



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

PERMIT MODIFICATION APPROVAL

August 01, 2013

NOBLE ENERGY, INC.
333 TECHNOLOGY DRIVE, SUITE 110
CANONSBURG, PA 15317

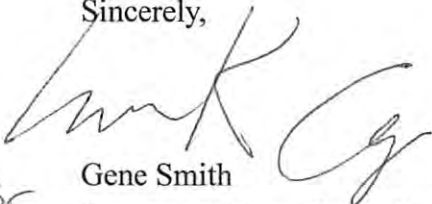
Re: Permit Modification Approval for API Number 5101625 , Well #: MNDS9AHS
shortened intermediate casing

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,


for Gene Smith
Regulatory/Compliance Manager
Office of Oil and Gas



Dee Swiger
Regulatory Analyst

July 22, 2013
West Virginia Department of Environmental Protection
Office of Oil and Gas,
601 57th Street, SE
Charleston, WV 25304

Received

JUL 25 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

MNDS 9AHS

Re: Drilling Permit Application – Well “MNDS9AHS API# 47-051-01625”

↑
S

Dear Laura,

Enclosed please find a request to modify the 9 5/8” casing to 2500’ or 100’ below the Big Injun. We would like to make this change to try and avoid issues with the red rock in the area. This well is located in Marshall County, WV.

If any further information or correspondence is required, please contact me at Office (724)820-3061 Cell 412-310-8967 or Dswiger@nobleenergyinc.com.

Sincerely,

Dee Swiger

DS/

Enclosure(s):

20) CASING AND TUBING PROGRAM

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill -up (Cu. Ft.)
Conductor	20"	N	LS	52	40'	40'	CTS / 15.6 ppg Yield 1.2
Fresh Water	13 3/8"	N	J55	54.5	906'	906'	CTS / 15.6 ppg Yield 1.2
Coal	13 3/8"	N	J55	54.5	1200'	1200'	CTS / 15.6 ppg Yield 1.2
Intermediate	9 5/8"	N	J55	36.0	2500' or 100' below Big Injain	2500' or 100' below Big Injain	CTS / 15.6 ppg Yield 1.19
Production	5 1/2"	N	P110	20.0	17704'	17704'	14.8 ppg yield 1.27 TOC 200' above 9.625 shoe
Tubing							
Liners							

We would like to drill through all the freshwater and coal bearing zones before running casing. we plan to drill no more than 100' below the deepest freshwater and/or coal bearing zone(s) and run casing which will be circulated with cement to the surface.

WRH
2-19
73

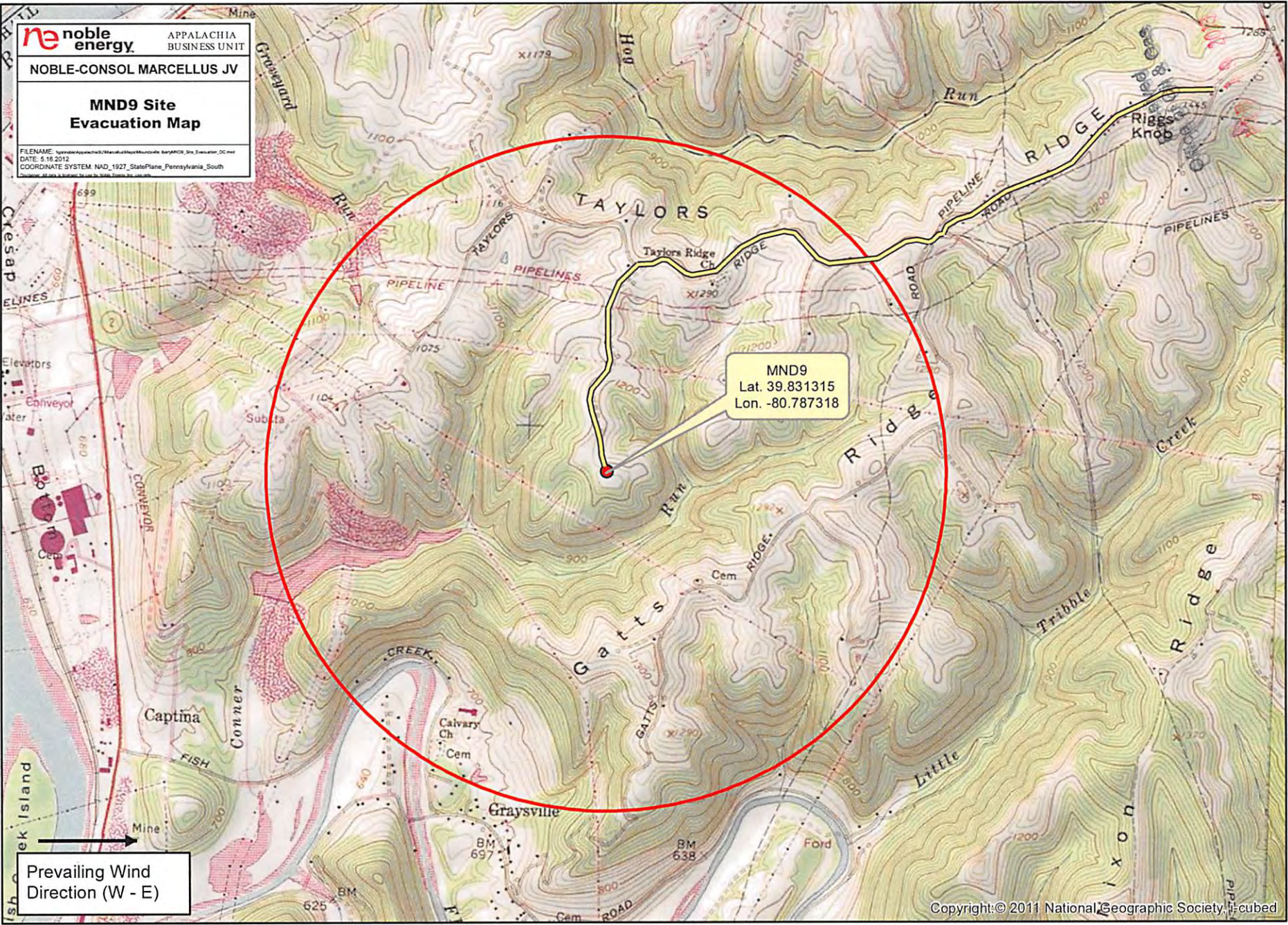
TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	20"	26"	.25		Type 1	CTS
Fresh Water	13 3/8"	17 1/2"	.380	2730	Type 1	1.2
Coal	13 3/8"	17 1/2"	.380	2730	Type 1	1.2
Intermediate	9 5/8"	12 3/8"	.352	3520	Class A	1.19
Production	5 1/2"	8 3/4" & 8 1/2"	.361	12,630	Class A	1.27
Tubing						
Liners						

PACKERS

Kind:				
Sizes:				
Depths Set:				

51-01625

noble energy APPALACHIA BUSINESS UNIT
NOBLE-CONSOL MARCELLUS JV
MND9 Site Evacuation Map
FILENAME: g:\projects\appalachia\2\Marcellus\Map\mnd9\mnd9_evacuation.dwg
 DATE: 5/18/2012
 COORDINATE SYSTEM: NAD_1927_StatePlane_Pennsylvania_South
 Copyright: All rights reserved by Noble Energy Inc. 2012



Prevaling Wind Direction (W - E)

1 inch = 2,000 feet

Leave well site heading North on Unknown Rd towards Taylor's Ridge
 Turn Right onto Taylor's Ridge Rd
 Head towards Co Route 21/ Roberts Ridge St Joseph Rd

- MND9
- 1 Mile Buffer
- Site Evacuation Rt.

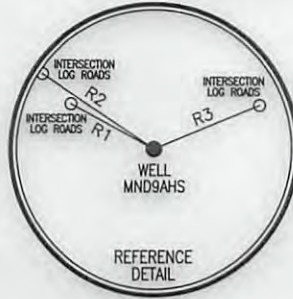
Copyright: © 2011 National Geographic Society, Inc.



Well is located on topo map 737 feet south of Latitude: 39° 50' 00"

Well is located on topo map 10,492 feet west of Longitude: 80° 45' 00"

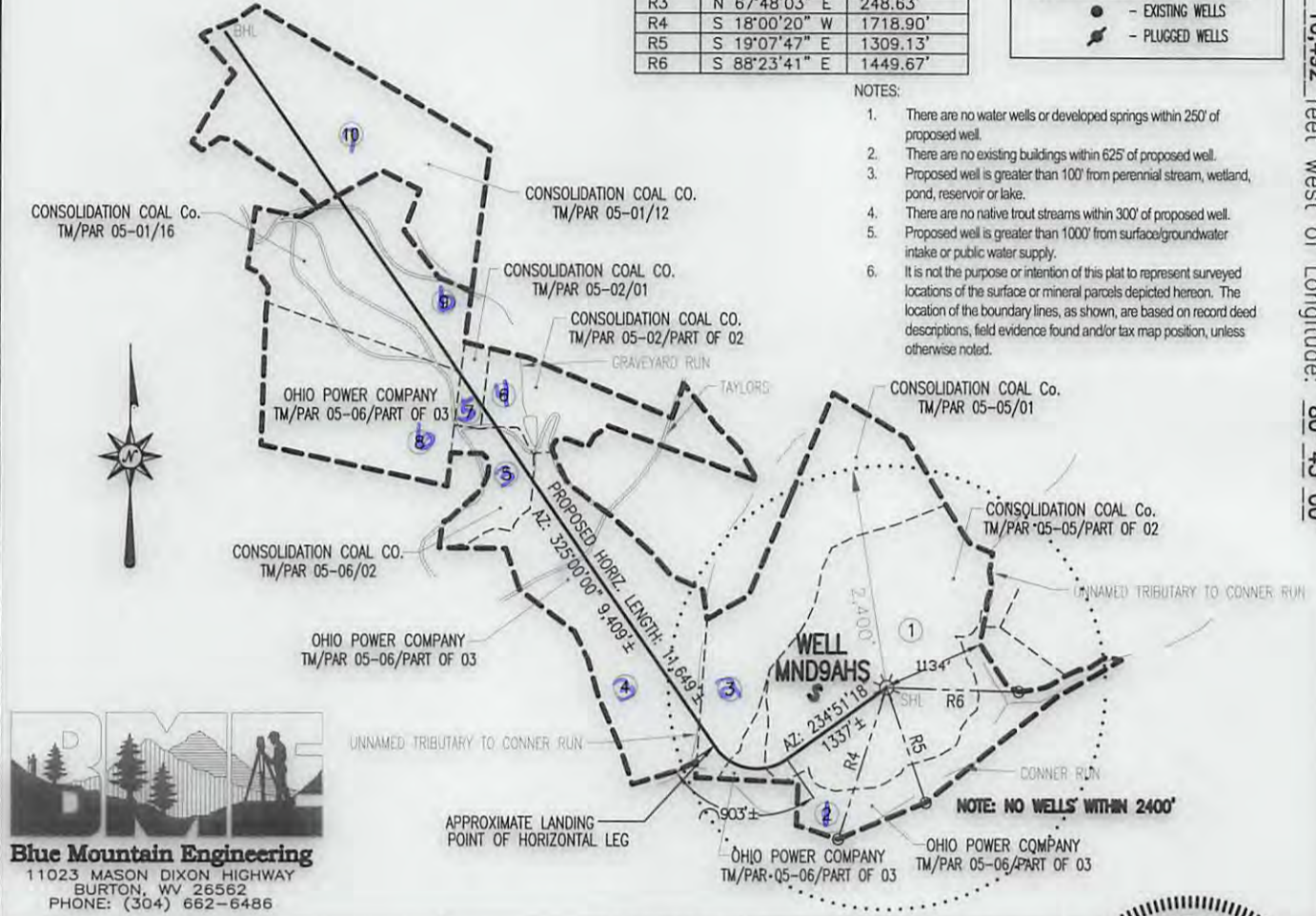
SURFACE HOLE LOCATION (SHL)	APPROX. LANDING POINT	BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83 N:4409065.125 E:518215.041 NAD27, WV NORTH N:487488.053 E:1638476.814	UTM 17-NAD83 N:4408863.88 E:517641.68 NAD27, WV NORTH N:486859.149 E:1636584.349	UTM 17-NAD83 N:4411184.58 E:515958.21 NAD27, WV NORTH N:494566.945 E:1631187.294



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 2,400'	
	- EXISTING WELLS
	- PLUGGED WELLS

LINE	BEARING	DISTANCE
R1	N 61°43'25" W	204.67'
R2	N 56°24'22" W	292.26'
R3	N 67°48'03" E	248.63'
R4	S 18°00'20" W	1718.90'
R5	S 19°07'47" E	1309.13'
R6	S 88°23'41" E	1449.67'

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



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

FILE #: MND9AHS
DRAWING #: MND9AHS
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:

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

GEORGE D. SIX
LICENSED
No. 2000
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

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 #: MND9AHS
API WELL #: 47 51 01625 H6A
STATE COUNTY PERMIT

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

WATERSHED: CONNER RUN ELEVATION: 1232.55'

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

SURFACE OWNER: CONSOLIDATION COAL COMPANY ACREAGE: 123.244±

OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-6A1 ACREAGE: 640.066±

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: 17,004'±

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

08/02/2013