



west virginia department of environmental protection

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

Jim Justice , Governor
Austin Caperton , Cabinet Secretary
www.dep.wv.gov

Friday, February 10, 2017
WELL WORK PERMIT
Horizontal 6A / Fracture

NOBLE ENERGY, INC. (A)
1000 NOBLE ENEGY DRIVE

CANONSBURG, PA 15317

Re: Permit approval for MND 6 AHS
47-051-01746-00-00

This well work permit 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 any additional specific 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 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.

Per 35 CSR 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- 0450.



James A. Martin
Chief

Operator's Well Number: MND 6 AHS
Farm Name: CONSOLIDATION COAL COMPANY
U.S. WELL NUMBER: 47-051-01746-00-00
Horizontal 6A / Fracture
Date Issued: 2/10/2017

Promoting a healthy environment.

02/10/2017

PERMIT CONDITIONS **4705101746**

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 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.
2. 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.
3. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
4. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
5. 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.
6. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

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

1) Well Operator: Noble Energy, Inc.

<u>494501907</u>	<u>Marshall</u>	<u>Franklin</u>	<u>Powhatan Point</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: MND 6 AHS Well Pad Name: MND 6

3) Farm Name/Surface Owner: Consolidation Coal Company Public Road Access: CR 7/4-Fish Creek Rd

4) Elevation, current ground: 722' Elevation, proposed post-construction: 721'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No Yes-this well has been drilled, but not completed.

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 5895' and 55' in thickness. Anticipated pressure at 3927#.

8) Proposed Total Vertical Depth: 5940'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 6679'

11) Proposed Horizontal Leg Length: 18674'

12) Approximate Fresh Water Strata Depths: 128' and 265'

13) Method to Determine Fresh Water Depths: Offset Well data

14) Approximate Saltwater Depths: none noted in offsets

15) Approximate Coal Seam Depths: 284' to 294'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated, drilled in pillar - mine maps attached.

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: Same as Above
Depth: Base at 294' at deepest point
Seam: Pittsburgh
Owner: Murray American Energy (Previously Consol)

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	DH-36	307	40	40	CTS
Fresh Water	16"	New	H-40	65	110	110	CTS
Coal	13 3/8"	New	J-55	54.5	746	746	30% excess Yield=1.18
Intermediate	9 5/8"	New	HCK-55	36	2020	2020	20% excess Yield=1.19
Production	5 1/2"	New	P-110	23	18,674	18,674	10% Excess Yield=1.27 TOC>=200' above shoe
Tubing							
Liners							

JK 10/7/16

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	26"	.438				CTS
Fresh Water	16"	18"	.375		1200		CTS
Coal	13 3/8"	17 1/2"	.380	2730		Type 1/Class A	1.18
Intermediate	9 5/8"	12 3/8"	.352	3520		Type 1/Class A	1.19
Production	5 1/2"	8 3/4" & 8 1/2"	.361	16,500	13,000	Type 1/Class A	1.27 TOC>=200' above 9 625" shoe
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Noble Energy, Inc. has previously drilled this well and we are submitting this application in order to hydraulically fracture and produce the well.

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. See attached list. Maximum pressure not to exceed 10,000 lb.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 9.6

22) Area to be disturbed for well pad only, less access road (acres): 7.3

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing. Surface casing will have bow spring centralizers on first 2 joints then every third joint to 100' from surface. Intermediate casing will have bow spring centralizers on first 2 joints then every third joint to 100' from surface. Production string will have a rigid bow spring every joint to KOP, rigid bow spring every third joint from KOP to top of cement.

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

Conductors-Type 1 to Surface. Surface 15.6 ppg Type 1 +2% Cacl, 0.25#Lost circ 30% Excess Yield 1.18. Intermediate 15.6ppg Class A +0.4% Ret. 0.15% Disp. 0.2% Anti Foam, 0.125#/sk Lost Circ 20% Excess Yield +1.19 to surface. Procuotion 14.8ppg Class A 25:75:0system +2.6% Cement extender, 0.7% Fluid Loss additive, 0.45% high temp retarder, 0.2% friction reducer 10% Excess Yield+1.27 TOC>+200" above 9.625" shoe.

25) Proposed borehole conditioning procedures:

Conductor-The hole is drilled w/air and casing is run on air. Apart from insuring the hole is clean via air circulation at TD, there are no other conditioning procedures. Surface-The hole is drilled w/air and casing is run on air. Fill with KCl water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement. Coal-The hole is drilled and cased w/air or on Freshwater based mud. 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-Once surface casing is set and cemented, intermediate hole is drilled either on air or SOBm and filled with KCl water once drilled to TD. Production-The hole is drilled with SOBm and once to TD, circulated at maximum allowable pump rate for at least 6x bottoms up. Once on bottom with casing, circulate a minimum of one hole volume prior to pumping cement.

*Note: Attach additional sheets as needed.

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 7647-14-5
CLC-CPF (Cellophane Flakes)	Lost Circulation Aid	White and colored flake	Non-Hazardous

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DRILLING WELL PLAN
MND-6A-HS (Marcellus HZ)
Macellus Shale Horizontal
Marshall County, WV

Ground Elevation		722'		MND-6A SHL (Lat/Long)		(482531.55N, 1637172.52E) (NAD27)			
Azm		325°		MND-6A LP (Lat/Long)		(483791.48N, 1637816.48E) (NAD27)			
WELLBORE DIAGRAM		MND-6A BHL (Lat/Long)		(493722.74N, 1630862.54E) (NAD27)					
HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
26	20" 94#	Conductor	40	40	AIR	To Surface	N/A	Ensure the hole is clean at TD	Stabilize surface fill/soil. Conductor casing = 0.438" wall thickness
17 1/2	13-3/8" 54.5# J-55 BTC	Pittsburgh Coal	284	294	AIR	15.6 ppg Type 1 + 2% CaCl, 0.25# Lost Circ 30% Excess Yield = 1.18	Bow Spring on first 2 joints then every third joint to 100' form surface	Fill with KCl water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.380" wall thickness Burst=2730 psi
		Surface Casing	694	694					
12 3/8	9-5/8" 36# K-55 BTC	2nd Salt Sand	1377	1413	AIR	15.6ppg Class A +0.4% Ret, 0.15% Disp, 0.2% AntiFoam, 0.125#/sk Lost Circ 20% Excess Yield=1.19 To Surface	Bow spring centralizers every third joint to 100' feet from surface.	Fill with KCl water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement.	Casing to be ran 250' below the 5th Sand. Intermediate casing = 0.352" wall thickness Burst=3520 psi
		Big Lime	1488	1604					
		Big Injun	1604	1717					
		Price Formation	1717	2232					
		Int. Casing	2017	2017					
8.75" Vertical		Speechley	3019	3065	8.0ppg - 9.0ppg SOBM	14.8ppg Class A 25.75:0 System +2.6% Cement extender, 0.7% Fluid Loss additive, 0.45% high temp retarder, 0.2% friction reducer	Rigid Bow Spring every third joint from KOP to TOC	Once at TD, circulate at max allowable pump rate for at least 6x bottoms up. Once on bottom with casing, circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.361" wall thickness Burst=12640 psi Note Actual centralizer schedules may be changed due to hole conditions
		Java	4570	4665					
		Pipe Creek	4665	4752					
		Angola	4752	5334					
		Rheinstreet	5334	5655					
8.75" Curve	5-1/2" 23# HCP-110 TXP BTC	Cashaqua	5655	5727	12.0ppg-12.5ppg SOBM	10% Excess Yield=1.27 TOC >= 200' above 9.625" shoe	Rigid Bow Spring every joint to KOP		
		Middlesex	5727	5750					
		West River	5750	5811					
		Burkett	5811	5836					
		Tully Limestone	5836	5860					
8.75" - 8.5" Lateral		Hamilton	5860	5895	12.0ppg-12.5ppg SOBM				
		Marcellus	5895	5950					
		TD	18804 MD	5940 TVD					
		Onondaga	5950						

LP @ 5940' TVD / 6679' MD

8.75 / 8.5 Hole - Cemented Long String
5-1/2" 20# HCP-110 TXP BTC

+/-12125' ft Lateral

TD @ +/-5940' TVD +/-18804' MD

X-centralizers

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

API 47-051-01746 County Marshall District Franklin
Quad Powhatan Point Pad Name MND 06 Field/Pool Name N/A
Farm name Consolidated Coal Company Well Number MND 06 AHS
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 39.817733 Easting 80.791521
Landing Point of Curve Northing 39.821217 Easting 80.789294
Bottom Hole Northing 39.848214 Easting 80.814545

Elevation (ft) 722' 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 05/21/2014 Date drilling commenced 09/15/2014 Date drilling ceased 10/02/2014
Date completion activities began Not completed Date completion activities ceased na
Verbal plugging (Y/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 128' and 265' Open mine(s) (Y/N) depths N
Salt water depth(s) ft none noted for offsets Void(s) encountered (Y/N) depths N-drilled in pillar
Coal depth(s) ft 284'-294' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) No

Reviewed by:

02/10/2017

API 47-051 - 01746 Farm name Consolidated Coal Company Well number MND 06 AHS

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	26"	20"	40'	New	DH-36		
Surface	18"	16"	110'	New	H-40		
Coal	17.5"	13 3/8"	746'	New	J-55		Y
Intermediate 1	12.38"	9 5/8"	2020'	New	HCK-55		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	18,674'	New	P-110		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							
Coal	Type 1 / Class A	481	15.6	1.39	668.59	25.9	8
Intermediate 1	Type 1 / Class A	691	15.6	1.18	815.38	25.9	8
Intermediate 2							
Intermediate 3							
Production	Type 1 / Class A	lead 685 tail 2475	14.8	Lead 1.54 tail 1.37	total 4,445.65	855	9
Tubing							

Drillers TD (ft) 18,674' Loggers TD (ft) 18,515.76
 Deepest formation penetrated Marcellus Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) 4125'

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 No centralizers used on conductor.
17 Centralizers on Intermediate String (Bow string centralizers on first two joints then every third joint to 100' from surface).
320 Centralizers on Production String (rigid bow string every joint to KOP, rigid bow spring every third joint from KOP to top of cement).

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- 051 - 01746 Farm name Consolidated Coal Company Well number MND 06 AHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	well not complete				

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)

Please insert additional pages as applicable.

API 47- 051 - 01746 Farm name Consolidated Coal Company Well number MND 06 AHS

PRODUCING FORMATION(S)	DEPTHS	
	TVD	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 _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY Estimated Orifice Pilot

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

Please insert additional pages as applicable.

Drilling Contractor Nomac 79 Drilling
Address 171 Locust Ave. Ext. City Mt. Morris State PA Zip 15349

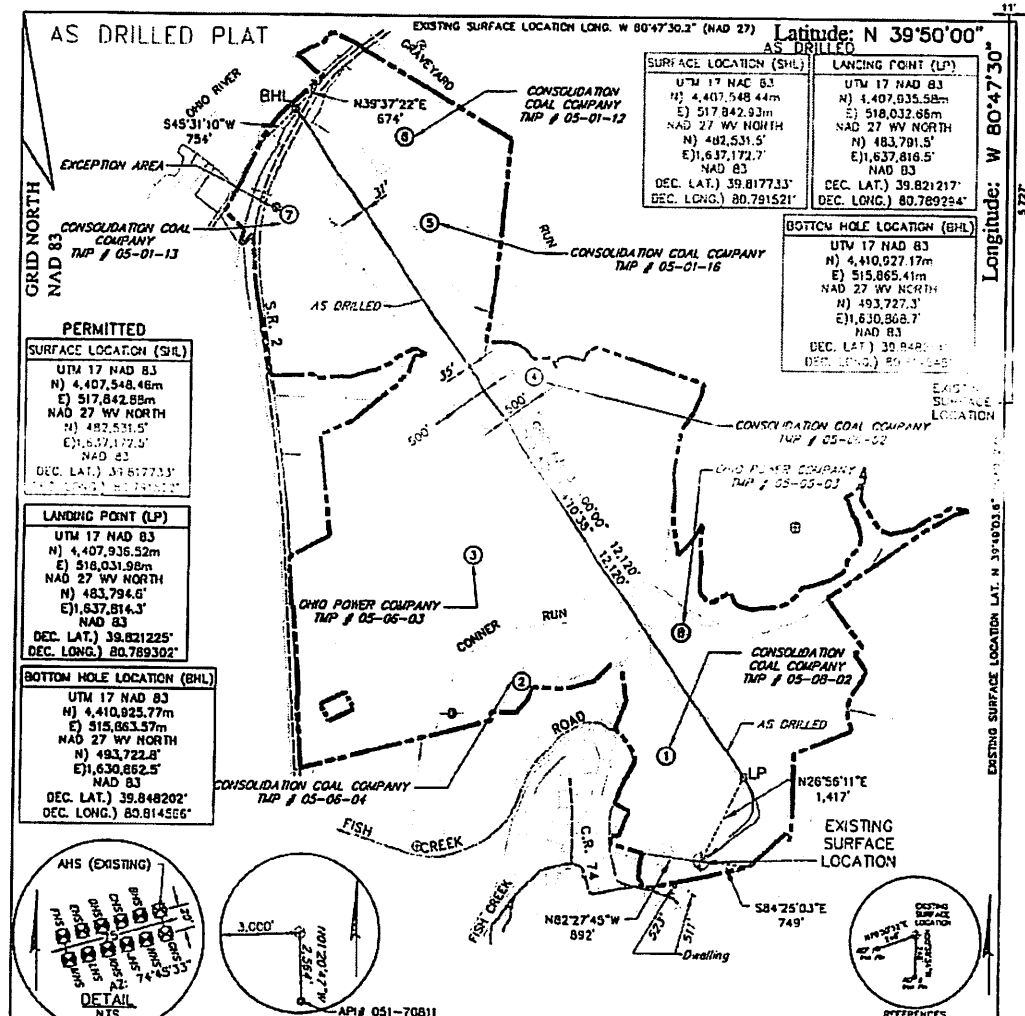
Logging Company Baker Hughes
Address 400 Technology Drive City Canonsburg State PA Zip 15317

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

Stimulating Company _____
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Dee Swiger Telephone 724-820-3061
Signature *Dee Swiger* Title Regulatory Analyst, III Date 01/04/2017



PERMITTED SURFACE LOCATION (SUL)
 UTM 17 NAD 83
 N) 4,407,548.46m
 E) 517,842.89m
 NAD 27 WV NORTH
 N) 482,531.5'
 E) 1,637,172.7'
 NAD 83
 DEC. LAT.) 39.817733°
 DEC. LONG.) 80.789224°

LANDING POINT (LP)
 UTM 17 NAD 83
 N) 4,407,936.52m
 E) 518,031.98m
 NAD 27 WV NORTH
 N) 483,794.6'
 E) 1,637,816.3'
 NAD 83
 DEC. LAT.) 39.821225°
 DEC. LONG.) 80.789302°

BOTTOM HOLE LOCATION (BHL)
 UTM 17 NAD 83
 N) 4,410,925.77m
 E) 515,863.57m
 NAD 27 WV NORTH
 N) 483,722.3'
 E) 1,630,862.5'
 NAD 83
 DEC. LAT.) 39.848202°
 DEC. LONG.) 80.814566°

GENERAL NOTES:

1. THE LOCATION OF BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORD DEED, PLATS, AND TAX MAPS BEST FIT TO FOUND FIELD EVIDENCE AND AERIAL PHOTOS, UNLESS OTHERWISE NOTED.
2. THIS PLAT DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY OF THE INDIVIDUAL PARCELS.
3. THERE ARE NO EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF PROPOSED WELL.
4. PROPOSED WELL IS GREATER THAN 100' FROM PERENNIAL STREAM, WETLAND, POND, RESERVOIR OR LAKE.
5. THERE ARE NO NATIVE TROUT STREAMS WITHIN 300' OF PROPOSED WELL.
6. THERE ARE TWO DWELLINGS LOCATED WITHIN 650' OF PROPOSED WELLBORE.
7. THE SURROUNDING LANDS ARE BEING SERVED BY PUBLIC WATER BY THE GRAND VEAL DOOLIN WATER SYSTEM PROVIDED BY MARSHALL COUNTY PUBLIC HEALTH AND SANITATION DIVISION.

LEGEND

- EXISTING GAS WELL
- AS-DRILLED BORE
- PROPOSED BORE
- THE LINE
- UNIT BOUNDARY
- PROPERTY LINE
- STREAM LINE
- BUFFER LINE
- GAS WELL
- PLUGGED GAS WELL

FILE # 093842010

DRAWING # 093842010_SV-Plat

SCALE PLAT & TICK: 1" = 2,000'

MINIMUM DEGREE OF ACCURACY 1/200

PROVEN SOURCE OF ELEVATION NGS (CORS)

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED: Cy R. White

R.P.E.: _____ L.L.S.: 2241

DATE: OCTOBER 7, 2018

OPERATOR'S WELL # MND 6 AHS

API WELL # 47 STATE 051 COUNTY 01746 PERMIT

WELL TYPE: OIL GAS WASTE DISPOSAL LIQUID INJECTION PRODUCTION STORAGE DEEP SHALLOW

WATERSHED: FISH CREEK ELEVATION: 722'-DESIGN (NAVD 88)

COUNTY/DISTRICT: MARSHALL / FRANKLIN QUADRANGLE: POMHATAN POINT, OHIO-WVA

SURFACE OWNER: CONSOLIDATION COAL COMPANY ACREAGE: 136.587±

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY LLC and NOBLE ENERGY, INC. ACREAGE: 136.587±

CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PERFORATE NEW FORMATION PLUG & ABANDON

DRILL PLUG OFF OLD FORMATION CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 5,840± TMD: 18,604±

WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVEN GREEN

ADDRESS: 333 TECHNOLOGY DRIVE, SUITE 118 ADDRESS: _____

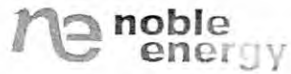
CITY: CANONSBURG STATE: PA ZIP CODE: 15317 CITY: CANONSBURG STATE: PA ZIP CODE: 15317

MND 6

Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale and Sandstone	0	284	0	284	
Pittsburgh Coal	284	294	284	294	
Shale and Sandstone	294	706	294	706	
Dunkard Sand	706	727	706	727	
Shale	727	876	727	876	
Gas Sand	876	947	876	947	
Shale	947	1016	947	1016	
1st Salt Sand	1016	1032	1016	1032	
Shale	1032	1139	1032	1139	
2nd Salt Sand	1139	1168	1139	1168	
Shale and Sandstone	1168	1298	1168	1298	
Maxton Sand	1298	1345	1298	1345	
Shale	1345	1363	1345	1363	
Big Lime	1363	1435	1363	1435	
Big Injun	1435	1705	1435	1705	
Price	1705	1803	1705	1803	
Murrysville	1803	1910	1803	1910	
Shale and Sandstone	1910	2448	1910	2448	
Gordon	2448	2478	2448	2478	
Shale and Sandstone	2478	2999	2478	2999	
Fifth Sand	2999	3052	2999	3052	
Shale and Sandstone	3052	3854	3052	3854	
Warren Sand	3854	3863	3860	3863	
Shale	3863	4580	3869	4580	
Java Shale	4580	4664	4593	4664	not encountered
Pipe Creek Shale	4664	4739	4678	4739	not encountered
Angola Shale	4739	5323	4754	5323	not encountered
Rhinestreet	5323	5642	5344	5642	not encountered
Cashaqua	5642	5714	5666	5714	not encountered
Middlesex	5714	5737	5739	5737	not encountered
West River	5737	5798	5762	5798	not encountered
Burkett	5798	5822	5824	5822	not encountered
Tully Limestone	5822	5848	5848	5822	not encountered
Hamilton	5848	5883	5875	5883	not encountered
Marcellus	5883	5936	5910	5936	not encountered
Onondaga	5936	5944	5964	5944	not encountered
Huntersville	5944	6158	5972	6158	
Oriskany	6158	6270	6191	6270	
Helderburg	6270	6530	6313	6530	
Bass Island Dolomite	6530	6609	6719	6609	
Salina G Big Lime	6609	6809	7118	6809	
Salina F	6809	7608	7333	7608	
Lockport Dolomite	7608	7930	8194	7930	
Rochester Shale	7930	8235	8541	8235	
Dayton Fm/Packer Shell	8235	8254	8869	8254	

02/10/2017

Shale	8254	8341	8890	8983	
Clinton Sand	8341	8355	8983	8998	
Shale	8355	8424	8998	9073	
Medina Sand	8424	8523	9073	9179	
Queenston Shale	8523	9280	9179	9995	
Reedsville Shale	9280	9898	9995	10660	Gas
Utica Shale	9838	10511	10660	not encountered	
Point Pleasant	10511	10631	not encountered	not encountered	
Trenton Limestone	10631		not encountered	not encountered	



Actual Wellpath Report
 MND-6A-HS AWP Proj: 18674'
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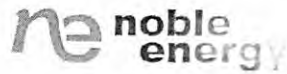


REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY	Slot	Slot A
Area	Marshall County, WV	Well	MND-6A-IIS
Field	Marshall	Wellbore	MND-6A-IIS AWB
Facility	MND-6 Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect@ 4.0.1
North Reference	Grid	User	Kroschr
Scale	0.999916	Report Generated	10/13/2014 at 10:59:10 AM
Convergence at slot	0.82° West	Database/Source file	WA_NorthEast/MND-6A-IIS_AWB.xml

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	19.27	-5.12	1637172.66	482531.50	39°49'03.564"N	80°47'30.152"W
Facility Reference Pt			1637177.78	482512.23	39°49'03.375"N	80°47'30.083"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Nomac 79 (RKB) to Facility Vertical Datum	746.98ft
Horizontal Reference Pt	Slot	Nomac 79 (RKB) to Mean Sea Level	746.98ft
Vertical Reference Pt	Nomac 79 (RKB)	Nomac 79 (RKB) to Mud Line at Slot (Slot A)	26.00ft
MD Reference Pt	Nomac 79 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	325.00°



Actual Wellpath Report

MND-6A-HS AWP Proj: 18674'

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REFERENCE WELL		LOCATION	
Operator	NOBLE ENERGY	Slot	Slot A
Area	Marshall County, WV	Well	MND-6A-HS
Field	Marshall	Wellbore	MND-6A-HS AWB
Facility	MND-6 Pad		

WELLPATH DATA (225 Station Points) - Interpolated/extrapolated station													
MD [ft]	Inclination [°]	Azimuth [°]	True [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
0.00†	0.000			0.00	0.00	0.00	1637172.66	482531.50	39°49'03.564"N	80°47'30.152"W	0.00	0.000	0.00
26.00	0.000			0.00	0.00	0.00	1637172.66	482531.50	39°49'03.564"N	80°47'30.152"W	0.00	0.000	0.00
50.00	0.160	316.11	2.000	0.03	0.02	-0.02	1637172.64	482531.52	39°49'03.565"N	80°47'30.153"W	0.03	316.420	0.67
100.00	0.370	350.10	4.000	0.25	0.23	-0.09	1637172.57	482531.73	39°49'03.567"N	80°47'30.154"W	0.25	337.954	0.51
150.00	0.270	330.10	6.000	0.51	0.49	-0.19	1637172.47	482531.99	39°49'03.569"N	80°47'30.155"W	0.52	338.619	0.38
200.00	0.160	316.11	8.000	0.67	0.59	-0.33	1637172.33	482532.09	39°49'03.570"N	80°47'30.157"W	0.67	330.483	0.40
250.00	0.300	340.10	10.000	0.84	0.72	-0.44	1637172.22	482532.22	39°49'03.571"N	80°47'30.158"W	0.84	328.852	0.57
275.00	0.710	370.10	12.000	1.05	0.89	-0.56	1637172.10	482532.39	39°49'03.573"N	80°47'30.160"W	1.06	327.914	1.89
309.00	0.440	300.10	14.000	1.38	1.11	-0.82	1637171.84	482532.61	39°49'03.575"N	80°47'30.163"W	1.38	323.533	0.90
327.00	0.410	290.10	14.000	1.50	1.18	-0.94	1637171.72	482532.68	39°49'03.576"N	80°47'30.165"W	1.51	321.314	0.16
339.00	0.230	290.10	14.000	1.57	1.21	-1.00	1637171.66	482532.71	39°49'03.576"N	80°47'30.165"W	1.57	320.270	1.75
432.00	0.500	277.350	14.000	2.01	1.35	-1.57	1637171.09	482532.85	39°49'03.578"N	80°47'30.173"W	2.07	310.647	0.32
525.00	1.050	266.090	14.000	2.72	1.34	-2.82	1637169.84	482532.84	39°49'03.577"N	80°47'30.189"W	3.13	295.425	0.61
622.00	1.780	257.230	14.000	3.75	0.95	-5.18	1637167.48	482532.45	39°49'03.573"N	80°47'30.219"W	5.27	280.374	0.78
704.00	1.350	253.280	14.000	4.53	0.39	-7.35	1637165.31	482531.89	39°49'03.567"N	80°47'30.247"W	7.36	273.030	0.54
763.00	1.030	253.030	14.000	4.91	0.03	-8.52	1637164.14	482531.53	39°49'03.564"N	80°47'30.262"W	8.52	270.230	0.54
811.00	0.870	253.800	14.000	5.17	-0.19	-9.28	1637163.38	482531.31	39°49'03.561"N	80°47'30.271"W	9.28	268.806	0.33
901.00	0.860	249.070	14.000	5.55	-0.63	-10.57	1637162.09	482530.87	39°49'03.557"N	80°47'30.288"W	10.59	266.614	0.08
998.00	0.860	256.580	14.000	5.99	-1.05	-11.96	1637160.70	482530.45	39°49'03.552"N	80°47'30.305"W	12.00	264.961	0.12
1092.00	0.780	241.650	14.000	6.33	-1.52	-13.21	1637159.45	482529.98	39°49'03.548"N	80°47'30.321"W	13.29	263.426	0.24
1188.00	0.720	231.000	14.000	6.45	-2.14	-14.30	1637158.36	482529.36	39°49'03.541"N	80°47'30.335"W	14.46	261.504	0.07
1283.00	0.590	259.860	14.000	6.71	-2.52	-15.30	1637157.36	482528.98	39°49'03.537"N	80°47'30.348"W	15.51	260.633	0.28
1378.00	0.310	267.090	14.000	7.05	-2.62	-16.04	1637156.62	482528.88	39°49'03.536"N	80°47'30.357"W	16.25	260.712	0.30
1472.00	0.320	258.420	14.000	7.29	-2.69	-16.55	1637156.11	482528.81	39°49'03.536"N	80°47'30.364"W	16.77	260.774	0.05
1567.00	1.520	190.000	14.000	6.39	-3.12	-15.61	1637157.05	482528.38	39°49'03.531"N	80°47'30.352"W	15.92	258.688	1.90
1661.00	1.780	95.000	14.000	4.50	-3.58	-12.96	1637159.70	482527.92	39°49'03.527"N	80°47'30.318"W	13.45	254.559	0.52
1756.00	1.560	87.000	14.000	2.89	-3.61	-10.20	1637162.46	482527.89	39°49'03.527"N	80°47'30.282"W	10.82	250.507	0.29
1850.00	1.350	86.230	14.000	1.63	-3.48	-7.81	1637164.85	482528.02	39°49'03.529"N	80°47'30.252"W	8.55	245.965	0.23
1945.00	1.130	84.880	14.000	0.58	-3.33	-5.76	1637166.90	482528.17	39°49'03.531"N	80°47'30.226"W	6.65	240.003	0.23
1983.00	1.000	86.040	14.000	0.22	-3.27	-5.06	1637167.60	482528.23	39°49'03.531"N	80°47'30.217"W	6.02	237.118	0.35



Actual Wellpath Report

MND-6A-HS AWP Proj: 18674'

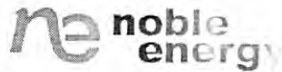
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REFERENCE WELL		LOCATION	
Operator	NOBLE ENERGY	Slot	Slot A
Area	Marshall County, WV	Well	MND-6A-HS
Field	Marshall	Wellbore	MND-6A-HS AWB
Facility	MND-6 Pad		

WELLPATH DATA (225 stations)

MD [ft]	Inclination [°]	Azimuth [°]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DL.S [°/100ft]
2041.00	0.950	78.00	-0.27	-3.18	-4.08	1637168.58	482528.32	39°49'03.532"N	80°47'30.204"W	5.17	232.018	0.11
2135.00	0.620	77.00	-0.82	-2.95	-2.79	1637169.87	482528.55	39°49'03.535"N	80°47'30.188"W	4.06	223.371	0.35
2230.00	0.290	47.00	-0.95	-2.63	-2.11	1637170.55	482528.87	39°49'03.538"N	80°47'30.179"W	3.37	218.665	0.45
2270.00	0.220	24.00	-0.89	-2.49	-2.00	1637170.66	482529.01	39°49'03.540"N	80°47'30.178"W	3.19	218.851	0.27
2324.00	0.890	51.00	-0.85	-2.17	-1.61	1637171.05	482529.33	39°49'03.543"N	80°47'30.173"W	2.70	216.530	1.33
2374.00	3.620	67.00	-1.06	-1.20	0.12	1637172.78	482530.30	39°49'03.553"N	80°47'30.151"W	1.21	174.197	5.53
2419.00	3.820	51.00	-1.32	0.25	2.67	1637175.33	482531.75	39°49'03.567"N	80°47'30.118"W	2.68	84.613	0.56
2466.00	4.560	41.00	-1.20	2.31	5.40	1637178.06	482533.81	39°49'03.588"N	80°47'30.084"W	5.87	66.823	2.29
2514.00	4.580	41.00	-0.66	4.92	8.19	1637180.85	482536.42	39°49'03.614"N	80°47'30.048"W	9.55	58.989	0.39
2547.00	5.850	41.00	-0.26	6.96	10.39	1637183.05	482538.46	39°49'03.635"N	80°47'30.021"W	12.50	56.185	3.91
2608.00	6.490	50.00	0.38	11.22	15.37	1637188.03	482542.72	39°49'03.678"N	80°47'29.957"W	19.03	53.864	1.11
2642.00	7.430	52.00	0.62	13.78	18.60	1637191.26	482545.28	39°49'03.703"N	80°47'29.917"W	23.15	53.459	2.88
2703.00	7.490	51.00	1.06	18.68	24.82	1637197.48	482550.17	39°49'03.753"N	80°47'29.838"W	31.06	53.042	0.36
2749.00	8.960	50.00	1.53	22.83	29.93	1637202.59	482554.32	39°49'03.794"N	80°47'29.773"W	37.64	52.668	3.20
2798.00	8.330	49.00	2.16	27.55	35.58	1637208.24	482559.05	39°49'03.842"N	80°47'29.702"W	45.00	52.245	1.37
2892.00	13.310	58.00	2.11	37.60	50.01	1637222.67	482569.09	39°49'03.943"N	80°47'29.518"W	62.57	53.065	5.61
2988.00	19.600	61.00	-0.51	50.96	73.67	1637246.32	482582.46	39°49'04.078"N	80°47'29.218"W	89.58	55.325	6.60
3082.00	22.560	61.00	-4.40	67.04	103.40	1637276.06	482598.53	39°49'04.242"N	80°47'28.840"W	123.23	57.044	3.15
3177.00	19.520	55.00	-6.70	84.65	132.56	1637305.22	482616.14	39°49'04.420"N	80°47'28.469"W	157.29	57.440	3.85
3271.00	17.450	52.00	-6.31	102.05	156.74	1637329.40	482633.54	39°49'04.595"N	80°47'28.163"W	187.04	56.934	2.47
3366.00	21.770	50.00	-5.21	121.22	182.21	1637354.86	482652.71	39°49'04.788"N	80°47'27.840"W	218.85	56.365	4.56
3418.00	21.540	54.00	-4.90	132.48	197.75	1637370.39	482663.97	39°49'04.902"N	80°47'27.643"W	238.02	56.180	1.00
3461.00	22.250	57.00	-5.23	141.41	211.06	1637383.71	482672.90	39°49'04.992"N	80°47'27.474"W	254.05	56.179	3.00
3556.00	26.160	52.00	-6.83	162.41	243.86	1637416.50	482693.90	39°49'05.204"N	80°47'27.058"W	292.99	56.336	4.12
3598.00	26.290	55.00	-7.31	172.66	259.32	1637431.97	482704.15	39°49'05.307"N	80°47'26.861"W	311.55	56.344	1.53
3651.00	22.480	53.00	-7.29	185.23	277.23	1637449.88	482716.72	39°49'05.434"N	80°47'26.634"W	333.42	56.252	7.31
3746.00	25.200	53.00	-5.79	208.45	307.80	1637480.44	482739.94	39°49'05.668"N	80°47'26.247"W	371.74	55.893	3.03
3841.00	24.880	51.00	-3.34	233.48	339.27	1637511.91	482764.96	39°49'05.920"N	80°47'25.848"W	411.84	55.465	0.36
3935.00	24.590	49.00	-0.25	258.50	369.61	1637542.25	482789.98	39°49'06.171"N	80°47'25.464"W	451.03	55.032	0.83
4030.00	22.490	48.00	3.69	283.37	398.26	1637570.89	482814.85	39°49'06.421"N	80°47'25.101"W	488.78	54.567	2.27



Actual Wellpath Report

MND-6A-HS AWP Proj: 18674'

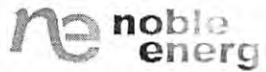
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REFERENCE WELL	DATE	STATUS	Operator	Area	Field	Facility	Slot	Slot A
			NOBLE ENERGY	Marshall County, WV	Marshall	MND-6 Pad	Well	MND-6A-IIS
							Wellbore	MND-6A-IIS AWB

WELLPATH DATA (225 SPTS) (S)

MD [ft]	Inclination [°]	Azimuth [°]	TV [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [%/100ft]
4125.00	21.130	477.17	477.17	7.89	306.90	424.54	1637597.18	482838.38	39°49'06.657"N	80°47'24.769"W	523.85	54.137	1.46
4169.00	21.920	477.17	400.17	9.71	317.59	436.63	1637609.27	482849.07	39°49'06.765"N	80°47'24.616"W	539.91	53.970	2.07
4191.00	21.130	477.17	400.17	10.56	322.89	442.72	1637615.35	482854.37	39°49'06.818"N	80°47'24.539"W	547.96	53.895	3.62
4286.00	21.090	477.17	477.17	13.88	345.10	468.65	1637641.28	482876.58	39°49'07.041"N	80°47'24.211"W	582.00	53.633	0.51
4379.00	20.610	477.17	426.71	16.41	366.06	494.18	1637666.81	482897.54	39°49'07.252"N	80°47'23.887"W	614.99	53.471	0.59
4474.00	20.880	477.17	433.93	18.41	386.96	520.55	1637693.18	482918.44	39°49'07.462"N	80°47'23.553"W	648.62	53.374	0.43
4569.00	20.800	477.17	441.53	19.68	407.37	547.48	1637720.11	482938.85	39°49'07.668"N	80°47'23.212"W	682.41	53.348	0.62
4663.00	20.890	477.17	451.18	19.75	426.61	574.84	1637747.46	482958.09	39°49'07.862"N	80°47'22.865"W	715.84	53.419	0.92
4758.00	20.440	477.17	461.08	19.34	445.49	602.50	1637775.13	482976.96	39°49'08.052"N	80°47'22.514"W	749.31	53.521	0.59
4852.00	20.330	477.17	471.18	19.24	464.21	629.42	1637802.05	482995.68	39°49'08.241"N	80°47'22.172"W	782.09	53.590	0.09
4947.00	21.250	477.17	479.05	18.69	483.15	657.42	1637830.04	483014.62	39°49'08.432"N	80°47'21.817"W	815.86	53.687	1.08
5042.00	19.960	477.17	488.85	17.62	501.44	685.41	1637858.03	483032.91	39°49'08.617"N	80°47'21.462"W	849.25	53.811	1.37
5136.00	20.830	477.17	497.88	16.65	519.43	712.79	1637885.41	483050.90	39°49'08.799"N	80°47'21.114"W	881.97	53.918	0.94
5231.00	20.720	477.17	506.91	16.11	538.31	740.70	1637913.32	483069.78	39°49'08.989"N	80°47'20.760"W	915.65	53.992	0.43
5325.00	20.930	477.17	515.07	15.55	557.01	768.39	1637941.01	483088.48	39°49'09.178"N	80°47'20.409"W	949.04	54.061	0.50
5420.00	21.920	477.17	523.10	14.32	575.90	797.50	1637970.12	483107.37	39°49'09.369"N	80°47'20.039"W	983.70	54.166	1.10
5515.00	23.840	477.17	531.64	15.15	597.72	827.22	1637999.83	483129.19	39°49'09.588"N	80°47'19.662"W	1020.57	54.149	3.59
5609.00	27.040	477.17	541.55	22.22	626.23	855.61	1638028.22	483157.69	39°49'09.874"N	80°47'19.304"W	1060.30	53.799	5.72
5658.00	28.560	477.17	545.01	29.47	644.58	869.17	1638041.78	483176.04	39°49'10.057"N	80°47'19.133"W	1082.10	53.439	7.50
5705.00	29.410	477.17	548.11	39.70	661.59	879.91	1638052.53	483196.05	39°49'10.257"N	80°47'18.999"W	1102.69	52.937	9.77
5751.00	29.910	477.17	551.94	53.22	686.11	887.08	1638059.69	483217.57	39°49'10.470"N	80°47'18.911"W	1121.45	52.280	11.21
5800.00	30.330	477.17	555.48	71.55	710.40	889.82	1638062.43	483241.86	39°49'10.711"N	80°47'18.881"W	1138.62	51.397	13.87
5846.00	32.620	477.17	561.73	92.20	734.29	887.93	1638060.54	483265.75	39°49'10.947"N	80°47'18.909"W	1152.22	50.410	10.58
5894.00	37.370	477.17	565.04	117.35	761.28	882.62	1638055.23	483292.73	39°49'11.212"N	80°47'18.982"W	1165.58	49.222	11.52
5941.00	42.120	477.17	569.17	145.47	790.37	875.14	1638047.75	483321.82	39°49'11.499"N	80°47'19.084"W	1179.21	47.914	10.42
5989.00	48.200	477.17	572.00	177.40	823.26	866.46	1638039.07	483354.71	39°49'11.823"N	80°47'19.201"W	1195.20	46.464	12.76
6035.00	53.570	477.17	575.01	210.86	857.77	857.40	1638030.01	483389.22	39°49'12.162"N	80°47'19.323"W	1212.80	44.988	11.75
6083.00	57.460	477.17	578.20	248.69	895.32	845.07	1638017.68	483426.77	39°49'12.532"N	80°47'19.488"W	1231.16	43.346	13.13
6130.00	58.670	477.17	580.88	287.89	931.55	828.48	1638001.10	483463.00	39°49'12.887"N	80°47'19.707"W	1246.67	41.648	12.79
6178.00	61.780	477.17	583.92	329.31	967.98	808.28	1637980.89	483499.43	39°49'13.245"N	80°47'19.973"W	1261.07	39.862	7.33



Actual Wellpath Report

MND-6A-IIS AWP Proj: 18674'

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Operator	NOBLE ENERGY	Slot	Slot A
Area	Marshall County, WV	Well	MND-6A-IIS
Field	Marshall	Wellbore	MND-6A-IIS AWB
Facility	MND-6 Pad		

WELLPATH DATA (225 SURVEYS)

MD [ft]	Inclination [°]	Azimuth [°]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
6225.00	65.730	33.000	70.00	1004.98	788.11	1637960.73	483536.43	39°49'13.607"N	80°47'20.238"W	1277.15	38.104	9.83
6273.00	69.770	33.000	87.00	1044.69	768.21	1637940.83	483576.13	39°49'13.997"N	80°47'20.501"W	1296.74	36.329	8.78
6319.00	74.490	33.000	99.00	1083.85	748.65	1637921.27	483615.28	39°49'14.381"N	80°47'20.758"W	1317.27	34.634	10.51
6368.00	78.950	33.000	114.00	1125.83	726.06	1637898.68	483657.27	39°49'14.793"N	80°47'21.056"W	1339.65	32.819	10.24
6462.00	85.100	32.000	128.00	1205.43	677.91	1637850.54	483736.86	39°49'15.572"N	80°47'21.687"W	1382.98	29.353	7.46
6557.00	90.830	32.000	141.00	1284.44	625.35	1637797.97	483815.87	39°49'16.346"N	80°47'22.375"W	1428.58	25.960	6.25
6652.00	90.740	32.000	154.00	1363.35	572.46	1637745.09	483894.77	39°49'17.118"N	80°47'23.068"W	1478.66	22.777	1.22
6747.00	90.860	32.000	167.00	1443.58	521.62	1637694.25	483975.00	39°49'17.904"N	80°47'23.734"W	1534.93	19.867	1.87
6842.00	90.770	32.000	180.00	1523.80	470.76	1637643.39	484055.22	39°49'18.689"N	80°47'24.401"W	1594.86	17.168	1.89
6936.00	90.920	32.000	193.00	1600.67	416.69	1637589.33	484132.08	39°49'19.441"N	80°47'25.107"W	1654.02	14.592	3.94
7031.00	90.740	31.000	206.00	1674.85	357.39	1637530.03	484206.26	39°49'20.166"N	80°47'25.881"W	1712.56	12.045	3.52
7125.00	90.770	31.000	219.00	1746.46	296.51	1637469.15	484277.86	39°49'20.865"N	80°47'26.674"W	1771.45	9.636	0.13
7220.00	90.800	32.000	232.00	1820.82	237.43	1637410.08	484352.22	39°49'21.591"N	80°47'27.445"W	1836.24	7.429	4.14
7315.00	90.830	32.000	245.00	1898.86	183.29	1637355.94	484430.25	39°49'22.355"N	80°47'28.153"W	1907.68	5.513	3.67
7410.00	90.860	32.000	258.00	1978.97	132.25	1637304.90	484510.36	39°49'23.139"N	80°47'28.822"W	1983.38	3.823	1.07
7505.00	90.860	32.000	271.00	2059.62	82.07	1637254.73	484591.01	39°49'23.929"N	80°47'29.480"W	2061.25	2.282	0.21
7599.00	90.860	32.000	284.00	2138.75	31.35	1637204.01	484670.13	39°49'24.704"N	80°47'30.145"W	2138.97	0.840	1.85
7695.00	90.740	32.000	297.00	2217.67	-23.27	1637149.39	484749.05	39°49'25.476"N	80°47'30.859"W	2217.79	359.399	2.41
7789.00	90.830	32.000	310.00	2293.92	-79.07	1637093.60	484824.68	39°49'26.215"N	80°47'31.588"W	2294.67	358.025	1.23
7883.00	90.890	32.000	323.00	2368.45	-135.53	1637037.14	484899.82	39°49'26.950"N	80°47'32.326"W	2372.33	356.725	0.16
7978.00	90.740	32.000	336.00	2444.37	-192.61	1636980.06	484975.74	39°49'27.692"N	80°47'33.071"W	2451.95	355.494	0.25
8073.00	90.800	32.000	349.00	2520.42	-249.53	1636923.14	485051.78	39°49'28.435"N	80°47'33.815"W	2532.74	354.346	0.46
8168.00	90.710	32.000	362.00	2598.09	-304.21	1636868.47	485129.44	39°49'29.195"N	80°47'34.530"W	2615.84	353.322	3.06
8263.00	90.620	32.000	375.00	2677.91	-355.71	1636816.97	485209.26	39°49'29.976"N	80°47'35.204"W	2701.43	352.434	1.81
8358.00	90.340	32.000	388.00	2758.53	-405.94	1636766.74	485289.88	39°49'30.766"N	80°47'35.863"W	2788.24	351.628	0.31
8453.00	90.180	32.000	401.00	2839.22	-456.09	1636716.60	485370.56	39°49'31.556"N	80°47'36.521"W	2875.62	350.874	0.17
8548.00	89.820	32.000	414.00	2919.14	-507.44	1636665.25	485450.48	39°49'32.339"N	80°47'37.193"W	2962.92	350.139	1.89
8642.00	89.880	32.000	427.00	2997.22	-559.78	1636612.91	485528.55	39°49'33.103"N	80°47'37.879"W	3049.04	349.421	0.51
8737.00	90.550	32.000	440.00	3075.18	-614.07	1636558.63	485606.51	39°49'33.865"N	80°47'38.589"W	3135.89	348.707	1.77
8832.00	90.550	32.000	453.00	3151.22	-670.99	1636501.71	485682.55	39°49'34.609"N	80°47'39.332"W	3221.87	347.980	2.52



Actual Wellpath Report

MND-6A-IIS AWP Proj: 18674'

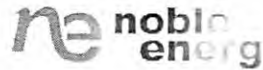
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REFERENCE WELL		Slot	Slot A
Operator	NOBLE ENERGY	Well	MND-6A-IIS
Area	Marshall County	Wellbore	MND-6A-IIS AWP
Field	Marshall		
Facility	MND-6 Pad		

WELLPATH DATA (225' intervals)

MD [ft]	Inclination [°]	Azimuth [°]	True Azimuth [°]	Vertical [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
8926.00	90.780	311.80	311.80	30.00	3225.64	-728.41	1636444.29	485756.96	39°49'35.336"N	80°47'40.082"W	3306.86	347.275	0.81
9021.00	90.710	311.80	311.80	30.00	3301.53	-785.55	1636387.15	485832.84	39°49'36.078"N	80°47'40.828"W	3393.70	346.616	0.81
9116.00	90.710	311.80	311.80	30.00	3378.52	-841.19	1636331.51	485909.83	39°49'36.830"N	80°47'41.555"W	3481.66	346.019	1.69
9210.00	90.580	311.80	311.80	30.00	3455.47	-895.16	1636277.55	485986.78	39°49'37.583"N	80°47'42.261"W	3569.54	345.476	0.14
9305.00	91.050	311.80	311.80	30.00	3533.71	-949.03	1636223.68	486065.01	39°49'38.349"N	80°47'42.966"W	3658.93	344.967	1.13
9400.00	91.290	311.80	311.80	30.00	3614.24	-999.34	1636173.37	486145.54	39°49'39.137"N	80°47'43.626"W	3749.86	344.544	4.37
9494.00	91.230	311.80	311.80	30.00	3694.88	-1047.60	1636125.12	486226.18	39°49'39.927"N	80°47'44.259"W	3840.52	344.171	2.07
9589.00	91.030	311.80	311.80	30.00	3774.69	-1099.08	1636073.64	486305.98	39°49'40.709"N	80°47'44.934"W	3931.45	343.766	2.02
9684.00	91.200	311.80	311.80	30.00	3853.26	-1152.46	1636020.26	486384.54	39°49'41.477"N	80°47'45.632"W	4021.91	343.349	0.89
9778.00	91.170	311.80	311.80	30.00	3929.62	-1207.23	1635965.50	486460.91	39°49'42.224"N	80°47'46.348"W	4110.88	342.922	2.20
9873.00	91.170	311.80	311.80	30.00	4005.09	-1264.90	1635907.83	486536.36	39°49'42.962"N	80°47'47.101"W	4200.08	342.473	1.49
9968.00	91.200	311.80	311.80	30.00	4081.81	-1323.67	1635849.06	486610.97	39°49'43.691"N	80°47'47.868"W	4289.06	342.024	0.28
10063.00	91.260	311.80	311.80	30.00	4159.97	-1382.04	1635790.70	486685.89	39°49'44.423"N	80°47'48.630"W	4378.46	341.600	0.94
10158.00	91.200	311.80	311.80	30.00	4239.87	-1439.63	1635733.11	486761.41	39°49'45.161"N	80°47'49.382"W	4468.41	341.205	0.30
10252.00	91.140	311.80	311.80	30.00	4320.15	-1496.22	1635676.52	486836.44	39°49'45.894"N	80°47'50.122"W	4557.77	340.836	0.36
10347.00	91.110	311.80	311.80	30.00	4400.76	-1551.16	1635621.59	486913.91	39°49'46.652"N	80°47'50.840"W	4649.05	340.510	3.20
10441.00	91.050	311.80	311.80	30.00	4482.65	-1604.79	1635567.96	486991.08	39°49'47.407"N	80°47'51.542"W	4739.77	340.210	2.08
10536.00	91.230	311.80	311.80	30.00	4564.87	-1658.61	1635514.14	487069.32	39°49'48.172"N	80°47'52.246"W	4831.68	339.923	2.63
10632.00	91.110	311.80	311.80	30.00	4647.55	-1709.44	1635463.31	487150.72	39°49'48.970"N	80°47'52.912"W	4925.62	339.693	2.71
10727.00	90.920	311.80	311.80	30.00	4731.64	-1757.25	1635415.51	487232.79	39°49'49.774"N	80°47'53.540"W	5019.22	339.506	0.99
10822.00	90.930	311.80	311.80	30.00	4816.09	-1806.21	1635366.55	487314.17	39°49'50.571"N	80°47'54.183"W	5112.62	339.312	2.67
10917.00	90.990	311.80	311.80	30.00	4900.98	-1855.58	1635314.19	487393.41	39°49'51.347"N	80°47'54.869"W	5205.30	339.081	2.44
11012.00	90.740	311.80	311.80	30.00	4986.25	-1912.12	1635260.65	487471.87	39°49'52.114"N	80°47'55.569"W	5297.75	338.843	0.70
11107.00	90.580	311.80	311.80	30.00	5071.87	-1966.50	1635206.27	487549.75	39°49'52.876"N	80°47'56.281"W	5390.06	338.602	1.94
11202.00	90.740	311.80	311.80	30.00	5157.80	-2023.66	1635149.11	487625.60	39°49'53.618"N	80°47'57.028"W	5481.60	338.335	2.45
11296.00	90.710	311.80	311.80	30.00	5244.07	-2081.07	1635091.71	487700.02	39°49'54.345"N	80°47'57.777"W	5572.02	338.069	1.10
11391.00	90.860	311.80	311.80	30.00	5330.65	-2137.72	1635035.06	487776.27	39°49'55.090"N	80°47'58.517"W	5663.96	337.826	1.11
11485.00	90.920	311.80	311.80	30.00	5417.63	-2191.67	1634981.11	487853.22	39°49'55.843"N	80°47'59.223"W	5755.63	337.618	2.25
11581.00	90.680	311.80	311.80	30.00	5504.96	-2246.11	1634926.67	487932.27	39°49'56.616"N	80°47'59.935"W	5849.49	337.419	1.22
11675.00	90.620	311.80	311.80	30.00	5592.60	-2300.67	1634872.12	488008.80	39°49'57.365"N	80°48'00.649"W	5941.15	337.217	0.75



Actual Wellpath Report

MND-6A-IIS AWP Proj: 18674'

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REFERENCE WELL

Operator **NOBLE ENERGY**
 Area **Marshall County**
 Field **Marshall**
 Facility **MND-6 Pad**

Slot **Slot A**
 Well **MND-6A-IIS**
 Wellbore **MND-6A-IIS AWB**

WELLPATH DATA (225 x 1000)

MD [ft]	Inclination [°]	Azimuth [°]	Vertical [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
11770.00	91.000	300.00	5554.22	-2356.83	1634815.96	488085.41	39°49'58.114"N	80°48'01.383"W	6033.57	337.007	0.97	
11865.00	90.900	300.00	5629.41	-2414.86	1634757.93	488160.60	39°49'58.849"N	80°48'02.141"W	6125.50	336.782	2.11	
11960.00	90.800	300.00	5704.37	-2473.20	1634699.60	488235.55	39°49'59.581"N	80°48'02.902"W	6217.44	336.560	1.62	
12054.00	90.700	300.00	5778.63	-2530.80	1634642.00	488309.81	39°50'00.307"N	80°48'03.654"W	6308.53	336.349	1.45	
12149.00	91.000	300.00	5852.27	-2590.79	1634582.01	488383.44	39°50'01.026"N	80°48'04.437"W	6400.10	336.121	1.45	
12244.00	90.900	300.00	5924.93	-2651.97	1634520.84	488456.10	39°50'01.735"N	80°48'05.234"W	6491.36	335.887	0.50	
12339.00	91.000	300.00	5998.54	-2711.99	1634460.82	488529.71	39°50'02.454"N	80°48'06.017"W	6583.11	335.672	2.39	
12433.00	91.020	300.00	6075.74	-2765.50	1634407.31	488606.90	39°50'03.209"N	80°48'06.718"W	6675.52	335.526	7.09	
12528.00	90.700	300.00	6157.93	-2813.11	1634359.71	488689.08	39°50'04.014"N	80°48'07.343"W	6770.06	335.448	2.76	
12623.00	90.500	300.00	6242.51	-2856.32	1634316.50	488773.66	39°50'04.844"N	80°48'07.913"W	6864.94	335.413	3.62	
12717.00	90.300	300.00	6327.63	-2896.17	1634276.66	488858.78	39°50'05.679"N	80°48'08.439"W	6958.93	335.406	0.55	
12811.00	91.320	300.00	6411.61	-2938.32	1634234.50	488942.76	39°50'06.503"N	80°48'08.995"W	7052.84	335.379	3.92	
12906.00	91.110	300.00	6492.34	-2988.27	1634184.56	489023.48	39°50'07.294"N	80°48'09.650"W	7147.04	335.285	6.88	
13001.00	90.980	300.00	6569.38	-3043.81	1634129.02	489100.52	39°50'08.047"N	80°48'10.376"W	7240.28	335.140	1.65	
13095.00	90.770	300.00	6643.03	-3102.18	1634070.65	489174.16	39°50'08.767"N	80°48'11.138"W	7331.67	334.968	3.89	
13190.00	90.800	300.00	6715.81	-3163.22	1634009.61	489246.94	39°50'09.477"N	80°48'11.934"W	7423.48	334.779	0.49	
13285.00	90.620	300.00	6788.51	-3224.37	1633948.47	489319.63	39°50'10.187"N	80°48'12.731"W	7515.35	334.593	0.67	
13380.00	90.620	300.00	6860.31	-3286.56	1633886.28	489391.43	39°50'10.887"N	80°48'13.542"W	7606.93	334.402	1.12	
13474.00	89.940	300.00	6932.58	-3346.65	1633826.19	489463.69	39°50'11.593"N	80°48'14.326"W	7698.10	334.231	3.66	
13570.00	89.600	300.00	7011.62	-3401.02	1633771.83	489542.73	39°50'12.366"N	80°48'15.037"W	7792.93	334.124	7.38	
13664.00	90.800	300.00	7095.14	-3444.02	1633728.84	489626.24	39°50'13.185"N	80°48'15.604"W	7886.84	334.108	8.06	
13759.00	91.220	300.00	7182.55	-3481.14	1633691.71	489713.66	39°50'14.044"N	80°48'16.096"W	7981.69	334.142	1.41	
13854.00	90.710	300.00	7267.27	-3523.88	1633648.98	489798.37	39°50'14.875"N	80°48'16.660"W	8076.57	334.131	9.01	
13949.00	90.710	300.00	7347.68	-3574.45	1633598.41	489878.77	39°50'15.662"N	80°48'17.323"W	8170.99	334.058	2.41	
14043.00	90.680	300.00	7423.75	-3629.61	1633543.25	489954.83	39°50'16.406"N	80°48'18.044"W	8263.54	333.945	5.62	
14138.00	90.650	300.00	7497.79	-3689.12	1633483.75	490028.87	39°50'17.129"N	80°48'18.820"W	8356.22	333.802	0.42	
14232.00	90.710	300.00	7570.52	-3748.65	1633424.22	490101.60	39°50'17.839"N	80°48'19.597"W	8447.79	333.657	0.66	
14327.00	91.170	300.00	7644.06	-3808.77	1633364.10	490175.14	39°50'18.557"N	80°48'20.381"W	8540.40	333.515	0.87	
14422.00	91.080	300.00	7718.01	-3868.38	1633304.49	490249.08	39°50'19.279"N	80°48'21.159"W	8633.19	333.379	0.13	
14516.00	91.110	300.00	7791.93	-3926.42	1633246.46	490323.00	39°50'20.011"N	80°48'21.917"W	8725.30	333.256	1.48	



Actual Wellpath Report

MND-6A-IIS AWP Proj: 18674'

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REFERENCE WELL

Operator NOBLE ENERGY
 Area Marshall County
 Field Marshall
 Facility MND-6 Pad

Slot Slot A
 Well MND-6A-IIS
 Wellbore MND-6A-IIS AWB

WELLPATH DATA (225)

MD [ft]	Inclination [°]	Az [°]	Surf Elev [ft]	Well Elev [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
14611.00	91.100	32	84	91	7867.82	-3983.53	1633189.36	490398.89	39°50'20.743"N	80°48'22.663"W	8818.80	333.147	1.01
14705.00	91.100	32	99	103	7942.95	-4040.00	1633132.89	490474.00	39°50'21.477"N	80°48'23.401"W	8911.34	333.041	0.97
14800.00	91.100	32	115	119	8017.62	-4098.70	1633074.19	490548.67	39°50'22.207"N	80°48'24.167"W	9004.53	332.923	1.64
14895.00	91.100	32	131	135	8092.05	-4157.69	1633015.20	490623.10	39°50'22.934"N	80°48'24.937"W	9097.68	332.806	1.16
14989.00	91.000	32	147	151	8168.08	-4212.91	1632959.98	490699.13	39°50'23.677"N	80°48'25.659"W	9190.55	332.716	3.96
15084.00	90.900	32	163	167	8247.68	-4264.73	1632908.16	490778.72	39°50'24.456"N	80°48'26.338"W	9285.05	332.657	2.25
15178.00	91.000	32	179	183	8326.78	-4315.49	1632857.41	490857.82	39°50'25.231"N	80°48'27.004"W	9378.63	332.604	1.47
15273.00	90.900	32	195	199	8405.70	-4368.35	1632804.56	490936.73	39°50'26.003"N	80°48'27.696"W	9473.03	332.540	0.91
15368.00	90.950	32	211	215	8483.43	-4422.94	1632749.96	491014.45	39°50'26.763"N	80°48'28.410"W	9567.18	332.464	1.78
15463.00	91.000	32	227	231	8560.51	-4478.44	1632694.47	491091.51	39°50'27.517"N	80°48'29.136"W	9661.20	332.384	0.39
15558.00	90.900	32	243	247	8638.06	-4533.29	1632639.63	491169.08	39°50'28.275"N	80°48'29.854"W	9755.35	332.309	0.64
15653.00	90.800	32	259	263	8716.31	-4587.14	1632585.77	491247.32	39°50'29.041"N	80°48'30.559"W	9849.66	332.243	0.91
15748.00	90.860	32	275	279	8796.67	-4637.76	1632535.16	491327.68	39°50'29.828"N	80°48'31.222"W	9944.35	332.201	4.01
15842.00	90.620	32	291	295	8878.34	-4684.27	1632488.65	491409.35	39°50'30.628"N	80°48'31.834"W	10038.29	332.184	1.39
15937.00	90.620	32	307	311	8960.10	-4732.61	1632440.31	491491.10	39°50'31.429"N	80°48'32.469"W	10133.17	332.158	3.32
16031.00	90.620	32	323	327	9038.96	-4783.75	1632389.17	491569.96	39°50'32.201"N	80°48'33.139"W	10226.79	332.111	1.69
16125.00	90.550	32	339	343	9116.88	-4836.33	1632336.60	491647.87	39°50'32.963"N	80°48'33.828"W	10320.25	332.055	0.54
16220.00	90.710	32	355	359	9195.53	-4889.60	1632283.33	491726.52	39°50'33.733"N	80°48'34.525"W	10414.70	331.999	0.36
16315.00	90.710	32	371	375	9273.55	-4943.78	1632229.15	491804.53	39°50'34.496"N	80°48'35.234"W	10509.03	331.938	1.73
16410.00	90.600	32	387	391	9351.16	-4998.55	1632174.38	491882.14	39°50'35.255"N	80°48'35.951"W	10603.29	331.874	0.82
16505.00	91.050	32	403	407	9428.86	-5053.20	1632119.74	491959.83	39°50'36.015"N	80°48'36.666"W	10697.58	331.812	0.76
16600.00	91.200	32	419	423	9507.59	-5106.31	1632066.63	492038.56	39°50'36.785"N	80°48'37.361"W	10792.07	331.761	2.98
16695.00	91.450	32	435	439	9588.76	-5155.60	1632017.34	492119.73	39°50'37.580"N	80°48'38.008"W	10886.90	331.734	2.80
16789.00	91.450	32	451	455	9668.68	-5205.00	1631967.95	492199.64	39°50'38.363"N	80°48'38.657"W	10980.69	331.705	3.79
16884.00	91.450	32	467	471	9745.62	-5260.63	1631912.33	492276.58	39°50'39.115"N	80°48'39.384"W	11074.81	331.640	4.98
16979.00	91.450	32	483	487	9820.71	-5318.77	1631854.18	492351.66	39°50'39.849"N	80°48'40.143"W	11168.51	331.561	1.00
17074.00	91.510	32	499	503	9896.18	-5376.42	1631796.54	492427.13	39°50'40.586"N	80°48'40.896"W	11262.34	331.486	0.20
17168.00	91.200	32	515	519	9969.78	-5434.84	1631738.12	492500.73	39°50'41.305"N	80°48'41.659"W	11354.91	331.404	2.12
17263.00	91.200	32	531	535	10042.71	-5495.68	1631677.28	492573.65	39°50'42.017"N	80°48'42.453"W	11448.08	331.311	0.85
17357.00	91.230	32	547	551	10115.08	-5555.64	1631617.33	492646.02	39°50'42.723"N	80°48'43.235"W	11540.36	331.223	1.28



Actual Wellpath Report

MND-6A-IIS AWP Proj: 18674'

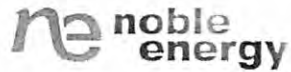
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REFERENCE WELL	PAT	Slot	Slot A
Operator	NOBLE ENERGY		
Area	Marshall County	Well	MND-6A-IIS
Field	Marshall	Wellbore	MND-6A-IIS AWB
Facility	MND-6 Pad		

WELLPATH DATA (225 S)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vertical Section [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
17452.00	90.800	321.00	5735.10	1077.18	10189.44	-5614.74	1631558.23	492720.37	39°50'43.450"N	80°48'44.006"W	11634.00	331.144	1.26
17547.00	90.800	321.00	5735.87	1078.08	10264.87	-5672.47	1631500.51	492795.80	39°50'44.187"N	80°48'44.761"W	11727.94	331.075	1.04
17642.00	90.830	321.00	5742.51	1087.06	10342.00	-5727.91	1631445.07	492872.92	39°50'44.941"N	80°48'45.486"W	11822.26	331.020	2.57
17736.00	90.920	321.00	5741.08	1081.03	10420.09	-5780.20	1631392.78	492951.01	39°50'45.705"N	80°48'46.171"W	11915.92	330.982	1.46
17831.00	90.770	321.00	5739.68	1075.94	10500.06	-5831.46	1631341.53	493030.98	39°50'46.488"N	80°48'46.843"W	12010.71	330.953	0.98
17926.00	90.830	321.00	5738.35	1074.75	10581.00	-5881.18	1631291.81	493111.91	39°50'47.281"N	80°48'47.495"W	12105.61	330.934	1.34
18021.00	90.770	328.00	5737.03	1075.51	10662.44	-5930.08	1631242.91	493193.34	39°50'48.078"N	80°48'48.137"W	12200.55	330.919	0.13
18116.00	90.950	329.00	5735.60	1070.26	10743.95	-5978.85	1631194.14	493274.85	39°50'48.877"N	80°48'48.778"W	12295.49	330.905	0.37
18211.00	90.800	321.00	5734.15	1075.06	10824.96	-6028.45	1631144.54	493355.85	39°50'49.670"N	80°48'49.429"W	12390.40	330.886	1.57
18305.00	90.740	324.00	5733.89	1070.02	10903.09	-6080.67	1631092.33	493433.99	39°50'50.435"N	80°48'50.113"W	12484.07	330.852	3.27
18400.00	90.710	321.00	5731.68	1063.98	10979.47	-6137.14	1631035.86	493510.36	39°50'51.181"N	80°48'50.851"W	12578.29	330.796	2.51
18495.00	90.710	321.00	5730.51	1068.81	11054.07	-6195.95	1630977.05	493584.95	39°50'51.910"N	80°48'51.619"W	12672.10	330.729	1.22
18588.00	90.740	321.00	5729.33	1070.64	11126.93	-6253.73	1630919.28	493657.81	39°50'52.621"N	80°48'52.373"W	12763.92	330.662	0.90
18648.00	90.740	321.00	5728.55	1070.61	11175.15	-6289.41	1630883.60	493706.03	39°50'53.093"N	80°48'52.840"W	12823.45	330.629	4.95
18674.00	90.740	321.00	5728.22	10787.61	11196.44	-6304.33	1630868.68	493727.32	39°50'53.301"N	80°48'53.035"W	12849.32	330.618	0.00



Actual Wellpath Report

MND-6A-HS AWP Proj: 18674'

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Operator	NOBLE ENERGY
Area	Marshall County,
Field	Marshall
Facility	MND-6 Pad

Slot	Slot A
Well	MND-6A-HS
Wellbore	MND-6A-HS AWB

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
MND-6A-HS BHL Rev-1		5726.53	11191.86	-6310.47	1630862.54	493722.74	39°50'53.255"N	80°48'53.113"W	point
MND-6A-HS LP Rev-1		5917.00	1260.05	643.86	1637816.48	483791.48	39°49'16.107"N	80°47'22.134"W	point
MND-6 Pad LL		6500.00	0.00	0.00	1637172.66	482531.50	39°49'03.564"N	80°47'30.152"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: MND-6A-HS AWB Ref Wellpath: MND-6A-HS AWP Proj: 18674'

Start MD [ft]	End MD [ft]	Geometric Model	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	275.00	Gyro	Northseek (Standard)	01_Gyro <14-3/4"> (50'-275')	MND-6A-HS AWB
275.00	622.00	IS	IS (Standard)	02_APS EM <14-3/4"> (275')(309'-622')	MND-6A-HS AWB
622.00	1983.00	IS	IS (Standard)	03_APS EM <12-1/4"> (622')(704'-1983') Proj: 2040'	MND-6A-HS AWB
1983.00	4125.00	NA	NA (Mag Corr)	04_BHL LCP MWD <8-1/2"> (1983')(2041'-4125')	MND-6A-HS AWB
4125.00	18648.00	NA	NA (Curve Short Spaced)	05_BHL AT Curve <8-1/2"> (4125')(4169'-18648')	MND-6A-HS AWB
18648.00	18674.00	BL	Blending (std)	Projection to bit	MND-6A-HS AWB



Actual Wellpath Report

MND-6A-HS AWP Proj: 18674'

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OPERATOR		WELL IDENTIFICATION	
Operator	NOBLE ENERGY	Slot	Slot A
Area	Marshall County, WV	Well	MND-6A-HS
Field	Marshall	Wellbore	MND-6A-HS AWB
Facility	MND-6 Pad		

COMMENTS

Wellpath general comments

API: 47-051-01746-0000
 BHH Job #: 6650341A
 Rig: Nomac 79
 Duration: 09.21.2014 – 09.29.2014
 Gyro <14-3/4"> (50'-275')
 APS EM <14-3/4"> (275')(309')
 APS EM <12-1/4"> (622')(704')
 BHH MWD <8-1/2"> (1983')(2010'-18674')
 BHH AT Curve <8-1/2"> (4125')(18674')
 Projected MD at TD: 18674'



NOBLE ENERGY

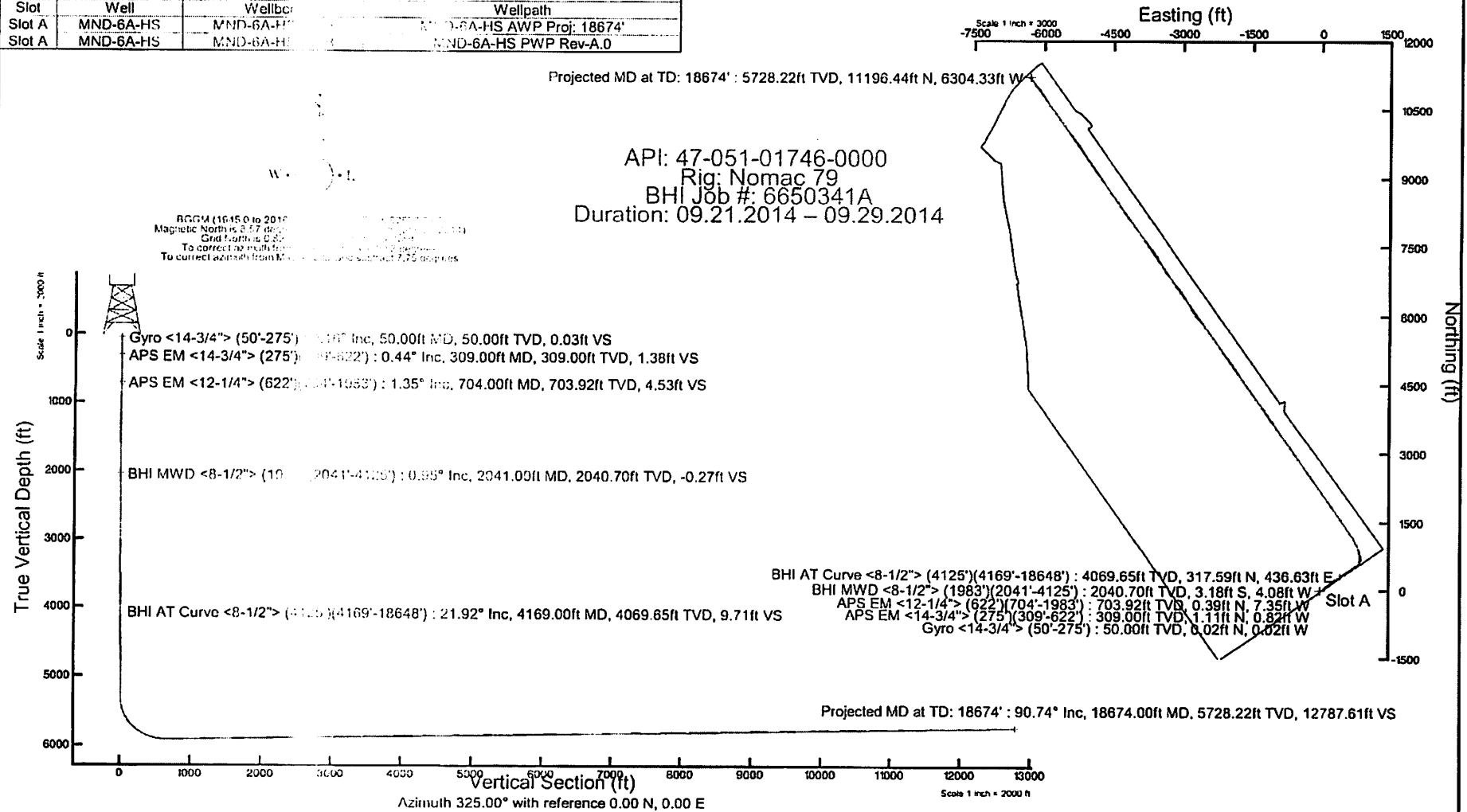


Location: Marshall County, WV
 Field: Marshall
 Facility: MND-6 Pad

Slot: Slot A
 Well: MND-6A-HS
 Wellbore: MND-6A-HS PWB

Facility Name		Grid Easting		Latitude		Longitude	
MND-6 Pad		163712.4		39°49'03.375"N		80°47'30.083"W	
Slot	Local N (ft)	Local E (ft)	Grid Easting	Latitude	Longitude		
Slot A	19.27	-5.12	163712.4	39°49'03.564"N	80°47'30.152"W		
Nomac 79 (RKB) to Mud line (At Slot: Slot A)				26ft			
Mean Sea Level to Mud line (At Slot: Slot A)				-720.98ft			
Nomac 79 (RKB) to Mean Sea Level				746.98ft			
Slot	Well	Wellbore	Wellpath				
Slot A	MND-6A-HS	MND-6A-HS	MND-6A-HS AWP Proj: 18674*				
Slot A	MND-6A-HS	MND-6A-HS	MND-6A-HS PWP Rev-A.0				

Plot reference wellpath is MND-6A-HS PWP Rev-A.0	
True vertical depths are referenced to Nomac 79 (RKB)	Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet
Measured depths are referenced to Nomac 79 (RKB)	North Reference: Grid north
Nomac 79 (RKB) to Mean Sea Level: 740.98 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot A): -720.98 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: kroschr on 10/13/2014





02/10/2017

- Offset Wells**
- No Data
 - Pittsburgh coal
 - Salina
 - Plugged

- NBL Well Pad
- NBL-Drilled, Marcellus
- Hz Distance
- 500' AOR Buffer
- Parcels
- State Line



0 1,000
Feet

1 inch = 1,000 feet
Author: devinreighton
Date Created: 8/23/2016
Date Saved: 8/23/2016

Main Data Frame
Coordinate System:
NAD 1927 UTM Zone
17N

Units: Foot US

Disclaimer: All data is licensed for Noble Energy, Inc. use only. Noble Energy, Inc. makes every effort to ensure this map is free of errors, but does not warrant the map or its features are either spatially or temporally accurate or fit for a particular use. Noble Energy, Inc. provides this map without any warranty of any kind whatsoever, either

WW-9
(4/16)

API Number 47 - 051 - 01746
Operator's Well No. MND 6 AHS

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) Fish Creek Unidentified (HUC 10) Quadrangle Powhatan Point

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: Closed Loop - No Pit will be utilized

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 _____)
- Reuse (at API Number TBD - Next anticipated well)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

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 thru 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, Mic-Clean, MI Seal, Next Base eC, Next Drill, Next Hold, Next MJ, Omyr Colz, MI Bar

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

Received
Office of Oil & Gas
OCT 17 2016

Subscribed and sworn before me this 10th day of October, 2016

Regina Logue Notary Public

My commission expires July 7, 2018

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

02/10/2017

Noble Energy, Inc.

Proposed Revegetation Treatment: Acres Disturbed 9.6 Prevegetation pH _____

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

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay or Straw at 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5
See site plans for full list		See site plans for full list	

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Jan Wilbur*

Comments: _____

Title: Office of Oil and Gas - Inspector

Date: 10/2/16

Field Reviewed? () Yes () No

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OCT 17 2016

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
Cochranon, PA 16314
814-425-7773

Disposal Locations:

Apex Environnemental, LLC Permit # 06-08438
11 County Road 78
Amsterdam, OH 43903
740-543-4389

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

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

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

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

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

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

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

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

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

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OCT 17 2016

02/10/2017

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

Northern A-1 Environmental Services Permit ID MID020906814
3947 US 131 North, PO Box 1030
Kalkaska, MI 49646
231-258-9961

Water Haul off Companies:

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

Nabors Completion & Production Services Co.
PO Box 975682
Dallas, TX 75397-5682

Select Energy Services, LLC
PO Box 203997
Dallas, TX 75320-3997

Nuverra Environmental Solutions
11942 Veterans Memorial Highway
Masontown, WV 26542

Mustang Oilfield Services LLC
PO Box 739
St. Clairsville, OH 43950

Wilson's Outdoor Services, LLC
456 Cracraft Road
Washington, PA 15301

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

CMS of Delaware Inc. DBA CMS Oilfield Serv
301 Commerce Drive
Moorestown, NJ 08057

Force, Inc.
1380 Rte. 286 Hwy. E, Suite 303
Indiana, PA 15701

Solo Construction
P.O. Box 544
St. Mary's, WV 26170

Equipment Transport
1 Tyler Court
Carlisle, PA 17015

Myers Well Service, Inc.
2001 Ballpark Court
Export, PA 15632

Burns Drilling & Excavating
618 Crabapple Road P.O. Box 41
Wind Ridge, PA 15380

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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OCT 17 2016

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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

SOS D#1 (SWIW #12)
Permit # 34-059-2-4202-00-00
Silcor Oilfield Services, Inc.
2939 Hubbard Road
Youngstown, OH 44505

Dudley #1 UIC (SWIW #1)
Permit # 34-121-2-2459-00-00
Select Energy Services, LLC
7994 S. Pleasants Hwy
St. Marys, WV 26170
304-665-2652

OH UIC #1 Buckeye UIC Barnesville 1 & 2
CNX Gas Company, LLC
1000 Consol Energy Drive
Permit # 34-013-2-0609-00-00
Permit # 34-013-2-0614-00-00
304-323-6568

US Steele 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15730
304-323-6568

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4137-00-00
Elkhead Gas& Oil Company
12163 Marne Rd. NE
Newark, OH 43055
740-763-3966

Elkhead
Office of Oil & Gas
OCT 17 2016

02/10/2017



Site Safety Plan

Noble Energy, Inc.

MND 6 Well Pad

1652 Fish Creek Road

Proctor, WV

July 2015: Version 2

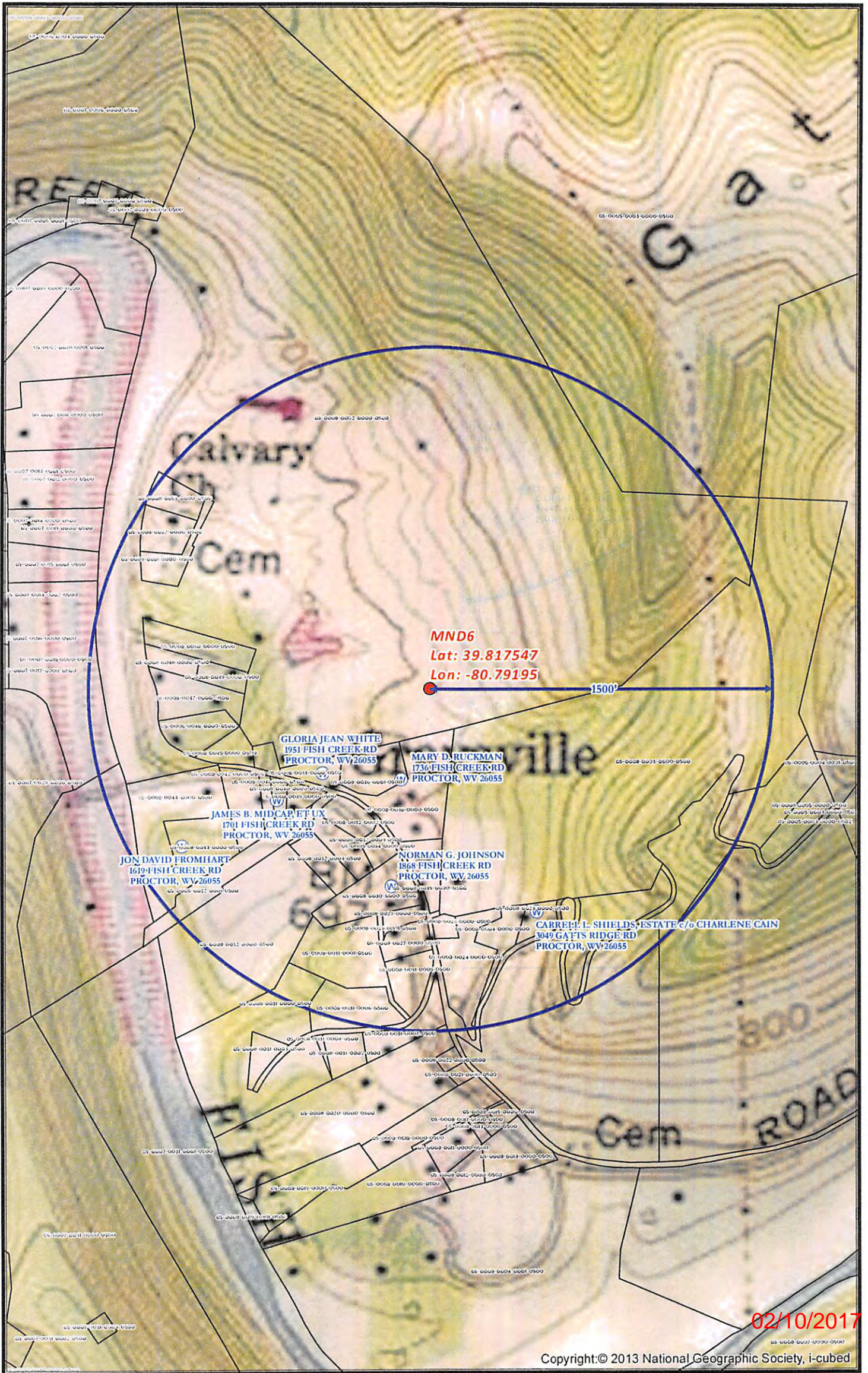
**For Submission to
West Virginia Department of Environmental Protection,
Office of Oil and Gas**

*Xu
10/17/16*

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

Received
Office of Oil & Gas
OCT 17 2016

02/10/2017



MND6 SITE SAFETY PLAN
- WATER WELLS PROXIMITY -

Well Pad
 Water Well Purveyor
 Water Wells Buffer

0 250 500 1,000 Feet

Scale 1" = 500'

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

noble energy

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

Date: 12/13/2013
 Author: Christopher Glover

6
 6

AS DRILLED PLAT

EXISTING SURFACE LOCATION LONG. W 80°47'30.2" (NAD 27)

Latitude: N 39°50'00"
AS DRILLED

SURFACE LOCATION (SHL)	LANDING POINT (LP)
UTM 17 NAD 83 N) 4,407,548.44m E) 517,842.93m NAD 27 WV NORTH N) 482,531.5' E) 1,637,172.7' NAD 83 DEC. LAT.) 39.817733° DEC. LONG.) 80.791521°	UTM 17 NAD 83 N) 4,407,935.58m E) 518,032.66m NAD 27 WV NORTH N) 483,791.5' E) 1,637,816.5' NAD 83 DEC. LAT.) 39.821217° DEC. LONG.) 80.789294°

BOTTOM HOLE LOCATION (BHL)
UTM 17 NAD 83 N) 4,410,927.17m E) 515,865.41m NAD 27 WV NORTH N) 493,727.3' E) 1,630,868.7' NAD 83 DEC. LAT.) 39.848214° DEC. LONG.) 80.814545°

GRID NORTH
NAD 83

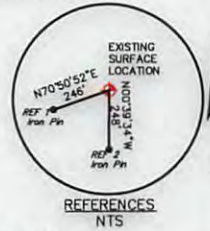
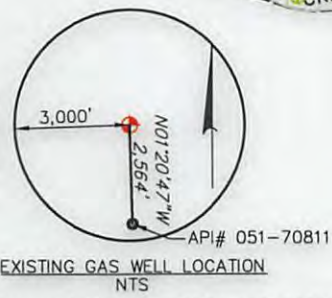
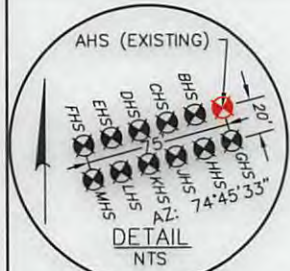
Longitude: W 80°47'30"

PERMITTED

SURFACE LOCATION (SHL)
UTM 17 NAD 83 N) 4,407,548.46m E) 517,842.88m NAD 27 WV NORTH N) 482,531.5' E) 1,637,172.5' NAD 83 DEC. LAT.) 39.817733° DEC. LONG.) 80.791522°

LANDING POINT (LP)
UTM 17 NAD 83 N) 4,407,936.52m E) 518,031.98m NAD 27 WV NORTH N) 483,794.6' E) 1,637,814.3' NAD 83 DEC. LAT.) 39.821225° DEC. LONG.) 80.789302°

BOTTOM HOLE LOCATION (BHL)
UTM 17 NAD 83 N) 4,410,925.77m E) 515,863.57m NAD 27 WV NORTH N) 493,722.8' E) 1,630,862.5' NAD 83 DEC. LAT.) 39.848202° DEC. LONG.) 80.814566°



GENERAL NOTES:

1. THE LOCATION OF BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORD DEED, PLATS, AND TAX MAPS BEST FIT TO FOUND FIELD EVIDENCE AND AERIAL PHOTOS, UNLESS OTHERWISE NOTED.
2. THIS PLAT DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY OF THE INDIVIDUAL PARCELS.
3. THERE ARE NO EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF PROPOSED WELL.
4. PROPOSED WELL IS GREATER THAN 100' FROM PERENNIAL STREAM, WETLAND, POND, RESERVOIR OR LAKE.
5. THERE ARE NO NATIVE TROUT STREAMS WITHIN 300' OF PROPOSED WELL.
6. THERE ARE TWO DWELLINGS LOCATED WITHIN 650' OF PROPOSED WELLBORE.
7. THE SURROUNDING LANDS ARE BEING SERVED BY PUBLIC WATER BY THE GRAND VIEW DOOLIN WATER SYSTEM PROVIDED BY MARSHALL COUNTY PUBLIC HEALTH AND SANITATION DIVISION.

LEGEND

	EXISTING GAS WELL
	AS-DRILLED BORE
	PROPOSED BORE
	TIE LINE
	UNIT BOUNDARY
	PROPERTY LINE
	STREAM LINE
	BUFFER LINE
	GAS WELL
	PLUGGED GAS WELL

FILE #: 093842010

DRAWING #: 093842010_SV-Plat

SCALE: PLAT & TICK: 1" = 2,000'

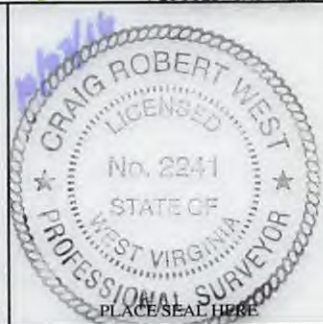
MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: NGS (CORS)

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED: Craig Robert West

R.P.E.: _____ L.L.S.: 2241



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

WELL TYPE: OIL GAS WASTE DISPOSAL LIQUID INJECTION PRODUCTION STORAGE DEEP SHALLOW

WATERSHED: FISH CREEK

COUNTY/DISTRICT: MARSHALL / FRANKLIN

SURFACE OWNER: CONSOLIDATION COAL COMPANY

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY LLC and NOBLE ENERGY, INC.

CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PERFORATE NEW FORMATION PLUG & ABANDON

DRILL PLUG OFF OLD FORMATION CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____

TARGET FORMATION: MARCELLUS

WELL OPERATOR: NOBLE ENERGY, INC.

ADDRESS: 333 TECHNOLOGY DRIVE, SUITE 116

CITY: CANONSBURG STATE: PA ZIP CODE: 15317

DATE: OCTOBER 7, 2016

OPERATOR'S WELL #: MND 6 AHS

API WELL #: 47 051 01746

STATE COUNTY PERMIT

ELEVATION: 722'-DESIGN (NAVD 88)

QUADRANGLE: POWHATAN POINT, OHIO-W.VA

ACREAGE: 136.587±

ACREAGE: 136.587±

ESTIMATED DEPTH: TVD: 5,940± TMD: 18,804±

DESIGNATED AGENT: STEVEN GREEN

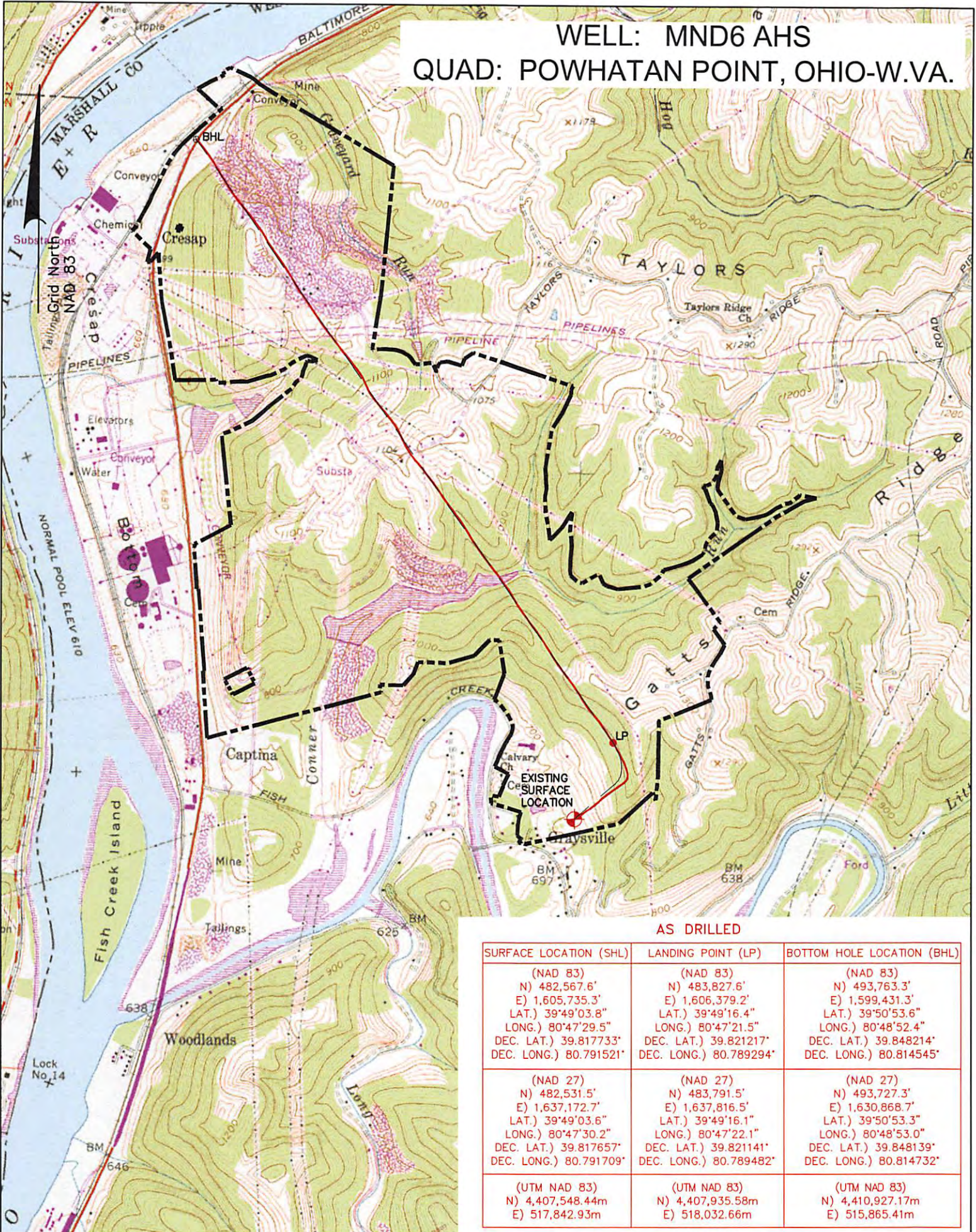
ADDRESS: 1000 NOBLE ENERGY DRIVE

CITY: CANONSBURG STATE: PA ZIP CODE: 15317



02/10/2017

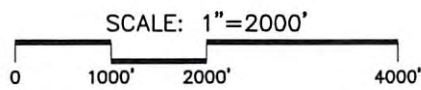
WELL: MND6 AHS
QUAD: POWHATAN POINT, OHIO-W.VA.



AS DRILLED

SURFACE LOCATION (SHL)	LANDING POINT (LP)	BOTTOM HOLE LOCATION (BHL)
(NAD 83) N) 482,567.6' E) 1,605,735.3' LAT.) 39°49'03.8" LONG.) 80°47'29.5" DEC. LAT.) 39.817733' DEC. LONG.) 80.791521'	(NAD 83) N) 483,827.6' E) 1,606,379.2' LAT.) 39°49'16.4" LONG.) 80°47'21.5" DEC. LAT.) 39.821217' DEC. LONG.) 80.789294'	(NAD 83) N) 493,763.3' E) 1,599,431.3' LAT.) 39°50'53.6" LONG.) 80°48'52.4" DEC. LAT.) 39.848214' DEC. LONG.) 80.814545'
(NAD 27) N) 482,531.5' E) 1,637,172.7' LAT.) 39°49'03.6" LONG.) 80°47'30.2" DEC. LAT.) 39.817657' DEC. LONG.) 80.791709'	(NAD 27) N) 483,791.5' E) 1,637,816.5' LAT.) 39°49'16.1" LONG.) 80°47'22.1" DEC. LAT.) 39.821141' DEC. LONG.) 80.789482'	(NAD 27) N) 493,727.3' E) 1,630,868.7' LAT.) 39°50'53.3" LONG.) 80°48'53.0" DEC. LAT.) 39.848139' DEC. LONG.) 80.814732'
(UTM NAD 83) N) 4,407,548.44m E) 517,842.93m	(UTM NAD 83) N) 4,407,935.58m E) 518,032.66m	(UTM NAD 83) N) 4,410,927.17m E) 515,865.41m

AS DRILLED PLAT



GENERAL NOTE:
 THE PURPOSE OF THIS PLAT IS FOR THE LOCATION OF PROPOSED GAS WELLS AND DOES NOT REPRESENT A CLOSED BOUNDARY SURVEY. PROPERTY LINES AND OWNERS WERE OBTAINED FROM VARIOUS FIELD EVIDENCE, TAX RECORDS AND AERIAL MAPPING.

LEGEND

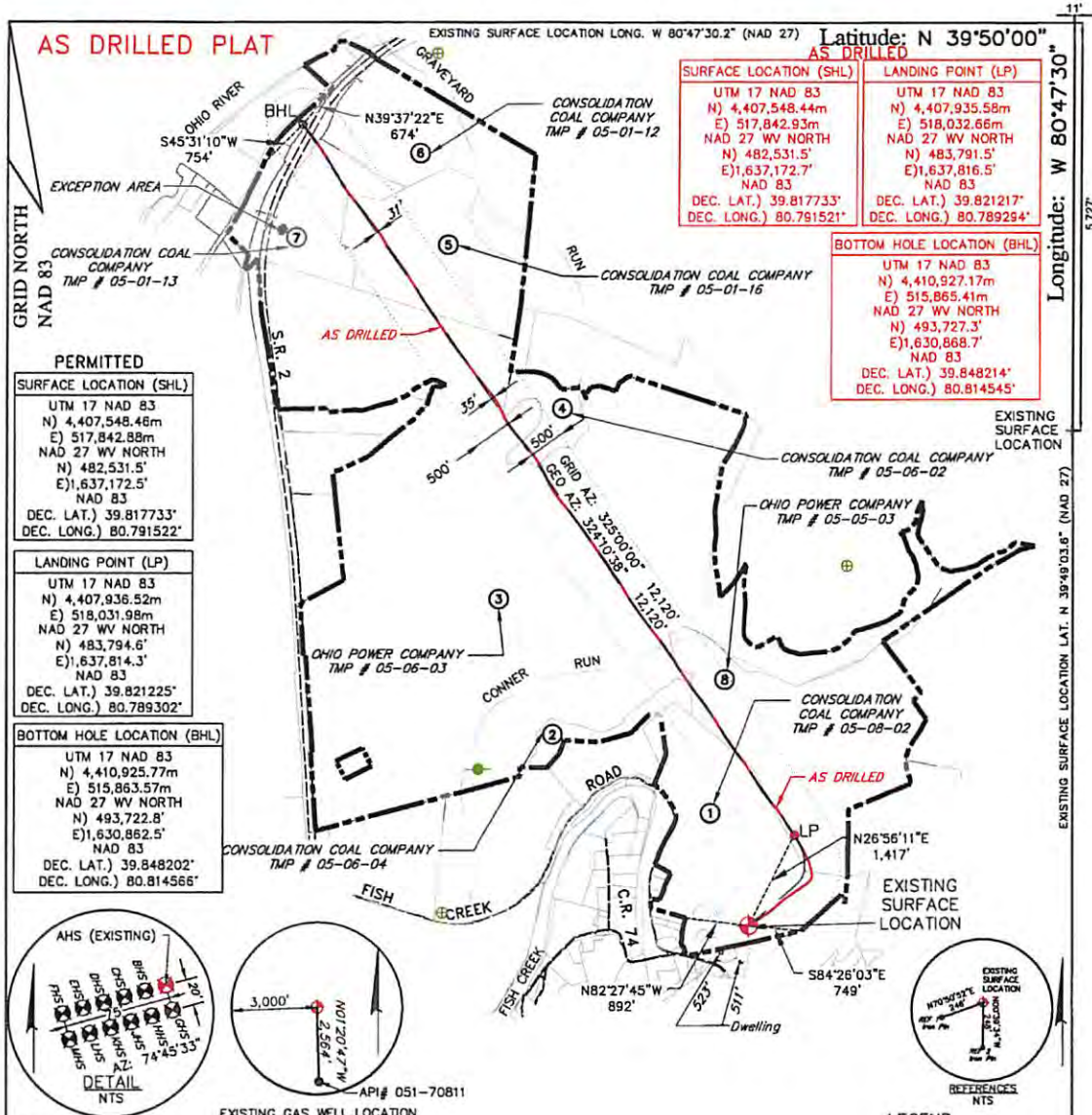
- EXISTING GAS WELL
- EXISTING BOTTOM HOLE
- PROPOSED BORE
- AS DRILLED BORE
- UNIT BOUNDARY

PERMITTED

SURFACE LOCATION (SHL)	LANDING POINT (LP)	BOTTOM HOLE LOCATION (BHL)
(NAD 83) N) 482,567.7' E) 1,605,735.2' LAT.) 39°49'03.8" LONG.) 80°47'29.5" DEC. LAT.) 39.817733' DEC. LONG.) 80.791522'	(NAD 83) N) 483,830.8' E) 1,606,377.0' LAT.) 39°49'16.4" LONG.) 80°47'21.5" DEC. LAT.) 39.821225' DEC. LONG.) 80.789302'	(NAD 83) N) 493,758.9' E) 1,599,425.2' LAT.) 39°50'53.5" LONG.) 80°48'52.4" DEC. LAT.) 39.848202' DEC. LONG.) 80.814566'
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(UTM NAD 83) N) 4,407,548.46m E) 517,842.88m	(UTM NAD 83) N) 4,407,936.52m E) 518,031.98m	(UTM NAD 83) N) 4,410,925.77m E) 515,863.57m

02/10/2017

Applicant / Well Operator Name NOBLE ENERGY, INC.	Well(Farm) Name MND6	Well# AHS	Serial #
Address 333 TECHNOLOGY DRIVE, SUITE 116, CANONSBURG, PA 15317	County - Code MARSHALL - 051	District FRANKLIN	
Surface Landowner / Lessor CONSOLIDATION COAL COMPANY	USGS 71/2 Quadrangle Map Name POWHATAN POINT, OHIO-W.VA	Scale: 1" = 2,000'	

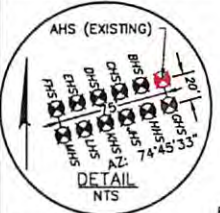


PERMITTED

SURFACE LOCATION (SHL)	
UTM 17 NAD 83	N) 4,407,548.46m
	E) 517,842.88m
NAD 27 WV NORTH	N) 482,531.5'
	E) 1,637,172.5'
	NAD 83
DEC. LAT.)	39.817733°
DEC. LONG.)	80.791522°

LANDING POINT (LP)	
UTM 17 NAD 83	N) 4,407,936.52m
	E) 518,031.98m
NAD 27 WV NORTH	N) 483,794.6'
	E) 1,637,814.3'
	NAD 83
DEC. LAT.)	39.821225°
DEC. LONG.)	80.789302°

BOTTOM HOLE LOCATION (BHL)	
UTM 17 NAD 83	N) 4,410,925.77m
	E) 515,863.57m
NAD 27 WV NORTH	N) 493,722.8'
	E) 1,630,862.5'
	NAD 83
DEC. LAT.)	39.848202°
DEC. LONG.)	80.814565°



GENERAL NOTES:

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LEGEND

	EXISTING GAS WELL
	AS-DRILLED BORE
	PROPOSED BORE
	TIE LINE
	UNIT BOUNDARY
	PROPERTY LINE
	STREAM LINE
	BUFFER LINE
	GAS WELL
	PLUGGED GAS WELL

FILE #: 093842010
 DRAWING #: 093842010_SV-Plat
 SCALE: PLAT & TICK: 1" = 2,000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: NGS (CORS)

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED: Cy R. [Signature]
 R.P.E.: _____ L.L.S.: 2241



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

WELL TYPE: OIL GAS WASTE DISPOSAL LIQUID INJECTION PRODUCTION STORAGE DEEP SHALLOW

WATERSHED: FISH CREEK
 COUNTY/DISTRICT: MARSHALL / FRANKLIN
 SURFACE OWNER: CONSOLIDATION COAL COMPANY
 OIL & GAS ROYALTY OWNER: CNX GAS COMPANY LLC and NOBLE ENERGY, INC.

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 5,840'± TMD: 18,804'±

WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVEN GREEN
 ADDRESS: 333 TECHNOLOGY DRIVE, SUITE 118 ADDRESS: 1000 NOBLE ENERGY DRIVE
 CITY: CANONSBURG STATE: PA ZIP CODE: 15317 CITY: CANONSBURG STATE: PA ZIP CODE: 15317

DATE: OCTOBER 7, 2016
 OPERATOR'S WELL #: MND 6 AHS
 API WELL #: 47 STATE: 051 COUNTY: 01746 PERMIT

ELEVATION: 722'-DESIGN (NAVD 88)
 QUADRANGLE: POWHATAN POINT, OHIO-W.VA
 ACREAGE: 136.587±
 ACREAGE: 136.587±

Received
 Office of Oil & Gas
 OCT 17 2016

02/10/2017

**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)	Consolidation Coal Company	CNX Gas Company, LLC	100%/Fee	646/493
	CNX Gas Company, LLC	Noble Energy, Inc.	100%/Fee	752/66
2)	Consolidation Coal Company	CNX Gas Company, LLC	100%/Fee	646/493
	CNX Gas Company, LLC	Noble Energy, Inc.	100%/Fee	752/66
3)	Consolidation Coal Company	CNX Gas Company, LLC	100%/Fee	646/493
	CNX Gas Company, LLC	Noble Energy, Inc.	100%/Fee	752/66

**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
OCT 17 2016

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: *Robert G. Brown*
Its: Land Negotiations Supervisor

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
4)	Consolidation Coal Company	CNX Gas Company LLC	100%/Fee	646/493
	CNX Gas Company LLC	Noble Energy, Inc.	100%/Fee	752/66
5)	Consolidation Coal Company	CNX Gas Company LLC	100%/Fee	646/493
	CNX Gas Company LLC	Noble Energy, Inc.	100%/Fee	752/66
6) Q074011007	Susan Witten Neal Meyers AKA Susan Neal Ilfeld Meyeres, individually, and as Susan N. Meyers, Trustee of the Susan N. Meyers Revocable Trust	Noble Energy, Inc.	Not less than 1/8	789/538
Q074011001	Mary Witten Neal Wiseman FKA Mary Witten Neal	Noble Energy, Inc.	Not less than 1/8	789/564
Q074011009	Mary Witten Hart Ehlers	Noble Energy, Inc.	Not less than 1/8	789/552
Q074011004	Margery J. Witten	Noble Energy, Inc.	Not less than 1/8	789/543
Q074011003	Joseph Moore Neal	Noble Energy, Inc.	Not less than 1/8	789/545
Q074011008	Jane Witten Voth	Noble Energy, Inc.	Not less than 1/8	789/559
Q074011006	Frances Gale Neal	Noble Energy, Inc.	Not less than 1/8	789/536
Q074011002	Dorothy Ann Neal by her POA Jerry L. Berthold	Noble Energy, Inc.	Not less than 1/8	789/547
Q074011011	Donald R. Hart Jr.	Noble Energy, Inc.	Not less than 1/8	789/554
Q074011010	Cathy Hart Price	Noble Energy, Inc.	Not less than 1/8	789/534
Q074011005	Ann Alexander	Noble Energy, Inc.	Not less than 1/8	789/541
Q074011047	Jane R. Peterseim AKA Jane Peterseim	CNX Gas Company, LLC	Not less than 1/8	781/37
	Consolidation Coal Company	CNX Gas Company LLC	100%/Fee	646/493
	CNX Gas Company LLC	Noble Energy, Inc.	100%/Fee	752/66
7)	Consolidation Coal Company	CNX Gas Company LLC	100%/Fee	646/493
	CNX Gas Company LLC	Noble Energy, Inc.	100%/Fee	752/66
8) Q083442000	AEP Generation Resources Inc. and Kentucky Power Company	Noble Energy, Inc.	Not less than 1/8	829/157

Received
Office of Oil & Gas
OCT 17 2016

02/10/2017



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

October 5, 2016

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 blue ink, appearing to read 'Dee Swiger'.

Dee Swiger
Regulatory Analyst, III

Received
Office of Oil & Gas
OCT 17 2016

02/10/2017

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

Date of Notice Certification: 10-10-16

API No. 47-051-01746
Operator's Well No. MND 6 AHS
Well Pad Name: MND 6

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>517842.88</u>
County: <u>Marshall</u>	Northing: <u>4407548.46</u>
District: <u>Franklin</u>	Public Road Access: <u>CR 7/4-Fish Creek Rd</u>
Quadrangle: <u>Powhatan Point</u>	Generally used farm name: <u>Consol (now owned by Murray American Energy DBA Consolidation Coal)</u>
Watershed: <u>Fish Creek Unidentified (HUC 10)</u>	

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 100px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
--	---

Required Attachments:

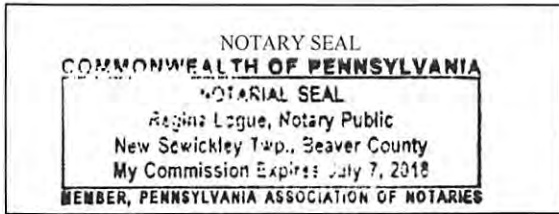
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

Received
Office of Oil & Gas
OCT 17 2016
02/10/2017

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:	<u>Noble Energy, Inc.</u>	Address:	<u>1000 Noble Energy Drive</u>
By:	<u>Dee Swiger <i>Dee Swiger</i></u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Regulatory Analyst, III</u>	Facsimile:	<u>724-820-3098</u>
Telephone:	<u>724-820-3000</u>	Email:	<u>dee.swiger@nblenergy.com</u>



Subscribed and sworn before me this 10th day of October 2016

Regina Logue Notary Public

My Commission Expires July 7, 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 depprivacyofficer@wv.gov.

Received
Office of Oil & Gas
OCT 17 2016

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: 10/10/2016 **Date Permit Application Filed:** 10/14/2016

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: Consolidation Coal Company (Jason Witt/Alex O'Neill)
 Address: 46226 National Road
St. Clairsville, OH 43950
 Name: Kevin E. and Teresa McGilton
 Address: 1704 2nd Street
Moundsville, WV 26041-1534

SURFACE OWNER(s) (Road and/or Other Disturbance)
 Name: See attached list
 Address: _____
 Name: _____
 Address: _____

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

COAL OWNER OR LESSEE
 Name: Murray American Energy, Inc.
 Address: 46226 National Road
St. Clairsville, OH 43950

COAL OPERATOR
 Name: Same as Above
 Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
 Name: See Attached List
 Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
 Name: _____
 Address: _____

Received
Office of Oil & Gas
OCT 17 2016

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 impose any 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

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

Received
Office of Oil & Gas

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.**

02/10/2017

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.

Received
Office of Oil & Gas
OCT 17 2016

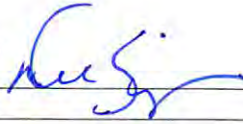
02/10/2017

WW-6A
(8-13)

API NO. 47-051 - 01746
OPERATOR WELL NO. MND 6 AHS
Well Pad Name: MND 6

Notice is hereby given by:

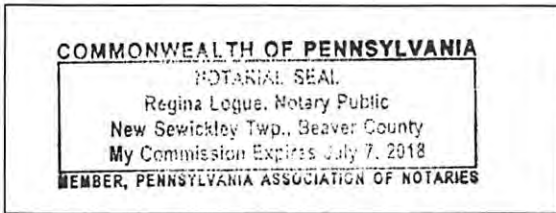
Well Operator: Noble Energy, Inc.
Telephone: 724-820-3061
Email: dee.swiger@nblenergyinc.com



Address: 1000 Noble Energy Drive
Canonsburg, PA 15317
Facsimile: 724-820-3098

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 10th day of Oct., 2016.

Regina Logue Notary Public

My Commission Expires July 7, 2018

Received
Office of Oil & Gas
OCT 17 2016

02/10/2017

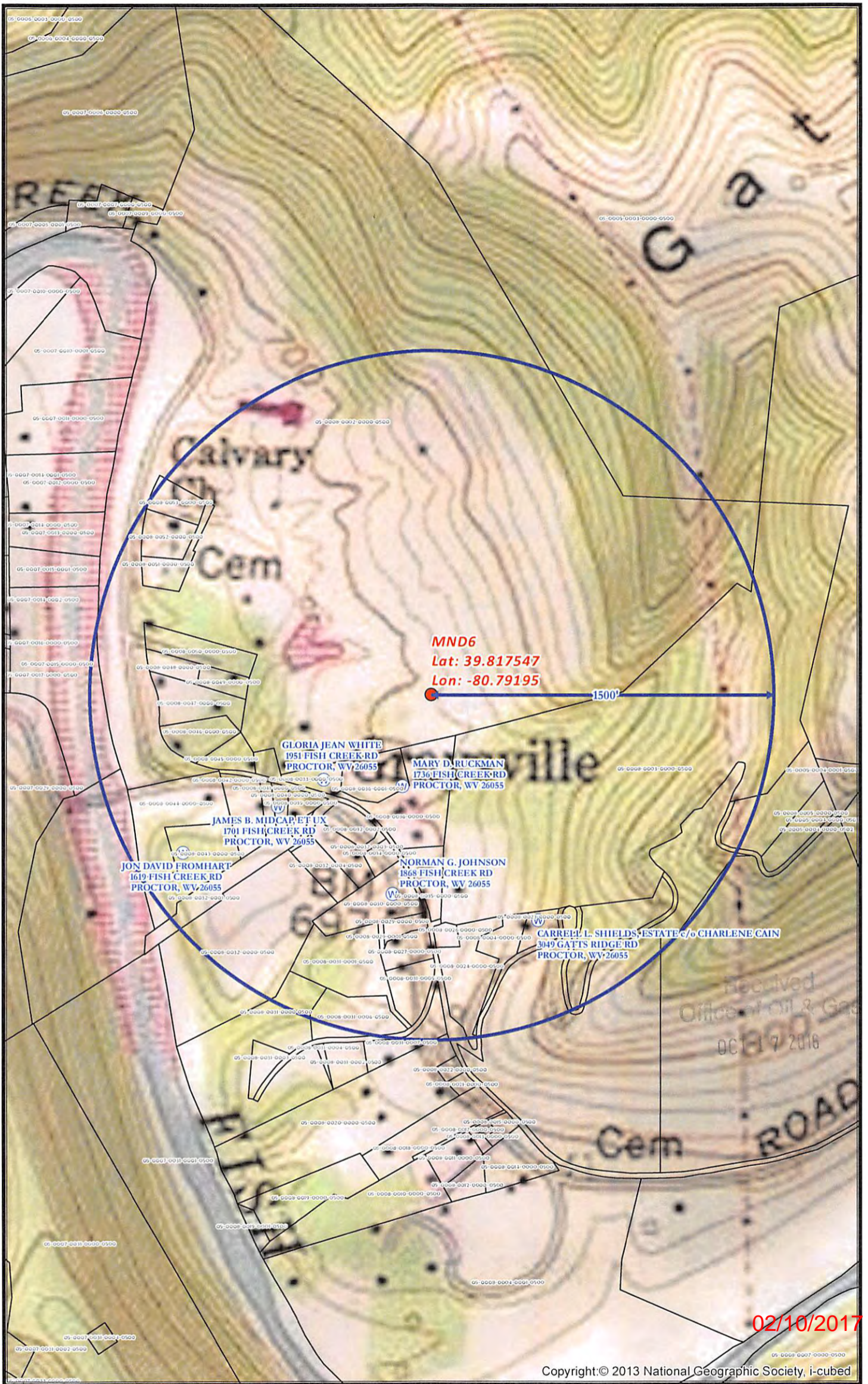
Additional Surface owners on MND 06:

Gloria Jean White ✓
PO Box 162
Proctor, WV 26055

James B, Midcap ✓
1701 Fish Creek Road
Proctor, WV 26055

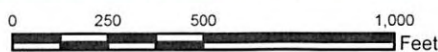
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OCT 17 2016

02/10/2017



MND6 SITE SAFETY PLAN
- WATER WELLS PROXIMITY -

- Well Pad
- W Water Well Purveyor
- Water Wells Buffer



Scale 1" = 500'

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



Date: 12/13/2013

Author:
 Christopher Glover

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



MND 6 HHS Pad Water Well and Spring Owners within 1500'.

John David Fromhart /
1619 Fish Creek Rd.
Proctor, WV 26055

James B. Midcap, Et Ux /
1701 Fish Creek Rd.
Proctor, WV 26055

Gloria Jean White /
P.O. Box 162
Proctor, WV 26055

Mary D. Ruckman /
1736 Fish Creek Rd.
Proctor, WV 26055

Carrell L. Shelds, Estate /
c/o Charlene Cain
3049 Gatts Ridge Rd.
Proctor, WV 26055

Norman G. Johnson /
1868 Fish Creek Rd.
Proctor, WV 26055

Received
Office of Oil & Gas
OCT 17 2016

02/10/2017

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF ENTRY FOR PLAT SURVEY

Notice Time Requirement: Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

Date of Notice: 10/18/2013 Date of Planned Entry: 10/29/2013

Delivery method pursuant to West Virginia Code § 22-6A-10a

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

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

Notice is hereby provided to:

SURFACE OWNER(s)

Name: Consolidated Coal Company ✓
 Address: 1000 Consol Energy Drive
Canonsburg, PA 15317-8508

Name: Kevin E. and Teresa McGilton
 Address: 1704 2nd Street ✓
Moundsville, WV 26041-1534

Name: _____
 Address: _____

COAL OWNER OR LESSEE

Name: Consolidated Coal Company
 Address: 1000 Consol Energy Drive
Canonsburg, PA 15317-8508

MINERAL OWNER(s)

Name: CNX Gas Company, LLC
 Address: 1000 Consol Energy Drive
Canonsburg, PA 15317-8508
 *Please attach additional forms if necessary

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State:	<u>West Virginia</u>	Approx. Latitude & Longitude:	<u>39.817599 -80.791676 NAD 83</u>
County:	<u>Marshall</u>	Public Road Access:	<u>CR 714-Fish Creek Rd</u>
District:	<u>Franklin</u>	Watershed:	<u>Fish Creek Undefined (HUC 10)</u>
Quadrangle:	<u>Powhatan Point</u>	Generally used farm name:	<u>Consol</u>

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production 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). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Received
Office of Oil & Gas

Notice is hereby given by:

Well Operator: Noble Energy, Inc.
 Telephone: 724-820-3118
 Email: ladkins@nobleenergyinc.com

Address: 333 Technology Drive Suite 118
Canonsburg, PA 15317-8508
 Facsimile: 724-820-3098

OCT 17 2016

Oil and Gas Privacy Notice:

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

**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: 2/20/14 Date Permit Application Filed: _____

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: Consolidation Coal Company
Address: 46226 National Road
Saint Clairsville, OH 43950

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: West Virginia
County: Marshall
District: Franklin
Quadrangle: Powhatan Point
Watershed: Fish Creek HUC 10

UTM NAD 83 Easting: 517842.88
Northing: 4407948.45
Public Road Access: CR 714-Fish Creek Rd
Generally used farm name: Consol

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: 333 Technology Dr. Suite 118
Canonsburg, PA 15317
Telephone: 412-841-9567
Email: ladkins@nobleenergyinc.com
Facsimile: _____

Authorized Representative: Laura L. Adkins
Address: 1912 Pinewood Dr.
Charleston, WV 25320
Telephone: 412-841-9567
Email: ladkins@nobleenergyinc.com
Facsimile: _____

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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Received
Office of Oil & Gas

OCT 17 2016

02/10/2017

AGREEMENT
FOR
COAL WAIVER AND CONDITIONAL DRILLING ACTIVITY

This Agreement, effective this 20th day of February, 2014, by and between, CONSOLIDATION COAL COMPANY, a Delaware Corporation, and Murray American Energy, Inc., a Delaware Corporation, both of whose mailing address is 46226 National Road, St. Clairsville, OH 43905, hereinafter collectively referred to as "COMPANY,"

AND

NOBLE ENERGY, INC., a Delaware Corporation, having a place of business at 1001 Noble Energy Way, Houston, Texas 77070, hereinafter referred to as "NOBLE."

PREAMBLE

WHEREAS, NOBLE intends to apply to the West Virginia Department of Environmental Protection for a permit to drill and develop gas wells listed in Table I on the pad known as the MND6 wells at a location in Franklin District, Marshall County, West Virginia; and

WHEREAS, COMPANY, through itself and/or any one or more of its affiliates, owns or controls the Pittsburgh #8 seam of coal at the proposed location of the proposed MND6 wells and said wells when drilled will penetrate the Pittsburgh #8 seam of coal; and

WHEREAS, NOBLE has a regulatory obligation and responsibility to notify coal seam owners of its intent to drill and develop oil/gas wells through such coal seams; and

WHEREAS, NOBLE has requested COMPANY to sign WW-6AW Voluntary Statement of No Objection forms for the drilling and development of the MND6 wells, which COMPANY is willing to sign subject to the conditions set forth in this agreement.

NOW, THEREFORE, in consideration of the commitments set forth herein and intending to be legally bound hereby the parties do hereby agree as follows:

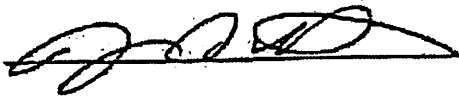
Received
Office of Oil & Gas

OCT 17 2016


Page | 1

02/10/2017

WITNESS:




CONSOLIDATION COAL COMPANY

By: 
Name: Robert D. Moore
Title: vice President

WITNESS:

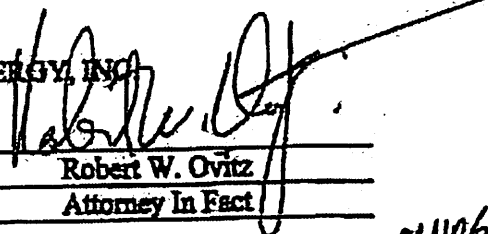


MURRAY AMERICAN ENERGY, INC.

By: 
Name: Robert D. Moore
Title: vice President

WITNESS:

NOBLE ENERGY, INC.

By: 
Name: Robert W. Ovitz
Title: Attorney In Fact

M1006

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02/10/2017

WW-6RW
(1-12)

API NO. 47- _____
OPERATOR WELL NO. MND 6 AHS-UHS
Well Pad Name: MND 6

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL LOCATION RESTRICTION WAIVER

The well operator, Noble Energy, Inc. is applying for a permit from the State of West Virginia to conduct oil or gas well work. Please be advised that well work permits are valid for twenty-four (24) months.

Well Location Restrictions

Pursuant to West Virginia Code § 22-6A-12(a), 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.

WAIVER

I, Mary Ruckman, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through _____, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State: West Virginia UTM NAD 83 Easting: See attached
County: Marshall UTM NAD 83 Northing: See attached
District: Franklin Public Road Access: CR 7/A also known as Fish Creek Rd.
Quadrangle: Powhatan Point Generally used farm name: Consol
Watershed: HUC 10 Fish Creek

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

<p>WELL SITE RESTRICTIONS BEING WAIVED *Please check all that apply</p> <p><input type="checkbox"/> EXISTING WATER WELLS</p> <p><input type="checkbox"/> DEVELOPED SPRINGS</p> <p><input checked="" type="checkbox"/> DWELLINGS</p> <p><input type="checkbox"/> AGRICULTURAL BUILDINGS</p>	<p>FOR EXECUTION BY A NATURAL PERSON Signature: <u>Mary Ruckman</u> Print Name: <u>MARY RUCKMAN</u> Date: <u>9-26-2015</u></p> <p>FOR EXECUTION BY A CORPORATION, ETC. Company: _____ By: _____ Its: _____ Signature: _____ Date: _____</p>
---	---

Well Operator: Noble Energy, Inc. Signature: [Signature]
By: Andrew Melina Telephone: 724-820-3109
Its: Senior Land Registrar

NOTARY SEAL

Subscribed and sworn before me this 26th day of September
Rodney J. Johnson Notary Public
My Commission Expires 10-24-2015

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

Jan Pest
MARSHALL County 09:37:04 AM
Instrument No 1351123
Date Recorded 10/23/2013
Document Type O&G
Pages Recorded 1
Book-Page 007-347
Recording Fee \$5.00
Additional \$6.00

Received
Office of Oil & Gas
OCT 17 2016

WW-6RW
 (1-12)

API NO. 47-
 OPERATOR WELL NO. MND 6 AHS-UHS
 Well Pad Name: MND 6

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL LOCATION RESTRICTION WAIVER

The well operator, Noble Energy, Inc. is applying for a permit from the State of West Virginia to conduct oil or gas well work. Please be advised that well work permits are valid for twenty-four (24) months.

Well Location Restrictions

Pursuant to West Virginia Code § 22-6A-12(a), 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.

WAIVER

I, Lotha Ruckman, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through _____, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>See attached</u>	See attached
County: <u>Marshall</u>	UTM NAD 83 Northing: <u>See attached</u>	See attached
District: <u>Franklin</u>	Public Road Access: <u>CR 7/4 also known as Fish Creek Rd.</u>	
Quadrangle: <u>Powhatan Point</u>	Generally used farm name: <u>Conso!</u>	
Watershed: <u>HUC 10 Fish Creek</u>		

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED *Please check all that apply <input type="checkbox"/> EXISTING WATER WELLS <input type="checkbox"/> DEVELOPED SPRINGS <input checked="" type="checkbox"/> DWELLINGS <input type="checkbox"/> AGRICULTURAL BUILDINGS	FOR EXECUTION BY A NATURAL PERSON Signature: <u>Lotha Ruckman</u> Print Name: <u>LOTHA RUCKMAN</u> Date: <u>9/16/2013</u>
	FOR EXECUTION BY A CORPORATION, ETC. Company: _____ By: _____ Its: _____ Signature: _____ Date: _____

Well Operator: Noble Energy, Inc. Signature: _____
 By: Andrew Melan Telephone: 724-820-3109
 Its: Senior Land Negotiator

NOTARY SEAL

Subscribed and sworn before me this 26th day of September
Radney J. Jeter Notary Public
 My Commission Expires 6-24-2015

Oil and Gas Privacy Notice:

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

Jan Pest
 MARSHALL County 09:38:24 AM
 Instrument No 1351129
 Date Recorded 10/23/2013
 Document Type O&G
 Pages Recorded 1
 Book-Page F97-348
 Recording Fee \$5.00
 Additional \$6.00

Recorded
 Office of Oil & Gas

OCT 17 2016

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: 10-10-16 **Date Permit Application Filed:** 10-14-16

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: Murray American Energy, Inc.
Address: 46226 National Road
Saint Clairsville, OH 43950

Name: Kevin E. and Teresa Mc Gilton
Address: 1704 2nd Street
Moundsville, WV 26041-1534

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>517842.88</u>
County:	<u>Marshall</u>		Northing:	<u>4407548.46</u>
District:	<u>Franklin</u>	Public Road Access:	<u>CR 7/4-Fish Creek Rd</u>	
Quadrangle:	<u>Powhatan Point</u>	Generally used farm name:	<u>Consol (now owned by Murray American Energy DBA Consolidation Coal)</u>	
Watershed:	<u>Fish Creek Unidentified (HUC 10)</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: 724-820-3000
Email: dee.swiger@nblenergy.com

Address: 1000 Noble Energy Drive
Canonsburg, PA 15317
Facsimile: 724-820-3098

Oil and Gas Privacy Notice:

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

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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

Reissued October 5, 2016

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 MND-6 Well Site, Marshall County

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #06-2013-0529 for the subject site to Noble Energy, Inc. for access to the State Road for the well site located off of Marshall County Route 74 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,

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

Cc: James L. McCune
Noble Energy, Inc.
CH, OM, D-6
File

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02/10/2017

Hydraulic Fracturing Fluid Product Component Information Disclosure

Hydraulic Fracturing Fluid Composition:

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

OCT 17 2016

02/10/2017

API#51-01746
 API#51-01744
 API#51-01745
 API#51-01762
 API#51-01765
 API#51-01761
 API#51-01763

**WVDEP OOG
 ACCEPTED AS-BUILT**

WJ 11/21/2016

EROSION & SEDIMENT CONTROL PLAN FOR MND 6 WELL PAD FRANKLIN DISTRICT, MARSHALL COUNTY, WV

RESTORATION PLAN PREPARED BY:

Blue Mountain Inc.
 Engineers and Land Surveyors
 10125 Mason Dixon Hwy.
 Burton, WV 26562-9656



WEST VIRGINIA 811
 CALL BEFORE YOU DIG!
 Dial 811 or 800.245.4848

AT LEAST 48 HOURS BUT NOT MORE THAN 14 WORKING DAYS BEFORE ANY EXCAVATION OR INSTALLATION OF UNDERGROUND UTILITIES, CONTRACTORS MUST CALL WEST VIRGINIA 811 OR 800-245-4848 FOR A SURVEYED MAP.

SOILS CLASSIFICATION

- SEL BRINKHOLE SOIL GROUP, SO TO TOP SOILS
- SEL BRINKHOLE SOIL GROUP, SO TO TOP SOILS
- SEL BRINKHOLE SOIL GROUP, SO TO TOP SOILS
- SEL BRINKHOLE SOIL GROUP, SO TO TOP SOILS

LIST OF DRAWINGS

- 1 OF 10 DETAILS
- 2 OF 10 ENVIRONMENTAL RESOURCES BUFFER PLAN
- 3 OF 10 EROSION & SEDIMENT CONTROL PLAN
- 4 OF 10 ACCESS DRIVE PERMITS
- 5 OF 10 ACCESS DRIVE PERMITS
- 6 OF 10 ACCESS DRIVE PERMITS
- 7 OF 10 ACCESS DRIVE PERMITS
- 8 OF 10 ACCESS DRIVE PERMITS
- 9 OF 10 ACCESS DRIVE PERMITS
- 10 OF 10 DETAILS

DISTURBANCE SUMMARY

TOTAL ACRES OF DISTURBANCE: 4.8 ACRES
 TOTAL ACRES RECLAIMED: 4.8 ACRES
 TOTAL ACRES RESTORED: 4.8 ACRES

GENERAL NOTES

1. THE TOPOGRAPHIC MAPS UTILIZED FOR THIS BASE MAPPING WAS PERFORMED BY RETTEW ASSOCIATES, INC. IN SEPTEMBER 2013.
2. PROPERTY BOUNDARIES, LANDOWNER INFORMATION AND ROAD NETWORKS SHOWN ON THIS PLAN ARE BASED ON AVAILABLE COUNTY GIS PARCEL DATA.
3. EXISTING STRUCTURES, TREE LINES AND ROADWAYS WERE BELIEVED TO BE AVAILABLE FROM AERIAL PHOTOGRAPHY.
4. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83), NORTH ZONE.
5. THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
6. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION AND DEPTH OF ANY UTILITIES BY NOTIFYING WEST VIRGINIA 811 AT 1-800-245-4848.
7. A METEOROLOGICAL/ARCHEOLOGICAL SURVEY WAS PERFORMED BY RETTEW ASSOCIATES IN MAY & JULY 2015.
8. THE CUT & FILL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING GRADES AND TO VERIFY EROSION CONTROL METHODS AND PROCEDURES AND TO BE BROUGHT TO THE ENGINEER'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.
9. ALL EXISTING UTILITIES HAVE BEEN SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION.
10. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL ABOVE AND BELOW GROUND UTILITIES AND STRUCTURES, AND WILL BE RESPONSIBLE FOR THE PROTECTION OF THEM DURING AND THROUGHOUT CONSTRUCTION.
11. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND TO MAINTAIN THE EXISTING UTILITIES AND STRUCTURES AT ALL TIMES.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF DAMAGED OR DESTROYED LANDSCAPE AND LAWN.
13. CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THE PROJECT SITE FROM THE START OF CONSTRUCTION.
14. CONTRACTOR TO RELOCATE UTILITIES AS REQUIRED.
15. CONTRACTOR MAY WIDEN ACCESS ROAD DUE TO SLOPE SLOPES IF REQUIRED, NECESSARY AND PERMITTED BY THE OWNER AND ENGINEER.
16. PROPOSED ROAD CONSTRUCTION ENHANCE TO BE MADE SUCH THAT RUNOFF FROM UNIMPROVED ACCESS WILL NOT SHEET FLOW ON TO PUBLIC ROAD.
17. SOILS AND WELLS ARE IDENTIFIED HEREIN FOR DETAILS IN THIS PLAN.
18. ALL CLEARED TREE REMAINS SHALL BE PLACED ON SMALL SIZES OF COMPOST FILTER SOCKS AND NOT STOCKPILED ON-SITE.
19. CONTRACTOR SHALL NOTIFY NEIGHBORS IMMEDIATELY AND CONTACT NOBLE ENERGY AND APPROPRIATE RESPONSIBLE AUTHORITIES SHOULD ANY HISTORICAL ARTIFACTS (I.E. BONES, POTTERY, ETC.) BE ENCOUNTERED DURING CONSTRUCTION.
20. NO WORK SHALL BE DONE OUTSIDE THE LIMITS OF DISTURBANCE OR IN PROTECTED AREAS.

DIRECTIONS TO THE SITE

FROM MARSHALL COUNTY: TAKE ONLY SOUTH BOUND. TURN LEFT ON 684-872 ROAD. MAKE CHANGES TO W-77 ROAD LEFT ON 777 ON 777. ONLY 2.5 MI. S.W. ON LEFT IN 1.8 MILES.

CUT & FILL

	WELL PAD	ACCESS DRIVE	TOTAL SITE
CUT	57,723 C.Y.	4,504 C.Y.	42,219 C.Y.
FILL	3,796 C.Y.	4,504 C.Y.	8,300 C.Y.
FILL	37,190 C.Y.	15,459 C.Y.	52,649 C.Y.
SOIL COMPACTION	6,229 C.Y.	6,229 C.Y.	12,458 C.Y.
WELLS	5,887 C.Y.	1,184 C.Y.	7,071 C.Y.
NET	112,007 C.Y.	12,880 C.Y.	123,887 C.Y.

NOTES:
 1. THE ASSUMED TOPSOIL DEPTH IS 4".
 2. THE CUT & FILL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING GRADES AND VERIFY EROSION CONTROL METHODS AND PROCEDURES, AND TO BE BROUGHT TO THE ENGINEER'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.



LOCATION MAP

MODIFICATION
 DATE: OCTOBER 10, 2016
 THESE DRAWINGS PROVIDE A REVISED SITE RESTORATION PLAN FOR THE MND 6 WELL PAD AND ACCESS ROAD AND INCORPORATE THE AS-BUILT WELL PAD AND ACCESS ROAD DATA

Electronic Version of These Plans May Be Viewed at: Q:\OIL GAS\SAY FILES\REVIEWS

SCALE	AS SHOWN
DATE	11/21/2016
PROJECT	MND 6 WELL PAD RESTORATION PLAN
CLIENT	NOBLE ENERGY

MANAGER	MICHAEL K. GORDEN
DESIGNER	WJD BY JSL
CHECKER	WJD BY JSL
DATE	11/21/2016

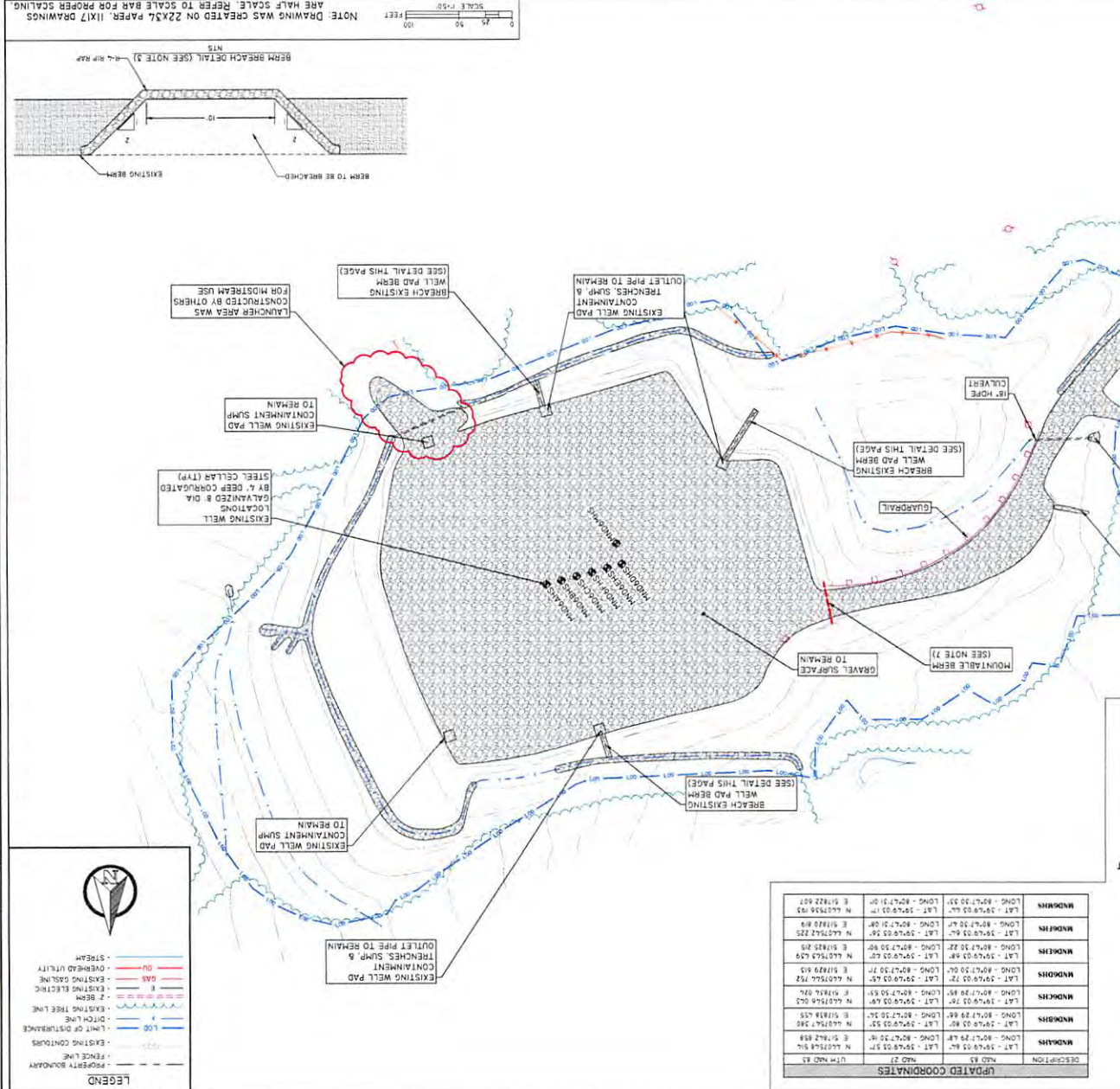
CLIENT	NOBLE ENERGY 333 TECHNOLOGY CENTER SUITE 110 CHARLESTON, WV 25317-3577 BEN DERUE, PE (724) 820-5000 www.nobleenergy.com
--------	--

PREPARED BY	RETTEW ASSOCIATES, INC. 10125 MASON DIXON HWY. BURTON, WV 26562-9656 PHONE (412) 444-1122 FAX (412) 444-1155 www.rettew.com
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COVER SHEET FOR MND 6 WELL PAD	
DATE	3/5/2014
SHEET NO.	1 OF 10
DWG NO.	092842010

JW
11/21/2016
**WDEP OOG
ACCEPTED AS-BUILT**

- NOTES:**
- AS-BUILT CONTOURS AND SITE FEATURES SHOWN ON THIS DRAWING WERE OBTAINED BY BLUE MOUNTAIN INC. ON FEBRUARY 28, 2016.
 - WITHIN SIX MONTHS AFTER THE COMPLETION OF THE FINAL HORIZONTAL WELL, NOBLE SHALL COMPLETE THE FINAL RECLAMATION OF THE WELL PAD. FINAL RECLAMATION SHALL CONSIST OF THE FOLLOWING:
 - THE EXISTING WELL PAD GRAVEL SURFACE WILL REMAIN TO THE LIMITS SHOWN
 - EXISTING COMPOST FILTER SOCKS SHALL BE CUT OPEN AND THE CONTENTS SPREAD AND RAKED EVENLY OVER THE GROUND SURFACE. ALL STAKES AND NETTING SHALL BE REMOVED FROM THE SITE.
 - 3. FOLLOWING ACTIVITIES ON THE PAD WHERE THE BERM IS NO LONGER REQUIRED, THE FOLLOWING ACTIVITIES WILL OCCUR
 - THE EXISTING WELL PAD PERIMETER BERM SHALL BE BREACHED AT THE LOCATIONS SHOWN
 - THE EXISTING WELL PAD CONTAINMENT TRENCHES, SUMP AND OUTLET PIPE, IF PRESENT WILL REMAIN. FAILURE TO MAINTAIN PROPER OPERATION OF SUMPS MAY RESULT IN A NOTICE OF VIOLATION AND/OR FINE FROM THE WDEP.
 - 4. FILL PLACEMENT FOR RECLAMATION, IF NECESSARY, SHALL BE PLACED IN 24-INCH MAXIMUM LIFTS WITH COMPACTION TO A MINIMUM 90% STANDARD PROCTOR DENSITY. (ASTM D698)
 - 5. ANY DISTURBED AREAS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE REGENERATION DETAILS.
 - 6. FOLLOWING STABILIZATION OF THE SITE AND THE ESTABLISHMENT OF 70% VEGETATIVE COVER, THE SITE SHALL BE INSPECTED PERIODICALLY FROM PERMIT RELEASE UNTIL POST PLUGGING RESTORATION IS COMPLETED.
 - 7. A MOUNTABLE BERM SHALL BE CONSTRUCTED & MAINTAINED, PRIOR TO AND DURING COMPLETION ACTIVITIES (SEE DETAIL 6/9).



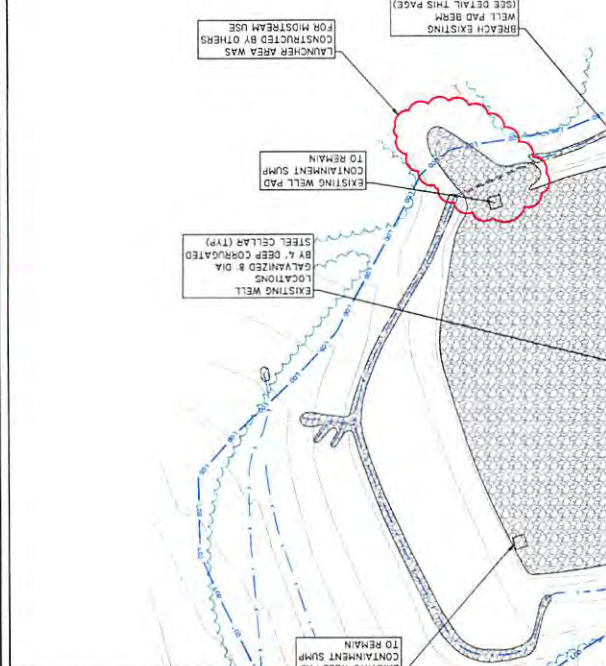
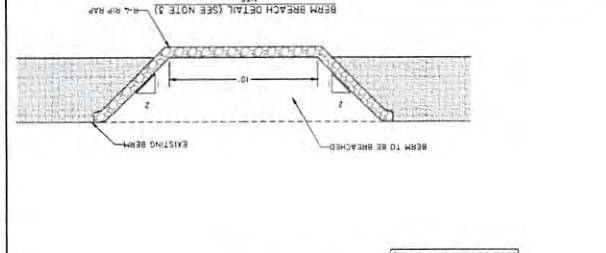
UPDATED COORDINATES

DESCRIPTION	WELL PAD 7	WELL PAD 8
MIDPOINTS	LAT - 39°49'05.84" N LONG - 80°47'30.94" E 51842.888	LAT - 39°49'05.91" N LONG - 80°47'30.91" E 51842.888
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NOTE: DRAWING WAS CREATED ON 22X34 PAPER, I(X)7 DRAWINGS ARE HALF SCALE. REFER TO SCALE BAR FOR PROPER SCALING

SCALE 1"=50' FEET



NOBLE ENERGY, INC.
1000 NOBLE ENERGY DRIVE
CANNONSBURG, PA 15317

noble energy

AND-6 WELL SITE

WELL PAD RECLAMATION PLAN

ENGINEERS AND GEOLGISTS
Blue Mountain Inc.
11603 Adam Drive Hwy
Rte 407, Wyalapa, PA 16794
717.233.4558

SHEET NO. 8 OF 10

DATE: 11/21/2016

SCALE: 1"=50'

CHECKED BY: JNO

DESIGNED BY: JTM

REGISTERED PROFESSIONAL ENGINEER
STATE OF PENNSYLVANIA
15892

NO.	DATE	BY	REVISIONS
1			WELL PAD RECLAMATION PLAN

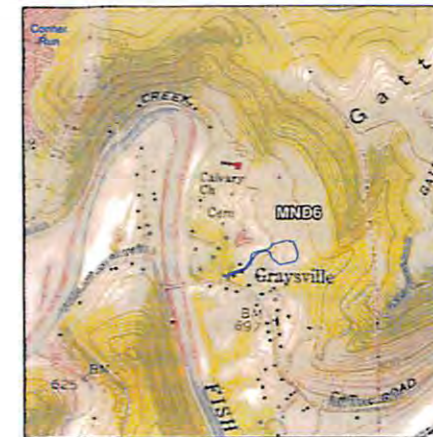


LOCATION MAP
NOT TO SCALE



NOBLE ENERGY, INC.
333 TECHNOLOGY DRIVE, SUITE 116
CANONSBURG, PA 15317
TEL: (724) 820-3000

MND6 WELL SITE



LOCATION MAP
POWHATAN POINT 7.5M USGS QUADRANGLE
SCALE: 1"=1000'

WELL SITE LOCATION

NAD 83 - LAT: N 39°49'03.769"; LONG: W 80°47'29.802"
NAD 27 - LAT: N 39°49'03.496"; LONG: W 80°47'30.478"

ENTRANCE LOCATION

NAD 83 - LAT: N 39°48'59.549"; LONG: W 80°47'39.884"
NAD 27 - LAT: N 39°48'59.276"; LONG: W 80°47'40.559"

POWHATAN POINT QUADRANGLE
MARSHALL COUNTY, WEST VIRGINIA
DATE: NOVEMBER 12, 2014

PROPERTY OWNERS

- I. CONSOLIDATION COAL COMPANY 05-08-02
1000 CONSOL ENERGY DR
CANONSBURG, PA 15317

Office of Oil & Gas
OCT 17 2016



Blue Mountain Inc.
Engineers and Land Surveyors
11023 Mason Dixon Hwy.
Burton, WV 26562-9656
(304) 662-6486

NOTE: DRAWING WAS CREATED ON 22X34 PAPER. 11X17 DRAWINGS
ARE HALF SCALE. REFER TO SCALE BAR FOR PROPER SCALING.

SHEET INDEX	
DRAWING NUMBER	DRAWING NAME
1	COVER SHEET
2	AS-BUILT CONDITIONS PLAN
3	AS-BUILT CONDITIONS PLAN W/ ORTHO

R
10/17/16

Blue Mountain Inc.
Engineers and Land Surveyors
11023 Mason Dixon Hwy.
Burton, WV 26562-9656
(304) 662-6486

NOBLE ENERGY
333 TECHNOLOGY DRIVE, SUITE 116
CANONSBURG, PA 15317

MND6 WELL PAD
AS-BUILT COVER SHEET

NO.	REVISIONS

DRAWN BY	DEC
CHECKED BY	MCH
DATE	10/12/2016
SCALE	AS SHOWN
JOB NO.	1261-16
DRAWING NAME	MND6_COMPLETE_AS-BUILT DWS

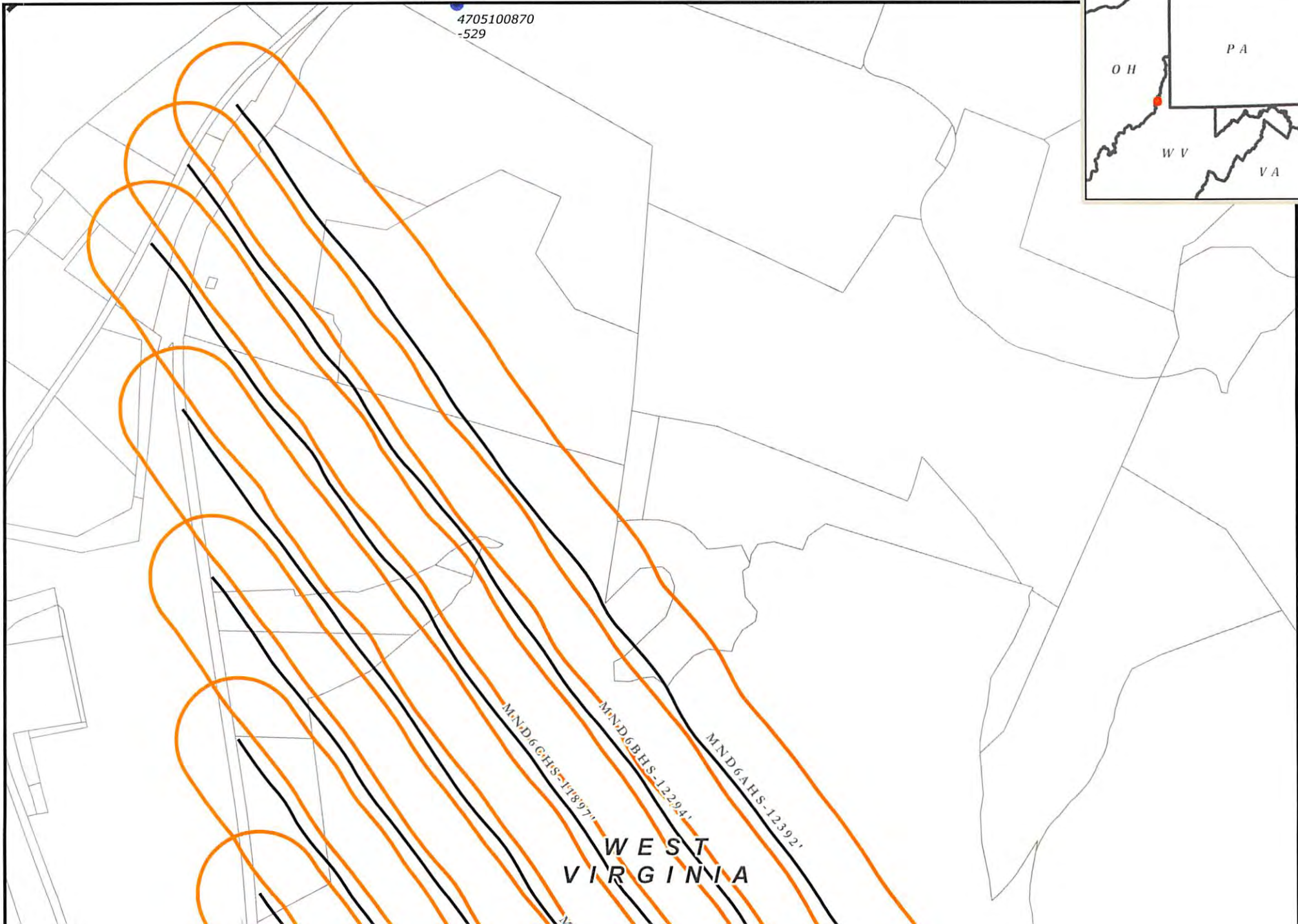
SHEET 1 OF 3

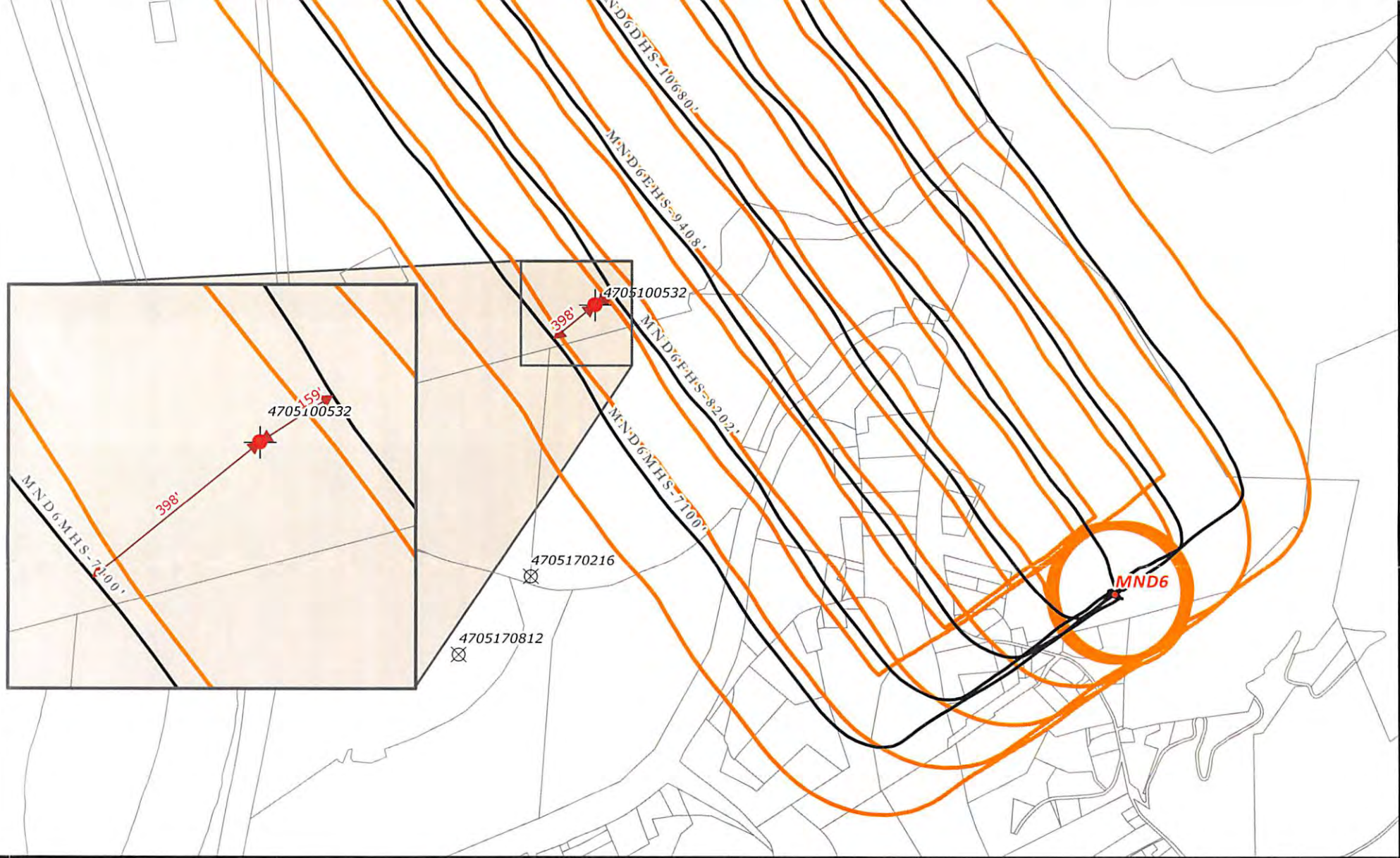
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-529



MND6GHS-11897'
MND6BHS-12294'
MND6AHS-12392'

WEST VIRGINIA

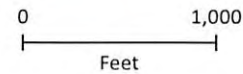




Offset Wells

- ⊗ No Data
- Pittsburgh coal
- Salina
- ⊕ Plugged

- NBL Well Pad
- NBL-Drilled, Marcellus
- ↔ Hz Distance
- ▭ 500' AOR Buffer
- Parcels
- ▭ State Line



1 inch = 1,000 feet

Author: devinreighton
Date Created: 8/23/2016
Date Saved: 8/23/2016

Main Data Frame
Coordinate System:
NAD 1927 UTM Zone
17N

Units: Foot US

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