west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

April 07, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-6101707, issued to NORTHEAST NATURAL ENERGY LLC, 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 all 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 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: MIP 3H
Farm Name: ENROUTE PROPERTIES, LLC
API Well Number: 47-6101707
Permit Type: Horizontal 6A Well
Date Issued: 04/07/2015

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) 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

1. The entire well pad shall be bermed so as to prevent runoff from leaving the pad during drilling and completion operations, including a mountable berm at pad entrance.

2. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.

3. 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 § 22-6A-5a (12), 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.

4. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

5. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

6. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations,* 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

7. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

8. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.

9. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

10. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of [illegible]

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April 6, 2015

Mr. Timothy L. Ball, P.E.
Morgantown Utility Board
278 Greenbag Road
PO Box 852
Morgantown, WV 26507-0852

Re: Permit application for API numbers: 47-061-01699, MIP 5H
47-061-01707, MIP 3H

Dear Mr. Ball,

The Office of Oil and Gas has completed its review of the above referenced permit applications submitted by Northeast Natural Energy (NNE). Your comments were sent to the applicant to ensure it was aware of your concerns. After carefully considering your comments, the applicant's response and the inspector's findings, the Office of Oil and Gas has determined that the applications meet all the requirements set forth in W. Va. Code, Chapter 22, Article 6A and West Virginia Legislative Rule Title 35, Series 8. Therefore, the Office of Oil and Gas has issued the well work permits. To these permits, the Office of Oil and Gas has added conditions requiring that the entire well pad shall be bermed to prevent runoff from leaving the pad during drilling and completion operations. These conditions further require the inclusion of a mountable berm structure at the pad entrance. For your information and convenience, I am including with this letter a copy of the permits as issued.

DEP understands and fully appreciates the history of horizontal well work on NNE's MIP pad. The first wells were completed prior to the passage of the Horizontal Well Control Act and corresponding horizontal well rule. Before any specific environmental safeguards related to horizontal drilling existed, NNE worked with Morgantown Utility Board (MUB) to develop operational protocols to enhance protections to the local water supply beyond requirements established under W. Va. Code §22-6-1 *et. seq.* and 35CSR4. Those wells were completed with no known contamination to the Monongahela River or the City of Morgantown's public water supply.

As you know, in December 2011, the West Virginia Legislature passed the Horizontal Well Control Act (W. Va. Code §22-6A-1 *et. seq.*) and shortly thereafter, the DEP promulgated rules

which establish requirements specific to large-scale horizontal drilling well work operations (W. Va. Legislative Rule §35-8). These recently established requirements cover the type of operation proposed through the subject permits. In my July 18, 2014 response to your comments for other proposed permit applications, the Office of Oil and Gas provided specific code references which address MUB's concerns regarding adequacy of spill prevention measures on site, spill containment on and around the well pad, downhole well integrity and the ultimate disposal of wastes. A copy of that response has been included with this letter for reference.

Thank you for the opportunity to address your comments.

Respectfully,

H. Jason Harmon
Deputy Chief, Office of Oil and Gas

west virginia department of environmental protection

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601 57th Street, S.E.
Charleston, WV 25304
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Earl Ray Tomblin, Governor
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July 18, 2014

Mr. Timothy L. Ball, P.E.
Morgantown Utility Board
278 Greenbag Road
PO Box 852
Morgantown, WV 26507-0852

Dear Mr. Ball,

Thank you for your recent comments regarding several pending horizontal well work permit applications. Some of these comments were received outside of the 30-day comment period, but were nevertheless provided to the respective operators for consideration. Additionally, we feel it is important to address these comments from a regulatory standpoint. Your comments can be divided into two categories, on-site storage of chemicals and regulatory oversight of well operations, which will be discussed separately.

At this time, we have no information beyond what is specifically identified in the applicants' engineering plans regarding the number, size, location, or contents of any chemical storage tanks at the planned well sites for which you have provided comments. In accordance with the Aboveground Storage Tank Act (W. Va. Code §22-30), all qualifying ASTs will be required to be registered by October 1, 2014; however, it is worthwhile adding that registration would not be required until any qualifying tank is actually constructed or installed onsite.

From a regulatory standpoint, it is important to note that there have been significant statutory changes since May 2011. In August 2011, DEP developed an Emergency Rule to address the changes within the oil and gas industry brought about by horizontal drilling and hydraulic fracturing. In December 2011, the West Virginia Legislature passed the Horizontal Well Control Act (W. Va. Code §22-6A). Further, the DEP promulgated rules which provide specific requirements for horizontal well operations (35CSR8). Many of the permit conditions you have requested are addressed by these regulations.

Every §22-6A well work permit application is closely reviewed to ensure compliance with all laws governing horizontal well development. Any deficiencies are corrected during the review process through revision to the permit application or the inclusion of additional permit conditions as necessary. I have attempted to address each of your comments separately below.

Spill containment during drilling:

1. "Use an interior containment structure to surround the drilling equipment to provide primary containment during the drilling operation. The structure will be a silt sock or similar item. Install a liner to cover the area defined by the sock, and wrap the liner from the floor of the confined area over the sock to create an impermeable barrier. The liner will divert any captured liquid to the lined waste pit. All liners will be fused to create a single continuous barrier."
    a. Regulation: 35CSR8-18.1 states that site equipment shall be positioned and used in a manner so as to prevent spills of any pollutants to surface waters and ground waters of the state during drilling, completion, work-over, and production phases. 35CSR8-18.3 states that operators may use a variety of systems, including liners, to contain spills. 35CSR8-18.4 adds that any installed pollution control mechanisms must be installed properly and maintained to intercept all spills.

2. "Install a permanent earthen berm around the well pad to provide a third level of containment."
    a. Regulation: 35CSR8-18.4 states that any catchment basin, including berms, must be installed properly and maintained to intercept all spills.
    b. In practice: DEP's engineering review standards of §22-6A permitted wells require installation of berms during drilling.

3. "The area where the access road meets the containment structures will be designed in a manner that will prevent the flow of any spilled materials from leaving the containment area."
    a. Regulation: 35CSR8-18.4 states that any catchment basin, including berms, must be installed properly and maintained to intercept all spills.
    b. In practice: DEP's engineering review standards of §22-6A permitted wells require zero-discharge designs for the entire well pad during drilling, including the area where access road joins the well pad. The entrance onto the well pad is engineered to slope into the pad (or bermed), thus preventing any spilled materials from escaping.

4. "The volume of the lined waste pit will exceed the entire combined maximum volume of drilling fluids and tailings/mud present on site at any time."
    a. Regulation: All waste-containing pits must include an impermeable liner to prevent seepage or leakage (35CSR8-12.4g). Any non-freshwater storage structure on-site must be contained within secondary containment devices having a capacity 110% of the storage structure itself (35CSR8-18.6).
    b. In practice: Operators are trending toward the use of closed-loop drilling systems, which do not require the use of waste-pits. In using these systems, fluid wastes are contained in storage tanks enclosed within secondary containment structures, and drill cuttings are stored in temporary above ground structures prior to disposal.

Spill containment during fracking:

5. "The well pad liner will be expanded to cover the entire area encompassed by the earthen berm at the perimeter of the well pad, including any sumps. The liner will divert any captured liquid to the lined waste pit. All liners will be fused to create a single continuous barrier."
    a. Regulation: 35CSR8-18.1 states that site equipment shall be positioned and used in a manner so as to prevent spills of any pollutants to surface waters and ground waters of the state during drilling, completion, work-over, and production phases. 35CSR8-18.3 states that operators may use a variety of systems, including liners, to contain spills. 35CSR8-18.4 adds that any installed pollution control mechanisms must be installed properly and maintained to intercept all spills.

6. "The area where the access road meets the containment structures will be designed in a manner that will prevent the flow of any spilled materials from leaving the containment area."
    a. Regulation: 35CSR8-18.4 states that any catchment basin, including berms, must be installed properly and maintained to intercept all spills.
    b. In practice: DEP's engineering review standards of §22-6A permitted wells require zero-discharge designs for the entire well pad during fracking, including the area where access road joins the well pad. The entrance onto the well pad is engineered to slope into the pad (or bermed), thus preventing any spilled materials from escaping.

7. "The perimeter of the well pad will be protected by a 2.5 ft. berm completely surrounding the well pad. If the combined volume of all fluids on site at any time exceeds the volume that can be contained within the berm, the containment area defined by the berm will be enlarged proportionately."
    a. Regulation: 35CSR8-18.4 states that any catchment basin, including berms, must be installed properly and maintained to intercept all spills.
    b. In practice: DEP's engineering review standards of §22-6A permitted wells require installation of berms during fracking.

Spill Prevention – Fracking Operations:

8. "A closed loop system will be utilized for maximum control of fracking fluid."
    a. Regulation: There is no requirement for operators to utilize a closed-loop system during drilling.
    b. In practice: Closed-loop drilling systems are predominantly used across the industry.

9. "A second automatically activated Blow Out Preventer (BOP) will be provided to maximize control of fracking fluids"
    a. Regulation: There is no requirement for a second BOP to be installed; however, BOP and well head assembly designs must be included as part of each permit application's

Site Safety Plan. The Site Safety Plan must include the following elements related to blow out prevention and well control:

i. BOP equipment and casing heads with types, sizes and ratings to be utilized and available during the drilling for both intermediate and lateral drilling phases (35-8 5.7.c.1 & 5.7.c.8)
ii. Procedure and schedule for testing the BOP stack for intermediate drilling phase the BOP tested upon initial set up and the annular tested to 70% of capacity and the ram preventers tested to 80%. Same testing % for bottom and horizontal phase except testing to be done upon initial installation, weekly and after each bit trip (35-8 5.7.c.2)
iii. BOP equipment and assembly installation schedule (35-8 5.7.c.3)
iv. List and names of all personnel with well control training (35-8 5.7.c.4)
v. Description of system of maintaining detailed records of and for immediate notification to OOG inspector for all significant drilling issues, including but not limited to (35-8 5.7.c.5):
    1. Lost circulation
    2. Hydrogen sulfide gas
    3. Fluid entry
    4. Abnormal pressures
vi. Notification of the oil and gas inspector or designated representative as soon as possible of any unusual drilling events, hydrogen sulfide gas* or large kicks that occur during drilling operations). *(Mandatory immediate notification is required of any encounter of hydrogen sulfide gas - 22-6A wells >10ppm H2S Gasses!) (35-8 5.7.c.5)
vii. Schematic and detailed written description of the wellhead assembly to be placed on the well upon completion (35-8 5.7.c.6)
viii. Method and type of kill procedures as recognized by the IADC – Wild Well Control Kill Sheet (35-8-5.7d.3)

b. In practice: Fracturing activities are controlled by high rated master valves located on each well head. Secondary control valves are located throughout surface flow systems containing automatic sensors and pressures are monitored continuously. Surface flow systems and equipment are managed by sophisticated engineering controls and are manned throughout by trained professionals.

10. "One manually operated isolation valve will be installed to provide additional redundancy for control of fluids from the main stem of the wellhead."
    a. Regulation: The Site Safety Plan must include the following elements related to blow out prevention and well control:
        i. BOP equipment and casing heads with types, sizes and ratings to be utilized and available during the drilling for both intermediate and lateral drilling phases (35-8 5.7.c.1 & 5.7.c.8)

ii. Procedure and schedule for testing the BOP stack for intermediate drilling phase the BOP tested upon initial set up and the annular tested to 70% of capacity and the ram preventers tested to 80%. Same testing % for bottom and horizontal phase except testing to be done upon initial installation, weekly and after each bit trip (35-8 5.7.c.2)

iii. BOP equipment and assembly installation schedule (35-8 5.7.c.3)

iv. List and names of all personnel with well control training (35-8 5.7.c.4)

v. Description of system of maintaining detailed records of and for immediate notification to OOG inspector for all significant drilling issues, including but not limited to (35-8 5.7.c.5):

1. Lost circulation
2. Hydrogen sulfide gas
3. Fluid entry
4. Abnormal pressures

vi. Notification of the oil and gas inspector or designated representative as soon as possible of any unusual drilling events, hydrogen sulfide gas* or large kicks that occur during drilling operations). *(Mandatory immediate notification is required of any encounter of hydrogen sulfide gas - 22-6A wells >10ppm H2S Gasses!) (35-8 5.7.c.5)

vii. Schematic and detailed written description of the wellhead assembly to be placed on the well upon completion (35-8 5.7.c.6)

viii. Method and type of kill procedures as recognized by the IADC – Wild Well Control Kill Sheet (35-8-5.7d.3)

b. In practice: Fracturing activities are controlled by high rated master valves located on each well head. Secondary control valves are located throughout surface flow systems containing automatic sensors and pressures are monitored continuously. Surface flow systems and equipment are managed by sophisticated engineering controls and are manned throughout by trained professionals.

Well Integrity:

11. "The full length of the production casing will be encased with cement/grout."

a. Regulation: 35CSR8-9.2g establishes the requirement that if cement is used for the production casing, it must extend to a point 500 ft. above the shallowest producible zone. All freshwater and coal casing strings must be circulated to surface pursuant to 35CSR8-9.2.d.4 and 35CSR8-9.2.e.2, respectively. Additionally, installed intermediate strings must also be circulated to surface (35CSR8-9.2.f.1).

12. "The integrity of the production casing will be confirmed by an attenuation test which will verify the proper adherence of the casing cement/grout to the steel casing pipe. The surface casing and intermediate casing strings will be tested utilizing a hydrostatic pressure test to a pressure

that is 10% greater than hydrostatic pressure or 10% greater than the anticipated pressure on that casing. The full vertical length of each casing will be so tested. All such testing will be conducted prior to the fracking process, and results thereof recorded. Fracking will not begin unless/until acceptable test results are achieved."

a. Regulation: 35CSR8-9.2.b.4 requires that all casing must have a pressure rating 20% greater than the maximum anticipated pressure to which the casing will be exposed. If casing is reused, it must pass hydrostatic pressure testing at greater than 20% of maximum anticipated pressure. 35CSR8-9.2.i requires that defective casings are to be reported to the oil and gas inspector and corrected within 72 hours. If the defect cannot be repaired, the well must be plugged.

b. In practice: Surface and intermediate casings are cemented in place by a positive displacement methodology. During this activity hydrostatic pressure testing is achieved once the cement-displacement plug seats on the float insert located at the bottom or near the bottom of casings at depth. This is accomplished during the displacement phase of cements by the pumping of mixed cements inside and down the casings. Once the displacement plug seats on these inserts, additional pressures are then applied inside the casing which provide a distributed pressure build-up throughout the casing beginning at the surface and in-depth; this also provides adequate seating of these displacement plugs at the inserts. At this seating stage, the additional pressures are maintained and monitored at the surface averaging five or ten minute periods depending on the insert type used and the vendor recommendations. This process assures adequate plug-seating at the inserts and assures a casing and burst integrity throughout; in-essence this provides a hydrostatic test to all casing joints, couplings, connections, and casing walls.

13. "Each batch of casing cement/grout will be sampled and tested for appropriate strength. Fracking will not being until acceptable strength test results are obtained."

    a. Regulation: Pursuant to 35CSR8-9.2.h.2, all cement placed in the well-bore shall meet ASTM C 150 Standard or API Specification 10A. 35CSR8-9.2.h.6 requires that all cement testing shall be conducted in accordance with API RP 10B-2. Operators shall maintain a copy of the cementing records (35CSR8-9.2.h.9) and keep these records on-site for review until well-work is completed (35CSR8-9.2.k).

14. "It will be ensured that non-production casings are not subjected to fracking pressures by observing pressure in the annular spaces and aborting fracking if pressure increases in the annular spaces are observed. In such cases, the breach of the production casing will be located and repaired before fracking resumes."

    a. Regulation: 35CSR8-9.2.b.4 requires that all casing must have a pressure rating 20% greater than the maximum anticipated pressure to which the casing will be exposed. 35CSR8-9.2.i requires that defective casings are to be reported to the oil and gas inspector and corrected within 72 hours. If the defect cannot be repaired, the well must be plugged.

b. In practice: The production casing annulus is monitored during fracturing operations to observe any changes in pressure.

15. "The production casing will be hydrostatically tested to a pressure of 10,000 psi, which exceeds the hydraulic fracture pressure that will be employed. The full vertical length of the casing will be so tested. All such hydrostatic testing will be conducted prior to the fracking process, and results thereof recorded. Fracking will not being unless/until acceptable test results are achieved."
    a. Regulation: 35CSR8-9.2.b.3 states that all casing shall be manufactured and tested in accordance with standards established by the American Petroleum Institute (API) or the American Society for Testing Materials (ASTM). Each casing connection must be torqued to manufacturer's specifications to preserve the design integrity of the casing. Further, 35CSR8-9.2.b.4 requires that all casing must have a pressure rating 20% greater than the maximum anticipated pressure to which the casing will be exposed. If casing is reused, it must pass hydrostatic pressure testing at greater than 20% of maximum anticipated pressure. 35CSR8-9.2.i requires that defective casings are to be reported to the oil and gas inspector and corrected within 72 hours. If the defect cannot be repaired, the well must be plugged.

16. "Similarly, the production casing will be hydrostatically tested after fracking has been completed (prior to placing the well into production). Testing pressure will be at least as high as the expected operating pressure. The full vertical length of the production casing will be so tested, and results thereof recorded. Any breach of the production casing will be located and repaired as quickly as possible, and before production beings. Production will not begin unless/until acceptable test results are achieved."
    a. Regulation: 35CSR8-9.2.b.3 states that all casing shall be manufactured and tested in accordance with standards established by the American Petroleum Institute (API) or the American Society for Testing Materials (ASTM). Each casing connection must be torqued to manufacturer's specifications to preserve the design integrity of the casing. Further, 35CSR8-9.2.b.4 requires that all casing must have a pressure rating 20% greater than the maximum anticipated pressure to which the casing will be exposed. If casing is reused, it must pass hydrostatic pressure testing at greater than 20% of maximum anticipated pressure. 35CSR8-9.2.i requires that defective casings are to be reported to the oil and gas inspector and corrected within 72 hours. If the defect cannot be repaired, the well must be plugged.
    b. In practice: Fracture flow-back fluids and pressures exerted are continuously monitored including casings, well head, and surface flow-back connections.

17. "Casing pipe which extends through a void area (such as a mined "room"), will be specially grouted at the points where they enter and exit the voided strata in a manner that meets the requirements of WV Code 222-6-20."

a. Regulation: 35CSR8-9.2.e details the extensive requirements for drilling through coal seams, including voids. Specifically, 35CSR8-9.2.e.3 states that "when a well is drilled through a horizon of a coal bed from which the coal has been removed, the coal protection casing shall be equipped with a cement basket or similar device above and as close to the top of the coal bed as practical to allow for cementing of the annual space from that point to the surface. The hole may be drilled no more than one hundred feet below the base of the mine void prior to installing the casing or liner required by W. Va. Code §22-6A-5(a)(12) without prior approval from the Chief."

Waste Disposal:

18. "All drilling residuals and fracking fluids will be disposed of off-site at an appropriate landfill and/or injection well."
    a. Regulation: Pursuant to 35CSR8-12.4g, all wastes must be disposed of at a permitted off-site location. Fluids must either be reused in a subsequent hydraulic fracturing operation or disposed of in a permitted injection disposal well. Drill cuttings must be disposed of at an approved landfill or may be managed on-site with surface owner consent and approval from the Secretary (§22-6A-8g(2)).

19. "Manifest procedures will be utilized to document such off-site disposal. The manifests will record the complete chain of custody from the retrieval at the well site to the ultimate disposal location, for all volumes/units of waste generated and removed from the site."
    a. Regulation: Fluid disposal records are required pursuant to 35CSR8-9.1.b.3. Requirements for disposal at solid waste facilities are covered under Emergency Rule 33CSR1-5.6.

Miscellaneous:

20. "Drill cuttings/fluid will NOT be mixed with fracking fluids."
    a. Regulation: There is no requirement to keep drilling waste separate from fracking fluids.

21. "Drilling fluids will be water based."
    a. Regulation: 35CSR8-9.2.d.2 requires air drilling or the use of freshwater-based drilling fluids through freshwater zones. There is no requirement subsequent to freshwater casings for specific drilling fluid composition.

22. "Require surface water quality monitoring before drilling commences and after fracturing concludes, to ensure that the operation does not impact water quality."
    a. Regulation: There is no requirement for mandatory surface water quality monitoring; however, in the event of a spill, water testing would be required.

Thank you for the opportunity to address your comments.

Respectfully,

H. Jason Harmon
Deputy Chief, Office of Oil and Gas

278 Greenbag Road • Post Office Box 852 • Morgantown, WV 26507-0852 • 304-292-8443 • Fax 304-292-1526

MUB

www.mub.org

December 19, 2014

James A Martin, Chief
Office of Oil and Gas
West Virginia Department
of Environmental Protection
601 57th Street, SE
Charleston, WV 25304-2345

Re: Permit Application(s)
Well numbers MIP 3H and 5H
Public Comments

Dear Mr. Martin:

I write to provide formal comments regarding the subject proposed wells. This communication supplements our preliminary comments of December 12. Please consider both the comments of December 12 and those of today together.

You will recall that two previous wells were drilled and completed at the subject site in 2011, and that the Permits for that previous work contained special safeguards negotiated between Morgantown Utility Board (MUB) and Northeast Natural Energy (NNE). Recall that the well pad is located immediately adjacent to our Zone of Critical Concern and runoff from the well pad arrives at the Monongahela River only 1500 feet upstream of our drinking water intake.

Special safeguards are needed at the subject site due to its extremely close proximity to the primary water intake for the MUB water treatment plant.

Our comments today are attached. That attachment reproduces (in black text) the full list of safeguards that were negotiated and included in the 2011 Permits. Our current comments regarding the proposed Permit(s) are shown in red italics. This format was used for ease of comparison between the 2011 safeguards and those proposed in the current Permit application, with our comments addressing differences between the two.

Please recall that our letter of December 12 described our disadvantage in making timely response to the subject Permit application and its related public notice. That disadvantage resulted from a lack of response by DEP and NNE to our earlier requests for certain information, and from a flaw in the public notice. In light of these problems, we requested that DEP restart / extend the public comment period.

We gratefully acknowledge that DEP promptly responded to our FOIA request of December 12, and provided the requested information on that same date. We also gratefully acknowledge that Deputy Chief Jason Harmon called to assure us that our comments would be received and considered regardless of the original December 19 expiration date for public comments. We also observe that the related public notice has been corrected and republished on December 17.

We submit comments today for the sake of conservative compliance with the originally scheduled due date of December 19. We do so despite the fact that our review of the recently provided permit application is incomplete.

We will continue our review and will submit final comments as soon as possible, taking advantage of the informal time extension offered by Dr Harmon and/or the extension (if any) caused by republication of the public notice.

We submit this correspondence to ensure that the safety of our raw water supply is protected, and that the permits adequately address this critically important need.

Thank you for your immediate attention to this urgent matter. We look forward to working with you to resolve our concerns.

Respectfully,

MORGANTOWN UTILITY BOARD

Timothy L. Ball
General Manager

cc: Randy Huffman – Secretary WV DEP
Scott Mandirola – Chief, Water and Waste Section, WV DEP
WV DEP Public Information Office
Barbara Taylor – Director, Envir. Health Services, WV Bureau of Public Health
Morgantown City Council
Morgantown Utility Board
Brett Loflin – Northeast Natural Energy

Comparison of May 18, 2011 Safe Guards to 2014 Application

Black text = 2011 negotiated safeguards

Red Italicized Text = Current MUB comment Dec 2014

Spill Containment – Drilling Operations

1. **NNE will utilize a closed loop system during fluid drilling operations for maximum control of drilling fluid / mud.** *Application shows Closed Loop system will be used again.*

2. **An interior containment structure will surround the drilling equipment to provide primary containment during the drilling operation. The structure will be a silt sock or similar item. A liner will be provided to cover the area defined by the sock, and will wrap from the floor of the confined area over the sock to create an impermeable barrier. The liner will divert any captured liquid to the lined waste pit. All liner will be fused to create a single continuous barrier.** *Interior containment system (silt sock) and Liner are not described in the Application. MUB requests that the Permit require these or more stringent details as were provided in 2011.*

3. **The permanent earthen berm around the well pad will provide a third level of containment.** *The earthen berm from 2011 is shown on the Application drawings; however, the current drawings indicate that the berm is not continuous. Repair of any breach(es) is not indicated on the drawings. MUB requests that the Permit require that the entire current work site be surrounded by a continuous berm as was provided in 2011, and with contained volume within said berm to be at least 110% of the total volume of liquids onsite at anytime.*

4. **The area where the access road meets the containment structures will be designed in a manner that will prevent the flow of any spilled materials from leaving the containment area.** *The application drawings show that the access road is actually depressed, and presents a breach in the continuity of the berm. This would not provide containment on the pad. MUB requests that the intersection of the access road and berm be reconstructed so that the road passes above/across the berm without reducing the effectivess, continuity, or surface elevation of the berm.*

5. **The volume of the lined waste pit will exceed the entire combined maximum volume of drilling fluids and tailings/mud present on site at any time.** *Current application shows there will be no waste pit. MUB accepts this change.*

Comparison of May 18, 2011 Safe Guards to 2014 Application

Spill Containment – Fracking Operations

1. **The well pad liner will be expanded to cover the entire area encompassed by the earthen berm at the perimeter of the well pad, including the sumps located at each corner. The liner will divert any captured liquid to the lined waste pit. All liner will be fused to create a single continuous barrier.** *Liner was not addressed in the Application. We are concerned that NNE might intend to provide a liner for only some portion of the area within the existing berm. If that is the case, we take strong exception to that plan. We believe that it is imperative to provide liner for the full area within the berm, and to extend the liner above and over to the exterior face of the berm. MUB requests that the Permit require that the entirety of the proposed work area is both contained by a berm and lined, to the same standard as was provided for the larger work area in 2011.*

2. **The area where the access road meets the containment structures will be designed in a manner that will prevent the flow of any spilled materials from leaving the containment area.** *The application drawings show that the access road is actually depressed, and presents a breach in the continuity of the berm. This would not provide containment on the pad. MUB requests that the intersection of the access road and berm be reconstructed so that the road passes above/across the berm without reducing the effectivess, continuity, or surface elevation of the berm.*

3. **The perimeter of the well pad will be protected by a 2.5 ft. berm completely surrounding the 300 ft. X 600 ft. well pad. If the combined volume of all fluids on site at any time exceeds 2.5 million gallons, the containment area defined by the berm will be enlarged proportionally.** *The earthen berm from 2011 is shown on the Application drawings; however, the current drawings indicate that the berm is not continuous. Repair of any breach(es) is not indicated on the drawings. MUB requests that the Permit require that the entire current work site be surrounded by a continuous berm as was provided in 2011, and with contained volume within said berm to be at least 110% of the total volume of liquids onsite at anytime.*

Spill Prevention – Fracking Operations

1. **NNE will utilize a <u>closed loop system</u> for maximum control of fracking fluid.** *Application shows Closed Loop system will be used again.*

Comparison of May 18, 2011 Safe Guards to 2014 Application

2. **A second automatically activated Blow Out Preventer (BOP) will be provided to maximize control of fracking fluids.** *Application shows that a single Blow Out Preventer will be used. MUB accepts this change.*

3. **One manually operated isolation valve will be installed to provide additional redundancy for control of fluids from the main stem of the wellhead.** *Application shows that such a valve will be provided.*

Well Integrity

1. **NNE corrected MUB regarding the maximum allowable pressure of the three non-production casings, which are <u>not</u> designed to withstand fracking pressure.** *No comment*

2. **NNE will encase (with cement/grout) the full length of the production casing.** *In the short time available since receipt of the application, MUB has not completed its review of this issue, and to the extent allowable MUB reserves the right to submit additional comments upon completion of its review. However, based upon correspondence to MUB from NNE dated Nov 12, 2014, it is our understanding that NNE plans to cement the production casing only as far back as the intermediate string. NNE persuasively described the conservative risk management benefits of cementing the production casing to the surface in 2011, and we believe those benefits continue to remain true today. Absent any subsequent comments, we request that the Permit require that NNE cement the proposed casing(s) to the same standard as was provided in 2011.*

3. **NNE will confirm the integrity of the production casing by an attenuation test which will verify proper adherence of the casing cement/grout to the steel casing pipe. The surface casing and intermediate casing strings will be tested utilizing a hydrostatic pressure test to a pressure that is 10% greater than hydrostatic pressure or 10% greater than the anticipated pressure on that casing. The full vertical length of each casing will be so tested. All such testing will be conducted prior to the fracking process, and results thereof recorded. Fracking will not begin unless/until acceptable test results are achieved.** *In the short time available since receipt of the application, MUB has not completed its review of this issue, and to the extent allowable MUB reserves the right to submit additional comments upon completion of its review. Absent any subsequent comments, MUB's current default request is that the Permit require this issue be held to the same standard as was provided in 2011.*

4. **Each batch of casing cement/grout will be sampled and tested for appropriate strength. Fracking will not begin until acceptable strength test results are obtained.** *In the short time*

available since receipt of the application, MUB has not completed its review of this issue, and to the extent allowable MUB reserves the right to submit additional comments upon completion of its review. Absent any subsequent comments, MUB's current default request is that the Permit require this issue be held to the same standard as was provided in 2011.

5. **NNE will ensure that non-production casings are not subjected to fracking pressures by observing pressure in the annular spaces and aborting fracking if pressure increases in the annular spaces are observed. In such cases, the breach of the production casing will be located and repaired before fracking resumes.** *In the short time available since receipt of the application, MUB has not completed its review of this issue, and to the extent allowable MUB reserves the right to submit additional comments upon completion of its review. Absent any subsequent comments, MUB's current default request is that the Permit require this issue be held to the same standard as was provided in 2011.*

6. **NNE will hydrostatically test the production casing to a pressure of 10,000 psi which far exceeds the hydraulic fracturing pressure that will be employed. The full vertical length of the casing will be so tested. All such hydrostatic testing will be conducted prior to the fracking process, and results thereof recorded. Fracking will not begin unless/until acceptable test results are achieved.** *In the short time available since receipt of the application, MUB has not completed its review of this issue, and to the extent allowable MUB reserves the right to submit additional comments upon completion of its review. Absent any subsequent comments, MUB's current default request is that the Permit require this issue be held to the same standard as was provided in 2011. Our incomplete review indicates that the application appears to state that the casing will be tested to only 5,000 psi but that, during subsequent phases, surface pressure within the casing may reach 9,500psi. If our partial review is correct, testing at a level of approximately 53% of maximum predicted pressure violates the 2011 standard and is clearly inadequate. Test pressures should be at least 110% of maximum predicted pressure.*

7. **Similarly, NNE will hydrostatically test the production casing after fracking has been completed (prior to placing the well into production). Testing pressure will be at least as high as the expected operating pressure. The full vertical length of the casing will be so tested, and results thereof recorded. Any breach of the production casing will be located and repaired as quickly as possible, and before production begins. Production will not begin unless/until acceptable test results are achieved.** *In the short time available since receipt of the application, MUB has not completed its review of this issue, and to the extent allowable MUB reserves the right to submit additional comments upon completion of its review. Absent any subsequent comments, MUB's current default request is that the Permit require this issue be held to the same standard as was provided in 2011.*

Comparison of May 18, 2011 Safe Guards to 2014 Application

8. **Casing pipe which extends through a void area (such as a mined "room"), will be specially grouted at the points where they enter and exit the voided strata in a manner that meets the requirements of WV Code 22-6-20.** *In the short time available since receipt of the application, MUB has not completed its review of this issue, and to the extent allowable MUB reserves the right to submit additional comments upon completion of its review. Absent any subsequent comments, MUB's current default request is that the Permit require this issue be held to the same standard as was provided in 2011.*

Waste Disposal

1. **NNE will dispose of all drilling residuals and fracking fluids off site at appropriate land fill and/or injection well.** *The application shows that a list of possible disposal sites is provided, and that NNE will confirm DEP approval prior to disposal.*

2. **NNE will utilize manifest procedures to document such off- site disposal. The manifests will record the complete chain of custody from the retrieval at the well site to the ultimate disposal location, for all volumes/units of waste generated and removed from the site.** *MUB does not find this issue to be addressed in the application. MUB requests that the Permit require this issue be held to the same chain of custody standard as was provided in 2011.*

Miscellaneous:

1. **Drill cuttings / fluid will NOT be mixed with fracking fluids.** *MUB does not find this issue to be addressed in the application. MUB requests that the Permit require this issue be held to the same standard as was provided in 2011.*

2. **Drilling fluids will be water based.** *The application shows that Synthetic Oil based drilling fluids will be used. MUB is concerned that increasing the number / nature of synthetic and/or oil based fluids in use on site may increase risk to the water environment. NNE offered water based mud as the more environmentally safe alternative in 2011, and we believe those benefits continue to remain true today. We request that the Permit require water based drilling mud to the same standard as was provided in 2011. MUB is willing to reconsider this position if NNE will provide to MUB clear and compelling documented evidence of superior environmental advantages and protections from using the proposed synthetic oil based mud versus water based mud.*

Comparison of May 18, 2011 Safe Guards to 2014 Application

Additional Safeguards Requested – As of December 2014

MUB requests that the Permit require these additional safeguards:

1. *That MUB personnel shall be provided ready and reasonable access to the work site in order to observe the work for the purpose of confirming compliance with environmental / water protection safeguards.*
2. *That NNE shall reimburse MUB's cost of water quality monitoring related to the subject work.*
3. *That NNE shall provide a bond, drawn to MUB in the amount of $1 million, to be executed in the event of a source water contamination resulting from the subject work.*
4. *That NNE shall cause MUB to be listed as an additional insured on NNE's pollution and general liability insurance policies.*

278 Greenbag Road • Post Office Box 852 • Morgantown, WV 26507-0852 • 304-292-8443 • Fax 304-292-1526

www.mub.org

December 12, 2014

James A Martin, Chief
Office of Oil and Gas
West Virginia Department
of Environmental Protection
601 57th Street, SE
Charleston, WV 25304-2345

Re: Permit Application(s)
Well numbers MIP 3H and 5H
Preliminary Comments and FOIA Request

Dear Mr. Martin,

I write to express strong concerns related to the proposed wells, and to request information regarding the proposed operations.

You will recall that two previous wells were drilled and completed at the subject site in 2011, and that the Permits for that previous work contained special safeguards negotiated between Morgantown Utility Board (MUB) and Northeast Natural Energy (NNE). Recall that the well pad is located immediately adjacent to our Zone of Critical Concern and runoff from the well pad arrives at the Monongahela River only 1500 feet upstream of our drinking water intake.

Special safeguards are needed at the subject site due to its extremely close proximity to the primary water intake for the MUB water treatment plant. Unfortunately, NNE has notified MUB that it will not provide all those same safeguards (from 2011) for the proposed work. NNE has similarly rejected MUB's request for additional safeguards for the proposed wells. Please see enclosed correspondence:

- From MUB to NNE, dated October 3, 2014
- From NNE to MUB, dated November 12, 2014
- From MUB to NNE, dated December 11, 2014

You will note from the above referenced correspondence that we have requested certain technical information from NNE regarding plans for the proposed work. We await their response. Similarly, and perhaps more importantly, our consultant Downstream Strategies (DS) has previously contacted OOG on November 25 to request information related to the permit application(s). As of the date of this letter, neither DS nor MUB have received the requested information, this despite DS having made follow up contacts to OOG on December 8 and 9. Awaiting such technical information from both NNE and DEP, MUB is unable to complete a review of the proposed work, and therefore may be unable to provide complete comments within the time period allowed by DEP permitting procedures.

Our ability to make timely comments has also been impaired by a flaw in the public notice that was published for the subject wells. You will note in the attached public notice, published on October 22, 2014, that the affected watershed was incorrectly identified as Dunkard Creek. Because we review such public notices based on affected watershed, and Dunkard Creek is downstream of and beyond our area of concern, that published mistake caused us to overlook the subject notice. That oversight delayed the beginning of our review of the subject permit.

For the above reasons, we respectfully request the following:

That this letter be considered a formal FOIA request pursuant to WV Code §29 B-1-1, et seq, for any and all information submitted by Northeast Natural Energy as part of its application(s) for well numbers MIP 3H and MIP 5H; and,

That the public notice for the subject wells be re-published with all appropriate corrections and that the time allowed for public comments be restarted to begin upon re-publication of said notice; and,

That the additional safeguards now or subsequently requested by MUB be included as enforceable requirements of the subject Permits; and,

That because the relevant circumstances, technology, and understanding thereof are dynamic and subject to change, that the Permits include a "re-opener" clause that will allow DEP to make additional changes to the Permits should the need arise.

We submit this correspondence to ensure that the safety of our raw water supply is protected, and that the permits adequately address this critically important need.

Thank you for your immediate attention to this urgent matter. We look forward to working with you to resolve our concerns.

Respectfully,

MORGANTOWN UTILITY BOARD

Timothy L. Ball
General Manager

cc: Randy Huffman – Secretary WV DEP
Scott Mandirola – Chief, Water and Waste Section, WV DEP
WV DEP Public Information Office
Barbara Taylor – Director, Envir. Health Services, WV Bureau of Public Health
Morgantown City Council
Morgantown Utility Board
Brett Loflin – Northeast Natural Energy

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December 9, 2014

Brett Loflin
Northeast Natural Energy
707 Virginia Street, East; Suite 1200
Charleston, WV 25301

Re: Drilling Operations, Morgantown Industrial Park

Dear Mr. Loflin:

I write in response to your letter of November 12, which you sent in response to our prior correspondence, dated October 3.

In your recent letter, you describe several ways in which the proposed drilling will differ from that for the previous two wells. Alarmingly, you also summarily reject each of our newest requests for additional safeguards. These changes and rejections cause us great concern.

First, and most simply, this is a reversal of the explicit promise that you recently made to me on the telephone. You will recall that your unsolicited oral guarantee was that NNE would deploy the same safeguards as were deployed in the prior drilling operation at this location. To now offer anything less is highly objectionable.

Of course, we do not object to improvements or changes that you may suggest that we find will adequately or better protect our watershed from harm and promote confidence in our safe and abundant water supply.

With that pragmatic approach, pleased review and comment upon our general and specific concerns listed below:

General Concerns

From MUB's perspective, this was and is an ill-advised location for a drilling project. We continue to demand the previous safeguards, and some additional ones, because of the extremely close proximity of the drilling site to our water intake. The proposed wells are within the Watershed Delineation Area for MUB's intake and are immediately adjacent to, and uphill from, the Zone of Critical Concern. Because these extraordinary conditions were not contemplated by the Legislature in enacting the Horizontal Well Act, we have both the right and duty to demand these additional safeguards to fully protect our community's water supply.

Because this drilling project is now part of a research project focused on discovering and investigating the impact of drilling operations, it is self-evident that the project presents both unknown and known risks to our water supply. NNE must not compound these risks by refusing our proposed safeguards.

Likewise, we will not report to our citizens that they are adequately protected because of the "best industry practices" you plan to employ at this site. Our duty is to take every possible measure to protect the public health. We reject your suggestion that we should not and/or need not take additional measures to protect our community water supply from contamination that might result from your proposed operations.

Specific Concerns – Previous Safeguards (using your numbering from November 12):

1a. You describe that a drilling pit will not be utilized because you have adopted closed loop drilling, thus eliminating the necessity for an open pit. We, of course, welcome this change.

1b. You describe that "the 2011 earthen berm surrounding the pad is intact, and the pertinent sections of the pad will be lined and bermed for containment purposes." We are concerned that you might intend to provide a liner for only some portion of the area within the existing berm. If that is the case, we take strong exception to that plan. We believe that it is imperative to provide liner for the full area within the berm, and to extend the liner above and over to the exterior face of the berm. If you do not plan to line the entire pad within the existing berm, then we believe that additional berm must be provided (to connect to the existing one) to define and contain the "pertinent sections of the pad", so that the entirety of the proposed work area is both contained by a berm and lined, to the same standard as was provided for the larger work area in 2011.

2. You describe that industry best practices already provide sufficient redundancy for valving of the frac valve assemblies, and that adding unnecessary valves can create a safety hazard. I believe we referred to this subject apparatus in 2011 correspondence as the blow out preventer; if this is the apparatus to which you refer today, we agree with your assessment (having closely observed the 2011 work) and we accept that a single assembly can be adequately redundant. Your description refers to an attached design, but that attachment was not included. We respectfully ask that you provide the intended attachment for our review.

3. You describe that the production casing string will be cemented only back into the intermediate string, and not to the surface as was done in 2011. You persuasively described the conservative risk management benefits of cementing the production casing to the surface in 2011, and we believe those benefits continue to remain true today. We respectfully request that you cement the proposed casing(s) to the same standard as was provided in 2011.

4. You describe your intent to use synthetic based drilling mud (SBM), rather than the water based mud that was used in 2011. You describe various benefits of SBM that purportedly lead to less overall risk. While we will agree that operational efficiencies that reduce drilling time may result in a shorter time duration of risk exposure, we are concerned that increasing the number / nature of synthetic fluids in use on site actually may increase risk to the water environment. You offered water based mud as the more environmentally safe alternative in 2011, and we believe those benefits continue to remain true today. We respectfully request that you prepare water based drilling mud to the same standard as was provided in 2011.

Additional discussion regarding previous safeguards:

Your letter of May 18, 2011 outlined the safeguards that would be provided for the first two wells at this site. On November 12, you outlined certain portions of the 2011 safeguards that you do not intend to provide for the proposed wells. For the sake of clarity, I attach a copy of the May 18, 2011 letter, marked to indicate the recent changes that you have proposed. MUB concludes that any of the 2011 safeguards that have not been recently refused or commented upon are neither controversial nor problematic, and will therefore be included in the third well operation.

Please confirm this conclusion, or respond similarly to further amend the 2011 promises so that we may clearly understand your plan.

Specific Concerns – MUB's Additional Safeguards

MUB's letter of October 3, 2014 requests three additional safeguards that, after reevaluation of the 2011 operation, we believe are necessary and desirable. Discussion below uses the same numbering from our Oct 3 letter:

1. MUB requests that NNE reimburse our cost of water quality monitoring related to the subject work. You have rejected that request, characterizing our proposed testing as unnecessary, and using applicable regulations as the benchmark. It is doubtful that the Legislators ever contemplated a drilling operation so poorly sited in such extreme proximity to a public water intake supplying over 80,000 citizens and upon a legacy pollution site. MUB does not "wish to conduct additional water quality testing". On the contrary, MUB is obliged by reasonable prudence in the public interest to conduct this testing as a result of your drilling operations. Because NNE is the cost generator, it should pay these costs.

2. MUB requests that NNE provide a bond, drawn to MUB in the amount of $1 million. You have rejected that request, explaining that NNE is adequately insured and that it has already posted a $250,000 bond, held by the State. Your rejection of the proposed bonding is both illogical and unfair. None of the bonding or insurance that you hold directly benefits MUB, yet in the event of a mishap, MUB's exposure will be direct, immediate, and significant. Our ratepayers should not have to pay additional money to protect themselves from injury from this poorly-sited project.

3. Finally, MUB requests that it be listed as an additional insured on NNE's pollution and general liability insurance policies. You have rejected this request, explaining that the details of your insurance program are a contractual matter between you and your carrier, and that MUB lacks a vested interest in NNE's operations. We wholly reject your "vested interest" threshold for naming an additional insured. Not only is this a questionable threshold, it is also indifferent to the threats to the public safety and health that your operation brings to our community and watershed. It is impossible to deny the vested interest of 80,000 West Virginians to a safe and uncontaminated water supply.

You close your letter of November 12 by describing the experimental laboratory project to be conducted by WVU, Ohio State, and DOE. We must again state that the conduct of this experimental laboratory is undeniable evidence of the yet evolving nature of technology for such operations, and of the need for better understanding of short and long term environmental impacts and related risk management techniques. We trust that these research partners will contribute actively and substantively to the oversight of the proposed operations to better ensure the protection of our water resources.

Finally, you mention that "with additional personnel onsite, should MUB personnel wish to visit the drill site, they will have to abide by established protocol for entering the premises." Certainly MUB is agreeable, even committed, to abiding by appropriate safety protocols. Our only concern is that the protocols not be used as a ruse to frustrate our access to observe the operations. Based on our cooperative experience with NNE in 2011, we would not have even entertained such a concern, but the summary reversal of your position and the numerous rejections listed in your November 12 letter suggest that such cooperation might not continue. We hope that we have misinterpreted this potential frustration, and we trust that you will continue to provide our personnel ready and reasonable access to the site. We firmly believe that our frequent and random presence serves to facilitate a higher level of vigilance in environmental protection than would otherwise be normally achieved.

We respectfully request that you reconsider your decisions where we have requested continuation of previous safeguards and for new additional safeguards. We hope that the high level of collegiality and cooperation that was provided in the 2011 operations will continue. But, in any case, MUB will meet its duty to ensure that our community's health and safety is protected.

Thank you for your timely and detailed attention to this critically important matter. We look forward to your comments.

Respectfully,

MORGANTOWN UTILITY BOARD

Timothy L. Ball
General Manager

CC: MUB Chairman and Directors
Morgantown City Council
Randy Huffman, Secretary WV DEP
Scott Mandirola - Chief, Water and Waste Section WV DEP
James Martin – Chief, Office of Oil and Gas WV DEP
Barbara Taylor – Director, Environmental Health Services WV BPH

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northeast
NATURAL ENERGY

November 12, 2014

Morgantown Utility Board
Mr. Tim Ball, General Manager
278 Greenbag Road, PO Box 852
Morgantown, WV 26507-0852

Subject: Drilling Operations, Morgantown Industrial Park

Dear Mr. Ball,

I received your letter of October 3, 2014 regarding Northeast Natural Energy LLC's ("NNE") future drilling operations in the Morgantown Industrial Park in which you (1) set forth your understanding that NNE will utilize all safeguards that were negotiated with the Morgantown Utility Board (("MUB") in 2011 and (2) propose additional commitments from NNE.

As you know NNE, drilled and completed two wells in the industrial park in 2011. NNE intends to once again initiate drilling operations in the Morgantown Industrial Park sometime in early to mid-2015 and will utilize the existing pad (surface location) for the new wells.

Since the drilling and completion of the initial two wells, the West Virginia Legislature passed the Horizontal Well Act (WV Code §22-6A) and promulgated new rules that regulate the drilling and completion of unconventional formations. The new laws and rules are quite comprehensive and adequately protect the state's water resources. NNE conducts its operations in compliance with these new laws and rules as well as all applicable federal laws and rules. Furthermore, NNE employs industry best management practices that allow for safe and environmentally sound operations.

With that said, regarding the new wells, there are some procedures that NNE followed while drilling the initial wells that NNE will still adhere to even though they may not be required by state law or rule, but certain procedures utilized in 2011 are no longer considered to be best management practices. This is due to improved technology and evolving best management practices over the past three years. The following procedures are examples:

1. The drilling pit that was utilized in the drilling of the first wells has been reclaimed and no longer exists. NNE intends to use a closed loop drilling process for the new wells, which does not require a drilling pit (referred to as a "lined waste pit" in the original permit conditions). The closed loop system means that all drilling fluids are contained, reused and not exposed to the open air. However, the 2011 earthen berm surrounding the pad is intact and the pertinent sections of the pad will be lined and bermed for containment purposes.

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DEC 17 2014

2. NNE will be following industry best practices for frac valve assemblies which have redundant pressure control valves built in. These valves are placed at a certain height for accessibility, functionality and safety. The assembly consists of multiple valves designed and tested to ensure a safe working pressure of 10,000 psi. To ensure adequate redundancy, two lower master valves will be utilized. This will allow for one to be used in the normal course of operations and leaves a valve below any external tie-ins to the well to act solely as a backup. This has routinely been used by the industry and has been established as a successful best practice for safety of operations. Adding unnecessary valves to the process increases the height and weight of the valve assembly and can create a safety hazard for the workers that have to operate and service the valves. The attached design will be utilized for completion of the wells.

3. The production string of casing will not be cemented back to surface. The production string will be cemented back into the intermediate string of casing which is a more sound engineering and best management practice and conforms to current laws and regulations.

4. NNE will utilize a synthetic based drilling mud ("SBM") to drill the horizontal section of each well. Drilling with SBM results in more productive wells as demonstrated by the following:

- SBM has been proven to increase horizontal well bore stability because it does not chemically react to the formations like water based muds. This increase in stability reduces drilling time and leads to less overall risk.
- SBM also requires significantly less additives to keep parameters required for drilling in the Marcellus Shale, leading to chemical inventory being reduced on location.
- SBM is returned to the supplier to be re-used at future pads leading to minimized disposal and fewer loads being delivered to the drill site.
- SBM allows for longer laterals to be drilled, thereby reducing the need to build additional well pads to recover the natural gas reserves.
- SBM is synthesized down to an almost food grade quality and contains zero aromatic and polycyclic aromatic hydrocarbons.

Your first proposed additional commitment is that NNE pay the full cost of additional source water testing during drilling operations as may be required by MUB. NNE applauds your diligence in ensuring that source water quality is maintained; however, NNE does not agree that such additional testing is necessary or required. As stated above, NNE will comply with all state and federal requirements and utilize best management practices as outlined in past correspondence. If the Morgantown Utility Board wishes to conduct additional water quality testing, NNE does not agree to pay for it.

Your second proposed additional commitment is that NNE post a bond, drawn to MUB in the amount of $1,000,000. Please be advised that NNE carries liability insurance including pollution insurance. Furthermore, NNE requires any contractor/sub-contractor conducting operations where there is a risk of pollution to carry pollution liability insurance. In addition, NNE also has a performance bond held by the State of WV in the amount of $250,000. Therefore, NNE believes that it is adequately insured to address potential claims without posting an additional $1,000,000 bond.

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Office of Oil & Gas
DEC 17 2014

MUB's third proposal is to name MUB as an additional insured to NNE's general liability and pollution insurance policies. Because there is no relationship between MUB and NNE, MUB has no vested interest in NNE's operations that would allow an insurance underwriter to approve a request to name MUB as an additional insured.

As you and I have discussed, the wells to be drilled in the Morgantown Industrial Park will be part of a long-term, comprehensive field study by the Marcellus Shale Energy and Environment Laboratory to be headed up by West Virginia University. You will be interested to know that part of that research will include baseline air, water, noise and light investigations. Others participating in the study are The Ohio State University and the U. S. Department of Energy.

Thus, with additional personnel onsite, should MUB personnel wish to visit the drill site, they will have to abide by established protocol for entering the premises.

As you have seen first-hand, NNE takes pride in the fact that it conducts its operations in a safe and environmentally sound manner. We will continue to strive to be the most diligent operator in all aspects of our operations and understand our duty to protect our state's water resources.

If you have any questions or need additional information please contact me at 304-414-7063 or by email at bloflin@nne-llc.com.

Sincerely,

Brett Loflin
V. P. Regulatory Affairs

Received
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DEC 17 2014

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northeast
NATURAL ENERGY

May 18, 2011

Timothy L. Ball, General Manager
Morganton Utility Board
PO Box 852
278 Green Bag Road
Morgantown, WV 26507-0852

Dear Tim,

We appreciate having had the opportunity to meet with you at the Morgantown Industrial Park site where Northeast Natural Energy LLC ("NNE") is preparing to drill two horizontal Marcellus wells. I am sure you gathered from our discussions that NNE is committed to protecting the groundwater and surface waters of the State of West Virginia. The protective measures NNE routinely incorporates in its operations design are best management practices required by state laws and regulations including the West Virginia Department of Environmental Protection. NNE appreciates the input and suggestions of Morgantown Utility Board, and we believe that our agreements have evidenced NNE's dedication to operating in a safe and environmentally sound manner. Toward that end, the following provides details of some of the practices NNE will employ in its drilling of the Morgantown Industrial Park site.

Spill Containment – Drilling operations:

1. NNE will utilize a closed loop system during fluid drilling operations for maximum control of drilling fluid / mud.
2. An interior containment structure will surround the drilling equipment to provide primary containment during the drilling operation. The structure will be a silt sock or similar item. A liner will be provided to cover the area defined by the sock, and will wrap from the floor of the confined area over the sock to create an impermeable barrier. ~~The liner will divert any captured liquid to the lined waste pit.~~ All liner will be fused to create a single continuous barrier.
3. The permanent earthen berm around the well pad will provide a third level of containment.
4. The area where the access road meets the containment structures will be designed in a manner that will prevent the flow of any spilled materials from leaving the containment area.
5. ~~The volume of the lined waste pit will exceed the entire combined maximum volume of drilling fluids and tailings/mud present on site at any time.~~

Spill Containment – Fracking operations:

1. ~~The well pad liner will be expanded to cover the entire area encompassed by the earthen berm at the perimeter of the well pad, including the sumps located at~~

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~~each corner. The liner will divert any captured liquid to the lined waste pit.~~ All liner will be fused to create a single continuous barrier.

2. The area where the access road meets the containment structures will be designed in a manner that will prevent the flow of any spilled materials from leaving the containment area.
3. The perimeter of the well pad will be protected by a 2.5 ft. berm completely surrounding the 300 ft. X 600 ft. well pad. If the combined volume of all fluids on site at any time exceeds 2.5 million gallons, the containment area defined by the berm will be enlarged proportionally.

Spill Prevention – Fracking operations:

1. NNE will utilize a closed loop system for maximum control of fracking fluid.
2. ~~A second automatically activated Blow Out Preventor (BOP) will be provided to maximize control of fracking fluids.~~
3. One manually operated isolation valve will be installed to provide additional redundancy for control of fluids from the main stem of the wellhead.

Well Integrity:

1. NNE corrected MUB regarding the maximum allowable pressure of the three non-production casings, which are not designed to withstand fracking pressure.
2. ~~NNE will encase (with cement/grout) the full length of the production casing~~
3. NNE will confirm the integrity of the production casing by an attenuation test which will verify proper adherence of the casing cement/grout to the steel casing pipe. The surface casing and intermediate casing strings will be tested utilizing a hydrostatic pressure test to a pressure that is 10% greater than hydrostatic pressure or 10% greater than the anticipated pressure on that casing. The full vertical length of each casing will be so tested. All such testing will be conducted prior to the fracking process, and results thereof recorded. Fracking will not begin unless/until acceptable test results are achieved.
4. Each batch of casing cement/grout will be sampled and tested for appropriate strength. Fracking will not begin until acceptable strength test results are obtained.
5. NNE will ensure that non-production casings are not subjected to fracking pressures by observing pressure in the annular spaces and aborting fracking if pressure increases in the annular spaces are observed. In such cases, the breach of the production casing will be located and repaired before fracking resumes.
6. NNE will hydrostatically test the production casing to a pressure of 10,000 psi which far exceeds the hydraulic fracturing pressure that will be employed. The full vertical length of the casing will be so tested. All such hydrostatic testing will be conducted prior to the fracking process, and results thereof recorded. Fracking will not begin unless/until acceptable test results are achieved.
7. Similarly, NNE will hydrostatically test the production casing after fracking has been completed (prior to placing the well into production). Testing pressure will be at least as high as the expected operating pressure. The full vertical length of the casing will be so tested, and results thereof recorded. Any breach of the

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production casing will be located and repaired as quickly as possible, and before production begins. Production will not begin unless/until acceptable test results are achieved.

8. Casing pipe which extends through a void area (such as a mined "room"), will be specially grouted at the points where they enter and exit the voided strata in a manner that meets the requirements of WV Code §22-6-20.

Waste Disposal:

1. NNE will dispose of all drilling residuals and fracking fluids off site at appropriate land fill and/or injection well.
2. NNE will utilize manifest procedures to document such off- site disposal. The manifests will record the complete chain of custody from the retrieval at the well site to the ultimate disposal location, for all volumes/units of waste generated and removed from the site.

Miscellaneous:

1. Drill cuttings / fluid will NOT be mixed with fracking fluids.
2. ~~Drilling fluids will be water based.~~

As we discussed, you have an open invitation to make return visits to the site so that you may observe the work, but we ask that you arrange a time with us in advance. NNE will provide any records of a public nature, but may be restricted in providing information of a proprietary nature, but in any event will disclose any relevant test results directly to you as representative of the Morgantown Utility Board.

Sincerely,

Brett Loflin

Vice President, Regulatory Affairs
Voice: 304.414.7063
Email: bloflin@nne-llc.com

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278 Greenbag Road • Post Office Box 852 • Morgantown, WV 26507-0852 • 304-292-8443 • Fax 304-292-1526

MUB

www.mub.org

October 3, 2014

Northeast Natural Energy
Mr. Brett Loflin
707 Virginia Street, East
Suite 1200
Charleston, WV 25301

Re: Drilling Operations, Morgantown Industrial Park

Dear Mr. Loflin:

Thanks for your cordial call informing MUB that Northeast plans to drill additional gas wells in January 2015 at its site located at Morgantown Industrial Park. Your forthright and timely notice is yet another demonstration of Northeast's cooperative and collegial approach to operations within our watershed.

As you know, the drilling site is located directly across from MUB's drinking water intake on the Monongahela River. We expect that Northeast will continue its commitment to responsible operations and the resulting strident protection of our community water supply. Based on our phone conversation, we understand that Northeast will deploy and maintain all the safeguards which were negotiated and provided during your previous drilling/fracking operations at MIP.

We also expect that our ratepayers will not bear the cost of the additional protection required as a result of your operations at this site. To that end, we propose the following additional protections be in place prior to commencement of drilling operations:

1) A commitment from Northeast that it will pay the full cost of additional source water testing during drilling operations as may be required by MUB. Our ratepayers absorbed this cost (approximately $120,000) during the last drilling event; and,

2) A bond from Northeast, drawn to MUB by a credible guarantor, in the amount of $1 Million. This bond will be executed in the event of a source water contamination resulting from drilling operations, and will fund MUB's immediate response to the contamination event; and,

3) MUB named as additional insured to Northeast's general liability (GL) and pollution insurance (PLC) policies, drawn by a credible insurer with policy provisions acceptable to MUB.

I look forward to your timely acceptance of these protections, and trust that we will again work well and succeed together in protection of our drinking water supply.

Respectfully,

MORGANTOWN UTILITY BOARD

Timothy L. Ball, P.E.
General Manager

TLB/bar

cc: Jeff Mikorski

4706101707

WW-6B
(9/13)

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

5 485

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

2) Operator's Well Number: MIP 3H Well Pad Name: MIP

3) Farm Name/Surface Owner: Enrout Properties, LLC Public Road Access: CR 19/19; Industrial Park Rd

4) Elevation, current ground: 1,058' Elevation, proposed post-construction: 1,058'

5) Well Type (a) Gas ■ Oil ____ Underground Storage ____
Other ____
(b)If Gas Shallow ■ Deep ____
Horizontal ■

MJK 12/15/2014

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Marcellus ; 7,528' ; 103' , 3,270 psi

8) Proposed Total Vertical Depth: 7,528'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 12,761'

11) Proposed Horizontal Leg Length: 3,984'

12) Approximate Fresh Water Strata Depths: 50' , 450'

13) Method to Determine Fresh Water Depths: Driller's Log from Offset Wells

14) Approximate Saltwater Depths: 1,600'

15) Approximate Coal Seam Depths: 200' , 225'

16) Approximate Depth to Possible Void (coal mine, karst, other): N/A

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: ____

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18) **CASING AND TUBING PROGRAM**

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	20"	New	STD	78.67	40'	40'	GTS
Fresh Water	13 3/8"	New	J-55	54.5	530'	500'	CTS
Coal							
Intermediate	9 5/8"	New	J-55	40	1,830'	1,800'	CTS
Production	5 1/2"	New	P-110	20	12,761'	12,731'	3,029 cu. ft.
Tubing	2 3/8"	New	J-55	4.7		7,800'	NA
Liners							

MJK 12/15/2014

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	.375	499	Grout	NA
Fresh Water	13 3/8"	17 1/2"	.38"	2,760	Class A	1.23
Coal						
Intermediate	9 5/8"	12 1/4"	.395"	3,950	Class A	1.3
Production	5 1/2"	8 3/4"	.361"	12,530	50:50 Poz	1.21
Tubing	2 3/8"	NA	.190"	7,700	NA	NA
Liners						

PACKERS

Kind:				
Sizes:				
Depths Set:				

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

Drilling and completion of a horizontal Marcellus well. The well will be drilled on air to KOP at an approximate depth of 5,500' TVD/MD. From KOP, the well will then be horizontally drilled on a synthetic based mud to approximately 7,528' TVD / 12,761' MD along a 324 degree azimuth.

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

Multi-stage / high-rate slickwater fracture treatment using various size sands as proppant. First stage will be initiated via pressurization against a burst disc ran in the production casing string or perforated with coiled tubing. Subsequent stages will be perforated with pumped down guns ran on wireline. Individual stages will be isolated with composite frac plugs. Maximum pump rate during any stage will be 110 BPM with a maximum allowable surface pressure of 9,500 PSI. Composite bridge plugs will be set at the end of the last stage to isolate the treated formation.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): N/A - Existing Pad

22) Area to be disturbed for well pad only, less access road (acres): N/A - Existing Pad

23) Describe centralizer placement for each casing string:

Surface and intermediate casing strings will have bow spring centralizers placed every third joint (~120') from shoe joint to surface. Production casing will have rigid body centralizers placed at a minimum every fourth joint (~160') from TD to surface.

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

Surface string cement will be a Class A + Max 3% bwoc Calcium Chloride Fresh Water blend. Intermediate string cement will be a Class A Cement + Max 3% bwoc Calcium Chloride + Fresh Water. Production string cement will be (50:50) Poz (Fly Ash):Type I Cement with a gas migration additive.

25) Proposed borehole conditioning procedures:

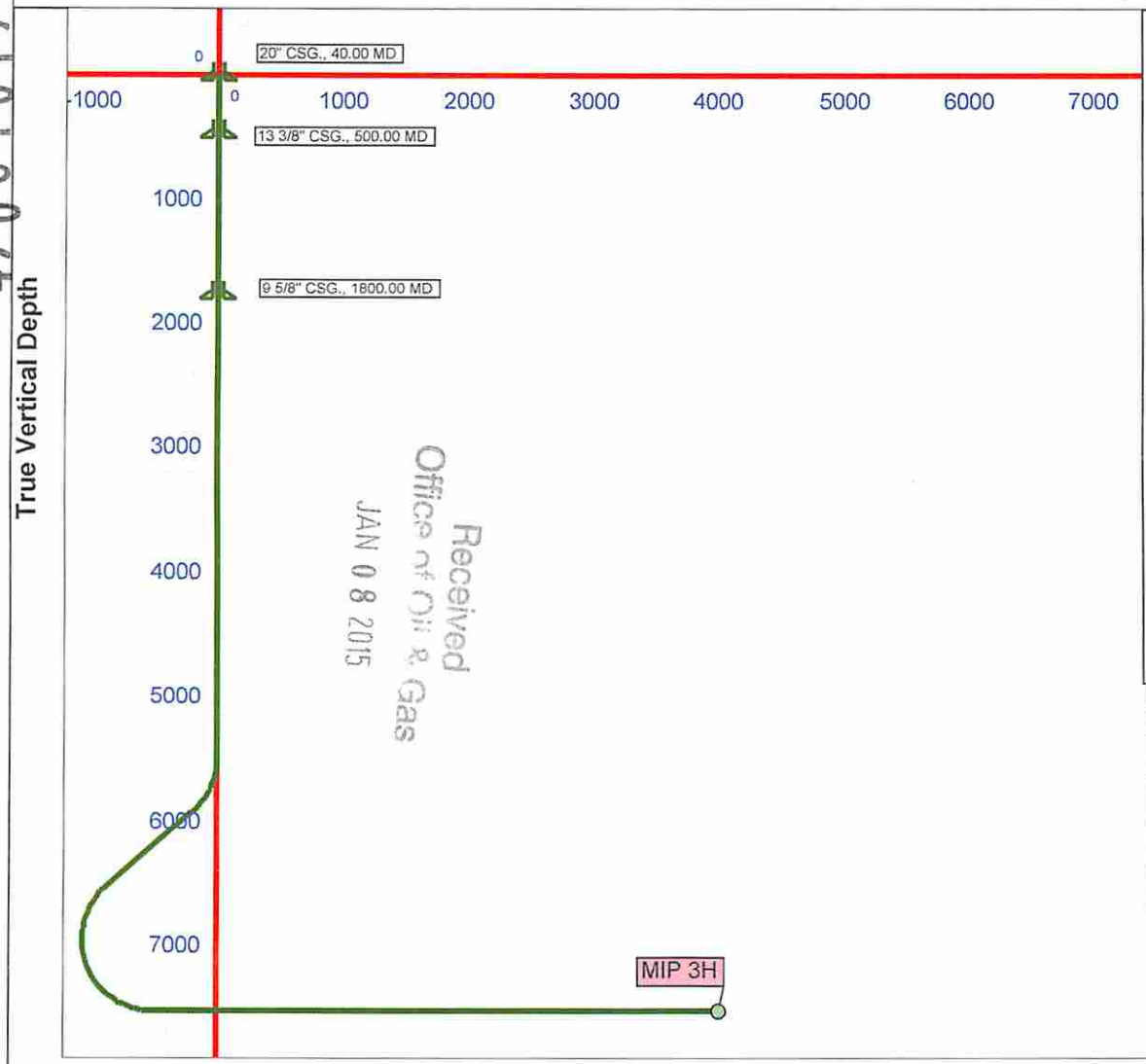
Surface string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Intermediate string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Production string will use a 50.0 bbls SealBond 25 + 1 gal/bbl US-40 + 275 lbs/bbl Barite + 1 gal/bbl SS-2 Spacer @ 13.5 ppg prior to cement.

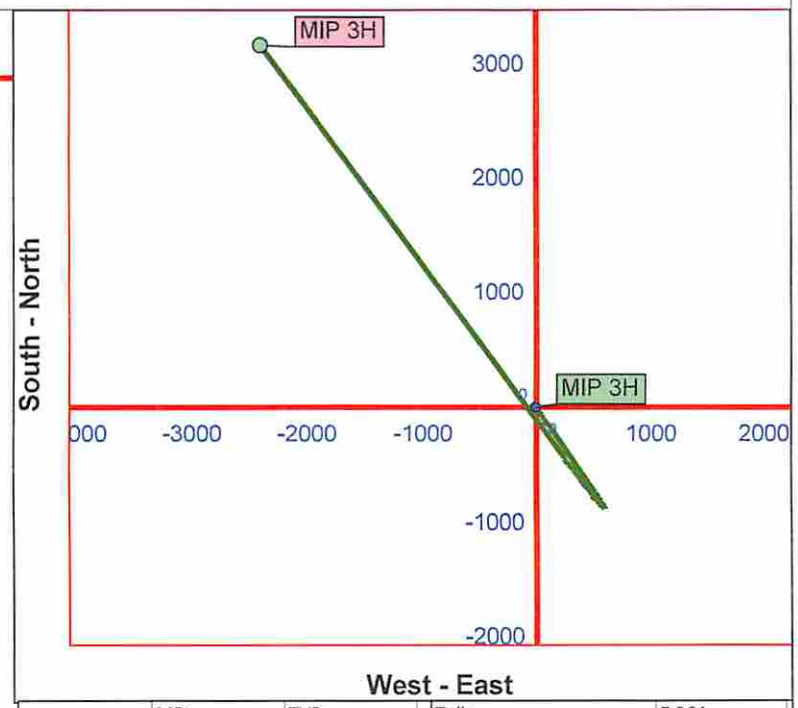
*Note: Attach additional sheets as needed.

4706101707

Job Number:
Company: Northeast Natural Energy
Lease/Well: MIP 3H
Location: MIP
Rig Name: Pioneer 63
State/County: WV/ Mon
Country: US
API Number:

Elevation (To MSL): 1130.00 ft
RKB: 18.00 ft
Projection System: US State Plane 1983
Projection Group: West Virginia Northern Zone
Projection Datum: GRS80
Magnetic Declination: -9.02
Grid Convergence: -0.30366 W
Date: Friday, December 12, 2014





	MD	TVD
KOP	5,500	5,500
LP	8,277	7,528
TD	12,761	7,528

Tully	7,264
Hamilton	7,328
Upper Marcellus	7,435
Lower Marcellus	7,480
Onondaga	7,538

Vertical Section (1000 Ft/Div) VSP: 323.00°

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Performance Drilling Technology, Inc. - HawkEye™ ©2014

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WW-9
(9/13)

API Number 47 - _____ - _____
Operator's Well No. MIP 3H

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) Upper Monongahela River MJC 1/7/15 Quadrangle Morgantown South

Elevation 1,058' County Monongalia District Grant

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 - See Attachment A

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air or Fresh Water - Vertical/Oil Based-Curve & Horizontal

-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 - 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? See Attachment A

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 Medley

Company Official (Typed Name) Hollie Medley

Company Official Title Regulatory Coordinator

Received
Office of Oil & Gas
JAN 08 2015

Subscribed and sworn before me this 5th day of January, 2015

Notary Public

My commission expires April 11, 2017

OFFICIAL SEAL
Andrew J. Travis
Notary Public
State of West Virginia
My Commission Expires
April 11, 2017
6240 Mid Atlantic Drive
Morgantown, WV 26508

Attachment A to WW-9

Northeast Natural Energy LLC ("NNE") plans to utilize a closed loop process for its drilling of the MIP 3H 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.

MIP 3H 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)

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4706101707

Form WW-9

Operator's Well No. MIP 3H

Northeast Natural Energy LLC

Proposed Revegetation Treatment: Acres Disturbed Existing Prevegetation pH 4.5-7.5

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 200 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Kentucky Blue Grass	20	Kentucky Blue Grass	20
White Top	20	White Top	20
Clover	15	Clover	15

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Wayne J Kimbrell

Comments:

Title: Inspector Date: 12/15/2014

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Office of Oil & Gas
JAN 08 2015

Field Reviewed? (X) Yes ( ) No

4706101707

northeast
NATURAL ENERGY

BJK 12/15/2014
Revised 1/7/2015

MIP 3H

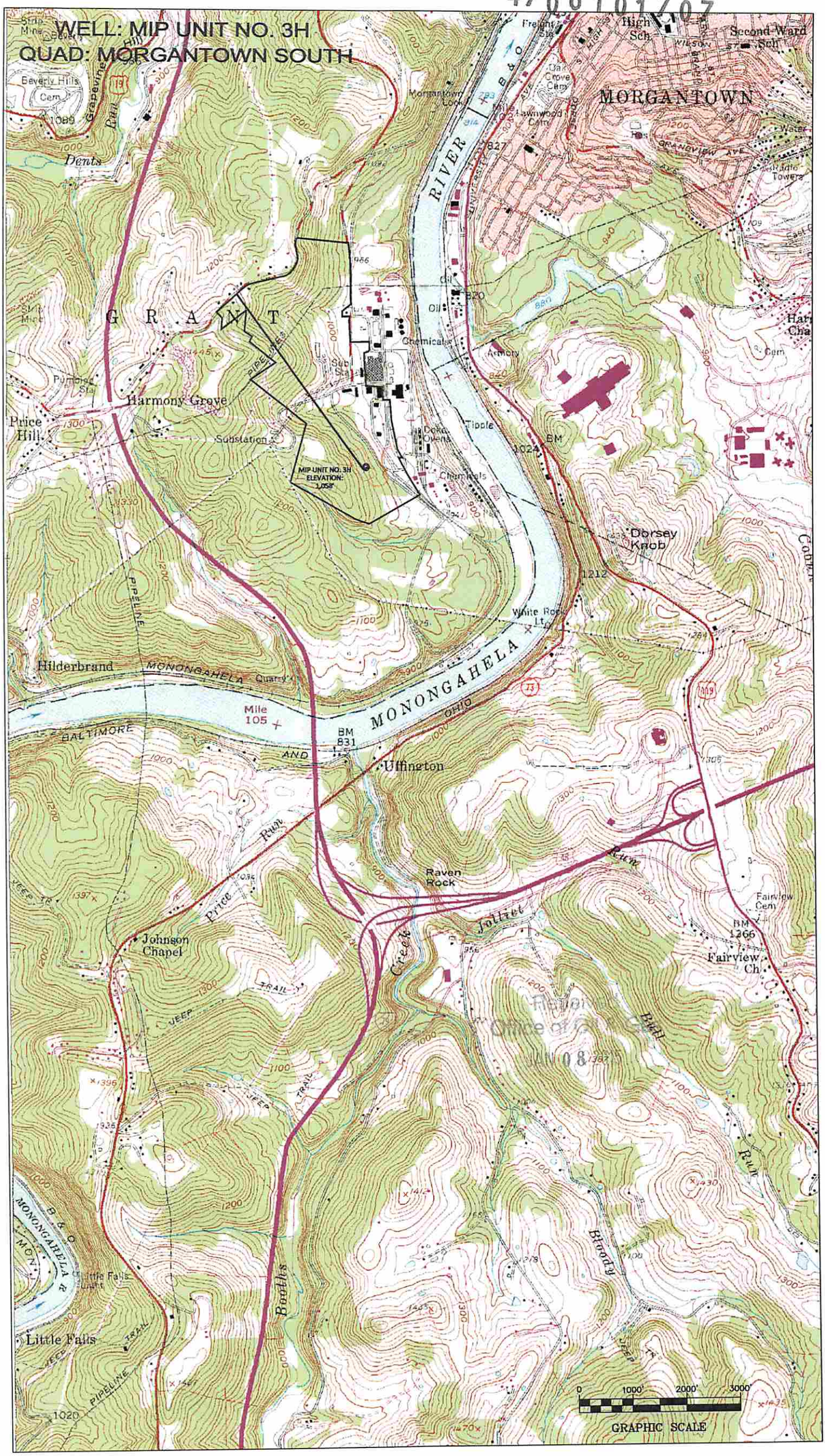
SITE SAFETY PLAN

October 27, 2014

Received
Office of Oil & Gas
JAN 08 2015

4706101707

WELL: MIP UNIT NO. 3H
QUAD: MORGANTOWN SOUTH

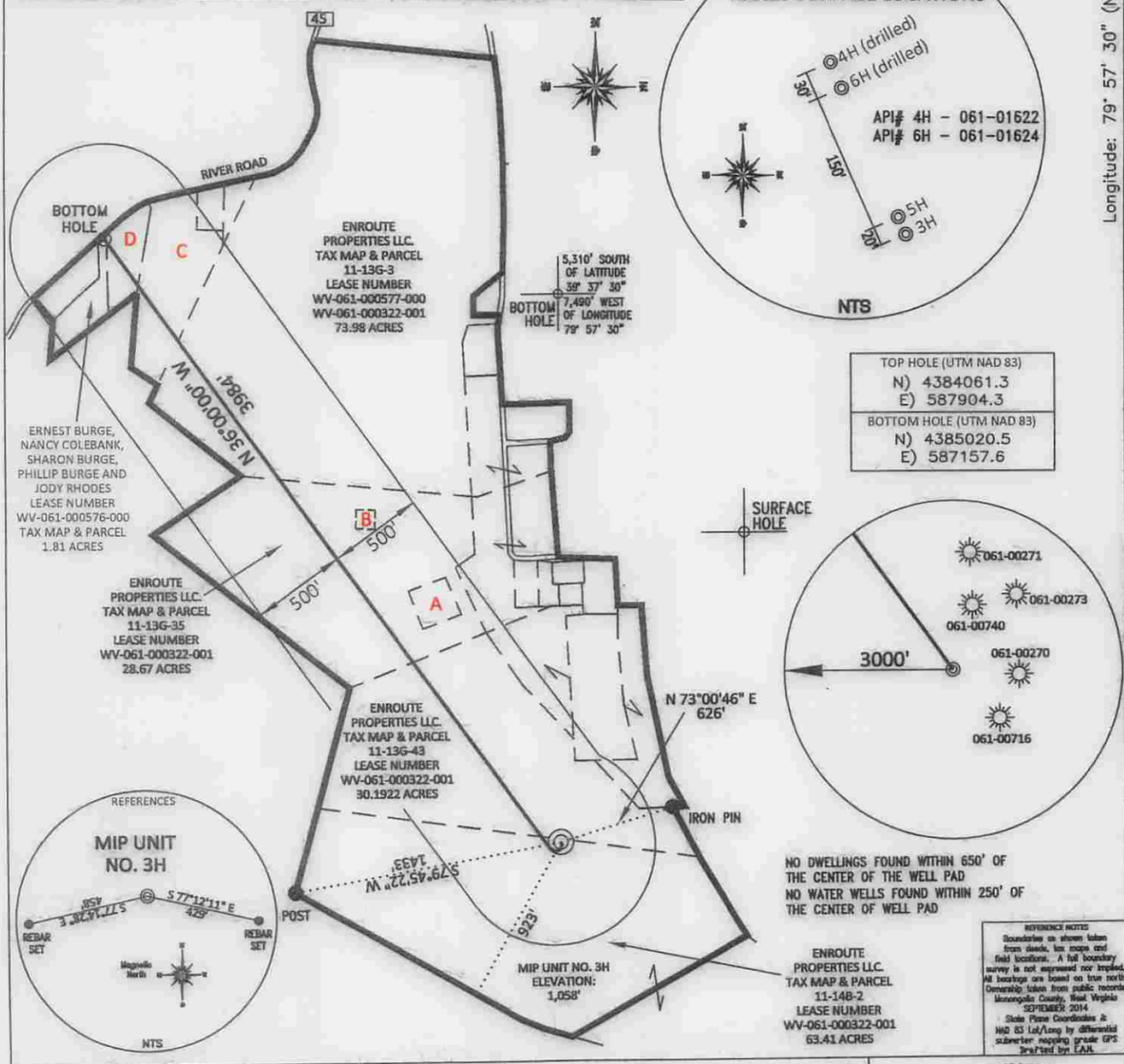


SURFACE HOLE DEC. LONG: 79.976335
SURVEYED LONG: 79° 58' 34.8"

5070'

Latitude: 39° 37' 30" (NAD 27)

	PROPERTY OWNER	ACRES	LEASE NUMBER	PARCEL ID
A.	EASLEY & RIVERS INCORPORATED	1.000	WV-061-000576-000	11-13G-33
B.	CITY OF MORGANTOWN	0.229	WV-061-000322-001	11-13G-34
C.	ENROUTE PROPERTIES LLC.	3.990	WV-061-000577-000	11-13-00.0
D.	SHARON BURGE	1.950	WV-061-000576-000	11-13-101.2



FILE #: NNE004
DRAWING #: 2443
SCALE: 1"=800'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING 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

ERNEST J. BENCHEK III
LICENSED
No. 2124
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

DATE: DECEMBER 12, 2014

OPERATOR'S WELL #: MIP UNIT NO. 3H

API WELL #: 47 (STATE) 61 (COUNTY) 01707 (PERMIT) H6A

Well Type: ☐ Oil ☐ Waste Diposal ☐ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: UPPER MONONGAHELA RIVER
ELEVATION : 1,058'
COUNTY/DISTRICT: MONONGALIA/GRANT
QUADRANGLE: MORGANTOWN SOUTH
SURFACE OWNER: ENROUTE PROPERTIES LLC.
ACREAGE: 63.41 +/-
OIL & GAS ROYALTY OWNER: ENROUTE PROPERTIES LLC.
ACREAGE: 202.19 +/-
LEASE NUMBERS: _____

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

TARGET FORMATION: MARCELLUS
ESTIMATED DEPTH: TVD: 7,528' TMD: 12,761'
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

4706101707

WW-6A1
(5/13)

Operator's Well No. MIP 3H

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 Attachment	See Attachment	See Attachment	See Attachment	See Attachment

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: Northeast Natural Energy LLC
By: Hollie Medley Hollie Medley
Its: Regulatory Coordinator

4706101707

WW-6A1

Operator's Well No. MIP 3H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	Tax Map & Parcel
WV-061-000322-001	Enroute Properties, LLC	Northeast Natural Energy LLC	0.125 or greater	1420/577	14B-2
WV-061-000322-001	Enroute Properties, LLC	Northeast Natural Energy LLC	0.125 or greater	1420/577	13G-43,34,35,3
WV-061-000576-000	Morgantown Industrial Park Associates, L.P.	Northeast Natural Energy LLC	0.125 or greater	1420/571	11-13G-33,101.2,102
WV-061-000577-000	KBG Partners LLC	Northeast Natural Energy LLC	0.125 or greater	1420/581	11-13G-3;11-13-00.0

*See Attachment

Received
Office of Oil & Gas
JAN 08 2015

4 0 3 0 1 0 7

northeast
NATURAL ENERGY

November 10, 2014

WV Department of Environmental Protection
Office of Oil and Gas Management
601 57th Street, SE
Charleston, WV 25304

RE: MIP 3H & 5H

Dear Permit Reviewer:

Please be advised that Northeast Natural Energy LLC has the right to drill, extract and produce the minerals beneath the road identified as River Road on the enclosed survey plat.

Sincerely,

Jeannie Morgan Johnson, CPL
Land Manager

Enclosure

Received
Office of Oil & Gas
JAN 08 2015

4 0 3 0 1 7 0 7

WW-PN
(5-04-2012)

Horizontal Natural Gas Well Work Permit
Application Notice By Publication

Notice is hereby given:
Pursuant to West Virginia Code 22-6A-10(e) prior to filing an application for a permit for a horizontal well the applicant shall publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

Paper: The Dominion Post

Public Notice Date: 12/17/2014; 12/24/2014

The following applicant intends to apply for a horizontal natural well work permit which disturbs three acres or more of surface excluding pipelines, gathering lines and roads **or** utilizes more than two hundred ten thousand gallons of water in any thirty day period.

Applicant: Northeast Natural Energy LLC **Well Number:** MIP 3H, 5H

Address: 707 Virginia Street East, Suite 1200
Charleston, WV 25301

Business Conducted: Natural gas production.

Location –

State: West Virginia County: Monongalia
District: Grant Quadrangle: Morgantown South
UTM Coordinate NAD83 Northing: 4384061.3 (MIP 3H); 4384066.8 (MIP 5H)
UTM coordinate NAD83 Easting: 587904.3 (MIP 3H); 587901.8 (MIP 5H)
Watershed: Upper Monongahela River

Coordinate Conversion:
To convert the coordinates above into longitude and latitude, visit: http://tagis.dep.wv.gov/convert/llutm_conus.php

Electronic notification:
To receive an email when applications have been received or issued by the Office of Oil and Gas, visit http://www.dep.wv.gov/insidedep/Pages/DEPMailingLists.aspx to sign up.

Reviewing Applications:
Copies of the proposed permit application may be reviewed at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE Charleston, WV 25304 (304-926-0450). Full copies or scans of the proposed permit application will cost $15, whether mailed or obtained at DEP headquarters. Copies may be requested by calling the office or by sending an email to DEP.oog@wv.gov.

Submitting Comments:
Comments may be submitted online at https://apps.dep.wv.gov/oog/comments/comments.cfm, or by letter to Permit Review, Office of Oil and Gas, 601 57th Street, SE Charleston, WV 25304. Please reference the county, well number, and operator when using this option.

Regardless of format for comment submissions, they must be received no later than thirty days after the permit application is received by the Office of Oil and Gas.

For information related to horizontal drilling visit: www.dep.wv.gov/oil-and-gas/pages/default.aspx

Received
Office of Oil & Gas
JAN 08 2015

PUBLISHER'S CERTIFICA

4708101707

vs.

053026

December 17, 24

Horizontal Natural Gas Well Work Permit
Application Notice By Publication

e is hereby given:
ant to West Virginia Code 22-6A-10(e) prior to filing an application for a permit for a horizontal well the applicant publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

r: The Dominion Post

Notice Date: 12/17/2014; 12/24/2014

llowing applicant intends to apply for a horizontal natural well work permit which disturbs three acres or more ace excluding pipelines, gathering lines and roads or utilizes more than two hundred ten thousand gallons of n any thirty day period.

ant: Northeast Natural Energy LLC **Well Number:** MIP 3H, 5H

s 707 Virginia Street East, Suite 1200

Charleston, WV 25301

ss Conducted: Natural gas production.

n -

State: West Virginia County: Monongalia

District: Grant Quadrangle: Morgantown South

UTM Coordinate NAD83 Northing: 4384061.3 (MIP 3H); 4384066.8 (MIP 5H)

UTM Coordinate NAD83 Easting: 587904.3 (MIP 3H); 587901.8 (MIP 5H)

Watershed: Upper Monongahela River

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g Comments:
may be submitted online at https://apps.dep.wv.gov/oog/comments/comments.cfm, or by letter to ew, Office of Oil and Gas, 601 57th Street, SE Charleston, WV 25304. Please reference the county, r, and operator when using this option.

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ion related to horizontal drilling visit: www.dep.wv.gov/oil-and-gas/pages/default.aspx

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STATE OF WEST VIRGINIA
COUNTY OF MONONGALIA

I **Eric Wilson** Advertising Director of THE DOMINION POST, a newspaper of general circulation published in the City of Morgantown, County and State aforesaid, do hereby certify that the annexed

Legal Notice

was published in the said THE DOMINION POST once a week for **2** successive weeks commencing on the **17th** day of **Dec.**, 2014 and ending on the **24th** day of **Dec.**, 2014

The publisher's fee for said publication is **$281.85**

Given under my hand this **26th** day of **December**, **2014**

(SE

Advertising Director of THE DOMINION POST

Subscribed and sworn to before me this **26th** day of **December**, **2014**

Kathy J. Custer

Notary Public of Monongalia County, W. Va.

My commission expires on the 13th day of April 2024

Official Seal
Notary Public, State of West Virginia
Kathy J Custer
469 Westwood St
Star City WV 26505
My Commission Expires April 13, 2024

WW-6AC
(1/12)

4706101707

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 12/29/2014

API No. 47- _____ - _____
Operator's Well No. MIP 3H
Well Pad Name: MIP

Notice has been given:
Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	587904.3
County:	Monongalia		Northing:	4384061.3
District:	Grant	Public Road Access:		Industrial Park Road
Quadrangle:	Morgantown South	Generally used farm name:		Enroute Properities, LLC
Watershed:	Upper Monongahela River			

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY		OOG OFFICE USE ONLY
☐ 1. NOTICE OF SEISMIC ACTIVITY or	☒ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/ NOT REQUIRED
☐ 2. NOTICE OF ENTRY FOR PLAT SURVEY or	☒ NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☒ 3. NOTICE OF INTENT TO DRILL or	☐ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or	☐ RECEIVED/ NOT REQUIRED
	☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	
☒ 4. NOTICE OF PLANNED OPERATION	Received Office of Oil & Gas	☐ RECEIVED
☒ 5. PUBLIC NOTICE	JAN 08 2015	☐ RECEIVED
☒ 6. NOTICE OF APPLICATION		☐ RECEIVED

Required Attachments:
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

WW-6AC
(1/12)

4706101707

Certification of Notice is hereby given:

THEREFORE, I Hollie M. Medley, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification 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	Address:	707 Virginia Street East, Suite 1200
By:	Hollie M. Medley		Charleston, WV 25301
Its:	Regulatory Coordinator	Facsimile:	304-241-5972
Telephone:	304-241-5752, ext. 7108	Email:	hmedley@nne-llc.com

Hollie M Medley

NOTARY SEAL
OFFICIAL SEAL
Britney Ashton Crookshanks
Notary Public
State of West Virginia
My Commission Expires
July 21, 2016
50 Starling Estates
Morgantown, WV 26508

Subscribed and sworn before me this 7th day of January.

Britney Ashton Cr Notary Public

My Commission Expires July 21 2016

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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JAN 08 2015

WW-6A
(9-13)

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API NO. 47-_____-_____
OPERATOR WELL NO. MIP 3H
Well Pad Name: MIP

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 12/17/2014 **Date Permit Application Filed:** 1/5/2015

Notice of:

☑ PERMIT FOR ANY WELL WORK ☐ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

☐ PERSONAL SERVICE ☑ REGISTERED MAIL ☐ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☑ Application Notice ☑ WSSP Notice ☑ E&S Plan Notice ☑ Well Plat Notice is hereby provided to:

☑ SURFACE OWNER(s)
Name: See Attachment
Address: _____
Name: _____
Address: _____

☑ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: See Attachment
Address: _____
Name: _____
Address: _____

☑ SURFACE OWNER(s) (Impoundments or Pits)
Name: See Attachment
Address: _____

☑ COAL OWNER OR LESSEE
Name: See Attachment
Address: _____

☐ COAL OPERATOR
Name: _____
Address: _____

☐ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

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JAN 08 2015

WW-6A
(8-13)

API NO. 47-_____-_____
OPERATOR WELL NO. MIP 3H
Well Pad Name: MIP

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:
Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions
Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:
Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:
Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:
Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

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

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Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

4706101707

API NO. 47-_____-_____
OPERATOR WELL NO. MIP 3H
Well Pad Name: MIP

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) 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.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and 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.

Disclaimer: All comments received will be placed on our web site http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

(1) The proposed well work will constitute a hazard to the safety of persons;
(2) The plan for soil erosion and sediment control is not adequate or effective;
(3) Damage would occur to publicly owned lands or resources; or
(4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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JAN 08 2015

WW-6A
(8-13)

API NO. 47- 4706101707
OPERATOR WELL NO. MIP 3H
Well Pad Name: MIP

Notice is hereby given by:

Well Operator: Northeast Natural Energy LLC
Telephone: 304-241-5752, ext. 7108
Email: hmedley@nne-llc.com

Address: 707 Virginia Street E., Suite 1200
Charleston, WV 25301
Facsimile: 304-241-5972

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov. Hollie M Medley

OFFICIAL SEAL
Britney Ashton Crookshanks
Notary Public
State of West Virginia
My Commission Expires
July 21, 2016
50 Starling Estates
Morgantown, WV 26508

Subscribed and sworn before me this 7th day of 2014, January.

Britney Ashton Crookshanks Notary Public

My Commission Expires July 21, 2016

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MIP 3H

Surface Owner(s):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Surface Owner(s) (Road and/or Other Disturbance):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Surface Onwer(s) (Impoundments or Pits):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Coal Owner or Lessee:

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Morgantown Industrial Park Associates, LP
P.O. Box 1138
Shepherdsville, KY 40165

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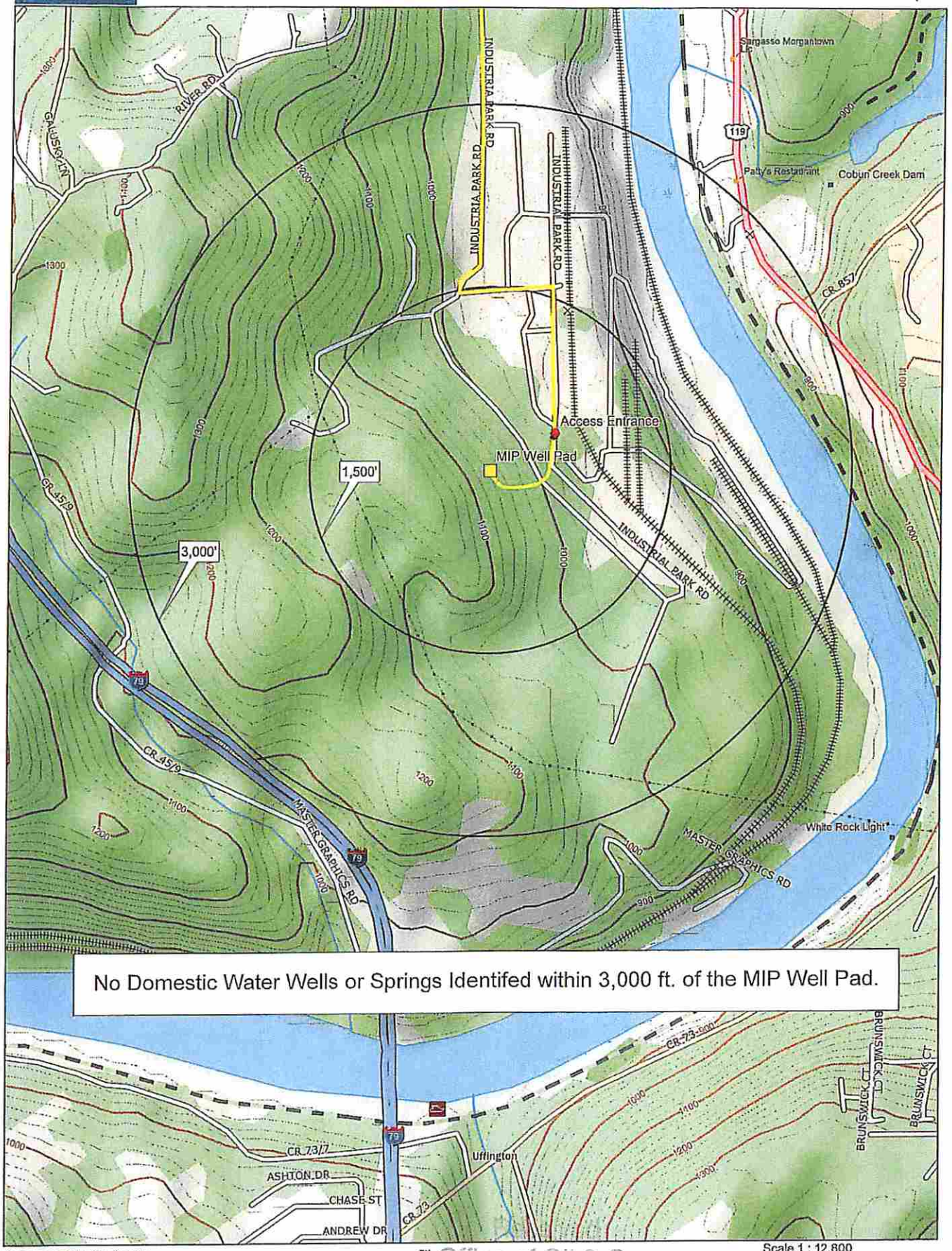
DELORME

XMap® 7



No Domestic Water Wells or Springs Identifed within 3,000 ft. of the MIP Well Pad.

Data use subject to license.

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www.delorme.com

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Office of Oil & Gas

JAN 08 2015

Scale 1 : 12,800

1" = 1,066.7 ft

Data Zoom 14-0

WW-6A4
(1/12)

4706101707

Operator Well No. MIP 3H

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.
Date of Notice: 12/17/2014 **Date Permit Application Filed:** 01/05/2015

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

☐ HAND DELIVERY ☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided,* That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however,* That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: See Attachment
Address:

Name:
Address:

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	587904.3
County:	Monongalia		Northing:	4384061.3
District:	Grant	Public Road Access:		Industrial Park Road
Quadrangle:	Morgantown South	Generally used farm name:		Enroute Properties, LLC
Watershed:	Upper Monongahela River			

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator:	Northeast Natural Energy LLC	Authorized Representative:	Hollie Medley, Regulatory Coordinator
Address:	707 Virginia Street East, Suite 1200	Address:	48 Donley Street, Suite 601
	Charleston, WV 25301		Morgantown, WV 26501
Telephone:	304-414-7060	Telephone:	304-241-5752 ext. 7108
Email:	hmedley@nne-llc.com	Email:	hmedley@nne.ll.com
Facsimile:	304-414-7061	Facsimile:	304-241-5972

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Received
Office of Oil & Gas
JAN 08 2015

4706101707

MIP 3H

Surface Owner(s):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Surface Owner(s) (Road and/or Other Disturbance):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Surface Onwer(s) (Impoundments or Pits):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Received
Office of Oil & Gas
JAN 08 2015

4706101707

WW-6A5
(1/12)

Operator Well No. MIP 3H

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**
Date of Notice: 12/17/2014 **Date Permit Application Filed:** 01/05/2015

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: See Attachment
Address:

Name:
Address:

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	587904.3
County:	Monongalia		Northing:	4384061.3
District:	Grant	Public Road Access:		Industrial Park Road
Quadrangle:	Morgantown South	Generally used farm name:		Enroute Properties, LLC
Watershed:	Upper Monongahela River			

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1)A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator:	Northeast Natural Energy LLC	Address:	707 Virginia Street East, Suite 1200
Telephone:	304-241-5752 ext. 7108		Charleston, WV 25301
Email:	hmedley@nne-llc.com	Facsimile:	304-241-5972

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Received
Office of Oil & Gas
JAN 08 2015

4706101707

MIP 3H

Surface Owner(s):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Surface Owner(s) (Road and/or Other Disturbance):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

Surface Onwer(s) (Impoundments or Pits):

Enroute Properties, LLC
466 Christy Street, Suite 201
Morgantown, WV 26505

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Office of Oil & Gas
JAN 08 2015

WW-6AW
(1-12)

API NO. 47-4706101707
OPERATOR WELL NO. MIP 3H
Well Pad Name: MIP

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

VOLUNTARY STATEMENT OF NO OBJECTION

Instructions to Persons Named on Page WW-6A
The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

Comment and Waiver Provisions
Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided,* That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

VOLUNTARY STATEMENT OF NO OBJECTION

I, Glenn Adrian Monge, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through 3, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	587904.3
County:	Monongalia		Northing:	4384061.3
District:	Grant	Public Road Access:		Industrial Park Road
Quadrangle:	Morgantown South	Generally used farm name:		Enroute Properties, LLC
Watershed:	Upper Monongahela River			

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.

*Please check the box that applies	FOR EXECUTION BY A NATURAL PERSON
☒ SURFACE OWNER	Signature:
☒ SURFACE OWNER (Road and/or Other Disturbance)	Print Name:
☒ SURFACE OWNER (Impoundments/Pits)	Date:
☒ COAL OWNER OR LESSEE	**FOR EXECUTION BY A CORPORATION, ETC.**
☐ COAL OPERATOR	Company: Enroute Properties, LLC
☐ WATER PURVEYOR	By: Glenn T. Adrian
☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD	Its: Member
	Signature:
	Date: 12/18/14

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Received
Office of Oil & Gas
JAN 08 2015

WW-6AW
(1-12)

API NO. 47- 0 6 1 0 1 7 0 7
OPERATOR WELL NO. MIP 3H
Well Pad Name: MIP

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

VOLUNTARY STATEMENT OF NO OBJECTION

Instructions to Persons Named on Page WW-6A
The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

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Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided,* That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

VOLUNTARY STATEMENT OF NO OBJECTION

I, John R. Snider, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through 3, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	587904.3
County:	Monongalia		Northing:	4384061.3
District:	Grant	Public Road Access:		Industrial Park Road
Quadrangle:	Morgantown South	Generally used farm name:		Enroute Properties, LLC
Watershed:	Upper Monongahela River			

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.

*Please check the box that applies	FOR EXECUTION BY A NATURAL PERSON
☐ SURFACE OWNER	Signature:
☐ SURFACE OWNER (Road and/or Other Disturbance)	Print Name:
☐ SURFACE OWNER (Impoundments/Pits)	Date:
☒ COAL OWNER OR LESSEE	**FOR EXECUTION BY A CORPORATION, ETC.** Company: Morgantown Industrial Park Associates, LP
☐ COAL OPERATOR	By: John R. Snider, JOHN R, INC.
☐ WATER PURVEYOR	Its: President
☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD	Signature: John R Snider Date: 12-23-14

Oil and Gas Privacy Notice:
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Received
Office of Oil & Gas
JAN 08 2015

4706101707

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

November 12, 2014

James A. Martin, Chief
Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Subject: DOH Permit for the Morgantown Industrial Park Pad, Monongalia County
MIP 3H

Dear Mr. Martin,

This well site will be accessed from a permit #04-11-0363 issued to Northeast Natural Energy Corporation for access to the State Road for a well site located off of Monongalia County Route 19/19 SLS.

The operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton

Gary K. Clayton, P.E.
Regional Maintenance Engineer
Central Office O&G Coordinator

Cc: Hollie Medley
Northeast Natural Energy Corporation
CH, OM, D-4
File

Received
Office of Oil & Gas
JAN 08 2015

Planned Additives to be used in Fracturing Stimulations

Trade Name	Purpose	Ingredients	Chemical Abstract Service Number (CAS#)
Water	Carrier	Water	7732-18-5
HCl, 10.1-15%	Acidizing	Hydrochloric Acid Water	7647-01-0 7732-18-5
Alpha 1427	Biocide	Alkyl Dimethyl Benzyl Ammonium Chloride (C12-16) Ethanol Glutaraldehyde Quaternary Ammonium Chloride Water	68424-85-1 64-17-5 111-30-8 7173-51-5 7732-18-5
Enzyme G-NE	Breaker	Hemicellulase Enzyme Concentrate Water	9025-56-3 7732-18-5
CI-14	Corrosion Inhibitor	Fatty Acids Methanol Olefin Polyoxyalkylenes Propargyl Alcohol	N.A. 67-56-1 N.A. N.A. 107-19-7
FRW-18	Friction Reducer	Hydrotreated Light Distillate	64742-47-8
GW-3LDF	Gelling Agent	Guar Gum Petroleum Distillate Blend	9000-30-0 CBI
Ferrotrol 300L	Iron Control	Citric Acid	77-92-9
Sand, White, 40/70	Proppant	Crystalline Silica (Quartz)	14808-60-7
Sand, White, 100 mesh	Proppant	Crystalline Silica (Quartz)	14808-60-7
Scaletrol 720	Scale Inhibitor	Diethylene Glycol	111-46-6

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JAN 08 2015

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