

### west virginia department of environmental protection

Office of Oil and Gas 601 57th Street SE Charleston, WV 25304 (304) 926-0450 (304) 926-0452 fax Earl Ray Tomblin, Governor Randy C. Huffman, Cabinet Secretary www.dep.wv.gov

June 24, 2016

# WELL WORK PLUGGING PERMIT Plugging

This permit, API Well Number: 47-6100992, issued to NNE RESOURCES LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalities being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

Operator's Well No: BARRACKMAN 9

Farm Name: EDDY, MARK & HARRY

API Well Number: 47-6100992

Permit Type: Plugging
Date Issued: 06/24/2016

# **PERMIT CONDITIONS**

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

#### **CONDITIONS**

- 1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
- 2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
- 3. Well work activities shall not constitute a hazard to the safety of persons.
- 4. This well is under a consent order and must be plugged under the terms of that agreement.

WW-4B Rev. 2/01

1) Date June 8th	, 2016
2) Operator's	
Well No. Barrackman 9	
3) API Well No. 47-061	- 00992

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

4)	APPLICATION FOR A	PERMIT TO PLUG AND ABANDON
	Well Type: Oil/ Gas X/ L	iquid injection/ Waste disposal/
	(If "Gas, Production X or	r Underground storage) Deep/ Shallow X
5)	Location: Elevation 1382'	Watershed Dunkard Creek
	District Clay	County Monongalia Quadrangle Blacksville 7.5'
6)	Well Operator NNE Resources LLC	7) Designated Agent Zack Arnold
	Address 707 Virginia Street East, Suite	
	Charleston, WV 25301	Morgantown, WV 26501
8)	Oil and Gas Inspector to be notified Name Gayne Knitowski	d 9)Plugging Contractor Name TBD
	Address P.O. Box 108	Address
	Gormania, WV 26720	
	Perform necessary earth work to estable	
	RIH with open ended tubing to det Attempt to remove all casing by pull If casing will not pull out, cut and rule well to determine casing and coal depth. Spot expanses to be a solid cement plug 100' above coal. WOC expandable cement to harden	termine PBTD.  ing a minimum of 150% of casing string weight.  remove as much casing as possible.  andable cement from PBTD to 100' below coal to set a solid cement plug.  an. Top off well to surface with Class A cement with no more than 3% CaCl2 and no other additives.  site. After 70% growth is observed remove any remaining erosion and sediment controls.

WV Department of Environmental Pr06/24/2016



Barrackman 9
Clay District, Monongalia County, WV
API Number: 47-061-00992
AFE Number: TBD
Plugging Procedure

May 10, 2016

#### Discussion

Approval is requested to perform the initial plugging on the Barrackman 9 well. The Barrackman 9 is a vertical shallow well located in Clay District, Monongalia County, WV. This well was drilled to a depth of approximately 2,000'. Production from this well has been very low for numerous years. The Barrackman 9 is recommended to be plugged and abandoned.

#### Plug and Abandonment Procedure:

- 1. Ensure all necessary erosion and sediment control devices are in place.
- 2. Perform necessary earth work to establish access and work area for rig and equipment.
- 3. RIH with open ended tubing to determine PBTD.
- 4. Attempt to remove all casing by pulling a minimum of 150% of casing string weight.
- 5. If casing will not pull out, cut and remove as much casing as possible.
- 6. Log well to determine casing and coal depth.
- 7. Spot expandable cement from PBTD to 100' below coal to set solid cement plug.
- 8. Set a solid cement plug 100' above coal.
- 9. WOC expandable cement to harden.
- 10. Top off well to surface with Class A cement with no more than 3% CaCl2 and no other additives.
- 11. Place well monument with API number on spot of well.
- 12. Reclaim site.
- 13. After 70% growth is observed remove any remaining erosion and sediment controls.

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#### **SCOPE OF OPERATION**

- 1. Safety is the highest priority. Control costs and avoid unnecessary expenditures.
- 2. Attempt to cut or pull all recoverable casing.
- 3. TIH with 1½" tubing to estimated TD of 2,000'.
- 4. Pump cement and gel plugs per state requirements.
- 5. Bury and plat a well monument with WV State API number.

#### **PROCEDURE**

- 1) Safety is the number one priority. Well site safety meetings will be held before each major operation
- 2) MIRU construction equipment and remove any tanks, separators, well lines, meter runs, exc.
- 3) MIRU service rig & needed BOP equipment
- 4) TOOH strapping rods and tubing
- 5) TIH strapping 1½" tubing to PBTD'
- 6) Pump 20 sks of Class A cement (150' cement plug), displace cement plug
- 7) TOOH with 1½" tubing
- 8) RIH with Mechanical Ripper on sand line to 1,600' and attempt to rip and retrieve 5 3/16" casing.
- 9) If Mechanical Ripper is not successful, contact NNE representative to discuss wire line options
- 10) TOOH with 5 3/16" casing and tally out
- 11) RIH and perforate 81/4" casing
- 12) RIH with Mechanical Ripper on sand line to rip 81/4" casing above free point and perforations
- 13) TIH with 1½" tubing
- 14) Pump cement from 1,650' to above 81/4" perfs

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15) TOOH with 11/2" tubing

- 16) TOOH with 81/4" casing
- 17) RIH with 11/2" tubing
- 18) Cement to surface
- 19) Cut all casing 36 inches below GL. Install a monument to WV state requirements
- 20) RDMO all service equipment providers and reclaim location to WV State requirements

#### Well Record Procedure

NNE Resources LLC researched the proposed well for plug and abandonment using the following information centers:

- The DEP office at 601-57<sup>th</sup> Street, Charleston, WV 25304
- The DEP online database for Oil and Gas Wells for production and well data
- Titlemaps.com for lease information.
- Research well files provided by previous operator.

#### **Well Data**

Very little documentation exists on Barrackman 9. Based on offset experience it is estimated that 5-3/16" production casing was run to a TD of approximately 2,000'. Surface casing is most likely 8-1/4" run to approximately 850'

#### Capacities

SIZE	WEIGHT	CAPACITY (GAL/FT)	CAPACITY (BBL/FT)	CAPACITY (CU FT/FT)
10*	N/A	4.192	0.0998	0.5603
8 1/4*	N/A	2.738	0.0652	0.3659
6 5/8*	N/A	1.536	0.0365	0.2052
5 3/16*	N/A	1.038	0.0247	0.1387
2 3/8*	4.7#	0.16239	0.00387	0.02171

<sup>\*</sup>The asterisks represent sizes where estimates were used to produce the capacity data. For the 10" casing the capacity of a 35.75#/Ft.  $10 \frac{3}{4}$ " casing was used. For the  $8 \frac{1}{4}$ " casing capacities a 20#/Ft.  $8 \frac{5}{8}$ " casing was used. For the  $5 \frac{3}{16}$ " casing capacities a 13#/Ft.  $5 \frac{1}{2}$ " casing was used.

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#### **Driving Directions**

From the Sheetz at the intersection of US Route 19 and State Route 19/24 in Star City travel north on US Route 19 for 1.63 miles. Turn left onto State Route 7 and travel 5.18 miles. Turn left onto State Route 37 (Pedlar Run) and travel 3.13 miles to State Route 37. Turn left onto State Route 37 and travel 0.32 miles to existing stone well road on the left. Travel on existing well road out ridge approximately 4400 feet to location.

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WV Departmention Environmental Protection 24/2016 WW-4A Revised 6-07

1) Date: 0	6/8/2016				
2) Operator's We Barrackman 9	ell Number	Y			
3) API Well No.:	47 -	061	. 4	00992	

#### STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

<ol> <li>Surface Ow</li> <li>Name</li> </ol>	ner(s) to be served:  Mark and Betty Eddy	5) (a) Coal Operator Name	
Address	537 Pedlar Run Road	Address	
	Core, WV 26541		
(b) Name	Christopher Paul Eddy	(b) Coal Ow	mer(s) with Declaration
Address	9 Stull Hollow	Name	Murray Energy Corporation
	Core, WV 26541	Address	46226 National Road
			St. Clairsville, OH 43950
(c) Name	Carol A. and Roy Neil Tennant	Name	Consol Mining Company LLC
Address	1202 Pedlar Run Road	Address	CNX Center, 1000 Consol Energy Drive
	Core, WV 26541		Canonsburg, PA 15317
6) Inspector	Gayne Knitowski	(c) Coal Les	see with Declaration
Address	P.O. Box 108	Name	
	Gormania, WV 26720	Address	
Telephone	304-546-8171		

- The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

OFFICIAL SEAL	Well Operator	NNE Resources LLC
STATE OF WEST VIRGINIA	By:	Zack Arnold
NOTARY PUBLIC Michael Eisenhauer	Its:	General Manager-Operations
156 Meadowridge Townhomes	Address	707 Virginia Street East, Suite 1200
Morgantown, WV 26505		Charleston, WV 25301
My Commission Expires Sep. 25, 2020	Telephone	304-241-5752

day of June Zolc Subscribed and sworn before me this Notary Public My Commission Expires

Oil and Gas Privacy Notice

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The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a 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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyoffier@wv.gov.

WV Department

WW-9 (2/15)

API	Number	47 -	061	

- 00992 Operator's Well No. Barrackman 9

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

#### FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name NNE Resources LLC	OP Code 494511469
Watershed (HUC 10) Dunkard Creek	Quadrangle Blacksville 7.5'
Do you anticipate using more than 5,000 bbls of water to com-	pplete the proposed well work? Yes No
Will a pit be used? Yes No	
If so, please describe anticipated pit waste:	
Will a synthetic liner be used in the pit? Yes	No If so, what ml.? N/A
Proposed Disposal Method For Treated Pit Wastes:	
Land Application	
Underground Injection (UIC Perm Reuse (at API Number See attachme	
Reuse (at API Number See attachme Off Site Disposal (Supply form W Other (Explain	
out (Expans	
Will closed loop system be used? If so, describe: N/A	
Drilling medium anticipated for this well (vertical and horizon	ntal)? Air, freshwater, oil based, etc. Freshwater/gel
-If oil based, what type? Synthetic, petroleum, etc.	
Additives to be used in drilling medium? Bentonite	
Drill cuttings disposal method? Leave in pit, landfill, remove	ed offsite, etc. Remove offsite
-If left in pit and plan to solidify what medium will be	
-Landfill or offsite name/permit number? See attach	TOTAL CONTRACTOR OF THE PROPERTY OF THE PROPER
	Gas of any load of drill cuttings or associated waste rejected at any ed within 24 hours of rejection and the permittee shall also disclose
on August 1, 2005, by the Office of Oil and Gas of the West 1 provisions of the permit are enforceable by law. Violations law or regulation can lead to enforcement action.  I certify under penalty of law that I have personal application form and all attachments thereto and that, base	OFFICIAL SEAL STATE OF WEST VIRGINIA NOTARY PUBLIC Michael Eisenhauer 156 Meadowridge Townhomes Morgantown, WV 26505 My Commission Expires Sep. 25, 2020 Office of Old and Gas
My commission expires Sep. 25, 2020	140.5
My commission expires Sep. 25, 2020	Environment <b>06/24/201</b>

Form WW-9		Operator's	Well No. Barrackman 9
NNE Resources LLC	>	•	
Proposed Revegetation Treatr	nent: Acres Disturbed 0.74	Prevegetation	<sub>pH</sub> TBD
Lime 2	Tons/acre or to correct to pH	7	
Fertilizer type			
Fertilizer amount 20		os/acre	
Mulch 2	Tons/a	acre	
	See	d Mixtures	
Ten	nporary		nanent
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	46	Orchard Grass	46
Red Clover	8	Red Clover	8
Tertraploid Pereni	nial Rye 16	Tertraploid Perenni	al Rye 16
Timothy 15 Annual	Rye 15	Timothy 15 Annual F	Rye 15
Photocopied section of involv  Plan Approved by:  Comments:		plication (unless engineered plans	

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#### Attachment A to WW-9

Northeast Natural Energy LLC ("NNE") plans to utilize a closed loop process for the plugging of the Barrackman 9 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.

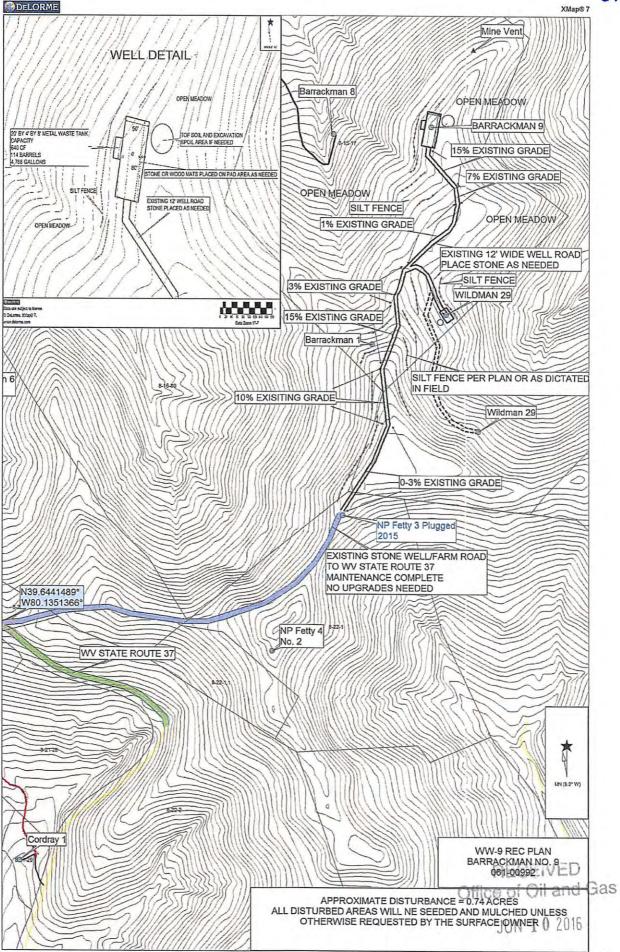
Barrackman 9 Drill Cuttings will be taken to disposal at one or more of the following disposal/approved waste facilities, unless listed facilities are no longer approved to accept waste at time of disposal:

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

- Fairmont Brine Processing (WV NPDES #0116408)
- Green Hunter M. E. Elder 1 Disposal Well (Permit # 47-085-05151)
- Green Hunter Mason 1 Disposal Well (Permit #47-085-09721)
- Green Hunter Warren Disposal Well (Permit #34-121-2-3995)
- Green Hunter Travis Unit Disposal Well (Permit #34-121-2-4086)
- Viking Energy Corporation 20320 Disposal Well (Permit#47-039-02210)
- Ohio Oil Gathering Killbuck Disposal Well (Permit #34-075-24527)
- Ohio Oil Gathering Moran Disposal Well (Permit #34-089-24792)
- Ohio Oil Gathering Bells Run Disposal Well (Permit #34-167-29395)
- Ohio Oil Gathering Long Run Disposal Well (Permit #34-167-29658)
- Ohio Oil Gathering Newell Run Disposal Well (Permit #34-167-29685) RECEIVED
- Appalachian Oil Purchaser Greens Run Disposal Well (Permit #2 இரு 2549) Oil and Gas
- Appalachian Oil Purchaser BW#4 Disposal Well (Permit # 2D0732523)

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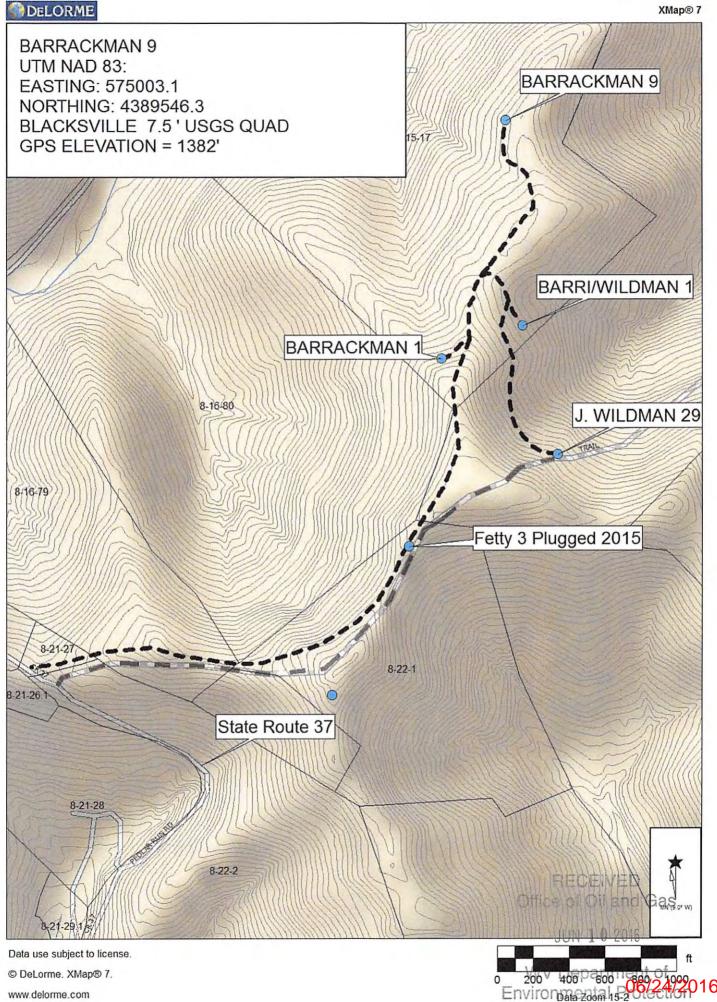


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# West Virginia Department of Environmental Protection Office of Oil and Gas

### WELL LOCATION FORM: GPS

WELLIC	
<sub>API:</sub> 47-061-00992	WELL NO.: 9
FARM NAME: Barrackma	
	NNE Resources LLC
	DISTRICT: Clay
QUADRANGLE: Blacksvill	
	ddy, Christopher Paul Eddy, Carol A. Tennant
	um Corporation and Waco Oil and Gas Company, Inc., et al
UTM GPS NORTHING: 4389	546.3
	3.1 GPS ELEVATION: 1382'
preparing a new well location plat f above well. The Office of Oil and C	e has chosen to submit GPS coordinates in lieu of for a plugging permit or assigned API number on the Gas will not accept GPS coordinates that do not meet
preparing a new well location plat f above well. The Office of Oil and C the following requirements:	For a plugging permit or assigned API number on the Gas will not accept GPS coordinates that do not meet the: 17 North, Coordinate Units: meters, Altitude: evel (MSL) – meters.  05 meters
preparing a new well location plat for above well. The Office of Oil and Othe following requirements:  1. Datum: NAD 1983, Zon height above mean sea legal and the control of the following requirements:  2. Accuracy to Datum – 3.0  3. Data Collection Method Survey grade GPS: Post P	For a plugging permit or assigned API number on the Gas will not accept GPS coordinates that do not meet the: 17 North, Coordinate Units: meters, Altitude: evel (MSL) – meters.  05 meters  15 rocessed Differential
preparing a new well location plat for above well. The Office of Oil and Othe following requirements:  1. Datum: NAD 1983, Zon height above mean sea legated at the properties of the properties	For a plugging permit or assigned API number on the Gas will not accept GPS coordinates that do not meet the: 17 North, Coordinate Units: meters, Altitude: evel (MSL) – meters.  05 meters  1: Processed Differential  St Processed Differential
preparing a new well location plat for above well. The Office of Oil and Othe following requirements:  1. Datum: NAD 1983, Zon height above mean sea letter above mean sea lette	For a plugging permit or assigned API number on the Gas will not accept GPS coordinates that do not meet the: 17 North, Coordinate Units: meters, Altitude: evel (MSL) – meters.  05 meters : Processed Differential  St Processed Differential  st Processed Differential  stal-Time Differential
preparing a new well location plat for above well. The Office of Oil and Othe following requirements:  1. Datum: NAD 1983, Zon height above mean sea legard to Datum – 3.0.  3. Data Collection Method Survey grade GPS: Post Performance of Real-Tensor of The Mapping Grade GPS: Post Performance of The Mapping GPS	For a plugging permit or assigned API number on the Gas will not accept GPS coordinates that do not meet the: 17 North, Coordinate Units: meters, Altitude: evel (MSL) – meters.  105 meters 115 Processed Differential  126 Time Differential  127 St Processed Differential  128 St Processed Differential  138 St Processed Differential  149 St Processed Differential  150 St Processed Differential  151 St Processed Differential  152 St Processed Differential  153 St Processed Differential  154 St Processed Differential  155 St Processed Differential  156 St Processed Differential  157 St Processed Differential  158 St Processed Differential  159 St Processed Differential  150 St Processed Differential



#### WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

## **Division of Highways**

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

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

Earl Ray Tomblin Governor

August 21, 2015

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 NP Fetty No. 3 Well Site, Monongalia County

Dear Mr. Martin,

Northeast Natural Energy LLC has been issued permit #04-2015-0835 to access the State Road for a well site located off of Monongalia County Route 37 SLS.

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

Very Truly Yours,

Gary K. Clayton, P.E.

Regional Maintenance Engineer Central Office O&G Coordinator

Cc: Dave McDougal

Northeast Natural Energy Corporation

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File

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Office of Oil and Gas

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WV Department of Environmental Protection

06/24/2016