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**west virginia** department of environmental protection

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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

March 31, 2016

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-9502342, 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: 514466  
Farm Name: WELLS, VIVIAN J  
**API Well Number: 47-9502342**  
**Permit Type: Horizontal 6A Well**  
Date Issued: 03/31/2016

**Promoting a healthy environment.**

**04/01/2016**

**PERMIT CONDITIONS 4709502342**

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.

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**CONDITIONS**

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1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE 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 one hundred (100) 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.
9. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**WELL WORK PERMIT APPLICATION**

1) Well Operator: EQT Production Company  
Operator ID: 306686 County: 095 District: 5 Quadrangle: 607

2) Operator's Well Number: 514466 Well Pad Name: SHR60

3) Farm Name/Surface Owner: Vivian J Wells et al Public Road Access: 60/2

4) Elevation, current ground: 1,018.0 Elevation, proposed post-construction: 1,011.0

5) Well Type: (a) Gas  Oil  Underground Storage   
Other \_\_\_\_\_

(b) If Gas: Shallow  Deep   
Horizontal

6) Existing Pad? Yes or No: yes

*DAH  
1-11-16*

7) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):  
Target formation is Marcellus at a depth of 6596 with the anticipated thickness to be 52 feet and anticipated target pressure of 2747 PSI  
Top of Marcellus: 6571

8) Proposed Total Vertical Depth: 6596

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20858

11) Proposed Horizontal Leg Length: 12978

12) Approximate Fresh Water Strata Depths: 83, 133, 570, 906

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

14) Approximate Saltwater Depths: 1198, 1865, ,

15) Approximate Coal Seam Depths: 19, 420, 686, 875, 1315

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? Yes  No

(a) If Yes, provide Mine Info: Name: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

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CASING AND TUBING PROGRAM

18)

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: for Drilling	INTERVALS: Left in Well	CEMENT: Fill- up (Cu.Ft.)
Conductor	20	New	A-500	78.6	60	60	90 C.T.S.
Fresh Water	13 3/8	New	J-55	54.5	992	992	924 C.T.S.
Coal	-	-	-	-	-	-	
Intermediate	9 5/8	New	A-500	40	2,777	2,777	1,084 C.T.S.
Production	5 1/2	New	P-110	20	20,858	20,858	See Note 1
Tubing	2 3/8		J-55	4.6			May not be run, if run will be set 100' less than TD
Liners							

*Dmit 1-11-16*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20	26	0.375	-	18	Construction	1.18
Fresh Water	13 3/8	17 1/2	0.38	2,730	2,184	* See Note 2	1.19
Coal							
Intermediate	9 5/8	12 3/8	0.395	3,950	3,160	* See Note 2	1.19
Production	5 1/2	8 1/2	0.361	12,640	10,112	-	1.07/1.86
Tubing							
Liners							

*4709502342*

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 500' above the top producing zone.

**Note 2:** Reference Variance 2014-17. (Attached)

Page 2 of 3  
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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and complete a new horizontal well in the Marcellus formation.

Drill the vertical to an approximate depth of 3316'.

Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

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), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to average approximately 8500 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

21) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres):

No Additional

22) Area to be disturbed for well pad only, less access road (acres):

No Additional

23) 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 joint from production casing shoe to KOP

4709502342

24) 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.

0.25% 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. 0.25% 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 H Cement): 0.2% CD-20 (dispersant makes cement easier to mix). .15% SuperFL-300 (fluid loss/lengthens thickening time)

.15% SEC-10 (fluid loss) 50:50 POZ (extender)

Tail (Type H Cement): 0.2% Super CR-1 (Retarder). Lengthens thickening time. .3% Super FL-200 (fluid loss)

.2% SEC-10 (Fluid loss). .2% SuperFL-350 (fluid loss) Reduces amount of water lost to formation.

60 % Calcium Carbonate. Acid solubility.

DMH  
1-11-16

25) 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. 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.

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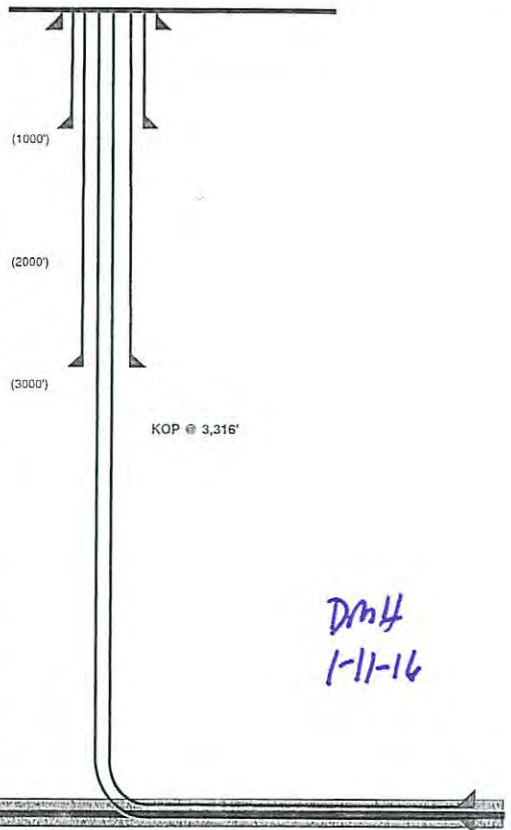
WV Department of  
Environmental Protection

\*Note: Attach additional sheets as needed.

Well 514466 (SHR60H7)  
 EQT Production  
 Shirley  
 Tyler West Virginia

Pad Name  
 Azimuth 155.6  
 Vertical Section 14772

TVD Depth (feet)	Formation Tops (TVD)	Hole Size (inches)	Type	Size (inches)	Wt (ppf)	Grade	Casing Wall Thickness	Depth (feet)	Top of Cement	Method
0'		26"	Conductor	20"	78.6	A-500	0.312	60'	Surface	Displacement
1,000'	Base Fresh Water 906	17 1/2"	Surface	13 3/8"	54.5	J-55	0.38	992'	Surface	Displacement
3,000'	Maxton 1534 - 1587 Big Linn 1829 - 2111 Pine Flat Rock 1876	12 3/8"	Intermediate	9 5/8"	40	A-500	0.395	2777'	Surface	Displacement
6,500'	Marcellus top 6571 Target Inside Marcellus 6596 Marcellus Bottom 6623	8 1/2"	Production Casing	5 1/2"	20	P-110	0.361	20858'	500' above top Producing Zone	Displacement



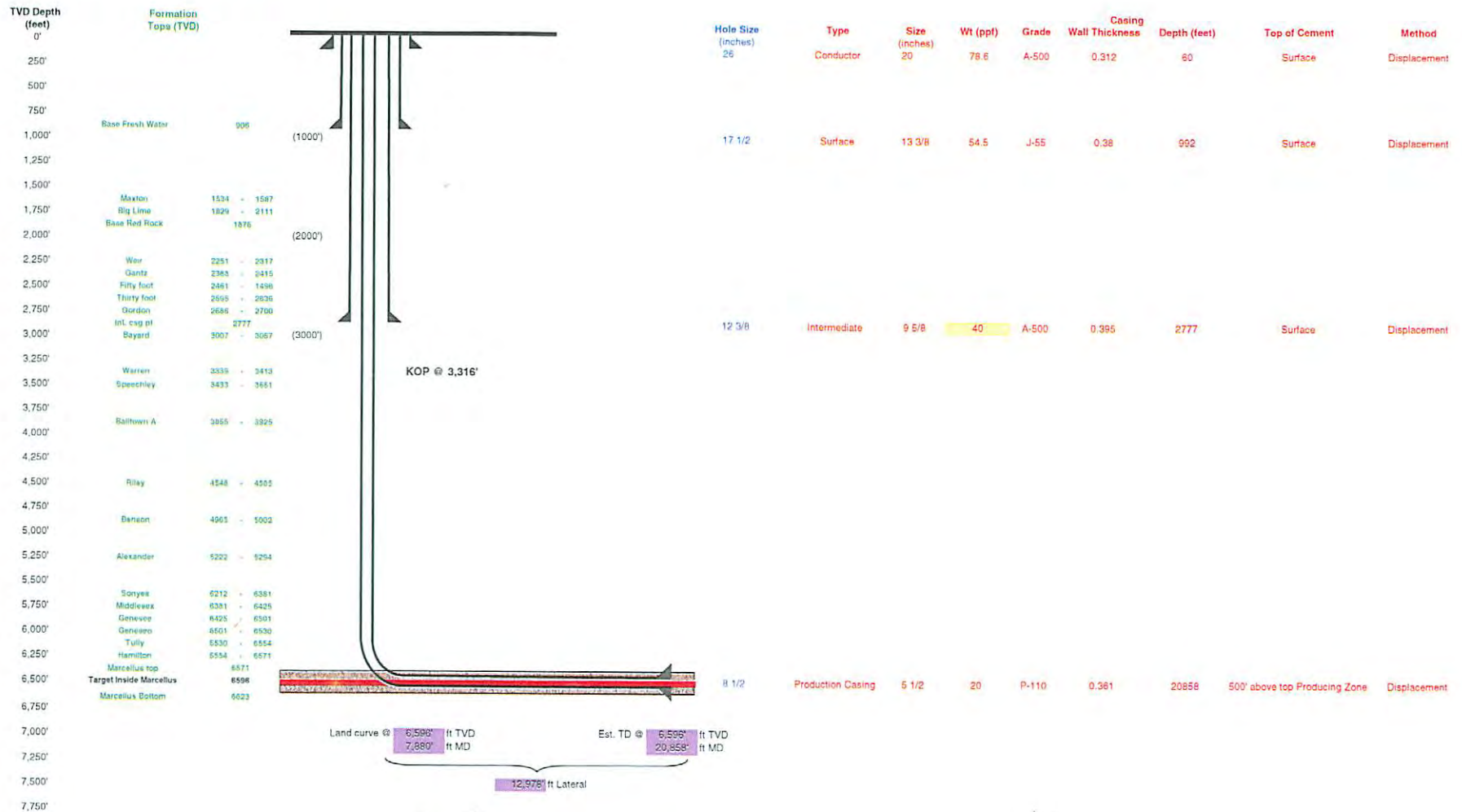
Land curve @ 6,596' ft TVD / 7,880' ft MD  
 Est. TD @ 6,596' ft TVD / 20,858' ft MD  
 12,978' ft Lateral

Proposed Well Work:  
 Drill and complete a new horizontal well in the Marcellus formation.  
 Drill the vertical to an approximate depth of 3316'.  
 Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

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Well 514466 (SHR60H7)  
 EQT Production  
 Shirley  
 Tyler West Virginia

Pad Name  
 Azimuth 159.6  
 Vertical Section 14772



Proposed Well Work:  
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west virginia department of environmental protection

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

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

March 18, 2014

Nabors Completion & Production Services Company  
1380 Route 286 Hwy E #121  
Indiana PA 15701

Re: Cement Variance Request

Dear Sir or Madam,

This agency is approving a variance request for the cement blend listed below to be used on surface and coal protection strings for the drilling of oil and gas wells in the state of West Virginia. The variance cannot be used without requesting its use on a permit application and approval by this agency:

- Type 1 (2% Calcium Chloride-Accelerator, 0.25% Super Flake-Lost Circulation, 5.2% Water, 94% Type "1" Cement)

If you have any questions regarding this matter feel free to contact me at 304-926-0499, ext. 1653.

Sincerely,

James Peterson  
Environmental Resources Specialist / Permitting

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Office of Oil and Gas  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
(304) 926-0450  
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Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
dep.wv.gov

**BEFORE THE OFFICE OF OIL AND GAS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STATE OF WEST VIRGINIA**

**IN THE MATTER OF A VARIANCE FROM ) ORDER NO. 2014 - 17**  
**REGULATION 35 CSR § 4-11.4/11.5/14.1 )**  
**AND 35 CSR § 8-9.2.h. 4/5/6/8 OF THE )**  
**THE OPERATIONAL )**  
**REGULATIONS OF CEMENTING OIL )**  
**AND GAS WELLS )**

**REPORT OF THE OFFICE**

Nabors Completion & Production Services Co. requests approval of a different cement blend for use in cementing surface and coal protection casing of oil and gas wells.

**FINDINGS OF FACT**

- 1.) Nabors Completion & Production Services Co. proposes the following cement blend:
  - 2% Calcium Chloride (Accelerator)
  - 0.25 % Super Flake (Lost Circulation)
  - 94% Type "1" Cement
  - 5.20 % Water
- 2.) Laboratory testing results indicate that the blend listed in Fact No.1 will achieve a 500 psi compressive strength within 6 hours and a 2,435 psi compressive strength within 24 hours.

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**CONCLUSIONS OF LAW**

Pursuant to Articles 6 and 6A, Chapter 22 of the Code of West Virginia, the Office of Oil and Gas has jurisdiction over the subject matter embraced in said notice, and the persons interested therein, and jurisdiction to promulgate the hereinafter prescribed Order.

Pursuant to 35 CSR § 4-11.5 and 35 CSR § 8-9.2.h.8 the Chief of the Office of Oil and Gas may approve different cement blends upon the well operator providing satisfactory proof that different cement types are adequate.

**ORDER**

It is ordered that Nabors Completion & Production Services Co. may use the cement blend listed in Findings of Fact No.1 for the cementing of surface and coal protection casing of oil and gas wells in the State as may be requested by oil and gas operators. The waiting time on the cement blend shall be 8 hours. The cement blend shall be mixed in strict accordance with the specifications for each blend and weight measurements made on-site to assure the cement slurries meet the minimum weight specifications. A sample shall be collected and, if after 8 hours the cement is not set up, additional time will be required. Nabors Completion & Production Services Co. shall keep a record of cement blend jobs in which the cement blend approved under this order is to be used and made available to the Office of Oil and Gas upon request.

Dated this, the 18th day of March, 2014.

IN THE NAME OF THE STATE OF WEST VIRGINIA

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



James Martin, Chief  
Office of Oil and Gas

4709502342

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04/01/2016



12/28/2015

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

Re: Casing Plan on SHR60 (514465, 514466)

Dear Mr. Smith,

EQT is requesting the 13-3/8" surface casing be set at 992' KB, 86' below the deepest fresh water. We will set the 9-5/8" intermediate string at 2777' KB, below the Gordon formation.

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

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark'.

Vicki Roark  
Permitting Supervisor - WV

Enc.

4709502342

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JAN 14 2016

WW-9  
(2/15)

API No. 47 - 095 - 0  
Operator's Well No. 514466

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
Fluids/Cuttings Disposal & Reclamation Plan

Operator Name EQT Production Company OP Code 306686

Watershed (HUC10) Morrison Run of McElroy Creek Quadrangle Shirley

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

Will a pit be used? Yes:  No:

If so please describe anticipated pit waste: flowback water & residual solids

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, 8462, 4037 )
- Reuse (at API Number Various )
- Off Site Disposal (Supply form WW-9 for disposal location) 4709502342
- Other (Explain \_\_\_\_\_)

Will closed loop system be used? Yes, The closed loop system will remove drill cuttings from the drilling fluid. The drill cuttings are then prepared for transportation to an off-site disposal facility.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.

Air is used to drill the top-hole sections of the wellbore (surface, intermediate, and pilot). Water based mud may be necessary depending on hole conditions to stabilize and drill the intermediate section. The pilot hole, curve, and lateral sections will be drilled with either air, water based mud, or oil based mud.

*DMH  
1-11-16*

- If oil based, what type? Synthetic, petroleum, etc. Synthetic mud

Additives to be used in drilling medium? Air - biodegradable oil lubricant, detergent, defoaming, water. Water based mud - Barite, viscosifier, alkalinity control, lime, filtration control, defloculates, biodegradable oil lubricant, defoaming, walnut shell, salt, x-cide, carbonates.

Oil based mud - synthetic base oil, emulsifier, salt, lime, viscosifier, alkalinity control, filtration control, defloculates, biodegradable oil lubricant, defoaming, carbonates.

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, sawdust) n/a
- Landfill or offsite name/permit number? See Attached List

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on 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

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JAN 14 2016

Subscribed and sworn before me this 11 day of January, 2016  
Rebecca L. Wanstreet Notary Public

My commission expires 4-7-20



Operator's Well No. 514466

Proposed Revegetation Treatment: Acres Disturbed No Additional Prevegetation pH 6.3

Lime 3 Tons/acre or to correct to pH 6.5

Fertilize type Granular 10-20-20

Fertilizer Amount 13 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	<u>40</u>	Orchard Grass	<u>15</u>
Alsike Clover	<u>5</u>	Alsike Clover	<u>5</u>
Annual Rye	<u>15</u>		

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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Title: Oil & Gas Inspector Date: 1-11-16

Field Reviewed? (  ) Yes (  ) No

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**EQT Production Water plan**  
**Offsite disposals for Marcellus wells**

**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

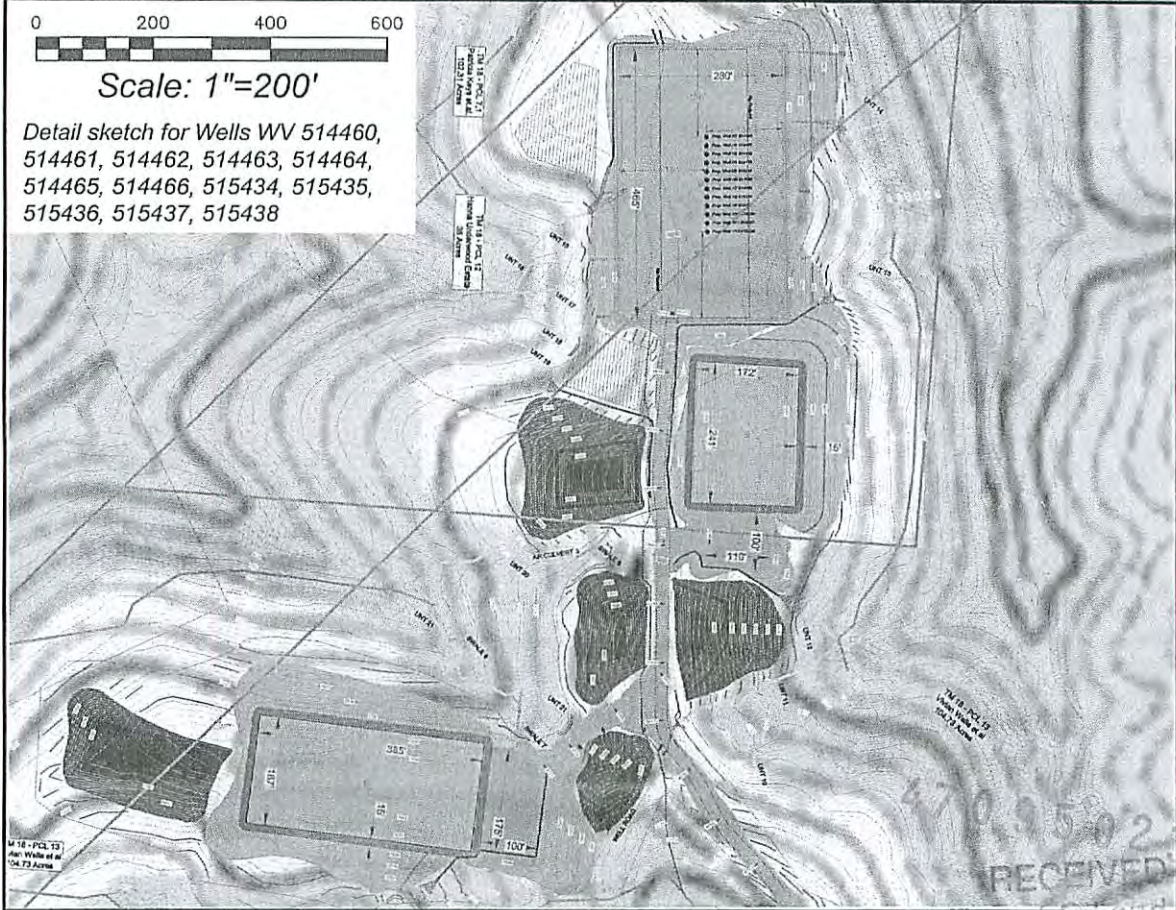
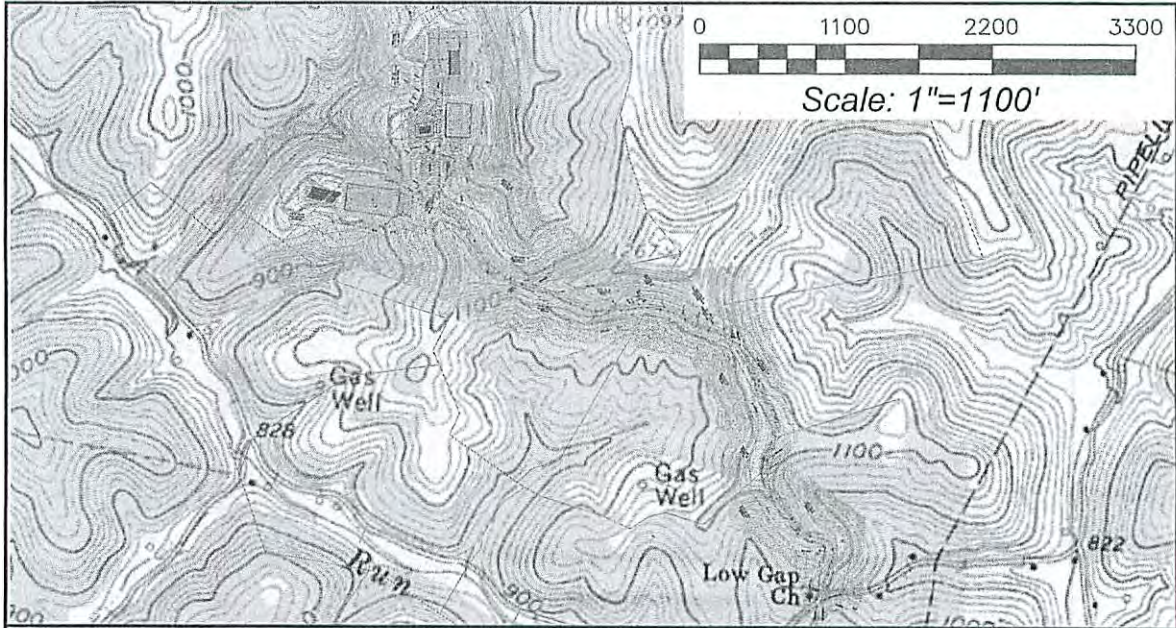
4709502342

**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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Detail sketch for Wells WV 514460, 514461, 514462, 514463, 514464, 514465, 514466, 515434, 515435, 515436, 515437, 515438

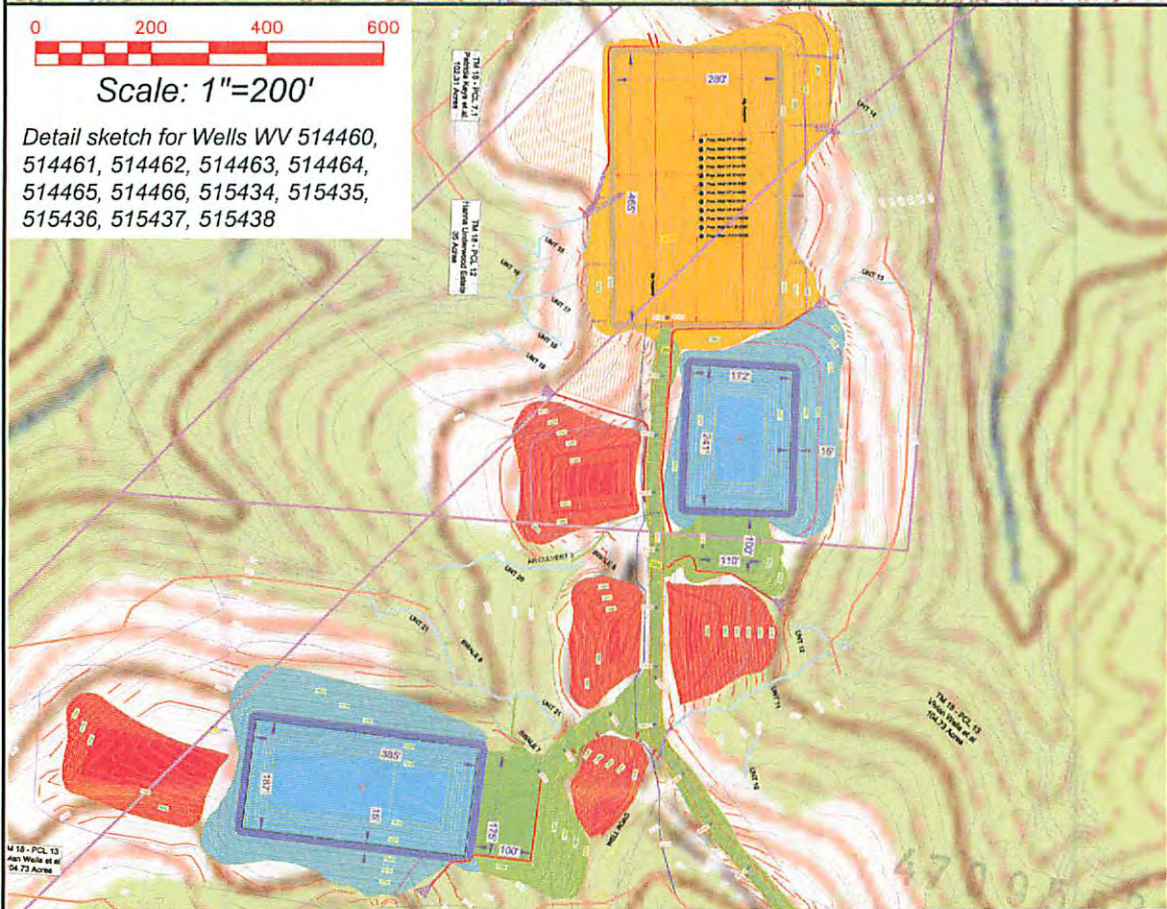
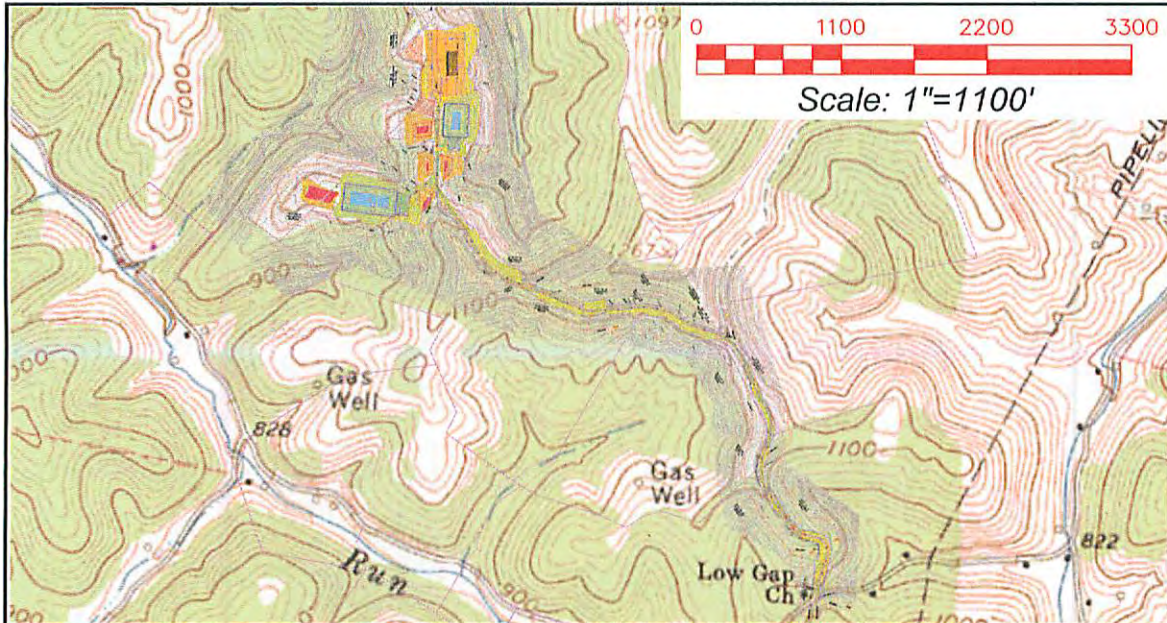
Shirley 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
Projected culvert inventory (for bid purposes only)		Well Site Location	See Site Plan
15" minimum diameter culverts	See Site Plan	Proposed Access Road	See Site Plan
24" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan
DRAWN BY: Dale Tomlin PS	DATE: October 24, 2014	FILE NO. 208-13	DRAWING FILE NO. ACAD-208-13-Rec Plan

Note: SEE SITE PLAN OF SHR. 60 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.

REC'D 142  
 JAN 14 2016  
 WV Department of Environmental Protection



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**  
 Birch River Office 1-800-482-8606 237 Birch River Road  
 Phone: (304) 649-8606 P.O. Box 438  
 Fax: (304) 649-8608 Birch River, WV 26610



Shirley 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
Projected culvert inventory. (for bid purposes only)		Well Site Location	See Site Plan
15" minimum diameter culverts	See Site Plan	Proposed Access Road	See Site Plan
24" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan
DRAWN BY: Dale Tomlin PS	DATE: October 24, 2014	FILE NO: 208-13	DRAWING FILE NO: ACAD-208-13-Rec Plan

Note: SEE SITE PLAN OF SHR 60 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
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1-800-482-8606  
 237 Birch River Road  
 P.O. Box 438  
 Birch River, WV 26610

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 Office of Oil & Gas  
 JAN 14 2016





Where energy meets innovation.™

# Site Specific Safety Plan

EQT SHR 60 Pad

Shirley  
Tyler County, WV

For Wells: 514460 514461 514462 514463 514464 514465 514466

Date Prepared: October 24, 2014

Date Reviewed: December 7, 2015

[Signature]  
EQT Production

[Signature]  
WV Oil and Gas Inspector

Permitting Supervisor  
Title

Oil & Gas Inspector  
Title  
Office of Oil and Gas

Date 1/7/16 4709502342

Date 1-11-16 JAN 14 2016

WV Department of  
Environmental Protection

**Anticipated Frac Additives**  
**Chemical Names and CAS numbers**

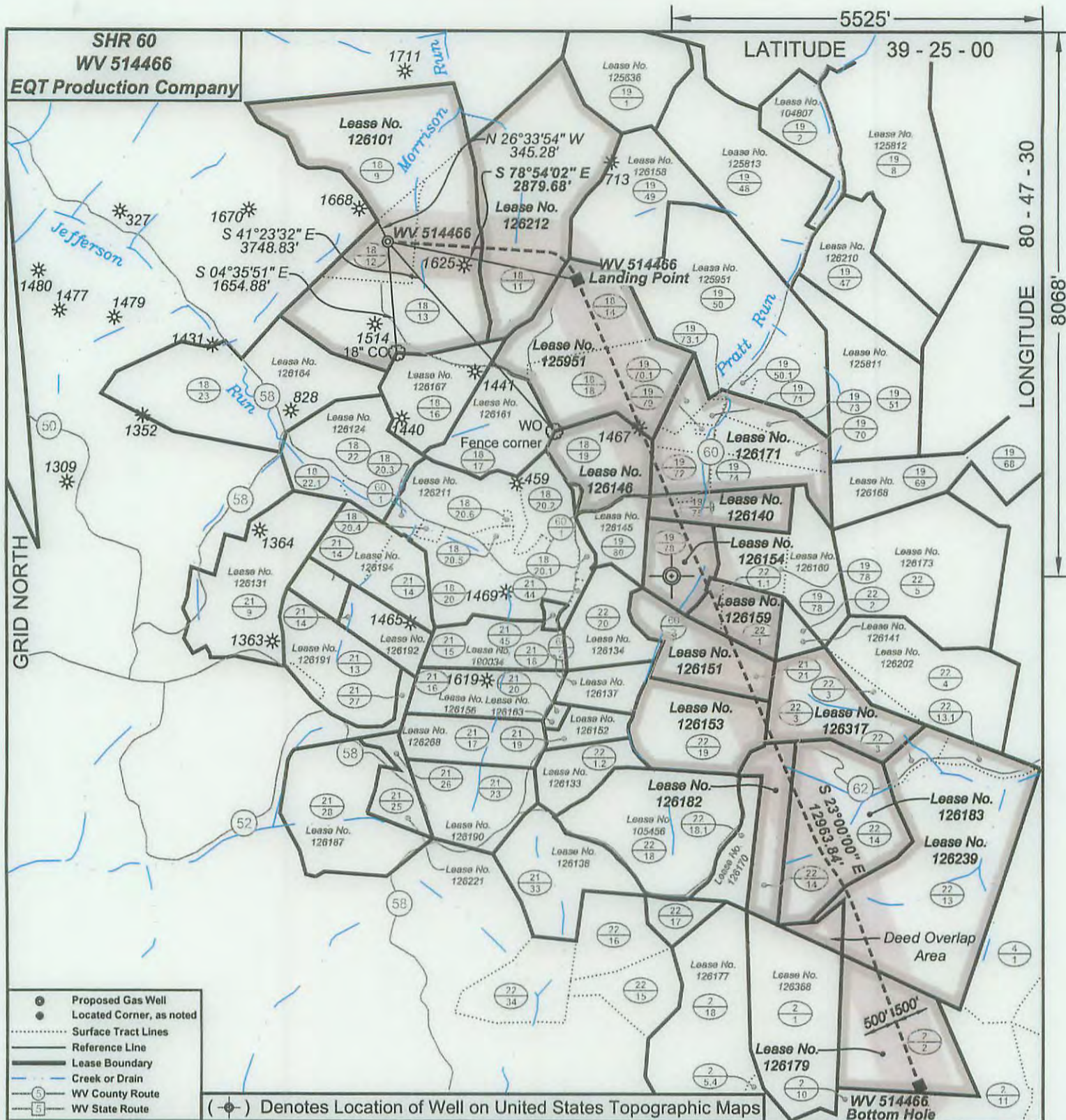
<u>Material</u>	<u>Ingredient</u>	<u>CAS Number</u>
Water		
Sand	Hydrotreated light petroleum distillate	14808-60-7
Friction Reducer	Tributyl tetradecyl phosphonium chloride	64742-47-8
Biocide	Ammonium chloride	81741-28-8
Scale Inhibitor	Hydrochloric Acid	12125-02-9
15% Hydrochloric Acid	Propargyl Alcohol	7647-01-0
Corrosion Inhibitor	Methanol	107-19-7
Corrosion Inhibitor	Guar Gum	67-56-1
Gelling Agent	Sodium Persulfate	9000-30-0
Oxidizing Breaker	Potassium Carbonate	7775-27-1
Buffering Agent		584-08-7

DMH  
1-11-16

470950234

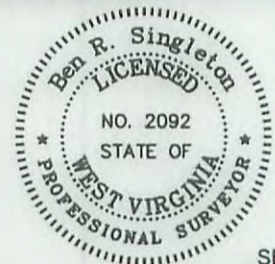
RECEIVED  
Office of Oil and Gas  
JAN 14 2016  
WV Department of  
Environmental Protection

04/01/2016



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

*Ben R. Singleton*  
P.S. 2092



FILE NO: 208-13  
DRAWING NO: 208-13 SHR 60 H7  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: 1:2500  
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: January 5 20 16  
OPERATOR'S WELL NO.: 514466  
API WELL NO  
47 - 95 - 02342 H6A  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: Ground 1,018' Proposed 1,011' WATERSHED Morrison Run of McElroy Creek QUADRANGLE: Shirley  
DISTRICT: McElroy COUNTY: Tyler  
SURFACE OWNER: Vivian J. Wells, et al. ACREAGE: 35.38  
ROYALTY OWNER: George Birklein, et al. LEASE NO: 126101 ACREAGE: 240  
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY)  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 6,596'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray  
ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280  
Bridgeport, WV 26330 Bridgeport, WV 26330

04/01/2016

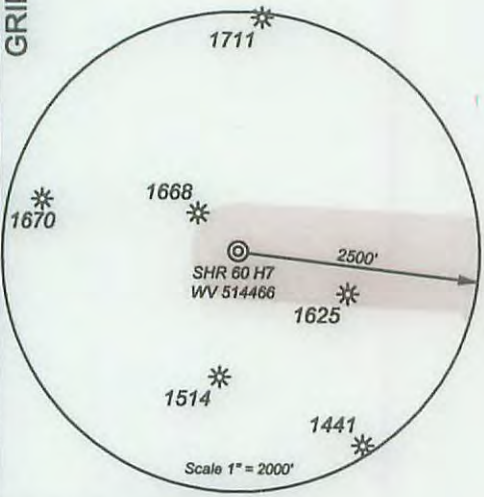
**SHR 60  
WV 514466  
EQT Production Company**

- SHR 60**
- H1, 514460
  - H2, 514461 ○
  - H3, 514462
  - H4, 514463 ○
  - H5, 514464
  - H6, 514465 ○
  - H7, 514466
  - H8, 515434 ○
  - H9, 515435
  - H10, 515436 ○
  - H11, 515437
  - H12, 515438 ○

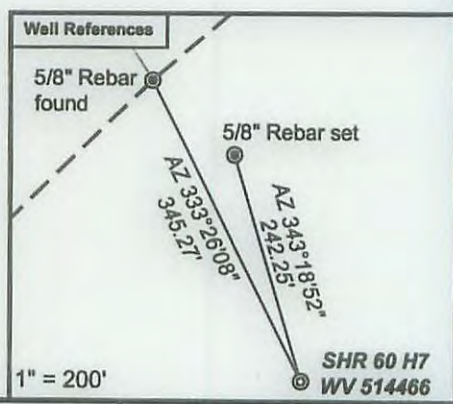
**Notes:**  
 WV 514466 coordinates are  
 NAD 27 N: 328,492.21 E: 1,629,439.28  
 NAD 27 Lat: 39.394480 Long: -80.811233  
 NAD 83 UTM N: 4,360,580.01 E: 516,269.36  
 WV 514466 Landing Point coordinates are  
 NAD 27 N: 327,937.84 E: 1,632,265.10  
 NAD 27 Lat: 39.393071 Long: -80.801207  
 NAD 83 UTM N: 4,360,425.51 E: 517,133.07  
 WV 514466 Bottom Hole coordinates are  
 NAD 27 N: 316,004.57 E: 1,637,330.48  
 NAD 27 Lat: 39.360511 Long: -80.782683  
 NAD 83 UTM N: 4,356,815.79 E: 518,736.91  
 West Virginia Coordinate system of 1927 (North Zone)  
 based upon Differential GPS Measurements.  
 Plat orientation, corner and well ties are based upon  
 the grid north meridian.  
 Well location references are based upon the grid north  
 meridian.  
 UTM coordinates are NAD83, Zone 17, Meters.

Lease No.	Acres	Owner
125951	225	Mona R. Cumberledge, et al.
126246	35	Linda R. Davoli, et al.
126171	78	Daniel G. Cumberledge, et al.
126140	25	Roger L. Pratt
126154	28	Casey Ann Jones, et al.
126159	25	Nick A. Demoss, et al.
126151	30	Dorothy H. Bode, et al.
126153	55	Jeffrey T. Hefflin, et al.
126317	62	Donna K. Fahley, et al.
126182	38	Robert J. Nichols, et al.
126183	89	Robert J. Nichols, et al.
126239	234	Paul Tallman, et al.
126179	66	Dorothy H. Bode, et al.

GRID NORTH



- Proposed Gas Well
- Located Corner, as noted
- ..... Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- WV County Route
- WV State Route



*I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.*

*Ben R. Singleton*  
 P.S. 2092



FILE NO: 208-13  
 DRAWING NO: 208-13 SHR 60 H7  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1:2500  
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

**STATE OF WEST VIRGINIA**  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

DATE: January 12 20 16  
 OPERATOR'S WELL NO.: 514466  
 API WELL NO  
 47 - 95 - 02342 H6A  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: <sup>Ground 1,018'</sup> Proposed 1,011' WATERSHED Morrison Run of McElroy Creek QUADRANGLE: Shirley  
 DISTRICT: McElroy COUNTY: Tyler  
 SURFACE OWNER: Vivian J. Wells, et al. ACREAGE: 35.38  
 ROYALTY OWNER: George Birklein, et al. LEASE NO: 126101 ACREAGE: 240  
 PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 6,566'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray  
 ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280  
 Bridgeport, WV 26330 Bridgeport, WV 26330

04/01/2016

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<b><u>126101</u></b>	<b><u>George Birklein, et al (current royalty owner)</u></b>		Min 1/8 pd	
		Equitable Gas Co.		DB186/86
	Equitable Gas Co.	Equitrans, Inc.		DB274/471
	Equitrans, Inc./Equitable Gas Company/Equitable Resources, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640
	Equitrans, L.P.	EQT Production Company	OG420/10	Tyler
<b>5-18-11</b>	Susan L Spencer	EQT Production Company	N/A	513/207 Subsurface Easement Attached
<b><u>125951</u></b>	<b><u>Mona R. Cumberlandge, et al (current royalty owner)</u></b>		Min 1/8 pd	
	Jacob A. Cumberlandge, et ux (origianl lessor)	Equitable Gas Co.		DB202/294
	Equitable Gas Co.	Equitrans, Inc.		DB274/471
	Equitrans, Inc./Equitable Gas Company/Equitable Resources, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640
<b><u>126146</u></b>	<b><u>Linda R. Davoli, et al (current royalty owner)</u></b>		Min 1/8 pd	
	Blanche Cumberlandge, et al (original lessor)	Equitable Gas Company		191/509
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640
<b><u>126171</u></b>	<b><u>Daniel G. Cumberlandge, et al (current royalty owner)</u></b>		Min 1/8 pd	
	Gay Cumberlandge, Widow, et al (original lessor)	Equitable Gas Company		193/502
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640
<b><u>126140</u></b>	<b><u>Roger L. Pratt (current royalty owner)</u></b>		Min 1/8 pd	
	Aumbra Pratt, Widow (original lessor)	Equitable Gas Company		191/530
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640

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<b><u>126154</u></b>	<b><u>Casey Ann Jones, et al (current royalty owner)</u></b> George H. Jones, et al (original lessor) Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	Equitable Gas Company Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	192/130 DB274/471 DB433/777 DB396/640 Tyler
<b><u>126159</u></b>	<b><u>Nick A. Demoss, et al ( current royalty owner)</u></b> Earl Stubbs, et ux (original lessor) Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	Equitable Gas Company Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	192/253 DB274/471 DB433/777 DB396/640 Tyler Co.
<b><u>126151</u></b>	<b><u>Dorothy H. Bode, et al ( current royalty owner)</u></b> Mollie Scott, et al (original lessor) Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	Equitable Gas Company Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	191/492 DB274/471 DB433/777 DB396/640 Tyler
<b><u>126153</u></b>	<b><u>Jeffrey T. Heflin, et al (current royalty owner)</u></b> John W. Ash, et al (original lessor) Equitable Gas Co. Equitrans, Inc. Equitrans, L.P.	Equitable Gas Co. Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	DB192/80 DB274/471 DB433/777 DB396/640 Tyler
<b><u>126317</u></b>	<b><u>Donna K. Fahley, et al (current royalty owner)</u></b> James B. Fahey, et ux (original lessor) Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	Equitable Gas Company Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	DB213/184 DB274/471 DB433/777 DB396/640 Tyler
<b><u>126182</u></b>	<b><u>Robert J. Nichols, et al (current royalty owner)</u></b> Talmage Nichols, et ux (original lessor) Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	Equitable Gas Company Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	195/381 DB274/471 DB433/777 DB396/640 Tyler
<b><u>126183</u></b>	<b><u>Robert J. Nichols, et al (current royalty owner)</u></b> Talmage Nichols, et ux (original lessor) Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	Equitable Gas Company Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	195/378 DB274/471 DB433/777 DB396/640 Tyler
<b><u>126239</u></b>	<b><u>Paul Tallman, et al (current royalty owner)</u></b> Erma M. Pitts, et al (original lessor) Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	Equitable Gas Company Equitrans, Inc. Equitrans, L.P. EQT Production Company	Min 1/8 pd	98/357 454/475 329/645 OG268/689 Doddridge

Page 2 of 3

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JAN 14 2016

04/01/2016

**126179**      **Dorothy H. Bode, et al (current royalty owner)**

Min 1/8 pd

Edwin P. Bode, et al (original lessor)  
Equitable Gas Company  
Equitrans, Inc.  
Equitrans, L.P.

Equitable Gas Company  
Equitrans, Inc.  
Equitrans, L.P.  
EQT Production Company

96/401  
154/475  
329/645  
OG268/689 Doddridge

Upon information and belief, Operator's lease and/or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including under any public roads that the well lateral crosses.

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: EQT Production Company  
By: \_\_\_\_\_  
Its: Permitting Supervisor

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JAN 14 2016



EQT Production Company  
2400 Zenith Ridge Rd.  
Suite 200  
Canonsburg, PA 15317  
www.eqt.com

Todd Klaner  
Manager, Permitting  
tklaner@eqt.com

January 11, 2016

WV DEP Reviewer

**RE: EQT Production Company  
PAD ID – SHR60  
Well# - 514466  
Tyler County**

Dear Reviewer,

This well indicated by this permit application contains a Subsurface Easement Agreement for non-productive portions of the well bore. Attached is a Memorandum of Subsurface Use Agreement which gives EQT the right to drill below the surface of the tract 18-11 shown on the well plat.

EQT Production understands that the WVDEP will issue the permit in the normal process subject to the completeness of the requirements of the Office of Oil and Gas and does not take a position with regards to the property rights under this agreement.

EQT Production agrees that the WVDEP's issuance of the permit is in no way an affirmation or validation of EQT Production's claimed rights.

Regards,

Todd Klaner  
Manager, Permitting  
EQT Production Company

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JAN 14 2016

04/01/2016



Teresa R Hamilton  
TYLER County 01:03:47 PM  
Instrument No 116403  
Date Recorded 12/14/2015  
Document Type ROW  
Pages Recorded 2  
Book-Page 513-207  
Recording Fee \$5.00  
Additional \$6.00

**MEMORANDUM OF  
SUBSURFACE RIGHT-OF-WAY AND EASEMENT AGREEMENT**

County Clerk please also index under the following: [Susan L. Spencer]

STATE OF WEST VIRGINIA  
COUNTY OF TYLER  
PUBLIC PROFESSIONAL PLACE P. O. BOX 280  
BRIDGEPORT, WV 26307-0280

**1. NAME AND ADDRESS OF GRANTOR:**

Susan L. Spencer  
HC 74 Box 98  
Alma, WV 26320

**2. NAME AND ADDRESS OF GRANTEE:**

EQT Production Company  
625 Liberty Avenue  
Suite 1700  
Pittsburgh, PA 15222

**3. SUBSURFACE RIGHT-OF-WAY AND EASEMENT AGREEMENT REFERENCE:**

A SUBSURFACE RIGHT-OF-WAY AND EASEMENT AGREEMENT ("Agreement") dated the 29th day of October, 2015, was entered into for good and valuable consideration by and between Susan L. Spencer, a married woman dealing in her sole and separate property ("Grantor", whether one or more) and EQT Production Company ("Grantee"). Upon completion of any wellbore within the subsurface area underlying the Property (as defined in Section 4), this subsurface easement in the area of the wellbore and the one hundred (100') feet on each side of the wellbore that parallels it shall become an exclusive right of way and easement in that area. The final wellbore locations are as described in a final, as-built map(s) to be filed as a part of an affidavit in the aforesaid Clerk's Office following the completion of the following well(s) located on Grantee's *SHR60 and SHR96* well pads. If an as-built map is not available for a wellbore within the subsurface area underlying the Property, any third-party with the right to operate within such area may contact Grantee's land department for a copy of such as-built map. Grantee shall provide notice of additional wellbores located within the subsurface area underlying the Property by filing an amendment, affidavit or other appropriate document.

**4. DESCRIPTION OF PREMISES:** That certain tract or parcel of land containing 132 acres, more or less, located in Tyler County, West Virginia, being the same lands conveyed to Grantor by Deed dated the 21st day of October, 2011, of record in the Office of the Clerk of the County Commission of Tyler County, West Virginia in Deed Book 388, at Page 164 ("the Property").

**5. TERM:** The Agreement shall run with the land and shall remain in full force and effect until released and relinquished by the Grantee back to the Grantor, in writing.

4709502342 Received  
Office of Oil & Gas  
JAN 14 2016

(REMAINDER OF PAGE LEFT BLANK INTENTIONALLY)

04/01/2016

IN WITNESS WHEREOF, the parties have signed their names hereto as of the date of the Agreement referenced in Section 3 above.

**GRANTOR:**

**GRANTEE:**  
EQT Production Company

Susan L. Spencer  
Susan L. Spencer

John W. Damato  
By: John W. Damato  
Its: Attorney in fact

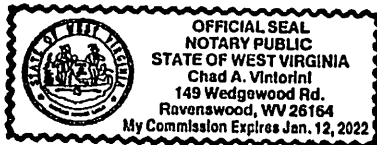
STATE OF WEST VIRGINIA;

COUNTY OF TYLER:

I, Chad A. Vintorini, a Notary Public, in and for said State and County, do hereby certify that Susan L. Spencer, a married woman dealing in her sole and separate property, personally known to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person in the State and County aforesaid, and acknowledged and delivered the said instrument to be her free act and deeds for uses and purposes therein set forth.

Given under my hand this 30<sup>th</sup> day of October, 2015.

My Commission expires: Jan. 12, 2022.



Chad A. Vintorini  
Notary Public

STATE OF WEST VIRGINIA;

COUNTY OF HARRISON:

4709502342

I, Tina Maxwell, a Notary Public, in and for said State and County, do hereby certify that John W. Damato, personally known to be the same person whose name is subscribed to the foregoing instrument and the Attorney in fact of EQT Production Company, appeared before me this day in person in the State and County aforesaid, and acknowledged and delivered the said instrument to be his free act and deed for uses and purposes therein set forth on behalf of said company.

Given under my hand this 4<sup>th</sup> day of November, 2015.

My Commission expires: August 29, 2019.

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Office of Oil & Gas

JAN 14 2016



Tina Maxwell  
Notary Public

This instrument was prepared by EQT Production Company, 625 Liberty Avenue, Pittsburgh, PA 15222.

04/01/2016

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

Date of Notice Certification: \_\_\_\_\_

API No. 47 - 095 - 0  
Operator's Well No. 514466  
Well Pad Name: SHR60

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: WV	UTM NAD 83 Easting: 516,269.36
County: Tyler	UTM NAD 83 Northing: 4,360,580.01
District: McElroy	Public Road Access: 60/2
Quadrangle: Shirley	Generally used farm name: Vivian J Wells et al
Watershed: Morrison Run of McElroy Creek	

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:		<b>OOG OFFICE USE ONLY</b>
*PLEASE CHECK ALL THAT APPLY		
<input type="checkbox"/> NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	4709502342	<input type="checkbox"/> RECEIVED/NOT REQUIRED
<input type="checkbox"/> NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED		<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR		<input type="checkbox"/> RECEIVED/NOT REQUIRED
<input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	Office of Oil & Gas JAN 14 2016	
<input checked="" type="checkbox"/> NOTICE OF PLANNED OPERATION		<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> PUBLIC NOTICE		<input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> NOTICE OF APPLICATION		<input type="checkbox"/> RECEIVED

**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

04/01/2016

**Certification of Notice is hereby given:**

THEREFORE, I *Victoria J. Roark*, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, 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 and imprisonment.

Well Operator: EQT Production Company  
By: Victoria J. Roark  
Its: Permitting Supervisor  
Telephone: 304-848-0076

Address: P.O. Box 280  
Bridgeport, WV 26330  
Facsimile: 304-848-0040  
Email: [vroark@eqt.com](mailto:vroark@eqt.com)



Subscribed and sworn before me this 11 day of January 2016  
Rebecca L. Wanstreet Notary Public  
My Commission Expires 4-7-20

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [deprivacyofficer@wv.gov](mailto:deprivacyofficer@wv.gov).

4709502342

Received  
Office of Oil & Gas  
JAN 14 2016

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

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 1-11-10 Date Permit Application Filed: 1-11-10

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

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Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

- Application Notice
- WSSP Notice
- E&S Plan Notice
- Well Plat Notice is hereby provided to:

SURFACE OWNER(s)  
Name: See Attached  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
Name: See Attached  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNERS(s) (Road and/or Other Disturbance)  
Name: See Attached  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: \_\_\_\_\_  
Address: Office of Oil & Gas

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

JAN 14 2016

SURFACE OWNER(s) (Impoundments/Pits)  
Name: See Attached  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

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Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

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**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court. (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57th St. SE  
Charleston, WV 25304  
(304) 926-0450

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Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.  
NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have THIRTY (30) DAYS after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Received  
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JAN 14 2016



Notice is hereby given by:

Well Operator: EQT Production Company Address: 115 Professional Place P.O. Box 280  
Telephone: 304-848-0082 Bridgeport, WV 26330  
Email: Vroark@eqt.com Facsimile: 304-848-0041

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Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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, 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.



By: Victoria Roark

Its: Permitting Supervisor

Subscribed and sworn before me 11 day of January 2016  
Rebecca G. Wanstreet Notary Public <sup>RW</sup>  
My Commission Expires 4-7-20



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Topo Quad: Shirley 7.5'

Scale: 1" = 1000'

County: Tyler

Date: October 30, 2014

District: McElroy

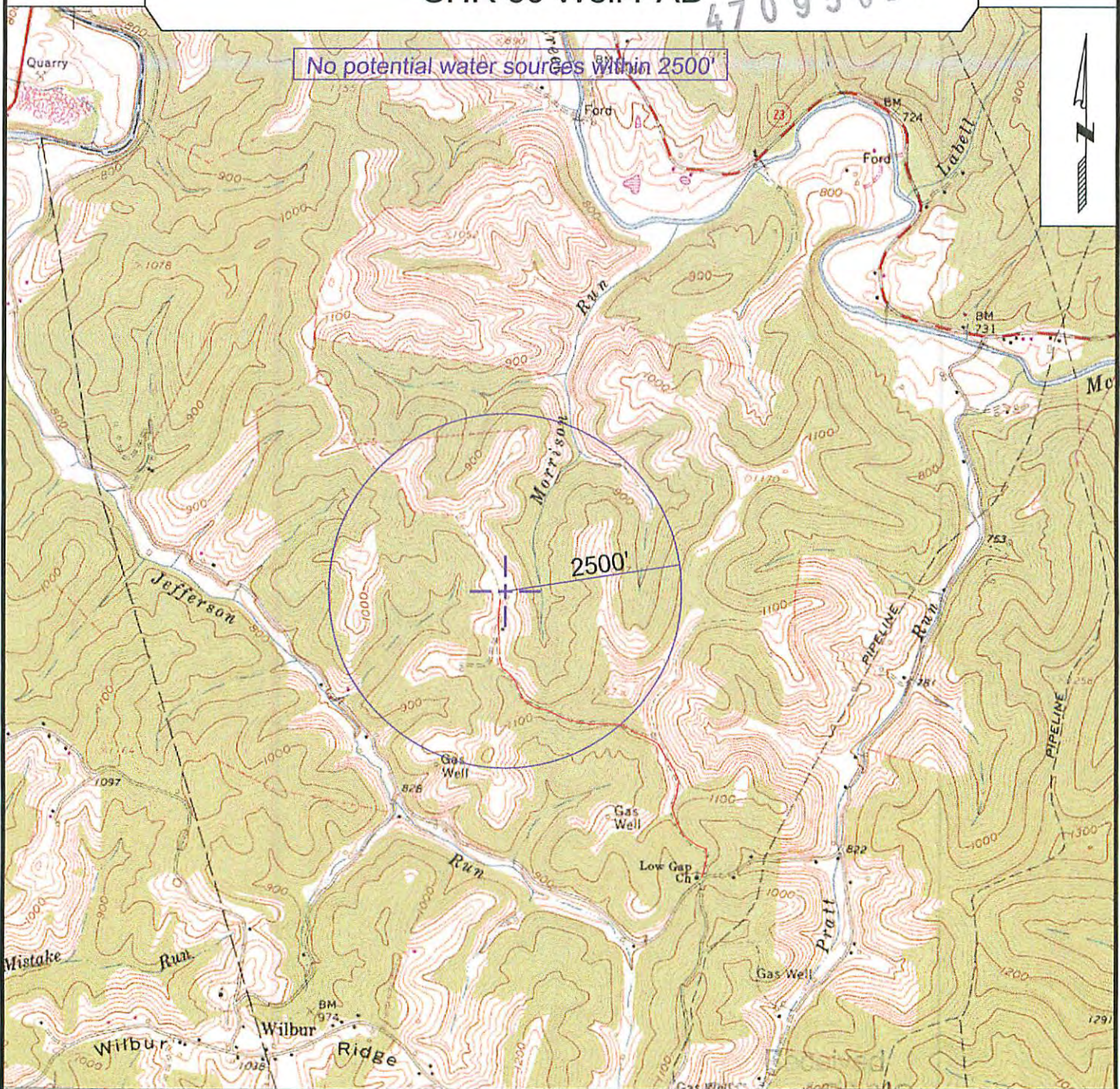
Project No: 208-12-C-13

Water

# SHR 60 Well PAD

470950234

No potential water sources within 2500'



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**  
 1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR: **EQT Production Company**  
 P.O. Box 280  
 Bridgeport, WV 26330

WW6-A

**Surface Owners**

Vivian Janice Wells ✓  
 946 Oil Ridge Road  
 Sistersville WV 26175

George Birklein  
 121 Oxford St  
 Sistersville WV 26175

Albina Pasko  
 18 Jensen St  
 East Brunswick NJ 08816

Clifford Haug  
 3894 Cellar Creek Rd  
 Blackstone VA 23824

Timothy M Haug ✓  
 3890 Cellar Creek Rd ✓  
 Blackstone VA 23824

Benjamin A Haug ✓  
 3894 Cellar Creek Rd ✓  
 Blackstone VA 23824

Jean Jackubowski  
 158 Baumgardner Road  
 Willow Street PA 17584

Theodore Jackubowski  
 1212 Kelso Blvd  
 Windermere FL 34786

Louis Jackubowski Jr  
 1922 Robindale Ave  
 Lancaster PA 17601

Mary Jean Ross  
 904 Truce Road  
 Holtwood PA 17532

Susan Buzzard  
 21 Cherokee Road  
 Willow Street PA 17584

Sharon Graeff  
 3217 Eisenbrown Rd  
 Reading PA 19605

Virginia Hornberger  
 3415 River Road  
 Reading PA 19605

Anthony Jackubowski Jr  
 535 Shawnee St  
 Wilkes-Barre PA 18702

Virginia Hornberger  
 3415 River Road  
 Reading PA 19605

Anthony Jackubowski Jr  
 535 Shawnee St  
 Wilkes-Barre PA 18702

Raymond A Jackubowski  
 123 North Pioneer Ave  
 Shavertown PA 18708

Beverly A Chisdock  
 213 Lehigh St  
 Avoca PA 18641

Cynthia Kryzwicki  
 213 Nicholson St  
 Wilkes-Barre PA 18702

Andrea Shotts  
 432-2 East Main St  
 Plymouth PA 18651

Lisa Wesolowski  
 254 Lampman St  
 Avoca PA 18641

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 Environmental Protection

04/01/2016

**Surface Owners: Access Road**

Vivian Janice Wells  
946 Oil Ridge Road ✓  
Sistersville WV 26175

George Birklein  
121 Oxford St  
Sistersville WV 26175

Albina Pasko  
18 Jensen St  
East Brunswick NJ 08816

Clifford Haug  
3894 Cellar Creek Rd  
Blackstone VA 23824

Timothy M Haug  
3890 Cellar Creek Rd  
Blackstone VA 23824

Benjamin A Haug ✓  
3894 Cellar Creek Rd  
Blackstone VA 23824

Jean Jackubowski  
158 Baumgardner Road  
Willow Street PA 17584

Theodore Jackubowski  
1212 Kelso Blvd  
Windermere FL 34786

Louis Jackubowski Jr  
1922 Robindale Ave  
Lancaster PA 17601

Mary Jean Ross  
904 Truce Road  
Holtwood PA 17532

Susan Buzzard  
21 Cherokee Road  
Willow Street PA 17584

Sharon Graeff  
3217 Eisenbrown Rd  
Reading PA 19605

Virginia Hornberger  
3415 River Road  
Reading PA 19605

Anthony Jackubowski Jr  
535 Shawnee St  
Wilkes-Barre PA 18702

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123 North Pioneer Ave  
Shavertown PA 18708

Beverly A Chisdock  
213 Lehigh St  
Avoca PA 18641

Cynthia Kryzwicki  
213 Nicholson St  
Wilkes-Barre PA 18702

Andrea Shotts  
432-2 East Main St  
Plymouth PA 18651

Lisa Wesolowski  
254 Lampman St  
Avoca PA 18641

John Paul Davis ✓  
544 Crystal Lake Road  
West Union WV 26456

Richard E Hansen  
1043 Low Gap Road  
Wilber WV 26459

Joyce K Hill  
88 Arvilla Rd  
Bens Run WV 26146

Terry J Cumberledge  
1384 Pratts Run Road  
Alma WV 26320

Allen Dale Fornash  
9217 Bachelor Rd NW  
Waynesburg OH 44688

Donald E Bible Sr  
2400 Millarton St SE  
Canton OH 44707

Susan L Spencer  
HC 74 Box 98  
Alma WV 26320

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Environmental Protection

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Surface Owners: Pits/Impoundments

Vivian Janice Wells  
946 Oil Ridge Road ✓  
Sistersville WV 26175

George Birklein  
121 Oxford St  
Sistersville WV 26175

Albina Pasko  
18 Jensen St  
East Brunswick NJ 08816

~~Clifford~~  
Clifford Haug  
3894 Cellar Creek Rd  
Blackstone VA 23824

Timothy M Haug  
3890 Cellar Creek Rd  
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Wilkes-Barre PA 18702

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432-2 East Main St  
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Lisa Wesolowski  
254 Lampman St  
Avoca PA 18641

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Environmental Protection

04/01/2016

WVLeA

## Coal Owner With Declaration

Vivian Janice Wells ✓  
 946 Oil Ridge Road  
 Sistersville WV 26175

George Birklein  
 121 Oxford St  
 Sistersville WV 26175

Albina Pasko  
 18 Jensen St  
 East Brunswick NJ 08816

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 3894 Cellar Creek Rd  
 Blackstone VA 23824

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 213 Nicholson St  
 Wilkes-Barre PA 18702

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04/01/2016

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF INTENT TO DRILL**

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

**Notice Time Requirement:** Notice shall be provided at least TEN (10) days prior to filing a permit application.

**Date of Notice:** 12/1/2015      **Date Permit Application Filed:** 12/10/2015

**Delivery method pursuant to West Virginia Code § 22-6A-16(b)**

**HAND DELIVERY**

**CERTIFIED MAIL RETURN RECEIPT REQUESTED**

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: Provided, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: Provided, however, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

**Notice is hereby provided to the SURFACE OWNER(s):**

**Name:** See Attached  
**Address:** \_\_\_\_\_  
\_\_\_\_\_

**Name:** See Attached  
**Address:** \_\_\_\_\_  
\_\_\_\_\_

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>WV</u>	UTM NAD 83	Easting	<u>516,269.36</u>
County:	<u>Tyler</u>		Northing	<u>4,360,580.01</u>
District:	<u>McElroy</u>		Public Road Access:	<u>60/2</u>
Quadrangle:	<u>Shirley</u>		Generally used farm name:	<u>Vivian J Wells et al</u>
Watershed:	<u>Morrison Run of McElroy Creek</u>			

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx)

**Notice is hereby given by:**

**Well Operator:** EQT Production Company  
**Address:** 115 Professional Place, P.O Box 280  
Bridgeport, WV 26330  
**Telephone:** 304-848-0076  
**Email:** vroark@eqt.com  
**Facsimile:** 304-848-0041

**Authorized Representative:** Victoria Roark  
**Address:** 115 Professional Place, P.O Box 280  
Bridgeport, WV 26330  
**Telephone:** 304-848-0076  
**Email:** vroark@eqt.com  
**Facsimile:** 304-848-0041

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

12/10/2015 02:31

04/01/2016

**Surface Owners**

Vivian Janice Wells ✓  
946 Oil Ridge Road  
Sistersville WV 26175

George Birklein  
121 Oxford St  
Sistersville WV 26175

Albina Pasko  
18 Jensen St  
East Brunswick NJ 08816

Clifford Haug  
3894 Cellar Creek Rd  
Blackstone VA 23824

Timothy M Haug  
3890 Cellar Creek Rd  
Blackstone VA 23824

Benjamin A Haug ✓  
3894 Cellar Creek Rd  
Blackstone VA 23824

Jean Jackubowski  
158 Baumgardner Road  
Willow Street PA 17584

Theodore Jackubowski  
1212 Kelso Blvd  
Windermere FL 34786

Louis Jackubowski Jr  
1922 Robindale Ave  
Lancaster PA 17601

Mary Jean Ross  
904 Truce Road  
Holtwood PA 17532

Susan Buzzard  
21 Cherokee Road  
Willow Street PA 17584

Sharon Graeff  
3217 Eisenbrown Rd  
Reading PA 19605

Virginia Hornberger  
3415 River Road  
Reading PA 19605

Anthony Jackubowski Jr  
535 Shawnee St  
Wilkes-Barre PA 18702

Virginia Hornberger  
3415 River Road  
Reading PA 19605

Anthony Jackubowski Jr  
535 Shawnee St  
Wilkes-Barre PA 18702

Raymond A Jackubowski  
123 North Pioneer Ave  
Shavertown PA 18708

Beverly A Chisdock  
213 Lehigh St  
Avoca PA 18641

Cynthia Kryzwicki  
213 Nicholson St  
Wilkes-Barre PA 18702

Andrea Shotts  
432-2 East Main St  
Plymouth PA 18651

Lisa Wesolowski  
254 Lampman St  
Avoca PA 18641



WWLA-4

4709502342

Surface Owners: Access Road

Vivian Janice Wells  
946 Oil Ridge Road ✓  
Sistersville WV 26175

Anthony Jackubowski Jr  
535 Shawnee St  
Wilkes-Barre PA 18702

George Birklein  
121 Oxford St  
Sistersville WV 26175

Raymond A Jackubowski  
123 North Pioneer Ave  
Shavertown PA 18708

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Lisa Wesolowski  
254 Lampman St  
Avoca PA 18641

Jean Jackubowski  
158 Baumgardner Road  
Willow Street PA 17584

John Paul Davis ✓  
544 Crystal Lake Road  
West Union WV 26456

Theodore Jackubowski  
1212 Kelso Blvd  
Windermere FL 34786

Richard E Hansen  
1043 Low Gap Road  
Wilber WV 26459

Louis Jackubowski Jr  
1922 Robindale Ave  
Lancaster PA 17601

Joyce K Hill  
88 Arvilla Rd  
Bens Run WV 26146

Mary Jean Ross  
904 Truce Road  
Holtwood PA 17532

Terry J Cumberledge  
1384 Pratts Run Road  
Alma WV 26320

4709502342

Susan Buzzard  
21 Cherokee Road  
Willow Street PA 17584

Allen Dale Fornash  
9217 Bachelor Rd NW  
Waynesburg OH 44688

Sharon Graeff  
3217 Eisenbrown Rd  
Reading PA 19605

Donald E Bible Sr  
2400 Millarton St SE  
Canton OH 44707

Virginia Hornberger  
3415 River Road  
Reading PA 19605

Susan L Spencer  
HC 74 Box 98  
Alma WV 26320

04/01/2016

ww6A-4

4709502342

Surface Owners: Pits/Impoundments

Vivian Janice Wells ✓  
946 Oil Ridge Road  
Sistersville WV 26175

George Birklein  
121 Oxford St  
Sistersville WV 26175

Albina Pasko  
18 Jensen St  
East Brunswick NJ 08816

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254 Lampman St  
Avoca PA 18641

4709502342

04/01/2016

WW-6A5  
(1/12)

Operator Well No. 514466

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

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 1-11-10 Date Permit Application Filed: 1-11-10

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

CERTIFIED MAIL  HAND  
RETURN RECEIPT REQUESTED DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: See Attached Name: See Attached  
Address: \_\_\_\_\_ Address: \_\_\_\_\_

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: WV UTM NAD 83 Easting: 516,269.360000  
County: Tyler Northing: 4,360,580.010000  
District: McElroy Public Road Access: 60/2  
Quadrangle: Shirley Generally used farm name: Vivian J Wells et al  
Watershed: Morrison Run of McElroy Creek

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: EQT Production Company Address: 115 Professional Place, P.O. Box 280  
Telephone: 304-848-0082 Bridgeport, WV 26330  
Email: vroark@eqt.com Facsimile: 304-848-0040

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

Received  
Office of Oil & Gas  
Jan 11 2010

04/01/2016

4709502342

WW6-A5

**Surface Owners**

Vivian Janice Wells ✓  
946 Oil Ridge Road  
Sistersville WV 26175

George Birklein  
121 Oxford St  
Sistersville WV 26175

Albina Pasko  
18 Jensen St  
East Brunswick NJ 08816

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Blackstone VA 23824

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Blackstone VA 23824

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432-2 East Main St  
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Lisa Wesolowski  
254 Lampman St  
Avoca PA 18641

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Office of Oil and Gas

JAN 15 2015

WV Department of  
Environmental Protection

04/01/2016

WW6A5

4709502342

**Surface Owners: Access Road**

Vivian Janice Wells  
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WV Department of  
Environmental Protection

04/01/2016

WV6A5

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254 Lampman St  
Avoca PA 18641

4709502342

RECEIVED  
Office of Oil and Gas

JAN 15 2015

WV Department of  
Environmental Protection

04/01/2016



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

Reissued January 5, 2016

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the SHR 60 Well Pad, Tyler County

- |                   |                   |                   |
|-------------------|-------------------|-------------------|
| 514460 SHR 60 H1  | 514461 SHR 60 H2  | 514462 SHR 60 H3  |
| 514463 SHR 60 H4  | 514464 SHR 60 H5  | 514465 SHR 60 H6  |
| 514466 SHR 60 H7  | 515434 SHR 60 H8  | 515435 SHR 60 H9  |
| 515436 SHR 60 H10 | 515437 SHR 60 H11 | 515438 SHR 60 H12 |
| 515968 SHR 60 H13 |                   |                   |

Dear Mr. Martin,

This well site will be accessed from DOH Permit #06-2014-0798 issued to EQT Production Company for access to the State Road for a well site located off of Tyler County Route 60/1 SLS.

The operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Received  
Office of Oil & Gas Very Truly Yours,

JAN 14 2016

Gary K. Clayton P.E.  
Regional Maintenance Engineer  
Central Office Oil & Gas Coordinator

4709502

Cc: Nick Bumgardner  
EQT Production Company  
CH, OM, D-6  
File

**Anticipated Frac Additives  
Chemical Names and CAS numbers**

<u>Material</u>	<u>Ingredient</u>	<u>CAS Number</u>
Water		
Sand	Hydrotreated light petroleum distillate	14808-60-7
Friction Reducer	Tributyl tetradecyl phosphonium chloride	64742-47-8
Biocide	Ammonium chloride	81741-28-8
Scale Inhibitor	Hydrochloric Acid	12125-02-9
15% Hydrochloric Acid	Propargyl Alcohol	7647-01-0
Corrosion Inhibitor	Methanol	107-19-7
Corrosion Inhibitor	Guar Gum	67-56-1
Gelling Agent	Sodium Persulfate	9000-30-0
Oxidizing Breaker	Potassium Carbonate	7775-27-1
Buffering Agent		584-08-7

4709502342

Received  
Office of Oil & Gas  
JAN 14 2016

04/01/2016

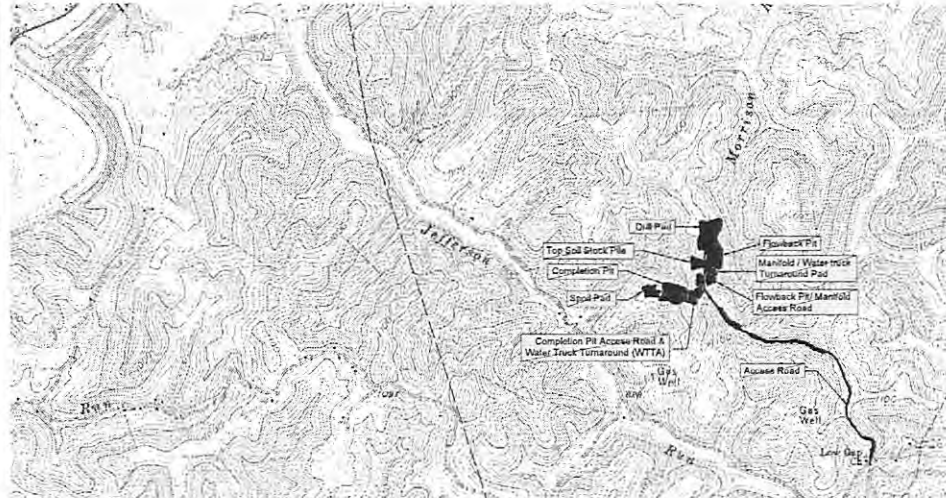




# SHR - 60 - ALT

## FINAL SITE DESIGN ALT, CONSTRUCTION PLANS, & EROSION & SEDIMENT CONTROL PLANS EQT PRODUCTION COMPANY

West Virginia Coordinate System of 1983  
State Plane GRS Num:  
Elevations NAVD83  
Established By Survey Grade GPS



AFFECTED PARAPETS	MILEAGE DISTRICT - TYLER COUNTY, WV
TM 18 - PCL 12 HANNA UNDERWOOD ESTATE 15 ACRES SITE DISTURBANCE	
DRILL PAD = 1.33 ACRES FLOWBACK PIT = 2.23 FLOWBACK ACCESS ROAD = 0.03 ACRES FLOWBACK PIT MANIFOLD / WTTA PAD = 2.14 ACRES MAIN ACCESS ROAD = 0.42 ACRES TOPSOIL PAD = 1.32 ACRES TRUCK STORAGE = 0.98 ACRES TOTAL DISTURBANCE = 10.82 ACRES TOTAL WOODED AREA DISTURBANCE = 10.19 ACRES	
TM 18 - PCL 13 VIVIAN WELLS #4 #1 10.79 ACRES SITE DISTURBANCE	
FLOWBACK PIT MANIFOLD / WTTA PAD = 0.43 ACRES FLOWBACK PIT = 0.03 ACRES FLOWBACK PIT ACCESS ROAD = 0.10 ACRES MAIN ACCESS ROAD = 0.73 ACRES COMPLETION PIT = 4.49 ACRES COMPLETION PIT TRUCK TURNAROUND (WTTA) = 1.23 COMPLETION PIT WTTA ACCESS = 0.33 ACRES SPILL PADS = 4.71 ACRES TOTAL DISTURBANCE = 14.07 ACRES TOTAL WOODED AREA DISTURBANCE = 12.77 ACRES	
TM 18 - PCL 14 TERRY CUMBERLEDGE #4 #1 54 #1 ACRES SITE DISTURBANCE	
MAIN ACCESS ROAD = 0.38 ACRES TOTAL DISTURBANCE = 0.38 ACRES TOTAL WOODED AREA DISTURBANCE = 0.23 ACRES	
TM 18 - PCL 15 LULIAN SPENCER 8 ACRES SITE DISTURBANCE	
MAIN ACCESS ROAD = 0.88 ACRES TOTAL DISTURBANCE = 0.88 ACRES TOTAL WOODED AREA DISTURBANCE = 0.53 ACRES	
TM 18 - PCL 16 DONALD E. BIRLE 25.3 ACRES SITE DISTURBANCE	
MAIN ACCESS ROAD = 1.04 ACRES TOTAL DISTURBANCE = 1.24 ACRES TOTAL WOODED AREA DISTURBANCE = 0.91 ACRES	
TM 18 - PCL 17 ALLEN FORDNASH 41 ACRES SITE DISTURBANCE	
MAIN ACCESS ROAD = 1.19 ACRES TOTAL DISTURBANCE = 1.19 ACRES TOTAL WOODED AREA DISTURBANCE = 1.04 ACRES	
TM 18 - PCL 18 TERRY CUMBERLEDGE #4 #1 48.87 ACRES SITE DISTURBANCE	
MAIN ACCESS ROAD = 1.21 ACRES TOTAL DISTURBANCE = 1.21 ACRES TOTAL WOODED AREA DISTURBANCE = 0.98 ACRES	
TM 18 - PCL 19 JOHN PAUL DAVIS 30 ACRES SITE DISTURBANCE	
MAIN ACCESS ROAD = 1.24 ACRES TOTAL DISTURBANCE = 1.24 ACRES TOTAL WOODED AREA DISTURBANCE = 0.79 ACRES	
TM 18 - PCL 20 RICHARD HANSON 19.88 ACRES SITE DISTURBANCE	
MAIN ACCESS ROAD = 1.12 ACRES TOTAL DISTURBANCE = 1.12 ACRES TOTAL WOODED AREA DISTURBANCE = 0.80 ACRES	

FLOODPLAIN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HED-RAS STUDY COMPLETED:	N/A
FLOODPLAIN SHOWN ON DRAWINGS:	N/A
FIRM MAP NUMBER(S) FOR SITE:	54295CD175C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A

NO WETLANDS ARE IMPACTED  
THE CURRENT SOIL pH IS 6.3

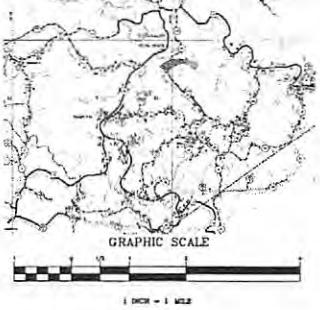


SHRBY QUAD  
MCELROY CREEK WATERSHED

SITE LOCATIONS	
MATCH	COORDINATE
Center of Pit	78 334557 -40 411026
Center of Flow Back Pit	78 332050 -40 410004
Center of Completion Pit	78 331721 -40 411020
Beginning of Access Road	78 343577 -40 400840

### SHEET INDEX

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SCHEDULE OF QUANTITIES	2
EXISTING CONDITIONS PLAN	3
CONSTRUCTION, GENERAL AND E&S NOTES	4
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RECLAMATION PLANS	25-29



Design Certification  
The drawings, construction notes, and reference diagrams attached hereto have been prepared in accordance with the West Virginia Code of State Rules, Division of Environmental Protection, Office of Oil and Gas §35-4-21. The information reflects a temporary flow pit pond. The computed above grade storage volume is less than 15 acre feet, filling method pumped, flow pond is lined.

MISS Utility of West Virginia  
1-800-245-4848  
West Virginia State Law  
(Section XIV: Chapter 24-C)  
Requires that you call two business days before you dig in the state of West Virginia.  
**IT'S THE LAW!!**



Allegheny Surveys Inc.  
P.O. Box 438  
237 Birch River Road  
Birch River, WV 26610  
304-649-6606



Honor Bros. Engineers  
3192  
Civil, Mining, Environmental and Consulting Engineering  
1000 West Virginia Ave. Suite 100  
Martinsburg, WV 26151



THIS DOCUMENT  
PREPARED FOR  
EQT PRODUCTION  
COMPANY

COVER SHEET AND LOCATION MAP  
SHR - 60  
DRILL PAD SITE - ALT  
MCELROY DISTRICT  
TYLER COUNTY, WV

DATE	REVISIONS	Date	Scale
10.11.2014	INITIAL DESIGN DEVELOPMENT	10.11.2014	Scale AS NOTED
10.16.2014	INITIAL DESIGN DEVELOPMENT		Drawn by: EDC & TBC
			File No: 14-0000000000
			Page 1 of 29

# EQT SHR-60 - ALT DESIGN PLAN (5)



Allegheny Surveys Inc.  
P. O. Box 438  
237 Birch River Road  
Birch River, WV 26610  
304-649-8606

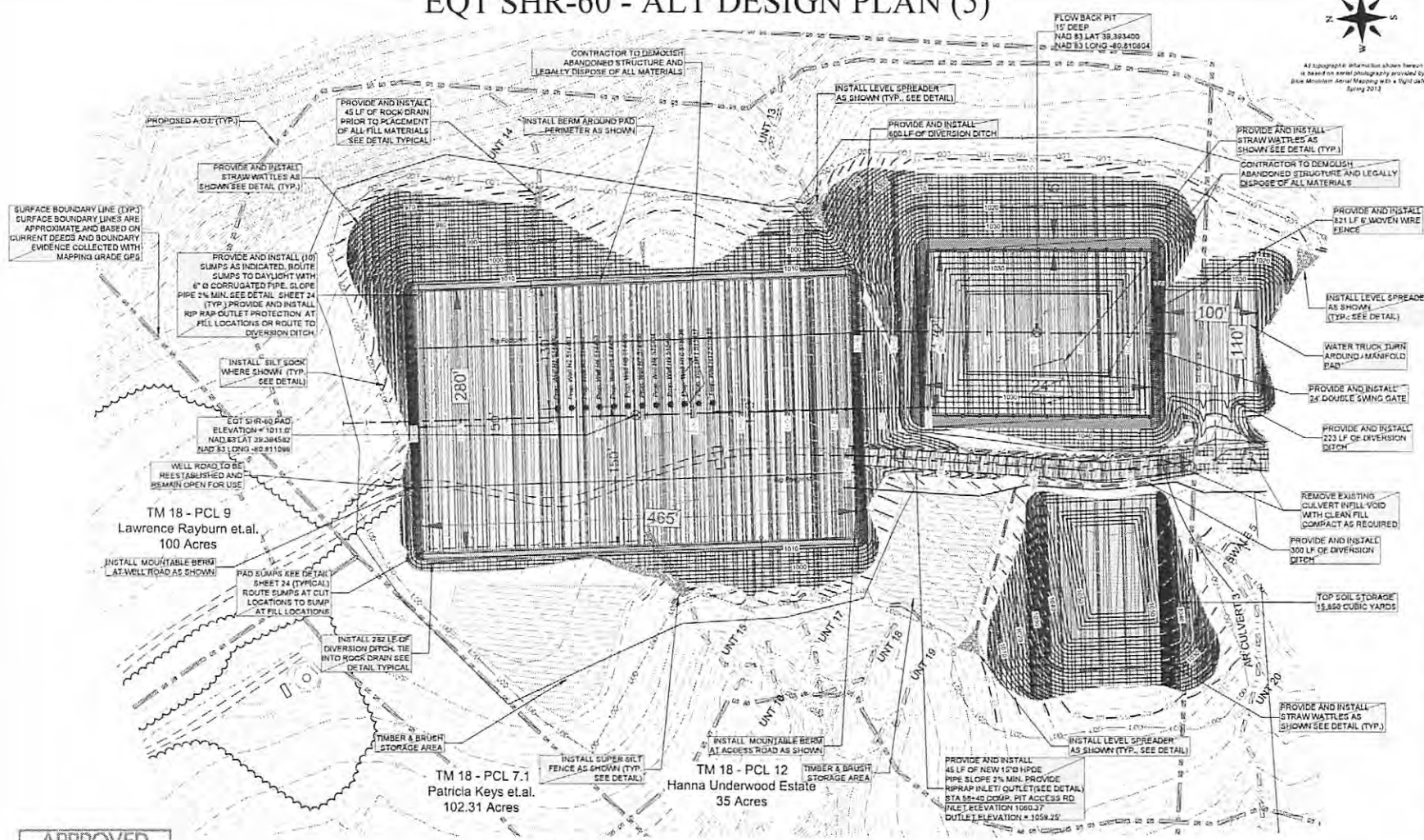


Horner Bros. Engineers  
Soils, Mining, Environmental and Consulting Engineering  
1000 1st St. SE, Box 100  
Martinsburg, WV 26155

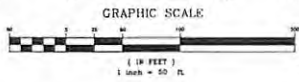


THIS DOCUMENT PREPARED BY EQT TRANSPORTATION COMPANY

FINAL SITE DESIGN PLAN - ALT  
SHR 60  
DRILL PAD SITE - ALT  
MAGEBOY DISTRICT  
TYLER COUNTY, WV



**APPROVED**  
**WVDEP OOG**  
3-24-15

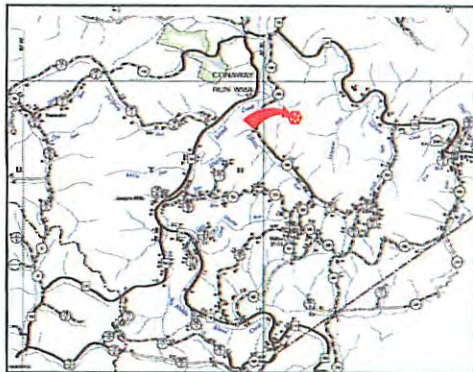


**NOTE:**  
CONSTRUCTION OF ALL FILL EMBANKMENTS (INCLUDING SPOIL PADS) REQUIRE THE KEY BENCHES AND SIDEHILL BENCHES. (SEE EMBANKMENT FILL BENCH DETAIL)

- Legend**
- Proposed Road Area
  - Proposed Drill Pad Area or ManRok Pad
  - Proposed Impoundment Area
  - Proposed Spoil Area
  - Existing 1' Contour
  - Existing 10' Contour
  - Existing Tree Line
  - Existing Gas Line CL
  - Proposed 2' Contour
  - Proposed 10' Contour

DATE	REVISIONS
3-31-2014	ISSUED FOR REVIEW - 100% DESIGN
10-13-2014	REVISED TO REFLECT AS SHOWN ON THE PLAN
1-23-2015	ISSUED FOR PERMIT WITH A FILL CONTRACT

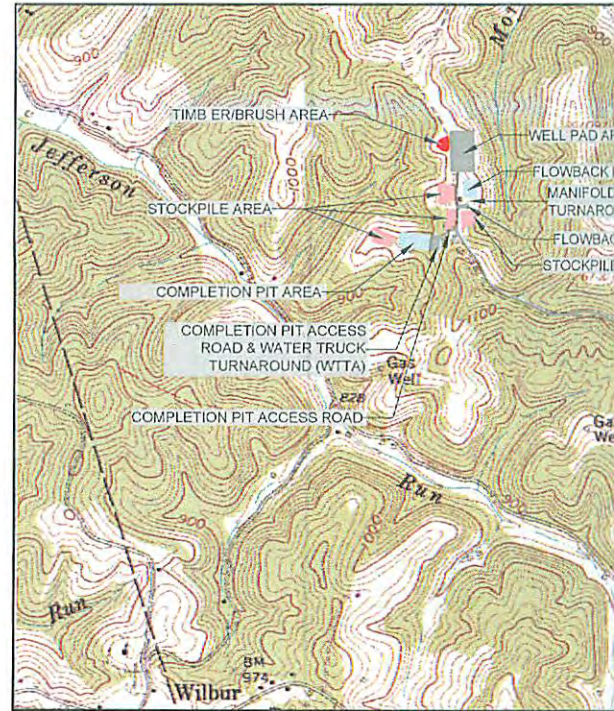
Date: 10-13-2014  
Scale: 1" = 50'  
Designed by: TBC  
File No.: EQT-15-001  
Page: 5 of 29



GRAPHIC SCALE



1 INCH = 1 MILE



DESCRIPTION	ASBUILT EARTHWORK GRADING VOLUMES			DESIGN VOLUMES		
	CUT (CY)	FILL (CY)	NET (CY)	CUT (CY)	FILL (CY)	NET (CY)
MAIN ACCESS ROAD	10,043	14,136	-4,093	4,419	22,070	-17,651
WELL PAD	36,752	13,260	23,492	30,808	17,295	13,513
COMPLETION PIT	35,923	22,746	13,177	31,080	22,696	8,384
FLOWBACK PIT	23,829	13,168	10,661	22,254	12,750	9,504
COMPLETION PIT ACCESS / WTTA	21,675	24	21,651	20,898	446	20,452
FLOWBACK PIT ACCESS / MANIFOLD	3,891	1,070	2,821	3,262	913	2,349
COMP / WTTA STOCKPILE	0	16,860	-16,860	0	10,459	-10,459
FLOWBACK STOCKPILE	0	3,422	-3,422	0	10,952	-10,952
SPOIL PADS #1 & #2	0	8,861	-8,861	0	15,140	-15,140
TOPSOIL STORAGE	0	22,108	-22,108	15,711	0	15,711
<b>TOTAL</b>	<b>132,113</b>	<b>115,655</b>	<b>16,458</b>	<b>128,432</b>	<b>112,721</b>	<b>15,711</b>

THESE VOLUMES ARE BASED ON THE AERIAL TOPOGRAPHY PROVIDED BY BLUE MOUNTAIN AERIAL MAPPING AND THE FIELD COLLECTED AS-BUILT SURFACE PROVIDED BY ALLEGHENY SURVEYS, INC.

ELEV	FLOW BACK PIT VOLUMES			
	CF	CY	BBLs	GALL
1022	0	0	0	0
1023	14,221	488	2,533	106
1024	30,692	1,137	5,466	229
1025	48,380	1,792	8,616	361
1026	67,661	2,506	12,050	506
1027	89,293	3,307	15,903	667
1028	112,105	4,152	19,965	838
1029	136,791	5,066	24,362	1,023
1030	164,279	6,084	29,257	1,228
1031	193,015	7,149	34,375	1,443
1032	223,838	8,290	39,864	1,674
1033	257,825	9,549	45,917	1,928
1034	293,019	10,853	52,185	2,191
1035	330,589	12,244	58,876	2,472
1036	370,746	13,731	66,028	2,773

INCISED VOLUME  
CAPACITY  
TOP OF BERM

MISS Utility of West Virginia  
1-800-245-4848  
West Virginia State Law  
(Section XIV: Chapter 24-C)  
Requires that you call two business days before you dig in the state of West Virginia.  
**IT'S THE LAW!!**



Know what's below.  
Call before you dig.

**FLOODPLAIN CONDITIONS**

DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HEC-RAS STUDY COMPLETED:	N/A
FLOODPLAIN SHOWN ON DRAWINGS:	N/A
FIRM MAP NUMBER(S) FOR SITE:	54095C0175C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A

04/01/2016

# HR-60 T PLANS ON COMPANY



WELL LEGEND	API NUMBER
SHR 60 H1 - 514460	47-095-02257
SHR 60 H2 - 514461	47-095-02264
SHR 60 H3 - 514462	47-095-02255
SHR 60 H4 - 514463	47-095-02220
SHR 60 H5 - 514464	47-095-02256
SHR 60 H6 - 514465	
SHR 60 H7 - 514466	
SHR 60 H8 - 515434	
SHR 60 H9 - 515435	
SHR 60 H10 - 515436	
SHR 60 H11 - 515437	
SHR 60 H12 - 515438	

AFFECTED PROPERTIES  
McELROY DISTRICT - TYLER COUNTY, WV

TM - PCL 12  
HANNA UNDERWOOD ESTATE  
35 ACRES  
SITE DISTURBANCE

DRILL PAD = 5.35 ACRES  
FLOWBACK PIT = 2.35  
FLOWBACK ACCESS ROAD = 0.03 ACRES  
FLOWBACK PIT MANIFOLD / WTTA PAD = 0.14 ACRES  
MAIN ACCESS ROAD = 0.42 ACRES  
TOPSOIL PAD = 1.32 ACRES  
TIMBER STORAGE = 0.98 ACRES  
TOTAL DISTURBANCE = 10.63 ACRES  
TOTAL WOODED AREA DISTURBANCE = 10.19 ACRES

TM 18 - PCL 13  
VIVIAN WELLS et al  
104.73 ACRES  
SITE DISTURBANCE

FLOWBACK PIT MANIFOLD / WTTA PAD = 0.43 ACRES  
FLOWBACK PIT = 0.63 ACRES  
FLOWBACK PIT ACCESS ROAD = 0.10 ACRES  
MAIN ACCESS ROAD = 2.73 ACRES  
COMPLETION PIT = 4.49 ACRES  
COMPLETION PIT TRUCK TURNAROUND (WTTA) = 1.25 ACRES  
COMPLETION PIT WTTA ACCESS = 0.33 ACRES  
SPOIL PADS = 4.71 ACRES  
TOTAL DISTURBANCE = 14.67 ACRES  
TOTAL WOODED AREA DISTURBANCE = 12.71 ACRES

TM 18 - PCL 14  
TERRY CUMBERLEDGE et al  
54.81 ACRES  
SITE DISTURBANCE

MAIN ACCESS ROAD = 0.35 ACRES  
TOTAL DISTURBANCE = 0.35 ACRES  
TOTAL WOODED AREA DISTURBANCE = 0.23 ACRES

TM 18 - PCL 15  
SUSAN SPENCER  
8 ACRES  
SITE DISTURBANCE

MAIN ACCESS ROAD = 0.85 ACRES  
TOTAL DISTURBANCE = 0.85 ACRES  
TOTAL WOODED AREA DISTURBANCE = 0.51 ACRES

TM 18 - PCL 16  
DONALD E. BIBLE  
35.6 ACRES  
SITE DISTURBANCE

MAIN ACCESS ROAD = 1.24 ACRES  
TOTAL DISTURBANCE = 1.24 ACRES  
TOTAL WOODED AREA DISTURBANCE = 0.91 ACRES

TM 18 - PCL 17  
ALLEN FORNASH  
43 ACRES  
SITE DISTURBANCE

MAIN ACCESS ROAD = 1.19 ACRES  
TOTAL DISTURBANCE = 1.19 ACRES  
TOTAL WOODED AREA DISTURBANCE = 1.04 ACRES

TM 18 - PCL 18  
TERRY CUMBERLEDGE et al  
49.87 ACRES  
SITE DISTURBANCE

MAIN ACCESS ROAD = 1.23 ACRES  
TOTAL DISTURBANCE = 1.23 ACRES  
TOTAL WOODED AREA DISTURBANCE = 0.88 ACRES

TM 18 - PCL 19  
JOHN PAUL DAVIS  
35 ACRES  
SITE DISTURBANCE

MAIN ACCESS ROAD = 1.24 ACRES  
TOTAL DISTURBANCE = 1.24 ACRES  
TOTAL WOODED AREA DISTURBANCE = 0.73 ACRES

TM 18 - PCL 20.2  
RICHARD HANSON  
19.86 ACRES  
SITE DISTURBANCE

MAIN ACCESS ROAD = 1.13 ACRES  
TOTAL DISTURBANCE = 1.13 ACRES  
TOTAL WOODED AREA DISTURBANCE = 0.80 ACRES

ELEV	COMPLETION PIT ASBUILT VOLUMES					Unincised	
	CF	CY	BBLs	GALLONS	AC-FT	AC-FT	
1008	0	0	0	0	0.000	0	
1009	13,253	491	2360	99139	0.304	0	
1010	38,445	1424	6847	287588	0.883	0	
1011	70,889	2626	12625	530285	1.627	0	
1012	105,941	3924	18867	792491	2.432	0	
1013	144,744	5361	25778	1082757	3.323	0.000	
1014	184,967	6851	32942	1383645	4.246	0.923	
1015	227,788	8437	40568	1703967	5.229	1.906	
1016	274,704	10174	48923	2054922	6.306	2.983	
1017	323,074	11966	57538	2416753	7.417	4.094	
1018	374,356	13865	66671	2800368	8.594	5.271	
1019	430,310	15937	76636	3218932	9.879	6.556	
1020	487,715	18064	86859	3648349	11.196	7.874	
1021	548,197	20304	97631	4100785	12.585	9.262	
1022	613,756	22732	109307	4591198	14.090	10.767	
1023	680,900	25219	121264	5093469	15.631	12.308	

### Project Contacts

Chris Metzgar - EQT Production Company  
304-848-0075 Office

### Surveyor & Engineer

Ben Singleton - PS - Allegheny Surveys Inc.  
304-649-8606 Off.

Tom Corathers - PE, PS - Horner Brothers Engineers  
304-624-6445 Office

SITE LOCATIONS NAD 83		
	LATITUDE	LONGITUDE
Center of Pad	39.394582	-80.811061
Center of Flow Back Pit	39.393399	-80.810802
Center of Completion Pit	39.391721	-80.813085
Beginning of Access Road	39.383561	-80.800865

DATE	REVISIONS	Date:
01.08.2016	Add API Nos. to H1,H2,H3,H4,H5	7.21.2015
		Scale: As Shown
		Designed By: TBC
		File No. 20141115 SITE AS-BUILT WTTA 802241-844
		Page 1 of 7



Allegheny Surveys Inc.  
P.O. Box 438  
237 Birch River Road  
Birch River, WV 26610  
304-649-8606



Horner Bros. Engineers  
Since 1902  
Civil, Mining, Environmental and  
Consulting Engineering  
1405 Cow Street, Morgantown, WV 26505  
Phone: 304-834-8445



THIS DOCUMENT  
PREPARED FOR  
EQT PRODUCTION  
COMPANY

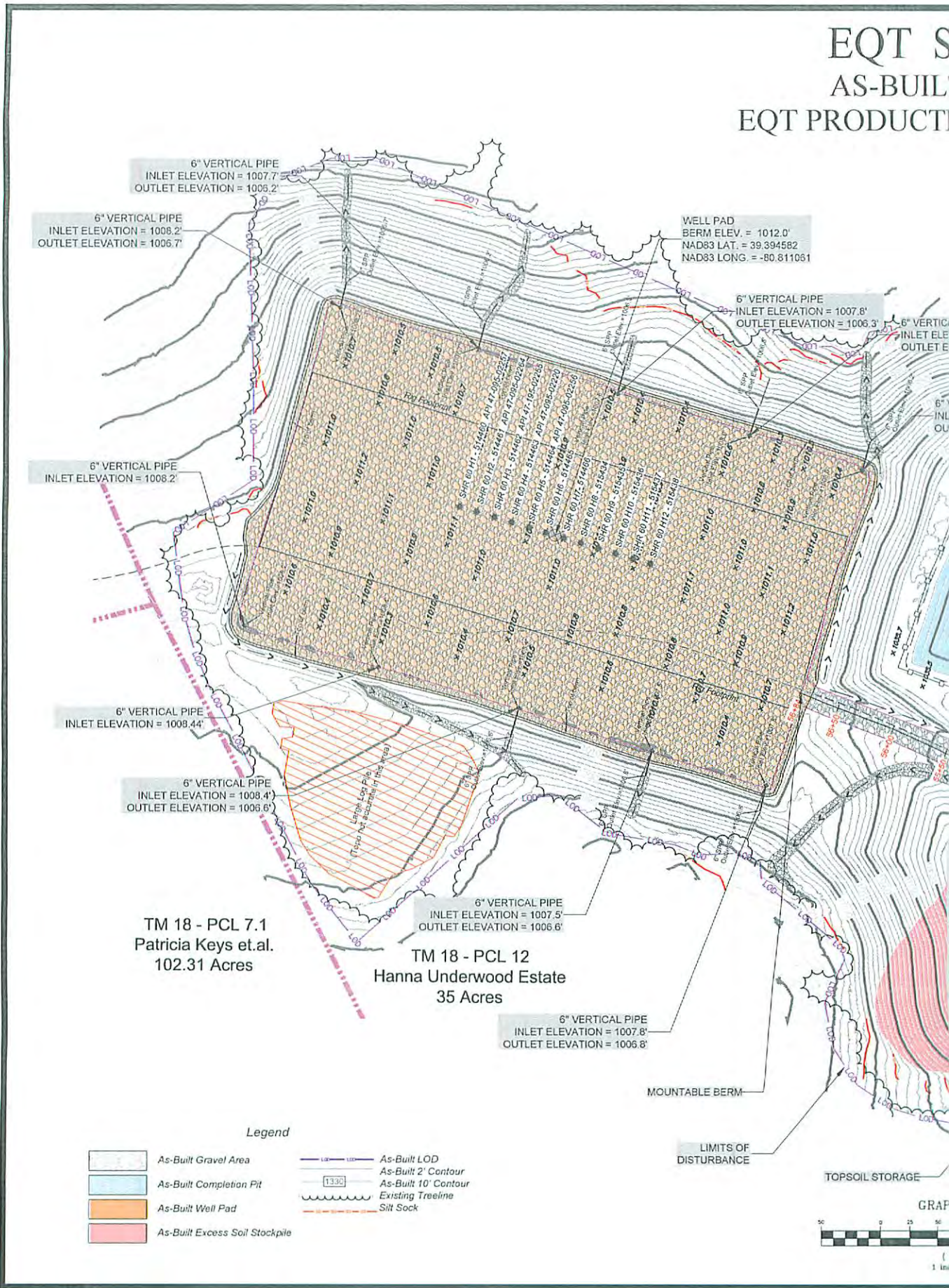
COVER SHEET/SITE LOCATION MAP  
SHR 60  
WELL PAD SITE  
McELROY DISTRICT  
TYLER COUNTY, WV

## SHEET INDEX

COVER SHEET / LOCATION MAP	1
AS-BUILT SITE PLAN	2-6
AS-BUILT ROAD PROFILE	7

04/01/2016

# EQT S AS-BUILT EQT PRODUCT



6" VERTICAL PIPE  
INLET ELEVATION = 1007.7'  
OUTLET ELEVATION = 1005.2'

6" VERTICAL PIPE  
INLET ELEVATION = 1005.2'  
OUTLET ELEVATION = 1006.7'

WELL PAD  
BERM ELEV. = 1012.0'  
NAD83 LAT. = 39.394582  
NAD83 LONG. = -80.811061

6" VERTICAL PIPE  
INLET ELEVATION = 1007.6'  
OUTLET ELEVATION = 1005.3'

6" VERTICAL PIPE  
INLET ELEVATION = 1008.2'

6" VERTICAL PIPE  
INLET ELEVATION = 1008.44'

6" VERTICAL PIPE  
INLET ELEVATION = 1008.4'  
OUTLET ELEVATION = 1006.6'

TM 18 - PCL 7.1  
Patricia Keys et.al.  
102.31 Acres

6" VERTICAL PIPE  
INLET ELEVATION = 1007.5'  
OUTLET ELEVATION = 1006.6'

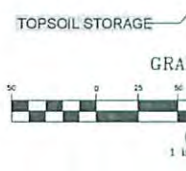
TM 18 - PCL 12  
Hanna Underwood Estate  
35 Acres

6" VERTICAL PIPE  
INLET ELEVATION = 1007.8'  
OUTLET ELEVATION = 1005.8'

### Legend

- As-Built Gravel Area
- As-Built Completion Pit
- As-Built Well Pad
- As-Built Excess Soil Stockpile
- As-Built LOD
- As-Built 2' Contour
- As-Built 10' Contour
- Existing Treeline
- Silt Sock

MOUNTABLE BERM  
LIMITS OF DISTURBANCE



04/01/2016

SHR-60  
 PLANS  
 ON COMPANY



All topographic information shown hereon is based on scanned data as provided by Allegheny Surveys, Inc. dated June & July 2015



Allegheny Surveys Inc.  
 P.O. Box 438  
 237 Birch River Road  
 Birch River, WV 26610  
 304-649-8606

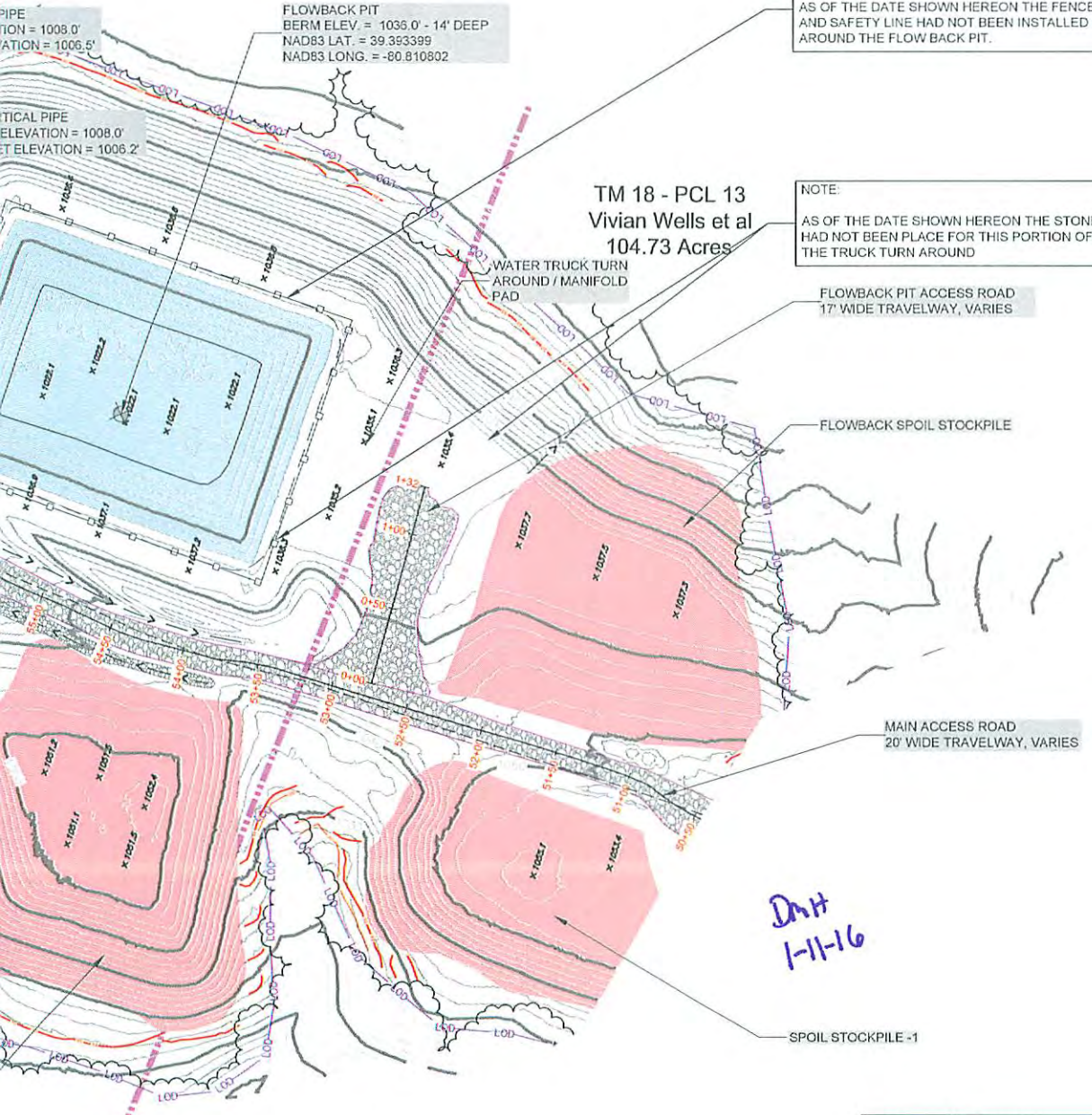


Hornor  
 Since 1902  
 Bros. Engineers  
 Civil, Mining, Environmental and Consulting Engineering  
 145 South Valley Street, Park Office, Suite 50  
 Charleston, West Virginia, 25301 (304) 624-8445



THIS DOCUMENT  
 PREPARED FOR  
 EQT PRODUCTION  
 COMPANY

AS-BUILT SITE PLAN  
 SHR 60  
 DRILL PAD SITE  
 McELROY DISTRICT  
 TYLER COUNTY, WV



NOTE:  
 AS OF THE DATE SHOWN HEREON THE FENCE AND SAFETY LINE HAD NOT BEEN INSTALLED AROUND THE FLOW BACK PIT.

NOTE:  
 AS OF THE DATE SHOWN HEREON THE STONE HAD NOT BEEN PLACE FOR THIS PORTION OF THE TRUCK TURN AROUND

FLOWBACK PIT ACCESS ROAD  
 17' WIDE TRAVELWAY, VARIES

FLOWBACK SPOIL STOCKPILE

MAIN ACCESS ROAD  
 20' WIDE TRAVELWAY, VARIES

SPOIL STOCKPILE -1

TM 18 - PCL 13  
 Vivian Wells et al  
 104.73 Acres

WATER TRUCK TURN  
 AROUND / MANIFOLD  
 PAD

FLOWBACK PIT  
 BERM ELEV. = 1033.0' - 14' DEEP  
 NAD83 LAT. = 39.393399  
 NAD83 LONG. = -80.810802

PIPE  
 ELEVATION = 1008.0'  
 DRAINAGE ELEVATION = 1006.5'

VERTICAL PIPE  
 ELEVATION = 1008.0'  
 SET ELEVATION = 1006.2'

DWH  
 1-11-16



As-Built Certification  
 These drawings have been prepared from actual field surveys and reflect the locations and as-built conditions known to exist following construction of this site, to the best of my knowledge.

DATE	REVISIONS	Date:
01.08.2016	Add API Nos. to H1,H2,H3,H4,H5	7.21.2015
01.08.2016	Label Proposed Completion Pit Fence	Scale: 1"=50'
01.08.2016	Add Truck Turn Around Stone Note	Designed By: TBC
		File No. SHR 60 FULL SITE AS-BUILT SITE PLAN
		Page 6 of 7

04/01/2016