

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

Permit Modification Approval for MND 1 CHS

47-051-01835-00-00

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.

ames A. Martin

Chief

Operator's Well Number: MND 1 CHS

Farm Name: CONSOLIDATION COAL COMPANY/ MURRAY E

U.S. WELL NUMBER: 47-051-01835-00-00

Horizontal 6A Re-Work Date Modification Issued: 11/9/2021

Promoting a healthy environment.



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 CK # 6287/0

RE:

MND1 CHS Request for Permit Revision - (47-051-01835)

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 CHS 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

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Enclosures

ce: Barry Stollings - DEP State Inspector

API NO. 47-051	_ 01835 /
	ELL NO. MND1 CHS
Well Pad Nan	

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

Well Operator: HO	Energy II Ann	alachia	494519932	Marshall	Clay	Powhatan Point
1) Well Operator: 11	z Energy ii App	alao ila,	Operator ID	County	District	Quadrangle
2) Operator's Well Nu				Pad Name: MN		
3) Farm Name/Surfac	Owner: Murray	y Energy	Corp Public	Road Access: Co	ounty High	way 88/8
4) Elevation, current s	round: 1150'	I	Elevation, propos	sed post-construc	tion: 1150)' (pad constructed)
5) Well Type (a) Ga		Oil		Inderground Stor		
Other						
(b)If	Gas Shallow	X	Deep	F		- ,
	Horizonta	X		MOK	10/2	25/2021
6) Existing Pad: Yes						The state of the s
7) Proposed Target Fo Marcellus 6262' - 63			icipated Thickne	ss and Expected	Pressure(s)):
8) Proposed Total Ve		D.				
9) Formation at Total			us /			
10) Proposed Total M		15419'	,			BEOFINE
11) Proposed Horizon		8514'	/		Ċ	Office of Oil and Gas
12) Approximate Free			538', 801', 8	98', 947' /		OCT 2 9 2021
13) Method to Determ	nine Fresh Water	Depths:	Nearest offset	well	Env	WV Department of ironmental Protection
14) Approximate Salt						
15) Approximate Coa	l Seam Depths:	704' - 70	9' (
16) Approximate Dep	oth to Possible Vo	oid (coal i	mine, karst, othe	r): None anticip	pated	
17) Does Proposed w directly overlying or				Κ1	No	
(a) If Yes, provide l	Mine Info: Nam	ie: We	ells are located i	n abandoned a	rea of McE	Iroy Mine
	Dept	th: 692	2' to seam base			
	Sean	n: Pitt	tsburgh #8			
	Own	er: Co	nsol Mining Co	mpany, LLC		

API NO. 47- 051 - 0	1835
OPERATOR WELL	NO. MND1 CHS
Wall Pad Name:	

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						2222	40% excess, yield 1.2, CTS
Intermediate	9 5/8"	New	J-55 BTC	40	2600'	2600' /	V / /
Production	5 1/2"	New	P-110 HP	20	15419	15419' /	10% excess, yield = 1.34, CTS
Tubing						-	
Liners							

Mg/C 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% excest, yield = 1.18
Coal							
Intermediate	9 5/8"	12 1/4"	0.395	3950		Type 1, Class A	
Production	5 1/2"	8 1/2"	0.361	14360	10000	Type 1, Class A	10% excess, yield # 1.3
Tubing							
Liners							

PACKERS

Kind:	Office of Oil and Gas
Sizes:	QCT 2 9 2021
Depths Set:	W Department of Environmental Protection

WW-6B
(10/14)

API NO. 47- 051 - 01835

OPERATOR WELL NO. MND1 CHS

Well Pad Name: MND1

19) Describe proposed well work, including the drilling and plugging back of any pi	pilot hole:
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Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 6,290 feet. Drill horizontal leg to estimated 8,514' lateral length, 15,419' 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
Intermediata 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/sk40% ExcessYick=1.18 / CTS"

Intermediate Casing - "15.6 ppg Class A 948/sk1% Calcium BWOC - 40% ExcessYiek=1.2 / CTS"

Production Casing - "Class A 14.8 ppgYiekd 1.34D255 = 0.4% BWOB Paid LossD198 = 0.55% BWOB RetarderD047 = 0.02 gal / sack Anti FoamD208 = 0.05% BWOB Viscosifier10% Excess

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OCT 29 2021

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25) Proposed borehole conditioning procedures:

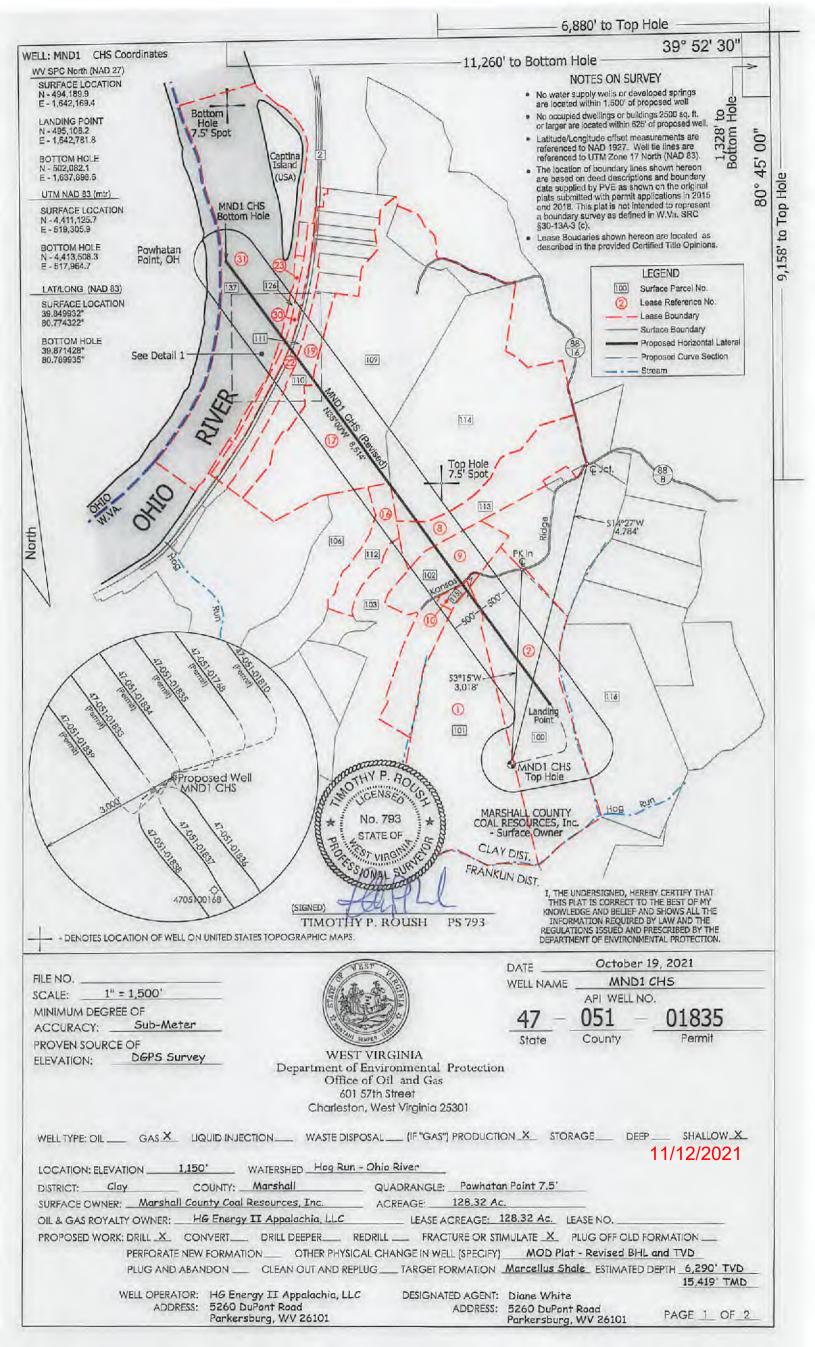
WV Department of Environmental Protection

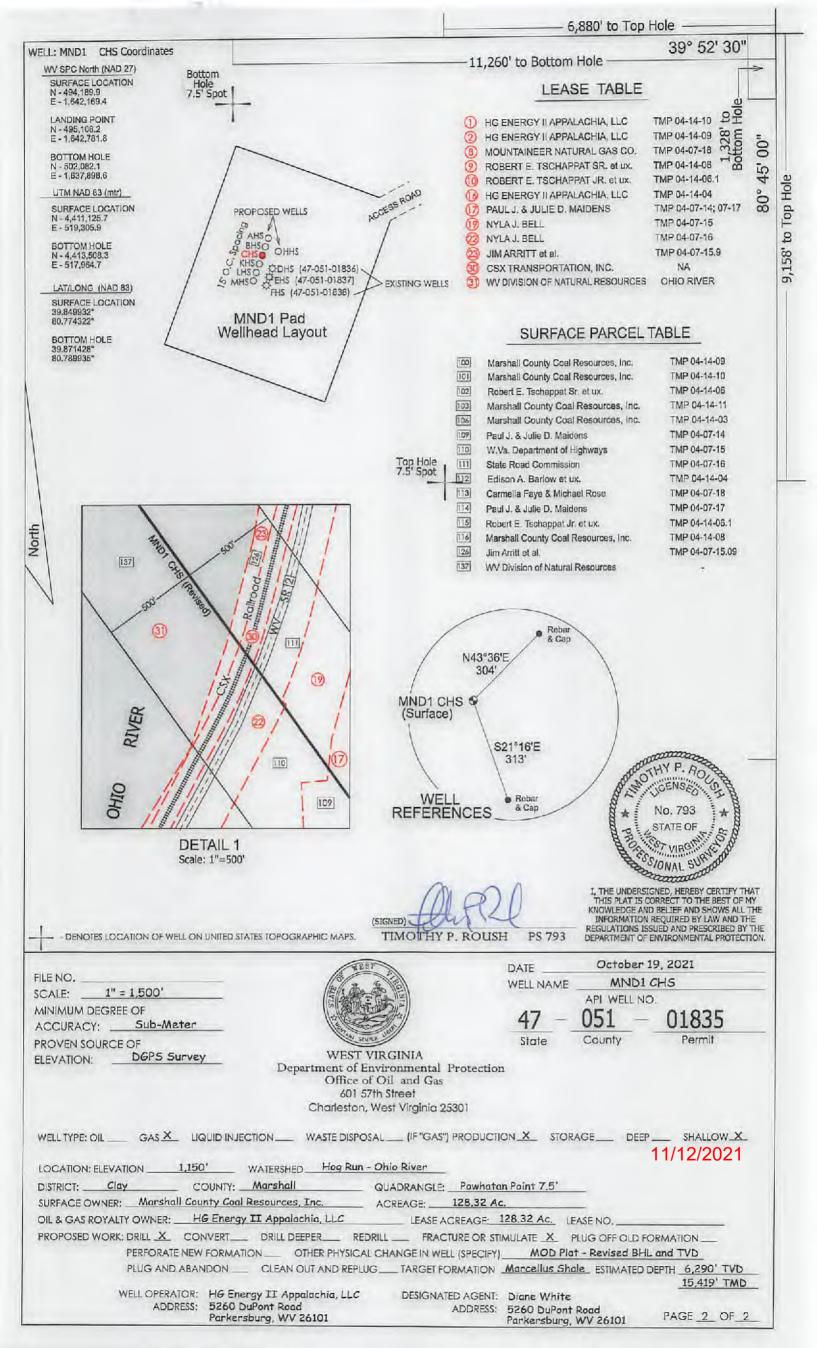
Surface Casing - Circulate & condition @ TD wil Air. RiH wil casing & fill wil Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bits of 6% bentonitis Gelf50e of poly fake, then clear casing will Fresh Water prior to pumping coment.
Intermediate Casing - Circulate & condition @ TD wil Air. RiH wil casing & Ell will Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bits of 6% bentonite Gelf50e of poly fake, then clear casing will Fresh Water prior to pumping coment.
Production Casing - Once on bodom/TD with casing, circulate at minimum of one hole volume prior to pumping coment.

*Note: Attach additional sheets as needed.

		×			*****	*****	241111		×	10000	7272	40000	1993 PM		×		271.03			×	X			×			WELLBORE DIAGRAM	Azm	Ground Elevation		
LP @ 6250' TVD / 8.5" Hole - Cemented Long String 5-1/2" 20# P-110 HP CDC HTQ	×		æ						on .							1575	×			× :	×	******		×			MAS		ion		
			5" Lateral					Curve	75" / 8.5"				Vertical	8.75				12.25				17.5"			28"		HOLE		N		
	×			1	1	1	-	P-110 HP	20#	3								9-5/8" 40# J-56 BTC			J-55 BTC	13-3/8" 54.5#			20" 94# J-55		CASING	325°	1150'	J	ENERGY
	X	Onondaga	TMD/TVO	Marcellus	Hamilton	Villa	Burkett	West River	Middlesex	Cashaqua	Rheinstreet	Angola	Pipe Craek	Java	Speechiey	Intermediate Casing	5th Sand / Weir	Pocono / Price		Big Lime / Big Injun	Coal(s)	Surface Casing	Fresh Water	"Conductor already ser"	Conductor		GEOLDGY	50	50'		
8.5" Hole - C 5-1/2" 20#	×	6309	15419	6262	6222	1818/	8160	6104	6075	6002	5719	4976	5015	4778	3369	0	2164	1922		1742 / 1832	794	0	538', 801		0		TOP				
emented Lang String P-110 HP CDC HTQ		\	6290 1	6309	8262	BZ22	5187	5166	6104	6075	5002	5200	5102	4889	3302	2600	2177	2075		1832 / 1922	704"-709"	1100	538', 801', 898', 947'		40		BASE	MN	M	MN	
- d	×		11.5ppg- 12.5ppg SOBM					11.5ppg-	Airthen		l		Meos	AIR and/or				AIR				AIR			AIR		MUD	MND1CHS BHL	MND1CHS LP	MND1CHS SHL	
	×						D208 - 0.05% BWOB Viscosifier 10% Excess	D047 - 0.02 gal / sack Anti Foam	D198 - 0.55% HWOB Fluid Loss	Yield 1.34							1000	1% Calcium BWOC - 40% Excess Vield=1.2 / CTS	15.6 ppg Class A 94#/sk			15.6 ppg Class A Neat 94#/sk 40% Excess			*Aiready Grouted In*		CEMENT				RECE Office of O OCT 2 WV Depa
	×				top of the suite.	loo of the curve	every 3 joints from the	Run 1 spiral centralizer					surface.	every 5 joints from the	Run 1 spiral centralizer		surface	joints, then every third	Bow Springs (over collars) on first 12		100' from surface	collars) or first 2 joints	Row Springs (over		AW		CENTRALIZERS				MARCEITUS SI Marchall
+i-85/4"ft Lateral / TD @ +i-8290" TVD +i-15419" MD /	X						prior to pumping cement	_	allowable pump rate for at least 2x bottoms up, or until returns and oump pressures indicate the hole	Once on bottom/TD with casing, circulate at max							prior to pumping cement	hale volume, plus 30 bbls of 6% bentonite Gel/50# of poly flake, then clear casing w/ Fresh Water	Oirculate & condition @ TD w/ Air. R/H w/ casing & fill w/ Fresh Water. Circulate a minimum of 1		of poly flake, then clear casing w/ Fresh Water prior to pumping cement.	& fill w/ Fresh Water. Circulate a minimum of 1 hale valume, plus 30 bbls of 6% bentanite GeV50#	Circulate & condition @ TD w/ Air RIH w/ casing		Once at casing setting depth, ensure hole is clean at TD		CONDITIONING	502082.08N 1637898.62E	495108.16N 1642781.8E	494189.89N 1642169.39E	MND1CHS Marcellus Shale Horizontal Marshall County, WV
TD @ +/-8290' TVD +/-15419' MD	×						due to hale canditions	Note Actual centralizer schedules may be changed		Production casing = 0.361*									Intermediate casing = 0.395"		80	Surface casing = 0.380" wall thickness			Conductor casing = 0,438° wall thickness Burst=2110 psi		COMMENTS			•	11/12/20

9,158' to Top Hole





WW-6A	1
(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

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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				

Page 1 of

HG Energy II Appalachia, LLC MND1 CHS Lease Chain

PLAT LEASE NO.	PLAT LEASE NAME	HG Lease Number	MPID	Original Lessor	Original Lessee	Royalty	Book	Pag
					HG ENERGY II			
1	HG Energy II Appalachia, LLC	1) 623175	04-0014-0010-0000-0000	Noble Energy, Inc.	APPALACHIA, LLC	Fee	39	1
					HG ENERGY II			
2	HG Energy II Appalachia, LLC	2) 623177	04-0014-0009-0000-0000	Noble Energy, Inc.	APPALACHIA, LLC	Fee	39	1
					HG ENERGY II	Not less than		
8	Mountaineer Natural Gas Co.	8) HGII 0170	04-0007-0018-0000-0000	Mountaineer Natural Gas Co.	APPALACHIA, LLC	1/8	1041	320
						Not less than		
9	Robert E. Tschappat Sr. et ux.	9) Q083948001	04-0014-0006-0000-0000	Robert E. Tschappat, Sr., et ux	AB Resources, LLC	1/8	692	463
	1		S S				24	382,
		202	- of ection	AB Resources, LLC	Chief & Radler		24	490
		9 8	Cucio Protection of Protection Pr	AB Resources, LLC	NPAR, LLC		25	484
		日息	7 add				25	1
		PECEIVED Gas Office of Oil and Gas	NV Department of Environmental Protections	Chief & Radler/NPAR, LLC	Chevron USA, Inc.		756	332
		0.5 0.5	, led					
		C 0	DCT ouroning		Noble Energy, Inc./CNX			
		1	C 3.5	Chevron USA Inc.	Gas Company		31	59
			m		HG ENERGY II			
				NOBLE ENERGY INC	APPALACHIA, LLC		39	1
		V			HG ENERGY II	Not less than		
10	Robert E. Tschappat Jr. et ux.	10) HGII 01280	04-0014-0006-0001-0000	Robert E. Tschappat, Jr., et ux	APPALACHIA, LLC	1/8	1099	139
			7.7 10.7 10.00		HG ENERGY II	4.4.9		
16	HG Energy II Appalachia, LLC	16) 623217	04-0014-0004-0000-0000	Noble Energy, Inc.	APPALACHIA, LLC	Fee	39	1
			04-0007-0014-0000-0000,	100000000000000000000000000000000000000		Not less than		
17	Paul J. & Julie D. Maidens	17) Q082524000	04-0007-0017-0000-0000	Paul J. Maidens, et ux	Noble Energy, Inc.	1/8	826	90
	Paul J. & Julie D. Maidens	And the state of t			HG ENERGY II			
				NOBLE ENERGY INC	APPALACHIA, LLC		39	1
						not less than		
19	Nyla J. Bell	19) Q080080000	04-0007-0015-0000-0000	Nyla J. Bell, widow	Noble Energy, Inc.	1/8	813	251
	Nyla J. Bell	23.00 (1.3 (1.3)			HG ENERGY II		22	
				NOBLE ENERGY INC	APPALACHIA, LLC		39	1
22						Not less than		
	Nyla J. Bell	22) Q085360000	04-0007-0016-0000-0000	Nyla J. Bell, widow	Noble Energy, Inc.	1/8	839	568
	Nyla J. Bell				HG ENERGY II			
				NOBLE ENERGY INC	APPALACHIA, LLC		39	1
			and the second second second		HG ENERGY II	Not less than		
23	Jim Arrit SR	23) HGII01966	04-0007-0015-0009-0000	Jim Arrit SR	APPALACHIA, LLC	1/8	1120	562
				O 177 Co. 179 Co.	HG ENERGY II	Not less than		
30	CSX Transportation INC.	18) HGII02050	Rail Road	CSX Transportation INC.	APPALACHIA, LLC	1/8	1123	252
					HG ENERGY II	Not less than		
31	Division of Natural Resources	31) HGII0559	Ohio River	Division of Natural Resources	APPALACHIA, LLC	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>

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

Wed, Nov 10, 2021 at 9:46 AM

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** 1350K
- **47-051-01835** mod.pdf 1352K
- **47-051-01839** mod.pdf 1327K
- **47-051-02416** mod.pdf 1334K