



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

June 14, 2013

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-10302898, 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: 513867
Farm Name: EDGELL, KATHY S.
API Well Number: 47-10302898
Permit Type: Horizontal 6A Well
Date Issued: 06/14/2013

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. 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.
2. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the fill material shall be within plus or minus 2% (unless soil test results show a greater range of moisture content is appropriate and 95% compaction can still be achieved) of the optimum moisture content as determined by the standard proctor density test, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort. Each lift must meet 95 % compaction of the optimum density based on results from the standard proctor density test of the actual soils used in specific engineered fill sites. 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.
3. 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.
4. 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.
5. 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.

103-02898

WW - 6B
(1/12)

4710302898

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
W.VA. CODE §22-6A - WELL WORK PERMIT APPLICATION

1) Well Operator: EQT Production Company
Operator ID 103 County 4 District 254 Quadrangle

2) Operator's Well Number: 513867 Well Pad Name: BIG7

3 Elevation, current ground: 924 Elevation, proposed post-construction: 924

4) Well Type: (a) Gas Oil
Other _____

(b) If Gas: Shallow Deep
Horizontal

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):
Target formation is Genesee at a depth of 6,823' with the anticipated thickness to be 34 feet and anticipated target pressure of 4,301 PSI

7) Proposed Total Vertical Depth: 7,087'

8) Formation at Total Vertical Depth: Onondaga

9) Proposed Total Measured Depth: 11,050

10) Approximate Fresh Water Strata Depths: 282

11) Method to Determine Fresh Water Depth: By offset wells

12) Approximate Saltwater Depths: n/a

13) Approximate Coal Seam Depths: 169', 529', 634', 1144', 1494', & 1517'

14) Approximate Depth to Possible Void (coal mine, karst, other): n/a

15) Does land contain coal seams tributary or adjacent to, active mine? n/a

16) Describe proposed well work: Drill and complete a new horizontal well. The vertical drill to go down to approximate depth of 7,087', tagging the Onondaga not more than 100' then plug back to approximately 5,646' and kick off the horizontal leg into the Genesee using a slick water frac.

17) Describe fracturing/stimulating methods in detail:
Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor). Stage lengths vary from 150 to 450 feet. Average approximately 400,000 gallons of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 400,000 pounds of sand per stage.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): No Additional Disturbance

19) Area to be disturbed for well pad only, less access road (acres): No Additional Disturbance

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CASING AND TUBING PROGRAM

20)

<u>TYPE</u>	<u>Size</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft.</u>	<u>FOOTAGE: for Drilling</u>	<u>INTERVALS: Left in Well</u>	<u>CEMENT: Fill-up (Cu.Ft.)</u>
Conductor	26	New	Varies	Varies	80'	80'	98 CTS
Fresh Water	13 3/8	New	MC-50	54	382'	382'	353 CTS
Coal	-	-	-	-	-	-	-
Intermediate	9 5/8	New	MC-50	40	2,940'	2,940'	1,168 CTS
Production	5 1/2	New	P-110	20	11,050'	11,050'	See Note
Tubing	2 3/8		J-55	4.6			May not be run, if run will be set 100' less than TD
Liners							

DMH 4-25-13

<u>TYPE</u>	<u>Size</u>	<u>Wellbore Diameter</u>	<u>Wall Thickness</u>	<u>Burst Pressure</u>	<u>Cement Type</u>	<u>Cement Yield</u>
Conductor	26	30	0.500	-	construction	1.18
Fresh Water	13 3/8	17 1/2	0.380	2,485	1	1.21
Coal	-	-	-	-	-	-
Intermediate	9 5/8	12 3/8	0.395	3,600	1	1.21
Production	5 1/2	8 1/2	0.361	12,640	-	1.27/1.86
Tubing						
Liners						

Packers

Kind:	N/A		
Sizes:	N/A		
Depths Set:	N/A		

Note 1: EQT plans to bring the TOC on the production casing cement job 1,000' above kick off point, which is at least 500' above the shallowest production zone, to avoid communication.

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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.

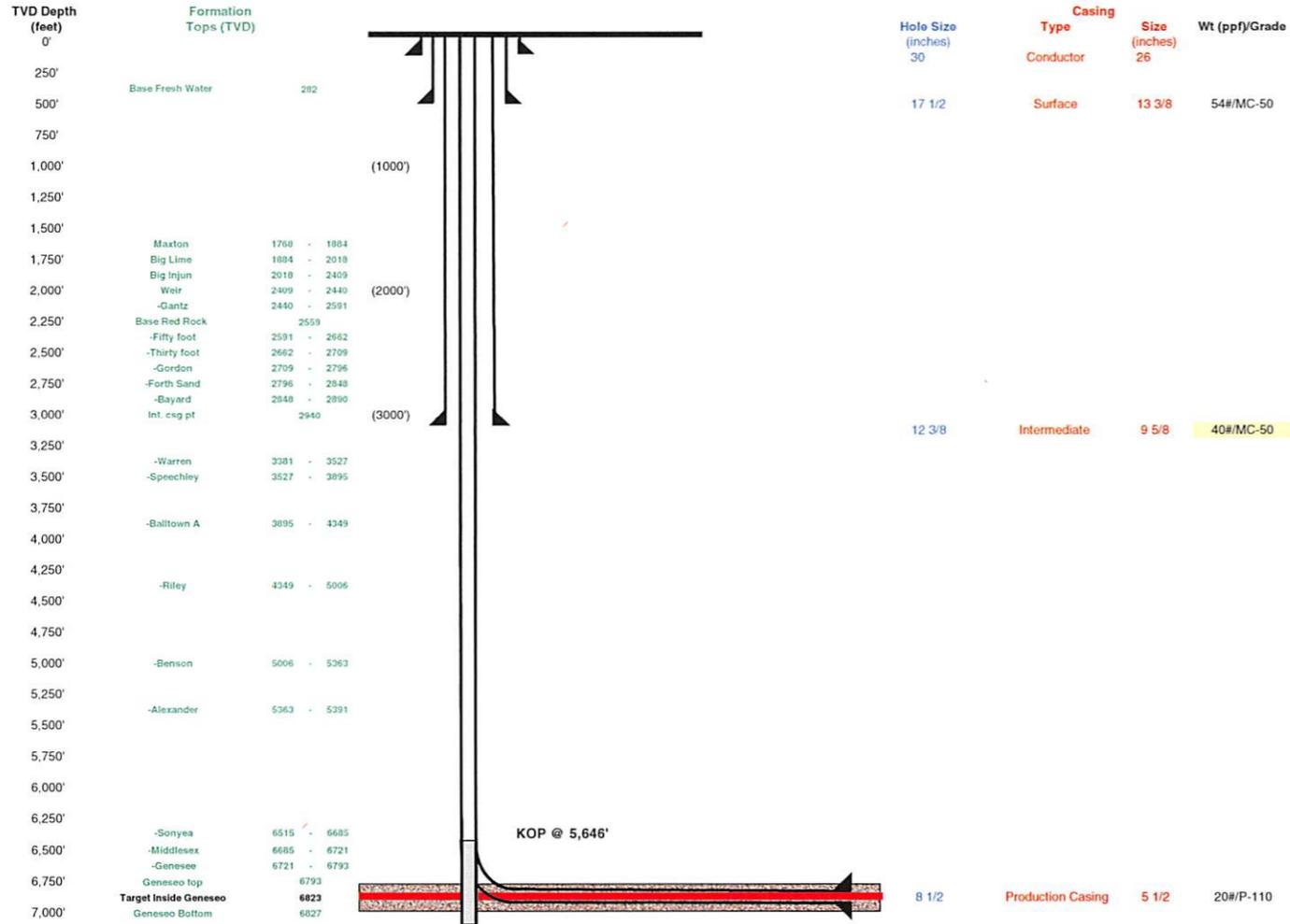
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MAY 23 2013

103-02898

Well 513867 (BIG7H14)
 EQT Production
 Big Run
 Wetzel West Virginia

Azimuth 333.45
 Vertical Section 3639



TD Pilot Hole @ 7087
 100' below top of Onondaga
 Run Logs, Plug back to KOP at 5646
 Kick off for horizontal well in Marcellus

Land curve @ 6.823' ft TVD / 7.300' ft MD
 Est. TD @ 6.823' ft TVD / 10.550' ft MD
 3.250' ft Lateral

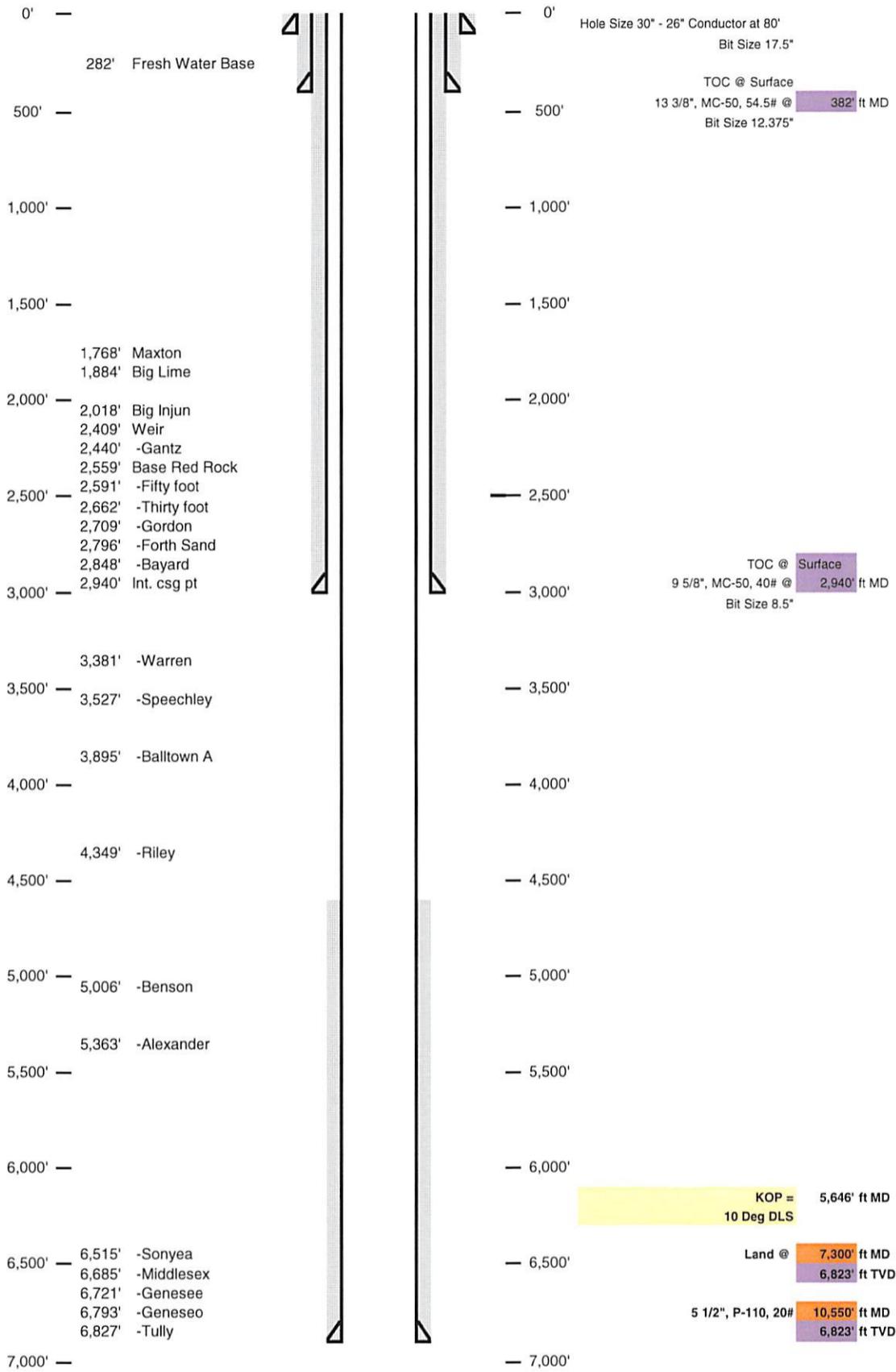
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APR 24 2013

Well Schematic
EQT Production

Well Name 513867 (BIG7H14)
County Wetzel
State West Virginia

Elevation KB: 934
Target Genesee
Prospect
Azimuth 333.45
Vertical Section 3639



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APR 24 2013

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name BIG7 OP Code _____

Watershed Sheep Run and North Fork Fishing Creek Quadrangle Big Run 7.5'

Elevation 924 County Wetzel District Grant

Description of anticipated Pit Waste: No anticipated pit waste due to closed loop system

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

Will a synthetic liner be used in the pit? N/A If so, what mil.? N/A

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number 0014, 8462, 4037)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

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? MILBAR, Viscosifier, Alkalinity Control, Lime, Chloride Salts, Filtration Control, Deflocculant, Lubricant, Detergent, Defoaming, Walnut Shell, X-Cide, SOLTEX Terra Rate

Will closed loop system be used? Yes

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, n/a

Landfill or offsite name/permit number? See Attached List

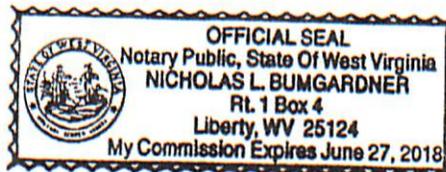
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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 *Victoria J. Roark*
Company Official (Typed Name) Victoria J. Roark
Company Official Title Permitting Supervisor

Subscribed and sworn before me this 18 day of April, 20 13

Nicholas L. Bumgardner Notary Public
My commission expires 6/27/2018

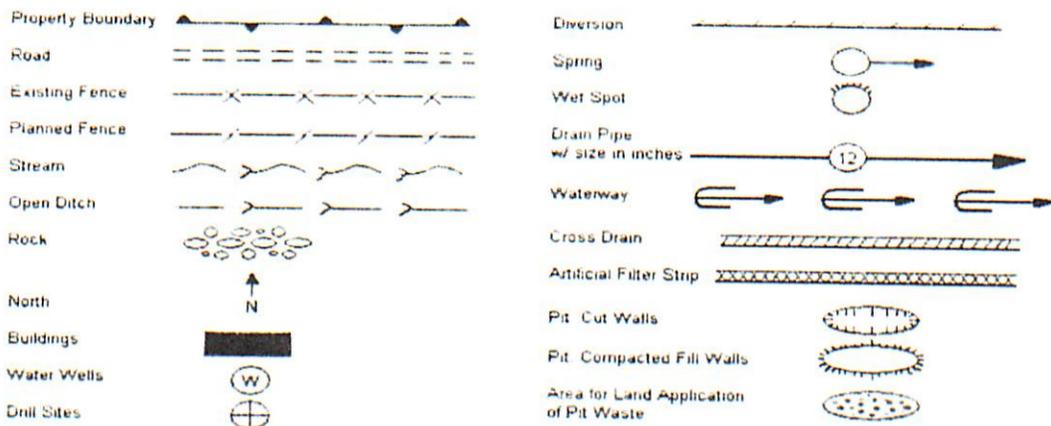


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Proposed Revegetation Treatment: Acres Disturbed No Additional Prevegetation pH 6.2

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 13 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

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]

Comments: _____

Title: Oil + Gas Inspector Date: 4-25-13

Field Reviewed? (/) Yes (_____) No

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Department of Energy
Environmental Protection

EQT Production Water plan Offsite disposals for Marcellus wells
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CWS TRUCKING INC.

P.O. Box 391
 Williamstown, 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
 Nobel 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 #100833WV

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 Office of Oil & Gas

10/1/10

V 7/24



Water Management Plan: Primary Water Sources



WMP- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

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 mutiple wells and well sites. In these cases, the thresholds set by the Water Management Plan are to be interepreted 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 JUN 12 2013

Source Summary

WMP- 01224

API Number:

047-103-02898

Operator:

EQT Production Company

513867 (BIG7H14)

Stream/River

● Source **Ohio River at Hannibal, OH** Owner: **Richard Potts/Rich Merryman**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.655883	-80.86678

Regulated Stream? Ohio River Min. Flow Ref. Gauge ID: 9999999 Ohio River Station: Willow Island Lock & Dam

Max. Pump rate (gpm): **1,500** 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 **S. Fork of Fishing Creek @ Hastings Truck Pad** Owner: **Dominion Transmission**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.553	-80.669

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): **1,260** Min. Gauge Reading (cfs): **78.05** Min. Passby (cfs) **10.32**

DEP Comments:

● Source **S. Fork of Fishing Creek @ Jacksonburg Truck Pad** Owner: **Ronald Anderson**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.52609	-80.6338

Regulated Stream? Ref. Gauge ID: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): **1,260** Min. Gauge Reading (cfs): **73.12** Min. Passby (cfs) **8.86**

DEP Comments:

Source **N. Fork of Fishing Creek @ Pine Grove Truck Pad** Owner: **Town of Pine Grove**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.571562	-80.677848

Regulated Stream? Ref. Gauge ID: **3114500** MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): **2,520** Min. Gauge Reading (cfs): **85.35** Min. Passby (cfs) **6.22**

DEP Comments:

Source **N. Fork of Fishing Creek @ Edgell Property** Owner: **Cathy Edgell**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.58191	-80.622839

Regulated Stream? Ref. Gauge ID: **3114500** MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): **1,260** Min. Gauge Reading (cfs): **78.74** Min. Passby (cfs) **5.76**

DEP Comments:

Source **N. Fork of Fishing Creek @ Lydick Property** Owner: **Les Lydick**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.57795	-80.59221

Regulated Stream? Ref. Gauge ID: **3114500** MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): **1,260** Min. Gauge Reading (cfs): **75.93** Min. Passby (cfs) **3.28**

DEP Comments:

Source **N. Fork of Fishing Creek @ BIG176 Pad**

Owner: **John W. Kilcoyne**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.560283	-80.560763

Regulated Stream? Ref. Gauge ID: **3114500** MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): **1,260** Min. Gauge Reading (cfs): **73.12** Min. Passby (cfs) **2.19**

DEP Comments:

Source **N. Fork of Fishing Creek @ Big 57 Pad**

Owner: **EQT Corporation**

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
7/1/2013	7/1/2014	5,500,000		39.55316	-80.53064

Regulated Stream? Ref. Gauge ID: **3114500** MIDDLE ISLAND CREEK AT LITTLE, WV

Max. Pump rate (gpm): **1,260** Min. Gauge Reading (cfs): **70.31** Min. Passby (cfs) **1.71**

DEP Comments:

Source Detail

WMP- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Source ID: 17889 Source Name Ohio River at Hannibal, OH
Richard Potts/Rich Merryman

Source Latitude: 39.655883
Source Longitude: -80.86678

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 25000 County: Wetzel

Anticipated withdrawal start date: 7/1/2013

Anticipated withdrawal end date: 7/1/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 5,500,000

Trout Stream? Tier 3?

Max. Pump rate (gpm): 1,500

Regulated Stream? Ohio River Min. Flow

Max. Simultaneous Trucks: 0

Proximate PSD? New Martinsville

Max. Truck pump rate (gpm): 0

Gauged Stream?

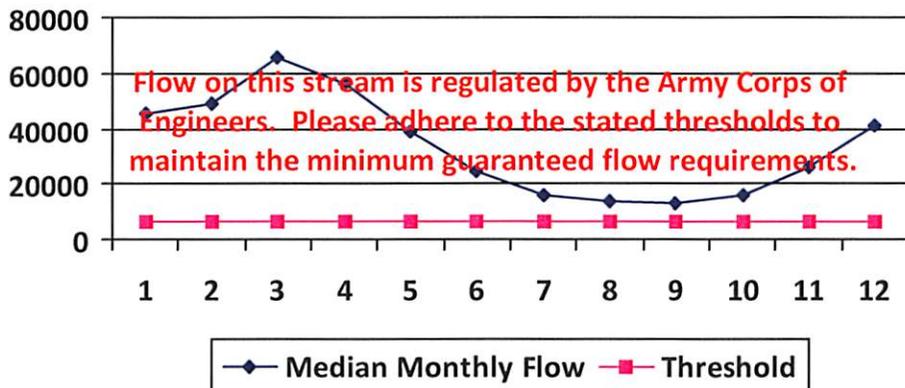
Reference Gaug 9999999 Ohio River Station: Willow Island Lock & Dam

Drainage Area (sq. mi.) 25,000.00

Gauge Threshold (cfs): 6468

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

Water Availability Profile



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): -

"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- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

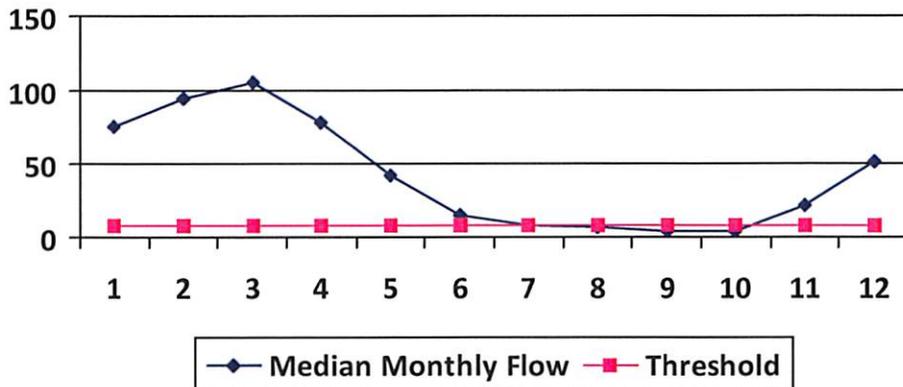
513867 (BIG7H14)

Source ID: 17890	Source Name: S. Fork of Fishing Creek @ Hastings Truck Pad Dominion Transmission	Source Latitude: 39.553	Source Longitude: -80.669
HUC-8 Code: 5030201	Drainage Area (sq. mi.): 70.02	County: Wetzel	Anticipated withdrawal start date: 7/1/2013
<input type="checkbox"/> Endangered Species?	<input checked="" type="checkbox"/> Mussel Stream?		Anticipated withdrawal end date: 7/1/2014
<input type="checkbox"/> Trout Stream?	<input type="checkbox"/> Tier 3?		Total Volume from Source (gal): 5,500,000
<input type="checkbox"/> Regulated Stream?			Max. Pump rate (gpm): 1,260
<input type="checkbox"/> Proximate PSD?			Max. Simultaneous Trucks: 0
<input type="checkbox"/> Gauged Stream?			Max. Truck pump rate (gpm): 0

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

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	75.09	20.87	54.35
2	94.45	20.87	73.72
3	105.69	20.87	84.95
4	78.48	20.87	57.75
5	41.40	20.87	20.66
6	14.46	20.87	-6.28
7	8.18	20.87	-12.56
8	6.74	20.87	-14.00
9	3.45	20.87	-17.29
10	4.33	20.87	-16.40
11	21.17	20.87	0.43
12	51.72	20.87	30.99

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs):	6.88
Upstream Demand (cfs):	7.74
Downstream Demand (cfs):	0.00
Pump rate (cfs):	2.81
Headwater Safety (cfs):	1.72
Ungauged Stream Safety (cfs):	1.72
Min. Gauge Reading (cfs):	78.05
Passby at Location (cfs):	10.32

"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-01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Source ID: 17891 Source Name: S. Fork of Fishing Creek @ Jacksonburg Truck Pad
Ronald Anderson

Source Latitude: 39.52609
Source Longitude: -80.6338

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 45.72 County: Wetzel

Anticipated withdrawal start date: 7/1/2013

Anticipated withdrawal end date: 7/1/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 5,500,000

Trout Stream? Tier 3?

Max. Pump rate (gpm): 1,260

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD?

Max. Truck pump rate (gpm): 0

Gauged Stream?

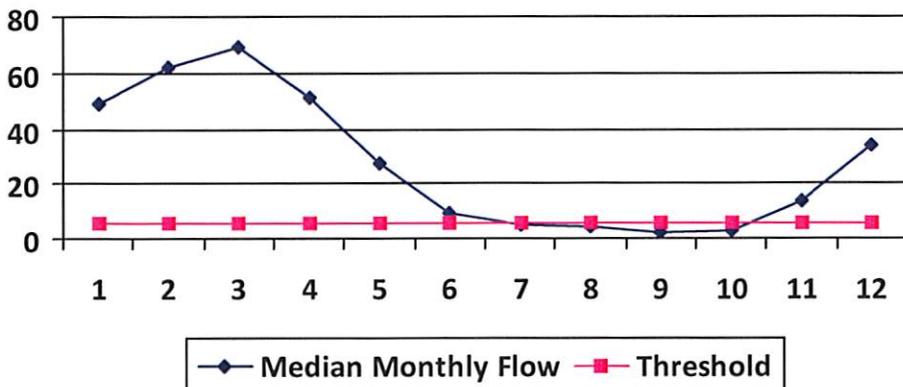
Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.): 458.00

Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	49.03	12.36	37.12
2	61.67	12.36	49.76
3	69.01	12.36	57.10
4	51.25	12.36	39.33
5	27.03	12.36	15.12
6	9.44	12.36	-2.47
7	5.34	12.36	-6.57
8	4.40	12.36	-7.51
9	2.25	12.36	-9.66
10	2.83	12.36	-9.08
11	13.82	12.36	1.91
12	33.77	12.36	21.86

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 4.49

Upstream Demand (cfs): 2.81

Downstream Demand (cfs): 2.12

Pump rate (cfs): 2.81

Headwater Safety (cfs): 1.12

Ungauged Stream Safety (cfs): 1.12

Min. Gauge Reading (cfs): 73.12

Passby at Location (cfs): 8.86

"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- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Source ID: 17892 Source Name N. Fork of Fishing Creek @ Pine Grove Truck Pad
Town of Pine Grove

Source Latitude: 39.571562

Source Longitude: -80.677848

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 42.17 County: Wetzel

Anticipated withdrawal start date: 7/1/2013

Anticipated withdrawal end date: 7/1/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 5,500,000

Trout Stream? Tier 3?

Max. Pump rate (gpm): 2,520

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD? Pine Grove

Max. Truck pump rate (gpm): 0

Gauged Stream?

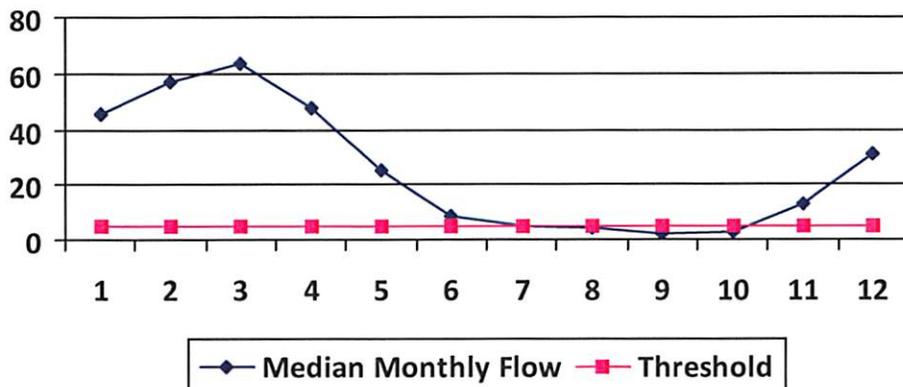
Reference Gaug 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.) 458.00

Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	45.22	24.07	21.25
2	56.89	24.07	32.91
3	63.65	24.07	39.68
4	47.27	24.07	23.29
5	24.93	24.07	0.96
6	8.71	24.07	-15.27
7	4.93	24.07	-19.05
8	4.06	24.07	-19.92
9	2.08	24.07	-21.90
10	2.61	24.07	-21.37
11	12.75	24.07	-11.23
12	31.15	24.07	7.17

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 4.14

Upstream Demand (cfs): 12.24

Downstream Demand (cfs): 0.00

Pump rate (cfs): 5.61

Headwater Safety (cfs): 1.04

Ungauged Stream Safety (cfs): 1.04

Min. Gauge Reading (cfs): 85.35

Passby at Location (cfs): 6.22

"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- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Source ID: 17893 Source Name: N. Fork of Fishing Creek @ Edgell Property
Cathy Edgell

Source Latitude: 39.58191
Source Longitude: -80.622839

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 32.23 County: Wetzel

Anticipated withdrawal start date: 7/1/2013

Anticipated withdrawal end date: 7/1/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 5,500,000

Trout Stream?

Tier 3?

Max. Pump rate (gpm): 1,260

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD?

Max. Truck pump rate (gpm): 0

Gauged Stream?

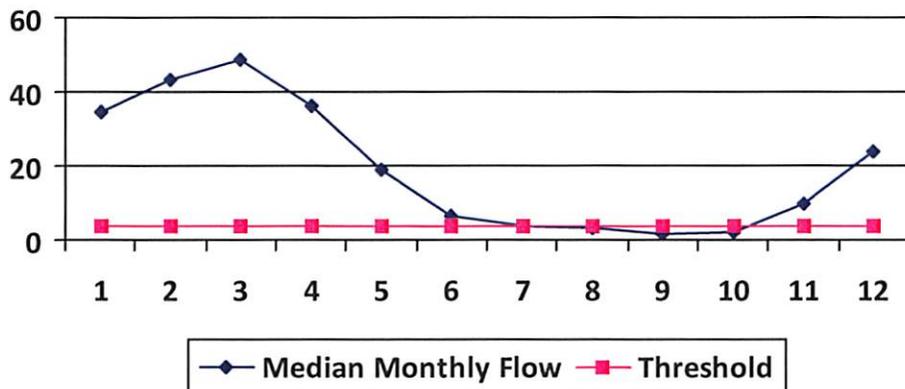
Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.): 458.00

Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	34.56	15.99	18.59
2	43.48	15.99	27.51
3	48.65	15.99	32.68
4	36.13	15.99	20.16
5	19.06	15.99	3.09
6	6.65	15.99	-9.32
7	3.77	15.99	-12.20
8	3.10	15.99	-12.87
9	1.59	15.99	-14.38
10	2.00	15.99	-13.98
11	9.74	15.99	-6.23
12	23.81	15.99	7.84

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 3.17

Upstream Demand (cfs): 8.43

Downstream Demand (cfs): 1.00

Pump rate (cfs): 2.81

Headwater Safety (cfs): 0.79

Ungauged Stream Safety (cfs): 0.79

Min. Gauge Reading (cfs): 78.74

Passby at Location (cfs): 5.75

"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- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Source ID: 17894 Source Name: N. Fork of Fishing Creek @ Lydick Property
Les Lydick

Source Latitude: 39.57795

Source Longitude: -80.59221

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 15.46 County: Wetzel

Anticipated withdrawal start date: 7/1/2013

Anticipated withdrawal end date: 7/1/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 5,500,000

Trout Stream? Tier 3?

Max. Pump rate (gpm): 1,260

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD?

Max. Truck pump rate (gpm): 0

Gauged Stream?

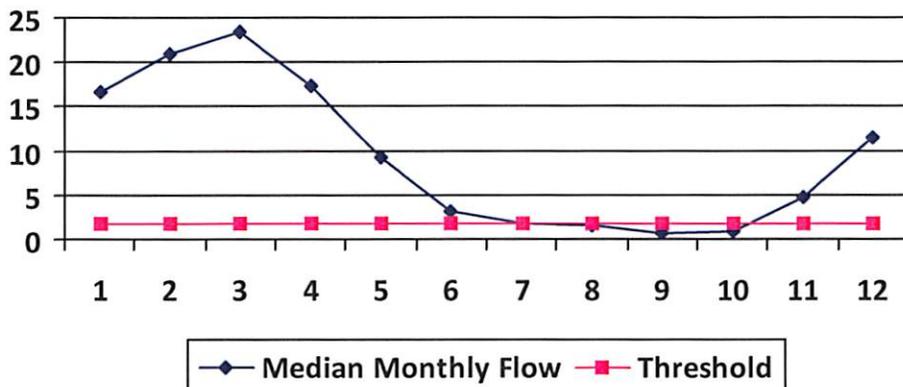
Reference Gaug: 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.): 458.00

Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	16.58	10.71	6.04
2	20.86	10.71	10.32
3	23.34	10.71	12.80
4	17.33	10.71	6.79
5	9.14	10.71	-1.40
6	3.19	10.71	-7.34
7	1.81	10.71	-8.73
8	1.49	10.71	-9.05
9	0.76	10.71	-9.78
10	0.96	10.71	-9.58
11	4.67	10.71	-5.86
12	11.42	10.71	0.88

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 1.52

Upstream Demand (cfs): 5.62

Downstream Demand (cfs): 1.00

Pump rate (cfs): 2.81

Headwater Safety (cfs): 0.38

Ungauged Stream Safety (cfs): 0.38

Min. Gauge Reading (cfs): 75.93

Passby at Location (cfs): 3.28

"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- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Source ID: 17895 Source Name N. Fork of Fishing Creek @ BIG176 Pad
John W. Kilcoyne

Source Latitude: 39.560283

Source Longitude: -80.560763

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 8.09 County: Wetzel

Anticipated withdrawal start date: 7/1/2013

Anticipated withdrawal end date: 7/1/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 5,500,000

Trout Stream? Tier 3?

Max. Pump rate (gpm): 1,260

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD?

Max. Truck pump rate (gpm) 0

Gauged Stream?

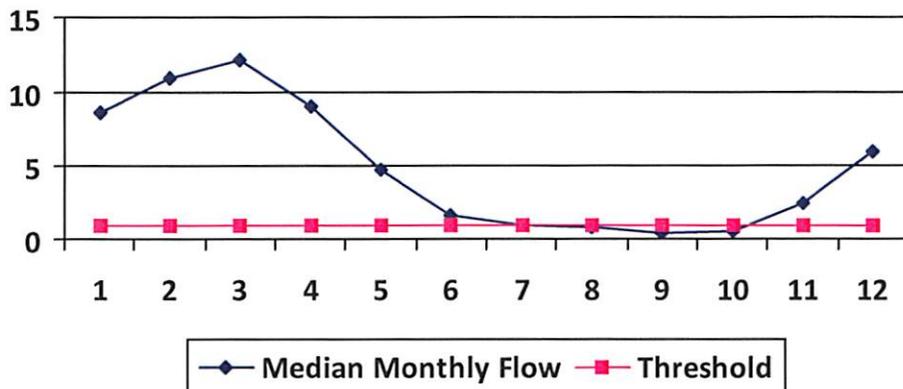
Reference Gaug 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.) 458.00

Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	8.68	6.81	2.21
2	10.91	6.81	4.45
3	12.21	6.81	5.75
4	9.07	6.81	2.60
5	4.78	6.81	-1.68
6	1.67	6.81	-4.79
7	0.95	6.81	-5.52
8	0.78	6.81	-5.69
9	0.40	6.81	-6.07
10	0.50	6.81	-5.96
11	2.45	6.81	-4.02
12	5.98	6.81	-0.49

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 0.79

Upstream Demand (cfs): 2.81

Downstream Demand (cfs): 1.00

Pump rate (cfs): 2.81

Headwater Safety (cfs): 0.20

Ungauged Stream Safety (cfs): 0.20

Min. Gauge Reading (cfs): 73.12

Passby at Location (cfs): 2.19

"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- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Source ID: 17896 Source Name N. Fork of Fishing Creek @ Big 57 Pad
EQT Corporation

Source Latitude: 39.55316

Source Longitude: -80.53064

HUC-8 Code: 5030201

Drainage Area (sq. mi.): 4.77 County: Wetzel

Anticipated withdrawal start date: 7/1/2013

Anticipated withdrawal end date: 7/1/2014

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 5,500,000

Trout Stream? Tier 3?

Max. Pump rate (gpm): 1,260

Regulated Stream?

Max. Simultaneous Trucks: 0

Proximate PSD?

Max. Truck pump rate (gpm): 0

Gauged Stream?

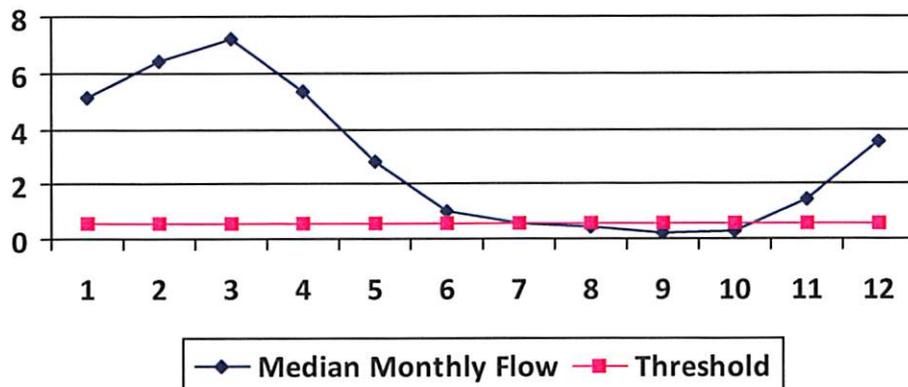
Reference Gaug 3114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Drainage Area (sq. mi.) 458.00

Gauge Threshold (cfs): 45

Month	Median monthly flow (cfs)	Threshold (+ pump)	Estimated Available water (cfs)
1	5.12	3.51	1.62
2	6.43	3.51	2.94
3	7.20	3.51	3.71
4	5.35	3.51	1.85
5	2.82	3.51	-0.67
6	0.98	3.51	-2.51
7	0.56	3.51	-2.93
8	0.46	3.51	-3.03
9	0.24	3.51	-3.26
10	0.30	3.51	-3.20
11	1.44	3.51	-2.05
12	3.52	3.51	0.03

Water Availability Profile



Water Availability Assessment of Location

Base Threshold (cfs): 0.47

Upstream Demand (cfs): 0.00

Downstream Demand (cfs): 1.00

Pump rate (cfs): 2.81

Headwater Safety (cfs): 0.12

Ungauged Stream Safety (cfs): 0.12

Min. Gauge Reading (cfs): 70.31

Passby at Location (cfs): 1.70

"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 Management Plan: Secondary Water Sources



WMP- 01224

API/ID Number: 047-103-02898

Operator:

EQT Production Company

513867 (BIG7H14)

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:	17897	Source Name:	Groundwater Well TW#1		Source start date:	7/1/2013
					Source end date:	7/1/2014
Source Lat:	39.56059	Source Long:	-80.56027	County:	Wetzel	
Max. Daily Purchase (gal)		Total Volume from Source (gal):	5,500,000			
DEP Comments:						

WMP- 01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

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: 17898	Source Name	Groundwater Well TW#5		Source start date:	7/1/2013	
				Source end date:	7/1/2014	
	Source Lat:	39.553434	Source Long:	-80.528871	County	Wetzel
	Max. Daily Purchase (gal)		Total Volume from Source (gal):	5,500,000		
DEP Comments:						

Multi-site impoundment

Source ID: 18085	Source Name	YOHO Centralized Freshwater Impoundment		Source start date:	7/1/2013	
				Source end date:	7/1/2014	
	Source Lat:	39.56092	Source Long:	-80.61432	County	Wetzel
	Max. Daily Purchase (gal)		Total Volume from Source (gal):	4,800,000		
DEP Comments: 103-FWC-00001						

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-1068

WMP-01224

API/ID Number: 047-103-02898

Operator: EQT Production Company

513867 (BIG7H14)

Important:

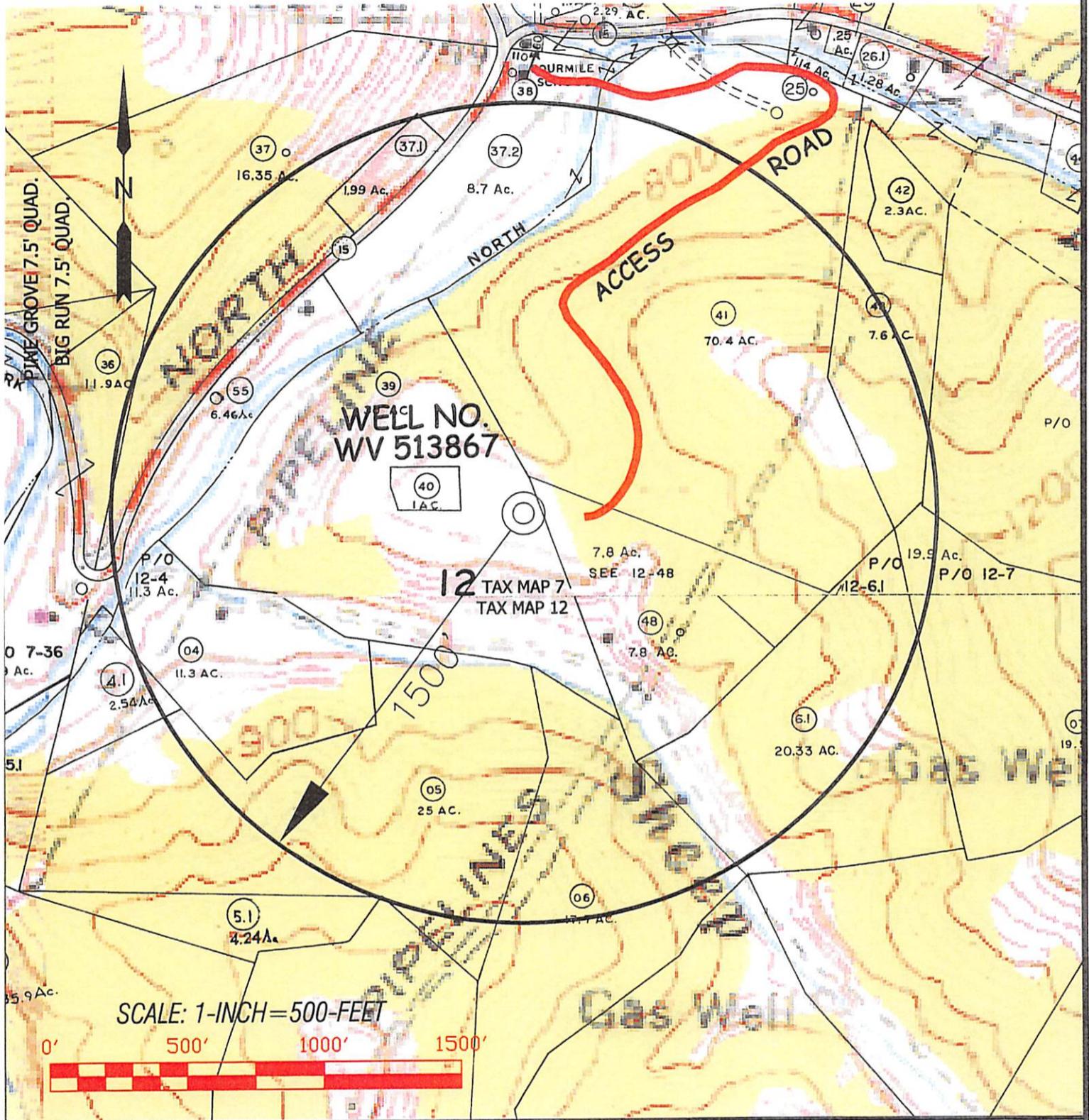
For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies.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

Recycled Frac Water

Source ID:	17899	Source Name:	Various	Source start date:	7/1/2013
				Source end date:	7/1/2014
Source Lat:		Source Long:		County:	
Max. Daily Purchase (gal)		Total Volume from Source (gal):	5,500,000		
DEP Comments:					

J.R.SHREVE LEASE WELL NO. WV 513867



 <p>Professional Energy Consultants A DIVISION OF SHELTON & MURPHY SURVEYORS PROJECT MGMT. ENGINEERS ENVIRONMENTAL 225 West Third St. 3605 Dunes Bottom Road Martinsburg, WV 26101 Sharpsburg, MD 21750 (304) 482-5333 (304) 471-5911</p>		<p>TOPO SECTION OF: BIG RUN, WV 7.5' QUAD.</p>		<p>OPERATOR: EQT PRODUCTION COMPANY 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330</p>		
<p>DRAWN BY K.D.W.</p>	<p>FILE NO. 6246</p>	<p>DATE 04/03/13</p>	<p>CADD FILE: 6246W513867A.DWG</p>	<p>COUNTY WETZEL</p>	<p>DISTRICT GRANT</p>	<p>TAX MAP-PARCEL NO. 7-39</p>

Received
Office of Oil & Gas

APR 24 2013

BOTTOM HOLE WELL NO. WV 513867
STATE PLANE COORDINATES (NORTH ZONE) NAD'27

N. 399,530.9
E. 1,683,502.0

LAT=(N) 39.591513
LONG=(W) 80.623096

UTM (NAD83)(METERS)

N. 4,382,497.8
E. 532,379.3

LANDING POINT WELL NO. WV 513867
STATE PLANE COORDINATES (NORTH ZONE) NAD'27

N. 396,623.8
E. 1,684,954.9

LAT=(N) 39.583582
LONG=(W) 80.617812

UTM (NAD83)(METERS)

N. 4,381,619.5
E. 532,836.7

WELL NO. WV 513867
STATE PLANE COORDINATES (NORTH ZONE) NAD'27

N. 396,089.0
E. 1,684,682.9

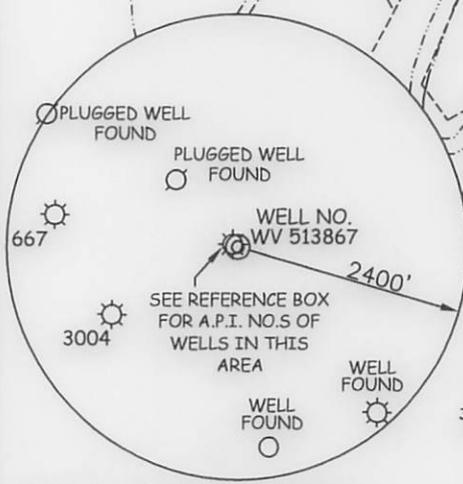
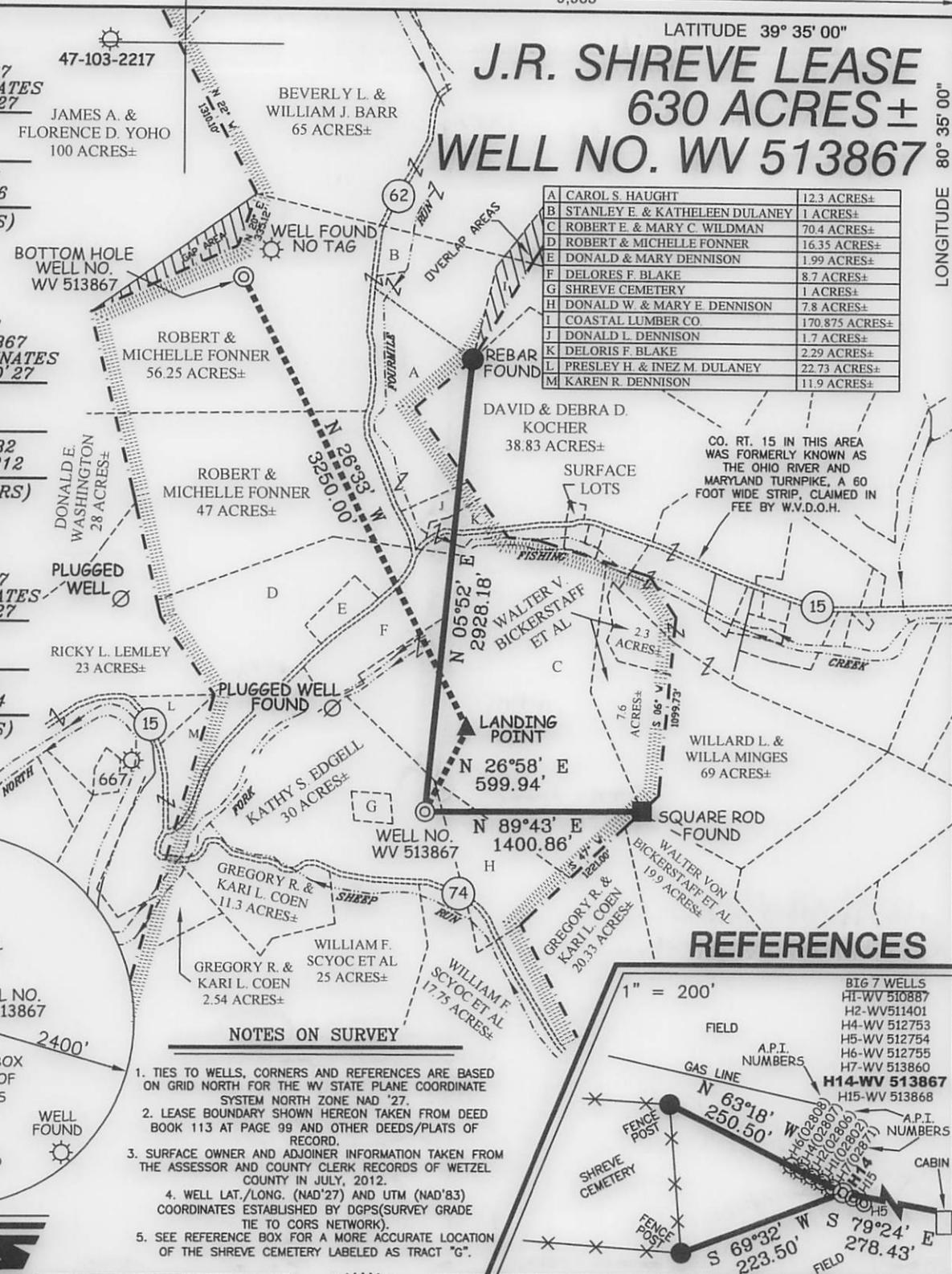
LAT=(N) 39.582105
LONG=(W) 80.618754

UTM (NAD83)(METERS)

N. 4,381,455.2
E. 532,756.5

J.R. SHREVE LEASE 630 ACRES± WELL NO. WV 513867

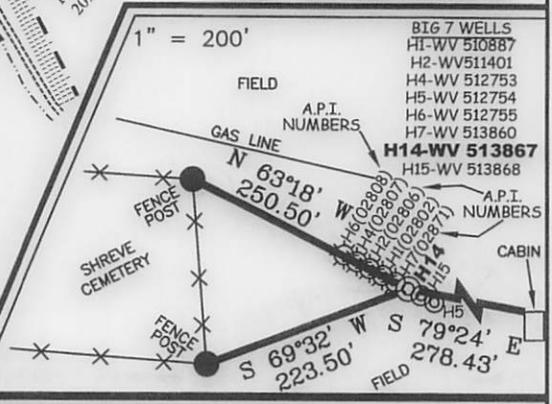
A	CAROL S. HAUGHT	12.3 ACRES±
B	STANLEY E. & KATHELEEN DULANEY	1 ACRES±
C	ROBERT E. & MARY C. WILDMAN	70.4 ACRES±
D	ROBERT & MICHELLE FONNER	16.35 ACRES±
E	DONALD & MARY DENNISON	1.99 ACRES±
F	DELORES F. BLAKE	8.7 ACRES±
G	SHREVE CEMETERY	1 ACRES±
H	DONALD W. & MARY E. DENNISON	7.8 ACRES±
I	COASTAL LUMBER CO	170.875 ACRES±
J	DONALD L. DENNISON	1.7 ACRES±
K	DELORES F. BLAKE	2.29 ACRES±
L	PRESLEY H. & INEZ M. DULANEY	22.73 ACRES±
M	KAREN R. DENNISON	11.9 ACRES±



NOTES ON SURVEY

1. TIES TO WELLS, CORNERS AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 113 AT PAGE 99 AND OTHER DEEDS/PLATS OF RECORD.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2012.
4. WELL LAT./LONG. (NAD'27) AND UTM (NAD'83) COORDINATES ESTABLISHED BY DGPS(SURVEY GRADE TIE TO CORS NETWORK).
5. SEE REFERENCE BOX FOR A MORE ACCURATE LOCATION OF THE SHREVE CEMETERY LABELED AS TRACT "G".

REFERENCES

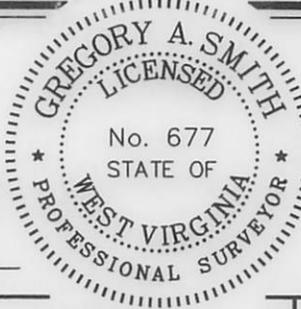


- BIG 7 WELLS**
H1-WV 510887
H2-WV511401
H4-WV 512753
H5-WV 512754
H6-WV 512755
H7-WV 513860
H14-WV 513867
H15-WV 513868



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. *Gregory A. Smith*
677



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE APRIL 3, 20 13
OPERATORS WELL NO. WV 513867
API WELL NO. 47 - 103 - 2898 H6A
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6246P513867
PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 1000'

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



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 924'(AS BUILT PAD ELEVATION) WATERSHED SHEEP RUN AND NORTH FORK FISHING CREEK
DISTRICT GRANT COUNTY WETZEL QUADRANGLE BIG RUN 7.5'
SURFACE OWNER KATHY S. EDGELL ACREAGE 30±
ROYALTY OWNER NANCY & JOHN FOUT ET AL ACREAGE 630±
PROPOSED WORK: LEASE NO. 300648
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION GENESEO
ESTIMATED DEPTH _____

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT