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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, April 17, 2020  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC  
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit Modification Approval for NEEL 1207 S-7H  
47-033-05976-00-00

Modified lateral for a TMD of 22,442' with additional leases and no need to update SSP

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: NEEL 1207 S-7H  
Farm Name: HG ENERGY II APPALACHIA, LLC  
U.S. WELL NUMBER: 47-033-05976-00-00  
Horizontal 6A New Drill  
Date Modification Issued: April 17, 2020

Promoting a healthy environment.

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: Neel 1207 S-7H Well Pad Name: Neel 1207
- 3) Farm Name/Surface Owner: HG Energy II Appalachia, LLC Public Road Access: Hidden Valley Rd @ SR 19
- 4) Elevation, current ground: 1354' Elevation, proposed post-construction: 1344'
- 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 7076/7158' and 82' in thickness. Anticipated pressure at 4314#.
- 8) Proposed Total Vertical Depth: 7145'
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 22,442'
- 11) Proposed Horizontal Leg Length: 14,259'
- 12) Approximate Fresh Water Strata Depths: 135', 245', 425', 630', 731'
- 13) Method to Determine Fresh Water Depths: Nearest offset well data
- 14) Approximate Saltwater Depths: 1782', 1848'
- 15) Approximate Coal Seam Depths: 290, 340, 592, 1004' to 1009'
- 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*  
*2/26/2020*

SECURITY  
OFFICE OF OIL AND GAS  
MAY 10 2020  
West Virginia Department of  
Environmental Protection

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	20"	NEW	J-55	94	849'	849'	40% excess yield = 1.20, CTS
Intermediate 1	13 3/8"	NEW	J-55	68	2200'	2200'	40% excess yield = 1.20, CTS
Intermediate 2	9 5/8"	NEW	J-55	40	3000'	3000'	40% excess yield/0% Excess Yield
Production	5 1/2"	NEW	P-110	23	22442'	22442'	20% excess yield = 1.18, 0% yield = 1.00
Tubing							
Liners							

*SDW  
2/26/2020*

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
Intermediate 1	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Local 40% excess, 70% 0% excess
Intermediate 2	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Local 40% excess, 70% 0% excess
Production	5 1/2"	8 1/2"	.415	16240	12500	Type 1/Class A	20% excess yield = 1.18, 0% yield = 1.00
Tubing							
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

RECORDED  
 and Indexed  
 MAR 6 2020  
 WVD Department of  
 Environmental Protection

WW-6B  
(10/14)

API NO. 47- 33 - 05976 <sup>mo</sup>  
OPERATOR WELL NO. Neel 1207 S-7H  
Well Pad Name: Neel 1207

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 7145 feet. Drill horizontal leg to estimated 14,259 lateral length, 22,442TMD. 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 ACP 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): 28.278 acres

22) Area to be disturbed for well pad only, less access road (acres): 12.715 acres

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.  
Freshwater/Coal - centralized every 3 joints to surface.  
Intermediate 1 - Bow Spring on every joint, will also be running ECP for isolating storage zone.  
Intermediate 2 - 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 -NA, Casing to be drilled in w/ Dual Rotary Rig.  
Fresh Water/Coal - 15.6 ppg PNE-1 + 3% bwoc CaCl, 40% Excess Yield = 1.20, CTS  
Intermediate 1 - 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  
Intermediate 2 - 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  
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 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/Coal - Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.  
Intermediate 1 - Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.  
Intermediate 2 - 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.

RECEIVED  
W. Va. Oil and Gas  
MAY 03 2009  
W. Va. Department of  
Environmental Protection

\*Note: Attach additional sheets as needed.



MAR 02 2023



WALTON COUNTY AIR ENVIRONMENTAL COMMISSION

1207 S-7H  
Marcellus Shale Horizontal  
Harrison County, WV

33-059761001

Ground Elevation	1343'	1207 S-7H SHL	1207 S-7H LP	1207 S-7H SHL	14218308.07N 1809789.23E
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Azm	159.796°	1207 S-7H BHL	14217259.76N 1807792.8E	14203882.62N 1807792.8E	
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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
	24"	20" 94# J-55	Fresh Water Surface / FW	0	849	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
	17.5"	13-3/8" 68# J-55 BTC	Coal Little/Big Lime Injun / Gantz (Storage)	1004	1009	AIR / KCL - Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Trail: 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 mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi
				2091 / 2182	2151 / 2192	Fifty / Thirty Foot Gordon Stray / Gordon	2218 / 2278	2278 / 2465	AIR / KCL - Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Trail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS
	12.25"	9-5/8" 40# J-55 BTC	5th Sand Bayard / Warren	2525	2537	AIR / KCL - Salt Polymer	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170	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
				2591 / 2891	2801 / 2931	Intermediate 2	0	3000	9.0ppg SOBm	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Rhinestreet Cashaqua Middlesex West River Burkett	6390	6646	11.5ppg-12.5ppg SOBm	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 Trail Yield=1.94 CTS			
				3211	3231	8.0ppg SOBm	Speechley	3231	3231	
	8.5" Lateral	5-1/2" 23# P-110 HP CDC HTQ	Balltown Benson	3438	3448	11.5ppg-12.5ppg SOBm				
				4529	4544	8.0ppg SOBm	Balltown	3438	3448	
	8.5" Lateral	5-1/2" 23# P-110 HP CDC HTQ	Hamilton Marcellus TMD / TVD (Production) Onondaga	6967	7076	11.5ppg-12.5ppg SOBm				
				7076	7158	8.0ppg SOBm	Hamilton	6967	7076	

LP @ 7145' TVD / 8182' MD

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

+/-14259' ft Lateral

TD @ +/-7145' TVD  
+/-22441' MD

X=centralizers

WW-6A1  
(5/13)

Operator's Well No. Neel 1207 S-7H

**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\*\***

RECEIVED  
Office of Oil and Gas  
MAY 19 2010  
WV Department of Environmental Protection

**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: Accountant



33-05976 Mod

RECORDED  
 11/18/2020  
 WV/REC-11/18/2020

HG Energy II Appalachia, LLC  
 Neel 1207 S-7H Lease Chain - Revised 2.7.2020

1207 S TRACT #	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE
3	LC068480	12-0445-0005-0000 12-0445-0005-0001	Q100813000	DORA B. MCWHORTER, WIDOW; AND EVERETT EDMONDS AND GLADYS EDMONDS, HIS WIFE HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. NOBLE ENERGY, INC. NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC DOMINION ENERGY TRANSMISSION, INC.	NOT LESS THAN 1/8 CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT MERGER/NAME CHANGE SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601 193 903 1139 51 58 1522 1543 1576 1584 1600 WVSOS	581 277 179 250 795 362 33 1235 125 942 692
2	LC094208 LC020942	12-0445-0012-0000 12-0445-0003-0000 253571000	Q101052000	DOMINION ENERGY TRANSMISSION, INC. A. J. SMITH AND L. F. SMITH, HIS WIFE HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC CNX GAS COMPANY LLC NOBLE ENERGY, INC. NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC DOMINION ENERGY TRANSMISSION, INC.	NOT LESS THAN 1/8 FARMOUT AGREEMENT SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT ASSIGNMENT ASSIGNMENT CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE CONFIRMATORY ASSIGNMENT CONFIRMATORY ASSIGNMENT ASSIGNMENT	1601 158 226 UNRECORDED 201 903 1136 51 58 1409 1442 1457 1522	581 8 359 3 179 250 795 362 680 356 978 33
1	FK020606	20-0444-0011-0000 20-0444-0011-0001 20-0444-0011-0002 20-0444-0011-0003 20-0444-0012-0000 12-0444-0013-0000 12-0444-0014-0000 12-0444-0021-0000 12-0444-0021-0001 12-0444-0022-0000 12-0445-0001-0000 12-0445-0002-0000 12-0445-0009-0000 12-0445-0010-0000 12-0445-0011-0000	Q100370000	DOMINION ENERGY TRANSMISSION, INC. J. B. GUSMAN AND ADALINE GUSMAN, HUSBAND AND WIFE TREAT & CRAWFORD UNITED FUEL GAS COMPANY FAVETTE COUNTY GAS COMPANY HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. DOMINION EXPLORATION & PRODUCTION, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC DOMINION ENERGY TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC DOMINION ENERGY TRANSMISSION, INC.	FIRST AMENDMENT TO FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT ASSIGNMENT MERGER/NAME CHANGE	1524 1543 1576 1584 1600 WVSOS	491 1235 125 942 692





33-05976 MOD

				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				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.	FARMOUT AGREEMENT	672	154
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MERGER/NAME CHANGE	5	564
				SOUTH PENN OIL COMPANY	PENNZOIL COMPANY	ASSIGNMENT	454	34
				PENNZOIL COMPANY	PENNZOIL PRODUCTS COMPANY	ASSIGNMENT	460	139
				PENNZOIL PRODUCTS COMPANY	PENNZOIL PRODUCTS COMPANY	ASSIGNMENT	551	627
				PENNZOIL EXPLORATION AND PRODUCTION COMPANY	PENNZOIL EXPLORATION AND PRODUCTION COMPANY	MERGER/NAME CHANGE	8	343
				PENNZOIL EXPLORATION AND PRODUCTION COMPANY	PENNZENERGY EXPLORATION AND PRODUCTION, LLC	FIRST AMENDMENT TO FARMOUT AGREEMENT	1524	491
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND 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	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
				WILLIAM C. WHITE, LE	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1633	1322
				WILLIAM C. WHITE, LIFE ESTATE				
				MARIA CHRISTINE GATTAN, WILLIAM C. WHITE II, AND CLIFFORD SCOTT WHITE, REMAINDER INTEREST	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
				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
				DOMINION TRANSMISSION, INC.	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
36	LC065826	Q100636000	21-04-008C-0057-0000; 21-04-008C-0057-0001; 21-04-008C-0057-0002					
23	LC009809	Q101005000	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					
24	N/A	HG1182, HG10250, HG10251, HG10293	p/o 17-12-0465-0004-0001; p/o 21-04-008C-0055-0000					

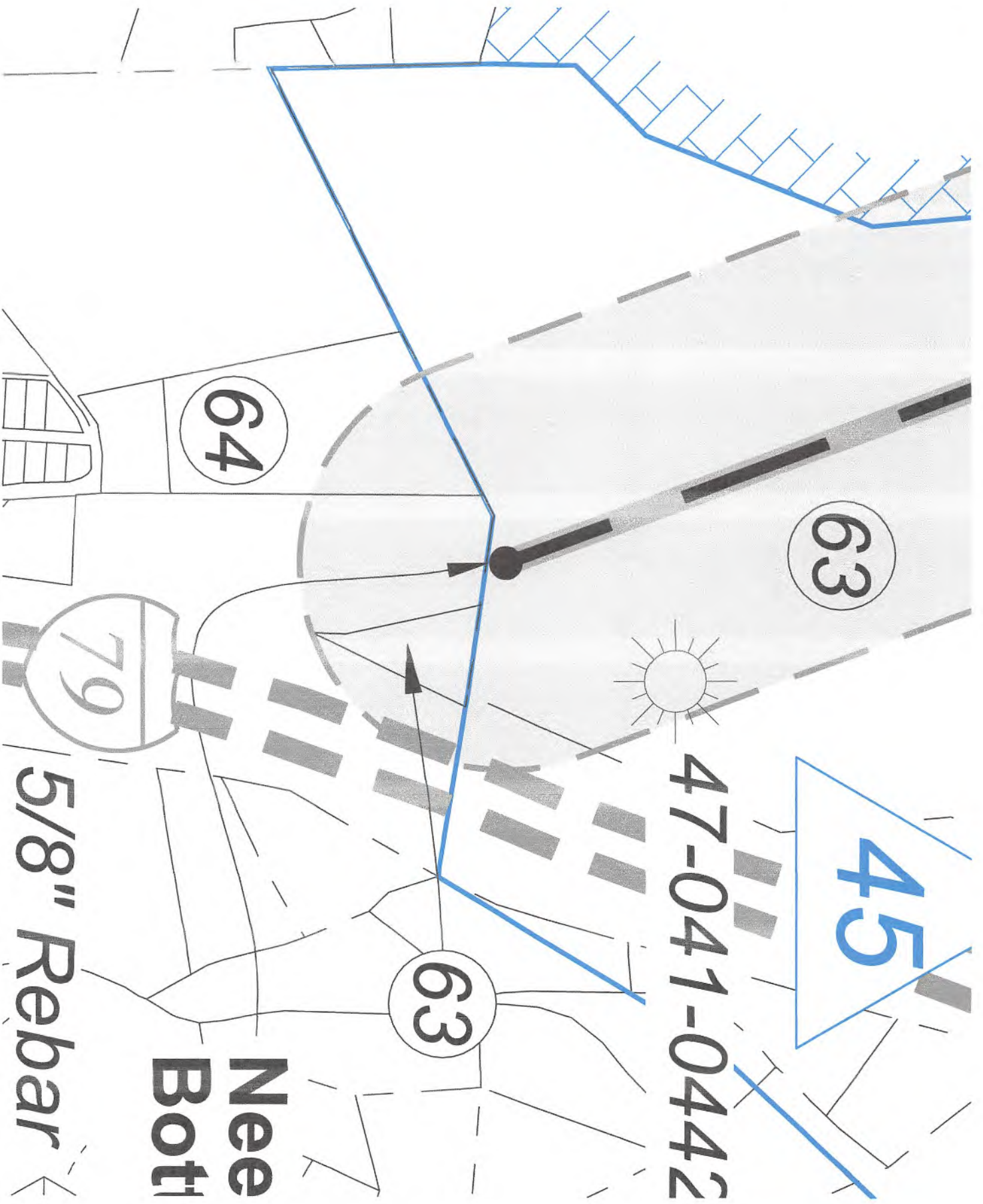


37	LC099807	<p>0014, 0015, 0016, 0017;                  21-04-008C-0029-0000;                  21-04-008C-0030-0000, 0002;                  21-04-008C-0031-0000, 0001, 0002, 0003;                  21-04-008C-0054-0000;                  21-05-0001-0050-0001;                  21-05-0001-0048-0000;                  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, 04-008C-0047-                  0001; 04-008C-0047-0002, 0003, 0004;                  21-04-008C-0034-0000;                  21-04-008C-0026-0000</p>	Q100620000
38	LC076677	p/o 04-009C-0007-0000	

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 CORPORATI	ENERVEST APPALACHIA, L.P.	ASSIGNMENT	558	249
CNG TRANSMISSION CORPORATION	CNG PRODUCING COMPANY	ASSIGNMENT	522	528
CNG TRANSMISSION CORPORATION	EMAX OIL COMPANY	WELBORE 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	684	154
DOMINION TRANSMISSION, INC.	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	712	57
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	717	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
HUGH C. DAVIS AND MARTHA L. DAVIS, HIS WIFE	CONSOLIDATED GAS SUPPLY CORPORATION	NOT LESS THAN 1/8	303	297
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	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
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT (68%)	736	220

RECEIVED  
 Office of Oil and Gas  
 MAR 9 2009

Wild Department of  
 Environmental Protection



47-041-0442

45

64

63

63

79

5/8" Rebar

Nee  
Bot



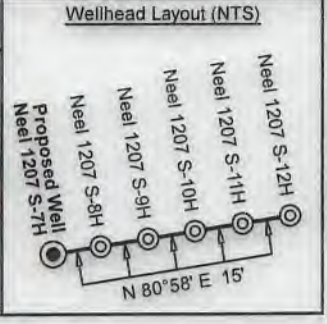
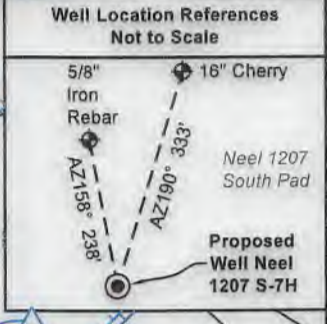
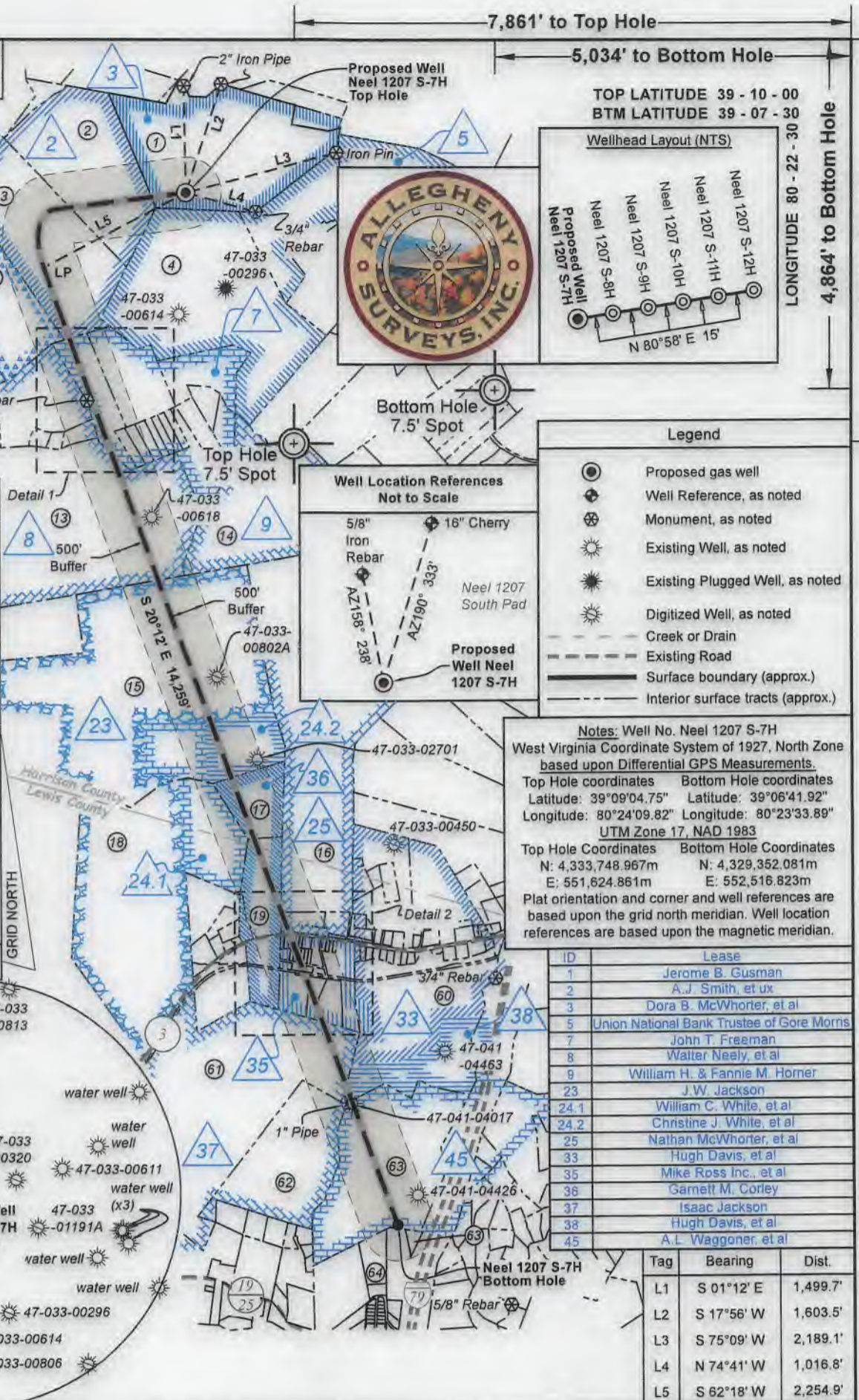
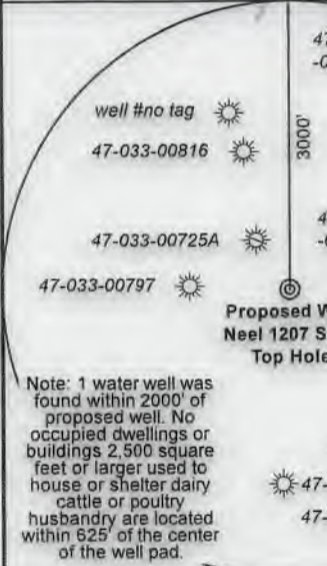
HG Energy II Appalachia, LLC  
Well No. Neel 1207 S-7H  
BH-MOD  
Page 1 of 2

Notes:  
Well No. Neel 1207 S-10H  
UTM NAD 1983 (USSF)  
Top Hole Coordinates  
N: 14,218,308.07'  
E: 1,809,789.23'  
Landing Point Coordinates  
N: 14,217,259.76'  
E: 1,807,792.80'  
Bottom Hole Coordinates  
N: 14,203,882.62'  
E: 1,812,715.61'



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



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.)

Notes: Well No. Neel 1207 S-7H  
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
Top Hole coordinates Bottom Hole coordinates  
Latitude: 39°09'04.75" Latitude: 39°06'41.92"  
Longitude: 80°24'09.82" Longitude: 80°23'33.89"  
UTM Zone 17, NAD 1983  
Top Hole Coordinates Bottom Hole Coordinates  
N: 4,333,748.967m N: 4,329,352.081m  
E: 551,624.861m E: 552,516.823m  
Plat orientation and corner and well references are based upon the grid north meridian. Well location references are based upon the magnetic meridian.

ID	Lease
1	Jerome B. Gusman
2	A.J. Smith, et ux
3	Dora B. McWhorter, et al
5	Union National Bank Trustee of Gore Morns
7	John T. Freeman
8	Water Neely, et al
9	William H. & Fannie M. Homer
23	J.W. Jackson
24.1	William C. White, et al
24.2	Christine J. White, et al
25	Nathan McWhorter, et al
33	Hugh Davis, et al
35	Mike Ross Inc., et al
36	Garnett M. Corley
37	Isaac Jackson
38	Hugh Davis, et al
45	A.L. Waggoner, et al

Tag	Bearing	Dist.
L1	S 01°12' E	1,499.7'
L2	S 17°56' W	1,603.5'
L3	S 75°09' W	2,189.1'
L4	N 74°41' W	1,016.8'
L5	S 62°18' W	2,254.9'

FILE NO: 296-36-G-18  
DRAWING NO: 1207 S-7H Well Plat  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: Submeter  
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

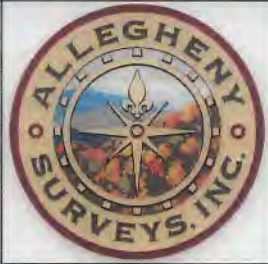
STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OIL AND GAS DIVISION

DATE: February 19 20 20  
OPERATOR'S WELL NO. Neel 1207 S-7H  
API WELL NO mod  
47 - 033 - 05976  
STATE COUNTY PERMIT

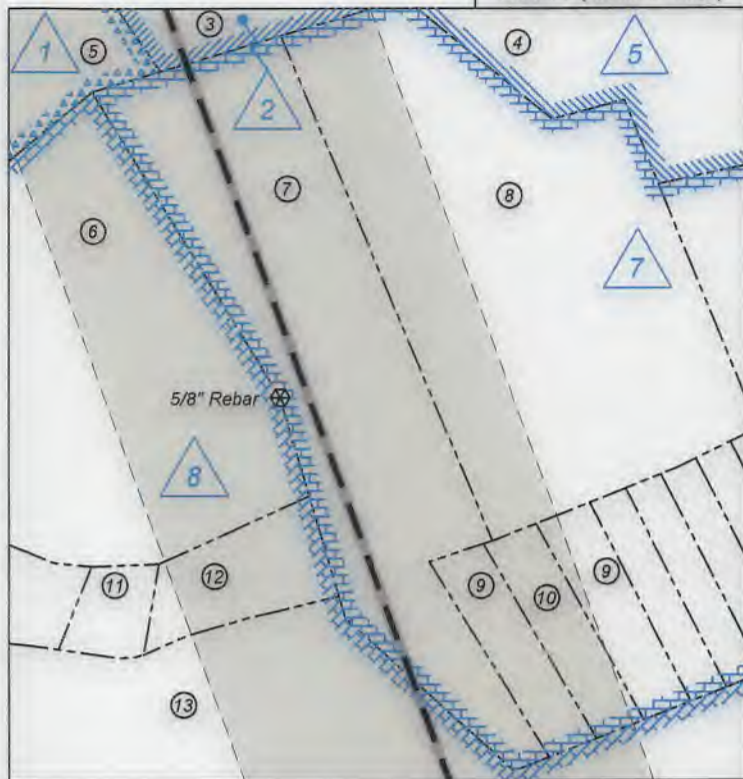
WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: 1,344' WATERSHED: Middle West Fork Creek  
DISTRICT: Grant  
SURFACE OWNER: HG Energy II Appalachia, LLC  
ROYALTY OWNER: Dora B. McWhorter, et al LEASE NO: ACREAGE: 103.00  
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BH - MOD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,145' TVD 22,442' 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





Detail 1 (Scale 1"=500')



Detail 2 (Scale 1"=500')



Harrison Co. - Grant Dist.				
No.	TM / Par	Owner	Bk / Pg	Ac.
1	445 / 5	HG Energy II Appalachia, LLC	--- / ---	89.07
2	445 / 3	Lisa M. Nutter	W188 / 687	64.00
3	445 / 12	Lisa M. Nutter	W188 / 687	64.50
4	445 / 13	Mickey Petitto	W175 / 1167	132.85
5	445 / 11	Lisa M. Nutter	W188 / 687	75.50
6	445 / 23	Robert Allman, et al	W177 / 231	32.84
7	445 / 24	Garrett Wyne Snow	W186 / 1160	16.28
8	445 / 25	Leland Jackson Freeman	W167 / 371	21.00
9	445 / 35	James L. Sellers, III	1606 / 126	3.82
10	445 / 35.1	James L. Sellers, III	1606 / 126	1.85
11	445 / 23.3	Daryl W. & Cheryl Lantz	1411 / 900	1.06
12	445 / 23.1	Daryl W. & Cheryl Lantz	1411 / 900	2.50
13	445 / 46	James W. Riffle, II, et al	1385 / 259	140.43
14	445 / 47	Franklin L. & Charles R. Sutton	--- / ---	78.00
15	465 / 4.1	J. Gregory & Rebecca Moore	1421 / 350	353.80
16	465 / 11	Catherine D. Weber	1495 / 458	103.72
17	465 / --	Unknown Parcel	--- / ---	16.52

Lewis Co. - Hackers Creek Dist.				
No.	TM / Par	Owner	Bk / Pg	Ac.
18	8C / 55	William C. White	W23 / 102	92.02
19	8C / 57	Mary V. Corley Ward	581 / 453	29.28
20	8C / 56	Esther M. Riffle	347 / 76	23.12
21	8C / 57.2	Eathan S. Wamsley, et al	581 / 291	1.72
22	6 / 6	JSB Land Holding	684 / 440	0.07
23	6 / 1	Willard J. Prince	W22 / 109	4.75
24	6 / 2	Willard J. Prince	W22 / 109	1.22
25	6 / 2.2	Willard J. Prince	--- / ---	0.25
26	6 / 2.1	JSB Land Holding	684 / 432	0.97
27	6 / 16	Floyd S. Woodyard, Jr., et al	W6 / 138	4.00
28	6 / 15	Daniel R. & Rochelle L. Hinkle	732 / 6	0.18
29	6 / 14	Daniel R. & Rochelle L. Hinkle	732 / 6	0.18
30	6 / 13	Jackie Lee Frazier	244 / 399	0.18
31	6 / 12	Elizabeth Sue Vincent	W20 / 414	0.18
32	6 / 27	Michael A. & Carrie B. Grilli	716 / 569	0.27
33	6 / 10	Melissa C. Reel	724 / 574	0.46
34	6 / 9.1	Leonard M. Minigh	622 / 557	0.20
35	6 / 9.2	Leonard M. Minigh	622 / 557	0.30
36	6 / 9	Elizabeth D. Ocheltree	529 / 721	0.25
37	6 / 8.1	Elizabeth D. Ocheltree	529 / 721	0.15
38	6 / 7.1	Elizabeth D. Ocheltree	529 / 721	0.19
39	6 / 7	Ezra J. & Mary T. Waugh	362 / 599	0.48
40	6 / 8	Ezra J. & Mary T. Waugh	362 / 599	0.35
41	6 / 22	Ezra J. & Mary T. Waugh	362 / 599	0.31
42	6 / 21	Ezra J. & Mary T. Waugh	362 / 599	0.10
43	6 / 21.1	Leonard M. Minigh	622 / 557	0.11
44	6 / 20	Leonard M. Minigh	622 / 557	0.46
45	6 / 19.1	Christa A. Hendricks	584 / 707	0.17
46	6 / 18	Melissa C. Reel	724 / 574	0.02
47	6 / 19	Maggie U. Williams	W13 / 686	0.24
48	6 / 17	Maggie U. Williams	W13 / 686	0.25
49	6 / 27	Michael A. & Carrie B. Grilli	716 / 569	0.27
50	6 / 26	Maggie U. Williams	W13 / 686	0.22
51	6 / 25.1	Leonard M. Minigh	622 / 557	0.11
52	6 / 24	Leonard M. Minigh	622 / 557	0.23
53	6 / 23	Allan L. & Karen L. Osbourn	508 / 115	0.28
54	6 / 87	Mike Ross Inc.	531 / 303	14.27
55	8C / 57.1	Jack L. Frazier	524 / 498	13.50
56	6 / 29	Ronzel C. & Sandra K. Richards	333 / 347	5.20
57	6 / 30	William W. Booth	W15 / 229	2.50
58	6 / 31	Steven L. & Anna M. Butcher	543 / 765	4.00
59	6 / 32	Ronzel C. & Sandra K. Butcher	317 / 331	4.00
60	9C / 7	Sharon Lee Alman	W47 / 298	74.55
61	8C / 58	William C. White	W23 / 102	126.18
62	8C / 59	James E. & Louise K. Dyer	551 / 372	54.62
63	9C / 13	Hunter Kolb	567 / 765	1.07
64	8C / 73	Rose A. & John H. Kolb	W17 / 496	6.50

FILE NO: 296-36-G-18  
DRAWING NO: 1207 S-7H 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: February 19 20 20  
OPERATOR'S WELL NO. Neel 1207 S-7H  
API WELL NO  
47 - 033 - 05976  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: 1,344' WATERSHED: Middle West Fork Creek  
DISTRICT: Grant QUADRANGLE: Top: West Milford Btm: Weston  
SURFACE OWNER: HG Energy II Appalachia, LLC COUNTY: Harrison  
ROYALTY OWNER: Dora B. McWhorter, et al LEASE NO: ACREAGE: 89.07  
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BH - MOD 7,145' TVD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 22,442' 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





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

---

February 17, 2020

WV DEP  
Division of Oil & Gas  
Attn: James Kennedy  
601 57<sup>th</sup> Street  
Charleston, West Virginia 25304

RE: Neel 1207 S-7H Permit Application Revision – (47-033-05976)  
Grant District, Harrison County  
West Virginia

Dear Mr. Kennedy:

Per our discussions, enclosed are revised forms (survey plat, mylar, WW-6B, casing schematic and WW6A-1) for the 1207 S-7H well work drilling permit. We request the permit be modified as additional leases have been secured to lengthen the lateral.

Please let me know if you have any questions or require additional information. I can be reached at (304) 420-1119 or [dwhite@hgenergyllc.com](mailto:dwhite@hgenergyllc.com).

Very truly yours,

*Diane White*

Diane C. White

Enclosures

cc: Sam Ward – Inspector

RECEIVED  
Office of Oil and Gas  
MAR 02 2020  
WV Department of  
Environmental Protection