



west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

June 29, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-9502261, 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 E
Farm Name: NOBLE ENERGY INC.
API Well Number: 47-9502261
Permit Type: Horizontal 6A Well
Date Issued: 06/29/2015

Promoting a healthy environment.

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

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 within 30 days of commencement of drilling.

Noble Energy Addendum

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
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 E 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

6) Existing Pad: Yes or No No

MDC
3/23/2015

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: 14,069'

11) Proposed Horizontal Leg Length: ~~6,938'~~ 9433.89' *per D^{ee} Swiss 8/2/15*

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	14,069'	14,069'	10% excess Yield = 1.32 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 TOC=200' above 9,625' shoe
Tubing							
Liners							

PACKERS

Kind:			
Sizes:			
Depths Set:			

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 Environmental Protection

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.

*Note: Attach additional sheets as needed.

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

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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 _____)

*MUG
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 SOB

-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, Mi-Seal, Next base eC, Next Drill, Next Hold, Next Mul, Omni Cote, MI Bar, Next Mul 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 26th day of March, 2015

Regina Logue

Notary Public

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Public Regina Logue, Notary Public
New Sewickley Twp., Beaver County
My Commission Expires July 7, 2018
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

My commission expires 07/07/2018

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 Gaff

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

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
Cochran, PA 16314
814-425-7773

Disposal Locations:

Apex Environmental, LLC Permit # 06-08438 11 County Road 78 Amsterdam, OH 43903 740-543-4389	Northern A-1 Environmental Services Permit ID MID020906814 3947 US 131 North, PO Box 1030 Kalkaska, MI 49646 231-258-9961
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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 Environmental Technologies, Inc. Facility Permit # PAD004835146 / 301071
233 Max Lane
Yukon, PA 25968
724-722-3500

Max Environmental 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

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Site Safety Plan

Noble Energy, Inc.

Pen 03/31 Well Pad

EHS

March 2015: Version 1

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

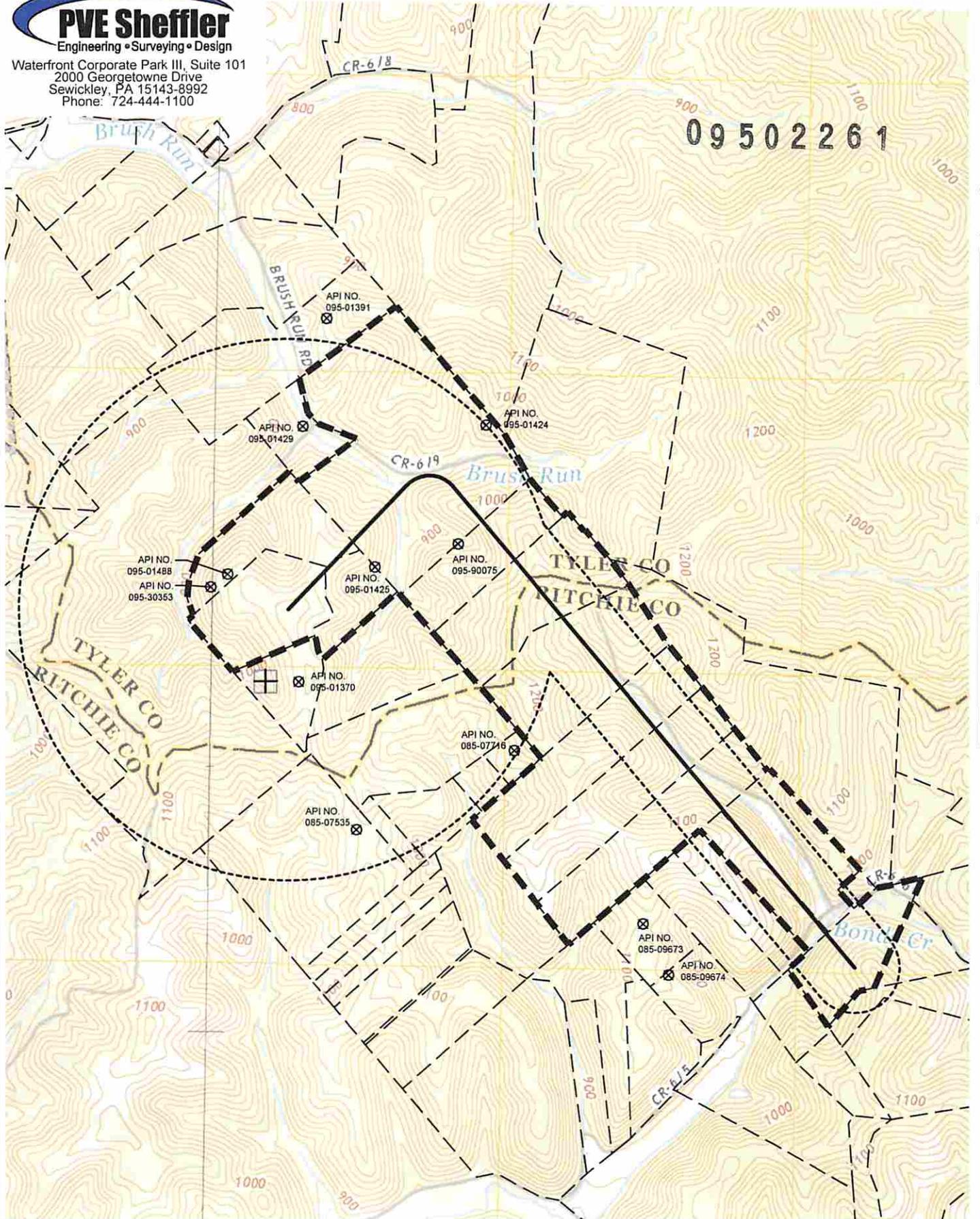
Noble Energy, Inc.
Appalachia Offices
1000 Noble Energy Drive
Canonsburg, PA 15317-9504

Michael Goff
3/23/2015

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Well is located on topo map 10,500 feet south of Latitude: 39° 22' 30"

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



Well is located on topo map 10,942 feet west of Longitude: 80° 57' 30"

09502261

(+) 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 #: PEN31E
 API WELL # 47 095 02261 HGA

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

WATERSHED: OUTLET MIDDLE ISLAND CREEK ELEVATION: 1116.43'
 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.

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: 14,069 ±
 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



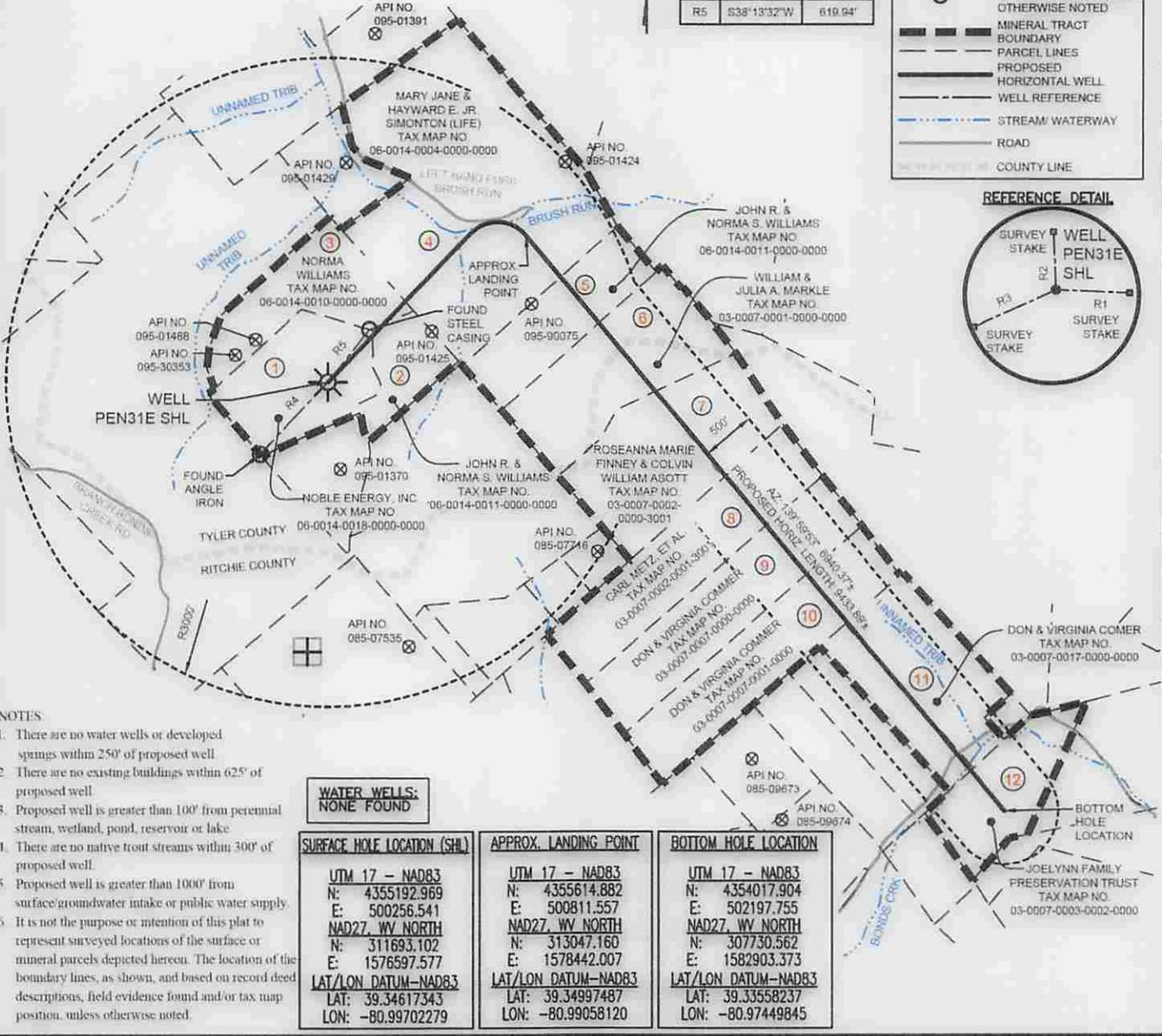
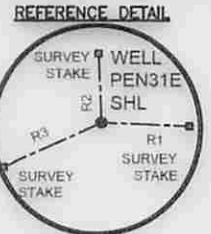
Waterfront Corporate Park III, Suite 101
2000 Georgetowne Drive
Sewickley, PA 15143-8992
Phone: 724-444-1100

Well is located on topo map 10,500 feet south of Latitude: 39° 22' 30"

LINE	BEARING	DISTANCE
R1	N67°42'57"W	458.61'
R2	S02°17'53"E	357.39'
R3	N65°47'07"E	555.80'
R4	N43°16'31"E	921.65'
R5	S38°13'32"W	619.94'

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



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

WATER WELLS:	SURFACE HOLE LOCATION (SHL)	APPROX. LANDING POINT	BOTTOM HOLE LOCATION
NONE FOUND	UTM 17 - NAD83 N: 4355192.969 E: 500256.541 NAD27, WV NORTH N: 311693.102 E: 1576597.577 LAT/LON DATUM-NAD83 LAT: 39.34617343 LON: -80.99702279	UTM 17 - NAD83 N: 4355614.882 E: 500811.557 NAD27, WV NORTH N: 313047.160 E: 1578442.007 LAT/LON DATUM-NAD83 LAT: 39.34997487 LON: -80.99058120	UTM 17 - NAD83 N: 4354017.904 E: 502197.755 NAD27, WV NORTH N: 307730.562 E: 1582903.373 LAT/LON DATUM-NAD83 LAT: 39.33558237 LON: -80.97449845

FILE #: PEN31E
DRAWING #: PEN31E
SCALE: 1"=1500'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE: USGS MONUMENT
OF ELEVATION: 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

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

WATERSHED: OUTLET MIDDLE ISLAND CREEK ELEVATION: 1116.43'
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.

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: 14,069 ±
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

DATE: APRIL 10, 2015
OPERATOR'S WELL #: PEN31E
API WELL # 47 095 02261
STATE COUNTY PERMIT

PLACEMENT HERE

Well is located on topo map 10,942 feet west of Longitude: 80° 57' 30"

**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 Tax Map 06-14-18	Barbara & Buddie Bunner	Noble Energy Inc (See attached for additional Lessors)	not less than 1/8	432/181
2. Q070902001 Q070902002 Tax Map 06-14-11	Richard L Clark John R & Norma S Williams	Noble Energy Inc Chesterfield Energy Corp (See attached for Leasehold chain)	not less than 1/8 not less than 1/8	404/217 290/307
3. Q070902002 Tax Map 06-14-10	John R & Norma S Williams	Chesterfield Energy Corp (See attached for Leasehold chain)	not less than 1/8	290/307
4. Tax Map 06-4-4	Hayward E Jr & Linda Simonton	Chesterfield Energy Corp (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: [Signature]
Is: Operations Landman

WW-6A1
(3/13)

Operator's Well No. PEN31 EHS

**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)**

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
5. Q070902002 Tax Map 06-14-11	John R & Norma S Williams	Chesterfield Energy Corp (See attached for Leasehold chain)	not less than 1/8	290/307
6. Tax Map 03-7-1	William B & Julie A Markle	J & J Enterprises Inc (See attached for Leasehold chain)	not less than 1/8	169/308
7. Tax Map 03-7-2	Gary A Toth	Noble Energy Inc (See attached for additional Lessors and Leasehold chain)	not less than 1/8	274/565
8. Tax Map 03-7-2.1	Gary A Toth	Noble Energy Inc (See attached for additional Lessors and Leasehold chain)	not less than 1/8	274/565

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

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Well Operator: Noble Energy Inc

By: _____

Its: Operations Landman

WW-6A1
(3/13)

Operator's Well No. PEN31 EHS

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- (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
9. DV016722 Tax Map 03-7-7	R E & Betty Lee Markle	Consolidated Gas Supply Corporation (See attached for Leasehold chain)	not less than 1/8	112/556
10. DV016722 Tax Map 03-7-7.1	R E & Betty Lee Markle	Consolidated Gas Supply Corporation (See attached for Leasehold chain)	not less than 1/8	112/556
11. DV016722 Tax Map 03-7-17	R E & Betty Lee Markle	Consolidated Gas Supply Corporation (See attached for Leasehold chain)	not less than 1/8	112/556
12. Q076562000 Tax Map 03-7-3.2	Joelynn Family Preservation Trust	Noble Energy Inc	not less than 1/8	266/832

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

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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PEN31 EHS	LEASEHOLD CHAIN	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	BOOK/PAGE
ITEM NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	BOOK/PAGE	
1	Spartan Exploration Co	Acadian Energy Resources	0%	369/405	
*6-14-18	Acadian Energy Resources LLC	Tenaska Resources LLC	0%	370/809	
	Acadian Energy Resources LLC	TSAR - WV LLC	0%	382/434	
	Tenaska Resources LLC	Chesapeake Appalachia LLC	0%	403/414	
	TSAR - WV LLC	Chesapeake Appalachia LLC	0%	403/414	
	Chesapeake Appalachia LLC	Statoil USA Onshore Properties Inc	0%	412/126	
	Chesapeake Appalachia LLC	Noble Energy Inc			
	Statoil USA Onshore Properties Inc	CNX Gas Company LLC	0%	424/185	
2	Chesterfield Energy Corporation	Dominion Appalachian Development Inc	0%	Withdrawal	
*6-14-11	Dominion Appalachian Development Inc	Dominion Appalachian Development LLC	0%	Conversion	
	Dominion Appalachian Development LLC	CNX Gas Company LLC	0%	Merger	
	CNX Gas Company LLC	Noble Energy Inc	0%	388/286	
3	Chesterfield Energy Corporation	Dominion Appalachian Development Inc	0%	Withdrawal	
*6-14-10	Dominion Appalachian Development Inc	Dominion Appalachian Development LLC	0%	Conversion	
	Dominion Appalachian Development LLC	CNX Gas Company LLC	0%	Merger	
	CNX Gas Company LLC	Noble Energy Inc	0%	388/286	
4	Anvil Oil & Gas Company	Chesterfield Energy Corporation	0%	286/310	
*6-14-4	Chesterfield Energy Corporation	Dominion Appalachian Development Inc	0%	Withdrawal	
	Dominion Appalachian Development Inc	Dominion Appalachian Development LLC	0%	Conversion	
	Dominion Appalachian Development LLC	CNX Gas Company LLC	0%	Merger	
	CNX Gas Company LLC	Noble Energy Inc	0%	388/286	
	Received Office of Oil & Gas APR 30 2015				
	Chesterfield Energy Corporation	Dominion Appalachian Development Inc	0%	Withdrawal	
	Dominion Appalachian Development Inc	Dominion Appalachian Development LLC	0%	Conversion	
	Dominion Appalachian Development LLC	CNX Gas Company LLC	0%	Merger	
	CNX Gas Company LLC	Noble Energy Inc	0%	388/286	

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%	6/634
	Consol Gas Company	CNX Gas Company LLC	CNX Gas Company LLC	0%	Merger
	CNX Gas Company LLC	Noble Energy Inc	Noble Energy Inc	0%	6/634
				0%	Merger
				0%	254/811

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10 3-7-7.1	Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	0%	169/756
	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 251/621
	Dominion Transmission Inc	Consol Gas Company	0%	6/634 Merger
	Consol Gas Company	CNX Gas Company LLC	0%	6/634 Merger
	CNX Gas Company LLC	Noble Energy Inc	0%	254/811
	Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	0%	169/756
	Consolidated Gas Transmission Corporation	CNG Development Company	0%	176/601
11 *3-7-17	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 251/621
	Dominion Transmission Inc	Consol Gas Company	0%	6/634 Merger
	Consol Gas Company	CNX Gas Company LLC	0%	6/634 Merger
	CNX Gas Company LLC	Noble Energy Inc	0%	254/811
	Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	0%	169/756
	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

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PEN31 EHS ITEM NUMBER	ADDITIONAL LESSORS LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	BOOK/PAGE
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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	Q079293066		Hansel James Phillips	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	Copy of 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			
		7	Mary Myer	Antero Resources Apalachian Corporation	not less than 1/8	272/790			
	Q080521003								
		*3-7-2	William Markle	Antero Resources Apalachian Corporation	not less than 1/8	272/775			
	Q080521004								
			Shirley Deulley	Antero Resources Apalachian Corporation	not less than 1/8	272/823			
	Q080521005								
			David & Betty Colvin	Antero Resources Apalachian Corporation	not less than 1/8	272/827			
	Q080521006								
			Ronnie Krajcik	Antero Resources Apalachian Corporation	not less than 1/8	272/815			
	Q080521007								
	Q080521008								

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Robert Bonner

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

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

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

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COPY

MEMORANDUM OF LEASE

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 9: 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. Corathes
Signature

David A Corathes
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 MA

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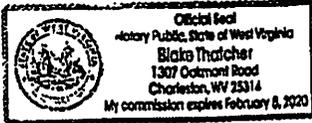
INDIVIDUAL ACKNOWLEDGMENT

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: 2/8/2020

[Signature]
Signature
Blake Thatcher
Printed Name
Notary Public



CORPORATE ACKNOWLEDGMENT

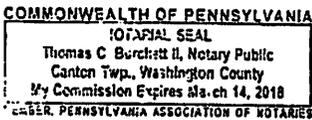
COMMONWEALTH OF PENNSYLVANIA §
COUNTY OF WASHINGTON §

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



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APR 30 2015

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

MEMORANDUM OF LEASE

COPY

09502261

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, "Lessee") 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:

Julie M. Gibson
Signature
Julie M Gibson
Printed Name

LESSOR:

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

WITNESS:

Julie M. Gibson
Signature
Julie 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.
Signature
By: MARK A. ACREE
Its: Attorney-In-Fact

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Office of Oil & Gas

APR 30 2015

09502261

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 17th 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
Canon Twp., Washington County
Commission Expires March 14, 2018
PENNSYLVANIA ASSOCIATION OF NOTARIES

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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

09502261

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

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 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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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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Office of Oil & Gas
APR 30 2015

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.

WITNESS:

LESSOR

Tack R. McKee
Printed Name: Tack R. McKee

Alexander Hiley by *Michelle Yielding* Guardi
Printed Name: Alexander Hiley, a minor, by his Guardian
Alexander Hiley by *Michelle Yielding* Guardi
Address: 1105 Brock Rd.
Athens Ga 30607

Received
Office of Oil & Gas

APR 30 2015

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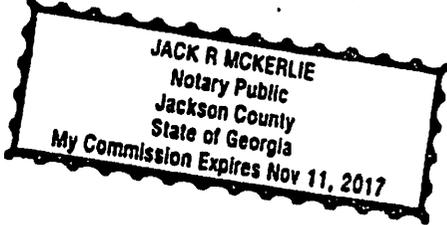
INDIVIDUAL ACKNOWLEDGMENT

STATE OF Georgia §
COUNTY OF Jackson §

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

MY COMMISSION EXPIRES:
Nov, 11, 2017

Signature [Handwritten Signature]
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

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 05-14-18 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

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.

WITNESS:

LESSOR

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 his guardian
Address: 1158 Robert Rd
Alhambra, CA 91801

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Office of Oil & Gas

APR 30 2015

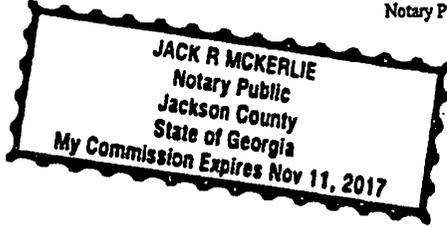
INDIVIDUAL ACKNOWLEDGMENT

STATE OF Georgia §
COUNTY OF Jackson §

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

MY COMMISSION EXPIRES:
Nov 11, 2017

Signature Jack R. Mckerlie
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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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 41327, (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.~~

JW
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: _____

Printed Name: Deborah Sue Williams
Address: 82 Hillside Dr., Forest Hills, KY 41327

WITNESS:

Martyn K. Williams

Printed Name: _____

Printed Name: Martyn K. Williams
Address: 82 Hillside Dr., Forest Hills, KY 41327

WITNESS:

NOBLE ENERGY, INC.

Printed Name: _____

By: _____
MARK A. ACREE, Attorney-In-Fact

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INDIVIDUAL ACKNOWLEDGMENT

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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Office of Oil & Gas
APR 30 2015



Office of Oil & Gas
601 57th 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 or 724-820-3061.

Sincerely,

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

Dee Swiger
Regulatory Analyst III

DS/

Enclosures:

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Office of Oil & Gas
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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 4/27/15

API No. 47- 095 - _____
Operator's Well No. PEN 31 E
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>500256.541</u>
County: <u>095-Tyler</u>		Northing: <u>4355192.969</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.

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: *PLEASE CHECK ALL THAT APPLY <input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED <input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <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 <input checked="" type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		OOG OFFICE USE ONLY <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED
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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 of personal service, the return receipt card or other postal receipt for certified mailing.

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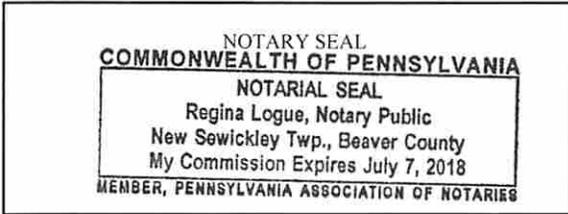
09502261

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: *Dee Swiger*
Its: Regulatory Analyst III
Telephone: 724-820-3061

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



Subscribed and sworn before me this 26th 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.

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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: _____

COAL OWNER OR LESSEE
Name: none
Address: _____

COAL OPERATOR
Name: none
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 OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

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OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: none
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

*Please attach additional forms if necessary

**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

COAL OWNER OR LESSEE
Name: none
Address: _____

Name: _____
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: _____

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SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: none
Address: _____

*Please attach additional forms if necessary

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: _____

COAL OWNER OR LESSEE
Name: none
Address: _____

COAL OPERATOR
Name: none
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 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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APR 30 2015

*Please attach additional forms if necessary

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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting 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 permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing 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 57th St. SE
Charleston, WV 25304
(304) 926-0450

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Office of Oil & Gas

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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.**

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:

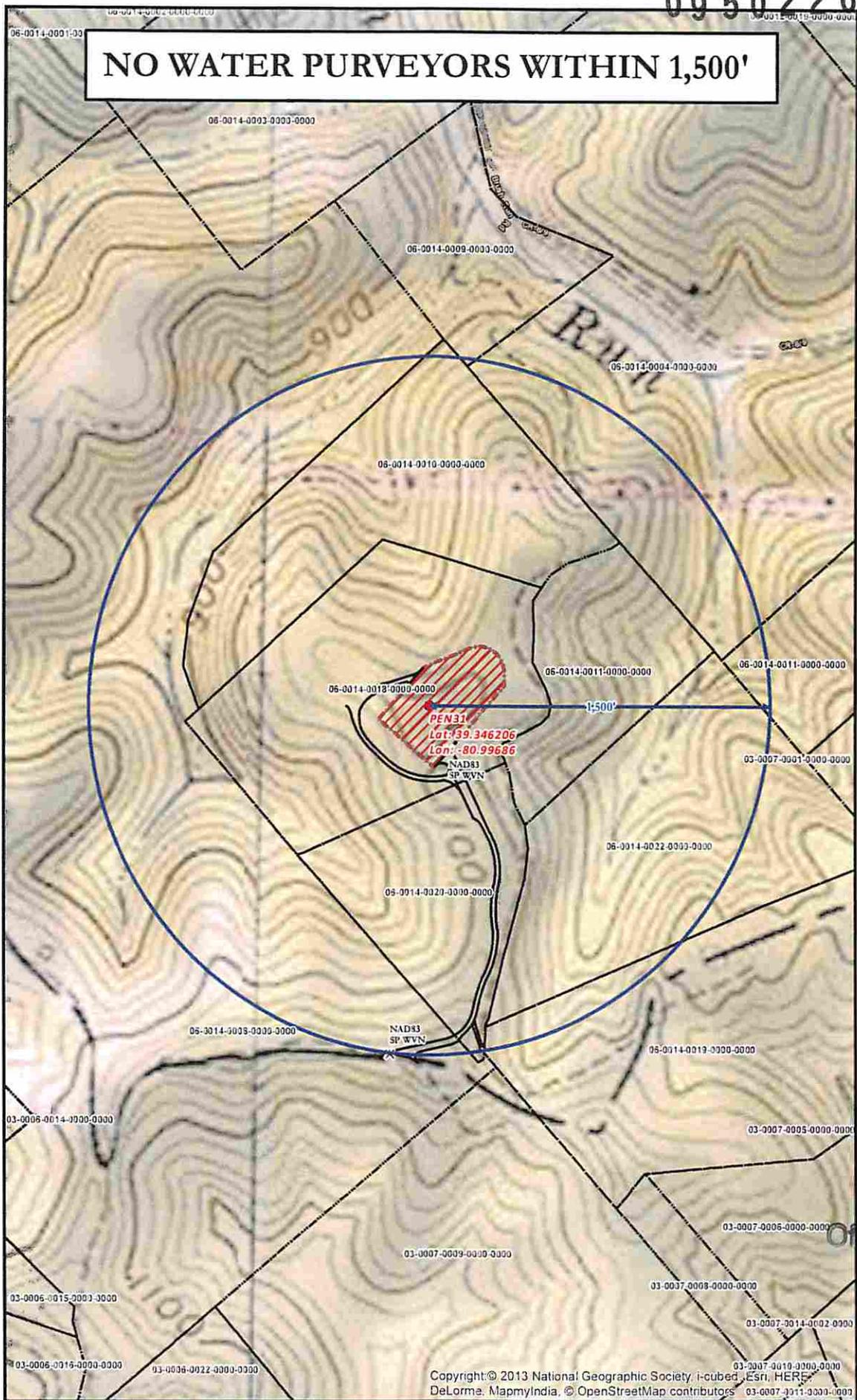
- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

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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Copyright: © 2013 National Geographic Society, i-cubed, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

PEN 31 SITE SAFETY PLAN - WATER WELL PURVEYORS -			Date: 4/9/2015
	Projection: NAD 1927 StatePlane West Virginia North FIPS 4701 Units: Foot US		Author: Christopher Glover
Disclaimer: All data is licensed for use by Noble Energy Inc. use only.			

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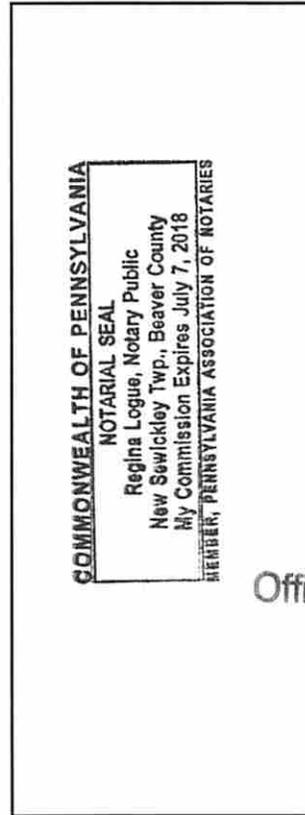
API NO. 47- 095 -
OPERATOR WELL NO. PEN 31 E
Well Pad Name: PEN 03/31

Notice is hereby given by: *Dee Swiger*
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 deprivacyofficer@wv.gov.



Subscribed and sworn before me this 26th day of March, 2015

Regina Logue 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>500256.541</u>
County: <u>Tyler</u>		Northing: <u>4355192.969</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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting 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 its 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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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Office of Oil & Gas
APR 30 2015

**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>500256.541</u>
County:	<u>Tyler</u>		Northing:	<u>4355192.969</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

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Affidavit of Personal Service

State Of Pennsylvania

County Of Washington

The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form WW-2(A) ___/ WW-3(A) ___/ WW-4(A) ___/ WW-5(A) ___/ WW-6(A) X
- (2) Application on Form WW-2(B) ___/ WW-3(B) ___/ WW-4(B) ___/ WW-5(B) ___/ WW-6(B) X
- (3) Plat showing the well location on Form WW-6, and
- (4) Construction and Reclamation Plan on Form WW-9

--all with respect to operator's Well No. PEN 03/31 wells located in Meade District, Tyler County, West Virginia, upon the person or organization named--

Noble Energy, Inc.

--by delivering the same in Washington County, State of Pennsylvania on the 26th day of March, 2015 in the manner specified below.

[COMPLETE THE APPROPRIATE SECTION]

For an individual:

Handing it to him ___/ her ___/ or, because he ___/ she ___/ refused to take it when offered it, by leaving it in his ___/ her ___/ presence.

Handing it to a member of his or her family above the age of 16 years named _____ who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

Handing it to _____, a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

Handing it to the general partner, named _____, or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

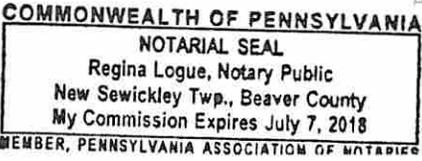
Handing it to the corporation's employee x/ officer ___/ director ___/ attorney in fact ___/ named Jessica Leska.

[Signature]
(Signature of person executing service)

Taken, subscribed and sworn before me this 26th day of March 2015.
My commission expires _____

Regina Logue
Notary Public **Received**
Office of Oil & Gas
APR 30 2015

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)



09502261

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

Name: William C. Williams
Address: 8570 Country Club Road
Bloomington, OH 43910

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>500256.541</u>
County:	<u>095-Tyler</u>		Northing:	<u>4355192.969</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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

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

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

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APR 30 2015

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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

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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: 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>500256.541</u>
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APR 30 2015

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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 57th Street, SE
Charleston, WV 25304

Subject: DOH Permit for the PENNS-03^{2/31} 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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APR 30 2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

09502261

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-ethanediyl), 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

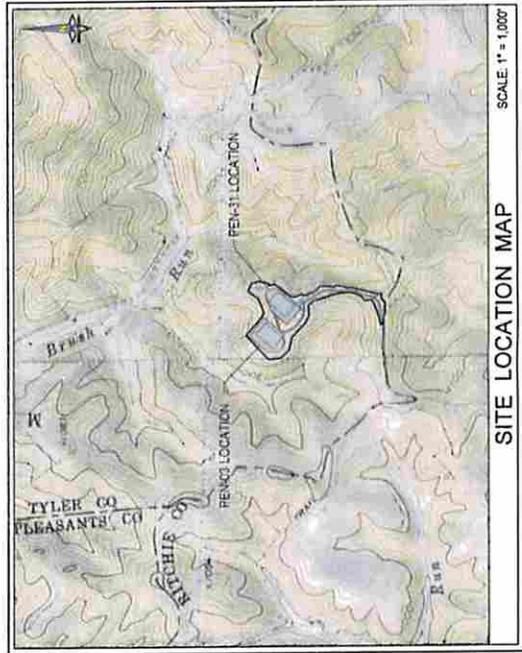


GEOTECH ENGINEERING, INC.
ENGINEERS SURVEYORS GEOLOGISTS

MAIN OFFICE
 4031 ALLPORT CUTOFF
 MORRISDALE, PA 16868
 PHONE: (814) 342-7090
 FAX: (814) 342-7099
 EMAIL: INFO@GEOTECH-ENGINEERING.COM
 WEB SITE: WWW.GEOTECH-ENGINEERING.COM

BRANCH OFFICE
 200 BURSICA DRIVE
 BRIDGEVILLE, PA 15017
 PHONE: (724) 221-1824
 FAX: (412) 221-1825
 EMAIL: INFO@GEOTECH-ENGINEERING.COM
 WEB SITE: WWW.GEOTECH-ENGINEERING.COM

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3	OVERALL SITE PLAN
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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 STA. 3+00 TO 13+00
9	PROFILE SECTIONS - ACCESS ROAD STA. 14+00 TO 16+00 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



SITE LOCATION MAP SCALE: 1" = 1,000'

DIRECTIONS TO WELL SITE
 FROM THE INTERSECTION OF BONGS 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.

Michael
 5/16/15

09502261



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

WEST VIRGINIA
 CALL BEFORE YOU DIG!
 CALL BEFORE YOU DIG!
 TICKET NO. - 142269018
 DIAL 8-1-1 OR 1-800-245-4848

BASEMAPPING DERIVED FROM BLUE MOUNTAIN FLIGHT DATA FLOWN 04-10-14
 PROPERTIES AS SHOWN SURVEYED BY GEOTECH ENGINEERING, INC. E-20-14, 8-25-14, 10-25-14, 12-11-14

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APR 30 2015