



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

Wednesday, November 13, 2019
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

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

Re: Permit Modification Approval for 1208 N-4H
47-033-05954-00-00

Lateral Spacing: shorten lateral from 20352' to 19247', 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

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over the typed name and title.

Operator's Well Number: 1208 N-4H
Farm Name: LINDA & WILLIAM W. BRODWATER III
U.S. WELL NUMBER: 47-033-05954-00-00
Horizontal 6A New Drill
Date Modification Issued: 11/13/2019

Promoting a healthy environment.

WW-6B
(04/15)

API NO. 47-033-05954-Mod
OPERATOR WELL NO. Nutter 1208 N-4H
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 494519932 Harrison Union West Milford 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Nutter 1208 N-4H 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

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: 19,247' ✓

11) Proposed Horizontal Leg Length: 11,549' ✓

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

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: _____

*SDW
9/20/2009*

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	19247'	19247' ✓	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	14520	12500	Type 1/Class A	20% excess yield = 1.19, tail yield = 1.20
Tubing							
Liners							

PACKERS

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

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 11549' lateral length, 19,247' 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 - 15.8 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 PDZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/yk FP13L + 0.3% bwoc MPA170, Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/yk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess, Lead Yield=1.19, Tail Yield=1.94, CTS

RECEIVED
Office of Oil and Gas

SEP 27 2019

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.

WV Department of
Environmental Protection

*Note: Attach additional sheets as needed.



RECEIVED
 Office of Oil and Gas
 SEP 27 2019
 WV Department of
 Environmental Protection

1208 N-4H
 Marcellus Shale Horizontal
 Harrison County, WV

		1208 N-4H SHL	14219013.96N 1803616.94E
Ground Elevation	1147'	1208 N-4H LP	14219743.87N 1804753.57E
Azm	340.538°	1208 N-4H BHL	14230629.44N 1800907.01E

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
	28"	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
			Kittaning Coal	810	815					
			Coal/Fresh Water	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 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)	1393 / 1660	1499 / 1740					
			Intermediate 1	0	1890 ✓					
	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	9.0ppg SOBMM	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 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		West Falls	4770	6015	11.5ppg-12.5ppg SOBMM				
Rhinestreet				6015	6290					
Cashaqua				6290	6491					
8.5" Lateral	Tully Limestone		6491	6571	11.5ppg-12.5ppg SOBMM					
			West River	6571		6664				
			Burkett	6664		6690				
			Hamilton	6794		7013				
			Marcellus	7013		7064				
			TMD / TVD (Production)	19247		7050 ✓				
Onondaga	7064									

LP @ 7050' TVD / 7698' MD 8.5" Hole - Cemented Long String 5-1/2" 23# P-110 HP CDC HTQ +/-11549' ft Lateral TD @ +/-7050' TVD +/-19247' MD

X=centralizers

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
----------------------	-----------------------	-----------------------	---------	-----------

****See Attached****

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

RECEIVED
Office of Oil and Gas

SEP 27 2019

WV Department of
Environmental Protection

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

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

HG Energy II Appalachia, LLC
1208 N-4H LEASE CHAIN

RECEIVED
Office of Oil and Gas
SEP 27 2019
WV Department of
Environmental Protection

TRACT #	LEGACY LEASE	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE				
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				
				6	LC014207	17-12-0425-0031-0003 17-12-425-0031-0000	Q101051000	NATHAN POST ET AL	RESERVE GAS COMPANY	NOT LESS THAN 1/8	179	412
								RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	MERGER/NAME CHANGE	508	573
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	FARMOUT AGREEMENT	1601					581				
								NATHAN POST ET AL	RESERVE GAS COMPANY	NOT LESS THAN 1/8	179	412
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	MERGER/NAME CHANGE	508	573				
				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				
				DOMINION TRANSMISSION, INC.	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235				

7	LC014206	17-12-0425-0025-0002 17-12-0425-0025-0004	Q101050000	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	
8	LC014208	p/o 12-0425-0025-0000 p/o 12-0425-0025-0002	Q101116000	DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				LEEMAN MAXWELL AND MARY C. MAXWELL	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	176	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.	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	
				10	FK068583	17-12-0425-0002-0000 17-12-0425-0002-0002 17-12-0425-0002-0001 17-12-0425-0001-0000	Q100571000	DOMINION ENERGY TRANSMISSION, INC.
REBECCA F. REED ET AL	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	822					87
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					1245
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					
2	FK065462	17-12-0424-0052-0000 17-12-0424-0052-0001 17-12-0424-0052-0002 17-12-0424-0052-0003 17-12-0424-0052-0004 p/o 17-12-0425-0031-0000 p/o 17-12-0425-0031-0003 17-12-0425-0032-0000 p/o 17-12-0425-0033-0000 17-12-0425-0033-0001 17-12-0425-0033-0002 17-12-0425-0033-0003 p/o 17-12-0425-0033-0004 17-12-0425-0033-0005	Q101063000	DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				L. BASSELL MAXWELL AND BLONDA MAXWELL, HIS WIFE; AND, JANE M. HENDERSON, WIDOW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	745	5
				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	1245
				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	

9	FK068582	p/o 17-12-0405-0075-0000	Q100734000	REBECCA F. REED ET AL	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	822	84				
				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	1245				
				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	1601	581				
				14	LC052212	17-12-0405-0075	Q100524000	JOSEPH CHEUVRON ET AL	P. H. GAFFNEY	NOT LESS THAN 1/8	184	309
F.E. WILLIAMSON AND P.H GAFFNEY, DBA F.E. WILLIAMSON & CO.	J.F. DONALDSON	ASSIGNMENT	222					83				
J. F. DONALDSON	THE PHILADELPHIA COMPANY OF WEST VIRGINIA	ASSIGNMENT	222					79				
THE PHILADELPHIA COMPANY OF WEST VIRGINIA	PITTSBURGH AND WEST VIRGINIA GAS COMPNAY	ASSIGNMENT	236					111				
PITTSBURGH AND WEST VIRGINA GAS COMPNAY, PHILADELPHIA OIL	HOPE NATURAL GAS COMPANY	ASSIGNMENT/BENSON SAND AND ABOVE	504					353				
PITTSBURGH AND WEST VIRGINA GAS COMPNAY, PHILADELPHIA OIL	EQUITABLE GAS COMPANY	ASSIGNMENT	714					159				
EQUITABLE GAS COMPANY AND PHILADELPHIA OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT/BELOW BENSON SAND	790					135				
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					1245				
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								
15	LC072201	17-12-404-0056-0000 p/o 17-12-404-0038-0000	Q100712000	HOWARD W. VANSCOY AND RESSIE C. VANSCOY ET AL	CONSOLIDATED GAS SUPPLY CORPORATION	NOT LESS THAN 1/8	999	286				
				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	1245				
				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				
				18	LC052900	17-20-0404-0055-0000 20-0404-0055-0001	Q101130000	GEO W WASHBURN ET AL	RESERVE GAS COMPANY	NOT LESS THAN 1/8	179	404
								RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	MERGER/NAME CHANGE	508	573
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	EMAX OIL COMPANY	WELLBORE ASSIGNMENT	1261					1021				
EMAX OIL COMPANY	CABOT OI AND GAS CORPORATION	COUNTERPART ASSIGNMENT	1244					755				
CABOT OIL AND GS CORPORATION	ENERVEST APPALACHIA L.P.	CONVEYANCE	1314					1012				
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58					362				
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									

				DOMINION ENERGY TRANSMISSION, INC. LARA BETH RAMSBURG CAROLYN S.J. HOOVER JOE LAW	HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA LLC HG ENERGY II APPALACHIA LLC HG ENERGY II APPALACHIA LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT NOT LESS THAN 1/8 NOT LESS THAN 1/8 MINERAL DEED	1621 1615 1615 1606	1295 673 680 779
16	LC052808 (LC07220)	17-12-0404-0038-0000; p/o 12-0404-0022-0000	Q1004040000	HOWARD W. VANSKOY AND RESSIE C. VANSKOY ET AL	CONSOLIDATED GAS SUPPLY CORPORATION	NOT LESS THAN 1/8	999	281
				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	1245
				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
				19	FK052855	17-20-0404-0037-0000 17-20-0404-0036-0000 17-20-0404-0035-0000 17-20-0404-0034-0000, 17-20-2901-0100-000 ET AL	Q101019000	LLOYD WASHBURN ET AL
SOUTH PENN OIL COMPANY	RESERVE GAS COMPANY	ASSIGNMENT	215					351
RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	MERGER/NAME CHANGE	WVSOS					
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					1245
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				
17	LC052812	12-0405-0059-0000 12-0405-0067-0000	Q100958000	CHARLES H. WASHBURN, SINGLE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	179	484
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	508	573
				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	1245
				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

No.	TM / Par	Owner	Bk / Pg	Ac.
35	404 / 17.1	Dameon Tyler Hall	1556 / 320	0.75
34	404 / 19	Terry Weldon & Regina T. Tallman	1357 / 569	3.56
33	404 / 18	Russell A. Suder	1113 / 88	2.02
32	404 / 17	Mary Jo Short	808 / 456	0.83
31	404 / 16.1		761 / 822	1.82
30	404 / 16.2	Richard Vance Short	1262 / 155	0.06
29	404 / 16	Jeffrey & Victoria J. Roark	1518 / 173	3.06
28	404 / 22	John L. & Mary Beth Stenger	1280 / 455	70.90
27	405 / 59	Terence L. Washburn	1294 / 433	43.40
26	404 / 34	Callwell J. & Patricia F. Hutson	1209 / 163	11.00
25	404 / 35	Bruce W. & Luella R. Cayton	1029 / 339	12.80
24	404 / 36	Dennis J. Bunsida	1326 / 149	16.30
23	404 / 37		WB146 /	18.10
22	404 / 55	Larry & Rebecca Myers	1089	54.74
21	404 / 38	Rebecca D. Arther	1504 / 1251	34.48
20	404 / 56	Jacob Walter & Karen A. Post	1350 / 1078	5.50
19	405 / 76	William Michael McDonald	1377 / 99	202.18
18	425 / 1	Joel B. Shuman, et al	WB188/472	89.00
17	425 / 25.4	Ronald L. & Mary Jo Hitt	1193 / 304	4.55
16	425 / 2.1	Del Marie Brann	1339 / 100	7.40
15	425 / 2	Lonzo A. & Erica Martin	1569 / 1078	5.035
14	425 / 25.2	Laurinda R. Beckstead	1420 / 941	83.199
13	425 / 2.2	Jennifer Irene McWhorter	1422 / 1117	26.66
12	425 / 33	David A. & Julie Kaesucker	1282 / 81	34.70
11	425 / 33.4	David J. & Angeena K. Koesucker	1439 / 457	3.01
10	425 / 33.3	Earl Milton Jenkins	1285 / 521	2.00
9	425 / 24	Linda J. Maxwell Revocable Trust	1302 / 793	19.60
8	425 / 25			212.80
7	425 / 31.3	Gary S. & Melinda M. Brodwater	1354 / 176	2.00
6	425 / 31.1	Dona R. & David R. Scarff	1360 / 652	1.00
5	425 / 31.2	Linda & William W. Brodwater III	1343 / 1279	1.15
4	445 / 1		- / -	87.78
3	445 / 10		WB 687 /	66.87
2	445 / 2	Lisa M. Nutter	445	84.57
1	425 / 31	Linda & William W. Brodwater III	1410 / 1045	247.84

ID	Lease
1	Jerome B. Gusman
2	Leeman B. Maxwell Heirs
6	Leeman B. Maxwell Heirs
7	Leeman Maxwell, et al
9	Rebecca F. Reed, et al
10	Rebecca D. Reed, et al
14	Joseph Chauvront, et al
15	Howard W. Vanscoy, et al
16	Howard W. Vanscoy, et al
18	George W. Washburn, et al
19	Lloyd Washburn, et al

FILE NO: 195-36-G-18
DRAWING NO: 1208 N-4H Well Plat
SCALE: 1" = 1500'
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 N-4H
API WELL NO
47 — 033 — 05954
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: West Milford
DISTRICT: Grant / Union COUNTY: Harrison
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 7,050' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,248' 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

4,851' to Bottom Hole
2,216' to Top Hole
BTM LATITUDE 39 - 12 - 30
TOP LATITUDE 39 - 10 - 00

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
Dwayne D. Matheny, P.S. 2070

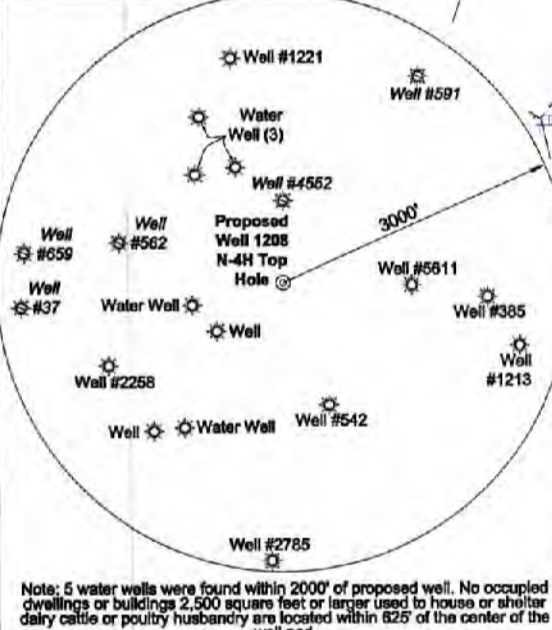
LONGITUDE 80 - 25 - 00
4,843' to Top Hole
8,381' to Bottom Hole

Tag	Bearing	Dist.
L1	N 87°45' W	1,341.5'
L2	N 85°18' W	1,188.8'
L3	S 38°04' E	1,190.0'
L4	S 23°11' E	1,194.5'
L5	N 57°16' E	1,350.8'



Notes:
Well No. 1208 N-4H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,218,013.98' E: 1,803,616.94'
Landing Point Coordinates
N: 14,219,743.87' E: 1,804,753.57'
Bottom Hole Coordinates
N: 14,230,629.44' E: 1,800,907.01'

Notes: Well No. 1208 N-4H
West Virginia Coordinate System of 1927, South Zone based upon Differential GPS Measurements.
Top Hole coordinates Bottom Hole coordinates
Latitude: 39°09'12.12" Latitude: 39°11'07.14"
Longitude: 80°25'28.14" Longitude: 80°28'41.63"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,333,864.123m N: 4,337,504.528m
E: 549,743.543m E: 548,917.554m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.



SEAL

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.)



FILE NO: 195-36-G-18
DRAWING NO: 1208 N-4H Well Plat
SCALE: 1" = 1500'
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 N-4H
API WELL NO
47 - 033 - 05954
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: West Milford
DISTRICT: Grant / Union COUNTY: Harrison
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 7,050' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,248' 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
6	Leeman B. Maxwell Heirs
7	Leeman Maxwell, et ux
9	Rebecca F. Reed, et al
10	Rebecca D. Reed, et al
14	Joseph Cheuvront, et al
15	Howard W. Vanscoy, et al
16	Howard W. Vanscoy, et al
18	George W. Washburn, et al
19	Lloyd Washburn, et al

No.	TM / Par	Owner	Bk / Pg	Ac.
35	404 / 17.1	Dameon Tyler Hall	1556 / 320	0.75
34	404 / 19	Tony Weidon & Regina T. Tallman	1357 / 589	3.58
33	404 / 18	Russell A. Suder	1113 / 88	2.02
32	404 / 17	Mary Jo Short	808 / 458	0.83
31	404 / 16.1		781 / 822	1.82
30	404 / 18.2	Richard Vance Short	1262 / 155	0.08
29	404 / 18	Jeffrey & Victoria J. Roark	1518 / 173	3.08
28	404 / 22	John L. & Mary Beth Stanger	1280 / 455	70.90
27	405 / 59	Terence L. Washburn	1294 / 433	43.40
26	404 / 34	Callwell J. & Patricia F. Hutson	1209 / 163	11.00
25	404 / 35	Bruce W. & Luella R. Cayton	1029 / 339	12.80
24	404 / 38	Dennis J. Bunside	1326 / 149	16.30
23	404 / 37	Larry & Rebecca Myers	WB146 / 1089	18.10
22	404 / 55			54.74
21	404 / 38	Rebecca D. Arther	1504 / 1251	34.48
20	404 / 58	Jacob Walter & Karen A. Post	1350 / 1076	5.50
19	405 / 75	William Michael McDonald	1377 / 99	202.18
18	425 / 1	Joel B. Shuman, et al	WB168/472	89.00
17	425 / 25.4	Ronald L. & Mary Jo Hill	1193 / 304	4.55
16	425 / 2.1	Del Marie Brenn	1339 / 100	7.40
15	425 / 2	Lonzo A. & Erica Martin	1589 / 1076	5.035
14	425 / 25.2	Laurinda R. Beckstead	1420 / 941	83.199
13	425 / 2.2	Jennifer Irene McWhorter	1422 / 1117	26.86
12	425 / 33	David A. & Julie Koesucker	1262 / 81	34.70
11	425 / 33.4	David J. & Angeena K. Keesucker	1439 / 457	3.01
10	425 / 33.3	Earl Milton Jenkins	1285 / 521	2.00
9	425 / 24	Linda J. Maxwell Revocable Trust	1302 / 793	19.80
8	425 / 25			212.80
7	425 / 31.3	Gary S. & Melinda M. Brodwater	1354 / 175	2.00
6	425 / 31.1	Dore R. & David R. Scarff	1360 / 652	1.00
5	425 / 31.2	Linda & William W. Brodwater III	1343 / 1279	1.16
4	445 / 1		- / -	87.78
3	445 / 10	Lisa M. Nutter	WB 887 / 445	68.87
2	445 / 2			84.57
1	425 / 31	Linda & William W. Brodwater III	1410 / 1045	247.84

FILE NO: <u>195-36-G-18</u> DRAWING NO: <u>1208 N-4H Well Plat</u> SCALE: <u>1" = 1500'</u> MINIMUM DEGREE OF ACCURACY: <u>Submeter</u> PROVEN SOURCE OF ELEVATION: <u>CORS, Bridgeport, WV</u>	 STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION	DATE: <u>September 20 20 19</u> OPERATOR'S WELL NO. <u>1208 N-4H</u> API WELL NO <u>47</u> — <u>033</u> — <u>05954</u> STATE COUNTY PERMIT
WELL TYPE: <input type="checkbox"/> OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> WASTE DISPOSAL (IF GAS) PRODUCTION: <input type="checkbox"/> STORAGE <input type="checkbox"/> DEEP <input checked="" type="checkbox"/> SHALLOW		
LOCATION: ELEVATION: <u>1,147'</u> WATERSHED: <u>Middle West Fork Creek</u> DISTRICT: <u>Grant / Union</u> SURFACE OWNER: <u>Linda & William W. Brodwater III</u> ROYALTY OWNER: <u>Leeman B. Maxwell Heirs, et al</u> LEASE NO: _____ ACREAGE: <u>247.84</u>		QUADRANGLE: <u>West Milford</u> COUNTY: <u>Harrison</u> ACREAGE: <u>200</u>
PROPOSED WORK: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> CONVERT <input type="checkbox"/> DRILL DEEPER <input checked="" type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input checked="" type="checkbox"/> OTHER PHYSICAL CHANGE IN WELL (SPECIFY) <u>LP & BH MOD</u> 7,050' TVD <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> CLEAN OUT AND REPLUG TARGET FORMATION: <u>Marcellus Shale</u> ESTIMATED DEPTH: <u>19,248' MD</u>		
WELL OPERATOR: <u>HG Energy II Appalachia, LLC</u> DESIGNATED AGENT: <u>Diane C. White</u> ADDRESS: <u>5260 Dupont Road</u> ADDRESS: <u>5260 Dupont Road</u> <u>Parkersburg, WV 26101</u> <u>Parkersburg, WV 26101</u>		