



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

Wednesday, August 28, 2019
WELL WORK PLUGGING PERMIT
Vertical Plugging

EQT PRODUCTION COMPANY
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for 1829
47-017-02469-00-00

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: 1829
Farm Name: DAVIS, B. O.
U.S. WELL NUMBER: 47-017-02469-00-00
Vertical Plugging
Date Issued: 8/28/2019

I

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.

WW-4B
Rev. 2/01

- 1) Date August 7, 2019
- 2) Operator's
Well No. 657146 BO Davis #1829
- 3) API Well No. 47-017 - 02469 P

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 X / Liquid injection ___ / Waste disposal ___ /
(If "Gas, Production ___ or Underground storage ___) Deep ___ / Shallow X

5) Location: Elevation 1185 Watershed Lick Run
District New Milton County Doddridge Quadrangle New Milton 7.5'

6) Well Operator EQT Production Company 7) Designated Agent Jason Ranson
Address 2400 Ansys Drive- Suite 200 Address 120 Professional Place
Canonsburg PA 15317 Bridgeport WV 26330

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Daniel Flack Name HydroCarbon Well Service
Address 58 Rive Road Address PO Box 995
Buckhannon, WV 26201 Buckhannon WV 26201

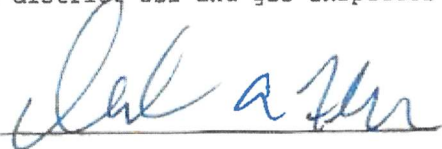
10) Work Order: The work order for the manner of plugging this well is as follows:
See Attachment for details and procedures.

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WV Department of
Environmental Protection

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

Work order approved by inspector  Date 8-8-19

PLUGGING PROGNOSIS

B.O. Davis #1829 (657146)
 API# 47-017-02469
 District, New Milton
 Doddridge County, WV

BY: Craig Duckworth
 DATE: 05/03/19

CURRENT STATUS:
TD @ 5472'
Elevation @ 1093'

9 5/8" casing @ 1202' (cts 450sks.)
 4 1/2" casing @ 5440' (85 sks)

Fresh Water @ No reported
 Saltwater @ None reported
 Oil Show @ None reported
 Gas Shows @ None reported
 Coal @ None reported
 Perforations @ 5404'-5342'

1. Notify inspector, **Daniel Flack @ 304-545-0109**, 24 hours prior to commencing operations.
2. TIH check TD @ or below 5400, spot 35 bbl. of 6% gelled water, followed by 200' CIA cem plug, 5400' to 5200'. WOC 8 hrs., TAG TOC (Perfs 5404'-5342').
3. Free point 4 1/2" csg, cut csg @ free point. TOOH 4 1/2" csg.
4. Set 100' CIA cement plug 50' in/out of casing cut. Perforate all saltwater, freshwater, coal, oil and gas shows below cut. Do not omit any plugs
5. TIH w/tbg to 4000', set 200' CIA cement plug 4000' to 3800' (approx. 4 1/2 csg cut.)
6. TOOH to 2500', set 200' CIA cement plug 2500' to 2300'. (Safety Plug).
7. TOOH to 1300' set 300' CIA cement plug 1300' to 1000'. (Elevation @ 1093' & 9 5/8" csg 1202' cmt)
8. TOOH to 200' set 200' CIA cement plug 200' to 0' (surface).
9. Erect monument with API#, date plugged, company name.
10. Reclaim road, location to WV-DEP specifications.

All Efforts must be made to remove all casing

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EQT

Conventional Well

Well : 657146 Rig :
 Pad : Davis 1829 Elevation : 1093'
 County : Doddridge State : WV
 Location : Lat: Long:
 BHL : Lat: Long:

Tubular Detail

	Size	Weight	Grade	Cxn	From	To	TOC	Sks
Surface	10"				0'	177'	UNK	UNK
Intermediate	9 5/8"				0'	1202'	Surf	450
Production	4 1/2"				0'	5440'	4463'	85
Tubing	N/A				0'	N/A	UNK	UNK
N/A	N/A				N/A	N/A	N/A	N/A

UNK

9 5/8" - 1202'

Coal: N/A
 FW: N/A
 Oil: N/A
 SW: N/A

Perfs from 5342' to 5404'
 with 18 shots

4 1/2" - 5440'

TD - 5472'

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STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Quadrangle Vadis N.W.
Permit No. Dodd-2469

Rotary Oil _____
Cable _____ Gas
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind)

Company <u>Carnegie Natural Gas</u>	Casing and Tubing	Used in Drilling	Left in Well	Cement fill up (Cu. ft. (Sks.))
Address <u>3904 Main Street, Munhall, PA 15120</u>	Size			
Farm <u>B.O. Davis</u> Acres <u>55</u>	20-16			
Location (waters) <u>Lick Run</u>	Cond.			
Well No. <u>2-1829</u> Elev. <u>1093</u>	13-10"			
District <u>New Milton</u> County <u>Doddridge</u>	9 5/8	1202	1202	450 sks.
The surface of tract is owned in fee by <u>Garnett C. Davis</u>	8 5/8			
Address <u>Blandville, W.VA 26328</u>	7			
Mineral rights are owned by <u>B.O. Davis Heirs. etal.</u> Address <u>Blandville, W.VA 26328</u>	5 1/2			
Drilling Commenced <u>August 29, 1979</u>	4 1/2	5440	5440	85 sks.
Drilling Completed <u>September 9, 1979</u>	3			
Initial open flow <u>6,300</u> cu. ft. - bbls.	2			
Final production <u>375,000</u> cu. ft. per day - bbls.	Lines Used			
Well open _____ hrs. before test <u>1760</u> RP.				

Well treatment details: Attach copy of cementing record.
Perforated 5342-5404 with 18 shots. Fractured by Halliburton on 10/18/79 with 34,158 gal. of water and 500 gal. of acid and 90,000 lb. of sand.

Coal was encountered at None Feet _____ Inches _____
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Alexander Depth 5342-5404

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Substructor			0	10		
Sand			10	15		
Red Rock			15	30		
Sand			30	75		
Shale			75	100		
Sand			100	180		
Shale			180	220		
Red Rock			220	240		
Shale			240	340		
Sand			340	404		
Red Rock			404	515		
Sand			515	542		
Red Rock & Shale			542	661		
Line			661	680		
Shale			680	803		
Red Rock & Shale			803	1010		
Sand			1010	1074		
Shale			1074	1227		
Sand			1227	1345		
Shale			1345	1355		
Sand			1355	1565		
Shale			1565	1780		
Sand			1780	1811		

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NOV 30 1979
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(over)
- Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Shale			1811	1880		
Sand			1880	1935		
Shale			1935	1942		
Red Rock			1942	1948		
Shale			1948	1972		
Lime			1972	2060		
Sand			2060	2160		
Shale			2160	2250		
Sand			2250	2375		
Shale			2375	2604		
Sand			2604	2636		
Shale			2636	4505		
Sand			4505	4580		
Shale			4580	5472		
T.D.				5472		

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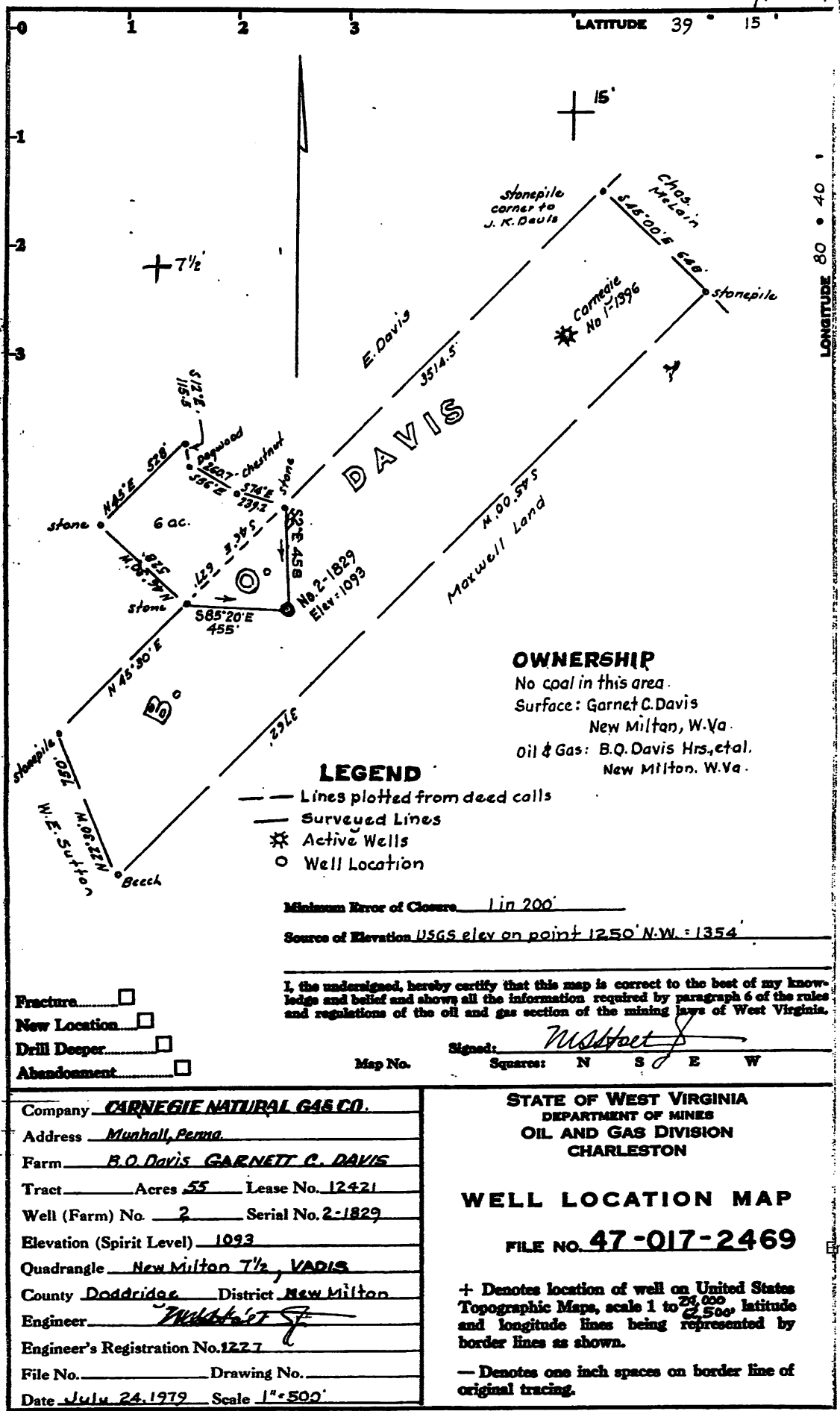
Date November 25,

WV Department of Environmental Protection

APPROVED Carnegie Natural Gas Company

By *[Signature]*
Title

8/13/79 *RF*



OWNERSHIP
 No coal in this area.
 Surface: Garnet C. Davis
 New Milton, W.Va.
 Oil & Gas: B.Q. Davis Hrs, et al.
 New Milton, W.Va.

LEGEND
 --- Lines plotted from deed calls
 — Surveied Lines
 * Active Wells
 ○ Well Location

Minimum Error of Closure 1 in 200'
 Source of Elevation USGS elev on point 1250' N.W. = 1354'

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Fracture
 New Location
 Drill Deeper
 Abandonment

Signed: *W. H. ...*
 Squares: N S E W

Company CARNEGIE NATURAL GAS CO.
 Address Munhall, Penna
 Farm B.O. Davis GARNETT C. DAVIS
 Tract _____ Acres 55 Lease No. 12421
 Well (Farm) No. 2 Serial No. 2-1829
 Elevation (Spirit Level) 1093
 Quadrangle New Milton 7 1/2, VADIS
 County Doddridge District New Milton
 Engineer W. H. ...
 Engineer's Registration No. 1227
 File No. _____ Drawing No. _____
 Date July 24, 1979 Scale 1" = 500'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. 47-017-2469

+ Denotes location of well on United States Topographic Maps, scale 1 to 25,000, latitude and longitude lines being represented by border lines as shown.
 — Denotes one inch spaces on border line of original tracing.

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ALEXander 5400'

WW-4A
Revised 6-07

1) Date: August 7, 2019
2) Operator's Well Number
657146 BO Davis #1829
3) API Well No.: 47 - 017 - 02469 P

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

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>See Attached</u>	Name _____
Address _____	Address _____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>See Attached</u>
(c) Name _____	Address _____
Address _____	Name _____
Address _____	Address _____
6) Inspector <u>Daniel Flack</u>	(c) Coal Lessee with Declaration
Address <u>58 Rive Road</u>	Name _____
<u>Buckhannon, WV 26201</u>	Address _____
Telephone <u>304-545-0109</u>	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.

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WV Department of
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Well Operator EQT Production Company
 By: Erin Spine
 Its: Regional Land Supervisor
 Address 2400 Ansys Drive, Suite 200
Canonsburg PA 15317
 Telephone (724) 271-7314



OFFICIAL SEAL
 STATE OF WEST VIRGINIA
 NOTARY PUBLIC
 DONNA K. LARRY
 350 KISNER HILL RD
 FAIRMONT WV 26554
 My Commission Expires August 23, 2023

Subscribed and sworn before me this 7th day of August, 2019
Donna K. Larry Notary Public
 My Commission Expires 8-23-2023

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 depprivacyofficer@wv.gov.

47-017-02469

657146 BO Davis #1829

Surface Owner(s)

John C Jr & Holly L Widener
257 Maple Grove Rd
Hanover, PA 17331

Access Owner(s)

Paul Stout
923 Oakleigh Beach Rd
Baltimore, MD 21222

Dorothy A Stout
1727 Randolph Ave
Baltimore, MD 21222

Coal Owner(s)

Clarence W & Mary F Mutschelknaus
PO Box 351
Salem, WV 26426

Thomas Lee Starcher
1108 Hotel Drive
Pasadena, MD 21122

James E Starcher II
2209 Hotel Drive
Pasadena, MD 21122

Garnet Gas Corporation
444 Richardsonville Road
Creston, WV 26141

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WW-9
(5/16)

API Number 47 - 017 - 02469
Operator's Well No. 657146 BO Davis #1829

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

Operator Name EQT Production Company OP Code 306686

Watershed (HUC 10) Lick Run Quadrangle New Milton 7.5'

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: Formation Fluids

Will a synthetic liner be used in the pit? Yes No If 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 _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- 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, removed offsite, etc.

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

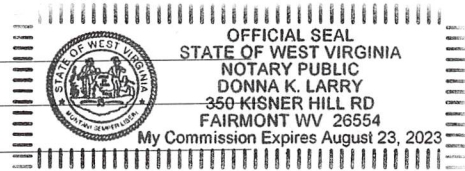
-Landfill or offsite name/permit number? _____

Permittee shall provide written notice to the Office of 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 [Signature]
Company Official (Typed Name) Erin Spine
Company Official Title Regional Land Supervisor



Subscribed and sworn before me this 5th day of August, 20 19
Donna K. Larry Notary Public
My commission expires 8-23-2023

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WV Department of Environmental Protection

Proposed Revegetation Treatment: Acres Disturbed 1± Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type (10-20-20) or equivalent

Fertilizer amount 1/3 ton lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type	lbs/acre
Red Fescue	40
Aslike Clover	5
Annual Rye	15

Seed Type	lbs/acre
Red Fescue	15
Aslike Clover	5

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: _____

Comments: _____

Title: _____ Date: _____

Field Reviewed? () Yes () No

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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Topo Quad: New Milton 7.5'

Scale: 1" = 200'

47-017-02469 P

County: Doddridge

Date: July 25, 2019

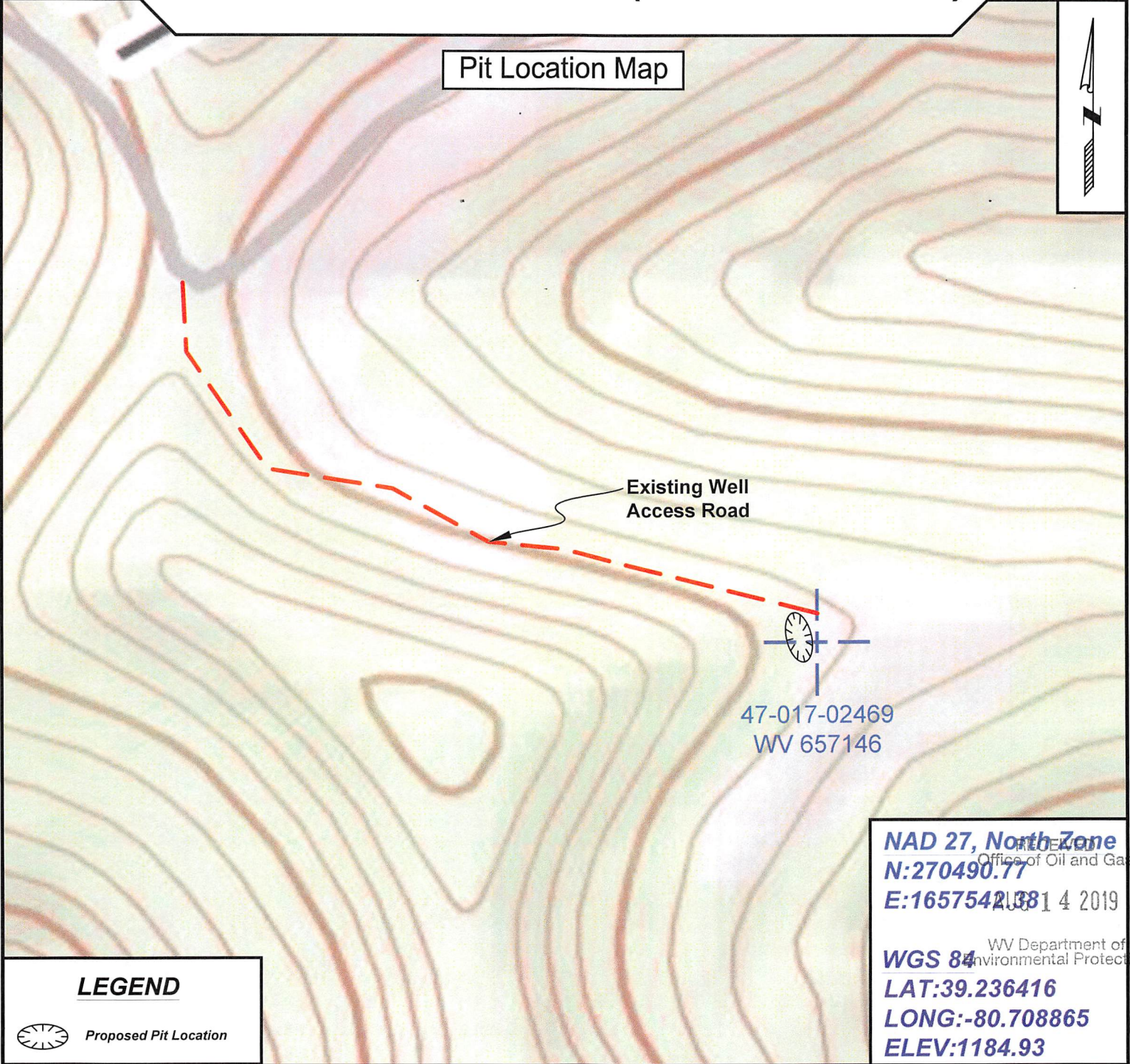
District: New Milton

Project No: 67-30-00-08

47-017-02469 WV 657146 (B. O. Davis #1829)

Topo

Pit Location Map



Existing Well Access Road

47-017-02469
WV 657146

NAD 27, North Zone
N:270490.77
E:1657542.38
JUL 25 2019

WGS 84
LAT:39.236416
LONG:-80.708865
ELEV:1184.93

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

2400 Ansys Drive, Suite 200
Canonsburg, PA 15317

Topo Quad: New Milton 7.5'

Scale: 1" = 500'

47-017-02469P

County: Doddridge

Date: July 25, 2019

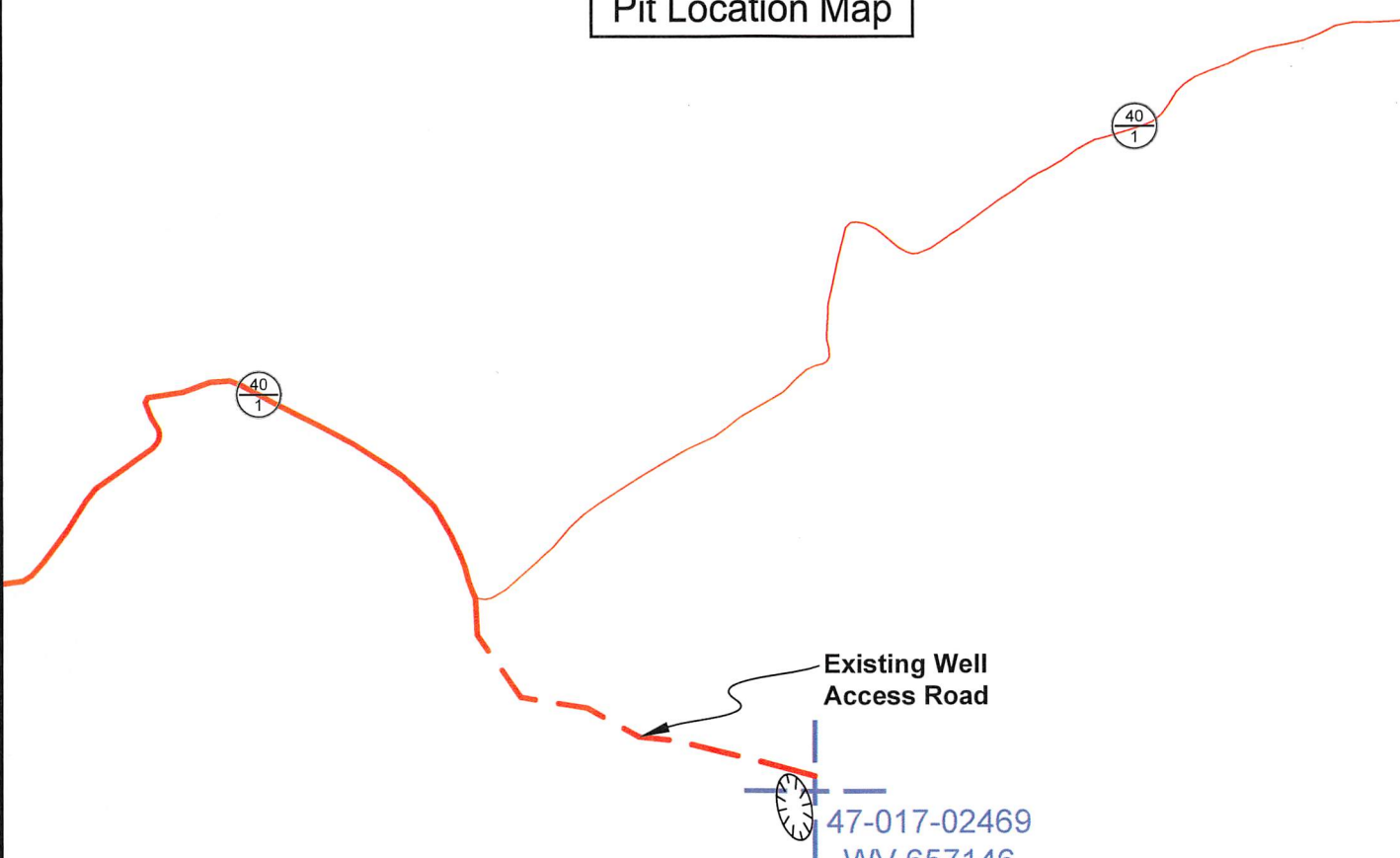
District: New Milton

Project No: 67-30-00-08

Highway

47-017-02469 WV 657146 (B. O. Davis #1829)

Pit Location Map



Existing Well Access Road

47-017-02469
WV 657146

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WV Department of Environmental Protection
NAD 27, North Zone
N:270490.77
E:1657542.38

WGS 84
LAT:39.236416
LONG:-80.708865
ELEV:1184.93

LEGEND

 Proposed Pit Location



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

PREPARED FOR:

EQT Production Company

2400 Ansys Drive, Suite 200
Canonsburg, PA 15317

Topo Quad: New Milton 7.5'

Scale: 1" = 2000'

County: Doddridge

Date: July 25, 2019

District: New Milton

Project No: 67-30-00-08

47-017-02469 WV 657146 (B. O. Davis #1829)

Topo



NAD 27, North Zone
N:270490.77
E:1657542.38

WGS 84
LAT:39.236416
LONG:-80.708865
ELEV:1184.93



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

PREPARED FOR:
EQT Production Company
 2400 Ansys Drive, Suite 200
 Canonsburg, PA 15317

WW-7
8-30-06



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

API: 47-017-02469 WELL NO.: WV 657146 (B. O. Davis #1829)

FARM NAME: B. O. Davis Garnett C. Davis

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Doddridge DISTRICT: New Milton

QUADRANGLE: New Milton 7.5'

SURFACE OWNER: John C. & Holly L. Widener

ROYALTY OWNER: Ed Broome Inc., et al.

UTM GPS NORTHING: 4343053

UTM GPS EASTING: 525126 GPS ELEVATION: 361 m (1185 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

AUG 14 2019

[Signature]
Signature

PS#2180
Title

8/1/19
Date
West Virginia Department of Environmental Protection