolidated Gas Transmission Corporation | 0% | 169/756                   |
| *3-17-17.2 | Consolidated Gas Transmission Corporation | CNG Development Company                   | 0% | 176/601                   |
|            | CNG Development Company                   | CNG Producing Company                     | 0% | 211/100                   |
|            | CNG Producing Company                     | Dominion Exploration & Production Inc     | 0% | 58/366                    |
|            | Dominion Exploration & Production Inc     | Dominion Transmission Inc                 | 0% | Change of name<br>251/621 |

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|  |   |   |    |                 |
|--|---|---|----|-----------------|
|  | Dominion Transmission Inc                 | Consol Gas Company                      |    | 6/634<br>Merger |
|  | Consol Gas Company<br>CNX Gas Company LLC | CNX Gas Company LLC<br>Noble Energy Inc | 0% | 6/634<br>Merger |
|  |   |   | 0% | 254/811         |

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| PEN31 FHS<br>ITEM NUMBER | ADDITIONAL LESSORS |  | GRANTOR/LESSOR                    | GRANTEE/LESSEE   | ROYALTY           | BOOK/PAGE |
|--------------------------|--------------------|--|-----------------------------------|------------------|-------------------|-----------|
|                          | LEASE NUMBER       |  |                                   |                  |                   |           |
| 1                        | Q079293002         |  | Eleanor L Stewart                 | Noble Energy Inc | not less than 1/8 | 432/178   |
| *6-14-18                 | Q079293003         |  | Good Samaritan                    | Noble Energy Inc | not less than 1/8 | 432/175   |
|                          | Q079293004         |  | Helen D Markle                    | Noble Energy Inc | not less than 1/8 | 432/172   |
|                          | Q079293005         |  | Candance L Ferrebee               | Noble Energy Inc | not less than 1/8 | 432/169   |
|                          | Q079293006         |  | Joann & Albert Paul Barkhurst     | Noble Energy Inc | not less than 1/8 | 432/166   |
|                          | Q079293007         |  | Naomi & George L Neely            | Noble Energy Inc | not less than 1/8 | 433/24    |
|                          | Q079293008         |  | Beatrice C & Lewis E Pierce       | Noble Energy Inc | not less than 1/8 | 433/21    |
|                          | Q079293009         |  | Charlene A Bryant                 | Noble Energy Inc | not less than 1/8 | 432/638   |
|                          | Q079293010         |  | Brenda G & Carl R Highlander      | Noble Energy Inc | not less than 1/8 | 432/600   |
|                          | Q079293011         |  | St John United Methodist Church   | Noble Energy Inc | not less than 1/8 | 432/633   |
|                          | Q079293012         |  | Sandra Hiley                      | Noble Energy Inc | not less than 1/8 | 432/630   |
|                          | Q079293013         |  | Rachel D Morrison                 | Noble Energy Inc | not less than 1/8 | 432/628   |
|                          | Q079293014         |  | Patricia Lynn & Steve V Blackwell | Noble Energy Inc | not less than 1/8 | 432/625   |
|                          | Q079293015         |  | Merle Lee Hiley                   | Noble Energy Inc | not less than 1/8 | 432/622   |
|                          | Q079293016         |  | Linda L & Richard A Strosky       | Noble Energy Inc | not less than 1/8 | 432/619   |
|                          | Q079293017         |  | Kenneth Allen & Helen M Markle    | Noble Energy Inc | not less than 1/8 | 432/616   |
|                          | Q079293018         |  | Dorothy A & Robert W Reardon      | Noble Energy Inc | not less than 1/8 | 432/613   |
|                          | Q079293019         |  | Deborah D Conrad                  | Noble Energy Inc | not less than 1/8 | 432/610   |
|                          | Q079293020         |  | Barbara L & Troy Vanek            | Noble Energy Inc | not less than 1/8 | 432/607   |
|                          | Q079293021         |  | Linda Jeanne McCoy                | Noble Energy Inc | not less than 1/8 | 432/840   |
|                          | Q079293022         |  | Georgia Maxine Ferrebee           | Noble Energy Inc | not less than 1/8 | 432/636   |
|                          | Q079293023         |  | Keith Cecil & Mona Hess           | Noble Energy Inc | not less than 1/8 | 438/152   |
|                          | Q079293024         |  | Victoria Ann McCray               | Noble Energy Inc | not less than 1/8 | 437/744   |
|                          | Q079293025         |  | Betty L & John O Baker, Sr        | Noble Energy Inc | not less than 1/8 | 437/742   |
|                          | Q079293026         |  | Donald Lee Burrows                | Noble Energy Inc | not less than 1/8 | 437/746   |
|                          | Q079293027         |  | John & Kathleen M Markle          | Noble Energy Inc | not less than 1/8 | 438/128   |
|                          | Q079293028         |  | Jeffrey A Burrows                 | Noble Energy Inc | not less than 1/8 | 438/130   |
|                          | Q079293029         |  | Scott's Run Settlement House      | Noble Energy Inc | not less than 1/8 | 437/748   |
|                          | Q079293030         |  | Alice May & Harry F Wood          | Noble Energy Inc | not less than 1/8 | 437/763   |
|                          | Q079293031         |  | Cyndy Faye & Arnold D Weeks, Jr   | Noble Energy Inc | not less than 1/8 | 437/761   |

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|            |  |                       |                   |         |
|------------|--|-----------------------|-------------------|---------|
| Q079293032 | Donald R Hiley                         | Noble Energy Inc      | not less than 1/8 | 437/758 |
| Q079293033 | Jonathon & Christine Barnhart          | Noble Energy Inc      | not less than 1/8 | 437/756 |
| Q079293034 | Lovia Marie Seckman                    | Noble Energy Inc      | not less than 1/8 | 437/750 |
| Q079293035 | Nancy Marie White                      | Noble Energy Inc      | not less than 1/8 | 437/752 |
| Q079293036 | Vikki D Underwood                      | Noble Energy Inc      | not less than 1/8 | 437/754 |
| Q079293037 | Cecil Leroy Lowe                       | Noble Energy Inc      | not less than 1/8 | 435/62  |
| Q079293038 | Sandra J & John Hritz                  | Noble Energy Inc      | not less than 1/8 | 435/58  |
| Q079293039 | James Clair & Carolyn Sue Carney       | Noble Energy Inc      | not less than 1/8 | 435/56  |
| Q079293040 | Harry Clifford & Cynthia Hess          | Noble Energy Inc      | not less than 1/8 | 438/156 |
| Q079293041 | Charles Frederick & Judith Lynn Carney | Noble Energy Inc      | not less than 1/8 | 438/150 |
| Q079293042 | Daniel J Howell                        | Noble Energy Inc      | not less than 1/8 | 435/52  |
| Q079293043 | Loretta Pearl Fisher                   | Noble Energy Inc      | not less than 1/8 | 435/68  |
| Q079293044 | Yvonne A Sword                         | Noble Energy Inc      | not less than 1/8 | 435/66  |
| Q079293045 | Donald H & Felipa M Carney             | Noble Energy Inc      | not less than 1/8 | 438/74  |
| Q079293046 | Scott Randolph                         | Noble Energy Inc      | not less than 1/8 | 438/206 |
| Q079293047 | Harold Ray Carney                      | Noble Energy Inc      | not less than 1/8 | 438/192 |
| Q079293048 | Ronald A Carney                        | Noble Energy Inc      | not less than 1/8 | 438/194 |
| Q079293049 | Ida L Baisden                          | Noble Energy Inc      | not less than 1/8 | 438/126 |
| Q079293050 | Dale M Baker                           | Noble Energy Inc      | not less than 1/8 | 438/102 |
| Q079293051 | Marianne & Frederick Poholek           | Noble Energy Inc      | not less than 1/8 | 438/92  |
| Q079293052 | Karla K & James Miller                 | Noble Energy Inc      | not less than 1/8 | 435/48  |
| Q079293053 | Janice C Northcraft                    | Noble Energy Inc      | not less than 1/8 | 435/50  |
| Q079293054 | Eugene E Randolph                      | Noble Energy Inc      | not less than 1/8 | 458/745 |
| Q079293055 | Benjamin L Baker                       | Noble Energy Inc      | not less than 1/8 | 464/220 |
| Q079293056 | Colleen M Sheppard                     | Noble Energy Inc      | not less than 1/8 | 446/75  |
| Q079293057 | Todd A Schmidt                         | Noble Energy Inc      | not less than 1/8 | 444/59  |
| Q079293058 | Stanley M Kowaleski Jr                 | Noble Energy Inc      | not less than 1/8 | 442/345 |
| Q079293059 | Leisa Ann Caton                        | Noble Energy Inc      | not less than 1/8 | 442/343 |
| Q079293060 | Jeffrey Barnhart                       | Noble Energy Inc      | not less than 1/8 | 449/776 |
| Q079293061 | Diane Campbell                         | Noble Energy Inc      | not less than 1/8 | 449/549 |
| Q079293062 | Karen L & Brian C Durham               | Noble Energy Inc      | not less than 1/8 | 449/551 |
| Q079293063 | Donald B Fox                           | Noble Energy Inc      | not less than 1/8 | 449/545 |
| Q079293064 | Joyce E Jamieson                       | Noble Energy Inc      | not less than 1/8 | 452/708 |
| Q079293065 | Henry Markle                           | Sparta Exploration Co | not less than 1/8 | 357/80  |

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|        |            | Hansel James Phillips                | Noble Energy Inc                           | not less than 1/8 | Copy of Memorandum |
|--------|------------|--------------------------------------|--|-------------------|--------------------|
|        | Q079293066 |                                      | Noble Energy Inc                           | not less than 1/8 | Copy of Memorandum |
|        | Q079293067 | Dorothy V Carney & Roger L Wiseman   | Noble Energy Inc                           | not less than 1/8 | Memorandum         |
|        | Q079293068 | Jason Barnhart                       | Noble Energy Inc                           | not less than 1/8 | 474/52             |
|        | Q079293069 | Alexander Hiley                      | Noble Energy Inc                           | not less than 1/8 | Copy of Lease      |
|        | Q079293070 | Justin Hiley                         | Noble Energy Inc                           | not less than 1/8 | Copy of Lease      |
|        |            | Deborah Sue Williams                 | Noble Energy Inc                           | not less than 1/8 | Copy of Memorandum |
|        |            | Franklin & Mary Simonton             | Chesterfield Energy Corporation            | not less than 1/8 | 285/123            |
| 4      |            | Arlene Moore                         | Anvil Oil Company                          | not less than 1/8 | 276/399            |
| *6-4-4 |            | James R & Frances M Ash              | Anvil Oil Company                          | not less than 1/8 | 282/60             |
|        |            | Harry Ash heirs, by Attorney in fact | Anvil Oil Company                          | not less than 1/8 | 282/60             |
|        |            | Enid & Howard McCullough             | Anvil Oil Company                          | not less than 1/8 | 286/28             |
|        |            |                                      |  |                   |                    |
|        | Q080521003 | Mary Myer                            | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/790            |
|        | Q080521004 | William Markle                       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/775            |
|        | Q080521005 | Shirley Deulley                      | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/823            |
|        | Q080521006 | David & Betty Colvin                 | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/827            |
|        | Q080521007 | Ronnie Krajcik                       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/815            |
|        | Q080521008 | Robert Bonner                        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 278/774            |

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|            |                     |  |                   |          |
|------------|---------------------|--|-------------------|----------|
| Q080521009 | Johnny Metz         | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/802  |
| Q080521010 | Sandra Metz         | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/794  |
| Q080521011 | Scott Colvin        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 278/770  |
| Q080521012 | Donna Keesecker     | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/786  |
| Q080521013 | Linda Butler        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 263/1032 |
| Q080521014 | Debrah Markle       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/771  |
| Q080521015 | Larry & Sharon Metz | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/782  |
| Q080521016 | Ronald Metz         | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/798  |
| Q080521017 | Roger Krajcik       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/819  |
| Q080521018 | Joella Lam          | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/810  |
| Q080521019 | David Markle        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 278/778  |
| Q080521020 | Roseanna Finney     | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 276/581  |
| Q080521021 | Carl & Jeannie Metz | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/806  |

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|          |            |                      |  |                   |          |
|----------|------------|----------------------|--|-------------------|----------|
|          | Q080521022 | Susan Maston         | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 261/1013 |
|          | Q080521023 | Ray Sousa            | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/779  |
| 8        | Q080521003 | Mary Myer            | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/790  |
| *3-7-2.1 | Q080521004 | William Markle       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/775  |
|          | Q080521005 | Shirley Deulley      | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/823  |
|          | Q080521006 | David & Betty Colvin | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/827  |
|          | Q080521007 | Ronnie Krajcik       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/815  |
|          | Q080521008 | Robert Bonner        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 278/774  |
|          | Q080521009 | Johnny Metz          | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/802  |
|          | Q080521010 | Sandra Metz          | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/794  |
|          | Q080521011 | Scott Colvin         | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 278/770  |
|          | Q080521012 | Donna Keesecker      | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/786  |

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|            |                     |  |                   |          |
|------------|---------------------|--|-------------------|----------|
| Q080521013 | Linda Butler        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 263/1032 |
| Q080521014 | Debrah Markle       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/771  |
| Q080521015 | Larry & Sharon Metz | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/782  |
| Q080521016 | Ronald Metz         | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/798  |
| Q080521017 | Roger Krajcik       | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/819  |
| Q080521018 | Joella Lam          | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/810  |
| Q080521019 | David Markle        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 278/778  |
| Q080521020 | Roseanna Finney     | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 276/581  |
| Q080521021 | Carl & Jeannie Metz | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/806  |
| Q080521022 | Susan Maston        | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 261/1013 |
| Q080521023 | Ray Sousa           | Antero Resources<br>Apalachian Corporation | not less than 1/8 | 272/779  |

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MEMORANDUM OF LEASE

09502262

This MEMORANDUM OF LEASE, dated this 30 day of September, 2014, is utilized to indicate the existence of a PAID-UP OIL AND GAS LEASE (hereinafter, "Lease") of even date herewith, by and between Hansel James Phillips, a single man, whose mailing address is: 3737 Beverlin Fork, Center Point, WV 26339 (hereinafter, "Lessor" whether one or more), and NOBLE ENERGY, INC., a Delaware corporation, whose address is at 333 Technology Drive, Suite 116, Canonsburg, Pennsylvania 15317. (hereinafter, "Lessee").

Lessor did LEASE, LET, GRANT, and DEMISE exclusively unto Lessee, its successors and/or assigns, the rights to explore, develop, produce, and market oil and/or gas and all constituent products, including methane gas present in or associated with any coal seam, from the premises described below, subject to the provisions contained in the Lease including, but not limited to the following:

1. PRIMARY TERM: The primary term of the Lease is for a period of five (5) years commencing on the date immediately set forth above, and for so long thereafter as oil, gas, or other substances covered by the Lease are capable of being produced in paying quantities from the Leased Premises or from lands pooled therewith, or the Lease is otherwise maintained or prolonged pursuant to the provisions contained in the Lease, including an extension of term contained therein. Lessee may extend the primary term of the Lease for an additional five (5) years after the end of the primary term, thereby continuing the term of the Lease to the end of the "extended" primary term.

2. DESCRIPTION / LEASED PREMISES: All those certain tracts of land situate in the District of Meade, County of Tyler, State of West Virginia, generally bounded now or formerly as follows:

- On the North by: Norma S. Williams
On the East by: Norma S. Williams
On the South by: Williams Revocable Trust
On the West by: Frank Steven Grass

and being the same land acquired by Lessor by virtue of Instrument recorded in the Office of Clerk of the County Commission in Fiduciary Settlement Book 2: 41, Page 324: 152, said land being identified for tax purposes as 06-14-18 on this date, and stipulated to contain, for the purpose of calculating payments, Twenty-eight (28.00) acres, more or less ("Leased Premises").

This Memorandum of Lease has been executed for the purpose of providing notice of the existence of the Lease and shall not be considered in any way a modification or alteration of the Lease.

WITNESS:

David A. Coathes
Signature

David A Coathes
Printed Name

LESSOR:

Hansel James Phillips
Signature

Printed Name: Hansel James Phillips
Address:

WITNESS:

Signature

Printed Name

LESSEE:

NOBLE ENERGY, INC.

Mark A. Acree
Signature

By: MARK A. ACREE
Its: Attorney-In-Fact

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APR 30 2015

07/03/2015



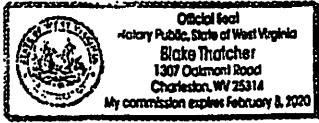
INDIVIDUAL ACKNOWLEDGMENT

STATE / COMMONWEALTH OF WV §  
COUNTY OF Doddridge §

The foregoing instrument was acknowledged before me, this 30 day of September, 2014, by Hansel James Phillips, a single man.

MY COMMISSION EXPIRES: 2/9/2020

[Signature]  
Signature  
Blake Thatcher  
Printed Name  
Notary Public



CORPORATE ACKNOWLEDGMENT

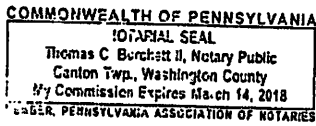
COMMONWEALTH OF PENNSYLVANIA §  
COUNTY OF WASHINGTON §

On this 17 day of NOVEMBER, 2014, before me, the undersigned officer, personally appeared MARK A. ACREE, as Attorney-in-Fact for NOBLE ENERGY, INC., a Delaware corporation, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same for the purposes therein contained and on behalf of said corporation.

In witness thereof, I hereunto set my hand and affixed my seal.

MY COMMISSION EXPIRES:

Thomas C. Burchett II  
Signature  
Thomas C. Burchett II  
Printed Name  
Notary Public



09502262

PREPARED BY / UPON RECORDATION, RETURN TO:  
Land Department  
NOBLE ENERGY, INC.  
333 Technology Drive, Suite 116  
Canonsburg, PA 15317

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Office of Oil & Gas  
APR 30 2015

COPY

MEMORANDUM OF LEASE

This MEMORANDUM OF LEASE, dated this 17 day of Oct, 2014, is utilized to indicate the existence of a PAID-UP OIL AND GAS LEASE (hereinafter, "Lease") of even date herewith, by and between Dorothy V. Carney Wiseman and Roger L. Wiseman, her husband, whose mailing address is: 119 Cliffview Drive, Covington, VA 24426 (hereinafter, "Lessor" whether one or more), and NOBLE ENERGY, INC., a Delaware corporation, whose address is at 333 Technology Drive, Suite 116, Canonsburg, Pennsylvania 15317, (hereinafter, "Lessee").

Lessor did LEASE, LET, GRANT, and DEMISE exclusively unto Lessee, its successors and/or assigns, the rights to explore, develop, produce, and market oil and/or gas and all constituent products, including methane gas present in or associated with any coal seam, from the premises described below, subject to the provisions contained in the Lease including, but not limited to the following:

1. PRIMARY TERM: The primary term of the Lease is for a period of five (5) years commencing on the date immediately set forth above, and for so long thereafter as oil, gas, or other substances covered by the Lease are capable of being produced in paying quantities from the Leased Premises or from lands pooled therewith, or the Lease is otherwise maintained or prolonged pursuant to the provisions contained in the Lease, including an extension of term contained therein. Lessee may extend the primary term of the Lease for an additional five (5) years after the end of the primary term, thereby continuing the term of the Lease to the end of the "extended" primary term.

2. DESCRIPTION / LEASED PREMISES: All those certain tracts of land situate in the District of Meade, County of Tyler, State of West Virginia, generally bounded now or formerly as follows:

- On the North by: Norma S. Williams
- On the East by: Norma S. Williams
- On the South by: Williams Revocable Trust
- On the West by: Frank Stephen Grass

and being the same land acquired by Lessor by virtue of instrument recorded in the Office of Clerk of the County Commission in Sett. Book 48, Page 352, said land being identified for tax purposes as 06-14-18 on this date, and stipulated to contain, for the purpose of calculating payments, Twenty-eight (28.00) acres, more or less ("Leased Premises").

This Memorandum of Lease has been executed for the purpose of providing notice of the existence of the Lease and shall not be considered in any way a modification or alteration of the Lease.

WITNESS:

Jude M. Gibson  
Signature  
Jude m Gibson  
Printed Name

LESSOR:

Dorothy V. Carney Wiseman  
Signature  
Printed Name: Dorothy V. Carney Wiseman  
Address: 119 Cliffview Dr  
Covington VA 24426

WITNESS:

Jude M. Gibson  
Signature  
Jude m Gibson  
Printed Name

LESSOR:

Roger L. Wiseman  
Signature  
Printed Name: Roger L. Wiseman  
Address: Same as above

WITNESS:

\_\_\_\_\_  
Signature  
\_\_\_\_\_  
Printed Name

LESSEE:

NOBLE ENERGY, INC.  
Mark A. Acree  
Signature  
By: MARK A. ACREE  
Its: Attorney-In-Fact A

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09502262

KRISTAL N MAYBERRY  
NOTARY PUBLIC  
COMMONWEALTH OF VIRGINIA  
MY COMMISSION EXPIRES OCT. 31, 2017  
COMMISSION # 7877209

INDIVIDUAL ACKNOWLEDGMENT

STATE / COMMONWEALTH OF Virginia §  
COUNTY OF Allegheny §

The foregoing instrument was acknowledged before me, this 17<sup>th</sup> day of October, 2014, by Dorothy V. Carney Wiseman and Roger L. Wiseman, her husband.

MY COMMISSION EXPIRES:

Kristal N. Mayberry  
Signature  
Kristal N. Mayberry  
Printed Name  
Notary Public

CORPORATE ACKNOWLEDGMENT

COMMONWEALTH OF PENNSYLVANIA §  
COUNTY OF WASHINGTON §

On this 17 day of NOVEMBER, 2014, before me, the undersigned officer, personally appeared MARK A. ACREE, as Attorney-in-Fact for NOBLE ENERGY, INC., a Delaware corporation, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same for the purposes therein contained and on behalf of said corporation.

In witness thereof, I hereunto set my hand and affixed my seal.

MY COMMISSION EXPIRES:

Thomas C. Burchett II  
Signature  
Thomas C. Burchett II  
Printed Name  
Notary Public

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
Thomas C. Burchett II, Notary Public  
Centre Town, Washington County  
Commission Expires March 14, 2018  
PENNSYLVANIA ASSOCIATION OF NOTARIES

PREPARED BY / UPON RECORDATION, RETURN TO:  
Land Department  
NOBLE ENERGY, Inc.  
133 Technology Drive, Suite 116  
Canonsburg, PA 15317

Received  
Office of Oil & Gas  
APR 30 2015

07/03/2015



## PAID-UP OIL AND GAS LEASE

This PAID-UP OIL AND GAS LEASE (hereinafter, "Lessee") is made and entered into this 12th day of November, 2013, (hereinafter, "Effective Date") between Alexander Hilev, a minor, by his Guardian, \_\_\_\_\_, whose mailing address is: 1108 Brock Rd., Athens, GA 30607 (hereinafter, "Lessor," whether one or more), and NOBLE ENERGY, INC., a Delaware corporation, whose address is 333 Technology Drive, Suite 116, Canonsburg, Pennsylvania 15317, (hereinafter, "Lessee"), with Lessor and Lessee being sometimes hereinafter referred to as "Parties".

1. **LEASE:** In consideration of ONE DOLLAR (\$1.00) and other good and valuable consideration, including the bonus consideration paid, the receipt and sufficiency of which are hereby acknowledged, and in further consideration of the covenants and agreements herein contained, Lessor does hereby LEASE, LET, GRANT, and DEMISE exclusively unto Lessee, its successors and/or assigns, the lands and interests hereafter described for the purpose of exploring for, developing, producing and marketing oil, gas and/or other related substances produced in association therewith, including methane gas present in or associated with any coal seam, by any methods now or hereafter known or discovered, in and under the Leased Premises (defined below).

2. **DESCRIPTION / LEASED PREMISES:** All those certain tracts of land situate in the District of Meade, County of Tyler, State of West Virginia, generally bounded now or formerly:

|                  |                                 |
|------------------|---------------------------------|
| On the North by: | <u>Norma S. Williams</u>        |
| On the East by:  | <u>Norma S. Williams</u>        |
| On the South by: | <u>Williams Revocable Trust</u> |
| On the West by:  | <u>Frank Stephen Grass</u>      |

being the same land acquired by Lessor by virtue of instrument recorded in the Office of Clerk of the County Commission in WV Book 4, Page 461 recorded in Ritchie County, WV said land being identified for tax purposes as 06-14-18 on this date, and stipulated to contain for the purpose of calculating all payments required hereunder Twenty-eight (28.00) acres, more or less, hereinafter, "Leased Premises." The Leased Premises shall be deemed to include all accreted or submerged lands contiguous to the Leased Premises claimed or owned by Lessor as well as all strips or parcels of land or interests therein now owned or hereafter acquired by Lessor which adjoin the lands described above.

3. **TERM:** Subject to the other provisions contained herein, this Lease shall be in force for a primary term of five (5) years (hereinafter, "Primary Term") and for so long thereafter as oil, gas or other substances covered hereby are capable of being produced in paying quantities from the Leased Premises, or from lands pooled or unitized therewith, or this Lease is otherwise maintained pursuant to the provisions hereof. It is understood that so long as this Lease is extended beyond the Primary Term by any provision of this Lease, Lessee may commence, resume, or continue the exercise of any of the rights, privileges, or purposes hereof during such extension.

4. **EXTENSION OF TERM:** At Lessee's option, Lessee may extend the Primary Term of this Lease for an additional period equal to the Primary Term hereof by paying or tendering to Lessor an extension payment equal to one hundred percent (100%) of the initial bonus consideration payable at any time prior to the expiration of the Primary Term. If Lessee exercises this option, the Primary Term shall be considered to be continuous commencing on the date hereof, and continuing to the end of the Primary Term so extended.

5. **ROYALTY PAYMENT:** For oil and gas, along with all hydrocarbon and non-hydrocarbon substances produced in association therewith (except storage gas), Lessee shall deliver to Lessor, as royalty, twelve and one-half percent (12.5%) of the net amount realized by Lessee computed at the wellhead. As used in this Lease, the term "net amount realized by Lessee computed at the wellhead" shall mean the gross proceeds received by the Lessee from the sale of oil and gas minus the post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses related to: (a) treatment and processing of oil and gas; (b) separating liquids from gas; (c) transporting oil and gas from wellhead to production or treatment facilities and/or point of sale; (d) compression or dehydration; (e) any and all other reasonable costs and expenses of any kind or nature incurred involving the handling of oil and/or gas from the wellhead to the point of sale. Lessee may pay all taxes and fees levied upon the oil and gas as produced including, but not limited to, gross production, privilege, surveillance, and/or severance taxes or fees, if any imposed now or during the life of this Lease, and deduct a proportionate share of the amount so paid from any amounts payable to Lessor hereunder.

6. **LESSOR'S INTEREST:** If Lessor owns an interest in the Leased Premises less than the entire and undivided estate herein leased then all payments herein provided shall be paid by Lessee only in the proportion to which Lessor's interest bears to the whole and undivided estate. If Lessee receives written notice of adverse claim(s) to the Leased Premises, Lessee, may, in its sole discretion, withhold payment(s), without obligation to pay interest or penalty thereon, until such time as Lessor's ownership is determined, either by compromise or final decree of any court of competent jurisdiction. If the Leased Premises shall hereafter be subdivided, the Leased Premises shall nevertheless be developed and operated as one lease. Lessee shall not be bound by any change in the ownership of the Leased Premises or any change of the address of Lessor, or any heirs, representatives, successors, and/or assigns until Lessee shall have been furnished with written documentation from Lessor as Lessee may reasonably require.

7. **DIRECTION OF PAYMENT:** All payments required to be paid to Lessor herein shall be directed to the Lessor or deposited to Lessor's credit or to the credit of Lessor's respective heirs or assigns by check payable to the order and address as set forth above (or any changed address as may be provided to Lessee in the manner required under this Lease). Lessee shall not be obligated to alter payments as directed above until Lessee receives written notice from Lessor, or Lessor's representatives, heirs, successors, and/or assigns directing Lessee otherwise. Lessee shall not be obligated to make payments until such payments exceed the sum of TWENTY-FIVE DOLLARS (\$25.00), but, in any case, payments shall be made at least once each calendar year.

8. **CONTINUING OPERATIONS:** If at the end of the Primary Term or any subsequent extension thereof this Lease is not being maintained by any other provision hereof but Lessee has commenced operations for drilling, completing, reworking, equipping, or any other operations to obtain production on the Leased Premises or lands pooled or unitized therewith, this Lease shall remain in full force and effect as long as such operations are conducted in a reasonably prudent manner. At any time after the expiration of the Primary Term, if this Lease is not being maintained by any other provision hereof, the Lease shall nevertheless be extended one (1) year beyond the completion of plugging operations of the last well on Leased Premises to permit Lessee to deepen, rework, or recomplete any well on the Leased Premises or lands pooled or unitized therewith, or to commence operations for the drilling of another well on the Leased Premises or lands pooled or unitized therewith, and if such operations result in the production of any substance covered hereby, this Lease will be extended as long thereafter as production continues in paying quantities.

9. **POOLING AND UNITIZATION:** Lessee is hereby granted the right to pool or unitize the Leased Premises, or any part thereof, with any other lands for the production of any substance covered hereby, so as to create one (1) or more drilling or production units. Furthermore, Lessee shall in no event be required to drill more than one (1) well on such unit. Said drilling or

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16. **DEFAULT:** No default shall be declared against the Lessee for failure to make payment or perform any conditions provided for herein unless the Lessee shall refuse or neglect to pay or perform the same for ninety (90) days after having received written notice from Lessor.

17. **SUCCESSORS AND ASSIGNS:** All covenants and conditions between the Parties hereto shall extend to Lessor's heirs, executors, successors, representatives, and/or assigns, and Lessor hereby warrants and agrees to defend the title to the Leased Premises; however, no change or division in ownership of the Leased Premises shall operate to enlarge the obligations or diminish the rights of the Lessee.

18. **UNDERSTANDING OF PARTIES:** This Lease contains all of the agreements and understanding by and between Lessor and Lessee respecting the subject matter hereof, and no implied covenants, obligations, verbal representations, or promises have been made or relied upon by Lessor or Lessee supplementing or modifying this Lease, or as an inducement thereto. The failure of either party to enforce or exercise any provision of this Lease shall not constitute or be considered as a waiver of the provision in the future unless the same is expressed in writing and signed by the respective Parties.

19. **REPRESENTATION OF NON-PRODUCTION:** Lessor hereby represents that, to the best of Lessor's knowledge, information, and/or belief that: (a) no wells have been drilled on the Leased Premises or any lands purportedly pooled or unitized therewith that have not been plugged or abandoned prior to the date hereof; (b) there has been no oil and/or gas produced from the Leased Premises or any lands purportedly pooled or unitized therewith during the last five (5) years; (c) during the last two (2) years Lessor has not received, and is not now receiving, any bonus, delay rental, royalty, shut-in, or any other compensation under, or by virtue, or pursuant to the terms of a prior oil and gas lease, coal bed methane gas lease, or any other lease or contract for the exploration or development of the oil and/or gas in and under the Leased Premises; (d) the Leased Premises are not now subject to any valid, subsisting, or enforceable lease, option, and/or other contract affecting the oil, gas, and/or coal bed methane estate; and (e) there exists no contract or agreement, and/or no condition or event has occurred or is anticipated to occur, which would affect Lessee's use of the surface of the Leased Premises in the exercise of the rights granted hereunder.

20. **SEVERANCE:** If any provision of this Lease is held invalid or unenforceable by any court of competent jurisdiction, the other provisions of this Lease shall remain in full force and effect.

21. **NOTICES:** All notices shall be deemed given when deposited with the United States Postal Service and forwarded via United States Certified Mail, Return Receipt Requested, postage prepaid. A facsimile or emailed message shall be deemed delivered only when if also delivered via the method set out above. All notices shall be delivered to the address shown on the face of this Lease for the Party to be notified, unless a change-of-address had been forwarded to the other Party hereto via the above-described method of notice.

22. **CAPTIONS:** Captions, titles and headings appearing at the beginning of any sections, paragraphs or other subdivisions of this Lease are inserted for convenience of reference only, do not constitute any part of this Lease, and shall be disregarded in construing or interpreting the language hereof.

SEE ADDENDUM ATTACHED HERETO AND BY THIS REFERENCE MADE A PART HEREOF

EXECUTED on the dates set forth in the notary acknowledgements attached hereto, but effective for all purposes as of the Effective Date hereinabove specified. This document may be executed in multiple counterparts, any one of which shall be considered an original and binding upon the signatory parties for all purposes herein.

LESSOR

WITNESS:

Jack R. McKee  
Printed Name: Jack R. McKee

Alexander Hiley by Michelle Fielding Guardian  
Printed Name: Alexander Hiley, a minor, by his Guardian  
Michelle Fielding Guardian  
Address: 1108 Park Rd  
Athens Ga 30607

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Office of Oil & Gas  
APR 30 2015

09502262

INDIVIDUAL ACKNOWLEDGMENT

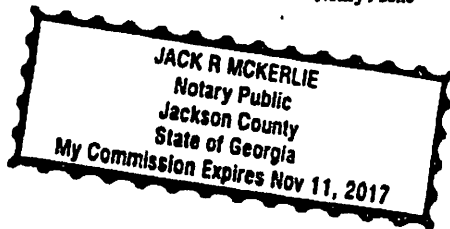
STATE OF Georgia §  
COUNTY OF Jackson §

The foregoing instrument was acknowledged before me, this 19 day of April, 2014 by Alexander Hiley, a minor, by his Guardian.

MY COMMISSION EXPIRES:

Nov, 11, 2017

Signature [Handwritten Signature]  
Printed Name JACK R. MCKERLIE  
Notary Public



PREPARED BY / UPON RECORDATION RETURN TO:  
Land Department  
NOBLE ENERGY, INC.  
333 Technology Drive, Suite 116  
Canonsburg, PA 15317

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Office of Oil & Gas  
APR 30 2015

07/03/2015

## PAID-UP OIL AND GAS LEASE

This PAID-UP OIL AND GAS LEASE (hereinafter, "Lease") is made and entered into this 12th day of November, 2013, (hereinafter, "Effective Date") between Justin Hiley, a minor, by his Guardian, \_\_\_\_\_, whose mailing address is: 1108 Brock Rd., Athens, GA 30607 (hereinafter, "Lessor," whether one or more), and NOBLE ENERGY, INC., a Delaware corporation, whose address is 333 Technology Drive, Suite 116, Canonsburg, Pennsylvania 15317, (hereinafter, "Lessee"), with Lessor and Lessee being sometimes hereinafter referred to as "Parties".

1. **LEASE:** In consideration of ONE DOLLAR (\$1.00) and other good and valuable consideration, including the bonus consideration paid, the receipt and sufficiency of which are hereby acknowledged, and in further consideration of the covenants and agreements herein contained, Lessor does hereby LEASE, LET, GRANT, and DEMISE exclusively unto Lessee, its successors and/or assigns, the lands and interests hereafter described for the purpose of exploring for, developing, producing and marketing oil, gas and/or other related substances produced in association therewith, including methane gas present in or associated with any coal seam, by any methods now or hereafter known or discovered, in and under the Leased Premises (defined below).

2. **DESCRIPTION / LEASED PREMISES:** All those certain tracts of land situate in the District of Meade, County of Tyler, State of West Virginia, generally bounded now or formerly:

|                  |                                 |
|------------------|---------------------------------|
| On the North by: | <u>Norma S. Williams</u>        |
| On the East by:  | <u>Norma S. Williams</u>        |
| On the South by: | <u>Williams Revocable Trust</u> |
| On the West by:  | <u>Frank Stephen Grass</u>      |

being the same land acquired by Lessor by virtue of instrument recorded in the Office of Clerk of the County Commission in Will Book 4, Page 461 recorded in Fitchie County, WV said land being identified for tax purposes as 06-14-18 on this date, and stipulated to contain for the purpose of calculating all payments required hereunder Twenty-eight (28.00) acres, more or less, hereinafter, "Leased Premises." The Leased Premises shall be deemed to include all accreted or submerged lands contiguous to the Leased Premises claimed or owned by Lessor as well as all strips or parcels of land or interests therein now owned or hereafter acquired by Lessor which adjoin the lands described above.

3. **TERM:** Subject to the other provisions contained herein, this Lease shall be in force for a primary term of five (5) years (hereinafter, "Primary Term") and for so long thereafter as oil, gas or other substances covered hereby are capable of being produced in paying quantities from the Leased Premises, or from lands pooled or unitized therewith, or this Lease is otherwise maintained pursuant to the provisions hereof. It is understood that so long as this Lease is extended beyond the Primary Term by any provision of this Lease, Lessee may commence, resume, or continue the exercise of any of the rights, privileges, or purposes hereof during such extension.

4. **EXTENSION OF TERM:** At Lessee's option, Lessee may extend the Primary Term of this Lease for an additional period equal to the Primary Term hereof by paying or tendering to Lessor an extension payment equal to one hundred percent (100%) of the initial bonus consideration payable at any time prior to the expiration of the Primary Term. If Lessee exercises this option, the Primary Term shall be considered to be continuous commencing on the date hereof, and continuing to the end of the Primary Term so extended.

5. **ROYALTY PAYMENT:** For oil and gas, along with all hydrocarbon and non-hydrocarbon substances produced in association therewith (except storage gas), Lessee shall deliver to Lessor, as royalty, twelve and one-half percent (12.5%) of the net amount realized by Lessee computed at the wellhead. As used in this Lease, the term "net amount realized by Lessee computed at the wellhead" shall mean the gross proceeds received by the Lessee from the sale of oil and gas minus the post-production costs incurred by Lessee between the wellhead and the point of sale. As used in this Lease, the term "post-production costs" shall mean all costs and expenses related to: (a) treatment and processing of oil and gas; (b) separating liquids from gas; (c) transporting oil and gas from wellhead to production or treatment facilities and/or point of sale; (d) compression or dehydration; (e) any and all other reasonable costs and expenses of any kind or nature incurred involving the handling of oil and/or gas from the wellhead to the point of sale. Lessee may pay all taxes and fees levied upon the oil and gas as produced including, but not limited to, gross production, privilege, surveillance, and/or severance taxes or fees, if any imposed now or during the life of this Lease, and deduct a proportionate share of the amount so paid from any amounts payable to Lessor hereunder.

6. **LESSOR'S INTEREST:** If Lessor owns an interest in the Leased Premises less than the entire and undivided estate herein leased then all payments herein provided shall be paid by Lessee only in the proportion to which Lessor's interest bears to the whole and undivided estate. If Lessee receives written notice of adverse claim(s) to the Leased Premises, Lessee, may, in its sole discretion, withhold payment(s), without obligation to pay interest or penalty thereon, until such time as Lessor's ownership is determined, either by compromise or final decree of any court of competent jurisdiction. If the Leased Premises shall hereafter be subdivided, the Leased Premises shall nevertheless be developed and operated as one lease. Lessee shall not be bound by any change in the ownership of the Leased Premises or any change of the address of Lessor, or any heirs, representatives, successors, and/or assigns until Lessee shall have been furnished with written documentation from Lessor as Lessee may reasonably require.

7. **DIRECTION OF PAYMENT:** All payments required to be paid to Lessor herein shall be directed to the Lessor or deposited to Lessor's credit or to the credit of Lessor's respective heirs or assigns by check payable to the order and address as set forth above (or any changed address as may be provided to Lessee in the manner required under this Lease). Lessee shall not be obligated to alter payments as directed above until Lessee receives written notice from Lessor, or Lessor's representatives, heirs, successors, and/or assigns directing Lessee otherwise. Lessee shall not be obligated to make payments until such payments exceed the sum of TWENTY-FIVE DOLLARS (\$25.00), but, in any case, payments shall be made at least once each calendar year.

8. **CONTINUING OPERATIONS:** If at the end of the Primary Term or any subsequent extension thereof this Lease is not being maintained by any other provision hereof but Lessee has commenced operations for drilling, completing, reworking, equipping, or any other operations to obtain production on the Leased Premises or lands pooled or unitized therewith, this Lease shall remain in full force and effect as long as such operations are conducted in a reasonably prudent manner. At any time after the expiration of the Primary Term, if this Lease is not being maintained by any other provision hereof, the Lease shall nevertheless be extended one (1) year beyond the completion of plugging operations of the last well on Leased Premises to permit Lessee to deepen, rework, or recomplete any well on the Leased Premises or lands pooled or unitized therewith, or to commence operations for the drilling of another well on the Leased Premises or lands pooled or unitized therewith, and if such operations result in the production of any substance covered hereby, this Lease will be extended as long thereafter as production continues in paying quantities.

9. **POOLING AND UNITIZATION:** Lessee is hereby granted the right to pool or unitize the Leased Premises, or any part thereof, with any other lands for the production of any substance covered hereby, so as to create one (1) or more drilling or production units. Furthermore, Lessee shall in no event be required to drill more than one (1) well on such unit. Said drilling or

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production unit(s) shall conform to the rules and regulations of any governmental authority claiming jurisdiction. In the event this Lease is so pooled or unitized, the Lessor agrees to accept, in lieu of the royalty herein recited, such proportion of the royalty above described as the acreage contributed by this Lease bears to the total acreage comprising any unit or units.

Lessee shall create the unit by executing an instrument identifying and describing the pooled acreage and shall mail a copy thereof to the Lessor's last known address. Within the parameters of governmental regulations, Lessee shall have the recurring and unrestricted right to enlarge, diminish, or otherwise revise any unit formed hereunder either before or after commencement of production. At any time a pool or unit is not being operated as aforesaid, Lessee may revise or surrender all or any part of any such pool or unit, which modification or cancellation document shall be placed of record in the appropriate county(ies). Any cancellation or surrender of a Declaration of Pooling or unit order shall neither cause nor be deemed a surrender or cancellation of this Lease. Lessee will provide a copy of any documents to Lessor's last known address, and the proportion of unit production on which royalties are payable hereunder shall thereafter be adjusted accordingly. Commencement of operations for drilling, completing, reworking, equipping, or any other operations to obtain production, or production anywhere on a unit which includes all or any part of the Leased Premises shall, except for the payment of royalties, be treated as if it were commencement of operations for drilling, completing, reworking, equipping, or any other operations to obtain production, or production on the Leased Premises.

10. **GAS STORAGE:** Lessee shall have the exclusive right to use any formation underlying the Leased Premises for the storage of gas and shall have all rights necessary or incidental to store and produce such stored gas. At the time of exercising the rights to store gas hereunder, Lessee shall pay, in accordance with the royalty herein recited, Lessor's proportionate share of the estimated recoverable gas remaining in the relevant well located on the Leased Premises using methods of calculating gas reserves as are generally accepted by the oil and gas industry. Lessee agrees to pay Lessor an annual rental of FIVE AND NO/100 DOLLARS (\$5.00) per acre for all Leased Premises which Lessee wishes to use for the storage of gas payable in advance while the Leased Premises are so used, and so long as such storage payment is made all provisions of this Lease shall remain in full effect as to the entire Leased Premises.

11. **ANCILLARY RIGHTS:** Lessor grants to Lessee the right of ingress, egress and regress over, under, and through said Leased Premises together with the exclusive right to conduct such operations on the Leased Premises as may be necessary for or incidental to the exploration and production of oil, gas or other related substances covered hereby, including but not limited to geophysical operations, the drilling of wells, and the construction and use of roads, production flowlines, gathering lines, pipelines, and/or gas transmission lines, tanks, water wells, disposal wells, injection wells, pits, water or other impoundments, electric and/or telephone lines, solar facilities, and/or other facilities necessary, useful, or convenient to produce, save, take care of, treat, process, store, and/or transport oil, gas, and/or other products, regardless of the source of such products, with the right to transport via flowlines, gathering lines, pipelines, transmission lines, and/or otherwise, oil, gas, water and/or their constituents from and across the Leased Premises and/or other lands, regardless of the source of such substances, and the exclusive rights to inject water, air, brine, gas, and/or other fluids into subsurface strata. Lessee shall also have the right of placing solar panels, electric, and/or telephone lines over the Leased Premises; the right to erect necessary buildings, tanks, towers, stations, or other structures thereon; and the rights to use, free from royalty, sufficient oil, gas, and/or water produced from the Leased Premises for all operations thereon (provided Lessor shall pay the reasonable and customary cost of any such water sources located on the Leased Premises). Lessor agrees that no part of the Leased Premises shall be leased, let, granted, or licensed by Lessor to any other party for the location, construction, or maintenance of structures, tanks, pits, reservoirs, equipment, and/or machinery for the purpose of exploring, developing, or operating adjacent lands for oil or gas during the term hereof.

Lessee at any time, and from time to time, may surrender this Lease as to all or any part thereof by recording an appropriate instrument of surrender in the proper county, and thereupon this Lease and the rights, rentals, and obligations of the Parties hereunder shall terminate as to the part so surrendered; provided however, that upon each surrender as to any part of the Lease, Lessee shall maintain all easement rights in, to, and/or under the surrendered portion of the Leased Premises described in this Lease.

When requested by Lessor in writing, Lessee shall bury its pipelines below plow depth in areas utilized for farming operations. Lessee shall pay for reasonable damage caused by its operations to growing crops and marketable timber thereon. Lessee shall have the right to remove its fixtures, equipment, and materials, including well casing, from the Leased Premises during the term of this Lease, and within a reasonable time thereafter; however, nothing in this Lease shall be construed as a mandate for Lessee to remove any underground fixtures, including, but in no way limited to, pipe, casing, pipelines, and/or flowlines, and Lessor specifically waives, on behalf of Lessor and any of Lessor's heirs, representatives, successors, and/or assigns, any all future claims of damage and/or trespass if Lessee elects to leave all underground fixtures and/or lines in place.

12. **SHUT-IN ROYALTY:** If, after the Primary Term of this Lease, all wells on the Leased Premises or within a unit that includes all or a part of the Leased Premises, are shut-in, suspended, or otherwise not producing for any reason whatsoever for a period of twelve (12) consecutive months, and there is no current production of oil and gas or operations on said Leased Premises sufficient to keep this Lease in force and this Lease is not otherwise kept in force by other provisions of this Lease, Lessee may maintain this Lease in effect by tendering to Lessor as shut-in royalty, a sum equal to FIVE DOLLARS (\$5.00) per acre. Said shut-in royalty shall be paid or tendered to Lessor on or before the next ensuing yearly anniversary of the date of this Lease, and thereafter, on or before each yearly anniversary of the date hereof while the wells are shut-in or production therefrom is not being marketed by Lessee. Upon payment of the shut-in royalty as provided herein, this Lease will continue in force during all of the time or times while all wells are shut-in, but failure to properly pay shut-in royalties shall render Lessee liable only for the amount due and shall not operate to terminate this Lease.

13. **TAXES:** Subject to the royalty provisions hereinabove regarding post-production costs, all taxes assessed or payable on the oil and gas produced from the Leased Premises or from leases, lands, and/or interests pooled or unitized therewith, including any ad valorem, production, severance, business, occupation, excise, privilege, surveillance, or other taxes of any nature whatsoever, or any increase in the real estate taxes, or taxes in lieu of real estate taxes imposed because of the oil and/or gas operations or production under this Lease shall be paid by the Parties hereto in proportion to their interest.

14. **LIENS:** Lessee may, at its option, pay and discharge any past due taxes, mortgages, judgments, and/or other liens and encumbrances on or against any land or interest included in the Leased Premises. Lessee shall be entitled to recover any such amounts paid from Lessor, with legal interest and costs, by deduction from any future payments due Lessor or by any other lawful means.

15. **FORCE MAJEURE:** Should Lessee be prevented from complying with any expressed or implied covenant of this Lease, from conducting drilling, completing, equipping, or reworking operations thereon, or from producing oil and gas or other substances by reason of scarcity of or inability to obtain or use equipment, men or material, or by operation of force majeure such as storm, flood, fire, tornado, hurricane, earthquake, seismic disturbance, or other acts of God, war, rebellion, insurrection, riot, strikes, differences with workmen, failure of carriers to transport or furnish facilities for transportation, as a result of a lawsuit or some law, order, or regulation of the government, as a result of shortage in material or equipment, or as a result of any cause whatsoever beyond the reasonable control of the Lessee, then while so prevented, Lessee's obligation to comply with such covenant shall be suspended for so long as compliance is thus prevented, and for an additional twelve (12) months thereafter.

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16. **DEFAULT:** No default shall be declared against the Lessee for failure to make payment or perform any conditions provided for herein unless the Lessee shall refuse or neglect to pay or perform the same for ninety (90) days after having received written notice from Lessor.

17. **SUCCESSORS AND ASSIGNS:** All covenants and conditions between the Parties hereto shall extend to Lessor's heirs, executors, successors, representatives, and/or assigns, and Lessor hereby warrants and agrees to defend the title to the Leased Premises; however, no change or division in ownership of the Leased Premises shall operate to enlarge the obligations or diminish the rights of the Lessee.

18. **UNDERSTANDING OF PARTIES:** This Lease contains all of the agreements and understanding by and between Lessor and Lessee respecting the subject matter hereof, and no implied covenants, obligations, verbal representations, or promises have been made or relied upon by Lessor or Lessee supplementing or modifying this Lease, or as an inducement thereto. The failure of either party to enforce or exercise any provision of this Lease shall not constitute or be considered as a waiver of the provision in the future unless the same is expressed in writing and signed by the respective Parties.

19. **REPRESENTATION OF NON-PRODUCTION:** Lessor hereby represents that, to the best of Lessor's knowledge, information, and/or belief that: (a) no wells have been drilled on the Leased Premises or any lands purportedly pooled or unitized therewith that have not been plugged or abandoned prior to the date hereof; (b) there has been no oil and/or gas produced from the Leased Premises or any lands purportedly pooled or unitized therewith during the last five (5) years; (c) during the last two (2) years Lessor has not received, and is not now receiving, any bonus, delay rental, royalty, shut-in, or any other compensation under, or by virtue, or pursuant to the terms of a prior oil and gas lease, coal bed methane gas lease, or any other lease or contract for the exploration or development of the oil and/or gas in and under the Leased Premises; (d) the Leased Premises are not now subject to any valid, subsisting, or enforceable lease, option, and/or other contract affecting the oil, gas, and/or coal bed methane estate; and (e) there exists no contract or agreement, and/or no condition or event has occurred or is anticipated to occur, which would affect Lessee's use of the surface of the Leased Premises in the exercise of the rights granted hereunder.

20. **SEVERANCE:** If any provision of this Lease is held invalid or unenforceable by any court of competent jurisdiction, the other provisions of this Lease shall remain in full force and effect.

21. **NOTICES:** All notices shall be deemed given when deposited with the United States Postal Service and forwarded via United States Certified Mail, Return Receipt Requested, postage prepaid. A facsimile or emailed message shall be deemed delivered only when if also delivered via the method set out above. All notices shall be delivered to the address shown on the face of this Lease for the Party to be notified, unless a change-of-address had been forwarded to the other Party hereto via the above-described method of notice.

22. **CAPTIONS:** Captions, titles and headings appearing at the beginning of any sections, paragraphs or other subdivisions of this Lease are inserted for convenience of reference only, do not constitute any part of this Lease, and shall be disregarded in construing or interpreting the language hereof.

SEE ADDENDUM ATTACHED HERETO AND BY THIS REFERENCE MADE A PART HEREOF

EXECUTED on the dates set forth in the notary acknowledgements attached hereto, but effective for all purposes as of the Effective Date hereinabove specified. This document may be executed in multiple counterparts, any one of which shall be considered an original and binding upon the signatory parties for all purposes herein.

LESSOR

WITNESS:

Jack R. McKee  
Printed Name: Jack R. McKee

Justin Hiley by Michelle Yielding his guardian  
Printed Name: Justin Hiley, a minor, by his Guardian  
Michelle Yielding by Michelle Yielding his guardian  
Address: 1418 Brock Rd  
Atkins, CA 30601

Received  
Office of Oil & Gas  
APR 30 2015

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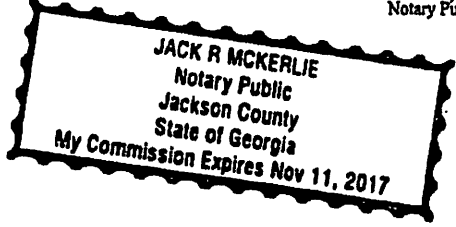
INDIVIDUAL ACKNOWLEDGMENT

STATE OF Georgia  
COUNTY OF Jackson

The foregoing instrument was acknowledged before me, this 19 day of April, 2014 by Justin Hilley, a minor, by his Guardian.

MY COMMISSION EXPIRES:  
Nov 11, 2017

Signature Jack R. Mckerlie  
Printed Name Jack R. Mckerlie  
Notary Public



Received  
Office of Oil & Gas  
APR 30 2015

PREPARED BY / UPON RECORDATION RETURN TO:  
Land Department  
NOBLE ENERGY, INC.  
333 Technology Drive, Suite 116  
Canonsburg, PA 15317

07/03/2015

MEMORANDUM OF LEASE

This MEMORANDUM OF LEASE, utilized to indicate the existence of a PAID-UP OIL AND GAS LEASE (hereinafter, "Lease") effective this 11th day of October, 2013, by and between Deborah Sue Williams & Martyn K. Williams, wife and husband whose address is 82 Hillside Dr., Forest Hills, KY 41527, (hereinafter, "Lessor" whether one or more), and NOBLE ENERGY, INC., a Delaware corporation, whose address is at 333 Technology Drive, Suite 116, Canonsburg, Pennsylvania 15317, (hereinafter, "Lessee").

Lessor did LEASE, LET, GRANT, and DEMISE exclusively unto Lessee, its successors and/or assigns, the rights to explore, develop, produce, and market oil and/or gas and all constituent products, including methane gas present in or associated with any coal seam, from the premises described below, subject to the provisions contained in the Lease including, but not limited to the following:

1. PRIMARY TERM: The primary term of the Lease is for a period of five (5) years commencing on the date immediately set forth above, and for so long thereafter as oil, gas, or other substances covered by the Lease are capable of being produced in paying quantities from the Leased Premises or from lands pooled therewith, or the Lease is otherwise maintained or prolonged pursuant to the provisions contained in the Lease. ~~including an extension of term contained therein. Lessee may extend the primary term of the Lease for an additional five (5) years after the end of the primary term, thereby continuing the term of the Lease to the end of the "extended" primary term.~~

*Jm*  
*DSW*  
*RP*

2. DESCRIPTION / LEASED PREMISES: All those certain tracts of land situate in the District of Meade, County of Tyler, State of West Virginia, generally bounded now or formerly as follows:

- On the North by: Norma S. Williams
- On the East by: Norma S. Williams
- On the South by: Williams Revocable Trust
- On the West by: Frank Stephen Grass

and being the same land acquired by Lessor by virtue of Affidavit of Heirship to be recorded in the Office of Clerk of the County Commission, said land being identified for tax purposes as Tax Map 14 Parcel 18 on this date, and stipulated to contain, for the purpose of calculating payments, Twenty Eight (28.00) acres, more or less ("Leased Premises").

This Memorandum of Lease has been executed for the purpose of providing notice of the existence of the Lease and shall not be considered in any way a modification or alteration of the Lease.

WITNESS: LESSOR  
Deborah Sue Williams  
Printed Name: Deborah Sue Williams  
Address: 82 Hillside Dr., Forest Hills, KY 41527

WITNESS: Martyn K. Williams  
Printed Name: Martyn K. Williams  
Address: 82 Hillside Dr., Forest Hills, KY 41527

WITNESS: NOBLE ENERGY, INC.  
By: \_\_\_\_\_  
MARK A. ACREE, Attorney-In-Fact

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INDIVIDUAL ACKNOWLEDGMENT

09502262

STATE OF Kentucky §  
COUNTY OF Jefferson §

The foregoing instrument was acknowledged before me, this 15 day of October, 2013, by Deborah Sue Williams & Martyn K. Williams, wife and husband

MY COMMISSION EXPIRES:

[Signature]  
Printed Name Rodney Parsons  
Notary Public

Official Seal  
Commissioner for West Virginia  
Rodney Parsons  
Ona, WV

My Commission Expires April 20, 2016

CORPORATE ACKNOWLEDGMENT

COMMONWEALTH OF PENNSYLVANIA §  
COUNTY OF WASHINGTON §

On this \_\_\_\_\_ day of \_\_\_\_\_, 2013, before me, the undersigned officer, personally appeared MARK A. ACREE, as Attorney-in-Fact for NOBLE ENERGY, INC., a Delaware corporation, personally known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same for the purposes therein contained and on behalf of said corporation.

In witness thereof, I hereunto set my hand and affixed my official seal.

MY COMMISSION EXPIRES:

\_\_\_\_\_  
Notary Public

PREPARED BY / UPON RECORDATION, RETURN TO:  
Land Department  
NOBLE ENERGY, INC.  
333 Technology Drive, Suite 116  
Canonsburg, PA 15317

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PEN31 DRILL SITE SURFACE CHAIN of TITLE

Tax Map 06-0014-0018-0000

Meade District – Tyler County – West Virginia

Dated: July 1, 1859  
Deed Book No. 1, page 447

George Fox  
Eliza M Foz  
Hannah M Fox  
Sarah P Fox  
Louisa G Fox  
Emeline Fox  
Caroline Fox

George Newbold and Ann P Newbold, heirs of Sarah Fox, by their Attorney in fact, W.F Peterson  
To  
Charles Williams

Dated: September 3-, 1904  
Deed Book No. 55, page 519

Charles Williams  
To  
Charles Markle

Dated: February 28, 1906  
Deed Book No. 64, page 419

Charles Markle  
To  
Henry Markle

Linda Carney and S E Carney, her husband  
Lydia Hill and F L Hill, her husband  
Ollie Markle and Alice Markle, his wife  
Mattie Burrows and Charley Burrows, her husband  
Belva Carney and C F Carney, her husband  
Creed Markle and Mary Markle, his wife  
Lovie Markle

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Henry Markle and Maude Markle, his wife  
To  
Alva Markle, all being heirs of Henry Markle

Dated: November 13, 1920  
Deed Book No. 88, page 125

Alva Markle and Daisy Markle, his wife  
To  
Henry Markle

Dated: November 23, 1964  
Deed Book No. 168, page 152

Maude Markle, Widow  
Henry Markle, Jr  
Gaynell LeMasters and Marvin LeMasters, her husband  
Bernice Ward and Ray Ward, her husband  
Belva Wynne and William Wynne, her husband  
To  
Henry Markle, Jr

Dated July 8, 2011  
Deed Book No. 385, page 713

Henry Markle, Jr  
To  
Craig Childers  
Jeffrey L Cummins

Dated: August 21, 2014  
Deed Book No. 453, page 513

Craig A Childers, unmarried  
Jeffrey J Cummins, unmarried  
To

Noble Energy Inc

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09502262

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

Re: Drilling Under Roads

To Whom It May Concern:

Noble Energy, Inc. has the right to drill, stimulate and produce wells that are drilled under the County and State Roads as designated on the plats.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Dee Swiger', with a large, looping flourish extending to the right.

Dee Swiger  
Regulatory Analyst III

DS/

Enclosures:

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**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE CERTIFICATION**

**09502262**

Date of Notice Certification: 4/27/15

API No. 47- 095 - \_\_\_\_\_  
Operator's Well No. PEN 31 F  
Well Pad Name: PEN 03/31

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

|  |  |                              |
|--|--|------------------------------|
| State: <u>West Virginia</u>                  | UTM NAD 83   | Easting: <u>500260.486</u>   |
| County: <u>095-Tyler</u>                     |  | Northing: <u>4355197.613</u> |
| District: <u>Meade</u>                       | Public Road Access: <u>Stone Road - County Rt. 6/3</u> |                              |
| Quadrangle: <u>Pennsboro</u>                 | Generally used farm name: <u>Noble Energy, Inc.</u>    |                              |
| Watershed: <u>huc-10 Middle Island Creek</u> |  |                              |

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

|  |   |
|--|---|
| <p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p> | <p><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/<br/>NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/<br/>NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> |
|--|---|

**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit or personal service, the return receipt card or other postal receipt for certified mailing.

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 APR 30 2015  
 07/03/2015

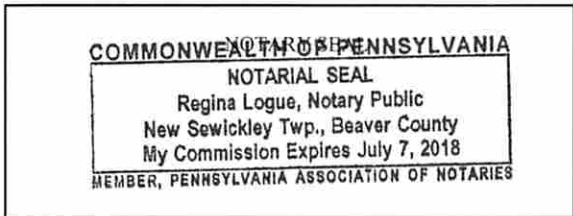
09502262

**Certification of Notice is hereby given:**

THEREFORE, I Dee Swiger, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: Noble Energy, Inc.  
By: [Signature]  
Its: Regulatory Analyst III  
Telephone: 724-820-3061

Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317  
Facsimile: 724-416-5248  
Email: dee.swiger@nbleenergy.com



Subscribed and sworn before me this 26<sup>th</sup> day of March 2015.  
Regina Logue Notary Public  
My Commission Expires 07/07/2018

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [deprivacyofficer@wv.gov](mailto:deprivacyofficer@wv.gov).

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 4-27-15 **Date Permit Application Filed:** 4-27-15

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

**Delivery method pursuant to West Virginia Code § 22-6A-10(b)**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)  
Name: Noble Energy, Inc.  
Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: William C. Williams  
Address: 8570 Country Club Road  
Bloomington, OH 43910  
Name: Frank Grass  
Address: 5115 Lansing Drive  
Charlotte, NC 28270

SURFACE OWNER(s) (Impoundments or Pits)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
Name: none  
Address: \_\_\_\_\_

COAL OPERATOR  
Name: none  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: none  
Address: \_\_\_\_\_

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 4-27-15 **Date Permit Application Filed:** 4-27-15

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- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

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- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)  
 Name: Noble Energy, Inc.  
 Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
 Name: none  
 Address: \_\_\_\_\_

COAL OPERATOR  
 Name: none  
 Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)  
 Name: Donald W. Williams  
 Address: 160 Koons Ave.  
Medina, OH 44256  
 Name: Carl D. Williams  
 Address: 5357 Rocky Creek Road  
Marianna, Florida 32448

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
 Name: none  
 Address: \_\_\_\_\_

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION

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**Date of Notice:** 4-27-15 **Date Permit Application Filed:** 4-27-15

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- PERMIT FOR ANY WELL WORK
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- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)

Name: Noble Energy, Inc.  
Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: Dianne Calhoun and Deborah S. Hatfield  
Address: 2815 Bayshore Gardens Parkway  
Bradenton, FL 34207

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE

Name: none  
Address: \_\_\_\_\_

COAL OPERATOR

Name: none  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: none  
Address: \_\_\_\_\_

**Received**  
**Office of Oil & Gas**  
**APR 30 2015**

\*Please attach additional forms if necessary

**07/03/2015**

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall include any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, drilling contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

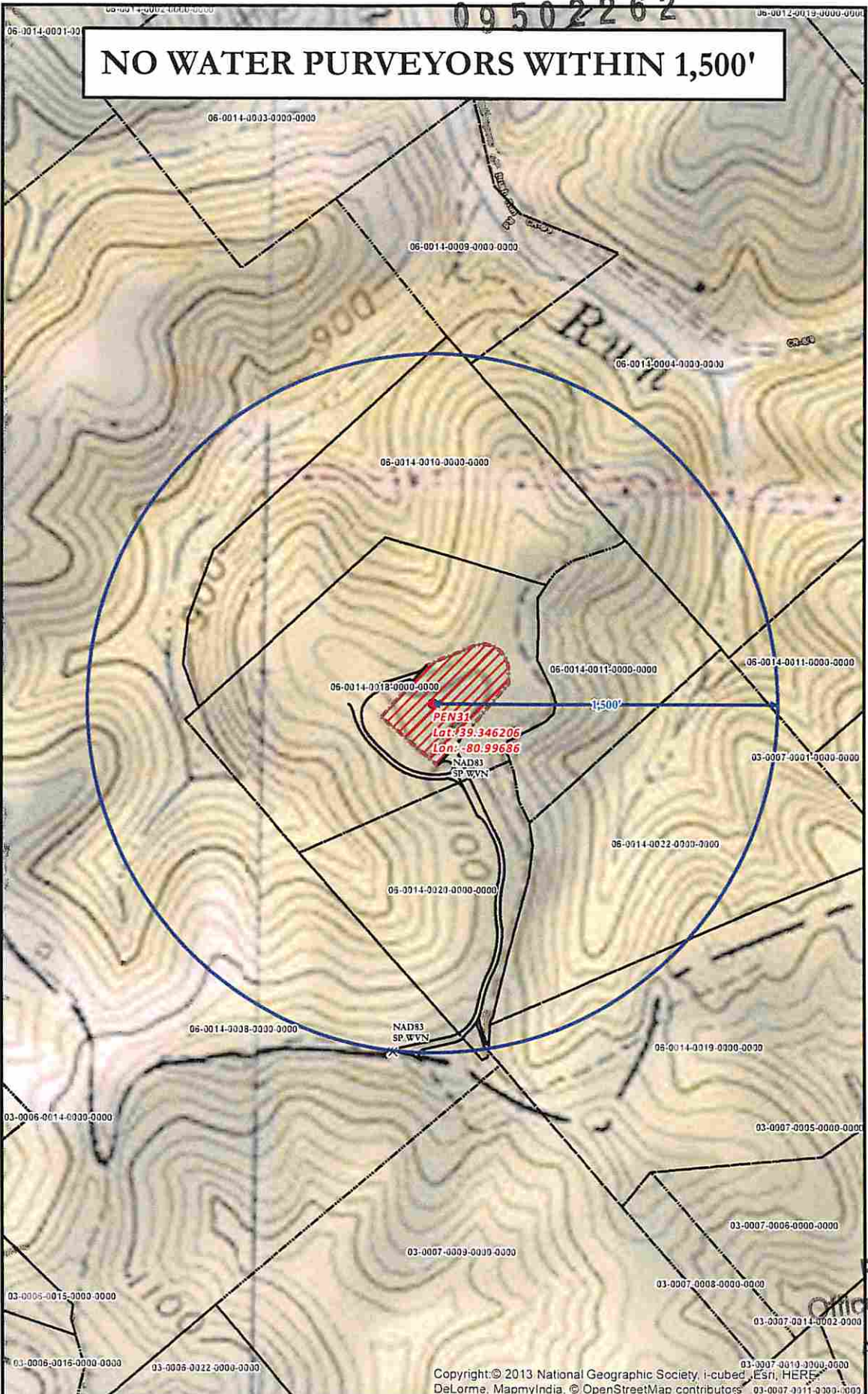
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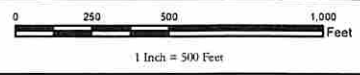
# NO WATER PURVEYORS WITHIN 1,500'



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## PEN 31 SITE SAFETY PLAN - WATER WELL PURVEYORS -



- Well Pad
- Cistern
- Water Well
- Access Road
- Well Pad Boundary
- Surface Parcels (Resolved)
- 1500' Water Wells Buffer

Projection: NAD 1927 StatePlane West Virginia North FIPS 4701  
Units: Foot US

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

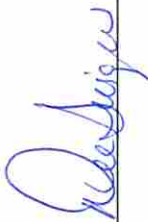


Date: 4/9/2015  
 Author: Christopher Glover  
  
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07/03/2015

WW-6A  
(8-13)

API NO. 47- 095 -  
OPERATOR WELL NO. PEN 31 F  
Well Pad Name: PEN 03/31



**Notice is hereby given by:**  
Well Operator: Noble Energy, Inc.  
Telephone: 724-820-3061  
Email: [dee.swiger@nblenergy.com](mailto:dee.swiger@nblenergy.com)

Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317  
Facsimile: 724-416-5248

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [deprivacyofficer@wv.gov](mailto:deprivacyofficer@wv.gov).



Subscribed and sworn before me this 26<sup>th</sup> day of March, 2015.



Notary Public

My Commission Expires 07/07/2018

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**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF INTENT TO DRILL**

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

**Notice Time Requirement:** Notice shall be provided at least **TEN (10)** days prior to filing a permit application.  
**Date of Notice:** 03/26/2015      **Date Permit Application Filed:** 4.27.15

**Delivery method pursuant to West Virginia Code § 22-6A-16(b)**

**HAND DELIVERY**       **CERTIFIED MAIL RETURN RECEIPT REQUESTED**

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

**Notice is hereby provided to the SURFACE OWNER(s):**

Name: Noble Energy, Inc.  
Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

|                                       |  |                              |
|---------------------------------------|--|------------------------------|
| State: <u>West Virginia</u>           | UTM NAD 83   | Easting: <u>500260.486</u>   |
| County: <u>Tyler</u>                  |  | Northing: <u>4355197.613</u> |
| District: <u>Meade</u>                | Public Road Access: <u>Stone Road - County Route 6/3</u> |                              |
| Quadrangle: <u>Pennsboro</u>          | Generally used farm name: <u>Noble Energy, Inc.</u>      |                              |
| Watershed: <u>Middle Island Creek</u> |  |                              |

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: Noble Energy, Inc.  
Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317  
Telephone: 724-820-3061  
Email: Dee.swiger@nblenergy.com  
Facsimile: 724-820-3095

Authorized Representative: Dee Swiger  
Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317  
Telephone: 724-820-3061  
Email: Dee.swiger@nblenergy.com  
Facsimile: 724-820-3095

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF INTENT TO DRILL

**WAIVER**

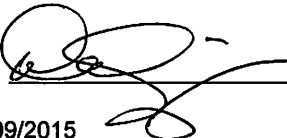
Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

**Surface Owner Waiver:**

I, Noble Energy, Inc., hereby state that I have read the notice provisions listed above and hereby waive the notice requirements under West Virginia Code § 22-6A-16(b) for the tract of land as follows:

|             |                            |                           |                                      |                    |
|-------------|----------------------------|---------------------------|--------------------------------------|--------------------|
| State:      | <u>West Virginia</u>       | UTM NAD 83                | Easting:                             | <u>500260.486</u>  |
| County:     | <u>Tyler</u>               |                           | Northing:                            | <u>4355197.613</u> |
| District:   | <u>Pennsboro</u>           | Public Road Access:       | <u>Stone Road - County Route 6/3</u> |                    |
| Quadrangle: | <u>Meade</u>               | Generally used farm name: | <u>Noble Energy, Inc.</u>            |                    |
| Watershed:  | <u>Middle Island Creek</u> |                           |                                      |                    |

Name: Noble Energy, Inc.  
Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317

Signature:   
Date: 04/09/2015

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF PLANNED OPERATION

**Notice Time Requirement:** notice shall be provided no later than the filing date of permit application.

**Date of Notice:** 4-27-15      **Date Permit Application Filed:** 4-27-15

**Delivery method pursuant to West Virginia Code § 22-6A-16(c)**

- CERTIFIED MAIL                                       HAND DELIVERY
- RETURN RECEIPT REQUESTED                                      DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

**Notice is hereby provided to the SURFACE OWNER(s)**

(at the address listed in the records of the sheriff at the time of notice):

Name: Noble Energy, Inc.  
Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317

Name: Frank Grass  
Address: 5115 Lansing Drive  
Charlotte, NC 28270

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

|  |  |                              |
|--|--|------------------------------|
| State: <u>West Virginia</u>                  | UTM NAD 83   | Easting: <u>500260.486</u>   |
| County: <u>095-Tyler</u>                     |  | Northing: <u>4355197.613</u> |
| District: <u>Meade</u>                       | Public Road Access: <u>Stone Road - County Rt. 6/3</u> |                              |
| Quadrangle: <u>Pennsboro</u>                 | Generally used farm name: <u>Noble Energy, Inc.</u>    |                              |
| Watershed: <u>huc-10 Middle Island Creek</u> |  |                              |

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: Noble Energy, Inc.  
Telephone: 724-820-3061  
Email: dee.swiger@nblenergy.com

Address: 1000 Noble Energy Drive  
Canonsburg, PA 15317  
Facsimile: 724-416-5248

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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**STATE OF WEST VIRGINIA 09502262**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF PLANNED OPERATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 4-27-15      **Date Permit Application Filed:** 4-27-15

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- CERTIFIED MAIL                                       HAND  
RETURN RECEIPT REQUESTED                                      DELIVERY

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**Notice is hereby provided to the SURFACE OWNER(s)**

(at the address listed in the records of the sheriff at the time of notice):

Name: Carl D. Williams  
Address: 5357 Rocky Creek Road  
Marianna, Florida 32448

Name: Donald W. Williams  
Address: 160 Koons Ave.  
Medina, OH 44256

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

|  |  |                              |
|--|--|------------------------------|
| State: <u>West Virginia</u>                  | UTM NAD 83   | Easting: <u>500260.486</u>   |
| County: <u>095-Tyler</u>                     |  | Northing: <u>4355197.613</u> |
| District: <u>Meade</u>                       | Public Road Access: <u>Stone Road - County Rt. 6/3</u> |                              |
| Quadrangle: <u>Pennsboro</u>                 | Generally used farm name: <u>Noble Energy, Inc.</u>    |                              |
| Watershed: <u>huc-10 Middle Island Creek</u> |  |                              |

**This Notice Shall Include:**

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Well Operator: Noble Energy, Inc.  
Telephone: 724-820-3061  
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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

March 10, 2015

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the PENNS-03 <sup>dB1</sup> Well Site, Ritchie County

Dear Mr. Martin,

The West Virginia Division of Highways has assigned Permit #03-2015-0125 for the subject site to the application submitted by Noble Energy, Inc. for access to the State Road for the well site located off of Ritchie County Route 6/3 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

A handwritten signature in cursive script that reads "Gary K. Clayton".

Gary K. Clayton  
Regional Maintenance Engineer  
Central Office Oil & Gas Coordinator

Cc: James L. McCune  
Noble Energy, Inc.  
CH, OM, D-3  
File

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## Hydraulic Fracturing Fluid Product Component Information Disclosure

Hydraulic Fracturing Fluid Composition:

| Trade Name                       | Supplier    | Purpose                | Ingredients   | Chemical Abstract Service Number (CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** |
|----------------------------------|-------------|------------------------|---|--|--|
| Fresh Water                      | Operator    |                        |   |  | 100.00%  |
| HYDROCHLORIC ACID 5-10%          | Halliburton |                        | Hydrochloric acid   | 7647-01-0                                | 10.00%   |
| SAND - COMMON WHITE              | Halliburton | Proppant               | Crystalline silica, quartz  | 14808-60-7                               | 100.00%  |
| SAND - PREMIUM WHITE             | Halliburton | Proppant               | Crystalline silica, quartz  | 14808-60-7                               | 100.00%  |
| FR-66                            | Halliburton | Friction Reducer       | Hydrotreated light petroleum distillate                                 | 64742-47-8                               | 30.00%   |
| BE-9                             | Halliburton | Biocide                | Tributyl tetradecyl phosphonium chloride                                | 81741-28-8                               | 10.00%   |
| Scalechek® LP-65 Scale Inhibitor | Halliburton | Scale Inhibitor        | Ammonium chloride   | 12125-02-9                               | 10.00%   |
| LGC-36 UC                        | Halliburton | Liquid Gel Concentrate | Guar gum  | 9000-30-0                                | 60.00%   |
|                                  |             |                        | Naphtha, hydrotreated heavy   | 64742-48-9                               | 60.00%   |
| LCA-1                            | Halliburton | Solvent                | Paraffinic solvent  | Confidential Business Information        | 100.00%  |
| HAI-OS ACID INHIBITOR            | Halliburton | Corrosion Inhibitor    | Methanol  | 67-56-1                                  | 60.00%   |
|                                  |             |                        | Propargyl alcohol   | 107-19-7                                 | 10.00%   |
| FE-1A ACIDIZING COMPOSITION      | Halliburton | Additive               | Acetic acid   | 64-19-7                                  | 60.00%   |
|                                  |             |                        | Acetic anhydride  | 108-24-7                                 | 100.00%  |
| LoSurf-300D                      | Halliburton | Non-ionic Surfactant   | 1,2,4 Trimethylbenzene  | 95-63-6                                  | 1.00%  |
|                                  |             |                        | Ethanol   | 64-17-5                                  | 60.00%   |
|                                  |             |                        | Heavy aromatic petroleum naphtha  | 64742-94-5                               | 30.00%   |
|                                  |             |                        | Naphthalene   | 91-20-3                                  | 5.00%  |
|                                  |             |                        | Poly(oxy-1,2-ethanediy), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0                              | 5.00%  |
| SP BREAKER                       | Halliburton | Breaker                | Sodium persulfate   | 7775-27-1                                | 100.00%  |
| WG-36 GELLING AGENT              | Halliburton | Gelling Agent          | Guar gum  | 9000-30-0                                | 100.00%  |

\* 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.

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and

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# EROSION & SEDIMENTATION CONTROL PLANS

# NOBLE ENERGY

## PEN-03/31 WELL SITES

## MEADE DISTRICT - TYLER COUNTY - WEST VIRGINIA

## MARCH 10, 2015

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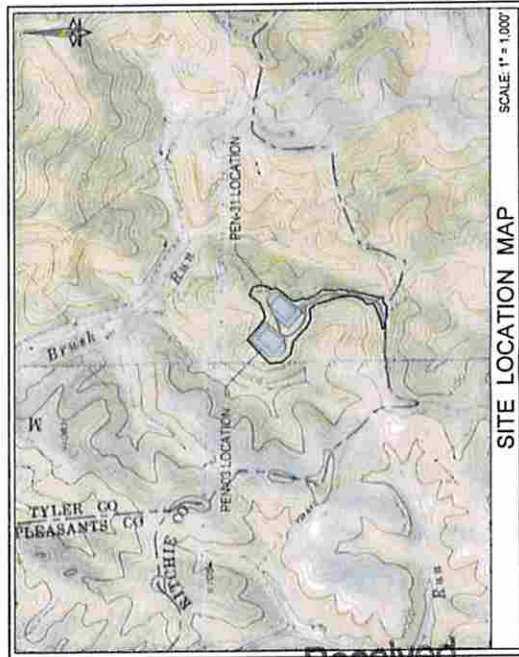


**GEOTECH ENGINEERS, INC.**  
**ENGINEERS SURVEYORS GEOLOGISTS**

**MAIN OFFICE**  
4031 ALLPORT CUTOFF  
MORRISDALE, PA 16858  
PHONE: (814) 342-7090  
FAX: (814) 342-7099  
EMAIL: INFO@GEOTECH-ENGINEERING.COM  
WEB SITE: WWW.GEOTECH-ENGINEERING.COM

**BRANCH OFFICE**  
200 BURSCA DRIVE  
BRIDGEVILLE, PA 15017  
PHONE: (724) 221-1824  
FAX: (412) 221-1825

| SHEET | DESCRIPTION  |
|-------|--|
| 1     | COVER SHEET  |
| 2     | OVERALL EXISTING CONDITIONS PLAN   |
| 3     | OVERALL SITE PLAN  |
| 4     | DRAINAGE AREA AND SOIL MAP   |
| 5     | ACCESS ROAD PLAN & PROFILE - STA. 0+00 TO STA. 9+00                        |
| 6     | ACCESS ROAD PLAN & PROFILE - STA. 9+00 TO STA. 16+31                       |
| 7     | ACCESS ROAD PLAN & PROFILE - STA. 0+00 TO STA. 6+61                        |
| 8     | PROFILE SECTIONS - ACCESS ROAD<br>STA. 2+00 TO 13+00                       |
| 9     | PROFILE SECTIONS - ACCESS ROAD<br>STA. 14+00 TO 16+00<br>STA. 1+00 TO 7+00 |
| 10    | WELL PAD PEN-31 - SITE PLAN  |
| 11    | WELL PAD PEN-03 - SITE PLAN  |
| 12    | SEEDING AND LINING PLAN  |
| 13    | SITE RESTORATION PLAN  |
| 14    | EROSION AND SEDIMENTATION CONTROL DETAILS                                  |
| 15    | EROSION AND SEDIMENTATION CONTROL DETAILS                                  |
| 16    | EROSION AND SEDIMENTATION CONTROL DETAILS                                  |



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DIRECTIONS TO WELL SITE  
FROM THE INTERSECTION OF BOND'S CREEK ROAD AND STONE ROAD TURN ON TO STONE ROAD. FOLLOW NORTH  
FOR APPROXIMATELY 1.3 MILES TO UNNAMED DIRT ROAD BEARING TO THE RIGHT. BEAR TO THE RIGHT ONTO  
UNNAMED DIRT ROAD AND FOLLOW FOR APPROXIMATELY 0.3 MILES TO PROPOSED ACCESS ON LEFT.

07/03/2015

*Michael*  
*3/10/15*

09502262



**noble energy**  
Noble Energy Inc.  
333 Technology Drive  
Suite 116, Canonsburg  
PA 15317  
Phone: (724) 820-3000



BASEMAPS DERIVED FROM BLUE MOUNTAIN  
PROJECTS FROM PA-10-CA  
PROPERTIES AS SHOWN SURVEYED BY GEOTECH  
ENGINEERING, INC. 8-20-14, 9-25-14, 10-22-14, 12-11-14