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**west virginia** department of environmental protection

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

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

February 09, 2016

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-1706756, 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: 513065  
Farm Name: HAESSLY LAND & TIMBER, LLC  
**API Well Number: 47-1706756**  
**Permit Type: Horizontal 6A Well**  
Date Issued: 02/09/2016

**Promoting a healthy environment.**

## PERMIT CONDITIONS

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

### CONDITIONS

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1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
9. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.



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west virginia department of environmental protection

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

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

February 8, 2016

Haessly Land & Timber, LLC  
Attn: Norman E. Haessly, Jr., Member  
25 Sheets Run Road  
Marietta, OH 45750

Re: Permits for EQT Production Co. Well No.'s 513064, 513065, 513066, 513067, 513068 and 513069  
API numbers: 47-017-06755, 47-017-06756, 47-017-06757, 47-017-06758, 47-017-06759 and 47-017-06760

Mr. Haessly:

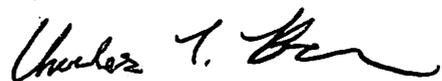
The Office of Oil and Gas (OOG) has reviewed your comments concerning EQT Production Company's permits for the above referenced wells. The comment was sent to the operator for its response. The operator has responded and the response is enclosed for your records.

After considering your comments, the applicant's response, and the inspector's findings, the OOG has determined that the application meets the requirements set forth in Article 6A Chapter 22 of the West Virginia Code and Legislative Rule Title 35 Series 8. Consequently, the OOG is issuing the permits today. For your information and convenience, I am including with this letter a copy of the permits as issued.

As you may know, surface owners are entitled to compensation for damages to their property resulting from oil and gas drilling activity. Absent an agreement by the parties, such damage compensation may be addressed pursuant to Article 7, Chapter 22 of the West Virginia Code.

Please contact me at (304) 926-0499, extension 1547 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Charles T. Brewer". The signature is written in black ink and is positioned above the typed name and address.

Charles T. Brewer  
Environmental Resource Specialist  
WVDEP Office of Oil and Gas  
601 57th Street, SE  
Charleston, WV 25304  
304-926-0499 ext. 1547



cc: James Martin

Received  
Office of Oil & Gas  
NOV 18 2015

November 16, 2015

Haessly Land and Timber, LLC  
Attn: Norman E. Haessly, Jr., Member  
25 Sheets Run Road  
Marietta, OH 45750

Re: Objection to permit applications for wells 513064, 513065, 513066, 513067, 513068, 513069 (OXF155 Well Site, Doddridge County) API numbers 47-017-06755, 47-017-06756, 47-017-06757, 47-017-06758, 47-017-06759, 47-017-06760

Dear Mr. Haessly,

This letter is in response to the objection letter filed with the West Virginia Department of Environmental Protection, Office of Oil and Gas on behalf of Haessly Land and Timber, LLC, dated September 23, 2015 for the wells on the OXF155 site, Southwest District, Doddridge County, WV. Respectfully, EQT wishes to respond to your concerns and objections.

The letter states that *"EQT has refused to respond to Haessly's requests to discuss the proposed well locations and their impact on Haessly's timber management and operations."* EQT and its contractors met with representatives of Haessly Land and Timber, LLC prior to the application of the subject permits. Early on in the planning process, EQT met with Joe Smith, on October 8, 2014, to examine the site and considered an alternate accesses road with Mr. Smith. EQT then met with Jack Mathers, Haessly's forester on June 9, 2015 to examine the well site and discuss the best way to get the timber out. EQT offered to discuss the designs with Jack Haessly by way of an email dated September 2, 2015. Subsequent to this formal objection, EQT has offered to meet with Jack Mathers by way of three emails dated October 28, 2015, November 3, 2015, and November 9, 2015, please note Jack Haessly was carbon copied on these emails. Further, the letter states that EQT has disregarded its obligation *"to locate all wells so as to interfere as little as possible with the cultivated portion"* of the leasehold. Prior to permitting the subject wells, the lands in question were carefully examined to select a location which would provide EQT with a large enough area to reasonably accommodate the development of its mineral resources and keep its disturbance of the surface to a minimum. No other suitable location could be located on the leasehold. Additionally, EQT went through great lengths and expense to purchase access and surface use rights from neighboring landowners to reduce the amount of surface use on the subject tract.

The letter goes on to state *"The proposed well sites and road locations will result in the destruction of the valuable timber situate there before it reaches its prime value; these proposed locations will also adversely impact and degrade the timber located there and significantly interfere and disrupt Haessly's management of its timber on the entire tract for decades in the future"*. The removal of some timber is a necessary component of developing the mineral estate

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Office of Oil & Gas  
NOV 18 2015

and would fall under the category of a reasonable use of the surface to develop the mineral estate. Haessly Land and Timber, LLC will be compensated for the timber based on an appraisal dated October 8, 2015 and for the value of future timber based on a Timber Growth and Value report dated October 19, 2015, both prepared by David Hill and Associates, LLC.

The letter also states "*the proposed disturbance of approximately 35 acres is clearly excessive and unreasonable as it far exceeds what is reasonably necessary*". Actual disturbance on the subject lands, as shown on the construction plans is 23.57 acres, and is "reasonably necessary" to safely and effectively develop the mineral estate.

Further, the letter states "*the proposed well work violates the terms of the mineral lease upon which EQT relies for its alleged right of entry. The huge area EQT plans to use is far beyond the contemplation of the parties to the 1902 lease.*" The lease reserved only "40 rods around the building on which no well shall be drilled," therefore it would have been in the contemplation of the parties that any of the remaining property could be used to develop the mineral estate.

In summation, EQT's permit applications meet the technical requirement of W.Va. Code 22-6A-8(d) and the accompanying regulations. The review of the permit conducted by the West Virginia Department of Environmental Protection, Office of Oil and Gas, is limited by statute to a determination of the following: (1) whether the proposed well work will constitute a hazard to the safety of persons; (2) whether the plan for soil erosion and sediment control is not adequate or effective; (3) whether damage would occur to publicly owned lands or resources; or (4) whether the proposed well work fails to protect fresh water sources or supplies. Surface owner comments are considered by the Office of Oil and Gas during this determination with regard to those topics. The comments and objections made by way of the September 23, 2015 letter do not appear to pertain to these topics. EQT asserts it has met all requirement under the relevant statutes, W. Va. Code 22-6A-8(d) and 22-6-11, and will request that the permits be granted.

Sincerely,



David A. Grubb, CPL  
Regional Land Manager

# HAESSLY LAND & TIMBER, LLC

25 Sheets Run Road  
Marietta, OH 45750  
Telephone: 740-373-6681  
Fax: 740-568-0840

September 23, 2015

James Martin, Chief  
Gene Smith, Assistant Chief - Permitting  
W. Va. Department of Environmental Protection  
Oil and Gas Division  
601 57th Street, S.E.  
Charleston, West Virginia 25304

RECEIVED  
Office of the Secretary  
SEP 24 2015  
WV Department of  
Environmental Protection

RE: Surface and Coal Owner's Comments In Response to EQT's Proposed Well Work Permits 503064, 503065, 503067, 503068, 503069

Dear Sirs:

Haessly Land and Timber LLC ("Haessly") is the owner of the surface and fractional coal, oil and gas mineral interests in a tract of land in Doddridge County, West Virginia ("Haessly tract") where EQT plans to drill Marcellus wells on the 615-acre tract and has requested well work permits from the Oil and Gas Division of WVDEP.<sup>1</sup> Haessly purchased the tract in 1973 and has been managing it since then for a sustainable supply of quality hardwood trees.

As a surface and mineral owner, Haessly submits this letter that serves as (1) Haessly's comments and objections to the location and acreage proposed for the new wells and access roads and (2) a request that the well permits not be issued until the planned location and acreage of the well and access roads is modified to change to a mutually agreed upon location after negotiations between Haessly and EQT.

The lease by which EQT purports to have the right to enter Haessly's land and begin work as set forth in its well work permit application requires EQT, as successor lessee, to covenant and to agree "to locate all wells so as to interfere as little as possible with the cultivated portion" of the leasehold.<sup>2</sup> In total disregard for its obligations under the lease, the proposed well site and attendant road construction is in the heart of *the highest quality*

<sup>1</sup> See copy of notice attached hereto.

<sup>2</sup> See copy of lease attached hereto.

***stand of hardwood trees*** on the tract --- a location that creates the greatest possible damage to and interference with Haessly's silvicultural hardwood crop.

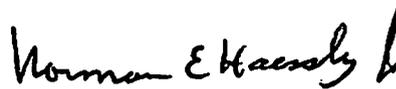
EQT has refused to respond to Haessly's requests to discuss the proposed well locations and their impact on Haessly's timber management and operations. EQT also refuses to even discuss, much less negotiate, reasonable locations of its proposed wells and roads "so as to interfere as little as possible with the cultivated [Silvicultural] portion" of Haessly's tract. The proposed well sites and road locations will result in the destruction of the valuable timber situated there before it reaches its prime value; these proposed locations will also adversely impact and degrade the timber located there and significantly interfere and disrupt Haessly's management of its timber on the entire tract for decades in the future.

Moreover, the proposed disturbance of approximately 35 acres is clearly excessive and unreasonable as it far exceeds what is reasonably necessary for EQT to extract the Marcellus gas from the tract and will cause irreparable harmful soil erosion and stream sedimentation that would be avoided by carefully designed well planning.

Finally, as noted above, the proposed well work violates the terms of the mineral lease upon which EQT relies for its alleged right of entry. The huge area EQT plans to use is far beyond the contemplation of the parties to the 1902 lease.

For these reasons, Haessly comments and objects to the location and acreage of EQT's proposed well sites and requests that the well permits be denied until the well locations are negotiated.

Sincerely yours,



Norman E. Haessly, Jr.  
Member

cc: Victoria J. Roark, EQT Permitting Supervisor

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Office of Oil and Gas

SEP 14 2015

West Virginia Department of  
Environmental Protection



Where Energy Meets Innovation

EQT White Oaks Office  
P.O. Box 280  
Bridgeport, WV 26330

CERTIFIED MAIL

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

Dear Sir or Madam

513064, 513065, 513066, 513067,  
513068, 513069 Gas Well  
Re: Proposed Southwest District, Doddridge County, WV

Pursuant to Section 22B-1-9 of the West Virginia Code, enclosed please find copies of the following documents:

- Form WW-6A Notice of Application for a Well Work Permit (1 copy)
- Form WW-6A(1) Lessor/Lessee Disclosure (1 copy)
- Form WW-6B Application for a Well Work Permit (1 copy)
- Well Location Plat Certified Copy of WVDEP Well Location Plat
- Form WW-9 Reclamation Plan and Site Registration Application (1 copy)
- Water Management Plan
- Well Site Safety Plan

This application is being filed by EQT Production with the Administrator of the Office of Oil and Gas of the West Virginia Department of Environmental Protection. If you have no objections to this well being drilled, please sign the Waiver on Form WW-6AW and return one copy to our office.

Thank you for your cooperation and consideration. Should you have any questions, comments, or require any additional information, please feel free to contact me at (304) 848-0082.

Sincerely,  
EQT PRODUCTION COMPANY

Victoria J. Roark  
Permitting Supervisor-WV

Enclosures

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

1) Well Operator: EQT Production Company  
Operator ID 306686 County 017 District 7 Quadrangle 526

2) Operator's Well Number: 513065 Well Pad Name: OXF155

3) Farm Name/Surface Owner: Haessly Land and Timber, LLC Public Road Access: RT 21

4) Elevation, current ground: 1,210.5 Elevation, proposed post-construction: 1,199.0

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

Other \_\_\_\_\_

(b) If Gas: Shallow  Deep

Horizontal

6) Existing Pad? Yes or No: No

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

Target formation is Marcellus at a depth of 6635 with the anticipated thickness to be 57 feet and anticipated target pressure of 2951 PSI  
Top of Marcellus is 6611

8) Proposed Total Vertical Depth: 6635

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 11,666

11) Proposed Horizontal Leg Length: 2,434

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

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

14) Approximate Saltwater Depths: 1,397

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 x

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

4701706756  
Michael Goff  
9-30-15

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Office of Oil & Gas  
OCT 01 2015

WW - 6B  
(4/15)

API NO. 47 - 017 - \_\_\_\_\_  
 OPERATOR WELL NO. 513065  
 Well Pad Name: OXF155

**CASING AND TUBING PROGRAM**

18)

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.)
Conductor	20	New	MC-50	81	40	40	38 C.T.S.
Fresh Water	13 3/8	New	J-55	54.5	569	569	509 C.T.S.
Coal	-	-	-	-	-	-	-
Intermediate	9 5/8	New	A-500	40	3,466	3,466	1,370 C.T.S.
Production	5 1/2	New	P-110	20	11,666	11,666	See Note 1
Tubing	2 3/8		J-55	4.6			May not be run, if run will be set 100' less than TD
Liners							

*MAG  
9-30-15*

**4701706756**

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	24	0.375	-	18	Construction	1.18
Fresh Water	13 3/8	17 1/2	0.38	2,730	2,184	* See Note 2	1.21
Coal							
Intermediate	9 5/8	12 3/8	0.395	3,950	3,160	* See Note 2	1.21
Production	5 1/2	8 1/2	0.361	12,640	10,112	-	1.27/1.86
Tubing							
Liners							

**Packers**

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

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

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

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OCT 01 2015**

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9-30-15

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. The vertical drill to go down to an approximate depth of 4976'.  
Then kick off the horizontal leg into the Marcellus using a slick water frac.

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

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to average approximately 8500 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

21) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 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 spaced every 1000' from KOP to Int csg shoe

24) Describe all cement additives associated with each cement type. Surface (Type 1 Cement): 0-3% Calcium Chloride

Used to speed the setting of cement slurries.

0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.

Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries. 0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.

Production:

Lead (Type 1 Cement): 0.2-0.7% Lignosulfonate (Retarder). Lengthens thickening time.

0.3% CFR (dispersant). Makes cement easier to mix.

Tail (Type H Cement): 0.25-0.40% Lignosulfonate (Retarder). Lengthens thickening time.

0.2-0.3% CFR (dispersant). This is to make the cement easier to mix.

60 % Calcium Carbonate. Acid solubility.

0.4-0.6% Halad (fluid loss). Reduces amount of water lost to formation.

4701706756

25) Proposed borehole conditioning procedures. Surface: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating

one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5

minutes. To ensure that there is no fill, short trip two stands with no circulation. If there is fill, bring compressors back on

and circulate hole clean. A constant rate of higher than expected cuttings volume likely indicates washouts that will not clean up.

Intermediate: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at

surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. If foam drilling, to enhance

hole cleaning use a soap sweep or increase injection rate & foam concentration.

Production: Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge holes bottoms up volume.

Perform a cleanup cycle by pumping 3-5 bottoms up or until the shakers are clean. Check volume of cuttings coming across

the shakers every 15 minutes.

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Office of Oil & Gas

OCT 01 2015

\*Note: Attach additional sheets as needed.



west virginia department of environmental protection

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

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

March 18, 2014

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

Re: Cement Variance Request

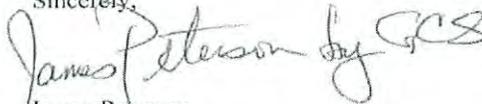
Dear Sir or Madam,

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

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

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

Sincerely,

  
James Peterson  
Environmental Resources Specialist / Permitting

Promoting a healthy environment

470 1706756

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Office of Oil & Gas  
SEP 08 2015



west virginia department of environmental protection

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

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

**IN THE MATTER OF A VARIANCE FROM )  
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 )**

**ORDER NO. 2014 - 17**

**4701706756**

**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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Office of Oil & Gas**

**SEP 08 2015**

**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

4701706756

Received  
Office of Oil & Gas

SEP 08 2015



April 2, 2015

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

Re: Casing change on OXF155 ( 513064, 513065, 513066, 513067, 513068, 513069 )

Dear Mr. Smith,

EQT is requesting the 13-3/8" surface casing be set at 569' KB, 150' below the deepest fresh water. We will set the 9-5/8" intermediate string at 3466' KB, 50' below the base of the Speechley formation.

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

Sincerely,

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

Vicki Roark  
Permitting Supervisor - WV

Enc.

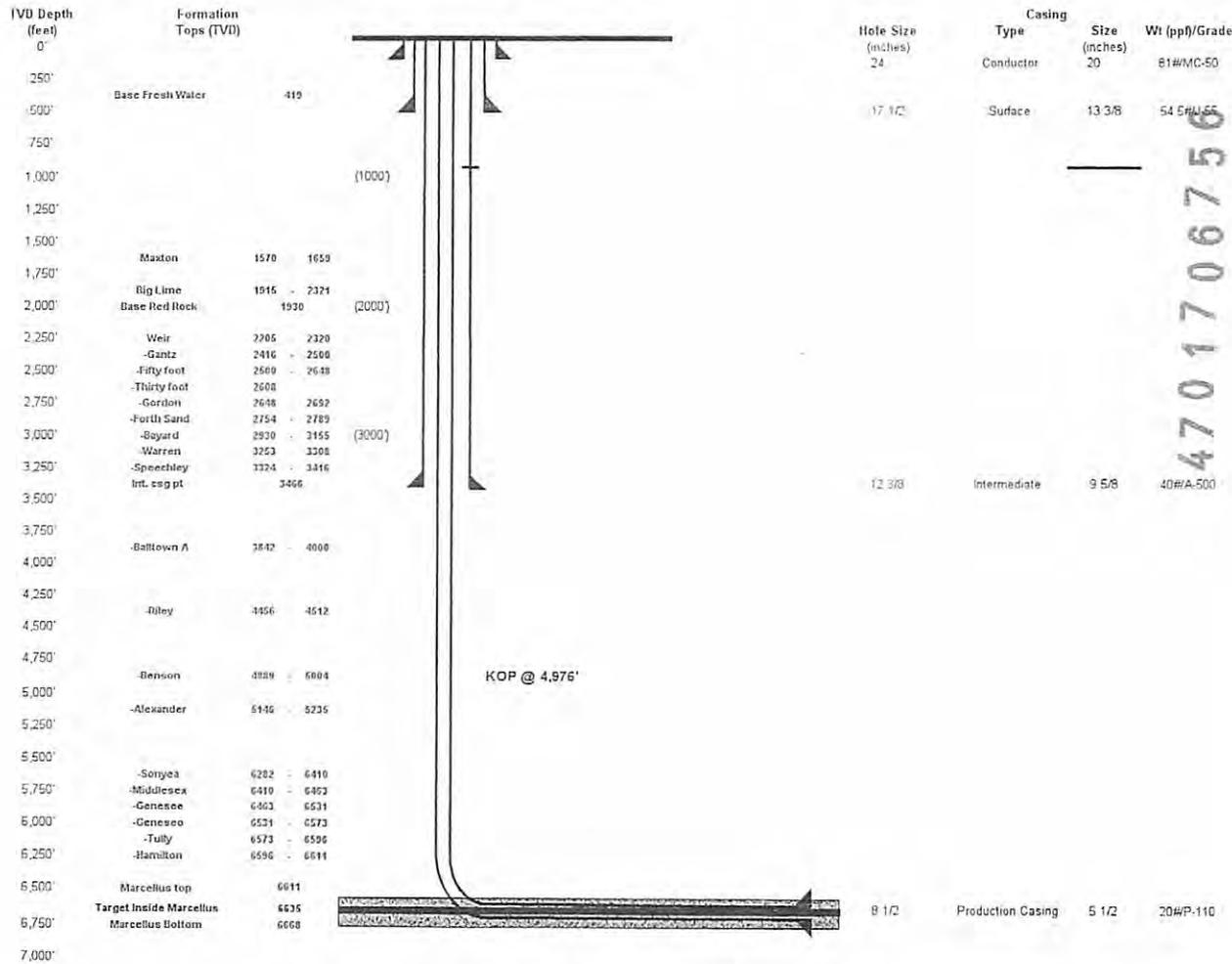
470170675<sup>6</sup>

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Well 513065(OXF155H2)  
 EQT Production  
 Oxford Quad  
 Doddridge West Virginia

Azimuth 333  
 Vertical Section 3747



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Proposed Well Work:  
 Drill and complete a new horizontal well in the Marcellus formation.  
 The vertical drill to go down to an approximate depth of 4976'.  
 Then kick off the horizontal leg into the Marcellus using a slick water frac.

Land curve @ 6,635' ft TVD  
 9,232' ft MD  
 Est. TD @ 6,635' ft TVD  
 11,666' ft MD  
 2,434' ft Lateral

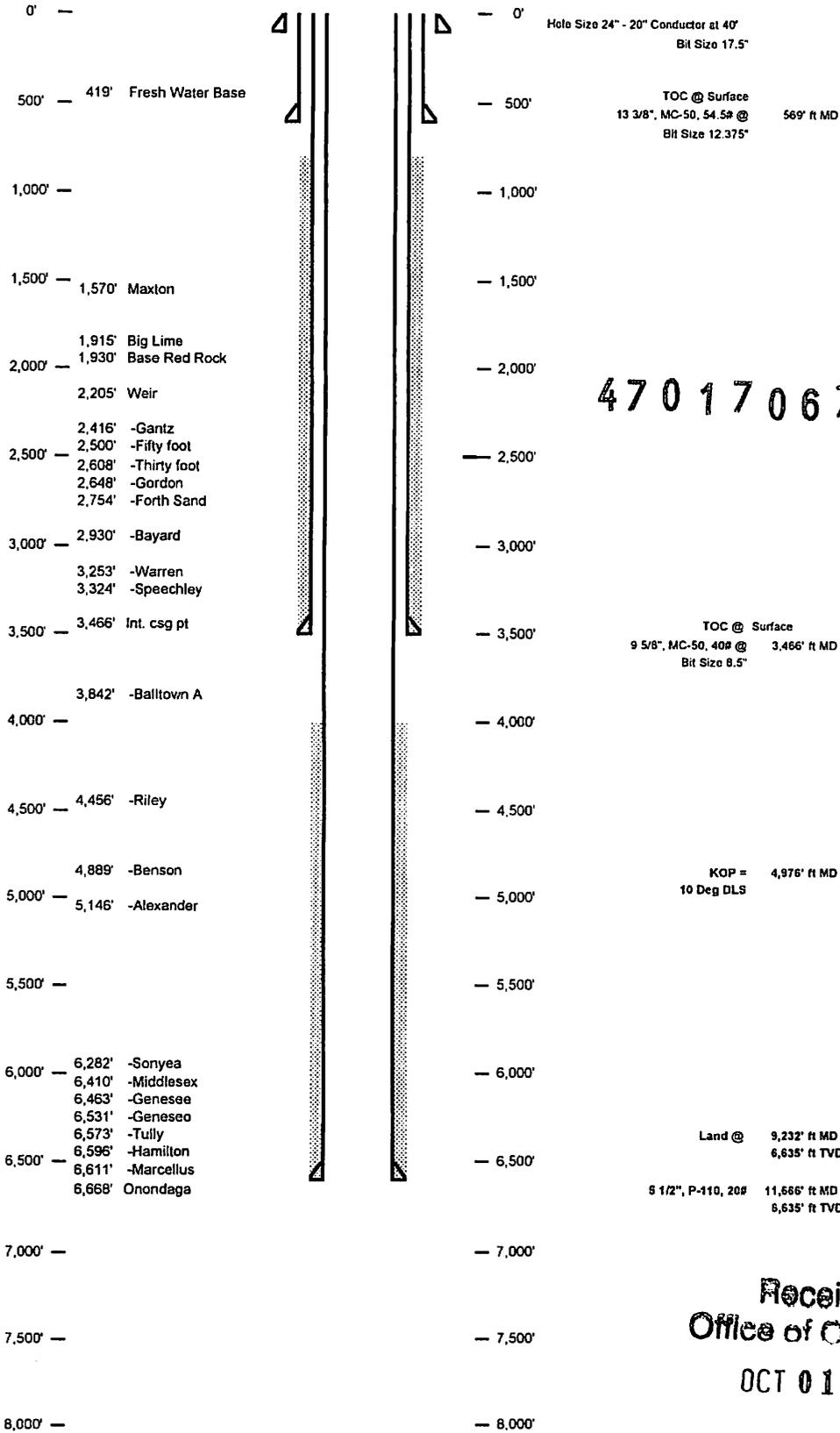
MAG  
 9-30-15

Well Schematic  
EQT Production

Well Name 513085(OXF155H2)  
County Doddridge  
State West Virginia

Elevation KB:  
Target  
Prospect  
Azimuth  
Vertical Section

1212
Marcellus
333
3787



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

Operator Name EQT Production Company OP Code 306686

Watershed (HUC10) 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 x No    

Will a pit be used? Yes: X No:    

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

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

*MAG*  
*9-30-15*

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

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

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

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

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

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

- If left in pit and plan to solidify what medium will be used? (Cement, Lime, sawdust) n/a
- Landfill or offsite name/permit number? See Attached List

*4701706756*

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.

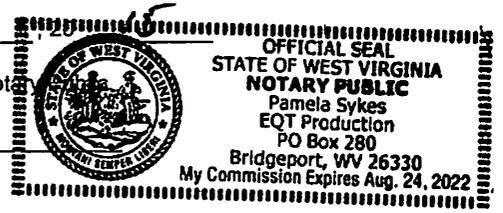
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is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

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OCT 15

Company Official Signature *Victoria J. Bark*  
Company Official (Typed Name) Victoria J. Bark  
Company Official Title Permitting Supervisor

Subscribed and sworn before me this 1 day of Sept

My commission expires 8-24-22



Proposed Revegetation Treatment: Acres Disturbed 42.01 Prevegetation pH 6

Lime 3 Tons/acre or to correct to pH 6.5

Fertilize type Granular 10-20-20

Fertilizer Amount 13 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

4701706756

Seed Mixtures

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

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Michael Hoff

Comments: Preseed & Mulch any disturbed areas per WV DEP regulations. Maintain & upgrade E-n-s as necessary.

Title: Oil & Gas Inspector Date: 9-30-15

Field Reviewed? (  ) Yes (  ) No

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

**CWS TRUCKING INC.**

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

**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

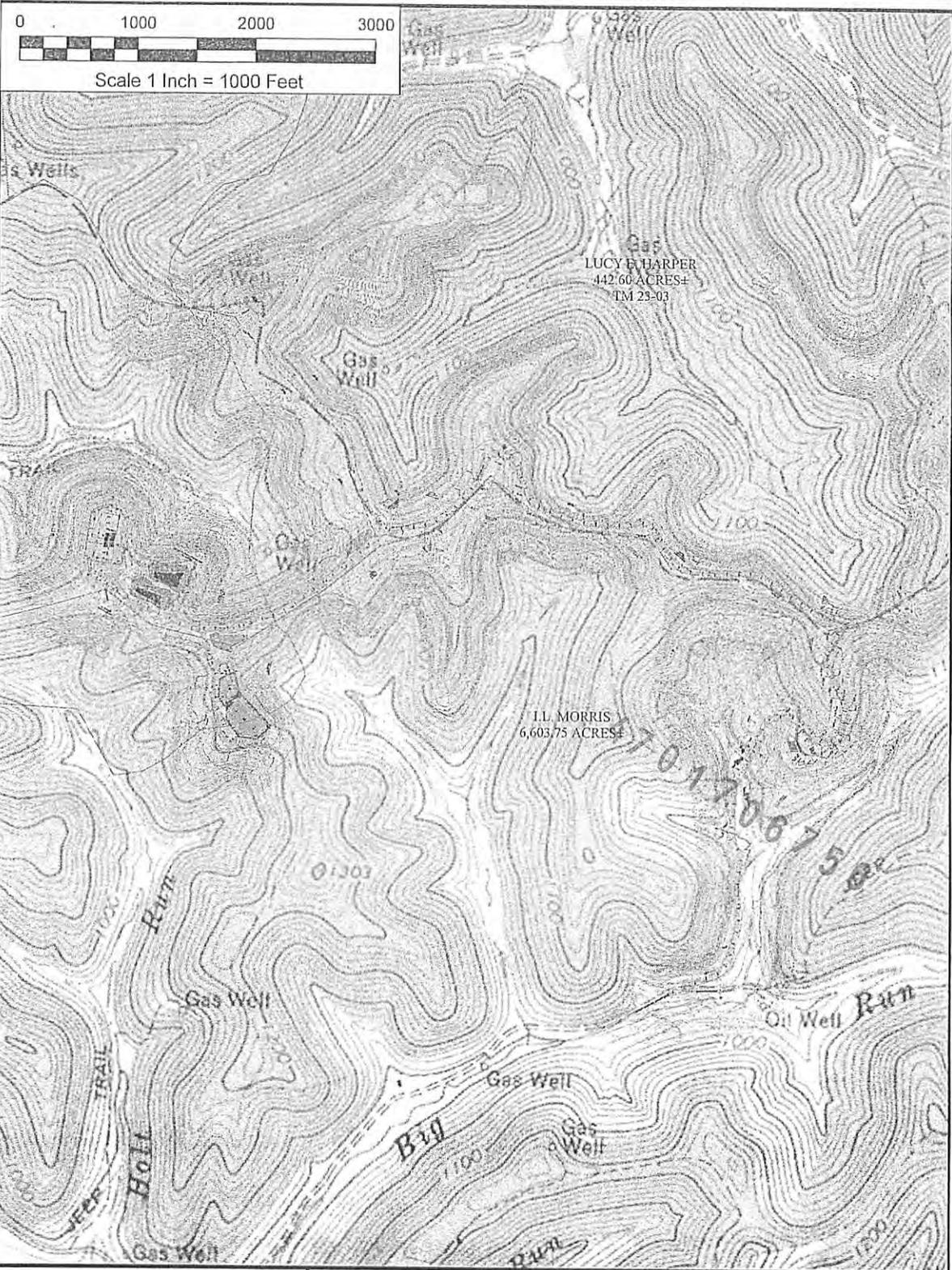
**KING EXCAVATING CO.**

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

4701706756

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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

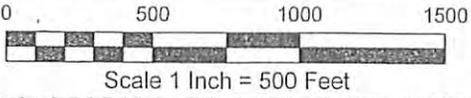
Note: SEE SITE PLAN OF OXF 155 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.

OCT 01 2015



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

MAG  
9-30-15



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

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.

OCT 01 2015



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

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 9-30-15



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# Site Specific Safety Plan

EQT OXF155 Pad

Oxford

Doddridge County, WV

4701706756

For Wells:

513066

Date Prepared:

March 27, 2015

EQT Production

WV Oil and Gas Inspector

Title

Date

Title

Date

*[Signature]*  
Permitting Supervisor  
8-31-15

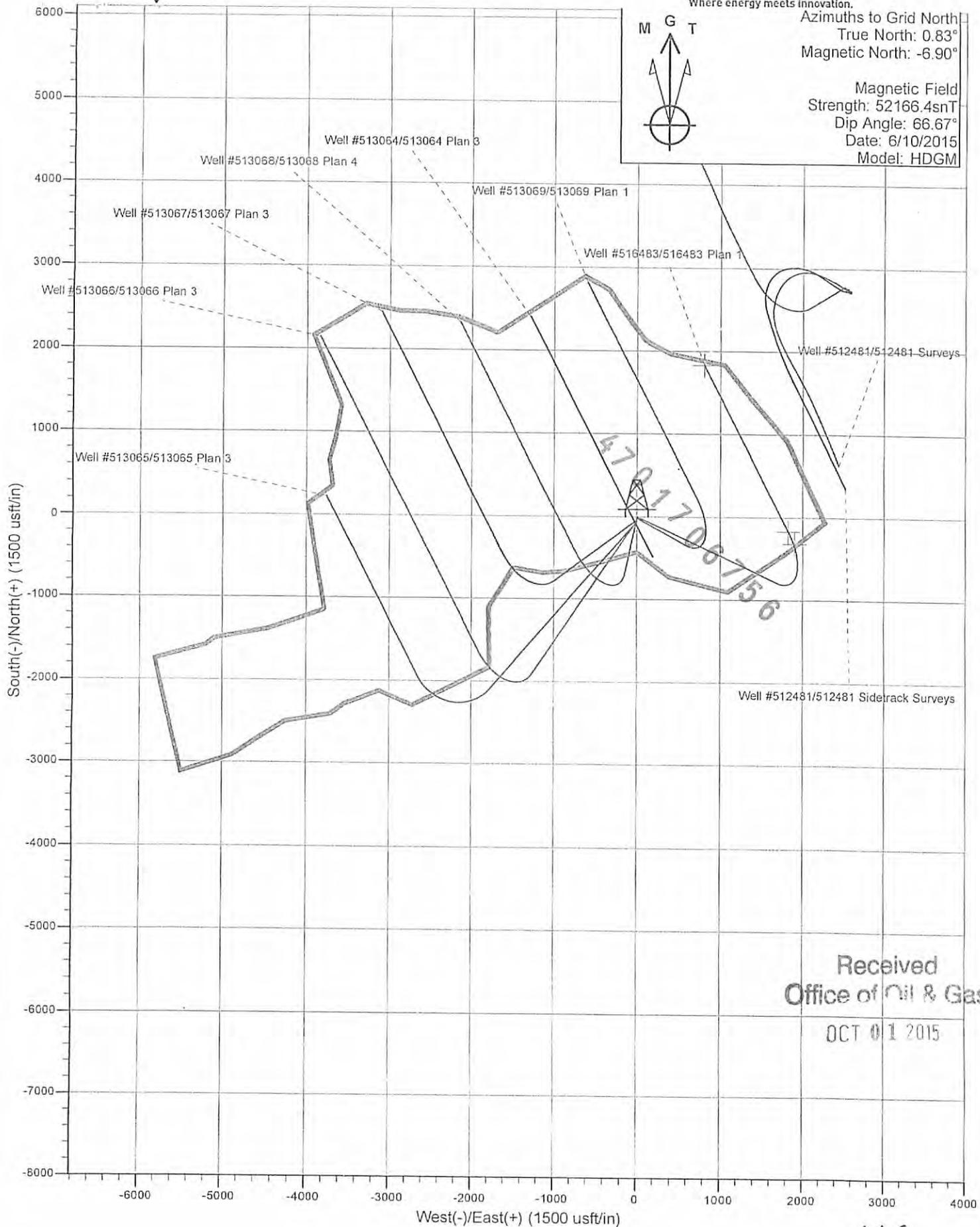
*[Signature]*  
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OCT 01 2015  
9-30-15



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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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9-30-15



October 23, 2015

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

4701706756

Re: WW6A name correction  
017-06755, 017-06756, 017-06757, 017-06758. 017-06759, 017-06760

Dear Mr. Smith,

Enclosed is a name change on the above API numbers. The name was submitted as Tracy Ruth Paul Roby and should be TACY. Please insert this change into the permits on file.

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

Sincerely,

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

Vicki Roark  
Permitting Supervisor-WV

Enc.

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Office of Oil & Gas  
OCT 26 2015

WW6-A

4701706756

**Surface Owners(road or other disturbance):**

I.L. (Ike) Morris  
PO Box 397  
Glennville WV 26351

**Additional Coal Owners**

Frank J Hicks  
7232 Twin Lakes Lane  
Pensacola FL 32504

Skeeter Hicks  
220 W Marigold St  
Munhall PA 15120

Elizabeth D Delabar  
6405 Nelson Drive  
LaPlata MD 20646

Peggy A Mudd  
Unknown Address

Mary A.G. Willis  
Unknown Address

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

Edward Jo Nutter  
RT2 Box 196  
Salem WV 26426

Dorothy Gola  
PO Box 117  
Reynoldsville WV 26422

Ancient Energy  
465 Hill Street  
Fort Royal VA 22630

Anna Marie Guthrie  
4735 Dustin Place Dr.  
Southaven MS 38671

Terry Alan Nutter  
9039 Willey Rd.  
Harrison OH 45030

Mary Catherine Burgess  
17 Washington Ave  
North Bend OH 45052

Tacy Ruth Paul Roby  
8708 Tuckerman Lane  
Potomic MD 20854

4701706756

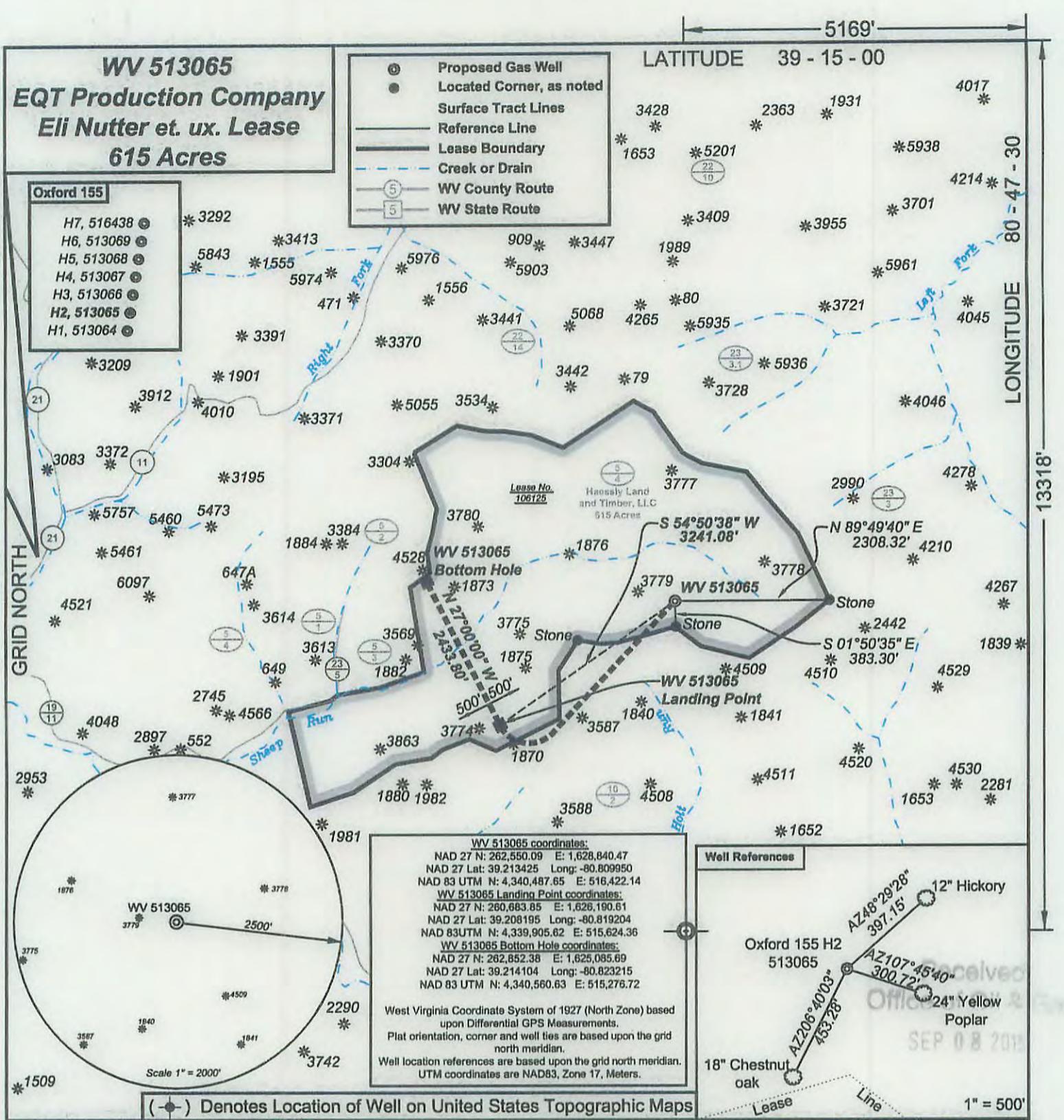
**Received**  
**Office of Oil & Gas**  
OCT 26 2015

**WV 513065**  
**EQT Production Company**  
**Eli Nutter et. ux. Lease**  
**615 Acres**

- ⊙ Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- - - Lease Boundary
- - - Creek or Drain
- ⑤ WV County Route
- ⑤ WV State Route

LATITUDE 39 - 15 - 00  
 LONGITUDE 80 - 47 - 30

- Oxford 155**
- H7, 516438
  - H6, 513069
  - H5, 513068
  - H4, 513067
  - H3, 513066
  - H2, 513065
  - H1, 513064



**WV 513065 coordinates:**  
 NAD 27 N: 262,550.09 E: 1,628,840.47  
 NAD 27 Lat: 39.213425 Long: -80.809950  
 NAD 83 UTM N: 4,340,487.65 E: 516,422.14

**WV 513065 Landing Point coordinates:**  
 NAD 27 N: 260,683.85 E: 1,626,190.61  
 NAD 27 Lat: 39.208195 Long: -80.819204  
 NAD 83 UTM N: 4,339,905.62 E: 515,624.36

**WV 513065 Bottom Hole coordinates:**  
 NAD 27 N: 262,852.38 E: 1,625,085.69  
 NAD 27 Lat: 39.214104 Long: -80.823215  
 NAD 83 UTM N: 4,340,560.63 E: 515,276.72

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.

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



*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. Singleten*  
 P.S. 2092



FILE NO: 239-13  
 DRAWING NO: Oxford 155 H2  
 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: August 11 20 15  
 OPERATOR'S WELL NO. 513065  
 API WELL NO  
 47 - 017 - 06756 H2A  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: Original 1210.5 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: TVD 6,811

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
<u>106125</u>	Eli Nutter and Mary Nutter	J.L. Newman	Min 1/8 pd	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		DB87/90
	Pittsburgh and West Virginia Gas Company	Equitable Gas Company		LB121/303
	Equitable Gas Company	Equitrans, Inc.		LB154/475
	Equitrans, Inc.	Equitrans, LP		DB433/777
	Equitrans, LP	Equitable Production Company		DB433/738
	Equitable Production Company	EQT Production Company		CB281/346
<u>7-10-2</u>	I.L. Morris	EQT Production Company	N/A	360/100 Sub Surface Easement

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

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

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

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

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

Well Operator: EQT Production Company  
 By: [Signature]  
 Its: Permitting Supervisor



Where energy meets innovation.™

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

Todd Klaner  
Manager, Permitting  
tklaner@eqt.com

December 9, 2015

WV DEP Reviewer

RE: **EQT Production Company**  
**PAD ID – OXF155**  
**Well# - 513065**  
**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 10/2 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,

A handwritten signature in blue ink, appearing to read 'Todd Klaner', is written over a light blue horizontal line.

Todd Klaner  
Manager, Permitting  
EQT Production Company

**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

4701706756

**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 30<sup>th</sup> 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 12<sup>th</sup> 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.

(REMAINDER OF PAGE LEFT BLANK INTENTIONALLY)

Received  
Office of Oil & Gas  
SEP 08 2015

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 26330-4569

[Signature]  
I.L. Morris

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

STATE OF West Virginia :

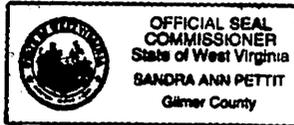
COUNTY OF Gilmer :

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 20<sup>th</sup> day of July, 2015.

My Commission expires: 8-7-2017

701706756  
Sandra Ann Pettit  
Notary Public



STATE OF WEST VIRGINIA;

COUNTY OF HARRISON:

I, Charles C. Metzger, 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 26<sup>th</sup> day of August, 2015.

My Commission expires: May 21, 2017

[Signature]  
Notary Public



This instrument was prepared by EQT Production Company, 1710 Pennsylvania Avenue, Charleston, WV 25302.

John A. Rebers  
DECATUR County: 08/04/15  
Instrument No: 259592  
Date Recorded: 08/31/2015  
Document Type: MEM/R/W  
Pages Recorded: 2  
Book-Page: 360-100  
Recording Fee: \$5.00  
Additional: \$6.00

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Office of Oil & Gas  
SEP 08 2015

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

Date of Notice Certification: 9-1-15

API No. 47 - 017 - 06756 0  
Operator's Well No. 513065  
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>516,422.14</u>
County:	<u>Doddridge</u>	UTM NAD 83 Northing:	<u>4,340,487.65</u>
District:	<u>Southwest</u>	Public Road Access:	<u>RT 21</u>
Quadrangle:	<u>Oxford</u>	Generally used farm name:	<u>Haessly Land and 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"/> NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR</p> <p style="padding-left: 150px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> NOTICE OF APPLICATION</p>	<p><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</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.

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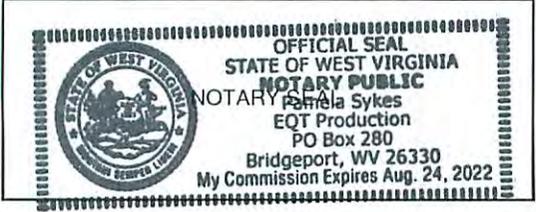
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**Certification of Notice is hereby given:**

THEREFORE, I *Victoria J. Roark*, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

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

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



Subscribed and sworn before me this 1 day of Sept, 2015  
*Pamela Sykes* 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](mailto:depprivacyofficer@wv.gov).

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WW-6A  
(9-13)

API NO. 47 - 017 - 0  
OPERATOR WELL NO. 513065  
Well Pad Name: OXF155

**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: 9-1-15 Date Permit Application Filed: 9-1-15

Notice of:

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

4701706

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 the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field 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 in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be 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 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 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: Haessly Land & Timber LLC  
Address: 25 Sheets Run Rd.  
Marietta OH 45750  
0

COAL OWNER OR LESSEE  
Name: Hassel Thomas Hicks  
Address: 361 Glade Creek Estate  
Coolridge WV 25825  
0

Name: 0  
Address: 0  
0  
0

COAL OPERATOR  
Name: 0  
Address: 0  
0  
0

SURFACE OWNERS(s) (Road and/or Other Disturbance)  
Name: Haessly Land & Timber LLC  
Address: 25 Sheets Run Rd.  
Marietta OH 45750  
0

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: 0  
Address: 0  
0  
0

Name: Lucy E. Harper  
Address: 511 Boca Ciega Point Blvd. North  
St. Petersburg FL 33708  
See Attached

SURFACE OWNER(s) (Impoundments/Pits)  
Name: I.L. (Ike) Morris  
Address: PO Box 397  
Glenville WV 26351  
0

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

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\*Please attach additional forms if necessary

# Updated Address List

WW6-A

Surface Owners(road or other disturbance):

WELL  
513065

470 170 6756

I.L. (Ike) Morris /  
PO Box 397  
Glennville WV 26351

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**Additional Coal Owners**

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Frank J Hicks /  
7232 Twin Lakes Lane  
Pensacola FL 32504

WV Department of  
Environmental Protection

Skeeter Hicks /  
220 W Marigold St  
Munhall PA 15120

Elizabeth D Delabar /  
6405 Nelson Drive  
LaPlata MD 20646

Peggy A Mudd  
Unknown Address

Mary A.G. Willis  
Unknown Address

470 170 6756

David Thomas Hickman Jr. /  
3315 Dublin Manor Rd  
Street MD 21154

Edward Jo Nutter /  
RT2 Box 196  
Salem WV 26426

Dorothy Gola /  
PO Box 117  
Reynoldsville WV 26422

Ancient Energy /  
465 Hill Street  
Fort Royal VA 22630

Anna Marie Guthrie /  
4735 Dustin Place Dr.  
Southaven MS 38671

Terry Alan Nutter /  
9039 Willey Rd.  
Harrison OH 45030

Mary Catherine Burgess /  
17 Washington Ave  
North Bend OH 45052

Tracy Ruth Paul Roby /  
8708 Tuckerman Lane  
Potomic MD 20854

**Additional Coal Owners**

WELL  
513065

4701706756

Stephen E Miner  
PO Box 55853  
Shoreline WA 98155 /

Michael I Spiker  
103 Cedar Ridge Drive  
Ripley WV 25271 /

Drew M Spiker  
103 Cedar Ridge Drive  
Ripley WV 25271 /

(Willa Dean Spiker)  
Unknown Address

Thomas Miller  
3616 Glenmore Ave  
Cincinnati OH 45211 /

Cathy Gregis  
RR 2 Box 140  
Bristol WV 26332 /

Jeffrey Spiker  
8168 Good Hope Pike  
Lost Creek WV 26385

*New Address ✓*

Mary Elta Knight  
102 Elizabeth Street  
West Union WV 26456 /

Worthy Carson Underwood Jr.  
4192 Nutter Fork Rd.  
West Union WV 26456 /

Sharon Knight  
1706 Oak St.  
Parkersburg WV 26101 /

Stephen Knight  
48 Twin Lakes Circle  
Martinsburg WV 25405 /

Diana Lynne Knight  
3835 Nutter Fork  
West Union WV 26456 /

Melanie Fouse  
249 Joe Miller Rd  
Kearneysville WV 25430 /

Bobbi Jo Conley  
413 Fryer Oaks Ct St.  
Cloud FL 34771 /

Brada Stotts  
100 Pine Drive  
Evans WV 25241

*new Address*

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WV Department of  
Environmental Protection

4701706756

**Additional Coal Owners**

WELL  
513065

470 170 6756

Mark Spiker  
3174 Lamberton Rd  
Pennsboro WV 26415

*new Address ✓*

Briana Deremer (Spiker)  
1280 Fairlawns Ave.  
Morgantown WV 26505

John Spiker  
166 Linden Lane  
Jane Lew WV 26378

Melinda Chambers  
HC 63 Box 1820  
Romney WV 26757

( Idell Kehoe )  
Unknown Address

Beverly Karman  
6742 S. Taylor Drive  
Tempe AZ 85283

Diane Smith  
420 Spiketon Rd. Apt. 21  
Buckley WA 98321

Marc Stinespring  
C/O Beverly Karman  
6742 S Taylor Dr  
Tempe AZ 85283

*Found  
new Address ✓*

Jean S. Richardson  
106 Meadowbrook Ct.  
Niceville FL 32578

Faye Coe  
16625 Valley Dr.  
Tampa FL 33618

( Jean Haught )  
Unknown Address

( Mary Maudaline Haught )  
Unknown Address

Mildred Lee Maxwell  
3378 Route 18 South  
West Union WV 26456

Charter D Stinespring II  
POB 4  
Arthurdale WV 26520

Victor G. Stinespring  
PO Box 81  
West Union WV 26456

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WV Department of  
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470 170 6756

**Additional Coal Owners**

WELL  
513065

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WV Department of  
Environmental Protection

Delores Stinespring ✓  
2526 North Main St.  
Danville VA 24540

Pamela Stinespring ✓  
8808 S. 47th Ave  
Laveen AZ 85339

(Lucy Harsch)  
(Unknown Address)

Leslie W. Dotson ✓  
803 Dewey Ave  
St. Marys WV 26170

Lorene Dotson Kinney ✓ *Corrected Name /*  
1009 E Penn Ave  
Pennsboro WV 26415

Mary Lucile Dotson ✓  
803 Dewey Ave  
St. Marys WV 26170

Lehman B. Jackson ✓  
Rt 1 Box 165  
Pennsboro WV 26415

Norman L Jackson ✓ *Corrected  
New Address*  
1764 Mountain Dr  
Pennsboro WV 26415

Robert P Jackson ✓ *new address*  
305 Stewarts Run  
Harrisville WV 26362

4701706756

Judith A. Basile ✓  
842 Beaumont Rd.  
Charleston WV 25314

Sandra L Hammond ✓  
1104 Tates Brooke Drive  
Lexington KY 40517

Barbara S Lopez ✓  
23660 Elkwood Street  
West Hills CA 91304

Sonja Upton ✓  
320 Hurricane Ave  
Hurricane WV 25526

Letitia Bennett ✓  
RT 2 Box 52  
Chapmanville WV 26508

Ioma Kathryn Dotson ✓  
4635-B Pennsylvania Ave  
Charleston WV 25302

4701706756

**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](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

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

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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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

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

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

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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](mailto:depprivacyofficer@wv.gov).

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

*Victoria Roark*

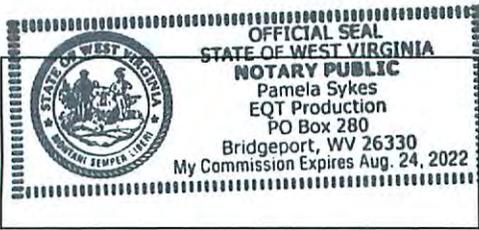
By: Victoria Roark

Its: Permitting Supervisor

Subscribed and sworn before n 1 day of Sept, 2015

*Pamela Sykes* Notary Public

My Commission Expi 8-24-22

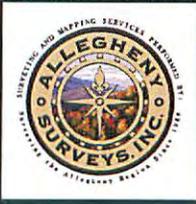
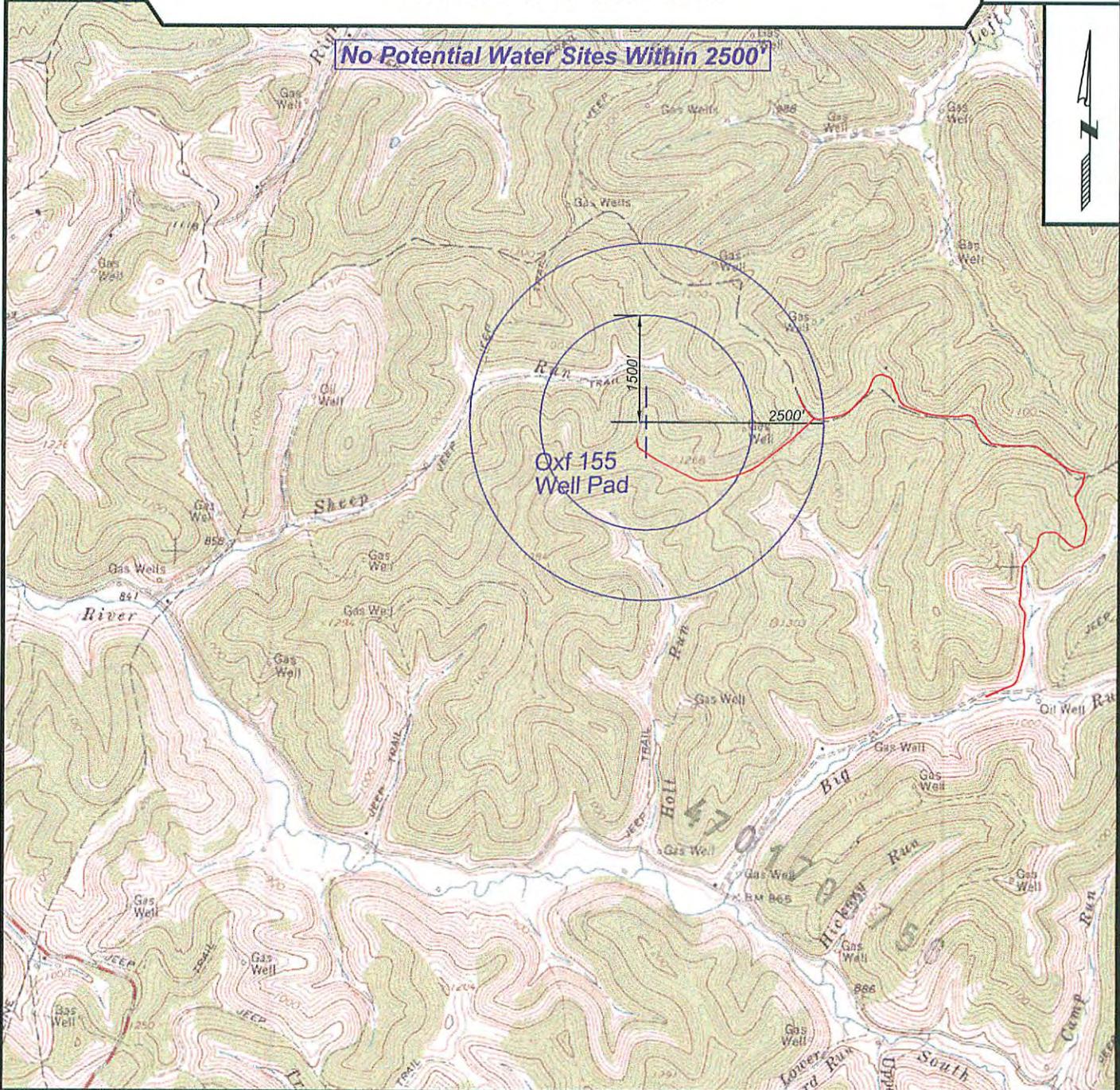


4701706756

Received  
Office of Oil & Gas  
SEP 08 2015

Topo Quad: Oxford 7.5' Scale: 1" = 2000'  
 County: Doddridge Date: January 29, 2015  
 District: Southwest 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

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 SEP 08 2015

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

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

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

**Date of Notice:**     AUG 12 2015     **Date Permit Application Filed:**     AUG 22 2015    

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

**HAND DELIVERY**                       **CERTIFIED MAIL RETURN RECEIPT REQUESTED**

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

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

<b>Name:</b> <u>Haessly Land &amp; Timber LLC</u>	<b>Name:</b> <u>Lucy Harper</u>
<b>Address:</b> <u>25 Sheets Run Rd.</u>	<b>Address:</b> <u>511 Boca Ciega Point Blvd North</u>
<u>Marietta OH 45750</u>	<u>St Petersburg FL 33708</u>

**Notice is hereby given:**

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

<b>State:</b> <u>WV</u>	<b>UTM NAD 83</b>	<b>Easting</b> <u>516,422.14</u>
<b>County:</b> <u>Doddridge</u>		<b>Northing</b> <u>4,340,487.65</u>
<b>District:</b> <u>Southwest</u>		<b>Public Road Access:</b> <u>RT 21</u>
<b>Quadrangle:</b> <u>Oxford</u>	<b>Generally used farm name:</b> <u>Haessly Land and Timber, LLC</u>	
<b>Watershed:</b> <u>Sheep Run Of South Fork Hughes River</u>		

**This Notice Shall Include:**

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

**Notice is hereby given by:**

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

**Oil and Gas Privacy Notice:**

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

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**SEP 08 2015**

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

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

Date of Notice: AUG 12 2015 Date Permit Application Filed: AUG 22 2015

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

<input type="checkbox"/> HAND DELIVERY	<input checked="" type="checkbox"/> CERTIFIED MAIL RETURN RECEIPT REQUESTED
--	---

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

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

Name: <u>I L Morris</u> ✓	Name: _____
Address: <u>PO Box 397</u>	Address: _____
<u>Glenville WV 26351</u>	_____

**Notice is hereby given:**

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

State: <u>WV</u>	UTM NAD 83	Easting: <u>516,422.14</u>
County: <u>Doddridge</u>		Northing: <u>4,340,487.65</u>
District: <u>Southwest</u>	Public Road Access: _____	<u>RT 21</u>
Quadrangle: <u>Oxford</u>	Generally used farm name: _____	<u>Haessly Land and Timber, LLC</u>
Watershed: <u>Sheep Run Of South Fork Hughes River</u>		

**This Notice Shall Include:**

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

**Notice is hereby given by:**

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

**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 as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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Office of Oil & Gas

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WW-6A5  
(1/12)

Operator Well No. 513065

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

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

Date of Notice: 9-1-15 Date Permit Application Filed: 9-1-15

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED  HAND DELIVERY

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

Notice is hereby provided to the SURFACE OWNER(s)

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

Name: Haessly Land & Timber LLC  
Address: 25 Sheets Run Rd.  
Marietta OH 45750

Name: Lucy E. Harper  
Address: 511 Boca Ciega Point Blvd. North  
St. Petersburg FL 33708

Notice is hereby given:

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

State: WV UTM NAD 83 Easting: 516,422.140000  
County: Doddridge Northing: 4,340,487.650000  
District: Southwest Public Road Access: RT 21  
Quadrangle: Oxford Generally used farm name: Haessly Land and Timber, LLC  
Watershed: Sheep Run Of South Fork Hughes River

This Notice Shall Include:

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

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: 304-848-0040

Oil and Gas Privacy Notice:

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

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WW-6A5  
(1/12)

Operator Well No. 513065

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

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

Date of Notice: 9-1-15 Date Permit Application Filed: 9-1-15

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

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Notice is hereby provided to the SURFACE OWNER(s)

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

Name: I. L. (Ike) Morris  
Address: PO Box 397  
Glenville WV 26351

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

Notice is hereby given:

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

State: WV UTM NAD 83 Easting: 516,422.140000  
County: Doddridge Northing: 4,340,487.650000  
District: Southwest Public Road Access: RT 21  
Quadrangle: Oxford Generally used farm name: Haessly Land and Timber, LLC  
Watershed: Sheep Run Of South Fork Hughes River

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Telephone: 304-848-0082  
Email: vroark@eqt.com

Address: 115 Professional Place, P.O. Box 280  
Bridgeport, WV 26330  
Facsimile: 304-848-0040

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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

May 15, 2015

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

Subject: DOH Permit for the OXF155 Pad, Doddridge County

513064 OXF155H1

513065 OXF155H2

513066 OXF155H3

513067 OXF155H4

513068 OXF155H5

513069 OXF155H6

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.

Very Truly Yours,

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

4701706756

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

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**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

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SEP 08 2015



Office of Oil and Gas

West Virginia Department of  
Environmental Protection  
Office of Oil & Gas  
601 57th Street SE  
Charleston, WV 25304-2345

DEP Office Use only
Date Received by Oil & Gas:
Assigned Impoundment ID #:

## Permit Associated Impoundment / Pit Registration

**Instruction:** This form is to be used to register impoundments or waste pits, greater than 5,000 bbls, that are associated with a WVDEP, Office of Oil and Gas, well drilling permit. An **associated impoundment or pit** means it has been designed and included in the well drilling permit application, will follow the reclamation time frame of well work permit, and will be approved in conjunction with the well work permit. An impoundment ID number will be assigned by WVDEP, Office of Oil and Gas, to all impoundments and pits. This impoundment ID number will be sent to the applicant following receipt of this form by WVDEP. Please reference this impoundment ID number with all future correspondence and reference to this impoundment. Conditions as described in W.Va. State Rule §35-4-21 will be followed as it relates to impoundments and pits.

### Section 1 – Operator Information

Operator Name:	<u>EQT Production Company</u>		
Operator ID:	<u>306686</u>		
Address: Street	<u>115 Professional Place</u>		
City:	<u>Bridgeport</u>	State: <u>WV</u>	Zip: <u>26330</u>
Contact Name:	<u>Ron Furby</u>	Contact Title:	<u>Sr. Mgr. Water Operations</u>
Contact Phone:	<u>412-395-7052</u>	Contact Email:	<u>rfurby@eqt.com</u>

### Section 2 – Engineering / Design Contractor Information

Design will be contracted	<input checked="" type="checkbox"/>	Designed in-house	<input type="checkbox"/>
Company Name:	<u>Hornor Brothers Engineers</u>		
Address: Street	<u>P.O. Box 386</u>		
City:	<u>Clarksburg</u>	State: <u>WV</u>	Zip: <u>26302</u>
Contact Name:	<u>Thomas D. Corathers</u>	Contact Title:	<u>PE, PS</u>
Contact Phone:	<u>304-624-6445</u>	Contact Email:	<u>tom@hbe1902.com</u>
Certifying Professional Engineer:	<u>Thomas D. Corathers</u>		
Professional Engineer Registration Number:	<u>14161</u>		

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Office of Oil & Gas  
SEP 08



Office of Oil and Gas

**Section 3 - Impoundment / Pit Information**

Type of Structure. Check one of two choices below:  
 Freshwater Impoundment                       Waste Pit  
 Note: Any waste in a pit will make it a waste pit.

---

Name of Structure (Company Name :) EQT-OXF 155 Completion Pit  
 County: Doddridge                      District: Southwest and West Union  
 USGS 7.5' Quad Map Name: OXFORD  
 Farm Name: \_\_\_\_\_  
 Pad Name: OXF 155  
 Surface Owner Name: I.L. Morris  
 Physical Description of Location: From intersection Doddridge Co Rte 23/2 & OXF 149 Site Access Road travel Northwesterly along access road 1.72 miles to OXF 155 access turn left and travel southwest 1800' turn left, go 800' to completion pit on left.  
 (Note: Give general location, example: 2 miles south of Smalltown, WV on Rt. 22, left on Buffalo Creek)  
 Watershed (nearest perennial): Holt Run and an unnamed tributary to Big Run  
 Distance (Drainage Distance) to nearest perennial stream: approximately 1,030 feet to each

---

Location Coordinates (NAD83, Decimal Degrees (xx.xxxx, -xx.xxxx))  
 Latitude: 39.209547                      Longitude (Use negative sign): -80.805559  
 UTM Coordinates :                      UTM 83-17NF:1695492.653199 E                      UTM 83-17NF:14238976.211983 N  
 Access Road Coordinates (junction of state highway access)  
 Latitude: 39.203497                      Longitude (Use negative sign): -80.792680  
 UTM Coordinates :                      UTM 83-17NF:1699145.657103 E                      UTM 83-17NF:14236781.647751 N

---

Approximate Dimensions  
 Length: 352'                      Width: 226'                      Height: 19'  
 Note: If irregularly shaped, give approximate dimensions of long axis.

Total Capacity – Provide all units of measure below:  
 Barrels: 173,268                      Gallons: 7,277,758                      Acre-Feet: 22.335

Capacity with 2' Freeboard – Provide all units of measure below:  
 Barrels: 148,521                      Gallons: 6,238,314                      Acre-Feet: 19.145

Incised volume:  
 Barrels: 105,461                      Gallons: 4,429,657                      Acre-Feet: 13.594

Net impounded volume: (Total volume less incised volume.)  
 Barrels: 67,807                      Gallons: 2,848,101                      Acre-Feet: 8.741

Anticipated Construction Start Date (estimation, non-binding): \_\_\_\_\_  
 Note: No construction may begin on **Associated** impoundment until WVDEP issues the drilling calendar days prior to confirmed construction start date, notify the Office of Oil & Gas, and the local Oil and Gas inspector of construction start date. Use form IMP-2, "Notification of Impoundment / Pit Construction".

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**Received**  
 Office of Oil & Gas  
 SEP 08 2015



**Section 4 - Associated Well Numbers and API Numbers.** List associated well numbers and API number. API numbers may not be assigned at time of registering this impoundment, if so list as pending.

Well Number(s):	API Number(s) – If issued:
H1 513064	
H2 513065	
H3 513066	
H4 513067	
H5 513068 H6 513069	
H7 516483	
H8 516484	

**Section 5 - Required Information Checklist To Register Permit Associated Impoundments or Pits.** Include the following information and plans with application.

- Engineered Construction Plans, certified by WV Registered P.E.
- Erosion and Sediment Control Plan, certified by WV Registered P.E.
- Reclamation Plan, certified by WV Registered P.E.

**Section 6 – Dam Standard Qualifying Evaluation**

- The design of this structure has been evaluated by the applicant to determine it does NOT qualify to be defined as a dam, under W.Va Rule §47-34. If the design of this structure qualifies it to be defined as a dam, all permits regulating dams will be required prior to registering the structure with the Office of Oil and Gas. The dam standard, from the WVDEP, Div. Of Water and Waste, is available for review at: <http://www.dep.wv.gov/WWE/ee/ds/Pages/default.aspx>

**Section 7 –Comments – Provide any additional comments concerning this project**

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 Office of Oil & Gas  
 SEP 08 2015



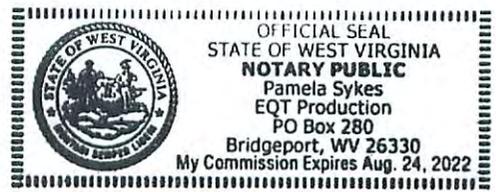
Office of Oil and Gas

**Section 8 - Application Certification**

I hereby certify that the information listed above is true and accurate. I understand that this pit/impoundment is to be constructed only in a location appropriate for the storage of water, including wastewater, and will be constructed in accordance with plans designed and certified by a West Virginia registered professional engineer. I further recognize that all required plans have been submitted to the Office of Oil and Gas. I understand that after construction, and prior to any fluid being placed in the pit/impoundment, it shall be inspected by a West Virginia registered professional engineer to ensure compliance with the certified design and construction plan, and that the professional engineer shall certify that this structure was constructed in accordance with design and construction plans. I understand that such certification shall be in writing to the Chief and that no fluids may be placed in the pit/impoundment until the certification has been filed with the chief. I agree that this pit/impoundment shall be constructed, maintained, operated and closed in accordance with all applicable laws and rules, including the requirements of W. Va. Code R § 35-4-2 .

Name: Victoria J. Roman  
Title: Permitting Supervisor  
Signature: [Handwritten Signature]

Taken, subscribed and sworn to before me this, 27 Day of Aug 2015  
Notary Public: [Handwritten Signature]  
My commission expires: 8-24-22  
Notary Seal:



**Section 9. Submittal Instructions**

Submit original paper copy of application to:  
West Virginia Department of Environmental Protection  
Office of Oil and Gas  
Impoundment Registration  
601 57<sup>th</sup> Street, SE  
Charleston WV 25304

Email PDF file format of this application and all related engineering Plans to :  
[Depimpoundments@wv.gov](mailto:Depimpoundments@wv.gov)

4701706756  
Received  
Office of Oil & Gas  
SEP 08 2015



Office of Oil and Gas

West Virginia Department of  
Environmental Protection  
Office of Oil & Gas  
601 57th Street SE  
Charleston, WV 25304-2345

DEP Office Use only
Date Received by Oil & Gas:
Assigned Impoundment ID #:

## Permit Associated Impoundment / Pit Registration

**Instruction:** This form is to be used to register impoundments or waste pits, greater than 5,000 bbls, that are associated with a WVDEP, Office of Oil and Gas, well drilling permit. An **associated impoundment or pit** means it has been designed and included in the well drilling permit application, will follow the reclamation time frame of well work permit, and will be approved in conjunction with the well work permit. An impoundment ID number will be assigned by WVDEP, Office of Oil and Gas, to all impoundments and pits. This impoundment ID number will be sent to the applicant following receipt of this form by WVDEP. Please reference this impoundment ID number with all future correspondence and reference to this impoundment. Conditions as described in W.Va. State Rule §35-4-21 will be followed as it relates to impoundments and pits.

### Section 1 – Operator Information

Operator Name:	EQT Production Company		
Operator ID:	306686		
Address: Street	115 Professional Place		
City:	Bridgeport	State:	WV Zip: 26330
Contact Name:	Ron Furby	Contact Title:	Sr. Mgr. Water Operations
Contact Phone:	412-395-7052	Contact Email:	rforby@eqt.com

### Section 2 – Engineering / Design Contractor Information

Design will be contracted	<input checked="" type="checkbox"/>	Designed in-house	<input type="checkbox"/>
Company Name:	Honor Brothers Engineers		
Address: Street	P.O. Box 386		
City:	Clarksburg	State:	WV Zip: 26302
Contact Name:	Thomas D. Corathers	Contact Title:	PE, PS
Contact Phone:	304-624-6445	Contact Email:	tom@hbe1902.com
Certifying Professional Engineer:	Thomas D. Corathers		
Professional Engineer Registration Number:	14161		

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**Section 3 - Impoundment / Pit Information**

Type of Structure. Check one of two choices below:

Freshwater Impoundment

Waste Pit

Note: Any waste in a pit will make it a waste pit.

Name of Structure (Company Name :) EQT-OXF 155 Flow Back Pit

County: Doddridge

District: Southwest and West Union

USGS 7.5' Quad Map Name: OXFORD

Farm Name: \_\_\_\_\_

Pad Name: OXF 155

Surface Owner Name: I.L. Morris

Physical Description of Location: From intersection Doddridge Co Rte 23/2 & OXF 149 Site Access Road travel northwesterly along access road 1.72 miles to OXF 155 access turn left and travel southwest 1800' turn left, go 400' to flow back pit on left

(Note: Give general location, example: 2 miles south of Smalltown, WV on Rt. 22, left on Buffalo Creek)

Watershed (nearest perennial): Holt Run and an unnamed tributary to Big Run

Distance (Drainage Distance) to nearest perennial stream: approximately 1,030 feet to each

Location Coordinates (NAD83, Decimal Degrees (xx.xxxx, -xx.xxxx))

Latitude: 39.210235 Longitude (Use negative sign): -80.806013

UTM Coordinates : UTM 83-17NF:1695363.626904 E UTM 83-17NF:14239226.621075 N

Access Road Coordinates (junction of state highway access)

Latitude: 39.203497 Longitude (Use negative sign): -80.792680

UTM Coordinates : UTM 83-17NF:1699145.653103 E UTM 83-17NF:14236781.647751 N

Approximate Dimensions

Length: 186' Width: 185' Height: 17'

Note: If irregularly shaped, give approximate dimensions of long axis.

Total Capacity – Provide all units of measure below:

Barrels: 45,129 Gallons: 1,895,557 Acre-Feet: 5.817

Capacity with 2' Freeboard – Provide all units of measure below:

Barrels: 35,544 Gallons: 1,492,957 Acre-Feet: 4.582

Incised volume:

Barrels: 17,288 Gallons: 726,147 Acre-Feet: 2.228

Net impounded volume: (Total volume less incised volume.)

Barrels: 27,841 Gallons: 1,169,410 Acre-Feet: 3.589

Anticipated Construction Start Date (estimation, non-binding): \_\_\_\_\_

Note: No construction may begin on **Associated** impoundment until WVDEP issues the drilling permit. **100** calendar days prior to confirmed construction start date, notify the Office of Oil & Gas, and the local **Oil and Gas** inspector of construction start date. Use form IMP-2, "Notification of Impoundment / Pit Construction."

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Office of Oil and Gas

**Section 4 - Associated Well Numbers and API Numbers.** List associated well numbers and API number. API numbers may not be assigned at time of registering this impoundment, if so list as pending.

Well Number(s):	API Number(s) – If issued:
H1 513064	
H2 513065	
H3 513066	
H4 513067	
H5 513068 H6 513069	
H7 516483	
H8 516484	

**Section 5 - Required Information Checklist To Register Permit Associated Impoundments or Pits.** Include the following information and plans with application.

- Engineered Construction Plans, certified by WV Registered P.E.
- Erosion and Sediment Control Plan, certified by WV Registered P.E.
- Reclamation Plan, certified by WV Registered P.E.

**Section 6 – Dam Standard Qualifying Evaluation**

- The design of this structure has been evaluated by the applicant to determine it does NOT qualify to be defined as a dam, under W.Va Rule §47-34. If the design of this structure qualifies it to be defined as a dam, all permits regulating dams will be required prior to registering the structure with the Office of Oil and Gas. The dam standard, from the WVDEP, Div. Of Water and Waste, is available for review at: <http://www.dep.wv.gov/WWE/ee/ds/Pages/default.aspx>

**Section 7 –Comments – Provide any additional comments concerning this project**

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Office of Oil & Gas

SEP 08 2015  
Page 3 of 4



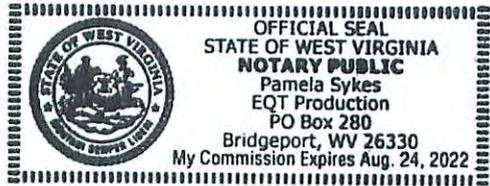
Office of Oil and Gas

**Section 8 - Application Certification**

I hereby certify that the information listed above is true and accurate. I understand that this pit/impoundment is to be constructed only in a location appropriate for the storage of water, including wastewater, and will be constructed in accordance with plans designed and certified by a West Virginia registered professional engineer. I further recognize that all required plans have been submitted to the Office of Oil and Gas. I understand that after construction, and prior to any fluid being placed in the pit/impoundment, it shall be inspected by a West Virginia registered professional engineer to ensure compliance with the certified design and construction plan, and that the professional engineer shall certify that this structure was constructed in accordance with design and construction plans. I understand that such certification shall be in writing to the Chief and that no fluids may be placed in the pit/impoundment until the certification has been filed with the chief. I agree that this pit/impoundment shall be constructed, maintained, operated and closed in accordance with all applicable laws and rules, including the requirements of W. Va. Code R § 35-4-2 .

Name: Victoria J. Rank  
Title: Permitting Supervisor  
Signature: [Handwritten Signature]

Taken, subscribed and sworn to before me this, 27 Day of Aug 20 15  
Notary Public: [Handwritten Signature]  
My commission expires: 8-24-22  
Notary Seal:



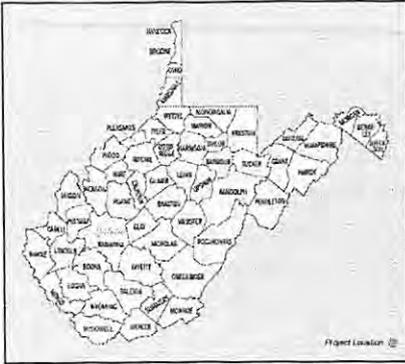
**Section 9. Submittal Instructions**

Submit original paper copy of application to:  
West Virginia Department of Environmental Protection  
Office of Oil and Gas  
Impoundment Registration  
601 57<sup>th</sup> Street, SE  
Charleston WV 25304

Email PDF file format of this application and all related engineering Plans to :  
[Depimpoundments@wv.gov](mailto:Depimpoundments@wv.gov)

470170673

Received  
Office of Oil and Gas  
SEP 08 2015



Project Location

### FLOODPLAIN CONDITIONS

DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HEC-RAS STUDY COMPLETED:	NA
FLOODPLAIN SHOWN ON DRAWINGS:	NA
FIRM MAP NUMBER(S) FOR SITE:	5401700225C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	NA

### PROPOSED WELL LEGEND

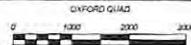
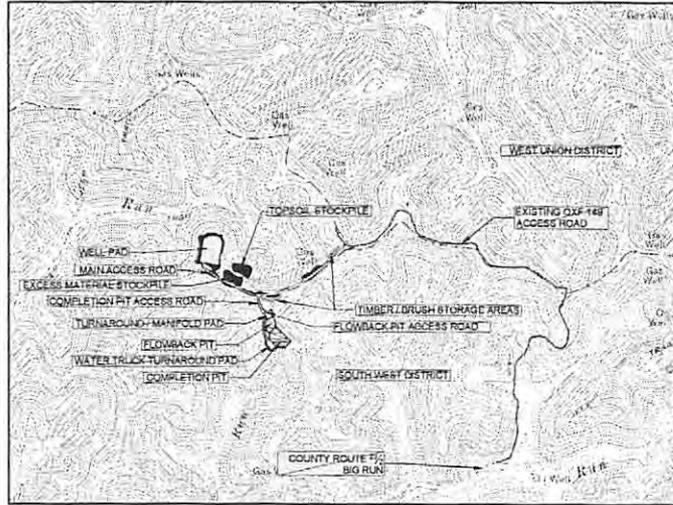
- H8 516484 - LAT: 39.213754 / LONG:-80.809732
- H7 516483 - LAT: 39.213713 / LONG:-80.809739
- H6 513069 - LAT: 39.213673 / LONG:-80.809747
- H5 513068 - LAT: 39.213632 / LONG:-80.809754
- H4 513067 - LAT: 39.213591 / LONG:-80.809762
- H3 513066 - LAT: 39.213550 / LONG:-80.809769
- H2 513065 - LAT: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

**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!!**

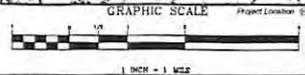
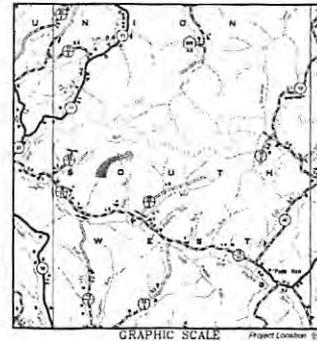


# OXF 155

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



SITE LOCATIONS		NAD 83	
LETTER CODE	EASTING	NORTHING	COORDINATE
Beginning Main Access Road (H8)	19 714817	80 801687	
Center of Completion Pit	19 296247	80 802559	
Center of Flowback Pit	19 212719	80 808113	
Center of Well Pad	19 213177	80 808717	
Beginning of OXF 149 access road of County Road 252	19 203497	80 792683	



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

- AFFECTED PROPERTIES**  
 WEST UNION DISTRICT  
 DODDRIIDGE COUNTY, WV
- IN 21- POL 3
  - LIVY E. THAYER
  - 842.80 ACRES
  - SITE DISTURBANCE
  - MAIN ACCESS ROAD = 0.71 ACRES
  - COMPLETION PIT ACCESS ROAD = 0.07 ACRES
  - TIMBER REMOVAL = 0.87 ACRES
- AFFECTED PROPERTIES**  
 SOUTH WEST DISTRICT  
 DODDRIIDGE COUNTY, WV
- HARVEY LAND & TIMBER, LLC
  - 878 ACRES
  - SITE DISTURBANCE
  - MAIN ACCESS ROAD = 8.34 ACRES
  - COMPLETION PIT ACCESS ROAD = 12.12 ACRES
  - TOPSOIL STOCKPILE = 2.83 ACRES
  - EXCESS MATERIAL STOCKPILE = 2.33 ACRES
  - TIMBER & LOGS STORAGE = 1.14 ACRES
  - WELL PAD 783 ACRES
  - TIMBER REMOVAL = 23.81 ACRES
- J. L. MORRIS**  
 6,807.75 ACRES  
 SITE DISTURBANCE
- COMPLETION PIT ACCESS & TURNAROUND = 1.81 ACRES**  
**COMPLETION PIT = 2.40 ACRES**  
**FLOWBACK ACCESS & MANIFOLD/TURNAROUND = 1.81 ACRES**  
**FLOWBACK PIT = 1.28 ACRES**  
**TIMBER REMOVAL = 1.18 ACRES**  
**EXISTING WELLS ACCESS ROAD = 10.28 ACRES**



### Project Contacts

- EQT**
- Chris Metzger - EQT Production Company  
 304-848-0075 O/E
- Billy Miller - Landman II-Drilling EQT Production Company  
 304-627-0387 Mobile  
 304-848-0039 Office
- Surveyor & Engineer**
- Ben Singleton - PS - Allegheny Surveys Inc.  
 304-649-8606 O/E
- Thomas D. Conlithers - 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 §15-4-21. The information reflects a temporary frac pit pond. The computed above grade storage volume is less than 15 acre feet. Frac method pumped, frac. pond is lined.

### SHEET INDEX

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FINAL DESIGN PLANS	11-13
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EXISTING ACCESS ROAD CROSS SECTIONS	30-37
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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 Bros. Engineers  
 Surveying, Environmental and  
 Civil, Consulting Engineering  
 1418 1/2 Main Street, Wheeling, WV 26061  
 304-624-6445



THIS DOCUMENT PREPARED FOR EQT PRODUCTION COMPANY

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

Date: 8/17/2015  
 Scale: N/A  
 Created by: TBC-A-07  
 File No.: 074-075-14  
 Page: 1 of 48

# OXF 155 WELL PAD FINAL DESIGN PLAN

**Legend**

- Proposed Well Pad Cut & Fill Areas
- Proposed Road / Turnaround Cut & Fill Areas
- Proposed Spoil Area
- Proposed Staged Areas
- Proposed Timber / Brush Storage Area
- Existing 2" Contour
- Existing 10" Contour
- Existing Gas Line CL
- Existing Fence
- Existing Tree Line
- Proposed 2" Contour
- Proposed 10" Contour
- Proposed Pad Berm
- Proposed ADI
- Proposed 2' Contour
- Proposed LOD
- Proposed 5ft Stock
- Proposed Stream Waste
- Proposed Cut Area
- Proposed Fill Area

All topographic information shown herein is based on aerial photography provided by Blue Mountain Aerial Mapping with a flight date of Spring 2011.

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

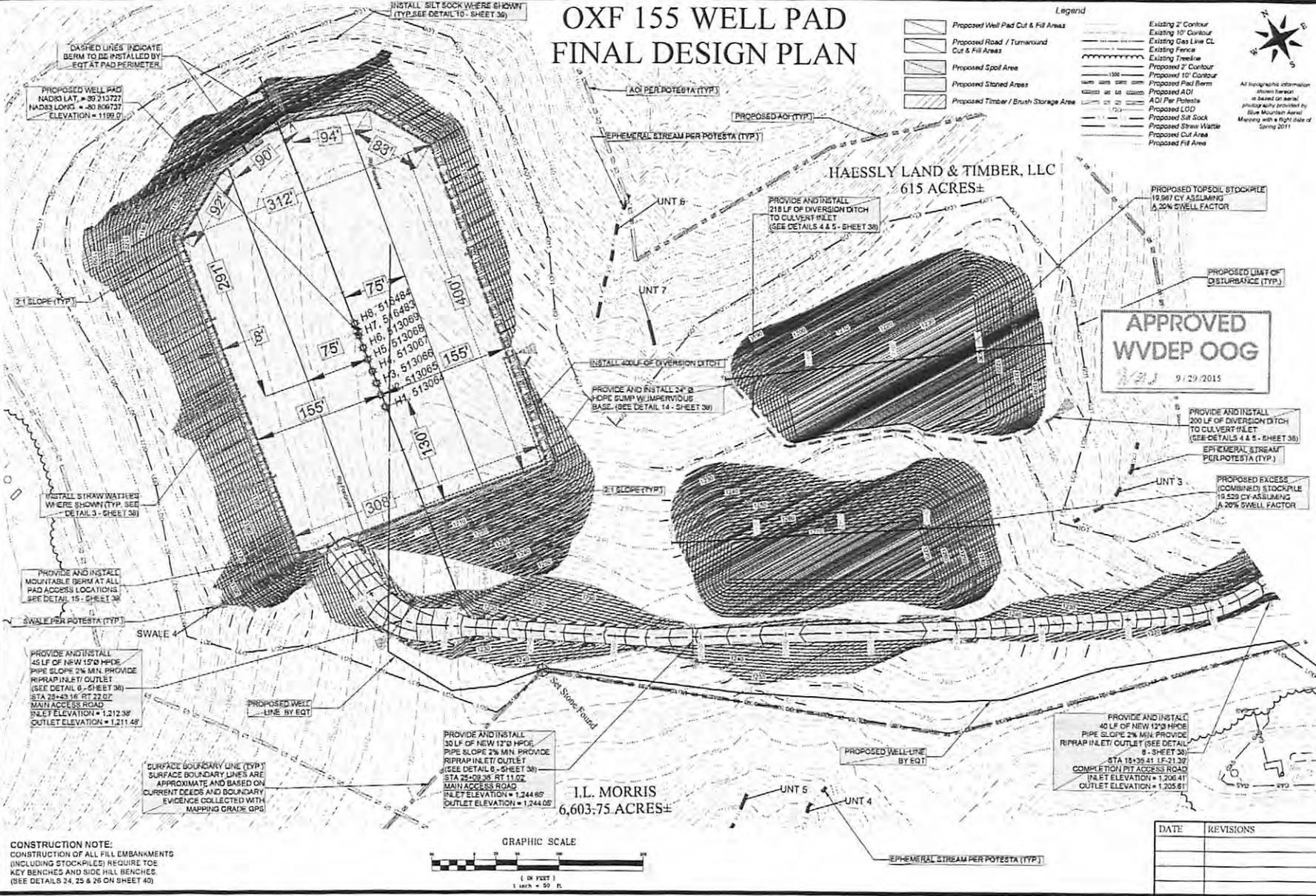
**Horner Bros. Engineers**  
Civil, Mining, Environmental and Consulting Engineering  
14141  
14142  
14143

**EQT**  
Engineering & Construction Technology

THIS IS A TYPING PREPARED FOR EQT PRODUCTION COMPANY

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

Date: 8/17/2015  
Scale: 1"=50'  
Designed by: TWC & EQT  
File No.: 15040117  
Page: 13 of 18



DATE	REVISIONS

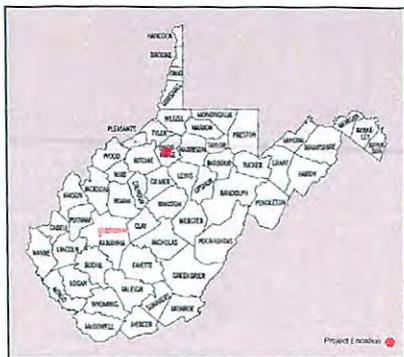
Received 10/01/01  
 Office of Oil & Gas

OCT 01 015

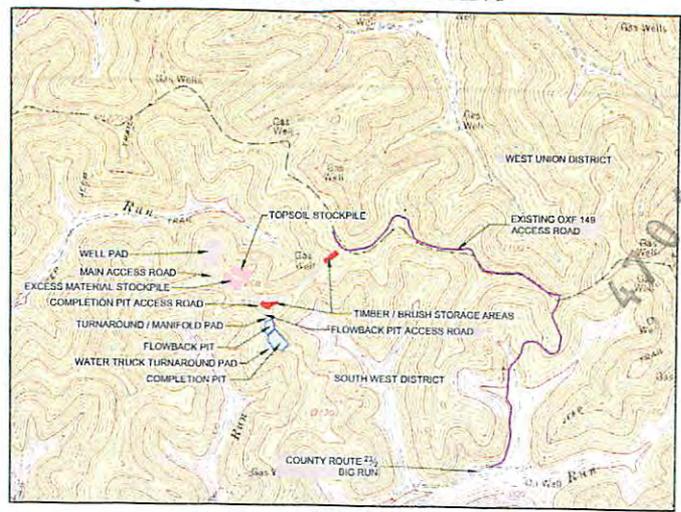
West Virginia Coordinate System of 1983  
 State Plane Grid North  
 Elevation MANDS  
 Established By Survey Grade GPS

# OXF 155

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



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:	540170225C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A



- AFFECTED PROPERTIES WEST UNION DISTRICT DOUGHERTY COUNTY, WV**
- TR 22 - PLS 3
  - LUCKY HARBOR
  - 46.80 ACRES
  - SITE DISTURBANCE
  - MAIN ACCESS ROAD - 0.78 ACRES
  - TIMBER REMOVAL - 0.81 ACRES
- AFFECTED PROPERTIES SOUTHWEST DISTRICT DOUGHERTY COUNTY, WV**
- WESSLEY LAND & TRAIL, LLC
  - 815 ACRES
  - SITE DISTURBANCE
  - MAIN ACCESS ROAD - 9.84 ACRES
  - COMPLETION PIT ACCESS ROAD - 0.11 ACRES
  - TOPSOIL STOCKPILE - 2.33 ACRES
  - EXCESS MATERIAL STOCKPILE - 1.33 ACRES
  - TIMBER & BRUSH STORAGE - 1.31 ACRES
  - WELL PAD - 1.81 ACRES
  - TOTAL DISTURBANCE - 13.72 ACRES
  - TIMBER REMOVAL - 23.55 ACRES
- I.L. MORRIS**
- 8.80 ACRES
  - SITE DISTURBANCE
  - COMPLETION PIT - 2.40 ACRES
  - FLOWBACK ACCESS & MANHOLE/TURNAROUND - 0.85 ACRES
  - FLOWBACK PIT - 1.20 ACRES
  - TIMBER & BRUSH STORAGE - 0.32 ACRES
  - TOTAL DISTURBANCE - 4.77 ACRES
  - TIMBER REMOVAL - 1.16 ACRES
  - EXISTING WELL PAD ACCESS ROAD - 10.29 ACRES

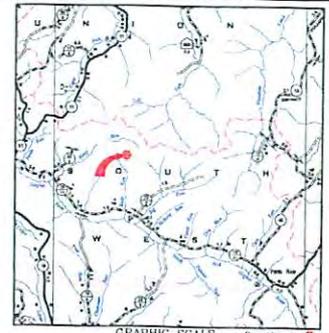
### PROPOSED WELL LEGEND

- H8 516484 - LAT: 39.213754 / LONG:-80.809732
- H7 516483 - LAT: 39.213713 / LONG:-80.809739
- H6 513069 - LAT: 39.213673 / LONG:-80.809747
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- 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

GATFORD GRID

0 1000 2000 3000

WELL LOCATIONS	NAD 83	LONGITUDE
Beginning Main Access Road OHW	39.214037	-80.807496
Center of Completion PE	39.208547	-80.805563
Center of Flowback PE	39.210128	-80.806013
Center of Well Pad	39.213121	-80.809727
Beginning of OXF 149 access road at county road 75	39.203197	-80.792650



FINAL REVIEW  
 NOT FOR CONSTRUCTION

Michael  
 9-30-15

SHEET INDEX	
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EXISTING ACCESS ROAD CROSS SECTIONS	28-35
CONSTRUCTION DETAILS	36-38
RECLAMATION PLANS	39-46

DATE	REVISIONS	Date: 8/12/2015
		Scale: N/A
		Designed by: TMC & JTB
		File No: OXF155-001
		Page: 1 of 46

**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.**



Allegheny Surveys Inc.  
 P. O. Box 438  
 237 Birch River Road  
 Birch River, WV 26610  
 304-649-8506

**Homor Bros. Engineers**  
 2002  
 Mining, Environmental and  
 Civil Engineering  
 1000  
 1000  
 1000  
 1000



THIS DOCUMENT  
 PREPARED FOR  
 EQT PRODUCTION  
 COMPANY

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

# OXF 155 WELL PAD FINAL DESIGN PLAN

**Legend**

- Proposed Well Pad Cut & Fill Areas
- Proposed Road / Turnaround Cut & Fill Areas
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- Existing Gas Line CL
- Existing Fence
- Existing Tressline
- Proposed 2' Contour
- Proposed 10' Contour
- Proposed Pad Berm
- Proposed AOI
- AOI Per Potesta
- Proposed LCO
- Proposed Silt Soil
- Proposed Straw Watt
- Proposed 5' Area
- Proposed 7' Area



Allegheny Surveys Inc.  
P.O. Box 438  
237 Birch River Road  
Birch River, WV 26010  
304-649-8605

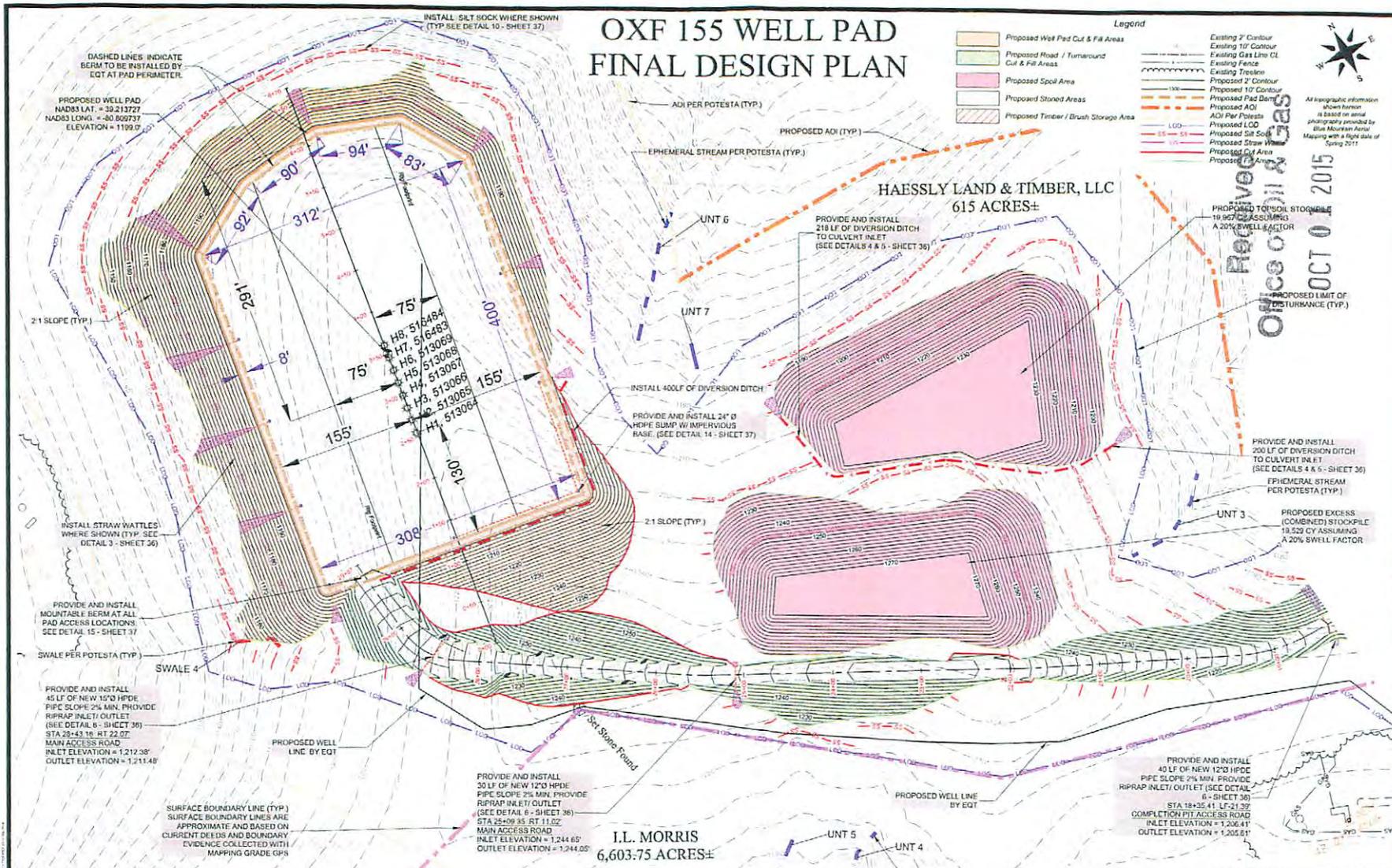
Hornor Bros., Engineers  
Civil, Mining, Environmental and  
Consulting Engineering  
Company, Inc. No. 10000



THIS DOCUMENT  
PREPARED FOR  
FOY PRODUCTION  
COMPANY

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

Revised  
Office of Oil & Gas  
OCT 01 2015



**CONSTRUCTION NOTE:**  
CONSTRUCTION OF ALL FILL EMBANKMENTS  
(INCLUDING STOCKPILES) REQUIRE TOE  
KEY BENCHES AND SIDE HILL BENCHES.  
(SEE DETAILS 24, 25 & 26 ON PAGE 38)



DATE	REVISIONS

Date: 8/12/2015  
Scale: 1"=50'  
Designed by: TMC & JDF  
File No: 100117200  
Page: 13 of 46