



 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

Monday, June 10, 2019

WELL WORK PLUGGING PERMIT
 Vertical Plugging

EQT PRODUCTION COMPANY
 625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for WV 452061 (4113)
 47-103-00695-00-00

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: WV 452061 (4113)
 Farm Name: SHREVES, J.
 U.S. WELL NUMBER: 47-103-00695-00-00
 Vertical Plugging
 Date Issued: 6/10/2019

I

47-103-00695P

06/14/2019

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.
4. This well is under a consent order and must be plugged under the terms of that agreement.

06/14/2019

WW-4B
Rev. 2/01

- 1) Date April 12, 20 19
- 2) Operator's
Well No. 452061 Shreve W-4113
- 3) API Well No. 47-103 - 00695

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

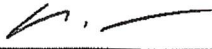
ck# 25493
\$100⁰⁰

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 1017 Watershed Sheep Run
District Grant County Wetzel Quadrangle Big Run 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 Name Derek Haught
Address PO Box 85
Smithville, WV 26178
- 9) Plugging Contractor Name HydroCarbon Well Service
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.

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

Work order approved by inspector  Date 5-2-19

PLUGGING PROGNOSIS

Shreve W-4113 (452061)
Wetzel, WV
District, Grant
API # 47-103-00695

BY: Craig Duckworth
DATE: 9/4/18

CURRENT STATUS:

10" csg @ 563'
8 1/4" csg @ 1606'
5 3/16" csg @ 1947'
2 3/8" tbg @ 2801'

Elevation @ ~~850'~~ est. 1017'

TD: 2845'

Fresh Water @ None Reported Coal @ 238'-240', 706'-713'
Saltwater @ None Reported
Gas shows @ 1062', 1845', 1952', 2802'-2807'
Oil shows @ None Reported

DMH
5-2-19

1. Notify State Inspector, Derek Haught 304-206-7613, 48 hrs. prior to commencing operations.
2. Check TD w/wireline
3. Attempt to pull 2 3/8" if unable to pull. Run bond log to find freepoint of 2 3/8". (Gas shows 1062', 1845', 1952', 2802'-2807')
4. TIH w/tbg to 2801', set 300' C1A cement plug from 2801' to 2501'. (Gas show @ 2802'-2807')
5. TOOH w/tbg to 2501' gel hole 2501' to 2002'.
6. TOOH w/tbg, Free point 5 3/16" csg (@ 1947'), 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 1900' gel hole 1900' to 1656'.
9. TOOH w/tbg, Free point 8 1/4" csg (@ 1606'), cut csg @ free point, TOOH w/csg.
10. 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.
11. TIH w/tbg to 1606' set 100' C1A cement plug from 1606' to 1506', (8 1/4" csg)

12. TOOH w/tbg to 1506' gel hole 1506' to 900'.
13. TOOH w/tbg to 900', set 100' C1A cement plug, 900' to 800'. (Elevation @ 850' est) Elev is \approx 1000'
OK
14. TOOH w/tbg to 800' gel hole from 800' to 750'.
15. TOOH w/tbg to 750', set 100' C1A cement plug, 750' to 650' (Coal @ 706'-713')
16. TOOH w/tbg to 650' gel hole from 650' to 250'.
17. TOOH w/tbg to 250', set 250' C1A cement plug, 250' to 0' (Coal @ 238'-240')
18. Erect monument with API#, Date plugged, EQT
19. Reclaim location and road to WV-DEP specifications.

Record of Drilling
 on Shrews County Westall State W.Va
 District Mount Farm 277
 Company City of Westall District 111 APR-103-0695
 Date 10/16/1916 State W.Va Farm 277
 Location, Marls 10/16 First Work Done Jan 13 1916
 Rig Commenced 10/16 Rig Completed May 17 1916
 Drilling Commenced May 13 1916 Drilling Completed May 17 1916
 Rig Contractor W. H. G. Co. Teals, Stringer
 Drillers W. H. G. Co. Teals, Stringer
 Tool Dressers W. H. G. Co. Teals, Stringer

46714/2019

FORMATION	TOP	BOTTOM	Steel Line Measurements	Water Found Depth	Oil Found Depth	Gas Found Depth	REMARKS
live Coal	238	240	239	No	No		local - 592-596
little Shanker	106	713	559	No	0	1062	Sand - 1112 - 1115 Hard Line - 2675 - 2690
1320	1351	1062		water in hole.	in hole.		Fifty foot
1479	1563	1207					Test with pump gas - 21.0 water the 21.0
1601	1601	1479				1845	Test Maxon gas - too small to test.
1624	1264	1601				1952	Test 21.0 line gas - 21.0 water the 21.0
1875	1875	1624					Test 21.0 line gas - 21.0 water the 21.0
1926	1926	1875					Test 21.0 line gas - 21.0 water the 21.0
1974	1974	1926					Test 21.0 line gas - 21.0 water the 21.0
2310	2365	1974					Test 21.0 line gas - 21.0 water the 21.0
2522	2563	2310					Test 21.0 line gas - 21.0 water the 21.0
2750	2763	2522					Test 21.0 line gas - 21.0 water the 21.0
2764	2811	2750					Test 21.0 line gas - 21.0 water the 21.0
2845	2845	2764					Test 21.0 line gas - 21.0 water the 21.0

SIZE	Charge of Well	Put in Well	Put in Well	Left in Well	Transferred Before Completing	Left at Well Not in Use	REMARKS
	Feet	In.	Feet	In.	Feet	In.	
13" Cg.	231	0			237	6	Outside casing left in well feet
10" "	601	2	563	10			Gassing gas in upper sands
8 1/2" "	1765	4	1606	4			* 13" casing not run in well
5 1/2" "	2052	1	1947	3			* perforations included
3-16" "							
2 1/2" "	2172	7	2801	1			

SIZE	KIND	Amount Anchor	Amount Above Anchor	REMARKS
			56310	
			16064	
			19473	

SHOOTING RECORD (if shot before or upon completion of well)													
DATE	Gauge	Top of Shot	Bottom of Shot	Diameter	Sed.	Test Before Shot			Test After Shot			Test Taken After Shot No. Hours	By Whom Shot
						Reading	Liquid	Opening	Reading	Liquid	Opening		
4/11/16	30	1916	2508	A"	Loose	100	MWC	2	1010	MWC	2	24	Mar. Fox & Hubbard

CEMENTING RECORD

Date Cemented.....
 Top Pittsburg Coal.....
 Bottom Pittsburg Coal.....
 Mr.....
 Remarks.....
 Well-Tool, GEO. A. KINLLY
 Lease Book.....
 Line Map JUN 26 1916 I.C.L.
 Sheets JUN 24 1916 H.H.S.

Size Hole Cemented.....
 Top Cementing.....
 Bottom Cementing.....
 Amount Cement Used.....
 Amount Sand Used.....
 Coal Company on ground when coal was cemented.....
 Signature of persons who cemented well.....

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 Office of Oil and Gas
 APR 23 2019
 W.V. Department of Environmental Protection

Approved by.....
 Foreman

HOPE NATURAL GAS COMPANY

LOCATION FOR WELL No. 4113

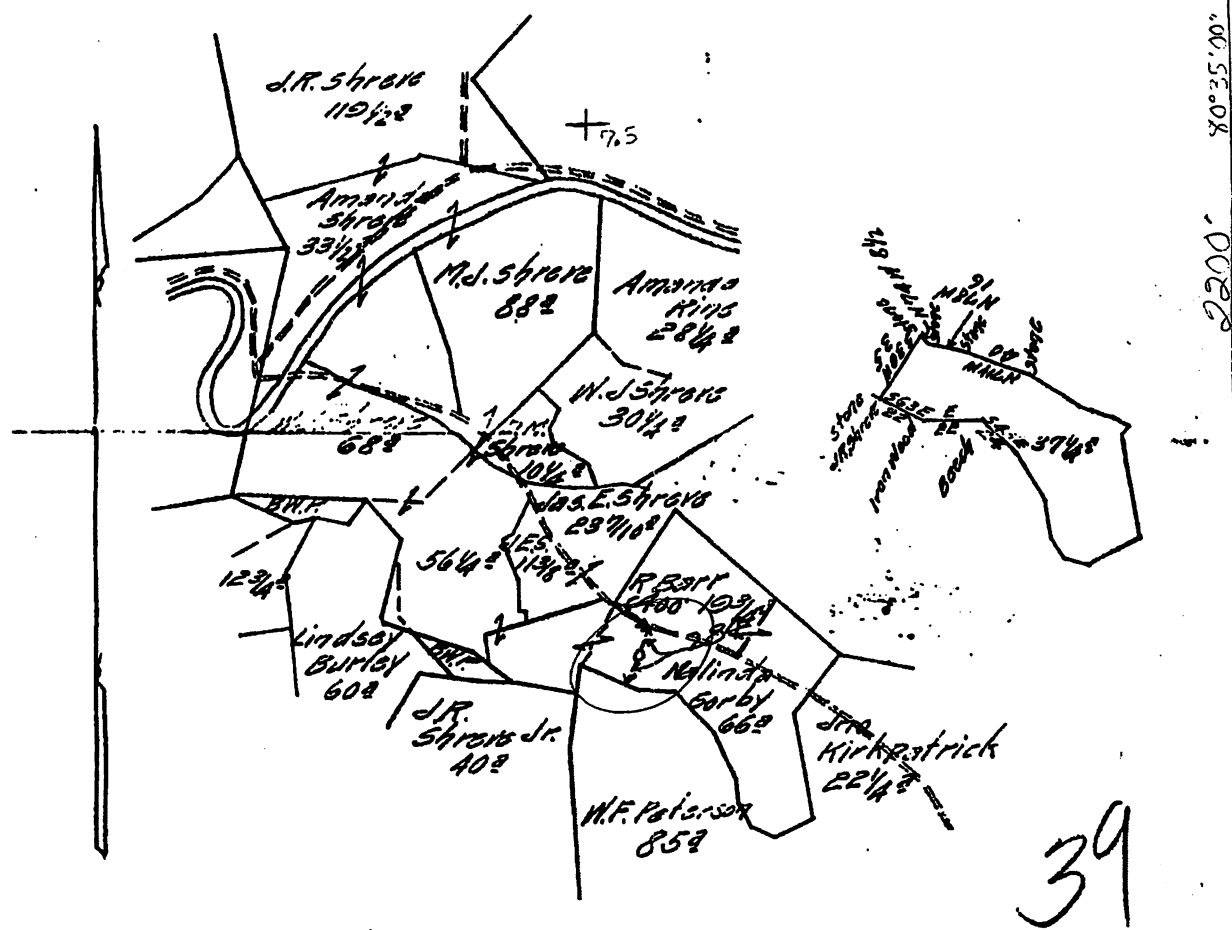
c 2
Instructions - 2

On *J. K. Robinson* Farm, on waters of *North Branch*
District *9110* County, West Virginia.

Lease No. *4256* Acres *6.30* N. *1/4* S. *1/4* E. *1* W.
Scale one inch equals *80 ft.* Location made in Pittsburgh *Jan 6 1916* Sent to Clarksburg *Jan 6 1916*

Location to be *in center of lease at a point 400 feet from Gas. C.*

Elev. *850 east* *8900'*
39°35'00"



TITLE RESERVE *One Hundred and Fifty* acre *unimproved part of farm*

SPECIAL INSTRUCTIONS: COMPLETE WELL ON OR BEFORE
Same Lease on which is Located Well No. *482*

Location made *1-12-16* by *W. Cunningham* As per plat, except as noted. On field map
1-13-16 Returned to Pittsburgh *1-13-16*

Location changed on account of
Authorized by _____ Date _____ Signed _____

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APR 23 2019
WV Department of
Environmental Protection

Big Run #



Well Pad Site Pictures
Shreve W-4113
WV 452061 47-103-00695



WV 452061 Well Pad Site



WV 452061 Well Pad Site



WV 452061 Well Pad Site

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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

CHARLESTON OFFICE

301 RHL Boulevard - Suite 5
Charleston, WV 25309

phone: 304-756-2949 fax: 304-756-2948

47-103-00695P
06/14/2019

WW-4A
Revised 6-07

1) Date: April 12, 2019
2) Operator's Well Number
452061 Shreve W-4113

3) API Well No.: 47 - 103 - 00695

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 _____
6) Inspector <u>Derek Haught</u>	(c) Coal Lessee with Declaration
Address <u>PO Box 85</u>	Name _____
<u>Smithville, WV 26178</u>	Address _____
Telephone <u>304-206-7613</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 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 EQT Production Company
 By: Todd Klaner
 Its: Regional Land Manager
 Address 2400 Ansys Drive, Suite 200
Canonsburg PA 15317
 Telephone (304) 848-0035

RECEIVED
Office of Oil and Gas
APR 23 2019

Subscribed and sworn before me this 12th day of April, 2019
Donna K. Larry Notary Public Donna K. Larry
 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 depprivacyoffier@wv.gov.

47-103-00695

452061 Shreve W-4113

Owner(s) (Surface and Access)

William F Scyoc Et Al ✓
3498 Lowman Ridge Road
Pine Grove, WV 26419

Joseph F John ✓
104 Hunting Hills Road
Greensboro, PA 15338

Coal Owner(s)

CNX Land Resources Inc & Reserve Coal Properties Co ✓
1800 Washington Road
Pittsburgh, PA 15241

Western Pocahontas Properties ✓
1035 Third Ave, Suite 300
Huntington, WV 25701
Attn: George Angus

Potential Water Owner(s)

N/A

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Environmental Protection

WW-9
(5/16)

API Number 47 - 103 - 00695
Operator's Well No. 452061 Shreve W-4113

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) Sheep Run Quadrangle Big Run 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 _____)

DmH
5-2-19

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) _____

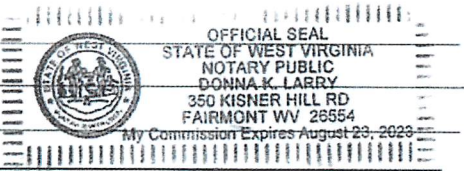
-Landfill or offsite name/permit number? _____

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) Todd Klaner
Company Official Title Regional Land Manager



Subscribed and sworn before me this 12th day of April, 2019

Donna K. Larry Donna K. Larry Notary Public

My commission expires 8-23-2023

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	Seed Type	lbs/acre
Red Fescue	40	Red Fescue	15
Aslike Clover	5	Aslike Clover	5
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: [Signature]

Comments: _____

Title: Oil & Gas Inspector Date: 5-2-19

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

47-103-00695P

06/14/2019

Topo Quad: Big Run 7.5' Scale: 1" = 200'

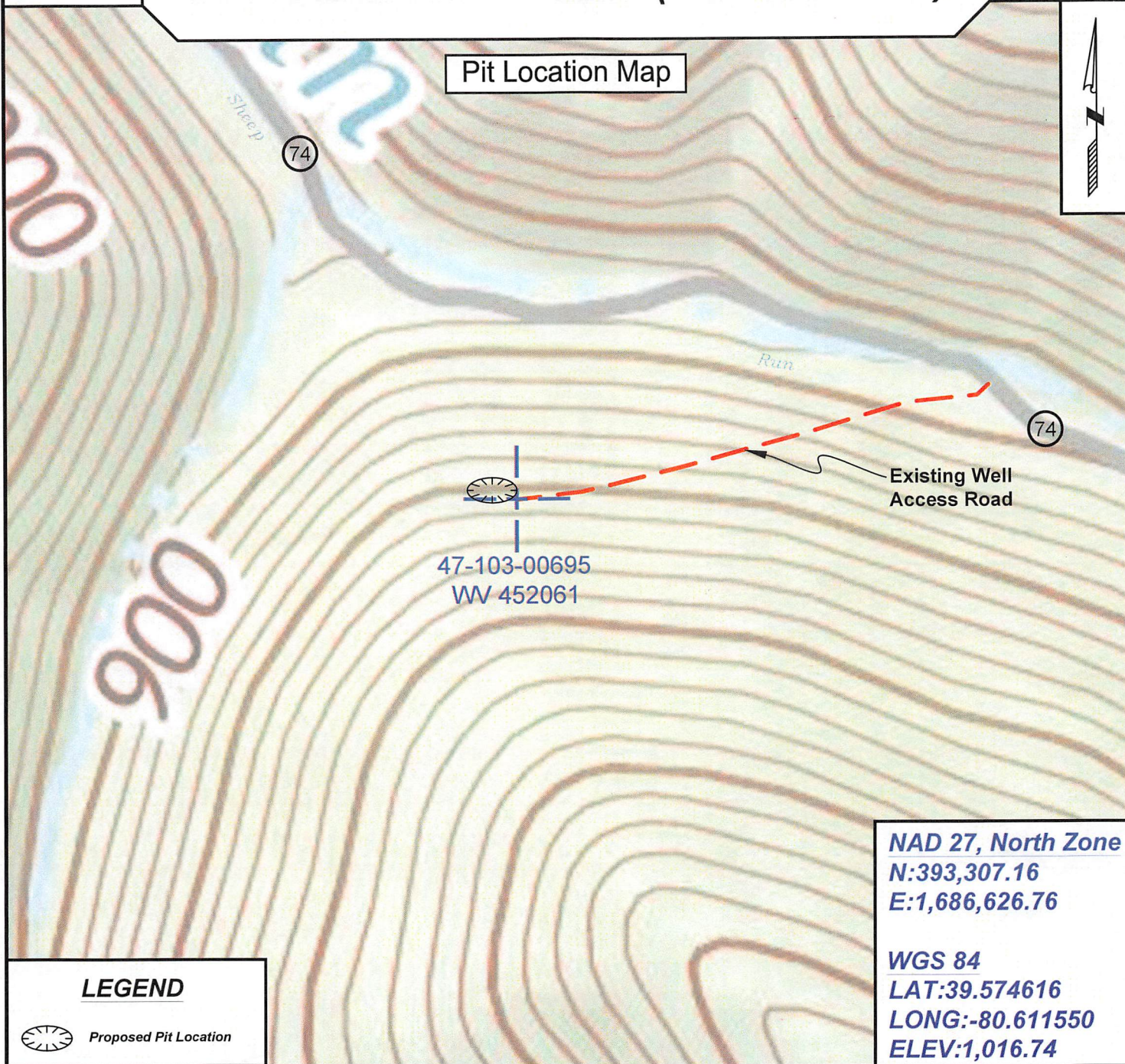
County: Wetzel Date: February 18, 2019

District: Grant Project No: 40-34-00-09

47-103-00695 WV 452061 (Shreve W-4113)

Topo

Pit Location Map



47-103-00695
WV 452061

Existing Well
Access Road

NAD 27, North Zone
N:393,307.16
E:1,686,626.76

WGS 84
LAT:39.574616
LONG:-80.611550
ELEV:1,016.74

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
Cannonsburg, PA 15317

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47-103-00695 P

06/14/2019

Topo Quad: Big Run 7.5' Scale: 1" = 500'

County: Wetzel Date: February 18, 2019

District: Grant Project No: 40-34-00-09

Highway

47-103-00695 WV 452061 (Shreve W-4113)

Pit Location Map



Shreve

74

47-103-00695
WV 452061

Existing Well
Access Road

74

River

LEGEND



Proposed Pit Location

NAD 27, North Zone
N:393,307.16
E:1,686,626.76

WGS 84
LAT:39.574616
LONG:-80.611550
ELEV:1,016.74



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PREPARED FOR:

EQT Production Company

2400 Ansys Drive
Cannonsburg, PA 15317

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WV Department of
Environmental Protection

06/14/2019

Topo Quad: Big Run 7.5'

Scale: 1" = 2000'

County: Wetzel

Date: February 18, 2019

District: Grant

Project No: 40-34-00-09

47-103-00695 WV 452061 (Shreve W-4113)

Topo



NAD 27, North Zone
N:393,307.16
E:1,686,626.76

WGS 84
LAT:39.574616
LONG:-80.611550
ELEV:1,016.74

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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
 Cannonsburg, PA 15317

WW-7
8-30-06



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

API: 47-103-00695 WELL NO.: WV 452061 (Shreve W-4113)

FARM NAME: J. R. Shreve

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Wetzel DISTRICT: Grant

QUADRANGLE: Big Run 7.5'

SURFACE OWNER: William F. Scyoc, et al. and Joseph F. John

ROYALTY OWNER: Appalachian Royalties, Inc., et al.

UTM GPS NORTHING: 4380618

UTM GPS EASTING: 533363 GPS ELEVATION: 310 m (1017 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.

Signature

P5[#] 2180
Title

3/1/2019
Date

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WV Department of Environmental Protection