



west virginia department of environmental protection

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

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

June 04, 2013

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-8510014, 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: 514387
Farm Name: HEARTWOOD FORESTLAND FU
API Well Number: 47-8510014
Permit Type: Horizontal 6A Well
Date Issued: 05/31/2013

Promoting a healthy environment.

05/31/2024

PERMIT CONDITIONS

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

CONDITIONS

1. The Office of Oil and Gas has approved your permit application, which includes your addendum. Please be advised that the addendum is part of the terms of the well work permit, and will be enforced as such. The Office of Oil and Gas must receive a copy of all data collected, and submitted in a timely fashion, but no later than the WR35 submittal.
2. Prior to conducting hydraulic fracturing operations, identify any and all shallower producing wells within the area of review that may have multiple levels of completions (more than one producing interval open in the well bore) and communicate this to the DEP. If any wells are found that have multiple completions, evaluate the risk associated with communication into any shallow producing zone(s).
3. 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 fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
4. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the fill material shall be within plus or minus 2% (unless soil test results show a greater range of moisture content is appropriate and 95% compaction can still be achieved) of the optimum moisture content as determined by the standard proctor density test, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort. Each lift must meet 95 % compaction of the optimum density based on results from the standard proctor density test of the actual soils used in specific engineered fill sites. 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.
5. 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.
6. 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.
7. 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.

05/31/2024

85-10014

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
Operator ID 085 County 1 District 539 Quadrangle

2) Operator's Well Number: 514387 Well Pad Name PEN16

3 Elevation, current ground: 787.5 Elevation, proposed post-construction: 795

4) Well Type: (a) Gas Oil
Other _____

(b) If Gas: Shallow Deep
Horizontal

5) Existing Pad? Yes or No: no

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):
Target formation is Marcellus at a depth of 6064 with the anticipated thickness to be 51 feet and anticipated target pressure of 3651 PSI

7) Proposed Total Vertical Depth: 6,185

8) Formation at Total Vertical Depth: Onondaga

9) Proposed Total Measured Depth: 11,292

10) Approximate Fresh Water Strata Depths: 21, 94, 144, 367

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

12) Approximate Saltwater Depths: n/a

13) Approximate Coal Seam Depths: 816

14) Approximate Depth to Possible Void (coal mine, karst, other): none reported

15) Does land contain coal seams tributary or adjacent to, active mine? no ✓

16) Describe proposed well work: Drill and complete a new horizontal well. The vertical drill to go down to approximately depth of 6185 Tagging the Onondaga not more than 100' then plug back to approximately 4678 and kick off the horizontal leg into the marcellus using a slick water frac.

17) Describe fracturing/stimulating methods in detail:
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). Stage lengths vary from 150 to 450 feet. Average approximately 400,000 gallons of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 400,000 pounds of sand per stage.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 37.3±

19) Area to be disturbed for well pad only, less access road (acres): 14.8±

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CASING AND TUBING PROGRAM

20)

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: for Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu.Ft.)
Conductor	26	New	Varies	Varies	71	71	87 CTS
Fresh Water	20	New	MC-50	81#	467	467	589 CTS
Coal	13 3/8	New	MC-50	54#	1,000	1,000	868 CTS
Intermediate	9 5/8	New	MC-50	40#	3,116	3,116	1,218 CTS
Production	5 1/2	New	P-110	20#	11,292	11,292	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
Conductor	26	30	0.5	—	Construction	1.18
Fresh Water	20	24	0.635	1,640	1	1.2
Coal	13 3/8	17 1/2	0.38	2,480	1	1.21
Intermediate	9 5/8	12 3/8	0.395	3,590	1	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 so that the intermediate casing shoe can be monitored during stimulation and the well can be safely plugged and abandoned in the future.

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21) 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

22) Describe all cement additives associated with each cement type.

Surface (Type 1 Cement): Salt (CaCl₂ 2%) is used in shallow, low temperature formations to speed the setting of cement slurries. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.

Intermediate (Type 1 Cement): Salt (CaCl₂ 2%) is used in shallow, low temperature formations to speed the setting of cement slurries. 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((Halcem)): Salt is used in shallow, low temperature formations to speed the setting of cement slurries. Fluid additive are used to control filtrate loss in low to moderate temperature application. A retarder increase the thickening time so that the cement does not set early in these longer job (relative to the Surface & Intermediate)

Tail (Type H Cement(Fraccem)): Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone. Fluid additive are used to control filtrate loss in low to moderate temperature application. A retarder increase the thickening time so that the cement does not set early in these longer job (relative to the Surface & Intermediate).

A Friction Reducer, in the form of dispersants in cement slurries, reduces the apparent slurry viscosity allowing for more dense slurries that are required in the longer production section.

23) 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.

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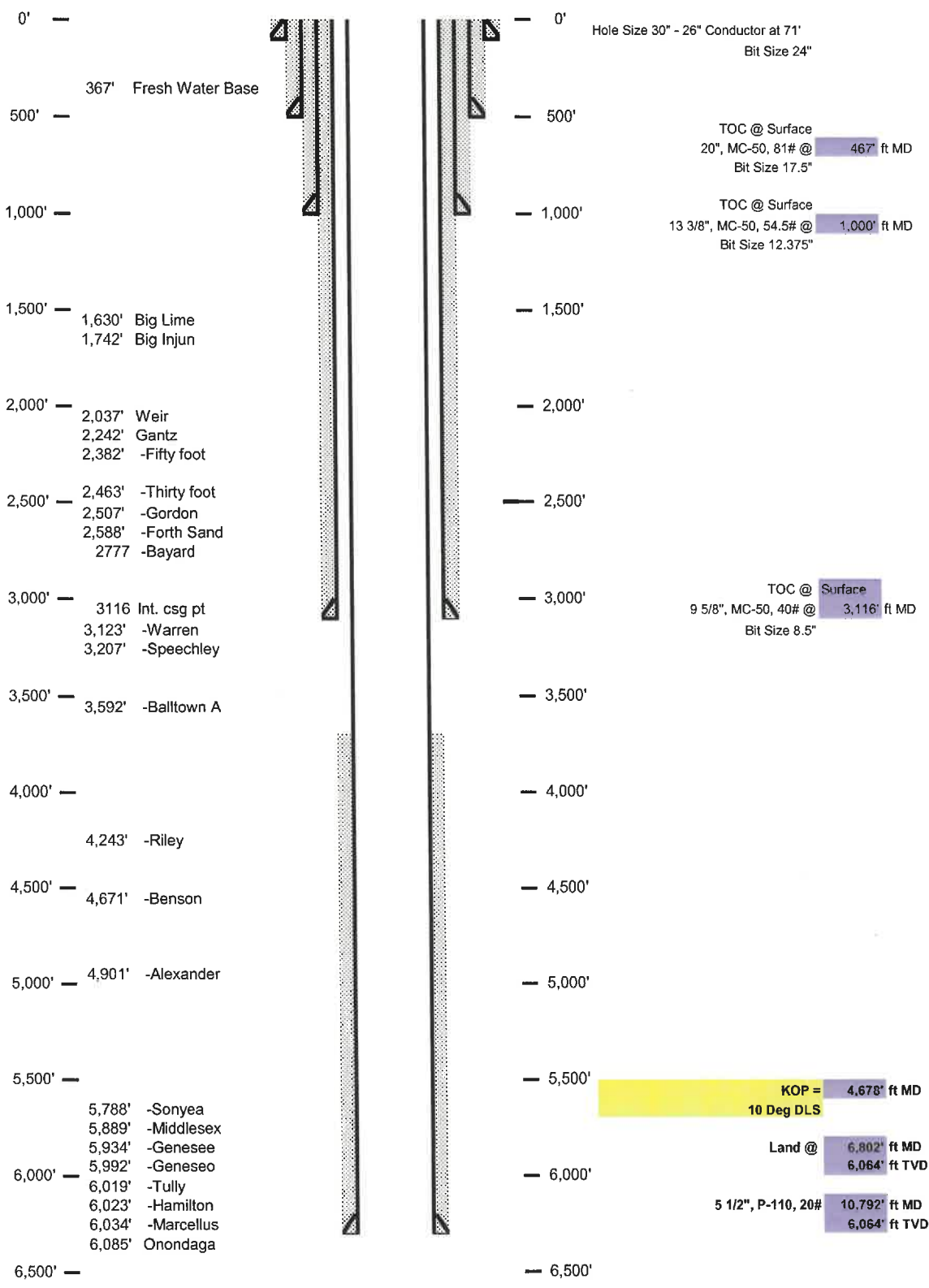
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85-10014

Well Schematic
EQT Production

Well Name 514387 (PEN10H6)
County Ritchie
State West Virginia

Elevation KB: 805
Target Marcellus
Prospect
Azimuth 342
Vertical Section 4383



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Well 514387 (PEN16H6)
EQT Production
Pennsboro
Ritchie
West Virginia

Azimuth 342
 Vertical Section 4393

TVD Depth (feet)	Formation Tops (TVD)	Formation	3116	3207	3582	4243	4901	5786	5889	5834	5892	6018	6023	6034	6064	6085	Hole Size (inches)	Casing Type	Casing Size (inches)	Wt (ppf)/Grade
0																	30	Conductor	26	
250'		Base Fresh Water															24	Surface	20	81#/MC-50
500'		Fresh Water Csg pl.															17 1/2	Coal	13 3/8	54#/MC-50
750'																				
1,000'		Coal Csg pl.	1000																	
1,250'																				
1,500'																				
1,750'		Big Lime	1630	- 1742																
		Big Injun	1742	- 2037																
2,000'		Weir	2037	- 2242																
		Gantz	2242	- 2382																
2,250'																				
2,500'																				
2,750'		-Bayard	2777	- 3068																
3,000'		Int. csg pl	3116	- 3207																
		-Warren	3123	- 3207																
3,250'		-Speachley	3207	- 3582																
3,500'		-Balltown A	3582	- 4243																
3,750'																				
4,000'																				
4,250'																				
4,500'																				
		-Eanson	4671	- 4901																
4,750'																				
		-Alexander	4901	- 5786																
5,000'																				
		-Sontyee	5788	- 5889																
5,250'		-Middlesex	5889	- 5834																
			5834	- 5892																
5,500'		-Genesee	5892	- 6018																
			6018	- 6023																
5,750'		-Tully	6023	- 6034																
			6034	- 6064																
6,000'		Marcellus top	6064	- 6085																
		Target Inside Marcellus	6064	- 6085																
		Marcellus Bottom	6085	- 6085																



TD Pilot Hole @ 6185
 100' below top of Onondaga
 Run Logs, Plug back to KOP at 4678
 Kick off for horizontal well in Marcellus

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

**CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE**

Operator Name PEN16 OP Code _____

Watershed North Fork Hughes River Quadrangle Pennsboro 7.5'

Elevation 795 County Ritchie District Clay

Description of anticipated Pit Waste: Drill water and various formation cuttings

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

Will a synthetic liner be used in the pit? Yes If so, what mil.? 60 Mil.

Proposed Disposal Method For Treated Pit Wastes:

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

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air and water based mud
If oil based, what type? Synthetic, petroleum, etc _____

Additives to be used? MILBAR, Viscosifer, Alkalinity Control, Lime, Chloride Salts, Filtration Control, Deflocculant, Lubricant, Detergent, Defoaming, Walnut Shell, X-Cide, SOLTEX Terra Rate

Will closed loop system be used? No

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, 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.

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

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

[Signature] Notary Public

My commission expires 6/27/2018

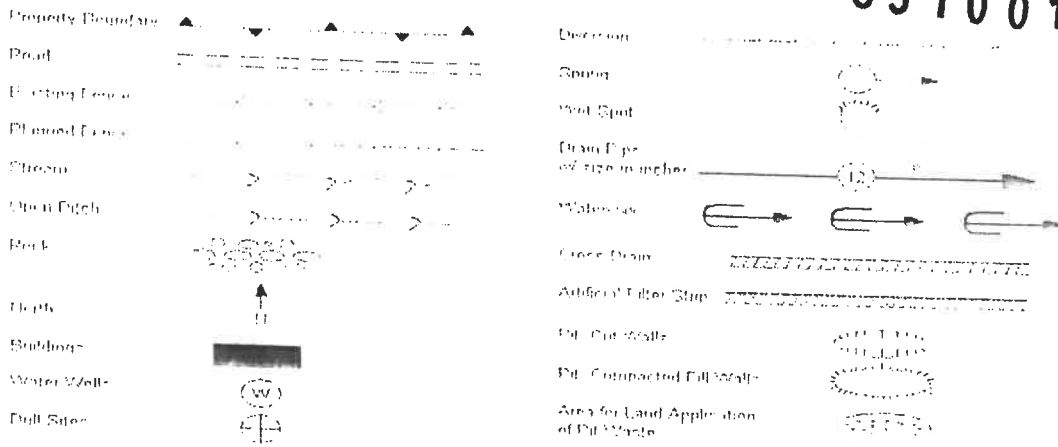


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Proposed Revegetation Treatment: Acres Disturbed 37.01 Prevegetation pH 6.6
 Lime 3 Tons/acre or to correct to pH 6.5
 Fertilizer (10-20-20 or equivalent) 1/3 lbs/acre (500 lbs minimum)
 Mulch 2 Tons/acre

Seed Mixtures

Area I		Area II	
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: *Daniel...*

Comments: proceed - mulch all out area no less than 2 tons
per acre

Title: oil/gas impactor Date: 10-19-12

Field Reviewed? () Yes () No

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Where energy meets innovation.™

Well Site Safety Plan

Marcellus Well
514387 PEN16H6
Ritchie County, WV

DATE:
October 1, 2012

[Handwritten Signature]

EQT Production
[Handwritten Title]

Title

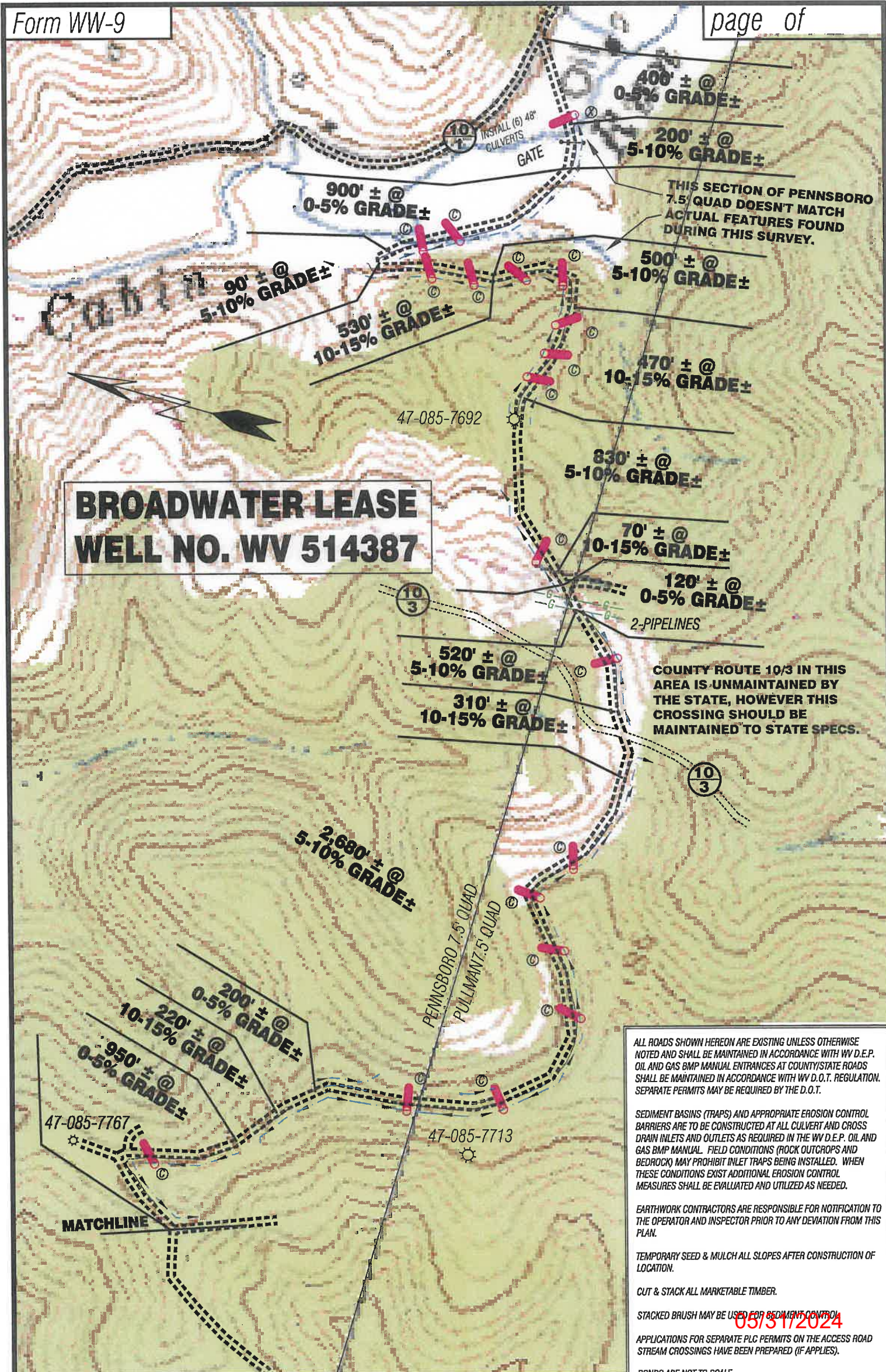
Date 10-16-12

WVOOG

Date _____

Title

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[Handwritten Signature]
05/31/2024
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**BROADWATER LEASE
WELL NO. WV 514387**

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT & STACK ALL MARKETABLE TIMBER.

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL

APPLICATIONS FOR SEPARATE PLC PERMITS ON THE ACCESS ROAD STREAM CROSSINGS HAVE BEEN PREPARED (IF APPLIES).

PONDS ARE NOT TO SCALE.

05/31/2024

SCALE: 1"=500'



= EXISTING CULVERT = PROPOSED CULVERT 12" MIN. UNLESS OTHERWISE NOTED

= PROPOSED STREAM CROSSING (IF APPLIES) *SEE TABLE FOR CULVERT DETAIL

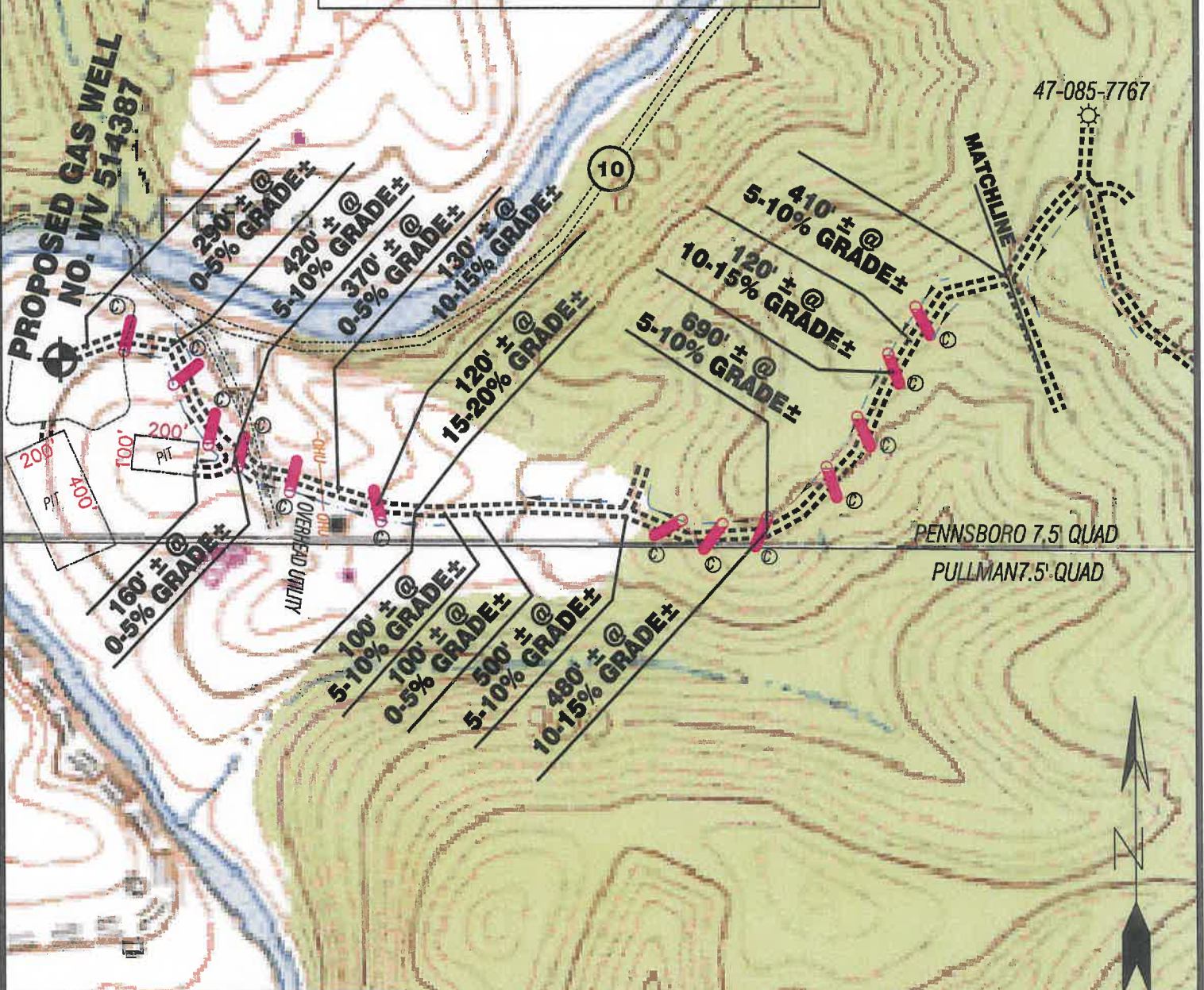
TOPO SECTION OF USGS PENNSBORO & PULLMAN 7.5 QUADRANGLES

SLS
SMITH LAND SURVEYING, INC.
P.O. BOX 150 GLENVILLE, WV. 26351
PH: (304) 462-5634 FAX: (304) 462-5656 E-MAIL: sls@slssurveys.com

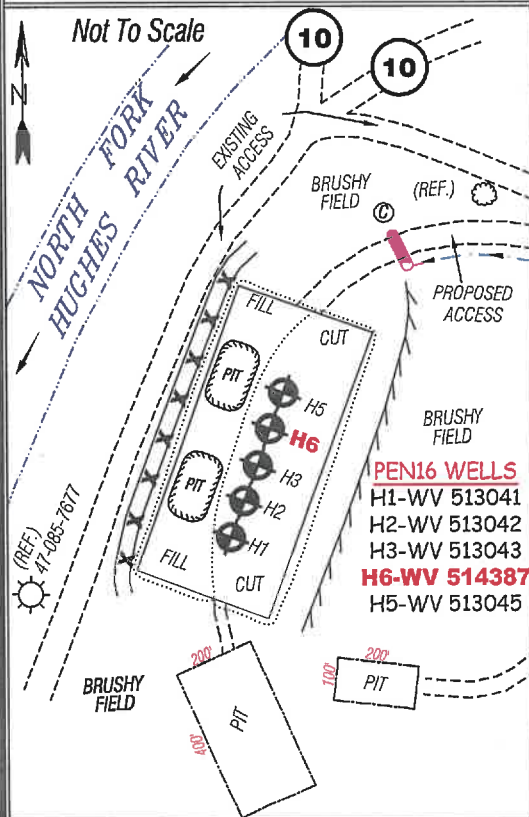
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BROADWATER LEASE WELL NO. WV 514387

**PROPOSED GAS WELL
NO. WV 514387**



Detail Sketch for Proposed Well WV 514387



ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

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PONDS ARE NOT TO SCALE.

- = EXISTING CULVERT
- = PROPOSED CULVERT 12" MIN. UNLESS OTHERWISE NOTED
- = PROPOSED STREAM CROSSING (IF APPLIES) *SEE TABLE FOR CULVERT DETAIL

SCALE: 1"=500'



TOPO SECTION OF USGS PENNSBORO & PULLMAN 7.5' QUADRANGLES



SMITH LAND SURVEYING, INC.
P.O. BOX 150 GLENVILLE, WV. 26351
PH: (304) 462-5634 FAX: (304) 462-5656 E-MAIL: sls@slssurveys.com

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EQT PRODUCTION COMPANY BROADWATER LEASE (360 ACRES±) WELL NO. 514387

BOTTOM HOLE
WELL NO. WV 514387
STATE PLANE COORDINATES
NORTH ZONE (NAD '27)

N. 280,765.0
E. 1,590,100.4

LAT=(N) 39.261798
LONG=(W) 80.947690

UTM (NAD'83)(METERS)
N. 4,345,839.5
E. 504,527.5

BOTTOM HOLE
WELL NO. WV 514387

LEWIS COTTRILL
ET AL
16.34 AC±

5/8" REBAR
FOUND

DEWAYNE & JUDITH
BRITTON
140.42 AC±

SAMUEL HAMMETT
ET AL
104 AC±

WELL NO. WV 514387
STATE PLANE COORDINATES
NORTH ZONE (NAD '27)

N. 277,025.1
E. 1,592,386.3

LAT=(N) 39.251632
LONG=(W) 80.939406

UTM (NAD'83)(METERS)
N. 4,344,711.8
E. 505,242.9

STONE
FOUND

N 18°00' W
3690.00'

LEASE #
988540

SAMUEL HAMMETT
ET AL
6.67 AC±

SURFACE LOTS

DONALD E. &
BARBARA A. DEEM
133.07 AC±

STONE, FOUND

DAVID RUPERT
100.056 AC±

LEASE #
112937

LARRY A.
DAVIS ET AL
36.48 AC±

LEASE #
105412

LANDING POINT
WELL NO. WV 514387
STATE PLANE COORDINATES
NORTH ZONE (NAD '27)

N. 276,970.3
E. 1,591,333.3

LAT=(N) 39.251435
LONG=(W) 80.943121

UTM (NAD'83)(METERS)
N. 4,344,689.7
E. 504,922.4

PAULINE BAIL
17.652 AC±

STEVEN J. &
JANET M. STANLEY
166.596 AC±

LANDING POINT

STEVEN J. &
JANET
M. STANLEY
112.39 AC±

S 66°13' W
221.02'

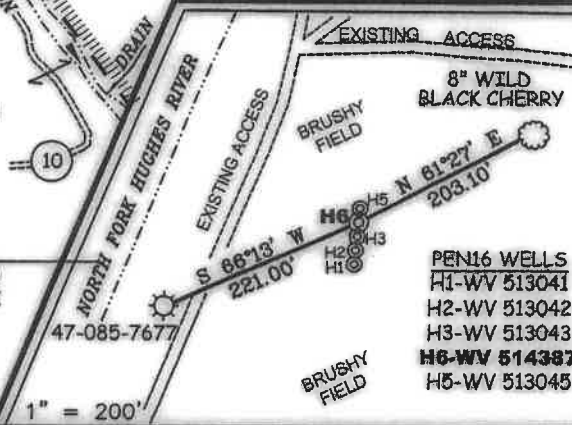
HEARTWOOD
FORESTLAND FUND
353.5 ACRES±

WELL NO.
WV 514387

REFERENCES

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS & REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 197 PAGE 568, DEED BOOK 285 PAGE 488, AND DEED BOOK 288 PAGE 190.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RITCHIE COUNTY IN JULY, 2011.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).



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

P.S. 677

Gregory A. Smith



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

DATE SEPTEMBER 20, 20 12

OPERATORS WELL NO. WV 514387

API WELL NO. 47 - 85 - 10014 H6 A
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7566P514387R2 (357-45)
PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 1000'

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



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

LOCATION: ELEVATION 787.5' (GROUND) - 795' (PROPOSED) WATERSHED NORTH FORK HUGHES RIVER

DISTRICT CLAY COUNTY RITCHIE QUADRANGLE PENNSBORO 7.5'

SURFACE OWNER HEARTWOOD FORESTLAND FUND ACREAGE 353.50±

ROYALTY OWNER JEFFERSON BROADWATER HEIRS ET AL (360 AC.±), JOELYNN FAMILY PRESERVATION TRUST (140.48 AC. ±), & RAYMOND HARDMAN (178 AC.±)

PROPOSED WORK: LEASE NO. 105412 **05/31/2024**

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

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH _____

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

EQT PRODUCTION COMPANY BROADWATER LEASE (360 ACRES±) WELL NO. 514387

BOTTOM HOLE
WELL NO. WV 514387
STATE PLANE COORDINATES
NORTH ZONE (NAD '27)

N. 280,765.0
E. 1,590,100.4

LAT=(N) 39.281798
LONG=(W) 80.947890

UTM (NAD'83)(METERS)

N. 4,345,839.5
E. 504,522.5

LEWIS COTTRILL
ET AL
16.34 AC±

BOTTOM HOLE
WELL NO. WV 514387

5/8" REBAR
FOUND

SAMUEL HAMMETT
ET AL
104 AC±

WELL NO. WV 514387
STATE PLANE COORDINATES
NORTH ZONE (NAD '27)

N. 277,025.1
E. 1,592,386.3

LAT=(N) 39.251632
LONG=(W) 80.939406

UTM (NAD'83)(METERS)

N. 4,344,711.8
E. 505,242.9

DEWAYNE & JUDITH
BRITTON
140.42 AC±

STONE
FOUND

LEASE #
988640

SAMUEL HAMMETT
ET AL
6.67 AC±

SURFACE LOTS

LEASE #
112937

DAVID RUPERT
100.056 AC±

LANDING POINT
WELL NO. WV 514387
STATE PLANE COORDINATES
NORTH ZONE (NAD '27)

N. 278,970.3
E. 1,591,333.3

LAT=(N) 39.261456
LONG=(W) 80.943121

UTM (NAD'83)(METERS)

N. 4,344,689.7
E. 504,922.4

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS & REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 197 PAGE 568, DEED BOOK 285 PAGE 488, AND DEED BOOK 288 PAGE 190.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RITCHIE COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).
5. PLAT UPDATED 08/14/13 TO SHOW THE AS-DRILLED COORDINATES FROM INFORMATION PROVIDED BY EQT ON 08/08/13.



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

P.S.
677

Gregory A. Smith



AS DRILLED INFORMATION

BOTTOM HOLE WELL NO. WV 514387 STATE PLANE COORDINATES NORTH ZONE (NAD '27)	WELL NO. WV 514387 STATE PLANE COORDINATES NORTH ZONE (NAD '27)
N. 280,765.6 E. 1,590,084.8	N. 277,025.1 E. 1,592,386.3
LAT=(N) 39.261799 LONG=(W) 80.947745	LAT=(N) 39.251632 LONG=(W) 80.939406
UTM (NAD'83)(METERS) N. 4,345,839.6 E. 504,522.7	UTM (NAD'83)(METERS) N. 4,344,711.8 E. 505,242.9

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE SEPTEMBER 20, 20 12
 REVISED DATE AUGUST 14, 2013 & JUNE 27, 2014
 OPERATORS WELL NO. WV 514387
 API WELL NO. 47-085-10014
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200
 FILE NO. 7566ASDRILLED514387R
 PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK)
 SCALE 1" = 1000'

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

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

LOCATION: ELEVATION 787.5 (GROUND) 785 (PROPOSED) WATERSHED NORTH FORK HUGHES RIVER
 DISTRICT CLAY COUNTY RITCHIE QUADRANGLE PENNSBORO 7.5'
 SURFACE OWNER HEARTWOOD FORESTLAND FUND ACREAGE 353.50±
 ROYALTY OWNER JEFFERSON BROADWATER HEIRS ET AL (360 AC.±), JOELYNN FAMILY PRESERVATION TRUST (140.48 AC. ±), & RAYMOND HARDMAN (178 AC.±)
 PROPOSED WORK: LEASE NO. 105412 ~~988640~~ **05/31/2024**
 DRILL X CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____ OTHER _____
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS ESTIMATED DEPTH _____

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME
PERMIT

**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:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Lease 105412		1/8 min pd	
Creed Collins & Susan H. Collins	W.A. Flanagan		24/315
W.A. Flanagan	J.L. Newman		58/362
J.L. Newman	The Philadelphia Company of West Virginia		58/363
The Philadelphia Company of West Virginia	Pittsburgh & WV Gas Company		55/362
Pittsburgh & WV Gas Company	Equitable Gas Company		126/473
Equitable Gas Company	Equitrans Inc.		197/283
Equitrans Inc.	Equitrans L.P.		201/217
Equitrans L.P.	Equitable Production-Eastern States		234/830
Equitable Production-Eastern States	EQT Production Company		Cert 6/443
Lease 988540		1/8 Min Pd	
Pittsburgh and West Virginia Gas Company	Equitable Gas Company		121/303
Equitable Gas Company	Equitrans, Inc.		154/475
Equitrans, Inc.	Equitable Production-Eastern States		234/830
Equitable Production-Eastern States	EQT Production Company		Cert 6/443
Lease 112937		1/8 Min Pd	
Equitrans, Inc.	Equitable Production-Eastern States		234/830
Equitable Production-Eastern States	EQT Production Company		Cert 6/443

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

Date of Notice Certification: _____

API No. 47 - 085 - 10014
Operator's Well No. 514387
Well Pad Name: PEN16

Notice has been given:

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: WV	UTM NAD 83 Easting: 505,242.9
County: Ritchie	UTM NAD 83 Northing: 4,344,711.8
District: Clay	Public Road Access: Rt. 10
Quadrangle: Pennsboro 7.5'	Generally used farm name: Broadwater
Watershed: North Fork Hughes River	

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

<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 NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR</p> <p><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> NOTICE OF APPLICATION</p>	<p align="center">OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED/NOT REQUIRED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p>
---	--

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.

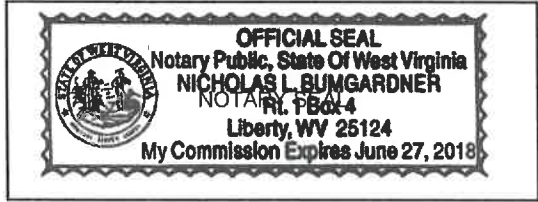
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Certification of Notice is hereby given:

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 16 day of OCTOBER, 2012

Nicholas L. Bumgardner Notary Public

My Commission Expires 6/27/2018

Oil and Gas Privacy Notice:

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

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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: _____ Date Permit Application Filed: _____ ?

Notice of:

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

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

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

Pursuant to W. Va. Code § 22-6A-10(b), no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner.

Notice is hereby provided to:

SURFACE OWNER(s)
 Name: Heartwood Forrest Fund IV (Greg Wilhelm) ✓
 Address: 3001 Emerson Ave.
 Parkersburg, WV 26104
 Name: _____ 0
 Address: _____ 0
 _____ 0

SURFACE OWNER(s) (Road and/or Other Disturbance)
 Name: Heartwood Forrest Fund IV (Greg Wilhelm) ✓
 Address: 3001 Emerson Ave.
 Parkersburg, WV 26104
 Name: _____ 0
 Address: _____ 0
 _____ 0

SURFACE OWNER(s) (Impoundments/Pits)
 Name: Heartwood Forrest Fund IV (Greg Wilhelm) ✓
 Address: 3001 Emerson Ave.
 Parkersburg, WV 26104
 Name: _____ 0
 Address: _____ 0
 _____ 0

COAL OWNER OR LESSEE
 Name: Thomas J Broadwater
 Address: 603 North 6th Street ✓
 Cambridge, OH 43725
 Name: Michael C. Broadwater
 Address: 4400 Reed Road ✓
 Columbus, OH 43220

COAL OPERATOR
 Name: None
 Address: _____ 0
 _____ 0

WATER PURVEYOR(s)
 Name: Heartwood Forrest Fund IV (Greg Wilhelm) ✓
 Address: 3001 Emerson Ave. ✓
 Parkersburg, WV 26104

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

*Please attach additional forms if necessary

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WW2-A

Additional Coal Owners:

Barbara A. Basil ✓
2620 Berwyn Road
Columbus, OH 43220

Mary J. Smith ✓
5229 Glenbrook Dr.
Vienna, WV 26105

Martha Wilson ✓
837 Fairview Ave.
Parkersburg, WV 26101

Mabel Broadwater ✓
5504 12th Ave
Vienna, WV 26105

Calvin H Grosscup Jr. ✓
1309 Cove Place
Ocean Springs, MS 39564

Additional Water Purveyors:

Donald E & Barbara Deem ✓
RR1 Box 108-1
Pennsboro, WV 26415

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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 also 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.

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/oiland-gas/pages/default.aspx.

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.

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.

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 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.

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Written Comment:

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

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

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

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.

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.

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Environmental Protection

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.

Notice is hereby given by:

Well Operator: EQT Production Company Address: 115 Professional Place, P.O. Box 280
Telephone: 304-848-0082 Bridgeport, WV 26330
Email: vroark@eqt.com Facsimile: 304-848-0040


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.

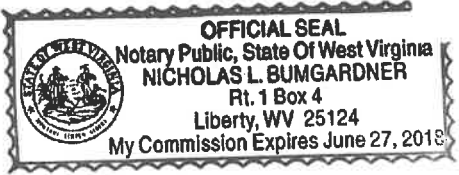
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true,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


By: Victoria Roark
Its: Permitting Supervisor

Subscribed and sworn before me this 16 day of OCTOBER, 2012


My Commission Expires 6/27/2012

Notary Public



RECEIVED 05/31/2024
Office of Oil and Gas

OCT 18 2012

WV Department of
Environmental Protection

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: _____ **Date Permit Application Filed:** _____

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

HAND DELIVERY **CERTIFIED MAIL RETURN RECEIPT REQUESTED**

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

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

Name: Heartwood Forrest Fund IV (Greg Wilhelm) ✓ Name: _____ 0
Address: 3001 Emerson Ave. Address: _____ 0
Parkersburg, WV 26104 _____ 0

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>505,242.9</u>
County:	<u>Ritchie</u>		Northing	<u>4,344,711.8</u>
District:	<u>Clay</u>	Public Road Access:		<u>Rt. 10</u>
Quadrangle:	<u>Pennsboro 7.5'</u>	Generally used farm name:		<u>Broadwater</u>
Watershed:	<u>North 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

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>Bridegeport, WV 26330</u>		<u>Bridegeport, 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>

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

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WV Department of
Environmental Protection

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: _____ **Date Permit Application Filed:** _____

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: <u>Heartwood Forrest Fund IV (Greg Wilhelm)</u>	Name: _____	0
Address: <u>3001 Emerson Ave.</u>	Address: _____	0
<u>Parkersburg, WV 26104</u>		0

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: <u>WV</u>	UTM NAD 83	Easting: <u>505,242.9</u>
County: <u>Ritchie</u>		Northing: <u>4,344,711.8</u>
District: <u>Clay</u>	Public Road Access: _____	Rt. <u>10</u>
Quadrangle: <u>Pennsboro 7.5'</u>	Generally used farm name: _____	<u>Broadwater</u>
Watershed: <u>North Fork Hughes River</u>		

This Notice Shall Include:

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

Well Operator: <u>EQT Production Company</u>	Address: <u>115 Professional Place, P.O. Box 280</u>
Telephone: <u>304-848-0082</u>	<u>Bridgeport, WV 26330</u>
Email: <u>vroark@eqt.com</u>	Facsimile: <u>304-848-0040</u>

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Office of Oil and Gas **05/31/2024**

OCT 18 2012

WV Department of
Environmental Protection



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Earl Ray Tomblin
Governor

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

September 6, 2012

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

Subject: DOH Permit for the PEN16 Well Pad Site, Ritchie County
Well # 513041, 513042, 513043, 513044, 513045, & 514387

Dear Dr. Martin,

This well site will be accessed from existing Permit # 03-11-0422 issued to EQT Production Company for access to the State Road for a well site located off of Ritchie County Route 10/1 SLS.

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

Very Truly Yours,

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

Cc: Nick Bumgardner
EQT Production Company
CH, CHH, OM, D-3
File

E.E.O./AFFIRMATIVE ACTION EMPLOYER

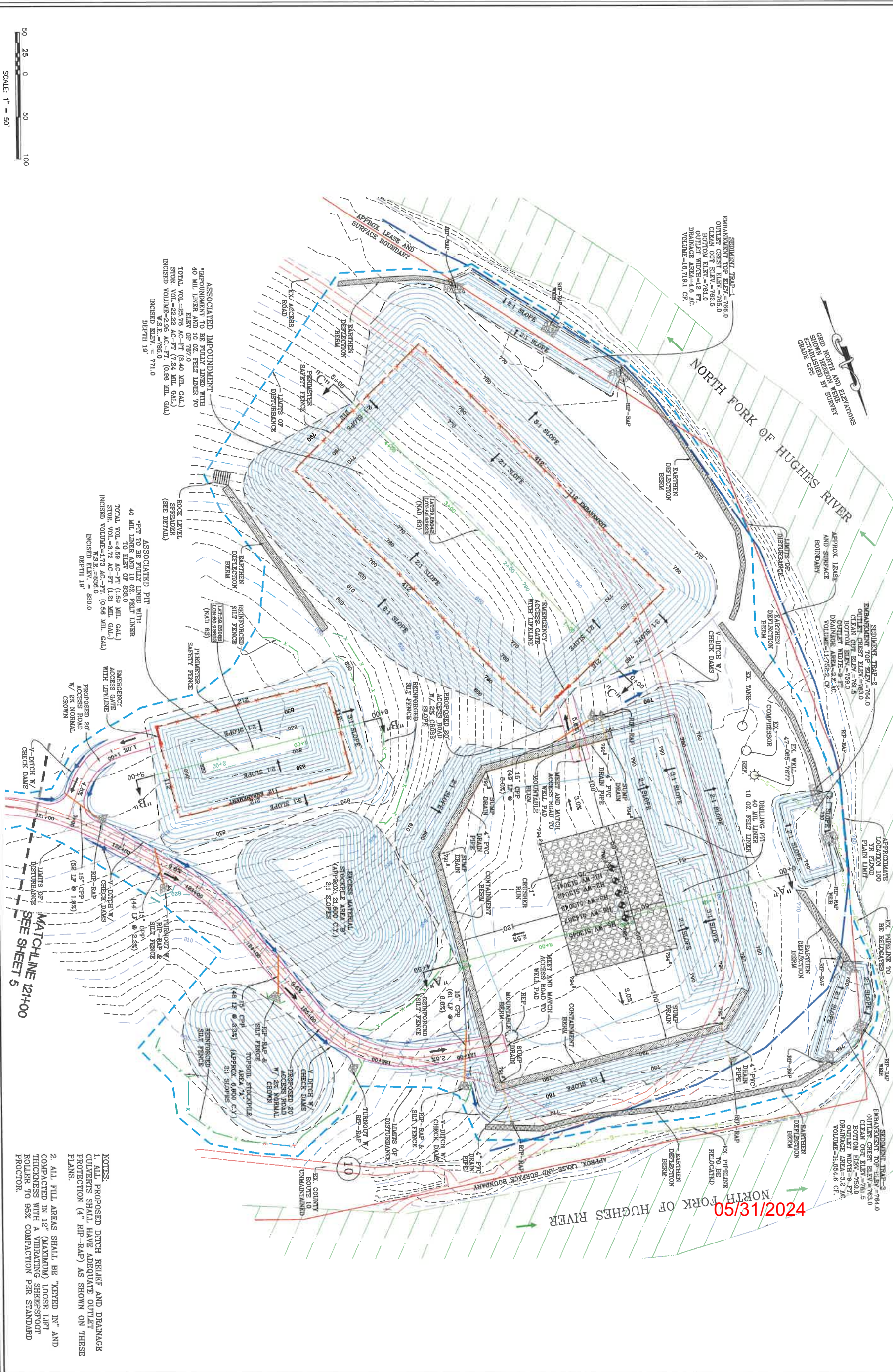
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OCT 18 2012

WV Department of
Environmental Protection

WELL PAD, IMPOUNDMENT, AND PIT DETAILS

(PROPOSED WELLS NO. WV 513041, WV 513042, WV 513043, WV 514387, WV 513045)



05/31/2024

NOTES:
 1. ALL PROPOSED DITCH RELIEF AND DRAINAGE CURVESETS SHALL HAVE ADEQUATE OUTLET PROTECTION (4" RIP-RAP) AS SHOWN ON THESE PLANS.
 2. ALL FILL AREAS SHALL BE "KEYED IN" AND COMPACTED IN 12" (MAXIMUM) LOOSE LIFT THICKNESS WITH A VIBRATING SHEEPSFOOT ROLLER TO 95% COMPACTION PER STANDARD PROCTOR.

WELL PAD, IMPOUNDMENT, AND PIT DETAILS
PEN 16
 CLAY DISTRICT
 RITCHIE COUNTY, WV

THIS DOCUMENT WAS
 PREPARED BY:
 NAVITUS ENGINEERING
 FOR EBT PRODUCTION
 COMPANY

SMITH LAND SURVEYING, INC.
 PROFESSIONAL SURVEYING AND ENVIRONMENTAL SERVICES
 P.O. Box 150
 226 W. Main Street
 Glenville, WV 26351
 PH: (304) 462-5634
 FAX: (304) 462-5656
 E-MAIL: sls@slssurveys.com

NAVITUS ENGINEERING INC.
 151 Windy Hill Lane
 Winchester VA, 22602
 Telephone: (836) 561-7474
 www.navituseng.com

Engineering
Survey
Environmental
GIS

DATE: 08/29/2011
 SCALE: 1" = 50'
 DESIGNED BY: CSK/TVP
 FILE NO.: 7566
 SHEET: 4 OF 35
 REV: 08/20/2012