

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

Friday, November 7, 2025 PERMIT MODIFICATION APPROVAL Horizontal 6A / New Drill

EQT PRODUCTION COMPANY 2200 ENERGY DRIVE

CANONSBURG, PA 15317

Re: Permit Modification Approval for Energy Cynic 4H

47-103-03749-00-00

Extended Lateral

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.

H. Jason Harmon Acting Chief

Operator's Well Number: Energy Cynic 6H

Farm Name: Ruth Koontz (LE) & Michael Koontz (Remainderman)

U.S. WELL NUMBER: 47-103-03749-00-00

Horizontal 6A New Drill

Date Modification Issued: 11/7/2025

Promoting a healthy environment.

API NO. 47- <u>103</u> - 03749	
OPERATOR WELL NO. 4H	
Well Pad Name: Energy Cynic	

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

1) Well Operator:	EQT Produc	tion Company	306686	Wetzel	Clay	Littleton
			Operator ID	County	District	Quadrangle
2) Operator's Wel	l Number: 4H		Well Pad	Name: Energ	y Cynic	
3) Farm Name/Sun	rface Owner: _F	Ruth Koontz & Michael Life Estate Remainder	Koontz Public Road	d Access: CR	9/2 (Robin	son Ridge Road
4) Elevation, curre	ent ground:	1,368' (built) Ele	evation, proposed j	oost-construction	n: 1,368'	(built)
5) Well Type (a) Gas X	Oil		rground Storag		
O	ther					
(b)If Gas Shal	low X	Deep			
=	Hori	zontal X				
6) Existing Pad: Y						
7) Proposed Targe Marcellus, 7,576	t Formation(s), 6', 50', 2,620 ps	, Depth(s), Antici si	pated Thickness a	nd Expected Pr	essure(s):	
8) Proposed Total	Vertical Depth	ı: 7,576'				
9) Formation at To	otal Vertical De	epth: Marcellus				
10) Proposed Tota	ıl Measured De	epth: 8,780'				
11) Proposed Hori	zontal Leg Ler	ngth: 0'				
12) Approximate	Fresh Water St	rata Depths:	No Freshwater 2	ones listed		
13) Method to Det	termine Fresh V	Water Depths:	Offset wells - 103-	02265, 103-01	822, 103-3	31026, 103-00344
14) Approximate S	Saltwater Deptl	hs: 2001, 2121				
15) Approximate	Coal Seam Dep	oths: 879'-883',	1,097'-1,101', 1,2	05'-1,211'		
16) Approximate 1	Depth to Possil	ole Void (coal mi	ne, karst, other):	N/A		
17) Does Proposed	d well location	contain coal sean	ns			
directly overlying			Yes	No	X	
(a) If Yes, provide	de Mine Info:	Name:				
		Depth:				
Office Of Oil a	0 od G 8\$	Seam:				
Office Of On a	0025	Owner:				
OCT 21	[NC2	-				
V/V Deperionmenta	nent ot I Protection					

Stephen
Mccoy
Page 1 of ally signed by Stephen
Mccoy
Date: 2025.10.17 09:12:58
-04'00'

API NO. 47-103 _ 03749

OPERATOR WELL NO. 4H Well Pad Name: Energy Cynic

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	26	New	A252 GR 3 Bare	85.6	53	53	45 ft^3 / CTS
Fresh Water	13 3/8	New	J-55	54.5	1261	1261	1125 ft^3 / CTS
Coal							
Intermediate	9 5/8	New	J-55	36	2689	2689	1025 ft^3 / CTS
Production	5 1/2	New	P-110	20	8780	8780	500' above intermediate casing
Tubing							
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	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	5 1/2	8 3/4 - 8 1/2	0.361	14360	11488	Class A/H/L	1.04 - 2.10
Tubing							
Liners							

PACKERS

Kind:		
Sizes:		
Depths Set:		

RECEIVED
Office Of Oil and Gas

OCT 21 2025

WV Department of Environmental Protection

Stephen Мссоу

Page 2 of illustrated by Stephen Mccoy
Date: 2025.10.17 09:13:11
-04'00'

API NO. 47- 103 - 03749

> OPERATOR WELL NO. 4H Well Pad Name: Energy Cynic

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. Office Of Oil and Gas

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WV Department of Environmental Protection

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): 27.73 acres
- 22) Area to be disturbed for well pad only, less access road (acres): 15.44 acres
- 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:

Surface: Calcium Chloride. Used to speed the setting of cement slurries Intermediate: Calcium Chloride. Used to speed the setting of cement slurries.

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

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.

Page 300 ftally signed by Stephen Stephen Mccoy Date: 2025.10.17 09:13:24 -04'00'

EQT Production Wellbore Diagram Well: **Energy Cynic 4H** County: Wetzel Pad: **Energy Cynic** State: West Virginia Elevation: 1368' GL 1381' KB Conductor @ 53' 26", 85.6#, A252, cement to surface w/ Class A/L **Surface** 1,261' @ 13-3/8", 54.5#, J-55, cement to surface w/ Class A/L RECEIVED
Office Of Oil and Gas OCT 21 2025 WV Department of Environmental Protection Intermediate @ 2,689' 9-5/8", 36#, J-55, cement to surface w/ Class A/H/L **Production** @ 8,780' MD / 7,576' TVD 20#, P-110, cement to 500' inside 9-5/8" w/ Class A/H/L Formation: Marcellus Digitally signed by Stephen Mccoy Date: 2025.10.17 09:13:40 -04'00' Stephen Mccoy NOT TO SCALE

WEST VIRGINIA GEOLOGICAL PROGNOSIS

Energy Cynic

S-001221

Drilling Objectives: Marcellus Wetzel County: Littleton

Quad: Elevation: 1381 KB

Recommended Azimuth 156 Degrees 1368 GL

No Red Rock Listed in (

Base of Red Rock

ESTIMATED FORMATION TOPS	T (TEV (TS)	Des (TUD) Lithology	Comments	Top RR	Base RR
<u>Formation</u>	Top (TVD)	Base (TVD) Lithology	FW Show from Permit App of 4710302265	11.14.11.1	No Red Ro
Fresh Water Zone	1	278	Not Mined		
Waynesburg	879	883 Coal		1	
Sewickley	1097	1101 Coal	Not Mined		
Pittsburgh	1205	1211 Coal	Not Mined		
Big Lime	2361	2477 Limestone	SW @ 2001,2121, ,		
Big Injun	2503	2639 Sandstone			
Int. csg pt	2689		N. d. and advances		
Weir	2756	5120 Sandstone	Not near storage		
Gantz	3086	3454 Silty Sand	(m)		
Bayard	3454	3964 Silty Sand			
Speechley	3874	4040 Silty Sand	Base of Offset Well Production at 3318' TVD		
Alexander	5915	6373 Silty Sand			
Elks	6373	7107 Gray Shales and Silts			
Sonyea	7107	7280 Gray shale	Bisse of Offset Well Production at 3318' TVD OUT 2 1 2025 Out Oil and Gas		
Middlesex	7280	7320 Shale	70 N NO		
Genesee	7320	7399 Gray shale interbedded	2025		
Geneseo	7399	7423 Black Shale			
Tully	7423	7446 Limestone	g ·		
Hamilton	7446	7552 Gray shale with some	en?		
Marcellus	7552	7601 Black Shale			
Purcell	7569	7571 Limestone			
-Lateral Zone	7576		MRC Target		
Cherry Valley	7583	7585 Limestone			
Onondaga	7601	Limestone			

Target Thickness	50 feet	
Max Anticipated Rock Pressure	2620 PSI	

Comments:

All measurements taken from estimated KB elevation.

Intermediate casing point is recommended beneath the Big Injun to shut off any water production from the Upper Devonian sands. Intermediate casing should be cemented into the surface string, per WV regulations.

RECOMMENDED CAS	ING POINTS		Casing Depth KB	Casing Depth GLE	
Fresh Water/Coal	CSG OD	13 3/8	1261	1248	50' below Pittsburgh Coal
Intermediate 1:	CSG OD	9 5/8	2689	2676	50' below Big Injun Base
Production:	CSG OD	5 1/2	@ TD	@ TD	@ TD

EQT Production

Hydraulic Fracturing Monitoring Plan

Pad ID: Energy Cynic

County: Wetzel

October 16, 2025



Page 1 of 2

Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near EQT hydraulic fracturing in Wetzel County, WV prior to hydraulic fracturing at the following EQT wells on the Energy Cynic pad: 2H, 4H, 6H, 8H, 10H, 12H, 14H & 16H.

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 prefrac well conditions
- Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
- 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.

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The Department of Environmental Profession

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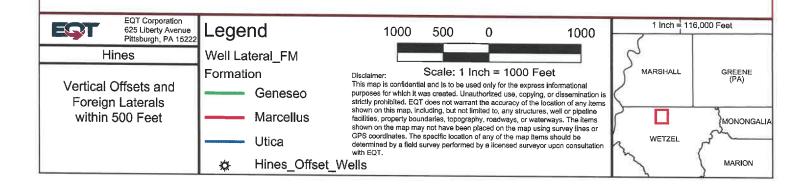


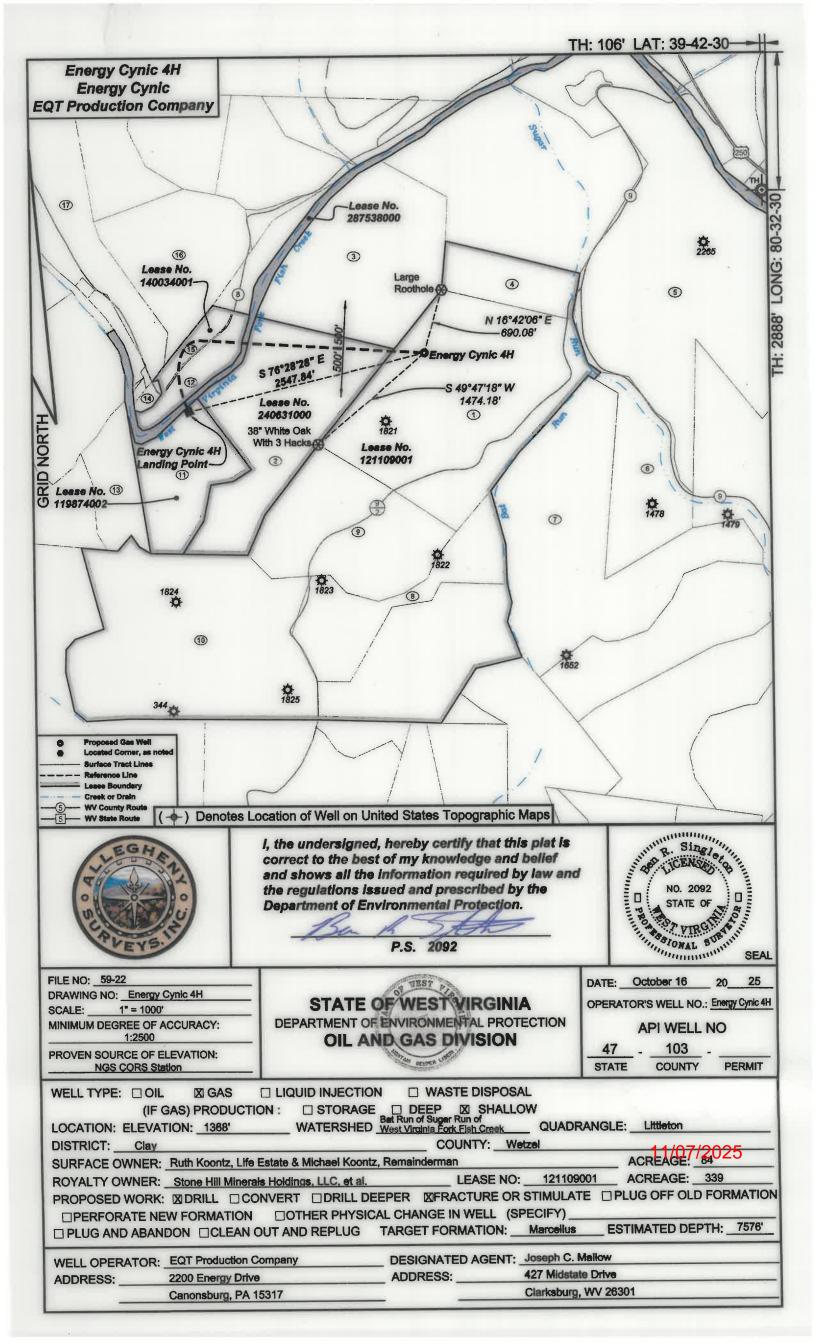
Energy Cynic 4H

Office Of Oil and Gas

OCT 21 2025

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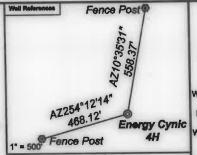




Energy Cynic 4H Energy Cynic EQT Production Company

	arry	JUITIE	GUUII	FIUUU	EWI
Surface Tract Ow	District	County	Parcel No.	Tax Map No.	Tract I.D.
Michael L Koontz Life	Clay	Wolzel	10	5	1
Wayne Carmint Real	Clay	Wetzel	8	5	2
Thomas Wade, E	Clay	Wetzel	32	1	3
Florence Ozsco	Clay	Wetzel	34	1	4
Opra Hix	Clay	Wetzel	24	2	5
Daniel L. Reggi	Clay	Wetzel	12	5	6
Barry J. & Bizabeth A	Clay	Wetzel	11	5	7
Shaun D. Kuhr	Clay	Watzel	27.1	5	8
Michael L Koontz Life	Clay	Wetzel	9	5	9
Michael L & Allison C	Clay	Watzal	28	5	10
Wayne W. & Dana P.	Clay	Wetzel	7	5	11
Wayne Carmint Res	Clay	Wetzel	6	5	12
Liberty Holding Cor	Clay	Watzel	3	5	13
Katherine S. Whe	Clay	Wetzel	5	5	14
Wayne Carmint Rec	Clay	Wetzel	30	1	15
Wayne Carmint Rec	Clay	Wetzel	29	1	16
S&RInvestmer	Clay	Watzel	23	1	17

Surface Tract Owner	Acres
Michael L. Koontz Life Estate	84
Wayne Carmint Realty LLC	52
Thomas Wade, Est.	50
Florence Ozsconi	19
Opra Hix	147.35
Daniel L. Reggia	30
Barry J. & Bizabeth A Frankel	80
Shaun D. Kuhn	18
Michael L. Koontz Life Estate	48
Michael L & Allison G Koontz	90
Wayne W. & Dana P. Carmint	24.5
Wayne Carmint Realty LLC	7
Liberty Holding Company	16.39
Ketherine S. Wharton	Lot
Wayne Carmint Realty LLC	3.67
Wayne Carmint Realty LLC	41.8
S&RInvestments	107.27

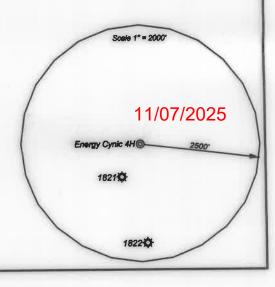


Energy Cynic 4H coordinates are
NAD 27 N: 438,685,73 E: 1,706,746,31
NAD 27 Lst: 39,700322 Long: -80,542241
NAD 83 UTM N: 4,394,606,13 E: 539,261,30
Energy Cynic 4H Lending Point coordinates are
NAD 27 N: 439,289,92 E: 1,704,269,22
NAD 27 Lst: 39,696607 Long: -80,551019
NAD 83 UTM N: 4,394,411,99 E: 538,509,64
West Virginia Coordinates system of 1963 (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.

Energy Cynic
Energy Cynic 18H ©
Energy Cynic 14H ©

Energy Cynic Energy Cynic 18H ©
Energy Cynic 14H ©
Energy Cynic 12H ©
Energy Cynic 10H ©
Energy Cynic 8H ©
Energy Cynic 6H ©
Energy Cynic 4H ©
Energy Cynic 2H ©

Lease No.	Owner	Acres
121109001	Stone Hill Minerals Holdings, LLC, et al.	339
240631000	Delorse A. Homer	52.25
287538000	West Virginia Division of Natural Resources	38.1877
140034001	William Roger Phillips, et al.	10.67
119874002	J and D Land Group Ltd., et al.	24.5



INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE Chapter 22, Article 6A, Section 5(a)(5) IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that —

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number

Grantor, Lessor, etc.

Grantee, Lessee, etc.

Royalty

Book/Page

See Attached

Office Of Oil and Gas

OCT 21 2025

Mrv 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 - Permitting

Page 1 of 2

WW-6A1 attachment

Operator's Well No.

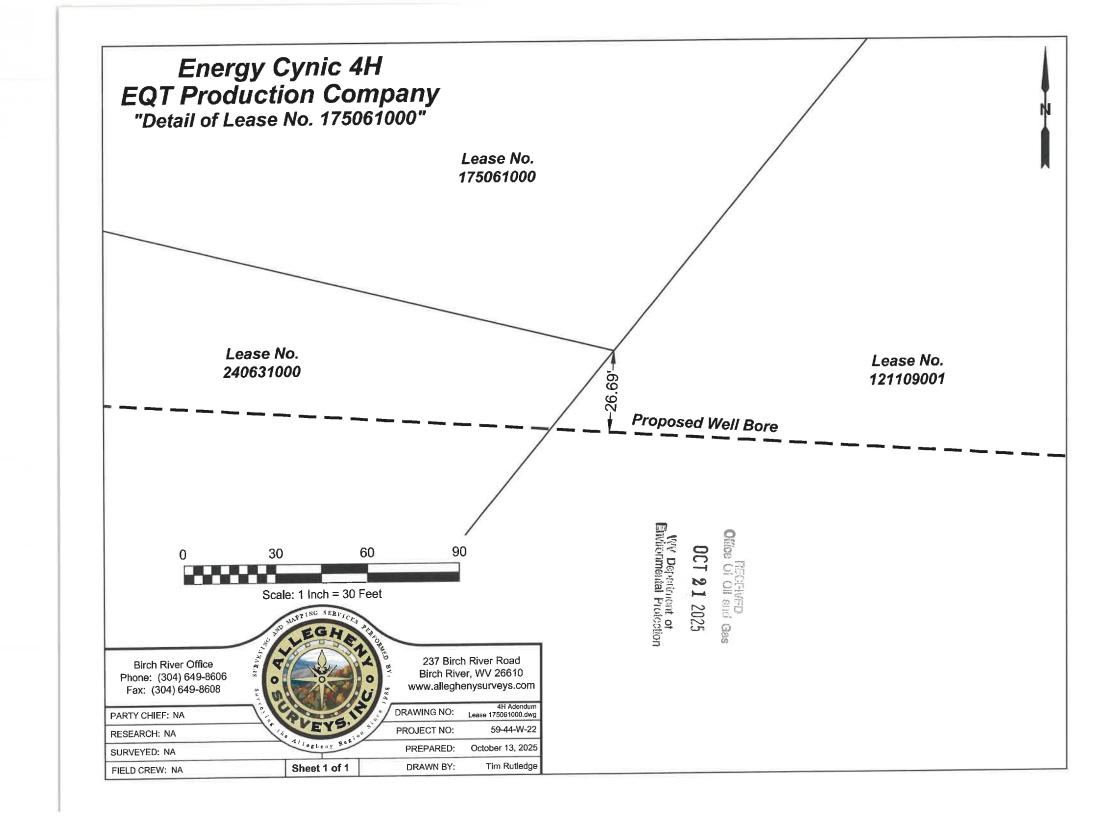
No. Energy Cynic 4H

Lease No.	Grantor, Lessor, etc.	Acres	Grantee, Lessee, etc.	Royalty	Book/Page
Leade No.	<u></u>				
				"at least 1/8th per WV Code 22-6-8"	
	Stone Hill Minerals Holdings, LLC, et al.		FOT D. A. Way Occasion	WV Code 22-0-0	OG 185A/486
<u>121109001</u>	Stone Hill Minerals Holdings, LLC	339 ac	EQT Production Company		00 100/400
				"at least 1/8th per	
	Delorse A. Horner			WV Code 22-6-8"	
240631000	Delorse A. Horner, a widow	52.25 ac	TH Exploration, LLC.		OG 285A/67
21000,000	TH Exploration, LLC		EQT TGHL Exploration, LLC		MB 153/704
	TH Exploration, LLC		EQT TGHL Exploration, LLC		MB 154/899
				"at least 1/8th per	
	West Virginia Division of Natural Resources			WV Code 22-6-8"	
287538000	West Virginia Division of Natural Resources	38.1877 ac	EQT Production Company		OG 424A/155
20700000					
				"at least 1/8th per WV Code 22-6-8"	
	William Roger Phillips, et al		THE AMERICAN IIIO	WV Code 22-0-0	OG 211A/886
<u>140034001</u>	Priscilla Faith Phillips	10.67 ac	TH Exploration, LLC		MB 153/704
	TH Exploration, LLC		EQT TGHL Exploration, LLC		MB 154/899
	TH Exploration, LLC		EQT TGHL Exploration, LLC		MD 1341033
				"at least 1/8th per	
	J and D Land Group Ltd., et al.			WV Code 22-6-8"	
119874002	J and D Land Group Ltd.	24.5 ac	Antero Resources Corporation		OG 171A/114
113074002	Antero Resources Corporation		EQT Production Company		OG 231A/59
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NY Department of Environmental Proteston

Office Of Oil and Gas
OCT 2 1 2025



WW-6A1 attachment

Operator's Well No.

Energy Cynic 4H

Lease No.	Grantor, Lessor, etc.	Acres	Grantee, Lessee, etc.	Royalty	Book/Page	
	OXY USA Inc., et al.			"at least 1/8th per WV Code 22-6-8"		
		70.00 ac of				
<u>175061000</u>	BRC Appalachian Minerals I LLC	31,151.581 ac	BRC Working Interest Company LLC		OG 102A/505	
	BRC Appalachian Minerals I, LLC BRC Minerals LP		BRC Working Interest Company, LLC		OG 103A/320	Amended and Restated Memorandum of Paid Up Oil and Gas Lease
	BRC Working Interest Company, LLC		Chesapeake Appalachia, L.L.C.		OG 103A/470	·
	Chesapeake Appalachia, L.L.C.		Statoil USA Onshore Properties, Inc.		OG 120A/109	
	Chesapeake Appalachia, L.L.C.		SWN Production Company, LLC		OG 157A/540	
	Statoil USA Onshore Properties, Inc.		SWN Exchange Titleholder, LLC		OG 158A/801	
	SWN Exchange Titleholder, LLC		SWN Production Company, LLC		Corp. Book 13/296	
	SWN Production Company, LLC		Antero Exchange Properties, LLC		OG 177A/533	
	Statoil USA Onshore Properties, Inc.		Antero Exchange Properties, LLC		OG 177A/738	
	Antero Exchange Properties, LLC		Antero Resources Corporation		Corp. Book 13/311	
	Antero Resources Corporation		EQT Production Company		OG 269A/533	

to Department of

Office Of Oil and Grap
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October 17, 2025

Via FedEx Overnight Delivery

Office Of Oil and Gas

OCT 2 1 2025

WV Department of Environmental Protection

#601837

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

RE:

Horizontal Well Work Permit Application Modification – EXPEDITED REVIEW REQUESTED

Energy Cynic 4H

Permit Number 47-103-03749 Clay District, Wetzel 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 well permit application 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 showing no wells within 500'.

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

EQT 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,

Olivia Wilson

Project Specialist - Permitting

OPishioneri@eqt.com

724-250-0180