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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)

Thursday, August 23, 2018  
WELL WORK PLUGGING PERMIT  
Not Available Plugging

NNE RESOURCES LLC  
707 VIRGINIA STREET EAST, SUITE 1200

CHARLESTON, WV 25301

Re: Permit approval for BARRACKMAN 4  
47-061-00989-00-00

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

Operator's Well Number: BARRACKMAN 4  
Farm Name: EDDY, MARK & HARRY  
U.S. WELL NUMBER: 47-061-00989-00-00  
Not Available Plugging  
Date Issued: 8/23/2018

## PERMIT CONDITIONS

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

### CONDITIONS

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1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

WW-4B  
Rev. 2/01

1) Date July 13, 2018  
2) Operator's  
Well No. Barrackman 4  
3) API Well No. 47-061 - 00989

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

WV Department of  
Environmental Protection

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

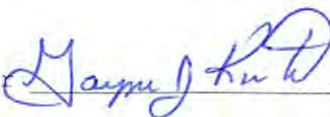
- 4) Well Type: Oil  / Gas  / Liquid injection  / Waste disposal  /  
(If "Gas, Production  or Underground storage  ) Deep  / Shallow
- 5) Location: Elevation 1,188' Watershed Dunkard Creek  
District Clay County Monongalia Quadrangle Blacksville
- 6) Well Operator NNE Resources LLC 7) Designated Agent Hollie M. Medley  
Address 707 Virginia Street E. Suite 1200 Address 48 Donley Street, Suite 601  
Charleston, WV 25301 Morgantown, WV 26501
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Gayne Knitowski 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 100' above coal  
WOC expandable cement to harden  
Top off well to surface with class A cement with no more than 3% CaCl<sub>2</sub> 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



Date 7/23/2018

08/24/2018



Barrackman 4  
 Monongalia County, WV  
 API Number: 4706100989  
 AFE Number: TBD  
 Plugging Procedure

June 27, 2018

### Discussion

Approval is requested to perform the initial plugging on the Barrackman 4 Well. The Barrackman 4 is a vertical well located in Monongalia County, WV. For this procedure, the TD of the Barrackman 4 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 Barrackman 4 is recommended to be plugged and abandoned.

### WELL DATA

Location (Surface)	Lat. 39.647 / Long. -80.137
TD*	2,594'
PBTD	NA
Packer	NA
Marker Joint	NA

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The actual TD of this well is unknown, so it has been estimated to be approximately 2,594' based off known TD values for nearby wells.

### 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.

08/24/2018



**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.

**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 PBSD
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 PBSD to 100' below coal to set a solid cement plug
7. Set a solid cement plug 100' above coal
8. WOCexpandable 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

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**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

DRIVING DIRECTIONS**From Morgantown:**

Travel on US-19 N to Star City Continue  
on US-19 N for 3-4 miles Turn Left onto  
Route 7

Travel down Route 7 for approximately 5 miles  
Pass the small town of Core and turn left on Pedlar Run Stay left  
on that road

At the bottom of Behler Hill there is a tank on the left Go  
down that way and the well will be straight ahead

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08/24/2018

3400'

INSTRUCTIONS

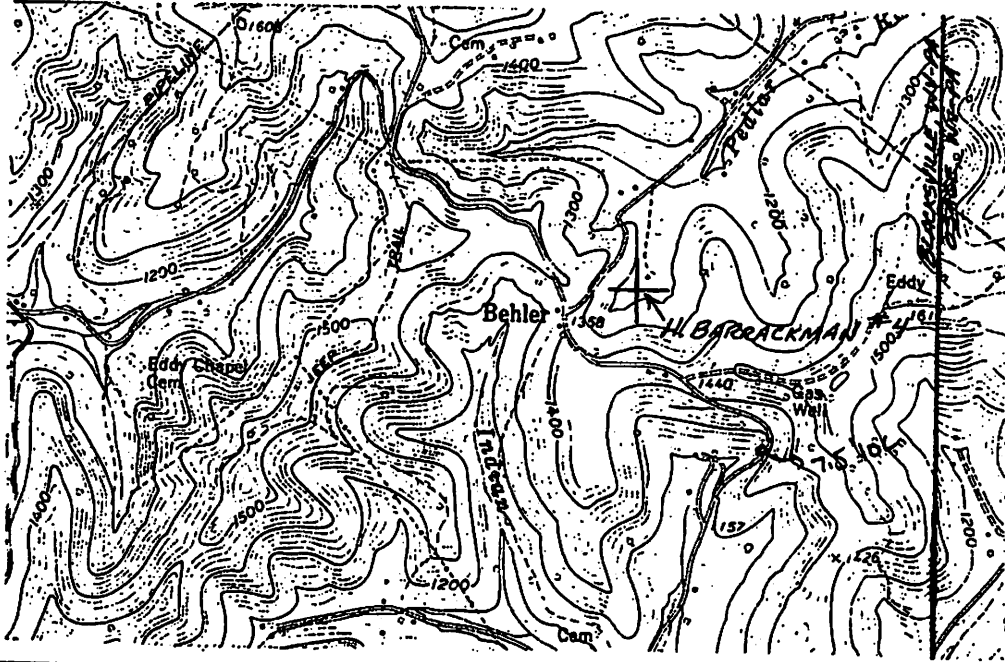
LATITUDE 39° 40' 00"

- 1) Attach a photo copy of the location of the well on a 7.5 minute Quadrangle with the corresponding Longitude and Latitude.
- 2) Designate the location of the well with the symbol(+).

LONGITUDE 80° 07' 30"

7300'

NORTH



137  
0.63

I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief.

SIGNED Harry Eddy

TITLE Harry Eddy

DATE NOVEMBER 6, 19 89

OPERATORS WELL NO. H. BARRACKMAN #

API WELL NO. 061-0989

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY  
OIL AND GAS DIVISION  
(was 061 71388)

WELL TYPE: OIL    GAS X LIQUID INJECTION    WASTE DISPOSAL     
(IE "GAS" PRODUCTION X STORAGE    DEEP    SHALLOW X)

LOCATION: ELEVATION 1160' WATER SHED MONONGAHELA RIVER  
DISTRICT CLAY 3 COUNTY MONONGALIA  
QUADRANGLE BLACKSVILLE, WV-PA.

SURFACE OWNER MARK & HARRY EDDY ACREAGE 50.00 AC.

OIL & GAS ROYALTY OWNER MARK & HARRY EDDY LEASE ACREAGE 50.00 AC.  
LEASE NO.   

PRODUCING FORMATION BIG INJUN TOTAL DEPTH 1800-2400'

WELL OPERATOR MARK & HARRY EDDY DESIGNATED AGENT   

ADDRESS ROUTE 1, BOX 43 ADDRESS     
CORE, WV 26529

11799

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WW-4A  
Revised 6-07

1) Date: 7/13/2018  
2) Operator's Well Number  
Barrackman 4  
3) API Well No.: 47 - 061 - 00989

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. and Mrs. Mark V. Eddy  
Address 537 Pedlar Run Road  
Core, WV 26541  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector Gayne Knitowski  
Address P.O. Box 108  
Gorman, WV 26720  
Telephone 304.546.8171

5) (a) Coal Operator  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration Wann  
Name Murray American Energy Inc.  
Address Attn: Mr. Mason Smith - Coal, Oil & Gas Relations Manager  
46226 National Road, St. Clairsville, OH 43950  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_

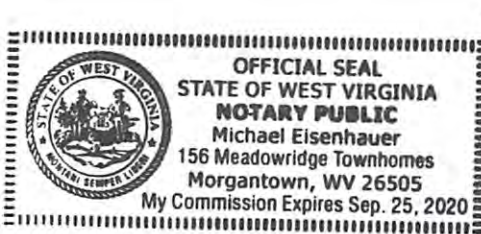
WV Department of  
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TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (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 M. Medley  
Its: Regulatory Manager  
Address 48 Donley Street, Suite 601  
Morgantown, WV 26501  
Telephone 304.212.0422

Subscribed and sworn before me this 13 day of July, 2018  
[Signature] Notary Public  
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 [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).



WW-4B

API No. 47-061-00989  
Farm Name \_\_\_\_\_  
Well No. Barrackman 4

**INSTRUCTIONS TO COAL OPERATORS  
OWNERS AND LESSEE**

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less than five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

**WAIVER**

The undersigned coal operator X / owner \_\_\_\_\_ / lessee \_\_\_\_\_ / of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 7-17-18

Murray American Energy Inc.  
By: Masony Gunn  
Its Coal, oil and gas relations manager

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Environmental Protection

WW-9  
(5/16)

API Number 47 - 061 - 00989  
Operator's Well No. Barrackman 4

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 Notary Public

My commission expires February 06, 2023





Proposed Revegetation Treatment: Acres Disturbed .4 Prevegetation pH TBD

Lime 2 Tons/acre or to correct to pH 7

Fertilizer type 19-19-19

Fertilizer amount 500 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: *Harper J. Kuntz*

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

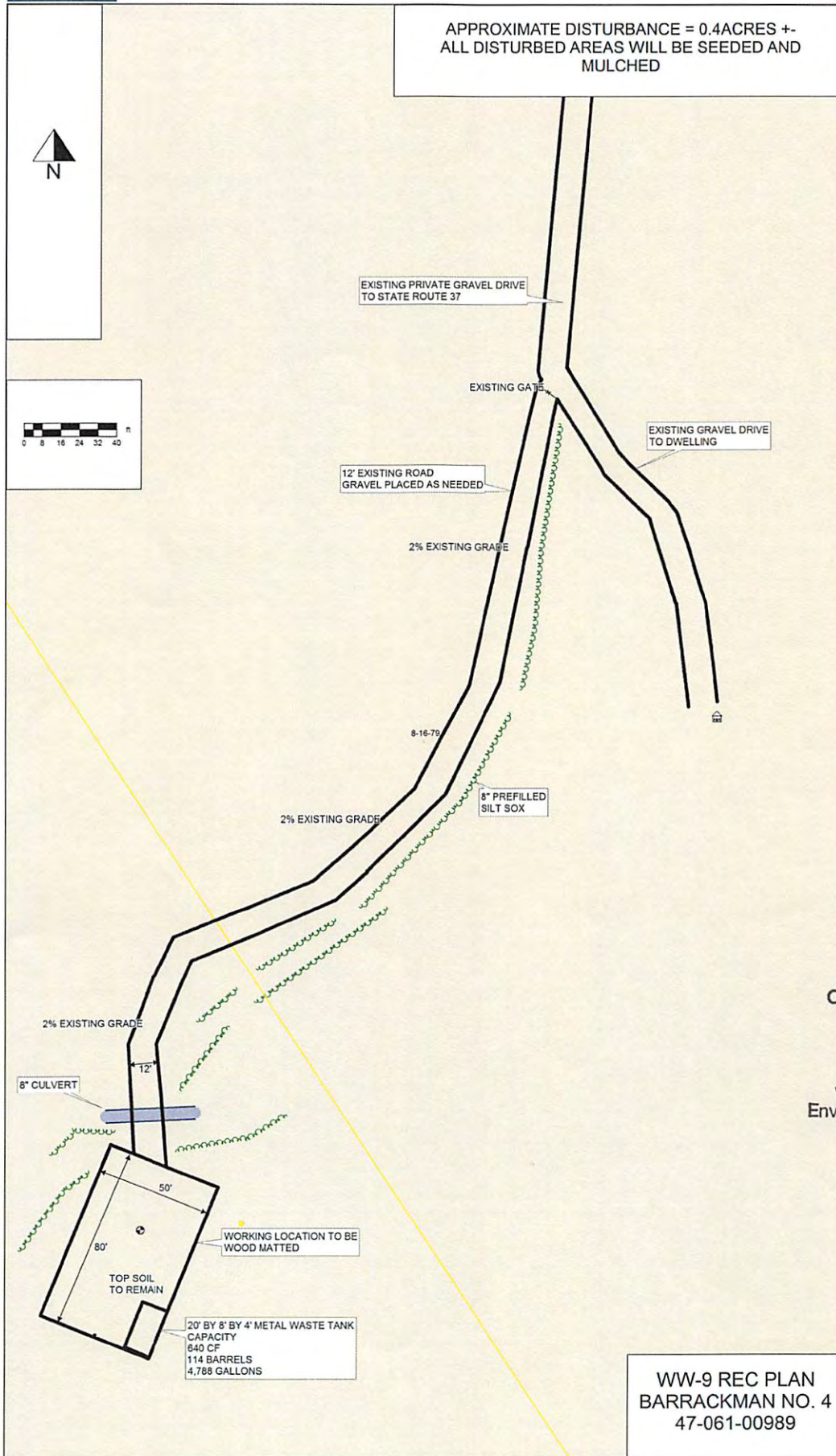
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Title: Inspector Date: 7/23/2018

Field Reviewed? (  ) Yes (  ) No

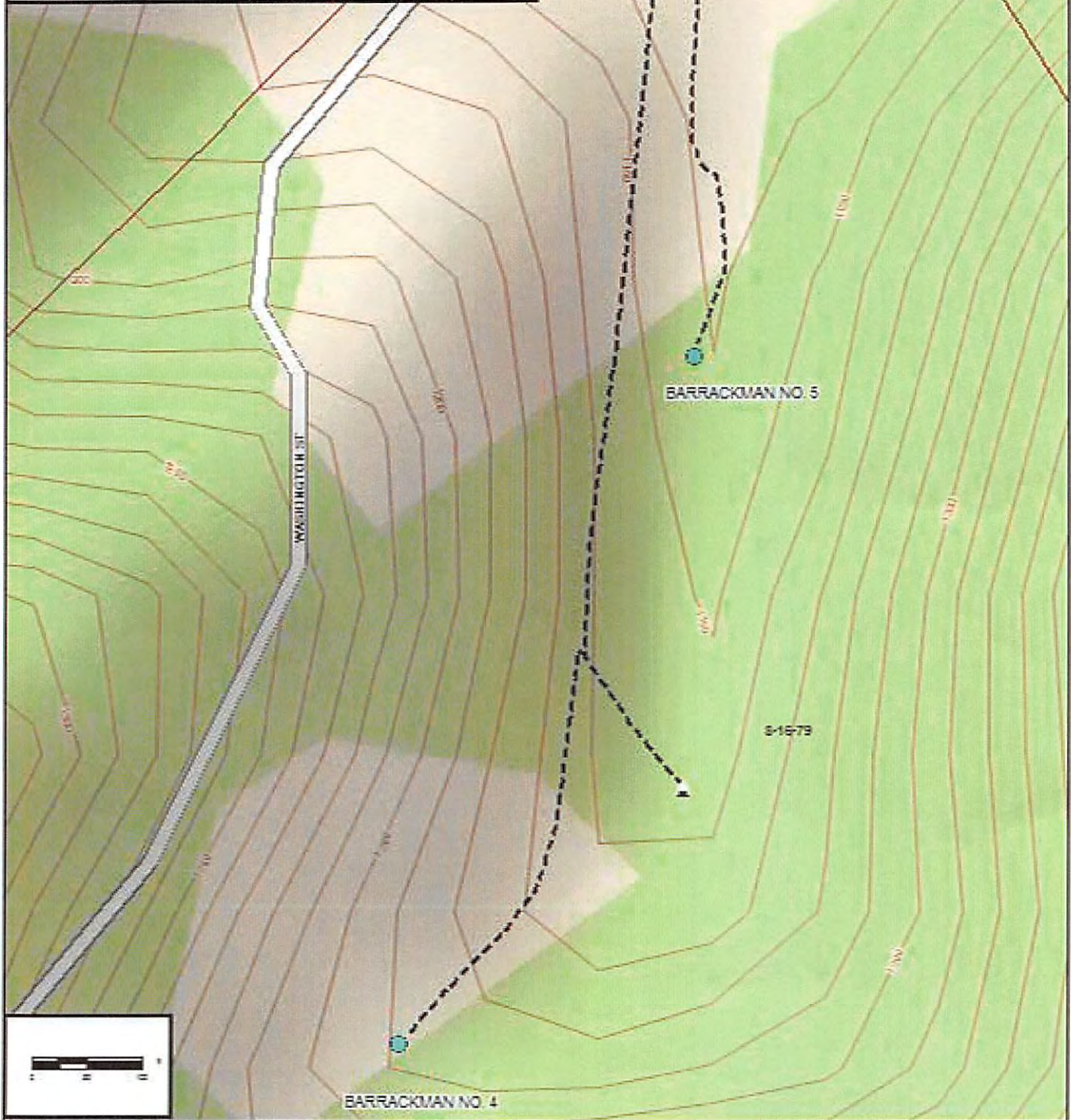


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WW-9 REC PLAN  
BARRACKMAN NO. 4  
47-061-00989



BARRACKMAN NO. 4  
 UTM Nad 83:  
 Easting: 574033.8  
 Northing: 4388887.9  
 Blacksville 7.5' USGS Quad



Data use subject to license.

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www.delorme.com

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WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas  
**WELL LOCATION FORM: GPS**

API: 47-061-00989 WELL NO.: 4  
 FARM NAME: Barrackman  
 RESPONSIBLE PARTY NAME: NNE Resources LLC  
 COUNTY: Monongalia DISTRICT: Clay  
 QUADRANGLE: Blacksville, WV  
 SURFACE OWNER: Mark V. and Betty Eddy  
 ROYALTY OWNER: Martha E. Barrickman  
 UTM GPS NORTHING: 4388887.9  
 UTM GPS EASTING: 574033.8 GPS ELEVATION: 1,188'

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

- 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.

Holl: mmeag  
Signature

Regulatory Manager  
Title

7-13-2018  
Date

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