

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 KHS 47-051-01834-00-00

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.

. Martin James Chie

Operator's Well Number:
Farm Name:MND 1 KHS
CONSOLIDATION COAL COMPANY, MURRAY EU.S. WELL NUMBER:
Horizontal 6A47-051-01834-00-00
Re-WorkDate 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# 628712 \$5,000

RE: MND1 KHS Request for Permit Revision – (47-051-01834) 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 KHS 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 <u>dwhite@hgenergyllc.com</u>.

Very truly yours,

Diane White

Diane C. White

Enclosures

RECEIVED Office of Oil and Gas

OCT 2 9 2021

WV Department of Environmental Protection

cc: Barry Stollings - DEP State Inspector

API NO. 47-051 -01834 OPERATOR WELL NO. MND1 KHS Well Pad Name: MND1

DEPAR	TMENT OF ENV	RONMEN	OF WEST	ECTION	OFFICE OF O	IL AND G	AS
DEFTERS	W	ELL WOR	K PERMIT	APPLICA	TION		
1) Well Operato	or: HG Energy II	Appalach	ia, 1 4945 Oper	19932 ator ID	Marshall /	Clay Clay	Powhatan Point Quadrangle
	Vell Number: MNI	01 KHS			ad Name: MND	1 -	
2) Operator's W	velt Number:						vay 88/8 /
3) Farm Name/	Surface Owner: <u>N</u>	iurray Ene	igy corp	Public K	Jau Access.		(d encetaucted)
4) Elevation, ci	urrent ground: 1	150'					(pad constructed)
5) Well Type	(a) Gas X	0	il	Un	derground Stora	ige	
	Other			-			
	(b)If Gas Shall			_ Deep			1
Section 2.		zontal X			A	OK 10/2	50021
6) Existing Pac	d: Yes or No Yes arget Formation(s)	Donth(c)	Anticipated	Thicknes	and Expected	Pressure(s):	
7) Proposed Ta Marcellus 62	arget Formation(s) 262' - 6309', 47' Thi	ck, 4204 ps	i /	Thendice	1		
	otal Vertical Depth	. 6290'	1			_	
8) Proposed 1	at Total Vertical Depu	epth: Mar	cellus				
			71' /				
	Total Measured De		1				
	Horizontal Leg Le			, 801', 89	8', 947'		
	hate Fresh Water St			est offset			
13) Method to	Determine Fresh	Water Dep		Stunset	won		
	nate Saltwater Dep						
15) Approxin	nate Coal Seam De	pths: 704	- 709'		Ness antioir	ooted	
16) Approxin	nate Depth to Poss	ible Void (coal mine, k	arst, other): None anuci	Jaleu	
17) Does Pro	posed well location lying or adjacent to	n contain co	oal seams mine?	Yes >	(1	No	
	provide Mine Info:		Wells are	located i	n abandoned a	irea of McE	Elroy Mine
(a) 11 1 cs, j		Depth:	692' to se	am base			
		Seam:	Pittsburgh			Offic	RECEIVED se of Oil and Gas
		Owner:	Consol M	lining Cor	mpany, LLC		T 2 9 2021
							LULI

WV Department of Environmental Protection

11/12/2021

Page 1 of 3

API NO. 47-051 - 01834

OPERATOR WELL NO. MND1 KHS Well Pad Name: MND1

WW-6B (04/15)

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size</u> (in)	<u>New</u> <u>or</u> Used	Grade	Weight per ft. (lb/ft)	<u>FOOTAGE: For</u> <u>Drilling (ft)</u>	INTERVALS: Left in Well (ft)	<u>CEMENT:</u> <u>Fill-up</u> (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				4		00001	40% excess, yield = 1.2, CTS
Intermediate	9 5/8"	New	J-55 BTC	40	2600'	2600' -	
Production	5 1/2"	New	P-110 HP	20	14271'	14271'	10% excess, yield = 1.34, CTS
Tubing							
Liners							

MgK 10/25/2021

TYPE	Size (in)	<u>Wellbore</u> Diameter (in)	<u>Wall</u> <u>Thickness</u> (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	<u>Cement</u> <u>Type</u>	<u>Cement</u> <u>Yield</u> (cu. ft./k)
Conductor	20"	26"	0.438	2110		Type 1, Class A	CTS
Fresh Water	13 3/8"	17.5"	0.380	2730	1	Type 1, Class A	40% excess, yield = t.*
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. y cid = 1,2
Tubing							
Liners							

PACKERS

Kind:	
Sizes:	а.
Depths Set:	RECEIVED Office of Oil and Gas

OCT 2 9 2021

WV Department of Environmental Protection

Page 2 of 3

11/12/2021

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 7,485' lateral length, 14,271' 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

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 Cesting - Run 1 solved contralizer 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:	RECEIVED	
Conductor - Already grouted in	Office of Oil and Gas	
Surface Casing - "15.6 ppg Class A Noti (H#/Isk40% ExcessYleid=1.18 / CTS" Intermediate Casing - "15.6 ppg Class A 944/ish1% Caldum BWOC - 40% ExcessYleid=1.2 / CTS" Production Casing - "Class A 14.8 ppgYleid 1.34D255 - 0.4% BWOB Field LossD198 - 0.55% BWOB RetarderD047 - 0.02 gal / sack Anti FoemD208 - 0.05% BWOB Viscosifier10% Excess"	OCT 29 2021	
	WV Department of Environmental Protection	Ŧ

25) Proposed borehole conditioning procedures:

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

Surface Casing - Circulate & condition @ TD wir Air, Rill wir casing & Et wir Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bibli of 6% benichnite Gel/508 of poly fake, then clear casing wir Fresh Water prior to pumping comer

Intermediate Casing - Circulate & condition () TD w/ Air. Rith w/ casing & fill w/ Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bbls of 6% bentonts Gel/508 of poly Eake, then clear casing w/ Fresh Water prior to pumping o

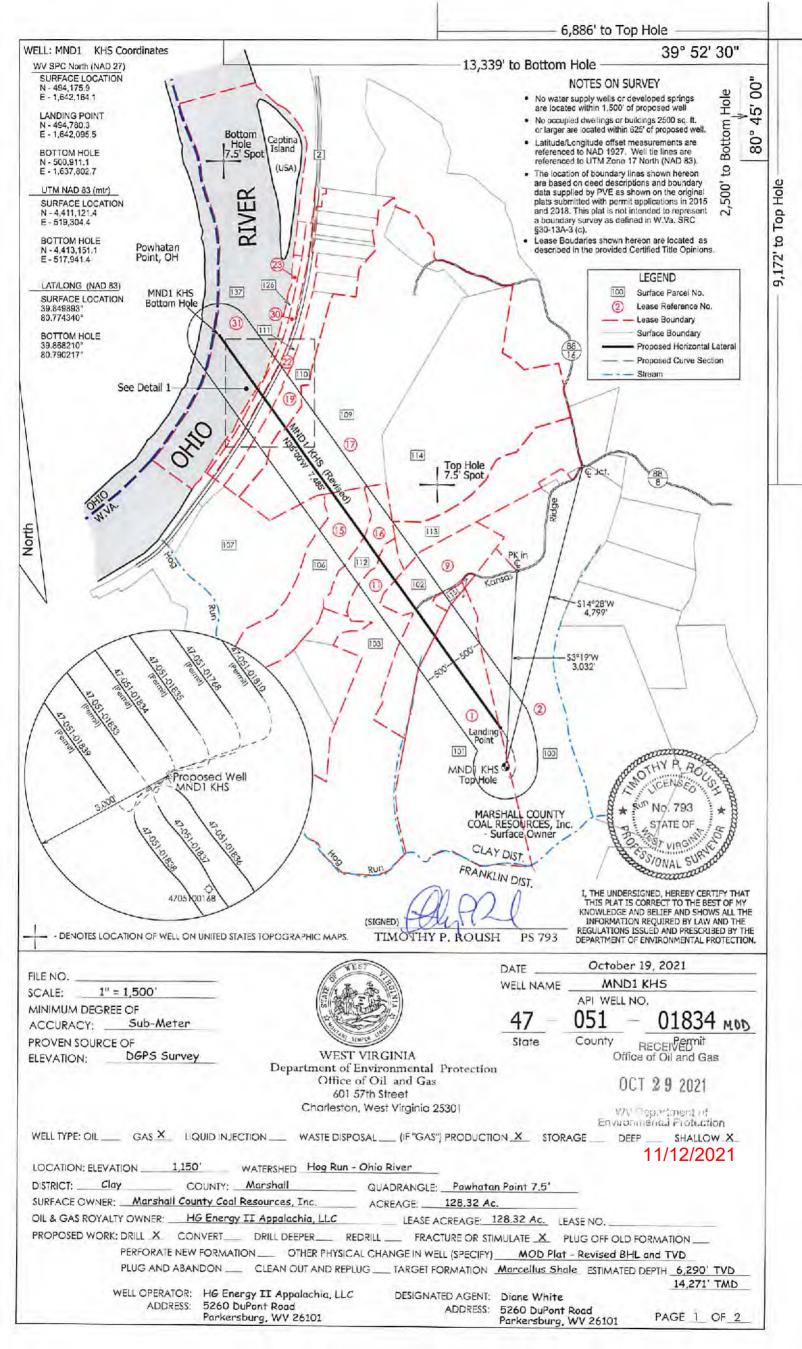
Production Casing - Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cament

*Note: Attach additional sheets as needed.

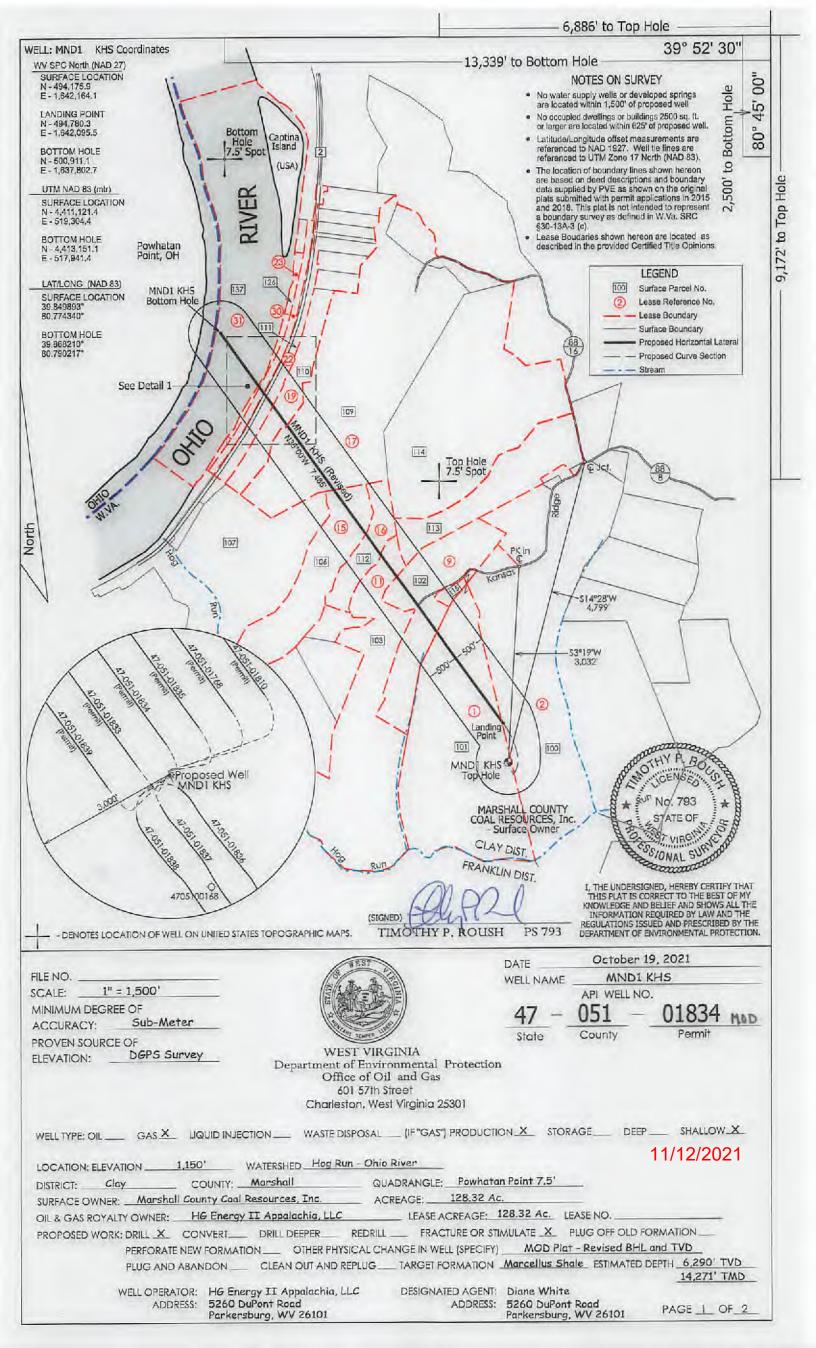
÷

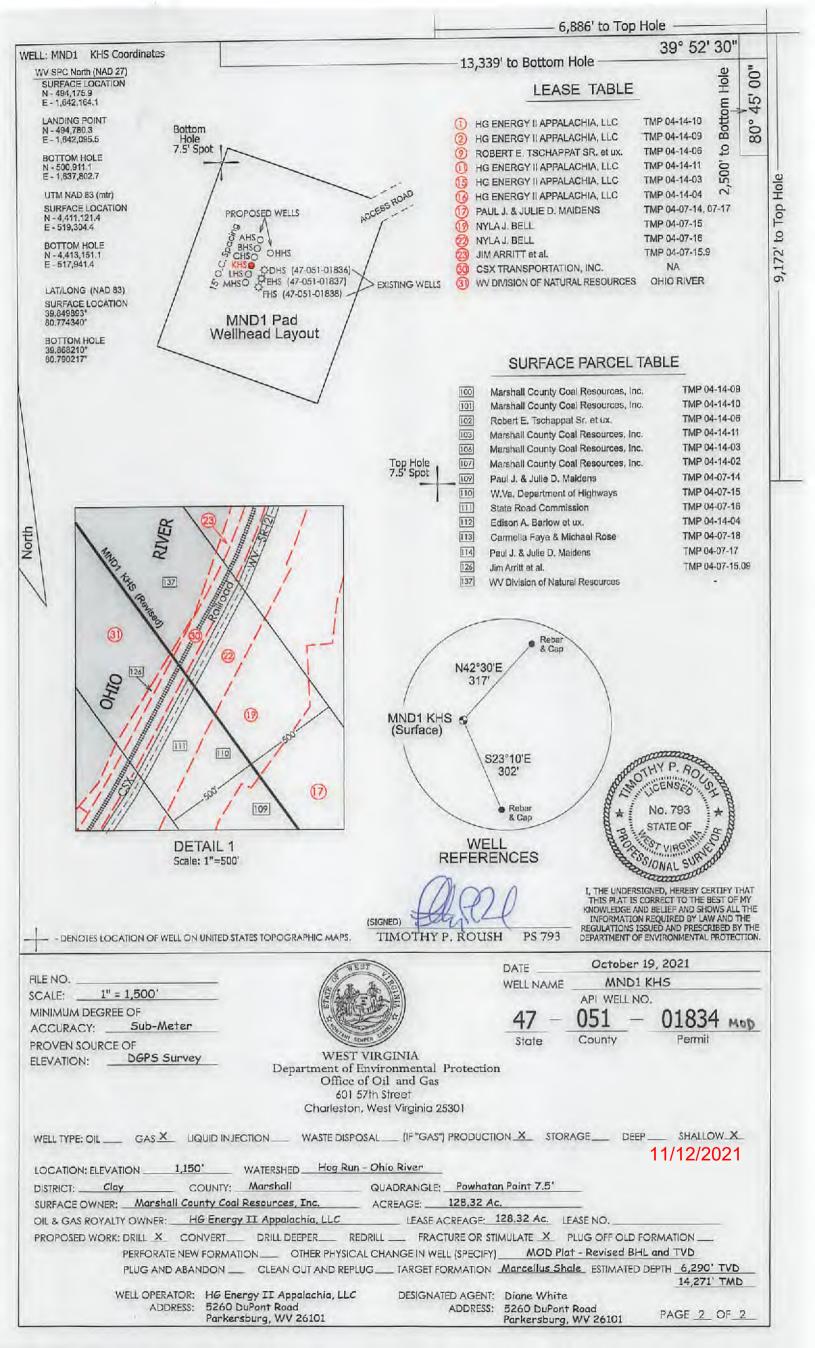
Ħ

		ENERGY	0	HEOEN ED Gas				Marcellus Sh	01KHS nale Horizontal County, WV			
			3		MN	D1KHS SHL			494175.85N 1642164.11E			
ound Elevation		11	50'		IM	ND1KHS LP			494780.29N 1642095.51E			
Azm		32	5°		MIN	D1KHS BHL			500911.07N 1637802.7E			
LLBORE DIAGRAM	HOLE	CASING	GEDLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS		
X X	.26*	20" 94# J-55	Conductor	0	40 /	AIR	*Already Grouted In*	NIA	Once at casing setting depth, ensure hole is clean at TD	Conductor casing = 0,43 wall thickness Burst=2110 psi		
	17.5"	13-3/8" 54.5# J-55 BTG	*Conductor already set* Frash Water Surface Casing Ccal(s)	٥	, 898', 947' 1100 /	- AIR	15.6 ppg Class A Neat 94#/sk 40% Excess Yield=1.16 / 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 bbis of 6% benionite Gel/5C# of poly flake, then clear casing w/ Fresh Water prior to pumping cement.	Surface casing = 0.380° w thickness Eurst=2730 psi		
	12.25	9-5/8" 40# J-55 BTC	Big Lime / Big Injun Pocono / Price 5th Sand / Weir Intermediate Casing	1742 / 1832 1622 2164 0	1832 / 1922 2075 2177 2600 /	AIR	15.6 ppg Class A. 94#/sk 1% Catcium BWOC - 40% Excess Yield≃1.2. / CTS	Bow Springs (over collars) on first 12 joints, then every third joint to 100' fram surface	Circulate & condition @ TD w/ Air. RIH w/ casing & fill w/ Fresh Water. Circulate a minimum of 1 hole volume, plus 30 bits of 5% bentonite Gel/56# of poly flake, then clear casing w/ Fresh Water prior to pumping cement.	Intermediate casing = 0.3 wall thickness Burst=3950 psi		
XX	8.75" Vertical		Speechley Java Pipe Creek Angola	3369 4778 5015 4976	3302 4889 5102 5200	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 Feam D208 – 0.55% BWOB Viscosifier	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	e Cnce 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 Burst Note:/Ac scheduless due to f			
x x	8.75" / 8.5" Curve	5-1/2" 20# P-110 HP CDC HTQ	Rheinstreet Cashacua Middlesex West River Burkett	5719 6002 6075 6104 6166	6002 6075 8104 6165 6187	Air then 11.5ppg- 12.5ppg SOBM		Run 1 spiral centralizer		Production casing = 0.36 wall thickness Burst=14,360 psi Note:Actual centralizer schedules may be change		
			Tully Hamilton Marcellus	6187 6222 6282	6222 6262 6309		10% Excess	every 3 joints from the 1st 5.5" long joint to the top of the curve.		due to hole conditions.		
8.5	8.5" Lateral	8.5" Lateral	8.5" Lateral		TMD / TVD	14271	6290	11.5ppg- 12.5ppg SOBM				









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

** 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

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.

NED Cas		HG Energy II Appalachia, LLC				
RECEIVED Gas Office of Oil and Cas	By:	Diane White	Diane Wh	ite		
9. 9	Its:	Agent				
OCI atment of ion						
OCI Bepartment of WV Department of Protection				Page 1 of		

11/12/2021

HG Energy II Appalachia, LLC MND1 KHS Lease Chain

LAT LEASE NO.	PLAT LEASE NAME	HG Lease Number	MPID	Original Lessor	Original Lessee	Royalty	Book	k Page
					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
		Card as the second s	A CARACTER STREET	and a start start		Not less than		1.1
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
		as as					24	382,
		and Ga 2021 Protec		AB Resources, LLC	Chief & Radler		24	490
		and Pro-		AB Resources, LLC	NPAR, LLC		25	484
		Silo o					25	1
		Office of Oil and Gas 10089668900 (6 0CT 2 9 2021 www.Department.of		Chief & Radler/NPAR, LLC	Chevron USA, Inc.		756	332
		DCT 0CT			Noble Energy, Inc./CNX			
		Enviv		Chevron USA Inc.	Gas Company HG ENERGY II		31	59
				NOBLE ENERGY INC	APPALACHIA, LLC		39	1
		and the second se	1		HG ENERGY II		-	
11	HG Energy II Appalachia, LLC	11) 623176	04-0014-0011-0000-0000	Noble Energy, Inc.	APPALACHIA, LLC	Fee	39	1
		A CANADA CANA	and a second second second		HG ENERGY II			
15	HG Energy II Appalachia, LLC	15) 623218	04-0014-0003-0000-0000	NOBLE ENERGY INC	APPALACHIA, LLC	Fee	39	1
					HG ENERGY II			
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,	the second s		Not less than		
100	Paul J. & Julie D. Maidens	17) Q082524000	04-0007-0017-0000-0000	Paul J. Maidens, et ux	Noble Energy, Inc.	1/8	826	50
17					HG ENERGY II			
and the second s				NOBLE ENERGY INC	APPALACHIA, LLC		39	1
	Abole 1 Bell		Contract of the second second			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
19		Concernance of the			HG ENERGY II			
		all have been a second second		NOBLE ENERGY INC.	APPALACHIA, LLC	1	39	1
	Nyla J. Bell					Not less than		
22	Nyla J. Den	22) Q085360000	04-0007-0016-0000-0000	Nyla J. Bell, widow	Noble Energy, Inc. HG ENERGY II	1/8	839	568
				NOBLE ENERGY INC	APPALACHIA, LLC		39	1
					HG ENERGY II	Not less than		
23	Jim Arrit SR	16) HGII01966	04-0007-0015-0009-0000	Jim Arrit SR	APPALACHIA, LLC	1/8	1120	562
					HG ENERGY II	Not less than		
30	CSX Transportation INC.	18) HGII02050	Rail Road	CSX Transportation INC.	APPALACHIA, LLC	1/8	1123	252
34	Con the sport the off the	and get and man of			HG ENERGY II	Not less than	100 A 100	
31	Division of Natural Resources	17) HGII0559	Ohio River	Division of Natural Resources	APPALACHIA, LLC	1/8		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 dwite@doi:10.000 To: Diane White dwite@doi:10.0000 To: Diane White@doi:10.0000

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