



west virginia department of environmental protection

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

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

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

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

Re: Permit Modification Approval for NAYS 1209 N-1H
47-033-05930-00-00

Increase lateral spacing 1000' to 1500'. Total measured depth change from 20145' to 20379'.

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 blue ink signature of James A. Martin, written in a cursive style, is placed over the printed name and title.

Operator's Well Number: NAYS 1209 N-1H
Farm Name: HG ENERGY II APPALACHIA, LLC
U.S. WELL NUMBER: 47-033-05930-00-00
Horizontal 6A New Drill
Date Modification Issued: 12/09/2019

Promoting a healthy environment.

WW-6B
(04/15)

API NO. 47-033 - 0593D MOD 2

OPERATOR WELL NO. Nays 1209 N-1H

Well Pad Name: Nays 1209

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

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

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

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

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

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

(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s): Marcellus at 6863'/6914' and 51' in thickness. Anticipated pressure at 4314#. *Saw 9/22/2019*

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20,379'

11) Proposed Horizontal Leg Length: 12,659'

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

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

14) Approximate Saltwater Depths: None noted in offsets

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

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

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

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

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

WW-6B
(04/15)

API NO. 47- _____
 OPERATOR WELL NO. Nays 1209 N-1H
 Well Pad Name: Nays 1209

18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor - 1st	36"	New	LS	195.36	100'	100'	Drilled In
Fresh Water	20"	NEW	J-55	94	600'	600'	40% excess yield = 1.20, CTS
Coal	13 3/8"	NEW	J-55	68	1735'	1735'	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	NEW	J-55	40	2500'	2500'	40% excess yield Loss/ 0% Excess T
Production	5 1/2"	NEW	P-110	23	20379'	20379'	20% excess yield = 1.19, tail yield = 1.19
Tubing							
Liners							

*SPW
9/20/2019*

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	30"	.500				CTS
Fresh Water	20"	24"	.438	2110	1200	Type 1, Class A	30 % excess yield = 1.20, CTS
Coal	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	40% excess yield = 0% Excess Loss
Production	5 1/2"	8 1/2"	.415	14520	12500	Type 1/Class A	20% excess yield = 1.19, tail yield 1.19
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

RECEIVED
Office of Oil and Gas
SEP 24 2019
WV 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 - 1st	36"	New	LS	195.36	100'	100'	Drilled In
Fresh Water	20"	NEW	J-55	94	600'	600'	40% excess yield = 1.20, CTS
Coal	13 3/8"	NEW	J-55	68	1735'	1735'	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	NEW	J-55	40	2500'	2500'	40% excess yield Lead/ 0% Excess Tail
Production	5 1/2"	NEW	P-110	23	20379'	20379'	20% excess yield = 1.19, tail yield = 1.19
Tubing							
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	30"	.500				CTS
Fresh Water	20"	24"	.438	2110	1200	Type 1, Class A	30 % excess yield = 1.20, CTS
Coal	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	40% excess yield = 0% Excess Lead/ 40% Excess Tail
Production	5 1/2"	8 1/2"	.415	14520	12500	Type 1/Class A	20% excess yield = 1.19, tail yield = 1.19
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

RECEIVED
 Office of Oil and Gas
 SEP 24 2019
 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 6900 feet. Drill horizontal leg to estimated 12659' TMD, stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

The stimulation will be completed with multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals. See attached list. Maximum pressure not to exceed 12,500 psi.

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

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

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.
Freshwater - centralized every 3 joints to surface.
Coal - Bow Spring on every joint.
Intermediate - Bow Spring on first 2 joints then every third joint to 100' from surface.
Production - Run 1 spiral centralizer every 5 joints from the top of the curve to surface. Run 1 spiral centralizer every 3 joints from the 1st 5.5' long joint to the top of the curve.

24) Describe all cement additives associated with each cement type:

Conductor - N/A, Casing to be drilled in w/ Dual Rotary Rig.
Fresh Water - 15.6 ppg PNE-1 + 3% bwoc CaCl₂, 40% Excess Yield = 1.20, CTS
Coal - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl₂ zero% Excess, CTS
Intermediate - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess, Tail: 15.9 ppg, PNE-1 + 2.5% bwoc CaCl₂, zero% Excess, CTS
Production - Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170, Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA17020% ExcessLead Yield=1.19Tail 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.

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

*Note: Attach additional sheets as needed.



1209 N-1H
Marcellus Shale Horizontal
Harrison County, WV

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

		1209 N-1H SHL				237349.95N 1732374E			
Ground Elevation	1007'	1209 N-1H LP				237199.9N 1730430.76E			
Azm	341.493°	1209 N-1H BHL				249204.11N 1726412.49E			

WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
	36"-1st 30"-2nd	36" 195.36# LS 30" 157.5# LS	Conductor	0	30 98	AIR	N/A, Casing to be drilled in w/ Dual Rotary Rig	N/A	Ensure the hole is clean at TD.	Conductor casing = 0.5" wall thickness
	24"	20" 94# J-55	Fresh Water	0	135	AIR	15.6 ppg PNE-1 + 3% bwoc CaCl 40% Excess Yield=1.20 / CTS	Centralized every 3 joints to surface	Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.	Surface casing = 0.438" wall thickness Burst=2110 psi
			Fresh Water	0	600					
	17.5"	13-3/8" 68# J-55 BTC	Kittanning Coal	660	665	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
			Little/Big Lime	1126 / 1167	1151 / 1243					
			Injun / Gantz (Storage)	1243 / 1535	1349 / 1585					
			Intermediate 1	0	1735					
	12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	1850 / 1730	1897 / 1742	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi
			Gordon Stray / Gordon	1785 / 1850	1850 / 1940					
			5th Sand	2035	2070					
			Bayard Sand	2125	2160					
			Intermediate 2	0	2500					
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	2745	2763	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 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			2965	3005						
Benson			4050	4083						
West Falls			4620	5865						
8.5" Curve	Rhinestreet		5865	6140	11.5ppg-12.5ppg SOBM					
	Cashaqua		6140	6341						
	Middlesex		6341	6421						
	West River		6421	6514						
	Burkett		6514	6540						
	Tully Limestone		6540	6644						
	Hamilton		6644	6863						
	Marcellus		6863	6914						
8.5" Lateral	TMD / TVD (Production)	20379	6900	11.5ppg-12.5ppg SOBM						
	Onondaga	6914								

LP @ 6900' TVD / 7720' MD

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

+/-12659' ft Lateral

TD @ +/-6900' TVD
+/-20379' MD

X=centralizers

BHL is located on topo map 10,212 feet south of Latitude: 39° 12' 30"
 SHL is located on topo map 6,836 feet south of Latitude: 39° 10' 00"

SEE PAGE 2 FOR PLAT DUE TO LENGTH OF LATERAL

SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
N:4333336.64
E:548091.79
 UTM 17-NAD83(FT)
 N:14216955.30
 E:1798197.80
 LAT/LON DATUM-NAD83
 LAT:39.147898
 LON:-80.443456

BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
N:4336917.79
E:546215.45
 UTM 17-NAD83(FT)
 N:14228704.46
 E:1792041.86
 LAT/LON DATUM-NAD83
 LAT:39.180268
 LON:-80.464925

APPROX. LANDING POINT
UTM 17-NAD83
N:4333281.07
E:547500.53
 UTM 17-NAD83(FT)
 N:14216772.98
 E:1796258.00
 LAT/LON DATUM-NAD83
 LAT:39.147430
 LON:-80.450302

	LESSOR	DIST-TM/PAR
A	J. B. GUSMAN ET AL	20-444/11.2
B	J. A. HARDWAY ET AL	12-444/26 20-444/5
C	A. W. & MARY RHODES	20-444/19.3 20-444/19.12
D	W. J. LAW ET UX	20-444/3 20-424/47
E	M. G. LAW & ET AL	20-424/47 20-424/15
F	W. T. LAW ET UX	20-424/14 20-424/1
G	GEORGE WASHBURN ET AL	20-404/30.1 20-404/40.3
H	W. W. BRANNON ET UX	12-444/26



	SURFACE OWNER	DIST-TM/PAR
1	DANNY LEE & ALICIA STICKEL	P/O 20-444/11.2
1A	HG ENERGY II APPALACHIA, LLC	P/O 20-444/11.2
2	HG ENERGY II APPALACHIA, LLC	20-444/11.3
3	AARON C. & CHRISTINA P. MEDINA	20-444/11
4	HG ENERGY II APPALACHIA, LLC	20-444/11.1
5	ROCK GARTON	12-444/26
6	DANNY LEE STICKEL	20-444/19.3
7	DANNY LEE STICKEL	20-444/19.12
8	DANNY LEE & ALICIA A. STICKEL	20-444/5
9	BRADLEY S. & TERRI L. STUTLER	20-444/3
10	SHARON S. MCDONALD	20-424/47
11	BRENDA L. & MICHAEL TUCKWILLER	20-424/15
12	JAMES IVAN MCDONALD	20-424/14
13	JAMES IVAN MCDONALD	20-424/1
14	AL-N-EL FARMS LLC	20-404/30.1
15	VERONICA M. & JESSE RAY CUNNINGHAM, JR.	20-404/40.3
16	GARTON ROCK	12-444/26



THRASHER

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

FILE #: 1209 N-1H	I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION. Signed: <u>George D. Six</u> R.P.E.: _____ L.L.S.: P.S. No. 2000	 PLACE SEAL HERE
DRAWING #: 1209 N-1H		
SCALE: 1" = 2000'		
MINIMUM DEGREE OF ACCURACY: 1/2500		
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'		

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

DATE: SEPTEMBER 19, 2019
 OPERATOR'S WELL #: 1209 N-1H
 API WELL #: 47 33 05930
 STATE COUNTY PERMIT

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

WATERSHED: MIDDLE WEST FORK CREEK ELEVATION: 1,007'±
 COUNTY/DISTRICT: HARRISON / UNION QUADRANGLE: WEST MILFORD, WV 7.5'
 SURFACE OWNER: HG ENERGY II APPALACHIA, LLC ACREAGE: 95.06±
 OIL & GAS ROYALTY OWNER: ANN COVINGTON, ET AL ACREAGE: 1032.04±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,900'± TMD: 20,380'±
 WELL OPERATOR HG ENERGY II APPALACHIA, LLC DESIGNATED AGENT DIANE C. WHITE
 Address 5260 DUPONT ROAD Address 5260 DUPONT ROAD
 City PARKERSBURG State WV Zip Code 26101 City PARKERSBURG State WV Zip Code 26101

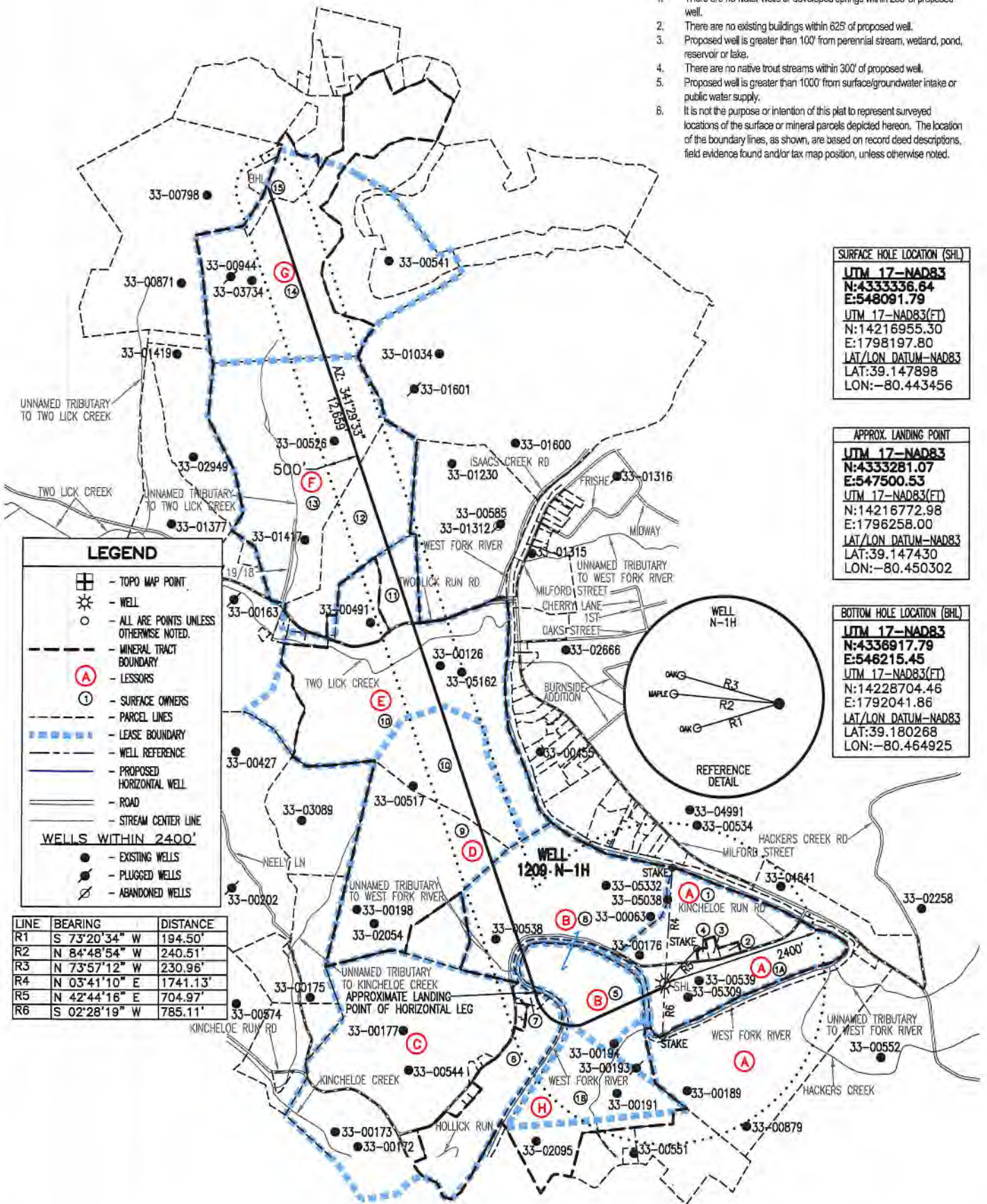
BHL is located on topo map 1,871 feet west of Longitude: 80° 27' 30"
 SHL is located on topo map 7,598 feet west of Longitude: 80° 25' 00"

1209 N-1H

PAGE 2 OF 2

NOTES:

1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 625' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.



SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
N:4333356.84
E:548091.79
 UTM 17-NAD83(FT)
 N:14216955.30
 E:1798197.80
 LAT/LON DATUM-NAD83
 LAT:39.147898
 LON:-80.443456

APPROX. LANDING POINT
UTM 17-NAD83
N:4336917.79
E:547500.53
 UTM 17-NAD83(FT)
 N:14216772.98
 E:1796258.00
 LAT/LON DATUM-NAD83
 LAT:39.147430
 LON:-80.450302

BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
N:4336917.79
E:546215.45
 UTM 17-NAD83(FT)
 N:14228704.46
 E:1792041.86
 LAT/LON DATUM-NAD83
 LAT:39.180268
 LON:-80.464925

LEGEND

- ⊕ - TOPO MAP POINT
- ☼ - WELL
- - ALL ARE POINTS UNLESS OTHERWISE NOTED.
- - - MINERAL TRACT BOUNDARY
- (A) - LESSORS
- (1) - SURFACE OWNERS
- - - PARCEL LINES
- - - LEASE BOUNDARY
- - - WELL REFERENCE
- - - PROPOSED HORIZONTAL WELL
- - - ROAD
- - - STREAM CENTER LINE

WELLS WITHIN 2400'

- - EXISTING WELLS
- ⊗ - PLUGGED WELLS
- ⊘ - ABANDONED WELLS

LINE	BEARING	DISTANCE
R1	S 73°20'34" W	194.50'
R2	N 84°48'54" W	240.51'
R3	N 73°57'12" W	230.96'
R4	N 03°41'10" E	1741.13'
R5	N 42°44'16" E	704.97'
R6	S 02°28'19" W	785.11'

API WELL #: 47 33 05930
 STATE COUNTY PERMIT

SEPTEMBER 19, 2019

THRASHER

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



George D. Six

BHL is located on topo map 10,212 feet south of Latitude: 39° 12' 30"
 SHL is located on topo map 6,836 feet south of Latitude: 39° 10' 00"

SEE PAGE 2 FOR PLAT DUE TO LENGTH OF LATERAL

SURFACE HOLE LOCATION (SHL)
 UTM 17-NAD83
 N:4333336.84
 E:548081.78
 UTM 17-NAD83(FT)
 N:14216955.30
 E:1798197.80
 LAT/LON DATUM-NAD83
 LAT:39.147888
 LON:-80.443456

BOTTOM HOLE LOCATION (BHL)
 UTM 17-NAD83
 N:4336817.79
 E:546215.45
 UTM 17-NAD83(FT)
 N:14226704.46
 E:1792041.86
 LAT/LON DATUM-NAD83
 LAT:39.180268
 LON:-80.464925

	LESSOR	DIST-TM/PAR
A	J. B. GUSMAN ET AL	20-444/11.2
B	J. A. HARDWAY ET AL	12-444/26
		20-444/5
C	A. W. & MARY RHODES	20-444/19.3
		20-444/19.12
D	W. J. LAW ET UX	20-444/3
		20-424/47
E	M. G. LAW & ET AL	20-424/47
		20-424/15
F	W. T. LAW ET UX	20-424/14
		20-424/1
G	GEORGE WASHBURN ET AL	20-404/30.1
		20-404/40.3
H	W. W. BRANNON ET UX	12-444/26



APPROX. LANDING POINT
 UTM 17-NAD83
 N:4333261.87
 E:547500.53
 UTM 17-NAD83(FT)
 N:14216772.98
 E:1796258.00
 LAT/LON DATUM-NAD83
 LAT:39.147430
 LON:-80.450302



	SURFACE OWNER	DIST-TM/PAR
1	DANNY LEE & ALICIA STICKEL	P/O 20-444/11.2
1A	HG ENERGY II APPALACHIA, LLC	P/O 20-444/11.2
2	HG ENERGY II APPALACHIA, LLC	20-444/11.3
3	AARON C. & CHRISTINA P. MEDINA	20-444/11
4	HG ENERGY II APPALACHIA, LLC	20-444/11.1
5	ROCK GARTON	12-444/26
6	DANNY LEE STICKEL	20-444/19.3
7	DANNY LEE STICKEL	20-444/19.12
8	DANNY LEE & ALICIA A. STICKEL	20-444/5
9	BRADLEY S. & TERRI L. STUTLER	20-444/3
10	SHARON S. MCDONALD	20-424/47
11	BRENDA L. & MICHAEL TUCKWILLER	20-424/15
12	JAMES IVAN MCDONALD	20-424/14
13	JAMES IVAN MCDONALD	20-424/1
14	AL-N-EL FARMS LLC	20-404/30.1
15	VERONICA M. & JESSE RAY CUNNINGHAM, JR.	20-404/40.3
16	GARTON ROCK	12-444/26



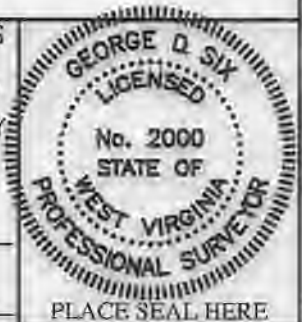
THRASHER

CIVIL ENVIRONMENTAL CONSULTING FIELD SERVICES
 800 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 25309
 PHONE (304) 624-4108 FAX (304) 624-7831

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

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

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



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



DATE: SEPTEMBER 19, 2019
 OPERATOR'S WELL #: 1209 N-1H
 API WELL #: 47 33 05930 MWD
 STATE COUNTY PERMIT

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

WATERSHED: MIDDLE WEST FORK CREEK ELEVATION: 1,007±

COUNTY/DISTRICT: HARRISON / UNION QUADRANGLE: WEST MILFORD, WV 7.5'

SURFACE OWNER: HG ENERGY II APPALACHIA, LLC ACREAGE: 95.06±

OIL & GAS ROYALTY OWNER: ANN COVINGTON, ET AL ACREAGE: 1032.04±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,900± TMD: 20,380±

WELL OPERATOR: HG ENERGY II APPALACHIA, LLC DESIGNATED AGENT: DIANE C. WHITE

Address: 5260 DUPONT ROAD City: PARKERSBURG State: WV Zip Code: 26101

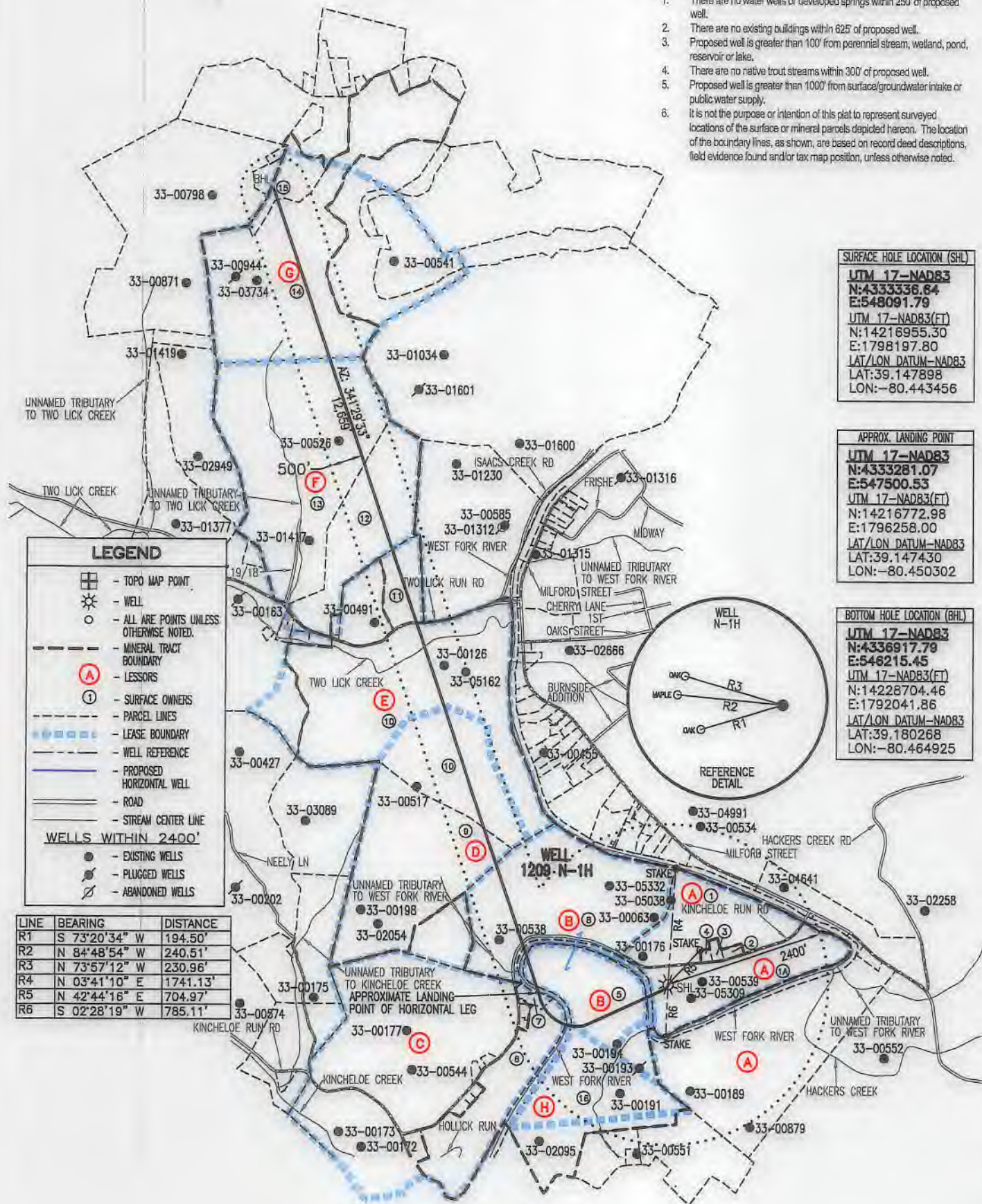
BHL is located on topo map 1,871 feet west of Longitude: 80° 27' 30"
 SHL is located on topo map 7,598 feet west of Longitude: 80° 25' 00"

1209 N-1H

PAGE 2 OF 2

NOTES:

1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 825' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.



SURFACE HOLE LOCATION (SHL)

UTM 17-NAD83
 N:433336.64
 E:548091.79

UTM 17-NAD83(FT)
 N:14216955.30
 E:1798197.80

LAT/LON DATUM-NAD83
 LAT:39.147898
 LON:-80.443456

APPROX. LANDING POINT

UTM 17-NAD83
 N:433281.07
 E:547500.53

UTM 17-NAD83(FT)
 N:14228704.46
 E:1796258.00

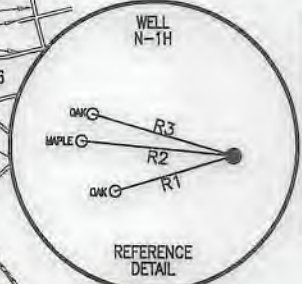
LAT/LON DATUM-NAD83
 LAT:39.147430
 LON:-80.450302

BOTTOM HOLE LOCATION (BHL)

UTM 17-NAD83
 N:4336917.79
 E:546215.45

UTM 17-NAD83(FT)
 N:14228704.46
 E:1792041.86

LAT/LON DATUM-NAD83
 LAT:39.180268
 LON:-80.464925



API WELL #: 47 33 05930 MOD
 STATE COUNTY PERMIT

SEPTEMBER 19, 2019

THRASHER

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



George D. Six

**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 Sheets"

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

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

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

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, 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.

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

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

HG Energy II Appalachia, LLC

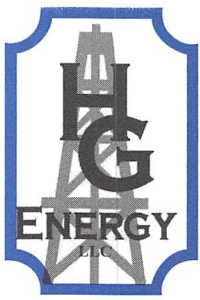
1209 N-1H LEASE CHAIN

TRACT #	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE				
A	FK020606	17-20-0444-0011-0000, 17-20-0444-0011-0001, 17-20-0444-0011-0002, 17-20-0444-0011-0003, 17-20-0444-0012-0000, 17-12-0444-0013-0000, 17-12-0444-0014-0000, 17-12-0444-0021-0000, 17-12-0444-0021-0001, 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				
				B	FK004424	17-20-0444-0005-0000 17-20-0444-0026-0000	Q100366000	J.A. HARDWAY AND JANE HARDWAY, HIS WIFE	SOUTH PENN OIL COMPANY	NOT LESS THAN 1/8	113	440
								SOUTH PENN OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT	240	210
HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903					179				
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136					250				
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51					795				
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58					362				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522					33				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543					1235				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576					125				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584					942				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600					660				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600					692				
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601					581				
C	FK013939	20-0444-0019-0000 20-0444-0019-0001 20-0444-0019-0002 20-0444-0019-0003 20-0444-0019-0004 20-0444-0019-0005 20-0444-0019-0006 20-0444-0019-0007 20-0444-0019-0008 20-0444-0019-0009 20-0444-0019-0010 20-0444-0019-0011 20-0444-0019-0012 20-0444-0019-0013	Q100459000					A. W. RHODES AND AMRY THODES, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	175	162
								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	660				
				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				

RECEIVED
 Office of Oil and Gas
 SEP 24 2019
 WV Department of Energy

H	FK032708	p/o 12-444-0026-0000 p/o 12-0444-0029-0000	Q100260000	W. W. BRANNON AND ADDIE BRANNON	THE PHILADELPHIA COMPANY OF WEST VIRGINIA	NOT LESS THAN 1/8	185	107
				PITTSBURGH AND WEST VIRGINIA GAS COMPANY	PITTSBURGH AND WEST VIRGINIA GAS COMPANY	ASSIGNMENT	236	111
				HOPE NATURAL GAS COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT	267	155
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
D	FK013943	17-20-0444-0003-0000 17-20-0444-0004-0000 p/o 17-20-0424-0047-0000	Q100657000	DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				W.J. LAW AND LUCY A. LAW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	175	168
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
E	FK027184	p/o 17-20-0424-0035-0001 17-20-0424-0015-0000 17-20-0424-0034-0000 17-20-0424-0035-0000 17-20-0424-0047-0000 17-20-0424-0047-0001	Q100911000	M. G. LAW AND I.L. LAW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	248	54
				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 GAS TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG GAS TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC	FARMOUT AGREEMENT	1522	33
				CNX GAS COMPANY, LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT OF FARMOUT	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
				F	FK027183	17-20-0424-0001-0000 17-20-0424-0001-0001 17-20-0424-0014-0000 17-20-0424-0014-0001 17-20-0424-0014-0002 17-20-0424-0014-0003 17-20-0424-0014-0004	Q100373000	W.T. LAW AND B.C. LAW, HIS WIFE
HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903					179
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136					250
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51					795
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58					362
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522					33
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543					1235
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576					125
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584					942
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600					660
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600					692
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					

				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
G	FK052929	p/o 17-20-0404-0030-0001 17-20-0404-0039-0001 17-20-0404-0040-0000 17-20-0404-0040-0001 17-20-0404-0040-0003	Q100667000	GEORGE W. WASHBURN AND HARRIET A. WASHBURN, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	193	449
				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
				ENERVEST APPALACHIA, L.P.	CGAS PROPERTIES, L.P.	CONVEYANCE	1412	421
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY	MEMORANDUM FARMOUT AGREEMENT	1522	33
				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



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

September 17, 2019

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

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

Dear Ms. Adkins:

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

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

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

Very truly yours,

Diane White

Diane C. White

Enclosures

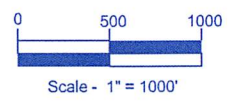
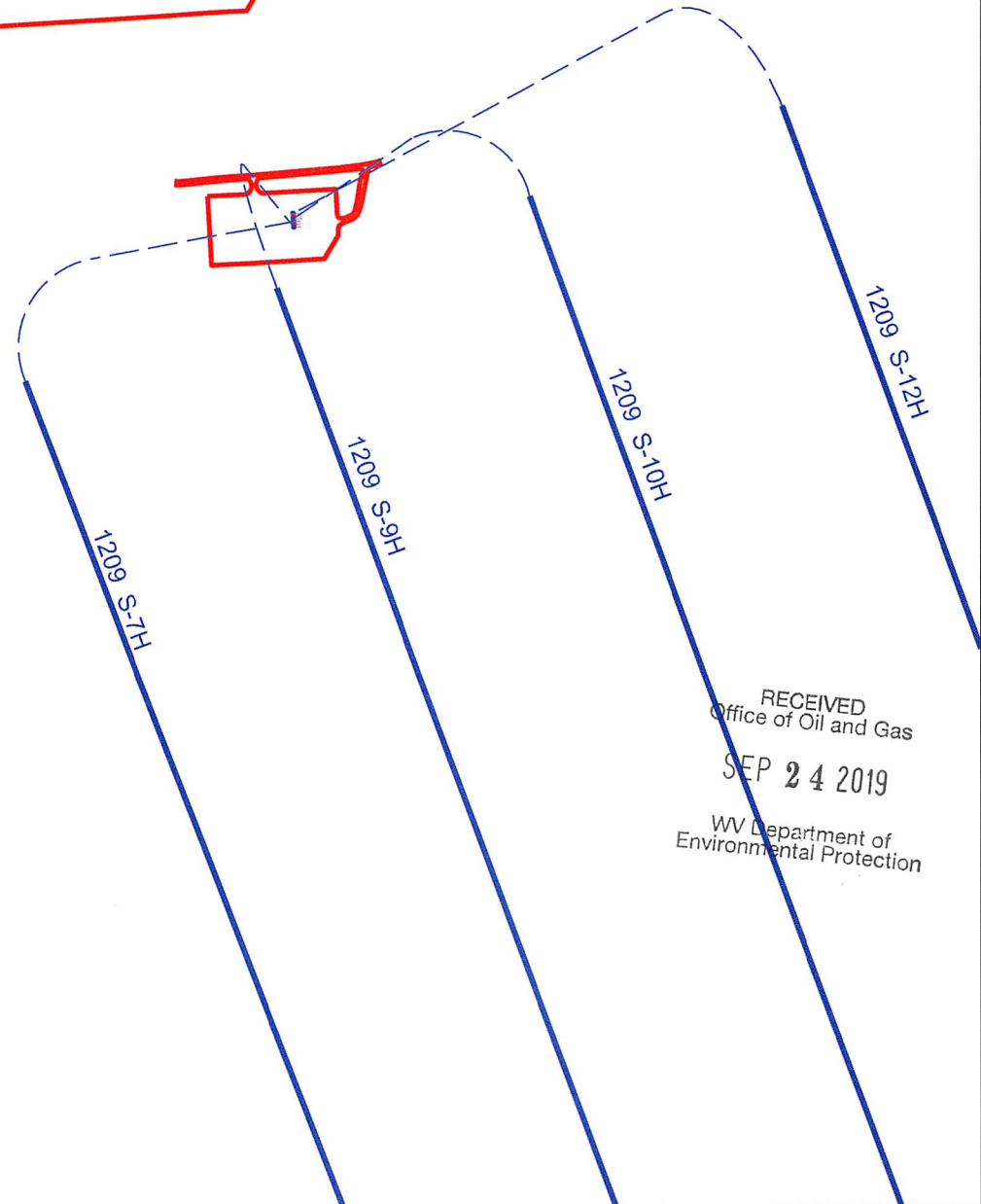
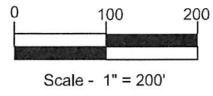
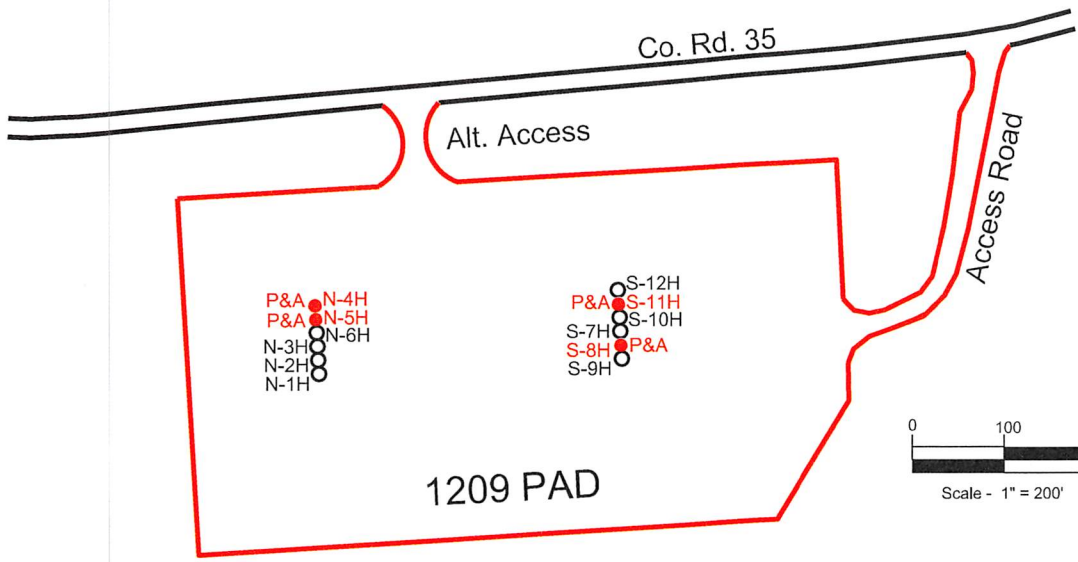
cc: Sam Ward – Inspector

RECEIVED
Office of Oil and Gas

SEP 24 2019

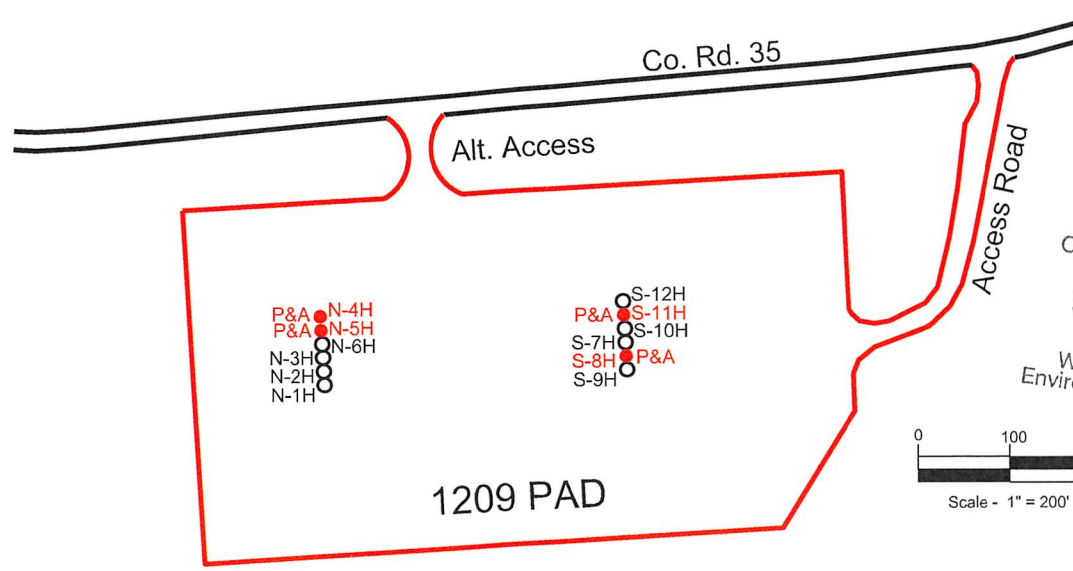
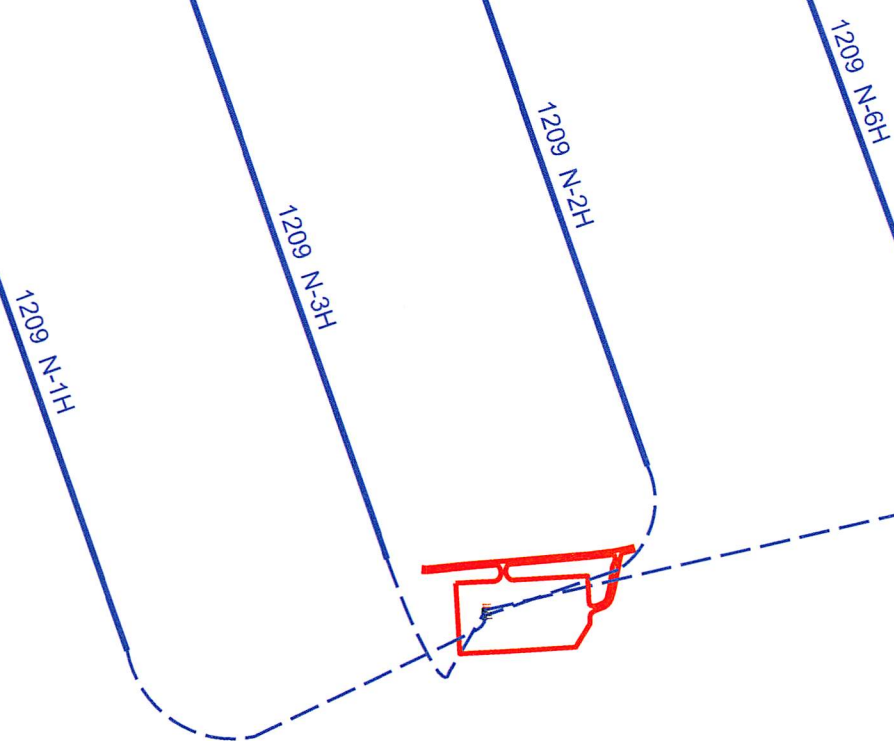
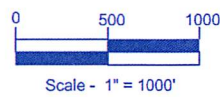
WV Department of
Environmental Protection

1209 SOUTH PAD - WELLHEAD LAYOUT



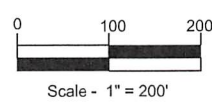
RECEIVED
Office of Oil and Gas
SEP 24 2019
WV Department of
Environmental Protection

1209 NORTH PAD - WELLHEAD LAYOUT



RECEIVED
Office of Oil and Gas
SEP 24 2019

WV Department of
Environmental Protection



VOID

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

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

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

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

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

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No No

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

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20,379'

11) Proposed Horizontal Leg Length: 12,659'

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

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

14) Approximate Saltwater Depths: None noted in offsets

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

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

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

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

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

VOID

VOID

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

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

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

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

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

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No No

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

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23,267'

11) Proposed Horizontal Leg Length: 15,801'

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

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

14) Approximate Saltwater Depths: None noted in offsets

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

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

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

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

RECEIVED
Office of Oil and Gas

SEP 24 2019

WV Department of
Environmental Protection

VOID

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

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

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

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

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

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No No

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

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17,267'

11) Proposed Horizontal Leg Length: 9,631'

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

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

14) Approximate Saltwater Depths: None noted in offsets

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

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

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

(a) If Yes, provide Mine Info: Name: _____

Depth: _____

Seam: _____

Owner: _____

RECEIVED
Office of Oil and Gas

SEP 24 2019

WV Department of
Environmental Protection

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

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

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

Operator ID County District Quadrangle

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

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

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

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

VOID

6) Existing Pad: Yes or No No

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

8) Proposed Total Vertical Depth: 6900'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21,746'

11) Proposed Horizontal Leg Length: 14,221'

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

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

14) Approximate Saltwater Depths: None noted in offsets

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

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

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

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

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