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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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Monday, September 10, 2018  
WELL WORK PLUGGING PERMIT  
Vertical Plugging

NNE RESOURCES LLC  
707 VIRGINIA STREET EAST, SUITE 1200

CHARLESTON, WV 25301

Re: Permit approval for 1  
47-061-00514-00-00

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.

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. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

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

James A. Martin  
Chief

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over a faint, larger version of the signature.

Operator's Well Number: 1  
Farm Name: Neal Ercolano  
U.S. WELL NUMBER: 47-061-00514-00-00  
Vertical Plugging  
Date Issued: 9/10/2018

Promoting a healthy environment.

## PERMIT CONDITIONS

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

### CONDITIONS

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1. 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.

47-061-00514A  
Assigned by 47-061-71481

- 1) Date July 16, 2018
- 2) Operator's  
Well No. M. Sturm 1
- 3) API Well No. 47-061 - 00514

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil  / Gas  / Liquid injection  / Waste disposal  /  
(If "Gas, Production  or Underground storage ) Deep  / Shallow
- 5) Location: Elevation 1,442' Watershed Dunkard Creek  
District Clay County Monongalia Quadrangle Blacksville
- 6) Well Operator NNE Resources LLC 7) Designated Agent Hollie M. Medley  
Address 707 Virginia Street East, Suite 1200 Address 48 Donley Street, Suite 601  
Charleston, WV 25301 Morgantown, WV 26501
- 8) Oil and Gas Inspector to be notified Name Gayne Knitowski 9) Plugging Contractor Name CONSERV Inc.  
Address P.O. Box 108 Address 929 Charleston Road  
Gormanian, WV 26720 Spencer, WV 25276

- 10) Work Order: The work order for the manner of plugging this well is as follows:
- Perform necessary earth work to establish access and work area for rig
  - Ensure all necessary E & S controls are installed
  - RIH with open ended tubing to determine PBTD
  - Attempt to remove all casing by pulling a minimum of 150% of casing string weight
  - If casing will not pull out, cut and remove as much casing as possible
  - Log well to determine casing and coal
  - Spot expandable cement from PBTD to 100' below coal to set a solid cement plug
  - Set a solid cement plug <sup>TO</sup> 100' above coal
  - WOC expandable cement to harden
  - Top off well to surface with class A cement with no more than 3% CaCl2 and no other additives
  - Place a well monument with API number
  - Reclaim site

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector Gayne J Knitowski Date 7/23/2018



**M. Sturm 1**  
**Monongalia County, WV**  
**API Number: 4706100514**  
**AFE Number: TBD**  
**Plugging Procedure**

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June 27, 2018

**Discussion**

Approval is requested to perform the initial plugging on the M Sturm 1 Well. The M Sturm 1 is a vertical well located in Monongalia County, WV. For this procedure, the TD of the M Sturm 1 has been estimated to be approximately 2,594' based off of averages from nearby wells whose TD values were known. Production from this well has been very low for numerous years. The M Sturm 1 is recommended to be plugged and abandoned.

**WELL DATA**

Location (Surface)	Lat. 39.631' / Long. -80.195'
TD	2,594'
PBTD	NA
Packer	NA
Marker Joint	NA

The actual TD of this well is unknown, so it has been estimated to be approximately 2,594' based off of the depth of the production casing.

**CASING AND TUBULAR DATA**

STRING	SIZE	WEIGHT/GRADE	DEPTH	THREAD	TOC
Surface	10"	N/A	572'	N/A	N/A
Intermediate	8 1/4"	N/A	828'	N/A	N/A
Intermediate	6 5/8"	N/A	1,580'	N/A	N/A
Production	5 3/16"	N/A	1,868'	N/A	N/A

The casing depths used in this procedure are estimated values obtain from averaging the depths from the other plugging procedures which contained known depth values for wells close to this one. 150' cement plugs at the estimated depths where casing size changes to increase the likelihood of covering the actual depths. The 8 1/4" casing setting depth remained fairly consistent between wells so a 100' plug will be used as it was for the wells that had known setting depths.

**CAPACITIES**

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

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

\* 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 3/4" casing was used. For the 8 1/4" casing capacities a 20#/ft 8 5/8" casing was used. For the 5 3/16" casing capacities a 13#/ft 5 1/2" casing was used.

**WELLHEAD EQUIPMENT**

COMPONENT	SIZE & RATING
Manufacturer	N/A
Tubing Spool	N/A
Casing Spool	N/A
Bradenhead	N/A

**DRIVING DIRECTIONS****From Morgantown:**

From the intersection of State Route 218 (Daybrook Run Road) and State Route 7 (Mason Dixon Highway) travel south on State Route 218 for 7.75 miles to the intersection of said State Route 218 and State Route 27 (Statler Run Road). Turn left onto Statler Run Road and travel east for 0.15 miles to the intersection of said Statler Run Road and State Route 27/1. Turn right onto said State Route 27/1 and travel south for 0.45 miles to the intersection of said State Route 27/1 and State Route 27/2. Turn left onto State Route 27/2 and travel east for approximately 0.63 miles to the well access road on the left located @ N39.6271678, W 80.2009161.

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**Plug and abandonment procedure:**

1. Perform necessary earth work to establish access and work area for rig
2. Ensure all necessary E&S controls are installed
3. RIH with open ended tubing to determine PBDT
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. Spot expandable cement from PBDT to 100' below coal to set a solid cement plug
7. Set a solid cement plug 100' above coal
8. WOC expandable cement to harden
9. Top off well to surface with class A cement with no more than 3% CaCl<sub>2</sub> and no other additives
10. Place a well monument with API number
11. Reclaim site

**Well Record Procedure**

Northeast Natural Energy LLC researched the proposed well for plug and abandonment using the following information centers:

- The DEP office at 601 - 57th 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

**PERSONNEL / PHONE LIST**

Production Manager	John Landis	Office: (304) 212-0434 Mobile: (304) 216-6854
Construction Foreman	Mike Shreve	Mobile: (304) 918-3050
Regulatory Manager	Hollie Medley	Office: (304) 212-0422 Mobile: (304) 543-8932
WV State Inspector	Gayne Knitowski	Mobile: (304) 546-8171

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47-061-00514P

WW-4A  
Revised 6-07

1) Date: July 16, 2018  
2) Operator's Well Number  
M. Sturm 1

3) API Well No.: 47 - 061 - 00514

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

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4) Surface Owner(s) to be served:  
(a) Name Mr. Neal Ercolano, c/o Mr. Brian Lemley  
Address 1564 Daybrook Road  
Fairview, WV 26570  
(b) Name Ms. Kathy Lynn Snyder, et al  
Address 128 Diamond Ct.  
Morgantown, WV 26505  
(c) Name Shuman Inc.  
Address P.O. Box 842  
Morgantown, WV 26507  
6) Inspector Gayne Knitowski  
Address P.O. Box 108  
Gormanian, WV 26720  
Telephone 304.546.8171

5) (a) Coal Operator  
Name  
Address  
(b) Coal Owner(s) with Declaration  
Name CONSOL Mining Company LLC  
Address CNX Center, 1000 Consol Energy Drive  
Canonsburg, PA 15317  
(c) Coal Lessee with Declaration  
Name  
Address

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) 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
- (2) 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.



Well Operator NNE Resources LLC  
By: Hollie Medley  
Title: Regulatory Manager  
Address: 48 Donley Street, Suite 601  
Morgantown, WV 26501  
Telephone: 304.212.0422

Subscribed and sworn before me this 17 day of July, 2018  
My Commission Expires 9-25-2020

Oil and Gas Privacy Notice

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 [deprivacyoffier@wv.gov](mailto:deprivacyoffier@wv.gov).

WW-9  
(5/16)

API Number 47 - 061 - 00514  
Operator's Well No. \_\_\_\_\_

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

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: \_\_\_\_\_

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number See Attachment)
- Reuse (at API Number See Attachment)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

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Will closed loop system be used? If so, describe: N/A

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Freshwater/Gel

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used in drilling medium? Bentonite

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Removed Offsite

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

-Landfill or offsite name/permit number? See Attachment

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 April 1, 2016, 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.

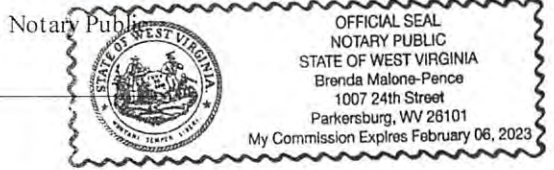
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is 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 23rd day of July, 2018

Brenda Malone-Pence

My commission expires February 06, 2023





Form WW-9

Operator's Well No. \_\_\_\_\_

Proposed Revegetation Treatment: Acres Disturbed 0.30+- Prevegetation pH TBD

Lime 2 Tons/acre or to correct to pH 7

Fertilizer type 19-19-19

Fertilizer amount 200 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
Tertraploid Perennial Rye	16	Tertraploid Perennial Rye	16
Timothy 15	Annual Rye 15	Timothy 15	Annual Rye 15

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Mary J. Kuntz*

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

Reclaim site ASAP

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Title: Inspector Date: 7/23/2018

Field Reviewed? (  ) Yes (  ) No

# WW-9 REC PLAN MINNIE STURM NO. 1 061-00514



8" FILTER SOX

STOCK PILE AREA  
METAL WASTE TANK  
CAPACITY  
114 BARRELS  
4788 GALLONS

50' BY 60' PAD SIZE  
STONE OR WOOD MATS  
PLACED AS NEEDED

4% GRADE

EXISTING 12' WIDE WELL ROAD  
PLACE STONE WHERE NEEDED

2% GRADE

10% GRADE

2% GRADE

3% GRADE

11% GRADE

State Route 27/3

9% GRADE

8-20-50

8-20-54

APPROXIMATE AREA OF DISTURBANCE = 0.30 ACRES  
ALL DISTURBED AREAS WILL BE SEEDED AND MULCHED

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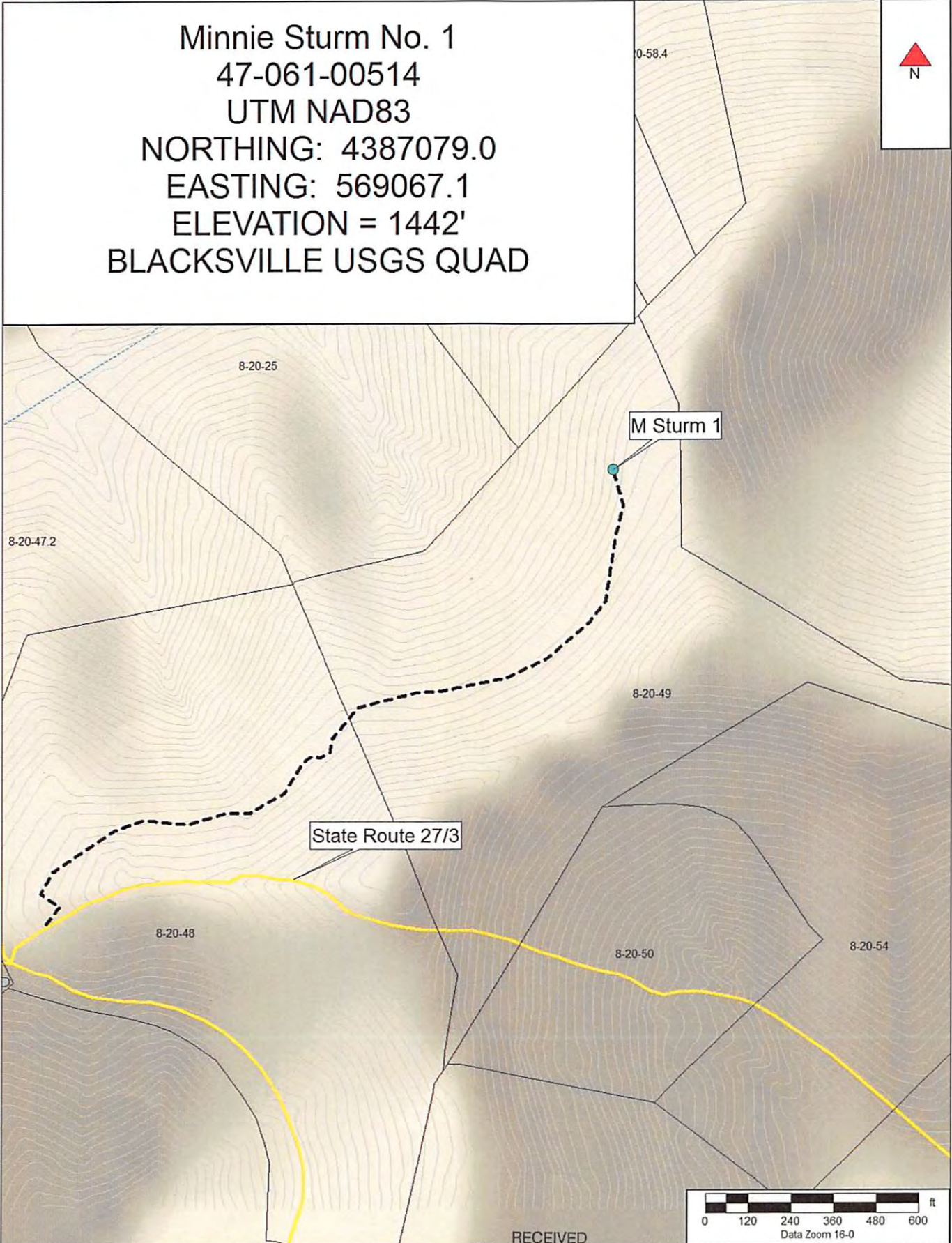
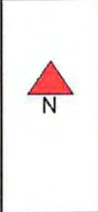
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47-061-00514P



Minnie Sturm No. 1  
 47-061-00514  
 UTM NAD83  
 NORTHING: 4387079.0  
 EASTING: 569067.1  
 ELEVATION = 1442'  
 BLACKSVILLE USGS QUAD



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Select County: (061) Monongalia  (Check All)

Enter Permit #: 71481

Location     Production     Plugging  
 Owner/Completion     Stratigraphy     Sample  
 Pay/Show/Water     Logs     Btm Hole Loc

- [Table Descriptions](#)
- [County Code Translations](#)
- [Permit Numbering Series](#)
- [Usage Notes](#)
- [Contact Information](#)
- [Disclaimer](#)
- [WVGES Main](#)
- ["Pipeline-Plus" New](#)

WV Geological & Economic Survey:

Well: County = 61 Permit = 71481

Report Time: Monday, September 10, 2018 10:08:59 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4706171481	Monongalia	71481	Clay	Blacksville	Blacksville	39.630753	-80.195366	569052.3	4387085

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4706171481	+/+		Original Loc	Prpty Map E May Hill	2					unknown			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEF	G_AFT	O_BEF	O_AFT
4706171481	+/+	+/+						unclassified	unclassified	not available	unknown	unknown								

There is no Pay data for this well

There is no Production Gas data for this well

There is no Production Oil data for this well \*\* some operators may have reported NGL under Oil

There is no Production NGL data for this well \*\* some operators may have reported NGL under Oil

There is no Production Water data for this well

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well







WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas

**WELL LOCATION FORM: GPS**

API: 47-061-00514 WELL NO.: 1

FARM NAME: M. Sturm

RESPONSIBLE PARTY NAME: NNE Resources LLC

COUNTY: Monongalia DISTRICT: Clay

QUADRANGLE: Blacksville

SURFACE OWNER: Neal Ercolano

ROYALTY OWNER: Aliakbar Afshari, et al

UTM GPS NORTHING: 4387079.0

UTM GPS EASTING: 569067.1 GPS ELEVATION: 1,442'

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:  
Survey grade GPS ; Post Processed Differential   
Real-Time Differential   
Mapping Grade GPS ; Post Processed Differential   
Real-Time Differential

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4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

Hall:mma  
Signature

Regulatory Manager  
Title

7-16-18  
Date