January 17, 2014

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-1706390, issued to EQT PRODUCTION COMPANY, 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 all 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 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: 512476
Farm Name: HARPER, LUCY E.
API Well Number: 47-1706390
Permit Type: Horizontal 6A Well
Date Issued: 01/17/2014

Promoting a healthy environment.
PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) 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. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACOE). Through this permit, you are hereby being advised to consult with USACOE regarding this proposed activity.

2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95% compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled Water Well Regulations, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.

8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
W.V.A. CODE §22-6A - WELL WORK PERMIT APPLICATION

1) Well Operator: EQT Production Company

2) Operator's Well Number: 512476

3) Farm Name/Surface Owner: Lewis Maxwell

4) Elevation, current ground: 1,259.0
Elevation, proposed post-construction: 1,258.0

5) Well Type: (a) Gas • Oil • Underground Storage •

(b) If Gas: Shallow • Deep •

Horizontal •

6) Existing Pad? Yes or No: Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):

Target formation is Marcellus at a depth of 6,669' with the anticipated thickness to be 50 feet and anticipated target pressure of 4,800 psi.

8) Proposed Total Vertical Depth: 6,669'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14,436'

11) Proposed Horizontal Leg Length: 6,370'

12) Approximate Fresh Water Strata Depths: 149, 159, 252, 286, 369, 443

13) Method to Determine Fresh Water Depth:

By offset wells

14) Approximate Saltwater Depths: 1389, 1441, 1456

15) Approximate Coal Seam Depths: 337, 638, 1473

16) Approximate Depth to Possible Void (coal mine, karst, other): None reported

17) Does proposed well location contain coal seams directly overlying or adjacent to an active mine?

(a) If Yes, provide Mine Info:

Name:

Depth:

Seam:

Owner:

Page 1 of 3
January 10, 2014

Mr. Gene Smith
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: Casing change on OXF150 (512476) 017-06390

Dear Mr. Smith,

Attached is a modification to the casing program for the above well. EQT is requesting the 13 3/8” surface casing to be set 50’ below the deepest red rock show to cover potential red rock issues. The proposed casing set depth is above ground elevation. The reason for this is the red rock swells during drilling of the intermediate section causing many drilling problems such as but not limited to lost drilling assemblies and casing running issues.

After reviewing the OXF149, we would like to request to set the surface casing deeper on each well. The 13 3/8” casing will be set at a depth of approximately 1028’ KB (50’ below the anticipated red rock show).

If you have any questions, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

Vicki Roark
Permitting Supervisor-WV

Enc.
cc: Douglas Newlon
4060 Dutchman Road
Macfarlan, WV 26148
### CASING AND TUBING PROGRAM

**TYPE** | Size | New or Used | Grade | Weight per ft. | FOOTAGE for Drilling | INTERVALS Left in Well | CEMENT Fill-up (Gal/Ft)
---|---|---|---|---|---|---|---
Conductor | 20 | New | MC-50 | 81 | 40 | 40 | 38 CTS
Fresh Water | 13 3/8 | New | MC-50 | 54 | 1,628 | 1,628 | 892 CTS
Coal | 9 5/8 | New | MC-50 | 40 | 2,695 | 2,695 | 1129 CTS
Intermediate | 5 1/2 | New | P-110 | 20 | 14,430 | 14,430 | Site Note 1
Production | 2 3/8 | J-55 | 4.6 | May not be run, it has not been total area. than 12

**TYPE** | Size | Wellbore Diameter | Wall Thickness | Burst Pressure | Cement Type | cement Yield (Gal/Ft)
---|---|---|---|---|---|---
Conductor | 20 | 2 4 | 0.375 | - | Construction | 1.18
Fresh Water | 13 3/8 | 1 1/2 | 0.38 | 2,480 | 1 | 1.21
Coal | 9 5/8 | 1 3/8 | 0.395 | 3,590 | 1 | 1.21
Production | 5 1/2 | 8 1/2 | 0.561 | 12,640 | - | 1.27/1.66
Tubing | Liners |

**Packers**

<table>
<thead>
<tr>
<th>Kind</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sizes</td>
<td>N/A</td>
</tr>
<tr>
<td>Depths Set</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note 1: EQT plans to bring the TOC on the production casing job 1200' above kick off point, which is at least 500' above the shallowest production zone, to avoid communication.
21) Describe centralizer placement for each casing string.

- Surface: Bow spring centralizers – One at the shoe and one spaced every 500’.
- Intermediate: Bow spring centralizers– One cent at the shoe and one spaced every 500’.
- Production: One spaced every 1000’ from KOP to int csg shoe

22) Describe all cement additives associated with each cement type. Surface (Type 1 Cement): 0-3% Calcium Chloride

Used to speed the setting of cement slurries.

0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.

Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries. 0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.

Production:

Lead (Type 1 Cement): 0.2-0.7% Lignosulfonate (Retarder). Lengthens thickening time.

0.3% CFR (dispersant). Makes cement easier to mix.

Tail (Type H Cement): 0.25-0.40% Lignosulfonate (Retarder). Lengthens thickening time.

0.2-0.3% CFR (dispersant). This is to make the cement easier to mix.

60 % Calcium Carbonate. Acid solubility.

0.4-0.6% Halad (fluid loss). Reduces amount of water lost to formation.

23) Proposed borehole conditioning procedures. Surface: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. To ensure that there is no fill, short trip two stands with no circulation. If there is fill, bring compressors back on and circulate hole clean. A constant rate of higher than expected cuttings volume likely indicates washouts that will not clean up.

Intermediate: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. If foam drilling, to enhance hole cleaning use a soap sweep or increase injection rate & foam concentration.

Production: Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge holes bottoms up volume.

Perform a cleanup cycle by pumping 3-5 bottoms up or until the shakers are clean. Check volume of cuttings coming across the shakers every 15 minutes.

*Note: Attach additional sheets as needed.
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

Fluids/Cuttings Disposal & Reclamation Plan

Operator Name: OXF150
OP Code: 

Watershed (HUC10) Left Fork Arnold Creek
Quadrangle: Oxford 7.5

Elevation 1256.0 County: Doddridge
District: West Union

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used for drill cuttings? Yes No

If so please describe anticipated pit waste: 

Will a synthetic liner be used in the pit? Yes No
If so, what ml.? 60

Proposed Disposal Method For Treated Pit Wastes:

Land Application

Underground Injection (UIC Permit Number 0014, 8482, 4037)

Reuse (at API Number)

Off Site Disposal (Supply form WW-9 for disposal location)

Other (Explain)

Will closed loop system be used? YES

Drilling medium anticipated for this well? Air, freshwater, oil based, etc.
Air and water based mud

If oil based, what type? Synthetic, petroleum, etc

Additives to be used in drilling medium? MIBA, Viscosities, Ablation Control, Lime, Chlordane Solis, State Filtration Control
Defoamers, Lubricants, Detergents, Deoiling, Zinc Sulfate, X-Cide, SOLTEN Tens

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc.

Landfill

If left in pit and plan to solidify what medium will be used? (Cement, Lime, cementitious) n/a

Landfill or offsite name/permit number? See Attached List

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, 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: 
Company Official (Typed Name): Victoria J. Reap
Company Official Title: Permitting Supervisor

Subscribed and sworn before me this 17 day of SEPTEMBER, 2013

My commission expires 6/27/2018

Notary Public
Proposed Revegetation Treatment: Acres Disturbed 8.6

Prevegetation pH 6.6

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 1/3 Tons/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

<table>
<thead>
<tr>
<th>Seed Type</th>
<th>Area I</th>
<th>lbs/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>KY-31</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Aliské Clover</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Annual Rye</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seed Type</th>
<th>Area II</th>
<th>lbs/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orchard Grass</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Aliské Clover</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature] Michael Jeff

Comments: seed or mulch any disturbed areas to WW Dep regulations

Title: D-15 Gas compressor

Field Reviewed? Yes No

Date: 11-6-2013
EQT Production Water plan
Offsite disposals for Marcellus wells

CWS TRUCKING INC.
P.O. Box 391
Williamsport, WV 26187
740-516-3586
Noble County/Noble Township
Permit # 3390

BROAD STREET ENERGY LLC
37 West Broad Street
Suite 1100
Columbus, Ohio 43215
740-516-5381
Washington County/Belpre Twp.
Permit # 8462

LAD LIQUID ASSETS DISPOSAL INC.
226 Rankin Road
Washington, PA 15301
724-350-2760
724-222-6080
724-229-7034 fax
Ohio County/Wheeling
Permit # USEPA WV 0014

TRIAD ENERGY
P.O. Box 430
Reno, OH 45773
740-516-6021 Well
740-374-2940 Reno Office Jennifer
Noble County/Jackson Township
Permit # 4037

TRI COUNTY WASTE WATER MANAGEMENT, INC.
1487 Toms Run Road
Holbrook, PA 15341
724-627-7178 Plant
724-499-5647 Office
Greene County/Waynesburg
Permit # TC-1009

KING EXCAVATING CO.
Advanced Waste Services
101 River Park Drive
New Castle, Pa. 16101
Facility Permit# PAR000029132

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 #100933WV

RECEIVED
Office of Oil and Gas
SEP 23 2013
WV Department of Environmental Protection
EQT
Where energy meets innovation™
Site Specific
Safety and Environmental Plan
For

EQT OXF 150 Pad

Doddridge County, WV

For Wells: ______________________

________________________

________________________

Date Prepared: July 31, 2013

EQT Production

Date: 6-20-13

WV Oil and Gas Inspector

Date: 11-6-2013

Title: Manager Drilling

Title: Assistant Drilling

Title: Assistant Drilling
Important:
For each proposed primary water source (including source intakes for purchased water sources) identified in your water management plan, and summarized herein, DEP has made an evaluation concerning water availability over the specified date range. DEP’s assessment is based on the following considerations:

- Statistical analysis of historical USGS stream gauge data (transferred to un-gauged locations as necessary);
- Identification of sensitive aquatic life (endangered species, mussels, etc.);
- Quantification of known existing demands on the water supply (Large Quantity Users);
- Minimum flows required by the Army Corps of Engineers; and
- Designated stream uses.

Based on these factors, DEP has provided, for each intake location (and origination point for purchased water), a reference gauge location and discharge flow reading which must be surpassed prior to withdrawals. Additionally, DEP has established a minimum passby flow at the withdrawal location which must also be surpassed prior to withdrawals. These thresholds are considered terms of the permit and are enforceable as such.

DEP is aware that some intake points will be used for multiple wells and well sites. In these cases, the thresholds set by the Water Management Plan are to be interpreted as total withdrawal limits for each location over the specified date range regardless of how many wells are supported by that intake.

For all purchased water intakes, determinations of water availability are made at the original source intake location. It is the responsibility of the Oil and Gas Operator, not the seller, to cease withdrawal of water from the seller when flows are less than the minimum gauge reading at the stream gauge referenced by the Water Management Plan in order to protect stream uses.

Note that the determinations made herein are based on the best available data, but it is impossible to predict water availability in the future. While the DEP has carefully established these minimum withdrawal thresholds, it remains the operator’s responsibility to protect aquatic life at all times. Approval to withdrawal is contingent upon permission from the land owner. It is the responsibility of the operator to secure and maintain permission prior to any withdrawals.

The operator is reminded that 24-48 hours prior to withdrawing (or purchasing) water, DEP must be notified by email at DEP.water.use@wv.gov.

APPROVED  DEC 03  2013
# Source Summary

**WMP**: 01611  
**API Number**: 047-017-06390  
**Operator**: EQT Production Company  

## Stream/River

### Source: Ohio River @ Westbrook Trucking Site
- **Start Date**: 11/1/2013  
- **End Date**: 11/1/2014  
- **Total Volume (gal)**: 10,100,000  
- **Max. daily purchase (gal)**:  
- **Intake Latitude**: 39.384455  
- **Intake Longitude**: -81.25645  

**Regulated Stream?**: Yes  
**Ohio River Min. Flow**:  
**Ref. Gauge ID**: 9999999  
**Ohio River Station**: Willow Island Lock & Dam  
**Max. Pump rate (gpm)**: 1,260  
**Min. Gauge Reading (cfs)**: 6,468.00  
**Min. Passby (cfs)**:  
**DEP Comments**: Refer to the specified station on the National Weather Service's Ohio River forecast website: http://www.erh.noaa.gov/ohrfc//flows.shtml

### Source: Ohio River @ Select Energy
- **Start Date**: 11/1/2013  
- **End Date**: 11/1/2014  
- **Total Volume (gal)**: 10,100,000  
- **Max. daily purchase (gal)**:  
- **Intake Latitude**: 39.346473  
- **Intake Longitude**: -81.338727  

**Regulated Stream?**: Yes  
**Ohio River Min. Flow**:  
**Ref. Gauge ID**: 9999998  
**Ohio River Station**: Racine Dam  
**Max. Pump rate (gpm)**: 1,500  
**Min. Gauge Reading (cfs)**: 7,216.00  
**Min. Passby (cfs)**:  
**DEP Comments**: Refer to the specified station on the National Weather Service's Ohio River forecast website: http://www.erh.noaa.gov/ohrfc//flows.shtml

### Source: Middle Island Creek @ Travis Truck Pad
- **Start Date**: 11/1/2013  
- **End Date**: 11/1/2014  
- **Total Volume (gal)**: 10,100,000  
- **Max. daily purchase (gal)**:  
- **Intake Latitude**: 39.308545  
- **Intake Longitude**: -80.781102  

**Regulated Stream?**:  
**Ref. Gauge ID**: 3114500  
**MIDDLE ISLAND CREEK AT LITTLE, WV**  
**Max. Pump rate (gpm)**: 4,200  
**Min. Gauge Reading (cfs)**: 72.16  
**Min. Passby (cfs)**: 28.33

**DEP Comments**:  

---

*west virginia department of environmental protection*

12/3/2013 1:25:14 PM
<table>
<thead>
<tr>
<th>Source</th>
<th>Doddridge</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Island Creek @ Rock Run</td>
<td></td>
<td>William Whitehill</td>
</tr>
<tr>
<td>Start Date</td>
<td>11/1/2013</td>
<td>End Date</td>
</tr>
<tr>
<td>Total Volume (gal)</td>
<td>10,100,000</td>
<td>Max. daily purchase (gal)</td>
</tr>
<tr>
<td>Intake Latitude</td>
<td>39.298763</td>
<td>Intake Longitude</td>
</tr>
<tr>
<td>Regulated Stream?</td>
<td></td>
<td>Ref. Gauge ID</td>
</tr>
<tr>
<td>Max. Pump rate (gpm)</td>
<td>1,680</td>
<td>Min. Gauge Reading (cfs):</td>
</tr>
<tr>
<td>Min. Passby (cfs)</td>
<td>26.43</td>
<td></td>
</tr>
<tr>
<td>DEP Comments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Doddridge</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Island Creek @ Barnes Withdrawal Site</td>
<td></td>
<td>Ellen L. Barnes</td>
</tr>
<tr>
<td>Start Date</td>
<td>11/1/2013</td>
<td>End Date</td>
</tr>
<tr>
<td>Total Volume (gal)</td>
<td>10,100,000</td>
<td>Max. daily purchase (gal)</td>
</tr>
<tr>
<td>Intake Latitude</td>
<td>39.29958</td>
<td>Intake Longitude</td>
</tr>
<tr>
<td>Regulated Stream?</td>
<td></td>
<td>Ref. Gauge ID</td>
</tr>
<tr>
<td>Max. Pump rate (gpm)</td>
<td>1,260</td>
<td>Min. Gauge Reading (cfs):</td>
</tr>
<tr>
<td>Min. Passby (cfs)</td>
<td>26.39</td>
<td></td>
</tr>
<tr>
<td>DEP Comments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Doddridge</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meathouse Fork @ Spiker Withdrawal Site</td>
<td></td>
<td>John &amp; Sue Spiker</td>
</tr>
<tr>
<td>Start Date</td>
<td>11/1/2013</td>
<td>End Date</td>
</tr>
<tr>
<td>Total Volume (gal)</td>
<td>10,100,000</td>
<td>Max. daily purchase (gal)</td>
</tr>
<tr>
<td>Intake Latitude</td>
<td>39.2591</td>
<td>Intake Longitude</td>
</tr>
<tr>
<td>Regulated Stream?</td>
<td></td>
<td>Ref. Gauge ID</td>
</tr>
<tr>
<td>Max. Pump rate (gpm)</td>
<td>1,260</td>
<td>Min. Gauge Reading (cfs):</td>
</tr>
<tr>
<td>Min. Passby (cfs)</td>
<td>9.26</td>
<td></td>
</tr>
<tr>
<td>DEP Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td>South Fork of Hughes River @ Upper Wizard Run</td>
<td>South Fork of Hughes River @ Harmony Road</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Start Date</td>
<td>11/1/2013</td>
<td>11/1/2013</td>
</tr>
<tr>
<td>End Date</td>
<td>11/1/2014</td>
<td>11/1/2014</td>
</tr>
<tr>
<td>Total Volume (gal)</td>
<td>10,100,000</td>
<td>10,100,000</td>
</tr>
<tr>
<td>Max. daily purchase (gal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake Latitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake Longitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Pump rate (gpm)</td>
<td>1,260</td>
<td>1,260</td>
</tr>
<tr>
<td>Min. Gauge Reading (cfs)</td>
<td>33.12</td>
<td>33.12</td>
</tr>
<tr>
<td>Min. Passby (cfs)</td>
<td>0.64</td>
<td>0.98</td>
</tr>
</tbody>
</table>

**DEP Comments:**

**Source:** South Fork of Hughes River @ Upper Wizard Run  
**Owner:** I.L. Morris

**Source:** South Fork of Hughes River @ Harmony Road  
**Owner:** I.L. Morris

**Source:** Straight Fork @ Maxson Withdrawal Site  
**Owner:** Douglas L. Maxson
<table>
<thead>
<tr>
<th>Source</th>
<th>Middle Fork @ Janscheck Withdrawal Site</th>
<th>Doddridge</th>
<th>Owner:</th>
<th>Mary Jo Janscheck</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date</td>
<td>11/1/2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End Date</td>
<td>11/1/2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Volume (gal)</td>
<td>10,100,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. daily purchase (gal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake Latitude:</td>
<td></td>
<td>39.151388</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake Longitude:</td>
<td></td>
<td>-80.812222</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulated Stream?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ref. Gauge ID:</td>
<td>3155220</td>
<td></td>
<td></td>
<td>SOUTH FORK HUGHES RIVER BELOW MACFARLAN, W\</td>
</tr>
<tr>
<td>Max. Pump rate (gpm):</td>
<td>840</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. Gauge Reading (cfs):</td>
<td>35.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. Passby (cfs)</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEP Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Source Detail**

WMP: 01611  
API/ID Number: 047-017-06390  
Operator: EQT Production Company

512476 (OXF150H6)

**Source ID:** 30369  
**Source Name:** Ohio River @ Westbrook Trucking Site  
Stephen R. and Janet Sue Westbrook  

**HUC-8 Code:** 5030201  
**Drainage Area (sq. mi.):** 25000  
**County:** Pleasants

- ☑ Endangered Species?  
-  
- Trout Stream?  
- Yes  
- Regulated Stream?  
- No  
- Proximate PSD?  
- No  
- Gauged Stream?  
- No

**Reference Gaug** 9999999  
**Ohio River Station: Willow Island Lock & Dam**

**Drainage Area (sq. mi.)** 25,000.00  
**Gauge Threshold (cfs):** 6468

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (cfs)</th>
<th>Threshold (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45,700.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>49,200.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>65,700.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>56,100.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>38,700.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>24,300.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>16,000.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>13,400.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>12,800.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>15,500.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>26,300.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>41,300.00</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Water Availability Assessment of Location**

- **Base Threshold (cfs):** -  
- **Upstream Demand (cfs):** 0.00  
- **Downstream Demand (cfs):** 0.00  
- **Pump rate (cfs):** 2.81  
- **Headwater Safety (cfs):** 0.00  
- **Ungauged Stream Safety (cfs):** 1,617.00

- **Min. Gauge Reading (cfs):** -  
- **Passby at Location (cfs):** -

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

---

*west virginia department of environmental protection*  
12/3/2013 1:25:14 PM
Source Detail

WMP: 01611  API/ID Number: 047-017-06390  Operator: EQT Production Company

Source ID: 30370  Source Name: Ohio River @ Select Energy

Select Energy

HUC-8 Code: 5030201  Drainage Area (sq. mi.): 25000  County: Pleasants

Endangered Species?  Mussel Stream?  Trout Stream?  Tier 3?

Regulated Stream?  Ohio River Min. Flow  Proximate PSD?

Gauged Stream?

Source Latitude: 39.346473  Source Longitude: -81.338727

Anticipated withdrawal start date: 11/1/2013  Anticipated withdrawal end date: 11/1/2014

Total Volume from Source (gal): 10,100,000  Max. Pump rate (gpm): 1,500

Max. Simultaneous Trucks: 0  Max. Truck pump rate (gpm): 0

Reference Gaug 9999998  Ohio River Station: Racine Dam

Drainage Area (sq. mi.) 25,000.00  Gauge Threshold (cfs): 7216

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (cfs)</th>
<th>Threshold (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50,956.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>54,838.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>73,256.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>62,552.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>43,151.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>27,095.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>17,840.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>14,941.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>14,272.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>17,283.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>29,325.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>46,050.00</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Water Availability Profile

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Water Availability Assessment of Location

Base Threshold (cfs): -
Upstream Demand (cfs): 0.00
Downstream Demand (cfs): 0.00
Pump rate (cfs): 3.34
Headwater Safety (cfs): 0.00
Ungauged Stream Safety (cfs): 0.00

Min. Gauge Reading (cfs): -
Passby at Location (cfs): -

west virginia department of environmental protection 12/3/2013 1:25:14 PM
Source Detail

WMP: 01611  API/ID Number: 047-017-06390  Operator: EQT Production Company
512476 (OXF150H6)

Source ID: 30371  Source Name: Middle Island Creek @ Travis Truck Pad
Michael J. Travis

HUC-8 Code: 5030201  Drainage Area (sq. mi.): 122.83  County: Doddridge

Endangered Species?  Mussel Stream?
Trout Stream?  Tier 3?
Regulated Stream?  Proximate PSD?
Gauged Stream?  West Union Municipal Water

Source Latitude: 39.308545  Source Longitude: -80.781102

Anticipated withdrawal start date: 11/1/2013  Max. Pump rate (gpm): 4,200
Anticipated withdrawal end date: 11/1/2014  Max. Simultaneous Trucks: 10
Total Volume from Source (gal): 10,100,000  Max. Truck pump rate (gpm) 420

Reference Gaug  3114500  MIDDLE ISLAND CREEK AT LITTLE, WV
Drainage Area (sq. mi.)  458.00  Gauge Threshold (cfs): 45

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>131.72 30.99</td>
<td>101.10</td>
</tr>
<tr>
<td>2</td>
<td>165.69 30.99</td>
<td>135.07</td>
</tr>
<tr>
<td>3</td>
<td>185.40 30.99</td>
<td>154.78</td>
</tr>
<tr>
<td>4</td>
<td>137.68 30.99</td>
<td>107.05</td>
</tr>
<tr>
<td>5</td>
<td>72.63 30.99</td>
<td>42.00</td>
</tr>
<tr>
<td>6</td>
<td>25.36 30.99</td>
<td>-5.26</td>
</tr>
<tr>
<td>7</td>
<td>14.35 30.99</td>
<td>-16.27</td>
</tr>
<tr>
<td>8</td>
<td>11.82 30.99</td>
<td>-18.81</td>
</tr>
<tr>
<td>9</td>
<td>6.05 30.99</td>
<td>-24.57</td>
</tr>
<tr>
<td>10</td>
<td>7.60 30.99</td>
<td>-23.02</td>
</tr>
<tr>
<td>11</td>
<td>37.14 30.99</td>
<td>6.51</td>
</tr>
<tr>
<td>12</td>
<td>90.73 30.99</td>
<td>60.11</td>
</tr>
</tbody>
</table>

Water Availability Assessment of Location

Base Threshold (cfs): 12.07
Upstream Demand (cfs): 6.55
Downstream Demand (cfs): 13.24
Pump rate (cfs): 9.36
Headwater Safety (cfs): 3.02
Ungauged Stream Safety (cfs): 0.00

Min. Gauge Reading (cfs): 72.16
Passby at Location (cfs): 28.33

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.
Source Detail

Source ID: 30372  Source Name: Middle Island Creek @ Rock Run
William Whitehill

HUC-8 Code: 5030201  Drainage Area (sq. mi.): 107.35  County: Doddridge

- Endangered Species?  Yes
- Trout Stream?  No
- Regulated Stream?  No
- Proximate PSD?  Yes
- Gauged Stream?  Yes

Reference Gaug  3114500  MIDDLE ISLAND CREEK AT LITTLE, WV
Drainage Area (sq. mi.)  458.00
Gauge Threshold (cfs):  45

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (cfs)</th>
<th>Threshold (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>115.12</td>
<td>19.74</td>
<td>95.58</td>
</tr>
<tr>
<td>2</td>
<td>144.81</td>
<td>19.74</td>
<td>125.27</td>
</tr>
<tr>
<td>3</td>
<td>162.04</td>
<td>19.74</td>
<td>142.50</td>
</tr>
<tr>
<td>4</td>
<td>120.33</td>
<td>19.74</td>
<td>100.79</td>
</tr>
<tr>
<td>5</td>
<td>63.47</td>
<td>19.74</td>
<td>43.93</td>
</tr>
<tr>
<td>6</td>
<td>22.17</td>
<td>19.74</td>
<td>2.63</td>
</tr>
<tr>
<td>7</td>
<td>12.54</td>
<td>19.74</td>
<td>-7.00</td>
</tr>
<tr>
<td>8</td>
<td>10.33</td>
<td>19.74</td>
<td>-9.21</td>
</tr>
<tr>
<td>9</td>
<td>5.29</td>
<td>19.74</td>
<td>-14.25</td>
</tr>
<tr>
<td>10</td>
<td>6.65</td>
<td>19.74</td>
<td>-12.89</td>
</tr>
<tr>
<td>11</td>
<td>32.46</td>
<td>19.74</td>
<td>12.91</td>
</tr>
<tr>
<td>12</td>
<td>79.30</td>
<td>19.74</td>
<td>59.76</td>
</tr>
</tbody>
</table>

Water Availability Profile

Water Availability Assessment of Location

Base Threshold (cfs): 10.55
Upstream Demand (cfs): 2.81
Downstream Demand (cfs): 13.24
Pump rate (cfs): 3.74
Headwater Safety (cfs): 2.64
Ungauged Stream Safety (cfs): 0.00

Min. Gauge Reading (cfs): 62.80
Passby at Location (cfs): 26.42

"Threshold", as depicted in the chart above, is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.
Source Detail

WMP- 01611 API/ID Number: 047-017-06390 Operator: EQT Production Company

512476 (OXF150-H6)

Source ID: 30373 Source Name: Middle Island Creek @ Barnes Withdrawal Site Ellen L. Barnes
HUC-8 Code: 5030201 Drainage Area (sq. mi.): 107.08 County: Doddridge

☑ Endangered Species? ☑ Mussel Stream?
☐ Trout Stream? ☐ Tier 3?
☐ Regulated Stream? ☑ Proximate PSD?
☐ Gauged Stream?

Source Latitude: 39.29958 Source Longitude: -80.75694

Anticipated withdrawal start date: 11/1/2013 Anticipated withdrawal end date: 11/1/2014
Total Volume from Source (gal): 10,100,000
Max. Pump rate (gpm): 1,260
Max. Simultaneous Trucks: 0
Max. Truck pump rate (gpm): 0

Reference Gaug 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV Drainage Area (sq. mi.) 458.00 Gauge Threshold (cfs): 45

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (cfs)</th>
<th>Threshold (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>114.83</td>
<td>18.59</td>
<td>96.42</td>
</tr>
<tr>
<td>2</td>
<td>144.45</td>
<td>18.59</td>
<td>126.03</td>
</tr>
<tr>
<td>3</td>
<td>161.63</td>
<td>18.59</td>
<td>143.21</td>
</tr>
<tr>
<td>4</td>
<td>120.02</td>
<td>18.59</td>
<td>101.61</td>
</tr>
<tr>
<td>5</td>
<td>63.31</td>
<td>18.59</td>
<td>44.90</td>
</tr>
<tr>
<td>6</td>
<td>22.11</td>
<td>18.59</td>
<td>3.69</td>
</tr>
<tr>
<td>7</td>
<td>12.51</td>
<td>18.59</td>
<td>-5.91</td>
</tr>
<tr>
<td>8</td>
<td>10.30</td>
<td>18.59</td>
<td>-8.12</td>
</tr>
<tr>
<td>9</td>
<td>5.28</td>
<td>18.59</td>
<td>-13.14</td>
</tr>
<tr>
<td>10</td>
<td>6.63</td>
<td>18.59</td>
<td>-11.79</td>
</tr>
<tr>
<td>11</td>
<td>32.37</td>
<td>18.59</td>
<td>13.96</td>
</tr>
<tr>
<td>12</td>
<td>79.10</td>
<td>18.59</td>
<td>60.68</td>
</tr>
</tbody>
</table>

Water Availability Profile

“Threshold”, as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

Water Availability Assessment of Location

Base Threshold (cfs): 10.52
Upstream Demand (cfs): 0.00
Downstream Demand (cfs): 13.24
Pump rate (cfs): 2.81
Headwater Safety (cfs): 2.63
Ungauged Stream Safety (cfs): 2.63

Min. Gauge Reading (cfs): 70.31
Passby at Location (cfs): 29.02
Source Detail

WMP: 01611  
API/ID Number: 047-017-06390  
Operator: EQT Production Company

512476 (OXF15O6)

Source ID: 30374  
Source Name: Meathouse Fork @ Spiker Withdrawal Site  
John & Sue Spiker

HUC-8 Code: 5030201  
Drainage Area (sq. mi.): 62.75  
County: Doddridge

- Endangered Species?  
- Mussel Stream?
- Trout Stream?
- Regulated Stream?
- Proximate PSD?
- Gauged Stream?

Source Latitude: 39.2591  
Source Longitude: -80.72489

Anticipated withdrawal start date: 11/1/2013  
Anticipated withdrawal end date: 11/1/2014

Total Volume from Source (gal): 10,100,000

Max. Pump rate (gpm): 1,260

Max. Simultaneous Trucks: 0
Max. Truck pump rate (gpm): 0

Reference Gauge: 3114500  
Gauge Threshold (cfs): 45

MIDDLE ISLAND CREEK AT LITTLE, WV  
Drainage Area (sq. mi.) 458.00

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (+ pump)</th>
<th>Threshold (+ pump)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>67.29</td>
<td>16.52</td>
</tr>
<tr>
<td>2</td>
<td>84.65</td>
<td>16.52</td>
</tr>
<tr>
<td>3</td>
<td>94.72</td>
<td>16.52</td>
</tr>
<tr>
<td>4</td>
<td>70.34</td>
<td>16.52</td>
</tr>
<tr>
<td>5</td>
<td>37.10</td>
<td>16.52</td>
</tr>
<tr>
<td>6</td>
<td>12.96</td>
<td>16.52</td>
</tr>
<tr>
<td>7</td>
<td>7.33</td>
<td>16.52</td>
</tr>
<tr>
<td>8</td>
<td>6.04</td>
<td>16.52</td>
</tr>
<tr>
<td>9</td>
<td>3.09</td>
<td>16.52</td>
</tr>
<tr>
<td>10</td>
<td>3.88</td>
<td>16.52</td>
</tr>
<tr>
<td>11</td>
<td>18.97</td>
<td>16.52</td>
</tr>
<tr>
<td>12</td>
<td>46.35</td>
<td>16.52</td>
</tr>
</tbody>
</table>

Water Availability Profile

- Median Monthly Flow  
- Threshold

Water Availability Assessment of Location

Base Threshold (cfs): 6.17
Upstream Demand (cfs): 4.46
Downstream Demand (cfs): 0.00
Pump rate (cfs): 2.81
Headwater Safety (cfs): 1.54
Ungauged Stream Safety (cfs): 1.54

Min. Gauge Reading (cfs): 74.77
Passby at Location (cfs): 9.25

"Threshold", as depicted in the chart above, is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.
Source ID: 30375  
Source Name: South Fork of Hughes River @ Upper Wizard Run  
I.L. Morris  

HUC-8 Code: 5030203  
Drainage Area (sq. mi.): 5.33  
County: Doddridge  

Endangered Species?  
Trout Stream?  
Regulated Stream?  
Proximate PSD?  
Gauged Stream?  

Source Latitude: 39.189998  
Source Longitude: -80.79511  

Anticipated withdrawal start date: 11/1/2013  
Anticipated withdrawal end date: 11/1/2014  
Total Volume from Source (gal): 10,100,000  
Max. Pump rate (gpm): 1,260  
Max. Simultaneous Trucks: 0  
Max. Truck pump rate (gpm): 0  

Reference Gaug  
3155220  
SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WV  
Drainage Area (sq. mi.) 229.00  
Gauge Threshold (cfs): 22  

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (cfs)</th>
<th>Threshold (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14.07</td>
<td>6.26</td>
<td>8.79</td>
</tr>
<tr>
<td>2</td>
<td>19.52</td>
<td>6.26</td>
<td>13.33</td>
</tr>
<tr>
<td>3</td>
<td>21.37</td>
<td>6.26</td>
<td>15.19</td>
</tr>
<tr>
<td>4</td>
<td>12.08</td>
<td>6.26</td>
<td>5.90</td>
</tr>
<tr>
<td>5</td>
<td>8.48</td>
<td>6.26</td>
<td>2.29</td>
</tr>
<tr>
<td>6</td>
<td>4.56</td>
<td>6.26</td>
<td>-1.63</td>
</tr>
<tr>
<td>7</td>
<td>2.26</td>
<td>6.26</td>
<td>-3.93</td>
</tr>
<tr>
<td>8</td>
<td>1.31</td>
<td>6.26</td>
<td>-4.88</td>
</tr>
<tr>
<td>9</td>
<td>1.57</td>
<td>6.26</td>
<td>-4.62</td>
</tr>
<tr>
<td>10</td>
<td>1.70</td>
<td>6.26</td>
<td>-4.48</td>
</tr>
<tr>
<td>11</td>
<td>5.09</td>
<td>6.26</td>
<td>-1.09</td>
</tr>
<tr>
<td>12</td>
<td>10.51</td>
<td>6.26</td>
<td>4.32</td>
</tr>
</tbody>
</table>

Water Availability Profile

Water Availability Assessment of Location

Base Threshold (cfs): 0.51
Upstream Demand (cfs): 2.81
Downstream Demand (cfs): 0.00
Pump rate (cfs): 2.81
Headwater Safety (cfs): 0.13
Ungauged Stream Safety (cfs): 0.00

Min. Gauge Reading (cfs): 33.12
Passby at Location (cfs): 0.64

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.
Source ID: 30376  Source Name: South Fork of Hughes River @ Harmony Road
I.L. Morris

HUC-8 Code: 5030203  County: Doddridge
Drainage Area (sq. mi.): 8.1  Anticipated withdrawal start date: 11/1/2013

Endangered Species?  Trout Stream?
Mussel Stream?  Tier 3?
Regulated Stream?  Proximate PSD?
Gauged Stream?

Total Volume from Source (gal): 10,100,000
Max. Pump rate (gpm): 1,260
Max. Simultaneous Trucks: 0
Max. Truck pump rate (gpm) 0

Reference Gaug 3155220  SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WV
Drainage Area (sq. mi.) 229.00  Gauge Threshold (cfs): 22

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22.75</td>
<td>6.59</td>
</tr>
<tr>
<td>2</td>
<td>29.66</td>
<td>6.59</td>
</tr>
<tr>
<td>3</td>
<td>32.48</td>
<td>6.59</td>
</tr>
<tr>
<td>4</td>
<td>18.36</td>
<td>6.59</td>
</tr>
<tr>
<td>5</td>
<td>12.88</td>
<td>6.59</td>
</tr>
<tr>
<td>6</td>
<td>6.92</td>
<td>6.59</td>
</tr>
<tr>
<td>7</td>
<td>3.43</td>
<td>6.59</td>
</tr>
<tr>
<td>8</td>
<td>1.98</td>
<td>6.59</td>
</tr>
<tr>
<td>9</td>
<td>2.38</td>
<td>6.59</td>
</tr>
<tr>
<td>10</td>
<td>2.59</td>
<td>6.59</td>
</tr>
<tr>
<td>11</td>
<td>7.74</td>
<td>6.59</td>
</tr>
<tr>
<td>12</td>
<td>15.97</td>
<td>6.59</td>
</tr>
</tbody>
</table>

Water Availability Profile

Water Availability Assessment of Location

Base Threshold (cfs): 0.78
Upstream Demand (cfs): 2.81
Downstream Demand (cfs): 0.00
Pump rate (cfs): 2.81
Headwater Safety (cfs): 0.19
Ungauged Stream Safety (cfs): 0.00

Min. Gauge Reading (cfs): 33.12
Passby at Location (cfs): 0.97

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.
Source Detail

WMP: 01611  API/ID Number: 047-017-06390  Operator: EQT Production Company

512476 (OXF150H6)

Source ID: 30377  Source Name: Straight Fork @ Maxson Withdrawal Site

Douglas L. Maxson

HUC-8 Code: 5030203  Drainage Area (sq. mi.): 16.99  County: Ritchie

☒ Endangered Species?  ☑ Mussel Stream?

☒ Trout Stream?  ☐ Tier 3?

☐ Regulated Stream?  ☐ Proximate PSD?

☐ Gauged Stream?

Source Latitude: 39.144317  Source Longitude: -80.848587

Anticipated withdrawal start date: 11/1/2013  Anticipated withdrawal end date: 11/1/2014

Total Volume from Source (gal): 10,100,000

Max. Pump rate (gpm): 1,680

Max. Simultaneous Trucks: 4

Max. Truck pump rate (gpm) 420

Reference Gaug 3155220 SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WV

Drainage Area (sq. mi.) 229.00

Gauge Threshold (cfs): 22

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (+ pump)</th>
<th>Threshold Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>47.72 6.19</td>
<td>41.62</td>
</tr>
<tr>
<td>2</td>
<td>62.22 6.19</td>
<td>56.12</td>
</tr>
<tr>
<td>3</td>
<td>68.13 6.19</td>
<td>62.04</td>
</tr>
<tr>
<td>4</td>
<td>38.52 6.19</td>
<td>32.42</td>
</tr>
<tr>
<td>5</td>
<td>27.03 6.19</td>
<td>20.93</td>
</tr>
<tr>
<td>6</td>
<td>14.52 6.19</td>
<td>8.42</td>
</tr>
<tr>
<td>7</td>
<td>7.20 6.19</td>
<td>1.10</td>
</tr>
<tr>
<td>8</td>
<td>4.16 6.19</td>
<td>-1.94</td>
</tr>
<tr>
<td>9</td>
<td>5.43 6.19</td>
<td>-1.10</td>
</tr>
<tr>
<td>10</td>
<td>5.43 6.19</td>
<td>-0.67</td>
</tr>
<tr>
<td>11</td>
<td>16.23 6.19</td>
<td>10.13</td>
</tr>
<tr>
<td>12</td>
<td>33.50 6.19</td>
<td>27.40</td>
</tr>
</tbody>
</table>

Water Availability Profile

Water Availability Assessment of Location

Base Threshold (cfs): 1.63

Upstream Demand (cfs): 0.00

Downstream Demand (cfs): 0.00

Pump rate (cfs): 3.74

Headwater Safety (cfs): 0.41

Ungauged Stream Safety (cfs): 0.41

Min. Gauge Reading (cfs): 36.74

Passby at Location (cfs): 2.45

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.
Source Detail

WMP: 01611
API/ID Number: 047-017-06390
Operator: EQT Production Company

512476 (OXF150H6)

Source ID: 30378  Source Name: Middle Fork @ Janscheck Withdrawal Site
Mary Jo Janscheck

HUC-8 Code: 5030203  Drainage Area (sq. mi.): 5.92  County: Doddridge

Endangered Species?  Mussel Stream?
Trout Stream?  Tier 3?
Regulated Stream?  Proximate PSD?
Gauged Stream?

Source Latitude: 39.151388
Source Longitude: -80.812222

Anticipated withdrawal start date: 11/1/2013
Anticipated withdrawal end date: 11/1/2014
Total Volume from Source (gal): 10,100,000
Max. Pump rate (gpm): 840

Reference Gaug 3155220  SOUTH FORK HUGHES RIVER BELOW MACFARLAN, WV
Drainage Area (sq. mi.) 229.00  Gauge Threshold (cfs): 22

<table>
<thead>
<tr>
<th>Month</th>
<th>Median monthly flow (cfs)</th>
<th>Threshold (+ pump)</th>
<th>Estimated Available water (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16.63</td>
<td>2.72</td>
<td>14.03</td>
</tr>
<tr>
<td>2</td>
<td>21.68</td>
<td>2.72</td>
<td>19.08</td>
</tr>
<tr>
<td>3</td>
<td>23.74</td>
<td>2.72</td>
<td>21.14</td>
</tr>
<tr>
<td>4</td>
<td>13.42</td>
<td>2.72</td>
<td>10.83</td>
</tr>
<tr>
<td>5</td>
<td>9.42</td>
<td>2.72</td>
<td>6.82</td>
</tr>
<tr>
<td>6</td>
<td>5.06</td>
<td>2.72</td>
<td>2.46</td>
</tr>
<tr>
<td>7</td>
<td>2.51</td>
<td>2.72</td>
<td>-0.09</td>
</tr>
<tr>
<td>8</td>
<td>1.45</td>
<td>2.72</td>
<td>-1.15</td>
</tr>
<tr>
<td>9</td>
<td>1.74</td>
<td>2.72</td>
<td>-0.85</td>
</tr>
<tr>
<td>10</td>
<td>1.89</td>
<td>2.72</td>
<td>-0.70</td>
</tr>
<tr>
<td>11</td>
<td>5.66</td>
<td>2.72</td>
<td>3.06</td>
</tr>
<tr>
<td>12</td>
<td>11.67</td>
<td>2.72</td>
<td>9.08</td>
</tr>
</tbody>
</table>

Water Availability Profile

Water Availability Assessment of Location

Base Threshold (cfs): 0.57
Upstream Demand (cfs): 0.00
Downstream Demand (cfs): 0.00
Pump rate (cfs): 1.87
Headwater Safety (cfs): 0.14
Ungauged Stream Safety (cfs): 0.14

Min. Gauge Reading (cfs): 34.87
Passby at Location (cfs): 0.85

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.
Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.

- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Ground Water

Source ID: 30379  Source Name: Groundwater Well TW#1
Source Lat: 39.56059  Source Long: -80.56027
Max. Daily Purchase (gal)  Total Volume from Source (gal): 10,100,000
Source start date: 11/1/2013  Source end date: 11/1/2014
County: Wetzel

DEP Comments:
Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

• For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.

• For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Lake/Reservoir

Source ID: 30380  Source Name: Pennsboro Lake
Source start date: 11/1/2013  Source end date: 11/1/2014
Source Lat: 39.281689  Source Long: -80.925526  County: Ritchie
Max. Daily Purchase (gal)  Total Volume from Source (gal): 10,100,000

DEP Comments:
Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.

- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

### Multi-site impoundment

<table>
<thead>
<tr>
<th>Source ID</th>
<th>Source Name</th>
<th>Source start date</th>
<th>Source end date</th>
</tr>
</thead>
<tbody>
<tr>
<td>30381</td>
<td>Davies Centralized Freshwater Impoundment</td>
<td>11/1/2013</td>
<td>11/1/2014</td>
</tr>
</tbody>
</table>

- **Source Lat:** 39.269635  
  - **Source Long:** -80.77711  
  - **County:** Doddridge  
  - **Max. Daily Purchase (gal):**  
    - **Total Volume from Source (gal):** 10,100,000  

**DEP Comments:**

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.

<table>
<thead>
<tr>
<th>Source ID</th>
<th>Source Name</th>
<th>Source start date</th>
<th>Source end date</th>
</tr>
</thead>
<tbody>
<tr>
<td>30382</td>
<td>OXF149 Tank Pad A</td>
<td>11/1/2013</td>
<td>11/1/2014</td>
</tr>
</tbody>
</table>

- **Source Lat:** 39.221932  
  - **Source Long:** -80.799873  
  - **County:** Doddridge  
  - **Max. Daily Purchase (gal):**  
    - **Total Volume from Source (gal):** 10,100,000  

**DEP Comments:**

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.
Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

• For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.

• For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Source ID: 30383  Source Name: OXF149 Tank Pad B
Source Lat: 39.221733  Source Long: -80.798991  County: Doddridge
Max. Daily Purchase (gal):  Total Volume from Source (gal): 10,100,000

DEP Comments:

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted. Reference: WMP-1533

Recycled Frac Water

Source ID: 30384  Source Name: Various
Source Lat:  Source Long:  County:  Total Volume from Source (gal): 10,100,000
Max. Daily Purchase (gal):