



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 18, 2018

WELL WORK PLUGGING PERMIT
Vertical Plugging

EQT PRODUCTION COMPANY
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for ZINN 2C-W270
47-021-04098-00-00

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: ZINN 2C-W270
Farm Name: ZINN, SCOTT
U.S. WELL NUMBER: 47-021-04098-00-00
Vertical Plugging
Date Issued: 6/18/2018

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21-04098P

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.

06/22/2018

1) Date May 21, 2018
2) Operator's
Well No. 161711 Zinn #2C-W270
3) API Well No. 47-021 - 04098

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 1139 Watershed Pikecamp Run
District Troy County Gilmer Quadrangle Auburn

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 Danny Mullins Name HydroCarbon Well Service
Address 220 Jack Acres Rd. 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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JUN 15 2018
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 6-11-18

PLUGGING PROGNOS

161711
 Zinn #2-C
 API# 47-021-04098
 District, Troy
 Gilmer County, WV

BY: R Green
 DATE: 12/11/17

CURRENT STATUS:

TD @ 5734'
Elevation @ 1148'

8 5/8" casing @ 924' (CTS)
 4 1/2" casing @ 5610' (Cemented with 560 sks)

Fresh Water @ 45'
Saltwater @ 1807'
Oil Show @ None Reported
Gas shows @ None Reported
Coal @ None Reported

DM

1. Notify inspector, Danny Mullins @ 304-932-6844, 24 hrs. prior to commencing operations.
2. TIH check TD @ or below 5600'.
3. TIH to 5600', spot 40 bbl. of 6% gelled water, followed by a 600' CIA cement plug, 5600' to 5000' (Elk & Alexander). WOC 8 hrs. Tag TOC, add additional CIA cement if necessary.
4. TOOH to 4900' set a 350' CIA cement plug, 4900' to 4550' (Benson & 3rd Riley). WOC 4 hrs. Tag TOC, add additional CIA cement if necessary.
5. TOOH to 4500' set a 400' CIA cement plug 4500' to 4100'. (Balltown & 2nd Riley). WOC 4 hrs. Tag TOC, add additional CIA cement if necessary.
6. TOOH to 4100', set a 400' CIA cement plug 4100' to 3700' (Balltown & 2nd Riley). WOC 4 hrs. Tag TOC, add additional CIA cement if necessary.
7. TOOH to 3600' set a 300' CIA cement plug 3600' to 3300' (Speechly). WOC 4 hrs. Tag TOC, add additional CIA cement if necessary.
8. TOOH to 3300' set a 300' CIA cement plug, 3300' to 3000'. (Speechly). WOC 4 hrs. Tag TOC, add additional CIA cement if necessary.
9. TOOH to 2000' set a 300' CIA cement plug, 2000' to 1700'.
10. TOOH to 1200' set a 300' CIA cement plug 1200' to 900' (Elevation).
11. TOOH to 400', set a 400' CIA cement plug 400' to surface.
12. Erect monument with API#, date plugged, & company name.
13. Reclaim location and road to WV-DEP specifications.

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FORM IV-35
(REVERSE)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Elk, Alexander - 5067 to 5588 - 2000 gal. 15% Hcl, 1000 MCF N₂
 Benson, 3rd Riley - 4619 to 4846 - 500 gal. 15% Hcl, 1000 MCF N₂
 Balltown, 2nd Riley - 3837 to 4451 - 500 gal. 15% Hcl, 1000 MCF N₂
 Speechly - 3235 to 3563 - 500 gal. 15% Hcl, 1000 MCF N₂

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Soil			0	4	
Sand & Shale			4	113	Fresh water 1/2" @ 45'
Sand, Shale, Red Rock			113	1940	Salt water 1/2" @ 1807
Lime and Sand			1940	1992	
Big Lime			1992	2070	
Big Injun			2070	2130	
Shale			2130	2230	
Weir Sand			2230	2360	
Sand and Shale			2360	3280	
Speechly Section			3280	4040	
Balltown Section			4040	4440	
Riley Section			4440	4830	Gas @ TD 20 - 1" w/w 10
Benson			4830	4850	
Sand and Shale			4850	5050	
Alexander			5050	5130	
Sand and Shale			5130	5470	
Lower Elk			5470	5500	
Sand and Shale			5500	5734 TD	

(Attach separate sheets as necessary)

WACO OIL & GAS COMPANY, INC.
Well Operator

By: Kenneth Greenleaf *Kenneth Greenleaf*

Date: January 9, 1984

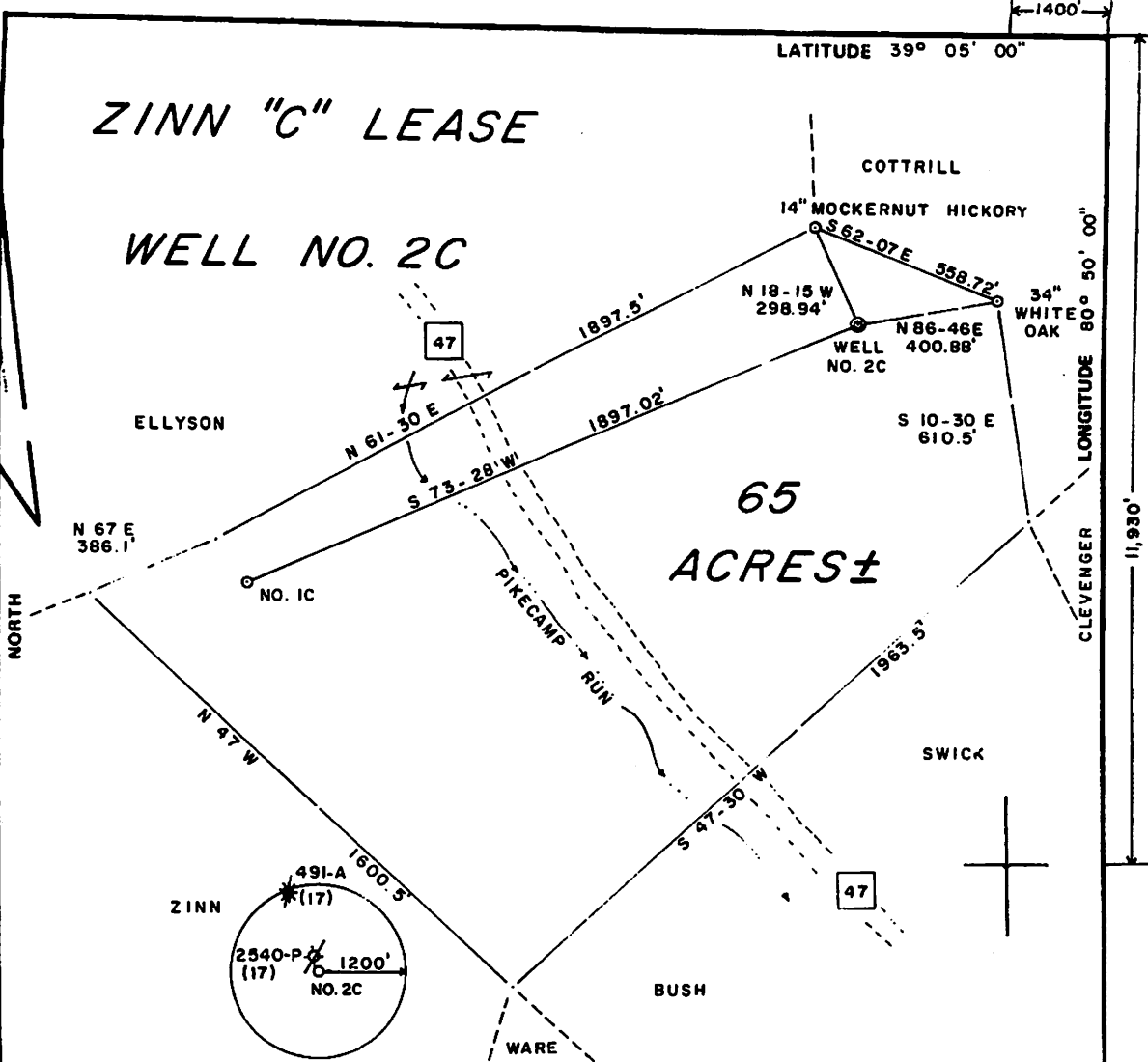
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Note: Regulation 2.02(i) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

21-04098 P



FILE NO. 11-23
 DRAWING NO. _____
 SCALE 1" = 400'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS
 ELEV. 802'

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT 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 DEPARTMENT OF MINES.

(SIGNED) Gregory A. Smith
 R.P.E. _____ L.L.S. 677

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE JULY 20, 19 83
 OPERATOR'S WELL NO. 2C
 API WELL NO. 47-021-4098
 STATE VA COUNTY GI PERMIT _____

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
 LOCATION ELEVATION 1148' WATER SHED PIKECAMP RUN
 DISTRICT TROY COUNTY GILMER
 QUADRANGLE AUBURN 7.5'
 SURFACE OWNER VADA ZINN ACREAGE 65
 OIL & GAS ROYALTY OWNER SCOTT ZINN & MARY ALICE LOCKARD LEASE ACREAGE 65
 LEASE NO. _____
 PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION ELK ESTIMATED DEPTH 5350'
 WELL OPERATOR WACO OIL & GAS CO., INC. DESIGNATED AGENT KENNY GREENLIEF
 ADDRESS P.O. BOX 4 ADDRESS P.O. BOX 4
GLENVILLE, WV 26351 GLENVILLE, WV 26351

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 WV Department of Environmental Protection
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WW-4A
Revised 6-07

1) Date: May 21 2018
2) Operator's Well Number
161711 Zinn #2C-W270
3) API Well No.: 47 - 021 - 04098

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>Danny Mullins</u>	(c) Coal Lessee with Declaration
Address <u>220 Jack Acres Rd</u>	Name _____
<u>Buckhannon WV 26201</u>	Address _____
Telephone <u>304-932-6844</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: Erin Spine *[Signature]*
 Its: Regional Land Supervisor
 Address 2400 Ansys Drive, Suite 200
Canonsburg PA 15317
 Telephone (304) 848-0035

Subscribed and sworn before me this 29 day of May 2018
Rebecca L. Wanstreet Notary Public
My Commission Expires 4-7-2020

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JUN 05 2018
WV Department of
Environmental Protection

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.

06/22/2018

47-021-04098

161711 (Zinn #2C-W270)

Owner(s) (Surface and Access)

Manley James Zinn
8667 WV Highway 47 W
Coxs Mills, WV 26342

Raymond L. Ellyson
8841 WV Highway 47 W
Coxs Mills, WV 26342

Coal Owner(s):

Manley James Zinn
8667 WV Highway 47 W
Coxs Mills, WV 26342

Potential Water Owner(s):

N/A

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WW-9
(5/16)

API Number 47 - 021 - 04098
Operator's Well No. 161711 Zinn #2C-W270

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 _____

Watershed (HUC 10) Pikecamp Run Quadrangle Auburn

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

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Environmental Protection

Subscribed and sworn before me this 29 day of May, 20 18

Rebecca L Wanstreet Notary Public

My commission expires 4-7-2020



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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Form WW-9

Operator's Well No. 161711 Zinn #2C-W270

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: 

Comments: _____

Title: sub Inspector

Date: 6-11-18

Field Reviewed? () Yes () No

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Topo Quad: Auburn 7.5'

Scale: 1" = 200'

County: Gilmer

Date: April 24, 2018

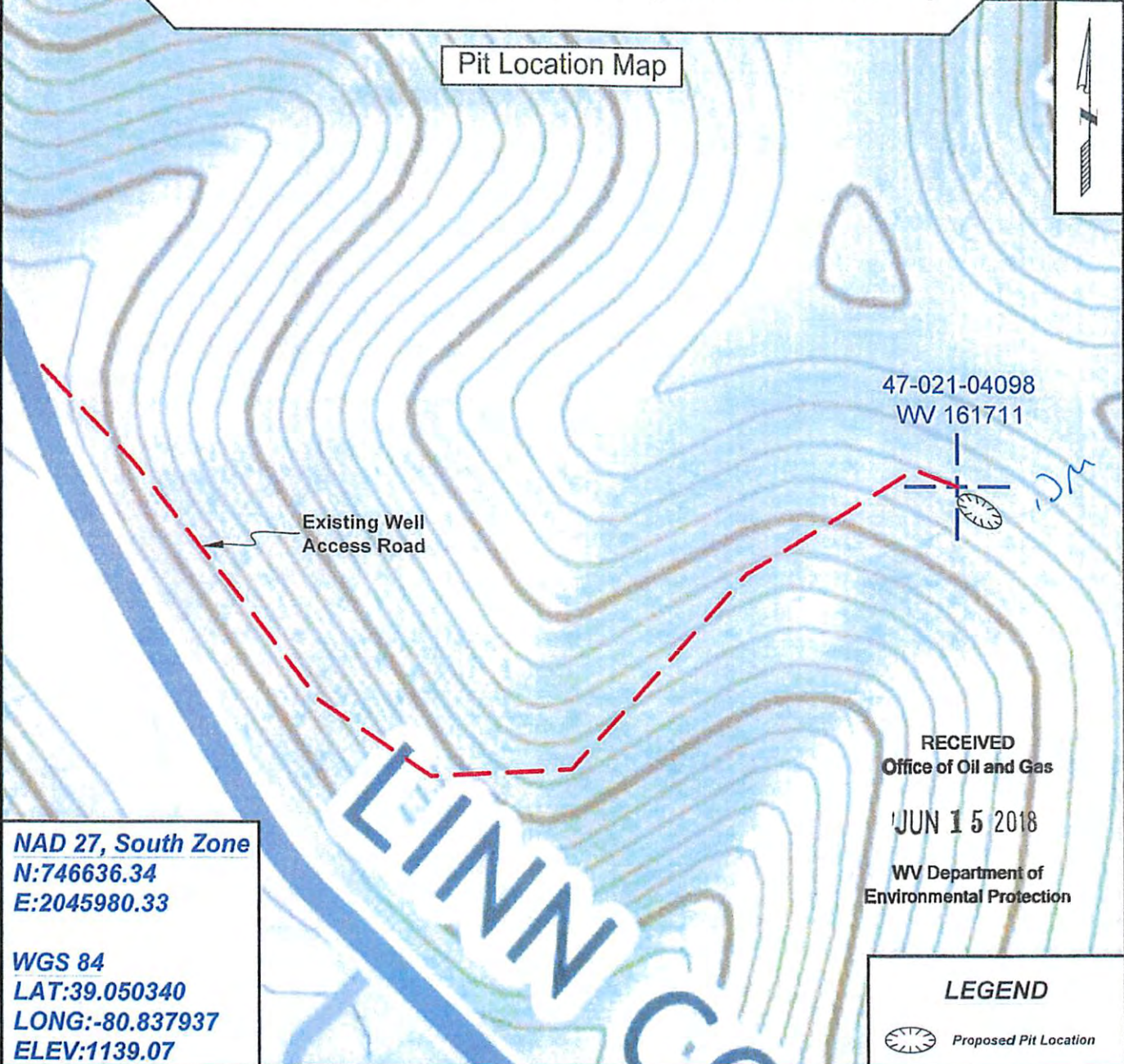
District: Troy

Project No: 25-19-00-07

47-021-04098 WV 161711 (Zinn #2C-W270)

Topo

Pit Location Map



NAD 27, South Zone
N:746636.34
E:2045980.33

WGS 84
LAT:39.050340
LONG:-80.837937
ELEV:1139.07



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
 Canonsburg, PA 15317



POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY

LEASE NAME AND WELL No. Zinn #2C-W270 - WV 161711 - API No. 47-021-04098

POTENTIAL SAMPLE LOCATIONS

There appears to be no potential water sources within the required 1000 feet of the existing well WV 161711.

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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

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



Miss Utility of West Virginia (WV811)
(Exhibit A)
Directions to Gas Well No. WV 161711
API No. 47-021-04098

- Beginning at the intersection of US Interstate 79 Exit 79 (Burnsville/Glenville) and WV State Route 5 in Braxton County, WV.
- Proceed Northwest on WV State Route 5, for approximately 15 miles, to US Routes 33 & 119, on the right.
- Turn right onto US Routes 33 & 119 and proceed Northeast, for approximately 1.8 miles, to WV County Route 1, on the left.
- Turn left onto WV County Route 1 and proceed North, for approximately 7.9 miles, to the intersection with WV State Route 47. *(Point No. 1)*
- Turn left onto WV State Route 47 and proceed Northwest, for approximately 1.9 miles, to the Well Access Road, on the right. *(Point No. 2)*
- Turn right onto the Well Access Road and proceed Southeast, for approximately 0.32 mile, arriving at Gas Well WV 161711. *(Point No. 3)*

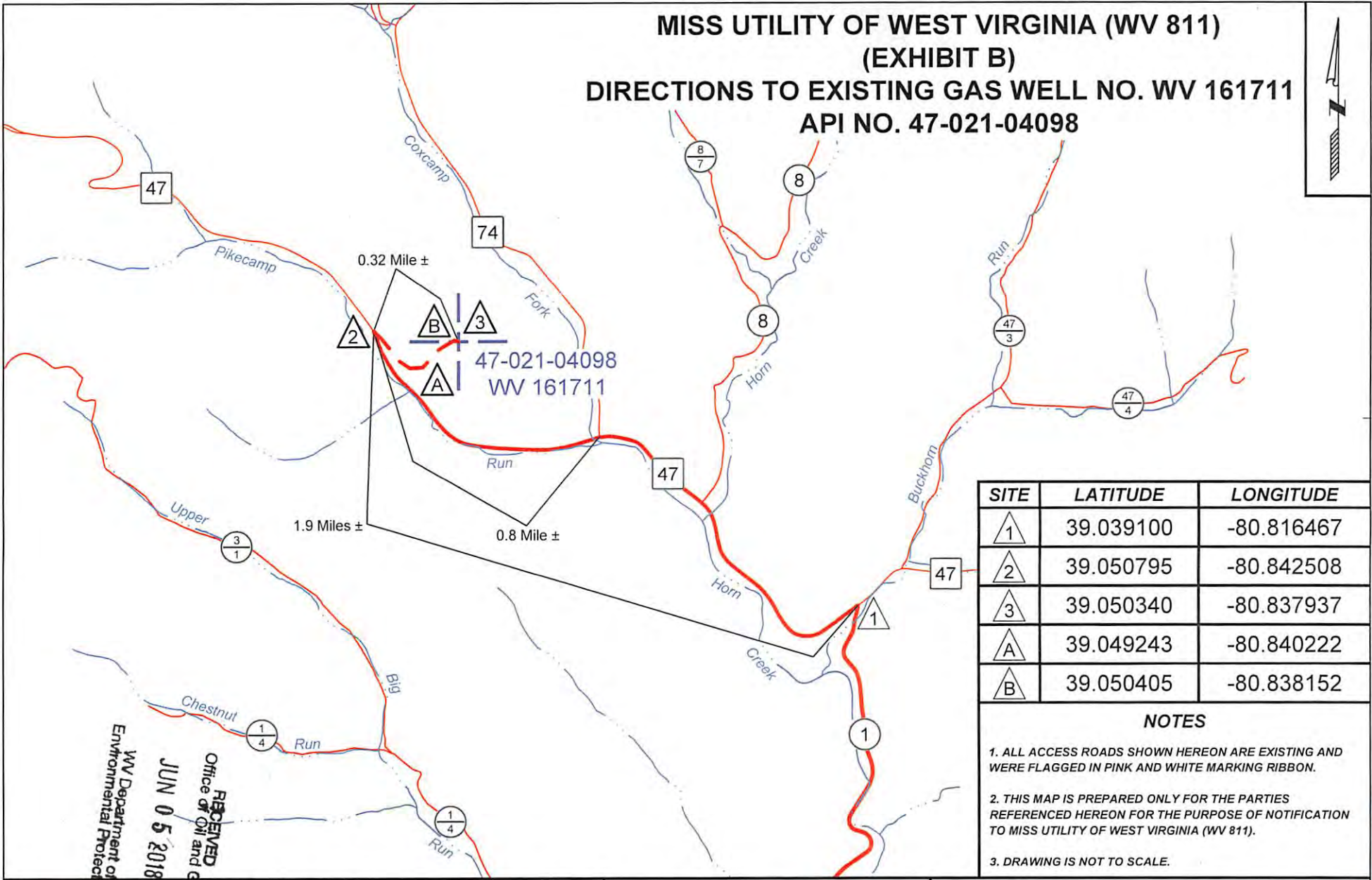
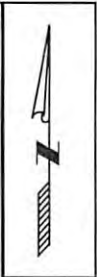
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BIRCH RIVER OFFICE
237 Birch River Road
Birch River, WV 26610
phone: 304-649-8606 fax: 304-649-8608

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

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

**MISS UTILITY OF WEST VIRGINIA (WV 811)
(EXHIBIT B)
DIRECTIONS TO EXISTING GAS WELL NO. WV 161711
API NO. 47-021-04098**



SITE	LATITUDE	LONGITUDE
1	39.039100	-80.816467
2	39.050795	-80.842508
3	39.050340	-80.837937
A	39.049243	-80.840222
B	39.050405	-80.838152

NOTES

- ALL ACCESS ROADS SHOWN HEREON ARE EXISTING AND WERE FLAGGED IN PINK AND WHITE MARKING RIBBON.
- THIS MAP IS PREPARED ONLY FOR THE PARTIES REFERENCED HEREON FOR THE PURPOSE OF NOTIFICATION TO MISS UTILITY OF WEST VIRGINIA (WV 811).
- DRAWING IS NOT TO SCALE.



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

County: Gilmer
District: Troy
Date: April 24, 2018
Project No: 25-19-00-07
File Name: WV 161711 ZINN

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

21-04098P