

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, November 7, 2018
WELL WORK PLUGGING PERMIT
Vertical Plugging

EQT PRODUCTION COMPANY 625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for DEWHURST 50 47-103-02257-00-00

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: DEWHURST 50

Farm Name: STATE OF WEST VIRGINIA

U.S. WELL NUMBER: 47-103-02257-00-00

Vertical Plugging
Date Issued: 11/7/2018

Promoting a healthy environment.



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.

WW-4B Rev. 2/01

1) Date	Septe	ember	5th		20 18
2) Open					
Well	No.	518475	(JB	Dewhu	rst #50)
3) API	Well	No.	47	- 103	- 02257

		derground storage) Deep/ Shallow
5)	Location: Elevation 933 District Grant	Watershed Buffalo Run County Wetzel Quadrangle Center Point 7.
	DISTINCT STANK	Quadrangle Center Forter
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
	Name Derek Haught Address PO Box 85	Name HydroCarbon Well Service Address PO Box 995
	Smithville WV 26178	Address PO Box 995 Buckhannon WV 26201
n.	Work Order: The work order for the man	

Notification must be given to the district oil and gas inspector work can commence.	24 hours	before permitte
Work order approved by inspector	Date _	9-27-18

PLUGGING PROGNOSIS

518475 Dewhurst #50 API# 47-103-02257 District, Grant Wetzel County, WV

BY: R Green DATE: 08/20/18

CCURRENT STATUS:

TD @ 7185'

7426

Elevation @ 933'

24" casing @ 22' (CTS)
20" casing @ 36' (CTS)
13 3/8" casing @ 289' (CTS with 270 sks)
8 5/8" casing @ 3031' (CTS with 835sks)
5 ½" casing @ 7185' (Cemented with 100 sks)
Perforations @ 6927' to 6955' 57 holes
7054' to 7096' 85 holes

Fresh Water None Reported (Saltwater @ 1670'
Gas Show @ None Reported
Oil shows @ None reported

Coal @ None Reported

- 1. Notify inspector, Derek Haught @ 304-206-7613, 24 hours prior to commencing operations.
- Check annulus of all casing strings for any pressure, gas leaking, or bubbling water in cellar.
 etc. before starting plugging operations, if any gas is detected on any annuli, notify EQT supervisor before proceeding.
- TIH and check TD @ or below 7100'.
- TIH and spot 100 bbl. of 6% gelled water, followed by a 600' C1A cement plug, 7100' to 6500'.WOC 8 hrs. Tag TOC, add additional C1A cement if necessary.
- TIH with gauge ring to 6400', set a 5 ½" CIBP @ 6400'.
- 6. TIH to CIBP set a 500' C1A cement plug from 6400' to 5900'.
- 7. Free point 5 1/2" casing, cut casing @ free point using a jet cutter, TOOH 5 1/2" casing.
- Set a 200' C1A cement plug 100' in/out of casing cut. Perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs.
- 9. TOOH to 3200' set a 300' C1A cement plug 3200' to 2900'. (8 5/8" casing seat.).
- TOOH to 1750' set a 200' C1A cement plug 1750' to 1550' (Saltwater @ 1670').
- 11. TOOH to 1000' set a 200' C1A cement plug 1000' to 800', (Elevation @ 933').
- 12. TOOH to 400' set a 400' C1A cement plug 400' to surface.
- 13. Erect monument with API#, date plugged, company name.
- 14. Reclaim location and road to WV-DEP specifications.

Office of Direct

WR-35 Rev (1-10)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE: 7/07/2010 API #: 47-103-02257

Farm name DEWHURST Operator's Report of Well Work		's Report of W			b	100
District: Grant District: Grant District: Grant Latitude: 1989 Feet South of 38 Deg. 28 Min. Sec. Longitude: 79 Feet West of 89 Deg. 27 Min. Sec. Company: Address: 7? Casing & Used in Left in well up Cu. Ft. P.O. Box 393 St. Marys, WV 26170 24 22 22 22 To Surface Agent: Loren Bagley Inspector: David Scranage Date Permit Issued: August 3, 2007 Date Well Work Commenced: October 17, 2007 Date Well Work Commenced: October 17, 2007 Date Well Work Completed: November 15, 2007 13 3/8 289.69 289.69 To Surface Verbal Plugging: Date Permission granted on: Rotary Cable Rig 85/8 3,031 3,031 To Surface Total Vertical Depth (ft): 7426 8 835 sks Total Vertical Depth (ft): 7426 8 835 sks Total Vertical Depth (ft): 7426 9 100 Sks Sait Water Depth (ft): 1670 20# 100 Sks Total Open flow 3500 MCF/d Final open flow Bb/d Time of open flow between initial and final tests Hours Static rock Pressure 2890 psig (surface pressure) after Hours Static rock Pressure 2890 psig (surface pressure) after Hours Static rock Pressure psig (surface pressure) after Hours Static rock Pressure psig (surface pressure) after Hours Learnity under penalty of law that I have personnly examined and ann familiar with the information submitted on the psig of the individuals immediately responsible for obtaining the information is true, accurate, and completed the test submements and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate, and completed the test submements and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate, and completed the test submements and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate, and completed the test submements and that, based on my inquiry of those individuals immediately respon	Farm name: DEWHURST	Operator Well	No.: 50		- my	ľα.
Latitude: ***900** Feet South of **30** Deg. 37** Min. Sec. Longitude **70** Feet West of *80** Deg. 37** Min. 30** Sec. Longitude **70** Feet West of *80** Deg. 37** Min. 30** Sec. Company: Address:	LOCATION: Elevation: 933'	Quadrangle: _C	ENTER POIN	IT		
Latitude: **** Feet South of **** Deg. 3r** Min. Sec. Longitude **** Feet West of **** Deg. 3r** Min. 3o Sec. Longitude **** Feet West of **** Deg. 3r** Min. 3o Sec. Sec. Marys. W. 26170	District: Grant	County: Wetz	el			
Address: 77 Casing & Used in Left in well Cement fill Up Cu. Ft.	Latitude: 9590 Feet South of 39' Deg.	30' Min.	Sec.			
Address: 77 Casing & Used in Left in well Cement fill up Cu. Ft. P.O. Box 393 St. Marys, WV 26170 24* 22' 22' 70 Surface Agent: Loren Bagley Inspector: David Scranage Date Permit Issued: August 3, 2007 20* 36* 36* To Surface Date Well Work Commenced: October 17, 2007 Date Well Work Completed: November 15, 2007 13 3/8 289.69 289.69 To Surface Verbal Plugging: Date Permission granted on: Rotary Cable Rig 8 5/8 3,031 3,031 To Surface Total Vertical Depth (ft): 7426 X 7185	Longitude 70° Feet West of 80° Deg.	37 Min.	Sec.	•		
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Protection	Signature			Date Envir	Depart,	no
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Bbl/d Bbl/d Hours Hours

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Elev.	933'	<i>(</i> \.	
J.01.	733	4	
		1	
Fm Name	FM Top	⁴ FM Bot	Notes
Gordon	2,796	2,820	
4 th Sand	2,897	2,905	
Bayard	3,118	3,610	
Warren	3,472	3,585	
Balltown	3,890	3,906	
1 st Riley	4,367	4,402	
2 nd Riley	4,502	4,548	
3 rd Riley	4,652	4,700	
Alexander	5,065	5,087	
Elk	5,422	5,456	
Hamilton	6,170	6,352	
Up Marcellus	6,942	6,958	
Cherry Valley	6,958	7,020	
Low Marcellus	7,052	7,102	10000
Top Onondaga	7,102	•	Parminallow
	- 470	h-?!	1 gyloot
	799	E Fo	r Cindy
		ر س	Parmitted as
Perfs	6,927 - 6,955		7 Holes
	7,054 - 7,096		5 Holes
	,		
Stage 1			
Perfs	7,054 – 7,09 <u>6</u>		
rens	7,034 - 7,030	<u> </u>	
G. 0			
Stage 2			
Perfs	6,927 – 6,955		

WR-35

02257

11/09/2018

WW-4A Revised 6-07

1) Date:	September 5, 2018	
2) Operator'	's Well Number	
518475 (J.B. Dewh	urst #50)	

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

3) API Well No.: 47 -

(a) Name	ner(s) to be served:	5) (a) Coal Operator
	See Attached	Name
Address		Address
(b) Name		(b) Coal Owner(s) with Declaration
Address	-	Name See Attached
Address		Address
(c) Name		Name
Address	-	Address
Address		Address
6) Inspector	Derek Haught	(c) Coal Lessee with Declaration
Address	PO Box 85	Name
	Smithville WV 26178	Address
Telephone	(304) 206-7613	
well	application to Plug and Abandon a its and the plugging work order; and plat (surveyor's map) showing the w	
Take notic accompan Protection the Applic	you are not required to take any action at a e that under Chapter 22-6 of the West Vir ying documents for a permit to plug and a with respect to the well at the location do	rginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and bandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental escribed on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, registered or certified mail or delivered by hand to the person(s) named above (or by publication in
Take notic accompan Protection the Applic	you are not required to take any action at a e that under Chapter 22-6 of the West Vir ying documents for a permit to plug and a , with respect to the well at the location di ation, and the plat have been mailed by	rginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and bandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental escribed on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, registered or certified mail or delivered by hand to the person(s) named above (or by publication in
Take notic accompan Protection the Applic	you are not required to take any action at a see that under Chapter 22-6 of the West Virging documents for a permit to plug and a with respect to the well at the location disation, and the plat have been mailed by cumstances) on or before the day of mailing	rginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and bandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental escribed on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, registered or certified mail or delivered by hand to the person(s) named above (or by publication in
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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.

47-103-02257

158475 J.B. Dewhurst #50

Owner(s) (Surface and Access)

West Virginia Department of Natural Resources 324 Fourth Ave. South Charleston WV 25303

Coal Owner(s):

West Virginia Department of Natural Resources 324 Fourth Ave.
South Charleston WV 25303

Murray Energy Corporation 46226 National Rd. St. Clairsville OH 43950

Potential Water Owner(s):

N/A

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Environmenta (rescutot)

WW-9 (5/16)

API Number 47 - 103 _ 02257 Operator's Well No. 518475 (J.B. Dewhurst #50)

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) Buffalo Run	Quadrangle Center Point 7.5'	
Do you anticipate using more than 5,000 bbls of water		
Will a pit be used? Yes Vo No		
If so, please describe anticipated pit waste: F	Formation Fluids	
Will a synthetic liner be used in the pit? Yes	✓ No If so, what ml.? 20 ml	- 1
Proposed Disposal Method For Treated Pit Wa	astes:	Dury
	d provide a completed form WW-9-GPP)	47
Underground Injection (UIC	C Permit Number):
Reuse (at API Number Off Site Disposal (Supply for Other (Explain	orm WW-9 for disposal location)	_)
Will closed loop systembe used? If so, describe:		
Drilling medium anticipated for this well (vertical and	horizontal)? Air, freshwater, oil based, etc.	
	n. etc	
Drill cuttings disposal method? Leave in pit, landfill, re		
	will be used? (cement, lime, sawdust)	
Permittee shall provide written notice to the Office of C West Virginia solid waste facility. The notice shall be p where it was properly disposed.	Oil and Cas of any load of drill cuttings or associated waste rejected provided within 24 hours of rejection and the permittee shall also d	d at any isclose
on April 1. 2016, by the Office of Oil and Cas of the V provisions of the permit are enforceable by law. Violati or regulation can lead to enforcement action. I certify under penalty of law that I have pe application form and all attachments thereto and that, by	ms and conditions of the GENERAL WATER POLLUTION PERI West Virginia Department of Environmental Protection. I underst ions of any term or condition of the general permit and/or other appersonally examined and am familiar with the information submit assed on my inquiry of those individuals immediately responsible to accurate, and complete. I am aware that there are significant pof fine or imprisonment.	and that the plicable law ated on this or o btaining
Company Official Title 1.090nar Land Supervisor	1-41	_
Subscribed and swom before me this 17th d Della Caa A Warnstra My commission expires 4-7-2020	Notary Patrice Notary Patrice	UBLIC VIRGINIA ANSTREET COMPANY

Proposed Revegetation Trea	tment: Acres Disturbed 1±	Preveg etation p	н
Lime 3	Tons/acre or to correct to pl	6.5	
Fertilizer type (10)-20-20) or equivalent		
Fertilizer amount 1	/3 ton	lbs/acre	
Mulch 2	Tons	s/acre	
	<u>Se</u>	ed Mixtures	
Te	emporar y	Perms	nent
Seed Type	lbs/acre	Seed Type	lbs/acre
Red Fescue	40	Red Fescue	15
Aslike Clover	5	Aslike Clover	5
Annual Rye	15		
Maps(s) of road, location, pi provided). If water from the (L, W), and area in acres, of	pit will be land applied, provide verthe land application area.	cation (unless engineered plans incluvater volume, include dimensions (L.	ding this info ha W.D) of the pit
provided). If water from the (L, W), and area in acres, of Photocopied section of invol	pit will be land applied, provide verthe land application area. Ived 7.5' topographic sheet.	cation (unless engineered plans incluvater volume, include dimensions (L.	ding this info ha W. D) of the pit
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Form WW-9

47-103-02257 P 11/09/2018

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

-103-022578 Office of Oll and Gas SEP 2 6 2018

1" = 1000' Center Point 7.5' Scale: Topo Quad: July 27, 2018 Wetzel Date: County: Project No: 40-34-00-09 District: Grant Highway 47-103-02257 WV 518475 (J. B. Dewhurst #50) Pit Location Map NAD 27, North Zone N:356615.47 E:1682373.09 **Existing Well-**Access Road 47-103-02257 WGS 84

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:

WV 518475

EQT Production Company

LAT:39.473741 LONG:-80.625014

ELEV:932.89

2400 Ansys Drive Canonsburg, PA 15317

47-103-022574

1" = 200' Center Point 7.5' Scale: Topo Quad: SEP 2 6 2018 Wetzel July 27, 2018 Date: County:

Project No:

40-34-00-09

47-103-02257 WV 518475 (J. B. Dewhurst #50)

Topo

W/V Department of

Pit Location Map

Existing Well Access Road

Grant

District:

47-103-02257 WV 518475

LEGEND

Proposed Pit Location

NAD 27, North Zone N:356615.47 E:1682373.09

WGS 84 LAT:39.473741

LONG:-80.625014

ELEV:932.89



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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



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1300		Horse Run Trail		300 1200
	11000	0001	13007	
	15th	47-103-02: WV 5184		8
700		WV 3104	1400	
	(30)	1000	300	
	1200	Meathouse &	1100	
		Run Trail		3500
		no	9-1400	1400
JACKSONBURG				IN WALL
RG RD	1400	1400	(7500.	NAD 27, North □on N:356615.47
Main Cem Dale	Lyons Lyons		1300	E:1682373.09
2 mile	CORD 13 D WETT	CORDE	SLABCAMP RUN	WGS 84 LAT:39.473741
100	TYLER C	WETZEL CO		LONG:-80.625014 ELEV:932.89
S 1/1// A		The CO		

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

WW-7 8-30-06



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

RESPU	NSIBLE PARTY NAN	ME: EQT Production Company
COUNT	TY: Wetzel	DISTRICT: Grant
QUADE	RANGLE: Center Po	int 7.5'
SURFA	CE OWNER: West V	Virginia Department of Natural Resources
ROYAL	TY OWNER: John W	V. Kerns Heirs Trust, et al.
UTM G	PS NORTHING: 436	9417
UTM G	PS EASTING: 5322	253 GPS ELEVATION: 284 m (933 ft)
Tare Trees	in in in its indirect at	ove has chosen to submit GPS coordinates in lieu of
above we the follow 1. 2. 3. Surve	ell. The Office of Oil and wing requirements: Datum: NAD 1983, Z height above mean set Accuracy to Datum – Data Collection Methods grade GPS	d Gas will not accept GPS coordinates that do not meet cone: 17 North, Coordinate Units: meters, Altitude: a level (MSL) – meters. 3.05 meters od: : Post Processed Differential Real-Time Differential
above we the follow 1. 2. 3. Surve	ell. The Office of Oil and wing requirements: Datum: NAD 1983, Z height above mean set Accuracy to Datum — Data Collection Method grade GPS	a level (MSL) – meters. 3.05 meters od:: Post Processed Differential

11/09/2018



RECEIVED Office of Oil and Gas

SEP 2 6 2018

WV Department of Environmental Protection

POTENTIAL WATER SAMPLE DATA SHEET

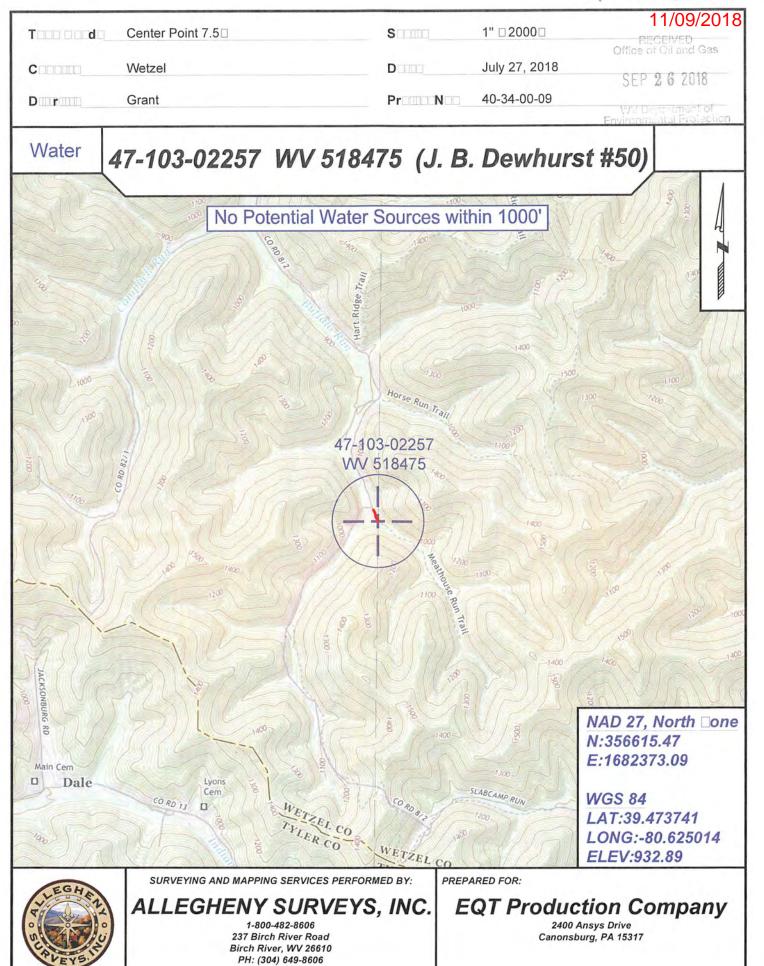
CLIENT: EQT PRODUCTION COMPANY
LEASE NAME AND WELL No. J. B. Dewhurst #50 - WV 518475 - API No. 47-103-02257

POTENTIAL SAMPLE LOCATIONS

There appears to be no potential water sources within the required 1000 feet of the existing well WV 518475.

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 /ux: 304-848-5037 CHARLESTON OFFICE 301 RHL Boulevard - Suite 5 Charleston, WV 25309 phone: 304-756-2949 fax: 304-756-2948



FAX: (304) 649-8608





Miss Utility of West Virginia (WV811) (Exhibit A) Directions to Gas Well No. WV 518475 API No. 47-103-02257

- Beginning at the intersection of US Interstate 79 Exit 119 (Clarksburg/Bridgeport) and US Route 50 in Harrison County, WV.
- Proceed Northwest on US Route 50, for approximately 5.9 miles, to WV County Route 9 (Wilsonburg Road), on the right.
- Exit right onto WV County Route 9 (Wilsonburg Road) and proceed Northwest, for approximately 6.9 miles, to the intersection with WV State Route 20.
- Turn left onto WV State Route 20 and proceed Northwest, for approximately 22.6 miles, to WV County Route 82, on the left. (Point No. 1)
- Turn left onto WV County Route 82 and proceed South, for approximately 5.0 miles, to the Well Access Road, straight ahead. (Point No. 2)
- Continue straight and Southeast onto the Well Access Road, for approximately 267 feet, arriving at Gas Well WV 518475. (Point No. 3)

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SEP 2 6 2018

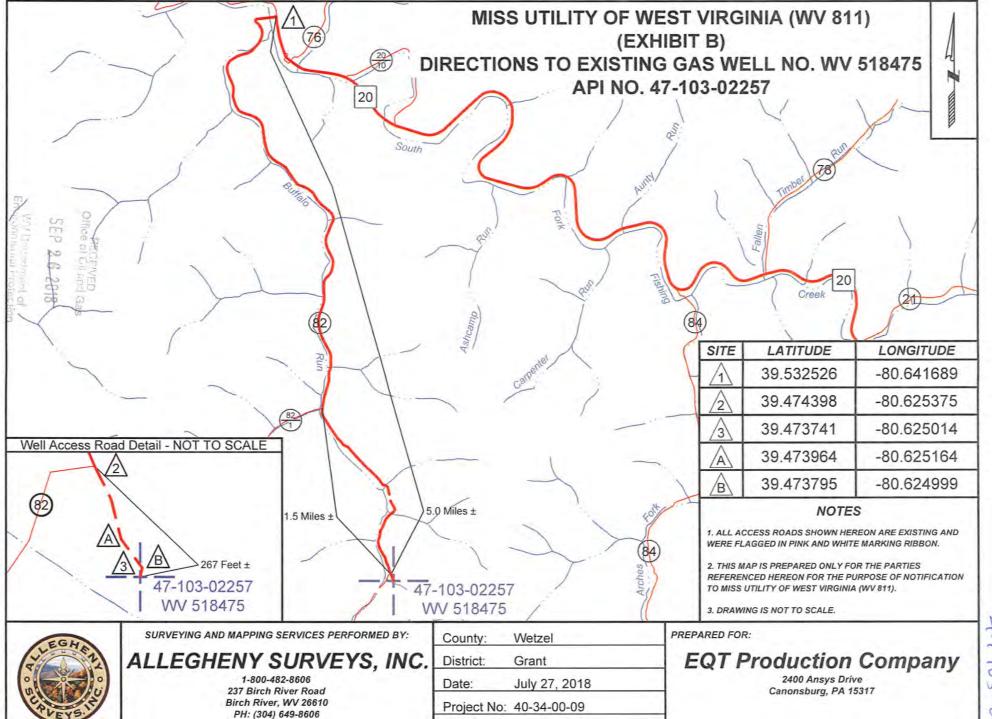
W/V Description of Environmental Protection

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 CHARLESTON OFFICE

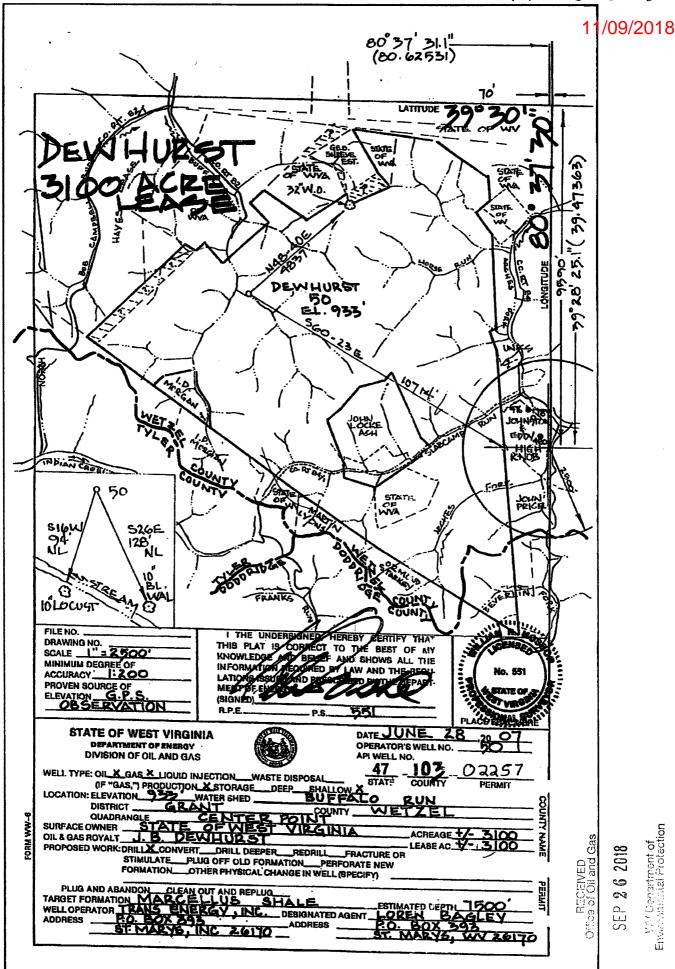
301 RHL Boulevard - Suite 5 Charleston, WV 25309 phone: 304-756-2949 fax: 304-756-2948



File Name: WV 518475 DEWHURST

FAX: (304) 649-8608

47-103-0225A



VA/Department of Environmental Protection