



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 01, 2018
WELL WORK PERMIT
Vertical / Plugging

EQT PRODUCTION COMPANY
625 LIBERTY AVE., SUITE 1700


PITTSBURGH, PA 15222

Re: Permit approval for 5
47-005-00552-00-00

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.

Please be advised that form WR-35, Well Operators Report of Well Work 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: 5
Farm Name: SILER COAL LAND CO.
U.S. WELL NUMBER: 47-005-00552-00-00
Vertical Plugging
Date Issued: 5/1/2018

Promoting a healthy environment.

I

47 00506552 P

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.

Form WW-4 (B)
Permit Copy
(Rev 2/01)

Date: April 17, 2018
Operator's Well _____
Well No. 010720 Siler Coal Fee #5
API Well No.: # 005 - 00552

STATE OF WEST VIRGINIA
DIVISION 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 Disposa _____
If Gas, Production _____ X _____ Or Underground storage _____ Deep _____ Shallow X
- 5) Elevation: 851 Watershed: _____
Location: Peytona County: Boone Quadrangle: Julian
District: _____
- 6) EQT Production Company
Well Operator 120 Professional Place
Address: Bridgeport, WV 26330
- 7) Designated Agent: Jason Ranson
Address: 120 Professional Place
Bridgeport, WV 26330
- 8) Oil & Gas Gary Kennedy
Name: 66 Old Church Ln.
Address: Pipestem WV 25979
- 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.

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

Gary Kennedy

Date 4/24/18

PLUGGING PROGNOS

010720
 Siler Coal Fee #5
 API# 47-005-0052
 District, Peytona
 Boone County, WV

BY: R Green
 DATE: 10/13/17

CURRENT STATUS:

TD @ 1494'
Elevation @ 835'

13" casing @ 27'
 10" casing @ 252'
 8 1/4" casing @ 1239'
 6 5/8" casing @ 1399'
 3" tubing @ 1494' (Set on 3" X 6 5/8" packer @ 1399')
 Tubing anchor perf'cd @ 1450' to 1494'

* 8 1/4" MAX HAD BEEN USED IN DRILLING,
 BUT PULLED AFTER 6 5/8" SET.

Fresh Water @ 18', 223', 285'
Saltwater @ None Reported
Oil Show @ None Reported
Gas shows @ 1445', 1479', and 1481'
Coal @ 58', 173', 200'

Check Rock Pressure

1. Notify inspector Gary Kennedy @ 304-382-8402, 24 hrs. prior to commencing operations.
2. TIH locate 3 X 6 5/8" packer. Shoot 3" tubing off on top of packer. TOOH 3" tubing.
3. TIH to top of packer, spot 30 bbl. of 6% gelled water followed by a 150' C1A cement plug. 1399' to 1249'. (Gas @ 1481' & 6 5/8" casing seat) WOC 8 hrs. Tag TOC add additional C1A cement if necessary.
4. **Free point 6 5/8" casing**, cut casing @ free point. TOOH 6 5/8" casing.
5. Set a 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.
- * 6. **Free point 8 1/4" casing**, cut casing @ free point. TOOH 8 1/4" casing.
7. Set a 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. TOOH to 1000' set a 400' C1A cement plug 1000' to 600' (Elevation @ 835').
9. TOOH to 350' set a 150' C1A cement plug 350' to 200' (10" casing seat).
10. **Free point 10" casing**, cut casing @ free point. TOOH 10" casing.
11. Set a 100' C1A cement plug 50' in casing cut to surface. Perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs.
12. * **Note, If unable to cut and pull 10" casing**. TIH and perforate 10" casing with 4 holes each @ 200', 150', 100', and 75'. TIH and set a 200' C1A cement plug 200' to surface.
13. Erect monument with API#, date plugged, & company name.
14. Reclaim location and road to WV-DEP specifications.

*Pull out of hole
 after setting plugs*

WEST VIRGINIA DEPARTMENT OF MINES
OIL & GAS DIVISION
WELL RECORD

47 00 5 00 5 5 2 P

Permit No. Boo 552

Madison Quad.

Company

Address

Farm

Location

Well No

District

Surface

Mineral

Commenced

Completed

Date shot

Open flow

Volume

Fresh Water

United Carbon Company

Charleston, W.Va.

Siler Land & Coal Co. Acres 9689

Anderson Barker Fork

5 Elev. 825.96

Peytona Boone County

American Rolling Mills Co.

Nellis, W.Va.

United Carbon Co., Charleston, W.Va.

Aug. 31 1942

Oct. 18, 1942

Oct. 17, 1942 Acidized 1494

40/10ths W in 3"

600,000 C F.

18', 22 3/4'; 285'

Gas Well
CASING & TUBING

13	27	27
10	252'5	252'5
8 1/2	1239	
65/8	1399	1399
3		1494'

Comb. Wall & Anchor

Packer

Size 6 5/8 x 3

Depth 1399'

Perf. top 1450

Perf. bot 1494

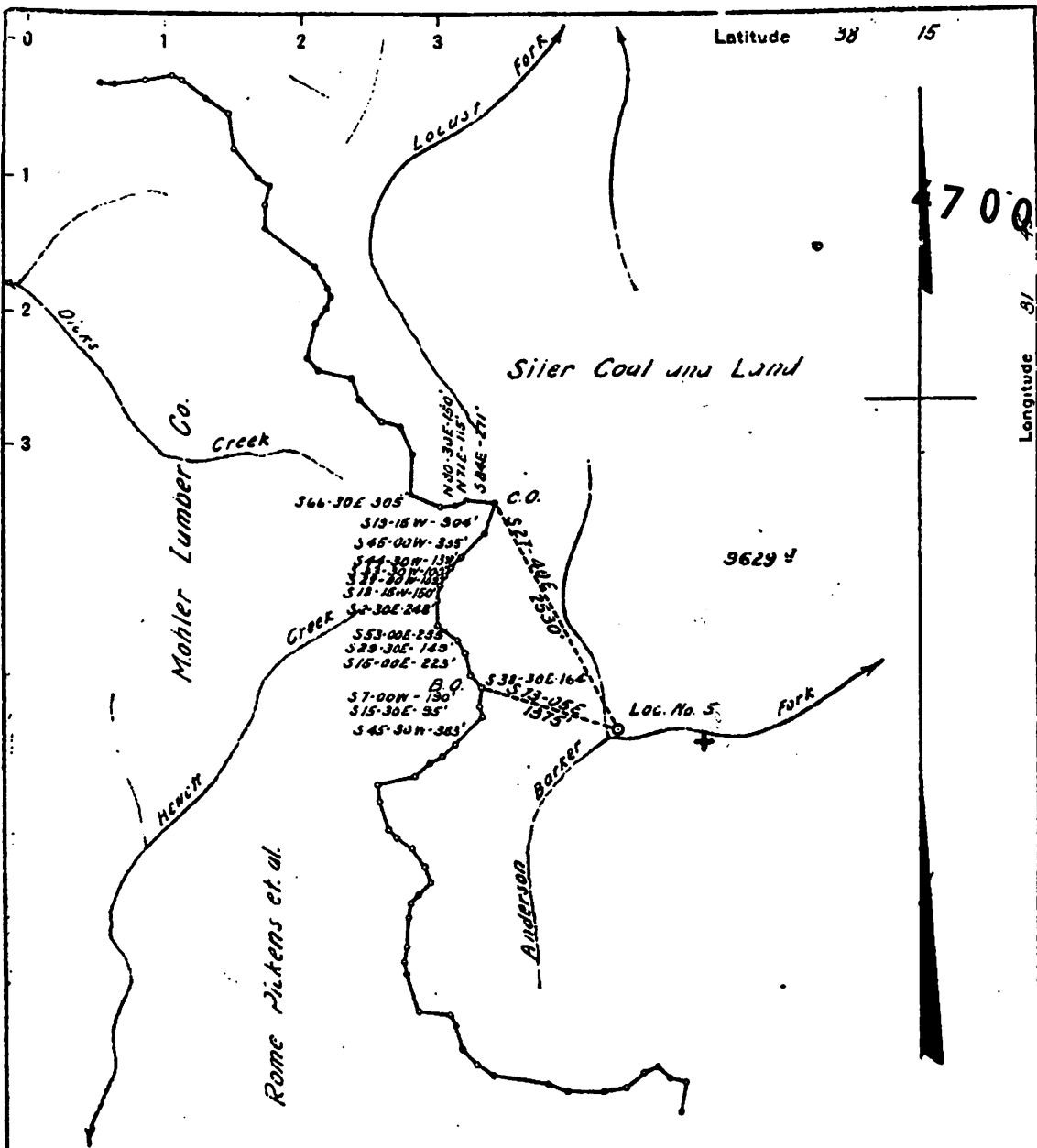
Coal at 58' 24"; 173' 36"
200' 36"

Sand & Gravel	Lt	S	0	10	
Sand	Gr	H	10	40	
Slate	Bk	S	40	58	
Coal	Bk	S	58	60	
Slate	Wh	S	60	80	
Sand	Wh	H	80	121	
Slate	Bk	S	121	138	Gas 1445' Small show
Sand	Gr	H	138	173	Gas 1479-1481' 60/10 W 2"
Coal	Bk	S	173	176	
Sand	Wh	H	176	200	
Coal	Bk	S	200	203	
Slate	Wh	S	203	220	
Sand	Wh	H	220	230	
Slate	Bk	S	230	380	
Sand	Wh	H	380	400	
Lime	Dk	H	400	420	
Sand	Wh	H	420	475	
Slate	Bk	S	475	560	
Sand	Lt	H	560	765	
Slate & Sand	Lt	H	765	850	
Sand	Lt	H	850	1140	
Red Rock	R	H	1140	1150	
Slate	Bk	S	1150	1160	
Red Rock	R	H	1160	1170	
Slate & Shell	Dk	S	1170	1280	Gas Inc. 1481-1483 to 70/10 W 3"
Little Lime	Lt	H	1280	1319	
Pencil Cave	Dk	S	1319	1325	
Big Limo	Wh	H	1325	1494	
TOTAL DEPTH				1494	

RECEIVED
Office of Oil and Gas

APR 23 2018

WV Department of
Environmental Protection



New Location X
 Drill Deeper
 Abandonment

Company United Carbon Company
 Address Charleston, W. Va.
 Farm Siler Coal and Land Co.
 Tract Acres 9629.9 Fee 376
 Well (Farm) No. 5 Serial No. 1072
 Elevation (Spirit Level) _____
 Quadrangle Madison
 County Boone District Peytona
 Engineer E. W. Withrow
 Engineer's Registration No. _____
 File No. _____ Drawing No. _____
 Date 7-21-42 Scale 1" = 1320'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 RECEIVED
 Office of Oil and Gas
 CHARLESTON
 WELL LOCATION MAP
 FILE NO. 300-582-3 2018

+ Denotes location of well on United States Topographic Maps, scale to 62,500, latitude and longitude indicated by border lines as shown.
 - Denotes one inch spaces on border line of original tracing.

"IMPERIAL" TRACING CLOTH
 # 4300, S. T.

1) Date: April 17, 2018
2) Operator's Well Number
010720 Siler Coal Fee #5
3) API Well No.: # 005 - 00552
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

47 00 5 005 5 2 P

4) Surface Owner(s) to be served:
(a) Name Penn Virginia Operating Co. LLC
Address Seven Sheridan Square
Suite 400
Kingsport TN 37660
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Gary Kennedy
Address 66 Old Church Ln.
Pipestem WV 25979
Telephone 304-382-8402

5) (a) Coal Operator:
Name None
Address _____
(b) Coal Owner(s) with Declaration
Name Penn Virginia Operating Co. LLC
Seven Sheridan Square
Address Suite 400
Kingsport TN 37660
Name _____
Address _____
(c) Coal Lessee with Declaration
Name None
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 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:
By: _____
Its: _____
Address: _____
Telephone: _____

EQT Production Company
Erin Spine
Regional Land Supervisor
2200 Energy Drive
Canonsburg PA 15317
(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

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. **RECEIVED**
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 **Office of Oil and Gas**
depprivacyofficer@wv.gov. **APR 23 2018**

WV Department of
Environmental Protection

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): _____ Quadrangle: Julian

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.

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

Company Official Signature *Erin Spine*

Company Official (Typed Name) Erin Spine

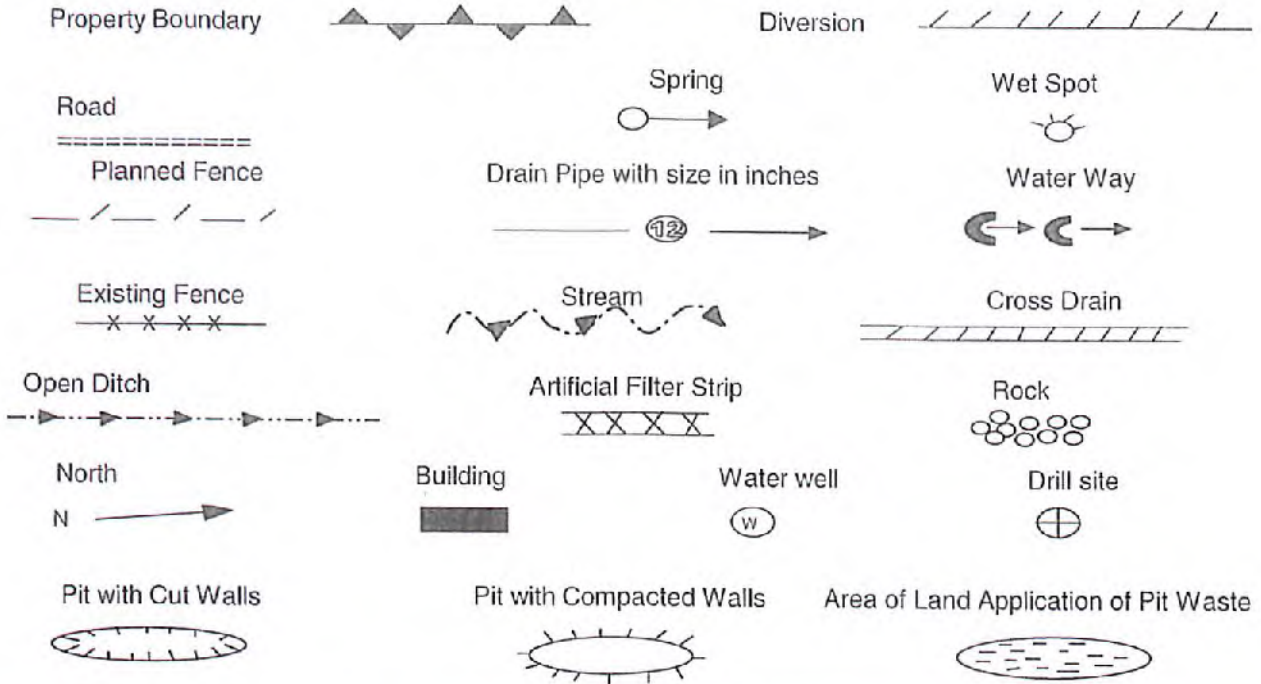
Company Official Title Regional Land Supervisor

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

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



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: *Henry Kennedy*

Comments: _____

Title: *Inspector* Date: *4/24/18*
Field Reviewed? Yes No

EQT Production Water plan
Offsite disposals

47 00 5 0 0 5 5 2P

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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Office of Oil and Gas

APR 23 2018

WV Department of
Environmental Protection

Topo Quad: Julian 7.5'

Scale: 1" = 500'

County: Boone

Date: April 12, 2018

47 005 005 52 P

District: Peytona

Project No: 140-16-00-07

Highway

47-005-00552 WV 010720 (Siler Coal #5)

Pit Location Map



47-005-00552
WV 010720



NAD 27, South Zone
N:428145.94
E:1771618.56

WGS 84
LAT:38.173228
LONG:-81.794307
ELEV:850.91'

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

APR 23 2018
2400 Ansys Drive
Canonsburg, PA 15317
WV Department of
Environmental Protection

Topo Quad: Julian 7.5'

Scale: 1" = 200'

47 00 5 00 5 5 2 P

County: Boone

Date: April 12, 2018

District: Peytona

Project No: 140-16-00-07

47-005-00552 WV 010720 (Siler Coal #5)

Topo

Pit Location Map



Lick
Hollow

Joe



47-005-00552
WV 010720

Sauls Can

Hollow

NAD 27, South Zone
N:428145.94
E:1771618.56

WGS 84
LAT:38.173228
LONG:-81.794307
ELEV:850.91'

LEGEND



Proposed Pit Location



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PH: (304) 649-8606
FAX: (304) 649-8608

PREPARED FOR:

Office of Oil and Gas

EQT Production Company

2400 Ansys Drive
Canonsburg, PA 15317
WV Department of
Environmental Protection

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APR 25 2018

4700500552P

Topo Quad: Julian 7.5'

Scale: 1" = 2000'

County: Boone

Date: April 12, 2018

District: Peytona

Project No: 140-16-00-07

47-005-00552 WV 010720 (Siler Coal #5)

Topo



47-005-00552
WV 010720

NAD 27, South Zone
N:428145.94
E:1771618.56

WGS 84
LAT:38.173228
LONG:-81.794307
ELEV:850.91'



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:

APR 23 2018
EQT Production Company
WV Department of
Environmental Protection

4700500552P



POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY
LEASE NAME AND WELL No. 47-005-00552 WV 010720 (Siler Coal #5)

POTENTIAL SAMPLE LOCATIONS

There appears to be no potential water sources within the required 1000 feet of the existing well WV 010720.

RECEIVED
Office of Oil and Gas

APR 23 2018

WV Department of
Environmental Protection

BIRCH RIVER OFFICE

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

BRIDGEPORT OFFICE

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

ALUM CREEK OFFICE

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

Topo Quad: Julian 7.5'

Scale: 1" = 2000'

County: Boone

Date: April 12, 2018

47 00 5 00 5 5 2 f

District: Peytona

Project No: 140-16-00-07

Water

47-005-00552 WV 010720 (Siler Coal #5)

No Potential Water Sources within 1000'



47-005-00552
WV 010720

NAD 27, South Zone
N:428145.94
E:1771618.56

WGS 84
LAT:38.173228
LONG:-81.794307
ELEV:850.91'

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Office of Oil and Gas



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
Canaan Valley, WV 26015
WV Department of
Environmental Protection

APR 23 2018

WW-7
8-30-06

4700500552P



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

API: 47-005-00552 WELL NO.: WV 010720 (Siler Coal #5)

FARM NAME: Siler Coal and Land Company

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Boone DISTRICT: Peytona

QUADRANGLE: Julian 7.5'

SURFACE OWNER: Penn Virginia Operating Co. LLC

ROYALTY OWNER: Penn Virginia Operating Co. LLC

UTM GPS NORTHING: 4225333

UTM GPS EASTING: 430426 GPS ELEVATION: 259 m (851 ft)

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

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

Survey grade GPS _____ : Post Processed Differential _____
 Real-Time Differential _____
 Mapping Grade GPS X : Post Processed Differential X
 Real-Time Differential _____

4. Letter size copy of the topography map showing the well location.
 I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

RECEIVED
 Office of Oil and Gas
 APR 23 2018
 WV Department of
 Environmental Protection

[Signature]
 Signature

PS # 2180
 Title

4/16/18
 Date