



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
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 placed 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



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

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^cLaughlin FOR

05/04/2018

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'

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 200' C1A cement plug from 1920' to 1720', (6 5/8" csg cut @ 1864'. **OK SHOW @ 1700'-11'. 1670'**
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.

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OK
 gwm
 5/1/18

05/04/2018

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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
(MINES)

Company Carnegie Natural Gas Company
Address 1015 Friek Bldg., Pittsburgh, Pa.
Farm Wm. Rafferty Acres 52 1/4
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 1/4	<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			
Sand	White	Hard	210	235	Water	145	
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

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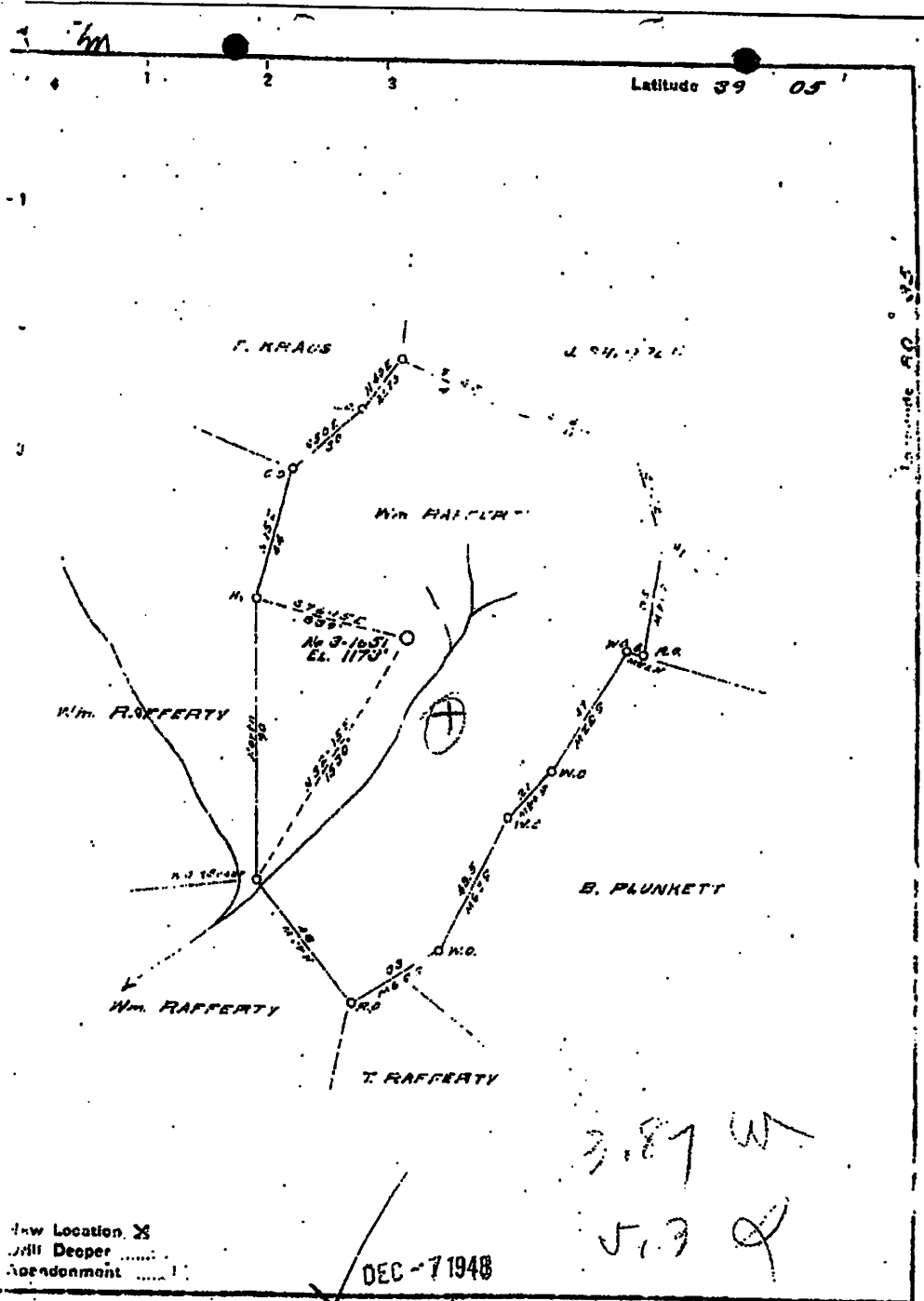
(Over)

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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. Anderson
(Title) Land Agent
05/07/2018



Well 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 26.54 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
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 WELL LOCATION MAP
 FILE NO. C-15-157
 APR 25-2018
 + 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.
 - Denotes one inch spaces on border line
 of original tracing.

CARNEGIE NATURAL GAS COMPANY ³⁰³ 4704-00157

Map of Pipe Line No. _____ LAID DURING Month of _____ 19____

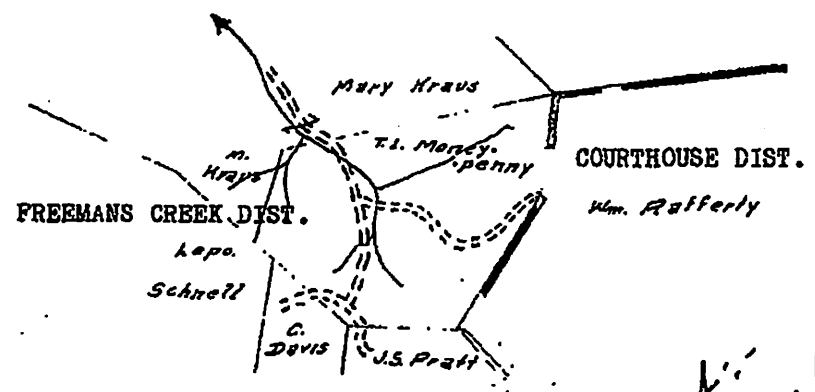
From _____

To _____

Township _____
District _____ County _____ State _____

This Plat is taken from _____

Scale of Plat _____



*Clerk of Court
Mount Pleasant
B.H. Archer*

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REMARKS

[Signature]
05/04/2018

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**

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

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

The Office of Oil & Gas processes your personal information, such as name, address and phone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

APR 23 2018
 Department of
 Environmental Protection
05/04/2018

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: _____

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WV Department of
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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 a 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

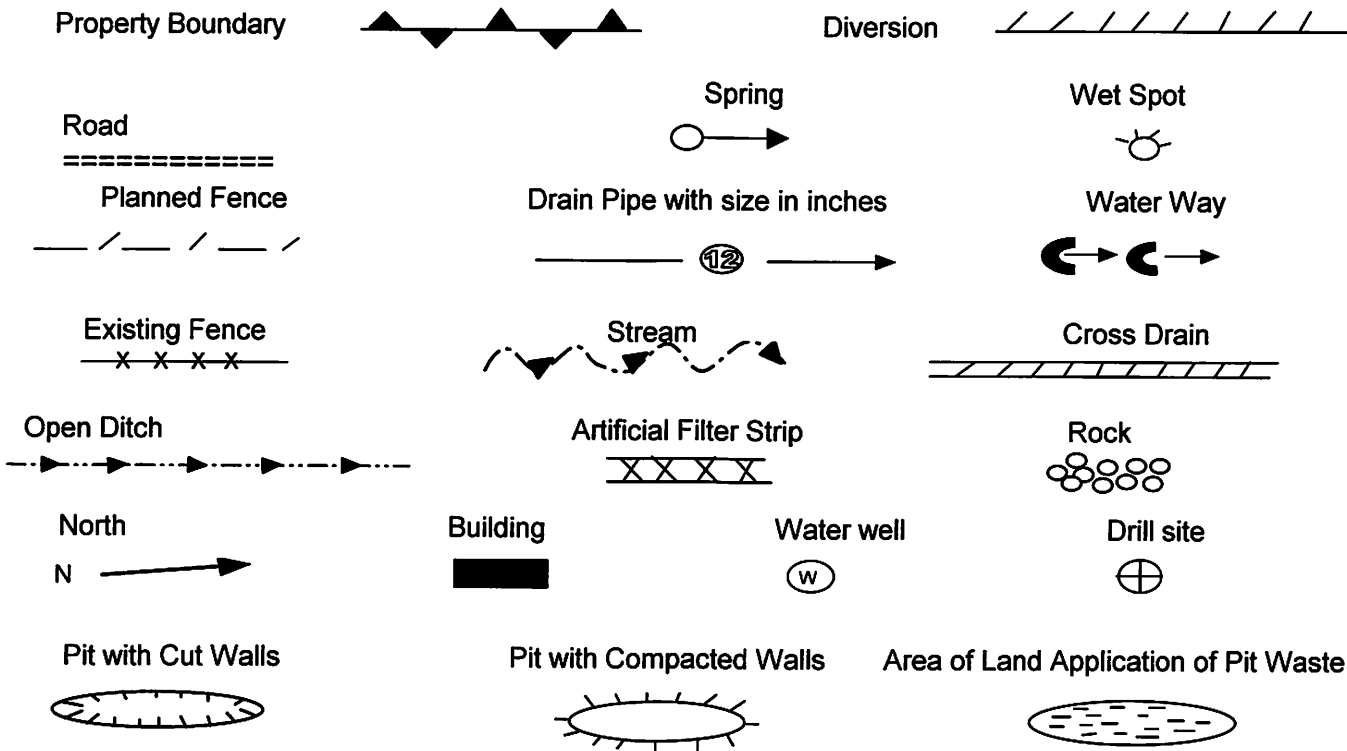
Company Official Signature [Signature]
Company Official (Typed Name) Erin Spine
Company Official Title Regional Land Supervisor
WV Department of Environmental Protection

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

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

Notary Public
OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
REBECCA L. WANSTREET
EQT PRODUCTION COMPANY
BRIDGEPORT, WV 26330
My commission expires April 07, 2020
05/04/2018

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: _____

Title: _____ Date: _____

Field Reviewed? Yes No

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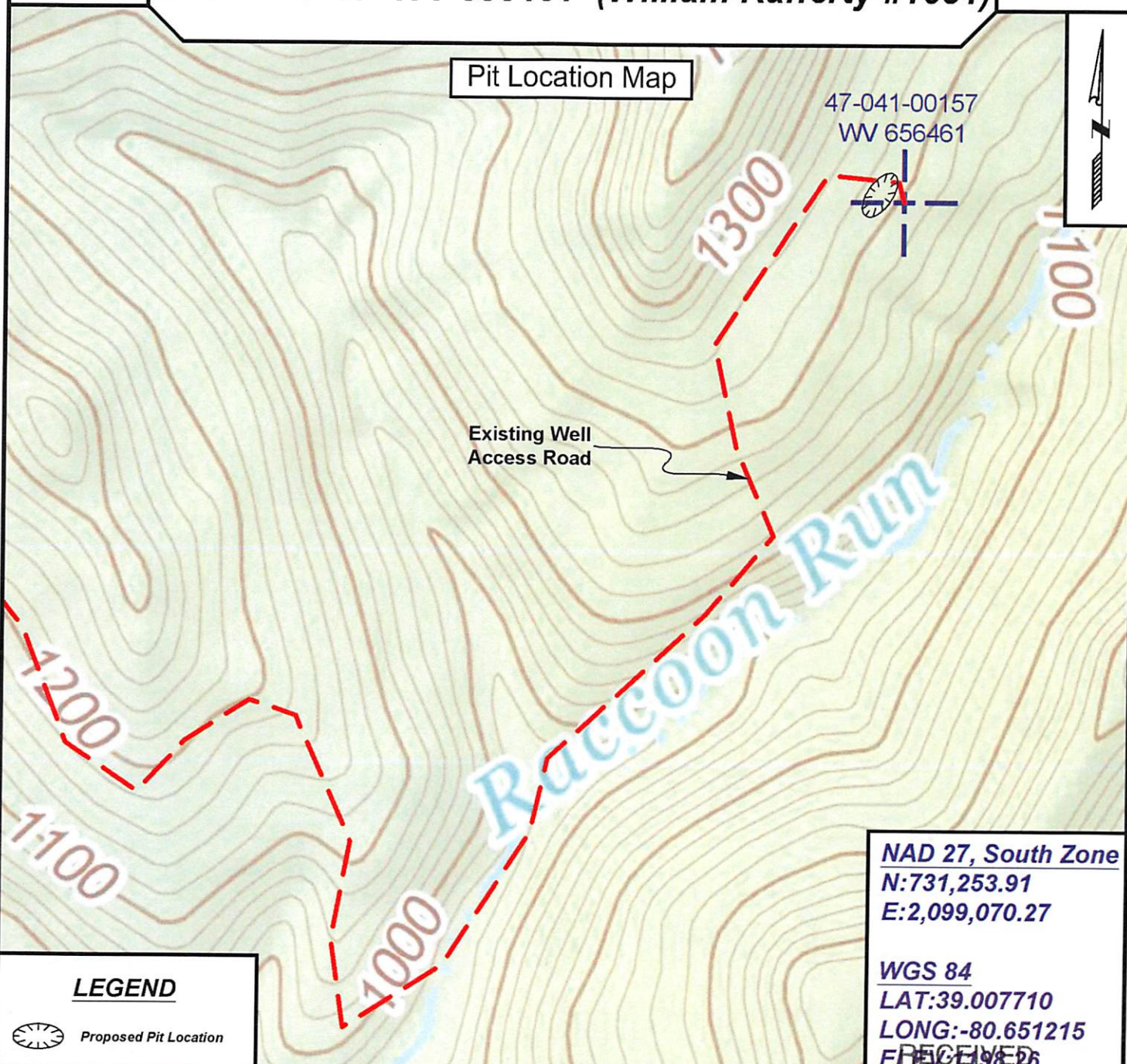
47 04 1 00 15 7f

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:

Office of Oil and Gas
EQT Production Company

P.O. Box 280
 Bridgeport, WV 26330

WV Department of
 Environmental Protection

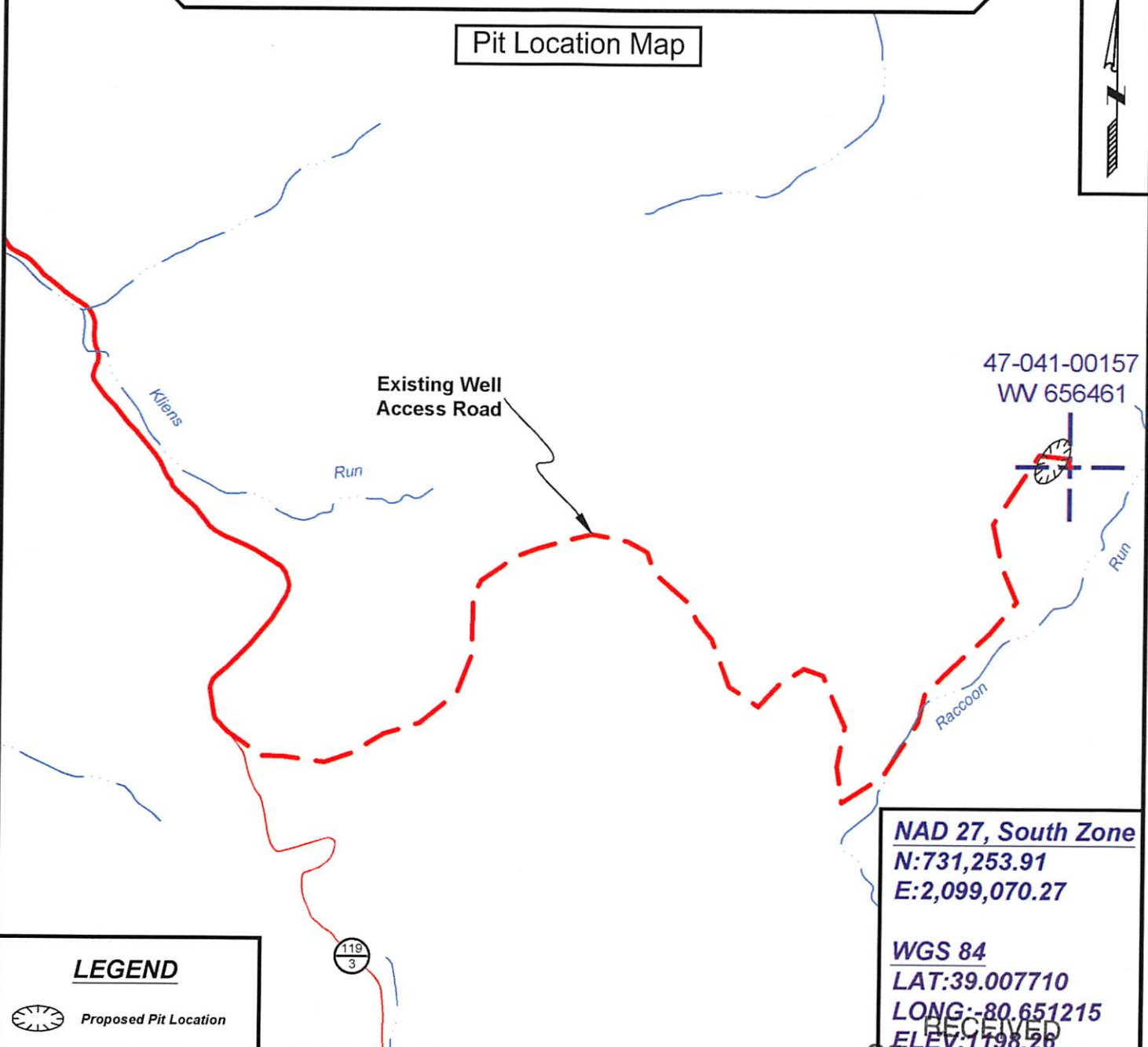
05/04/2018

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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Office of Oil and Gas

LEGEND

 Proposed Pit Location



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PREPARED FOR:

EQT Production Company

P.O. Box 280
 Bridgeport, WV 26330

APR 29 2018
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 Environmental Protection

05/04/2018

4704 : 00157f

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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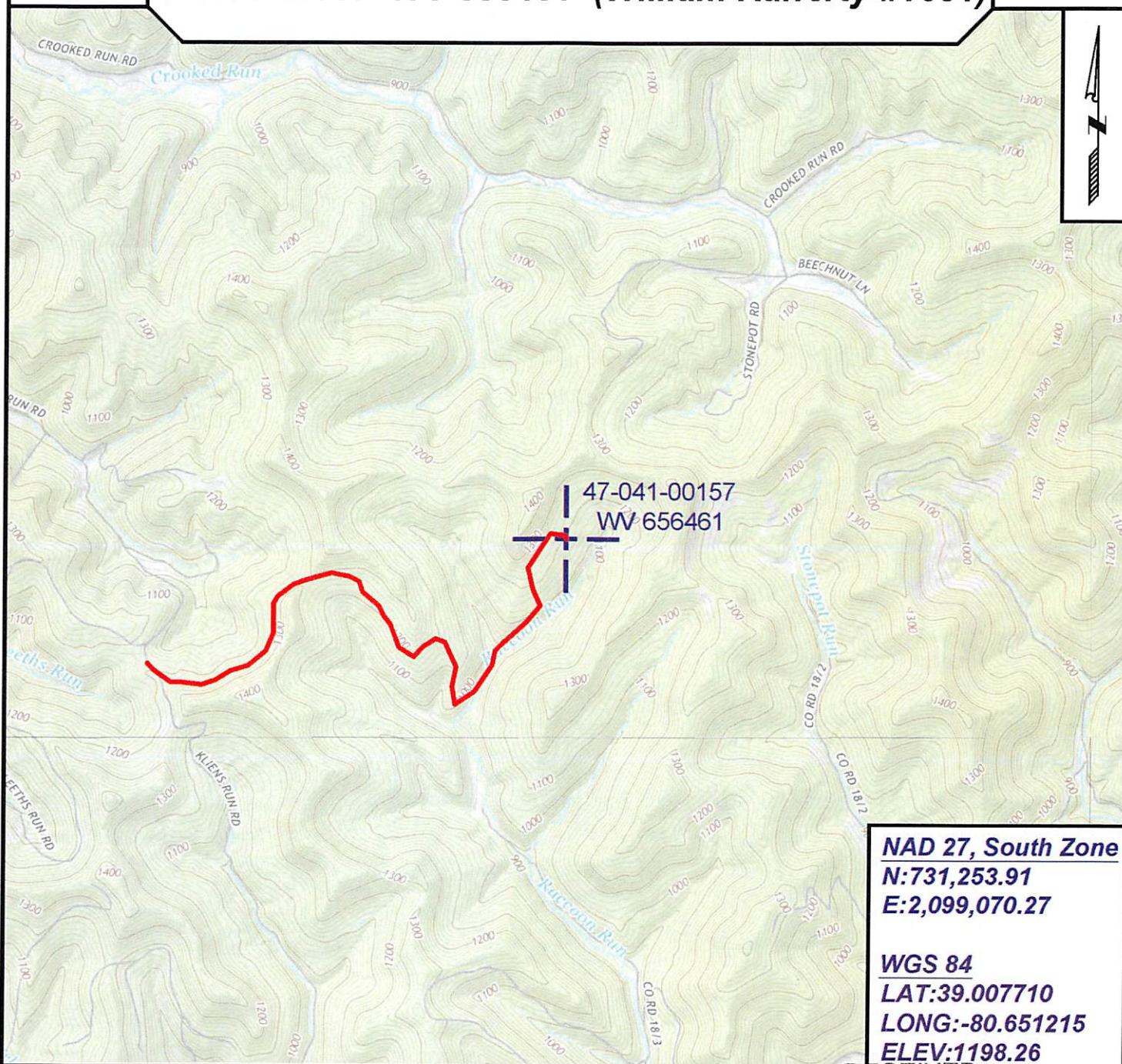
WV Department of
Environmental Protection

05/04/2018

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



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 Birch River, WV 26610
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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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APR 23 2018

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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

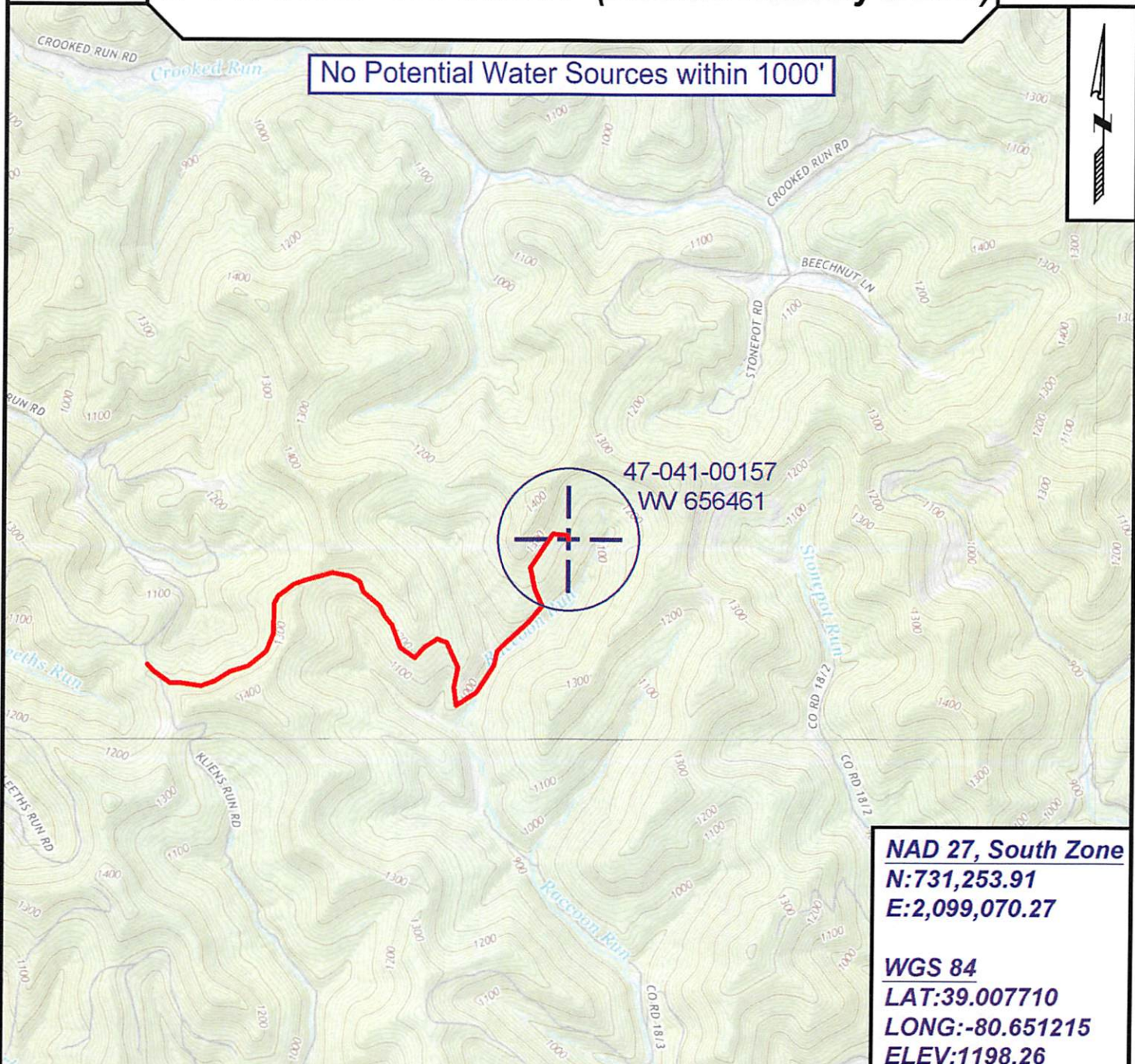
District: Court House

Project No: 73-12-00-08

Water

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

No Potential Water Sources within 1000'



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:1198.26



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 Environmental Protection

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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.

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Office of Oil and Gas

APR 28 2018

WV Department of
Environmental Protection


Signature

PS # 2180
Title

3/22/18
Date

05/04/2018