west virginia department of environmental protection

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

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

March 31, 2016

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-9502341, 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: 514465
Farm Name: WELLS, VIVIAN J
API Well Number: 47-9502341
Permit Type: Horizontal 6A Well
Date Issued: 03/31/2016

Promoting a healthy environment.

API Number: _____

PERMIT CONDITIONS 4709502341

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (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.

WW - 6B
(4/15)

API NO. 47 - 095 - 0
OPERATOR WELL NO. 514465
Well Pad Name: SHR60

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

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

2) Operator's Well Number: 514465 Well Pad Name: SHR60 4709502744

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 •

DMH
1-11-16

6) Existing Pad? Yes or No: yes

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

Target formation is Marcellus at a depth of 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: 17171

11) Proposed Horizontal Leg Length: 9425

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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WW - 6B
(4/15)

API NO. 47 - 095 - 0
OPERATOR WELL NO. 514465
Well Pad Name: SHR60

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	903 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	17,171	17,171	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							

DMH 1-11-16

4709503447

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							

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)

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WW - 6B
(10/14)

API NO. 47 - 095 - 0
OPERATOR WELL NO. 514465
Well Pad Name: SHR60

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 3614'.

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.

4709502341

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

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.

DMH 1-11-16

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 % Calcuim Carbonate. Acid solubility.

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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*Note: Attach additional sheets as needed.

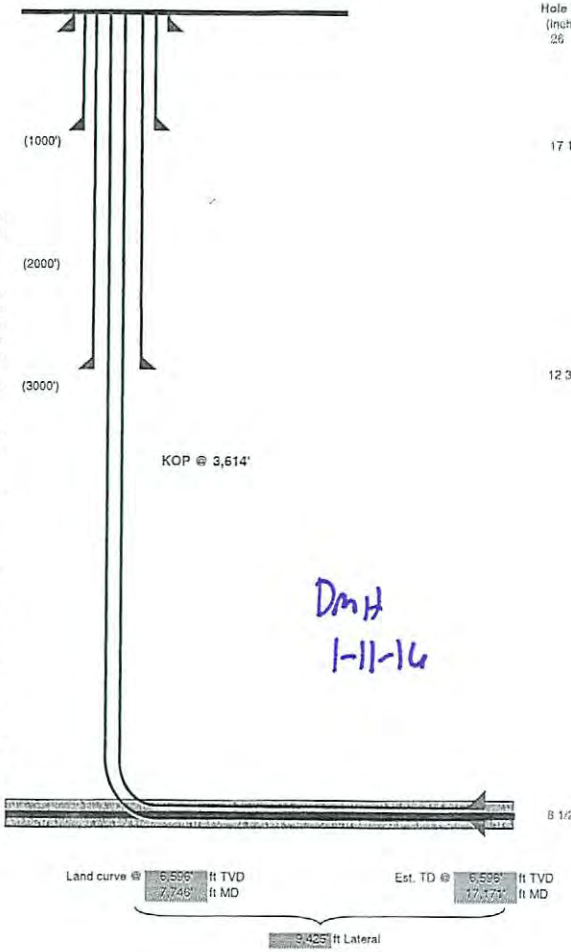
Well 514465 (SHR60H6) Pad Name

EQT Production

Shirley
Tyler West Virgina

Azimuth 157
Vertical Section 11699

TVD Depth (feet)	Formation Tops (TVD)	
0'		
250'		
500'		
750'		
1,000'	Base Fresh Water	909
1,250'		
1,500'		
1,750'	Maxton	1534 - 1587
	Big Lime	1829 - 2111
2,000'	Base Red Rock	1976
2,250'	Weir	2251 - 2317
	Gantz	2368 - 2415
2,500'	Fifty foot	2461 - 1496
	Thirty foot	2595 - 2626
2,750'	Gordon	2686 - 2700
	Int. csg pt	2777
3,000'	Bayard	3007 - 3067
3,250'		
	Warren	3339 - 3413
3,500'	Speechley	3433 - 3651
3,750'		
	Balltown A	3856 - 3925
4,000'		
4,250'		
4,500'	Riley	4548 - 4583
4,750'		
	Benson	4985 - 5002
5,000'		
5,250'	Alexander	5222 - 5294
5,500'		
	Sonyea	6212 - 6381
5,750'	Middlesex	6381 - 6425
	Genesee	6425 - 6501
6,000'	Geneseo	6501 - 6530
	Tully	6530 - 6554
6,250'	Hamilton	6554 - 6571
	Marcellus top	6571
6,500'	**Target Inside Marcellus**	**6596**
	Marcellus Bottom	6623
6,750'		
7,000'		
7,250'		
7,500'		
7,750'		



Land curve @ 6,596' ft TVD
7,746' ft MD

Est. TD @ 6,596' ft TVD
17,171' ft MD

3,425 ft Lateral

Hole Size (inches)	Type	Size (inches)	Wt (ppf)	Grade	Casing Wall Thickness	Depth (feet)	Top of Cement	Method
26	Conductor	20	78.6	A-500	0.312	60	Surface	Displacement
17 1/2	Surface	13 3/8	54.5	J-55	0.38	992	Surface	Displacement
12 3/8	Intermediate	9 5/8	40	A-500	0.395	2777	Surface	Displacement
8 1/2	Production Casing	5 1/2	20	P-110	0.361	17171	500' above top Producing Zone	Displacement

4709502341

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1-11-16

Proposed Well Work:
Drill and complete a new horizontal well in the Marcellus formation.
Drill the vertical to an approximate depth of 3614'.
Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

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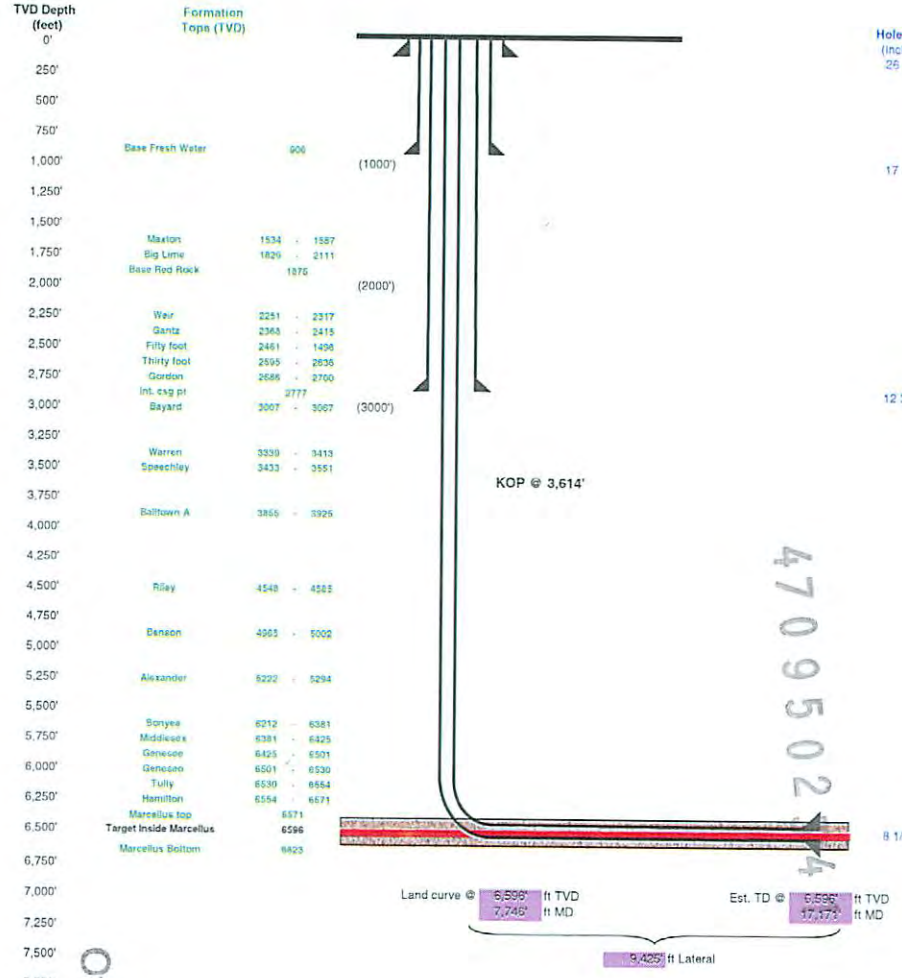
Well 514465 (SHR60H6)
EQT Production
Shirley
Tyler West Virgina

Pad Name

Azimuth 157
Vertical Section 11599



Hole Size (inches)	Type	Size (inches)	Wt (ppf)	Grade	Casing Wall Thickness	Depth (feet)	Top of Cement	Method
25	Conductor	20	78.6	A-500	0.312	60	Surface	Displacement
17 1/2	Surface	13 3/8	54.5	J-55	0.38	992	Surface	Displacement
12 3/8	Intermediate	9 5/8	40	A-500	0.395	2777	Surface	Displacement
8 1/2	Production Casing	5 1/2	20	P-110	0.361	17171	500' above top Producing Zone	Displacement

Proposed Well Work:
Drill and complete a new horizontal well in the Marcellus formation.
Drill the vertical to an approximate depth of 3614'.
Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

4709502

Received
Office of Oil & Gas
JUL 14 2016

west virginia department of environmental protection

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

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

March 18, 2014

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

Re: Cement Variance Request

4709502341

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 by GCS

James Peterson
Environmental Resources Specialist / Permitting

Received
Office of Oil & Gas
JAN 14 2016

west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
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.

4709502341

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Office of Oil & Gas
JAN 14 2016

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

4709502341

Received
Office of Oil & Gas
JAN 14 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,

Vicki Roark
Permitting Supervisor - WV

Enc.

4709502341

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Office of Oil & Gas
JAN 14 2016

WW-9
(2/15)

API No. 47 - 095 - 0
Operator's Well No. 514465

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 x No ___

Will a pit be used ? Yes: X No: ___

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

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

4709502341

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)
___ 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.

– 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, viscosifer, alkalinity control, lime, filtration control, deflocculates, biodegradable oil lubricant , defoaming, walnut shell, salt, x-cide, carbonates. Oil based mud – synthetic base oil, emulsifier, salt, lime, viscosifer, alkalinity control, filtration control, deflocculates, 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
Company Official (Typed Name) Victoria J. Roark
Company Official Title Permitting Supervisor

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WV Department of Environmental Protection

Subscribed and sworn before me this 12 day of January , 20 16

Rebecca L Wanstreet Notary Public

My commission expires 4-7-20

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
REBECCA L. WANSTREET
EQT PRODUCTION COMPANY
PO BOX 280
BRIDGEPORT, WV 26330
My commission expires April 07, 2020

Draft
1-11-16

Form WW-9

Operator's Well No. 514465

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 1/3 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

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

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [signature]

Comments:

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

Field Reviewed? (✓) Yes ( ) No

4709502341

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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

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

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

Waste Management - Meadowfill Landfill
Rt. 2, Box 68 Dawson Drive
Bridgeport, WV 26330
304-326-6027
Permit #SWF-1032-98
Approval #100785WV

Waste Management - Northwestern Landfill
512 E. Dry Road
Parkersburg, WV 26104
304-428-0602
Permit #SWF-1025 WV-0109400
Approval #100833WV

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

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

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

4709502744

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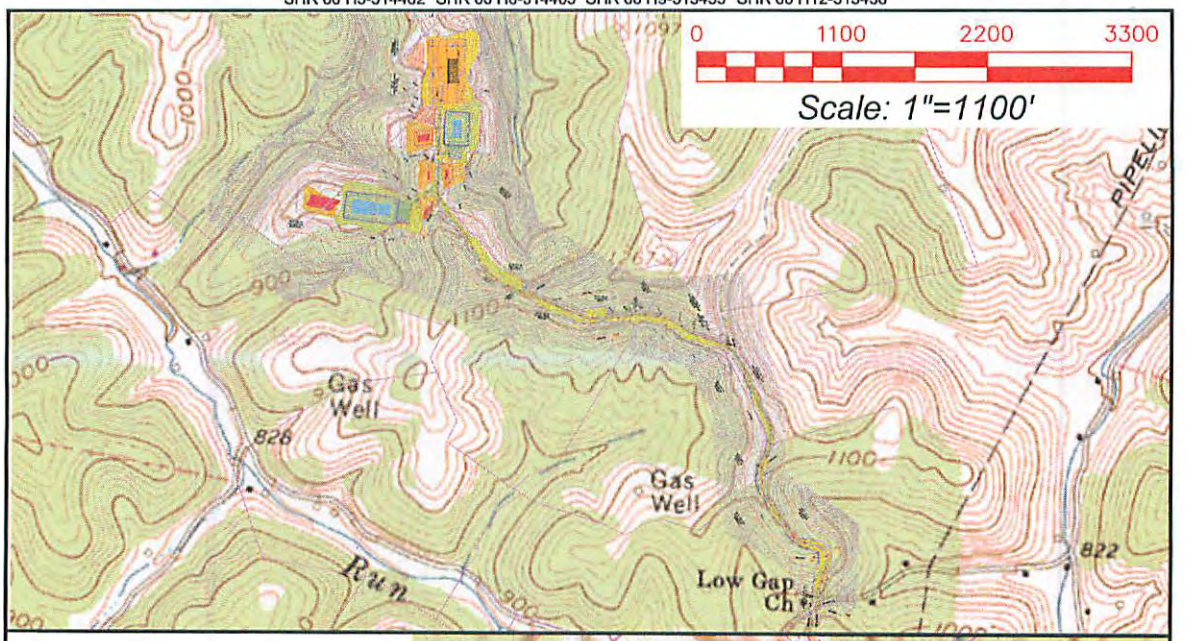
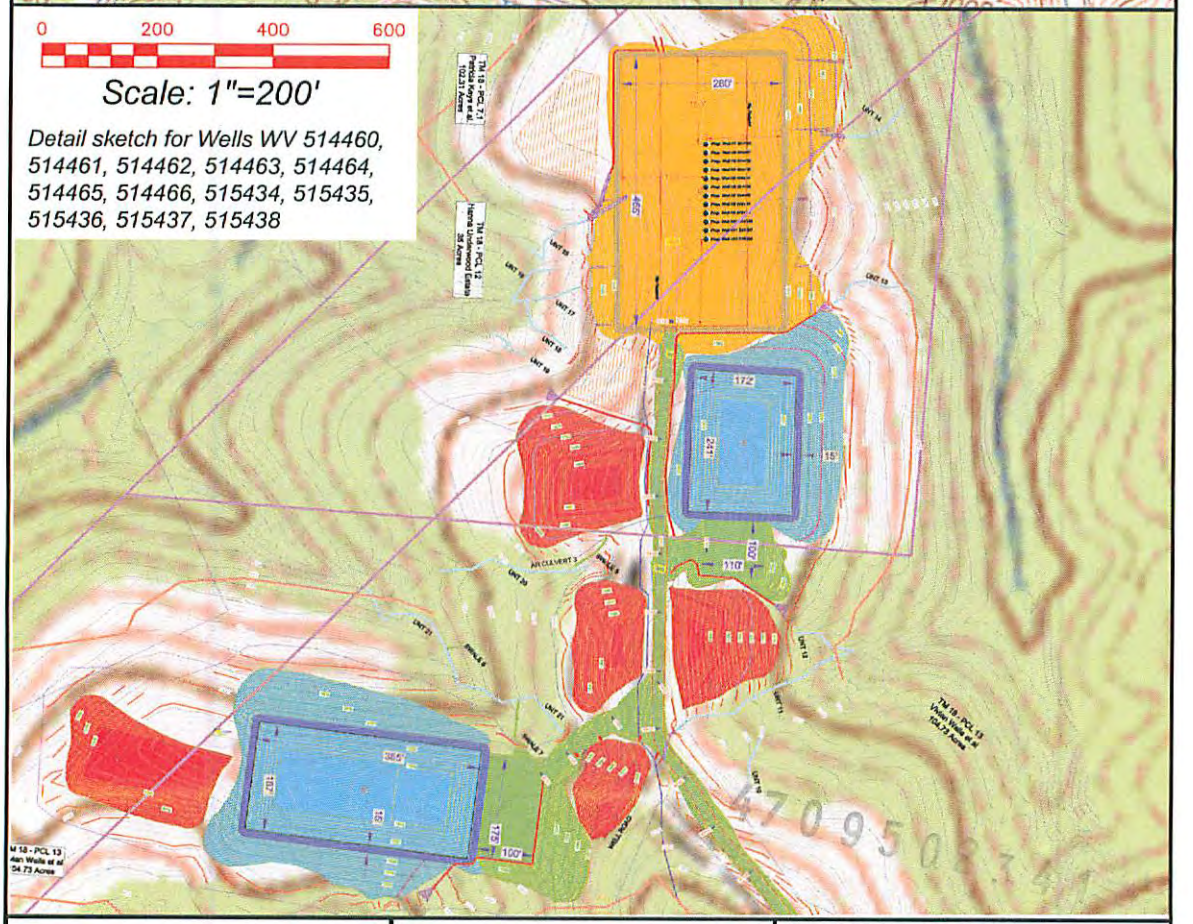
Office of Oil & Gas
JAN 14 2016

WW-9

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





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:	DATE:	FILE NO.	DRAWING FILE NO.
Dale Tomlin PS	October 24, 2014	208-13	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:

ALLEGHENY SURVEYS, INC.

1-800-482-8606

Birch River Office
Phone: (304) 649-8606
Fax: (304) 649-8608

237 Birch River Road
P.O. Box 438
Birch River, WV 26610

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Office of Oil & Gas
JAN 14 2016

WW-9

SHR 60 H1-514460 SHR 60 H4-514463 SHR 60 H7-514466 SHR 60 H10-515436
SHR 60 H2-514461 SHR 60 H5-514464 SHR 60 H8-515434 SHR 60 H11-515437
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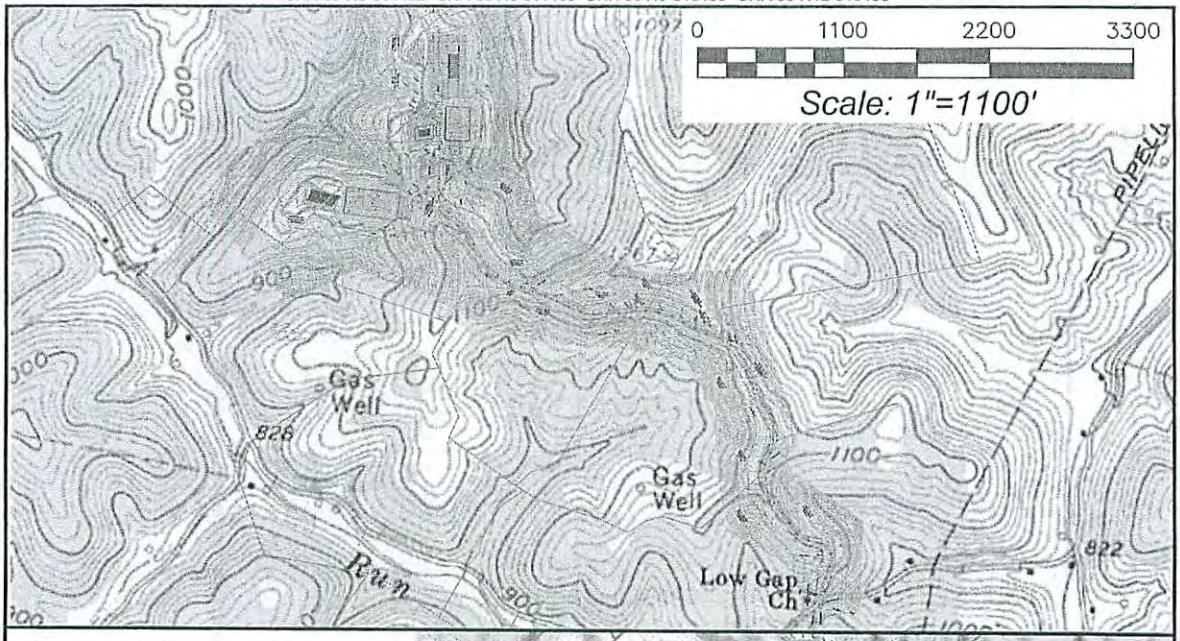

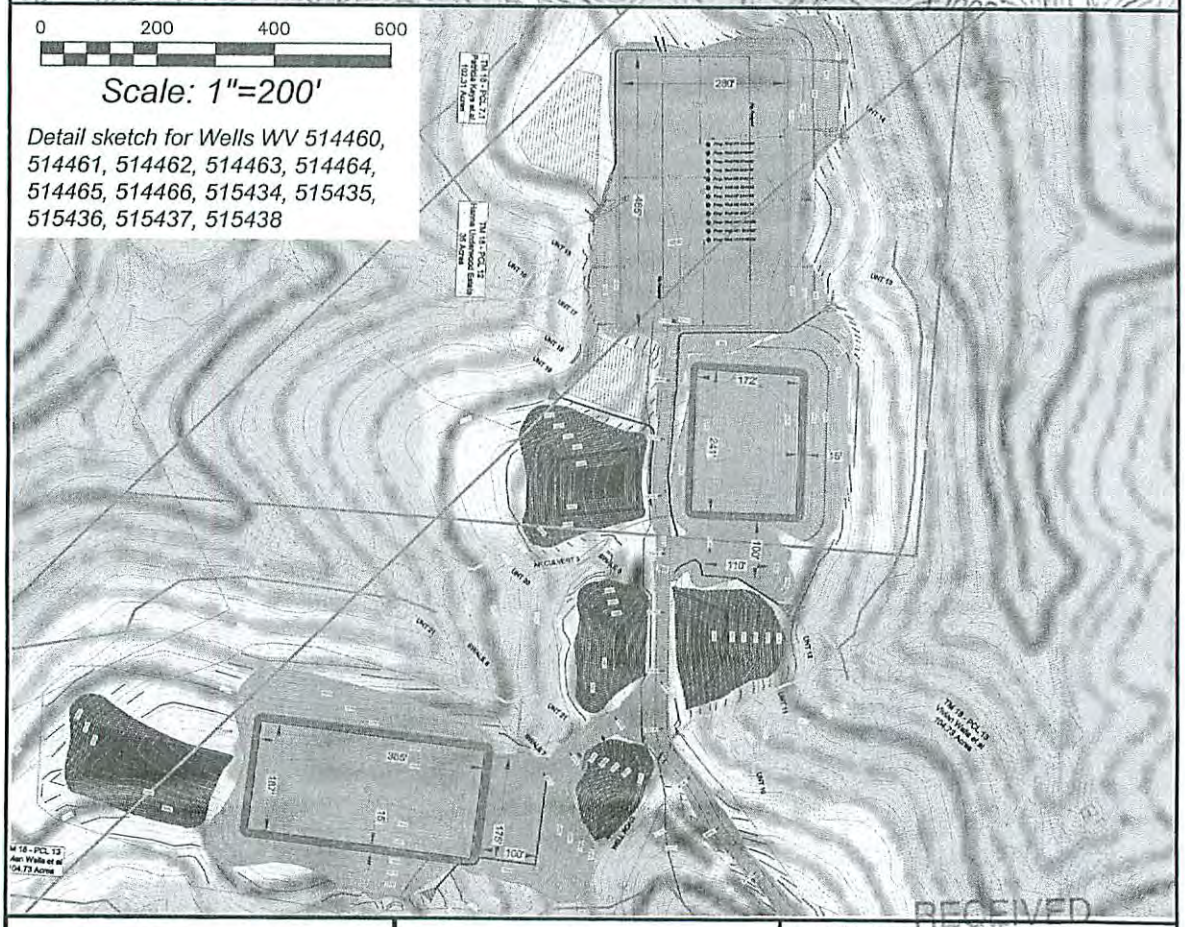

Shirley 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
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15" minimum diameter culverts	See Site Plan	Proposed Access Road	See Site Plan
24" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan
DRAWN BY: Dale Tomlin PS	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.

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Office of Oil and Gas
JAN 14 2016
DMH
HH-NV Department of Environmental Protection

SURVEYING AND MAPPING SERVICES PERFORMED BY:

ALLEGHENY SURVEYS, INC.

1-800-482-8606

Birch River Office
Phone: (304) 649-8606
Fax: (304) 649-8608

237 Birch River Road
P.O. Box 438
Birch River, WV 26610

4709502341

4709502341

EQT

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

EQT Production

Permitting Supervisor
Title

1/5/16
Date

WV Oil and Gas Inspector

Oil & Gas Inspector
Title

1-11-16
Date

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JAN 14 2016
WV Department of
Environmental Protection

Anticipated Frac Additives
Chemical Names and CAS numbers

Material	Ingredient	CAS Number
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

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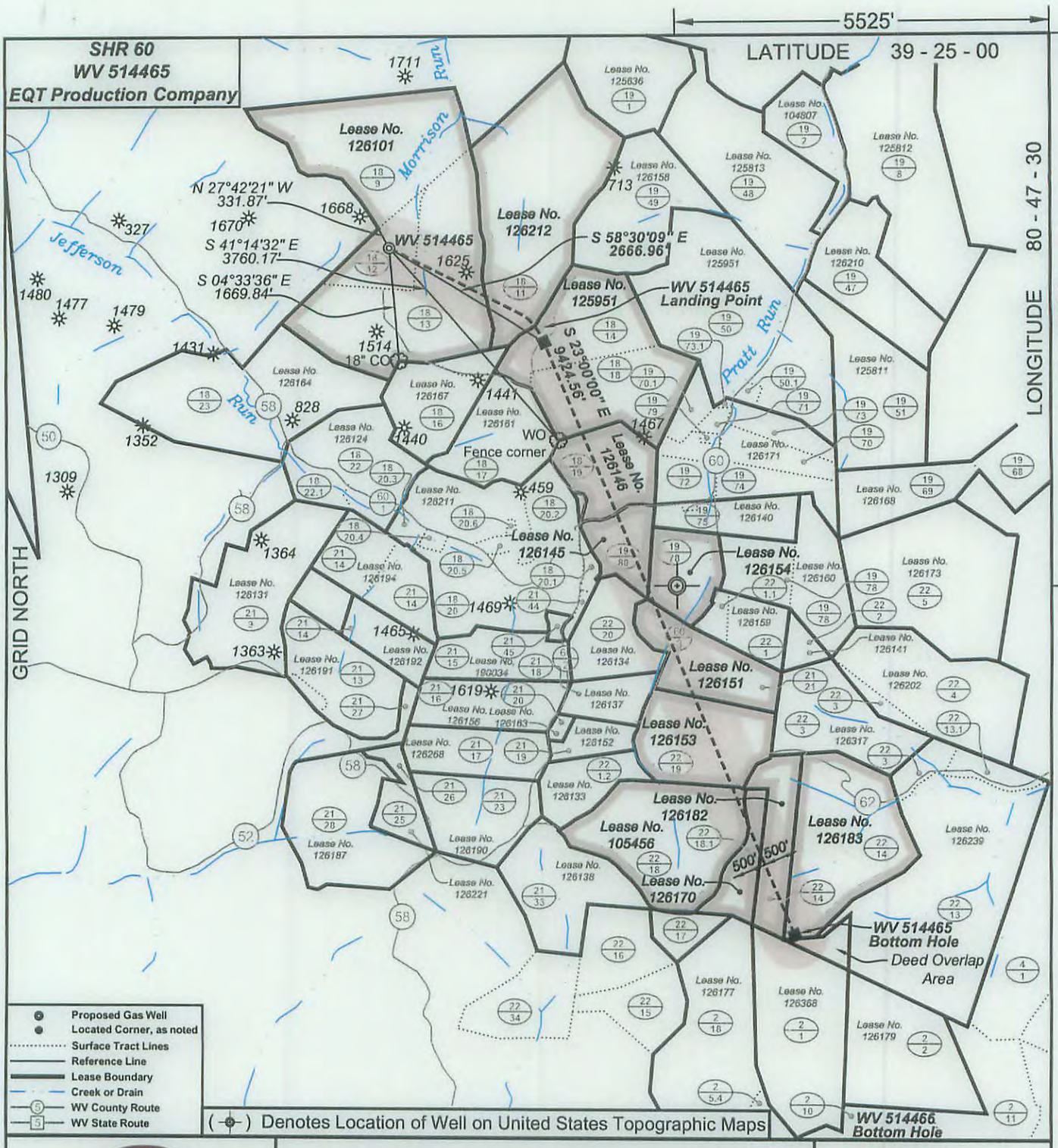
JAN 14 2016
WV Department of
Environmental Protection



ALLEGHENY SURVEYS, INC.

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.

P.S. 2092

Ben R. Singleton LICENSED NO. 2092 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

SEAL

FILE NO: 208-13
DRAWING NO: 208-13 SHR 60 H6
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.: 514465
API WELL NO
47 - 95 - 02341 HGA
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
ADDRESS: 115 Professional Place PO Box 280, Bridgeport, WV 26330
DESIGNATED AGENT: Rex C. Ray
ADDRESS: 115 Professional Place PO Box 280, Bridgeport, WV 26330

SHR 60
WV 514465
EQT Production Company

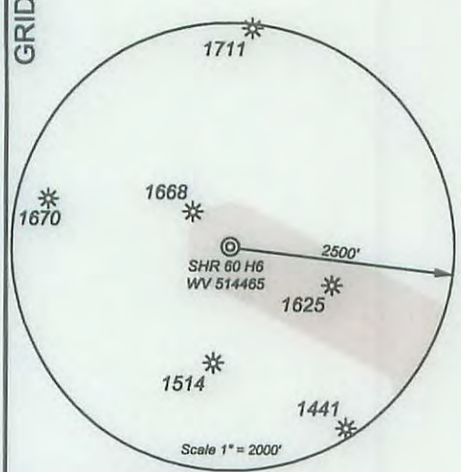
SHR 60

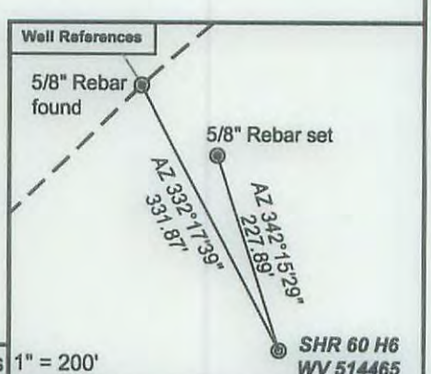
H1, 514460
H2, 514461
H3, 514462
H4, 514463
H5, 514464
H6, 514465
H7, 514466
H8, 515434
H9, 515435
H10, 515436
H11, 515437
H12, 515438

Notes:
WV 514465 coordinates are
NAD 27 N: 326,507.21 E: 1,629,439.17
NAD 27 Lat: 39.394522 Long: -80.811234
NAD 83 UTM N: 4,360,584.58 E: 516,269.25
WV 514465 Landing Point coordinates are
NAD 27 N: 327,113.83 E: 1,631,713.19
NAD 27 Lat: 39.390787 Long: -80.803117
NAD 83 UTM N: 4,360,171.66 E: 516,969.11
WV 514465 Bottom Hole coordinates are
NAD 27 N: 318,438.48 E: 1,635,395.67
NAD 27 Lat: 39.367117 Long: -80.789649
NAD 83 UTM N: 4,357,547.44 E: 518,135.09
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	225.8968	Mona R. Cumberledge, et al.
126246	35	Linda R. Davoli, et al.
126145	25	Hester B. Britton, et al.
126154	28	Casey Ann Jones, et al.
126151	30	Dorothy H. Bode, et al.
126153	55	Jeffrey T. Heflin, et al.
105456	96	Kimberly Wilcox
126170	15	Mary Ann Ketelson
126182	38	Robert J. Nichols, et al.
126183	89	Robert J. Nichols, 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

(⊕) Denotes Location of Well on United States Topographic Maps

1" = 200'

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

Ben R. Singleton
LICENSED
NO. 2092
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

SEAL

FILE NO: 208-13
DRAWING NO: 208-13 SHR 60 H6
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.: 514465
API WELL NO
47 - 95 - 02341 HGA
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
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☐ PERFORATE NEW FORMATION ☐ OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
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WELL OPERATOR: EQT Production Company
ADDRESS: 115 Professional Place PO Box 280
Bridgeport, WV 26330

DESIGNATED AGENT: Rex C. Ray
ADDRESS: 115 Professional Place PO Box 280
Bridgeport, WV 26330

WW-6A1
(5/13)

Operator's Well No. 514465

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:

4709502

Lease Name or	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page	
126101	**George Birklein, et al (current royalty owner)**		Min 1/8 pd		
	WM. Blaine Underwood Et ux et al (original lessor)	Equitable Gas Co.		DB186/86	
	Equitable Gas Co.	Equitrans, Inc.		DB274/471	
	Equitrans, Inc./Equitable Gas Company/Equitable Resrouces, Inc.	Equitrans, L.P.		DB433/777	
	Equitrans, L.P.	EQT Production Company		DB396/640	
	Equitrans, L.P.	EQT Production Company		OG420/10	Tyler
5-18-11	Susan L Spencer	EQT Production Company	N/A	513/207	Subsurface Easement Attached
125951	**Mona R. Cumberledge, et al (current royalty owner)**		Min 1/8 pd		
	Jacob A. Cumberledge, et ux (original 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	Tyler
126146	**Linda R. Davoli, et al. (current royalty owner)**		Min 1/8 pd		
	Blanche Cumberledge, et al (original lessor)	Equitable Gas Company		DB191/509	
	Equitable Gas Company	Equitrans, Inc.		DB274/471	
	Equitrans, Inc.	Equitrans, L.P.		DB433/777	
	Equitrans, L.P.	EQT Production Company		DB396/640	Tyler
126145	**Hester B. Britton, et al (current royalty owner)**		Min 1/8 pd		
	A.H. Cumberledge, et al	Equitable Gas Company		192/21	
	Equitable Gas Company	Equitrans, Inc.		DB274/471	
	Equitrans, Inc.	Equitrans, L.P.		DB433/777	
	Equitrans, L.P.	EQT Production Company		DB396/640	Tyler

126154	**Casey Ann Jones, et al (current royalty owner)**		Min 1/8 pd	
	George H. Jones, et al (original lessor)	Equitable Gas Company		192/130
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640 Tyler

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126151	**Dorothy H. Bode, et al (current royalty owner)**		Min 1/8 pd	
	Mollie Scott, et al (original lessor)	Equitable Gas Company		191/492
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640 Tyler

126153	**Jeffrey T. Heflin, et al (current royalty owner)**		Min 1/8 pd	
	John W. Ash, et al (original lessor)	Equitable Gas Co.		DB192/80
	Equitable Gas Co.	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640 Tyler

105456	**Kimberly Wilcox (current royalty owner)**		Min 1/8 pd	
	Olive I. Stewart, et vir (original lessor)	J L Newman		LB69/42
	J. L. Newman	The Philadelphia Company of West Virginia		OG455/390
	The Philadelphia Company of West Virginia	Pittsburgh and West Virginia Gas Company		DB101/36
	Pittsburgh and West Virginia Gas Company	Equitable Gas Co.		132/414
	Equitable Gas Co.	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640 Tyler

126170	**Mary Ann Ketelson (current royalty owner)**		Min 1/8 pd	
	Charles N. Welch, et al (original lessor)	Equitable Gas Company		LB193/351
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640 Tyler

126182	**Robert J. Nichols, et al (current royalty owner)**		Min 1/8 pd	
	Talmage Nichols, et ux (original lessor)	Equitable Gas Company		LB195/381
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitrans, L.P.		DB433/777
	Equitrans, L.P.	EQT Production Company		DB396/640 Tyler

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JAN 14 2016

126183	Robert J. Nichols, et al (current royalty owner)	Min 1/8 pd	
	Talmage Nichols, et ux (original lessor)	Equitable Gas Company	195/378
	Equitable Gas Company	Equitrans, Inc.	DB274/471
	Equitrans, Inc.	Equitrans, L.P.	DB433/777
	Equitrans, L.P.	EQT Production Company	DB396/640 Tyler

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

4709502341

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

Received
Office of Oil & Gas
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# - 514465
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 affirmance or validation of EQT Production's claimed rights.

4709502341

Regards,

Todd Klaner
Manager, Permitting
EQT Production Company

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Office of Oil & Gas
JAN 14 2016

Teresea 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|

115 PROFESSIONAL PLACE P O BOX 280
BRIDGEPORT, WV 26330-0280

47095023 41

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.

Received
Office of Oil & Gas
JAN 14 2016

(REMAINDER OF PAGE LEFT BLANK INTENTIONALLY)

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

GRANTOR:

Susan L. Spencer

Susan L. Spencer

GRANTEE:
EQT Production Company

By: John W. Damato
Its: Attorney in fact

STATE OF WEST VIRGINIA; 47095

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 30th day of October, 2015.

My Commission expires: Jan. 12, 2022.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Chad A. Vintorini
149 Wedgewood Rd.
Ravenswood, WV 26164
My Commission Expires Jan. 12, 2022

Notary Public

STATE OF WEST VIRGINIA;

COUNTY OF HARRISON:

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 4th day of November, 2015.

My Commission expires: August 29, 2019.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
TINA MAXWELL
EQT PRODUCTION COMPANY
115 PROFESSIONAL PLACE
BRIDGEPORT, WV 26330
My commission expires August 29, 2019

Notary Public

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

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Office of Oil & Gas
JAN 14 2016

WW-6AC
(1/12)

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

47095027 4

Date of Notice Certification: _____

API No. 47 - 095 - 0
Operator's Well No. 514465
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:	516,269.25
County:	Tyler	UTM NAD 83 Northing:	4,360,584.58
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:	OOG OFFICE USE ONLY
*PLEASE CHECK ALL THAT APPLY	
☐ NOTICE OF SEISMIC ACTIVITY or ☑ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/NOT REQUIRED
☐ NOTICE OF ENTRY FOR PLAT SURVEY or ☑ NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☑ NOTICE OF INTENT TO DRILL or ☐ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR ☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	☐ RECEIVED/NOT REQUIRED
☑ NOTICE OF PLANNED OPERATION	☐ RECEIVED
☑ PUBLIC NOTICE	☐ RECEIVED
☑ NOTICE OF APPLICATION	☐ RECEIVED

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Office of Oil & Gas
JAN 14 2016

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.

WW-6AC
(1/12)

Certification of Notice is hereby given:

THEREFORE, I _____, 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	Address:	P.O. Box 280
By:	Victoria J. Roark		Bridgeport, WV 26330
Its:	Permitting Supervisor	Facsimile:	304-848-0040
Telephone:	304-848-0076	Email:	vroark@eqt.com

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
NOTARY SEAL WANSTREET
EQT PRODUCTION COMPANY
PO BOX 280
BRIDGEPORT, WV 26330
My commission expires April 07, 2020

Subscribed and sworn before me this 6 day of January 2016

Rebecca J. Wanstreet Notary Public

My Commission Expires 4-7-20

RW

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.

4709502341

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JAN 14 2016

WW-6A
(9-13)

API NO. 47 - 095 - 0
OPERATOR WELL NO. 514465
Well Pad Name: SHR60

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: 1-11-16 Date Permit Application Filed: 1-11-16

4709502341

Notice of:

☑ PERMIT FOR ANY WELL WORK

☐ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

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:

Name:
Address:

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

Name:
Address:

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

☑ COAL OWNER OR LESSEE
Name: See Attached
Address:

☐ COAL OPERATOR
Name:
Address:

☐ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: None
Address:

☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name:
Address:

*Please attach additional forms if necessary

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JAN 14 2016

WW-6A
(8-13)

API NO. 47 - 095 - 0
OPERATOR WELL NO. 514465
Well Pad Name: SHR60

4709502374

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:

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.

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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JAN 14 2016

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.

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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JAN 14 2016

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.

WW-6A
(8-13)

API NO. 47 - 095 - 0
OPERATOR WELL NO. 514465
Well Pad Name: SHR60

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.

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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.

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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

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.

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. 4709501141

By: Victoria Roark

Its: Permitting Supervisor

Subscribed and sworn before me 11 day of January 2016 RW

Rebecca L. Wanstreet Notary Public

My Commission Expi 4-7-20

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
REBECCA L. WANSTREET
EQT PRODUCTION COMPANY
PO BOX 280
BRIDGEPORT, WV 26330
My commission expires April 07, 2020

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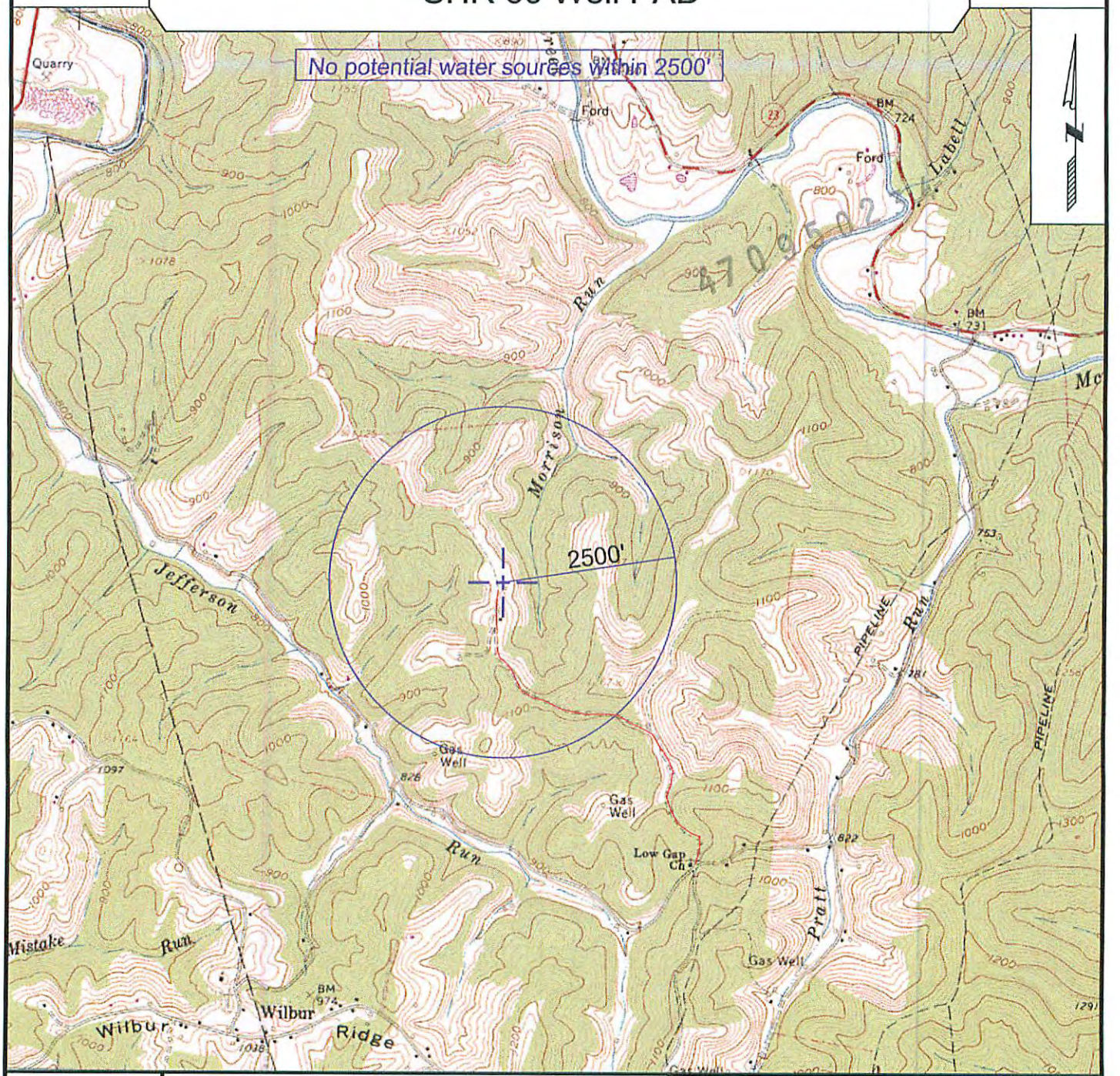
JAN 14 2016

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



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

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JAN 14 2015

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WW6-A

Surface Owners

Vivian Janice Wells ✓Corrected
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

4709502341

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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JAN 15 2015

WV Department of
Environmental Protection

WW6A Corrected Address 4709502341

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

Raymond A Jackubowski
123 North Pioneer Ave
Shavertown PA 18708

Beverly A Chisdock
213 Lehigh St
Avoca PA 18641

4709502341

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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WV Department of
Environmental Protection

WW6A

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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

Benjamin A Haug
3894 Cellar Creek Rd
Blackstone VA 23824

Timothy M Haug
3890 Cellar Creek Rd
Blackstone VA 23824

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Windermere FL 34786

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Lancaster PA 17601

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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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Shavertown PA 18708

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Avoca PA 18641

Cynthia Kryzwicki
213 Nicholson St
Wilkes-Barre PA 18702

Andrea Shotts
432-2 East Main St
Plymouth PA 18651

4709502341

Lisa Wesolowski
254 Lampman St
Avoca PA 18641

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JAN 15 2015

WV Department of
Environmental Protection

WWLeA

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4709502341

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

Clifford Haug
3894 Cellar Creek Rd
Blackstone VA 23824

Timothy M Haug
3890 Cellar Creek Rd
Blackstone VA 23824

Benjamin A Haug
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Reading PA 19605

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Wilkes-Barre PA 18702

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Plymouth PA 18651

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Mary Jean Ross
904 Truce Road
Holtwood PA 17532

Cynthia Kryzwicki
213 Nicholson St
Wilkes-Barre PA 18702

4709502341

RECEIVED
Office of Oil and Gas
JAN 15 2015
WV Department of
Environmental Protection

WW-6A4
(1/12)

Operator Well No. 514465

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:	WV	UTM NAD 83 Easting	516,269.25
County:	Tyler	Northing	4,360,584.58
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(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

4705102541

Notice is hereby given by:

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

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JAN 14 2016

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.

Corrected

4709502341

WW6-A4

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

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Shavertown PA 18708

Beverly A Chisdock
213 Lehigh St
Avoca PA 18641

Cynthia Kryzwicki
213 Nicholson St
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Andrea Shotts
432-2 East Main St
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Lisa Wesolowski
254 Lampman St
Avoca PA 18641

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WW6A-4

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Surface Owners: Access Road

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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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Surface Owners: Pits/Impoundments

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WW-6A5
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Operator Well No. 514465

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: 1-11-16 **Date Permit Application Filed:** 1-11-16

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

☑ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND 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):

4709502341

Name: See Attached
Address:

Name: See Attached
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:	516,269.250000
County:	Tyler		Northing:	4,360,584.580000
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.

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.

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WW6-A5

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JAN 15 2015

WV Department of
Environmental Protection

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 57th Street, SE
Charleston, WV 25304

4709502341

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.

Very Truly Yours,

Gary K. Clayton

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

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

Received
Office of Oil & Gas
JAN 14 2016

Anticipated Frac Additives
Chemical Names and CAS numbers

Material	Ingredient	CAS Number
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

4709502

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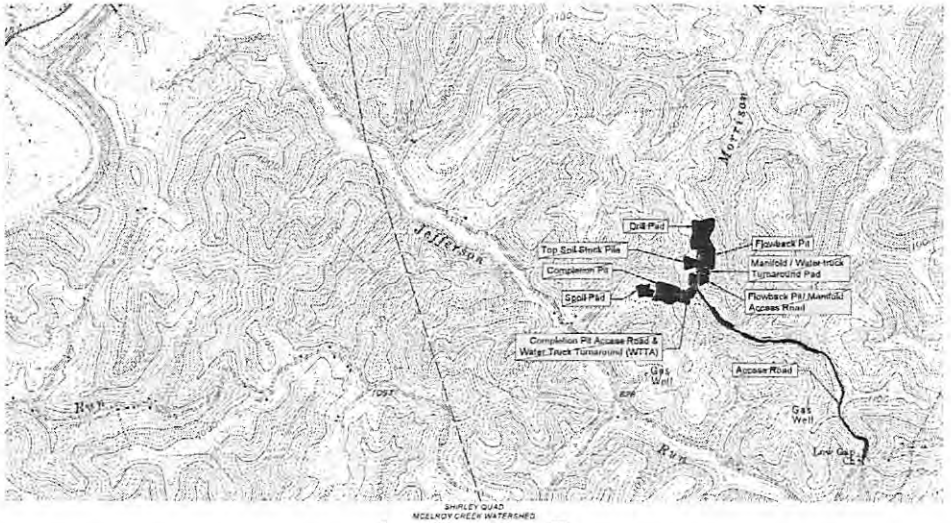
Office of Oil & Gas
JAN 14 2016

SHR - 60 - ALT

FINAL SITE DESIGN ALT, CONSTRUCTION PLANS, & EROSION & SEDIMENT CONTROL PLANS

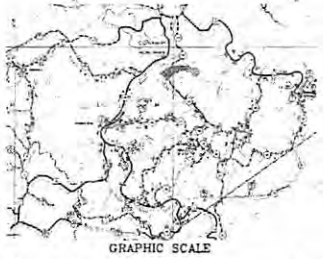
EQT PRODUCTION COMPANY

West Virginia Coordinate System of 1983
State Plane Grid North
Elevations NAVD88
Established By Survey Grade GPS



SHIRLEY QUAD
MCELROY CREEK WATERSHED
0 1000 2000 3000

SITE LOCATIONS NAD 83		
	LATITUDE	LONGITUDE
Center of Pad	39.394583	-80.911586
Center of Flow Back Pit	39.393400	-80.912604
Center of Completion Pit	39.391721	-80.912082
Beginning of Access Road	39.393577	-80.909630



GRAPHIC SCALE

1 INCH = 1 MILE

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	

NO WETLANDS ARE IMPACTED

THE CURRENT SOIL ph IS 6.3

APPROVED
WVDEP OOG
3-24-15

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 frac pit pond. The completed above grade storage volume is less than 15 acre feet. filling method pumped, frac. 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!!

811
Know what's **below.**
Call before you dig.

SHEET INDEX

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Project Contacts

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

Steve Gum - Dominion Hope
304-672-9921

Dan Taylor- Consol
1-724-485-4014

Surveyor & Engineer

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

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

AFFECTED PROPERTIES
McELROY DISTRICT - TYLER COUNTY, WV

TM - PCL 12
HANNA UNDERWOOD ESTATE
33 ACRES
SITE DISTURBANCE

DRILL PAD = 5.39 ACRES
FLOWBACK PIT = 2.25
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 = 0.38 ACRES
TOTAL DISTURBANCE = 10.83 ACRES
TOTAL WOODED AREA DISTURBANCE = 10.13 ACRES

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

FLOWBACK PIT MANIFOLD / WTTA PAD= 0.42 ACRES
FLOWBACK PIT = 0.03 ACRES
FLOWBACK PIT ACCESS ROAD = 0.10 ACRES
MAIN ACCESS ROAD = 2.73 ACRES
COMPLETION PIT = 4.43 ACRES
COMPLETION PIT WTTA ACCESS = 0.33 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 = 0.25 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 = 0.83 ACRES
TOTAL DISTURBANCE = 0.83 ACRES
TOTAL WOODED AREA DISTURBANCE = 0.51 ACRES

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

MAIN ACCESS ROAD = 1.24 ACRES
TOTAL DISTURBANCE = 1.24 ACRES
TOTAL WOODED AREA DISTURBANCE = 0.81 ACRES

TM 18 - PCL 17
ALLEN FONNASH
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
49.57 ACRES
SITE DISTURBANCE

MAIN ACCESS ROAD = 1.33 ACRES
TOTAL DISTURBANCE = 1.33 ACRES
TOTAL WOODED AREA DISTURBANCE = 0.99 ACRES

TM 18 - PCL 19
JOHN PAUL DAVIS
33 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
12.84 ACRES
SITE DISTURBANCE

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

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

Horner Bros. Engineers
Civil, Mining, Environmental and Consulting Engineering

EQT

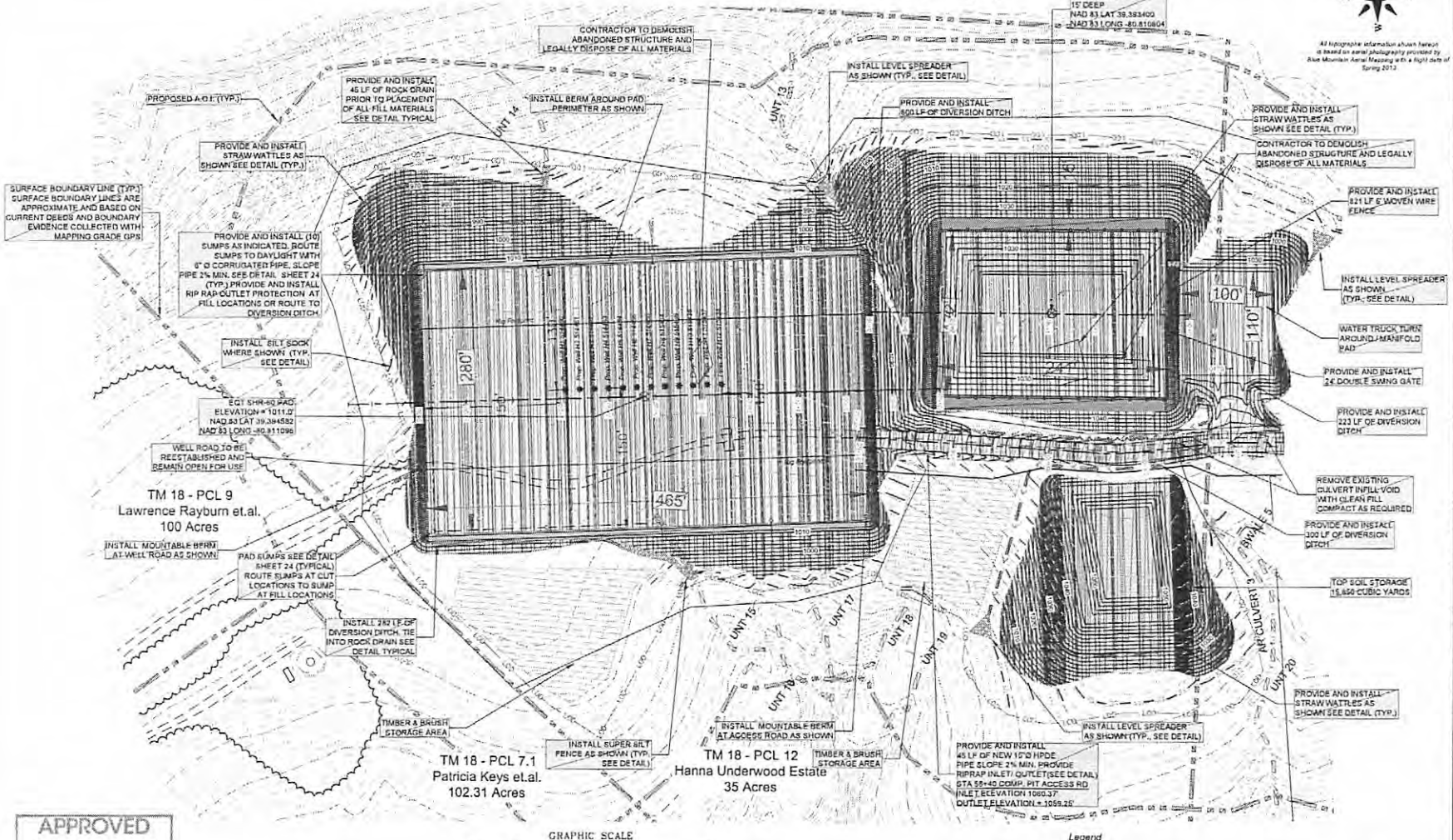
THIS DOCUMENT PREPARED FOR EQT PRODUCTION COMPANY

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

DATE	REVISIONS
10.11.2013	NEW DRILL PAD, DRILL PIT, ACCESS ROAD, WELL PAD LOCATION & ADD WATER
10.30.2014	ADDED SHR-60-ALT PLUGGED STAKED WELL

Date: 10/30/2014
Scale: AS NOTED
Designed By: TJC & TWC
File No.: SHR-60-ALT Plat Sheets.dwg
Page: 1 of 29

EQT SHR-60 - ALT DESIGN PLAN (5)



All topographic information shown hereon is based on aerial photography provided by Blue Mountain Aerial Mapping with a flight date of Spring 2013

APPROVED
WVDEP OOG
3-24-15

DATE	REVISIONS
3-31-2014	
10-13-2014	
3-30-2015	

Date: 12-30-2014
Scale: 1"=50'
Designed by: TRC
File No.:
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FINAL SITE DESIGN PLAN ALT
SHR 60
DRILL PAD SITE - ALT
McELROY DISTRICT
TYLER COUNTY, WV