



west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Monday, October 28, 2024
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY
400 WOODCLIFF DR.

CANONSBURG, PA 15317

Re: Permit Modification Approval for VANDERBILT 6H
47-049-02536-00-00

Lateral Extension

EQT PRODUCTION COMPANY

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

A blue ink signature of James A. Martin, written in a cursive style.

James A. Martin
Chief

Operator's Well Number: VANDERBILT 6H
Farm Name: LARRY AND TRISHA HIGGINS
U.S. WELL NUMBER: 47-049-02536-00-00
Horizontal 6A New Drill
Date Modification Issued: 10/28/2024

Promoting a healthy environment.

11/01/2024

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

1) Well Operator: EQT Production Company 306686 Marion Manning Glover Gap
Operator ID County District Quadrangle

2) Operator's Well Number: 6H Well Pad Name: Vanderbilt

3) Farm Name/Surface Owner: Larry & Trisha Higgins Public Road Access: CR-1

4) Elevation, current ground: 1,358' (built) Elevation, proposed post-construction: 1,358' (built)

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

Other _____

(b) If Gas Shallow X Deep _____

Horizontal X

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 7,735', 56', 2,620 psi

8) Proposed Total Vertical Depth: 7,735'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21,213'

11) Proposed Horizontal Leg Length: 12,953'

12) Approximate Fresh Water Strata Depths: 253', 504'

13) Method to Determine Fresh Water Depths: Offset Wells - 049-01784, 049-30593, 049-30230

14) Approximate Saltwater Depths: N/A

15) Approximate Coal Seam Depths: 1,181'-1,188'

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16) Approximate Depth to Possible Void (coal mine, karst, other): N/A

OCT 23 2024

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes X No _____

WV Department of
Environmental Protection

(a) If Yes, provide Mine Info: Name: Harrison County Mine
Depth: 1,181'-1,188'
Seam: Pittsburgh
Owner: Harrison County Coal Resources, Inc.

CK # 606100
7500⁰⁰

Kenny Willett 10/23/24

18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	26	New	A252	85.6	53	53	45 ft^3 / CTS
Fresh Water	13 3/8	New	J-55	54.5	1238	1238	1135 ft^3 / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2685	2685	1035 ft^3 / CTS
Production	6	New	P-110	24	21213	21213	500' above intermediate casing
Tubing							
Liners							

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	26	30	0.312	1000	18	Class A/L	1.04 - 1.20
Fresh Water	13 3/8	17 1/2	0.380	2730	2184	Class A/L	1.04 - 1.20
Coal							
Intermediate	9 5/8	12 3/8 - 12 1/4	0.352	3520	2816	Class A/H/L	1.04 - 1.20
Production	6	8 3/4 - 8 1/2	0.400	14580	11664	Class A/H/L	1.04 - 2.10
Tubing							
Liners							

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WV Department of Environmental Protection

PACKERS

Kind:				
Sizes:				
Depths Set:				

Kenny Willlett

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

Drill and complete a new horizontal well in the Marcellus Formation. Drill the vertical, kick off and drill curve. Drill the lateral in the Marcellus. Cement casing.

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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 0.1%) of chemicals (including 15% Hydrochloric acid, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to be approximately 10,000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 350,000 gallons of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000-600,000 pounds of proppant per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 56.80 acres (built)

22) Area to be disturbed for well pad only, less access road (acres): 8.44 acres (built)

23) Describe centralizer placement for each casing string:

- Surface: Bow spring centralizers – One centralizer at the shoe and one spaced every 500’.
- Intermediate: Bow spring centralizers– One centralizer at the shoe and one spaced every 500’.
- Production: One solid body centralizer spaced every other joint from production casing shoe to landing point. One solid body centralizer spaced every joint from landing point to planned top of cement.

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

Conductor: Class A no additives
Surface: Calcium Chloride. Used to speed the setting of cement slurries
Intermediate: Calcium Chloride. Used to speed the setting of cement slurries. If applicable: Gas Migration Control Additive, Cement Retarder
Production: Calcium Carbonate, Fluid Loss, Extender, Dispersent, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder,
Anti-Settling/Suspension Agent

25) Proposed borehole conditioning procedures:

Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
Intermediate: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
Production: Perform a cleanup cycle by pumping 3-8 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.

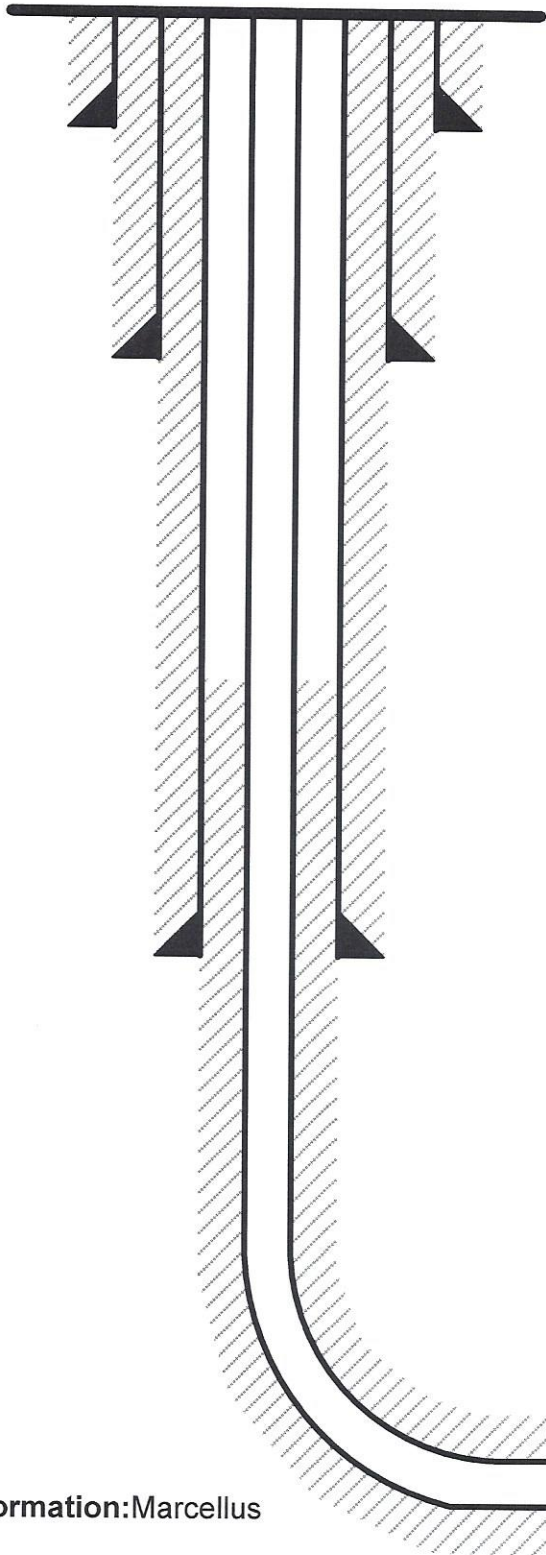
Kenny Willett

EQT Production

Wellbore Diagram

Well: Vanderbilt 6H
Pad: Vanderbilt
Elevation: 1358' GL 1371' KB

County: Marion
State: West Virginia



Conductor @ 53'

26", 85.6#, A252, cement to surface w/ Class A/L

Surface @ 1,238'

13-3/8", 54.5#, J-55, cement to surface w/ Class A/L

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DEPARTMENT OF
ECONOMIC DEVELOPMENT

Intermediate @ 2,685'

9-5/8", 36#, J-55, cement to surface w/ Class A/H/L

Production @ 21,213' MD / 7,735' TVD

6", 24#, P-110, cement to 500' inside 9-5/8" w/ Class A/H/L

Formation: Marcellus

EQT Production
Hydraulic Fracturing Monitoring Plan
Pad ID: Vanderbilt
County: Marion

October 4, 2024

Office of Oil and Gas
OCT 17 2024
WV Department of Environmental Protection

Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near EQT hydraulic fracturing in Marion County, WV prior to hydraulic fracturing at the following EQT wells on the Vanderbilt pad: 2H, 4H, 6H, 8H and 10H.

Due to the requirements under 35CSR8 5.11, the permittee is required to review the area surrounding the proposed well pad so as to identify and evaluate potential conduits for unintended fracture propagation.

A report is required to be submitted along with a well work permit application.

The plan is being implemented as an additional safety measure to be utilized in conjunction with existing best management practices and emergency action plans for the site. These additional measures include coordination with well operators of the timing and location of the hydraulic fracturing, establishment of measures well operators should implement, and assurance that the OOG is notified of the timeline, as well as any issues that may arise during fracturing.

1. Communications with Well Operators

EQT, using available data (WV Geological Survey, WVDEP website, and IHS data service), has identified all known wells and well operators within 500 feet of this pad and the lateral sections that are known or could reasonably be expected to be within range of the fracture propagation. A map showing these wells along with a list of the wells and operators is included in **Attachment A**.

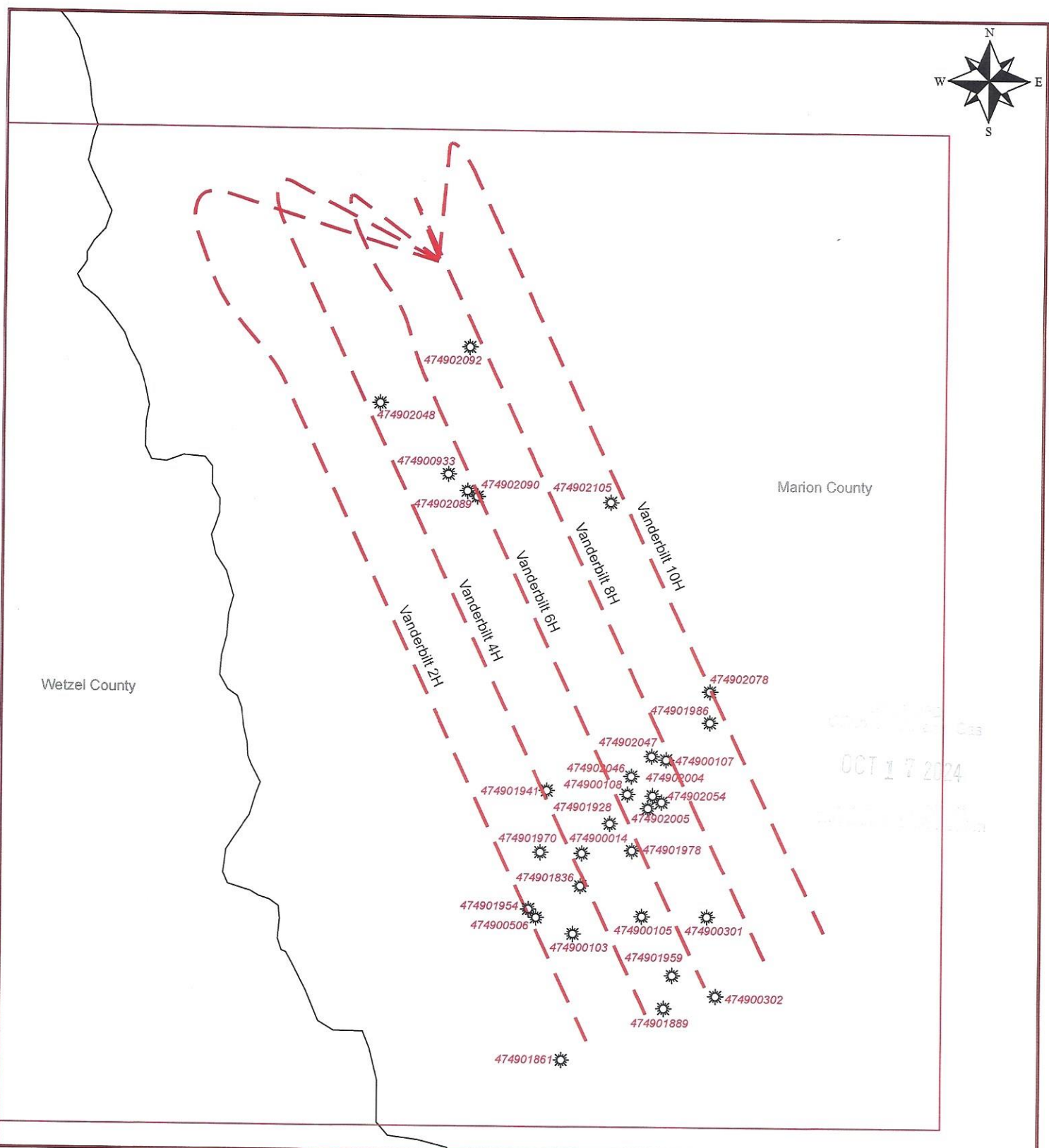
EQT will notify these operators of the hydraulic fracturing schedule for these wells, and coordinate with them throughout the fracturing process.

EQT will recommend to these operators at a minimum to:

1. Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions
2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
3. Inspect or install master valves or other necessary equipment for wellhead integrity capable of a pressure recommended by EQT
4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified

2. Reporting

EQT will provide information relating to the hydraulic fracturing schedule, communication with other operators, and ongoing monitoring of the work upon request of OOG or immediately in the event of any noted abnormalities.



EQT EQT Corporation
625 Liberty Avenue
Pittsburgh, PA 15222

Legend



1 Inch = 116,000 Feet

Vanderbilt

Vertical Offsets and Foreign Laterals within 500 Feet

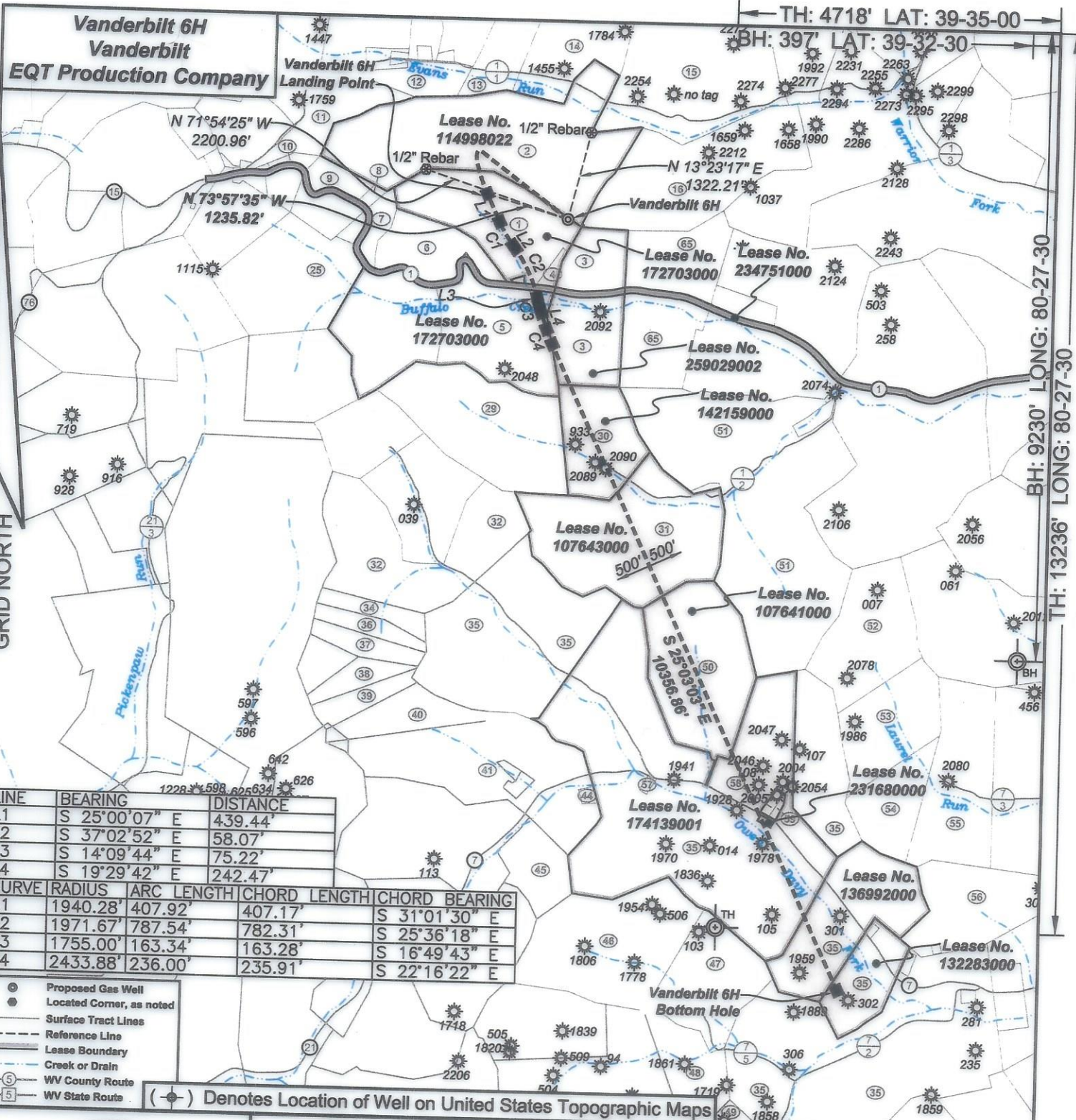
- Well Lateral_FM
- Formation
 - Geneseo
 - Marcellus
 - Utica
- Vanderbilt_Offset_Wells

Scale: 1 Inch = 2000 Feet
Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. EQT does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or pipeline facilities, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with EQT.



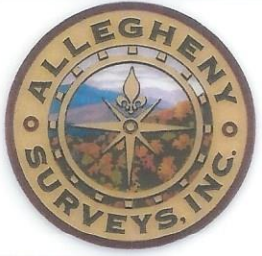
11/01/2024

UWI	ABAND_DATE	CURR_OPER	ELEV_RF_CD	FIELD_NAME	FNL_CLASS	LATITUDE	LONGITUDE	OPER_NAME	PROJ_TD	SPUD_DATE	ELEVATION	TOT_DEPTH
017850000		GALLATIN FUELS INC	GR	COBURN-EARNSHAW	DEVELOPMENT WELL-GAS	39.55569440	-80.47583330	GALLATIN FUELS INC	3700.00000000	6/26/2018	1421.00	3700.00
018270000		GALLATIN FUELS INC	GR	COBURN-EARNSHAW	DEVELOPMENT WELL-GAS	39.55583480	-80.47603930	GALLATIN FUELS INC	3700.00000000	1/23/2007	1413.00	3686.00
001030000	7/22/2008	SOUTH PENN OIL	GR	UNNAMED	DEVELOPMENT WELL-GAS	39.51850500	-80.46698200	SOUTH PENN OIL	0.00000000	7/2/1942	1348.00	3369.00
303600000	7/23/1942	PITTSBURGH OIL & GAS	GR	SMITHFIELD	DEVELOPMENT WELL-OIL	39.52163700	-80.46732600	SOUTH PENN OIL	0.00000000	6/1/1917	1331.00	2489.00
000140000	10/22/2008	SOUTH PENN OIL	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-OIL	39.55140300	-80.48129800	PITTSBURGH OIL & GAS	0.00000000	1/17/1930	1320.00	3368.00
005060000		CONSOLIDATION COAL CO	TS	WALLACE-FOLSOM	DEVELOPMENT WELL-OIL	39.52163700	-80.46732600	SOUTH PENN OIL	0.00000000	11/3/1928	1300.00	3342.00
018360000	10/29/2007	CONSOLIDATION COAL CO	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-GAS	39.51917000	-80.46901210	PENNZOIL CO INC	0.00000000	10/2/1942	1252.00	3261.00
001050000	8/27/2007	EAST RESOURCES	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-OIL	39.52044440	-80.46641670	CONSOLIDATION COAL CO	0.00000000	18010101	1274.00	1600.00
001080000	4/26/1974	SOUTH PENN OIL	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-GAS	39.51990800	-80.46481200	SOUTH PENN OIL	0.00000000	10/2/1942	1208.00	3130.00
020470000	10/20/2009	CONSOLIDATION COAL CO	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-OIL	39.52428500	-80.46350900	SOUTH PENN OIL	0.00000000	18010101	1200.00	1565.00
017770000	11/7/2006	CONSOLIDATION COAL CO	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-GAS	39.52619440	-80.46288890	CONSOLIDATION COAL CO	0.00000000	18010101	1195.00	1368.00
003020000	9/2/2008	EQUITABLE GAS CO	GR	LOGANSPOURT	GAS STORAGE WELL	39.51522210	-80.46177780	CONSOLIDATION COAL CO	0.00000000	18010101	1195.00	1368.00
001070000	5/4/1974	SOUTH PENN OIL	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-GAS	39.51594700	-80.45913400	EQUITABLE GAS CO	0.00000000	9/1/1970	1191.00	1535.00
020890000	3/18/2010	CONSOLIDATION COAL CO	GR	UNNAMED	DEVELOPMENT WELL-GAS	39.52601200	-80.46182000	SOUTH PENN OIL	0.00000000	7/2/1942	1178.00	3126.00
020540000	11/5/2009	CONSOLIDATION COAL CO	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-OIL	39.53716670	-80.47277780	CONSOLIDATION COAL CO	0.00000000	18010101	1150.00	1500.00
014550000		GALLATIN FUELS INC	KB	SEVEN PINES	DEVELOPMENT WELL-GAS	39.52425000	-80.46230560	CONSOLIDATION COAL CO	0.00000000	18010101	1149.00	1300.00
014550001		GALLATIN FUELS INC	KB	SEVEN PINES	DEVELOPMENT WELL-GAS	39.55315280	-80.47557220	FALCON HOLDINGS LLC	3350.00000000	12/22/2003	1149.00	2300.00
021050000	6/1/2010	CONSOLIDATION COAL CO	GR	UNNAMED	DEVELOPMENT WELL-GAS	39.55315280	-80.47557220	FALCON HOLDINGS LLC	3400.00000000	9/5/2004	1109.00	3426.00
700520000		SOUTH PENN OIL	GR	WALLACE-FOLSOM	DEVELOPMENT WELL-OIL	39.53672220	-80.46536110	CONSOLIDATION COAL CO	0.00000000	18010101	1077.00	1251.00
003010000	11/24/2006	EQUITABLE GAS CO	GR	LOGANSPOURT	GAS STORAGE WELL	39.52425000	-80.46376610	SOUTH PENN OIL	0.00000000	18010101	1075.00	3013.00
009330000	4/6/2010	LEATHERWOOD INC	GR	UNNAMED	DEVELOPMENT WELL-OIL	39.51931700	-80.45968200	EQUITABLE GAS CO	0.00000000	6/8/1902	1046.00	2341.00
700510000		SOUTH PENN OIL	GR	UNKNOWN	PSEUDO-ORIGINAL WELL - UNKNOWN CLASS	39.53787700	-80.47421700	GARNER & GAWTHROP INC	0.00000000	18010101	1046.00	0.00
300210000	9/27/1930	SOUTHERN OIL INC	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52439500	-80.46826200	SOUTH PENN OIL	0.00000000	18010101	0.00	0.00
702110000		SOUTH PENN OIL	UNKNOWN	UNKNOWN	PSEUDO-ORIGINAL WELL - UNKNOWN CLASS	39.55009700	-80.48268700	SOUTHERN OIL INC	0.00000000	2/12/1917	0.00	0.00
722760000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.53713100	-80.47163400	SOUTH PENN OIL	0.00000000	18010101	0.00	0.00
722770000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54356500	-80.47294600	UNKNOWN	0.00000000	18010101	0.00	0.00
722590000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54298500	-80.48231300	UNKNOWN	0.00000000	18010101	0.00	0.00
722600000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54603300	-80.47463200	UNKNOWN	0.00000000	18010101	0.00	0.00
722610000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.55096700	-80.47837810	UNKNOWN	0.00000000	18010101	0.00	0.00
722680000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.55096700	-80.48062700	UNKNOWN	0.00000000	18010101	0.00	0.00
722690000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54951590	-80.48418600	UNKNOWN	0.00000000	18010101	0.00	0.00
722830000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54864500	-80.48456100	UNKNOWN	0.00000000	18010101	0.00	0.00
722850000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.53847400	-80.47538100	UNKNOWN	0.00000000	18010101	0.00	0.00
722970000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.53324900	-80.47669200	UNKNOWN	0.00000000	18010101	0.00	0.00
722730000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52454000	-80.46395300	UNKNOWN	0.00000000	18010101	0.00	0.00
722750000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54646800	-80.48605900	UNKNOWN	0.00000000	18010101	0.00	0.00
722860000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54574200	-80.48062700	UNKNOWN	0.00000000	18010101	0.00	0.00
723000000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.53194200	-80.47688000	UNKNOWN	0.00000000	18010101	0.00	0.00
723020000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52323400	-80.46545200	UNKNOWN	0.00000000	18010101	0.00	0.00
723010000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52207300	-80.46376610	UNKNOWN	0.00000000	18010101	0.00	0.00
723030000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52163700	-80.46788800	UNKNOWN	0.00000000	18010101	0.00	0.00
722740000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.51989600	-80.46601400	UNKNOWN	0.00000000	18010101	0.00	0.00
722780000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54617800	-80.48250000	UNKNOWN	0.00000000	18010101	0.00	0.00
722870000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.54356500	-80.48512300	UNKNOWN	0.00000000	18010101	0.00	0.00
302110000	7/21/1939	CARNEGIE NATURAL GAS CORP	UNKNOWN	UNKNOWN	PSEUDO-ORIGINAL WELL - UNKNOWN CLASS	39.53716690	-80.46357900	UNKNOWN	0.00000000	18010101	0.00	0.00
722940000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52715300	-80.45945700	CARNEGIE NATURAL GAS CORP	0.00000000	18010101	0.00	0.00
722950000		HOPE NATURAL GAS	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52802400	-80.45731900	UNKNOWN	0.00000000	18010101	0.00	0.00
722980000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52874900	-80.45983200	HOPE NATURAL GAS	0.00000000	18010101	0.00	0.00
722990000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52439500	-80.46282900	UNKNOWN	0.00000000	18010101	0.00	0.00
723060000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.52396000	-80.46208000	UNKNOWN	0.00000000	18010101	0.00	0.00
723070000		UNKNOWN	UNKNOWN	UNKNOWN	UNCLASSIFIED	39.51655800	-80.46170500	UNKNOWN	0.00000000	18010101	0.00	0.00
019780000	3/10/2008	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.51510600	-80.46189300	UNKNOWN	0.00000000	18010101	0.00	0.00
020050000	12/1/2009	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52188000	-80.46370000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
020900000	2/26/2010	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52389000	-80.46322010	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
020920000	4/26/2010	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.53686000	-80.47255000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
019280000	11/4/2008	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.54334000	-80.47321000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
019410000	2/5/2008	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52340000	-80.46507000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
019540000	3/7/2008	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52441000	-80.46765000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
019700000	9/16/2008	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.51948000	-80.46919000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
019860000	12/19/2008	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52183000	-80.46867000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
020040000	3/2/2009	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52706000	-80.45919010	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
020780000	7/23/2010	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52947000	-80.46281000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
019590000	5/8/2008	CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.52875000	-80.45967000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
020460000		CONSOLIDATION COAL	UNNAMED	UNNAMED	UNCLASSIFIED	39.51701000	-80.45470000	CONSOLIDATION COAL	0.00000000	18010101	0.00	0.00
						39.52622300	-80.48370000				0.00	0.00



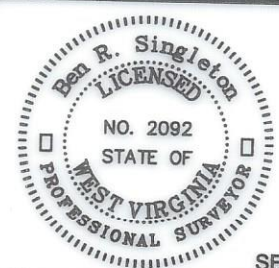
- Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- - - Reference Line
- Lease Boundary
- Creek or Drain
- ⑤ WV County Route
- ⑤ WV State Route

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

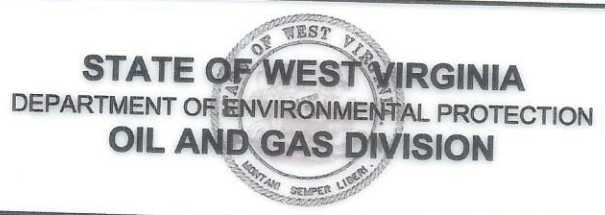


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Singleton
P.S. 2092



FILE NO: 93-21
DRAWING NO: Vanderbilt 6H
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station



DATE: October 15 20 24
OPERATOR'S WELL NO.: Vanderbilt 6H
API WELL NO
47 - 049 - 02536
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: As-Built: 1358' WATERSHED: Evans Run & Buffalo Creek QUADRANGLE: Glover Gap
DISTRICT: Mannington COUNTY: Marion
SURFACE OWNER: Larry Higgins & Eva Higgins ACREAGE: 60
ROYALTY OWNER: EQT Production Company, et al. LEASE NO: 172703000 ACREAGE: 60
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7,735'

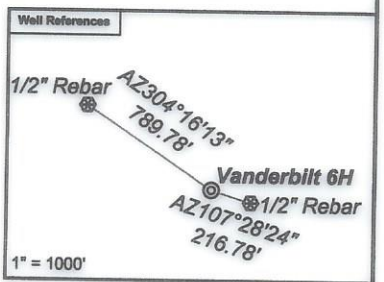
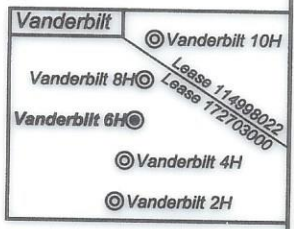
WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow
ADDRESS: 400 Woodcliff Drive ADDRESS: 115 Professional Place PO Box 280
Canonsburg, PA 15317 Bridgeport, WV 26330

11/01/2024

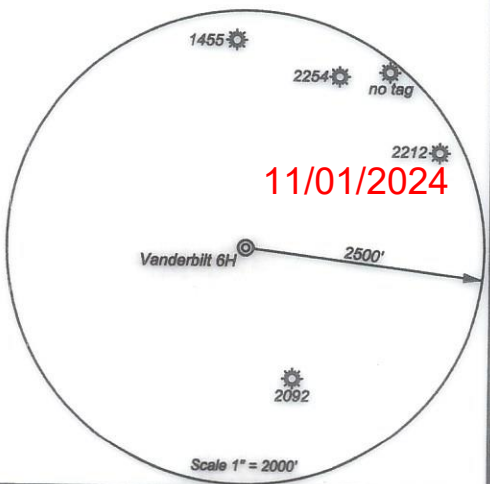
**Vanderbilt 6H
Vanderbilt
EQT Production Company**

Tract I.D.	Tax/Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	45	11	Marion	Mannington	Lamy D. & Trisha B. Higgins	60
2	45	17	Marion	Mannington	EQT Production Company	125.73
3	45	5	Marion	Mannington	Harry R. & Susanne M. Morris	52
4	45	12.1	Marion	Mannington	April M. Powell	2.49
5	45	4	Marion	Mannington	Ronald L. Powell, Jr.	59.82
6	45	12	Marion	Mannington	April M. Powell	37.5
7	45	13	Marion	Mannington	Thelma L. Coen	11
8	45	14.2	Marion	Mannington	Thelma L. Coen	1.6
9	45	14.1	Marion	Mannington	Patricia F. Powell	8.59
10	45	14.4	Marion	Mannington	Thomas A. & Karen J. Hixenbaugh	3
11	45	16	Marion	Mannington	Keith A. Powell	27.29
12	45	26	Marion	Mannington	John M. Proffitt, Sr.	14.6
13	45	25.1	Marion	Mannington	Richard K. & Dawn K. Jones	5.71
14	45	24	Marion	Mannington	Barbara E. Henderson, et al.	38.5
15	45	23	Marion	Mannington	Thomas L. Snodgrass	105.5
16	45	20	Marion	Mannington	EQT Production Company	78.5
25	45	2	Marion	Mannington	Allen L. & Donna J. Hillberry	102.59
29	46	5.2	Marion	Mannington	Marion County Coal Resources Inc.	74
30	46	6.1	Marion	Mannington	Patricia A. Cotherman	40
31	46	6	Marion	Mannington	Patricia A. Cotherman	100
32	46	11	Marion	Mannington	Brett Martin	59.55
34	46	12	Marion	Mannington	Brett Martin	10
35	46	2	Marion	Mannington	Marion County Commission	644.34
36	46	13	Marion	Mannington	Brett Martin	8.5
37	46	14	Marion	Mannington	Brett Martin	8.5
38	46	16	Marion	Mannington	Brett Martin	10.5
39	46	17	Marion	Mannington	Brett Martin	7.5
40	46	9	Marion	Mannington	Wayne D. Willie II	13.25
41	46	1	Marion	Mannington	Wayne D. Willie II	85.87
44	46	1.2	Marion	Mannington	Caren L. Willie	1.2
45	47	11	Marion	Mannington	David L. & Doretta D. Bonnell	23.53
46	47	6	Marion	Mannington	The West Virginia Land Trust Inc.	62
47	47	7	Marion	Mannington	The West Virginia Land Trust Inc.	48
48	47	2	Marion	Mannington	Debra A. Marozzi	30
49	47	1	Marion	Mannington	Marion County Coal Resources Inc.	98
50	46	4	Marion	Mannington	Mike Ross Inc	67.47
51	46	5	Marion	Mannington	Ruby L. Herndon	182.04
52	48	1	Marion	Mannington	David L. & Kerla A. James	56.5
53	48	2	Marion	Mannington	EQT Production Company	40
54	48	3	Marion	Mannington	Mark A. Barron	27.5
55	48	4	Marion	Mannington	Mark A. Barron	57
56	48	5	Marion	Mannington	Marion County Coal Resources Inc.	46.83
57	46	2.3	Marion	Mannington	Megan M. Peek	0.75
58	46	2.2	Marion	Mannington	Marion County Commission	1.19
59	46	2.4	Marion	Mannington	Marion County Commission	0.81
65	45	10	Marion	Mannington	Lisa A. & Barron R. Powell	68

Notes:
 Vanderbilt 6H coordinates are
 NAD 27 N: 382,829.72 E: 1,725,040.51
 NAD 27 Lat: 39.546995 Long: -80.475085
 NAD 83 UTM N: 4,377,621.04 E: 545,119.36
 Vanderbilt 6H Landing Point coordinates are
 NAD 27 N: 383,171.19 E: 1,723,852.80
 NAD 27 Lat: 39.547897 Long: -80.479290
 NAD 83 UTM N: 4,377,719.04 E: 544,755.77
 Vanderbilt 6H Bottom Hole coordinates are
 NAD 27 N: 371,813.44 E: 1,729,242.79
 NAD 27 Lat: 39.516326 Long: -80.459739
 NAD 83 UTM N: 4,374,225.20 E: 546,456.52
 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.



Lease No.	Owner	Acres
172703000	EQT Production Company, et al.	60
114998022	Bounty Minerals, LLC, et al.	125.73
234751000	West Virginia Department of Transportation, Division of Highways	46.86
172703000	EQT Production Company, et al.	126
259029002	Country Roads Minerals, LLC, et al.	52
142159000	Debra L. Sparks, et al.	41.833485
107643000	Denise L. Chappell, et al.	100
107641000	Bradley W. Thomas, et al.	74
174139001	Country Roads Minerals, LLC, et al.	203
231680000	Marion County Commission	40.535
136992000	Mike Ross, Inc., et al.	61
132283000	XTO Energy, Inc.	28



**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
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See Attached

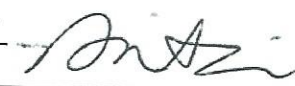
APPROVED
Office of Oil and Gas
OCT 17 2024
Department of Environmental Protection

**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: Branden Weimer 
 Its: Regional Manager - Subsurface Permitting

Lease No.	Grantor, Lessor, etc.	Acres	Grantee, Lessee, etc.	Royalty	Book/Page
/ 172703000	<u>EQT Production Company, et al.</u> Ascent Resources Marcellus Minerals, LLC	60 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1204/61
/ 114998022	<u>Bounty Minerals, LLC, et al.</u> Bounty Minerals, LLC Antero Resources Corporation	125.73 ac	Antero Resources Corporation EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1223/161 AB 56/332
/ 234751000	<u>West Virginia Department of Transportation, Division of Highways</u> West Virginia Department of Transportation, Division of Highways	46.86 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1336/524
/ 172703000	<u>EQT Production Company, et al.</u> Ascent Resources Marcellus Minerals, LLC	126 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1204/61
/ 259029002	<u>Country Roads Minerals, LLC, et al.</u> Country Roads Minerals, LLC Antero Resources Corporation	52 ac	Antero Resources Corporation EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1309/107 AB 65/756
/ 142159000	<u>Debra L. Sparks, et al.</u> Patricia A. Cotherman, widow	41.833485 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1271/833
/ 107643000	<u>Denise L. Chappell, et al.</u> Golda M. Ice and A. R. Ice, wife and husband Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC, et al. Equitrans, LP	100 ac	Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC Equitrans, LP EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 657/30 AB 12/279 DB 1148/296 AB 46/660 DB 1114/127

(sublease)

OCT 17 2024
 EQUITABLE GAS COMPANY
 1000 EQUITABLE DRIVE
 SUITE 1000
 DENVER, CO 80202

✓ <u>107641000</u>	<u>Bradley W. Thomas, et al.</u> Carrie Snider, widow Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC, et al. Equitrans, LP	74 ac	Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC Equitrans, LP EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 725/4 AB 12/279 DB 1148/296 AB 46/660 DB 1114/127	(sublease)
✓ <u>174139001</u>	<u>Country Roads Minerals, LLC, et al.</u> Country Roads Minerals, LLC	203 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1291/676	
✓ <u>231680000</u>	<u>Marion County Commission</u> Marion County, West Virginia Board of Commissioners	40.535 ac	EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 1328/1043	
✓ <u>136992000</u>	<u>Mike Ross, Inc., et al.</u> Arlie G. Williams, et ux., et al. Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC, et al. Equitrans, LP	61 ac	Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC Equitrans, LP EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 657/401 AB 12/279 DB 1148/296 AB 46/660 DB 1114/130	(sublease)
✓ <u>132283000</u>	<u>XTO Energy, Inc.</u> Joseph R. Smith and Sharon K. Smith, his wife Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC, et al. Equitrans, LP	28 ac	Equitable Gas Company Equitrans, Inc. Equitable Gas Company LLC Equitrans, LP EQT Production Company	"at least 1/8th per WV Code 22-6-8"	DB 771/236 AB 12/279 DB 1148/296 AB 46/660 DB 1114/130	(sublease)

RECEIVED
 OFFICE OF THE STATE GAS
 COMMISSIONER
 OCT 17 2024
 WV DEPARTMENT OF
 ENVIRONMENTAL POLYMER
 AND ENERGY



EQT PRODUCTION COMPANY
400 Woodcliff Drive | Canonsburg, PA 15317

October 16, 2024

Via FedEx Overnight Delivery

West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304

RECEIVED
Office of Oil and Gas
OCT 17 2024
WV Department of
Environmental Protection

RE: Well Work Permit Application Modification – EXPEDITED REVIEW REQUESTED
Vanderbilt 6H
Permit Number 47-049-02536
Mannington District, Marion County WV

WVDEP Recipient,

Attached please find the Well Work Permit Application for the well referenced above. You will find the following included with this submittal:

- Check in the amount \$7,500.00 for the expedited permit modification fee
- Completed WW-6B and supporting documents, approved by the O&G Inspector
- Well Location Plat
- Completed Form WW-6A1 and supporting documentation
- Hydraulic Fracturing Monitoring Plan
- Offset Well Map and Table
- CD including the Water Management Plan Modification Application

EQT is proposing to extend the lateral from the previously permitted length.

EQT Production trusts that if any portion of the submitted documentation is found to be inadequate for processing the permit, notification will be made to our Permitting department at your earliest convenience. It is EQT Production's intent to cooperate fully to provide any additional requested documentation and clarification in a timely manner such that permitting proceeds in a predictable and logical manner.

Best Regards,

Branden Weimer
Regional Manager – Permitting
Branden.Weimer@eqt.com
412-997-7940

11/01/2024