

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

PM

API 47-051-01676 County Marshall District Franklin  
Quad Powhatan Point Pad Name MND 9 Field/Pool Name NA  
Farm name Consolidated Coal Company Well Number MND 9 DHS1  
Operator (as registered with the OOG) Noble Energy, Inc.  
Address 333 Technology Drive, Suite 116 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 4409099.47 Easting 518222.89  
Landing Point of Curve Northing 4409535.16 Easting 518557.27  
Bottom Hole Northing 4411645.00 Easting 517033.75

Elevation (ft) 1226.69 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 8/30/13 Date drilling commenced 9/5/13 Date drilling ceased 10/14/13  
Date completion activities began 6/1/14 Date completion activities ceased 11/15/14  
Verbal plugging (Y/N) N Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

RECEIVED  
Office of Oil and Gas  
NOV 03 2014

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug  
Freshwater depth(s) ft 255 Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft 1718 Void(s) encountered (Y/N) depths \_\_\_\_\_  
Coal depth(s) ft Sewickley 667.4-670.7, Pittsburgh 756.9-762.8 Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by: \_\_\_\_\_

12/12/2014

API 47-051 - 01676 Farm name Consolidated Coal Company Well number MND 9 DHS1

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	30	20	40				
Surface	17 1/2	13 3/8	1206	N	J-55 54.5#		Y
Coal							Y
Intermediate 1	13 3/8	9 5/8	2486	N	J-55 36#		Y
Intermediate 2							
Intermediate 3							
Production	8 3/4	5 1/2	15872	N	P-110 20#		Y
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Type I	1160	15.6	1.19	267	0	8
Coal							
Intermediate 1	Class A	894	15.6	1.19	189.5	25.6	8
Intermediate 2							
Intermediate 3							
Production	Class A	Lead-246 Tail-2306	Lead-14.2 Tail-14.8	Lead-1.54 Tail-1.38	Lead-67 Tail-568	3631	8
Tubing							

Drillers TD (ft) 15882 Loggers TD (ft) 15821  
 Deepest formation penetrated Marcellus Plug back to (ft) Not a Pilot Hole  
 Plug back procedure Not a Pilot Hole

Kick off depth (ft) \_\_\_\_\_

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 \_\_\_\_\_  
25 Centralizers on Surface (1 every 3rd joint) 20 Centralizers on Intermediate (1 every 3rd joint) 284 Centralizers on Production (1 every 3rd to Curve, then 1 every joint to TD)

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 \_\_\_\_\_



Perforation Record

API: 47-051-01676

Farm name: \_\_\_\_\_

Consolidated Coal  
Company

Well Name: MND-9D-HS1

Stage No.	Stim Date	Top Perf	Bottom Perf	# of Perfs	Formation
1.1	6/1/2014	15455	15575	40	Marcellus
2	6/1/2014	15173	15427	40	Marcellus
2B	6/2/2014	15173	15427	24	Marcellus
3	6/7/2014	14873	15127	40	Marcellus
4	6/7/2014	14573	14827	40	Marcellus
5	6/8/2014	14273	14527	40	Marcellus
6	6/9/2014	13973	14227	40	Marcellus
7.1	6/10/2014	13673	13927	40	Marcellus
8.1	6/10/2014	13425	13627	40	Marcellus
9.1	6/10/2014	13123	13377	40	Marcellus
9B	6/11/2014	13123	13377	24	Marcellus
10.1	6/11/2014	12823	13077	40	Marcellus
11.1	6/11/2014	12523	12777	40	Marcellus
11.2B	6/12/2014	12523	12675	36	Marcellus
12.1	6/12/2014	12223	12477	40	Marcellus
13.1	6/13/2014	11923	12177	40	Marcellus
14.1	6/13/2014	11675	11877	40	Marcellus
14.3B	6/14/2014	11665	11877	36	Marcellus
15.1	6/14/2014	11373	11627	40	Marcellus
16.1	6/15/2014	11073	11327	40	Marcellus
16.3B	6/15/2014	11073	11327	24	Marcellus
17.1	6/16/2014	10773	11027	40	Marcellus
18.1	6/16/2014	10525	10727	40	Marcellus
18.2B (Reperf)	6/20/2014	10543	10585	36	Marcellus
19.1	7/2/2014	10223	10477	40	Marcellus
20.1	7/2/2014	9923	10177	40	Marcellus
21.1	7/2/2014	9623	9877	40	Marcellus
22.1	7/2/2014	9323	9577	40	Marcellus
23.1	7/3/2014	9023	9277	40	Marcellus
24.1	7/3/2014	8723	8977	40	Marcellus
25.1	7/3/2014	8423	8677	40	Marcellus
25B.3	7/4/2014	8413	8503	48	Marcellus
26.1	7/4/2014	8123	8377	40	Marcellus
27.1	7/4/2014	7823	8077	40	Marcellus
27.2B	7/4/2014	7844	7987	48	Marcellus
28.1	7/5/2014	7523	7777	40	Marcellus
29.1	7/5/2014	7275	7477	40	Marcellus
30.1	7/5/2014	7025	7227	40	Marcellus

STIMULATION INFORMATION PER STAGE

API: 47-051-01676

Farm name:

Consolidated Coal Company

Well Name: MND-9D-HS1

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLS)	Amount of N <sup>2</sup> / other
1 Inj Test	6/1/2014	12.3	7965		5300		530.62	
1.1	6/1/2014	69.9	7629			165,888	7,192.85	
1.2	6/1/2014	74.1	8070	6765		165,088	5,879.22	
1.3	6/1/2014	68.2	8080	6765	3582	163,537	5,733.80	
2	6/1/2014	10.4	7811	5507		5,663	3,444.51	
2B	6/2/2014	77.2	7796		9814	500,872	11,692.58	
2B Inj Test	6/3/2014	5.2	7541		9509	-	261.79	
3 Inj Test	6/7/2014	24.9	6426	6948	5203	-	664.49	
3	6/7/2014	86.8	7314	5680	3501	500,009	10,710.01	
4	6/7/2014	84.1	7520	5849	4472	500,009	9,666.72	
5	6/8/2014	85.8	7307	5290	3356	497,412	10,785.17	
6	6/9/2014	72.8	8016	5359	3701	500,048	11,649.47	
7.1	6/10/2014	78.2	7823	5717		163,916	5,046.36	
7.2	6/10/2014	76.1	7330	6489		164,558	5,869.66	
7.3	6/10/2014	59.5	7978	6835	4245	74,470	5,044.53	
8.1	6/10/2014	80.7	7115	5469		158,117	5,747.40	
8.2	6/10/2014	70.2	7168	5433		166,173	5,851.89	
8.3	6/10/2014	71.7	7085	5656	4422	180,653	5,907.79	
9.1	6/10/2014	85.1	7493	5380		165,540	5,526.08	
9.2	6/11/2014	83.7	7621	5775		165,316	5,786.69	
9.3	6/11/2014	57.6	8195	7204	6581	4,393	3,934.77	
9B	6/11/2014	77.5	7361	6070	4294	159,997	5,684.78	
10.1	6/11/2014	83.4	7167	5540		164,111	5,321.52	
10.2	6/11/2014	83.3	7110	6184		163,901	5,727.92	
10.3	6/11/2014	83.6	7254	5908	4046	164,942	5,612.20	
11.1	6/11/2014	82.6	7372	5181		165,331	5,688.69	
11.2	6/11/2014	50.8	8657	8495	6210	537	2,518.48	
11.2B	6/12/2014	83.8	6816	5995		161,812	5,688.52	
11.3B	6/12/2014	85.3	6898	5361	4095	169,906	5,926.14	
12.1	6/12/2014	84.6	7090	5788		166,368	5,234.02	
12.2	6/12/2014	84.8	7026	6135		167,279	5,402.00	
12.3	6/12/2014	85.8	6982	5530	4059	163,057	5,417.96	
13.1	6/13/2014	84.9	6974	5176		165,134	5,224.61	
13.2	6/13/2014	86.4	6871	5198		165,773	5,505.84	
13.3	6/13/2014	85.5	6922	5288	4055	167,281	5,570.54	
14.1	6/13/2014	84.9	7104	5075		137,610	5,070.07	
14.2	6/13/2014	84.1	7508	6071		137,885	5,473.73	
14.3	6/13/2014	26.6	8443	6368	6907	2,598	3,392.22	
14.3B	6/14/2014	75.9	7377		4139	135,292	5,623.31	
15.1	6/14/2014	85.9	6864	5401		168,007	5,108.36	
15.2	6/14/2014	85.3	6790	5210		165,538	5,722.48	

12/12/2014

STIMULATION INFORMATION PER STAGE

API: 47-051-01676

Farm name:

Consolidated Coal Company

Well Name: MND-9D-HS1

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLs)	Amount of N <sup>2</sup> / other
15.3	6/14/2014	85.2	6861	5570	4168	161,989	5,586.16	
16.1	6/15/2014	83.9	6914	5531		165,181	5,226.49	
16.2	6/15/2014	81.7	7276	6946		167,272	5,912.16	
16.3	6/15/2014	63.4	7721	6354	4139	5,694	1,808.53	
16.3 Inj Test	6/15/2014	12.2	8191			-	1,391.29	
16.3B	6/15/2014	63.9	8253	6467	4566	165,831	5,841.31	
17.1	6/16/2014	84.7	6878	5215		166,532	5,117.15	
17.2	6/16/2014	82.2	6748	5490		162,091	5,225.28	
17.3	6/16/2014	83.2	6981	5330	4004	170,933	5,546.61	
18.1	6/16/2014	94.2	7273	5196		139,067	5,172.11	
18.2	6/16/2014	59.7	7972	8313		92,411	5,704.05	
18.2 Inj Test	6/20/2014	16.8	8008			-	1,044.52	
18.2B (Reperf)	6/20/2014	51.7	8181			11,179	2,178.32	
18.2B Inj Test	6/23/2014	4.6	8625		9549	-	402.11	
18.2B Inj Test (2)	6/24/2014	3.9	8158		9039	-	346.85	
18C	6/29/2014	5.5	6943				67.83	
18C Inj Test	7/1/2014	20.3	4303		4661		482.55	
19.1	7/2/2014	82.3	7004	5352		170,570	5,504.16	
19.2	7/2/2014	81.5	7037	5792		160,517	5,397.00	
19.3	7/2/2014	78.7	6724	5685	3710	164,165	5,561.22	
20.1	7/2/2014	84.3	6815	6237		167,235	5,149.70	
20.2	7/2/2014	82.5	6733	5897		163,789	5,282.01	
20.3	7/2/2014	83.1	6872	5340	3879	164,514	5,241.10	
21.1	7/2/2014	82.1	7060	6136		166,117	5,437.79	
21.2	7/2/2014	80.6	7275	5833		164,823	5,411.93	
21.3	7/2/2014	74.6	7515	6458	4289	167,836	5,580.76	
22.1	7/2/2014	85.4	6966	6253		166,900	6,051.81	
22.2	7/3/2014	83.3	6875	5883		164,482	5,489.63	
22.3	7/3/2014	82.6	6940	6209	4229	166,478	5,523.82	
23.1	7/3/2014	82.4	8562	6360		164,741	4,809.64	
23.2	7/3/2014	73	7046	6800		165,700	5,173.40	
23.3	7/3/2014	82.5	6737	5810	4595	165,097	5,040.88	
24.1	7/3/2014	84.9	6935	6307		166,127	4,992.06	
24.2	7/3/2014	82.6	6861	6337		165,578	4,947.70	
24.3	7/3/2014	70.3	7259	6805	4013	164,380	4,848.42	
25.1	7/3/2014	83.5	7556	6020		164,908	5,190.90	
25.2	7/3/2014	63.3	6978	7514		164,989	7,379.73	
25.3	7/4/2014	38.1	8034	7284	4610	1,782	2,344.35	
25B.3	7/4/2014	81.8	6760		4203	167,130	5,441.54	
26.1	7/4/2014	82.1	6709	6679		166,318	4,813.34	
26.2	7/4/2014	79.8	7047	6744		164,933	5,786.28	

STIMULATION INFORMATION PER STAGE

API: 47-051-01676

Farm name:

Consolidated Coal Company

Well Name: MND-9D-HS1

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLs)	Amount of N <sup>2</sup> / other
26.3	7/4/2014	69.3	7322	6966	4650	164,131	5,300.58	
27.1	7/4/2014	81.5	7102	6229		165,465	4,985.13	
27.2	7/4/2014	31.1	7724	7483	4784	-	2,201.64	
27.2B	7/4/2014	88.6	6509			242,461	6,892.30	
27.3	7/4/2014	62.2	5488	6476	4598	86,149	5,076.20	
28.1	7/5/2014	61.6	7069	6239		194,156	7,634.00	
28.2	7/5/2014	67	7410	6304		167,904	5,871.55	
28.3	7/5/2014	58.5	7490	7567	4814	133,376	5,213.33	
29.1	7/5/2014	82.7	6804	6349		170,954	4,813.51	
29.2	7/5/2014	84.5	6799	6100		169,450	5,167.29	
29.3	7/5/2014	83.7	7261	5752	4068	156,727	4,636.48	
30.1	7/5/2014	88.7	6589	6374		135,654	4,350.05	
30.2	7/5/2014	90.2	7229	5981		137,520	4,679.19	
30.3	7/5/2014	88.7	6805	5706	4749	143,664	4,431.88	





MND9 D

47-051-01676

Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale and Sandstone	0	790	0	790	
Pittsburgh Coal	790	800	790	800	
Shale and Sandstone	800	1148	800	1148	
Dunkard Sand	1148	1169	1148	1169	
Shale	1169	1318	1169	1318	
Gas Sand	1318	1389	1318	1389	
Shale	1389	1458	1389	1458	
1st Salt Sand	1458	1474	1458	1474	
Shale	1474	1581	1474	1581	
2nd Salt Sand	1581	1610	1581	4315	
Shale and Sandstone	1610	1740	1610	5039	
Maxton Sand	1740	1787	1740	5124	
Shale	1787	1805	1787	5200	
Big Lime	1805	1877	1805	5791	
Big Injun	1877	2147	1877	6114	
Price	2147	2245	2147	6189	
Murrysville	2245	2352	2245	6213	
Shale and Sandstone	2352	2890	2352	6279	
Gordon	2890	2920	2890	6306	
Shale and Sandstone	2920	3441	2920	6336	
Fifth Sand	3441	3494	3443	6377	
Shale and Sandstone	3494	4296	3496	not encountered	
Warren Sand	4296	4305	4306	not encountered	
Shale	4305	5022	4315	5039	
Java Shale	5022	5106	5039	5124	
Pipe Creek Shale	5106	5181	5124	5200	
Angola Shale	5181	5765	5200	5791	
Rhinestreet	5765	6084	5791	6114	
Cashaqua	6084	6156	6114	6189	
Middlesex	6156	6179	6189	6213	
West River	6179	6240	6213	6279	
Burkett	6240	6264	6279	6306	
Tully Limestone	6264	6290	6306	6336	
Hamilton	6290	6325	6336	6377	Gas
Marcellus	6325	6378	6377	not encountered	
Onondaga	6378	6385	not encountered	not encountered	
Huntersville	6385	not encountered	not encountered	not encountered	

12/12/2014

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/1/2014
Job End Date:	7/5/2014
State:	West Virginia
County:	Marshall
API Number:	47-051-01676-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	MND9 D
Longitude:	-80.78722800
Latitude:	39.83162500
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,231
Total Base Water Volume (gal):	20,864,660
Total Base Non Water Volume:	0



51-01676

## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Fresh Water	Operator	Base Fluid					
			Fresh Water	7732-18-5	100.00000	90.42802	Density = 8.330
SSA-2	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	4.26230	
SAND - PREMIUM WHITE	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	4.13697	
HYDROCHLORIC ACID 5-10%	Halliburton	Solvent					
			Hydrochloric acid	7647-01-0	10.00000	0.09544	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02260	
HYDROCHLORIC ACID 10-30%	Halliburton	Solvent					
			Hydrochloric acid	7647-01-0	30.00000	0.01781	
LGC-36 UC	Halliburton	Liquid Gel Concentrate					
			Naphtha, hydrotreated heavy	64742-48-9	60.00000	0.00473	
			Guar gum	9000-30-0	60.00000	0.00473	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive					
			Acetic anhydride	108-24-7	100.00000	0.00554	

			Acetic acid	64-19-7	60.00000	0.00333	
BE-9	Halliburton	Biocide					
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00404	
LP-65 MC	Halliburton	Scale Inhibitor					
			Ammonium chloride	12125-02-9	10.00000	0.00241	
LoSurf-300D	Halliburton	Non-ionic Surfactant					
			Ethanol	64-17-5	60.00000	0.00112	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00000	0.00056	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00000	0.00009	
			Naphthalene	91-20-3	5.00000	0.00009	
			1,2,4 Trimethylbenzene	95-63-6	1.00000	0.00002	
Biovert NWB	Halliburton	Viscosifier					
			Poly lactide resin	Confidential	100.00000	0.00168	
LCA-1	Halliburton	Solvent					
			Paraffinic solvent	Confidential	100.00000	0.00112	Denise Tuck, Halliburton 3000 N. Sam Houston Pkwy E., Houston, TX 77032 281-871-6226
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
			Methanol	67-56-1	60.00000	0.00055	
			Propargyl alcohol	107-19-7	10.00000	0.00009	
SP BREAKER	Halliburton	Breaker					
			Sodium persulfate	7775-27-1	100.00000	0.00015	
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
		Other Ingredient(s)					
			Water	7732-18-5		1.11377	
		Other Ingredient(s)					
			Polyacrylamide copolymer	Confidential		0.02260	
		Other Ingredient(s)					
			Organic phosphonate	Confidential		0.01447	
		Other Ingredient(s)					
			Sodium chloride	7647-14-5		0.00377	
		Other Ingredient(s)					
			Fatty acid tall oil amide	Confidential		0.00377	
		Other Ingredient(s)					
			Ammonium chloride	12125-02-9		0.00377	
		Other Ingredient(s)					
			Alcohols, C12-16, ethoxylated	68551-12-2		0.00377	
		Other Ingredient(s)					
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00075	
		Other Ingredient(s)					

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		Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00075
	Other Ingredient(s)				
		Oxyalkylated phenolic resin	Confidential		0.00056
	Other Ingredient(s)				
		Quaternary ammonium compounds, bis(hydrogenated tallow alkyl) dimethyl, salts with bentonite	68953-58-2		0.00039
	Other Ingredient(s)				
		Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1		0.00028
	Other Ingredient(s)				
		Alcohols, C14-C15, ethoxylated	68951-67-7		0.00028
	Other Ingredient(s)				
		Fatty acids, tall oil	Confidential		0.00028
	Other Ingredient(s)				
		Formaldehyde	50-00-0		0.00024
	Other Ingredient(s)				
		Oxyalkylated phenolic resin	Confidential		0.00019
	Other Ingredient(s)				
		Fatty alcohol polyglycol ether surfactant	9043-30-5		0.00008
	Other Ingredient(s)				
		Olefins	Confidential		0.00005
	Other Ingredient(s)				
		Olefins	Confidential		0.00005
	Other Ingredient(s)				
		Olefins	Confidential		0.00001
	Other Ingredient(s)				
		Olefins	Confidential		0.00001
	Other Ingredient(s)				
		Crystalline silica, quartz	14808-60-7		0.00001
	Other Ingredient(s)				
		Sodium sulfate	7757-82-6		0.00000

51-01676

\* 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.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

Well is located on topo map 625' feet south of Latitude: 39° 50' 00"

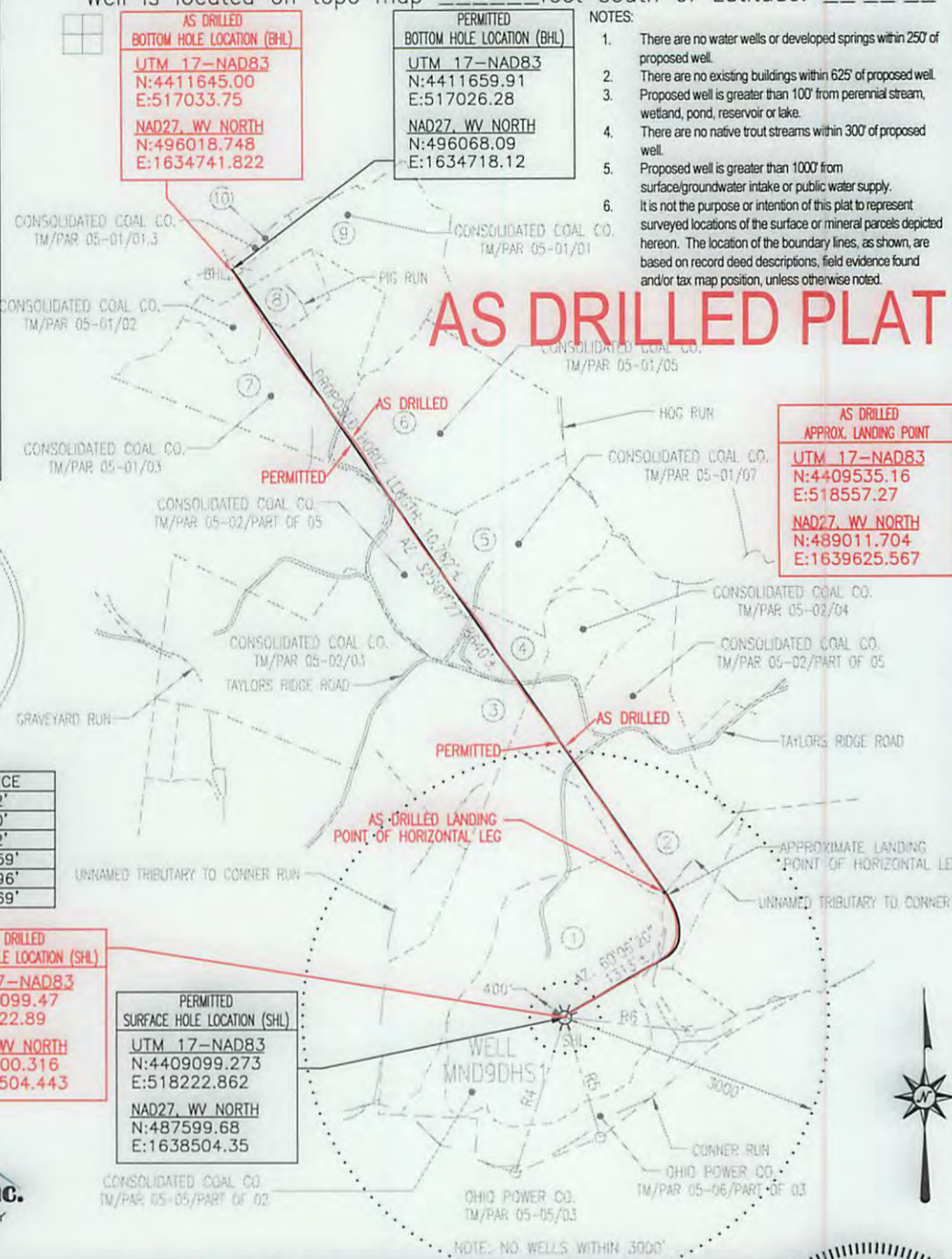
Well is located on topo map 10,466' feet west of Longitude: 80° 45' 00"

**LEGEND**

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**WELLS WITHIN 3000'**

- EXISTING WELLS
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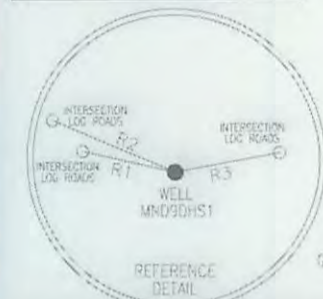


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**AS DRILLED BOTTOM HOLE LOCATION (BHL)**  
 UTM 17-NAD83  
 N:4411645.00  
 E:517033.75  
 NAD27, WV NORTH  
 N:496018.748  
 E:1634741.822

**PERMITTED BOTTOM HOLE LOCATION (BHL)**  
 UTM 17-NAD83  
 N:4411659.91  
 E:517026.28  
 NAD27, WV NORTH  
 N:496068.09  
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**AS DRILLED APPROX. LANDING POINT**  
 UTM 17-NAD83  
 N:4409535.16  
 E:518557.27  
 NAD27, WV NORTH  
 N:489011.704  
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LINE	BEARING	DISTANCE
R1	N 77°18'40" W	198.22'
R2	N 67°07'03" W	278.50'
R3	N 79°25'33" E	220.82'
R4	S 17°44'45" W	1833.59'
R5	S 16°34'47" E	1406.96'
R6	S 83°53'15" E	1429.69'

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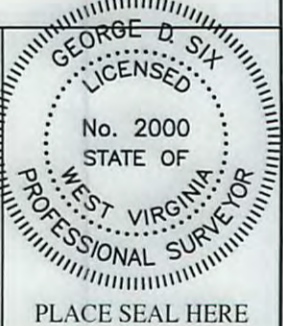
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**Blue Mountain Inc.**  
 11023 MASON DIXON HIGHWAY  
 BURTON, WV 26562  
 PHONE: (304) 662-6486

FILE #: MND9DHS1-AS DRILLED  
 DRAWING #: MND9DHS1-AS DRILLED  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/2500  
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *George D. Six*  
 R.P.E.: \_\_\_\_\_ L.L.S.: P.S. No. 2000



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



DATE: OCTOBER 21, 2014  
 OPERATOR'S WELL #: MND9DHS1-AS DRILLED SERIAL No.: WV0510629HS  
 API WELL #: 47      51      01676  
 STATE      COUNTY      PERMIT

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

WATERSHED: FISH CREEK ELEVATION: 1226.69'  
 COUNTY/DISTRICT: MARSHALL / FRANKLIN QUADRANGLE: POWHATAN POINT, WV-OH 7.5'  
 SURFACE OWNER: CONSOLIDATION COAL COMPANY ACREAGE: 123.244±  
 OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-6A1 ACREAGE: 771.489±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,599'± TMD: 16,157'±  
 WELL OPERATOR NOBLE ENERGY INC. DESIGNATED AGENT STEVEN M. GREEN  
 Address 333 TECHNOLOGY DRIVE, SUITE 116 Address 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 1001  
 City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

12/12/2014

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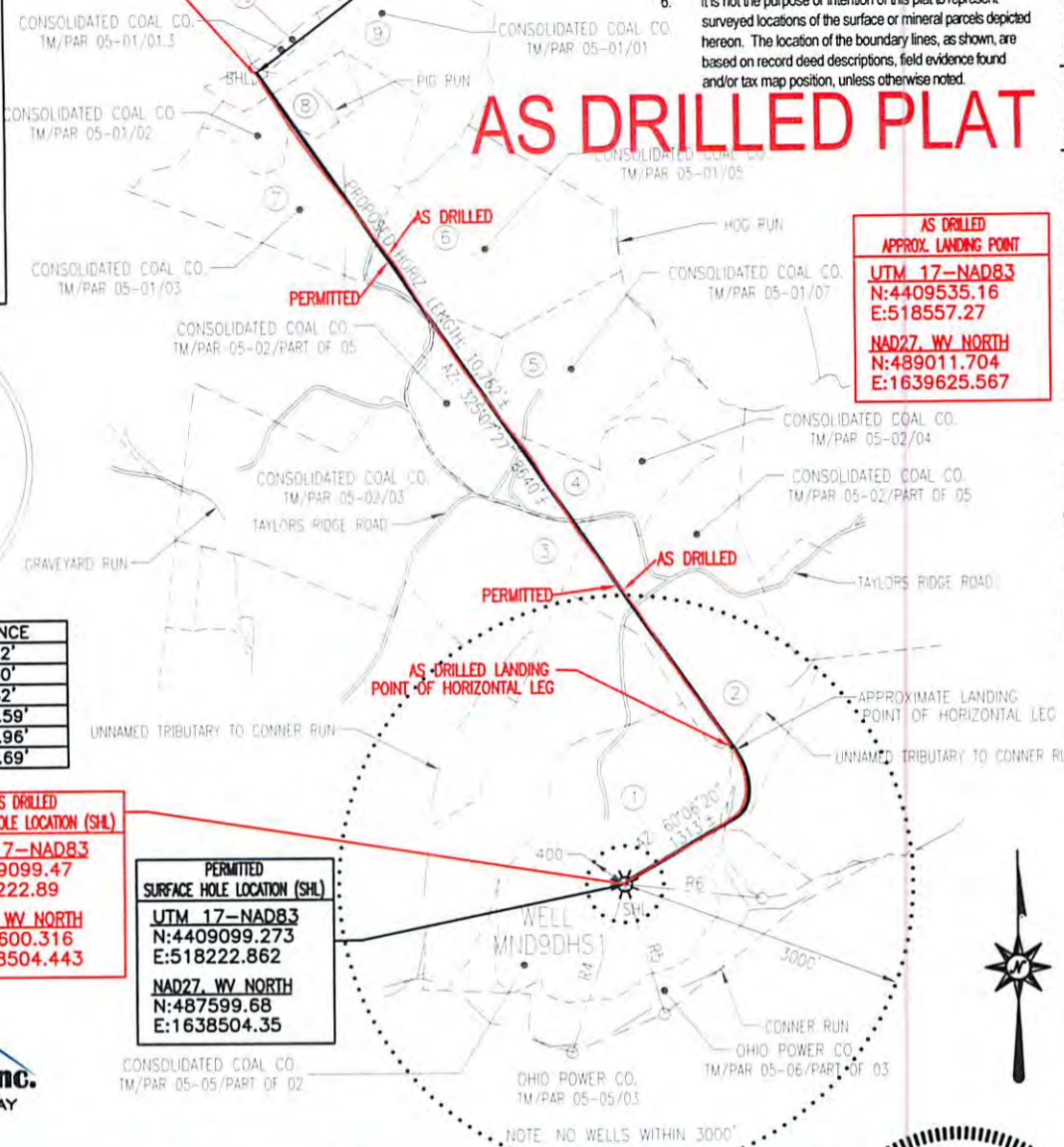
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**AS DRILLED PLAT**



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

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R.P.E.: \_\_\_\_\_ L.L.S.: P.S. No. 2000

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

PLACE SEAL HERE

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