



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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Monday, December 9, 2019
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WV 26101

Re: Permit Modification Approval for 1209 S-7H
47-033-05943-00-00

Increase lateral spacing from 1000' to 1500'. Total measured depth change 17740' to 17587'.

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.


James A. Martin
Chief

Operator's Well Number: 1209 S-7H
Farm Name: HG ENERGY II APPALACHIA, LLC
U.S. WELL NUMBER: 47-033-05943-00-00
Horizontal 6A New Drill
Date Modification Issued: 12/09/2019

Promoting a healthy environment.

WW-6B
(04/15)

API NO. 47- 033 - 05943 MOD
OPERATOR WELL NO. Nays 1209 S-7H
Well Pad Name: Nays 1209

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

1) Well Operator: HG Energy II Appalachia, L.P.

<u>494519932</u>	<u>Harrison</u>	<u>Union</u>	<u>West Milford 7.5'</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: Nays 1209 S-7H Well Pad Name: Nays 1209

3) Farm Name/Surface Owner: Nays / HG Energy II Appalachia Public Road Access: Kincheloe Run Rd/SLS 35

4) Elevation, current ground: 1002' Elevation, proposed post-construction: 1007'

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

SDW
9/20/2019

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 6863/6914' and 51' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17,587'

11) Proposed Horizontal Leg Length: 9,951'

12) Approximate Fresh Water Strata Depths: 135', 500'

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

14) Approximate Saltwater Depths: None noted in offsets

15) Approximate Coal Seam Depths: 660' to 665'

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

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: _____
Depth: _____
Seam: _____
Owner: _____

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WW-6B
(04/15)

API NO. 47- _____
 OPERATOR WELL NO. Nays 1209 S-7H
 Well Pad Name: Nays 1209

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 - 1st	36"	New	LS	195.36	100'	100'	Drilled In
Fresh Water	20"	NEW	J-55	94	600'	600'	40% excess yield = 1.20, CTS
Coal	13 3/8"	NEW	J-55	68	1735'	1735'	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	NEW	J-55	40	2500'	2500'	40% excess yield Lead/ 0% Excess Yield
Production	5 1/2"	NEW	P-110	23	17587'	17587'	20% excess yield = 1.19, tail yield = 1.04
Tubing							
Liners							

*SDW
9/20/2019*

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	30"	30"	.500				CTS
Fresh Water	20"	24"	.438	2110	1200	Type 1, Class A	30 % excess yield = 1.20, CTS
Coal	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	40% excess yield = 0% Excess Lead, 4%
Production	5 1/2"	8 1/2"	.415	14520	12500	Type 1/Class A	20% excess yield = 1.19, tail yield = 1.04
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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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 - 1st	36"	New	LS	195.36	100'	100'	Drilled In
Fresh Water	20"	NEW	J-55	94	600'	600'	40% excess yield = 1.20, CTS
Coal	13 3/8"	NEW	J-55	68	1735'	1735'	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	NEW	J-55	40	2500'	2500'	40% excess yield Lead/ 0% Excess Tail +
Production	5 1/2"	NEW	P-110	23	17267'	17267'	20% excess yield = 1.19, tail yield = 1.24 +
Tubing							
Liners							

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	30"	30"	.500				CTS
Fresh Water	20"	24"	.438	2110	1200	Type 1, Class A	30 % excess yield = 1.20, CTS
Coal	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	40% excess yield = 0% Excess Lead, 40% +
Production	5 1/2"	8 1/2"	.415	14520	12500	Type 1/Class A	20% excess yield = 1.19, tail yield 1.24 +
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 6900 feet. Drill horizontal leg to estimated 9631' TMD, 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 completed with 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 12,500 psi.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.148 acres

22) Area to be disturbed for well pad only, less access road (acres): 10.834 acres

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.
Freshwater - centralized every 3 joints to surface.
Coal - Bow Spring on every joint
Intermediate - Bow Spring on first 2 joints then every third joint to 100' from surface.
Production - 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 - N/A, Casing to be drilled in w/ Dual Rotary Rig.
Fresh Water - 15.6 ppg PNE-1 + 3% bwoc CaCl₂, 40% Excess Yield = 1.20, CTS
Coal - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl₂ zero% Excess, CTS
Intermediate - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess, Tail: 15.9 ppg, PNE-1 + 2.5% bwoc CaCl₂, zero% Excess, CTS
Production - Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170, Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA17020% Excess Lead Yield=1.19 Tail Yield=1.94, CTS

25) Proposed borehole conditioning procedures:

Conductor - Ensures the hole is clean at TD.
Fresh Water - Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.
Coal - Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.
Intermediate - Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.
Production - 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.

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*Note: Attach additional sheets as needed.



**1209 S-7H
Marcellus Shale Horizontal
Harrison County, WV**

				1209 S-7H SHL				237394.2N 1732702.59E		
Ground Elevation		1007'		1209 S-7H LP				236541.35N 1731183.32E		
Azim		159.992°		1209 S-7H BHL				227491.7N 1734478.59E		
WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
	30"	30" 157.5# LS	Conductor	0	100	AIR	N/A, Casing to be drilled in w/ Dual Rotary Rig	N/A	Ensure the hole is clean at TD.	Conductor casing = 0.5" wall thickness
	24"	20" 94# J-55	Fresh Water	0	135	AIR	15.6 ppg PNE-1 + 3% bwoc CaCl 40% Excess Yield=1.20 / CTS	Centralized every 3 joints to surface	Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.	Surface casing = 0.438" wall thickness Burst=2110 psi
			Kittanning Coal	660	665					
			Fresh Water	0	750					
	17.5"	13-3/8" 68# J-55 BTC	Little/Big Lime	1126 / 1167	1151 / 1243	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on every joint <i>*will also be running ECP for isolating storage zone*</i>	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi
			Injun / Gantz (Storage)	1243 / 1535	1349 / 1585					
			Intermediate 1	0	1735					
	12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	1650 / 1730	1697 / 1742	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi
			Gordon Stray / Gordon	1785 / 1850	1850 / 1940					
			5th Sand	2035	2070					
			Bayard Sand	2125	2160					
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	2745	2763	9.0ppg SOBM	<u>Lead:</u> 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 <u>Tail:</u> 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 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 = 0.415" wall thickness Burst=16240 psi Note:Actual centralizer schedules may be changed due to hole conditions
			Balltown	2965	3005					
			Benson	4050	4083					
			West Falls	4620	5865	11.5ppg-12.5ppg SOBM				
Rhinestreet			5865	6140						
Cashaqua			6140	6341						
Middlesex			6341	6421						
West River			6421	6514						
Burkett			6514	6540						
Tully Limestone			6540	6644						
Hamilton	6644	6863	11.5ppg-12.5ppg SOBM							
Marcellus	6863	6914								
8.5" Lateral		TMD / TVD (Production)	17267	6900						
		Onondaga	6914							

LP @ 6900' TVD / 7636' MD

8.5" Hole - Cemented Long String
5-1/2" 23# P-110 HP CDC HTQ

+/-9631' Lateral

TD @ +/-6900' TVD
+/-17267' MD

X=centralizers

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**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 Sheets"

**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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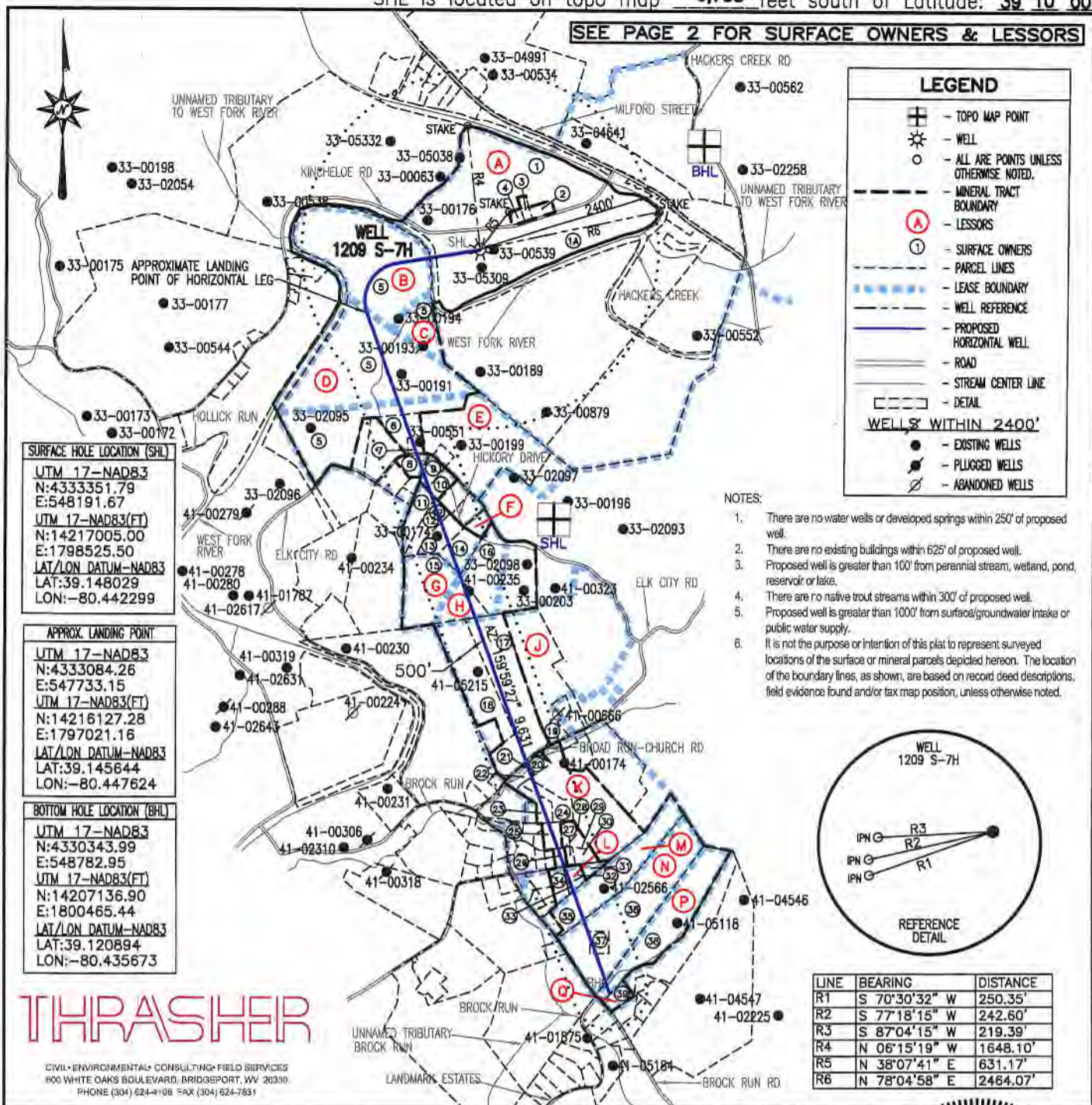
The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

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

BHL is located on topo map 1,804 feet south of Latitude: 39° 07' 30"
 SHL is located on topo map 6,788 feet south of Latitude: 39° 10' 00"

SEE PAGE 2 FOR SURFACE OWNERS & LESSORS

BHL is located on topo map 5,276 feet west of Longitude: 80° 25' 00"
 SHL is located on topo map 7,270 feet west of Longitude: 80° 25' 00"



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CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES
 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
 PHONE (304) 624-4108 FAX (304) 624-7631

FILE #: 1209 S-7H
 DRAWING #: 1209 S-7H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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: George D. Six
 R.P.E.: _____ L.L.S.: P.S. No. 2000

GEORGE D. SIX
 LICENSED
 No. 2000
 STATE OF
 WEST VIRGINIA
 PROFESSIONAL SURVEYOR

PLACE SEAL HERE

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

DATE: SEPTEMBER 18, 2019
 OPERATOR'S WELL #: 1209 S-7H
 API WELL #: 47 33 05943 MOD
 STATE COUNTY PERMIT

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

WATERSHED: MIDDLE WEST FORK CREEK ELEVATION: 1,007'±
 COUNTY/DISTRICT: HARRISON / UNION QUADRANGLE: WEST MILFORD, WV 7.5'
 SURFACE OWNER: HG ENERGY II APPALACHIA, LLC ACREAGE: 95.06±
 OIL & GAS ROYALTY OWNER: ANN COVINGTON, ET AL ACREAGE: 439.624±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,900'± TMD: 17,268'±

WELL OPERATOR HG ENERGY II APPALACHIA, LLC DESIGNATED AGENT DIANE C. WHITE
 Address 5260 DUPONT ROAD Address 5260 DUPONT ROAD
 City PARKERSBURG State WV Zip Code 26101 City PARKERSBURG State WV Zip Code 26101

1209 S-7H

PAGE 2 OF 2

	SURFACE OWNER	DIST-TM/PAR
1	DANNY LEE & ALICIA A. STICKEL	P/O 20-444/11.2
1A	HG ENERGY II APPALACHIA, LLC	P/O 20-444/11.2
2	HG ENERGY II APPALACHIA, LLC	20-444/11.3
3	AARON C. & CHRISTINA P. MEDINA	20-444/11
4	HG ENERGY II APPALACHIA, LLC	20-444/11.1
5	ROCK GARTON	12-444/26
6	NORMAN W. & MARGARET A. LOHR	12-444/27.2
7	NORMAN W. & MARGARET A. LOHR	12-444/27.1
8	TRAVIS W. & LOGAN M. SWIGER	12-444/28.1
9	BRYAN D. & KIMBERLY J. SMITH	12-444/37.9
10	BRYAN D. & KIMBERLY J. SMITH	12-444/37.8
11	DAKOTA M. DAVIS	12-444/37.1
12	KAREN L. CRISLIP	12-444/37.2
13	KEVIN MARION	12-444/37.3
14	DONALD EARL HONAKER	12-444/37.4
15	ROBERT SCOTT STARKEY	4-7B/59
16	ROBERT SCOTT STARKEY	4-7B/60
17	LEE ARCH & SUSAN B. STALNAKER	4-7B/5.1
18	MARK D. & MARY ELIZABETH REASER	4-7B/5.7
19	HERBERT & VELMA SIAS	4-7B/29.17
20	HERBERT & VELMA SIAS	4-7B/28.1
21	HERBERT & VELMA SIAS	4-7B/28.2
22	DANIEL R. & SARITA M. PRINCE	4-7B/28
23	CEMETERY BROAD RUN	4-7B/25
24	CEMETERY BROAD RUN	4-7B/26
25	ARQUILLA JANE RAINES	4-7B/29.13
26	CARMEN V. BUTCHER	4-7C/74
27	STEPHANIE KIRKPATRICK	4-7C/75
28	VIRGIL B. & MELODY K. WHITE	4-7B/29.10
29	CHARLES E. BYRNE	4-7C/86
30	ALLEN C. & LILLY M. JACKSON	4-7C/73
31	FRANK L. & MARY ELLEN BRAGG	4-7C/68
32	FRANK L. & MARY ELLEN BRAGG	4-7C/64
33	FRANK L. & MARY ELLEN BRAGG	4-7C/59
34	RALPH L. COLE	4-7C/62
35	ROBERT G. & ALISA G. GUM	4-7C/30.2
36	ROBERT G. & ALISA G. GUM	4-7C/31
37	ROBERT G. & ALISA G. GUM	4-7C/31.1
38	KEVIN B. & SHERI K. JERDEN	4-8C/1.1
39	*FRANCES JANE HUSTEAD & JUNE STALNAKER PENELOPE	4-8C/1

SURFACE HOLE LOCATION (SHL)

UTM 17-NAD83
 N:4333351.79
 E:548191.67
 UTM 17-NAD83(FT)
 N:14217005.00
 E:1798525.50
 LAT/LON DATUM-NAD83
 LAT:39.148029
 LON:-80.442299

APPROX. LANDING POINT

UTM 17-NAD83
 N:4333084.26
 E:547733.15
 UTM 17-NAD83(FT)
 N:14216127.28
 E:1797021.16
 LAT/LON DATUM-NAD83
 LAT:39.145644
 LON:-80.447624

BOTTOM HOLE LOCATION (BHL)

UTM 17-NAD83
 N:4330343.99
 E:548782.95
 UTM 17-NAD83(FT)
 N:14207136.90
 E:1800465.44
 LAT/LON DATUM-NAD83
 LAT:39.120894
 LON:-80.435673

	LESSOR	LEASE NO.	DIST-TM/PAR
A	J. B. GUSMAN ET AL	FK020606	20-444/11.2
B	J. A. HARDWAY ET AL	FK004424	12-444/26
C	J. Q. MUSSER	FK061781	
D	W. W. BRANNON ET UX	FK032708	
E	J. K. MUSSER ET UX	FK002243	12-444/26 12-444/27.2 12-444/27.1 12-444/28.1
F	KENNETH R. SIMONS ET AL O.B. FRASHUER ET UX	FK064201 FK064206	12-444/37.1 12-444/37.2 12-444/37.9 12-444/37.8 12-444/37.3 12-444/37.4
G	ETHEL B. PAINE ET AL	FK064249	4-7B/59
H	J. Q. MUSSER ET UX	FK002249	4-7B/59 4-7B/60
J	S. G. HALL ET UX	FK014031	4-7B/5.1 4-7B/5.7
K	ALDA V. HIIT	FK077958	4-7B/28.1 4-7B/28.2 4-7B/28 4-7B/25 4-7B/26 4-7B/29.13 4-7C/74
L	C. A. BAILY	CNX26831600	4-7C/64 4-7C/59 4-7C/62
M	J. H. BAILEY ET AL	Q102176000	4-7C/30.2
N	ALISA G. GUM LORI LEE CALDWELL GERALD W. RAMSBURG KARRIE DIANE SIMS DENISE C. CARSON KAREN K. HOBBS KATRINA L. WEST DAVID C. GARVIN	Q102118000 Q102123000 Q098757000 Q102112000 Q102117000 Q102122000 Q102121000 Q102119000	4-7C/31 4-7C/31.1
P	KEVIN B. JERDEN ET UX	Q102115000	4-8C/1.1
*Q	HUSTEAD FRANCES JANE PENELOPE JUNE STALNAKER	Q100607000	4-8C/1

* - DENOTES PARCEL WITHIN 30 FEET OF PLANNED WELL BORE

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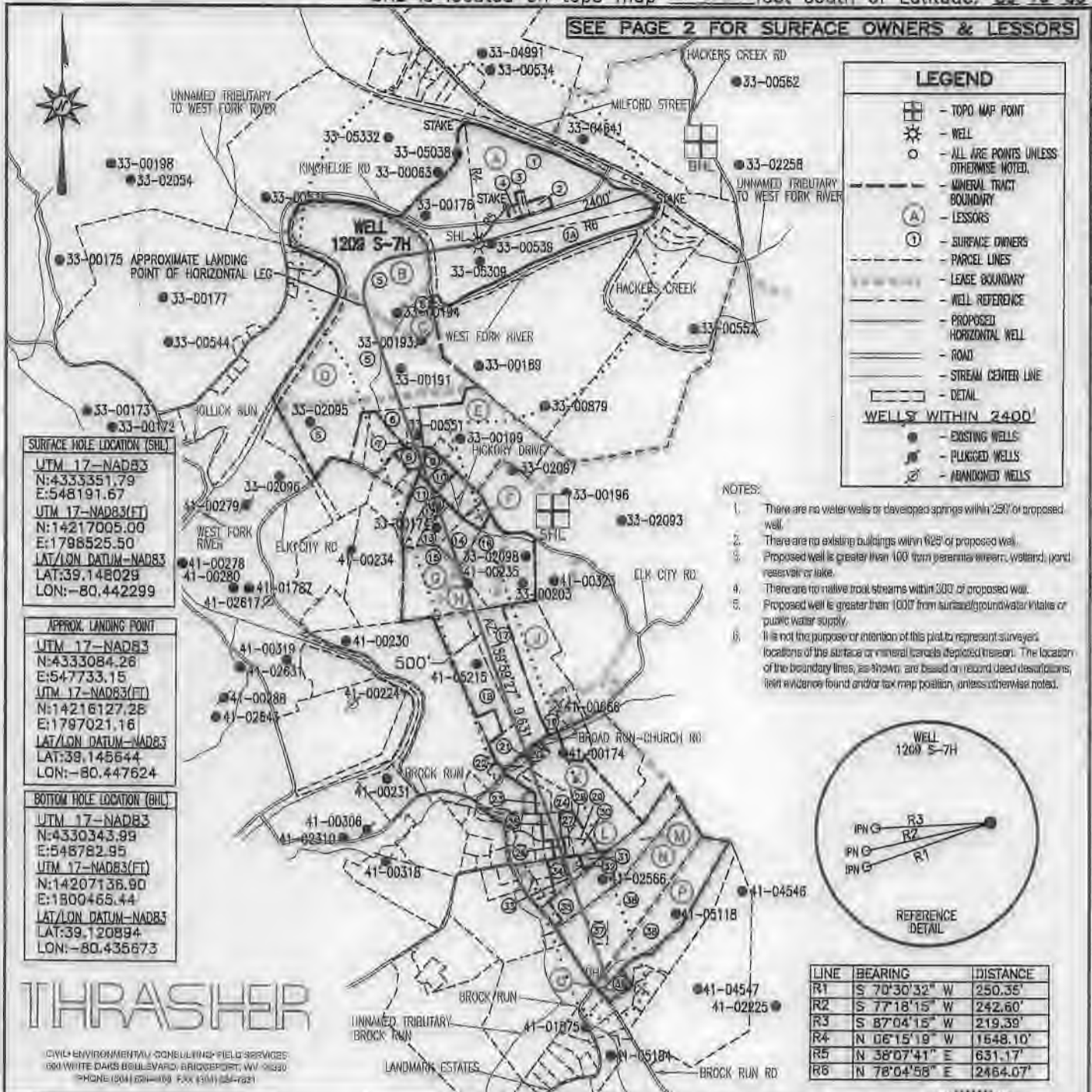
CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES
 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
 PHONE (304) 624-4108 FAX (304) 624-7831

SEPTEMBER 18, 2019

API WELL #: 47 33 05943 MOD
 STATE COUNTY PERMIT

BHL is located on topo map 1,804 feet south of Latitude: 39° 07' 30"
 SHL is located on topo map 6,788 feet south of Latitude: 39° 10' 00"

BHL is located on topo map 5,276 feet west of Longitude: 80° 25' 00"
 SHL is located on topo map 1,270 feet west of Longitude: 80° 25' 00"



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CIVIL ENVIRONMENTAL CONSULTING FIELD SERVICES
 100 WHITE OAKS BELLEVILLE BRIDGEPORT WV 26030
 PHONE (204) 621-1109 FAX (204) 621-1121

FILE #: 1209 S-7H
 DRAWING #: 1209 S-7H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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: George D. Six
 R.P.E.: _____ L.L.S.: P.S. No. 2000

GEORGE D. SIX
 LICENSED
 No. 2000
 STATE OF
 WEST VIRGINIA
 PROFESSIONAL SURVEYOR

PLACE SEAL HERE

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

DATE: SEPTEMBER 18, 2019
 OPERATOR'S WELL #: 1209 S-7H
 API WELL #: 47 33 05943 Mtd
 STATE COUNTY PERMIT

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

WATERSHED: MIDDLE WEST FORK CREEK ELEVATION: 1,007'±
 COUNTY/DISTRICT: HARRISON / UNION QUADRANGLE: WEST MILFORD, WV 7.5'
 SURFACE OWNER: HG ENERGY II APPALACHIA, LLC ACREAGE: 95.06±
 OIL & GAS ROYALTY OWNER: ANN COVINGTON, ET AL ACREAGE: 439.624±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,900'± TMD: 17,268'±
 WELL OPERATOR HG ENERGY II APPALACHIA, LLC DESIGNATED AGENT DIANE C. WHITE
 Address 5260 DUPONT ROAD Address 5260 DUPONT ROAD
 City PARKERSBURG State WV Zip Code 26101 City PARKERSBURG State WV Zip Code 26101

1209 S-7H

PAGE 2 OF 2

	SURFACE OWNER	DIST-TM/PAR
1	DANNY LEE & ALICIA A. STICKEL	P/O 20-444/11.2
1A	HG ENERGY II APPALACHIA, LLC	P/O 20-444/11.2
2	HG ENERGY II APPALACHIA, LLC	20-444/11.3
3	AARON C. & CHRISTINA P. MEDINA	20-444/11
4	HG ENERGY II APPALACHIA, LLC	20-444/11.1
5	ROCK GARTON	12-444/26
6	NORMAN W. & MARGARET A. LOHR	12-444/27.2
7	NORMAN W. & MARGARET A. LOHR	12-444/27.1
8	TRAVIS W. & LOGAN M. SWIGER	12-444/28.1
9	BRYAN D. & KIMBERLY J. SMITH	12-444/37.9
10	BRYAN D. & KIMBERLY J. SMITH	12-444/37.8
11	DAKOTA M. DAVIS	12-444/37.1
12	KAREN L. CRISLIP	12-444/37.2
13	KEVIN MARION	12-444/37.3
14	DONALD EARL HONAKER	12-444/37.4
15	ROBERT SCOTT STARKEY	4-7B/59
16	ROBERT SCOTT STARKEY	4-7B/60
17	LEE ARCH & SUSAN B. STALNAKER	4-7B/5.1
18	MARK D. & MARY ELIZABETH REASER	4-7B/5.7
19	HERBERT & VELMA SIAS	4-7B/29.17
20	HERBERT & VELMA SIAS	4-7B/28.1
21	HERBERT & VELMA SIAS	4-7B/28.2
22	DANIEL R. & SARITA M. PRINCE	4-7B/28
23	CEMETERY BROAD RUN	4-7B/25
24	CEMETERY BROAD RUN	4-7B/26
25	ARQUILLA JANEI RAINES	4-7B/29.13
26	CARMEN V. BUTCHER	4-7C/74
27	STEPHANIE KIRKPATRICK	4-7C/75
28	VIRGIL B. & MELODY K. WHITE	4-7B/29.10
29	CHARLES E. BYRNE	4-7C/86
30	ALLEN C. & LILLY M. JACKSON	4-7C/73
31	FRANK L. & MARY ELLEN BRAGG	4-7C/68
32	FRANK L. & MARY ELLEN BRAGG	4-7C/64
33	FRANK L. & MARY ELLEN BRAGG	4-7C/59
34	RALPH L. COLE	4-7C/62
35	ROBERT G. & ALISA G. GUM	4-7C/30.2
36	ROBERT G. & ALISA G. GUM	4-7C/31
37	ROBERT G. & ALISA G. GUM	4-7C/31.1
38	KEVIN B. & SHERI K. JERDEN	4-8C/1.1
39	*FRANCES JANE HUSTEAD & JUNE STALNAKER PENELOPE	4-8C/1

SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
N:4333351.79
E:548191.67
UTM 17-NAD83(FT)
N:14217005.00
E:1798525.50
LAT/LON DATUM-NAD83
LAT:39.148029
LON:-80.442299

APPROX. LANDING POINT
UTM 17-NAD83
N:4333084.26
E:547733.15
UTM 17-NAD83(FT)
N:14216127.28
E:1797021.16
LAT/LON DATUM-NAD83
LAT:39.145644
LON:-80.447624

BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
N:4330343.99
E:548782.95
UTM 17-NAD83(FT)
N:14207136.90
E:1800465.44
LAT/LON DATUM-NAD83
LAT:39.120894
LON:-80.435673

	LESSOR	LEASE NO.	DIST-TM/PAR
A	J. B. GUSMAN ET AL	FK020806	20-444/11.2
B	J. A. HARDWAY ET AL	FK004424	12-444/26
C	J. Q. MUSSER	FK061781	
D	W. W. BRANNON ET UX	FK032708	
E	J. K. MUSSER ET UX	FK002243	12-444/26 12-444/27.2 12-444/27.1 12-444/28.1
F	KENNETH R. SIMONS ET AL O.B. FRASHUER ET UX	FK064201 FK064206	12-444/37.1 12-444/37.2 12-444/37.9 12-444/37.8 12-444/37.3 12-444/37.4
G	ETHEL B. PAINE ET AL	FK064249	4-7B/59
H	J. Q. MUSSER ET UX	FK002249	4-7B/59 4-7B/60
J	S. G. HALL ET UX	FK014031	4-7B/5.1 4-7B/5.7
K	ALDA V. HITT	FK077958	4-7B/28.1 4-7B/28.2 4-7B/28 4-7B/25 4-7B/26 4-7B/29.13 4-7C/74
L	C. A. BAILY	CNX26831600	4-7C/64 4-7C/59 4-7C/62
M	J. H. BAILEY ET AL	Q102176000	4-7C/30.2
N	ALISA G. GUM LORI LEE CALDWELL GERALD W. RAMSBURG KARRIE DIANE SIMS DENISE C. CARSON KAREN K. HOBBS KATRINA L. WEST DAVID C. GARVIN	Q102118000 Q102123000 Q098757000 Q102112000 Q102117000 Q102122000 Q102121000 Q102119000	4-7C/31 4-7C/31.1
P	KEVIN B. JERDEN ET UX	Q102115000	4-8C/1.1
*Q	HUSTEAD FRANCES JANE PENELOPE JUNE STALNAKER	Q100807000	4-8C/1

* - DENOTES PARCEL WITHIN 30 FEET OF PLANNED WELL BORE

THRASHER

SEPTEMBER 18, 2019

CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES
600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
PHONE (304) 624-4108 FAX (304) 624-7831

API WELL #: 47 33 05943 MDD
STATE COUNTY PERMIT

HG Energy II Appalachia, LLC

1209 S-7H LEASE CHAIN

RECEIVED
Office of Oil and Gas
SEP 24 2019
WV Department of
Environmental Protection

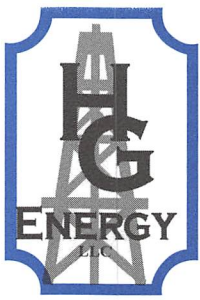
TRACT #	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE				
A	FK020606	17-20-0444-0011-0000, 17-20-0444-0011-0001, 17-20-0444-0011-0002, 17-20-0444-0011-0003, 17-20-0444-0012-0000, 17-12-0444-0013-0000, 17-12-0444-0014-0000, 17-12-0444-0021-0000, 17-12-0444-0022-0000, 17-12-0445-0001-0000, 17-12-0445-0002-0000, 17-12-0445-0009-0000, 17-12-0445-0010-0000, 17-12-0445-0011-0000	Q100370000	J.B. GUSMAN AND ADALINE GUSMAN	TREAT AND CRAWFORD	NOT LESS THAN 1/8	158	8				
				TREAT AND CRAWFORD	UNITED FUEL GAS COMPANY	ASSIGNMENT	226	359				
				UNITED FUEL GAS COMPANY	FAYETTE COUNTY GAS COMPANY	ASSIGNMENT	UNRECORDED					
				FAYETTE COUNTY GAS COMPANY	HOPE NATURAL GAS	ASSIGNMENT	201	3				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY COMPANY	MERGER/NAME CHANGE	903	179				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795				
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362				
				DOMINION TRANSMISSION, INC.	DOMINION EXPLORATION & PRODUCTION, INC.	ASSIGNMENT	1409	680				
				DOMINION TRANSMISSION, INC.	DOMINION EXPLORATION & PRODUCTION, INC.	ASSIGNMENT	1442	356				
				DOMINION EXPLORATION & PRODUCTION, INC.	DOMINION TRANSMISSION, INC.	ASSIGNMENT	1457	978				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				
				B	FK004424	17-20-0444-0005-0000 17-20-0444-0026-0000	Q100366000	J.A. HARDWAY AND JANE HARDWAY, HIS WIFE	SOUTH PENN OIL COMPANY	NOT LESS THAN 1/8	113	440
								SOUTH PENN OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT	240	210
HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903					179				
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136					250				
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51					795				
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58					362				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522					33				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543					1235				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576					125				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584					942				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600					660				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600					692				
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601					581				
C	FK061781	p/o 12-444-0026-0000	Q100499000	J.C. MUSSER ETAL	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	696	246				
				J.C. MUSSER ETAL	HOPE NATURAL GAS COMPANY	MODIFICATION	721	525				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795				
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491				

				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE		WVSOS
				DOMINION TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				W.W. BRANNON AND ADDIE BRANNON	THE PHILADELPHIA COMPANY	NOT LESS THAN 1/8	185	107
				THE PHILADELPHIA COMPANY	PITTSBURGH AND WEST VIRGINIA GAS COMPANY	DEED	236	111
				PITTSBURGH AND WEST VIRGINIA GAS COMPANY	HOPE NATURAL GAS COMPANY	AGREEMENT	267	55
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	600
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE		WVSOS
				DOMINION TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				J.K. MUSSEY AND LAURA R. MUSSEY, HIS WIFE	F.E. WILLIAMSON AND COMPANY	NOT LESS THAN 1/8	111	519
				F.E. WILLIAMSON AND COMPANY	THE CARTER OIL COMPANY	ASSIGNMENT	118	428
				THE CARTER OIL COMPANY	SOUTH PENN OIL COMPANY	ASSIGNMENT	128	262
				SOUTH PENN OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT	240	210
				THE CARTER OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT	203	73
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE		WVSOS
				DOMINION TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				J.C. MUSSEY ETAL	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	696	246
				J.C. MUSSEY ETAL	HOPE NATURAL GAS COMPANY	MODIFICATION	721	525
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235

		0007, 12-444-0037-0008, 0009		DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
G	FK064249	p/o 21-04-007B-0059-0000	Q100297000	ETHEL B. PAYNE; EVELYN BEEGHLEY, WIRT H. BEEGHLEY AND ELIZABETH BEEGHLEY, HIS WIFE; VERA I. BAILEY AND H.G. BAILEY, HER HUSBAND; EDWARD BURL BEEGHLEY AND BESSIE T. BEEGHLEY, HIS WIFE AND VERA I. BAILEY	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	230	401
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	LEWIS 294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	CORRECTIVE ASSIGNMENT TO DB 717-1	725	784
H	FK002249	p/o 17-12-0444-0029-0000 p/o 17-12-0444-0030-0000 p/o 17-12-0444-0030-0001 p/o 21-04-007B-0005-0004 p/o 21-04-007B-0060-0000	Q100652000	J.Q.MUSSER AND ROSA MUSSER	HOPE NATURAL GAS	NOT LESS THAN 1/8	111	522
				HOPE NATURAL GAS	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				CNX GAS COMPANY, LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	HARRISON 1543 LEWIS 684	1235 57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC AND NOBLE ENERGY, NC.	PARTIAL ASSIGNMENT (32%)	HARRISON 1576 LEWIS 712	125 848
				CNX GAS COMPANY, LLC	NOBLE ENERGY, INC.	ASSIGNMENT	HARRISON 1584 LEWIS 717	942 1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	HARRISON 1600 LEWIS 722	660 139
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	HARRISON 1601 LEWIS 723	581 499
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	LEWIS 723	527
		21-04-007B-0005-0000; 21-04-007B-0005-0001; 21-04-007B-0005-0002		S.G. HALL AND EMMA HALL, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	68	130
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	

J	FK014031	21-04-007B-0005-0002; 21-04-007B-0005-0003; 21-04-007B-0005-0004; 21-04-007B-0005-0005; 21-04-007B-0005-0006; 21-04-007B-0005-0007; 21-04-007B-0031-0000; p/o 21-04-007B-0035-0000; p/o 21-04-007B-0035-0004; p/o 21-04-007B-35-0005	Q100258000	DOMINION TRANSMISSION INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	672	154				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
K	FK077958	21-04-007B-0026-0000; 21-04-007B-0028-0000; 21-04-007B-0028-0001; 21-04-007B-0028-0002; 21-04-007B-0029-0000; 21-04-007B-0029-0001; 21-04-007B-0029-0002; 21-04-007B-0029-0003; 21-04-007B-0029-0004; 21-04-007B-0029-0005; 21-04-007B-0029-0006; 21-04-007B-0029-0007; 21-04-007B-0029-0009; 21-04-007B-0029-0009; 21-04-007B-0029-0010; 21-04-007B-0029-0011; 21-04-007B-0029-0012; 21-04-007B-0029-0013; 21-04-007B-0029-0014; 21-04-007B-0029-0015;	Q100740000	ALDA V. HITT, WIDOW	R.E. BEERY AND VICTOR BALDINI, PARTNERS DBA BITNER FUEL COMPANY	NOT MORE THAN 1/8	208	462				
				R.E. BEERY AND VICTOR BALDINI, PARTNERS DOING BUSINESS AS THE BITNER FUEL COMPANY, AND FLKOIRENCE BALDINI, WIFE OF VICTOR BALDINI	R.E. BEERY	ASSIGNMENT	295	580				
				EARL BEERY, DECONA E. SMITH, JR. AND MARK P. HITT, EXECUTORS AND TRUSTEES UNDER THE LAST WILL AND TESTAMENT OF ROBERT E. BEERY, DECEASED	CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	312	80				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS					
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	672	154				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
				L	268316000	04-07C-0060-0000 04-07C-0060-0001 04-07C-0058-0000 04-07C-0055-0000 04-07C-0032-0000 04-07C-0064-0000 04-07C-0059-0000 04-07C-0068-0000 04-07C-0062-0000	CNX268316000	C.A. BAILEY AND M.C. BAILEY, HER HUSBAND, AND EMMA GOLDSMITH AND H.B. GOLDSMITH, HER HUSBAND	CARNEGIE NATURAL GAS COMPANY	NOT LESS THAN 1/8	73	371
								CARNEGIE NATURAL GAS COMPANY	CARNEGIE PRODUCTION COMPANY	ASSIGNMENT	558	550
CARNEGIE PRODUCTION COMPANY	EQUITABLE PRODUCTION-EASTERN STATES, INC.	MERGER	WVSOS									
EQUITABLE PRODUCTION-EASTERN STATES, INC.	ETBG-APOLLO DIVISION, A DIVISION OF ET BLUE GRASS COMPANY	ASSIGNMENT OF OPERATING RIGHTS	572					371				
EQUITABLE PRODUCTION-EASTERN STATES, INC.	EQT PRODUCTION COMPANY	MERGER	WVSOS									
EQT PRODUCTION COMPANY	CNX GAS COMPANY, LLC	TERM ASSIGNMENT	687					382				
CNX GAS COMPANY LLC	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	737					8				
M		21-04-007C-0030.0002	Q102176000 Title# 255787000	J. H. BAILEY ETAL	JAMES F. SCOTT	NOT LESS THAN 1/8	369	449				
				JAMES F. SCOTT	GEORGE R. GIBSON	ASSIGNMENT	378	159				
				GEORGE R. GIBSON ET UX	RANDALL GIBSON	ASSIGNMENT	489	623				
				GEORGE R. GIBSON ET UX	EMAX OIL COMPANY	ASSIGNMENT	489	623				
				GEORGE R. GIBSON ET UX	RANDALL GIBSON	ASSIGNMENT	489	625				
				GEORGE R. GIBSON ET UX	EMAX OIL COMPANY	ASSIGNMENT	489	623				
				JAMES F. SCOTT	SCOTT OIL COMPANY	MERGER/NAME CHANGE	WVSOS					
				SCOTT OIL COMPANY	EMAX OIL COMPANY	ASSIGNMENT	486	162				
				EMAX OIL COMPANY, GEORGE R GIBSON, RANDALL GIBSON, AND RICHARD C. GIBSON	CABOT OIL AND GAS CORPORATION	ASSIGNMENT	513	82				
				JAMES F. SCOTT	CABOT OIL AND GAS CORPORATION	ASSIGNMENT	515	147				
				JAMES F. SCOTT	CABOT OIL AND GAS CORPORATION	QUIT CLAIM ASSIGNMENT	558	99				
				EMAX OIL COMPANY	CABOT OIL AND GAS CORPORATION	ASSIGNMENT	558	92				
CABOT OIL AND GAS CORPORATION	ENERVEST APPALACHIA L P	ASSIGNMENT	558	249								

				ENERVEST APPALACHIA L P	CGAS PROPERTIES L P	ASSIGNMENT	621	590			
				CGAS PROPERTIES L P	CNX GAS COMPANY LLC	ASSIGNMENT	681	314			
				CNX GAS COMPANY, LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1			
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139			
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170			
N	21-04-007C-0031-0000	Q102121000, Q102119000, Q102118000, Q102123000, Q102120000, Q098757000, Q102122000, Q102117000		KATRINA L WEST	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	704	563			
				DAVID C GARVIN	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	704	555			
				ALISA G GUM	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	704	551			
				LORI LEE CALDWELL	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	704	571			
				KARRIE DIANE SIMS	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	704	559			
				GERALD W RAMSBURG	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	700	24			
				KAREN K HOBBS	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	707	567			
				DENISE C CARSON	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	704	547			
				CNX GAS COMPANY, LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1			
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139			
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170			
			P	21-04-008C-0001-0001	Q102115000		KEVIN B JERDEN ET UX	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	604	234
							CNX GAS COMPANY, LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
	NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC				ASSIGNMENT	722	139			
	NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC				ASSIGNMENT	722	170			



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

September 17, 2019

Ms. Laura Adkins
WVDEP
Division of Oil & Gas
601 57th Street
Charleston, West Virginia 25304

RE: Nays 1209 N-1H thru S-12H Permit Revisions – (47-033-05930, 35, 36, 37, 38, 39, 43, 44, 45, 46, 47, 48)
Union District, Harrison County
West Virginia

Dear Ms. Adkins:

Per our discussions, enclosed are revised forms (survey plats, mylars, WW-6B's, casing schematics and WW6A-1's) for four of the Nays 1209 approved well work permits, (N-1H, N-2H, S-7H and S-10H). Four permits will remain the same, (1209 N-3H, N-6H, S-9H and S-12H). Four of the laterals will be abandoned and plugged, (1209 N-4H, N-5H, S-8H and S-11H). HG will file for these P/A permits shortly.

Based on production data for nearby producing wells in this field; the drilling/engineered plans are being revised to allow for greater distance between the laterals, (increased to 1500' from 1000' previously approved). Six laterals will be modified, two laterals have no changes and four laterals will be abandoned and plugged. There will be no changes to surface locations and the only change to the wells being modified is the lateral spacing being requested.

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

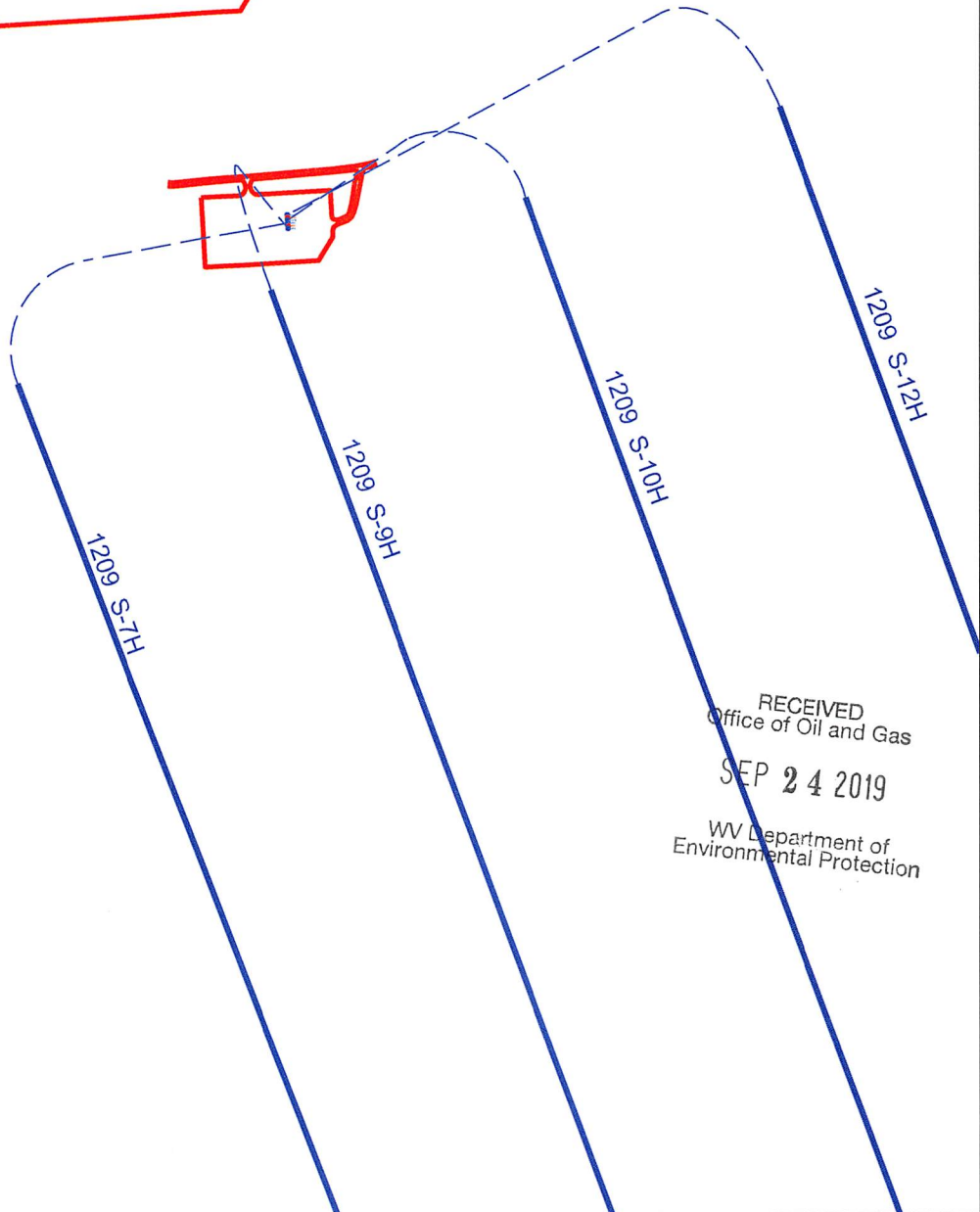
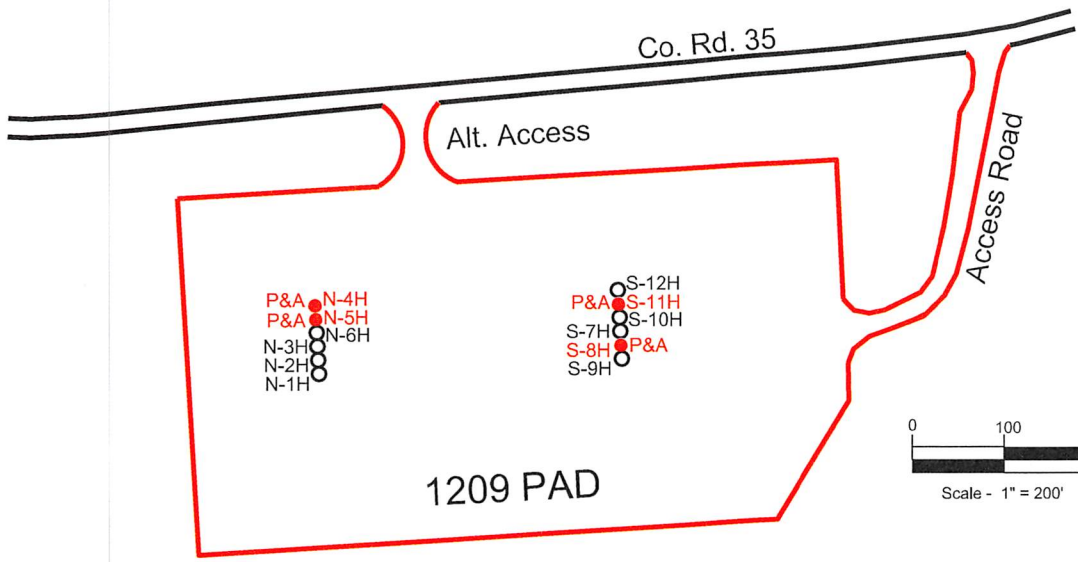
cc: Sam Ward – Inspector

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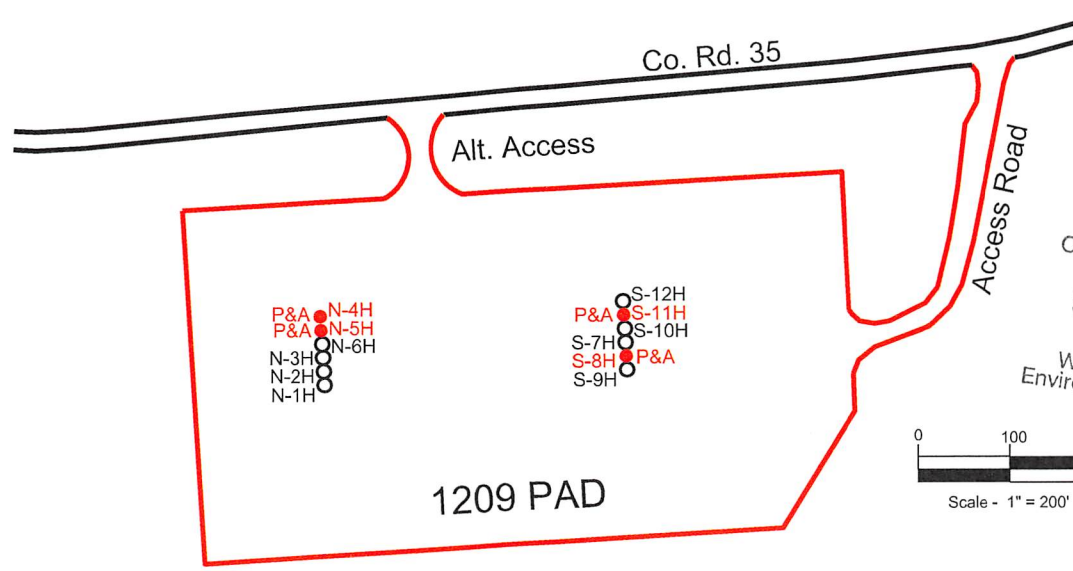
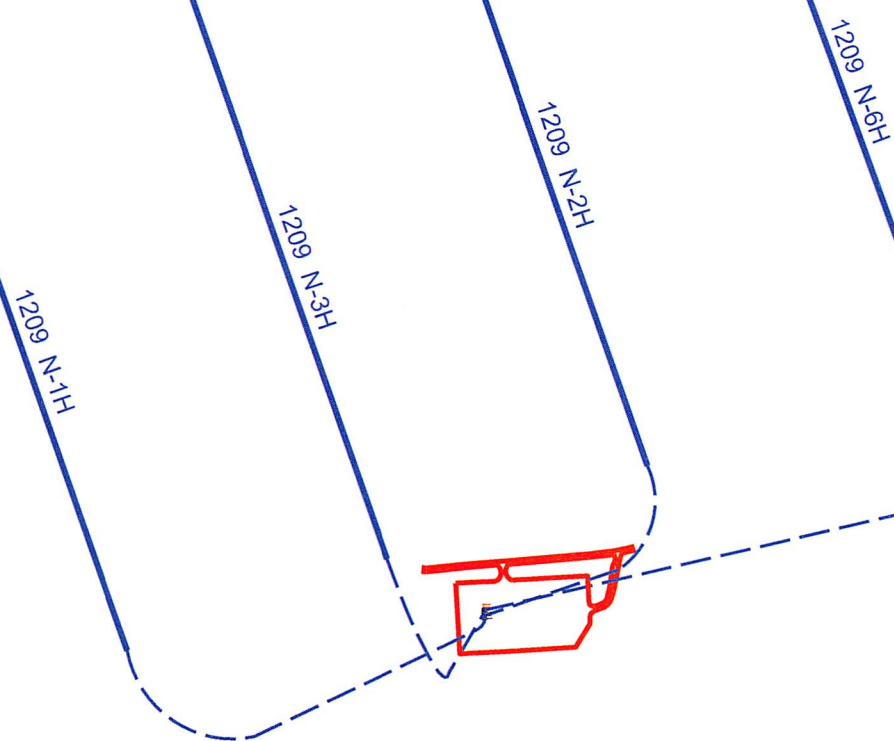
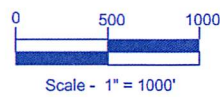
WV Department of
Environmental Protection

1209 SOUTH PAD - WELLHEAD LAYOUT

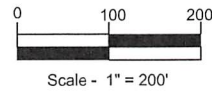


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1209 NORTH PAD - WELLHEAD LAYOUT



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

1) Well Operator: HG Energy II Appalachia, L.P. 494519932 Harrison Union West Milford 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Nays 1209 N-1H Well Pad Name: Nays 1209

3) Farm Name/Surface Owner: Nays / HG Energy II Appalachia Public Road Access: Kincheloe Run Rd/SLS 35

4) Elevation, current ground: 1002' Elevation, proposed post-construction: 1007'

5) Well Type (a) Gas Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 6863'/6914' and 51' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20,379'

11) Proposed Horizontal Leg Length: 12,659'

12) Approximate Fresh Water Strata Depths: 135', 500'

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

14) Approximate Saltwater Depths: None noted in offsets

15) Approximate Coal Seam Depths: 660' to 665'

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

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: _____
Depth: _____
Seam: _____
Owner: _____

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

1) Well Operator: HG Energy II Appalachia, L.P. 494519932 Harrison Union West Milford 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Nays 1209 N-2H Well Pad Name: Nays 1209

3) Farm Name/Surface Owner: Nays / HG Energy II Appalachia Public Road Access: Kincheloe Run Rd/SLS 35

4) Elevation, current ground: 1002' Elevation, proposed post-construction: 1007'

5) Well Type (a) Gas Oil _____ Underground Storage _____
Other _____

(b) If Gas Shallow Deep _____
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 6863'/6914' and 51' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23,267'

11) Proposed Horizontal Leg Length: 15,801'

12) Approximate Fresh Water Strata Depths: 135', 500'

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

14) Approximate Saltwater Depths: None noted in offsets

15) Approximate Coal Seam Depths: 660' to 665'

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

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: _____
Depth: _____
Seam: _____
Owner: _____

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

1) Well Operator: HG Energy II Appalachia, L.P.

<u>494519932</u>	<u>Harrison</u>	<u>Union</u>	<u>West Milford 7.5'</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: Nays 1209 S-7H Well Pad Name: Nays 1209

3) Farm Name/Surface Owner: Nays / HG Energy II Appalachia Public Road Access: Kincheloe Run Rd/SLS 35

4) Elevation, current ground: 1002' Elevation, proposed post-construction: 1007'

5) Well Type (a) Gas Oil _____ Underground Storage _____
Other _____

(b) If Gas Shallow Deep _____
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 6863'/6914' and 51' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17,267'

11) Proposed Horizontal Leg Length: 9,631'

12) Approximate Fresh Water Strata Depths: 135', 500'

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

14) Approximate Saltwater Depths: None noted in offsets

15) Approximate Coal Seam Depths: 660' to 665'

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

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: _____
Depth: _____
Seam: _____
Owner: _____

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

1) Well Operator: HG Energy II Appalachia, L.P.

<u>494519932</u>	<u>Harrison</u>	<u>Union</u>	<u>West Milford 7.5'</u>
------------------	-----------------	--------------	--------------------------

Operator ID County District Quadrangle

2) Operator's Well Number: Nays 1209 S-10H Well Pad Name: Nays 1209

3) Farm Name/Surface Owner: Nays / HG Energy II Appalachia Public Road Access: Kincheloe Run Rd/SLS 35

4) Elevation, current ground: 1002' Elevation, proposed post-construction: 1007'

5) Well Type (a) Gas Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

VOID

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 6863'/6914' and 51' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21,746'

11) Proposed Horizontal Leg Length: 14,221'

12) Approximate Fresh Water Strata Depths: 135', 500'

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

14) Approximate Saltwater Depths: None noted in offsets

15) Approximate Coal Seam Depths: 660' to 665'

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

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: _____
Depth: _____
Seam: _____
Owner: _____

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