

02/10/2023



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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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, February 10, 2023  
WELL WORK PERMIT  
Vertical / New Drill

NORTHEAST NATURAL ENERGY LLC  
707 VIRGINIA STREET EAST  
STE 1200  
CHARLESTON, WV 25301

Re: Permit approval for MIP/IS  
47-061-01922-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless 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: MIP/IS  
Farm Name: ENROUTE PROPERTIES LLC.  
U.S. WELL NUMBER: 47-061-01922-00-00  
Vertical New Drill  
Date Issued: 2/10/2023

Promoting a healthy environment.

4706101922

## PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

### CONDITIONS

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1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR § 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR § 4-19.1.c, if the operator is unable to sample and analyze any water well or spring within one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and cement does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.
8. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACOE). Through this permit, you are hereby being advised to consult with the USACOE regarding this proposed activity.

WW - 2B  
(Rev. 8/10)

CHK#  
85410  
\$800.00

Gayne  
Knitowski

4706101922

02/10/2023  
Digitally signed by Gayne  
Knitowski  
Date: 2023.01.05 08:00:27  
-05'00'

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

1) Well Operator: Northeast Natural Energy LLC 494498281 Monongalia Grant Morgantown South  
Operator ID County District Quadrangle

2) Operator's Well Number: MIP 1S 3) Elevation: 1058'

4) Well Type: (a) Oil \_\_\_\_\_ or Gas \_\_\_\_\_ **Geothermal Science X**  
(b) If Gas: Production \_\_\_\_\_ / Underground Storage \_\_\_\_\_  
Deep **X** \_\_\_\_\_ / Shallow \_\_\_\_\_

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5) Proposed Target Formation(s): Point Pleasant Proposed Target Depth: 13,859'

6) Proposed Total Depth: 15,000' Feet Formation at Proposed Total Depth: Black River

7) Approximate fresh water strata depths: 50', 450'

8) Approximate salt water depths: 1,600'

9) Approximate coal seam depths: 200', 225'

10) Approximate void depths,(coal, Karst, other): N/A

11) Does land contain coal seams tributary to active mine? No

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Drill surface and intermediate sections on air. Drill on synthetic based mud through target formation and collect a full bore core.  
Continue drilling to proposed total depth and run wireline open hole logs. Run and cement "production" casing up to approximately 6,500' into  
the second intermediate casing (above Tully formation). Cap well at the well head.

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE	INTERVALS	CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	24"	N/A	N/A	40'	40'	CTS
Freshwater/Coal	18-5/8"	J-55	87.5	530'	500'	CTS
Intermediate 1	13-3/8"	J-55	54.5	1830'	1800'	CTS
Intermediate 2	9-5/8"	P-110HC	40	12,530'	12,500'	CTS
Production	5-1/2"	P-110HP	20	15,000'	15,000'	2,324 ft
Tubing						
Liners						

Packers: Kind: \_\_\_\_\_  
Sizes: \_\_\_\_\_  
Depths Set \_\_\_\_\_



# NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV Slot: Slot #01S  
 Field: Monongalia Well: MIP 1S  
 Facility: MIP Pad Wellbore: MIP 1S PWB

### Well Profile Data

Design Comment	MD (ft)	Inc. (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	325.000	0.00	0.00	0.00	0.00	0.00
Surface Casing (Proposed)	500.00	0.000	325.000	500.00	0.00	0.00	0.00	0.00
Int. Casing #1 (Proposed)	1800.00	0.000	325.000	1800.00	0.00	0.00	0.00	0.00
Int. Casing #2 (Proposed)	12500.00	0.000	325.000	12500.00	0.00	0.00	0.00	0.00
KOP	12600.00	0.000	325.000	12600.00	0.00	0.00	0.00	0.00
Hold	12900.00	6.000	325.000	12899.45	12.86	-9.00	2.00	15.69
BHL	15000.00	6.000	325.000	14987.95	192.67	-134.91	0.00	235.20

Plot reference wellpath is MIP 1S Ev-00  
 Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet  
 True vertical depths are referenced to Ground Level (GL)  
 Reference wellpath measured depths are referenced to Ground Level (GL)  
 Scale: True distance  
 Ground Level (GL) to Mean Sea Level: 1058 feet  
 Coordinates are in feet referenced to Slot  
 Mean Sea Level to Ground level (At Slot: Slot #01S): -1058 feet  
 Depths are in feet  
 Other wellpath MDs are referenced to each path's default MD datum  
 Created by manager on 2023-08-18 Database: VMA\_MPL\_EASTERNUS\_Gdb

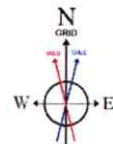
### Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
MIP Pad	1834320.806	401711.510	39°36'6.9615"N	79°58'34.3542"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #01S	0.00	0.00	1834320.806	401711.510	39°36'6.9615"N	79°58'34.3542"W

Ground Level (GL) to Ground level (At Slot: Slot #01S): 0ft  
 Mean Sea Level to Ground level (At Slot: Slot #01S): -1058ft  
 Ground Level (GL) to Mean Sea Level: 1058ft

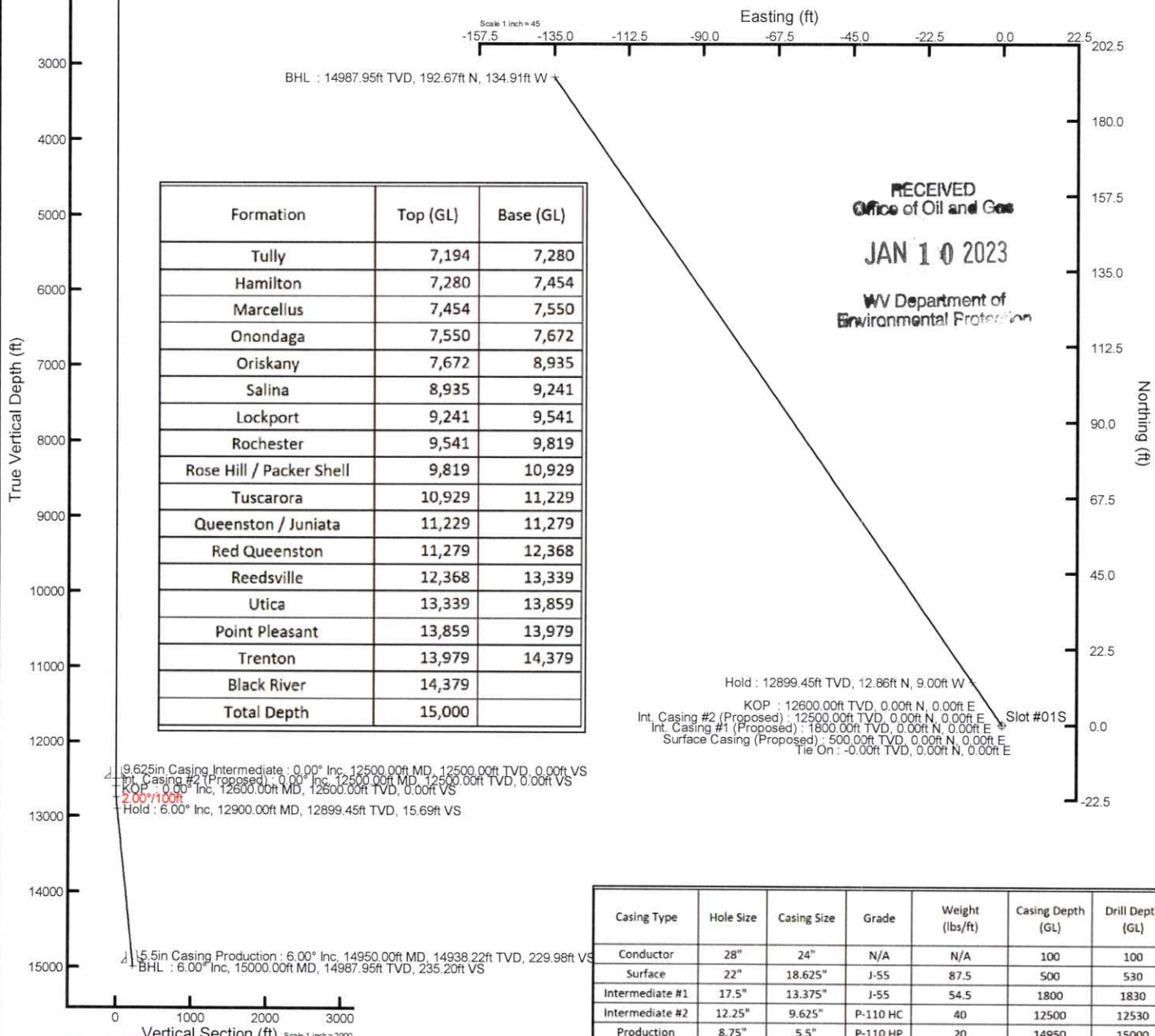


Scale 1 inch = 2000  
 0' Tie On : 0.00° Inc, 0.00ft MD, -0.00ft TVD, 0.00ft VS  
 24in Conductor : 0.00° Inc, 100.00ft MD, 100.00ft TVD, 0.00ft VS  
 Surface Casing (Proposed) : 0.00° Inc, 500.00ft MD, 500.00ft TVD, 0.00ft VS  
 18.625in Casing Surface : 0.00° Inc, 500.00ft MD, 500.00ft TVD, 0.00ft VS  
 13.375in Casing Intermediate : 0.00° Inc, 1800.00ft MD, 1800.00ft TVD, 0.00ft VS  
 Int. Casing #1 (Proposed) : 0.00° Inc, 1800.00ft MD, 1800.00ft TVD, 0.00ft VS



HDGM2022v1.0 (1900.0 to 2023.0) Dip: 66.20° Field: 51630 nT  
 Magnetic North is 9.74 degrees West of True North (at 8/18/2022)  
 Grid North is 0.30 degrees West of True North  
 To correct azimuth from True to Grid add 0.30 degrees  
 To correct azimuth from Magnetic to Grid subtract 9.44 degrees

Digitally signed by  
 Gayne Knitowski  
 Date: 2023.01.05  
 08:03:21 -05'00'



Formation	Top (GL)	Base (GL)
Tully	7,194	7,280
Hamilton	7,280	7,454
Marcellus	7,454	7,550
Onondaga	7,550	7,672
Oriskany	7,672	8,935
Salina	8,935	9,241
Lockport	9,241	9,541
Rochester	9,541	9,819
Rose Hill / Packer Shell	9,819	10,929
Tuscarora	10,929	11,229
Queenston / Juniata	11,229	11,279
Red Queenston	11,279	12,368
Reedsville	12,368	13,339
Utica	13,339	13,859
Point Pleasant	13,859	13,979
Trenton	13,979	14,379
Black River	14,379	
Total Depth	15,000	

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Hold : 12899.45ft TVD, 12.86ft N, 9.00ft W  
 KOP : 12600.00ft TVD, 0.00ft N, 0.00ft E  
 Int. Casing #2 (Proposed) : 12500.00ft TVD, 0.00ft N, 0.00ft E  
 Int. Casing #1 (Proposed) : 1800.00ft TVD, 0.00ft N, 0.00ft E  
 Surface Casing (Proposed) : 500.00ft TVD, 0.00ft N, 0.00ft E  
 Tie On : -0.00ft TVD, 0.00ft N, 0.00ft E

9.625in Casing Intermediate : 0.00° Inc, 12500.00ft MD, 12500.00ft TVD, 0.00ft VS  
 Int. Casing #2 (Proposed) : 0.00° Inc, 12500.00ft MD, 12500.00ft TVD, 0.00ft VS  
 KOP : 0.00° Inc, 12600.00ft MD, 12600.00ft TVD, 0.00ft VS  
 2.00°/100ft  
 Hold : 6.00° Inc, 12900.00ft MD, 12899.45ft TVD, 15.69ft VS

15.5in Casing Production : 6.00° Inc, 14950.00ft MD, 14938.22ft TVD, 229.98ft VS  
 BHL : 6.00° Inc, 15000.00ft MD, 14987.95ft TVD, 235.20ft VS

Casing Type	Hole Size	Casing Size	Grade	Weight (lbs/ft)	Casing Depth (GL)	Drill Depth (GL)
Conductor	28"	24"	N/A	N/A	100	100
Surface	22"	18.625"	J-55	87.5	500	530
Intermediate #1	17.5"	13.375"	J-55	54.5	1800	1830
Intermediate #2	12.25"	9.625"	P-110 HC	40	12500	12530
Production	8.75"	5.5"	P-110 HP	20	14950	15000

Vertical Section (ft) Scale 1 inch = 2000  
 Azimuth 325.00° with reference 0.00 N, 0.00 E

WW-2A  
(Rev. 6-14)

1). Date: 1-5-23  
2.) Operator's Well Number MIP 1S  
State County Permit  
3.) API Well No.: 47- Monongah

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

4) Surface Owner(s) to be served: (a) Name Enrout Properties, LLC  
Address 466 Christy Street, Ste 2 Morgantown, WV 26505  
(b) Name \_\_\_\_\_ Address \_\_\_\_\_  
(c) Name \_\_\_\_\_ Address \_\_\_\_\_  
5) (a) Coal Operator Name \_\_\_\_\_ Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration Name Enrout Properties, LLC  
Address 466 Christy Street, Ste 2 Morgantown, WV 26505  
(c) Coal Lessee with Declaration Name \_\_\_\_\_ Address \_\_\_\_\_  
6) Inspector Gayne Knitowski  
Address P.O. Box 108 Gormanian, WV 26720  
Telephone 304-546-8171

**TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:**

OR Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas

X Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_ on the above named parties by:

- Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Well Operator Northeast Natural Energy LLC  
By: Hollie M. Medlev  
Its: Regulatory Manager  
Address: 707 Virginia Street East, Suite 1200 Charleston, WV 25301  
Telephone: 304.212.0422  
Email: hmedlev@nne-llc.com

RECEIVED  
Office of Oil and Gas

Subscribed and sworn before me this 5th day of January, 2023

JAN 10 2023

Kristen Brooks Notary Public  
My Commission Expires August 10, 2023  
Oil and Gas Privacy Notice

WV Department of Environmental Protection

## NOTICE OF PERMIT APPLICATION

Enrout Properties, LLC  
Attn: Glenn Adrian  
466 Christy Street  
Suite 2  
Morgantown, WV 26505

By signing below, I verify that I have received, via hand delivery, a Notice of Permit for Northeast Natural Energy's ("NNE") geothermal science well identified as the MIP 1S on its existing MIP Well Pad situated in the Grant District of Monongalia County, West Virginia. The notice packet provided to me included a Well Plat, Well Work Permit Application (WW-2B), Notice to Surface Owners (WW-2B1), Surface Owner Waiver (WW- 2A), and Coal Owner Waiver (WW-2A).



Glenn Adrian

1/4/23

Date

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WW-2A Surface Waiver  
(4/16)

SURFACE OWNER WAIVER

County Monongalia

Operator

Northeast Natural Energy LLC

Operator well number

MIP 1S

**INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A**

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:**

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

**Time Limits and methods for filing comments.** The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

**Comments must be in writing.** Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

**If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.**

**List of Water Testing Laboratories.** The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through \_\_\_ including a work order on Form WW2-B, a survey plat, WW-9, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Company  
Name Enrout Properties, LLC  
By \_\_\_\_\_  
Its \_\_\_\_\_  
Date \_\_\_\_\_

\_\_\_\_\_  
Print Name

Glenn Adair  
Signature  
Date

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Office of Oil and Gas  
JAN 10 2023

**COAL OPERATOR, OWNER, OR LESSEE WAIVER**

County Monongalia  
Operator Northeast Natural Energy LLC

Operator's Well Number MIP 1S

**INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE**

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by WV Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office. Mail objections to:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0499 extension 1654

**WAIVER**

The undersigned coal operator \_\_\_\_\_ / owner X / lessee \_\_\_\_\_ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

\_\_\_\_\_  
Signature

Date

Company Name  
By  
Its

Enrout Properties, LLC

January 4, 2023

Date

Glenn Adrin

1-4-2023

Signature

Date

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WW-2A1  
(Rev. 1/11)

Operator's Well Number MIP 1S

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6, Section 8(d)  
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:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Enrout Properties, LLC	Northeast Natural Energy LLC	18.5%	1420/577

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

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

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

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

Well Operator:  
By: Its:

Northeast Natural Energy LLC  
Hollie M. Medley *Hollie Medley*  
Regulatory Manager

WW-2B1  
(5-12)

Well No. MIP 1S

West Virginia Department of Environmental Protection  
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contractor chosen to collect sample.

Certified Laboratory Name Pace Analytical Services, LLC  
Sampling Contractor NGE

Well Operator Northeast Natural Energy LLC  
Address 707 Virginia Street East, Suite 1200  
Charleston, WV 25301  
Telephone 304.212.0422

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

*There have been no water wells or springs identified within 2,000' of the proposed MIP 1S well. Hall: Medy 2/9/03*



WW-9  
(4/16)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. MIP 1S \_\_\_\_\_

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Northeast Natural Energy LLC OP Code 494498281

Watershed (HUC 10) Dunkard Quadrangle Morgantown South

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: N/A

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? N/A

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number unknown at this time, TBD )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

Will closed loop system be used? If so, describe: Yes, Please See Attachment "A"

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Surface/Intermediate - Air ; Production- Oil Based

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Oil Based Mud

Additives to be used in drilling medium? Organophilic Clay Viscosifiers, Lime, Unsaturated Fatty Acids, CaCl, Barite, Emulsifiers, Mica LCM, Water Loss Agents

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Removed Offsite - Please See Attachment "A"

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

-Landfill or offsite name/permit number? Please See Attachment "A"

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature Hollie M. Medley  
Company Official (Typed Name) Hollie M. Medley  
Company Official Title Regulatory Manager

RECEIVED  
Office of Oil and Gas  
JAN 10 2023

Subscribed and sworn before me this 5th day of January 2023  
Kristen Brooks  
My commission expires Aug. 10, 2023

WV Department of Environmental Protection  
OFFICIAL SEAL  
NOTARY PUBLIC  
STATE OF WEST VIRGINIA  
Kristen Brooks  
Northeast Natural Energy LLC  
48 Donley St., Suite 601  
Morgantown, WV 26501  
My Commission Expires Aug. 10, 2023

## Attachment A to WW-9

Northeast Natural Energy LLC (“NNE”) plans to utilize a closed loop process for its drilling of the MIP 1S well. Return flow from the well will be separated into its liquid and solid form. Liquids will be held in steel tanks and reused in the drilling and completion process or disposed of at an approved facility listed below. Solids removed from the stream will be diverted to steel half-round tanks where they will be solidified on site and taken to disposal as they are accumulated.

The Drill Cuttings will be taken to disposal at one or more of the following disposal/approved waste facilities, unless listed facilities are no longer approved to accept waste at time of disposal:

- Westmoreland Landfill (Tervita) – Belle Vernon, PA (Permit # 100277)
- Meadowfill Landfill (Waste Management) – Bridgeport, WV (Permit # SWF 103298)
- Max Environmental – Yukon, PA (PAD004835146 and 301071)
- Max Environmental – Bulger, PA (PAD059087072 and 301359)
- Chestnut Valley Landfill (Advanced Disposal) – Export, PA (Permit # 101421)

NNE plans to reuse and recycle all flowback fluid and/or reach out to other operators in the area who may be able to reuse and recycle such fluid. However, in the event that reuse is not obtainable the fluid will be disposed of at one, or multiple, of the following disposal/approved waste facilities unless listed facilities are no longer approved to accept waste at time of disposal:

- Fairmont Brine Processing (WV NPDES #0116408)
- Green Hunter M. E. Elder 1 Disposal Well (Permit # 47-085-05151)
- Green Hunter Mason 1 Disposal Well (Permit #47-085-09721)
- Green Hunter Warren Disposal Well (Permit #34-121-2-3995)
- Green Hunter Travis Unit Disposal Well (Permit #34-121-2-4086)
- Viking Energy Corporation 20320 Disposal Well (Permit#47-039-02210)
- Ohio Oil Gathering Killbuck Disposal Well (Permit #34-075-24527)
- Ohio Oil Gathering Moran Disposal Well (Permit #34-089-24792)
- Ohio Oil Gathering Bells Run Disposal Well (Permit #34-167-29395)
- Ohio Oil Gathering Long Run Disposal Well (Permit #34-167-29658)
- Ohio Oil Gathering Newell Run Disposal Well (Permit #34-167-29685)
- Appalachian Oil Purchaser Greens Run Disposal Well (Permit #2D0732540)
- Appalachian Oil Purchaser BW#4 Disposal Well (Permit # 2D0732523)



4706101922  
02/10/2023

Form WW-9

Operator's Well No. MIP 1S

**Northeast Natural Energy LLC**

Proposed Revegetation Treatment: Acres Disturbed N/A Prevegetation pH N/A

Lime \_\_\_\_\_ Tons/acre or to correct to pH \_\_\_\_\_

Fertilizer type \_\_\_\_\_

Fertilizer amount \_\_\_\_\_ lbs/acre

Mulch \_\_\_\_\_ Tons/acre

**Seed Mixtures**

**Temporary**

**Permanent**

Seed Type                      lbs/acre

Seed Type                      lbs/acre

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Graveled Location**

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Gayne Knitowski Digitally signed by Gayne Knitowski  
Date: 2013.01.05 07:28:04 -0500

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: Inspector Date: 01/05/2022

Field Reviewed?  Yes  No

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
GROUNDWATER PROTECTION PLAN

Operator Name: Northeast Natural Energy LLC

Watershed (HUC 10): Dunkard Quad: Morgantown South

Farm Name: Morgantown Industrial Park (MIP)

- 1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

No discharge of fluids.

- 2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

- 3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

- 4. Summarize all activities at your facility that are already regulated for groundwater protection.

- 5. Discuss any existing groundwater quality data for your facility or an adjacent property.

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JAN 10 2023  
WV Department of  
Environmental Protection

02/10/2023

WW-9- GPP  
Rev. 5/16

Page 2 of 2  
API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. MIP 1S

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

Signature: Gayne Knitowski  
Digitally signed by Gayne Knitowski  
Date: 2023.01.05 08:02:25 -05'00'

Date: \_\_\_\_\_

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WV Department of  
Environmental Protection



**MIP WELL NO. 1S**

API NO. 47-061-01922

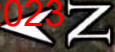
**Legend**

 17 S 587897 4384078

 Core & Main

4706101922

02/10/2023



60 m

 17 S 587897 4384078

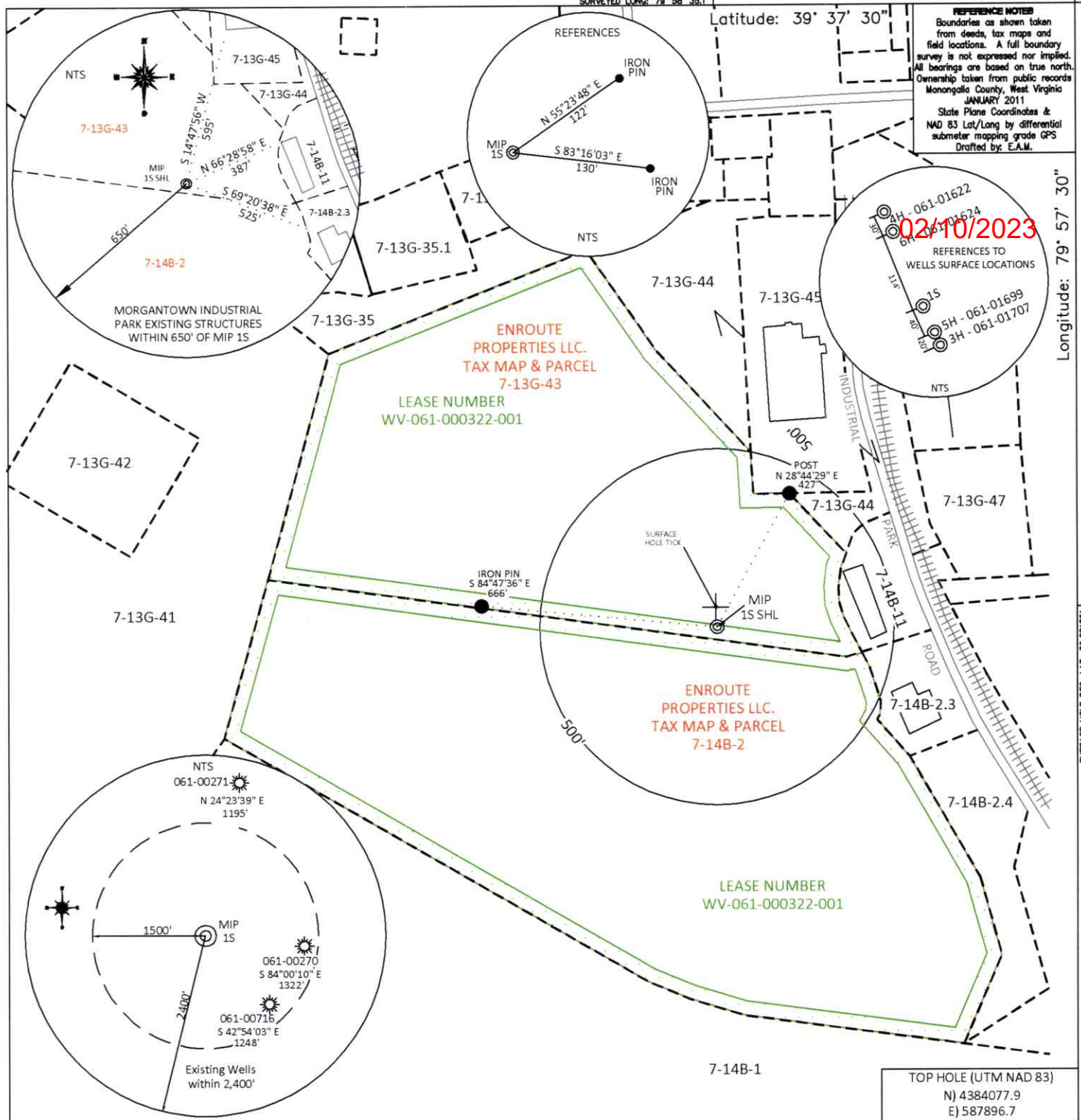


4706101922

SURFACE HOLE DEC. LONG: 79.976422  
SURVEYED LONG: 79.98 39.1

Latitude: 39° 37' 30"

REFERENCE NOTES  
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Monongalia County, West Virginia JANUARY 2011  
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS  
Drafted by: E.A.M.



Longitude: 79° 57' 30"

SURFACE HOLE DEC. LAT: 39.620181  
SURVEYED LAT: 39.98 06.7

TOP HOLE (UTM NAD 83)  
N) 4384077.9  
E) 587896.7

FILE #: NNE004  
DRAWING #: 1419  
SCALE: PLAT: 1"=400' TICK: 1"=2000'  
MINIMUM DEGREE OF ACCURACY: 1/200  
PROVEN SOURCE SUBMETER MAPPING OF ELEVATION: GRADE GPS

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:   
L.L.S. #2124 : Ernest J. Benchek III



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

DATE: DECEMBER 21, 2022

OPERATOR'S WELL #: MIP 1S

API WELL #: 47 061 01922  
STATE COUNTY PERMIT

Well Type:  Oil  Waste Diposal  Production  Deep  Geothermal  
 Gas  Liquid Injection  Storage  Shallow Test

WATERSHED: DUNKARD ELEVATION : 1,058'

COUNTY/DISTRICT: MONONGALIA/GRANT QUADRANGLE: MORGANTOWN SOUTH

SURFACE OWNER: ENROUTE PROPERTIES LLC. ACREAGE: 25.998 +/-

OIL & GAS ROYALTY OWNER: ENROUTE PROPERTIES LLC. ACREAGE: 65.796 +/-

LEASE NUMBERS: \_\_\_\_\_  
DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): CORING FOR SCIENCE

TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 14,987.95' TMD: 15,000'

WELL OPERATOR : NORTHEAST NATURAL ENERGY DESIGNATED AGENT : JOHN ADAMS

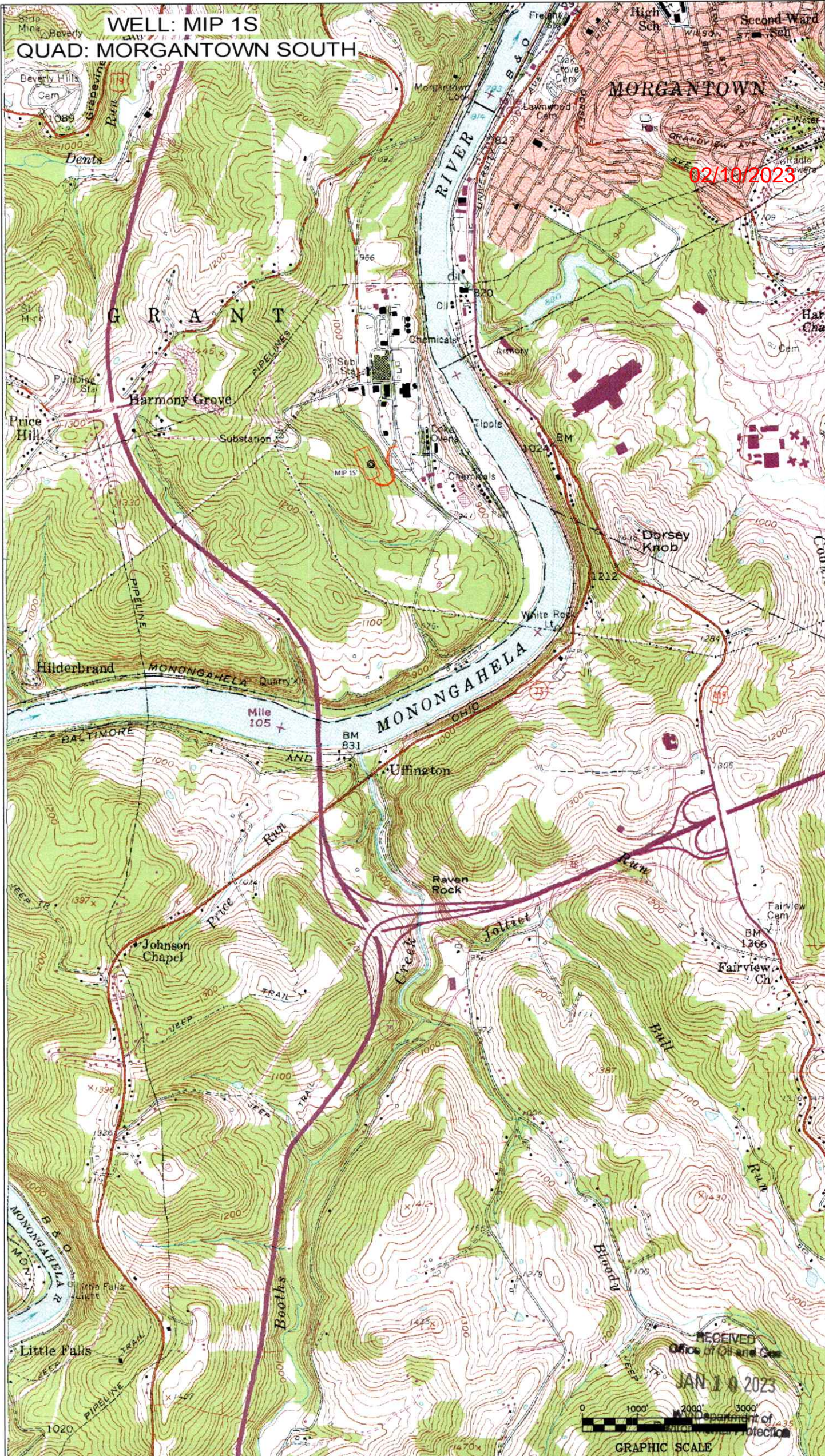
ADDRESS: 707 VIRGINIA STREET - SUITE 1200 ADDRESS: 707 VIRGINIA STREET - SUITE 1200

CITY: CHARLESTON STATE: WV ZIP CODE: 25301 CITY: CHARLESTON STATE: WV ZIP CODE: 25301



WELL: MIP 1S  
QUAD: MORGANTOWN SOUTH

02/10/2023



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4706101922



**northeast**  
NATURAL ENERGY

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Office of Oil and Gas  
JAN 10 2023  
WV Department of  
Environmental Protection

January 5, 2023

WV Department of Environmental Protection  
Office of Oil and Gas  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

Re: MIP 1S – Geothermal Science Well

Dear Permit Reviewer,

Northeast Natural Energy (“NNE”) has partnered with West Virginia University and U.S. Department of Energy to drill a geothermal science well. The science well will be drilled for logging purposes only and has been planned on NNE’s existing MIP well pad in the Grant District of Monongalia County, WV.

Enclosed is a complete conventional well application package, signed surface and coal waivers, and a check in the amount of \$800 for the review fee.

Should you have any questions please contact me at [hmedley@nne-llc.com](mailto:hmedley@nne-llc.com).

Sincerely,

Hollie Medley  
Regulatory Manager

CHK#  
85410  
\$800<sup>00</sup>  
12/16/22

02/10/2023



Kennedy, James P <james.p.kennedy@wv.gov>

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## Well work permit issued 4706101922

1 message

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**Kennedy, James P** <james.p.kennedy@wv.gov>

Fri, Feb 10, 2023 at 10:46 AM

To: Hollie Medley <hmedley@nne-llc.com>, Gayne J Knitowski <gayne.j.knitowski@wv.gov>, mmusick@assessor.org

To whom it may concern, a well work permit has been issued for 4706101922

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 **4706101922.pdf**  
3756K