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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, November 15, 2019  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

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

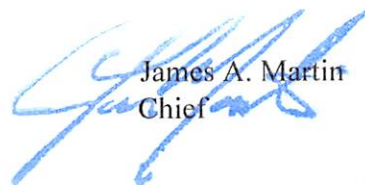
Re: Permit Modification Approval for NUTTER 1208 S-10H  
47-033-05967-00-00

**Lateral Spacing: Extend lateral from 23796' to 23848', updated leases.**

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: NUTTER 1208 S-10H  
Farm Name: LINDA & WILLIAM W. BRODWATER III  
U.S. WELL NUMBER: 47-033-05967-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 11/15/2019

Promoting a healthy environment.

WW-6B  
(04/15)

API NO. 47- 033 - 05967-MOD  
OPERATOR WELL NO. Nutter 1208 S-10H  
Well Pad Name: Nutter 1208

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

1) Well Operator: HG Energy II Appalachia, LLC

<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: Nutter 1208 S-10H Well Pad Name: Nutter 1208

3) Farm Name/Surface Owner: Nutter Public Road Access: SR 19

4) Elevation, current ground: 1162' Elevation, proposed post-construction: 1147'

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

(b) If Gas Shallow  Deep   
Horizontal

6) Existing Pad: Yes or No No

*SDW  
9/20/2019*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus at 7013'/7064' and 51' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 7050'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23,848' ✓

11) Proposed Horizontal Leg Length: 16,108' ✓

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

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

14) Approximate Saltwater Depths: 1299', 1675'

15) Approximate Coal Seam Depths: 810' to 815'

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

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

SEP 27 2019

WV Department of  
Environmental Protection

(a) If Yes, provide Mine Info: Name: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

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	30"	New	LS	157.5	120'	120' ✓	Drilled In
Fresh Water/Coal	20"	NEW	J-55	94	1000'	1000' ✓	40% excess yield = 1.20, CTS
Intermediate 1	13 3/8"	NEW	J-55	68	1890'	1890' ✓	40% excess yield = 1.20, CTS
Intermediate 2	9 5/8"	NEW	J-55	40	2700'	2700' ✓	40% excess yield Lead/ 0% Excess Tail
Production	5 1/2"	NEW	P-110	23	23848'	23848' ✓	20% excess yield = 1.19, tail yield = 1.20
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				Drilled In
Fresh Water	20"	24"	.438	2110	1200	Type 1, Class A	40 % excess yield = 1.20, CTS
Coal/Storage	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Lead 40% excess, Tail 0% excess
Intermediate	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Lead 40% excess, Tail 0% Excess
Production	5 1/2"	8 1/2"	.415	<del>14520</del>	12500	Type 1/Class A	20% excess yield = 1.19, tail yield = 1.20
Tubing				16240 WS			
Liners				11/15/19			

**PACKERS**

Kind:					RECEIVED Office of Oil and Gas
Sizes:					SEP 27 2019
Depths Set:					WV Department of Environmental Protection

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 7050 feet. Drill horizontal leg to estimated 16,108' lateral length, 23,848' TMD. Hydraulically fracture 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. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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): 22.420 acres

22) Area to be disturbed for well pad only, less access road (acres): 15.399 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, will also be running ECP for isolating storage zone.  
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 CaCl<sub>2</sub> 40% Excess Yield = 1.20, CTS  
Coal - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl<sub>2</sub> 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl<sub>2</sub> zero% Excess, CTS  
Intermediate - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl<sub>2</sub> 40% Excess, Tail: 15.9 ppg, PNE-1 + 2.5% bwoc CaCl<sub>2</sub> zero% Excess, CTS  
Production - Lead: 14.6 ppg POZ-PNE-1 + 0.3% bwoc RD + 1% bwoc EC1 + 0.75 gal/klk FP13L + 0.3% bwoc MPA170, Tail: 14.6 ppg PNE-1 + 0.35% bwoc RD + 0.75 gal/klk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess, Lead Yield=1.19, Tail Yield=1.94, CTS

25) Proposed borehole conditioning procedures:

Conductor - Ensure 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.

\*Note: Attach additional sheets as needed.





**1208 S-10H  
Marcellus Shale Horizontal  
Harrison County, WV**

Ground Elevation			1208 S-10H SHL				14218933.6N 1803919.93E			
Azm			1208 S-10H LP				14218945.78N 1805574.05E			
WELLBORE DIAGRAM			1208 S-10H BHL				14203917.79N 1811358.91E			
WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
	30"	30" 157.5# LS	Conductor	0	120	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
	26"	20" 94# J-55	Fresh Water	0	135, 500	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
			Kittaning Coal	810	815					
			Coal/Fresh Water Protection	0	1000					
	17.5"	13-3/8" 68# J-55 BTC	Little/Big Lime	1276 / 1317	1301 / 1393	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 ACP 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)	1393 / 1680	1499 / 1740					
			Intermediate 1	0	1900					
	12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	1800 / 1880	1847 / 1892	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	1935 / 2000	2000 / 2090					
			5th Sand	2185	2220					
			Bayard Sand	2275	2310					
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	2895	2913	AIR / 9.0ppg SOBMB	<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	3115	3155					
			Benson	4200	4233					
	8.5" Curve		Rhinestreet	6015	6290	11.5ppg-12.5ppg SOBMB		Run 1 spiral centralizer every 3 joints from the 1st 5.5" long joint to the top of the curve.		
Cashaqua			6290	6491						
Middlesex			6491	6571						
8.5" Lateral	West River		6571	6664	11.5ppg-12.5ppg SOBMB					
	Burkett		6664	6690						
	Tully Limestone		6690	6794						
	Hamilton		6794	7013						
8.5" Lateral	Marcellus	7013	7064	11.5ppg-12.5ppg SOBMB						
	TMD / TVD (Production)	23848	7050							
			Onondaga	7064						

LP @ 7050' TVD / 7740' MD

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

+/-16108' ft Lateral

TD @ +/-7050' TVD  
+/-23848' 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\*\***

**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.

Well Operator: HG Energy II Appalachia, LLC

By: Diane White *Diane White*

Its: Agent

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**HG Energy II Appalachia, LLC  
1208 S-10 LEASE CHAIN**

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SEP 27 2019  
WV Department of  
Environmental Protection

TRACT #	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE
2	LC014207	17-12-0425-0031-0003 17-12-0425-0031-0000	Q101051000	LEEMAN B. MAXWELL HEIRS	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	176	141
				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.	DOMINION EXPLORATION & PRODUCTION, INC.	MERGER/NAME CHANGE	1325	874
				DOMINION TRANSMISSION, INC.	DOMINION EXPLORATION & PRODUCTION, INC.	ASSIGNMENT	1427	829
				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
1	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, 17-12-0444-0021-0001, 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				
3	LC094208 LC020942	12-0445-0012-000 12-0445-0003-0000	Q101052000	A. J. SMITH AND L. F. SMITH, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	193	277
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	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
				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				

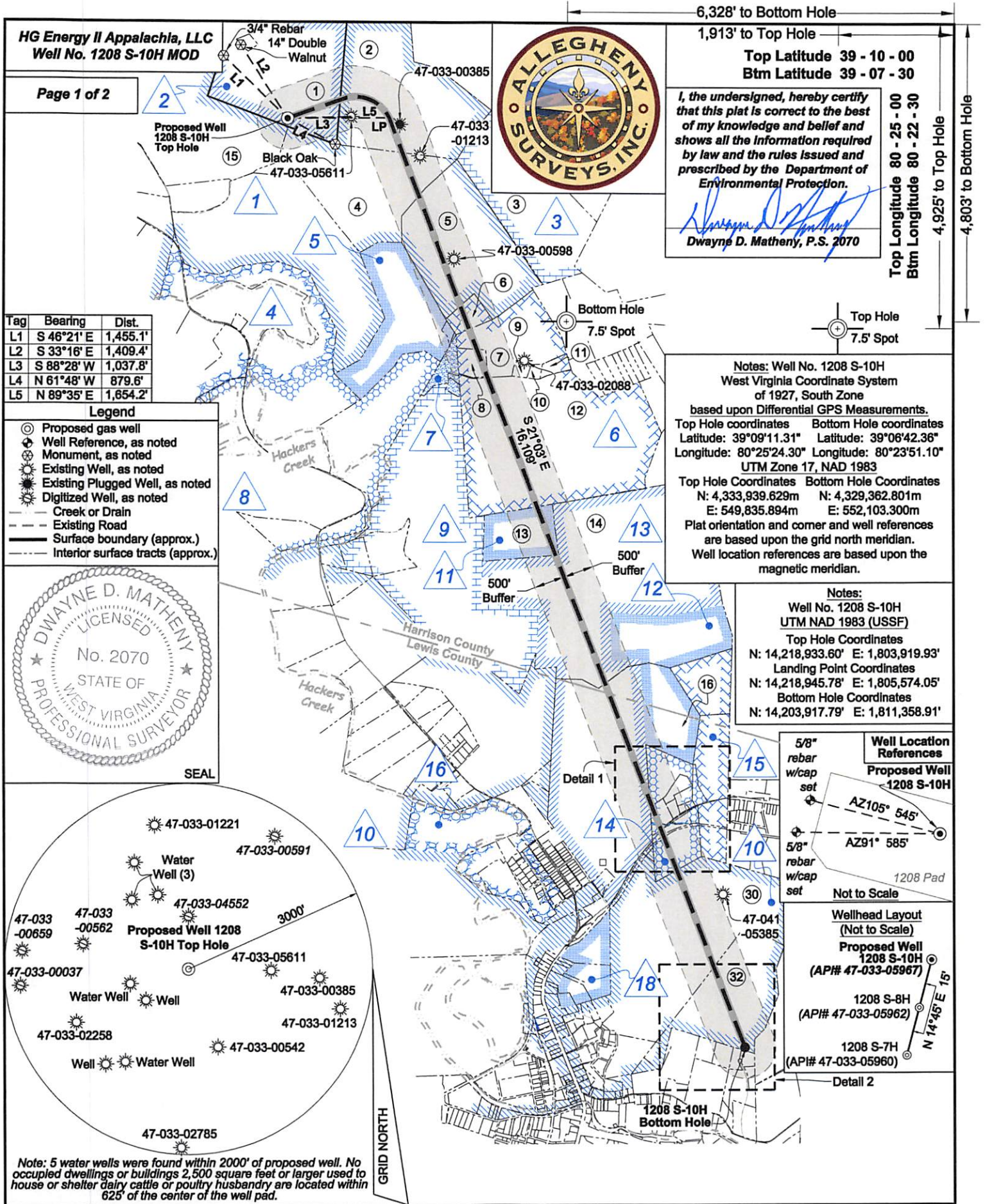
5	FK065540	17-12-0445-0021-0000	Q100562000	HANNAH H. SMITH, WIDOW; IRENE FERRELL, SINGLE; ELECTA E. TAYLOR, SINGLE; EVA RUTH SMITH, WIDOW; WILDA C. TAYLOR AND JOHN W. TAYLOR, HER HUSBAND; BERTIE JUSTICE, WIDOW; ORA FLECHER, WIDOW; THE UNION NATIONAL BANK, COMMITTEE FOR FRED RUSKIN FLECHER, C. W. MORROW AND LUCY MORROW, HIS WIFE; FRENCH TRIMBLE AND VA. C. TRIMBLE, HIS WIFE; E. B. SMITH AND BLANCHE PARRILL SMITH, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	748	578				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	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 FARMOUT AGREEMENT	1524	491				
				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				
				6	LC056390	17-12-0445-0022-0000; 17-12-0445-0023-0000; 17-12-0445-0023-0001; 17-12-0445-0023-0002; 17-12-0445-0023-0003; 17-12-0445-0046-0000; 17-12-0445-0005-0000	Q100794000	WALTER NEELY AND EMMA E. NEELY, HIS WIFE; JOHN R. NEELY, SINGLE; GRACE NEELY, WIDOW; BERTIE SAILER AND WILL D. SAILER, HER HUSBAND; C. M. LINGER, SINGLE; ANNA BELLE L. LAWTON AND THOMAS W. LAWTON, JR., HER HUSBAND; WILDA C. TAYLOR AND JOHN W. TAYLOR, HER HUSBAND; BERTIE S. JUSTICE AND OREN JUSTICE, HER HUSBAND; CELIA IRENE FERRELL AND LINN B. FERRELL, HER HUSBAND	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	567	49
								HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	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.	CONFIRMATORY ASSIGNMENT	1414					1166				
DOMINION EXPLORATION & PRODUCTION, INC.	DOMINION TRANSMISSION, INC.	ASSIGNMENT	1457					978				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522					33				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO 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					692				
DOMINION TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601					581				
7	N/A	17-12-0445-0034-0000	F Tract	Page Harmer Thomas	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	368				
				Sarah Kingery	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1150				
				Betty G Justice	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1300				
				Zane Anthony Justice	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	360				
				Margaret Jill Justice Lambert	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	484				
				Steve Kanouse and Frank Wamock, as Trustees for Oren W. Justice Inter Vivos Trust dated June 27, 2013 (It is our belief that this is owned by John Daniel Justice)	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1061				
				Lonnie Kincaid	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1016				
				Delores Jean Moats	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1020				
				Geneva Bruffey	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1608	1268				
				W. A. JACKSON	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	756	144				
								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.	DOMINION EXPLORATION & PRODUCTION, INC.	CONFIRMATORY ASSIGNMENT	1414					1166				
DOMINION EXPLORATION & PRODUCTION, INC.	DOMINION TRANSMISSION, INC.	ASSIGNMENT	1457					978				



9	FK066065	p/o 17-12-0465-0004-0000; p/o 17-12-0465-0004-0001	Q100728000	DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO 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	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
						SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
11	LC065814	17-12-0465-0006-0000	Q100526000	PEARL REEL	CONSOLIDATED GAS SUPPLY CORPORATION	NOT LESS THAN 1/8	957	98
				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 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	692
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
		SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				
13	LC009809	p/o 17-12-0465-0004-0000; p/o 17-12-0465-0004-0001; 21-04-008C-0049-0001; 21-04-008C-0049-0002; 21-04-008C-0052-0000; 21-04-008C-0052-0001; 21-04-008C-0052-0002; 21-04-008C-0055-0000; 21-04-008C-0055-0001; 21-04-008C-0055-0002; 21-04-008C-0055-0003	Q101005000	JAMES W. JACKSON AND S. A. JACKSON, HIS WIFE	SOUTH PENN OIL COMPANY	NOT LESS THAN 1/8	58	425
				SOUTH PENN OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT (GAS)	73	272
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	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	FARMOUT AGREEMENT	672	154
				SOUTH PENN OIL COMPANY	PENNZOIL COMPANY	MERGER/NAME CHANGE	5	564
				PENNZOIL COMPANY	PENNZOIL PRODUCTS COMPANY	ASSIGNMENT	454	34
				PENNZOIL COMPANY	PENNZOIL PRODUCTS COMPANY	ASSIGNMENT	460	139
				PENNZOIL PRODUCTS COMPANY	PENNZOIL EXPLORATION AND PRODUCTION COMPANY	ASSIGNMENT	551	627
				PENNZOIL EXPLORATION AND PRODUCTION COMPANY	PENNZENERGY EXPLORATION AND PRODUCTION, LLC	MERGER/NAME CHANGE	8	343
12	N/A	p/o 17-12-0465-0004-0001; p/o 21-04-008C-0055-0000	HGII182, HGII0250, HGII0251, HGII0293	William C White, LE	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1322
				Ann Brashear Fitzgerald	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1639	842
				Wesley Craft Brashear	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1639	828
				Estate of Helen Brashear	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	745	732
				William C. White, Life Estate Maria Christine Gatian, William C. White II, and Clifford Scott White, Remainder Interest	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1322

14	N/A	21-04-008C-0056-0000; 21-04-008C-0056-0001; 21-04-008C-0056-0002; 21-04-008C-0056-0003; 21-04-008C-0056-0004; 21-04-008C-0056-0005; 21-04-008C-0056-0006; 21-04-008C-0056-0007; 21-04-008C-0056-0008	Q143837000	CARRIE HIGHLAND STALNAKER AND AUBREY L. STALNAKER, HER HUSBAND	STANDARD GAS COMPANY	NOT LESS THAN 1/8	284	301
				STANDARD GAS COMPANY	MIKE ROSS, INC.	ASSIGNMENT	512	264
				MIKE ROSS, INC.	R. L. WHARTON, LTD.	WORKING INTEREST ASSIGNMENT (10%)	625	578
				MIKE ROSS, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF LEASE	683	677
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	727	765
15	LC065826	21-04-008C-0057-0000; 21-04-008C-0057-0001; 21-04-008C-0057-0002	Q100636000	OKEY CORLEY AND GARNETT M. CORLEY, HIS WIFE, AND MARY D. GATES, WIDOW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	233	283
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	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
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	CORRECTIVE ASSIGNMENT	725	784
				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
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558
10	LC009807	21-04-008B-0004-0000; 21-04-008B-0005-0000, 0001; 21-04-008B-0006-0000; 21-04-008B-0007-0000, 0001, 0002, 0003, 0014, 0015, 0016, 0017; 21-04-008C-0029-0000; 21-04-008C-0030-0000, 0002; 21-04-008C-0031-0000, 0001, 0002, 0003; 21-04-008C-0054-0000; 21-05-0001-0050-0001; 21-05-0001-0048-0000; 21-05-0001-0084-0000; 21-05-0001-0049-0000; 21-04-008C-0086-0000; 21-05-0001-0066-0000, 0002, 0003, 0004, 0005, 0006, 0007, 0008, 0009; 21-04-008C-0058-0000; 21-04-008C-0049-0001; 21-04-008C-0052-0001, 0002; 21-05-0002-0021-0001; 21-04-008C-0033-0001, 0010, 0012, 0009, 0008, 0005, 0006, 0007, 0004, 0003, 0002, 0000; 21-04-008C-0047-0000; 04-0008C-0047-0001; 04-008C-0047-0002, 0003, 0004; 21-04-008C-0034-0000; 21-04-008C-0026-0000	Q100620000	ISAAC JACKSON	SOUTH PENN OIL COMPANY	NOT LESS THAN 1/8	58	431
				SOUTH PENN OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT (GAS)	73	272
				HOPE NATURAL GAS COMPANY	JANE LEW LIGHT AND HEAT COMPANY	ASSIGNMENT (5 ACRES OF LEASEHOLD)	113	315
				JANE LEW LIGHT AND HEAT COMPANY	STANDARD GAS COMPANY	ASSIGNMENT	113	361
				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	CNG DEVELOPMENT COMPANY	JOINT VENTURE AGREEMENT		UNRECORDED
				CNG TRANSMISSION CORPORATION	CNG DEVELOPMENT COMPANY	ASSIGNMENT	477	430
				EMAX OIL COMPANY	CABOT OIL AND GAS CORPORATION	FARMOUT AGREEMENT		UNRECORDED
				EMAX OIL COMPANY	CABOT OIL AND GAS CORPORATION	ASSIGNMENT	513	93
				CABOT OIL AND GAS CORPORATIN	ENERVEST APPALACHIA, L.P.	ASSIGNMENT	558	249
				CNG TRANSMISSION CORPORATION	CNG PRODUCING COMPANY	ASSIGNMENT	522	528
				CNG TRANSMISSION CORPORATION	EMAX OIL COMPANY	WELLBORE ASSIGNMENT	522	189
				CNG TRANSMISSION CORPORATION	GAS EXPLORATION AND DEVELOPMENT COMPANY	ASSIGNMENT	554	605
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE		WVSOS
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	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
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	CORRECTIVE ASSIGNMENT TO DB 717-1	725	784
				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	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





FILE NO: 195-36-G-18  
DRAWING NO: 1208 S-10H Well Plat  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: Submeter  
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

**STATE OF WEST VIRGINIA**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

DATE: September 20 20 19  
OPERATOR'S WELL NO. 1208 S-10H  
API WELL NO  
47 - 033 - 05967  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,147' WATERSHED: Middle West Fork Creek

QUADRANGLE: Top - West Milford  
Btm - Weston

DISTRICT: Grant / Hackers Creek

COUNTY: Harrison / Lewis

SURFACE OWNER: Linda & William W. Brodwater III

ACREAGE: 200

ROYALTY OWNER: Leeman B. Maxwell Heirs, et al

LEASE NO: \_\_\_\_\_ ACREAGE: 247.84

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) LP & BH MOD

PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,050' TVD  
23,849' MD

WELL OPERATOR: HG Energy II Appalachia, LLC

DESIGNATED AGENT: Diane C. White

ADDRESS: 5260 Dupont Road  
Parkersburg, WV 26101

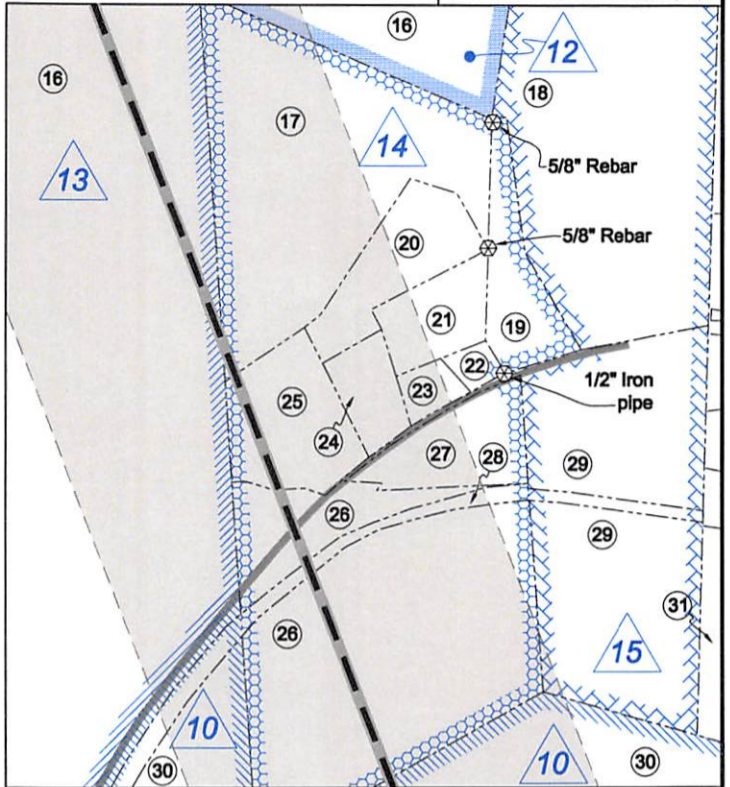
ADDRESS: 5260 Dupont Road  
Parkersburg, WV 26101



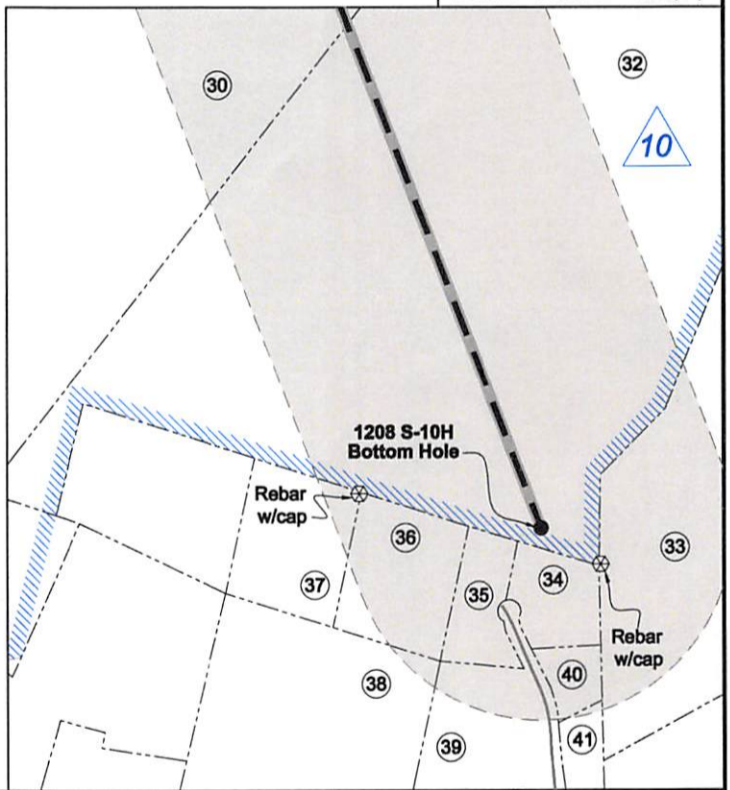
ID	Lease
1	Jerome B. Gusman
2	Leeman B. Maxwell Heirs
3	A.J. Smith, et ux
4	W.L. & Flora Hughes
5	Hannah H. Smith
6	Walter Neely, et al
7	Page Harmer Thomas, et al
8	Howard Neely
9	W.A. Jackson
10	Isaac Jackson
11	Pearl Reel
12	William C. White
13	J.W. Jackson
14	C.H. Stalnaker, et ux
15	Garnett M. Corley
16	John B. Davisson
18	David Kent Moss, et al

Harrison County - Grant-Outside District				
No.	TM / Par	Owner	Bk / Pg	Ac.
1	425 / 31	Linda & William W. Brodwater III	1410 / 1045	247.84
2	445 / 2	Lisa M. Nutter	W687 / 445	84.57
3	445 / 12	Lisa M. Nutter	W687 / 445	64.50
4	445 / 10	Lisa M. Nutter	W687 / 445	66.87
5	445 / 11	Lisa M. Nutter	W687 / 445	75.50
6	445 / 22	John D. Smith Estate	W13 / 53	4.00
7	445 / 23	Robert Allman, et al	W177 / 231	32.84
8	445 / 23.2	Patricia T. Stamm	1341 / 1204	5.06
9	445 / 23.4	Daryl W. & Cheryl Lantz	1477 / 473	1.38
10	445 / 23.3	Daryl W. & Cheryl Lantz	1411 / 900	1.06
11	445 / 23.1	Daryl W. & Cheryl Lantz	1411 / 900	2.50
12	445 / 46	James W. Riffle II & William L. Law	1385 / 259	140.43
13	465 / 6	John G. & Rebecca M. Moore	1421 / 350	21.37
14	465 / 4.1	John G. & Rebecca M. Moore	1421 / 350	353.80
15	445 / 1	Lisa M. Nutter	1577 / 738	87.78
Lewis County - Hackers Creek District				
No.	TM / Par	Owner	Bk / Pg	Ac.
16	8C / 55	William C. White	W23 / 102	92.02
17	8C / 56	Esther M. Riffle	347 / 76	23.12
18	8C / 57	Mary V. Corley Ward	581 / 453	29.28
19	8C / 57.2	Eathan S. Wamsley & Sharon L. Harper	581 / 291	1.72
20	8C / 56.8	Ginger Knight & Howard Knight Jr.	649 / 54	2.06
21	8C / 56.7	Prime Space LLC	614 / 116	1.34
22	8C / 56.3	Prime Space LLC	614 / 120	0.28
23	8C / 56.1	Prime Space LLC	593 / 618	0.42
24	8C / 56.4	Christy Pratt & Rocky L. Lipps	714 / 947	0.94
25	8C / 56.5	Christy Pratt	574 / 546	2.41
26	8C / 56	Esther M. Riffle	347 / 76	23.12
27	8C / 56.6	Jack L. & Gladys M. Frazier	578 / 162	1.82
28	8C / 87	Mike Ross Inc.	531 / 303	14.27
29	8C / 57.1	Jack L. Frazier	524 / 498	13.50
30	8C / 58	William C. White	W23 / 102	126.18
31	6 / 29	Ronzel C. & Sandra K. Richards	333 / 347	5.20
32	8C / 59	James E. & Louise K. Dyer	551 / 372	54.62
33	9C / 8	Rose Ann & Hunter Kolb	W6 / 670	88.16
34	8C / 62.2	Timothy & Sharon Ross	629 / 775	1.21
35	8C / 62.3	Michael E. Moeller	644 / 274	1.17
36	8C / 61.2	Michael E. Moeller	699 / 327	2.40
37	8C / 61.3	Michael E. Moeller	674 / 3	2.40
38	8C / 61.4	Michael E. Moeller	674 / 3	10.38
39	8C / 62.1	Snider Construction	620 / 320	6.51
40	8C / 62.4	Robert Stewart III	674 / 43	0.56
41	8C / 62.5	Robert Stewart III	691 / 463	0.55

Detail 1 - Scale: 1" = 500' (4x)



Detail 2 - Scale: 1" = 500' (4x)



FILE NO: 195-36-G-18  
DRAWING NO: 1208 S-10H Well Plat  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY:  
Submeter  
PROVEN SOURCE OF ELEVATION:  
CORS, Bridgeport, WV

**STATE OF WEST VIRGINIA**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

DATE: September 20 20 19  
OPERATOR'S WELL NO. 1208 S-10H  
API WELL NO  
47 - 033 - 05967  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,147' WATERSHED: Middle West Fork Creek

QUADRANGLE: Top - West Milford  
Btm - Weston

DISTRICT: Grant / Hackers Creek

COUNTY: Harrison / Lewis

SURFACE OWNER: Linda & William W. Brodwater III

ACREAGE: 200

ROYALTY OWNER: Leeman B. Maxwell Heirs, et al

LEASE NO: \_\_\_\_\_ ACREAGE: 247.84

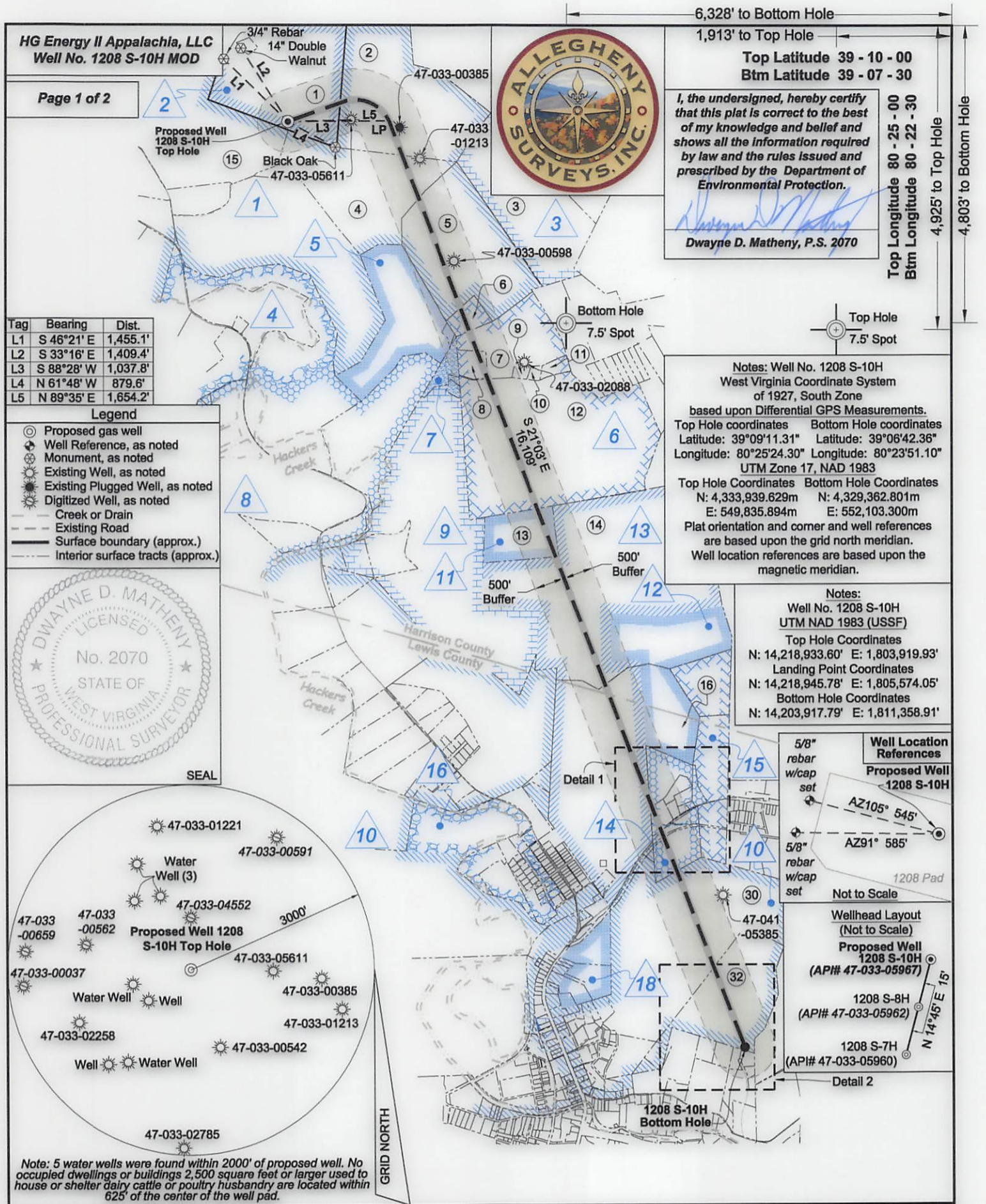
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) LP & BH MOD

PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,050' TVD  
23,849' MD

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

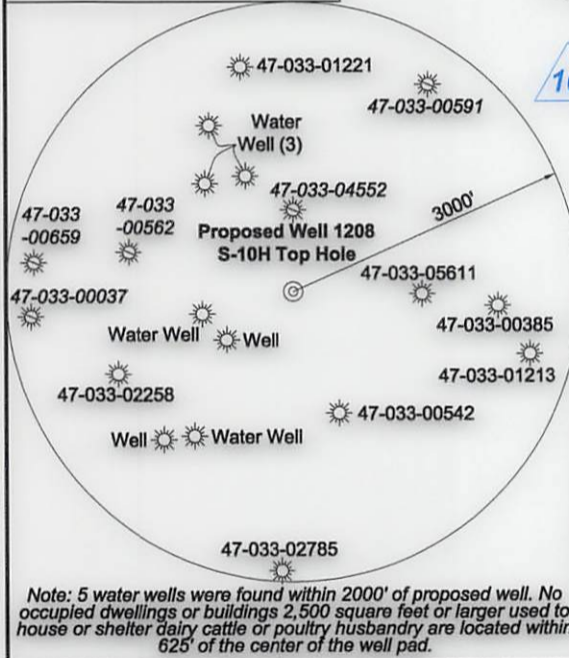
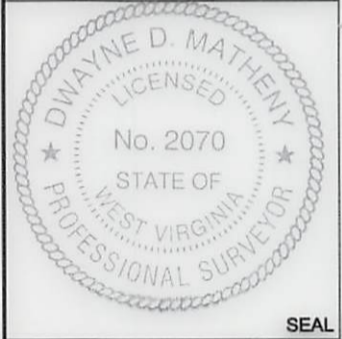
DESIGNATED AGENT: Diane C. White  
ADDRESS: 5260 Dupont Road  
Parkersburg, WV 26101





Tag	Bearing	Dist.
L1	S 46°21' E	1,455.1'
L2	S 33°16' E	1,409.4'
L3	S 88°28' W	1,037.8'
L4	N 61°48' W	879.6'
L5	N 89°35' E	1,654.2'

- Legend**
- ⊙ Proposed gas well
  - ⊙ Well Reference, as noted
  - ⊙ Monument, as noted
  - ⊙ Existing Well, as noted
  - ⊙ Existing Plugged Well, as noted
  - ⊙ Digitized Well, as noted
  - Creek or Drain
  - Existing Road
  - Surface boundary (approx.)
  - Interior surface tracts (approx.)



Note: 5 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

6,328' to Bottom Hole  
1,913' to Top Hole  
Top Latitude 39 - 10 - 00  
Btm Latitude 39 - 07 - 30  
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 rules issued and prescribed by the Department of Environmental Protection.  
Dwayne D. Matheny, P.S. 2070  
Top Longitude 80 - 25 - 00  
Btm Longitude 80 - 22 - 30  
4,925' to Top Hole  
4,803' to Bottom Hole

Notes: Well No. 1208 S-10H  
West Virginia Coordinate System of 1927, South Zone  
based upon Differential GPS Measurements.  
Top Hole coordinates Latitude: 39°09'11.31" Longitude: 80°25'24.30" UTM Zone 17, NAD 1983  
Bottom Hole coordinates Latitude: 39°06'42.36" Longitude: 80°23'51.10" UTM Zone 17, NAD 1983  
Top Hole Coordinates N: 4,333,939.629m E: 549,835.894m  
Bottom Hole Coordinates N: 4,329,362.801m E: 552,103.300m  
Plat orientation and corner and well references are based upon the grid north meridian.  
Well location references are based upon the magnetic meridian.

Notes:  
Well No. 1208 S-10H  
UTM NAD 1983 (USSF)  
Top Hole Coordinates N: 14,218,933.60' E: 1,803,919.93'  
Landing Point Coordinates N: 14,218,945.78' E: 1,805,574.05'  
Bottom Hole Coordinates N: 14,203,917.79' E: 1,811,358.91'



FILE NO: 195-36-G-18  
DRAWING NO: 1208 S-10H Well Plat  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: Submeter  
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

**STATE OF WEST VIRGINIA**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

DATE: September 20 20 19  
OPERATOR'S WELL NO. 1208 S-10H  
API WELL NO MOD  
47 - 033 - 05967  
STATE COUNTY PERMIT

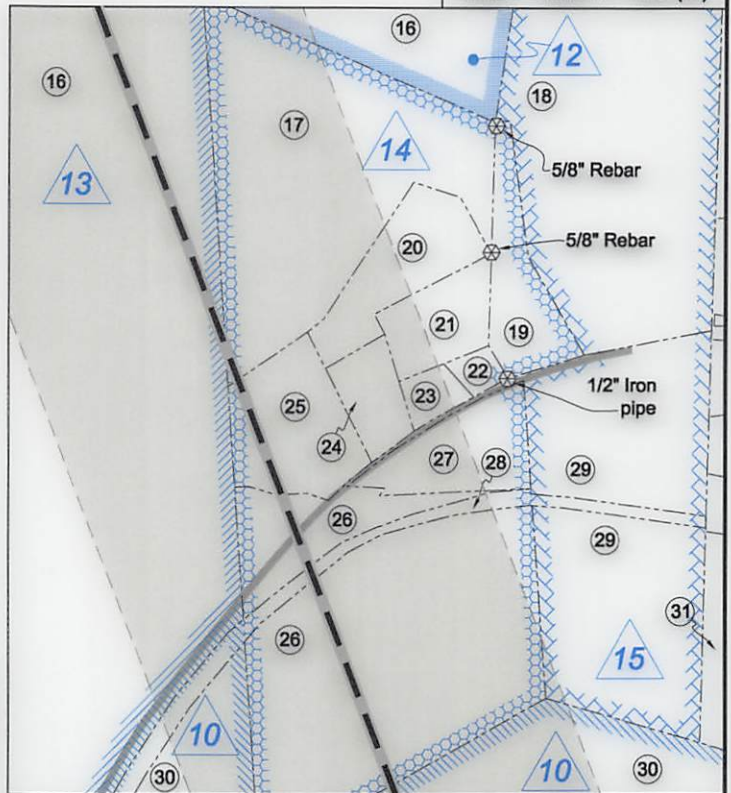
WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: 1,147' WATERSHED: Middle West Fork Creek  
DISTRICT: Grant / Hackers Creek  
SURFACE OWNER: Linda & William W. Brodwater III  
ROYALTY OWNER: Leeman B. Maxwell Heirs, et al LEASE NO: ACREAGE: 247.84  
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) LP & BH MOD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,849' MD

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

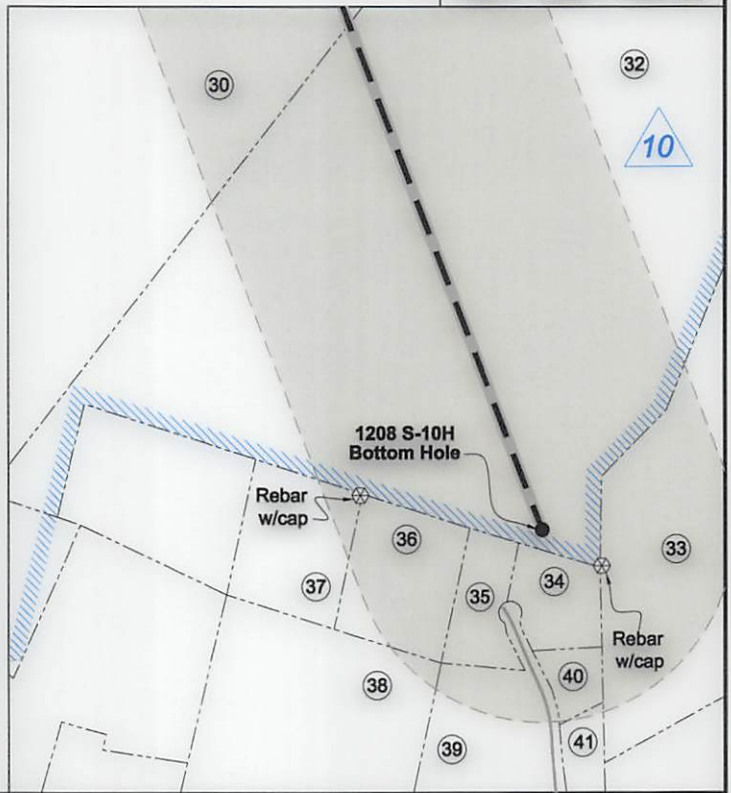


ID	Lease
1	Jerome B. Gusman
2	Leeman B. Maxwell Heirs
3	A.J. Smith, et ux
4	W.L. & Flora Hughes
5	Hannah H. Smith
6	Walter Neely, et al
7	Page Harmer Thomas, et al
8	Howard Neely
9	W.A. Jackson
10	Isaac Jackson
11	Pearl Reel
12	William C. White
13	J.W. Jackson
14	C.H. Stalnaker, et ux
15	Garnett M. Corley
16	John B. Davison
18	David Kent Moss, et al

Detail 1 - Scale: 1" = 500' (4x)



Detail 2 - Scale: 1" = 500' (4x)



Harrison County - Grant-Outside District				
No.	TM / Par	Owner	Bk / Pg	Ac.
1	425 / 31	Linda & William W. Brodwater III	1410 / 1045	247.84
2	445 / 2	Lisa M. Nutter	W687 / 445	84.57
3	445 / 12	Lisa M. Nutter	W687 / 445	64.50
4	445 / 10	Lisa M. Nutter	W687 / 445	66.87
5	445 / 11	Lisa M. Nutter	W687 / 445	75.50
6	445 / 22	John D. Smith Estate	W13 / 53	4.00
7	445 / 23	Robert Allman, et al	W177 / 231	32.84
8	445 / 23.2	Patricia T. Stamm	1341 / 1204	5.06
9	445 / 23.4	Daryl W. & Cheryl Lantz	1477 / 473	1.38
10	445 / 23.3	Daryl W. & Cheryl Lantz	1411 / 900	1.06
11	445 / 23.1	Daryl W. & Cheryl Lantz	1411 / 900	2.50
12	445 / 46	James W. Riffle II & William L. Law	1385 / 259	140.43
13	465 / 6	John G. & Rebecca M. Moore	1421 / 350	21.37
14	465 / 4.1	John G. & Rebecca M. Moore	1421 / 350	353.80
15	445 / 1	Lisa M. Nutter	1577 / 738	87.78
Lewis County - Hackers Creek District				
No.	TM / Par	Owner	Bk / Pg	Ac.
16	8C / 55	William C. White	W23 / 102	92.02
17	8C / 56	Esther M. Riffle	347 / 76	23.12
18	8C / 57	Mary V. Corley Ward	581 / 453	29.28
19	8C / 57.2	Eathan S. Wamsley & Sharon L. Harper	581 / 291	1.72
20	8C / 56.8	Ginger Knight & Howard Knight Jr.	649 / 54	2.06
21	8C / 56.7	Prime Space LLC	614 / 116	1.34
22	8C / 56.3	Prime Space LLC	614 / 120	0.28
23	8C / 56.1	Prime Space LLC	593 / 618	0.42
24	8C / 56.4	Christy Pratt & Rocky L. Lipps	714 / 947	0.94
25	8C / 56.5	Christy Pratt	574 / 546	2.41
26	8C / 56	Esther M. Riffle	347 / 76	23.12
27	8C / 56.6	Jack L. & Gladys M. Frazier	578 / 162	1.82
28	8C / 87	Mike Ross Inc.	531 / 303	14.27
29	8C / 57.1	Jack L. Frazier	524 / 498	13.50
30	8C / 58	William C. White	W23 / 102	126.18
31	6 / 29	Ronzel C. & Sandra K. Richards	333 / 347	5.20
32	8C / 59	James E. & Louise K. Dyer	551 / 372	54.62
33	9C / 8	Rose Ann & Hunter Kolb	W6 / 670	88.16
34	8C / 62.2	Timothy & Sharon Ross	629 / 775	1.21
35	8C / 62.3	Michael E. Moeller	644 / 274	1.17
36	8C / 61.2	Michael E. Moeller	699 / 327	2.40
37	8C / 61.3	Michael E. Moeller	674 / 3	2.40
38	8C / 61.4	Michael E. Moeller	674 / 3	10.38
39	8C / 62.1	Snider Construction	620 / 320	6.51
40	8C / 62.4	Robert Stewart III	674 / 43	0.56
41	8C / 62.5	Robert Stewart III	691 / 463	0.55

FILE NO: 195-36-G-18

DRAWING NO: 1208 S-10H Well Plat

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY:  
Submeter

PROVEN SOURCE OF ELEVATION:  
CORS, Bridgeport, WV

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OIL AND GAS DIVISION

DATE: September 20 20 19

OPERATOR'S WELL NO. 1208 S-10H

API WELL NO MOD

47 - 033 - 05967  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,147' WATERSHED: Middle West Fork Creek

DISTRICT: Grant / Hackers Creek

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PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,849' MD 7,050' TVD

QUADRANGLE: Top - West Millford  
Btm - Weston  
COUNTY: Harrison / Lewis

ACREAGE: 200

LEASE NO: ACREAGE: 247.84

WELL OPERATOR: HG Energy II Appalachia, LLC

ADDRESS: 5260 Dupont Road  
Parkersburg, WV 26101

DESIGNATED AGENT: Diane C. White

ADDRESS: 5260 Dupont Road  
Parkersburg, WV 26101