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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, November 9, 2021  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC  
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit Modification Approval for MND 1 HHS  
47-051-02416-00-00

**Lateral Extension**

HG ENERGY II APPALACHIA, LLC

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

If there are any questions, please feel free to contact me at (304) 926- 0450.

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over a blue circular stamp.

James A. Martin  
Chief

Operator's Well Number: MND 1 HHS  
Farm Name: HG ENERGY II APPALACHIA, LLC  
U.S. WELL NUMBER: 47-051-02416-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 11/9/2021

Promoting a healthy environment.

11/12/2021



**HG Energy, LLC**  
5260 Dupont Road  
Parkersburg, WV 26101  
(304) 420-1100 - Office  
(304) 863-3172 - Fax

October 19, 2021

WV DEP  
Division of Oil & Gas  
Attn: Cragin Blevins  
601 57<sup>th</sup> Street  
Charleston, West Virginia 25304

CK # 028711  
\$5,000

RE: MND1 HHS Request for Permit Revision – (47-051-02-126)  
Clay District, Marshall County, West Virginia  
**Request for Modification Due to Acquiring Additional Leases**

02416  
40

Dear Mr. Blevins -

Per our discussions, enclosed are revised forms (survey plat, mylar, WW-6B, casing schematic, and WW6A-1) for the requested MND1 HHS well work permit revision. Also included is a check to cover the cost of requesting a modification for an existing permit. We ask the permit be modified to reflect additional leases acquired to lengthen the lateral.

Please let me know if you have any questions or require additional information. I can be reached at (304) 420-1119 or [dwhite@hgenergyllc.com](mailto:dwhite@hgenergyllc.com).

Very truly yours,

*Diane White*

Diane C. White

Enclosures

cc: Barry Stollings – DEP State Inspector

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11/12/2021

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

1) Well Operator: HG Energy II Appalachia, LLC 494519932 Marshall Clay Powhatan Point  
Operator ID County District Quadrangle

2) Operator's Well Number: MND1 HHS Well Pad Name: MND1

3) Farm Name/Surface Owner: Murray Energy Corp Public Road Access: County Highway 88/8

4) Elevation, current ground: 1150' Elevation, proposed post-construction: 1150' (pad constructed)

5) Well Type (a) Gas X Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
Other \_\_\_\_\_  
(b) If Gas Shallow X Deep \_\_\_\_\_  
Horizontal X

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus 6262' - 6309', 47' Thick, 4204 psi

8) Proposed Total Vertical Depth: 6290'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 16,344'

11) Proposed Horizontal Leg Length: 8,363'

12) Approximate Fresh Water Strata Depths: 521', 538', 801', 898', 947'

13) Method to Determine Fresh Water Depths: Nearest offset well

14) Approximate Saltwater Depths: None

15) Approximate Coal Seam Depths: 687' - 697'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes X No \_\_\_\_\_

(a) If Yes, provide Mine Info: Name: Wells are located in abandoned area of McElroy Mine  
Depth: 692' to seam base  
Seam: Pittsburgh #8  
Owner: Consol Mining Company, LLC

*MDC 10/25/2021*

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WW-6B  
(04/15)

API NO. 47- 051 - 02416  
 OPERATOR WELL NO. MND1 HHS  
 Well Pad Name: MND1

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	J-55	94	40'	40'	Drilled In
Fresh Water	13 3/8"	New	J-55 BTC	54.5	1100'	1100' ✓	40% excess yield = 1.18, CTS
Coal							
Intermediate	9 5/8"	New	J-55 BTC	40	2600'	2600' ✓	40% excess, yield = 1.2, CTS
Production	5 1/2"	New	P-110 HP	20	16344'	16344' ✓	10% excess, yield = 1.34, CTS
Tubing							
Liners							

*MJK 10/25/2021*

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"	0.438	2110		Type 1, Class A	CTS
Fresh Water	13 3/8"	17.5"	0.380	2730		Type 1, Class A	40% excess, yield = 1.1
Coal							
Intermediate	9 5/8"	12 1/4"	0.395	3950		Type 1, Class A	40% excess, yield = 1.1
Production	5 1/2"	8 1/2"	0.361	14360 ✓	10000	Type 1, Class A	10% excess, yield = 1.3
Tubing							
Liners							

**PACKERS**

Kind:				RECEIVED Office of Oil and Gas
Sizes:				OCT 29 2021
Depths Set:				WV Department of Environmental Protection

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 6,290 feet. Drill horizontal leg to estimated 8,363' lateral length, 16,344' TMD. Hydraulically fracture and stimulate and be capable of producing the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface.

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 psi.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 9.0 (already built)

22) Area to be disturbed for well pad only, less access road (acres): 7.6 (already built)

23) Describe centralizer placement for each casing string:

Conductor - N/A  
Surface Casing - Bow Springs (over collars) on first 2 joints then every third joint to 100' from surface  
Intermediate Casing - Bow Springs (over collars) on first 12 joints, then every third joint to 100' from surface  
Production Casing - Run 1 spiral centralizer every 5 joints from the top of the curve to surface. Run 1 spiral centralizer every 3 joints from the 1st 5.5" long joint to the top of the curve.

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

Conductor - Grout In / Sanded In  
Surface Casing - "15.6 ppg Class A Neat 94#x40% ExcessYield=1.18 / CTS"  
Intermediate Casing - "15.6 ppg Class A 94#x1% Calcium BWOC - 40% ExcessYield=1.2 / CTS"  
Production Casing - "Class A 14.8 ppgYield 1.34D255 - 0.4% BWOB Fluid LossD198 - 0.55% BWOB RetarderD047 - 0.02 gal / sack And FoamD208 - 0.05% BWOB Viscosifier10% Excess"

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25) Proposed borehole conditioning procedures:

Conductor - Once at casing setting depth, ensure hole is clean at TD (Auger Style Rig to be Used)  
Surface Casing - Circulate & condition @ TD w/ Air. RIH w/ casing & fill w/ Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bbls of 6% bentonite Gel/50# of poly flake, then clear casing w/ Fresh Water prior to pumping cement.  
Intermediate Casing - Circulate & condition @ TD w/ Air. RIH w/ casing & fill w/ Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bbls of 6% bentonite Gel/50# of poly flake, then clear casing w/ Fresh Water prior to pumping cement.  
Production Casing - Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.

\*Note: Attach additional sheets as needed.

470510246



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**MND1HHS**  
**Marcellus Shale Horizontal**  
**Marshall County, WV**

		<b>MND1HHS SHL</b>				<b>494195.83N 1642196.19E</b>				
<b>Ground Elevation</b>	<b>1150'</b>		<b>MND1HHS LP</b>				<b>496194.21N 1644768.91E</b>			
<b>Azm</b>	<b>325.001°</b>		<b>MND1HHS BHL</b>				<b>503043.21N 1639973.3E</b>			

WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
	28"	20" 94# J-55	Conductor	0	40	AIR	Grout In / Sanded In	N/A	Once at casing setting depth, ensure hole is clean at TD (Auger Style Rig to be Used)	Conductor casing = 0.438" wall thickness Burst=2110 psi
	17.5"	13-3/8" 54.5# J-55 BTC	Fresh Water	538', 801', 898', 947'		AIR	15.6 ppg Class A Neat 94#/sk 40% Excess Yield=1.18 / CTS	Bow Springs (over collars) on first 2 joints then every third joint to 100' from surface	Circulate & condition @ TD w/ Air. RHH w/ casing & fill w/ Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bbls of 6% bentonite Gel/50# of poly flake, then clear casing w/ Fresh Water prior to pumping cement.	Surface casing = 0.380" wall thickness Burst=2730 psi
			Surface Casing	0	1100					
			Coal(s)	704'-709'						
	12.25"	9-5/8" 40# J-55 BTC	Big Lime / Big Injun	1742 / 1832	1832 / 1922	AIR	15.5 ppg Class A 94#/sk 1% Calcium BWOC - 40% Excess Yield=1.2 / CTS	Bow Springs (over collars) on first 12 joints, then every third joint to 100' from surface	Circulate & condition @ TD w/ Air. RHH w/ casing & fill w/ Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bbls of 6% bentonite Gel/50# of poly flake, then clear casing w/ Fresh Water prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi
			Pacono / Price	1822	2075					
			5th Sand / Weir	2164	2177					
			Intermediate Casing	0	2600					
	8.75" Vertical		Speechley	3369	3302	AIR and/or 9.0ppg SOBM		Run 1 spiral centralizer every 5 joints from the top of the curve to surface.		
			Java	4778	4889					
			Pipe Creek	5015	5102					
			Angala	4978	5200					
			Rheinstreet	5719	6002					
	8.75" / 8.5" Curve	5-1/2" 20# P-110 HP CDC HTQ	Cashaqua	6002	6075	Air then 11.5ppg- 12.5ppg SOBM	Class A 14.6 ppg Yield 1.34 D255 - 0.4% BWOB Fluid Loss D198 - 0.55% BWOB Retarder D047 - 0.02 gal / sack Anti Foam D208 - 0.05% BWOB Viscosifier 10% Excess	Run 1 spiral centralizer every 3 joints from the 1st 5.5" long joint to the top of the curve.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.351" wall thickness Burst=14,360 psi Note: Actual centralizer schedules may be changed due to hole conditions
			Middlesex	6075	6104					
West River			6104	6165						
Burkett			6186	6167						
Tully			6187	6222						
Hamilton			6222	6282						
Marcellus			6262	6309						
8.5" Lateral		TMD / TVD	16344	6290	11.5ppg- 12.5ppg SOBM					
		Onondaga	6309							

LP @ 6290' TVD /  
7981' MD

8.5" Hole - Cemented Long String  
5-1/2" 20# P-110 HP CDC HTQ

+/-8363' ft Lateral

TD @ +/-6290' TVD  
+/-16344' MD

X=centralizers

6,854' to Top Hole

39° 52' 30"

9,199' to Bottom Hole

338' to Bottom Hole  
80° 45' 00"

WELL: MND1 HHS Coordinates

WV SPC North (NAD 27)

SURFACE LOCATION  
N - 494,195.8  
E - 1,642,196.2

LANDING POINT  
N - 496,194.2  
E - 1,644,768.9

BOTTOM HOLE  
N - 503,043.2  
E - 1,639,973.3

UTM NAD 83 (mtr)

SURFACE LOCATION  
N - 4,411,127.6  
E - 519,314.1

BOTTOM HOLE  
N - 4,413,811.7  
E - 518,591.8

LAT/LONG (NAD 83)

SURFACE LOCATION  
39.849949°  
80.774227°

BOTTOM HOLE  
39.874148°  
80.782593°

Powhatan Point, OH

OHIO RIVER

Captina Island (USA)

Bottom Hole 7.5' Spot

MND1 HHS Bottom Hole

Top Hole 7.5' Spot

MND1 HHS Top Hole

MARSHALL COUNTY COAL RESOURCES, Inc. - Surface Owner

CLAY DIST. FRANKLIN DIST.

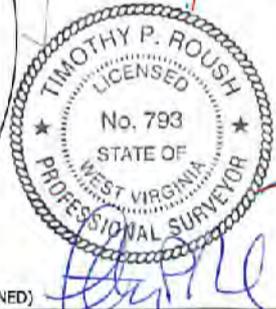
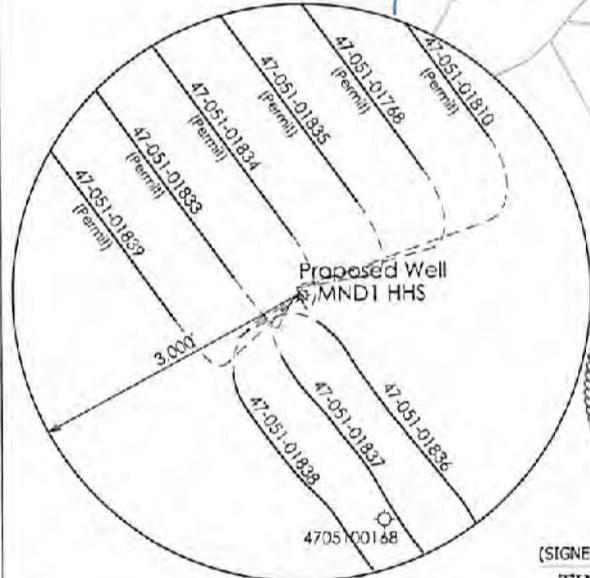
NOTES ON SURVEY

- No water supply wells or developed springs are located within 1,500' of proposed well
- No occupied dwellings or buildings 2500 sq. ft. or larger are located within 625' of proposed well.
- Latitude/Longitude offset measurements are referenced to NAD 1927. Well tie lines are referenced to UTM Zone 17 North (NAD 83).
- The location of boundary lines shown hereon are based on deed descriptions and boundary data supplied by PVE as shown on the original plats submitted with permit applications in 2015 and 2018. This plat is not intended to represent a boundary survey as defined in W.Va. SRC §30-13A-3 (c).
- Lease Boucaries shown hereon are located as described in the provided Certified Title Opinions.

LEGEND

- 100 Surface Parcel No.
- 2 Lease Reference No.
- Lease Boundary
- Surface Boundary
- Proposed Horizontal Lateral
- Proposed Curve Section
- Stream

North



(SIGNED) TIMOTHY P. ROUSH PS 793

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.

- DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

FILE NO. \_\_\_\_\_  
 SCALE: 1" = 1,500'  
 MINIMUM DEGREE OF ACCURACY: Sub-Meter  
 PROVEN SOURCE OF ELEVATION: DGPS Survey



WEST VIRGINIA  
 Department of Environmental Protection  
 Office of Oil and Gas  
 601 57th Street  
 Charleston, West Virginia 25301

DATE: October 20, 2021  
 WELL NAME: MND1 HHS  
 API WELL NO.: 47 - 051 - 02416 nod  
 State County Permit

RECEIVED  
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 OCT 29 2021

WELL TYPE: OIL \_\_\_\_\_ GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ (IF "GAS") PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW

LOCATION: ELEVATION 1,150' WATERSHED Hog Run  
 DISTRICT: Clay COUNTY: Marshall QUADRANGLE: Powhatan Point 7.5'  
 SURFACE OWNER: Marshall County Coal Resources, Inc. ACREAGE: 128.32 Ac.  
 OIL & GAS ROYALTY OWNER: HG Energy II Appalachia, LLC LEASE ACREAGE: 128.32 Ac. LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL  CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_\_\_  
 PERFORATE NEW FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD Plat - Revised LP and TVD  
 PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_ TARGET FORMATION Marcellus Shale ESTIMATED DEPTH 6,290' TVD  
 16,344' TMD

WELL OPERATOR: HG Energy II Appalachia, LLC ADDRESS: 5260 DuPont Road Parkersburg, WV 26101  
 DESIGNATED AGENT: Diane White ADDRESS: 5260 DuPont Road Parkersburg, WV 26101  
 PAGE 1 OF 2

11/12/2021

6,854' to Top Hole

39° 52' 30"

WELL: MND1 HHS Coordinates

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LAT/LONG (NAD 83)

SURFACE LOCATION  
39.849949°  
80.774227°

BOTTOM HOLE  
39.874148°  
80.782593°

Bottom Hole  
7.5' Spot

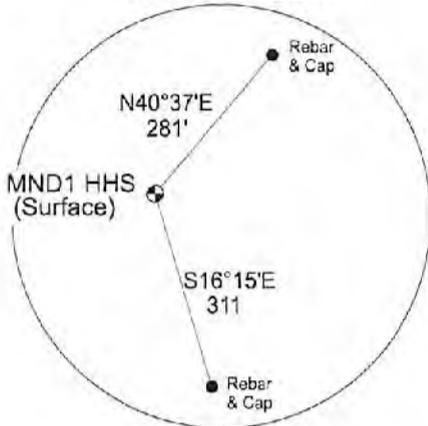
9,199' to Bottom Hole

LEASE TABLE

1	HG ENERGY II APPALACHIA, LLC	TMP 04-14-10
2	HG ENERGY II APPALACHIA, LLC	TMP 04-14-09
3	HG ENERGY II APPALACHIA, LLC	TMP 04-14-08
4	EUGENE C. & ELIZABETH A. ESTEP	TMP 04-13-02
5	WENDELL B. & CAROLYN S. RINE	TMP 04-14-07
7	BRENDA K. DUFFORD	TMP 04-07-18.02
8	MOUNTAINEER NATURAL GAS CO.	TMP 04-07-18
17	PAUL J. & JULIE D. MAIDENS	TMP 04-07-14; 07-17; 07-03
28	RANDOLPH BRUNNER	TMP 04-07-15.05
29	MILLARD BONNETTE, JR.	TMP 04-07-15.08

338' to Bottom Hole  
80° 45' 00"

WELL REFERENCES

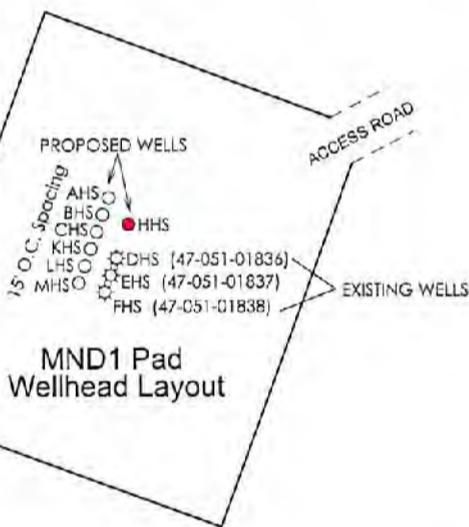


SURFACE PARCEL TABLE

100	Marshall County Coal Resources, Inc.	TMP 04-14-09
101	Marshall County Coal Resources, Inc.	TMP 04-14-10
109	W.Va. Department of Highways	TMP 04-07-15
113	Carmella Faye & Michael Rose	TMP 04-07-18
114	Paul J. & Julie D. Maidens	TMP 04-07-17
116	Marshall County Coal Resources, Inc.	TMP 04-14-08
118	W.Va. Department of Highways	TMP 04-07-15.02
119	W.Va. Department of Highways	TMP 04-15-10
120	W.Va. Department of Highways	TMP 04-07-15.07
121	W.Va. Department of Highways	TMP 04-07-15.01
122	W.Va. Department of Highways	TMP 04-07-15.05
123	W.Va. Department of Highways	TMP 04-07-15.08
124	Eugene C. & Elizabeth A. Estep	TMP 04-13-02
125	Wendell B. & Carolyn S. Rine	TMP 04-14-07
128	John T. Wilson Jr.	TMP 04-06-07
129	Lloyd Rutan - Life Est.	TMP 04-07-18.01
130	Raymond Rutan	TMP 04-07-18.02
131	Carmella Faye & Michael Rose	TMP 04-07-18
132	Gathy J. & Carl F. Petrucci Jr.	TMP 04-07-19
133	Eugene C. & Elizabeth A. Estep	TMP 04-13-01
134	Paul J. & Julie D. Maidens	TMP 04-07-13
135	Paul J. & Julie D. Maidens	TMP 04-07-03
136	Cathy J. & Carl F. Petrucci Jr.	TMP 04-07-03.01
142	U.S.A.	TMP 04-06-07.1
143	Shawn T. & Kelly J. Donahey	TMP 04-13-04

Top Hole  
7.5' Spot

North



(SIGNED) *[Signature]*  
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WV Department of Environmental Protection

11/12/2021

LOCATION: ELEVATION 1,150' WATERSHED Hog Run  
DISTRICT: Clay COUNTY: Marshall QUADRANGLE: Powhatan Point 7.5'  
SURFACE OWNER: Marshall County Coal Resources, Inc. ACREAGE: 128.32 Ac

OIL & GAS ROYALTY OWNER: HG Energy II Appalachia, LLC LEASE ACREAGE: 128.32 Ac. LEASE NO. \_\_\_\_\_  
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WELL OPERATOR: HG Energy II Appalachia, LLC ADDRESS: 5260 DuPont Road Parkersburg, WV 26101  
DESIGNATED AGENT: Diane White ADDRESS: 5260 DuPont Road Parkersburg, WV 26101  
PAGE 2 OF 2

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Powhatan Point, OH

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- Proposed Curve Section
- Stream

North

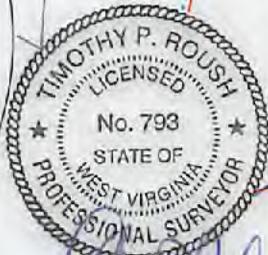
Top Hole 7.5' Spot

MND1 HHS Top Hole

MARSHALL COUNTY COAL RESOURCES, Inc. - Surface Owner

CLAY DIST. FRANKLIN DIST.

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) TIMOTHY P. ROUSH PS 793

Denotes location of well on United States Topographic Maps.

FILE NO. \_\_\_\_\_  
 SCALE: 1" = 1,500'  
 MINIMUM DEGREE OF ACCURACY: Sub-Meter  
 PROVEN SOURCE OF ELEVATION: DGPS Survey



WEST VIRGINIA  
 Department of Environmental Protection  
 Office of Oil and Gas  
 601 57th Street  
 Charleston, West Virginia 25301

DATE: October 20, 2021  
 WELL NAME: MND1 HHS  
 API WELL NO.: 47-051-02416 MND  
 State County Permit

WELL TYPE: OIL \_\_\_ GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ (IF "GAS") PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW

LOCATION: ELEVATION 1,150' WATERSHED Hog Run

DISTRICT: Clay COUNTY: Marshall QUADRANGLE: Powhatan Point 7.5'

SURFACE OWNER: Marshall County Coal Resources, Inc. ACREAGE: 128.32 Ac.

OIL & GAS ROYALTY OWNER: HG Energy II Appalachia, LLC LEASE ACREAGE: 128.32 Ac. LEASE NO. \_\_\_\_\_

PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_  
 PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD Plat - Revised LP and TVD  
 PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_ TARGET FORMATION Marcellus Shale ESTIMATED DEPTH 6,290' TVD  
 16,344' TMD

WELL OPERATOR: HG Energy II Appalachia, LLC DESIGNATED AGENT: Diane White  
 ADDRESS: 5260 DuPont Road ADDRESS: 5260 DuPont Road  
 Parkersburg, WV 26101 Parkersburg, WV 26101

PAGE 1 OF 2

11/12/2021

6,854' to Top Hole

39° 52' 30"

WELL: MND1 HHS Coordinates

WV SPC North (NAD 27)  
SURFACE LOCATION  
N - 494,155.8  
E - 1,642,196.2

LANDING POINT  
N - 496,194.2  
E - 1,644,768.9

BOTTOM HOLE  
N - 503,043.2  
E - 1,639,973.3

UTM NAD 83 (mtr)

SURFACE LOCATION  
N - 4,411,127.6  
E - 519,314.1

BOTTOM HOLE  
N - 4,413,611.7  
E - 518,591.8

LAT/LONG (NAD 83)

SURFACE LOCATION  
39.849949°  
80.774227°

BOTTOM HOLE  
39.874148°  
80.782593°

Bottom Hole  
7.5' Spot

9,199' to Bottom Hole

LEASE TABLE

①	HG ENERGY II APPALACHIA, LLC	TMP 04-14-10
②	HG ENERGY II APPALACHIA, LLC	TMP 04-14-09
③	HG ENERGY II APPALACHIA, LLC	TMP 04-14-08
④	EUGENE C. & ELIZABETH A. ESTEP	TMP 04-13-02
⑤	WENDELL B. & CAROLYN S. RINE	TMP 04-14-07
⑦	BRENDA K. DUFFORD	TMP 04-07-18.02
⑧	MOUNTAINEER NATURAL GAS CO.	TMP 04-07-18
⑰	PAUL J. & JULIE D. MAIDENS	TMP 04-07-14; 07-17; 07-03
⑳	RANDOLPH BRUNNER	TMP 04-07-15.05
㉑	MILLARD BONNETTE, JR.	TMP 04-07-15.08

338' to Bottom Hole  
80° 45' 00"

9,152' to Top Hole

WELL REFERENCES

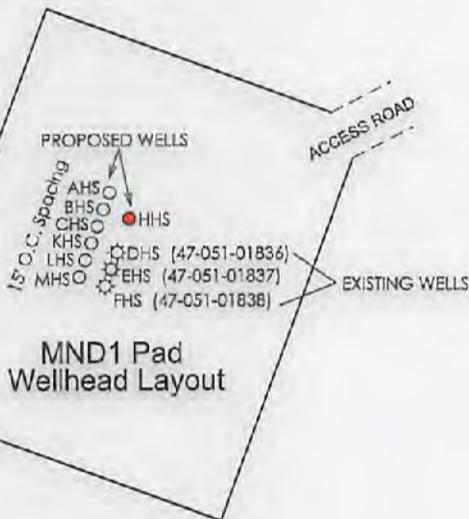


SURFACE PARCEL TABLE

100	Marshall County Coal Resources, Inc.	TMP 04-14-09
101	Marshall County Coal Resources, Inc.	TMP 04-14-10
109	W.Va. Department of Highways	TMP 04-07-15
113	Carmella Faye & Michael Rose	TMP 04-07-18
114	Paul J. & Julie D. Maidens	TMP 04-07-17
116	Marshall County Coal Resources, Inc.	TMP 04-14-08
118	W.Va. Department of Highways	TMP 04-07-15.02
119	W.Va. Department of Highways	TMP 04-15-10
120	W.Va. Department of Highways	TMP 04-07-15.07
121	W.Va. Department of Highways	TMP 04-07-15.01
122	W.Va. Department of Highways	TMP 04-07-15.05
123	W.Va. Department of Highways	TMP 04-07-15.08
124	Eugene C. & Elizabeth A. Estep	TMP 04-13-02
125	Wendell B. & Carolyn S. Rine	TMP 04-14-07
128	John T. Wilson Jr.	TMP 04-06-07
129	Lloyd Rutan - Life Est.	TMP 04-07-18.01
130	Raymond Rutan	TMP 04-07-18.02
131	Carmella Faye & Michael Rose	TMP 04-07-18
132	Cathy J. & Carl F. Petrucci Jr.	TMP 04-07-19
133	Eugene C. & Elizabeth A. Estep	TMP 04-13-01
134	Paul J. & Julie D. Maidens	TMP 04-07-13
135	Paul J. & Julie D. Maidens	TMP 04-07-03
138	Cathy J. & Carl F. Petrucci Jr.	TMP 04-07-03.01
142	U.S.A.	TMP 04-06-07.1
143	Shawn T. & Kelly J. Donahey	TMP 04-13-04

Top Hole  
7.5' Spot

North



(SIGNED)   
TIMOTHY P. ROUSH PS 793

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.

- DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

FILE NO. \_\_\_\_\_  
SCALE: 1" = 1,500'  
MINIMUM DEGREE OF ACCURACY: Sub-Meter  
PROVEN SOURCE OF ELEVATION: DGPS Survey



WEST VIRGINIA  
Department of Environmental Protection  
Office of Oil and Gas  
601 57th Street  
Charleston, West Virginia 25301

DATE: October 20, 2021  
WELL NAME: MND1 HHS  
API WELL NO. 47 - 051 - 02446 MOD  
State County Permit

WELL TYPE: OIL \_\_\_\_\_ GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ (IF "GAS") PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW

11/12/2021

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PERFORATE NEW FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD Plat - Revised LP and TVD  
PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_ TARGET FORMATION Marcellus Shale ESTIMATED DEPTH 6,290' TVD 16,344' TMD

WELL OPERATOR: HG Energy II Appalachia, LLC  
ADDRESS: 5260 DuPont Road Parkersburg, WV 26101

DESIGNATED AGENT: Diane White  
ADDRESS: 5260 DuPont Road Parkersburg, WV 26101

WW-6A1  
(3/13)

Operator's Well No. \_\_\_\_\_

**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
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\*\* See Attached Lease Chains \*\*

**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 and Gas

OCT 29 2021

WV Department of  
Environmental Protection

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: HG Energy II Appalachia, LLC  
 By: Diane White *Diane White*  
 Its: Agent

HG Energy II Appalachia, LLC  
MND1 HHS Lease Chain

PLAT LEASE NO.	PLAT LEASE NAME	HG Lease Number	MPID	Original Lessor	Original Lessee	Royalty	Book	Page
1	HG Energy II Appalachia, LLC	1) 623175	04-0014-0010-0000-0000	Noble Energy, Inc.	HG ENERGY II APPALACHIA, LLC	Fee	39	1
2	HG Energy II Appalachia, LLC	2) 623177	04-0014-0009-0000-0000	Noble Energy, Inc.	HG ENERGY II APPALACHIA, LLC	Fee	39	1
3	HG Energy II Appalachia, LLC	3) 623173	04-0014-0008-0000-0000	Noble Energy, Inc.	HG ENERGY II APPALACHIA, LLC		39	1
4	Eugene C. & Elizabeth A. Estep	4) HGII02042	04-0013-0002-0000-0000	Eugene Estep	HG ENERGY II APPALACHIA, LLC	Not less than 1/8	1122	370
5	Wendell B. & Carolyn S. Rine	5) HGII01930	04-0014-0007-0000-0000	Wendell B. Rine and Carolyn S. Rine	HG ENERGY II APPALACHIA, LLC	Not less than 1/8	1120	270
7	Brenda K. Dufford	7) HGII2022	04-0007-0018-0002-0000	Brenda K. Dufford fka Brenda Rutan	HG ENERGY II APPALACHIA, LLC	Not less than 1/8	1121	548
8	Mountaineer Natural Gas Co.	8) HGII170	04-0007-0018-0000-0000	Mountaineer Natural Gas Co.	HG ENERGY II APPALACHIA, LLC	Not less than 1/8	1041	320
17	Paul J. & Julie D. Maidens	18) Q082524000	04-0007-0014-0000-0000, 04-0007-0017-0000-0000	Paul J. Maidens, et ux	Noble Energy, Inc. HG ENERGY II APPALACHIA, LLC	Not less than 1/8	826	90
				NOBLE ENERGY INC			39	1
28	Randolph Brunner	28) Q078676000	04-0007-0015-0005-0000	Randolph Brunner	Noble Energy, Inc. HG ENERGY II APPALACHIA, LLC	not less than 1/8	808	299
				NOBLE ENERGY INC			39	1
29	Millard Bonnette, Jr.	29) Q074932000	04-0007-0015-0008-0000	Millard Bonnette Jr.	Noble Energy, Inc.	not less than 1/8	794	499

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Office of Oil and Gas  
OCT 29 2021  
WV Department of  
Environmental Protection



Stansberry, Wade A &lt;wade.a.stansberry@wv.gov&gt;

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**Fwd: Expedited H6A Modification Well Work Permit (MND 1 Pad)**

1 message

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**Stansberry, Wade A** <wade.a.stansberry@wv.gov>

Wed, Nov 10, 2021 at 9:46 AM

To: "Knitowski, Gayne J" &lt;e026012@wv.gov&gt;, Eric Buzzard &lt;ebuzzard@marshallcountywv.org&gt;

Thank you,

**Wade A. Stansberry****Environmental Resource Specialist 3****West Virginia Department of Environmental Protection****Office of Oil & Gas****601 57th St. SE****Charleston, WV 25304****(304) 926-0499 ext. 41115****(304) 926-0452 fax****[Wade.A.Stansberry@wv.gov](mailto:Wade.A.Stansberry@wv.gov)**

----- Forwarded message -----

From: **Stansberry, Wade A** <wade.a.stansberry@wv.gov>

Date: Wed, Nov 10, 2021 at 9:33 AM

Subject: Expedited H6A Modification Well Work Permit (MND 1 Pad)

To: Diane White &lt;dwhite@hgenergyllc.com&gt;, Taylor, Joseph D &lt;joseph.d.taylor@wv.gov&gt;, Emily Westfall &lt;ewestfall@wvassessor.com&gt;

I have attached a copy of the newly issued well [permit](#) numbers . This will serve as your copy.If you have any questions, then [please](#) contact us here at the Office of Oil and Gas.

47-051-01768

47-051-01810

47-051-01833

47-051-01834

47-051-01835

47-051-01839

47-051-02416

Thank you,

**Wade A. Stansberry****Environmental Resource Specialist 3****West Virginia Department of Environmental Protection****Office of Oil & Gas****601 57th St. SE****Charleston, WV 25304****(304) 926-0499 ext. 41115****(304) 926-0452 fax****11/12/2021**

[Wade.A.Stansberry@wv.gov](mailto:Wade.A.Stansberry@wv.gov)

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**7 attachments**

-  **47-051-01768 - mod.pdf**  
1346K
-  **47-051-01834 - mod.pdf**  
1339K
-  **47-051-01810 - mod.pdf**  
1373K
-  **47-051-01833 - mod.pdf**  
1350K
-  **47-051-01835 - mod.pdf**  
1352K
-  **47-051-01839 - mod.pdf**  
1327K
-  **47-051-02416 - mod.pdf**  
1334K

11/12/2021