



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

October 31, 2012

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-5101571, 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 of completion of drilling, 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: MND9DHS
Farm Name: CONSOLIDATION COAL COMPA
API Well Number: 47-5101571
Permit Type: Horizontal 6A Well
Date Issued: 10/31/2012

Promoting a healthy environment.

I

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. 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.
2. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the fill material shall be within plus or minus 2% of the optimum moisture content as determined by the standard proctor density test. Each lift must meet 95 % compaction of the optimum density based on results from the standard proctor density test of the actual soils used in specific engineered fill sites. 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.
3. 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.
4. 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.
5. 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.



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

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

October 30, 2012

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-051-01571

COMPANY: Nobel Energy Inc

FARM: Consolidation Coal #MND9DHS

COUNTY: Marshall DISTRICT: Franklin QUAD: Powhatan Point

The application for the above company is APPROVED FOR HUNTERSVILLE/CHERT ONLY. **If operator wishes to drill deeper than the HUNTERSVILLE/CHERT, additional approval must be obtained from the OGCC.**

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; na
2. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells, well name, and the name and address of the operator; none
3. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Cindy Raines
Executive Assistant

To avoid enforcement action and per 39CSR1.4.6 and 4.10 filing of wells logs and directional surveys are due within 90/60 days of completion of a deep well.

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
W.VA. CODE §22-6A - WELL WORK PERMIT APPLICATION

1) Well Operator: Noble Energy, Inc. 494501907 Marshall Franklin Powhatan Point
Operator ID County District Quadrangle

2) Operator's Well Number: MND9DHS Well Pad Name: MND9HS

3 Elevation, current ground: 1221.03 Elevation, proposed post-construction: 1223

4) Well Type: (a) Gas Oil
Other
(b) If Gas: Shallow Deep
Horizontal

5) Existing Pad? Yes or No: No

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):
Target - Marcellus, Depth - 6571', Thickness - 46', Pressure - 2912#

7) Proposed Total Vertical Depth: 6900'

8) Formation at Total Vertical Depth: Onondaga *Huntersville Chert*

9) Proposed Total Measured Depth: 14,171'

10) Approximate Fresh Water Strata Depths: 255'

11) Method to Determine Fresh Water Depth: closest well API # 4705100566 - Seneca Technology data base

12) Approximate Saltwater Depths: 1718'

13) Approximate Coal Seam Depths: Sewickley - 667.4' - 670.7 and Pittsburgh - 756.9' - 762.8

14) Approximate Depth to Possible Void (coal mine, karst, other): None expected-drilling into a pillar see attached MSHA report

15) Does land contain coal seams tributary or adjacent to, active mine? Yes

16) Describe proposed well work: Drill the vertical depth to the *Huntersville Chert* Onondaga, estimated total vertical depth of 6,900 feet. Plugging back from total depth with solid cement plug to estimated KOP of 5,698 feet. Drill, stimulate and produce the Marcellus formation to an estimated length including the curve of 8,473 feet. Total measured depth of 14,171 feet.**If we should encounter an unanticipated void, we will place a basket above and below void area-balance with cement to bottom of void and grout from basket to surface. Run casing not less than 20' below void nor more than 50' below void. (If freshwater is encountered deeper it must be protected by setting casing 50' below and cts.

17) Describe fracturing/stimulating methods in detail:
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.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 10.1 acres

19) Area to be disturbed for well pad only, less access road (acres): 10.1 acres (no access road using private CONSOL road)

Rec'd 10/29
CR

51-1571

21) Describe centralizer placement for each casing string. Conductor - No centralizers used. Fresh Water & Coal -
Bow spring centralizers on first 2 joints then every third joint to 100 feet from surface. Intermediate - Bow spring
centralizers one per joint to approximately 200 feet above the gas storage zone, then every third joint to 100 feet from surface.
Production - Rigid bow spring centralizer on first joint then every 2 casing joints (free floating) through the lateral and the
curve up to approximately 2450 feet.

22) Describe all cement additives associated with each cement type. Conductor - 1.15% CaCl2.
Fresh Water - 1.15% CaCl2. Coal - 1.15% CaCl2, 0.6% Gas migration control additive, 0.5% fluid loss additive,
0.4% Salt tolerant dispersant, and 0.3% defoamer. Intermediate - 10.0% BWOW NaCl, 0.2% BWOB Anti-foam, 0.3% BWOW Dispersant,
0.4% BWOB Cement retarder. Production: 2.6% Cement extender, 0.7% Fluid Loss additive, 0.5% high temperature retarder,
0.2% friction reducer.

23) 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 -The hole is drilled w/air and casing
is run in air. Once casing is on bottom, the hole is filled w/ KCl water and a minimum of one hole volume is circulated prior to pumping
cement. Coal - The hole is drilled w/air and casing is run in air. Once casing is at setting depth, the hole is filled w/ KCl water and a
minimum of one hole volume is circulated prior to pumping cement. Intermediate - The hole is drilled w/ air and 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 a drilling pump rate for at least three hours. Once the torque and drag trends indicate the hole is clean the drilling BHA
is pulled and casing is run. Once on bottom w/ casing the hole is circulated a minimum of one hole volume prior to pumping cement.

*Note: Attach additional sheets as needed.

DMH
6-7-12

RECEIVED
Office of Oil & Gas
JUL 12 2012
WV Department of
Environmental Protection



DRILLING WELL PLAN
MND9DHS
Marcellus Shale Horizontal
Marshall County, WV

Ground Elevation	1223		SHL (UTM NAD83)				Easting: 518215.041 Northing: 4409065.125						
WELLBORE DIAGRAM	HOLE	RIG	CASING	GEOLOGY	MD	TVD	MUD	CEMENT	DIRECTIONAL	LOGS	BITS	COMMENTS	
	36"	Conductor Rig	30" 99# LS				AIR	To Surface	N/A	N/A		Stabilize surface fill/soil	
				Conductor	40	40							
	26"	TBD	20" 94# J-55 BTC				AIR	AWS 15.6ppg to surface 750sx w/ 30% OH excess	Keystone 15" Air Hammer Totco at TD	CBL Log Cased hole NPHI, GR at Pilot TD in SHL-8C only	Carbide hammer bit	Protect fresh groundwater - Casing shoe @ 450' from GL	
				Surf. Casing	305	305							
	17.5"	TBD	13-3/8" 54.5# J-55 BTC	Pittsburgh Coal	757	757	AIR	AWS 15.2ppg to surface 610sx w/ 30% OH excess	Center Rock 12" Air Hammer Gyro above Coal, (Mine Approval) Totco at TD	CBL Log Cased hole NPHI, GR at Pilot TD in SHL-8C only	Hammer bit w/ diamond gage Test casing to 800psi	Protect coal Gyro above Pittsburgh Seam verify <1% lateral deviation prior to drilling ahead	
				Int. Casing	825	825							
	12.375"	TBD	9-5/8" 36# J-55 LTC				AIR	SLB 15.4ppg to surface 965sx w/ 30% OH excess	Sunrise 12" Air Hammer Totco every 400ft	CBL Log (NISource approval) OH logs in SHL-8C only Gyro shoe to Coal	Hammer bit w/ full face diamond Test casing to 1000psi	Protect NiSource Gas Storage zone. Minimum 200' beneath Base of Fifth @ 9.625" shoe.	
				Int. Casing	3000	3000							
	8.75" Vertical				Vertical			See Pilot below		See Pilot below	See Pilot below	See Pilot below	See Pilot below
	8.75" Curve	TBD	5-1/2" 20# HCP-110 TXP BTC		Est. KOP	5698	5698	Open hole displace to 12.0ppg SOBMs @ KOP	Calfrac 14.8ppg TOC >= 200' Above 9.625" shoe 1665sx w/ 15% OH excess	6.75" PDM & MWD 1.83° ADJ Bend (8" Build/Turn DLS)	MWD surveys Mud Logger - 30 ft samples	Smith SDI513 5 - 25 WOB 20 - 40 RPM 450 - 600 GPM	PU cleanout assembly, dress plug, displace to 12.0ppg SOBMs, PU Curve BHA, time drill / KO cement plug. Expect Seepage in curve
8.5" Lateral				TARGET	6571	6571	12.0-12.5 SOBMs		Drill short lateral section to TD w/ Curve assembly	MWD Surveys Mud Logger - 90 ft samples	Smith SDI513 5 - 25 WOB 30 - 60 RPM 450 - 500 GPM	Geosteering	
				TD	14171	6601							
8.75 / 8.5 Hole - Cemented Long String 5-1/2" 20# HCP-110 TXP BTC													
	8.75" Pilot SHL-8C only	TBD	Isolation / Sidetrack Cement plugs	Onondaga	6698	6698	Air	17.5ppg Class H (SLB) from TD to 200' above KOP (2) 800' balanced plugs w/ 2.375" tubing	Sunrise 8" Air Hammer Totco every 400ft	OH logs, sidewall cores as directed by NEI G&G Dir. Surveys TD to shoe	Hammer bit w/ full face diamond	Blow hole, drillout 9.625" on air +10' fm. load hole, conduct 13.0ppg FIT, blow hole, air drill pilot interval to Onondaga + 150'	
				Pilot Hole TD	6900	6900							

RECEIVED
 Office of Oil & Gas
 JUN 13 2012
 WV Department of
 Environmental Protection

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Noble Energy Inc. OP Code 494501907

Watershed Unnamed Tributary to Conner Run Quadrangle Powhatan Point

Elevation 1221.03' County Marshall District Franklin

Description of anticipated Pit Waste: NA - Closed Loop System

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

Will a synthetic liner be used in the pit? NA. If so, what mil.? NA

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Oil based muds

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

Additives to be used? Bactericide, Polymers, and Weighting Agents

Will closed loop system be used? Yes

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. All drill cuttings will be taken off site to an approved facility

-If left in pit and plan to solidify what medium will be used? Cement, lime,

-Landfill or offsite name/permit number? See attachment - Site Water/Cuttings Disposal

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 *Robert Ovitz*

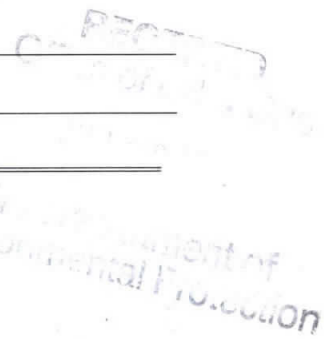
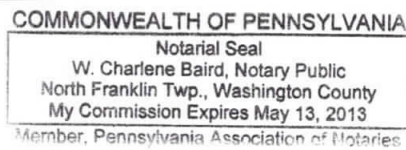
Company Official (Typed Name) Robert Ovitz

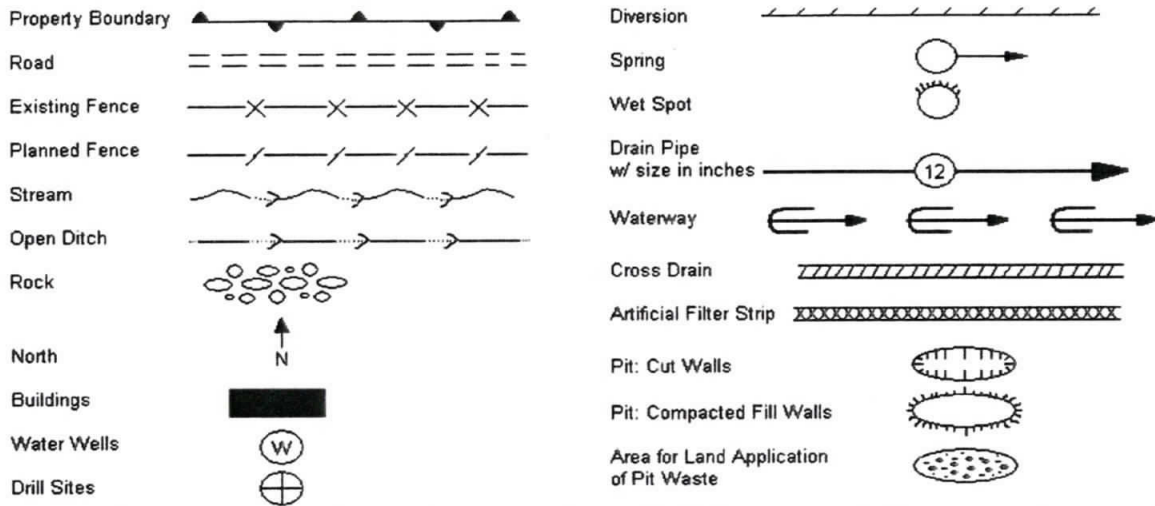
Company Official Title Senior Operations Manager

Subscribed and sworn before me this 7th day of June, 2012

W. Charlene Baird Notary Public

My commission expires May 13, 2013





Proposed Revegetation Treatment: Acres Disturbed 10.1 Prevegetation pH _____

Lime 2 to 3 Tons/acre or to correct to pH _____

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Hay or Straw at 2 tons Tons/acre

Seed Mixtures

Seed Type	Area I lbs/acre	Seed Type	Area II lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]
Comments: _____

Title: Oil + Gas Inspector Date: 6-7-12

Field Reviewed? Yes No

RECEIVED
Office of Oil & Gas
June 9, 2012
Department of Environmental Protection



Site Safety Plan

Noble Energy, Inc.
Moundsville 9 DHS

May 2012 : Version 1

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

Noble Energy, Inc
Appalachia Offices
333 Technology Drive, Suite 110
Canonsburg, PA 15317-9504

REC'D
Office of Oil and Gas
June 1, 2012
West Virginia Department of
Environmental Protection

ASB
10/22/12

~~*ASB*~~
~~10/2/12~~

DMH
6-7-12

Well is located on topo map 679' feet south of Latitude: 39° 50' 00"

Well is located on topo map 10,479' feet west of Longitude: 80° 45' 00"

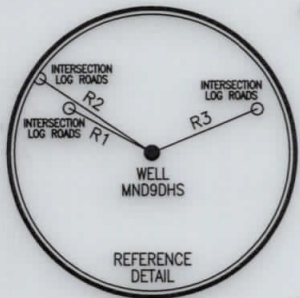
LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- WATER SOURCE
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE

WELLS WITHIN 3000'

- EXISTING WELLS
- PLUGGED WELLS

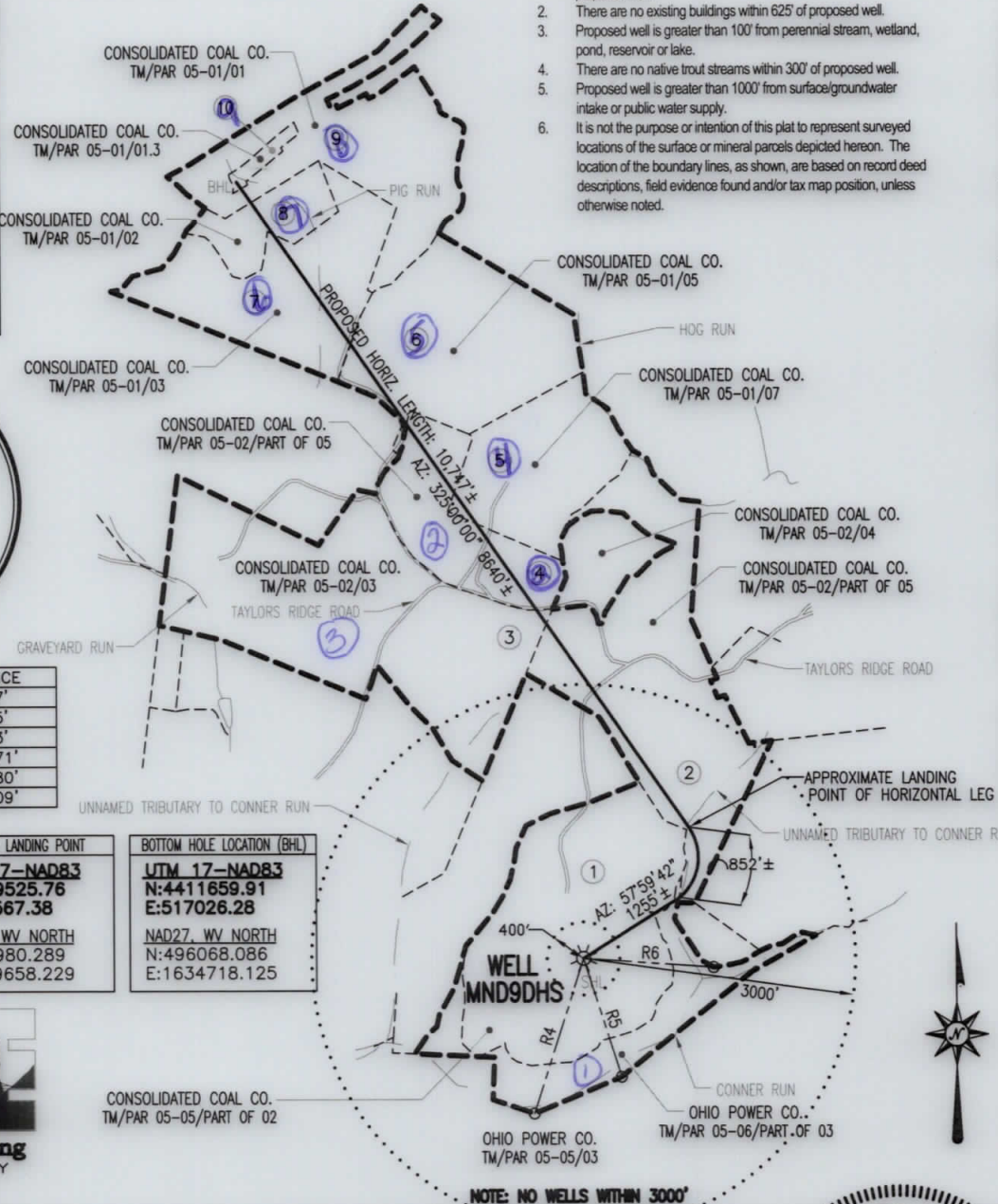
- NOTES:**
1. There are no water wells or developed springs within 250' of proposed well.
 2. There are no existing buildings within 625' of proposed well.
 3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
 4. There are no native trout streams within 300'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



LINE	BEARING	DISTANCE
R1	N 78°44'30" W	198.47'
R2	N 68°07'48" W	277.85'
R3	N 80°35'56" E	218.73'
R4	S 17°52'02" W	1778.71'
R5	S 17°45'09" E	1359.80'
R6	S 86°03'35" E	1438.09'

SURFACE HOLE LOCATION (SHL)	APPROX. LANDING POINT	BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83 N:4409082.932 E:518219.133	UTM 17-NAD83 N:4409525.76 E:518567.38	UTM 17-NAD83 N:4411659.91 E:517026.28
NAD27, WV NORTH N:487546.263 E:1638491.218	NAD27, WV NORTH N:488980.289 E:1639658.229	NAD27, WV NORTH N:496068.086 E:1634718.125

Blue Mountain Engineering
11023 MASON DIXON HIGHWAY
BURTON, WV 26562
PHONE: (304) 662-6486



FILE #: MND9DHS

DRAWING #: MND9DHS

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY: 1/2500

PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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: *George D. Six*

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

PLACE SEAL HERE

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



DATE: MARCH 6, 2013

OPERATOR'S WELL #: MND9DHS
SERIAL No.: WV0510629HS

API WELL #: 47 51 1571 H6A
STATE COUNTY PERMIT

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

WATERSHED: CONNER RUN ELEVATION: 1221.03'

COUNTY/DISTRICT: MARSHALL / FRANKLIN QUADRANGLE: POWATAN POINT, WV-OH 7.5'

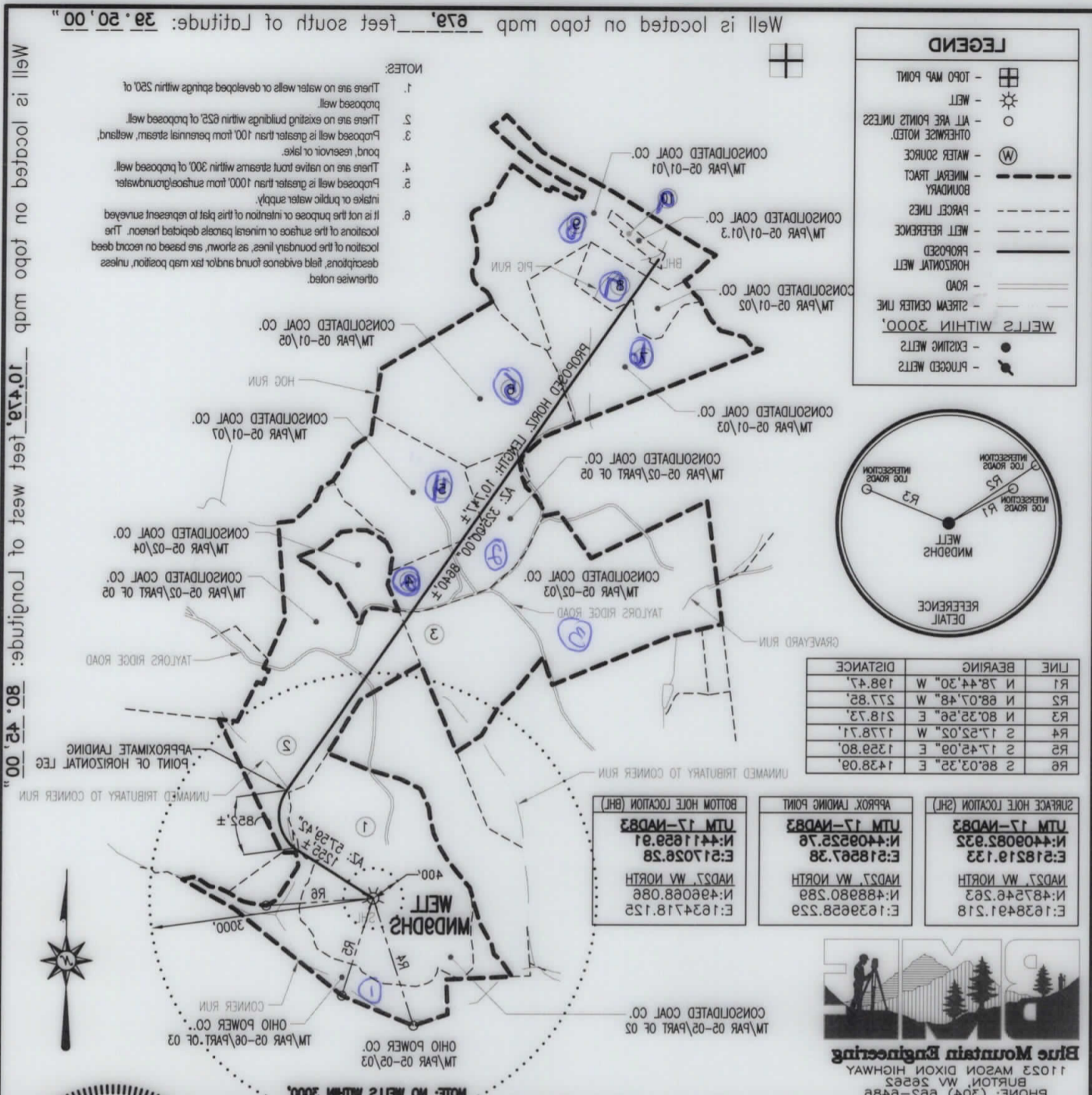
SURFACE OWNER: CONSOLIDATION COAL COMPANY ACREAGE: 123.244±

OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-6A1 ACREAGE: 791.169±

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

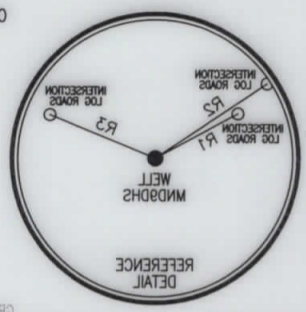
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,600'± TMD: 16,186'±

WELL OPERATOR NOBLE ENERGY INC. DESIGNATED AGENT STEVEN M. GREEN
Address 333 TECHNOLOGY DRIVE Address 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 1001
City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301



LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- WATER SOURCE
- MINERAL TRACT
- BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED
- HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE
- WELLS WITHIN 3000'
- EXISTING WELLS
- PLUGGED WELLS

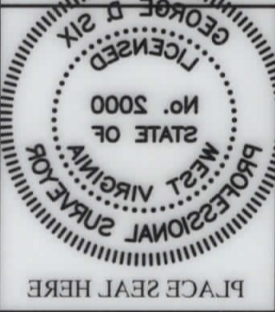


LINE	BEARING	DISTANCE
R1	N 78°44'30" W	198.47'
R2	N 68°07'48" W	277.85'
R3	N 80°35'56" E	218.73'
R4	S 17°52'02" W	177.87'
R5	S 17°45'09" E	139.80'
R6	S 86°03'32" E	143.09'

Well is located on topo map _____ feet west of Longitude: _____ feet south of Latitude: _____

- NOTES:**
- There are no water wells or developed springs within 300' of proposed well.
 - There are no existing buildings within 300' of proposed well.
 - Proposed well is greater than 100' from perennial streams, wetlands, pond, reservoir or lake.
 - There are no utility lines within 300' of proposed well.
 - Proposed well is greater than 1000' from subsurface water mains or public water supply.
 - It is not the purpose or intention of this plat to represent surveyed locations of the boundaries, lines, as shown, are based on record descriptions, field evidence found and/or tax map position, unless otherwise noted.

Blue Mountain Engineering
 11023 MASON DIXON HIGHWAY
 BURTON, WV 26622
 PHONE: (304) 682-6486



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

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

WELL OPERATOR: NOBLE ENERGY INC. DESIGNATED AGENT: STEVEN M. GREEN
 ADDRESS: 333 TECHNOLOGY DRIVE, 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 1001
 CITY: CANONSBURG, STATE: PA, ZIP CODE: 15317, CITY: CHARLESTON, STATE: WV, ZIP CODE: 25301

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: LVD: 600' ± TMD: 16186' ±
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE

OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-6A1 ACREAGE: 791.169±
 SURFACE OWNER: CONSOLIDATION COAL COMPANY ACREAGE: 123.244±
 COUNTY/DISTRICT: MARSHALL \ FRANKLIN QUADRANGLE: POWHATAN POINT, WV-OH 75'
 WATERSHED: CONNER RUN ELEVATION: 1231.03'

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

CHARLESTON, WV 25304 601 27TH STREET OFFICE OF OIL & GAS WADep UNITED STATES TOPOGRAPHIC MAPS (+) DENOTES LOCATION OF WELL ON THOMAS 1498.81' U.S.G.S. MONUMENT OF ACCURACY: 1/2500 SCALE: 1" = 2000' DRAWING #: MINDAHS FILE #: MINDAHS

DATE: MARCH 6, 2013 OPERATOR'S WELL #: MINDAHS SERIAL No.: W0510629HS
 API WELL #: 47 STATE COUNTY PERMIT R21 Hea