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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)

July 02, 2015

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-10303087, 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: 515492

Farm Name: CONSOLIDATION COAL COMPA

**API Well Number: 47-10303087**

**Permit Type: Horizontal 6A Well**

Date Issued: 07/02/2015

**Promoting a healthy environment.**

**07/03/2015**

**PERMIT CONDITIONS 47 10303087**

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

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**CONDITIONS**

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

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
W.VA. CODE §22-6A - WELL WORK PERMIT APPLICATION

1) Well Operator: EQT Production Company

306686	103	4	655
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Operator ID      County      District      Quadrangle

2) Operator's Well Number: 515492      Well Pad Name FOL109

3) Farm Name/Surface Owner : Consolidation Coal Company      Public Road Access: County Route 32

4) Elevation, current ground: 1,514.0      Elevation, proposed post-construction: 1,460.0

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 Genesee at a depth of 7655 with the anticipated thickness to be 28 feet and anticipated target pressure of 2620 PSI

8) Proposed Total Vertical Depth: 7655

9) Formation at Total Vertical Depth: Genesee

10) Proposed Total Measured Depth: 12,762

11) Proposed Horizontal Leg Length 4,004

12) Approximate Fresh Water Strata Depths: n/a

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

14) Approximate Saltwater Depths: n/a

15) Approximate Coal Seam Depths: 806, 891, 941, 1077, 1237, 1317, 1346

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?

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

*GCS*  
*7/1/15*  
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CASING AND TUBING PROGRAM

18)

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: for Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu.Ft.)
Conductor	26	New	MC-50	77	40	40	49 C.T.S.
Fresh Water	13 3/8	New	J-55	54.5	1,383	1,383	1,221 C.T.S.
Coal	-	-	-	-	-	-	-
Intermediate	9 5/8	New	A-500	40	3,530	3,530	1,367 C.T.S.
Production	5 1/2	New	P-110	20	12,762	12,762	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							

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./k)
Conductor	26	30	0.312	-	Construction	1.18
Fresh Water	13 3/8	17 1/2	0.38	2,730	* See Note 2	1.21
Coal						
Intermediate	9 5/8	12 3/8	0.395	3,950	* See Note 2	1.21
Production	5 1/2	8 1/2	0.361	12,640	-	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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*7/1/15*

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(3/13)

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

Drill and complete a new horizontal well in the Genesee formation. The vertical drill to go down to an approximate depth of 4349 then kick off the horizontal leg into the Genesee 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): 71.14

22) Area to be disturbed for well pad only, less access road (acres): 37.14

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.

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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.

\*Note: Attach additional sheets as needed.

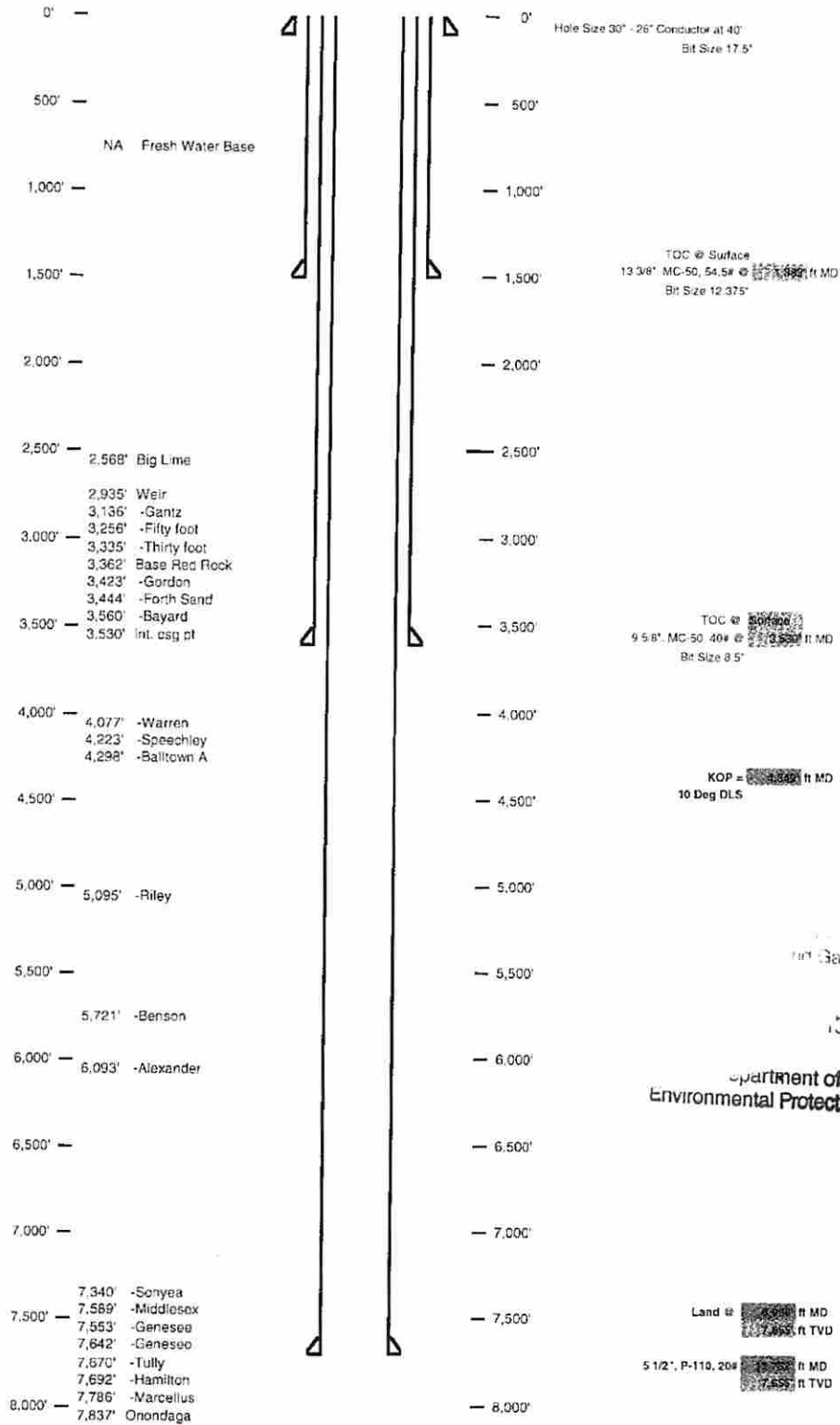
Handwritten signature and date: 7/1/15

4710303087

Well Schematic  
EQT Production

Well Name: [REDACTED]  
County: [REDACTED]  
State: West Virginia

Elevation KB: [REDACTED]  
Target: [REDACTED]  
Prospect: [REDACTED]  
Azimuth: [REDACTED]  
Vertical Section: [REDACTED]



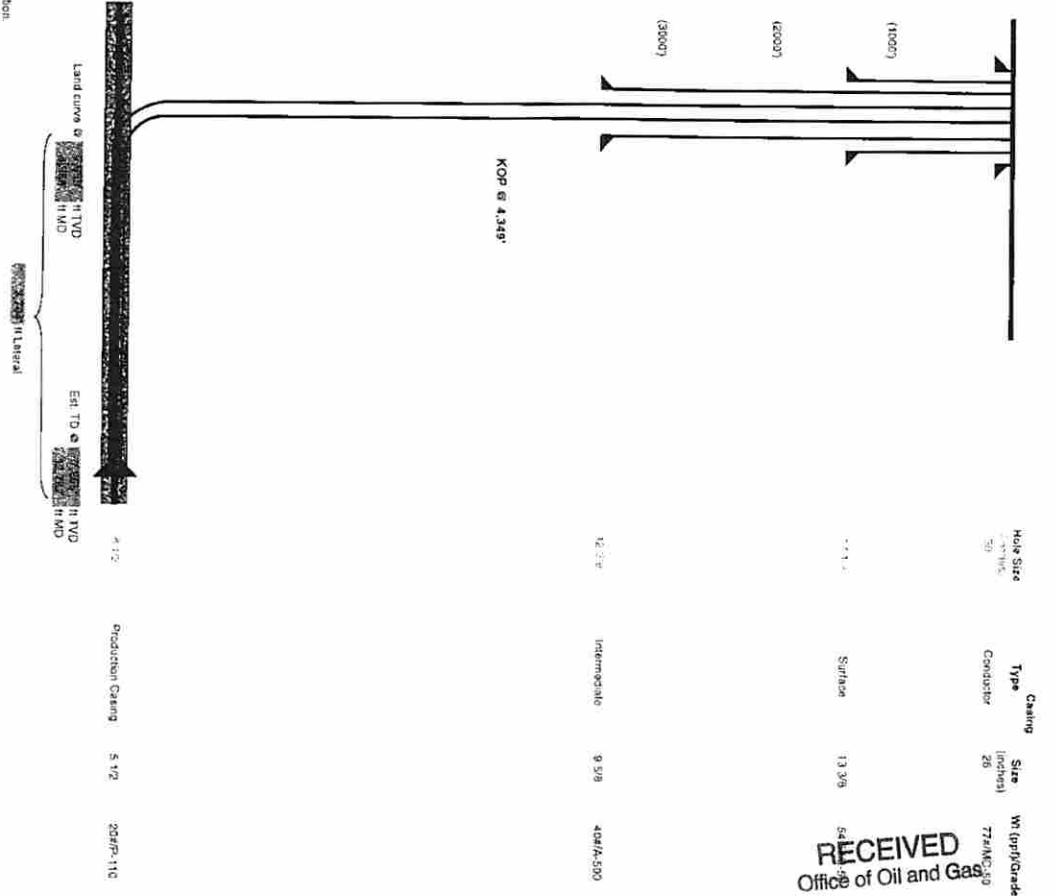
Department of  
Environmental Protection

EOI Production  
 West Virginia

Appendix  
 Vertical Section

TVD Depth (feet)	Formation Top (TVD)	Formation	Hole Size	Casing Type	Casing Size (Inches)	WT (ppg)	Grade
250'			5 1/2"	Conductor	26	77	WV-0-50
500'			5 1/2"	Surface	13.3/8	54	
750'		None					
1,000'							
1,250'							
1,500'							
1,750'							
2,000'							
2,250'							
2,500'							
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6,750'							
7,000'							
7,250'							
7,500'							
7,750'							
8,000'							
8,250'							

Proposed Well Work  
 Drill and complete a new horizontal well in the Geneva formation



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4710303087

07/03/2015



4710303087

June 25, 2015

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

Re: Casing Plan on Wells (FOI 109)

Dear Mr. Smith,

EQT is requesting the 13 3/8" surface casing to be set at 1385' KB, 30' below the base of Pittsburgh Coal. We will set the 9-5/8" intermediate string at 3530' KB, below the highest production in the Gordon formation.

If you have any questions, please do not hesitate to contact me at (304) 848-6076.

Sincerely,

Vicki Reark  
Permitting Supervisor-WV

Enc.

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west virginia department of environmental protection

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

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

March 18, 2014

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

Re: Cement Variance Request

Dear Sir or Madam,

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

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

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

Sincerely,

James Peterson  
Environmental Resources Specialist / Permitting

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west virginia department of environmental protection

Office of Oil and Gas  
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Charleston, WV 25304  
(304) 926-0450  
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Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
dep.wv.gov

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

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

**REPORT OF THE OFFICE**

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

**FINDINGS OF FACT**

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

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07/03/2015

## 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.

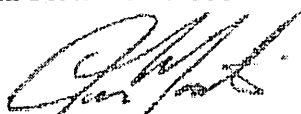
## ORDER

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

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07/03/2015

WW-9  
(5/13)

Page \_\_\_\_\_ of \_\_\_\_\_  
API No. 47 - 103 - \_\_\_\_\_ 0  
Operator's Well No. \_\_\_\_\_ 515492

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

Fluids/Cuttings Disposal & Reclamation Plan

Operator Name EQT Production Co. OP Code 306686  
Watershed (HUC10) Sams Run of Fishing Creek Quadrangle Wallace  
Elevation 1460.0 County Wetzel District Grant

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: \_\_\_\_\_

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.

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air is used to drill the top-hole sections of the wellbore, Surface, Intermediate, and Pilot hole sections, water based mud is used to drill the curve and lateral.

If oil based, what type? Synthetic, petroleum, etc \_\_\_\_\_

Additives to be used in drilling medium? MILBAR, Viscosifer, Alkalinity Control, Lime, Chloride Salts, Rate Filtration Control, Deflocculant, Lubricant, Detergent, Defoaming, Walnut Shell, X-Cide, SOLTEX Terra. Of the listed chemicals the following are generally used when drilling on air: lubricant, detergent, defoaming. Water based fluids use the following chemicals: MILBAR, viscosifer, alkalinity control, lime, chloride salts, rate filtration control, deflocculant, lubricant, detergent, defoaming, walnut shell, x-cide, SOLTEX terra

DMH  
2-9-15

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

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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FEB 17 2015

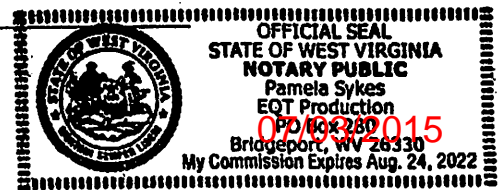
Company Official Signature [Signature]  
Company Official (Typed Name) Victoria J. Bark  
Company Official Title Permitting Supervisor

WV Department of Environmental Protection

Subscribed and sworn before me this 6 day of Feb, 20 15

[Signature] Notary Public

My commission expires 8-24-22



Proposed Revegetation Treatment: Acres Disturbed 71.14 Prevegetation pH 6.1

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type Granular 10-20-20

Fertilizer Amount 1/3 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

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

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

Photocopied section of involved 7.5' topographic sheet

Plan Approved by: [Signature]

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: Oil + Gas Inspector Date: 2-9-15

Field Reviewed? (  ) Yes (  ) No

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Office of Oil and Gas  
JUN 29 2015  
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Environmental Protection



Where energy meets innovation.™

# Site Specific Safety Plan

EQT FOL 109 Pad

Folsom  
Wetzel County, WV

For Wells:

514495 514496 514497 514498 514499 514500 514553  
514554 514555 515487 515488 515489 515490 515492

*[Signature]*  
EQT Production  
*Permitting Supervisor*  
Title  
2-6-15  
Date

Date Prepared:

December 16, 2014

*[Signature]*  
WV Oil and Gas Inspector  
*Oil & Gas Inspector*  
Title  
2-9-15  
Date

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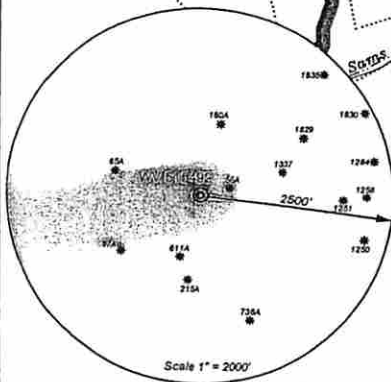
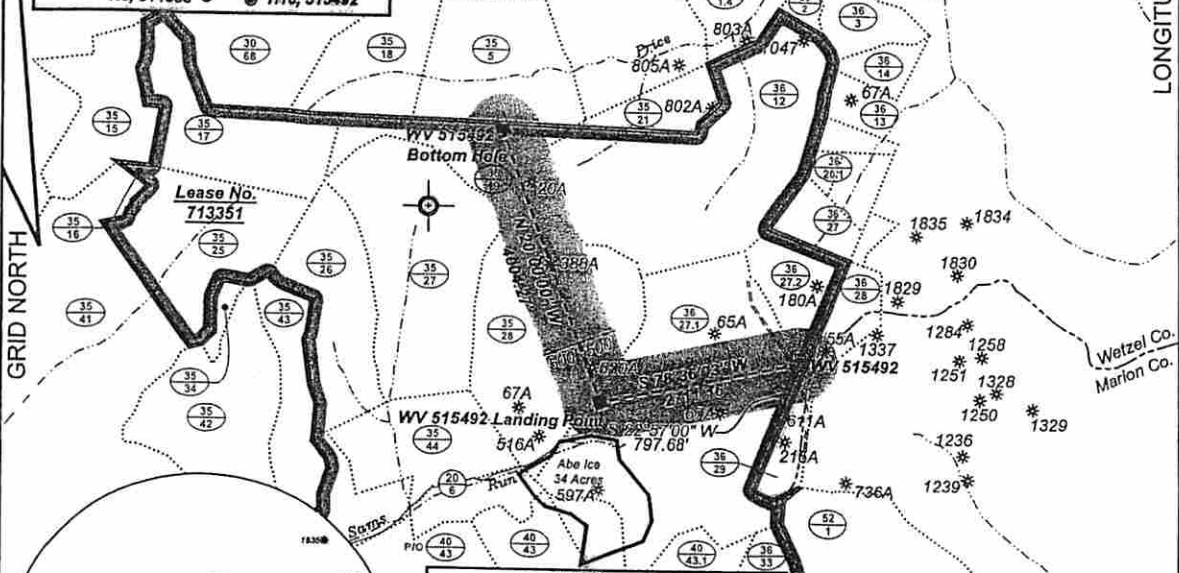
**WV 515492**  
**EQT Production Company**  
**L.G. Robinson et. vir. Lease**  
**2600 Acres**

9939'  
 LATITUDE 39 - 30 - 00

47 10303087

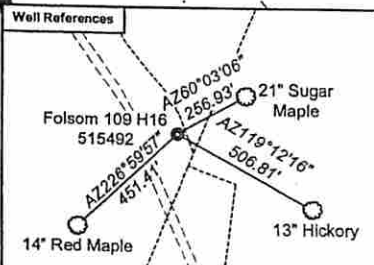
- ⊙ Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- Ⓢ WV County Route
- Ⓢ WV State Route

- Folsom 109
- |            |   |             |   |
|------------|---|-------------|---|
| H1, 514495 | ⊙ | H9, 514554  | ⊙ |
| H2, 514496 | ⊙ | H10, 514555 | ⊙ |
| H3, 514497 | ⊙ | H11, 514547 | ⊙ |
| H4, 514498 | ⊙ | H12, 514548 | ⊙ |
| H5, 514499 | ⊙ | H13, 514549 | ⊙ |
| H6, 514500 | ⊙ | H14, 515490 | ⊙ |
| H7, 514552 | ⊙ | H15, 515491 | ⊙ |
| H8, 514553 | ⊙ | H16, 515492 | ⊙ |



WV 515492 coordinates:  
 NAD 27 N: 356,640.22 E: 1,719,603.85  
 NAD 27 Lat: 39.480422 Long: -80.493395  
 NAD 83 UTM N: 4,370,223.76 E: 543,565.73  
 WV 515492 Landing Point coordinates:  
 NAD 27 N: 358,104.58 E: 1,716,946.17  
 NAD 27 Lat: 39.478970 Long: -80.502788  
 NAD 83 UTM N: 4,370,047.00 E: 542,778.76  
 WV 515492 Bottom Hole H16 coordinates:  
 NAD 27 N: 361,669.84 E: 1,715,648.46  
 NAD 27 Lat: 39.488619 Long: -80.507527  
 NAD 83 UTM N: 4,371,126.65 E: 542,365.28

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 1" = 500'



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

*Ben R. Singleton*  
 P.S. 2092



FILE NO: 165-13  
 DRAWING NO: Folsom 109 H16  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1:2500  
 PROVEN SOURCE OF ELEVATION: NGS CORS Station



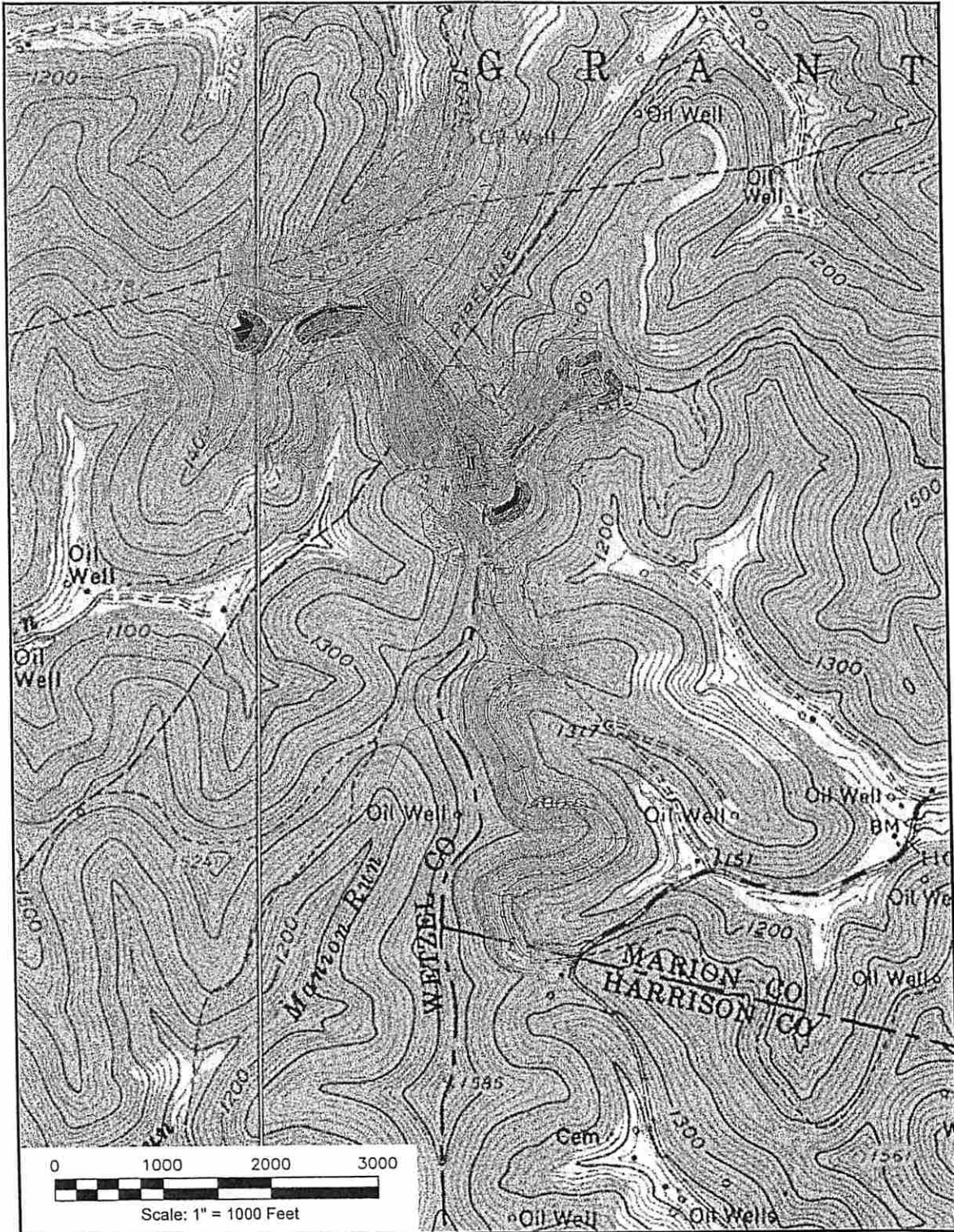
DATE: February 2 20 15  
 OPERATOR'S WELL NO. 515492  
 API WELL NO 47 - 103 -  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: Original 1514 Proposed 1460 WATERSHED Sams Run of Fishing Creek QUADRANGLE: Wallace  
 DISTRICT: Grant COUNTY: Wetzel  
 SURFACE OWNER: Consolidation Coal Company ACREAGE: 175  
 ROYALTY OWNER: Ed Broome, Inc. et. al. LEASE NO: 713351 ACREAGE: 2600  
 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: Genesee ESTIMATED DEPTH: TWD 7700

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

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 WV Department of Environmental Protection

07/03/2015



Folsom & Wallace 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
Projected culvert inventory. (for bid purposes only)	Well Site Location	Proposed Access Road	See Site Plan
15" minimum diameter culverts	See Site Plan	Approximate Total Disturbance	See Site Plan
24" minimum diameter culverts	See Site Plan		
DRAWN BY: Dale Tomlin PS	DATE: December 5, 2014	FILE NO. 165-13	DRAWING FILE NO. 165-13 Rec Plan

Note: SEE SITE PLAN OF FOLSOM 109 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.

Dm  
2-4-15

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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

WV Department of Environmental Protection  
07/03/2015





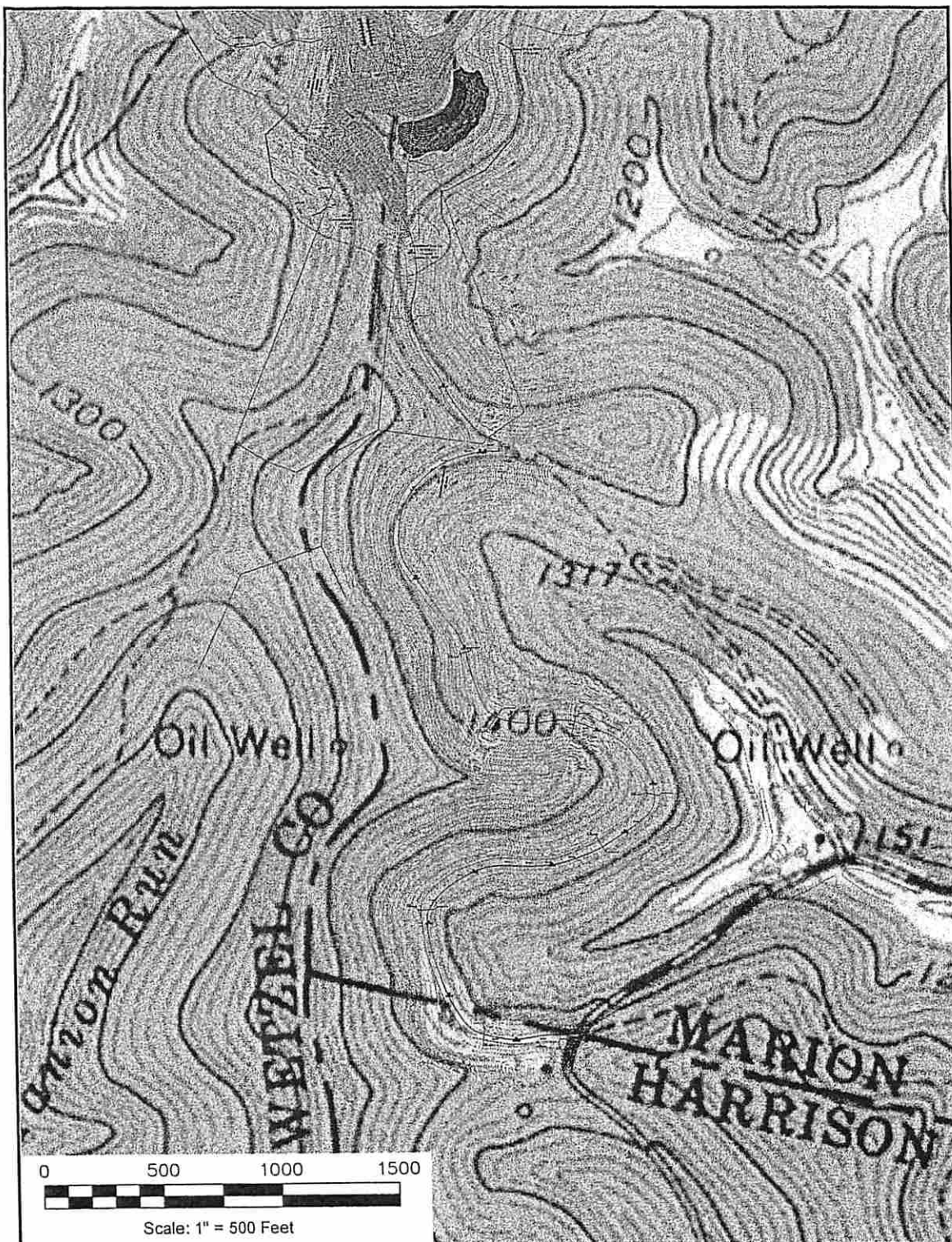
Folsom & Wallace 7.5' USGS QUADRANGLE		Proposed Disturbance Area	
Projected culvert inventory. (for bid purposes only)	Well Site Location	See Site Plan	
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Note: SEE SITE PLAN OF FOLSOM 109 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.

*DMH*  
*2-9-15* RECEIVED  
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FEB 17 2015



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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



Folsom & Wallace 7.5' USGS QUADRANGLE		Proposed Disturbance Area		Note: SEE SITE PLAN OF FOLSOM 109 FOR COMPLETE GRADING & DRAINAGE CONSTRUCTION INCLUDING EROSION & SEDIMENT CONTROL DETAILS, ETC.  DMH 2-9-15
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Environmental Protection  
07/03/2015

47 10303087

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

**CWS TRUCKING INC.**

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

**BROAD STREET ENERGY LLC**

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

**LAD LIQUID ASSETS DISPOSAL INC.**

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

**TRIAD ENERGY**

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

**TRI COUNTY WASTE WATER MANAGEMENT, INC.**

1487 Toms Run Road  
Holbrook, PA 15341  
724-627-7178 Plant  
724-499-5647 Office  
Greene County/Waynesburg  
Permit # TC-1009

**KING EXCAVATING CO.**

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

**Waste Management - Meadowfill Landfill**

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

**Waste Management - Northwestern Landfill**

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

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Environmental Protection

DMH  
2-9-15

07/03/2015

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

4770303  
87

**CWS TRUCKING INC.**

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Permit #SWF-1025 WV-0109400  
Approval #100833WV

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WV Department of Environmental Protection 07/03/2015



47 Water Source Identification  
03087

EQT Well Pad Name: Folsom 109

Submittal Date: December 15, 2014

EQT Well Number: \_\_\_\_\_

Survey / Engineering Company: Allegheny Surveys, Inc.

Site Number: 1 Distance from Gas Well (feet): 1768

Surface Owner / Occupant: Consolidation Coal Company

Address: 1000 Consol Energy Dr., Canonsburg, PA 15317 Phone #: \_\_\_\_\_

Field Located Date: November 26, 2014 Owner home during survey (yes/no): No

Coordinates: 39.478756, -80.498832 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_

Comments: This is a pond, location near an abandoned house and barns

Site Number: 2 Distance from Gas Well (feet): 2393

Surface Owner / Occupant: Consolidation Coal Company

Address: 1000 Consol Energy Dr., Canonsburg, PA 15317 Phone #: \_\_\_\_\_

Field Located Date: November 26, 2014 Owner home during survey (yes/no): No

Coordinates: 39.477754, -80.485558 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_

Comments: This is a pond.

Site Number: 3 Distance from Gas Well (feet): 681

Surface Owner / Occupant: Consolidation Coal Company

Address: 1000 Consol Energy Dr., Canonsburg, PA 15317 Phone #: \_\_\_\_\_

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): No

Coordinates: 39.478739, -80.493995 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_

Comments: Spring #4 as identified by Potesta

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Environmental Protection

07/03/2015

Site Number: 4 Distance from Gas Well (feet): 876

Surface Owner / Occupant: Consolidation Coal Company

Address: 1000 Consol Energy Dr., Canonsburg, PA 15317

Phone #: \_\_\_\_\_

4710303087

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): No

Coordinates: 39.481820, -80.496134 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_

Comments: Spring #6 as identified by Potesta

Site Number: 5 Distance from Gas Well (feet): 1651

Surface Owner / Occupant: Coastal Lumber Company-Coastal Forest Resources Co.

Address: PO Box 709, Buckhannon, WV 26201

Phone #: \_\_\_\_\_

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): No

Coordinates: 39.485096, -80.493256 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_

Comments: Spring #1 as identified by Potesta.

Site Number: 6 Distance from Gas Well (feet): 2054

Surface Owner / Occupant: Coastal Lumber Company-Coastal Forest Resources Co.

Address: PO Box 709, Buckhannon, WV 26201

Phone #: \_\_\_\_\_

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): No

Coordinates: 39.485941, -80.495689 (decimal degrees – NAD 83)

Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_

Comments: Vernal Pool as identified by Potesta

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Environmental Protection

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Environmen

(Insert additional pages as needed)

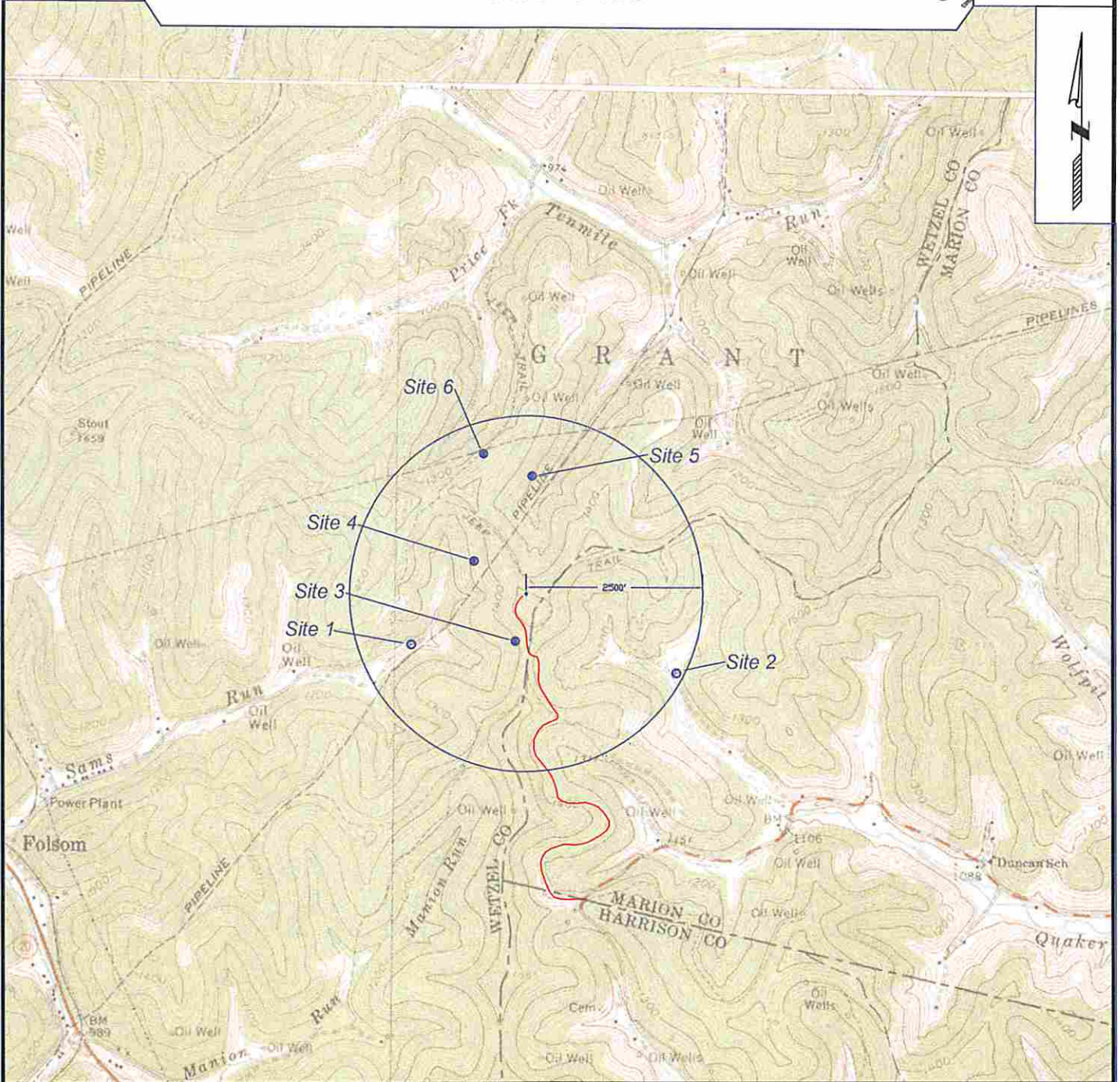
07/03/2015

Topo Quad: Wallace 7.5' Scale: 1" = 2000'  
 County: Wetzel Date: November 25, 2014  
 District: Grant Project No: 47 165-34-00-13

Water

Folsom 109

47 165-34-00-13  
 10303087



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**

1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:

RECEIVED  
 Division of Oil and Gas  
**EQT Production Company**

P.O. Box 280  
 Bridgeport, WV 26330  
 FEB 19 2015

WV Department of  
 Environmental Protection

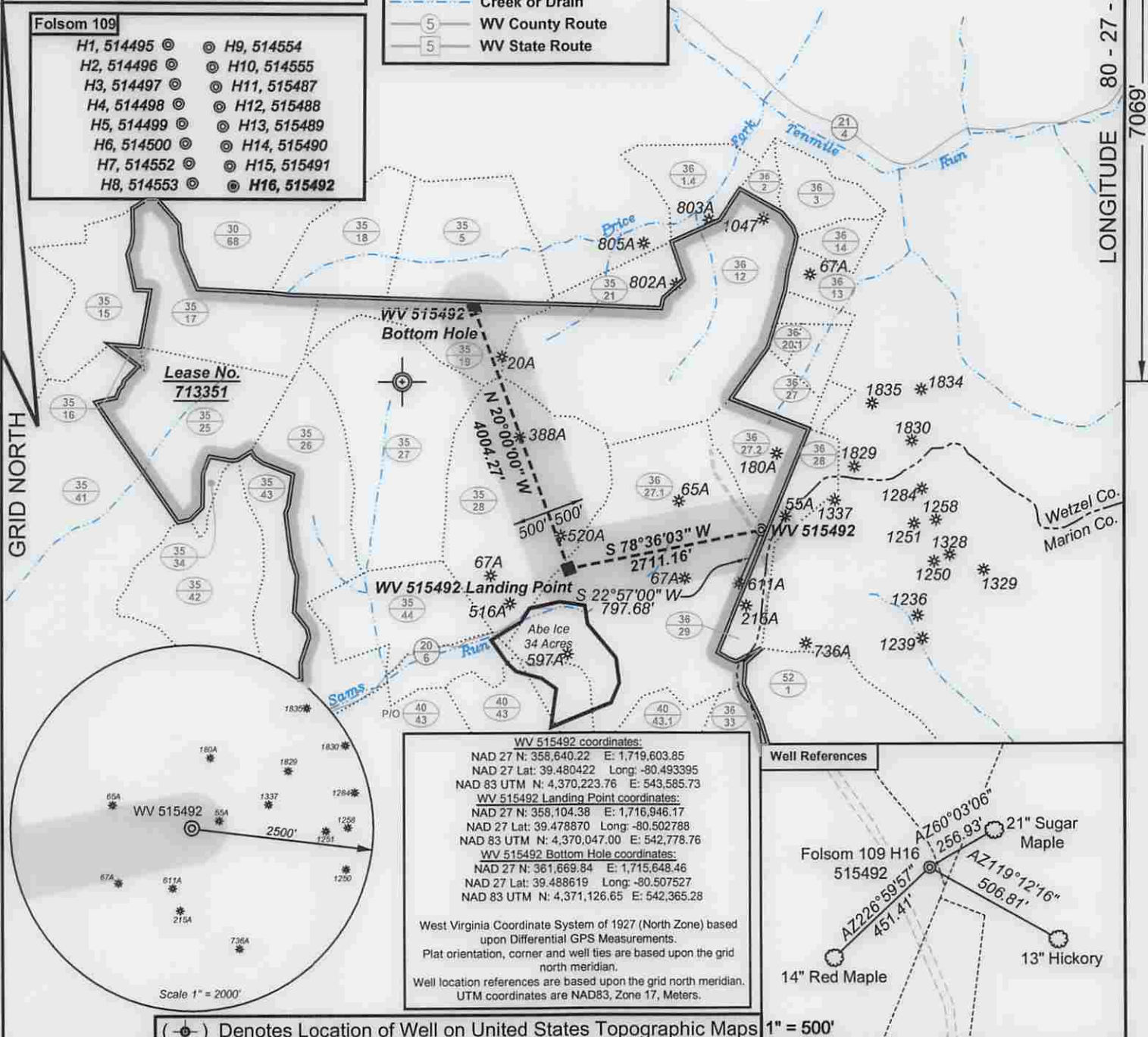
07/09/2015

**WV 515492**  
**EQT Production Company**  
**L.G. Robinson et. vir. Lease**  
**2600 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 - 30 - 00  
 LONGITUDE 80 - 27 - 30  
 9939'  
 7069'

- Folsom 109**
- |              |               |
|--------------|---------------|
| H1, 514495 ⊙ | ⊙ H9, 514554  |
| H2, 514496 ⊙ | ⊙ H10, 514555 |
| H3, 514497 ⊙ | ⊙ H11, 515487 |
| H4, 514498 ⊙ | ⊙ H12, 515488 |
| H5, 514499 ⊙ | ⊙ H13, 515489 |
| H6, 514500 ⊙ | ⊙ H14, 515490 |
| H7, 514552 ⊙ | ⊙ H15, 515491 |
| H8, 514553 ⊙ | ⊙ H16, 515492 |

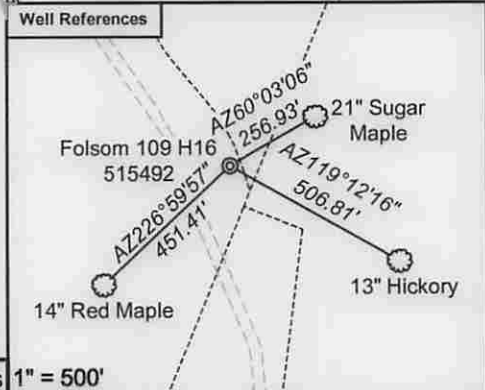


**WV 515492 coordinates:**  
 NAD 27 N: 358,640.22 E: 1,719,603.85  
 NAD 27 Lat: 39.480422 Long: -80.493395  
 NAD 83 UTM N: 4,370,223.76 E: 543,585.73

**WV 515492 Landing Point coordinates:**  
 NAD 27 N: 358,104.38 E: 1,716,946.17  
 NAD 27 Lat: 39.478870 Long: -80.502788  
 NAD 83 UTM N: 4,370,047.00 E: 542,778.76

**WV 515492 Bottom Hole coordinates:**  
 NAD 27 N: 361,669.84 E: 1,715,648.46  
 NAD 27 Lat: 39.488619 Long: -80.507527  
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(⊙) Denotes Location of Well on United States Topographic Maps 1" = 500'



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

*Ben R. Singleton*  
 P.S. 2092



FILE NO: 165-13  
 DRAWING NO: Folsom 109 H16  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1:2500  
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: February 2 20 15  
 OPERATOR'S WELL NO. 515492  
 API WELL NO *HOA*  
 47 - 103 - *03087*  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: Original 1514 Proposed 1460 WATERSHED Sams Run of Fishing Creek QUADRANGLE: Wallace  
 DISTRICT: Grant COUNTY: Wetzel  
 SURFACE OWNER: Consolidation Coal Company ACREAGE: *175*  
 ROYALTY OWNER: Ed Broome, Inc. et. al. LEASE NO: 713351 ACREAGE: 2600  
 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: Genesee ESTIMATED DEPTH: TVD 7700

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

07/03/2015



**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>713351</u>			1/8 Min Pd	
	L.G. Robionson & J.S. Robinson	J.E. Carhahan		DB 73/266
	J.E. Carhahan	Carnegie Natural Gas Company		LB 22/313 Doddridge
	Carnegie Natural Gas Company	Carnegie Production Company		LB 78A/513
	Carnegie Production Company (USX)	Equitable Resources, Inc.		Unrecorded Purchase & Sale Agreement
	Equitable Resources, Inc.	EQT Production Company, a subsidiary of EQT Corporation		CB 13/230

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

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

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

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

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

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

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 Page 1 of 1  
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47 10303087

PURCHASE AND SALE AGREEMENT

PURCHASE AND SALE AGREEMENT, dated as of May 27, 1999 (this "Agreement"), by and between USX CORPORATION, a Delaware corporation, ("USX") and EQUITABLE RESOURCES, INC., a Pennsylvania corporation (hereinafter referred to as "Buyer").

WHEREAS, USX owns directly or indirectly all of the outstanding capital stock or other evidence of an equity interest of the following companies (each a "Carnegie Company" and collectively the "Carnegie Companies"), which are involved in one or more of the production, gathering, transportation, treatment, distribution and sale of natural gas: (i) Carnegie Natural Gas Company, a Pennsylvania corporation, ("Carnegie"), (ii) Carnegie Interstate Pipeline Company, a Delaware corporation, ("CIPCO"), (iii) Carnegie Production Company, a Pennsylvania corporation, ("CPC"), (iv) Carnegie Natural Gas Sales, Inc., a Delaware corporation, ("CNGS") and (v) Carnegie Gas Storage, LLC, a Delaware limited liability company, ("CGS"); and

WHEREAS, USX desires to sell to Buyer and Buyer desires either for itself and/or one or more designated subsidiaries to purchase from USX one hundred percent (100%) of the capital stock and other evidence of equity interest in the Carnegie Companies;

NOW, THEREFORE, for and in consideration of the premises and the representations, warranties, covenants and agreements herein set forth and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, agree as follows:

ARTICLE I  
DEFINITIONS

Unless otherwise specifically stated in the text of this Agreement, the following terms shall have the following meanings:

Section 1.1 The "1935 Act" shall mean the Public Utility Holding Company Act of 1935, as amended.

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07/03/2015

47 10303087

5.13 No Third-Party Rights. Nothing in this Agreement, expressed or implied, shall or is intended to confer upon any Person other than the parties hereto or their respective successors or assigns.

IN WITNESS WHEREOF, the parties have executed, delivered and entered into this agreement as of the day and year first above written.

USX Corporation

By: V. G. Beghini  
Typed Name: V. G. Beghini  
Title: Vice Chairman - Marathon Group

Equitable Resources, Inc.

By: David L. Porges  
Typed Name: David L. Porges  
Title: Senior Vice President and Chief Financial Officer

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Office of Oil and Gas

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WV Department of  
Environmental Protection

07/03/2015

Topo Quad: Wallace 7.5' Scale: 1" = 2000'

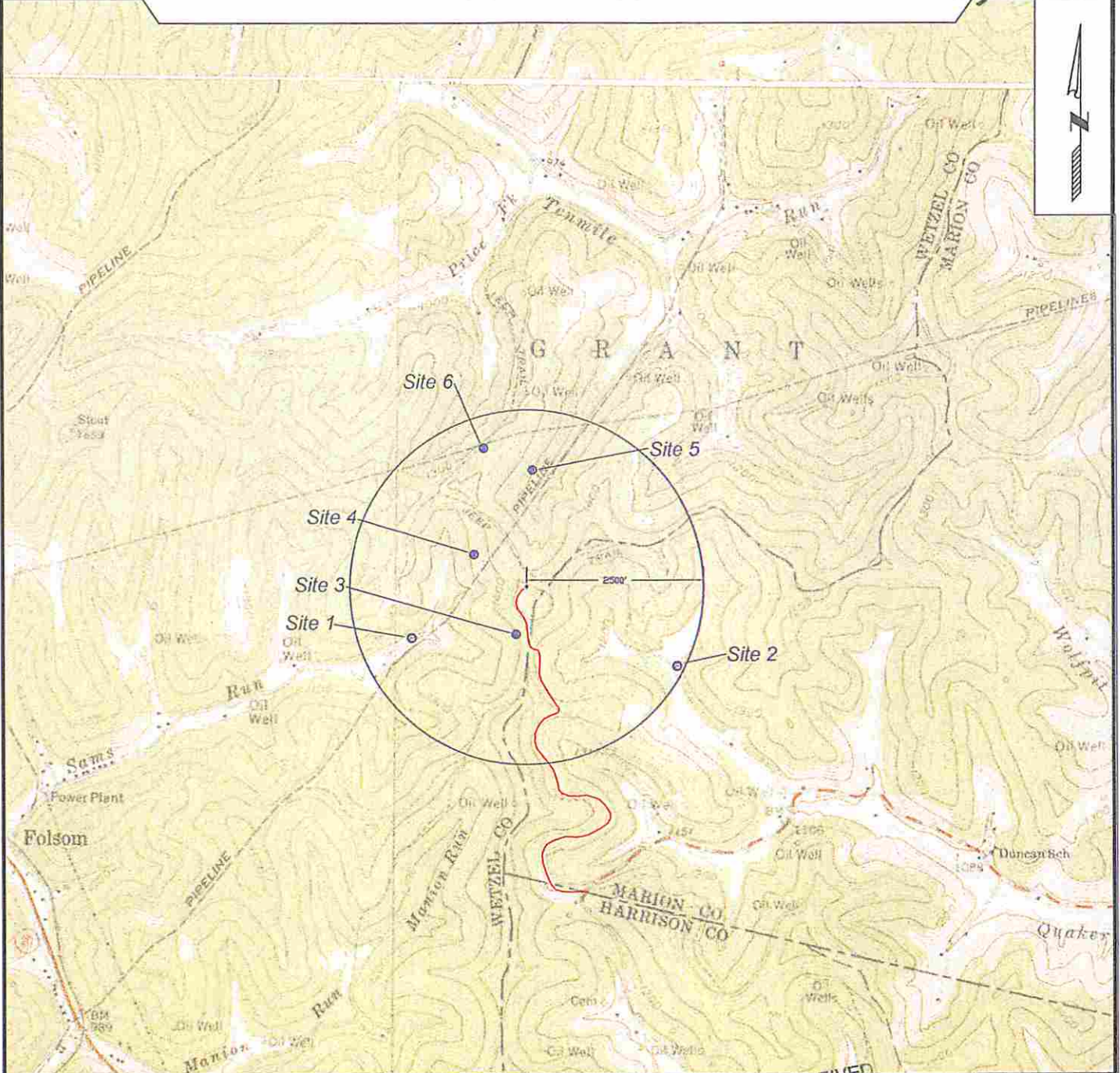
County: Wetzel Date: 4/11/2014 November 25, 2014

District: Grant Project No: 165-04-90-13

Water

# Folsom 109

109-03087



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**

1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR: **RECEIVED**  
 Office of Oil and Gas  
**EQT Production Company**  
 FEB 09 2014  
 P.O. Box 280  
 Bridgeport, WV 26330  
 WV Department of  
 Environmental Protection

07/03/2015

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF ENTRY FOR PLAT SURVEY

4710303087

Notice Time Requirement: Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

Date of Notice: 7/1/2014

Date of Planned Entry: 7/8/2014

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

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

Pursuant to West Virginia Code § 22-6A-10(a), prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

Notice is hereby provided to:

SURFACE OWNER(S) and Coal

MINERAL OWNER(S)

Name: Consolidation Coal Company  
Engineering & Operations Support Dept. Coal  
Address: 1000 CONSOL Energy Drive  
Canonsburg, PA 15317-6506

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

COAL OWNER(S) Surface & Coal

Name: Murray American Energy Inc.  
Troy Freels  
Address: 1 Bridge St.  
Monongah, WV 26554-1076

\*Please attach additional forms if necessary

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.47413 / -80.50296</u>
County: <u>Wetzel</u>	Public Road Access: <u>CR 20/6</u>
Dist/Map/Par: <u>Grant / Map 40 / Parcel 43, 43.1</u>	Watershed: <u>Sams Run</u>
Quadrangle: <u>Folsom</u>	Generally Used Farm Name: _____

Copies of the state Erosion and Sediment Control Manual and the statues and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Notice is hereby given by:

Well Operator: EQT Production Company  
Telephone: 304-848-0099  
Facsimile: 304-848-0040  
Email: eqtlandentrynotice@eqt.com

Address: 115 Professional Place, Bridgeport, WV 26330  
EQT Representative: Kathy Kugel

Signature: Kathy Kugel

RECEIVED  
Office of Oil and Gas

Oil and Gas Privacy Notice:

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

WV Department of  
Environmental Protection

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF ENTRY FOR PLAT SURVEY

47103030 87

Notice Time Requirement: Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry.

Date of Notice: 7/1/2014

Date of Planned Entry: 7/8/2014

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

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

Pursuant to West Virginia Code § 22-6A-10(a), prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

Notice is hereby provided to:

SURFACE OWNER(S)

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

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

COAL OWNER(S) OR LESSEE(S)

MINERAL OWNER(S)

Name: Ed & Douglas Broome

Address: PO Box 186  
Glennville, WV 26351

\*Please attach additional forms if necessary

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.47413 / -80.50296</u>
County: <u>Wetzel</u>	Public Road Access: <u>CR 20/6</u>
Dist/Map/Par: <u>Grant / Map 40 / Parcel 43, 43.1</u>	Watershed: <u>Sams Run</u>
Quadrangle: <u>Folsom</u>	Generally Used Farm Name: _____

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Notice is hereby given by:

Well Operator: EQT Production Company  
Telephone: 304-848-0099  
Facsimile: 304-848-0040  
Email: eqllandentrynotice@eqt.com

Address: 115 Professional Place, Bridgeport, WV 26330

EQT Representative: Kathy Kugel

Signature: Kathy Kugel

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WW-6A5  
(1/12)

Operator Well No. 515492

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: FEB 06 2015 Date Permit Application Filed: FEB 06 2015

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED  HAND DELIVERY

47103087

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: Consolidation Coal Co  
Address: Engineering and Operations Support Dept - Coal  
CNX Center 1000 Consol Energy Dr  
Canonsburg PA 15317

Name: James Edward Gifford  
Address: 2145 Big Elk Rd  
Wallace WV 26448

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: 4,370,224.000000  
County: Wetzel Northing: 543,586.000000  
District: Grant Public Road Access: CO 20/11  
Quadrangle: Wallace Generally used farm name: Consolidation Coal Company  
Watershed: Sams Run of Fishing Creek

This Notice Shall Include:

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

Well Operator: EQT Production Company  
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).

RECEIVED  
Office of Oil and Gas  
FEB 09 2015  
WV Department of  
Environmental Protection

07/03/2015

WW-6A5  
(1/12)

Operator Well No. 515492

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: FEB 06 2015 Date Permit Application Filed: FEB 06 2015

4710303087

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: Coastal Forest Resources Co  
Address: P.O. Box 709  
Buckhannon WV 26201

Name: James W Moore et al  
Address: 707 Quaker Fork  
Wallace WV 26448

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: 4,370,224.000000  
County: Wetzel Northing: 543,586.000000  
District: Grant Public Road Access: CO 20/11  
Quadrangle: Wallace Generally used farm name: Consolidation Coal Company  
Watershed: Sams Run of Fishing Creek

This Notice Shall Include:

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

Well Operator: EQT Production Company  
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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Office of Oil and Gas  
FEB 09 2015  
WV Department of  
Environmental Protection  
07/03/2015



WW-6A5  
(1/12)

Operator Well No. 515492

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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: FEB 06 2015 Date Permit Application Filed: FEB 06 2015

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: Tall Timber Inc  
Address: 4464 Mannington Road  
Smithfield WV 26437

Name: Larry Hood  
Address: 1007 Sams Run Road  
Folsom WV 26348

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: 4,370,224.000000  
County: Wetzel Northing: 543,586.000000  
District: Grant Public Road Access: CO 20/11  
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RECEIVED  
Office of Oil and Gas  
FEB 09 2015  
WV Department of  
Environmental Protection  
07/03/2015

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
VOLUNTARY STATEMENT OF NO OBJECTION**

**Instructions to Persons Named on Page WW-6A**

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

**Comment and Waiver Provisions**

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

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

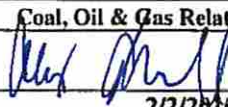
**VOLUNTARY STATEMENT OF NO OBJECTION**

47 10303087

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

State:	<u>West Virginia</u>	West Virginia	East:	<u>1,719,604.000 ft</u>
County:	<u>Wetzel</u>	North State Plane	North:	<u>358,640.000 ft</u>
District:	<u>Grant</u>	NAD 27	Public Road Access:	<u>CO 20/11</u>
Quadrangle:	<u>FOLSOM</u>	Generally used farm name:	<u>Consolidation Coal Company</u>	
Watershed:	<u>Sams Run of Fishing Creek</u>			

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials, **provided that EQT Production Company drills the well on West Virginia North State Plane NAD 27 coordinates of North 358,640.000 ft, East 1,719,604.000 ft in accordance with the Agreement between Consolidation Coal Company and Murray American Energy, Inc. and EQT Production Company dated 2/2/2015.**

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input checked="" type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input checked="" type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p><b>FOR EXECUTION BY A NATURAL PERSON</b></p> <p>Signature: _____</p> <p>Print Name: _____</p> <p>Date: _____</p>
	<p><b>FOR EXECUTION BY A CORPORATION, ETC.</b></p> <p>Company: <u>Consolidation Coal Company</u></p> <p>By: <u>Alex O'Neill</u></p> <p>Its: <u>Coal, Oil &amp; Gas Relations Manager</u></p> <p>Signature: </p> <p>Date: <u>2/2/2015</u></p>
	<p>RECEIVED Office of Oil and Gas</p>

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WV Department of  
Environmental Protection  
**07/03/2015**

47 10303087



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

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

Earl Ray Tomblin  
Governor

February 13, 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 FOL 109 Pad Site, Marion County

- |                  |                  |                  |
|------------------|------------------|------------------|
| 514495 FOL109H1  | 514496 FOL109H2  | 514497 FOL109H3  |
| 514498 FOL109H4  | 514499 FOL109H5  | 514500 FOL109H6  |
| 514552 FOL109H7  | 514553 FOL109H8  | 514554 FOL109H9  |
| 514555 FOL109H10 | 515487 FOL109H11 | 515488 FOL109H12 |
| 515489 FOL109H13 | 515490 FOL109H14 | 515491 FOL109H15 |
| 515492 FOL109H16 |                  |                  |

Dear Mr. Martin,

This well site will be accessed from Permit #04-2015-0152 applied for by EQT Production Company for access to the State Road. The well site is located off of Marion County Route 32 SLS. The approved DOH permit must be received before construction of or any use of this access to the roadway.

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

RECEIVED  
Office of Oil and Gas

FEB 17 2015

WV Department of  
Environmental Protection

Very Truly Yours,

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

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

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

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

*DmH*  
*2-4-15*

RECEIVED  
Office of Oil and Gas

FEB 17 2015

WV Department of  
Environmental Protection

07/03/2015

**FOL 109**  
**FINAL SITE DESIGN, CONSTRUCTION PLANS, &**  
**EROSION & SEDIMENT CONTROL PLANS,**  
**EOT PRODUCTION COMPANY**



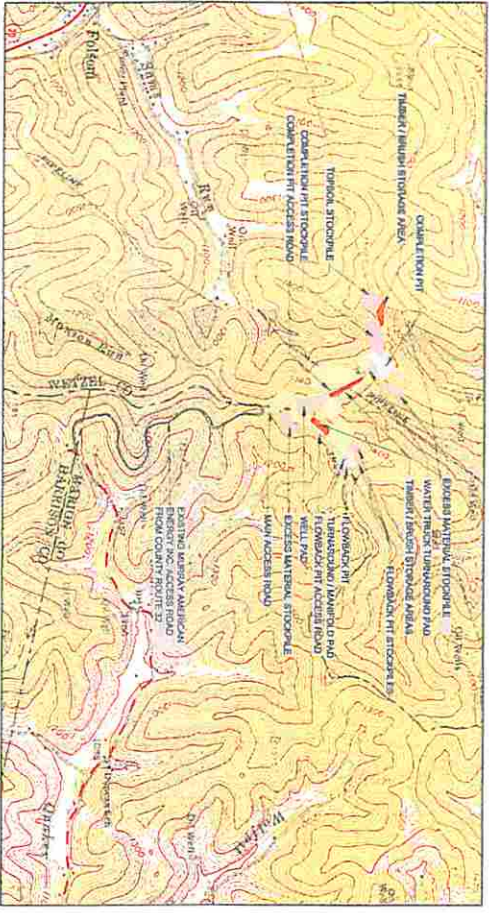
**FLOODPLAIN CONDITIONS**

NO SITE CONSTRUCTION ACTIVITIES TAKE PLACE AT LOCATION	NO
PERMANENT FLOOD COUNTY FLOODPLAIN GOVERNMENT	NO
FLOODING STUDY CONDUCTED	N/A
FLOODPLAIN DESIGNATION FOR SITE	UNDEVELOPED & UNOCCUPIED
FLOODPLAIN MANAGEMENT FOR SITE	N/A
ADVERSELY OR CONSIDERABLY IMPACTED	N/A

NO WETLANDS ARE IMPACTED OR STREAMS IMPACTED

**PROPOSED WELL LEGEND**

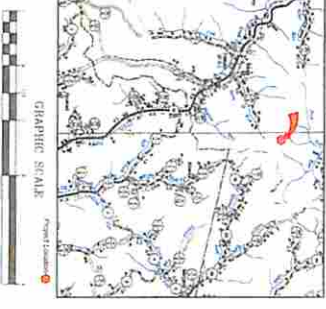
NO	LATITUDE	LONGITUDE
H1	LAT 39.480765	LONG -80.493388
H2	LAT 39.480755	LONG -80.493378
H3	LAT 39.480714	LONG -80.493368
H4	LAT 39.480674	LONG -80.493358
H5	LAT 39.480633	LONG -80.493348
H6	LAT 39.480593	LONG -80.493338
H7	LAT 39.480552	LONG -80.493328
H8	LAT 39.480512	LONG -80.493318
H9	LAT 39.480471	LONG -80.493308
H10	LAT 39.480430	LONG -80.493298
H11	LAT 39.480389	LONG -80.493288
H12	LAT 39.480348	LONG -80.493278
H13	LAT 39.480307	LONG -80.493268
H14	LAT 39.480266	LONG -80.493258
H15	LAT 39.480225	LONG -80.493248
H16	LAT 39.480184	LONG -80.493238



**SILT TREATMENTS**

NO	LOCATION	CONSTRUCTION
1	ROAD 1	CONSTRUCTION
2	ROAD 2	CONSTRUCTION
3	ROAD 3	CONSTRUCTION
4	ROAD 4	CONSTRUCTION
5	ROAD 5	CONSTRUCTION
6	ROAD 6	CONSTRUCTION
7	ROAD 7	CONSTRUCTION
8	ROAD 8	CONSTRUCTION
9	ROAD 9	CONSTRUCTION
10	ROAD 10	CONSTRUCTION

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



**Project Contact:**  
 EOT Production Company  
 304.644.6443

**Survey & Figure:**  
 Don Shogren, P.E., Allegheny Survey Inc.  
 304.644.6443

**Design & Figure:**  
 James D. Fennell, P.E., Fennell Builders Engineers  
 304.644.6443

**Design Conditions:**  
 The design, construction, and maintenance of the site shall be in accordance with the West Virginia Code of State Rules, Chapter 24-27, and the applicable provisions of the West Virginia State Law, Chapter 24-C, and the applicable provisions of the West Virginia State Law, Chapter 24-C, and the applicable provisions of the West Virginia State Law, Chapter 24-C.

Affected Properties (Not Proposed Well and Site)  
 MANNINGTON DISTRICT, MARION COUNTY, WV  
 GRANT DISTRICT, WETZEL COUNTY, WV

RECEIVED  
 Office of Oil and Gas  
 FEB 17 2015

**SHEET INDEX**

NO	DESCRIPTION	DATE
1	COVER SHEET / LOCATION MAP	2-10-15
2	WELL PAD SITE	2-10-15
3	CONSTRUCTION PLANS	2-10-15
4	EROSION & SEDIMENT CONTROL PLANS	2-10-15
5	EOT PRODUCTION COMPANY	2-10-15

COVER SHEET / LOCATION MAP  
**EQT FOL 109**  
**WELL PAD SITE**  
 MANNINGTON DISTRICT - MARION COUNTY, WV  
 GRANT DISTRICT - WETZEL COUNTY, WV



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WV Department of Environmental Protection  
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