



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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, November 9, 2021
PERMIT MODIFICATION APPROVAL
Horizontal 6A / Re-Work

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit Modification Approval for MND 1 MHS
47-051-01839-00-00

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 blue ink signature of James A. Martin, written in a cursive style.

James A. Martin
Chief

Operator's Well Number: MND 1 MHS
Farm Name: CONSOLIDATION COAL COMPANY/ MURRAY E
U.S. WELL NUMBER: 47-051-01839-00-00
Horizontal 6A Re-Work
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 57th Street
Charleston, West Virginia 25304

OK # 628714
\$5,000

RE: MND1 MHS Request for Permit Revision – (47-051-01839)
Clay District, Marshall County, West Virginia
Request for Modification Due to Acquiring Additional Leases

Dear Mr. Blevins -

Per our discussions, enclosed are revised forms (survey plat, mylar, WW-6B, casing schematic, and WW6A-1) for the requested MND1 MHS 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.

Very truly yours,

Diane White

Diane C. White

Enclosures

cc: Barry Stollings – DEP State Inspector

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

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, Inc. 494519932 Marshall Clay Powhatan Point
Operator ID County District Quadrangle

2) Operator's Well Number: MND1 MHS 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 Oil Underground Storage

Other
(b) If Gas Shallow Deep
Horizontal

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: 13524'

11) Proposed Horizontal Leg Length: 6665'

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: 620' - 692'

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 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

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WW-6B
(04/15)

API NO. 47-051 - 01639
 OPERATOR WELL NO. MND1 MHS
 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' "Already grouted in"	40' ✓	CTS
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	13524'	13524' ✓	10% excess yield = 1.04, 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 = 1.18
Coal							
Intermediate	9 5/8"	12 1/4"	0.395	3950		Type 1, Class A	40% excess yield = 1.2
Production	5 1/2"	8 1/2"	0.361	14360	10000 ✓	Type 1, Class A	10% excess yield = 1.04
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:

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 6,290 feet. Drill horizontal leg to estimated 6,665' lateral length, 13,524' TMD. Hydraulically fracture and stimulate and be capable of producing from 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 - Already grouted in
Surface Casing - "15.6 ppg Class A Neat 948/940% ExcessYield=1.18 / CTS"
Intermediate Casing - "15.6 ppg Class A 948/941% Calcium BWOC - 40% ExcessYield=1.2 / CTS"
Production Casing - "Class A 14.8 ppg/Yield 1.340255 - 0.4% BWOB Fluid Loss/D195 - 0.55% BWOB Retarder/D047 - 0.02 gal / sack Aral Foam/D208 - 0.05% BWOB Viscosifier/10% Excess"

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25) Proposed borehole conditioning procedures:

Conductor - Once at casing setting depth, ensure hole is clean at TD
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.

4705101839



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MND1MHS
Marcellus Shale Horizontal
Marshall County, WV

		MND1MHS SHL				494147.77N 1642153.55E			
Ground Elevation		1150'		MND1MHS LP				493919.65N 1640866.41E	
Azm		326.599°		MND1MHS BHL				499482.19N 1637198.39E	

WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS		
	26"	20" 94# J-55	Conductor	0	40	AIR	*Already Grouted In*	N/A	Once at casing setting depth, ensure hole is clean at TD	Conductor casing = 0.438" wall thickness Burst=2110 psi		
				Conductor already set								
	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. 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.	Surface casing = 0.380" wall thickness Burst=2730 psi		
			Surface Casing	0	1100							
			Coal(s)	704-708'								
	12.25"	9-5/8" 40# J-55 BTC	Big Lime / Big Injun	1742 / 1832	1832 / 1922		AIR	15.6 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. 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.		
			Pocono / Price	1922	2075							
			5th Sand / Weir	2164	2177							
			Intermediate Casing	0	2600							
	8.75" Vertical	5-1/2" 20# P-110 HP CDC HTQ	Speechley	3365	3302		AIR and/or 9.0ppg SOBM	Class A 14.8 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 top of the curve to surface.	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 = 0.361" wall thickness Burst=14,300 psi Note:Actual centralizer schedules may be changed due to hole conditions	
			Java	4778	4889							
			Pipe Creek	5015	5102							
			Angola	4976	5200							
			Rheinstreet	5719	6002							
			Cashaqua	6002	6075							
			Middlesex	6075	5104							
			West River	6104	6166							
			Burkett	6168	6187							
			Tully	6187	6222							
		Hamilton	6222	6262								
8.5" Lateral			TMD / TVD	13524	6290	11.5ppg-12.5ppg SOBM	Run 1 spiral centralizer every 3 joints from the 1st 5.5' long joint to the top of the curve.					
				Onondaga	6309							

LP @ 6290' TVD / 6859' MD 8.5" Hole - Cemented Long String 5-1/2" 20# P-110 HP CDC HTQ +/-6665' ft Lateral TD @ +/-6290' TVD +/-13524' MD

X=centralizers

6,896' to Top Hole

39° 52' 30"

226" to Bottom Hole
(Referenced to 80°47'30")

3,935' to Bottom Hole

80° 45' 00"

9,200' to Top Hole

WELL: MND1 MHS Coordinates

WV SPC North (NAD 27)

SURFACE LOCATION
N - 494,147.8
E - 1,642,153.6

LANDING POINT
N - 493,919.6
E - 1,640,866.4

BOTTOM HOLE
N - 499,482.2
E - 1,637,198.4

UTM NAD 83 (mtr)

SURFACE LOCATION
N - 4,411,112.8
E - 519,301.3

BOTTOM HOLE
N - 4,412,712.7
E - 517,764.5

LAT/LONG (NAD 83)

SURFACE LOCATION
39.849815°
80.774376°

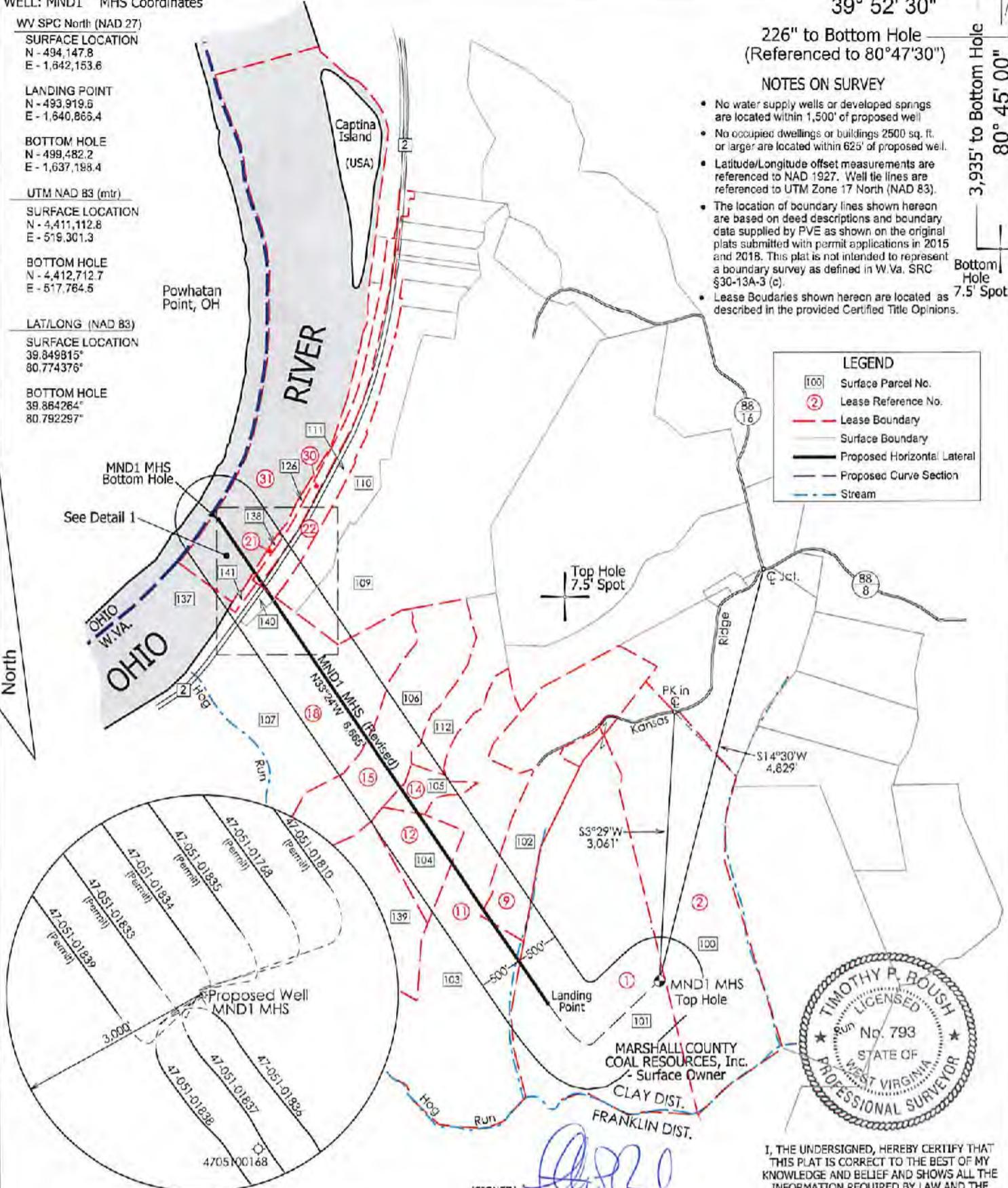
BOTTOM HOLE
39.864264°
80.792297°

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 Boundaries 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



(SIGNED) *[Signature]*
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.

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 5, 2021
 WELL NAME MND1 MHS
 API WELL NO. 47 - 051 - 01839 MOD
 State County RECEIVED Permit
 Office of Oil and Gas

OCT 29 2021
 WV Department of Environmental Protection

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

LOCATION: ELEVATION 1,150' WATERSHED Hog Run - Ohio River
 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 X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___
 PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD Plat - Revised BHL and TVD
 PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ TARGET FORMATION Marcellus Shale ESTIMATED DEPTH 6,290' TVD
13,524' 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

6,896' to Top Hole

39° 52' 30"

226" to Bottom Hole
(Referenced to 80°47'30")

3,935' to Bottom Hole
80° 45' 00"
Bottom Hole
7.5' Spot

9,200' to Top Hole

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E - 1,640,866.4

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UTM NAD 83 (mtr)

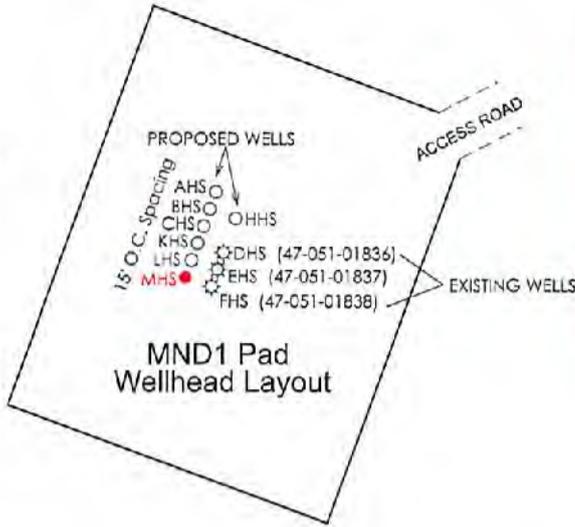
SURFACE LOCATION
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BOTTOM HOLE
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E - 517,764.5

LAT/LONG (NAD 83)

SURFACE LOCATION
39.849815°
80.774376°

BOTTOM HOLE
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80.792297°



LEASE TABLE

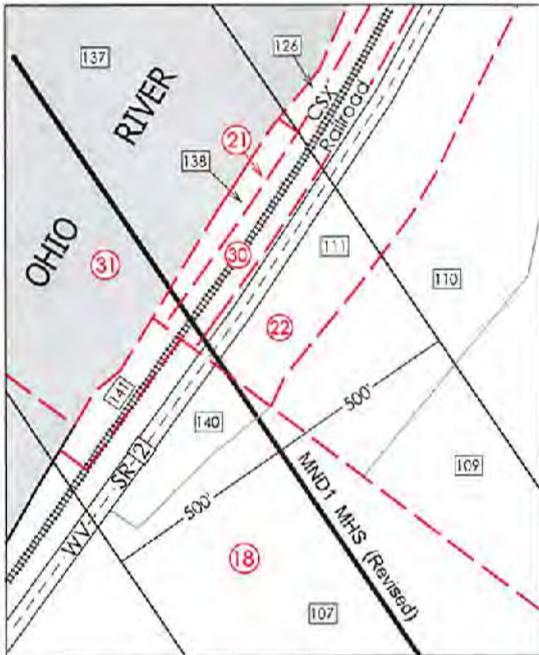
1	HG ENERGY II APPALACHIA, LLC	TMP 04-14-10
2	HG ENERGY II APPALACHIA, LLC	TMP 04-14-09
9	ROBERT E. TSCHAPPAT SR. et ux.	TMP 04-14-06
11	HG ENERGY II APPALACHIA, LLC	TMP 04-14-11
12	HG ENERGY II APPALACHIA, LLC	TMP 04-14-13
14	HG ENERGY II APPALACHIA, LLC	TMP 04-14-14
15	HG ENERGY II APPALACHIA, LLC	TMP 04-14-03
18	HG ENERGY II APPALACHIA, LLC	TMP 04-14-02
21	MILLARD BONNETTE, JR.	TMP 04-07-15.04
22	NYLA J. BELL	TMP 04-07-16
30	CSX TRANSPORTATION, INC.	NA
31	WV DIVISION OF NATURAL RESOURCES	OHIO RIVER

SURFACE PARCEL TABLE

100	Marshall County Coal Resources, Inc.	TMP 04-14-09
101	Marshall County Coal Resources, Inc.	TMP 04-14-10
102	Robert E. Tschappat Sr. et ux.	TMP 04-14-06
103	Marshall County Coal Resources, Inc.	TMP 04-14-11
104	Marshall County Coal Resources, Inc.	TMP 04-14-13
105	Marshall County Coal Resources, Inc.	TMP 04-14-14
106	Marshall County Coal Resources, Inc.	TMP 04-14-03
107	Marshall County Coal Resources, Inc.	TMP 04-14-02
109	Paul J. & Julie D. Maidens	TMP 04-07-14
110	W.Va. Department of Highways	TMP 04-07-15
111	State Road Commission	TMP 04-07-16
112	Edison A. Barlow et ux.	TMP 04-14-04
126	Jim Arritt et al.	TMP 04-07-15.09
137	WV Division of Natural Resources	-
138	Sandy Davis	TMP 04-07-15.04
139	Marshall County Coal Resources, Inc.	TMP 04-14-12
140	State Road Commission	TMP 04-14-01
141	J.P. Stewart Hrs.	TMP 04-14-15

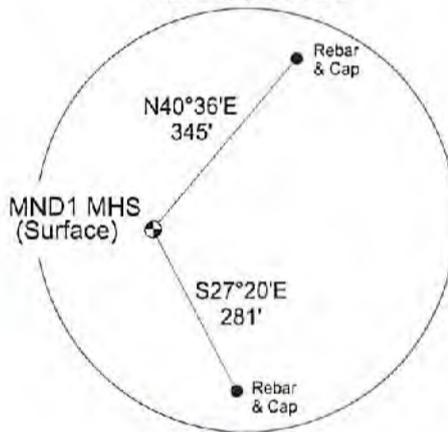


North



DETAIL 1
Scale: 1"=500'

WELL REFERENCES



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(SIGNED) *Timothy P. Roush*
TIMOTHY P. ROUSH PS 793

- DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

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WELL NAME: MND1 MHS
API WELL NO.: 47 - 051 - 01839 Mod
State: County: RECEIVED Permit Office of Oil and Gas

OCT 29 2021

WV Department of Environmental Protection

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

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11/12/2021

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PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD Plat - Revised BHL and TVD
PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____ TARGET FORMATION Marcellus Shale ESTIMATED DEPTH 6,290' TVD 13,524' 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

6,896' to Top Hole

39° 52' 30"

226" to Bottom Hole
(Referenced to 80°47'30")

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Powhatan Point, OH

RIVER

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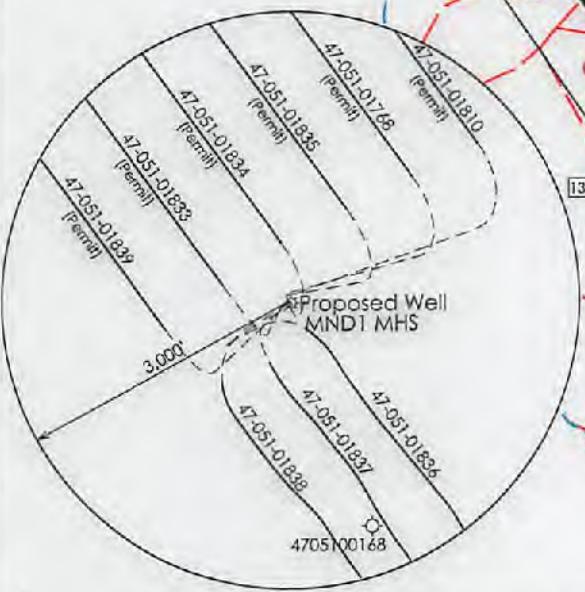
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- Surface Boundary
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- Proposed Curve Section
- Stream

North

See Detail 1

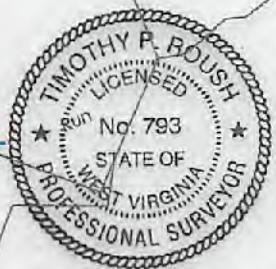
Top Hole 7.5' Spot

Bottom Hole 7.5' Spot



MND1 MHS Top Hole

MARSHALL COUNTY COAL RESOURCES, Inc. Surface Owner



(SIGNED) *[Signature]*
TIMOTHY P. ROUSH PS 793

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Parkersburg, WV 26101 Parkersburg, WV 26101 PAGE 1 OF 2

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39° 52' 30"

226" to Bottom Hole
(Referenced to 80°47'30")

WELL: MND1 MHS Coordinates

WV SPC North (NAD 27)
SURFACE LOCATION
N - 494,147.8
E - 1,642,153.6

LANDING POINT
N - 493,919.6
E - 1,640,866.4

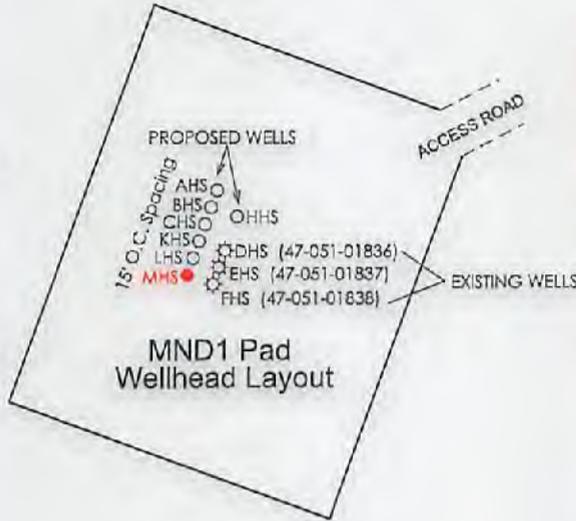
BOTTOM HOLE
N - 499,482.2
E - 1,637,198.4

UTM NAD 83 (mtr)
SURFACE LOCATION
N - 4,411,112.8
E - 519,301.3

BOTTOM HOLE
N - 4,412,712.7
E - 517,764.5

LAT/LONG (NAD 83)
SURFACE LOCATION
39.849815°
80.774376°

BOTTOM HOLE
39.864254°
80.792297°



LEASE TABLE

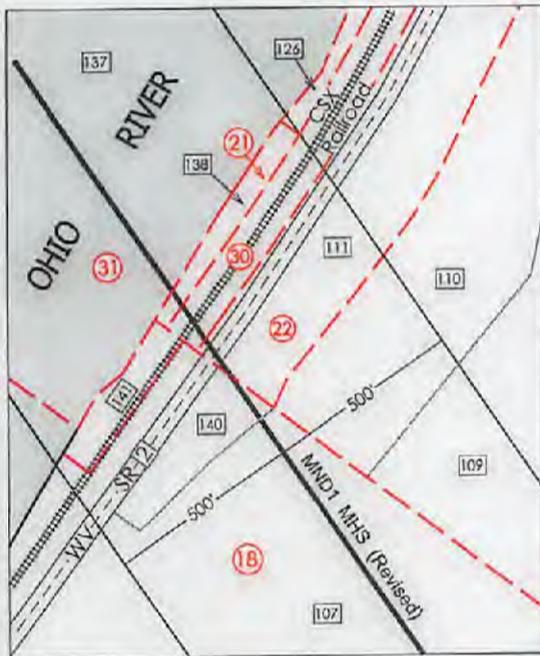
1	HG ENERGY II APPALACHIA, LLC	TMP 04-14-10
2	HG ENERGY II APPALACHIA, LLC	TMP 04-14-09
9	ROBERT E. TSCHAPPAT SR. et ux.	TMP 04-14-06
11	HG ENERGY II APPALACHIA, LLC	TMP 04-14-11
12	HG ENERGY II APPALACHIA, LLC	TMP 04-14-13
14	HG ENERGY II APPALACHIA, LLC	TMP 04-14-14
15	HG ENERGY II APPALACHIA, LLC	TMP 04-14-03
18	HG ENERGY II APPALACHIA, LLC	TMP 04-14-02
21	MILLARD BONNETTE, JR.	TMP 04-07-15.04
22	NYLA J. BELL	TMP 04-07-16
30	CSX TRANSPORTATION, INC.	NA
31	WV DIVISION OF NATURAL RESOURCES	OHIO RIVER

3,935' to Bottom Hole
80° 45' 00"
Bottom Hole
7.5' Spot
9,200' to Top Hole

SURFACE PARCEL TABLE

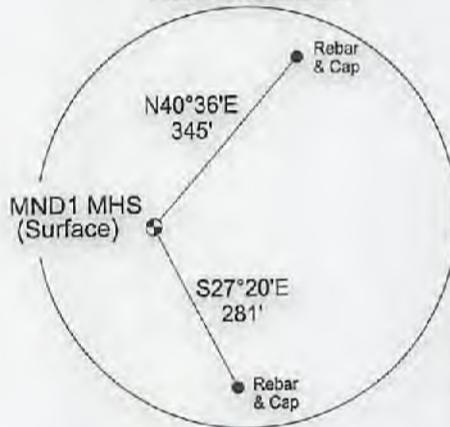
103	Marshall County Coal Resources, Inc.	TMP 04-14-09
101	Marshall County Coal Resources, Inc.	TMP 04-14-10
102	Robert E. Tschappat Sr. et ux.	TMP 04-14-06
103	Marshall County Coal Resources, Inc.	TMP 04-14-11
104	Marshall County Coal Resources, Inc.	TMP 04-14-13
105	Marshall County Coal Resources, Inc.	TMP 04-14-14
106	Marshall County Coal Resources, Inc.	TMP 04-14-03
107	Marshall County Coal Resources, Inc.	TMP 04-14-02
109	Paul J. & Julie D. Maidens	TMP 04-07-14
110	W.Va. Department of Highways	TMP 04-07-15
111	State Road Commission	TMP 04-07-16
112	Edison A. Barlow et ux.	TMP 04-14-04
126	Jim Arritt et al.	TMP 04-07-15.09
137	WV Division of Natural Resources	-
138	Sandy Davis	TMP 04-07-15.04
139	Marshall County Coal Resources, Inc.	TMP 04-14-12
140	State Road Commission	TMP 04-14-01
141	J.P. Stewart Hrs.	TMP 04-14-15

Top Hole
7.5' Spot



DETAIL 1
Scale: 1"=500'

WELL REFERENCES



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*
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 5, 2021
WELL NAME: MND1 MHS
API WELL NO.: 47 - 051 - 01839 MOD
State County Permit

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

11/12/2021

LOCATION: ELEVATION 1,150' WATERSHED Hog Run - Ohio River
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 BHL and TVD
PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____ TARGET FORMATION Marcellus Shale ESTIMATED DEPTH 6,290' TVD
13,524' 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 MHS Lease Chain

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

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
9	Robert E. Tschappat Sr. et ux.	9) Q083948001	04-0014-0006-0000-0000	Robert E. Tschappat, Sr., et ux	AB Resources, LLC	Not less than 1/8	692	463
				AB Resources, LLC	Chief & Radler		24	382,
				AB Resources, LLC	NPAR, LLC		24	490
				Chief & Radler/NPAR, LLC	Chevron USA, Inc.		25	484
							25	1
							756	332
				Chevron USA Inc.	Noble Energy, Inc./CNX Gas Company		31	59
				NOBLE ENERGY INC	HG ENERGY II APPALACHIA, LLC		39	1
11	HG Energy II Appalachia, LLC	11) 623176	04-0014-0011-0000-0000	Noble Energy, Inc.	HG ENERGY II APPALACHIA, LLC	Fee	39	1
12	HG Energy II Appalachia, LLC	12) Q086987002	04-0014-0013-0000-0000	Noble Energy, Inc.	HG ENERGY II APPALACHIA, LLC	Fee	39	1
14	HG Energy II Appalachia, LLC	14) 623217	04-0014-0014-0000-0000	Noble Energy, Inc.	HG ENERGY II APPALACHIA, LLC	Fee	39	1
15	HG Energy II Appalachia, LLC	15) 623218	04-0014-0003-0000-0000	NOBLE ENERGY INC	HG ENERGY II APPALACHIA, LLC	Fee	39	1
18	HG Energy II Appalachia, LLC	18) 623218	04-0014-0002-0000-0000	NOBLE ENERGY INC	HG ENERGY II APPALACHIA, LLC	Fee	39	1
21	Millard Bonnette Jr.	21) Q083340000	04-0007-0015-0004-0000	Millard Bonnette Jr.	Noble Energy, Inc.	not less than 1/8	794	499
				NOBLE ENERGY INC	HG ENERGY II APPALACHIA, LLC		39	1
22	Nyla J. Bell	22) Q085360000	04-0007-0016-0000-0000	Nyla J. Bell, widow	Noble Energy, Inc.	Not less than 1/8	839	568
				NOBLE ENERGY INC	HG ENERGY II APPALACHIA, LLC		39	1
30	CSX Transportation INC.	18) HGI02050	Rail Road	CSX Transportation INC.	HG ENERGY II APPALACHIA, LLC	Not less than 1/8	1123	252
31	Division of Natural Resources	31) HGI0559	Ohio River	Division of Natural Resources	HG ENERGY II APPALACHIA, LLC	Not less than 1/8	1070	336



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

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

1 message

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

Wed, Nov 10, 2021 at 9:46 AM

To: "Knitowski, Gayne J" <e026012@wv.gov>, Eric Buzzard <ebuzzard@marshallcountywv.org>

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**

----- 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 <dwhite@hgenergyllc.com>, Taylor, Joseph D <joseph.d.taylor@wv.gov>, Emily Westfall <ewestfall@wvassessor.com>

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

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**
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-  **47-051-01839 - mod.pdf**
1327K
-  **47-051-02416 - mod.pdf**
1334K

11/12/2021