

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

RECEIVED
Office of Oil and Gas
JAN 06 2017

API 47 - 085 - 10074 County Ritche District Clay
Quad Pennsboro Pad Name PEN 2 Field/Pool Name Environmental Protection
Farm name Terry & Helen Kiessling Well Number PEN 2 JHS
Operator (as registered with the OOG) Noble Energy, Inc.
Address 1000 Noble Energy Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 43584132.20 Easting 498905.63
Landing Point of Curve Northing 4353851.99 Easting 498323.97
Bottom Hole Northing 4355602.63 Easting 496822.70

Elevation (ft) 1074.85 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Synthetic Oil Based

Date permit issued 10/30/2013 Date drilling commenced 01/13/2014 Date drilling ceased 05/24/2014
Date completion activities began Waiting on F.F. Date completion activities ceased _____
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 454 Open mine(s) (Y/N) depths none
Salt water depth(s) ft None noted for Offsets Void(s) encountered (Y/N) depths none
Coal depth(s) ft no coal Cavern(s) encountered (Y/N) depths none
Is coal being mined in area (Y/N) N

APPROVED

NAME: Michael Hoff
DATE: 1/30/17

Reviewed by: _____

03/31/2017
3/30/17 AX
RBDMS

API 47-085 - 10074 Farm name Terry & Helen Kiessling Well number PEN 2 JHS

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	36	30	40				
Surface	17 1/2	13 3/8	598.7	N	J-55 54.5#		Y
Coal							
Intermediate 1	12 3/8	9 5/8	5,794.0	N	HCK-55 36#		Y
Intermediate 2							
Intermediate 3							
Production	8 3/4	5 1/2	14,787.2	N	P-110 20#		Y
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	TYPE 1	532	15.6	1.20	115	0	8
Coal							
Intermediate 1	Class A	Lead 1003 Tail 295	Lead 12.0 Tail 15.6	Lead 1.94 Tail 1.19	Lead 201 Tail 167	0	8
Intermediate 2							
Intermediate 3							
Production	Class A	Lead 461 Tail 1673	Lead 12.3 Tail 14.8	Lead 1.62 Tail 1.37	Lead 207 Tail 201	4695	8
Tubing							

Drillers TD (ft) 14,802 Loggers TD (ft) 14,720
 Deepest formation penetrated Marcellus Plug back to (ft) Not a Pilot Hole
 Plug back procedure Not a Pilot Hole

Kick off depth (ft) 7181

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Conductor - No centralizers used. Fresh Water/Surface-
Surface - 5 centralizers used, one every third joint Intermediate - 69 centralizers - bow spring centralizers on every joint to KOP, on every third joint from KOP to 100' from surface.
Production - 245 centralizers - rigid bow spring every third joint from KOP to TOC, rigid bow spring every joint to KOP.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 085 - 10074

Farm name Terry & Helen Kiessling

Well number PEN 2 JHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
					Well not complete no data available

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
			Well not comp no data available					

Please insert additional pages as applicable.

API 47- 085 - 10074 Farm name Terry & Helen Kiessler Well number PEN 2 JHS

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6371</u> TVD	<u>14,802</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 3475 mcfpd Oil 110 bpd NGL 405 bpd Water 742 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	<u>0</u>		<u>0</u>		
	<u>SEE ATTACHED FORMATION SHEET</u>				

Please insert additional pages as applicable.

Drilling Contractor NOMAC
Address 171 Locust Avenue Ext. City Mt. Morris State PA Zip 15349

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company Schlumberger
Address 4600 J Barry Court, Suite 200 City Canonsburg State PA Zip 15317

Stimulating Company U. S Well Service
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Regina A. Logue Telephone 724-820-3559
Signature Regina A. Logue Title Regulatory Analyst Date 12/29/2016

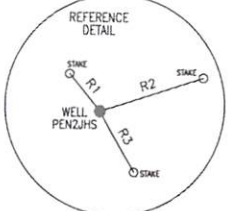
Submission of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale and Sandstone	0	1309	0	1309	
Sandstone	1309	1433	1309	1423	
Shale and Sandstone	1423	1593	1423	1593	
Sandstone	1593	1635	1593	1635	
Shale and Sandstone	1635	1737	1635	1737	
Maxton Sand	1737	1820	1737	1820	
Shale and Sandstone	1820	1943	1820	1943	
Big Lime	1943	1998	1943	1998	
Big Injun	1998	2133	1998	2133	
Price	2133	2405	2133	2405	
Weir	2405	2444	2405	2444	
Shale	2444	2724	2444	2724	
Gordon	2724	2741	2724	6301	
Shale and Sandstone	2741	2921	2741	6302	
5th Sand	2921	2933	2921	6371	
Shale	2933	3076	2933	not encountered	
Sandstone	3076	3090	3076	not encountered	
Shale	3090	3498	3090	not encountered	
Warren	3498	3560	3500	6300	
Shale	3560	3894	3562	6301	
Sandstone	3894	3931	3900	6302	
Shale and Sandstone	3931	4925	3937	6371	
Benson	4925	4987	4941	not encountered	
Shale	4987	5147	5004	not encountered	
Alexander	5147	5215	5166	not encountered	
Shale	5215	5725	5234	not encountered	
Rheinstreet	5725	6051	5750	not encountered	
Cashaqua	6051	6143	6080	not encountered	
Middlesex	6143	6172	6176	not encountered	
West River	6172	6216	6206	not encountered	
Burkett	6216	6259	6253	not encountered	
Tully Limestone	6259	6260	6300	not encountered	
Hamilton	6260	6261	6301	6302	Gas
Marcellus	6261	6320	6302	6371	
Onondaga	6320		6371	not encountered	

Well is located on topo map 13.974' feet south of Latitude: 39° 22' 30"

AS DRILLED PLAT

Well is located on topo map 3.601' feet west of Longitude: 81° 00' 00"



**AS DRILLED
BOTTOM HOLE LOCATION (BH1)**
UTM 17-NAD83
N:4355602.63
E:496822.70
NAD27 WY NORTH
N:313225.78
E:1565351.66
LAT/ON DATUM-NAD83
LAT:39.349859
LON:-81.036875

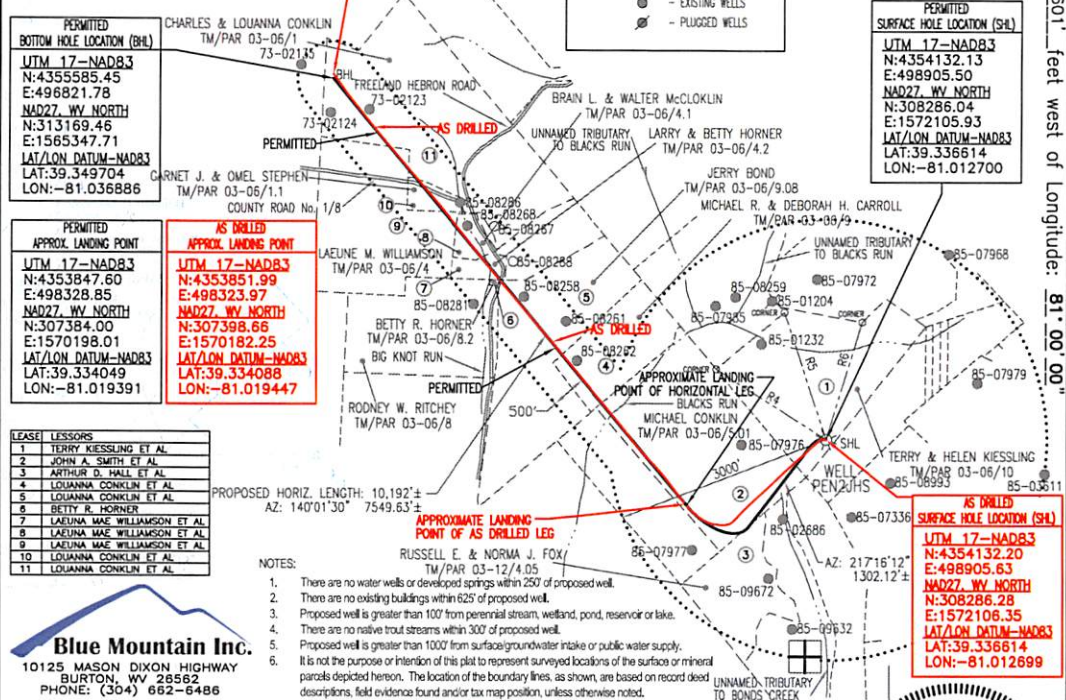
LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- LEASE NUMBER
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE
- AS DRILLED

EXISTING WELLS

- EXISTING WELLS
- PLUGGED WELLS

LINE	BEARING	DISTANCE
R1	N 39°12'44" W	131.55'
R2	N 72°08'18" E	297.08'
R3	S 29°44'49" E	190.23'
R4	N 57°44'38" W	1781.40'
R5	N 18°17'02" W	1812.10'
R6	N 17°12'40" E	1661.39'



**PERMITTED
BOTTOM HOLE LOCATION (BH1)**
UTM 17-NAD83
N:4355855.45
E:496821.78
NAD27 WY NORTH
N:313169.46
E:1565347.71
LAT/ON DATUM-NAD83
LAT:39.349704
LON:-81.036886

**PERMITTED
APPROX. LANDING POINT**
UTM 17-NAD83
N:4353847.60
E:498328.85
NAD27 WY NORTH
N:307384.00
E:1570198.01
LAT/ON DATUM-NAD83
LAT:39.334049
LON:-81.019391

LEASE LESSORS

1	TERRY KIESSLING ET AL
2	JOHN A. SMITH ET AL
3	ARTHUR D. HALL ET AL
4	LOUANNA CONKLIN ET AL
5	LOUANNA CONKLIN ET AL
6	BETTY R. HORNER
7	LAELINA MAE WILLIAMSON ET AL
8	LAELINA MAE WILLIAMSON ET AL
9	LAELINA MAE WILLIAMSON ET AL
10	LOUANNA CONKLIN ET AL
11	LOUANNA CONKLIN ET AL

Blue Mountain Inc.
10125 MASON DIXON HIGHWAY
BURTON, WV 25862
PHONE: (304) 662-6486

PROPOSED HORIZ. LENGTH: 10,192±
AZ: 140°01'30" 7549.63±

- NOTES:**
- There are no water wells or developed springs within 200' 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, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

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: **PRELIMINARY**

R.P.E.: _____ L.L.S.: P.S. No. 2000



FILE #: PEN2JHS-AS DRILLED
DRAWING #: PEN2JHS-AS DRILLED
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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

DATE: FEBRUARY 10, 2015
OPERATOR'S WELL #: PEN2JHS-AS DRILLED
API WELL #: 47 85 10074
STATE COUNTY PERMIT

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

WATERSHED: NORTH FORK HUGHES RIVER ELEVATION: 1081.34±'

COUNTY/DISTRICT: RITCHIE / CLAY QUADRANGLE: ELLENBORO, WV 7.5'

SURFACE OWNER: TERRY & HELEN KIESSLING ACREAGE: 79.242±
OIL & GAS ROYALTY OWNER: TERRY KIESSLING ET AL ACREAGE: 589.154±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,314± TMD: 15,012±

WELL OPERATOR NOBLE ENERGY, INC. DESIGNATED AGENT STEVEN M. GREEN
Address 333 TECHNOLOGY DRIVE, SUITE 116 Address 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 590
City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

03/31/2017