



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

April 29, 2016

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-1706768, 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: 516483

Farm Name: HAESSLY LAND & TIMBER LLC

API Well Number: 47-1706768

Permit Type: Horizontal 6A Well

Date Issued: 04/29/2016

Promoting a healthy environment.

PERMIT CONDITIONS

4701706768

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.

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

1) Well Operator: EQT Production Co 306686 Doddridge South West Oxford
Operator ID County District Quadrangle

2) Operator's Well Number: 516483 Well Pad Name: OXF155

3) Farm Name/Surface Owner: Haessly Land & Timber LLC Public Road Access: Rt 21

4) Elevation, current ground: 1212.5 Elevation, proposed post-construction: 1199.0

5) Well Type (a) Gas Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

6) Existing Pad: Yes or No _____

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Formation: Marcellus; depth: 6635'; thickness 57'; pressure 2951 PSI

Michael Doff
3/16/16
DWJ CTR

8) Proposed Total Vertical Depth: 6635

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 10,003

4701706768

11) Proposed Horizontal Leg Length: 2244

12) Approximate Fresh Water Strata Depths: 59, 183, 204, 262, 419

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

14) Approximate Saltwater Depths: 1397

15) Approximate Coal Seam Depths: 132, 252, 292, 532

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
(04/15)

API NO. 47-1017 470.1706768

OPERATOR WELL NO. 516483

Well Pad Name: OXF155

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	40	40	60 ft ³ / CTS
Fresh Water	13 3/8	New	J-55	54.5	569	569	551 ft ³ / CTS
Coal							
Intermediate	9 5/8	New	A-500	40	3466	3466	1370 ft ³ / CTS
Production	5 1/2	New	P-110	20	10003	10003	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							

*MDC
3/10/14
DAF*

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					4701706760		

PACKERS

Kind:				
Sizes:				
Depths Set:				

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MAR 25 2016
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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and complete a new horizontal well in the Marcellus Formation. Drill the vertical to an approximate depth of 3530'. 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): 42.01

22) Area to be disturbed for well pad only, less access road (acres): 21.63

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)
 Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Used to speed the setting of cement slurries. 0.25% flake. Loss Circulation Material (LCM)
 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 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.

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 Page 3 of 3
 MHC
 3/16/16
 DPF

Well 516483(OXF155H7)

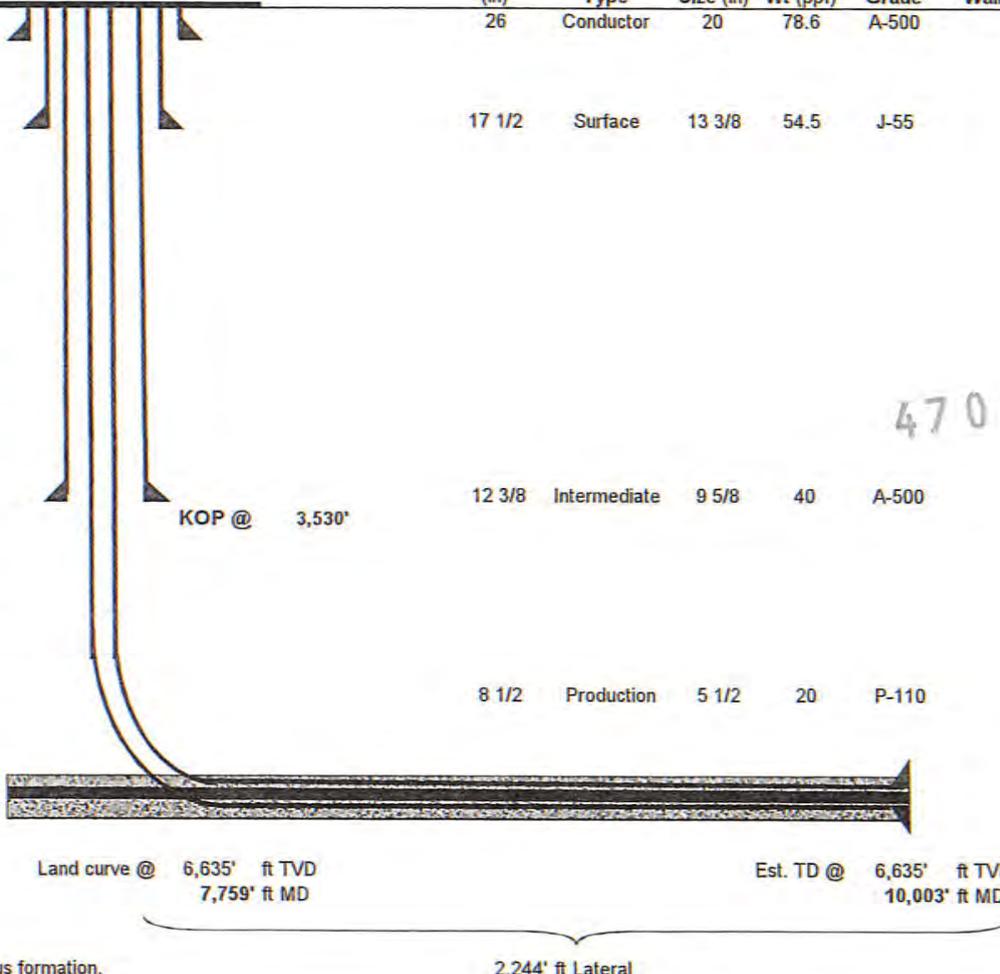
Note: Diagram is not to scale

EQT Production

Oxford Quad
Doddridge County, WV

Azimuth 333
Vertical Section 2000

Formations	Top TVD	Base TVD	Hole Size				Casing			Top of Cement	Method
			(in)	Type	Size (in)	Wt (ppf)	Grade	Wall Thickness (in)			
Conductor	40		26	Conductor	20	78.6	A-500	0.375	Surface	Displacement	
Base Fresh Water	419										
Surface Casing	569		17 1/2	Surface	13 3/8	54.5	J-55	0.38	Surface	Displacement	
Base Red Rock		1930									
Maxton	1570	1659									
Big Lime	1915	2321									
Weir	2205	2320									
Gantz	2416	2500									
Fifty foot	2500	2563									
Thirty foot	2608	2648									
Gordon	2648	2692									
Forth Sand	2754	2789									
Bayard	2930	3155									
Warren	3253	3308									
Speechley	3324	3416									
Intermediate Casing		3466	12 3/8	Intermediate	9 5/8	40	A-500	0.395	Surface	Displacement	
Balltown A	3842	4000									
Riley	4456	4512									
Benson	4889	5004									
Alexander	5146	5235									
Sonyea	6282	6410									
Middlesex	6410	6463									
Genesee	6463	6531									
Genesee	6531	6573									
Tully	6573	6596	8 1/2	Production	5 1/2	20	P-110	0.361	500' above top Producing Zone	Displacement	
Hamilton	6596	6611									
Marcellus	6611	6668									
Production Casing		10003 MD									
Onondaga		6668									



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Proposed Well Work:
 Drill and complete a new horizontal well in the Marcellus formation.
 Drill the vertical to an approximate depth of 3530'.
 Break off and drill curve. Drill lateral in the Marcellus. Cement casing.



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March 18, 2014

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

4701705768

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 "I" Cement)

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

Sincerely,

James Peterson
Environmental Resources Specialist / Permitting

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Office of Oil and Gas
601 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.

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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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WW-9
(2/15)

4701706768

API Number 47 - 017 - _____
Operator's Well No. 516483 _____

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) Sheep Run 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: flowback water & residual solids

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

Proposed Disposal Method For Treated Pit Wastes:

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

MAG
3/16/16
DAF

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

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

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Victoria J Roark*

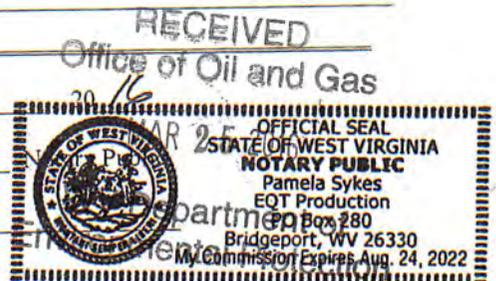
Company Official (Typed Name) Victoria J Roark

Company Official Title Permitting Supervisor

Subscribed and sworn before me this 29 day of Feb

Parla

My commission expires 8-24-22



4701706768

Form WW-9

Operator's Well No. 516483

EQT Production Company

Proposed Revegetation Treatment: Acres Disturbed 42.01 Prevegetation pH 6

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
KY-31	40
Alsike Clover	5
Annual Rye	15

Seed Type	lbs/acre
Orchard Grass	15
Alsike Clover	5

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Michael Doff Jul 9m

Comments: Presseed & Mulch any disturbed areas per WVDEP regulations. Maintain & upgrade S-2-5 as necessary.

4701706768

Title: Oil & Gas Inspector

Date: 3/16/16 RECEIVED

Field Reviewed? () Yes () No

Office of Oil and Gas

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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

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

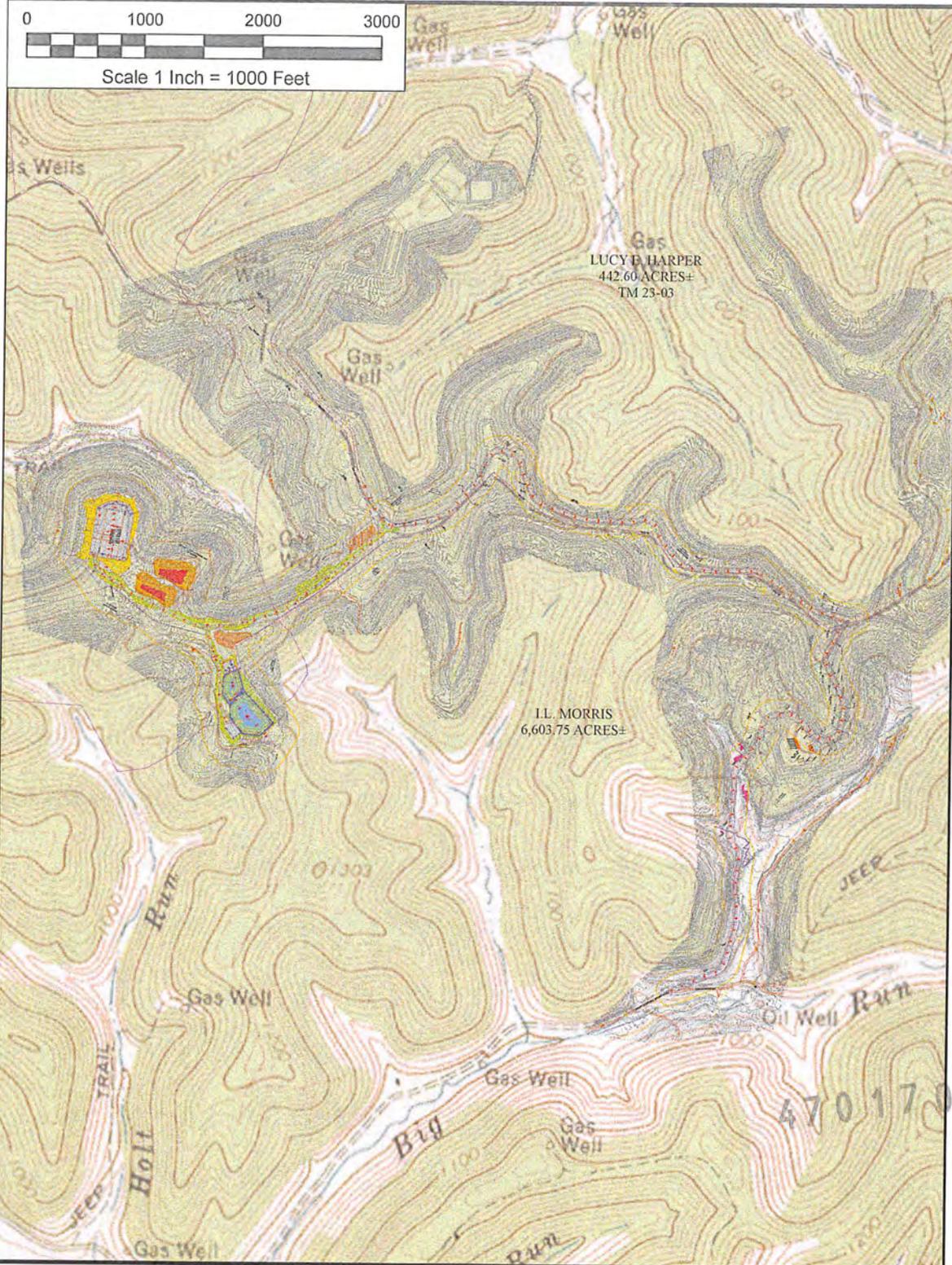
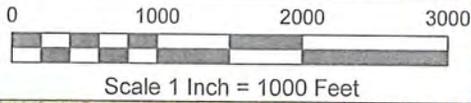
P.O. Box 430
Reno, OH 45773
740-516-6021 Well
740-374-2940 Reno Office Jennifer
Nobel County/Jackson Township
Permit # 4037

KING EXCAVATING CO.

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

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Pullman 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
Projected culvert inventory (for bid purposes only)		Well Site Location	See Site Plan
15" minimum diameter culverts	See Site Plan	Proposed Access Road	See Site Plan
24" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan
DRAWN BY: Dale Tomlin PS	DATE: August 13, 2015	FILE NO: 239-13	DRAWING FILE NO: 239-13 Rec Plan.dwg

Note: SEE SITE PLAN OF OXF 155 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.

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



Detail Sketch for Wells WV 513064, 513065, 513066, 513067, 513068, 513069, 516483 & 516484

Pullman 7.5' USGS QUADRANGLE		Proposed Disturbance Area		Note: SEE SITE PLAN OF OXF 155 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.
Projected culvert inventory. (for bid purposes only)		Well Site Location	See Site Plan	
15" minimum diameter culverts	See Site Plan	Proposed Access Road	See Site Plan	
24" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan	
DRAWN BY: Dale Tomlin PS	DATE: August 13, 2015	FILE NO: 239-13	DRAWING FILE NO: 239-13 Rec Plan.dwg	
	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		



Where energy meets innovation.™

Site Specific Safety Plan

EQT OXF155 Pad

Oxford

4701706768

Doddridge County, WV

For Wells:

516483 _____

Date Prepared:

February 3, 2016

[Signature]
EQT Production

[Signature]
WV Oil and Gas Inspector

Title

Title

Date

Date

2-26-16

3/16/16

Section V: BOP and Well Control

BOP equipment and assembly installation schedule:

BOP Equipment Marcellus/Upper Devonian Region

Size (in)	Operation	Hole Section	Type	Pressure Class	Test Pressure (psi)	Testing Frequency
13-5/8"	Drilling	Intermediate	Annular	3M	2100	Initial
13-5/8"	Drilling	Pilot	Annular	3M	2100	Initial, Weekly, Trip
13-5/8"	Drilling	Production	Annular	5M	3500	Initial, Weekly, Trip
13-5/8"	Drilling	Production	Blind	5M	4000	Initial, Weekly, Trip
13-5/8"	Drilling	Production	Pipe	5M	4000	Initial, Weekly, Trip
7-1/16"	Completions	Production	Cameron U's	5M	5000	Initial
13-5/8"	Drilling	Pilot (Onondaga Tag)	Annular	5M	4000	Initial, Weekly, Trip

BOP Equipment Utica Region

Size (in)	Operation	Hole Section	Type	Pressure Class	Test Pressure (psi)	Testing Frequency
13-5/8"	Drilling	Intermediate	Annular	3M	2,100	Initial, Weekly, Trip
13-5/8"	Drilling	Intermediate	Pipe	5M	4,000	Initial, Weekly, Trip
13-5/8"	Drilling	Intermediate	Blind	5M	4,000	Initial, Weekly, Trip
13-5/8"	Drilling	Pilot/Production	Annular	5M	3,500	Initial, Weekly, Trip
13-5/8"	Drilling	Pilot/Production	Pipe	10M	8,000	Initial, Weekly, Trip
13-5/8"	Drilling	Pilot/Production	Blind	10M	8,000	Initial, Weekly, Trip

Utica Region

Test BOPs as follows:

- Annular to 250 psi low/2,100 psi high for 30 mins each
- All ram, choke/kill valves, TIW, IBOP and all choke manifold valves to 250 psi low/4,000 psi high for 30 mins each
- Annular to 250 psi low/3,500 psi high for 30 mins each
- All ram, choke/kill valves, TIW, IBOP and all choke manifold valves to 250 psi low/8,000 psi high for 30 mins each

Wellhead Detail Marcellus/Upper Devonian Region

Size (in)	Type	M.A.W.P. (psi)
13-3/8" SOW x 13-5/8" 5M	Multi-bowl Well Head	5,000
13-5/8" 5M x 7-1/16 10M	Tubing Head	10,000
2-1/16" 5M	Christmas Tree	5,000

Wellhead Detail Utica Region

Size (in.)	Type	M.A.W.P. (psi)
13-3/8" x 13-5/8" 10M	Multi-bowl Well Head	10,000
13-5/8" 10M x 7-1/16 15M	Tubing Head	15,000
2-9/16" 10M	Christmas Tree	15,000

Well Control Trained Personnel:

- Drilling
 - EQT On-Site Specialist – 2 on rotating hitches.
 - Contract Group's – Tool Pusher & Drillers
- Completions & Production
 - EQT On-Site Specialist or Consultant

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Notification Procedure**Significant Event Notifications**

- A detailed record of significant drilling events will be recorded in the EQT Production Well Log Book.
- In addition to the record above, the local inspector of the WV DEP Office of Oil and Gas and Supervisor of EH&S will be notified by the EQT On-Site Specialist for the following events:
 - Lost Circulation
 - Encounter of Hydrogen Sulfide Gas
 - Immediate notification is required of any reading of Hydrogen Sulfide Gas greater than 10ppm
 - Fluid Entry
 - Abnormal Pressures
 - Blow-outs
 - Significant kicks
- Contact information can be found in Section II

Emergency Notifications

- In the event emergency response personnel and residents surrounding the work site are affected by specific events during the operation they must be notified as soon as possible by the On-site Specialist or their designee.

Flaring Notifications

- The local fire department(s) and/or county dispatch centers must be notified immediately prior to the ignition of a flare.

Marcellus/Upper Devonian Region Well Head Assembly DesignWritten Description:

Multi-bowl wellhead assembly with a 13 3/8" 5M x 13 3/8" SOW wellhead. A 13 5/8" 5M x 11" 5M DSA is used between the wellhead and tubing head. The tubing head is 11" 5M x 7 1/16" 10M. The tree is 2 1/16" 5M. Picture of stack up below.

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3/16/16
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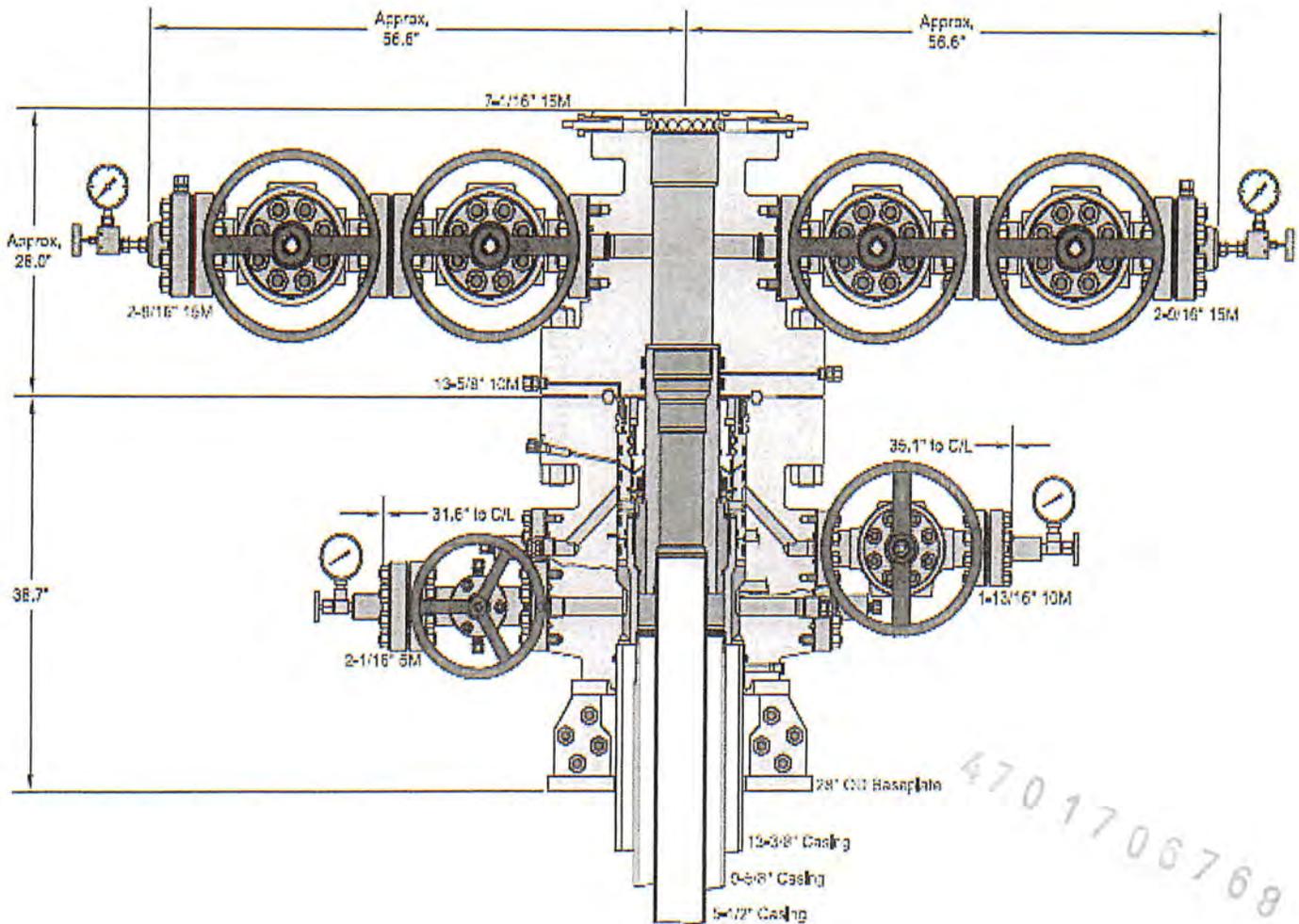
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Written Description:

Multi-bowl wellhead assembly with a 13 5/8" 10M x 13 3/8" SOW wellhead. A 13 5/8" 10M x 7 1/16" 15M DSA is used between the wellhead and tubing head. The tubing head is 7 1/16" 15M x 7 1/16" 15M. The tree is 2 9/16" 15M. Picture of stack up below.



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3/16/16
DAF

INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE OR USE THEREOF IS PERMITTED ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

CACTUS WELLHEAD LLC

13-3/8" X 9-5/8" X 5-1/2" MBU-2LR Wellhead Assembly
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head
& 2-9/16" 15M Tubing Head Valves

EQT PRODUCTION
NORTHEAST

DRAWN	DLE	RECEIVED 64 NOV 16
APPRV		Office of Oil and Gas
DRAWING NO.	DNE0000018	MAR 25 2016

Well Kill Killing Operations

In a well control situation, all influxes are to be handled using the Wait-and-Weight Method or the Driller's Method. With the Wait-and-Weight Method, the influx is circulated out while kill weight mud is simultaneously circulated down the drill pipe and up the annulus. The heavy mud is circulated to the bit at a slow kill rate, and the drill pipe pressure is maintained according to a prepared table that gives drill pipe pressure for the corresponding strokes of kill mud pumped.

The Driller's Method is accomplished in two circulations using constant drill pipe pressure and maintaining constant pump speed. The drill pipe pressure is kept constant by adjusting the choke. Once the annulus is clear of the influx, the mud weight is adjusted to kill-weight. The kill-weight mud is then circulated to the bit using constant pump speed and drill pipe pressure step-down plan. When kill-weight mud has reached the bit, the FCP is maintained until the heavy mud has reached the surface.

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Section VI: Hydrogen Sulfide

Purpose

The purpose of this plan is to insure the safety of the all on-site personnel as well as those residents in close proximity. Hazards associated with the possibility of H₂S encounters and the warning signs of H₂S exposure will be covered.

Scope

The policy is to consider every encounter with H₂S as potentially lethal until proven otherwise. Upon encountering H₂S, EQT employees or contractors(s) will determine the concentration of H₂S.

General Information

- Immediately upon suspicion or odor of H₂S on location the concentration shall be determined using properly functioning single or multi-gas detection devices which have a sensor calibrated to detect the presence of H₂S gas.
 - All readings should be documented along with the time they were obtained
 - All areas having a reading of greater than 10 ppm H₂S shall be evacuated until the area has been cleared of H₂S or properly trained personnel equipped with appropriate PPE arrive on location.
 - H₂S deadens the sense of smell; the presence or absence of H₂S odor is not an acceptable means for determining the presence of gas.
 - Never walk upwind or uphill towards any suspected source of H₂S; approach using a cross wind approach.
- Identify wind direction and evacuate personnel upwind and uphill of the leak; H₂S is heavier than air and will settle in low-lying areas.
- If necessary, the well will be shut in and the work will be stopped until adequate safety personnel and equipment have arrived on site.
- No work will take place until the appropriate personnel and equipment are in place.
- The primary considerations at this time will be:
 - H₂S concentration
 - Gas Volume
 - Weather Conditions
 - Dwellings in the area.

Personal Protective Equipment

- The EQT H₂S contractor will have an emergency trailer with SCBA's, additional gas detection equipment and other instrumentation and PPE required for appropriate response.
- All personnel on location; all personnel monitoring adjacent to the location; or all personnel associated with the operation, will be equipped with personal H₂S monitors.
- There will be a H₂S monitor located at the flow line exit, during the drilling of this well, as well as on the Rig Floor.
- This PPE shall be in addition to the PPE requirements listed in EQT's General Safety Policies and Procedures.

Training

- Only personnel whom have been properly trained; or are qualified in the hazards of H₂S, will be allowed on location during operations that have encountered, or projected to encounter H₂S.
- There will be a safety briefing prior to start of each shift or tower and hazards and currently readings of H₂S will be documented on a TSM or JSA.

Personnel Accountability and Briefing (Assembly) Areas

- The sign in sheet of the EQT Tailgate Safety Meeting (TSM) Form shall be used for Accountability of on-site personnel as well as visual confirmation with the current supervisor of the site. Personnel should not leave the site without first informing their immediate supervisor, Emergency Coordinator, and/or On-Site Representative (OSR).
- The sign in roster is located at: EQT Company Trailer
- Primary Assembly Area: EQT Company Trailer
- Secondary Assembly Area: Access road intersection with pad entry
- Tertiary Assembly Area: Start of the access road or a safe location chosen based on conditions
- Specific considerations for H₂S should include:
 - Windsocks or streamers for indication of wind direction.
 - Being upwind of harmful levels of H₂S
 - Avoiding low lying areas
- Signage will be utilized along the location road, or any other entrances to the location, if H₂S is encountered.

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Section VIII: Collision Avoidance

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Section VII: Collision Avoidance

Collision avoidance is managed by utilizing gyro tools, downhole steering tools (MWD/EM), and anti-collision software by engineers. Two drilling scenarios that occur are normal pad drilling and return to pad drilling. EQT categorizes these two scenarios as such because the two scenarios utilize very different mitigation plans.

Normal pad drilling is defined when a top hole rig drills each well on the pad down to kick off point (KOP) and then a bottom hole rig moves onto the pad after the top-hole rig moves off and drills the curve and lateral sections. Normal pad drilling can also be defined when a bottom hole rig moves to a pad and drills each well on the pad from surface to TD (Grassroots Well). Normal pad drilling carries much less risk and thus does not require frequent surveying and collision avoidance maneuvers because no producing wells are present and risk of unexpected pressure or well control events are not present.

Return to pad drilling is a scenario where a top-hole rig or a bottom hole rigs returns to a pad to drill additional well(s) that currently have producing (live) wells on the pad. Return to pad drilling requires more frequent surveying and anti-collision avoidance management because producing wells are present. By utilizing good engineering well design, anti-collision software and frequent surveys, wells can safely be drilled while existing or producing wells exist on the pad.

With both normal and return to pad drilling operations, every well planned to be drilled has a surface plot diagram, 2-D plot diagram, and a pad plot diagram prepared. (Plots attached under "Collision Avoidance Diagrams") In each scenario, a continuous north seeking gyro tools, MWD/EM tools, and anti-collision processes are utilized to mitigate the risk of downhole collisions. Anti-collision processes include conformation of gyro accuracy, evaluation of anti-collision software (Compass or equivalent program), and 2-D/3-D model plotting. In both scenarios, it is EQT's standard operating procedure (SOP) for the on-site supervisor of EQT and the directional drilling company supervisor to confirm the orientation of the directional tools and ensure that the tools are orientated consistent with the directional motor's high side. When anti-collision is a risk and directional assemblies are required to navigate utilizing a gyro tool, it is EQT's SOP to use the Gyro company's muleshoe to ensure the accuracy of the gyro seat in the muleshoe. In addition, when using this muleshoe, it is EQT's SOP to have the EQT's on-site supervisor, directional drilling company supervisor, and gyro company supervisor confirm the alignment and orientation of the tool and ensure that the tools are orientated consistent with the directional motor's high side. This ensures the azimuthal direction is correct when steering the well.

Normal Pad Drilling

In this scenario, there are no existing wells on the pad. A top-hole rig will move on to the pad and drill each well to KOP and then a bottom hole rig will move on after the top hole rig finishes and drill the each well to horizontal TD. At times, the bottom hole rig may drill each well from surface to horizontal TD.

During this scenario, if two wells come within 10 feet or a separation factor of 1.5, each survey is monitored closely and anti-collision is run after each survey until the wells are clear of a collision risk. The frequency of surveys can vary from 30-500' depending on the trajectory of the wells, hole walk, and risk of collision. If a SF ≤ 1.0 or $\leq 5'$ separation is encountered or a collision occurs, an email notification will be sent by the EQT on-site drilling supervisor to the appropriate state inspector. In the event the proximity of wells get to a point where a collision cannot be avoided or a collision occurs, EQT will properly secure each well and evaluate the most prudent plan forward while communicating plans with the state inspector.

Vertical Section:

Each hole is drilled to KOP by either the top-hole rig or bottom hole rig. Once KOP is achieved then a gyro survey is run. No nudges are planned.

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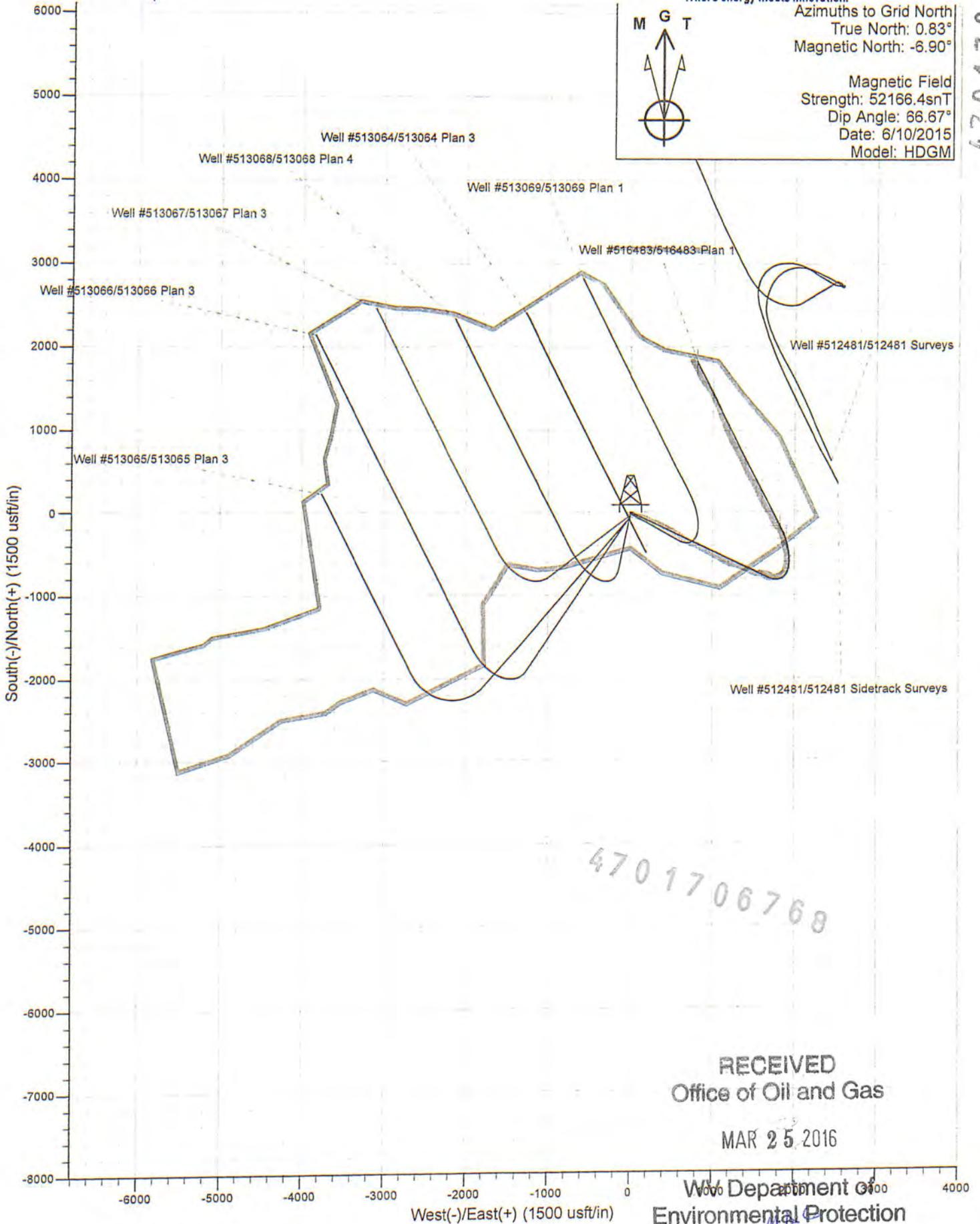
Where energy meets innovation.

Azimuths to Grid North
True North: 0.83°
Magnetic North: -6.90°



Magnetic Field
Strength: 52166.4snT
Dip Angle: 66.67°
Date: 6/10/2015
Model: HDGM

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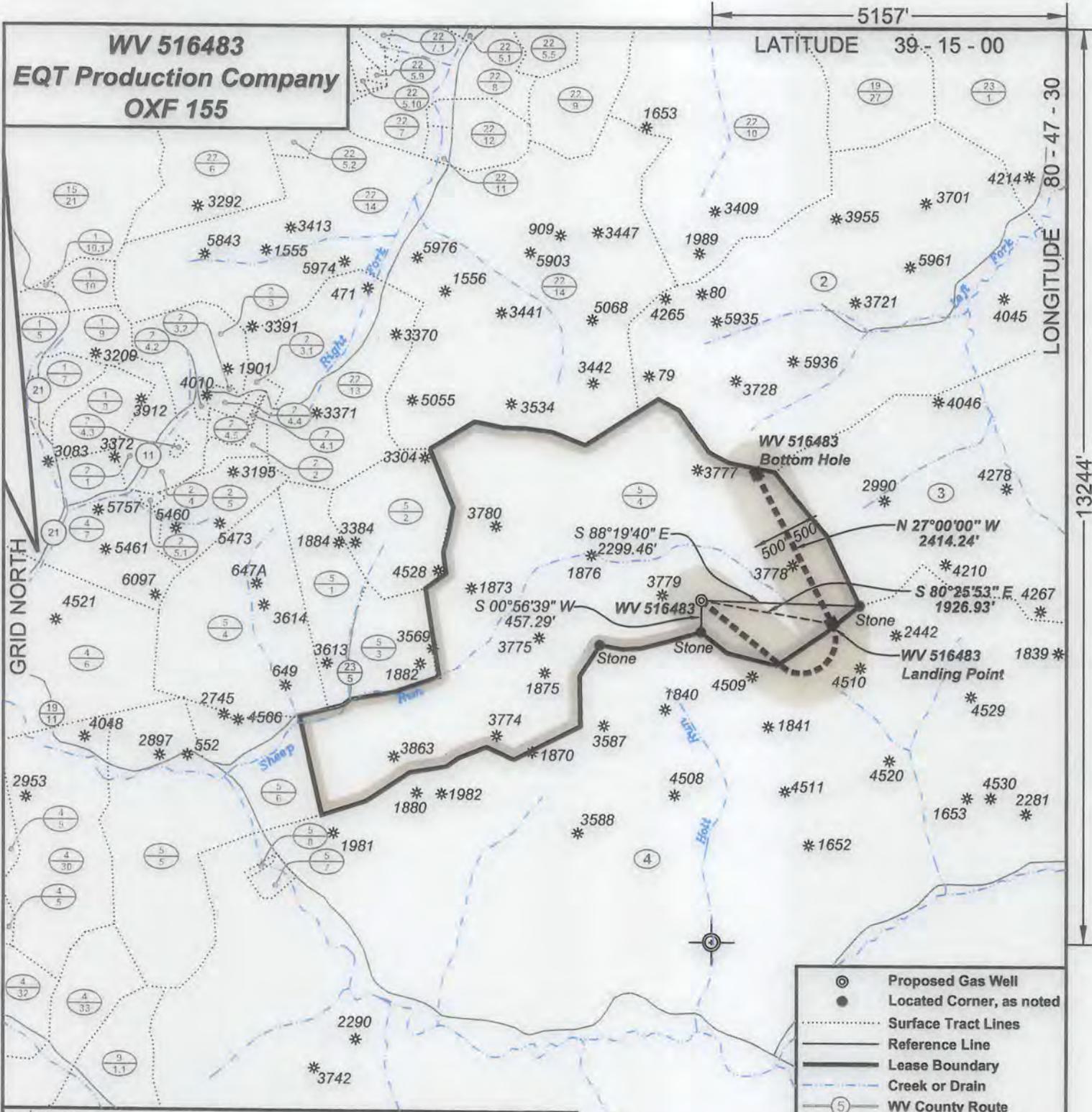
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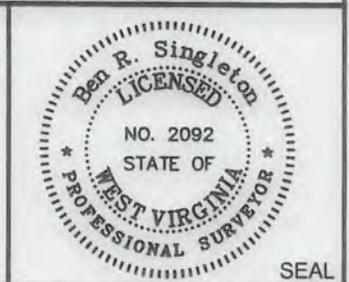
(⊕) Denotes Location of Well on United States Topographic Maps

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



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

Ben R. Singleton
P.S. 2092



FILE NO: 239-13
DRAWING NO: Oxford 155 H7
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: February 17 20 16
OPERATOR'S WELL NO. 516483
API WELL NO. H6A
47 - 017 - 06768
STATE COUNTY PERMIT

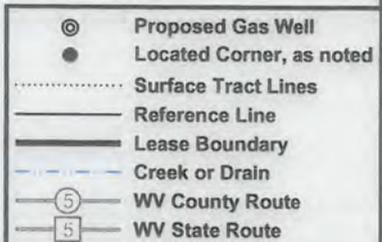
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: Original 1212.5 Proposed 1199 WATERSHED Sheep Run of South Fork of Hughes River QUADRANGLE: Oxford
DISTRICT: South West COUNTY: Doddridge
SURFACE OWNER: Haessly Land & Timber, LLC ACREAGE: 615
ROYALTY OWNER: Eli Nutter Heirs LEASE NO: 106125 ACREAGE: 615
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: 6,611

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

WV 516483
EQT Production Company
OXF 155

- Oxford 155**
- H7, 516483
 - H6, 513069
 - H5, 513068
 - H4, 513067
 - H3, 513066
 - H2, 513065
 - H1, 513064

Tract I.D.	Tax Map No.	Parcel No.	District	Surface Tract Owner	Acres
2	23	3.1	West Union	William Randall Hamblet, et al.	442.6
3	23	03	West Union	Lucy M. Harner	442.6
4	10	02	South West	I.L. (Ike) Morris	6600.75

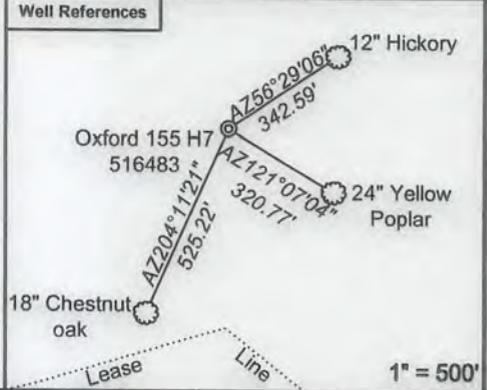
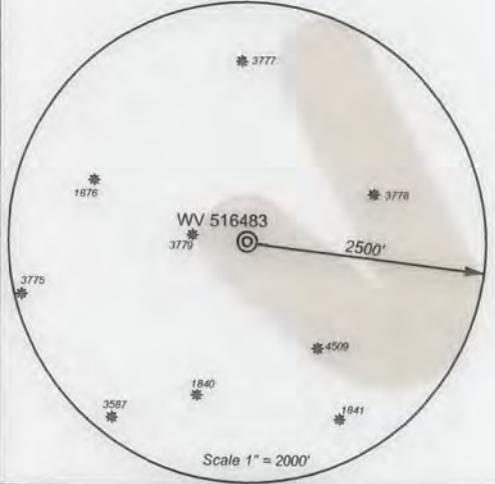


WV 516483 coordinates:
 NAD 27 N: 262,624.13 E: 1,628,852.25
 NAD 27 Lat: 39.213629 Long: -80.809912
 NAD 83 UTM N: 4,340,510.27 E: 516,425.35

WV 516483 Landing Point coordinates:
 NAD 27 N: 262,303.82 E: 1,630,752.37
 NAD 27 Lat: 39.212826 Long: -80.803190
 NAD 83 UTM N: 4,340,422.35 E: 517,005.84

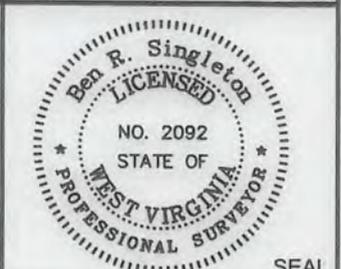
WV 516483 Bottom Hole coordinates:
 NAD 27 N: 264,454.93 E: 1,629,656.32
 NAD 27 Lat: 39.218687 Long: -80.807168
 NAD 83 UTM N: 4,341,072.10 E: 516,661.00

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.



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

Ben R. Singleton
 P.S. 2092



FILE NO: 239-13
 DRAWING NO: Oxford 155 H7
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: February 17 20 16
 OPERATOR'S WELL NO. 516483
 API WELL NO. H6A
 47 - 017 - 06768
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: Original 1212.5 Proposed 1199 WATERSHED Sheep Run of South Fork of Hughes River QUADRANGLE: Oxford
 DISTRICT: South West COUNTY: Doddridge

SURFACE OWNER: Haessly Land & Timber, LLC ACREAGE: 615
 ROYALTY OWNER: Eli Nutter Heirs LEASE NO: 106125 ACREAGE: 615

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: 6,611

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

**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

4701709360

**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 Office of Oil and Gas, including but not limited to the following:

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

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

Well Operator: EQT Production Company
 By: Victoria J. Roark
 Its: Permitting Supervisor

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Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>106125</u>	<u>Eli Nutter Heirs (current royalty owner)</u>		min pd 1/8th	
	Eli Nutter and Mary Nutter (original lessor)	J.L. Newman		LB21/211
	J.L. Newman	The Philadelphia Company of West Virginia		LB24/56
	The Philadelphia Company of West Virginia	Pittsburgh and West Virginia Gas Company		LB32/253
	Pittsburgh and West Virginia Gas Company	Equitable Gas Company		LB121/303
	Equitable Gas Company	Equitrans, Inc.		LB154/475
	Equitrans, Inc.	Equitrans, LP		DB329/645
	Equitrans, LP	Equitable Production-Eastern States, Inc		DB192/19
	Equitable Production-Eastern States, Inc/Equitable Production Company	EQT Production Company		CB281/346 (Name Change)
4-10-2	I.L. Morris	EQT Production Company	N/A	360/100 Subsurface

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

Todd Klaner
Manager, Permitting
tklaner@eqt.com

February 18, 2016

WV DEP Reviewer

RE: **EQT Production Company**
PAD ID – OXF155
Well# - 516483
Doddridge 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 10/02 shown on the well plat.

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

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

Regards,

Todd Klaner
Manager, Permitting
EQT Production Company

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Subsurface
Easement

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Environmental Protection

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

1. NAME AND ADDRESS OF GRANTOR:

I.L. Morris
P.O. Box 397
Glennville, WV 26351

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 dated the 30th day of July, 2015, was entered into for good and valuable consideration by and between I.L. Morris ("Grantor", whether one or more) and EQT Production Company ("Grantee").

4. DESCRIPTION OF PREMISES: That certain tract or parcel of land containing 6600.75 acres, more or less, located on Big Run in Doddridge County, West Virginia, being the same lands conveyed to Grantor by Deed dated the 12th day of February, 1996, of record in the Office of the Clerk of the County Commission of Doddridge County, West Virginia in Deed Book 230, at Page 307. ("the Property").

5. TERM: The SUBSURFACE RIGHT-OF-WAY AND EASEMENT 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.

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

GRANTOR:

GRANTEE:
EQT Production Company

115 PROFESSIONAL PLACE
BRIDGEPORT, WV 26330-4609

[Signature]
I.L. Morris

[Signature] #
By: John W. Damato
Its: Attorney in fact

4701705769

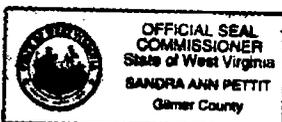
STATE OF West Virginia;

COUNTY OF Gilmer;

I, Sandra Ann Pettit, a Notary Public, in and for said State and County, do hereby certify that I.L. Morris, 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 their free act and deeds for uses and purposes therein set forth.

Given under my hand this 30th day of July, 2015.

My Commission expires: 8-7-2017.



[Signature]
Sandra Ann Pettit
Notary Public

STATE OF WEST VIRGINIA;

COUNTY OF HARRISON;

I, Charles C. Metzgar, 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 26th day of August, 2015.

My Commission expires: May 21, 2017.



[Signature]
Charles C. Metzgar
Notary Public

John S. Bowers
DeWitt County 25109-07 PB
Instrument No 251392
Date Recorded 08/31/2015
Document Type MEX/R/W
Pages Recorded 2
Book-Page 360-100
Recording Fee \$5.00
Additional \$6.00

This instrument was prepared by EQT Production Company, 1719 Pennsylvania Avenue, Charleston, WV 25302.

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Environmental Protection



February 17, 2016

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

Re: OXF155 well pad, well number 516483
Southwest District, Doddridge County

4701103769

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,

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

Vicki Roark
Permitting Supervisor-WV

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Office of Oil and Gas
MAR 02, 2016
WV Department of
Environmental Protection

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

Date of Notice Certification: 2-29-16

API No. 47- 017 -
Operator's Well No. 516483
Well Pad Name: OXF155

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: <u>WV</u>	UTM NAD 83	Easting: <u>516,425.35</u>
County: <u>Doddridge</u>		Northing: <u>4,340,510.27</u>
District: <u>Southwest</u>	Public Road Access: <u>Rt 21</u>	
Quadrangle: <u>Oxford</u>	Generally used farm name: <u>Haessly Land & Timber LLC</u>	
Watershed: <u>Sheep Run of South Fork Hughes River</u>		

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.

<p>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:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p align="center">OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p align="center">RECEIVED Office of Oil and Gas</p> <p align="center">MAR 02 2016</p> <p><input type="checkbox"/> RECEIVED</p> <p align="center">RECEIVED WV Department of Environmental Protection</p> <p><input type="checkbox"/> RECEIVED</p>
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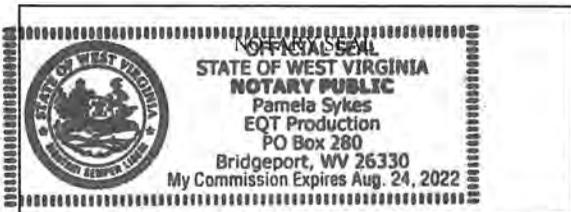
Required Attachments:

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.

Certification of Notice is hereby given:

THEREFORE, I *[Signature]*, 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:	<u>EQT Production Company</u>	Address:	<u>P.O. Box 280</u>
By:	<u>Victoria J. Roark</u>		<u>Bridgeport, WV 26330</u>
Its:	<u>Permitting Supervisor</u>	Facsimile:	<u>304-848-0041</u>
Telephone:	<u>304-848-0076</u>	Email:	<u>vroark@eqt.com</u>



Subscribed and sworn before me this 29 day of Feb 2016.
[Signature] Notary Public
 My Commission Expires 8-24-22

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.

4701706768

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**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: 2-29-16 **Date Permit Application Filed:** 2-29-16

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: _____

COAL OWNER OR LESSEE
Name: See Attached
Address: _____

Name: _____
Address: _____

COAL OPERATOR
Name: _____
Address: _____

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

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

Name: _____
Address: _____

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

SURFACE OWNER(s) (Impoundments or Pits)
Name: See Attached
Address: _____

Name: _____
Address: _____

*Please attach additional forms if necessary

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Surface Owner:

Haessly Land & Timber LLC
25 Sheets Run Rd
Marietta OH 45750

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Surface Owner Access Road:

Haessly Land & Timber LLC
25 Sheets Run Rd
Marietta OH 45750

Lucy E Harper
511 Boca Ciega Point Blvd North
St Petersburg FL 33708

I L (Ike) Morris
PO Box 397
Glenville WV 26351

4701706768

WW-6A

Surface Owner Pit/Impoundment:

I L (Ike) Morris
PO Box 397
Glenville WV 26351

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Coal Owners:

Hassel Thomas Hicks ✓
361 Glade Creek Estate
Coolridge WV 25825

Skeeter Hicks ✓
220 W Marigold St
Munhall PA 15120

David Thomas Hickman Jr ✓
3315 Dublin Manor Rd
Street MD 21154

Dorothy Gola ✓
PO Box 117
Reynoldsville WV 26422

Frank J Hicks ✓
7232 Twin Lakes Lane
Pensacola FL 32504

Elizabeth D Delabar ✓
6405 Nelson Dr
LaPlata MD 20646

Edward Joe Nutter ✓
RT 2 Box 196
Salem WV 26426

Ancient Energy ✓
12088 Middle Island Rd
Alma WV 26320

Anna Marie Guthrie ✓
4735 Dustin Place Dr
Southaven MS 38671

Peggy A Mudd
Address Unknown

Mary A.G. Willis
Address unknown

Mary Catherine Burgess ✓
17 Washington Ave
North Bend OH 45052

Stephen E Miner ✓
PO Box 55853
Shoreline WA 98155

Drew M Spiker ✓
103 Cedar Ridge Dr
Ripley WV 25271

Jeffery Spiker ✓
RR1 Box 161
Lost Creek WV 26385

Terry Alan Nutter ✓
9039 Willey Rd
Harrison OH 45030

Tacy Ruth Paul Roby ✓
8708 Tuckerman Land
Potomac MD 20854

Michael Spiker ✓
103 Cedar Ridge Dr
Ripley WV 25271

Cathy Gregis
RR 2 Box 140
Bristol WV 26332

Eric Wittenbach ✓
913 Thornmeyer Rd
Sequin TX 78155

Edward M Green }
Address Unknown

01705768

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.

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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 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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(8-13)

API NO. 47-017 -
OPERATOR WELL NO. 516483
Well Pad Name: OXF155

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 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 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

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.**

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MAR 11 2018
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Environmental Protection

4-11-2018 10:00

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.

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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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(8-13)

API NO. 47- 017 -
OPERATOR WELL NO. 516483
Well Pad Name: OXF155

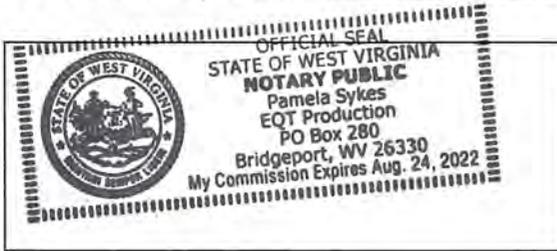
Notice is hereby given by:

Well Operator: EQT Production Company
Telephone: 304-848-0082
Email: vroark@eqt.com

Address: 115 Professional Place P.O. 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.



[Handwritten Signature]
Subscribed and sworn before me this 29 day of Feb, 2016.
[Handwritten Signature] Notary Public
My Commission Expires 8-24-22

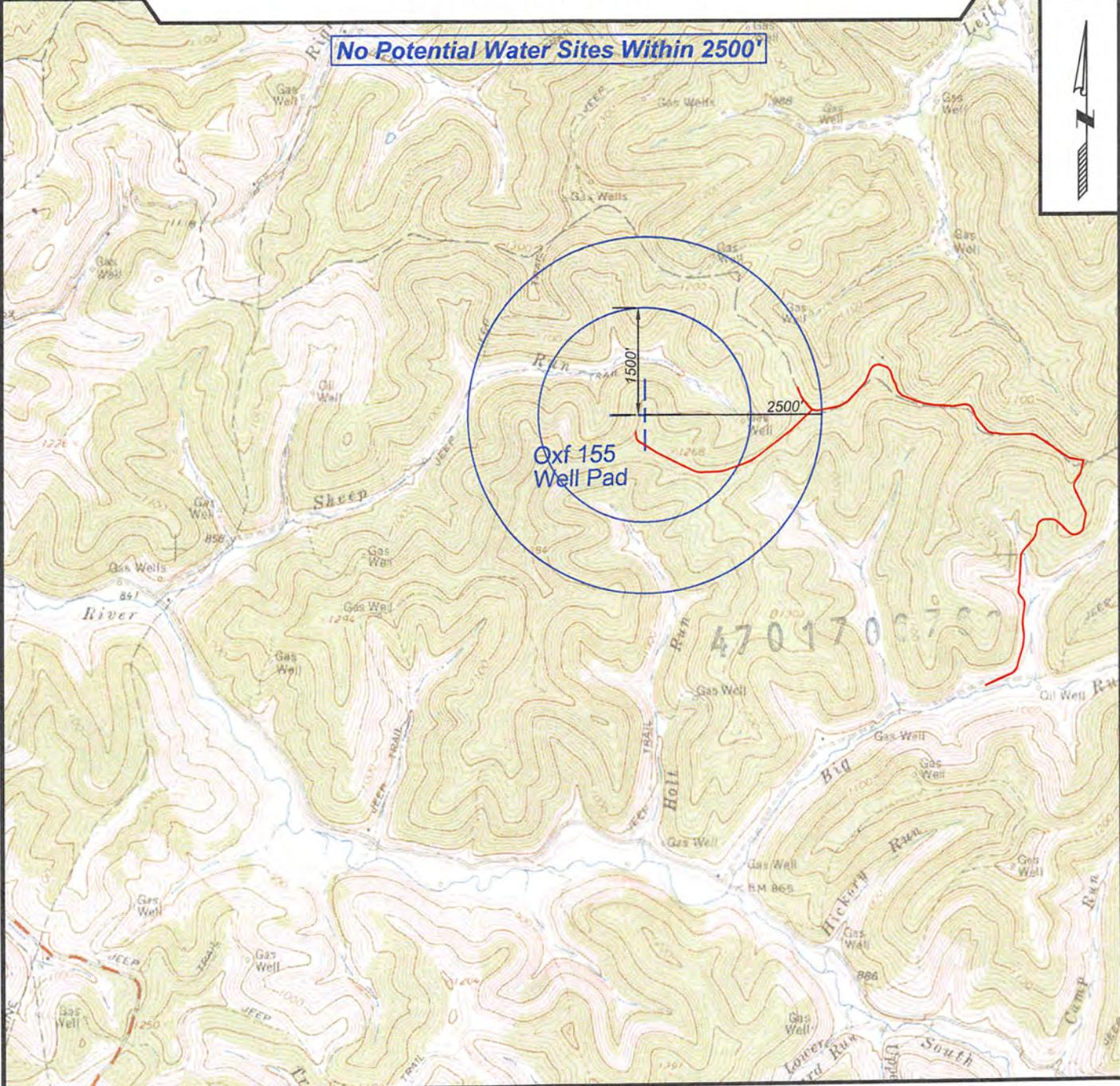
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Topo Quad: Oxford 7.5'
County: Doddridge
District: Southwest

Scale: 1" = 2000'
Date: January 29, 2015
Project No: 239-36-S-13

Oxford 155 Well Pad



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

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

WW-6A

Surface Owner:

Haessly Land & Timber LLC ✓
25 Sheets Run Rd
Marietta OH 45750

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Surface Owner Access Road:

Haessly Land & Timber LLC
25 Sheets Run Rd
Marietta OH 45750

Lucy E Harper
511 Boca Ciega Point Blvd North
St Petersburg FL 33708

I L (Ike) Morris
PO Box 397
Glenville WV 26351

470 1706740

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Surface Owner Pit/Impoundment:

I L (Ike) Morris
PO Box 397
Glenville WV 26351



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Surface Owner:

Haessly Land & Timber LLC
25 Sheets Run Rd
Marietta OH 45750

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Surface Owner Access Road:

Haessly Land & Timber LLC
25 Sheets Run Rd
Marietta OH 45750

Lucy E Harper
511 Boca Ciega Point Blvd North
St Petersburg FL 33708

I L (Ike) Morris
PO Box 397
Glenville WV 26351

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Environmental Protection

WW-6A

Surface Owner Pit/Impoundment:

I L (Ike) Morris
PO Box 397
Glenville WV 26351

RECEIVED
Office of Oil and Gas
MAR 02 2016
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

August 7, 2015

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

470700108

Subject: DOH Permit for the OXF155 Pad, Doddridge County

513064 OXF155H1	513065 OXF155H2	513066 OXF155H3
513067 OXF155H4	513068 OXF155H5	513069 OXF155H6
516483 OXF155H7	516484 OXF155H8	

Dear Mr. Martin,

This well site will be accessed from Permit # 04-2014-0427 applied for by EQT Production Company for access to the State Road for a well site located off of Doddridge County Route 23/2 SLS.

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

RECEIVED
Office of Oil and Gas

Very Truly Yours,

MAR 02 2016

Gary K. Clayton
WV Department of
Environmental Protection

Gary K. Clayton
Regional Maintenance Engineer
Central Office O&G Coordinator

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

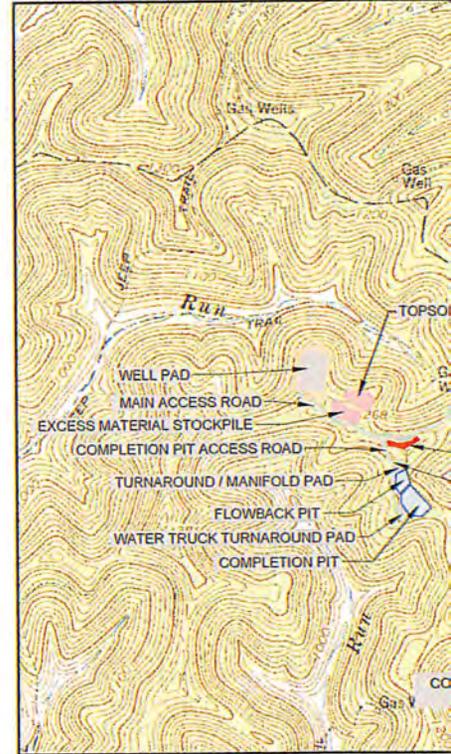
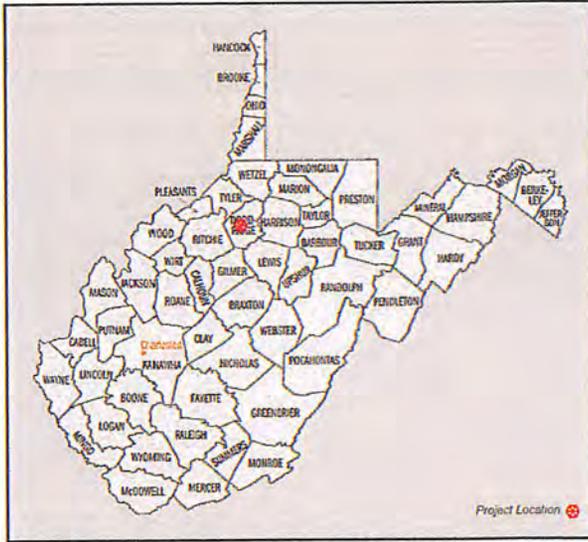
Anticipated Frac Additives
Chemical Names and CAS numbers

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

4701706768

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Office of Oil and Gas
MAR 08 2016
WV Department of
Environmental Protection

OXF FINAL SITE DESIGN , CO EROSION & SEDIMEN EQT PRODUCT



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:	54017C0225C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A

PROPOSED WELL LEGEND

- H8 516484 - LAT: 39.213754 / LONG:-80.809732
- H7 516483 - LAT: 39.213713 / LONG:-80.809739
- H6 513069 - LAT: 39.213673 / LONG:-80.809747
- H5 513068 - LAT: 39.213632 / LONG:-80.809754
- H4 513067 - LAT: 39.213591 / LONG:-80.809762
- H3 513066 - LAT: 39.213550 / LONG:-80.809769
- H2 513065 - LAT: 39.213510 / LONG:-80.809777
- H1 513064 - LAT: 39.213469 / LONG:-80.809784

Beginning Main Access Road
Center of Completion Pit
Center of Flowback Pit
Center of Well Pad
Beginning of OXF 149 access road at county road 234



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



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

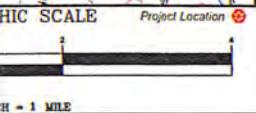
© 2011 MISS Utility of West Virginia. All rights reserved. MISS Utility of West Virginia is a registered trademark of MISS Utility of West Virginia.

155
 CONSTRUCTION PLANS, &
 CONTROL PLANS
 ON COMPANY



LOCATIONS
 NAD 83

LATITUDE	LONGITUDE
39 214037	-80 801484
39 209547	-80 805559
39 210235	-80 806013
39 213727	-80 809737
35 203497	-80 792660



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

**AFFECTED PROPERTIES
 WEST UNION DISTRICT
 DODDRIDGE COUNTY, WV**

TM 23 - PCL 3
 LUCY E. HARPER
 442.60 ACRES
 SITE DISTURBANCE
 MAIN ACCESS ROAD = 0.78 ACRES
 TOTAL DISTURBANCE = 0.78 ACRES
 TIMBER REMOVAL = 0.61 ACRES

**AFFECTED PROPERTIES
 SOUTHWEST DISTRICT
 DODDRIDGE COUNTY, WV**

HASSLY LAND & TIMBER, LLC
 615 ACRES
 SITE DISTURBANCE
 MAIN ACCESS ROAD = 9.34 ACRES
 COMPLETION PIT ACCESS ROAD = 0.12 ACRES
 TOPSOIL STOCKPILE = 2.53 ACRES
 EXCESS MATERIAL STOCKPILE = 2.33 ACRES
 TIMBER & BRUSH STORAGE = 1.42 ACRES
 WELL PAD 7.83 ACRES
 TOTAL DISTURBANCE = 23.27 ACRES
 TIMBER REMOVAL = 23.55 ACRES

I. L. MORRIS
 663.15 ACRES
 SITE DISTURBANCE
 COMPLETION PIT ACCESS & TURNAROUND = 1.84 ACRES
 COMPLETION PIT = 3.49 ACRES
 FLOWBACK ACCESS & MANIFOLD TURNAROUND = 0.96 ACRES
 FLOWBACK PIT = 1.20 ACRES
 TOTAL DISTURBANCE = 7.49 ACRES
 TIMBER REMOVAL = 1.16 ACRES
 EXISTING WELLS ACCESS ROAD = 10.26 ACRES

*Michael Hoff
 3/16/16*

4701706768

Project Contacts

EQT

Chris Metzgar - EQT Production Company
 304-848-0075 Off.

Billy Miller - Landman II-Drilling EQT Production Company
 304-627-0367 Mobile
 304-848-0039 Office

Surveyor & Engineer

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

Thomas D. Corathers - PE, PS - Hornor Brothers Engineers
 304-624-6445 Office

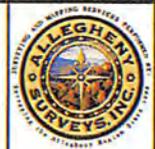
Design Certification

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 computed above grade storage volume is less than 15 acre feet, filling method pumped, frac. pond is lined.

SHEET INDEX

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EXISTING ACCESS ROAD CROSS SECTIONS	30-37
CONSTRUCTION DETAILS	38-40
RECLAMATION PLANS	41-48

DATE	REVISIONS



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



Hornor Brothers Engineers
 Since 1902
 Civil, Mining, Environmental and Consulting Engineering
 148 South Third Street, First Floor Box 260,
 Charleston, West Virginia, 25301 (204) 764-6445



THIS DOCUMENT
 PREPARED FOR
 EQT PRODUCTION
 COMPANY

FINAL SITE DESIGN COVER SHEET
 OXF 155
 WELL PAD SITE
 SOUTHWEST & WEST UNION DISTRICTS
 DODDRIDGE COUNTY, WV

Office of Oil and Gas

MA 25 2016
 Date: 8/17/2015
 Scale: N.A.
 WV Department of Environmental Protection
 1 of 48

OXF 155

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

West Virginia Coordinate System of 1983
State Plane Grid North
Elevations NAVD83
Established By Survey Grade GPS



Allegheny Surveys Inc.
 P.O. Box 438
 237 Birch River Road
 Birch River, WV 26610
 304-648-8606



Hornor Bros. Engineers
 Civil, Survey and
 Consulting Engineers
 1000 Main Street, P.O. Box 100
 Hurricane, WV 26037

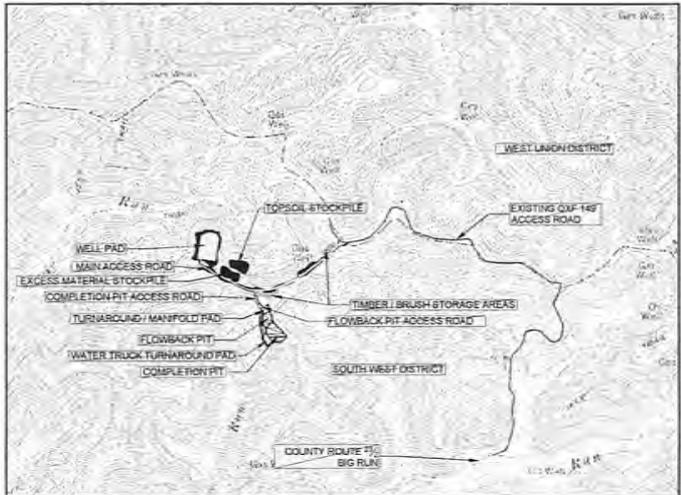


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FINAL SITE DESIGN COVER SHEET
OXF 155
WELL PAD SITE
 SOUTHWEST & WEST UNION DISTRICTS
 DODDGE COUNTY, WV



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	54017C0025C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN	N/A



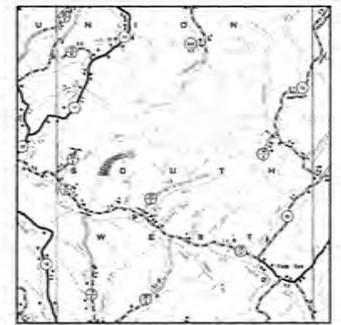
- AFFECTED PROPERTIES WEST LONO DISTRICT DODDGE COUNTY, WV**
- TW 20 - PG 2
 - LUCY E. HANMER
 - 46.80 ACRES
 - SITE DISTURBANCE
 - MAIN ACCESS ROAD = 0.19 ACRES
 - TIMBER REMOVAL = 0.81 ACRES
- AFFECTED PROPERTIES SOUTH WEST DISTRICT DODDGE COUNTY, WV**
- HARVEY LAND & TIMBER, LLC
 - 876 ACRES
 - SITE DISTURBANCE
 - MAIN ACCESS ROAD = 0.34 ACRES
 - COMPLETION PIT ACCESS ROAD = 0.12 ACRES
 - TOPSOIL STOCKPILE = 2.53 ACRES
 - EXCESS MATERIAL STOCKPILE = 2.22 ACRES
 - TIMBER & BRUSH STORAGE = 1.42 ACRES
 - WELL PAD = 0.3 ACRES
 - TIMBER REMOVAL = 22.38 ACRES
- J. E. MORRIS**
- 6.8075 ACRES
 - SITE DISTURBANCE
 - COMPLETION PIT ACCESS & DRAINAGE = 1.84 ACRES
 - COMPLETION PIT = 2.80 ACRES
 - FLOWBACK ACCESS & MANUFACTURING/TURNAROUND = 0.18 ACRES
 - FLOWBACK PIT = 1.22 ACRES
 - TIMBER REMOVAL = 1.18 ACRES
 - EXISTING WELL ACCESS ROAD = 10.26 ACRES

APPROVED
WVDEP OOG
 9/29/2015

PROPOSED WELL LEGEND

- H8 516484 - LAT: 39.213754 / LONG: -80.809732
- H7 516483 - LAT: 39.213713 / LONG: -80.809739
- H6 513069 - LAT: 39.213673 / LONG: -80.809747
- H5 513068 - LAT: 39.213632 / LONG: -80.809754
- H4 513067 - LAT: 39.213591 / LONG: -80.809762
- H3 513066 - LAT: 39.213550 / LONG: -80.809769
- H2 513065 - LAT: 39.213510 / LONG: -80.809777
- H1 513064 - LAT: 39.213469 / LONG: -80.809784

SITE LOCATIONS		
NAME	LATITUDE	LONGITUDE
Beginning Main Access Road (H06)	39.214037	-80.807484
Center of Completion Pit	39.200567	-80.805589
Center of Flowback Pit	39.210225	-80.808073
Center of Well Pad	39.211127	-80.808217
Beginning of OXF-149 access road at county road 212	39.203991	-80.762683



- Project Contacts**
- EDT**
- Chris Metzger - EDT Production Company
304-648-0075 Office
 - Billy Miller - Landman @ Drilling EDT Production Company
304-627-0267 Mobile
304-648-0039 Office
 - Surveyor & Engineer**
 - Ben Singleton - PS - Allegheny Surveys Inc.
304-648-8606 Office
 - Thomas D. Conners - PE - PC-Hornor Brothers Engineers
304-624-6445 Office

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DATE	REVISIONS	Date: 8/17/2015
		Scale: N.A.
		Drawn by: BSA/ADP
		File No: 052771
		Page: 1 of 48

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 West Virginia State Law
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 Requires that you call two business
 days before you dig in the state of
 West Virginia.
IT'S THE LAW!!



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

OXF 155 WELL PAD FINAL DESIGN PLAN

Legend

- Proposed Well Pad Cut & Fill Area
- Proposed Road / Turnaround Cut & Fill Area
- Proposed Spoil Area
- Proposed Shovel Area
- Proposed Timber / Brush Storage Area
- Existing 7' Contour
- Existing 10' Contour
- Existing Gas Line CL
- Existing Fence
- Existing Trestle
- Proposed 7' Contour
- Proposed 10' Contour
- Proposed Pad Berm
- Proposed ADI
- Proposed ADI Per Potesta
- Proposed LOD
- Proposed 5ft Stock
- Proposed Straw Matting
- Proposed Cut Area
- Proposed Fill Area



All geographic information shown hereon is based on aerial photography provided by Blue Mountain Survey Mapping with a flight date of Spring 2011.



Allegheny Surveys Inc.
P.O. Box 436
237 Birch River Road
Birch River, WV 26610
304-649-8600



Hornor, Bros., Engineers and Surveyors
1902
Civil, Mining, Environmental and Construction
1000 Main Street, Suite 100, Parkersburg, WV 26101
304-783-1111



THIS DOCUMENT PREPARED FOR EQT PRODUCTION COMPANY

FINAL DESIGN PLAN
OXF 155
WELL PAD SITE
SOUTHWEST & WEST UNION DISTRICTS
DODDRIEHOE COUNTY, WV

