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west virginia department of environmental protection

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

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
www.dep.wv.gov

Friday, November 03, 2017  
WELL WORK PERMIT  
Horizontal 6A / New Drill

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

Re: Permit approval for MEPCO 12H  
47-061-01789-00-00

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

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

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: MEPCO 12H  
Farm Name: MEPCO LLC  
U.S. WELL NUMBER: 47-061-01789-00-00  
Horizontal 6A / New Drill  
Date Issued: 11/3/2017

Promoting a healthy environment.

11/03/2017

# 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

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1. 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.
2. 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 one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. 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.
4. 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.
5. 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.
6. 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.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. 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.
10. 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.

## PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov).

1

WW-6B  
(04/15)

API NO. 47- 61 - 01789  
OPERATOR WELL NO. MEPCO 12H  
Well Pad Name: MEPCO

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

1) Well Operator: NORTHEAST NATURAL ENERGY LLC 494498281 MONONGALIA CLAY BLACKSVILLE  
Operator ID County District Quadrangle

2) Operator's Well Number: MEPCO 12H Well Pad Name: MEPCO

3) Farm Name/Surface Owner: MEPCO LLC Public Road Access: CR 29/7

4) Elevation, current ground: 1,442.89' Elevation, proposed post-construction: 1424.00'

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

(b) If Gas Shallow X Deep NA  
Horizontal X

6) Existing Pad: Yes or No NO *MDK 10/5/2017*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
MARCELLUS; 8,222'; 103'; 3600 PSI

8) Proposed Total Vertical Depth: 8,222'

9) Formation at Total Vertical Depth: MARCELLUS

10) Proposed Total Measured Depth: 17,597.43'

11) Proposed Horizontal Leg Length: 8,069'

12) Approximate Fresh Water Strata Depths: 50', 1,307'

13) Method to Determine Fresh Water Depths: DRILLER'S LOG FROM OFFSET WELLS

14) Approximate Saltwater Depths: 1,947', 2,589'

15) Approximate Coal Seam Depths: 662', 1,305'

16) Approximate Depth to Possible Void (coal mine, karst, other): NA

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

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

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18)

**CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	24"	NEW	NA	52.78	40'	40'	CTS
Fresh Water	13 3/8"	NEW	J-55	54.6	1,423'	1,400'	CTS
Coal							
Intermediate	9 5/8"	NEW	J-55	40	2,680'	2,650'	CTS
Production	5 1/2"	NEW	P-110	20	17,597.43'	17,567.43'	4094 CU. FT.
Tubing	2 3/8"	NEW	P-110	4.7	NA	8,500'	NA
Liners							

*MJK 10/5/2017*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	24"	30"	.375"	415		4,500 PSI GROUT	NA
Fresh Water	13 3/8"	17 1/2"	.38"	2,760	2,000	CLASS A	1.23
Coal							
Intermediate	9 5/8"	12 1/4"	.395"	3,950	3,000	CLASS A	1.3
Production	5 1/2"	8 3/4"	.361"	12,530	9,700	50:50 POZ	1.21
Tubing	2 7/8"	NA	.217"	1,570	3,600	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 an approximate depth of 6,200' TVD/MD. The well will then be horizontally drilled on fluid from KOP to approximately 8,222' TVD / 17,597.43' MD along a 147 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. After fracture treatment,

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 23.18

22) Area to be disturbed for well pad only, less access road (acres): 7.07

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 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 + 3% bwoc Calcium Chloride Fresh Water blend. Intermediate string cement will be a Class A Cement + 0.3% 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 35.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite + 80 lbs Fed Seal @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Intermediate string will use a 35.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite + 80 lbs Fed Seal @ 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, Bulk + 1 gal/bbl SS-2 @ 13.5 ppg spacer prior to cement.

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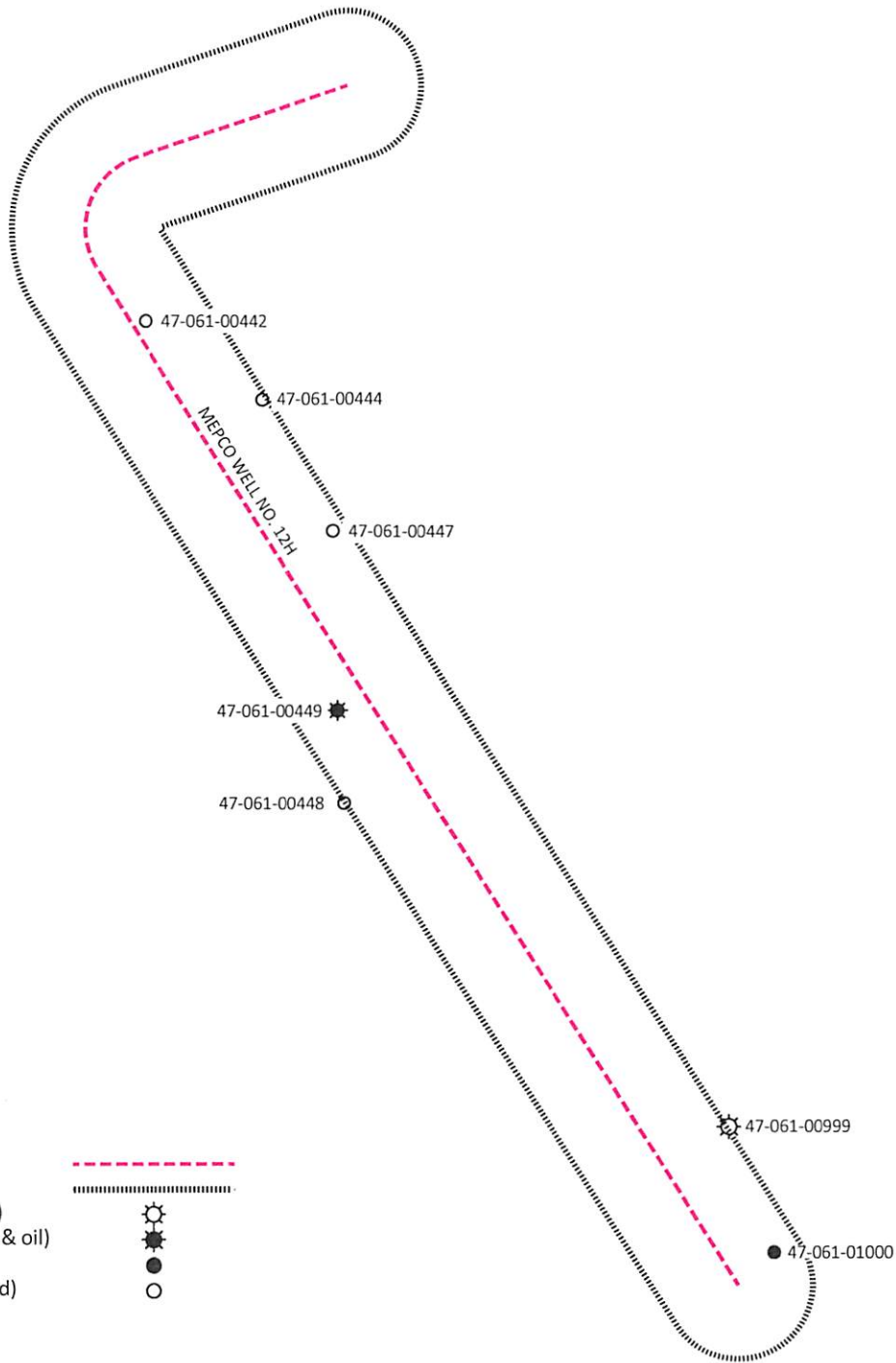
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\*Note: Attach additional sheets as needed.

61-01789

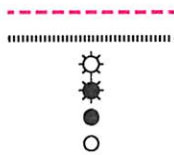


NORTH



LEGEND

- PROPOSED LATERAL
- 500' LATERAL OFFSET
- EXISTING WELL (active gas)
- EXISTING WELL (active gas & oil)
- EXISTING WELL (active oil)
- EXISTING WELL (abandoned)



SCALE IN FEET



Civil & Environmental Consultants, Inc.

600 Marketplace Ave · Suite 200 · Bridgeport, WV 26330  
 Ph: 304.933.3119 · Fax: 304.933.3327  
 www.cecinc.com

NORTHEAST NATURAL ENERGY  
 MEPCO LLC  
 CLAY DISTRICT, MONONGALIA COUNTY  
 WEST VIRGINIA

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SEP 16 2017

MEPCO WELL 12H  
 AREA OF REVIEW

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DRAWN BY: LDM	CHECKED BY: DMY	APPROVED BY: DEM	FIGURE NO.:
DATE: SEPTEMBER 27, 2017	DWG SCALE: 1"=1,200'	PROJECT NO: 150-445	11/03/2017

P:\2015\150-445\Survey\Dwg\Well Plats\FINAL PLATS\AREA OF REVIEW\OUTH\150445-SRV-MEPCO WELL 12H AOR - LONG.dwg[MEPCO 12H AOR] LS:(9/27/2017 - Imoody) - LP: 9/27/2017 3:10 PM

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AREA OF REVIEW  
MEPCO 12H

UNIT ( API NUMBER)	WELL NAME	WELL NUMBER	OPERATOR	WV DEP STATUS	TD	GROUND ELEVATION	Comments
4706100442	WRIGHT	9	CONSOLIDATION COAL COMPANY	ABANDONED	2251.5'	1367.67'	Permit to Plug 7/7/2014
4706100444	J.W. WRIGHT	15A	LEATHERWOOD, INC.	ABANDONED	UNKNOWN	1275.24'	Permit to Plug 4/23/2014
4706100447	NOAH WRIGHT	3	CONSOLIDATION COAL COMPANY	ABANDONED	2454'	UNKNOWN	
4706100449	J.S.WALKER	3	NNE RESOURCES LLC	ACTIVE GAS & OIL	2262'	1379'	Permit to Plug 12/8/2016
4706100448	J.S.WALKER	2	NNE RESOURCES LLC	ABANDONED	2220'	1333'	Permit to Plug 12/8/2016
4706100999	J. WILDMAN 6	6	NNE RESOURCES LLC	ACTIVE GAS	UNKNOWN	1170'	
4706101000	L. WILDMAN 11	11	NNE RESOURCES LLC	ACTIVE OIL	UNKNOWN	1190'	

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# northeast

NATURAL ENERGY

## MEPCO 12H

### SITE SAFETY PLAN

October 4, 2017

*Darryl Fuhrer*  
10/5/2017

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WW-9  
(2/15)

API Number 47 - 061 - 01789

Operator's Well No. MEPCO 12H

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) JAKES RUN OF DUNKARD CREEK Quadrangle BLACKSVILLE

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: NA

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

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? If so, describe: YES, PLEASE SEE ATTACHMENT "A"

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. AIR-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

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Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. REMOVED OFFSITE - PLEASE SEE ATTACHMENT "A"

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

-Landfill or offsite name/permit number? PLEASE SEE ATTACHMENT "A" 4706101789

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

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

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

Company Official Signature Hollie M Medley  
Company Official (Typed Name) HOLLIE M MEDLEY  
Company Official Title REGULATORY MANAGER



Subscribed and sworn before me this 10<sup>th</sup> day of August, 2017

Shana Kennedy Notary Public

My commission expires Dec. 29, 2021

11/03/2017

NORTHEAST NATURAL ENERGY LLC

Proposed Revegetation Treatment: Acres Disturbed 12.80 Prevegetation pH 5-7

Lime 2 Tons/acre or to correct to pH 7

Fertilizer type 19-19-19

Fertilizer amount 300 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary				Permanent			
Seed Type		lbs/acre		Seed Type		lbs/acre	
Orchard Grass		46		Orchard Grass		46	
Red Clover		8		Red Clover		8	
Tetraploid Perennial Rye		16		Tetraploid Perennial Rye		16	
Timothy	15	Annual Rye	15	Timothy	15	Annual Rye	1

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: *Harper J. Kruttschnitt*

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

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Title: *Inspector* Date: *8/10/2017*

Field Reviewed? (  ) Yes (  ) No

Attachment A to WW-9

Northeast Natural Energy LLC ("NNE") plans to utilize a closed loop process for its drilling of the MEPCO 12H 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.

MEPCO 12H 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:

4706101789

- 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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**SITE NAME** MEPCO 12H

**ADDRESS** 579 MEPCO ROAD  
FAIRVIEW, WV 26570

**COUNTY** MONONGALIA

**ACCESS ROAD ENTRANCE** 39.622110, -80.149169 (NAD 83)  
N 4390601.7282, E 572983.9047 (UTM83)

**DIRECTIONS TO SITE:**

**From I-79**, take exit 155. Merge onto Chaplin Hill Road/CR-19/24N toward US-19/WV-7/Star City. If traveling from the south, this will be a right off the exit. If traveling from the north, this will be a left off the exit. After approximately 0.8 miles, turn left at light onto US-19/WV-7. Continue on US-19/WV-7 for approximately 1.7 miles. Turn left on WV-7 and continue on route for approximately 5.2 miles, then turn left on Pedlar Run Road for approximately 1.3 miles. Take a slight right onto Stull Hollow Road for approximately 1.5 miles, turn right onto Long Drain Road for approximately 0.6 miles, and take a sharp left onto County Route 29/4 for approximately 0.3 miles. The MEPCO Pad Access Road Entrance will be on the right.

**From Blacksville**, take WV-7E for approximately 3.8 miles. Turn right onto Jakes Run Road for approximately 1.7 miles, then turn left onto Mooresville Road for approximately 0.3 miles. Turn right onto Long Drain Road for approximately 1.5 miles, take a slight right onto County Route 29/4 for approximately 0.3 miles. The MEPCO Pad Access Road Entrance will be on the right.

\*See Attached Maps

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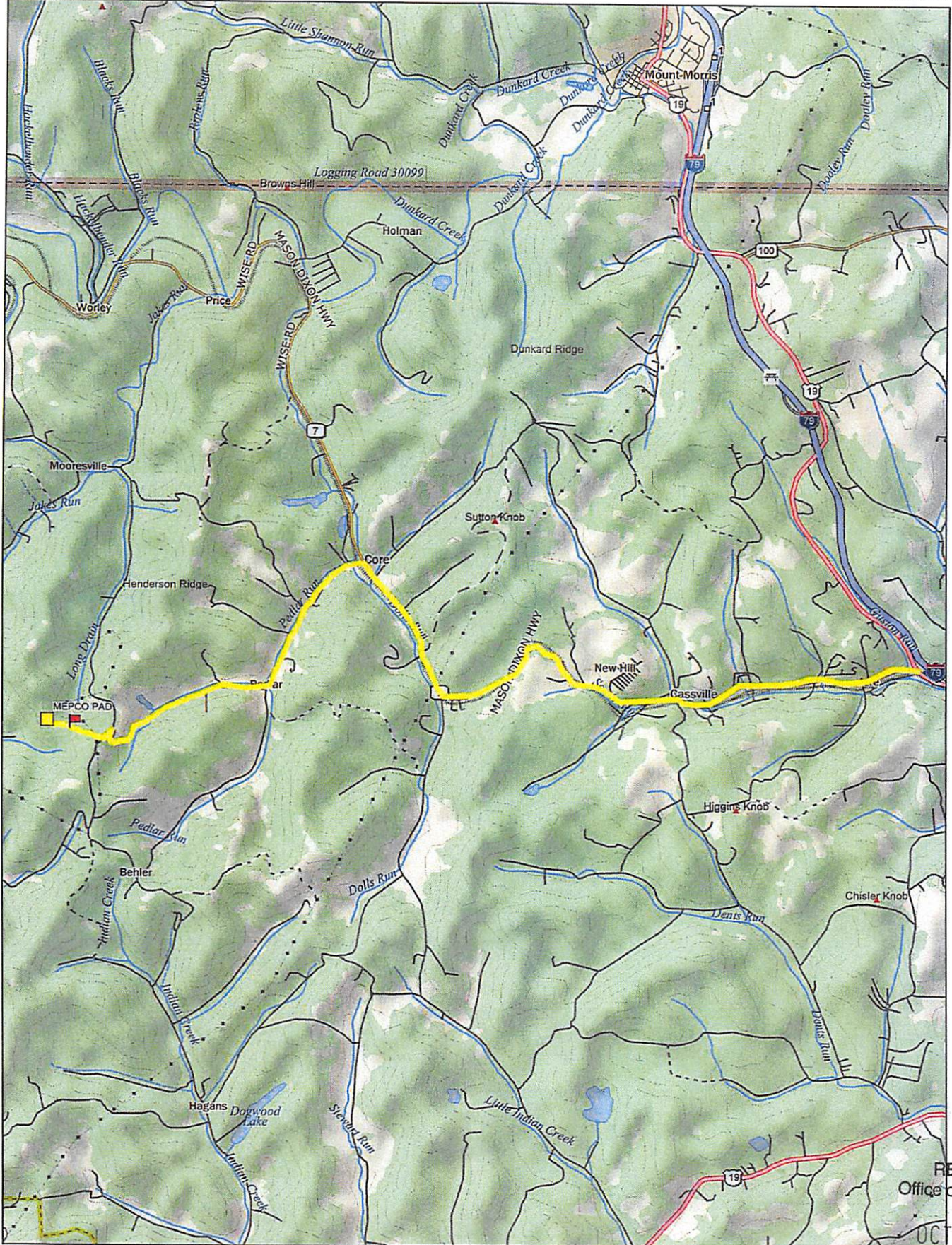
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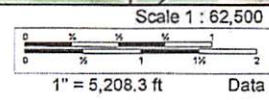
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MEPCO 12H

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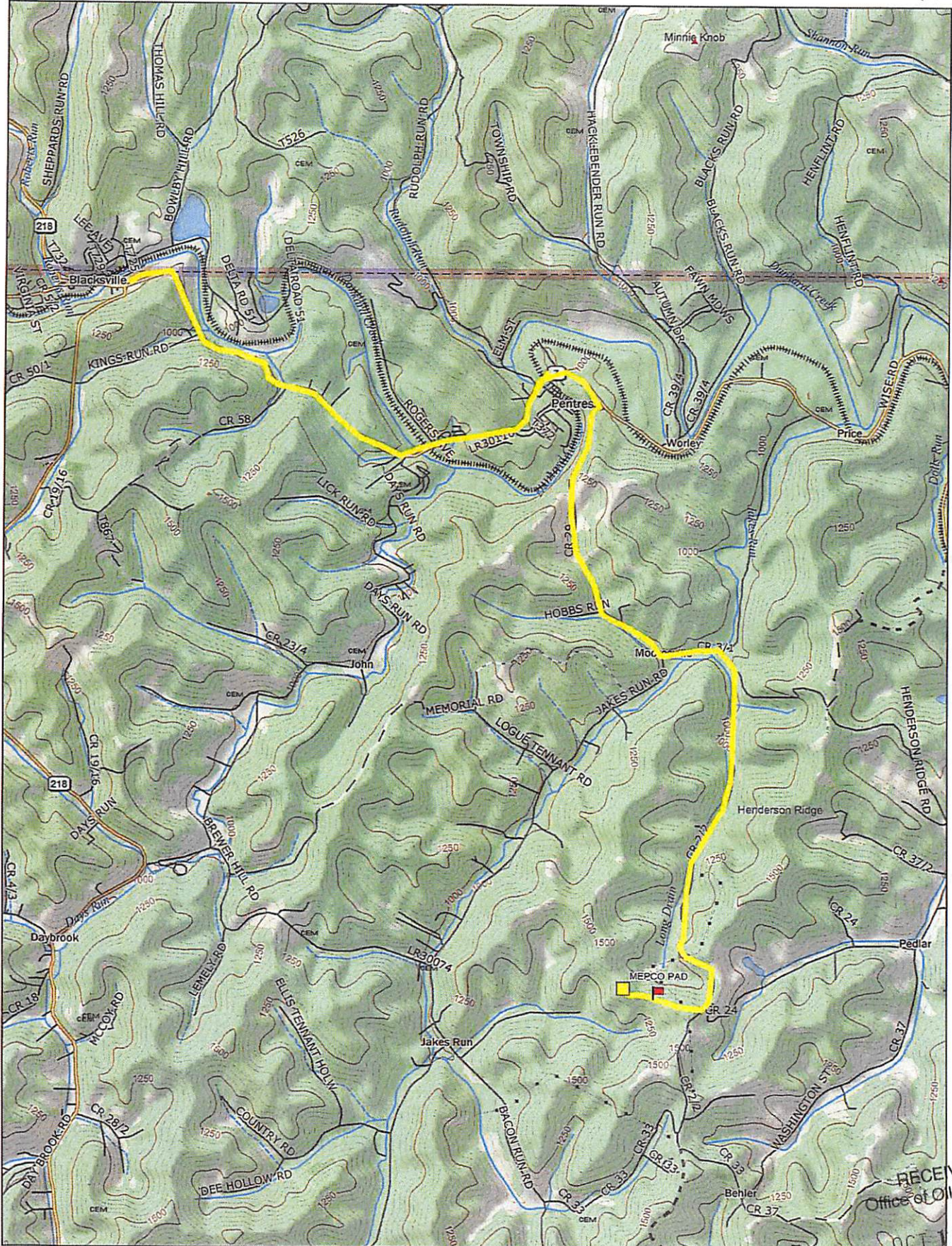
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 Data Zoned Environmental Protection

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Scale 1 : 46,875  
 1" = 3,906.3 ft  
 Data Zoom

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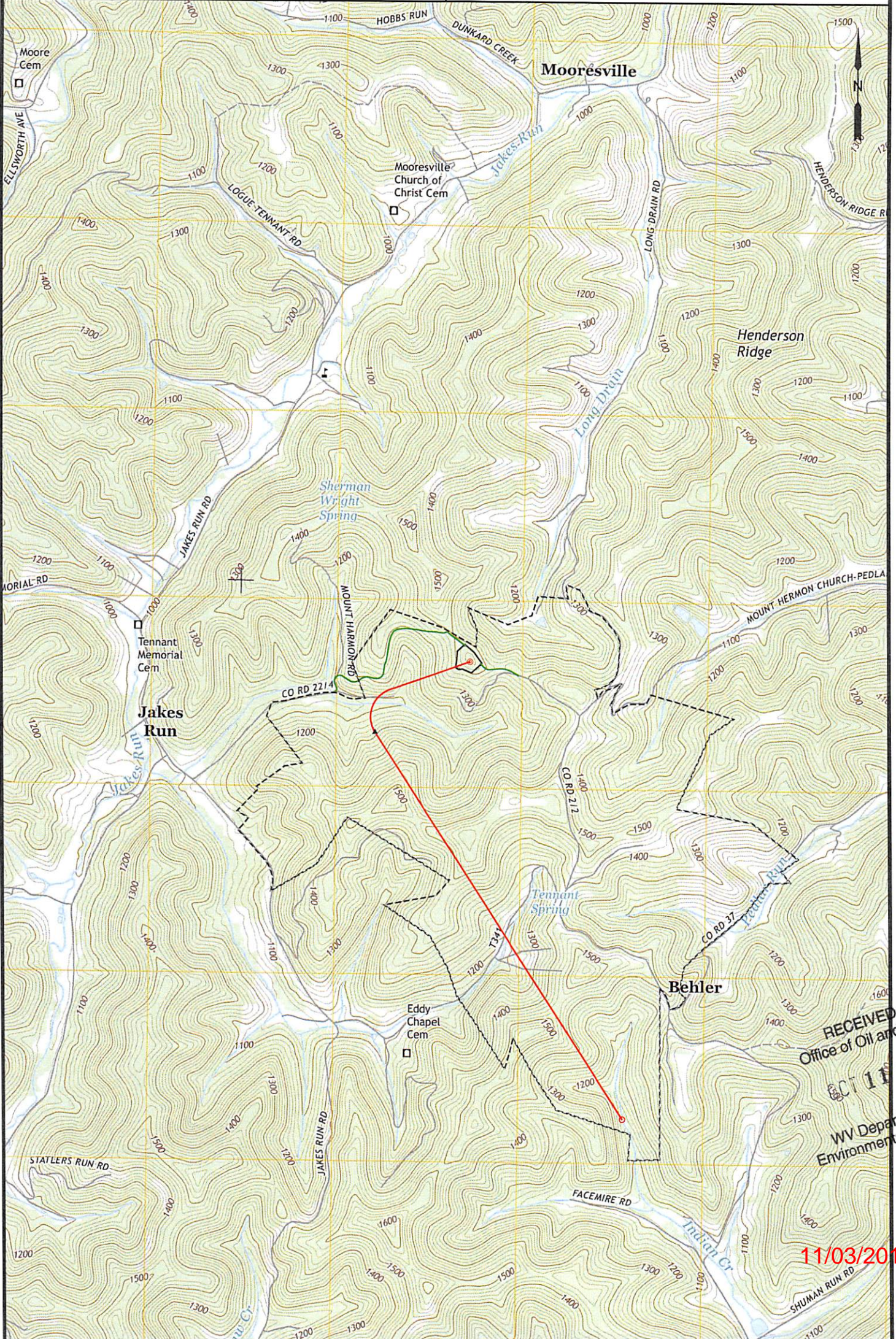
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NORTHEAST NATURAL ENERGY LLC  
MEPCO WELL NO. 12H  
LEASE NO. WV-061-003478-001

600 Marketplace Avenue, Suite 200  
Bridgeport, WV 26330  
Toll Free 855-488-9539  
Fax 304-933-3327



Civil & Environmental Consultants, Inc.



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11/03/2017



LEGEND	
--- (dashed line)	LEASE BOUNDARY
— (solid line)	PROPOSED LATERAL
— (solid line)	PAD
— (solid line)	ACCESS ROAD
— (solid line)	PROPOSED SURFACE HOLE
— (solid line)	PROPOSED BOTTOM HOLE
● (red circle)	PROPOSED LANDING POINT



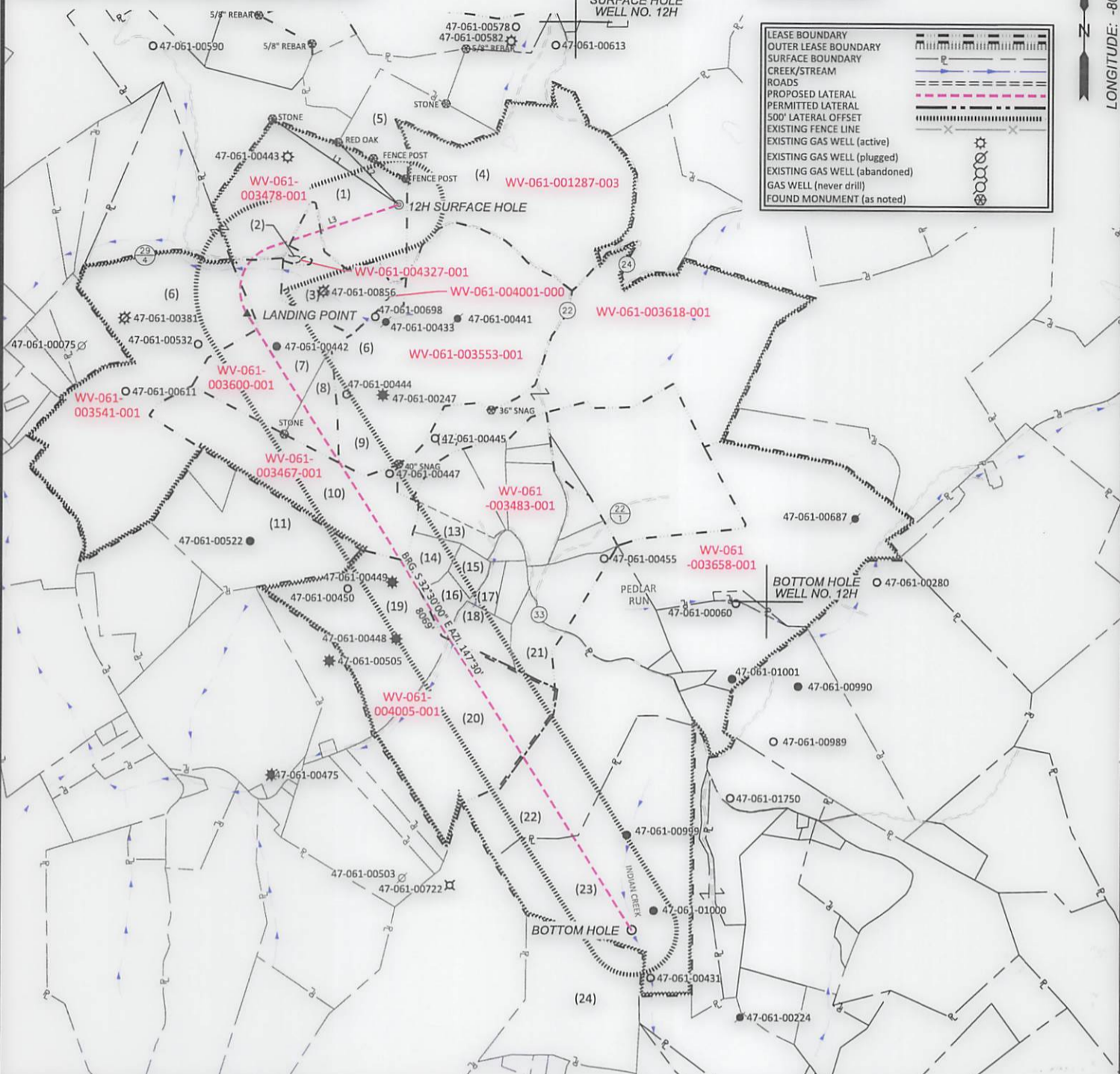
SURFACE HOLE SURVEYED LONGITUDE 80°09'08.13" → 7,674'  
 BOTTOM HOLE SURVEYED LONGITUDE -80°08'33.52" ← 4,969'

**NORTHEAST NATURAL ENERGY LLC  
 MEPCO WELL NO. 12H  
 LEASE NO. WV-061-003478-001**


LATITUDE: 39°40'00"

ID	BEARING	DISTANCE
L1	N 56°18' W	1701.21'
L2	N 44°21' W	966.44'
L3	S 71°25' W	1502.01'

**LEASING BOUNDARY**  
 OUTER LEASE BOUNDARY  
 SURFACE BOUNDARY  
 CREEK/STREAM  
 ROADS  
 PROPOSED LATERAL  
 PERMITTED LATERAL  
 500' LATERAL OFFSET  
 EXISTING FENCE LINE  
 EXISTING GAS WELL (active)  
 EXISTING GAS WELL (plugged)  
 EXISTING GAS WELL (abandoned)  
 GAS WELL (never drill)  
 FOUND MONUMENT (as noted)



LONGITUDE: -80°07'30" → 1,423'  
 SURFACE HOLE SURVEYED LATITUDE 39°39'45.94" → 9,430'  
 BOTTOM HOLE SURVEYED LATITUDE 39°38'26.80" → 9,430'

600 Marketplace Avenue, Suite 200  
 Bridgeport, WV 26330  
 Toll Free 855-488-9539  
 Fax 304-933-3327  
  
**Civil & Environmental Consultants, Inc.**



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Division of Environmental Protection.


*Dennis E. Miller*

DATE SEPTEMBER 27, 2017  
 SCALE 1" = 1600' ACCURACY 1:2500  
 OPERATORS 12H  
 WELL No. 47 - 061 - 01789 H6A  
 API No.

TYPE OF WELL:  
 GAS: Production  Storage  \*Deep  \*Shallow

PROPOSED WORK ON LOCATION:  
 Drill  Drill Deeper  Redrill  Convert   
 Fracture/ Stimulate  \*Plug off to Formation   
 Perforate New Formation  Plug and Abandon   
 Clean/ Replug  Other Than Above   
 If "Other" Please see Details below—  
 DETAILS OF PROPOSED WORK \_\_\_\_\_  
 \*TARGET FORMATION MARCELLUS  
 ESTIMATED DEPTH TVD: 8,222' TMD: 17,597.43'

**STATE OF WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS**



WELL AREA & LOCATION INFORMATION:  
 ELEVATION SOURCE DGPS (OPUS)  
 ELEVATION 1442.89' (EXISTING), 1424.00' (PROPOSED)  
 WATERSHED JAKES RUN OF DUNKARD CREEK DISTRICT 11/03/2017  
 COUNTY MONONGALIA TOPO QUAD BLACKSVILLE  
 SURFACE OWNER MEPCO LLC  
 ACREAGE 103.49 ±  
 ROYALTY OWNER NNE LLC ET AL (LEASE NO. WV-061-003478-001)  
 LEASE ACREAGE 740.73 ±

WELL OPERATOR NORTHEAST NATURAL ENERGY LLC  
 ADDRESS 707 VIRGINIA STREET EAST, SUITE 1200  
CHARLESTON, WV 25301

DESIGNATED AGENT JOHN ADAMS  
 ADDRESS 707 VIRGINIA STREET EAST, SUITE 1200  
CHARLESTON, WV 25301

SURFACE HOLE SURVEYED LONGITUDE 80°09'08.13"  
 BOTTOM HOLE SURVEYED LONGITUDE -80°08'33.52" 7,674' 4,969'

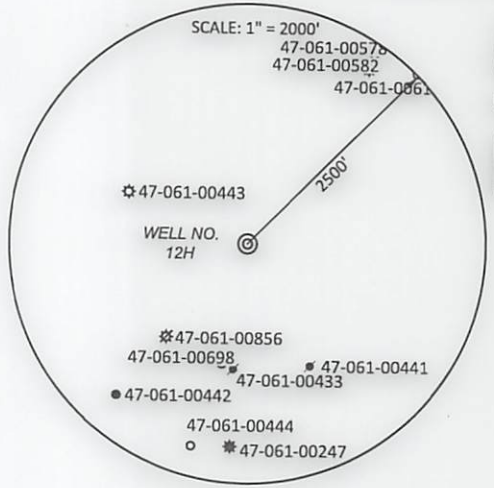
**NORTHEAST NATURAL ENERGY LLC**  
**MEPCO WELL NO. 12H**  
**LEASE NO. WV-061-003478-001**

LATITUDE: 39°40'00"

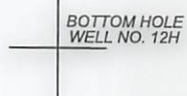
LONGITUDE: -80°07'30"

<b>TOP HOLE (NAD 83)</b> N) 424178.72 E) 1784877.80 LAT.) 39°39'45.94" LONG.) 80°09'08.13" DEC. LAT.) 39.662762 DEC. LONG.) -80.152259	<b>LP HOLE (NAD 83)</b> N) 422957.37 E) 1783191.82 LAT.) 39°39'33.75" LONG.) 80°09'29.58" DEC. LAT.) 39.659375 DEC. LONG.) -80.158216	<b>BOTTOM HOLE (NAD 83)</b> N) 416151.95 E) 1787527.35 LAT.) 39°38'26.80" LONG.) 80°08'33.52" DEC. LAT.) 39.640778 DEC. LONG.) -80.142644
<b>TOP HOLE (NAD 27)</b> N) 424141.64 E) 1816314.63 LAT.) 39°39'45.66" LONG.) 80°09'08.88" DEC. LAT.) 39.662682 DEC. LONG.) -80.152466	<b>LP HOLE (NAD 27)</b> N) 422920.30 E) 1814628.72 LAT.) 39°39'33.46" LONG.) 80°09'30.32" DEC. LAT.) 39.659295 DEC. LONG.) -80.158422	<b>BOTTOM HOLE (NAD 27)</b> N) 416114.81 E) 1818964.38 LAT.) 39°38'26.51" LONG.) 80°08'34.26" DEC. LAT.) 39.640698 DEC. LONG.) -80.142850

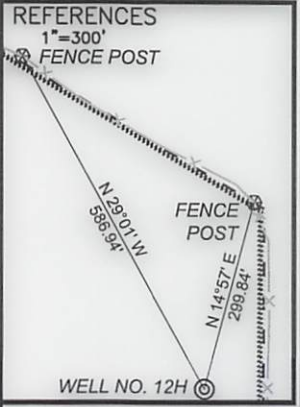
<b>TOP HOLE (UTM NAD 83)</b> N) 4390671.59 E) 572718.13
<b>LANDING POINT (UTM NAD 83)</b> N) 4390290.90 E) 572210.67
<b>BOTTOM HOLE (UTM NAD 83)</b> N) 4388239.53 E) 573566.23



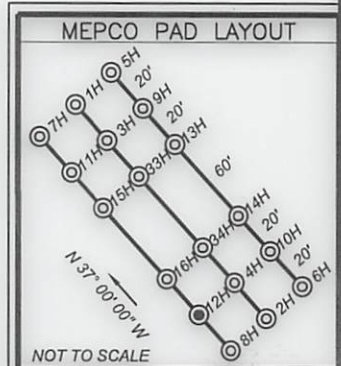
TAG	OWNER	DIST-TM-PAR	AC. ±
1	MEPCO LLC	4 - # - 48.3	103.49
2	DOWNEY HAROLD FOX EST	4 - # - 47	0.85
3	DOWNEY HAROLD FOX EST	4 - # - 46	21.9
4	CONSOL MINING COMPANY LLC	4 - # - 54	84.14
5	CONSOL MINING COMPANY LLC	4 - # - 52	19.97
6	A. KEITH MICHAEL, ET AL	4 - # - P/O 48	206.00
7	A. KEITH MICHAEL, ET AL	4 - # - 45	35.53
8	A. KEITH MICHAEL, ET AL	4 - # - 44	8.20
9	A. KEITH MICHAEL, ET AL	4 - # - P/O 48	206.00
10	A. KEITH MICHAEL, ET AL	4 - # - 43	45.00
11	DAVID W. FRAZIER	4 - # - 41	40.23
12	JOE CLARK STATLER	4 - # - 66	97.69
13	ARTHUR LUZADER	4 - # - 72.8	16.06
14	KENNETH & GENEVA YOST	4 - # - 72.4	5.25
15	JESSE & HELEN LEMASTER	4 - # - 72.3	3.72
16	KENNETH & GENEVA YOST	4 - # - 72.2	4.85
17	WADSTOWN VOLUNTEER FIRE DEPT.	4 - # - 72.6	2.78
18	KENNETH & GENEVA YOST	4 - # - 72.7	11.69
19	DAVID P. WALKER, ET AL	4 - # - 39	48.00
20	GEORGE H. RUCKLE	4 - # - 19	48.00
21	GEORGE H. RUCKLE	4 - # - 72	5.22
22	MARK & BETTY EDDY, ET AL	4 - # - 20	58.91
23	MARK & BETTY EDDY, ET AL	4 - # - 21	83.46
24	KEVIN A. & CARRIE L. SMITH	4 - # - 39	49



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



- NOTES ON SURVEY**
- NO OCCUPIED DWELLINGS OR BUILDINGS 2500 SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY WITHIN 625' OF THE CENTER OF THE WELL PAD WERE OBSERVED.
  - NO WATER WELLS OR DEVELOPED SPRINGS USED FOR HUMAN OR DOMESTIC ANIMAL CONSUMPTION WERE FOUND WITHIN 250'.
  - SURFACE OWNERSHIP TAKEN FROM THE MONONGALIA COUNTY TAX ASSESSOR AND COUNTY CLERK OFFICES IN OCTOBER, 2015.
  - WELL LATITUDE AND LONGITUDE FROM SURVEY GRADE VRS SOLUTIONS.
  - BEARINGS SHOWN ARE BASED UPON THE WV STATE PLANE COORDINATE SYSTEM, NAD 83 GRID NORTH ZONE.
  - LEASE INFORMATION PROVIDED BY NORTHEAST NATURAL ENERGY LLC.
  - PARCEL AND LEASE BOUNDARY LOCATIONS ARE APPROXIMATE AND BASED UPON RELEVANT GIS INFORMATION, FIELD LOCATION BOUNDARY EVIDENCE AND DEED DESCRIPTIONS.



600 Marketplace Avenue, Suite 200  
 Bridgeport, WV 26330  
 Toll Free 855-488-9539  
 Fax 304-933-3327  
**Civil & Environmental Consultants, Inc.**



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Division of Environmental Protection.

*[Signature]*

DATE SEPTEMBER 27, 2017  
 SCALE 1" = 1600' ACCURACY 1:2500  
 OPERATORS 12H  
 WELL No. 47 - 061 - 01789 H6A  
 API No.

**STATE OF WEST VIRGINIA**  
**DIVISION OF ENVIRONMENTAL PROTECTION**  
**OFFICE OF OIL AND GAS**



TYPE OF WELL:  
 GAS:  
 Production  Storage  \*Deep  \*Shallow

PROPOSED WORK ON LOCATION:  
 Drill  Drill Deeper  Redrill  Convert   
 Fracture/ Stimulate  \*Plug off to Formation   
 Perforate New Formation  Plug and Abandon   
 Clean/ Replug  Other Than Above   
 If "Other" Please see Details below—  
 DETAILS OF PROPOSED WORK \_\_\_\_\_  
 \*TARGET FORMATION MARCELLUS  
 ESTIMATED DEPTH TVD: 8,222' TMD: 17,597.43'

WELL AREA & LOCATION INFORMATION:  
 ELEVATION SOURCE DGPS (OPUS)  
 ELEVATION 1442.89' (EXISTING), 1424.00' (PROPOSED)  
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 COUNTY MONONGALIA TOPO QUAD BLACKSVILLE  
 SURFACE OWNER MEPCO LLC  
 ACREAGE 103.49 ±  
 ROYALTY OWNER NNE LLC ET AL (LEASE NO. WV-061-003478-001)  
 LEASE ACREAGE 740.73 ±

WELL OPERATOR NORTHEAST NATURAL ENERGY LLC  
 ADDRESS 707 VIRGINIA STREET EAST, SUITE 1200  
CHARLESTON, WV 25301

DESIGNATED AGENT JOHN ADAMS  
 ADDRESS 707 VIRGINIA STREET EAST, SUITE 1200  
CHARLESTON, WV 25301

**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
----------------------	-----------------------	-----------------------	---------	-----------

\*Please 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 M. Medley  
 Its: Regulatory Manager

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Page 1 of 7

61-01789

WW-6A1

Operator's Well No.

MEPCO 12H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
WV-061-003478-001	GARY G LORING	NORTHEAST NATURAL ENERGY LLC	DEED	1521/99
WV-061-003600-001	GARY G LORING	NORTHEAST NATURAL ENERGY LLC	DEED	1550/343
WV-061-004327-001	REED ENERGY SERVICES LLC	NORTHEAST NATURAL ENERGY LLC	DEED	1577/831
WV-061-004001-000	JOHN W WRIGHT	*SOUTH PENN OIL CO	0.125 OR GREATER	39/202
WV-061-004002-000	NIMROD TENNANT AND NANCY TENNANT	*SOUTH PENN OIL CO	0.125 OR GREATER	39/361
WV-061-003541-001	GARY G LORING	NORTHEAST NATURAL ENERGY LLC	DEED	1548/750
WV-061-004001-000	JOHN W AND AMANDA WRIGHT	*SOUTH PENN OIL CO	0.125 OR GREATER	39/202
WV-061-003553-001	GARY G LORING	NORTHEAST NATURAL ENERGY LLC	DEED	1529/705
WV-061-004327-001	REED ENERGY SERVICES LLC	NORTHEAST NATURAL ENERGY LLC	DEED	1577/831
WV-061-004001-000	JOHN W AND AMANDA WRIGHT	*SOUTH PENN OIL CO	0.125 OR GREATER	39/202
WV-061-004001-000	JOHN W WRIGHT AND AMANDA WRIGHT	*SOUTH PENN OIL CO	0.125 OR GREATER	39/202
WV-061-004327-001	REED ENERGY SERVICES LLC	NORTHEAST NATURAL ENERGY LLC	DEED	1577/831
WV-061-001287-003	ASHCRAFT, RICKY LYNN	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1370/313
WV-061-001287-004	ASHCRAFT, CHARLES FRANCIS	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1371/437
WV-061-001291-001	CRANE, SHIRLEY MARIE ASHCRAFT	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1370/316
WV-061-001291-002	ASHCRAFT, JAMES PATRICK	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1370/319
WV-061-001291-003	STATLER, DORIS PAULINE	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1485/760
WV-061-001291-004	ASHCRAFT, JOHN RICHARD	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1488/417
WV-061-001291-005	THE HENRIETTA HANULA TRUST	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1510/387
WV-061-001291-014	VARNER, JOY	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1485/771
WV-061-001291-015	KETCHEM, JOYCE	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1487/371
WV-061-001291-016	KING, CHRISTINA J.	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1487/372
WV-061-001291-018	BANE, JANET S.	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1510/244
WV-061-001291-019	TENNANT, HARRY R.	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1485/175
WV-061-004001-000	WRIGHT, JOHN W.	*SOUTH PENN OIL CO	0.125 OR GREATER	39/202
WV-061-003600-001	GARY G LORING	NORTHEAST NATURAL ENERGY LLC	DEED	1550/343
WV-061-004001-000	JOHN W AND AMANDA WRIGHT	*SOUTH PENN OIL CO	0.125 OR GREATER	39/202
WV-061-003467-001	MARILYN DARLENE JOSHI AND TULASI R JOSHI	NORTHEAST NATURAL ENERGY LLC	DEED	1516/564
WV-061-004003-000	NOAH WRIGHT	*JW SCOTT	0.125 OR GREATER	25/443
WV-061-004327-001	REED ENERGY SERVICES LLC	NORTHEAST NATURAL ENERGY LLC	DEED	1577/831
WV-061-002837-001	NANCY ARLENE PRICE	*CHESAPEAKE APPALACHIA LLC	0.125 OR GREATER	1424/777
WV-061-003618-001	SHUMAN, INC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1539/411
WV-061-003554-001	JUNE C MYERS	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1523/795
WV-061-003554-002	RUTH J MONTILOR	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1535/39
WV-061-003554-003	ALEXANDRA D DIERINGER	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	5133/82
WV-061-003554-004	HAPPY ENDINGS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1534/116
WV-061-003554-005	JANET D SHIPLEY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1591/641
WV-061-003483-001	HERV OIL LLC	*EM1 ENERGY INC	0.125 OR GREATER	1501/278
WV-061-003483-002	ANDREW SOLOMON	*EM1 ENERGY INC	0.125 OR GREATER	1501/740
WV-061-003554-001	JUNE C MYERS	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1523/795
WV-061-003554-002	RUTH J MONTILOR	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1535/39
WV-061-003554-003	ALEXANDRA D DIERINGER	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	5133/82
WV-061-003554-004	HAPPY ENDINGS LLC	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1534/116
WV-061-003554-005	JANET D SHIPLEY	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1591/641
WV-061-004005-000	JAMES S WALKER AND NANCY WALKER	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	26/273
WV-061-004005-001	KEVIN K CHUMNEY AND JANET L CHUMNEY	NORTHEAST NATURAL ENERGY LLC	DEED	1581/250
WV-061-004005-002	DONNA JEAN SHELTON AND THOMAS C SHELTON	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1591/700
WV-061-004005-003	JANET DUNN AND LAWRENCE DUNN	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1598/595
WV-061-004314-001	REED ENERGY SERVICES LLC	NORTHEAST NATURAL ENERGY LLC	DEED	1580/200

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WW-6A1

Operator's Well No.

MEPCO 12H

NNE Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
WV-061-004005-000	JAMES S WALKER AND NANCY WALKER	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	26/273
WV-061-004005-001	KEVIN K CHUMNEY AND JANET L CHUMNEY	NORTHEAST NATURAL ENERGY LLC	DEED	1581/250
WV-061-004005-002	DONNA JEAN SHELTON AND THOMAS C SHELTON	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1591/700
WV-061-004005-003	JANET DUNN AND LAWRENCE DUNN	NORTHEAST NATURAL ENERGY LLC	0.125 OR GREATER	1598/595
WV-061-004314-001	REED ENERGY SERVICES LLC	NORTHEAST NATURAL ENERGY LLC	DEED	1580/200
WV-061-004017-000	JARRETT WILDMAN, ET AL	*JW SCOTT	0.125 OR GREATER	27/145
WV-061-003658-001	MICHAEL L AND TERRY STRAIGHT	NORTHEAST NATURAL ENERGY LLC	DEED	1542/110
WV-061-003658-002	SHARON L BEST	NORTHEAST NATURAL ENERGY LLC	DEED	1541/421
WV-061-003658-003	DOUGLAS J KENNETT	NORTHEAST NATURAL ENERGY LLC	DEED	1547/797
WV-061-003658-004	DAVID L AND ELIZABETH CAROL STRAIGHT	NORTHEAST NATURAL ENERGY LLC	DEED	1556/552
WV-061-004020-000	MARK V AND BETTY A EDDY	NORTHEAST NATURAL ENERGY LLC	DEED	1505/572

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Chesapeake Appalachia, LLC.



Northeast Natural Energy  
Assignment  
BK 120/769

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11/03/2017

South Penn Oil Company  
 Assignment  
 DR 32/240  
 South Penn Oil Company  
 |  
 South Penn Natural Gas Company  
 Assingment  
 DR 304/547  
 South Penn Natural Gas Company  
 |  
 South Penn Oil Company  
 Assignment  
 DR 580/311  
 South Penn Oil Company merged with  
 Pennzoil Company and United Gas  
 |  
 Pennzoil United Inc.  
 Assignment  
 DR 672/665  
 Pennzoil United Inc.  
 |  
 W. H. Allen  
 Assignment  
 DR 695/557  
 W. H. Allen  
 |  
 Union Trust & Deposit Company  
 Assignment  
 DR 695/556  
 W.H. Allen and James A. Allen

Edwin Associates, Inc.  
 Assignment  
 DR 754/594  
 Union Trust National Bank, as successor by conversion of Union  
 Trust & Deposit Company  
 |  
 Edwin Associates, Inc.  
 Edwin Associates, Inc.  
 |  
 J. T. Carson  
 Assignment  
 DR 754/600  
 J. T. Carson  
 |  
 Thompson/Texas Associates Partnership  
 Assignment  
 DR 754/606  
 Thompson/Texas Associates Partnership, Thompson Pipe and Supply Company, Jack O.  
 Thompson, Harold J. Arnsteen, Equidyne Investment Associates, Inc., individually and as  
 partners and/or joint venturers in that entity known as Thompson/Texas Associates  
 Partnership  
 |  
 Mark Eddy  
 Assignment  
 AR 21/22  
 |  
 Beth Eddy, Debbie Eddy and Melissa Eddy  
 Assignment  
 AR 21/582  
 |  
 Beth Stewart, Debbie Morris and Melissa Matheny  
 |  
 Mark V. Eddy  
 Assignment  
 AR 102/275  
 |  
 Mark V. Eddy & Betty Eddy (h&w) & Eddy Brothers  
 |  
 Northeast Natural Energy LLC  
 Assignment  
 AB 123/363

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 11/08/2017

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EM1 Energy Inc.

AS 125/638

D: 12/18/2014

R: 6/9/2015

Northeast Natural  
Energy LLC

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11/03/2017



J. W. Scott  
 Lease  
 DR 27/145  
 J. W. Scott  
 |  
 William Munhall and George P. Hukill  
 Assignment  
 DR 28/447  
 William Munhall and George P. Hukill and J. W. Scott, doing business as Mountain State Oil Company  
 |  
 South Penn Oil Company  
 Assignment  
 DR 32/240  
 South Penn Oil Company  
 |  
 South Penn Natural Gas Company  
 Assignment  
 DR 304/547  
 South Penn Natural Gas Company  
 |  
 South Penn Oil Company  
 Assignment  
 DR 580/311  
 South Penn Oil Company merged with Pennzoil Company on July 31, 1963  
 Pennzoil Company and United Gas Corporation  
 |  
 Pennzoil United Inc.  
 Assignment  
 DR 672/665  
 Pennzoil United Inc.  
 |  
 W. H. Allen  
 Assignment  
 DR 695/557  
 W. H. Allen  
 |  
 Union Trust & Deposit Company  
 Assignment  
 DR 695/556  
 W. H. Allen and James A. Allen

Edwin Associates, Inc.  
 Assignment  
 DR 754/594  
 Union Trust National Bank, as successor by conversion of Union Trust & Deposit Company  
 |  
 Edwin Associates, Inc.  
 Assignment  
 DR 754/598  
 Edwin Associates, Inc.  
 |  
 J. T. Carson  
 Assignment  
 DR 754/600  
 J. T. Carson  
 |  
 Thompson/Texas Associates Partnership  
 Assignment  
 DR 754/606  
 Thompson/Texas Associates Partnership, Thompson Pipe and Supply Company, Jack O. Thompson, Harold J. Arnsteen, Equidyne Investment Associates, Inc., individually and as partners and/or joint venturers in that entity known as Thompson/Texas Associates Partnership  
 |  
 Mark Eddy  
 Assignment  
 AR 21/22  
 Thompson/Texas Associates Partnership, Thompson Pipe and Supply Company, Jack O. Thompson, Harold J. Arnsteen, Equidyne Investment Associates, Inc., individually and as partners and/or joint venturers in that entity known as Thompson/Texas Associates Partnership  
 |  
 Beth Eddy, Debbie Eddy and Melissa Eddy  
 Assignment  
 AR 21/582  
 Beth Stewart, Debbie Morris and Melissa Matheny  
 |  
 Mark V. Eddy  
 Assignment  
 AR 102/275  
 Mark V. Eddy & Betty Eddy (h&w) & Eddy Brothers  
 |  
 Northeast Natural Energy LLC  
 Assignment  
 AB 123/363

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WV Department of Environmental Protection  
 11/03/2017

61-01789

WW-60  
(7-01)

DATE: August 14th, 20 17  
OPERATOR'S  
WELL NO. MEPCO 2H, 4H, 6H, 8H, 10H 12H, 14H

API NO: 47-  
State County Permit No.

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

A F F I D A V I T

State of West Virginia

County of Monongalia

I, Jeannie Morgan Johnson (the designated owner or operator, or authorized representative thereof), after being duly sworn, do declare that the undersigned is authorized by the owner of the working interest in the well permit application to which this affidavit is attached to state that (he, she, or it) shall tender to the owner of the oil and gas in place not less than one-eighth of the total amount paid to or received by or allowed to the owner of the working interest at the wellhead for the oil or gas so extracted, produced, or marketed before deducting the amount to be paid or set aside for the owner of the oil or gas in place, or all such oil or gas to be extracted, produced, or marketed from the well. West Virginia Code 22-6-8(e).

Signed: Jeannie Morgan Johnson

Taken, subscribed and sworn to before me this 14th day of August, 20 17.

Brenda Malone-Pence  
Notary Public

My Commission expires: \_\_\_\_\_

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AUG 16 2017

WV Department of  
Environmental Protection



11/03/2017

61-01789



July 14, 2017

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

RE: MEPCO 2H, 4H, 6H, 8H, 10H, 12H, 14H and 16H

Dear Permit Reviewer:

Please be advised that Northeast Natural Energy LLC has the right to drill, extract and produce the minerals beneath the roads identified as Horace Thorn Road (State Route 33), Noah Wright Road (State Route 22/1), Long Drain Road (State Route 22), Mt. Hermon Road (State Route 29/4) and Pedlar Run (State Route 37) on the enclosed survey plat.

Sincerely,

  
Jeannie Morgan Johnson, CPL  
Vice President – Land Operations

Enclosure

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AUG 16 2017  
WV Department of  
Environmental Protection

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

Date of Notice Certification: 08/14/2017

API No. 47- 061 - 01789  
Operator's Well No. MEPCO 12H  
Well Pad Name: MEPCO

**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:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>572718.13</u>
County:	<u>Monongalia</u>		Northing:	<u>4390671.59</u>
District:	<u>Clay</u>	Public Road Access:	<u>State Route 29/4</u>	
Quadrangle:	<u>Blacksville</u>	Generally used farm name:	<u>MEPCO LLC</u>	
Watershed:	<u>Jakes Run of Dunkard Creek</u>			

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.

<p>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:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 100px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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**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-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.

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11/03/2017

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(1/12)

**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.

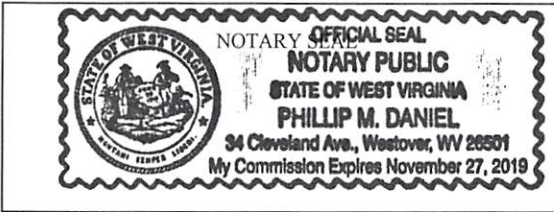
Well Operator:	<u>Northeast Natural Energy LLC</u>	Address:	<u>707 Virginia Street East, Suite 1200</u>
By:	<u>Hollie M. Medley</u>		<u>Charleston, WV 25301</u>
Its:	<u>Regulatory Manager</u>	Facsimile:	<u>304.241.5972</u>
Telephone:	<u>304.212.0422</u>	Email:	<u>hmedley@nne-llc.com</u>

*Hollie M. Medley*

Subscribed and sworn before me this 14<sup>th</sup> day of August, 2017.

Phillip M. Daniel Notary Public

My Commission Expires 11/27/2019



**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](mailto:depprivacyofficer@wv.gov).

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**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:** 8/4/2017    **Date Permit Application Filed:** 8/14/2017

**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: Please See Attached  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)  
Name: Please See Attached  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
Name: Please See Attached  
Address: \_\_\_\_\_

COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: Please See Attached  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

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(8-13)

AUG 16 2017 API NO. 47- 0661 - 01789

OPERATOR WELL NO. MEPCO 12H

WV Department of  
Environmental Protection

Well Pad Name: MEPCO

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://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.

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**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 57<sup>th</sup> 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.**



**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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API NO. 47- 061 - 01289  
OPERATOR WELL NO. MEPCO 12H  
Well Pad Name: MEPCO

**Notice is hereby given by:**

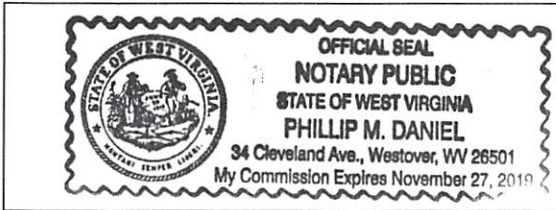
Well Operator: Northeast Natural Energy LLC  
Telephone: 304-212-0422  
Email: hmedley@nne-llc.com

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](mailto:depprivacyofficer@wv.gov).

*Holl: mmedley*



Subscribed and sworn before me this 14<sup>th</sup> day of August, 2017.

Phillip M. Daniel Notary Public

My Commission Expires 11/27/2019

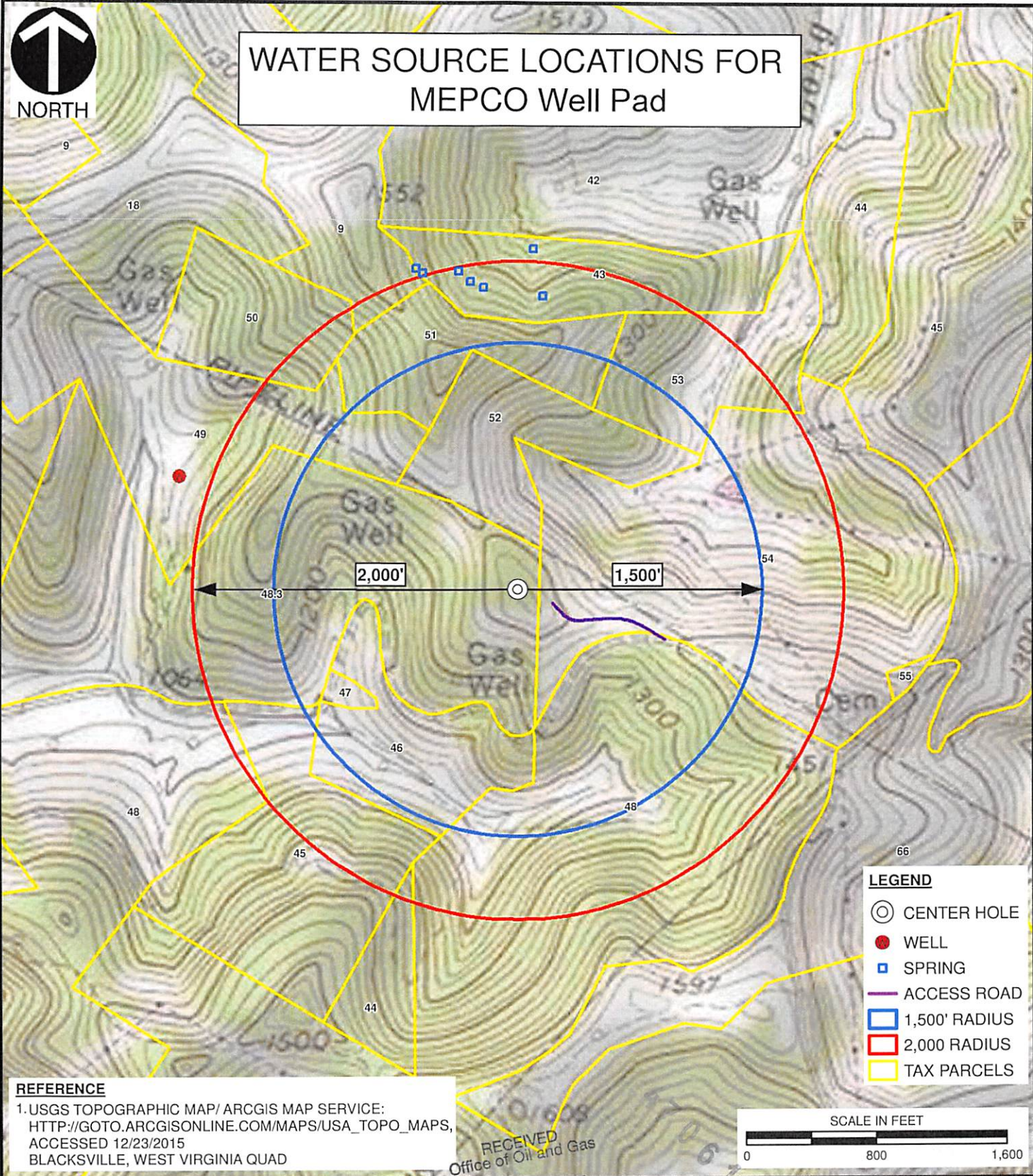
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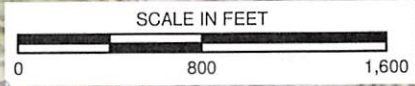


# WATER SOURCE LOCATIONS FOR MEPCO Well Pad



**REFERENCE**  
1. USGS TOPOGRAPHIC MAP/ ARCGIS MAP SERVICE:  
[HTTP://GOTO.ARCGISONLINE.COM/MAPS/USA\\_TOPO\\_MAPS](http://gto.arcgis.com/maps/usa_topo_maps),  
ACCESSED 12/23/2015  
BLACKSVILLE, WEST VIRGINIA QUAD

- LEGEND**
-  CENTER HOLE
  -  WELL
  -  SPRING
  -  ACCESS ROAD
  -  1,500' RADIUS
  -  2,000 RADIUS
  -  TAX PARCELS



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**Civil & Environmental Consultants, Inc.**  
600 Marketplace Suite 200 - Bridgeport, WV 26330-2820  
Ph: 304-933-3119 Toll: 855-488-9539 Fax: 304-933-3327  
[www.cecinc.com](http://www.cecinc.com)

NORTHEAST NATURAL ENERGY LLC  
MEPCO PAD  
MONONGALIA COUNTY, WEST VIRGINIA

WATER SOURCES FOR MEPCO PAD

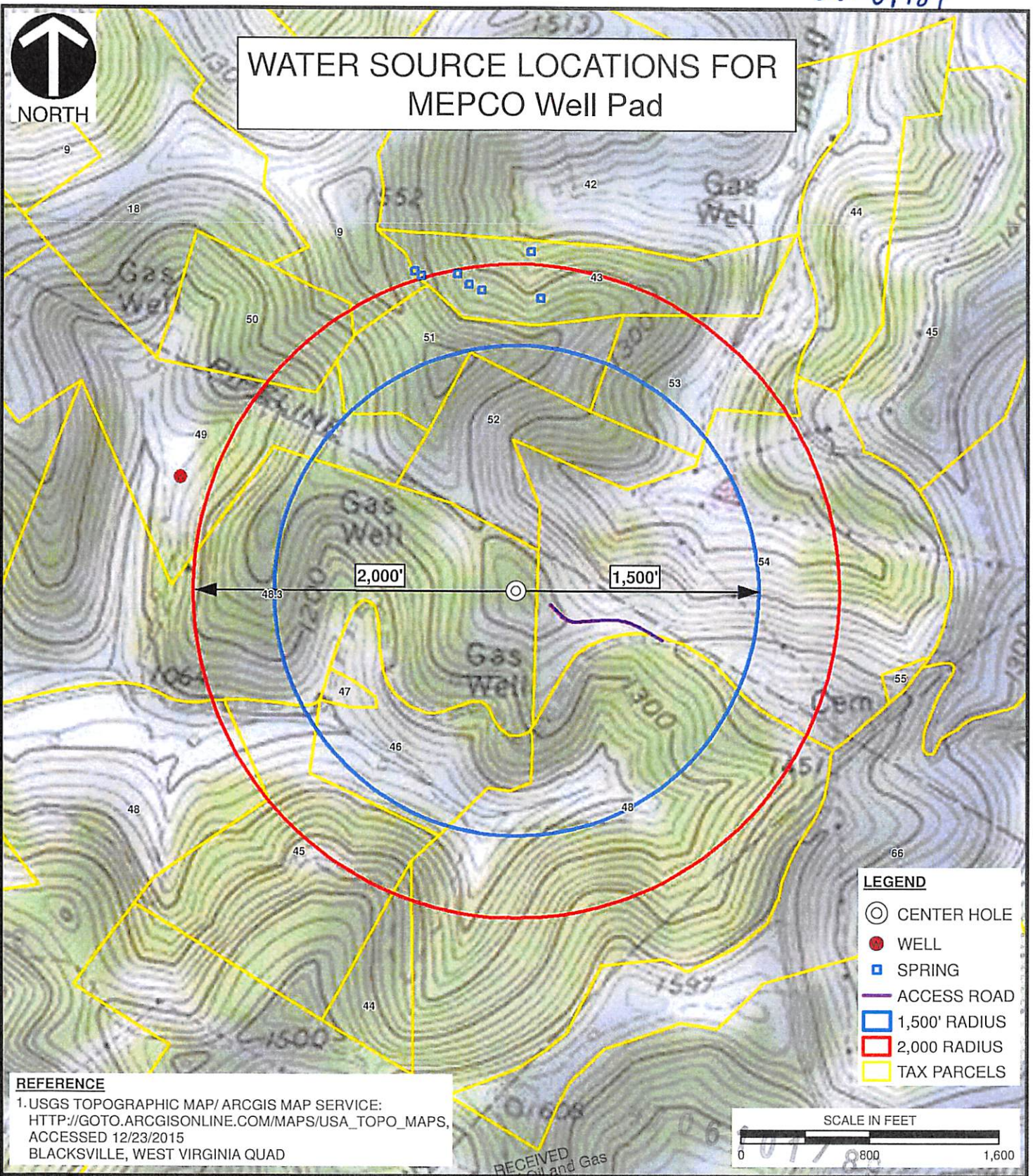
DRAWN BY:	MAF	CHECKED BY:	JDR	APPROVED BY:	<i>Hand signature on file</i> SAC*	FIGURE NO:	<b>WT</b>
DATE:	12/21/2015	SCALE:	1" = 800'	PROJECT NO:	150-445.0021		<b>11/03/2017</b>

\\Svr-bridgeport\p\150-445-1\GIS\Maps\Task\_0021150445\_0021\_WATER\_WELL\_TOPO.mxd 12/21/2015 (mfrank)

061-01789

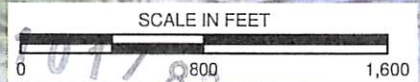


# WATER SOURCE LOCATIONS FOR MEPCO Well Pad



- LEGEND**
- ⊙ CENTER HOLE
  - WELL
  - SPRING
  - ACCESS ROAD
  - 1,500' RADIUS
  - 2,000 RADIUS
  - TAX PARCELS

**REFERENCE**  
 1. USGS TOPOGRAPHIC MAP/ ARCGIS MAP SERVICE:  
[HTTP://GOTO.ARCGISONLINE.COM/MAPS/USA\\_TOPO\\_MAPS](http://gto.arcgis.com/maps/usa_topo_maps),  
 ACCESSED 12/23/2015  
 BLACKSVILLE, WEST VIRGINIA QUAD



**Civil & Environmental Consultants, Inc.**  
 600 Marketplace Suite 200 - Bridgeport, WV 26330-2820  
 Ph: 304-933-3119 Toll: 855-488-9539 Fax: 304-933-3327  
[www.cecinc.com](http://www.cecinc.com)

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NORTHEAST NATURAL ENERGY LLC  
 MEPCO PAD  
 MORGAN COUNTY, WEST VIRGINIA

## WATER SOURCES FOR MEPCO PAD

DRAWN BY: MAF	CHECKED BY: JDR	APPROVED BY: *Hard signature on file SAC*	FIGURE NO: WT
DATE: 12/21/2015	SCALE: 1" = 800'	PROJECT NO: 150-445.0021	11/03/2017

\\Svr-bridgeport\p\20151150-445-GIS\Maps\Task\_0021150445\_0021\_WATER\_WELL\_TOPO.mxd 12/21/2015 (mfrank)

~~(1-87)~~  
61-0789

WW-6A

MEPCO 12H

**Surface Owner(s)**

Consolidation Coal Company ✓  
Attn: Melissa Wilson  
Land Agent Depositions – Rentals  
CNX Center  
1000 Consol Energy Drive  
Canonsburg, PA 15317

MEPCO, LLC ✓  
Attn: Will Oliver  
103 Corporate Drive, Suite 102  
Morgantown, WV 26501

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

Consolidation Coal Company  
Attn: Melissa Wilson ✓  
Land Agent Depositions – Rentals  
CNX Center  
1000 Consol Energy Drive  
Canonsburg, PA 15317

**Coal Owner or Lessee**

Consol Mining Company, LLC ✓  
Attn: Analyst, Engineering and Operations Support – Coal  
CNX Center  
1000 Consol Energy Drive  
Canonsburg, PA 15317

Murray Energy Corp. ✓  
Attn: Alex P. O'Neill  
Coal – Oil and Gas Relations Manager  
46226 National Road  
St. Clairsville, OH 43950

Gary G. Loring ✓  
139 Thistledown Lane  
Morgantown, WV 26508

A. Keith Michael ✓  
241 Jefferson St.  
Bridgeport, WV 26330

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Gregory G. Michael ✓  
1176 Sands Drive  
Fairmont, WV 26554

Jane Ann Reynolds ✓  
2 West Hill Drive  
Fairmont, WV 26554

Surface Owner of Water Well and/or Water Purveyor(s)

Diane K. Braun, co-executrix of James E. Fletcher Estate ✓  
44 Luther Park Road  
Fairview, WV 26570

William D. Statler ✓  
578 Long Drain Road, Core, WV 26541

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MEPCO

**Surface Owner of Water Well and/or Water Purveyor(s)**

TMP 16-49

Diane K. Braun, co-executrix of James E. Fletcher Estate  
44 Luther Park Road  
Fairview, WV 26570

TMP 16-43

William D. Statler  
578 Long Drain Road, Core, WV 26541

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**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF ENTRY FOR PLAT SURVEY**

**Notice Time Requirement:** Notice shall be provided at least **SEVEN (7)** days but no more than **FORTY-FIVE (45)** days prior to entry

**Date of Notice:** 10/5/2015      **Date of Planned Entry:** 10/13/2015

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

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

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

- SURFACE OWNER(s)

Name: SEE ATTACHMENT  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

- COAL OWNER OR LESSEE

Name: SEE ATTACHMENT  
Address: \_\_\_\_\_

- MINERAL OWNER(s)

Name: SEE ATTACHMENT 4706101789  
Address: \_\_\_\_\_

\*please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: West Virginia  
 County: Monongalia  
 District: Clay  
 Quadrangle: Blacksville

Approx. Latitude & Longitude: 4390688.4; 572705 (UTM NAD 83)  
 Public Road Access: State Route 29/4  
 Watershed: Dunkard Creek  
 Generally used farm name: MEPCO

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: Northeast Natural Energy LLC  
 Telephone: 304-212-0422  
 Email: hmedley@nne-llc.com

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

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 Environmental Protection

**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](mailto:depprivacyofficer@wv.gov).

**11/03/2017**



61-01789

WW-6A3 ATTACHMENT

MEPCO

**Surface Owner(s)**

Consolidation Coal Company ✓  
Attn: Melissa Wilson  
Land Agent Depositions – Rentals  
CNX Center  
1000 Consol Energy Drive  
Canonsburg, PA 15317

MEPCO, LLC ✓  
Attn: Will Oliver  
103 Corporate Drive, Suite 102  
Morgantown, WV 26501

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

Consolidation Coal Company ✓  
Attn: Melissa Wilson  
Land Agent Depositions – Rentals  
CNX Center  
1000 Consol Energy Drive  
Canonsburg, PA 15317

MEPCO, LLC ✓  
Attn: Will Oliver  
103 Corporate Drive, Suite 102  
Morgantown, WV 26501

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**Coal Owner or Lessee**

Consol Mining Company, LLC ✓  
Attn: Analyst, Engineering and Operations Support – Coal  
CNX Center  
1000 Consol Energy Drive  
Canonsburg, PA 15317

Murray Energy Corp. ✓  
Attn: Alex P. O'Neill  
Coal – Oil and Gas Relations Manager  
46226 National Road  
St. Clairsville, OH 43950

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Mineral Owner

Telluric Company ✓  
Attn: Joseph Swiger  
143 Distributor Drive  
Morgantown, WV 26508

A. Keith Michael ✓  
241 Jefferson St.  
Bridgeport, WV 26330

Gregory G. Michael ✓  
1176 Sands Drive  
Fairmont, WV 26554

Jane Ann Reynolds ✓  
2 West Hill Drive  
Fairmont, WV 26554

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61-01789

**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:** 08/04/2017      **Date Permit Application Filed:** 08/14/2017

**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: CONSOLIDATION COAL COMPANY  
Address: CNX CENTER, 1000 CONSOL ENERGY DRIVE  
CANONSBURG, PA 15317

Name: MEPCO LLC  
Address: 103 CORPORATE DRIVE, 102  
MORGANTOWN, WV 26501

**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: 572718.13  
County: MONONGALIA      Northing: 4390671.59  
District: CLAY      Public Road Access: CR 29/4  
Quadrangle: BLACKSVILLE      Generally used farm name: MEPCO  
Watershed: JAKES RUN OF DUNKARD CREEK

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: NORTHEAST NATURAL ENERGY LLC  
Address: 707 Virginia Street East, Suite 1200  
Charleston, WV 25301  
Telephone: 304-414-7060  
Email: hmedley@nne-llc.com  
Facsimile: 304-414-7061

Authorized Representative: Hollie Medley, Regulatory Manager  
Address: 48 Donley Street, Suite 601  
Morgantown, WV 26501  
Telephone: 304-212-0422  
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](mailto:depprivacyofficer@wv.gov).

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11/03/2017  
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Environmental Protection

61-01289

WW-6A5  
(1/12)

Operator Well No. MEPCO 12H

**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:** 08/04/2017      **Date Permit Application Filed:** 08/14/2017

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

CERTIFIED MAIL                                       HAND  
RETURN RECEIPT REQUESTED                                      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: Consolidation Coal Company  
Address: CNX Center, 1000 Consol Energy Drive  
Canonsburg, PA 15317

Name: MEPCO LLC  
Address: 130 CORPORATE DRIVE, SUITE 102  
MORGANTOWN, WV 26501

**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:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>572718.13</u>
County:	<u>Monongalia</u>		Northing:	<u>4390671.59</u>
District:	<u>Clay</u>	Public Road Access:	<u>County Route 29/4</u>	
Quadrangle:	<u>Blacksville</u>	Generally used farm name:	<u>MEPCO</u>	
Watershed:	<u>Jakes Run of Dunkard Creek</u>			

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: Northeast Natural Energy LLC  
Telephone: 304-212-0422  
Email: hmedley@nne-llc.com

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

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WV Department of  
Environmental Protection

61-01789



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

July 18, 2017

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

Subject: DOH Permit for the Mepco Pad, Monongalia County  
Mepco 12H

47-061-01789

4706101789

Dear Mr. Martin,

This well site will be accessed from a permit #04-2015-1144 issued to Northeast Natural Energy Corporation for access to the State Road for a well site located off of Monongalia County Route 29/4 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,

A handwritten signature in blue ink that reads "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

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West Virginia Department of  
Environmental Protection  
11/03/2017

**Planned Additives to be used in Fracturing Stimulations**

Trade Name	Purpose	Ingredients	Cemical Abstract Service Numner (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 Polyozyalkylenes Propargyl Alcohol	NA 67-56-1 NA NA 107-19-7
FRW-18	Friction Reducer	Hydrotreated Light Distillate	64742-47-8
Ferrotrol 300L	Iron Cnontrol	Citric Acid	77-92-9
Sand, White, 40/70	Proppant	Cystalline Silica (Quartz)	14808-50-7
Sand, White, 100 mesh	Proppant	Cystalline Silica (Quartz)	14808-50-7
Scaletrol 720	Scale Inhibitor	Siethylene Glycol	111-46-6

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61-01789

# MEPCO PAD CONSTRUCTION PLANS, & EROSION & SEDIMENT CONTROL PLANS NORTHEAST NATURAL ENERGY LLC NORTHEAST NATURAL ENERGY LLC

LAT/LONG: N 39.862886° W -80.152471°  
(APPROXIMATE CENTER OF PROJECT)

Added alternative access road

**APPROVED**  
**WV DEP**  
**OOG**  
Modification  
12-1-2016

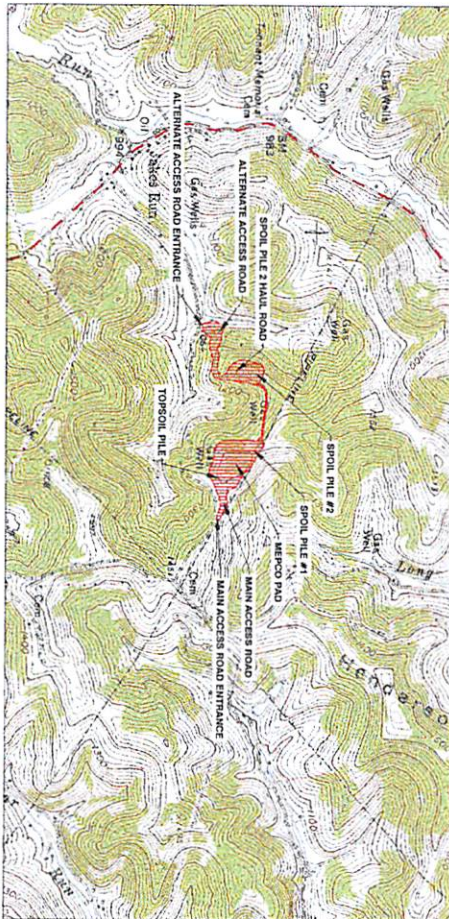
RECEIVED  
Office of Oil and Gas  
AUG 16 2017  
WV Department of  
Environmental Protection

PROJECT OWNER: WEST VIRGINIA POWER COMPANY  
DISTRICT: DISTRICT 10, B  
ADDRESS: 1000 BOND STREET, S.W.  
CITY: CHARLESTON, WEST VIRGINIA 25309  
CONTACT: DAVID MCCOOL  
PHONE: (304) 325-2600

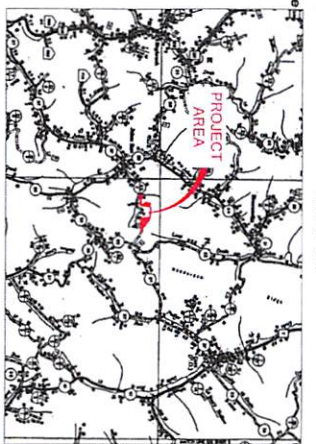
DESIGNER: WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL SCIENCE  
ADDRESS: 1000 BOND STREET, S.W.  
CITY: CHARLESTON, WEST VIRGINIA 25309  
CONTACT: JENNIFER ROBINSON, P.E.  
PHONE: (304) 257-4802

NAME	TELEPHONE NO.
LOCAL EMERGENCY SERVICES	
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL SCIENCE	(304) 257-4802
WEST VIRGINIA POWER COMPANY	(304) 325-2600
NORTHWEST NATURAL ENERGY LLC	(304) 325-2600
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL SCIENCE	(304) 257-4802
NATIONAL RESPONSE CENTER	(800) 277-1522

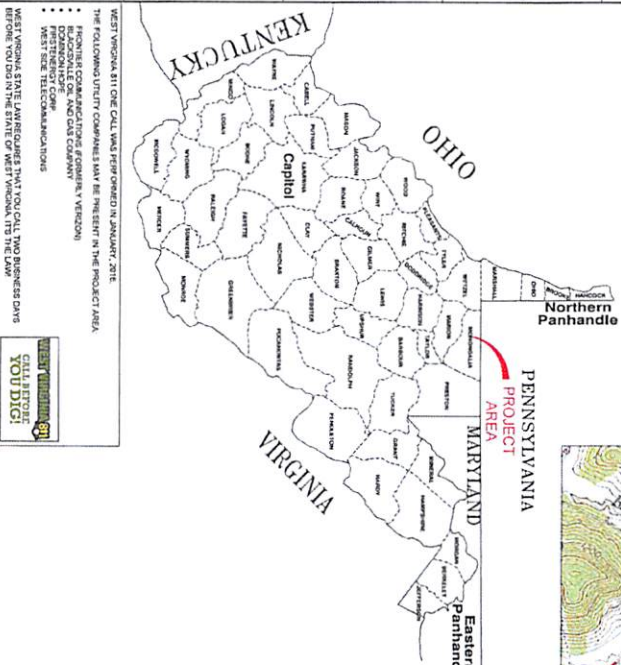
NAME	TELEPHONE NO.
AVANCE	(304) 325-2600
NORTHWEST NATURAL ENERGY LLC	(304) 325-2600
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL SCIENCE	(304) 257-4802
NATIONAL RESPONSE CENTER	(800) 277-1522



LOCATION MAP  
BLACKSVILLE USGS 7.0 QUAD  
SCALE: 1 INCH = 1000 FEET



VICINITY MAP  
MONONGALIA COUNTY ROAD MAP  
SCALE: 1 INCH = 1 MILE



WEST VIRGINIA STATE LARSON ACT requires that you call two business days before you start work on a project. If you do not call, you will be liable for the cost of the work.

WEST VIRGINIA STATE LARSON ACT requires that you call two business days before you start work on a project. If you do not call, you will be liable for the cost of the work.



DISCUSSION	ACRES	WELL RESTRICTIONS CHECKLIST
MAIN ACCESS ROAD	7.07	TITLE/RESTRICTIONS CHECKLIST
SPOIL PILE #1	2.65	WELL PROTECTION REQUIRED
SPOIL PILE #2	2.51	WELL PROTECTION REQUIRED
SPOIL PILE #3	1.23	WELL PROTECTION REQUIRED
ALTERNATE ACCESS ROAD	6.25	WELL PROTECTION REQUIRED
MEPCO PAD	1.76	WELL PROTECTION REQUIRED
TOTAL	23.18	WELL PROTECTION REQUIRED
WOODCRD	17.82	WELL PROTECTION REQUIRED

WAVE/WE	WEST VIRGINIA NORTH ZONE	WEST VIRGINIA SOUTH ZONE
1. CENTER OF PAD	4528000 4252	129752 0272
2. CENTER OF PAD	4528000 4252	129752 0272
3. CENTER OF PAD	4528000 4252	129752 0272
4. CENTER OF PAD	4528000 4252	129752 0272
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36. CENTER OF PAD	4528000 4252	129752 0272
37. CENTER OF PAD	4528000 4252	129752 0272
38. CENTER OF PAD	4528000 4252	129752 0272
39. CENTER OF PAD	4528000 4252	129752 0272
40. CENTER OF PAD	4528000 4252	129752 0272

**SITE LOCATIONS**

WAVE/WE WEST VIRGINIA NORTH ZONE

1. CENTER OF PAD 4528000 4252 129752 0272

2. CENTER OF PAD 4528000 4252 129752 0272

3. CENTER OF PAD 4528000 4252 129752 0272

4. CENTER OF PAD 4528000 4252 129752 0272

5. CENTER OF PAD 4528000 4252 129752 0272

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19. CENTER OF PAD 4528000 4252 129752 0272

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40. CENTER OF PAD 4528000 4252 129752 0272

RECEIVED  
Office of Oil and Gas  
AUG 16 2017  
WV Department of  
Environmental Protection

REVISION RECORD

NO.	DATE	DESCRIPTION
1	08/16/2017	ISSUED FOR PERMIT

COVER SHEET/LOCATION MAP

NORTHEAST NATURAL ENERGY LLC  
MEPCO PAD  
CLAY DISTRICT  
MONONGALIA COUNTY  
WEST VIRGINIA

Civil & Environmental Consultants, Inc.  
600 Marketplace Avenue, Suite 200 - Bridgeport, WV 26330  
Ph: 304.933.3119 - 855.488.9539 - Fax: 304.933.3327  
www.cewc.com

DATE: AUGUST 2016  
DRAWN BY: LAG  
CHECKED BY: JCL  
PROJECT NO: 159-443  
APPROVED BY: CJF

SCALE: AS SHOWN

C000

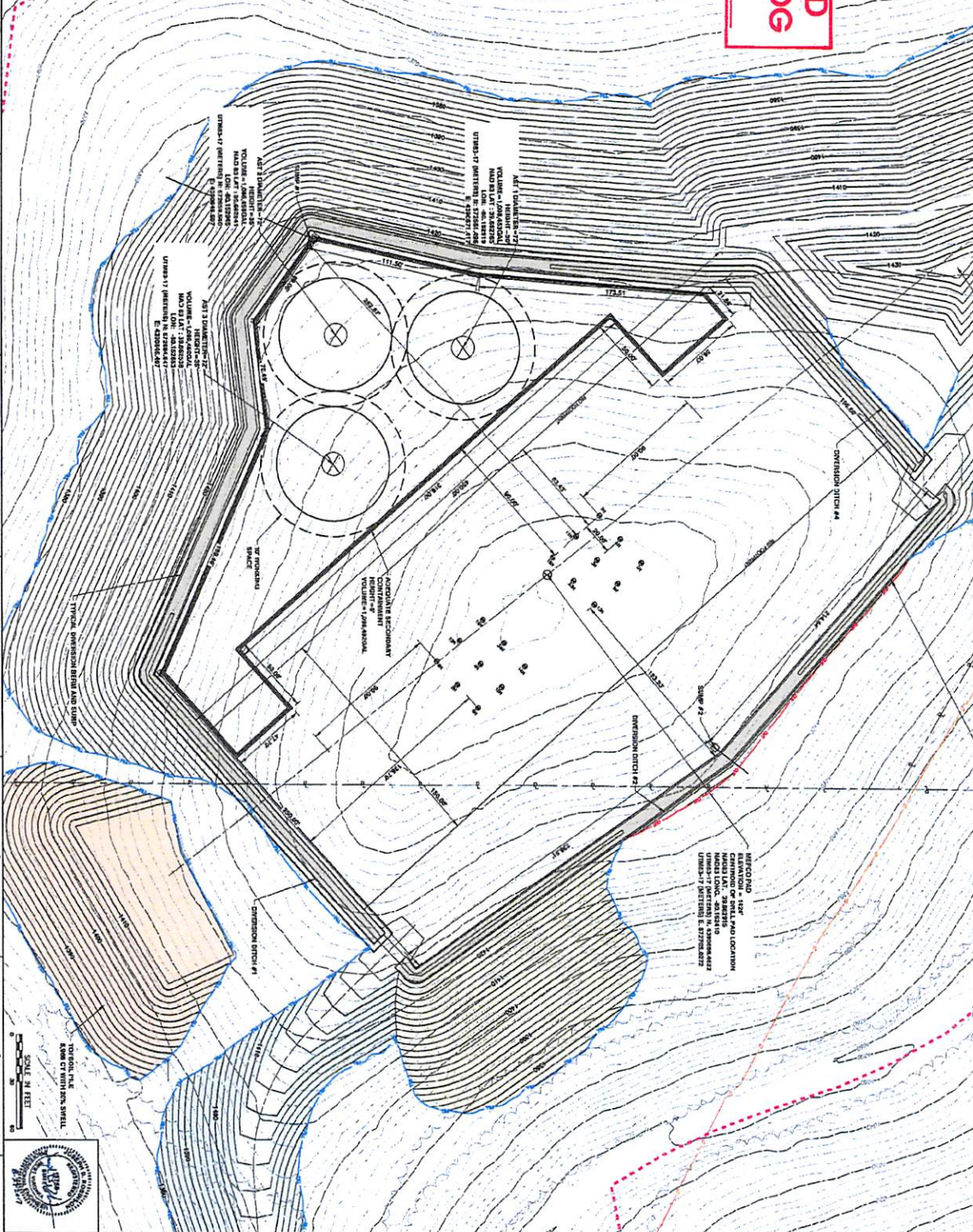
11/03/2017



**APPROVED**  
**WVDEP 006**  
 Modification  
 9/11/2017

**LEGEND**

	EXISTING ROAD CENTERLINE
	PROPOSED ROAD CENTERLINE
	EXISTING UTILITY LINE
	PROPOSED UTILITY LINE
	EXISTING STRUCTURE
	PROPOSED STRUCTURE
	EXISTING SPOT AREA
	PROPOSED SPOT AREA
	EXISTING WELL PAD AREA
	PROPOSED WELL PAD AREA
	EXISTING SPECIAL AREA
	PROPOSED SPECIAL AREA
	EXISTING SECONDARY CONTOUR
	PROPOSED SECONDARY CONTOUR
	EXISTING TOP LINE
	PROPOSED TOP LINE



FOR 9/11/2017



**AST EXHIBIT**

DATE:	AUGUST 2016	DRAWN BY:	DRE
SCALE:	1"=200'	CHECKED BY:	ZMD
PROJECT NO.:	160-448	APPROVED BY:	JDR

**NORTHEAST NATURAL ENERGY LLC**  
**MEPCO PAD**  
**CLAY DISTRICT**  
**MONONGALIA COUNTY**  
**WEST VIRGINIA**

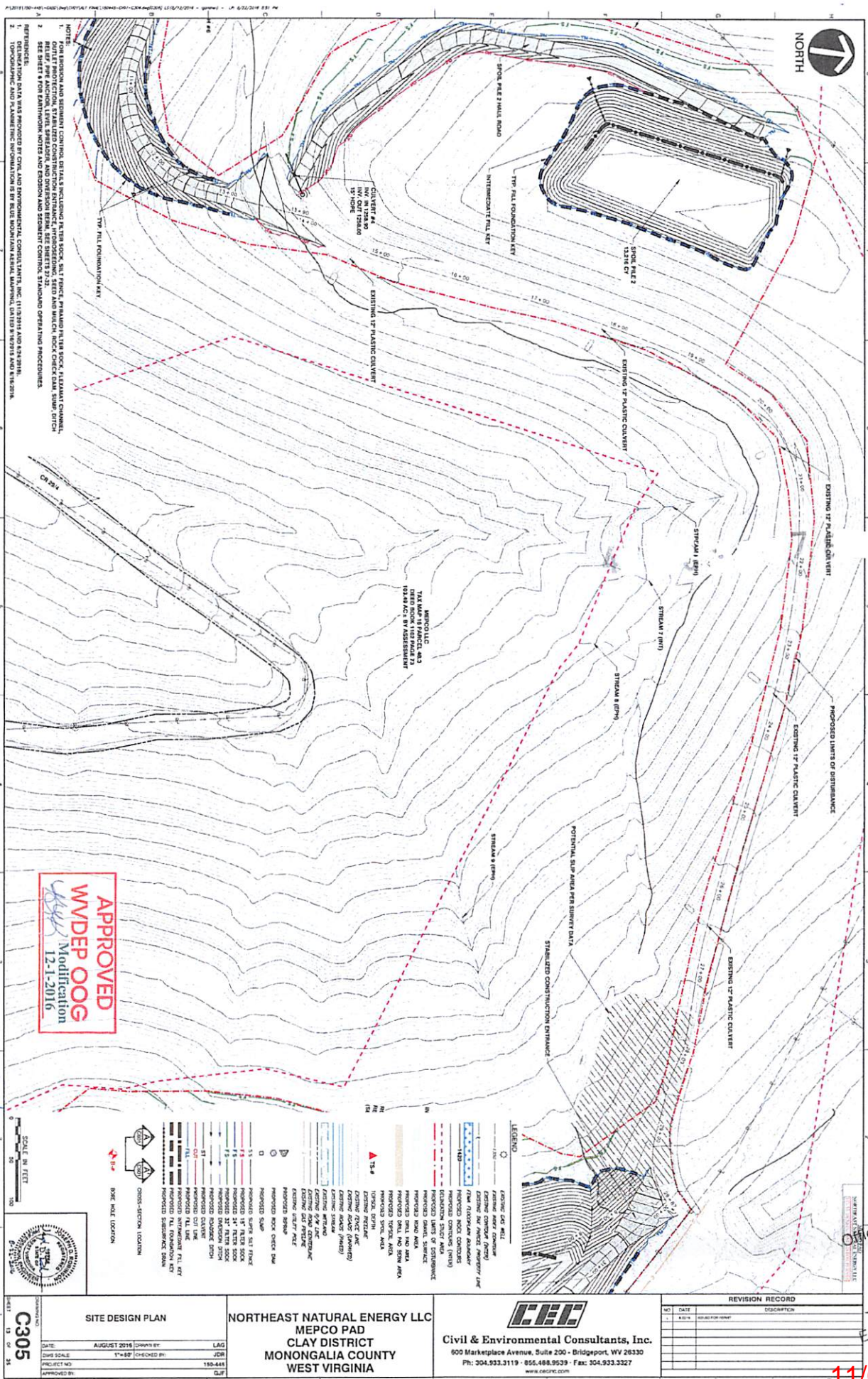
**CEC**  
**Civil & Environmental Consultants, Inc.**  
 606 Marketplace Ave • Suite 200 • Bridgeport, WV 26330  
 Ph: 304.933.2119 • 855.488.9539 • Fax 304.933.3327  
 www.cecinc.com

**REVISION RECORD**

NO.	DATE	DESCRIPTION

11/03/2017



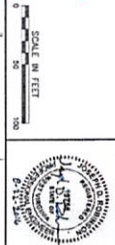


NOTE: 1. ALL DIMENSIONS AND SPACING DETAILS INCLUDING IN THIS BOOK, NOT FRAMED, FRAMING IN THE ROCK, EXISTING CONCRETE, OUTLET PROTECTION, STABILIZED CONSTRUCTION ENTRANCE, HYDROSEEDING, SEED AND MULCH, ROCK CHECK DAM, SWAP, STITCH, REEF, SLOPE PROTECTION, AND SOIL EROSION AND SEDIMENT CONTROL, STABILIZED OPERATING PROCEDURES.

2. DEMOGRAPHIC AND PLANNING INFORMATION IS BY BLUE HORIZON ALBERTA, SHERWIN, DATED 11/27/13 AND 11/27/14.

**APPROVED**  
**WV DEP OOG**  
 Modification  
 12-1-2016

APR 18/24/2017



<b>SITE DESIGN PLAN</b>	
DATE: AUGUST 2016	DRAWN BY: LAG
SCALE: 1"=40'	CHECKED BY: JCB
PROJECT NO: 150-441	DATE: 11-13-16
APPROVED BY:	DATE:

**NORTHEAST NATURAL ENERGY LLC**  
**MEPCO PAD**  
**CLAY DISTRICT**  
**MONONGALIA COUNTY**  
**WEST VIRGINIA**

**C&E**  
**Civil & Environmental Consultants, Inc.**  
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 www.candec.com

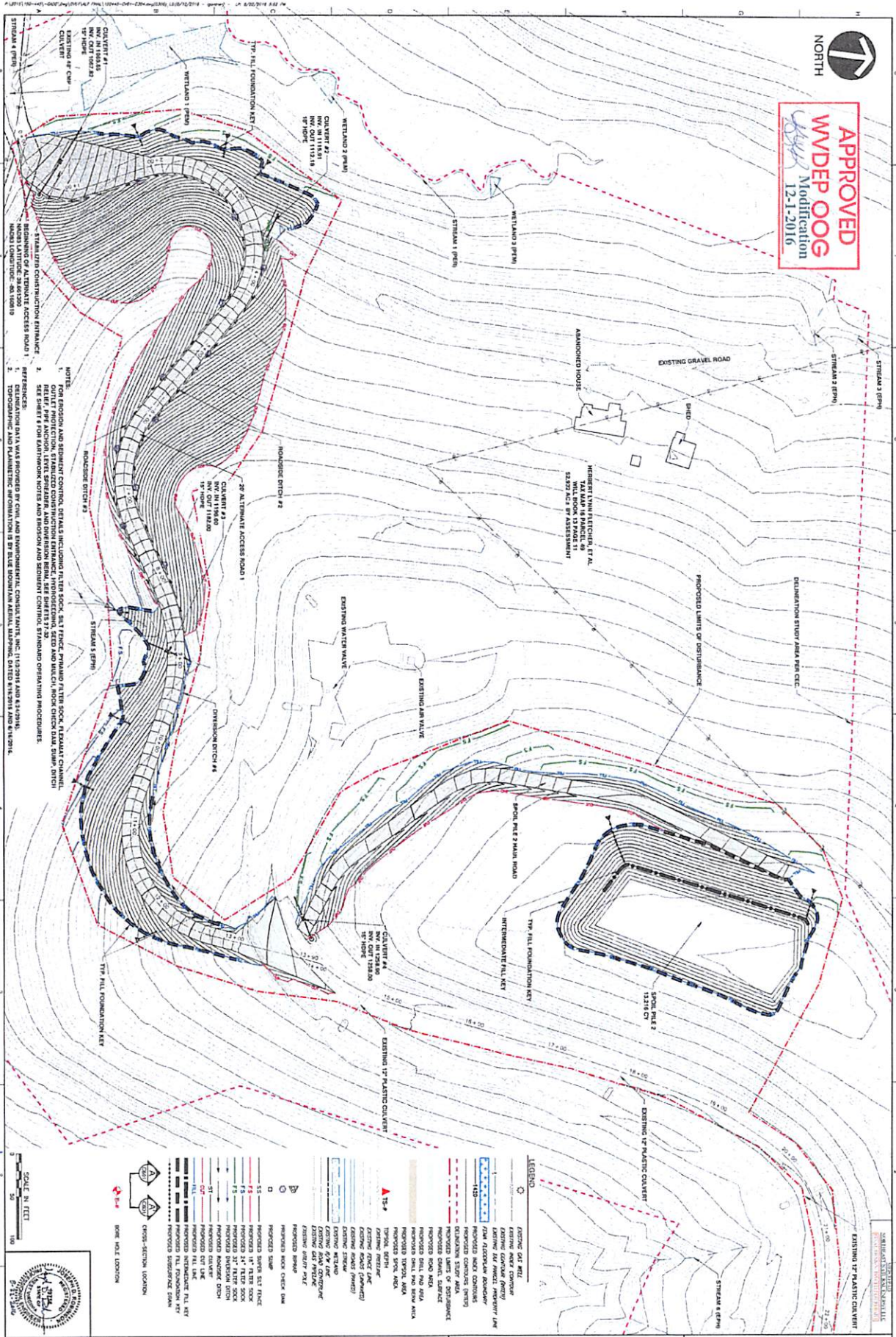
REVISION RECORD		
NO.	DATE	DESCRIPTION
1	8/24/16	ISSUED FOR PERMITS

RECEIVED  
 Office of Oil and Gas  
**AUG 16 2017**  
 WV Department of  
 Environmental Protection

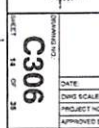
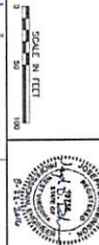
11/03/2017



**APPROVED**  
**WV DEP 006**  
 Modification  
 12-1-2016



**NOTES:**  
 1. CONSTRUCTION AND FINISHING CONDITIONS, STAKES & ELEVATIONS AT THE FIELD, AND A FINAL PROPOSED FINISH ELEVATION SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.  
 2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION (WVDOE) STANDARD SPECIFICATIONS FOR CONSTRUCTION, LATEST EDITION.  
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.  
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.  
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.



**LEGEND**

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**REVISION RECORD**

NO.	DATE	BY	DESCRIPTION
1	8/1/2016	DLJ	ISSUED FOR PERMIT
2	11/3/2017	DLJ	MODIFICATION

**SITE DESIGN PLAN**

**NORTHEAST NATURAL ENERGY LLC**  
**MEPCO PAD**  
**CLAY DISTRICT**  
**MONONGALIA COUNTY**  
**WEST VIRGINIA**

DATE: AUGUST 2016  
 DRAWN BY: LAG  
 CHECKED BY: TMM  
 PROJECT NO: 180-444  
 SHEET NO: 14 OF 21

**C&E**  
**Civil & Environmental Consultants, Inc.**  
 600 Marketplace Avenue, Suite 200 - Bridgeport, WV 26330  
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11/03/2017

ADK 8/24/2017