

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

API 47-051-01744 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 BHS
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 39.817722 Easting 80.791573
Landing Point of Curve Northing 39.820199 Easting 80.790978
Bottom Hole Northing 39.846889 Easting 80.815953

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 09/11/2014 Date drilling ceased 10/19/2014
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 _____
Salt water depth(s) ft none noted for offsets Void(s) encountered (Y/N) depths _____
Coal depth(s) ft NA Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) No

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APPROVED
Reviewed by: [Signature]
NAME: Jim Neveler
DATE: 2/1/17
02/03/2017

API 47-051 - 01744

Farm name Consolidated Coal Company Well number MND 06 BHS

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"	738'	New	J-55		Y
Intermediate 1	12.38"	9 5/8"	2061'	New	HCK-55		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	18,368'	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	482	15.6	1.39	669.98	25.9	8
Intermediate 1	Type 1 / Class A	684	15.6	1.19	813.96	25.9	8
Intermediate 2							
Intermediate 3							
Production	Type 1 / Class A	lead 627 tail 2536	14.8	Lead 1.54 tail 1.37	total 4,439.9	2465.0	8
Tubing							

Drillers TD (ft) 18,369' Loggers TD (ft) 18,368'
 Deepest formation penetrated Marcellus Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) 3841'

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).

332 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 _____

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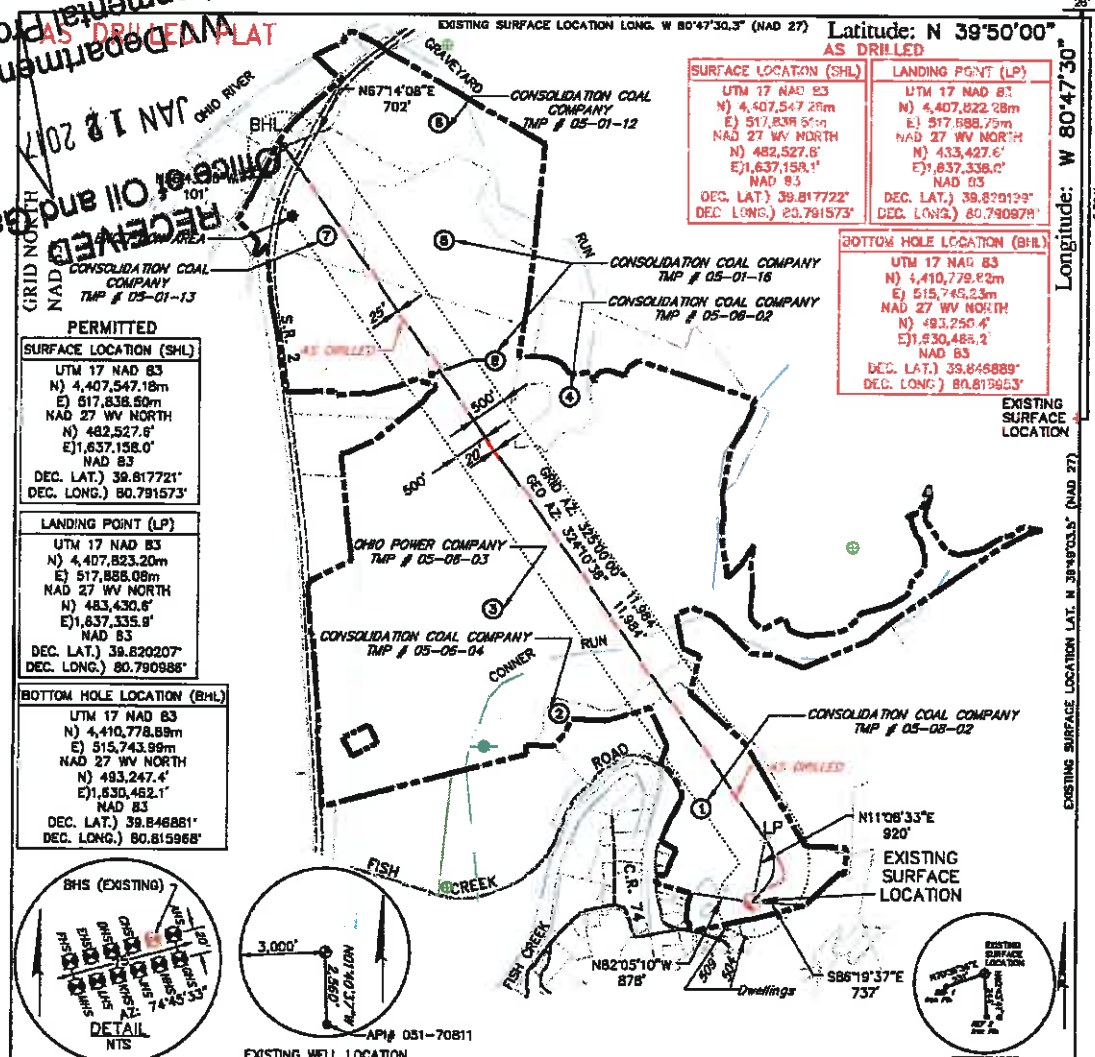
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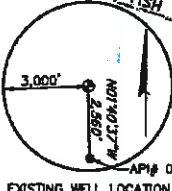
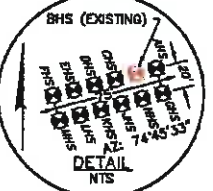
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PERMITTED	
SURFACE LOCATION (SHL)	
UTM 17 NAD 83	N) 4,407,547.18m
	E) 517,838.50m
	NAD 27 WV NORTH
	N) 482,527.6'
	E) 1,637,158.0'
	NAD 83
DEC. LAT.)	39.817722°
DEC. LONG.)	80.791573°
LANDING POINT (LP)	
UTM 17 NAD 83	N) 4,407,823.20m
	E) 517,888.08m
	NAD 27 WV NORTH
	N) 483,430.6'
	E) 1,637,335.9'
	NAD 83
DEC. LAT.)	39.820207°
DEC. LONG.)	80.790988°
BOTTOM HOLE LOCATION (BHL)	
UTM 17 NAD 83	N) 4,410,778.89m
	E) 515,743.99m
	NAD 27 WV NORTH
	N) 493,247.4'
	E) 1,630,482.1'
	NAD 83
DEC. LAT.)	39.846881°
DEC. LONG.)	80.815968°

AS DRILLED	
SURFACE LOCATION (SHL)	
UTM 17 NAD 83	N) 4,407,547.21m
	E) 517,839.51m
	NAD 27 WV NORTH
	N) 482,527.6'
	E) 1,637,158.1'
	NAD 83
DEC. LAT.)	39.817722°
DEC. LONG.)	80.791573°
LANDING POINT (LP)	
UTM 17 NAD 83	N) 4,407,822.28m
	E) 517,888.75m
	NAD 27 WV NORTH
	N) 433,427.6'
	E) 1,637,338.0'
	NAD 83
DEC. LAT.)	39.820199°
DEC. LONG.)	80.790979°
BOTTOM HOLE LOCATION (BHL)	
UTM 17 NAD 83	N) 4,410,778.92m
	E) 515,745.23m
	NAD 27 WV NORTH
	N) 493,250.4'
	E) 1,630,485.2'
	NAD 83
DEC. LAT.)	39.846889°
DEC. LONG.)	80.815963°



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-Plot
 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: _____
 R.P.E.: _____ L.L.S.: _____

PLACE SEAL HERE

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



DATE: OCTOBER 7, 2016
 OPERATOR'S WELL #: MND 6 BHS
 API WELL #: 47 051 01784
 STATE COUNTY PERMIT

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: GNX 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: TMD: 5,840± TMD: 16,582±
 WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVEN GREEN
 ADDRESS: 333 TECHNOLOGY DRIVE, SUITE 116 ADDRESS: 1000 NOBLE ENERGY DRIVE
 CITY: CANONSBURG STATE: PA ZIP CODE: 15317 CITY: CANONSBURG STATE: PA ZIP CODE: 15317

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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	5972	
Shale	947	1016	947	6191	
1st Salt Sand	1016	1032	1016	6313	
Shale	1032	1139	1032	6719	
2nd Salt Sand	1139	1168	1139	7118	
Shale and Sandstone	1168	1298	1168	7333	
Maxton Sand	1298	1345	1298	8194	
Shale	1345	1363	1345	8194	
Big Lime	1363	1435	1363	8541	
Big Injun	1435	1705	1435	8869	
Price	1705	1803	1705	8890	
Murrysville	1803	1910	1803	8983	
Shale and Sandstone	1910	2448	1910	8998	
Gordon	2448	2478	2448	9073	
Shale and Sandstone	2478	2999	2478	9179	
Fifth Sand	2999	3052	2999	9995	
Shale and Sandstone	3052	3854	3052	9179	
Warren Sand	3854	3863	3860	9995	
Shale	3863	4580	3869	10660	
Java Shale	4580	4664	4593	not encountered	
Pipe Creek Shale	4664	4739	4678	not encountered	
Angola Shale	4739	5323	4754	not encountered	
Rhinstreet	5323	5642	5344	not encountered	
Cashaqua	5642	5714	5666	not encountered	
Middlesex	5714	5737	5739	not encountered	
West River	5737	5798	5762	not encountered	
Burkett	5798	5822	5824	not encountered	
Tully Limestone	5822	5848	5848	not encountered	
Hamilton	5848	5883	5875	not encountered	
Marcellus	5883	5936	5910	not encountered	
Onondaga	5936	5944	5964	not encountered	
Huntersville	5944	6158	5972	6191	
Oriskany	6158	6270	6191	6313	
Helderburg	6270	6530	6313	6719	
Bass Island Dolomite	6530	6609	6719	7118	
Salina G Big Lime	6609	6809	7118	7333	
Salina F	6809	7608	7333	8194	
Lockport Dolomite	7608	7930	8194	8541	
Rochester Shale	7930	8235	8541	8890	
Dayton Fm/Packer Shell	8235	8254	8869		

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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	9898	10511	10660	not encountered	
Point Pleasant	10511	10631	not encountered	not encountered	
Trenton Limestone	10631		not encountered	not encountered	

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