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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)

Tuesday, May 1, 2018

WELL WORK PLUGGING PERMIT  
Vertical Plugging

EQT PRODUCTION COMPANY  
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for 1651  
47-041-00157-00-00

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 positioned to the right of the printed name and title.

Operator's Well Number: 1651  
Farm Name: RAFFERTY, WM.  
U.S. WELL NUMBER: 47-041-00157-00-00  
Vertical Plugging  
Date Issued: 5/1/2018

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.

Date: April 5, 2018  
Operator's Well  
Well No. 656461 William Rafferty #1651  
API Well No.: # 041 - 00157

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

4704 100157A

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil \_\_\_\_\_ Gas X Liquid Injection \_\_\_\_\_ Waste Disposal \_\_\_\_\_  
If Gas, Production X Or Underground storage \_\_\_\_\_ Deep \_\_\_\_\_ Shallow X

5) Elevation: 1198 Watershed: Raccoon Run  
Location: Court House County: Lewis Quadrangle: Vadis  
District: \_\_\_\_\_

6) Well Operator EQT Production Company 7) Designated Agent: Jason Ranson  
Address: 120 Professional Place Address: 120 Professional Place  
Bridgeport, WV 26330 Bridgeport, WV 26330

8) Oil & Gas Barry Stollings 9) Plugging Contractor:  
Name: 28 Conifer Drive Name: HydroCarbon Well Service  
Address: Bridgeport WV 26330 Address: PO BOX 995  
Buckhannon, WV 26201

10) Work Order: The work order for the manner of plugging this well is as follows:  
**See Attachment for details and procedures.**

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WV Department of  
Environmental Protection

OFFICE USE ONLY

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

Work order approved by inspector Barry Stollings Date 5/1/2018

*Off M<sup>c</sup>Laughlin FOR*

4704 00157P

# PLUGGING PROGNOSIS

Rafferty, Wm. # 1651 (656461)  
Lewis Co. WV  
District, Court House  
API # 47-041-00157

BY: Craig Duckworth  
DATE: 1/3/18

## CURRENT STATUS:

10" csg @ 190'  
8 1/4" csg @ 1079'  
6 5/8" csg @ 1864'  
3" tbg @ 2850' (Packer @ 2275')

Elevation @ 1173'

**TD: 2850'**

Fresh Water @ 145' Coal @ None Reported  
Saltwater @ None Reported  
Gas shows @ None Reported  
Oil @ None Reported  
Perforated @ 2752'-2746, 2533'-2525'

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1. Notify State Inspector, **Barry Stollings 304-552-4194**, 48 hrs. prior to commencing operations.
2. Check TD w/wireline
3. Attempt to pull 3" w/packer @ 2850' if unable to pull. Run bond log to find freepoint of 3".
4. TIH w/tbg to 2850', set 400' C1A cement plug from 2850' to 2450'.
5. TOOH w/tbg to 2450' gel hole 2450' to 1920'.
6. TOOH w/tbg, Free point 6 5/8" csg, cut csg @ free point, TOOH w/csg.
7. Set 100' C1A cement plug 50' in/out of casing cut, perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs.
8. TIH w/tbg to 1920' set <sup>200'</sup> C1A cement plug from 1920' to <sup>1720'</sup> ~~1720'~~, (6 5/8" csg cut @ 1864'. <sup>350'</sup> ~~1670'~~ <sup>OK SHOW @ 1700'-11'</sup>).
9. TOOH w/tbg to 1720' gel hole 1720' to 1250'.
10. TOOH w/tbg to 1250', set 150' C1A cement plug 1250' to 1100'. (elevation @ 1173').
11. TOOH w/tbg, Free point 8 1/4" csg, cut csg @ free point, TOOH w/csg.

OK  
gwm  
5/1/18

4704 100157  
P

12. Set 100' C1A cement plug 50' in/out of casing cut, perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs.
13. TIH w/tbg to 1100', set 100' C1A cement plug, 1100' to 1000'. (8 1/4" csg seat @ 1079')
14. TOOH w/tbg to 1000' gel hole from 1000' to 700'.
15. TOOH w/tbg to 700', set 100' C1A cement plug, 700' to 600'.
16. TOOH w/tbg to 600' gel hole from 600' to 300'
17. TOOH w/tbg to 300', set 300' C1A cement plug, 300' to 0' ( 10" @ 190').
18. Erect monument with API#, Date plugged, EQT
19. Reclaim location and road to WV-DEP specifications.

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4704 00157

00-10



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

*Oadis*

WELL RECORD

Permit No. LSW-157

Oil or Gas Well Gas  
(MINS)

Company Carnegie Natural Gas Company  
Address 1015 Friek Bldg., Pittsburgh, Pa.  
Farm Wm. Rafferty Acres 524  
Location (waters) Raccoon Run  
Well No. 1-1651 Elev. 1173  
District Court House County Lewis  
The surface of tract is owned in fee by WM. RAFFERTY  
RT. #1 Address CAMDEN, W. VA.  
Mineral rights are owned by WM. RAFFERTY  
RT. #1 Address CAMDEN, W. VA.  
Drilling commenced January 26, 1949  
Drilling completed March 8, 1949  
Date Shot From To

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packerc <u>Anchor</u>
18			
10	<u>190</u>	<u>190</u>	Size of <u>3" x 6-5/8"</u>
8 3/4	<u>1079</u>	<u>1079</u>	
6 3/4	<u>1864</u>	<u>1864</u>	Depth set <u>2275</u>
5 3/16			
8	<u>2850</u>	<u>2850</u>	Perf. top <u>2525</u>
2			Perf. bottom <u>2533</u>
Linors Used			Perf. top <u>2746</u>
			Perf. bottom <u>2752</u>

Open Flow /10ths Water in \_\_\_\_\_ Inch  
/10ths Merc. in \_\_\_\_\_ Inch  
Volume 21,000 Cu. Ft.  
Rock Pressure 200# lbs. 72 hrs.  
Oil \_\_\_\_\_ bbls, 1st 24 hrs.  
Fresh water 145 feet  
Salt water \_\_\_\_\_ feet

CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_  
COAL WAS ENCOUNTERED AT \_\_\_\_\_ FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Clay			0	16			
Clay & Slate			16	90			
Sand			90	135			
Slate			135	150			
Red Rock			150	162			
Slate Shls.			162	210	Water	145	
Sand	White	Hard	210	235			
Red Rock		Soft	235	240			
Lime			240	255			
Slate	Dark	Soft	255	300			
Sand			300	340			
Slate			340	360			
Red Rock			360	385			
Lime	White	Hard	385	440			
Red Rock			440	490			
Slate			490	505			
Lime			505	520			
Slate Shls.			520	555			
Sand	White		555	570			
Red Rock			570	585			
Lime		Hard	585	610			
Red Rock			610	640			
Slate Shls.	White		640	735			
Sand		Firm	735	755	Show Gas	746	
Slate			755	775			
Sand			775	838			
Slate		Soft	838	848			
Slate			848	895			
Lime		Hard	895	912			
Sand		Soft	912	920			
Slate	Dark		920	935			
Lime		Hard	935	955			
Slate			955	962			
Lime		Hard	962	967			
Sand			967	1015			
Slate	Dark		1015	1055			
Sand			1055	1060			
Sand			1060	1125			
Slate			1125	1140			



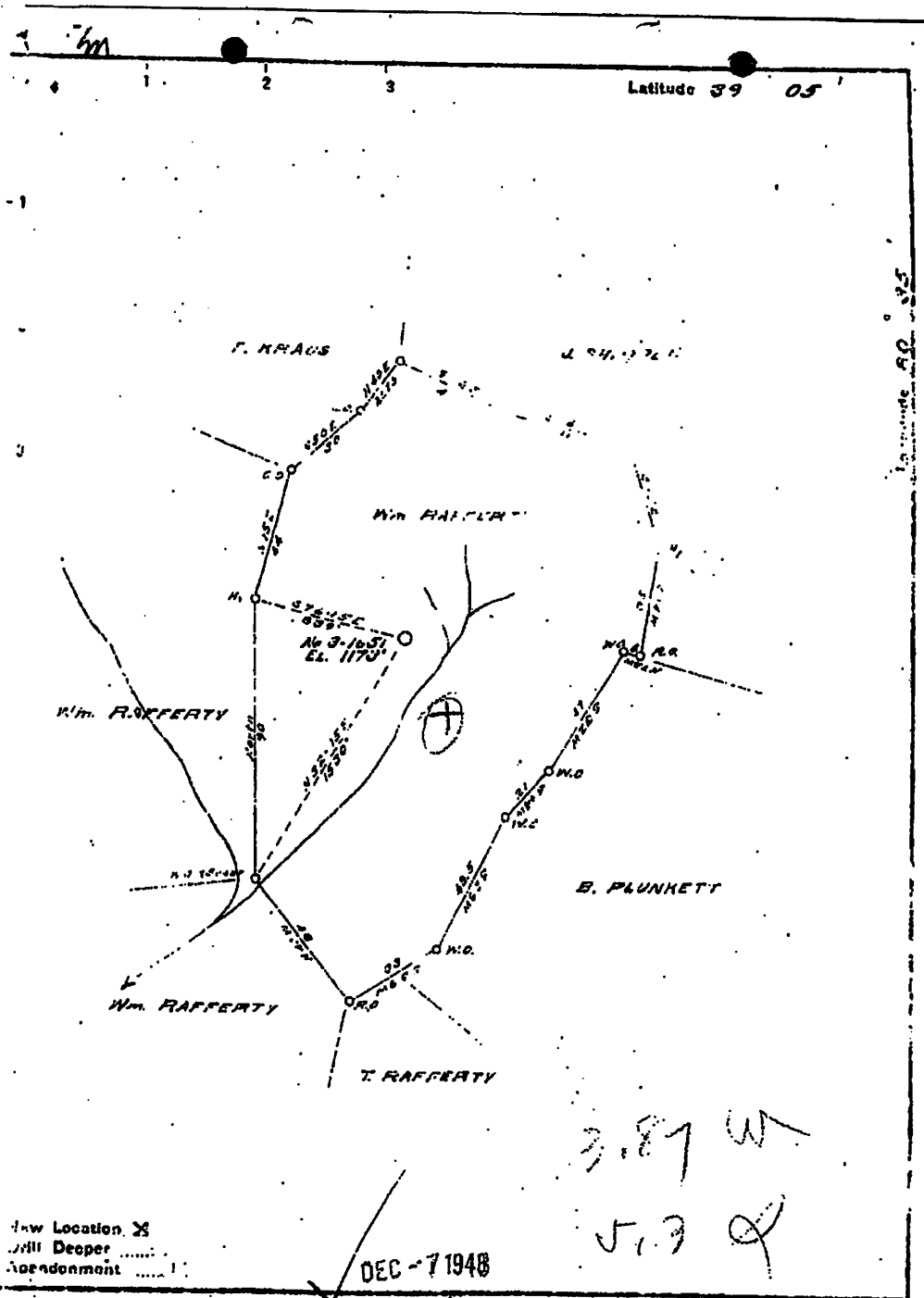
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Big Dunkard  
Gas Sand  
WV Department of Environmental Protection

4704 100157f

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand		Soft	1140	1175			1st Salt Sand
Slate	Dark		1175	1225			
Lime		Hard	1225	1240			
Slate Shls.			1240	1430			
Sand	White		1430	1490			2nd Salt Sand
Slate	White		1490	1500			
Lime			1500	1522			
Slate			1522	1525			
Sand			1525	1580			3rd Salt Sand
Slate Shls.			1580	1660			
Sand	Dark	Hard	1660	1696			
Sand	White	Hard	1696	1720	Show oil	1700-11	Maxon
Slate Shls.	White	Hard-Soft	1720	1736			
Red Rock	Red	Soft	1736	1744			
Slate	White	Soft	1744	1760			
Red Rock	Red	Soft	1760	1782			
Slate	White	Soft	1782	1800			
Lime	Black	Hard	1800	1817			Little Lime
Slate		Soft	1817	1847			
Lime	Gray	Hard	1847	1908			Big Lime
Sand	Dark	Hard	1908	1912			Big Injun
Lime		Hard	1912	1920			
Sand	Dark	Hard	1920	2015	Gas show	1981-84	Big Injun
Slate Shls.		Soft	2015	2070			
Lime	White	Hard	2070	2170			
Slate Shls.		Soft	2170	2260			
Lime		Hard	2260	2300			
Slate Shls.	White	Hard-Soft	2300	2480			
Sand		Hard	2480	2485			
Slate		Soft	2485	2490			
Pink Rock		Soft	2490	2500			
Slate Shls.		Soft	2500	2530			
Sand		Soft	2530	2536	Gas	2530	Gordon
Slate	Dark	Soft	2536	2560			
Sand			2560	2560			4th Sand
Slate Shls.	White	Soft	2560	2747			
Sand	Red	Soft	2747	2753	Gas	2748-49	5th Sand
Slate	White	Soft	2753	2806			
Sand		Soft	2806	2814			
Slate		Soft	2814				
TOTAL DEPTH							2850

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Date SEPT. 2, 1949  
APPROVED CARNEGIE NATURAL GAS COMPANY, Owner  
By D. H. [Signature]  
(Title) Land Agent.



New Location X  
 Well Deeper .....  
 Abandonment .....

DEC-7-1948

3.87 W  
 5.7 Q

Company CARNEGIE NATURAL GAS  
 Address PITTSBURGH, Pa.  
 Farm Wm. RAFFERTY  
 Tract 51 Acres 24.54 Lease No. E11252  
 Well (Farm) No. 3 Serial No. E-1051  
 Elevation (Spirit Level) 1173'  
 Quadrangle KADIS S. V.  
 County LEWIS District COUSE HOUSE  
 Engineer Wm. H. ...  
 Engineer's Registration No. 2011  
 File No. \_\_\_\_\_ Drawing No. \_\_\_\_\_  
 Date 11-9-48 Scale 1" = 40'

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS  
 CHARLESTON  
**RECEIVED**  
 Office of Oil and Gas  
 WELL LOCATION MAP  
 FILE NO. C-15-157  
 APR 23-2018  
 + Denotes location of well on United States  
 Topographic Maps - scale 1" to 32,500' - lat-  
 itude and longitude coordinates are printed  
 by number lines as shown.  
 Environmental Protection  
 - Denotes one inch spaces on border line  
 of original tracing.



CARNEGIE NATURAL GAS COMPANY <sup>303</sup> 4704-00157

Map of Pipe Line No. \_\_\_\_\_ LAID DURING Month of \_\_\_\_\_ 19\_\_\_\_  
LIFTED

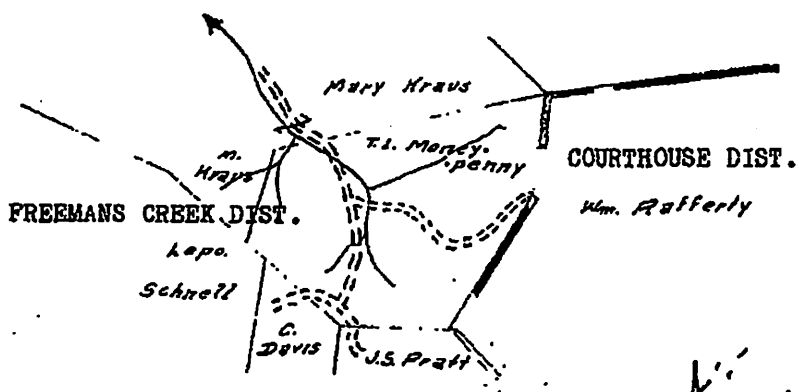
From \_\_\_\_\_

To \_\_\_\_\_

Township \_\_\_\_\_  
District \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_

This Plat is taken from \_\_\_\_\_

Scale of Plat \_\_\_\_\_



*Clerk of Court  
Does not record plat.  
B.H. Archer*

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REMARKS

*[Signature]*  
DIV. SUPT.

1) Date: April 5, 2018 **6704 100157**  
 2) Operator's Well Number 656461 William Rafferty #1651  
 3) API Well No.: # 041 - 00157  
 State County Permit

**STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT  
 DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS  
 NOTICE AND APPLICATION TO PLUG AND ABANDON WELL**

4) Surface Owner(s) to be served:	5) (a) Coal Operator:
(a) Name <input checked="" type="checkbox"/> Daniel F Rafferty et al	Name <u>None</u>
Address <u>1314 Trent Dr.</u>	Address _____
<u>Latrobe PA 15650</u>	_____
(b) Name <input checked="" type="checkbox"/> Coastal Forest Resources Co.	<input checked="" type="checkbox"/> (b) Coal Owner(s) with Declaration
Address <u>PO Box 709</u>	Name <u>Shirley A Rafferty</u>
<u>Buckhannon WV 26201</u>	<u>3454 Dawson Drive</u>
_____	Address <u>Warren MI 48092</u>
(c) Name <input checked="" type="checkbox"/> Margaret Catherine Rafferty Et al	Name <u>Daniel F Rafferty et al</u>
Address <u>1314 Trent Dr.</u>	Address <u>1314 Trent Dr.</u>
<u>Latrobe PA 15650</u>	<u>Latrobe PA 15650</u>
_____	_____
6) Inspector <u>Barry Stollings</u>	(c) Coal Lessee with Declaration
Address <u>28 Conifer Drive</u>	Name <u>None</u>
<u>Bridgeport WV 26330</u>	Address _____
Telephone <u>304-552-4194</u>	_____
_____	_____

**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 Division 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: EQT Production Company  
 By: Erin Spine  
 Its: Regional Land Supervisor  
 Address: 2200 Energy Drive  
Canonsburg PA 15317  
 Telephone: (304) 848-0035

Subscribed and sworn before me this 18 day of April, 2018  
Rebecca L. Wanstreet Notary Public  
 My Commission Expires: 4-7-2020

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**Office of Oil and Gas**

WW2-A

**Additional Coal Owners**

✓ Patrick K Rafferty  
528 Adele Drive  
Irwin PA 15642

✓ Dennis B Rafferty  
623 Latrobe Crabtree Rd.  
Latrobe PA 15650

✓ Edward J Rafferty  
273 East McMurray Rd  
McMurray PA 15317

✓ Mary A Turner  
131 Oakchester Court  
Reidsville NC 27320

✓ Bernard E Rafferty  
122 Hidden Lane  
Latrobe PA 15650

✓ Brenda Sue Rafferty  
751 Lynn Ave  
Weston WV 26452

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**SURFACE OWNER WAIVER**

Operator's Well Numbe 656461 William Rafferty #1651

**INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW 4-A**

The well operator named on page WW4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:**

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

**Time Limits and methods for filing comments.**

The law requires these materials to be served on or before the date the operator files for this Application. You have FIVE (5) 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.

The law requires these materials to be served on or before FIVE (5) DAYS after the filing date to file your

**Comments must be in writing.**

Your comments must 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.

The chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

**List of Water Testing Laboratories.**

The office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For a Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plat.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

\_\_\_\_\_  
Signature

Date \_\_\_\_\_

Name \_\_\_\_\_  
By \_\_\_\_\_  
Its \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE**

The well operator named on the attached page 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 date 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 the 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 operator \_\_\_\_\_ / 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: \_\_\_\_\_

By: \_\_\_\_\_  
Its: \_\_\_\_\_RECEIVED  
Office of Oil and Gas

APR 23 2018

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WW-9  
Revised 5/16

Page \_\_\_\_ of \_\_\_\_

2) Operator's Well Number

**656461 William Rafferty #1651**

3) API Well No.: # 041 - 00157

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL & GAS  
FLUIDS / CUTTINGS DISPOSAL & RECLAMATION PLAN**

Operator Name: EQT PRODUCTION COMPANY OP CODE: \_\_\_\_\_

Watershed (HUC 10): Raccoon Run Quadrangle: Vadis

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes \_\_\_ No X

Will a pit be used? Yes X No \_\_\_

If so, please describe anticipated pit waste:

**Formation Fluids**

Will a synthetic liner be used in the pit? Yes X No \_\_\_ Is so, what ml.? 20 ml

Proposed Disposal Method for Treated Pit Wastes:

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

Will closed loop system be used ? If so, describe: \_\_\_\_\_

Drilling medium anticipated for this well? (vertical and horizontal)? Air, freshwater, oil based, etc \_\_\_\_\_

If oil based, what type? Synthetic, petroleum, etc. \_\_\_\_\_

Additives to be used in drilling medium? \_\_\_\_\_

Drill cuttings disposal method? Leave in pit, landfill, remove offsite, etc. \_\_\_\_\_

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

Landfill or offsite name/permit number? \_\_\_\_\_

Permittee shall provide written notice to the Office of the Oil and Gas of any load of drill cuttings or associated waste rejected at :  
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 Division 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.

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.

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APR 23 2018

Company Official Signature [Signature]  
Company Official (Typed Name) Erin Spine  
Company Official Title Regional Land Supervisor  
WV Department of Environmental Protection

Subscribed and sworn before me this 18 day of April, 2018

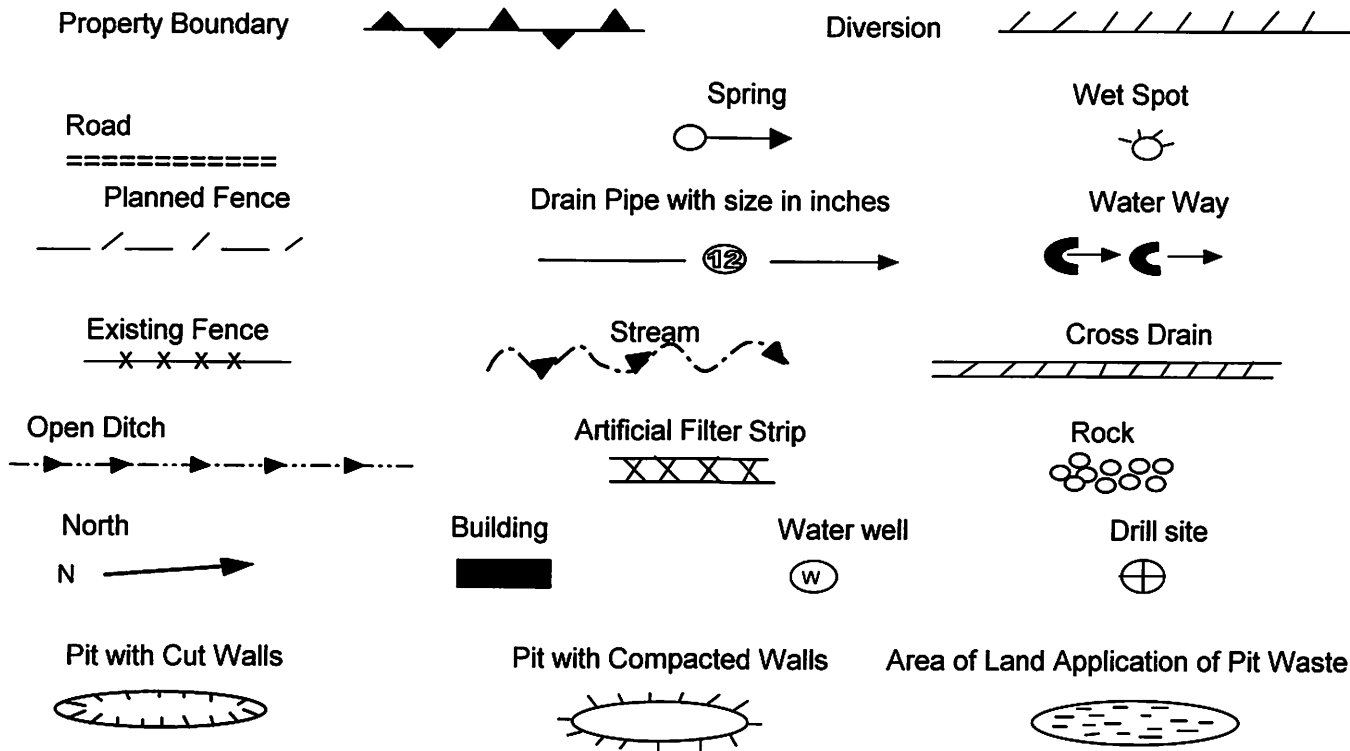
Rebecca L. Wanstreet  
My Commission Expires 4-7-2020



4704 + 00157P

OPERATOR'S WELL NO.:  
656461 William Rafferty #1651

**LEGEND**



Proposed Revegetation Treatment: Acres Disturbed: 1± Prevegetation pH         

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20) or equivalent 1/3 ton lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre or hydroseed.

**SEED MIXTURES**

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Red Fescue	40	Red Fescue	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

**ATTACH:**  
Drawing(s) of road, location, pit and proposed area for land application.  
Photocopies section of involved 7.5' topographic sheet.

Plan approved by: \_\_\_\_\_

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

**RECEIVED**  
Office of Oil and Gas

APR 23 2018

WV Department of  
Environmental Protection

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Field Reviewed?          Yes          No



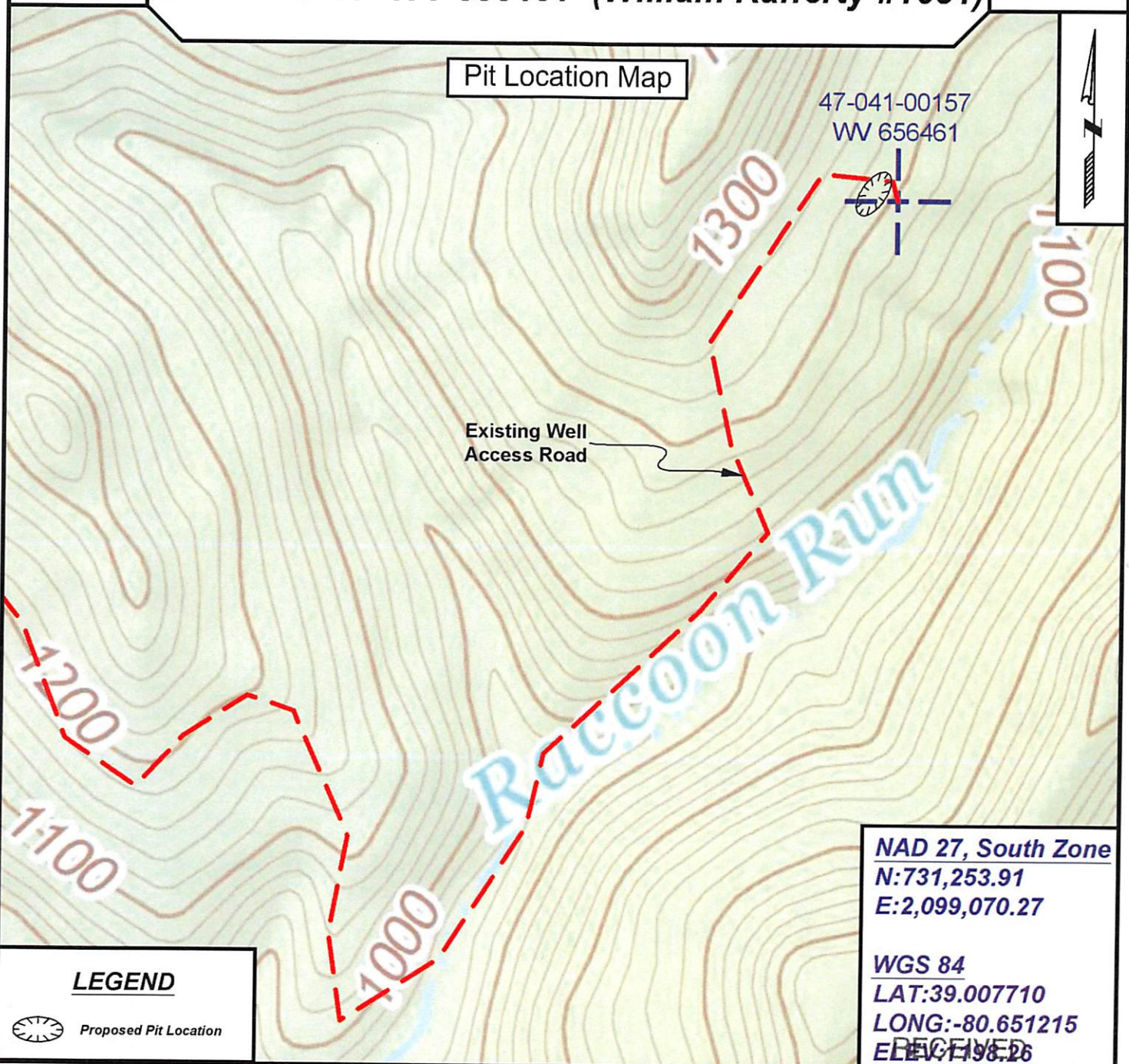
47 04 1 00 15 7f

Topo Quad: Vadis 7.5' Scale: 1" = 200'  
 County: Lewis Date: February 27, 2018  
 District: Court House Project No: 73-12-00-08

**47-041-00157 WV 656461 (William Rafferty #1651)**

Topo

Pit Location Map



47-041-00157  
WV 656461

Existing Well  
Access Road

Raccoon Run

**NAD 27, South Zone**  
**N:731,253.91**  
**E:2,099,070.27**

**WGS 84**  
**LAT:39.007710**  
**LONG:-80.651215**  
**ELEV:198.26**

**LEGEND**



Proposed Pit Location



SURVEYING AND MAPPING SERVICES PERFORMED BY:

**ALLEGHENY SURVEYS, INC.**

1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:

**EQT Production Company**

P.O. Box 280  
 Bridgeport, WV 26330

Office of Oil and Gas  
 WV Department of  
 Environmental Protection

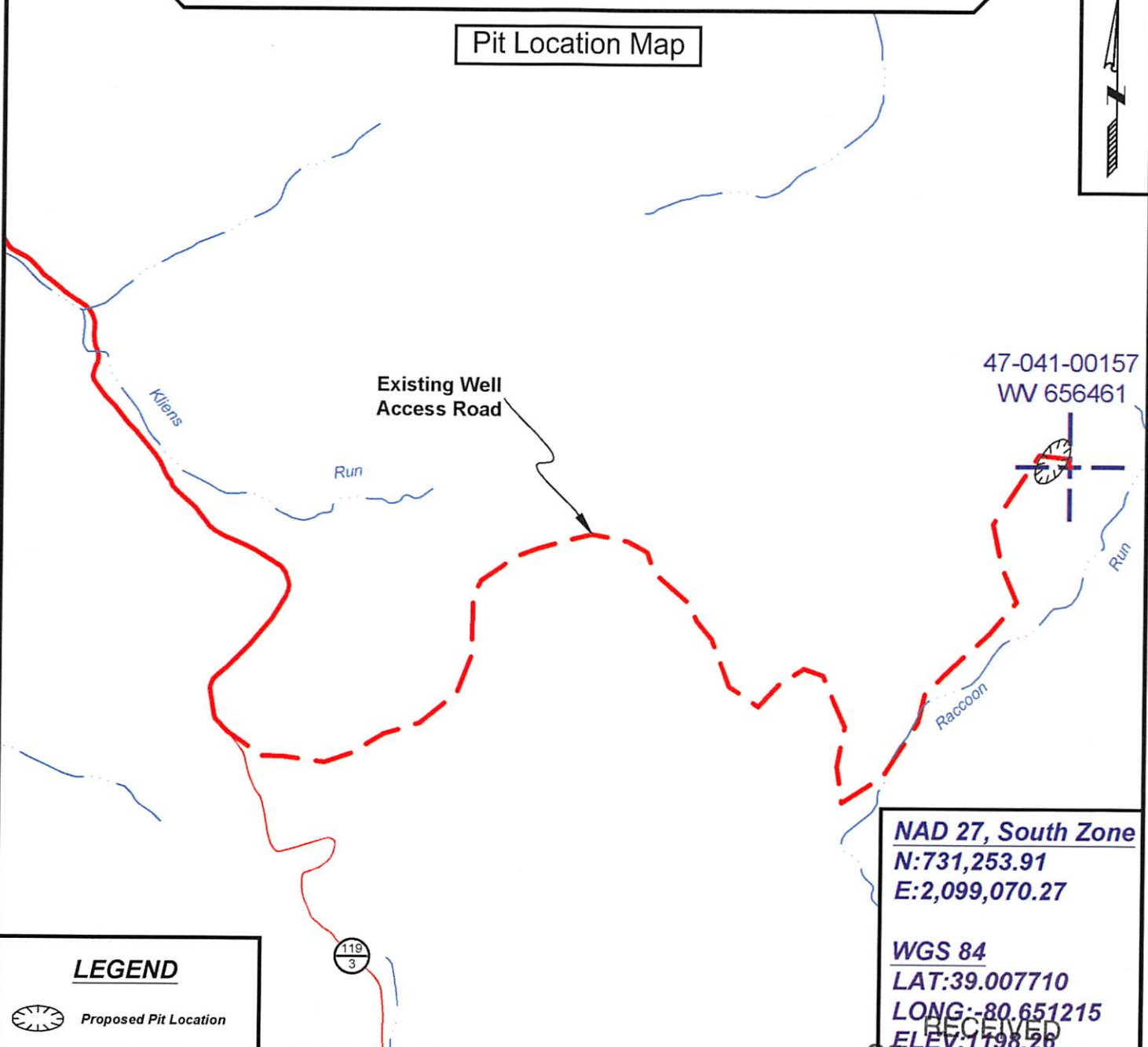


4704:00157P

Topo Quad: Vadis 7.5' Scale: 1" = 1000'  
 County: Lewis Date: February 27, 2018  
 District: Court House Project No: 73-12-00-08

Highway **47-041-00157 WV 656461 (William Rafferty #1651)**

**Pit Location Map**



47-041-00157  
WV 656461

**NAD 27, South Zone**  
**N:731,253.91**  
**E:2,099,070.27**

**WGS 84**  
**LAT:39.007710**  
**LONG:-80.651215**  
**ELEV:1198.28**

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**LEGEND**

Proposed Pit Location



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PREPARED FOR:

**EQT Production Company**

APR 29 2018  
 P.O. Box 280  
 Bridgeport, WV 26330  
 WV Department of  
 Environmental Protection

4704 : 001576

**EQT Production Water plan**  
**Offsite disposals**

**Waste Management - Meadowfill Landfill**

Rt. 2, Box 68 Dawson Drive  
Bridgeport, WV 26330  
304-326-6027  
Permit #SWF-1032-98  
Approval #100785WV

**Waste Management - Northwestern Landfill**

512 E. Dry Road  
Parkersburg, WV 26104  
304-428-0602  
Permit #SWF-1025 WV-0109400  
Approval #100833WV

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**APR 23 2018**

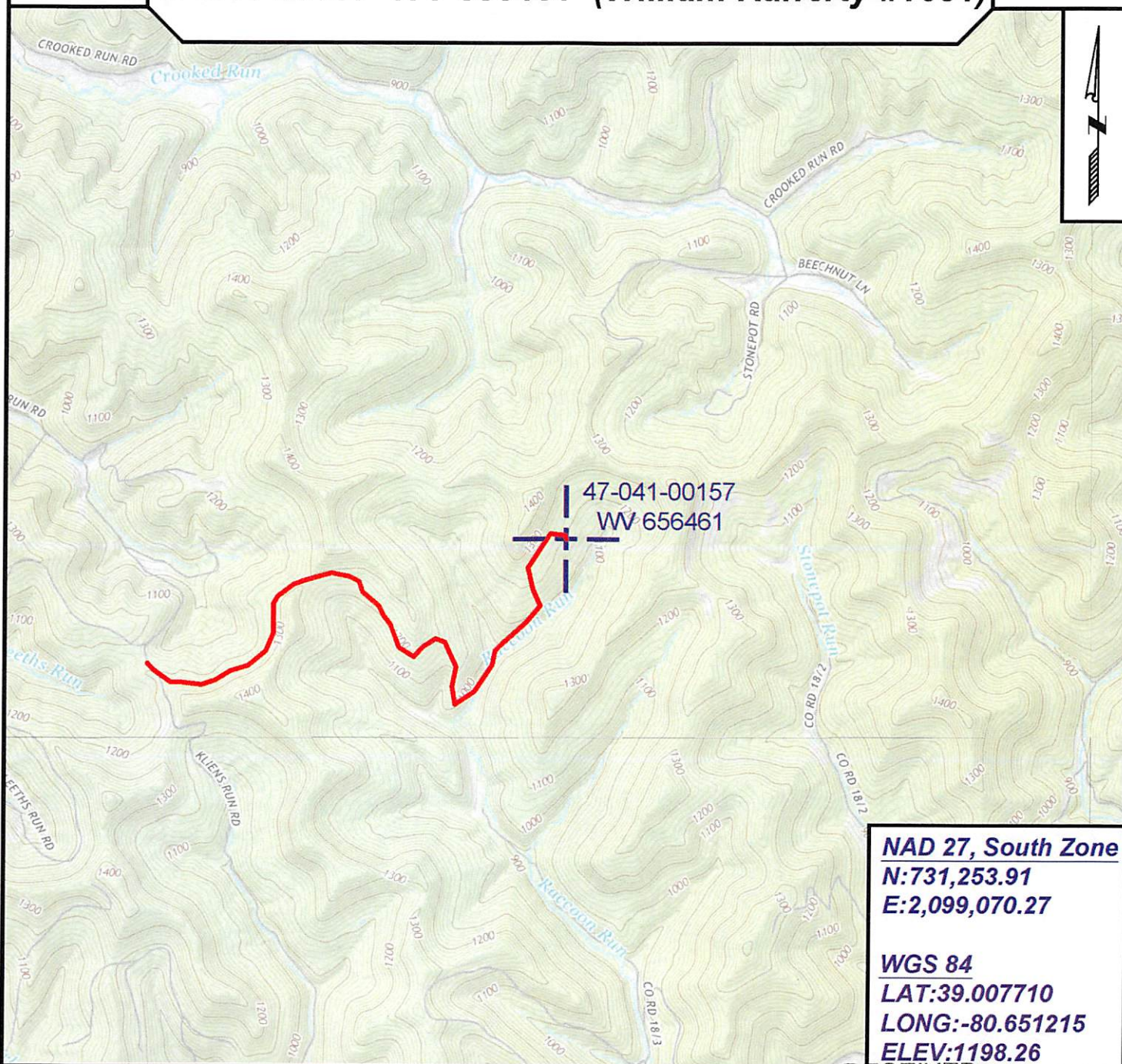
**WV Department of**  
**Environmental Protection**



Topo Quad: Vadis 7.5' Scale: 1" = 2000'  
 County: Lewis Date: February 27, 2018  
 District: Court House Project No: 73-12-00-08

**47-041-00157 WV 656461 (William Rafferty #1651)**

Topo



**NAD 27, South Zone**  
**N:731,253.91**  
**E:2,099,070.27**

**WGS 84**  
**LAT:39.007710**  
**LONG:-80.651215**  
**ELEV:1198.26**



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**

1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:  
**Office of Oil and Gas**  
**EQT Production Company**

APR 28 2018  
 Bridgeport, WV 26330

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## POTENTIAL WATER SAMPLE DATA SHEET

**CLIENT:** EQT PRODUCTION COMPANY

**LEASE NAME AND WELL No.** William Rafferty #1651 - WV 656461 - API No. 47-041-00157

### POTENTIAL SAMPLE LOCATIONS

There appears to be no potential water sources within the required 1000 feet of the existing well WV 656461.

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Office of Oil and Gas

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WV Department of  
Environmental Protection

**BIRCH RIVER OFFICE**

237 Birch River Road  
Birch River, WV 26610  
*phone:* 304-649-8606 *fax:* 304-649-8608

**BRIDGEPORT OFFICE**

172 Thompson Drive  
Bridgeport, WV 26330  
*phone:* 304-848-5035 *fax:* 304-848-5037

**ALUM CREEK OFFICE**

P.O. Box 108 • 1413 Childress Road  
Alum Creek, WV 25003  
*phone:* 304-756-2949 *fax:* 304-756-2948



Topo Quad: Vadis 7.5'

Scale: 1" = 2000'

County: Lewis

Date: February 27, 2018

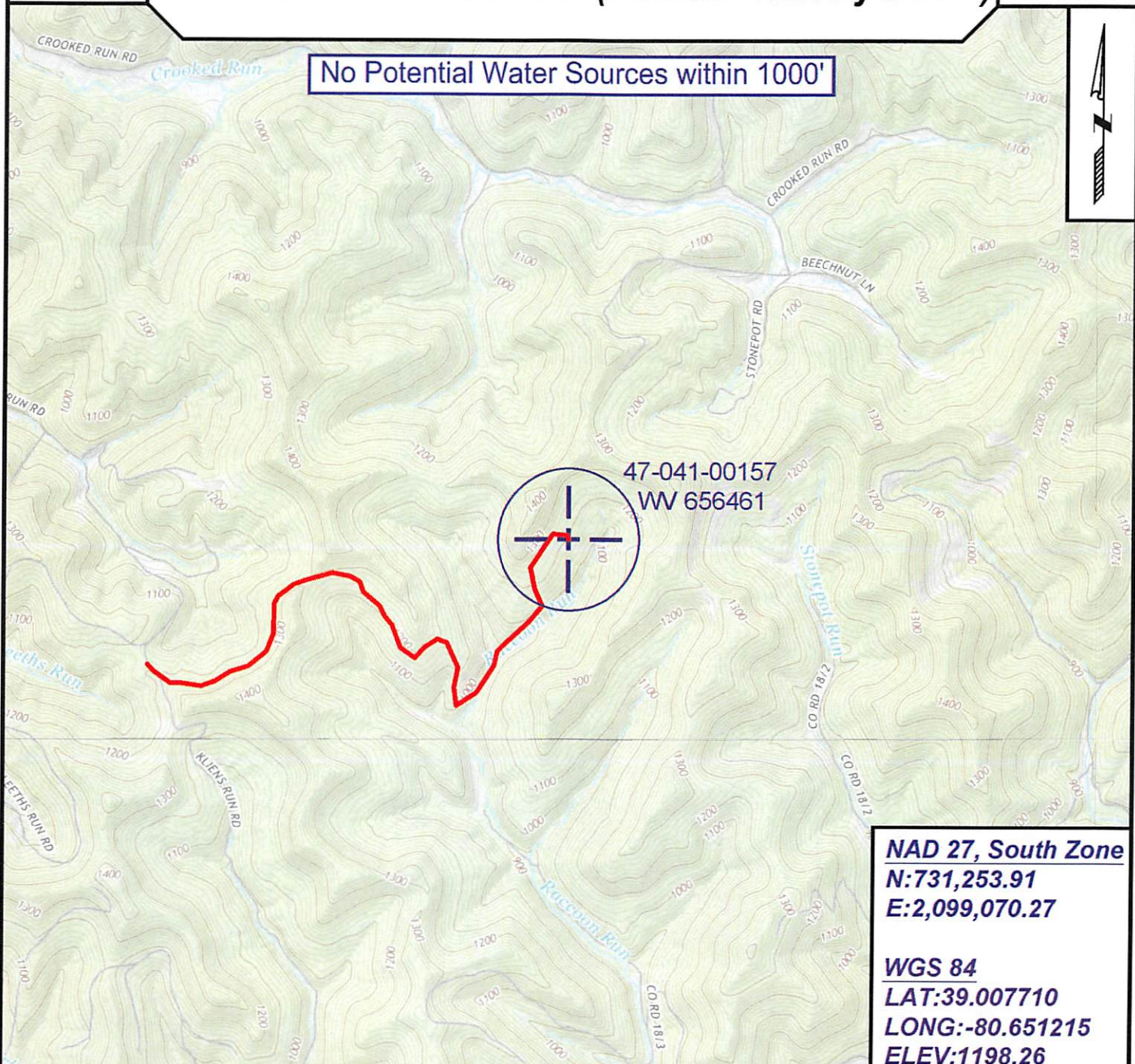
District: Court House

Project No: 73-12-00-08

Water

**47-041-00157 WV 656461 (William Rafferty #1651)**

**No Potential Water Sources within 1000'**



**NAD 27, South Zone**  
**N:731,253.91**  
**E:2,099,070.27**

**WGS 84**  
**LAT:39.007710**  
**LONG:-80.651215**  
**ELEV:1198.26**



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PREPARED FOR:  
**EQT Production Company**  
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WW-7  
8-30-06

4704100157P



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

API: 47-041-00157 WELL NO.: WV 656461 (William Rafferty #1651)

FARM NAME: William Rafferty

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Lewis DISTRICT: Court House

QUADRANGLE: Vadis 7.5'

SURFACE OWNER: Daniel Rafferty, et al.

ROYALTY OWNER: Daniel Rafferty, et al.

UTM GPS NORTHING: 4317690

UTM GPS EASTING: 530199 GPS ELEVATION: 365 m (1198 ft)

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:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS \_\_\_\_\_: Post Processed Differential \_\_\_\_\_  
Real-Time Differential \_\_\_\_\_

Mapping Grade GPS X: Post Processed Differential X  
Real-Time Differential \_\_\_\_\_

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.

RECEIVED  
Office of Oil and Gas

APR 28 2018

WV Department of  
Environmental Protection

  
Signature

PS # 2180  
Title

3/22/18  
Date