west virginia department of environmental protection

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

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

June 15, 2016

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-1706769, 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: 513775
Farm Name: HART, RONALD & JEFFERY
API Well Number: 47-1706769
Permit Type: Horizontal 6A Well
Date Issued: 06/15/2016

Promoting a healthy environment.

API Number: 17-06769

PERMIT CONDITIONS

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

CONDITIONS

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

4701706769

WW-6B
(04/15)

API NO. 47- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

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) | Doddridge (County) | Southwest (District) | Oxford (Quadrangle)

2) Operator's Well Number: 513775 Well Pad Name: OXF160

3) Farm Name/Surface Owner: Ronald Hart and Jeffery Hart Public Road Access: WV-18

4) Elevation, current ground: 1220 Elevation, proposed post-construction: 1220

5) Well Type (a) Gas x Oil ____ Underground Storage ____
Other ____
(b)If Gas Shallow x Deep ____
Horizontal x

6) Existing Pad: Yes or No yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 6638' TVD, 58', 2951 PSI Top of Marcellus 6603

8) Proposed Total Vertical Depth: 6638

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 11381

11) Proposed Horizontal Leg Length: 3629

12) Approximate Fresh Water Strata Depths: 31,215,262,358,578

13) Method to Determine Fresh Water Depths: By Offset wells

14) Approximate Saltwater Depths: None found

15) Approximate Coal Seam Depths: None found

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 x

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

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WW-6B
(04/15)

API NO. 47- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20	New	A-500	78.6	80	80	120 ft^3 / CTS
Fresh Water	13 3/8	New	J-55	54.5	678	678	617 ft^3 / CTS
Coal							
Intermediate	9 5/8	New	A-500	40	3072	3072	1211 ft^3 / CTS
Production	5 1/2	New	P-110	20	11381	11381	500' above top producing zone
Tubing	2 3/8		J-55	4.7		May not be run, if run set 40' above top perf or 80° inclination.	
Liners							

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	.375	1378	1102	Class A	1.18
Fresh Water	13 3/8	17 1/2	.38	2700	2160	See Variance	1.19
Coal							
Intermediate	9 5/8	12 3/8	.395	3950	3160	See Variance	1.19
Production	5 1/2	8 1/2	.361	12640	10112	Class H	1.07/1.86
Tubing	2 3/8	NA	.19	7700			
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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DOF 4/18/16

WW-6B
(10/14)

API NO. 47- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

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 3932'. Kick off and drill curve. Drill the 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 be approximately 10000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): +/- 16.9

22) Area to be disturbed for well pad only, less access road (acres): +/- 7.5

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 solid body cent spaced every joint from production casing shoe to KOP

24) Describe all cement additives associated with each cement type:

Conductor: Class A no additives
Surface (Type 1 Cement): 0-3% Calcium Chloride Used to speed the setting of cement slurries, .25% Flake Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.
Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries. 0.25% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.
Production:
Lead (Type H Cement): 0.2% CD-20 (dispersant makes cement easier to mix). .15% SuperFL-300 (fluid loss/lengthens thickening time) .15% SEC-10 (fluid loss) 50:50 POZ (extender)
Tail (Type H Cement): 0.2% Super CR-1 (Retarder). Lengthens thickening time. .3% Super FL-200 (fluid loss) .2% SEC-10 (Fluid loss). .2% SuperFL-350 (fluid loss) Reduces amount of water lost to formation. 50 % Calcuim Carbonate. Acid solubility.

25) Proposed borehole conditioning procedures:

Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
Intermediate: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
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.

17-06769

Well 513775(OXF160H6)

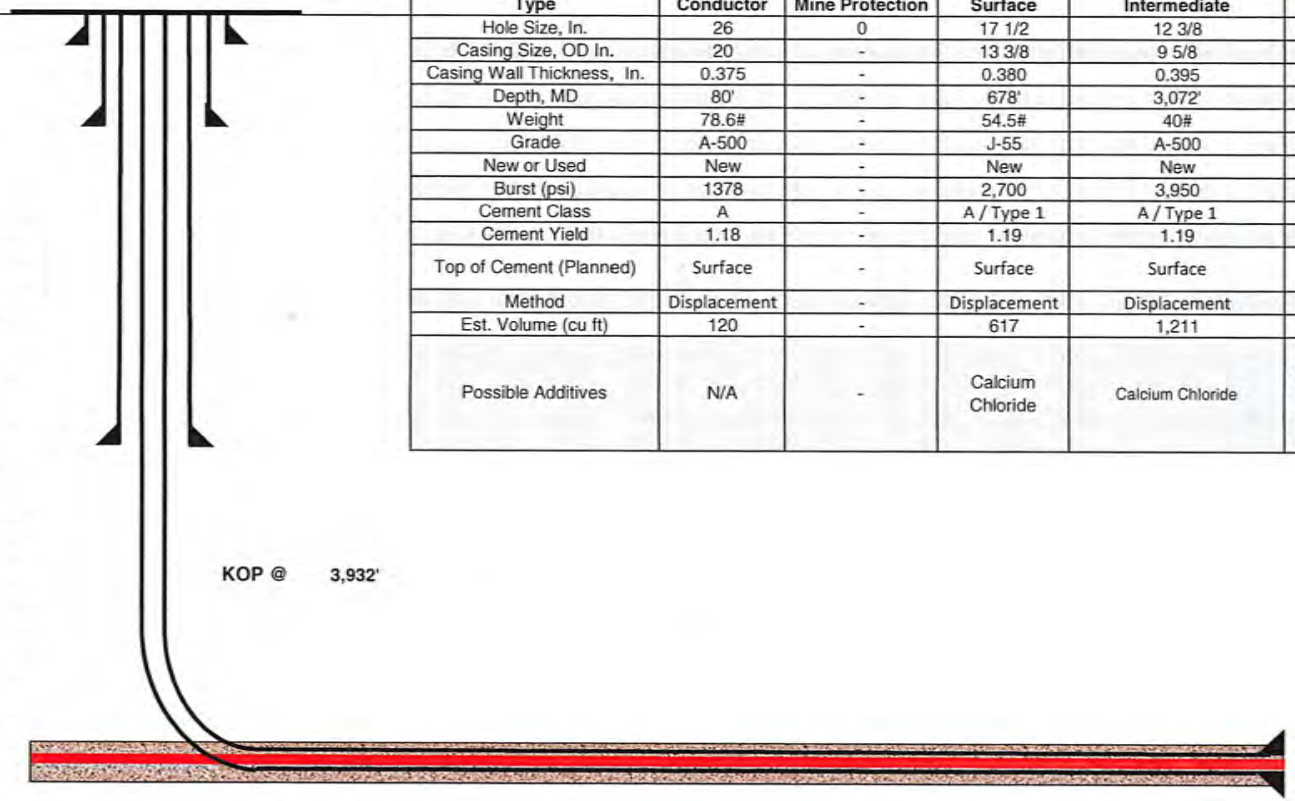
EQT Production

Oxford Quad
Doddridge County, WV

Azimuth 165.7
Vertical Section 3844

Note: Diagram is not to scale

Formations	Top TVD	Base TVD
Conductor	80	
Base Fresh Water	578	
Surface Casing	678	
Base Red Rock	1278	
Maxton	1760	1799
Big Lime	1949	2053
Big Injun	2067	2081
Weir	2172	2358
Gantz	2464	2478
Fifty foot	2639	2672
Gordon	2735	2744
Bayard	3002	3022
Intermediate Casing	3072	
Warren	3268	3302
Speechley	3318	3335
Balltown A	3848	4774
Riley	4774	4800
Benson	4865	4875
Alexander	5111	5211
Sonyea	6275	6406
Middlesex	6406	6460
Genesee	6460	6527
Geneseo	6527	6571
Tully	6571	6591
Hamilton	6591	6603
Marcellus	6603	6661
Production Casing	11381	MD
Onondaga	6661	



Land curve @ 6,638' ft TVD
7,752' ft MD

Est. TD @ 6,638' ft TVD
11,381' ft MD

3,629' ft Lateral

Casing and Cementing Deepest Fresh Water: 578'

Type	Conductor	Mine Protection	Surface	Intermediate	Production
Hole Size, In.	26	0	17 1/2	12 3/8	8 1/2
Casing Size, OD In.	20	-	13 3/8	9 5/8	5 1/2
Casing Wall Thickness, In.	0.375	-	0.380	0.395	0.361
Depth, MD	80'	-	678'	3,072'	11,381'
Weight	78.6#	-	54.5#	40#	20#
Grade	A-500	-	J-55	A-500	P-110
New or Used	New	-	New	New	New
Burst (psi)	1378	-	2,700	3,950	12,640
Cement Class	A	-	A / Type 1	A / Type 1	H
Cement Yield	1.18	-	1.19	1.19	1.07/1.86
Top of Cement (Planned)	Surface	-	Surface	Surface	500' above top Producing Zone
Method	Displacement	-	Displacement	Displacement	Displacement
Est. Volume (cu ft)	120	-	617	1,211	1,658
Possible Additives	N/A	-	Calcium Chloride	Calcium Chloride	Calcium Carbonate, Fluid Loss, Extender, Dispersent, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder, Anti-Settling/Suspension Agent

Proposed Well Work:
Drill and complete a new horizontal well in the Marcellus formation.
Drill the vertical to an approximate depth of 3932'.
Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

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Earl Ray Tomblin, Governor
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March 18, 2014

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

Re: Cement Variance Request

Dear Sir or Madam,

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

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

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

Sincerely,

James Peterson by GCS

James Peterson
Environmental Resources Specialist / Permitting

Promoting a healthy environment.

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

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

REPORT OF THE OFFICE

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

FINDINGS OF FACT

1.) Nabors Completion & Production Services Co. proposes the following cement blend:

- 2% Calcium Chloride (Accelerator)
- 0.25 % Super Flake (Lost Circulation)
- 94% Type "1" Cement
- 5.20 % Water

2.) Laboratory testing results indicate that the blend listed in Fact No.1 will achieve a 500 psi compressive strength within 6 hours and a 2,435 psi compressive strength within 24 hours.

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CONCLUSIONS OF LAW

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

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

ORDER

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

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

IN THE NAME OF THE STATE OF WEST VIRGINIA

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

James Martin, Chief
Office of Oil and Gas

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17-06769

March 7, 2016

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 Wells (OXF160)

Dear Mr. Smith,

EQT is requesting the 13-3/8" surface casing be set at 678' KB, 100' below the deepest fresh water. We will set the 9-5/8" intermediate string at 3072' KB, 50' below the base of the Bayard formation.

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

Sincerely,

Vicki Roark
Permitting Supervisor

Enc.

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EQT Production 115 Professional Place I P.O. Box 280 I Bridgeport, WV 26330
T 304.848.0000 I F 304.848.0040 I www.eqt.com

WW-9
(4/16)

API Number 47 - 017 - 06769
Operator's Well No. 513775

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name EQT Production Company OP Code 306686

Watershed (HUC 10) Upper Run of Middle Fork of South Fork Hughes River Quadrangle Oxford

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

Will a pit be used? Yes ☐ No ✓

If so, please describe anticipated pit waste: N/A

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

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? If so, describe: 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. See Attached

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

Additives to be used in drilling medium? See Attached

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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Subscribed and sworn before me this 7 day of April, 2016

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

17-06769

WW-9

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.

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.

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EQT Production Water plan

Offsite disposals for Marcellus wells

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

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

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

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

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

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

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

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

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Form WW-9

Operator's Well No. 513775

EQT Production Company

Proposed Revegetation Treatment: Acres Disturbed +/- 16.9 Prevegetation pH 6.3

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type Granular 10-20-20

Fertilizer amount 1/3 lbs/acre

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:
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

Comments:

Title: OOG Inspector Date: 4/18/16

Field Reviewed? (✓) Yes ( ) No

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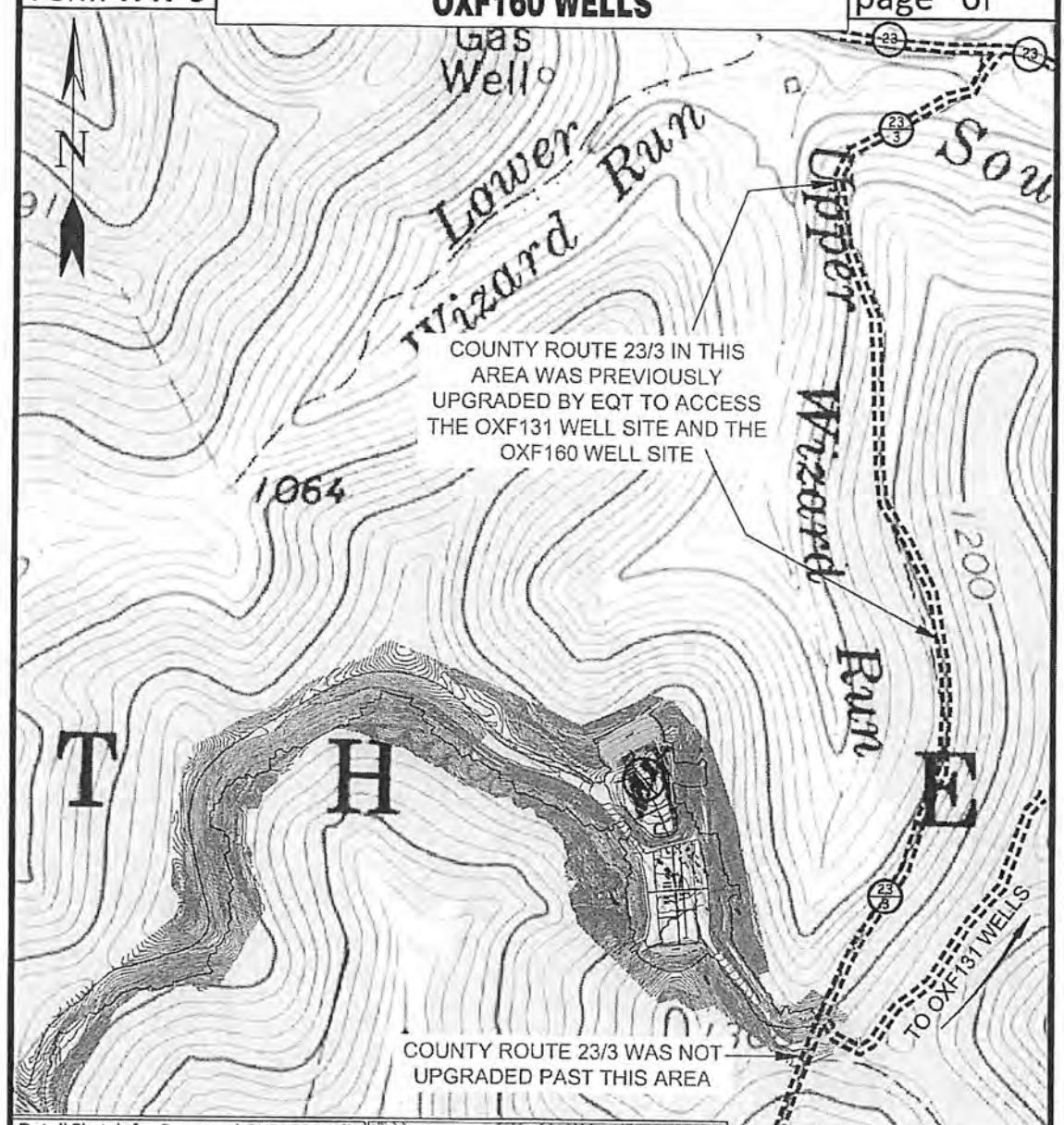
4701706769

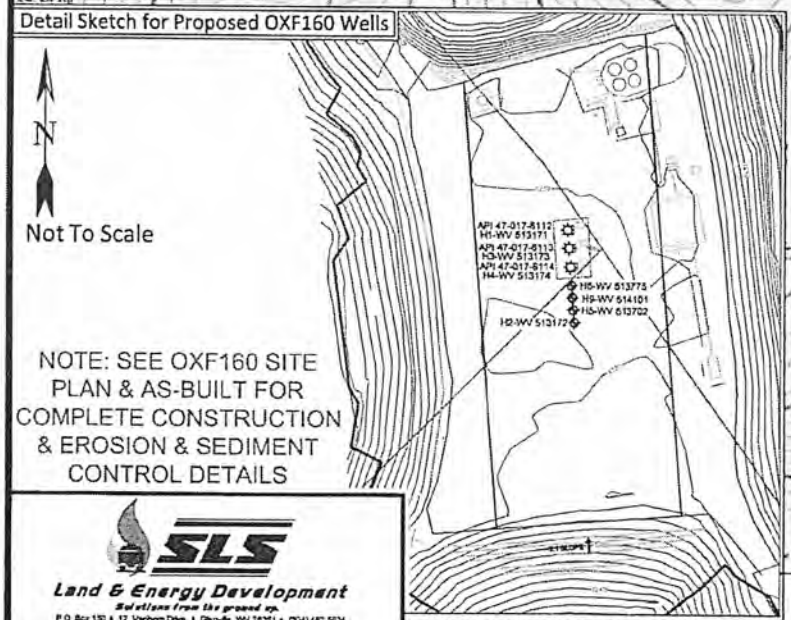
Form WW-9

OXF160 WELLS

page of



Detail Sketch for Proposed OXF160 Wells



NOTE: SEE OXF160 SITE PLAN & AS-BUILT FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS

NOTE: SEE OXF160 SITE PLAN & AS-BUILT FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.

DAF

SLS

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www.slsurveys.com

DRAWN BY	FILE NO.	DATE	CADD FILE:
K.D.W.	7310	03-31-16	OXF160REDPLAN.dwg

TOPO SECTIONS OF OXFORD 7.5' TOPO QUADRANGLE

SCALE: 1"=500'

0' 500' 1000'

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APR 22 2016
WV Department of Environmental Protection

4701706769

EQT

Where energy meets innovation.™

Site Specific Safety Plan

EQT OXF160 Pad

Oxford Quadrant

Doddridge County, WV

For Wells:

513775

Date Prepared: March 22, 2016

EQT Production

Permitting Supervisor

Title

4-6-16

Date

WV Oil and Gas Inspector

Title

4/18/16

Date

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APR 22 2016

WV Department of
Environmental Protection

17-06769

WW-6A1
(5/13)

Operator's Well No. 513775

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

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

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
See Attached				

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

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Environmental Protection

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: Victoria Roark
Its: Permitting Supervisor

WW-6A1 attachment

Operator's Well No. 513775

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
107453	Mona R. Cumberledge, et al (current royalty owner)		min pd 1/8th	
	S. E. Gaston, et al (original lessor)	A. D. Wells		LB 22/420
	A. D. Wells	Fisher Oil Company/O.D. Harrington		LB 24/16
	Fisher Oil Company/O.D. Harrington	The Philadelphia Company of WV		LB 24/64
	The Philadelphia Company of WV	Pittsburgh & West Virginia Gas Company		45/102
	The Philadelphia Company of WV	Pittsburgh & West Virginia Gas Company		LB 32/253
	Pittsburgh & West Virginia Gas Company	Equitable Gas Company		DB 121/257
	Equitable Gas Company	Equitrans, Inc		LB 154/475
	Equitrans, Inc	Equitrans, L.P.		329/645
	Equitrans, L.P.	Equitable Production-Eastern States, Inc		LB 192/19
	Equitable Production-Eastern States, Inc	EQT Production Company		DB 281/346 (name change)

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APR 07 2016

WV Department of
Environmental Protection

April 4, 2016

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

Re: OXF160 well pad, well number 513775
Southwest District, Doddridge County

Dear Mr. Martin,

EQT Production Company is submitting an application for a new well work permit for the above well number. 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.

Sincerely,

Vicki Roark
Permitting Supervisor-WV

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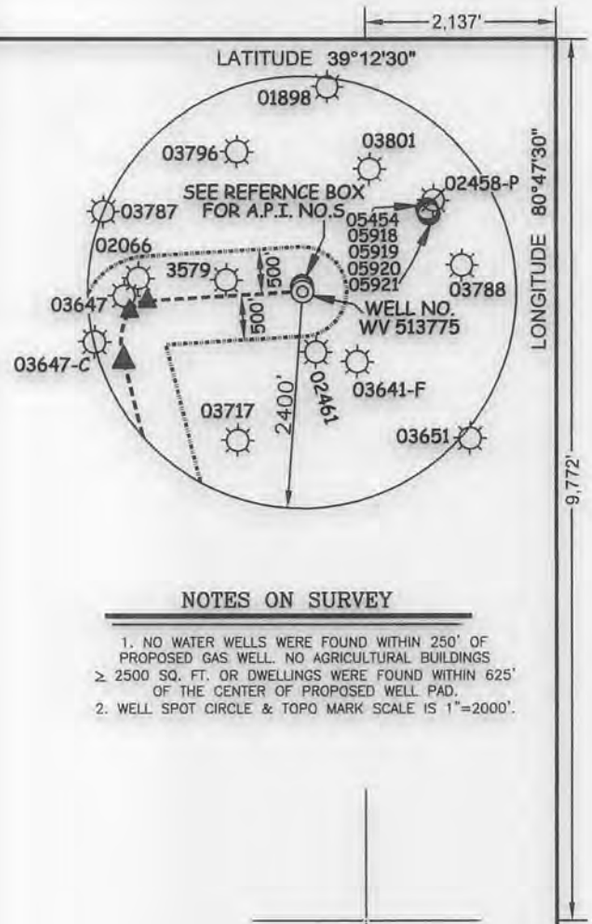
APR 07 2016

WV Department of
Environmental Protection

EQT Production 115 Professional Place I P.O. Box 280 I Bridgeport, WV 26330
T 304.848.0000 I F 304.848.0040 I www.eqt.com

FORM WW 6 - SHEET 1 OF 2

OXF160
WV 513775
EQT PRODUCTION COMPANY



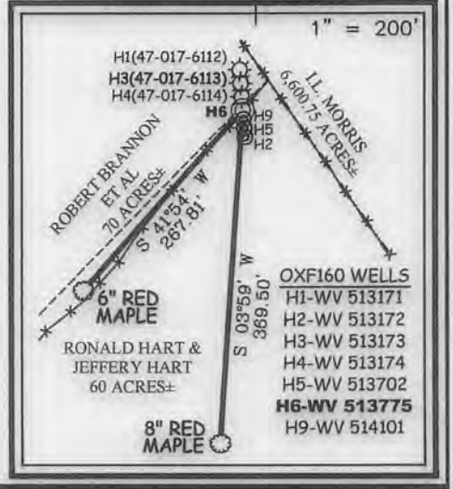
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)		
NAD'27 S.P.C.(FT)	N. 250,880.72	E. 1,631,716.66
NAD'27 GEO.	LAT-(N) 39.181504	LONG-(W) 80.799204
NAD'83 UTM (M)	N. 4,336,947.27	E. 517,357.69
	LANDING POINT	
NAD'27 S.P.C.(FT)	N. 250,124.07	E. 1,629,714.64
NAD'27 GEO.	LAT-(N) 39.179347	LONG-(W) 80.806227
NAD'83 UTM (M)	N. 4,336,706.57	E. 516,751.63
	BOTTOM HOLE	
NAD'27 S.P.C.(FT)	N. 247,205.06	E. 1,630,459.66
NAD'27 GEO.	LAT-(N) 39.171363	LONG-(W) 80.803450
NAD'83 UTM (M)	N. 4,335,821.10	E. 516,993.44

NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.

A	ROBERT BRANNON ET AL	70 ACRES±	SW TM-09-19
B	RONALD HART & JEFFERY HART	60 ACRES±	SW TM-09-20
C	I.L. MORRIS	6,600.75 ACRES±	SW TM-10-02
D	ROBERT BRANNON ET AL	25.1 ACRES±	SW TM-13-18
E	RONALD HART & JEFFERY HART	46 ACRES±	SW TM-13-12
F	RONALD HART & JEFFERY HART	45 ACRES±	SW TM-09-21
G	MARIA HRUSCOV	57.5 ACRES±	SW TM-10-01
H	WILLIAM ARMENTROUT ET AL	44.35 ACRES±	SW TM-14-02
I	MICHAEL & SUSAN ZORN	52.5 ACRES±	SW TM-14-01
J	MICHAEL & SUSAN ZORN	47.5 ACRES±	SW TM-14-1.1
K	WILLIAM ARMENTROUT ET AL	16.8 ACRES±	SW TM-14-04
L	EDWARD & GINA BASSETT	41 ACRES±	SW TM-13-39
M	MARIAN ZORN	34.78 ACRES±	SW TM-13-40
N	WILLIAM ARMENTROUT ET AL	76 ACRES±	SW TM-13-41
O	EDWARD & GINA BASSETT	9 ACRES±	SW TM-13-19
P	ROBERT BRANNON ET AL	37.16 ACRES±	SW TM-13-17

REFERENCES



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

P.S. 849 C. Victor Moyers

C. VICTOR MOYERS LICENSED No. 849 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE MARCH 24 , 20 16

REVISED APRIL 06 , 20 16

OPERATORS WELL NO. WV 513775

API WELL NO. 47 — 017 — 06769
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7310P513775R5

SCALE SEE NOTE 2

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

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

LOCATION :

PAD ELEVATION 1,220' WATERSHED UPPER RUN OF MIDDLE FORK OF SOUTH FORK HUGHES RIVER

DISTRICT SOUTHWEST COUNTY DODDRIDGE QUADRANGLE OXFORD 7.5'

SURFACE OWNER RONALD HART & JEFFERY HART ACREAGE 60±

ROYALTY OWNER MONA R. CUMBERLEDGE ET AL ACREAGE 206±

PROPOSED WORK : LEASE NO. 107453

DRILL X CONVERT ____ DRILL DEEPER ____ REDRILL ____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ____ PERFORATE NEW FORMATION ____ PLUG AND ABANDON ____ CLEAN OUT AND REPLUG ____ OTHER ____

PHYSICAL CHANGE IN WELL (SPECIFY) ____ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH 6,603'

COUNTY NAME

PERMIT

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280

BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

47-017-06769

OXF160
WV 513775
EQT PRODUCTION COMPANY

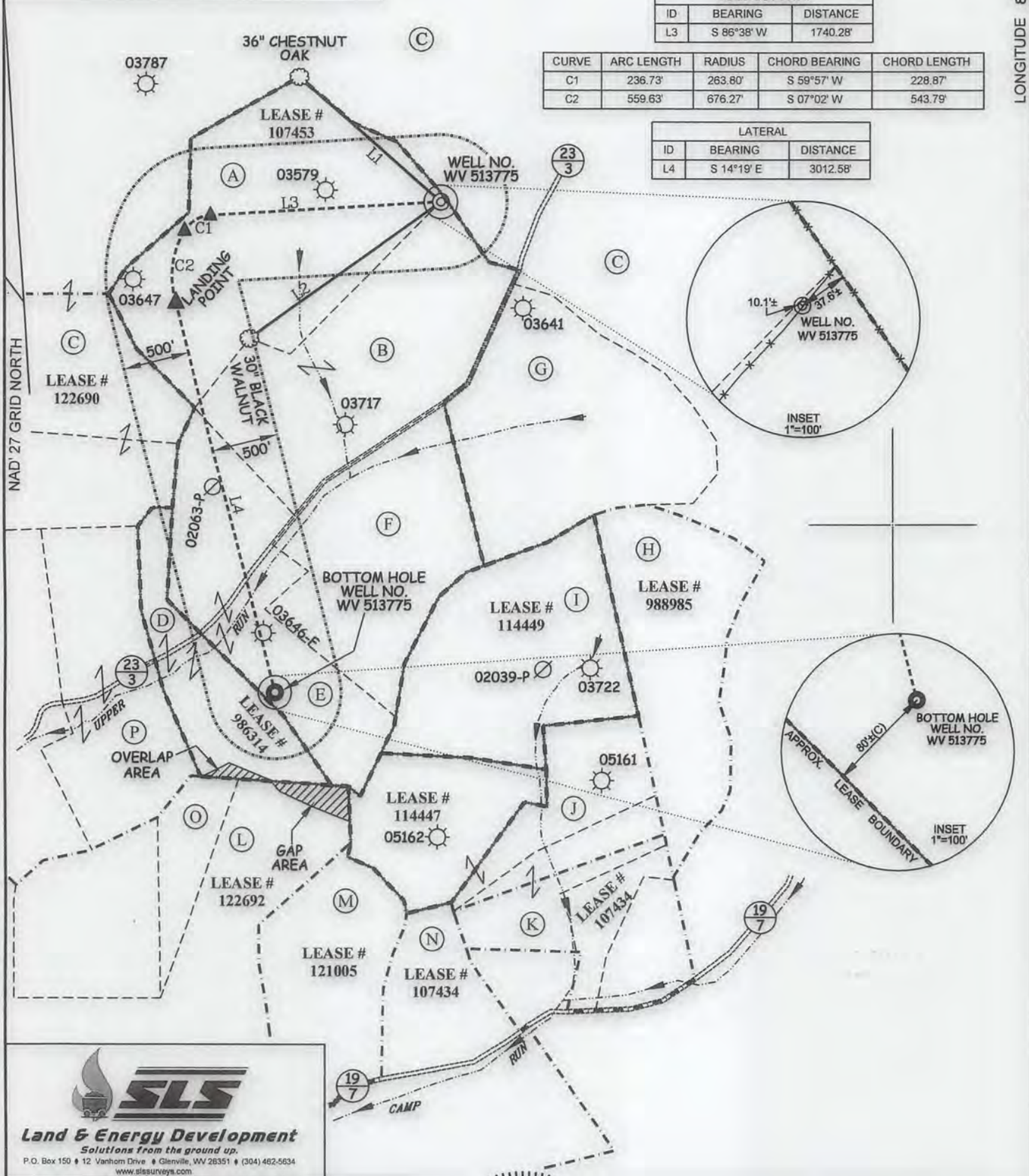
LATITUDE 39°12'30"

WELL TIES		
ID	BEARING	DISTANCE
L1	N 48°49' W	1416.26'
L2	S 54°42' W	1772.66'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	S 86°38' W	1740.28'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	236.73'	263.80'	S 59°57' W	228.87'
C2	559.63'	676.27'	S 07°02' W	543.79'

LATERAL		
ID	BEARING	DISTANCE
L4	S 14°19' E	3012.58'



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www.slssurveys.com

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 250,880.72	E. 1,631,716.66
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LANDING POINT		
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BOTTOM HOLE		
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C. VICTOR MOYERS LICENSED No. 849 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

C.V.M. 4-06-16

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

LEGEND

LEASE LINE
SURFACE LINE
WELL LATERAL
OFFSET LINE
TIE LINE
CREEK
ROAD
COUNTY ROUTE
PROPOSED WELL
EXISTING WELL
PERMITTED WELL
SOUTH WEST DISTRICT TAX MAP–PARCEL SW–00–00

COUNTY NAME

PERMIT

SCALE 1" = 1000'

DATE MARCH 24, 20 16

REVISED APRIL 06, 20 16

OPERATORS WELL NO. WV 513775

API WELL NO. 47 — 017 — 06769/H6A
STATE COUNTY PERMIT

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

WELL OPERATOR EQT PRODUCTION COMPANY
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
BRIDGEPORT, WV 26330

DESIGNATED AGENT REX C. RAY
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
BRIDGEPORT, WV 26330

WW-6AC
(1/12)

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

Date of Notice Certification: _____

API No. 47- 017 - 06769
Operator's Well No. 513775
Well Pad Name: OXF160

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:	517358.30
County:	Doddridge		Northing:	4336941.20
District:	Southwest	Public Road Access:		WV-18
Quadrangle:	Oxford	Generally used farm name:		Ronald Hart and Jeffery Hart
Watershed:	Upper Run of Middle Fork of South Fork Hughes River			

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: *PLEASE CHECK ALL THAT APPLY		OOG OFFICE USE ONLY
☐ 1. NOTICE OF SEISMIC ACTIVITY	or ☒ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/ NOT REQUIRED
☐ 2. NOTICE OF ENTRY FOR PLAT SURVEY	or ☒ NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☒ 3. 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
☒ 4. NOTICE OF PLANNED OPERATION		☐ RECEIVED
☒ 5. PUBLIC NOTICE		☐ RECEIVED
☒ 6. NOTICE OF APPLICATION		☐ RECEIVED

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

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Office of Oil and Gas
APR 07 2016
WV Department of
Environmental Protection

WW-6AC
(1/12)

17-06769

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:	115 Professional Place PO Box 280
By:	Victoria Roark		Bridgeport WV 26330
Its:	Permitting Supervisor	Facsimile:	304-848-0041
Telephone:	304-848-0076	Email:	vroark@eqt.com

NOTARY SEAL
ORIGINAL 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

Subscribed and sworn before me this 7 day of April 2016.

RW Rebecca L Wanstreet Notary Public

My Commission Expires 4-7-20

Oil and Gas Privacy Notice:

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

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Office of Oil and Gas

APR 07 2016

WV Department of
Environmental Protection

WW-6A
(9-13)

API NO. 47- 017 - 06789
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

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: 4/7/2016 **Date Permit Application Filed:** 4/7/2016

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 certificate of approval 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 method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well 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; (2) The owners of 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 used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or 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 seams; (4) The owners of 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 used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well 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 section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, 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 to a landowner, 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 Plan ("WSSP") 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.

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

Name:
Address:

☐ SURFACE OWNER(s) (Impoundments or Pits)
Name:
Address:

☑ COAL OWNER OR LESSEE
Name: See Attached
Address:

☐ COAL OPERATOR
Name:
Address:

☐ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name:
Address:

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

*Please attach additional forms if necessary

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Office of Oil and Gas
APR 07 2016
WV Department of Environmental Protection

WW-6A
(8-13)

API NO. 47- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

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 and may 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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API NO. 47- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

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:

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

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- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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WW-6A
(8-13)

API NO. 47- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

Notice is hereby given by:

Well Operator: EQT Production Company
Telephone: 304-848-0076
Email: vroark@eqt.com

Address: 115 Professional Place PO Box 280
Bridgeport WV 26330
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.

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

Subscribed and sworn before me this 7 day of April 2016.

Rebecca L Wanstreet Notary Public

My Commission Expires 4-7-20

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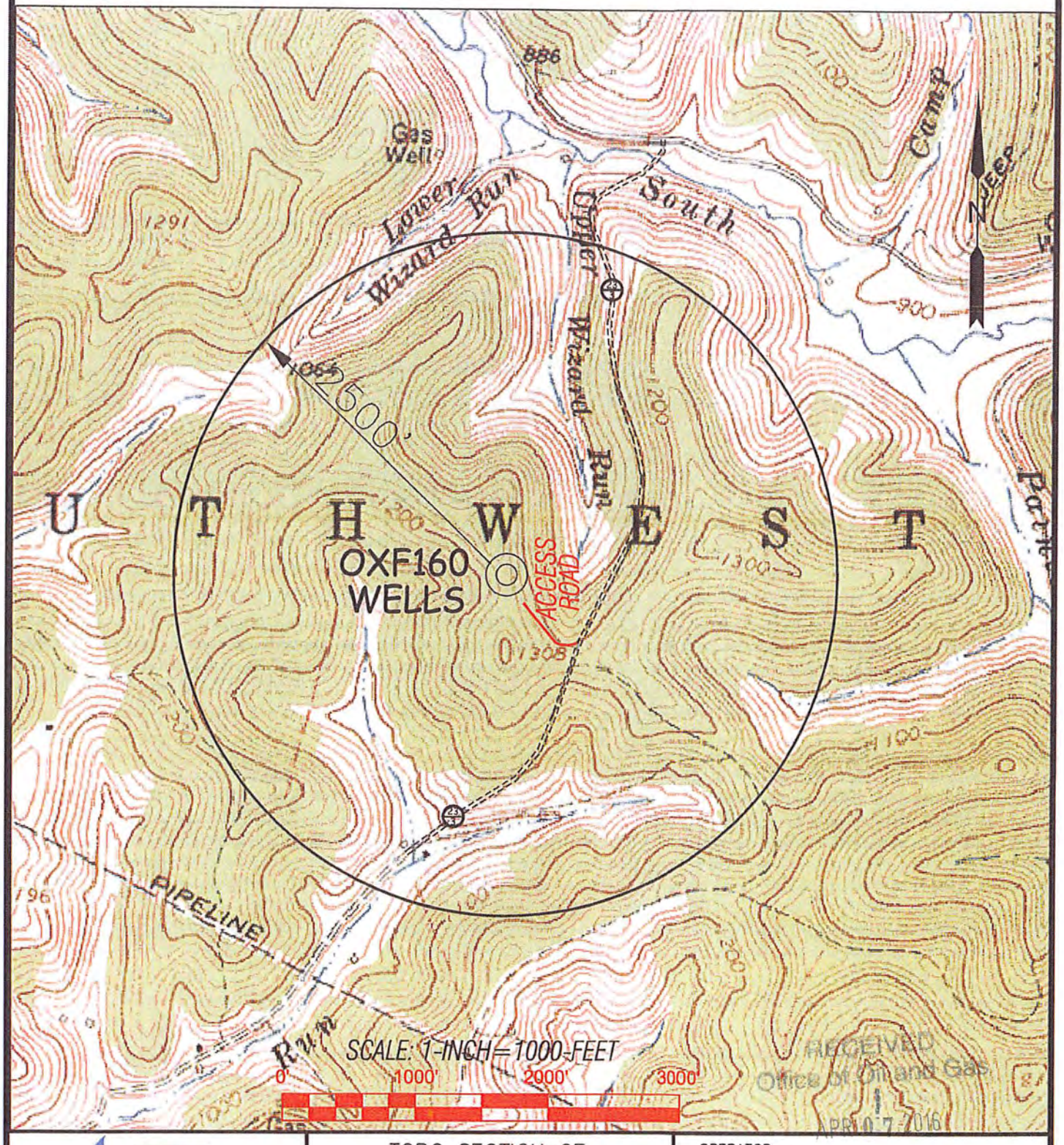
17-06769

WATER SAMPLES

page of

S.E. GASTON LEASE
OXF 160 WELL PAD



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SLS
Land & Energy Development
Solutions from the ground up.

DRAWN BY	FILE NO.	DATE	CADD FILE:
K.D.W.	7310	04/07/16	7310WSWV513171.dwg

TOPO SECTION OF:
OXFORD, WV 7.5' QUAD.

COUNTY	DISTRICT	TAX MAP–PARCEL NO.
DODDRIDGE	SOUTHWEST	9 – 19

OPERATOR:
EQT PRODUCTION COMPANY
115 PROFESIONAL PLACE
P.O. BOX 280
BRIDGEPORT, WV 26330

WW-6AW
(1-12)

API NO. 47- 017 - 06769
OPERATOR WELL NO. 513775
Well Pad Name: OXF160

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

VOLUNTARY STATEMENT OF NO OBJECTION

Instructions to Persons Named on Page WW-6A
The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

Comment and Waiver Provisions
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.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided,* That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

VOLUNTARY STATEMENT OF NO OBJECTION

I, John Damato, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through _____, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	WV	UTM NAD 83	Easting:	517358.30
County:	Doddridge		Northing:	4336941.20
District:	Southwest	Public Road Access:		WV-18
Quadrangle:	Oxford	Generally used farm name:		Ronald Hart and Jeffery Hart
Watershed:	Upper Run of Middle Fork of South Fork Hughes River			

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

*Please check the box that applies

- ☐ SURFACE OWNER
- ☐ SURFACE OWNER (Road and/or Other Disturbance)
- ☐ SURFACE OWNER (Impoundments/Pits)
- ☑ COAL OWNER OR LESSEE
- ☐ COAL OPERATOR
- ☐ WATER PURVEYOR
- ☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.
Company: ET Bluegrass LLC
By: John Damato
Its: Regional Land Director
Signature: _____
Date: 4.18.16

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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17-06769

Surface Owner(s)

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Ronald Hart
335 South 22nd Street
Clarksburg WV 26301

Jeffery Hart
58 Abney Circle
Charleston WV 26314

I.L. Morris
P.O. Box 397
Glenville WV 26351

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Surface Owners (Road or other Disturbance)

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Ronald Hart
335 South 22nd Street
Clarksburg WV 26301

Jeffery Hart
58 Abney Circle
Charleston WV 26314

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P.O. Box 397
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17-06769

Surface Owners of Tank Site

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Ronald Hart
335 South 22nd Street
Clarksburg WV 26301

Jeffery Hart
58 Abney Circle
Charleston WV 26314

I.L. Morris
P.O. Box 397
Glenville WV 26351

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17-06769

Coal Owners:

WBM Heirs Properties LLC
PO Box 659
Wichita Falls TX 76307

I.L. Morris
PO Box 397
Glenville WV 26351

H3 LLC
1483 Johns Creek Road
Milton WV 25541

E.T. Blue Grass LLC
625 Liberty Ave
Suite 1700
Pittsburgh PA 15222

Janice K Snider
PO Box 551
Kingwood WV 26357

Deborah Ann Coxx
22 Bates Rd PMB 133
Mashpee MA 02649

Eleanor F. Delauder
2153 Iveywood St.
The Villages FL 32163

Patrick Michael Wright
624 South 7th Street
Clarksburg WV 26301

S.J.J. Leggett
1010 N. North Street
Washington CH OH 43160

Randall Leggett
1364 Locust Ave.
Fairmont WV 26554

Brenda Jo Fulton
409 Dodge Ave
Williamstown WV 26187

Carolyn Sue Gaston
1231 Bellaire St.
Fairmont WV 26554

Beverlee Ann Grose
194 Welton Way
Mooresville NC 28117

Bernadine Pearl Leggett
124 Clarksburg Rd.
Buckhannon WV 26201

Jeffrey Scott Anderson
1359 Old River Rd.
Williamstown WV 26187

Marsha Leggett
106 Neeley Ave
West Union WV 26456

Kimberly Kay Davis
700 Caroline Ave
Williamstown WV 26187

Patrick Dean Leggett
1625 Stonehenge Rd.
Charleston WV 25314

Melanie K. Dienhart
7275 Iverson Place
Paso Robles CA 93446

Eric Thomas Anderson
Rt. 2 Box 192-V
Jane Lew WV 26378

Patricia Susan Wright
842 Verdun St.
Clarksburg WV 26301

Margaret E. Gress
1108 Wylie Ridge Rd
New Cumberland WV 26047

Mona R Cumberledge
125 Ash Lane
Sistersville WV 26175

Thomas E Straw Jr
4622 WV Hwy 5 East
Glenville WV 26351

Karen M Monroe
245 S Prospect St. Apt 205
Ravenna OH 44266

Daniel Kester
PO Box 177
Salt Lick KY 40371

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17-06769

Additional Coal Owners:

Libby K Straw
245 S Prospect St. Apt 205
Ravenna OH 44266

Mike Kester
C/o Daniel Kester
38 Thomas Ln.Trlr 9
Clearfield KY 40313

Patty A Thomas
3560 Orchard Dr. Lot #A14
Stow OH 44244

Ed Broome, Inc
4622 WV 5E
Glenville WV 26351

Amanda Kester
438 West Main Rd. Apt. 102
Conneaut OH 44030

Freda B Jones
611 31st Street
Vienna WV 26105

Kelleigh D Leggett
310 Wynwood Dr
Willow Street PA 17584

Zadock Leggett
310 Wynwood Dr
Willow Street PA 17584

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Environmental Protection

WW-6A4
(1/12)

17-06769

Operator Well No. 513775

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: 03/01/2016 **Date Permit Application Filed:** 03/10/2016

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:	517358.30
County:	Doddridge		Northing:	4336941.20
District:	Southwest	Public Road Access:		WV-18
Quadrangle:	Oxford	Generally used farm name:		Ronald Hart and Jeffery Hart
Watershed:	Upper Run of Middle Fork of South Fork Hughes River			

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.

Notice is hereby given by:

Well Operator:	EQT Production Company	Authorized Representative:	Victoria Roark
Address:	115 Professional Place PO Box 280	Address:	115 Professional Place PO Box 280
	Bridgeport WV 26330		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

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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17-06769

Surface Owner(s)

Robert Brannon et al
Route 1 Box 184
West Union WV 26456

Change of address

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Ronald Hart
335 South 22nd Street
Clarksburg WV 26301

Jeffery Hart
58 Abney Circle
Charleston WV 26314

I.L. Morris
P.O. Box 397
Glenville WV 26351

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WV Department of
Environmental Protection

17-06769

Surface Owners of Tank Site

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Change of address

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Ronald Hart
335 South 22nd Street
Clarksburg WV 26301

Jeffery Hart
58 Abney Circle
Charleston WV 26314

I.L. Morris
P.O. Box 397
Glenville WV 26351

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WV Department of
Environmental Protection

WW-6A5
(1/12)

17-06769
Operator Well No. 513775

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: 4-7-16 **Date Permit Application Filed:** 4-7-16

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):

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:	517358.30
County:	Doddridge		Northing:	4336941.20
District:	Southwest	Public Road Access:		WV-18
Quadrangle:	Oxford	Generally used farm name:		Ronald Hart and Jeffery Hart
Watershed:	Upper Run of Middle Fork of South Fork Hughes River			

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 PO Box 280
Telephone:	304-848-0076		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.

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Office of Oil and Gas
APR 07 2016
WV Department of
Environmental Protection

17-06769

Surface Owner(s)

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Ronald Hart
335 South 22nd Street
Clarksburg WV 26301

Jeffery Hart
58 Abney Circle
Charleston WV 26314

I.L. Morris
P.O. Box 397
Glenville WV 26351

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Office of Oil and Gas

APR 07 2016

WV Department of
Environmental Protection

17-06769

Surface Owners (Road or other Disturbance)

Robert Brannon et al
881 Haystack Ln.
West Union WV 26456

Ronald Hart
335 South 22nd Street
Clarksburg WV 26301

Jeffery Hart
58 Abney Circle
Charleston WV 26314

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WV Department of
Environmental Protection

17-06769

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

March 7, 2016

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

Subject: DOH Permit for the OXF160 Well Site, Doddridge County

OXF160H5 #513702
OXF160H6 #513755
OXF160H9 #514101

Dear Dr. Martin,

This well site will be accessed from Permit # 04-12-0308 applied for by EQT Production Company for access to the State Road for a well pad located off of Doddridge County Route 23/3 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
Regional Maintenance Engineer

Cc: Nick Bumgardner
EQT Production Company
CH, OM, D-4
File

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Office of Oil and Gas

APR 07 2016

WV Department of
Environmental Protection

Anticipated Frac Additives

17-06769

Chemical Names and CAS numbers

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

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Office of Oil and Gas

APR 07 2016

WV Department of
Environmental Protection

WVDEP OOG
ACCEPTED AS-BUILT
4/28/2016

OXF-160 SITE PLAN MODIFICATION
EQT PRODUCTION COMPANY

EXISTING WELL #s API NO. 47-017-6112, 47-017-6113 & 47-017-6114

PROPOSED WELL #s H2 WV-513172, H5 WV-513702, H6 WV-513775, & H9 WV-514101

SITUATE ON THE WATERS OF UPPER RUN OF MIDDLE FORK OF SOUTH FORK OF HUGHES RIVER WATERSHED IN SOUTHWEST DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA.

PROJECT INFORMATION

PROJECT NAME: OXF-160 SITE PLAN MODIFICATION
TAX PARCELS: 19, 20 & 62
SOUTHWEST DISTRICT
MAP 9 & 10

SURFACE OWNER:

ROBERT BRANNON, ET AL
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV
PROPERTY AREA: 70± ACRES

JEFFERY HART & RONALD L. HART
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV
PROPERTY AREA: 60± ACRES

IKE MORRIS
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV
PROPERTY AREA: 6600 75± ACRES

ROYALTY OWNERS:

MONA R. CUMBERLEDGE, ET AL
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV
PROPERTY AREA: 206± ACRES

WBM HEIRS PROPERTIES, LLC
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV
PROPERTY AREA: 1691.25± ACRES

SITE LOCATION:

THE OXF-160 SITE IS LOCATED ON A POINT SOUTHEAST OF CO. RT. 23/3, APPROXIMATELY 0.93 MILES SOUTHWEST OF CO. RT. 23/2 AND CO. RT. 19/11 INTERSECTION.

OXF-160 LOCATION COORDINATES

ENTRANCE
LATITUDE: 39.160316 LONGITUDE: -80.797035 (NAD 83)
LATITUDE: 4336806.4 LONGITUDE: 517033.2 (UTM NAD 83)

WELL PAD
LATITUDE: 39.161577 LONGITUDE: -80.799936 (NAD 83)
LATITUDE: 4336945.9 LONGITUDE: 517359.9 (UTM NAD 83)

40K TANK PAD
LATITUDE: 39.162793 LONGITUDE: -80.799493 (NAD 83)
LATITUDE: 4337079.7 LONGITUDE: 517317.6 (UTM NAD 83)

SITE DISTURBANCE COMPUTATIONS

ORIGINAL LOD ACREAGE= 16.9± ACRES

GENERAL DESCRIPTION

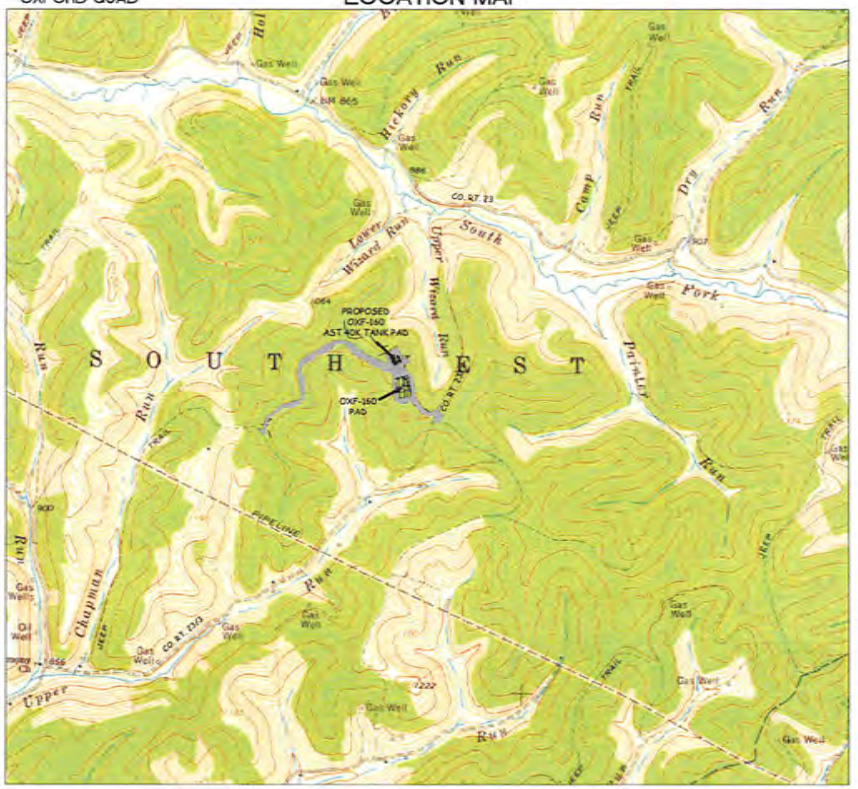
THE OXF-160 WELL PAD AND ASSOCIATED IMPOUNDMENT ARE CONSTRUCTED. THE ASSOCIATED PIT WILL BE CONSTRUCTED. ALL THREE STRUCTURES WILL AID IN THE DEVELOPMENT OF ADDITIONAL MARCELLUS SHALE GAS WELLS.

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!!

GRID NORTH AND ELEVATIONS ARE BASED ON WVDOT GRADE GPS ESTABLISHED BY SURVEY

OXFORD QUAD

LOCATION MAP



SCALE
0 1000' 2000' 3000'
SCALE: 1"=1000'

SHEET INDEX

1 - COVER SHEET
2 - CONSTRUCTION NOTES
3 - INDEX SHEET
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8 - WELL PAD & ACCESS ROAD
9 - ACCESS ROAD PROFILE
10- TANK PAD PROFILE
11- CONSTRUCTION DETAILS
12 - CONSTRUCTION DETAILS
13 - CONSTRUCTION DETAILS

LEGEND

PROPOSED COMPOST FILTER SOCK
EX. ROAD EDGE OF GRAVEL/DIRT
EX. ROAD EDGE OF PAVEMENT
EX. ROAD CENTERLINE
EX. DITCHLINE
EX. CULVERT
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EX. REINFORCED SILT FENCE
BERM
GRAVEL
ORIGINAL GROUND 2' CONTOURS
AS BUILT 2' CONTOURS
EXISTING WELL LOCATIONS
PROPOSED WELL LOCATIONS
SPOT ELEVATIONS
MARCHLINE

SURVEY NOTE

1. THE CERTIFICATION OF THIS DRAWING APPLIES ONLY TO THE TOPOGRAPHIC MAPPING AS GENERATED FROM THE FIELD DATA OBTAINED AT THE TIME OF THE FIELD SURVEYS ON 09/12/14, 10/03/14, 10/06/14, 10/08/14, 10/12/14, 01/06/15, & 01/13/15

REVISION	DATE	DESCRIPTION	BY
1	3/31/16	PROPERTY OWNER LABELS	K.L.P.
2	4/28/16	ROAD PROFILE AND SUMPS ADDED	K.E.S.

EQT Where energy meets innovation.

SLS Land & Energy Development Solutions that go beyond up.

THIS DOCUMENT WAS PREPARED BY SMITH LAND SURVEYING, INC. FOR: EQT

OXF-160 SITE PLAN MODIFICATION

THIS DOCUMENT WAS PREPARED BY: SMITH LAND SURVEYING, INC. FOR: EQT PRODUCTION COMPANY

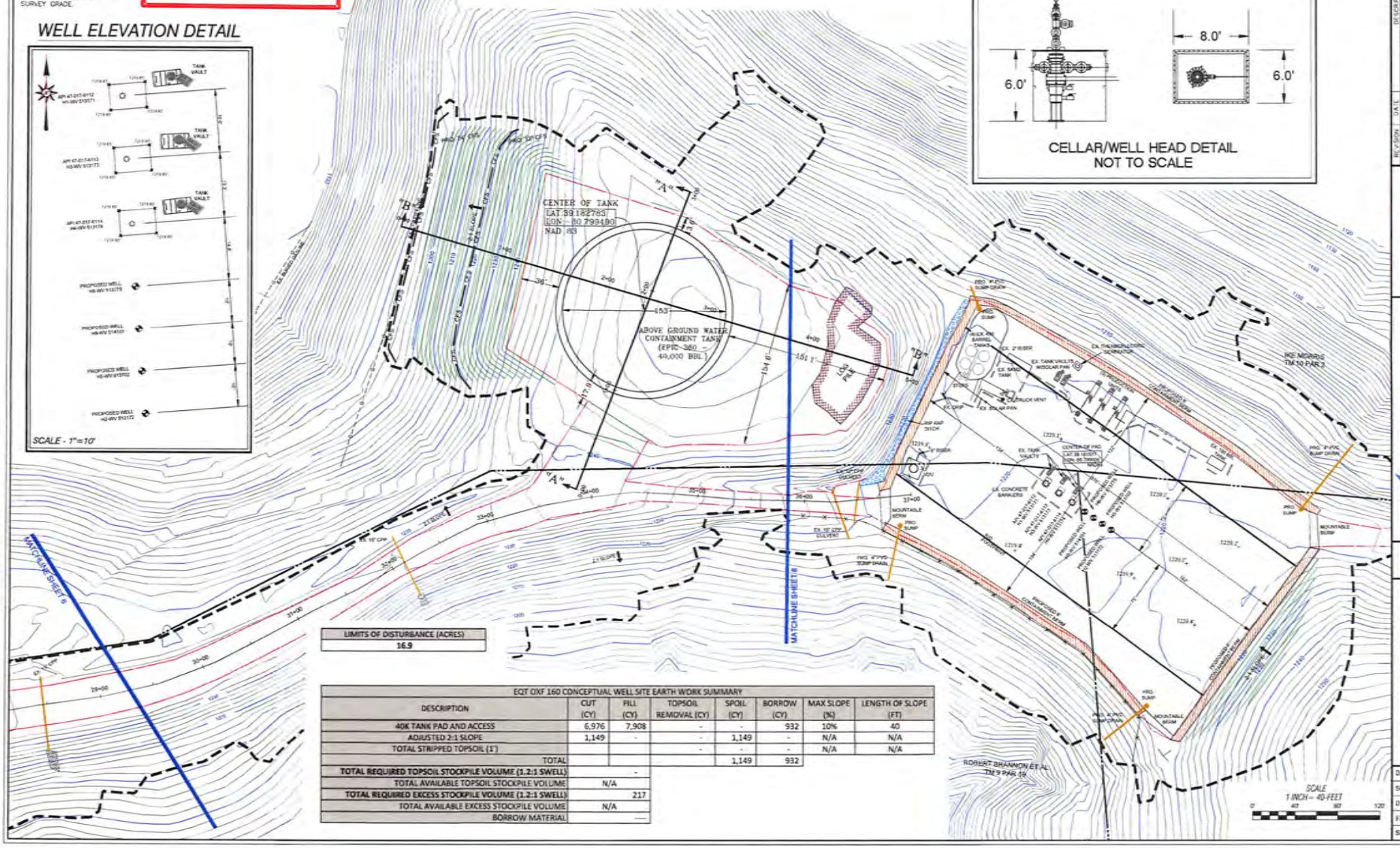
DATE: 03-30-2016
SCALE: 1" = 1000'
DESIGNED BY: W.A.W.
FILE NO. 8213
SHEET: 1 OF 13

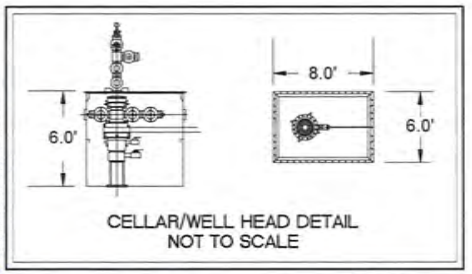
OXF-160 SITE PLAN MODIFICATION
EQT PRODUCTION COMPANY

WVDEP OOG
ACCEPTED AS-BUILT
4 / 28 / 2016

GRID NORTH AND SURVEYED ELEVATIONS SHOWN HEREON WERE ESTABLISHED BY DGPS SURVEY GRADE.

WELL ELEVATION DETAIL





LIMITS OF DISTURBANCE (ACRES)
16.9

EQT OXF 160 CONCEPTUAL WELL SITE EARTH WORK SUMMARY

DESCRIPTION	CUT (CY)	FILL (CY)	TOPSOIL REMOVAL (CY)	SPOIL (CY)	BORROW (CY)	MAX SLOPE (%)	LENGTH OF SLOPE (FT)
40K TANK PAD AND ACCESS	6,976	7,908	-	-	932	10%	40
ADJUSTED 2:1 SLOPE	1,149	-	-	1,149	-	N/A	N/A
TOTAL STRIPPED TOPSOIL (1')			-	-	-	N/A	N/A
TOTAL				1,149	932		
TOTAL REQUIRED TOPSOIL STOCKPILE VOLUME (1.2:1 SWELL)		-					
TOTAL AVAILABLE TOPSOIL STOCKPILE VOLUME	N/A						
TOTAL REQUIRED EXCESS STOCKPILE VOLUME (1.2:1 SWELL)		217					
TOTAL AVAILABLE EXCESS STOCKPILE VOLUME	N/A						
BORROW MATERIAL		---					

REVISION	DATE	DESCRIPTION	BY
1	03/31/16	PROPERTY OWNER LABELS, ROAD PROFILE AND SUMPS ADDED	K.L.H.
2	4/26/16		K.E.S.

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SLS Land & Energy Development

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OXF-160 SITE PLAN MODIFICATION

THIS DOCUMENT WAS PREPARED BY SMITH LAND SURVEYING, INC. FOR: EQT

DATE: 03-30-2016
SCALE: 1"=40'
DESIGNED BY: W.A.W.
FILE NO: 8210
SHEET: 7 OF 13

4701706769

OXF-160 SITE PLAN MODIFICATION
EQT PRODUCTION COMPANY

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SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV
PROPERTY AREA: 70± ACRES

JEFFERY HART & RONALD L. HART
SOUTHWEST DISTRICT
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PROPERTY AREA: 60± ACRES

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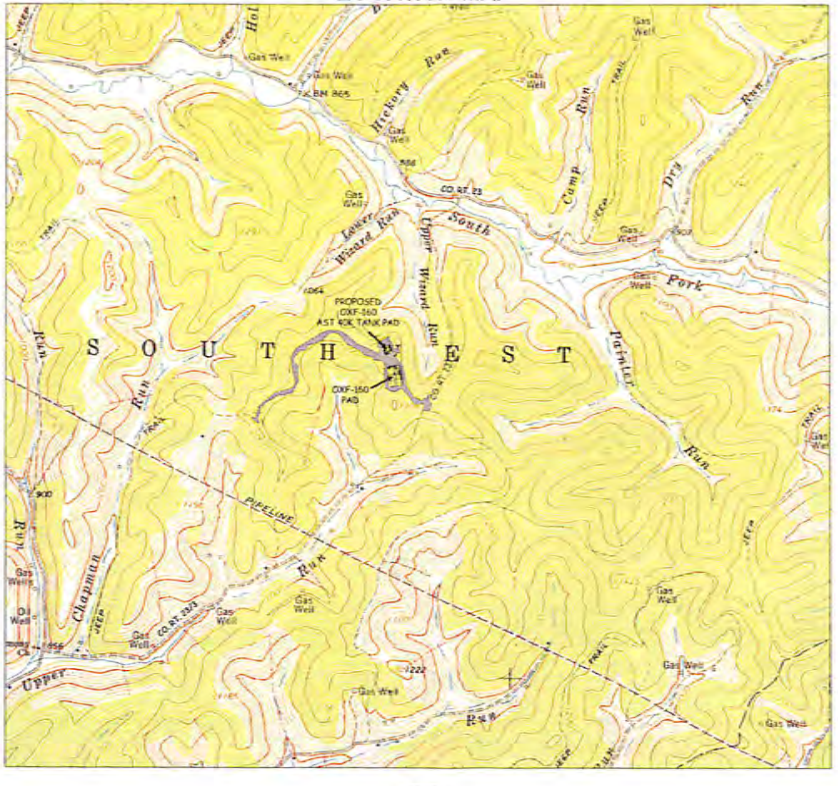

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DAF

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APR 22 2016
WV Department of Environmental Protection

REVISION	DATE	DESCRIPTION	BY
REVISION 1	1/31/16	PROPERTY OWNER LABELS	K.L.H.

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SLS Land & Energy Development

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REGISTERED PROFESSIONAL ENGINEER 15173 STATE OF OHIO

OXF-160 SITE PLAN MODIFICATION

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DATE: 03-30-2016
SCALE: 1" = 1000'
DESIGNED BY: W.A.W.
FILE NO: 8210
SHEET: 1 OF 12