

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

API 47-051-02013 County Marshall District Franklin  
Quad Powhatan Point Pad Name MND-20 Field/Pool Name \_\_\_\_\_  
Farm name CCC/Murray Energy Well Number MND20 CU  
Operator (as registered with the OOG) HG Energy LLC  
Address 5260 Dupont Rd City Parkersburg State WV Zip 26101

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4411315.2 Easting 516848.4  
Landing Point of Curve Northing 4411014.3 Easting 517025.4  
Bottom Hole Northing 4407255.3 Easting 519753.4

Elevation (ft) 1058 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)  
Air/ OBM

KCL, Barite, Lime, CaCL, graphite, base oil, clay, sulfatone, petrogel

Date permit issued 8/27/2018 Date drilling commenced 8/27/2018 Date drilling ceased 1/17/2019  
Date completion activities began 3/7/2019 Date completion activities ceased 7/7/2019  
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

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Freshwater depth(s) ft 450 Open mine(s) (Y/N) depths N  
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 545 Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) Y

Reviewed by:

*Jim [Signature]*  
6/15/2020

API 47-051 - 02013 Farm name CCC/Murray Energy Well number MND20 CU

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"	30"	100'	New	154.5 lbs/ft		No
Surface	26"	20"	945'	New	94 lbs/ft J-55		Yes
Coal							
Intermediate 1	17.5"	13.375"	2709'	New	68 lbs/ft		Yes
Intermediate 2	12.25"	9.625"	9625'	New	47 lbs/ft P-11C		Yes
Intermediate 3							
Production	8.5"	6.625/5.5"	26621'	New	Q125 28.6/P		Yes
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						Drilled in	
Surface	Class A	1765	15.6	1.19	2156	Surface	8
Coal							
Intermediate 1	Class A	1380/585	15.2/15.8	1.26/1.33	1740/780	Surface	8
Intermediate 2	Class A	1330/1450	13.5/15.0	1.66/1.14	2206/1650	Surface	8
Intermediate 3							
Production	Class H/ACS	676/3191	15.2/15.3	1.11/1.43	747/4576	Surface	8
Tubing							

Drillers TD (ft) 26656 Loggers TD (ft) \_\_\_\_\_  
 Deepest formation penetrated Point Pleasant Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) 9725

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

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Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No  
 No WV Dept. of Environmental Protection

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 30": N/A 20" centralizers every 3 joints to surface, 13.375" bow springs on first 2 joints then every 100' from surface 9.625" Bow spring on first 8 joints then every 3rd joint from surface 6.625/5.5" 1 spiral centralizer every 5 joints from top of curve to surface 1 spiral centralizer every 3 joints from 1st 5.5 long joint to the top of the curve.

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 \_\_\_\_\_





**HG Energy II Appalachia, LLC**

**MND20 CU**

**Lithology Report**

**Actual Tops**

1083 RKB

Formation	Top MD	TVD		Base MD	TVD	Formation Description
Coal	213	213		216	216	
Other Coals	465	465		470	470	
Freshwater show	450	450		452	452	1/2" stream only observed water show
Pittsburgh Coal	545	545		553	553	
Greenbrier Big Lime	1583	1583		1600	1600	Limestone
Loyalhanna Big Injun	1673	1673		1712	1712	Sandstone
Pocono Big Injun	1763	1763		1916	1916	Sandstone
Price	2260	2260		2290	2290	Sandstone
50' sand	2386	2386		2416	2416	Sandstone
Gordon Stray	2464	2464		2481	2481	sandstone
Speechley	3228	3227		3368	3366	shale
Java	4767	4765		4807	4805	shale, first gas show
Rhinestreet	5535	5533		5801	5799	shale
Cashaqua	5801	5799		5890	5888	shale
MiddleSex	5890	5888		5940	5937	shale
West River	5940	5937		5995	5992	shale
Burket	5995	5992		6015	6012	shale
Tully	6015	6012		6049	6046	Limestone
Hamilton	6049	6046		6070	6066	shale
Marcellus	6070	6066		6103	6099	shale, 1900 units peak gas
Onondaga	6103	6099		6231	6228	Limestone
Huntersville	6231	6228		6318	6315	chert,shale
Oriskany	6318	6315		6387	6384	sandstone, siltstone,limestone
Helderburg	6387	6384		6634	6631	Limestone
Bass Island	6634	6631		6800	6797	Dolomite
Salina	6800	6797		7822	7819	salt, dolomite, anhydrite
Lockport	7822	7819		8012	8008	Dolomite
Newburg	8012	8008		8153	8149	Dolomite, mudstone
Rochester	8153	8149		8426	8422	shale
Dayton/Packer	8426	8422		8534	8530	fossiliferous shale/Dolomite/Limestone
Rose Hill	8534	8530		8622	8618	shale
Clinton	8622	8618		8675	8671	Sandstone,shale
Medina	8675	8671		8703	8699	shale,sandstone
Queenston	8703	8699		9588	9588	red shale
Reedsville	9588	9588		10040	10030	grey shale
Utica	10040	10030		10890	10653	Limey shale
PP	10890	10653		26656	10969	Limey shale

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Environmental Protection

HG Energy II Appalachia, LLC

MND20 CU

Stimulation Record

Stage #	Date	Ave pump rate (BPM)	Ave Treatment Press (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Proppant (LBS)	Water (BBLS)
1	4/22/2019	74.0	10559	10837	7924	264700	8695
2	4/23/2019	74.0	10,524	11,379	8,232	438800	11,628
3	4/23/2019	77.0	10,755	11,153	7,951	441100	9,419
4	4/23/2019	73.0	10,557	11,146	7,878	508000	12,023
5	4/24/2019	77.0	10,782	11,428	7,606	508300	11,263
6	4/24/2019	74.0	10,565	12,153	7,468	509700	10,545
7	4/25/2019	76.4	10,377	11,509	7,827	537800	10,942
8	4/25/2019	77.0	10,532	11,361	7,829	521500	10,182
9	4/25/2019	72.5	10,415	11,321	7,513	523200	10,217
10	4/26/2019	76.5	10,683	11,497	7,774	575100	10,607
11	4/26/2019	74.0	10,502	11,601	7,891	549700	10,102
12	4/26/2019	75.4	10,545	11,372	7,846	548000	10,170
13	4/27/2019	73.0	10,586	12,120	8,047	547700	10,221
14	4/27/2019	73.0	10,579	11,439	7,534	572700	10,097
15	4/27/2019	71.0	10,686	11,463	7,612	544900	10,068
16	4/27/2019	72.5	10,591	11,308	7,907	564500	10,199
17	4/28/2019	73.0	10,648	11,020	8,084	547200	10,047
18	4/28/2019	73.0	10,531	11,799	8,176	548600	9,926
19	4/29/2019	70.5	10,643	11,240	8,039	558000	9,866
20	4/29/2019	70.6	10,596	11,149	7,964	524900	9,719
21	4/29/2019	71.6	10,871	11,895	8,028	521500	9,512
22	4/30/2019	71.8	10,767	11,414	8,241	530000	9,728
23	4/30/2019	74.1	10,643	10,917	8,675	544700	9,554
24	4/30/2019	73.0	10,514	11,371	8,088	525900	9,571
25	4/30/2019	72.7	10,613	11,180	8,196	543500	9,591
26	5/1/2019	76.9	10,703	11,454	8,035	550400	9,770
27	5/1/2019	73.0	10,416	11,371	8,155	519500	9,342
28	5/1/2019	74.7	10,594	11,390	8,079	519800	9,295
29	5/2/2019	81.1	10,722	11,424	7,937	546900	9,467
30	5/2/2019	79.0	10,646	11,174	7,167	519100	9,405
31	5/2/2019	79.6	10,794	11,292	7,845	421200	8,440
32	5/3/2019	80.6	10,634	11,373	7,992	510300	8,976
33	5/3/2019	80.0	10,466	11,183	7,114	506100	9,385
34	5/4/2019	80.8	10,450	11,900	7,994	505600	10,288
35	5/4/2019	80.4	10,236	10,888	8,011	511000	9,078
36	5/4/2019	80.0	10,124	10,997	7,642	509900	9,317
37	5/4/2019	80.0	10,087	11,063	7,512	504800	9,286
38	5/5/2019	80.9	10,364	10,973	7,709	508400	9,153
39	5/5/2019	81.2	10,245	10,916	8,052	508500	9,178
40	5/5/2019	80.0	10,041	10,980	7,789	506000	9,245
41	5/5/2019	81.0	9,897	10,743	7,524	506600	9,157
42	5/5/2019	81.8	9,998	10,464	7,654	504900	8,779
43	5/6/2019	81.8	9,893	10,394	7,788	520500	9,123
44	5/6/2019	82.4	9,673	10,473	6,857	524800	9,119
45	5/6/2019	82.0	9,559	10,950	6,897	519900	9,400
46	5/6/2019	81.5	9,551	11,043	7,020	518400	9,317
47	5/7/2019	80.6	9,506	11,005	6,873	513300	9,148
48	5/7/2019	86.0	9,450	11,337	7,706	520500	9,604
49	5/7/2019	85.0	9,874	11,777	7,148	514000	9,198
50	5/7/2019	81.6	9,486	11,157	7,035	528800	9,224
51	5/8/2019	80.7	9,422	10,657	6,419	529600	9,217
52	5/8/2019	88.0	9,492	11,081	6,902	520200	9,270
53	5/8/2019	87.0	9,610	11,040	7,002	521300	9,297
54	5/8/2019	87.5	9,736	11,102	6,994	521900	9,112
55	5/9/2019	88.8	9,424	10,756	7,248	456900	8,732
56	5/9/2019	87.0	9,697	11,619	7,130	520400	9,256
57	5/9/2019	88.0	9,742	10,600	7,590	516300	10,446
58	5/9/2019	86.6	9,737	10,547	7,390	519100	9,257
59	5/10/2019	87.1	9,513	10,152	6,787	524800	9,091
60	5/10/2019	90.0	9,640	10,140	7,277	527100	9,099
61	5/10/2019	89.0	9,463	10,051	7,729	521300	9,107
62	5/10/2019	89.1	9,581	10,800	7,912	525800	9,269
63	5/11/2019	89.9	9,710	10,345	7,797	520700	9,340
64	5/11/2019	89.0	9,633	10,135	8,172	519800	9,140
65	5/11/2019	88.0	9,549	10,360	7,322	521400	9,051
66	5/11/2019	85.6	9,598	10,421	7,725	523200	9,776
67	5/12/2019	89.3	9,681	10,414	7,959	521100	8,991
68	5/12/2019	89.0	9,631	10,309	7,371	532500	9,526
69	5/12/2019	89.0	9,592	10,320	7,675	521600	9,225
70	5/12/2019	88.3	9,706	10,295	8,178	521400	9,294
71	5/13/2019	88.7	9,861	10,392	7,887	508200	9,087
72	5/13/2019	88.0	9,681	10,394	8,091	547000	9,411
73	5/13/2019	88.0	9,452	10,190	8,230	540300	9,450
74	5/13/2019	89.0	9,500	10,191	7,965	546400	9,568
75	5/13/2019	88.4	9,494	10,146	8,225	545100	9,477
76	5/14/2019	88.2	9,382	10,216	8,135	547200	9,193
77	5/14/2019	87.0	9,081	10,510	7,800	530100	10,446
78	5/14/2019	88.2	9,219	10,549	7,284	591000	10,652
79	5/15/2019	86.3	9,264	10,669	7,513	629300	10,681

## HG Energy II Appalachia, LLC

## MND20 CU

## Perforation Record

Stage #	Perforation Date	Perforation from Depth	Perforation to Depth	Number of Perfs	Formation
1	4/22/2019	26502	26450	2	Point Pleasant
2	4/23/2019	26,411	26,251	45	Point Pleasant
3	4/23/2019	26,213	26,053	45	Point Pleasant
4	4/23/2019	26,015	25,855	45	Point Pleasant
5	4/24/2019	25,817	25,657	45	Point Pleasant
6	4/24/2019	25,619	25,459	45	Point Pleasant
7	4/25/2019	25,421	25,261	45	Point Pleasant
8	4/25/2019	25,223	25,063	45	Point Pleasant
9	4/25/2019	25,025	24,865	45	Point Pleasant
10	4/26/2019	24,827	24,667	45	Point Pleasant
11	4/26/2019	24,629	24,469	45	Point Pleasant
12	4/26/2019	24,431	24,271	45	Point Pleasant
13	4/27/2019	24,233	24,073	45	Point Pleasant
14	4/27/2019	24,035	23,875	45	Point Pleasant
15	4/27/2019	23,837	23,677	45	Point Pleasant
16	4/27/2019	23,639	23,479	45	Point Pleasant
17	4/28/2019	23,441	23,281	45	Point Pleasant
18	4/28/2019	23,243	23,083	45	Point Pleasant
19	4/29/2019	23,045	22,885	45	Point Pleasant
20	4/29/2019	22,847	22,687	45	Point Pleasant
21	4/29/2019	22,649	22,489	45	Point Pleasant
22	4/30/2019	22,451	22,291	45	Point Pleasant
23	4/30/2019	22,253	22,093	45	Point Pleasant
24	4/30/2019	22,055	21,895	45	Point Pleasant
25	4/30/2019	21,857	21,697	45	Point Pleasant
26	5/1/2019	21,659	21,499	45	Point Pleasant
27	5/1/2019	21,461	21,301	45	Point Pleasant
28	5/1/2019	21,263	21,103	45	Point Pleasant
29	5/2/2019	21,065	20,905	45	Point Pleasant
30	5/2/2019	20,867	20,707	45	Point Pleasant
31	5/2/2019	20,669	20,509	45	Point Pleasant
32	5/3/2019	20,471	20,311	45	Point Pleasant
33	5/3/2019	20,273	20,113	45	Point Pleasant
34	5/4/2019	20,075	19,915	45	Point Pleasant
35	5/4/2019	19,877	19,717	45	Point Pleasant
36	5/4/2019	19,678	19,518	45	Point Pleasant
37	5/4/2019	19,478	19,318	45	Point Pleasant
38	5/5/2019	19,278	19,118	45	Point Pleasant
39	5/5/2019	19,078	18,918	45	Point Pleasant
40	5/5/2019	18,878	18,718	45	Point Pleasant
41	5/5/2019	18,678	18,518	45	Point Pleasant
42	5/5/2019	18,478	18,318	45	Point Pleasant
43	5/6/2019	18,278	18,118	45	Point Pleasant
44	5/6/2019	18,078	17,918	45	Point Pleasant
45	5/6/2019	17,878	17,718	45	Point Pleasant
46	5/6/2019	17,678	17,518	45	Point Pleasant
47	5/7/2019	17,478	17,318	45	Point Pleasant
48	5/7/2019	17,278	17,118	45	Point Pleasant
49	5/7/2019	17,078	16,918	45	Point Pleasant
50	5/7/2019	16,878	16,718	45	Point Pleasant
51	5/8/2019	16,678	16,518	45	Point Pleasant
52	5/8/2019	16,478	16,318	45	Point Pleasant
53	5/8/2019	16,278	16,118	45	Point Pleasant
54	5/8/2019	16,078	15,918	45	Point Pleasant
55	5/9/2019	15,878	15,718	45	Point Pleasant
56	5/9/2019	15,678	15,518	45	Point Pleasant
57	5/9/2019	15,478	15,318	45	Point Pleasant
58	5/9/2019	15,278	15,118	45	Point Pleasant
59	5/10/2019	15,078	14,918	45	Point Pleasant
60	5/10/2019	14,878	14,718	45	Point Pleasant
61	5/10/2019	14,678	14,518	45	Point Pleasant
62	5/10/2019	14,478	14,318	45	Point Pleasant
63	5/11/2019	14,278	14,118	45	Point Pleasant
64	5/11/2019	14,078	13,918	45	Point Pleasant
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71	5/13/2019	12,678	12,518	45	Point Pleasant
72	5/13/2019	12,478	12,318	45	Point Pleasant
73	5/13/2019	12,278	12,118	45	Point Pleasant
74	5/13/2019	12,078	11,918	45	Point Pleasant
75	5/13/2019	11,878	11,718	45	Point Pleasant
76	5/14/2019	11,678	11,518	45	Point Pleasant
77	5/14/2019	11,478	11,318	45	Point Pleasant
78	5/14/2019	11,278	11,118	45	Point Pleasant
79	5/15/2019	11,078	10,918	45	Point Pleasant

Bottom Hole is located on topo map 6,656 feet south of Latitude: 39° 50' 00"

Well is located on topo map 8,497 feet south of Latitude: 39° 52' 30"

**AS DRILLED**

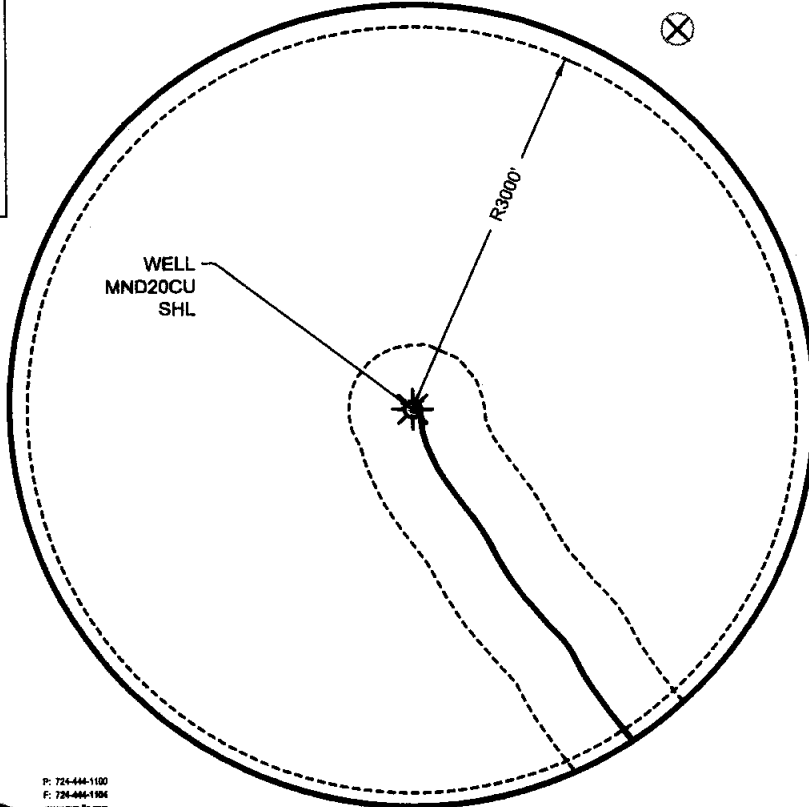
**SURFACE HOLE LOCATION (SHL)**  
UTM 17 - NAD83(m)  
N: 4411315.2  
E: 516648.4  
NAD27, WV NORTH  
N: 484048.8  
E: 1834115.6  
LAT/LON DATUM - NAD83  
LAT: 39.851691  
LON: -80.683044

**APPROX. LANDING POINT**

UTM 17 - NAD83(m)  
N: 4411014.3  
E: 517025.4  
NAD27, WV NORTH  
N: 483949.6  
E: 1834679.9  
LAT/LON DATUM - NAD83  
LAT: 39.846877  
LON: -80.680883

**BOTTOM HOLE LOCATION**

UTM 17 - NAD83(m)  
N: 4407225.3  
E: 519753.4  
NAD27, WV NORTH  
N: 481484.7  
E: 1843425.7  
LAT/LON DATUM - NAD83  
LAT: 39.815049  
LON: -80.789208



DETAIL:  
SCALE: 1"=1,500'

Bottom Hole is located on topo map 5,366 feet west of Longitude: 80° 45' 00"  
Well is located on topo map 3,195 feet west of Longitude: 80° 47' 30"

Headstart Corporate Park III, Suite 101  
2099 Georgetown Drive  
Dunstable, PA 16815  
P: 724-444-1100  
F: 724-444-1104  
www.pve-ll.com



Civil Engineering | Land Development | Structure Design  
Land Planning | Landscape Architecture | Environmental

**LEGEND**

	TOPO MAP POINT
	TOPO MAP BOTTOM HOLE

FILE #: MND 20 CU - AS DRILLED

DRAWING #: MND 20 CU - AS DRILLED

SCALE: 1"=2000'

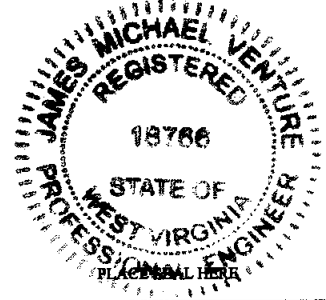
MINIMUM DEGREE  
OF ACCURACY: 1/2500

PROVEN SOURCE U.S.G.S. MONUMENT  
OF ELEVATION: H 138: 638.58'

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

SIGNED:

R.P.E.: 21452 L.L.S.: P.S. NO. \_\_\_\_\_



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

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

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

WATERSHED: SHORT CREEK-OHIO RIVER

COUNTY/DISTRICT: MARSHALL / FRANKLIN

SURFACE OWNER: CONSOLIDATION COAL COMPANY/  
MURRAY ENERGY

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY

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

TARGET FORMATION: POINT PLEASANT

WELL OPERATOR: HG ENERGY II APPALACHIA, LLC

Address: 5260 DUPONT ROAD

City PARKERSBURG State WV Zip Code 26101

DATE: MARCH 27, 2020

OPERATOR'S WELL #: MND 20 CU

API WELL # 47 051 02013  
STATE COUNTY PERMIT

PAGE: 2 OF 4

ELEVATION: 1058'

QUADRANGLE: POWHATAN POINT, W. VA./OHIO

ACREAGE: 70.55

ACREAGE: 70.55

ESTIMATED DEPTH: TVD: 11,058' TMD: 26,656 LATERAL: 15,264

DESIGNATED AGENT: DIANE C. WHITE

Address: 5260 DUPONT ROAD

City PARKERSBURG State WV Zip Code 26101



①	05-0001-0009-0000-0000	Blaine Eddy the Belknap Hoge Hoover, a married woman dealing in her sole and separate property	338
		Dara Marnar and Douglas D. Marnar, both individually and as wife and husband	
		Jessica McInabb the Jessica Faye Hoover, a married woman dealing in her sole and separate property	
		Cheryl Sullivan, a single woman	
		George H. Wells and Nancy Eldund Wells, both individually and as husband and wife	
		William C.M. Wilson and Hiram C. Wilson, as Trustees of The Nancy L. Wilson Revocable Trust	
		Wayland W. Bowser, a married man dealing in his sole and separate property	
		Barbara G. Mathews, by Gay L. Mathews, Her Attorney in Fact	
		HG Energy, LLC	
②	05-0001-0002-0001-0000	HG Energy, LLC	340
③	05-0001-0010-0000-0000	Ruth Ann Ferris	336
		Larry F. Jefferson	
		Noble Marcellus, LP	
		Anacapa Holdings, LLC	
		HG Energy, LLC	
④	05-0001-0011-0000-0000	HG Energy, LLC	373
⑤	05-0001-0012-0000-0000	Susan Witten Neal Meyers AKA Susan Neal (Held Meyers, individually, and as Susan N. Meyers, Trustee of the Susan N. Meyers Revocable Trust	335
	05-0001-0015-0000-0000	Mary Witten Neal Wiseman FKA Mary Witten Neal	
		Mary Witten Hart Ehlers	
		Margery J. Witten	
		Joseph Moore Neal	
		Jane Witten Voth	
		Frances Gale Neal	
		Dorothy Ann Neal by her POA Jerry L. Berthold	
		Donald R. Hart Jr.	
		Cathy Hart Price	
		Ann Alexander	
		Jane R. Peterselm AKA Jane Peterselm	
		HG Energy, LLC	
⑥	05-0002-0003-0000-0000	HG Energy, LLC	334
⑦	05-0002-0002-0000-0000	HG Energy, LLC	315
	05-0006-0003-0000-0000		
⑧	05-0006-0003-0000-0000	HG Energy, LLC	300
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⑨	05-0005-0002-0000-0000	Margaret Games	318
		Elizabeth Patterson	
		Charles J. Wiesner	
		John Wiesner	
		Kenneth Schmitt	
		Mary Ellen Sedon	
		Alfred Kaczorowski, Jr., & Sharon M. Kaczorowski, his wife	
⑩	05-0006-0003-0000-0000	HG Energy, LLC	300
⑪	05-0005-0009-0001-0000	HG Energy, LLC	329
⑫	05-0005-0003-0000-0000	AEP Generation Resources Inc. and Kentucky Power Company	319
⑬	05-0005-0006-0001-0000	AEP Generation Resources Inc. and Kentucky Power Company	324
⑭	05-0005-0007-0000-0000	AEP Generation Resources Inc. and Kentucky Power Company	325
⑮	05-0005-0003-0001-0000	AEP Generation Resources Inc. and Kentucky Power Company	323
⑯	05-0005-0004-0000-0000	Barbara Kay Ewing and Wilber E. Ewing	320
		Charles Howard Bassett Jr and Ruby D. Bassett	
		Cynthia P. Hopkins, as Trustee of the Cynthia P. Hopkins Revocable Trust	
		Elizabeth A. Strusbaugh and James R. Strusbaugh	
		Janet and John Blankenship	
		Jean C. Thomas	
		Mary E. Bassett	
		Robert B. and Violet Thomas	

		Roger B. and Inian P. Rose	
		Ruth Ann and Furman F. Wallace	
		Ruth E. Bassett Meadows and O.W. Meadows Jr	
		Geneva Bassett Sanchez	
		JAMES E ROBBINS ET UX	322
⑰	05-0005-0005-0000-0000		
⑱	05-0005-0006-0000-0000	AEP Generation Resources Inc. and Kentucky Power Company	321
⑲	05-0008-0005-0000-0000	Richard J. Getts	331
⑳	05-0008-0006-0000-0000	Richard J. Getts	333
㉑	05-0005-0012-0000-0000	AEP Generation Resources Inc. and Kentucky Power Company	182
㉒	05-0004-0016-0000-0000	Terry Holman	384
㉓	05-0004-0017-0000-0000	Terry Holman	387
㉔	No Tract ID #	WV Division of Natural Resources	380
㉕	05-0004-0014-0000-0000	MILLER CHARLES W	388
		PARSONS PAUL ET UX	
		RUSSELL SHARON LYN	
		HUFF TIMOTHY ET UX	
		ARNOLD LLOYD C ET UX	
		CRONIN MARY JD	
		KURPIL RICHARD ET UX	
		CLIFTON CLARA MAE	
		EDWARDS GEDRGE ET UX	
		KYLE DONNA FAE	
		CONNOR JUDITH MAY	
		SCHIBELHOOD PAUL ET AL	
		SLOUGH ANITA L ET AL	
㉖	05-0009-0001-0000-0000	Jessi Gladys Ruckman Et Al	392
	05-0009-0001-0001-0000		362
	05-0009-0001-0002-0000		385
	05-0009-0001-0003-0000		382
	05-0009-0001-0004-0000		363
㉗	05-0004-0018-0000-0000	William L. Maxwell JR	383
㉘	05-0004-0019-0000-0000	William L. Maxwell JR	386

FILE #: MND 20 CU - AS DRILLED

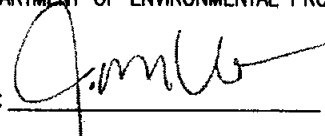
DRAWING #: MND 20 CU - AS DRILLED

SCALE: 1"=2000'

MINIMUM DEGREE OF ACCURACY: 1/2500

PROVEN SOURCE U.S.G.S. MONUMENT  
OF ELEVATION: H 138: 638.58'

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

SIGNED:   
R.P.E.: 21452 L.L.S.: P.S. NO.



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



DATE: MARCH 27, 2020

OPERATOR'S WELL #: MND 20 CU

API WELL # 47 051 02013  
STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK-OHIO RIVER

ELEVATION: 1058'

COUNTY/DISTRICT: MARSHALL / FRANKLIN

QUADRANGLE: POWHATAN POINT, W. VA./OHIO

SURFACE OWNER: CONSOLIDATION COAL COMPANY/  
MURRAY ENERGY

ACREAGE: 70.55

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY

ACREAGE: 70.55

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

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ESTIMATED DEPTH: TVD: 11,058' TMD: 26,656 LATERAL: 15,264

WELL OPERATOR: HG ENERGY II APPALACHIA, LLC

DESIGNATED AGENT: DIANE C. WHITE

Address: 5260 DUPONT ROAD

Address: 5260 DUPONT ROAD

City PARKERSBURG State WV Zip Code 26101

City PARKERSBURG State WV Zip Code 26101

113 ZION M.E. CHURCH  
 116 AEP GENERATION RESOURCES, INC.  
 118 AEP GENERATION REBOURCES, INC.  
 174 CONSOLIDATION COAL COMPANY  
 176 CONSOLIDATION COAL COMPANY  
 178 AEP GENERATION REBOURCES, INC.  
 182 CONSOLIDATION COAL COMPANY  
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 206 CONSOLIDATION COAL COMPANY  
 208 OHIO POWER CO.  
 210 CONSOLIDATION COAL COMPANY  
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 214 CONSOLIDATION COAL COMPANY  
 216 CONSOLIDATION COAL COMPANY  
 218 OHIO POWER CO.  
 220 CNX GAS COMPANY LLC.  
 222 CONSOLIDATION COAL COMPANY  
 224 WV ECONOMIC DEV. AUTHORITY  
 226 CONSOLIDATION COAL COMPANY  
 228 CONSOLIDATION COAL COMPANY  
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 232 OHIO POWER CO.  
 234 CNX GAS COMPANY LLC.  
 236 CONSOLIDATION COAL COMPANY  
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 244 OHIO POWER CO.  
 246 SANCHEZ GENEVA BASSETT  
 248 OHIO POWER CO.  
 250 AEP GENERATION RESOURCES INC.  
 252 AEP GENERATION REBOURCES INC.  
 254 CONSOLIDATION COAL COMPANY  
 256 AEP GENERATION RESOURCES INC.  
 258 AEP GENERATION RESOURCES INC.  
 260 AEP GENERATION RESOURCES INC.  
 262 CONSOLIDATION COAL COMPANY  
 264 CONSOL MINING COMPANY LLC.  
 266 GATTS RICHARD L. - LIFE  
 268 MILLER EDWIN C.  
 270 GATTS RICHARD L. - LIFE  
 272 MURRAY ENERGY C/O LAND DEPT.  
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 284 CONSOLIDATION COAL COMPANY  
 286 MITCHELL TAMMY L.  
 288 BERISFORD C. WAYNE  
 290 SHIELDS ROBERT L & DONALD  
 292 SELLS JARED C.

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327 JOGNSON NORMAN G. ET. UX. - LIFE  
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 333 RUCKMAN MARY D.  
 335 WHITE GLORIA JEAN  
 337 NOBEL ENERGY INC.  
 339 WALLACE KEVIN W.  
 341 GOUDY JOGN JOSEPH  
 343 KLEM ANNE C.  
 345 PERBINGER CLAYTON LEE ET. UX.  
 347 PERBINGER CLAYTON LEE ET. UX.  
 349 SCOTT RAYMOND A. JR. & LARRIETTE  
 351 VANSYOC ISAAC LUKE  
 353 MORRIS JUNE  
 355 FROMHART JON DAVID  
 357 NIEMAN FRANCES E.  
 359 CLARK BEVERLY E.  
 361 CLARKMAN SHELTON R. ET. AL.  
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 379 CONSOLIDATION COAL COMPANY  
 381 JACKSON NORMAN THOMAS ET. AL.  
 383 ARRUDA JOHN F. ET. UX.  
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 387 CONSOLIDATION COAL COMPANY  
 389 RUCKMAN MARVIN E ET. UX.  
 391 MAXWELL WILLIAM JR.  
 393 JPM PROPERTIES LLC.  
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Minimum Corporate Park II, Suite 101  
 2008 Chesapeake Drive  
 Sewley, PA 15148  
 P: 724-444-1100  
 F: 724-444-1194  
 www.pve-llc.com



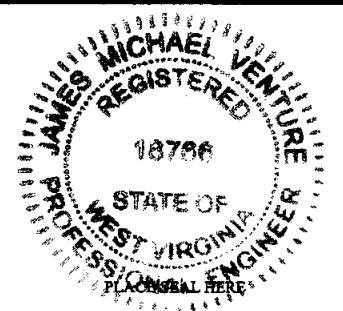
Civil Engineering | Land Development | Structure Design  
 Land Planning | Landscape Architecture | Environmental

LEGEND	
100	REFERENCE NUMBER FOR SURFACE PARCEL OWNERSHIP
①	REFERENCE NUMBER FOR MINERAL OWNERSHIP

FILE #: MND 20 CU - AS DRILLED  
 DRAWING #: MND 20 CU - AS DRILLED  
 SCALE: 1"=2000'  
 MINIMUM DEGREE OF ACCURACY: 1/2500  
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT H 138: 638.58'

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: [Signature]  
 R.P.E.: 21452 L.L.S.: P.S. NO. \_\_\_\_\_



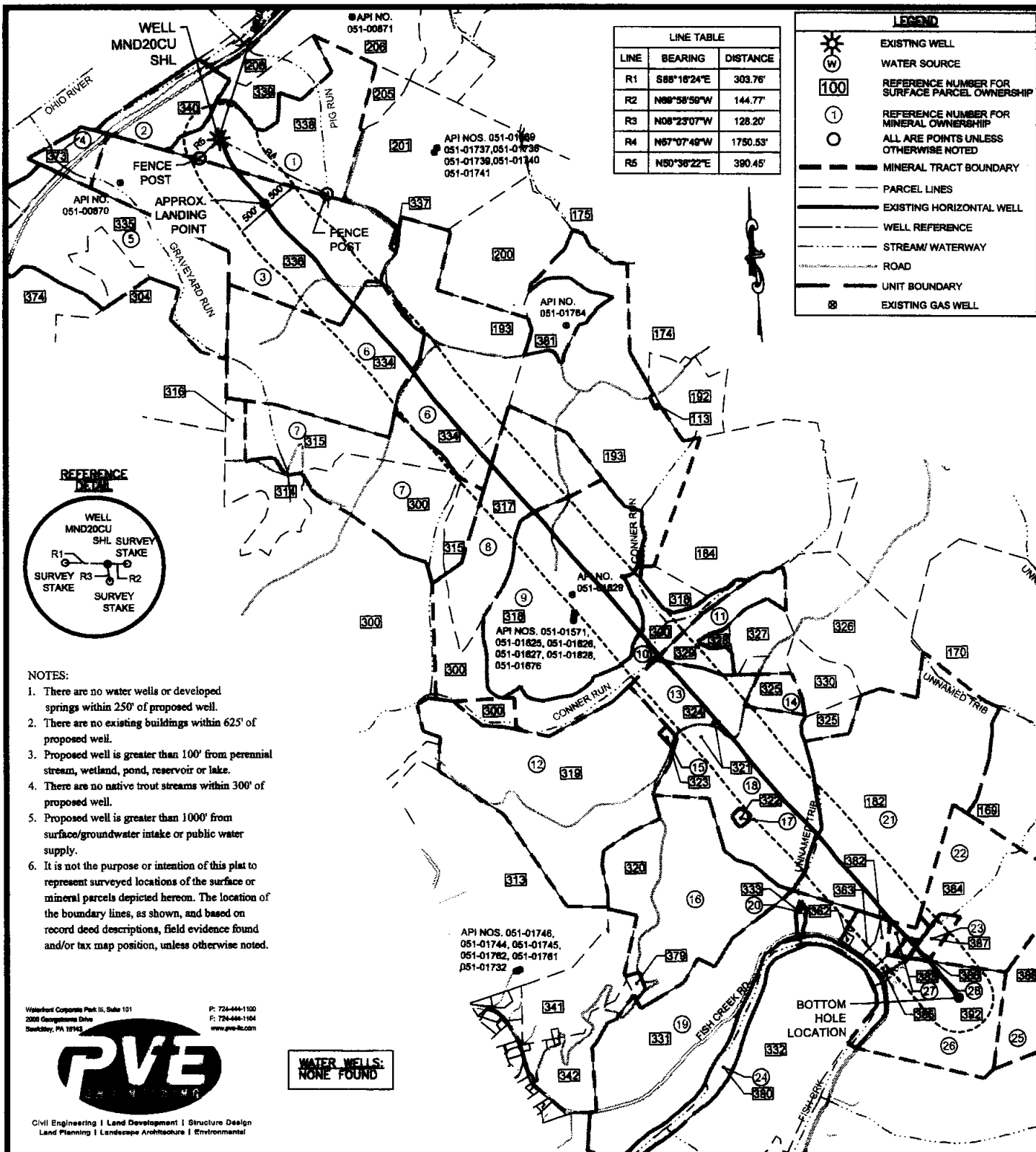
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WVDEP OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304

DATE: MARCH 27, 2020  
 OPERATOR'S WELL #: MND 20 CU  
 API WELL # 47 051 02013  
 STATE COUNTY PERMIT  
 PAGE: 3 OF 4

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

WATERSHED: SHORT CREEK-OHIO RIVER ELEVATION: 1058'  
 COUNTY/DISTRICT: MARSHALL / FRANKLIN QUADRANGLE: POWHATAN POINT, W. VA/OHIO  
 SURFACE OWNER: CONSOLIDATION COAL COMPANY/ MURRAY ENERGY ACREAGE: 70.55  
 OIL & GAS ROYALTY OWNER: CNX GAS COMPANY ACREAGE: 70.55

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 TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,058' TMD: 26,656 LATERAL: 15,264  
 WELL OPERATOR: HG ENERGY II APPALACHIA, LLC DESIGNATED AGENT: DIANE C. WHITE  
 Address: 5260 DUPONT ROAD Address: 5260 DUPONT ROAD  
 City PARKERSBURG State WV Zip Code 26101 City PARKERSBURG State WV Zip Code 26101



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DRAWING #: MND 20 CU - AS DRILLED

SCALE: 1"=2000'

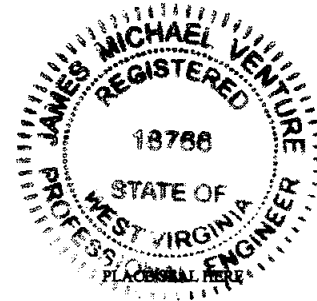
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SIGNED: [Signature]

R.P.E.: 21452 L.L.S.: P.S. NO.



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



DATE: MARCH 27, 2020

OPERATOR'S WELL #: MND 20 CU

API WELL # 47 051 02013  
 STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK-OHIO RIVER

ELEVATION: 1058'

COUNTY/DISTRICT: MARSHALL / FRANKLIN

QUADRANGLE: POWHATAN POINT, W. VA/OHIO

SURFACE OWNER: CONSOLIDATION COAL COMPANY/ MURRAY ENERGY

ACREAGE: 70.55

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY

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 FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY)

TARGET FORMATION: POINT PLEASANT

ESTIMATED DEPTH: TVD: 11,058' TMD: 26,656 LATERAL: 15,264

WELL OPERATOR: HG ENERGY II APPALACHIA, LLC

DESIGNATED AGENT: DIANE C. WHITE

Address: 5260 DUPONT ROAD

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City PARKERSBURG State WV Zip Code 26101

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PAGE: 1 OF 4

