

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

Tuesday, December 21, 2021 PERMIT MODIFICATION APPROVAL New Drill / Modification

EQT CHAP, LLC 625 LIBERTY AVE **SUITE 1700** PITTSBURGH, PA 15222

Permit Modification Approval for LONGWORTH M05H Re: 47-051-01914

UPDATED TRANSFER OF OPERATOR NAME, UPDATE TO SITE SAFETY PLAN

EQT CHAP, LLC

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.

James A. Martin

Chief

Operator's Well Number: LONGWORTH M05H Farm Name: GRAHAM H LONGWORTH JR U.S. WELL NUMBER: 47-051-01914 New Drill Modification Date Modification Issued: 12/21/2021

Promoting a healthy environment.

API NO. 47-<u>051</u> - <u>01914</u> OPERATOR WELL NO. <u>M05H</u>

Well Pad Name: Longworth

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

1) Well Operator: EQT CHAP, LLC	494525804	Marshall -	Clay 🗸	Glen Easton 7
	Operator ID	County	District	Quadrangle
2) Operator's Well Number: M05H	Well Pac	l Name: Longw	orth	
3) Farm Name/Surface Owner: Graham H. Longwo	rth, Jr. Public Roa	d Access: Rob	erts Ridge R	oad/WV-21
4) Elevation, current ground: <u>1,270' (built)</u> El	evation, proposed	post-construction	on: <u>1,270'</u>	
5) Well Type (a) Gas X Oil	Unde	erground Storag	ge	
Other				
(b)If Gas Shallow X	Deep			
Horizontal X				
6) Existing Pad: Yes or No Yes		-		
7) Proposed Target Formation(s), Depth(s), Antic Marcellus, 6,664', 61', 0.64 psi/ft gradient	ipated Thickness a	nd Expected Pr	ressure(s):	
8) Proposed Total Vertical Depth: 6,664' (Drilled)				
9) Formation at Total Vertical Depth: Marcellus				
10) Proposed Total Measured Depth: 15,886' (D	rilled)			
11) Proposed Horizontal Leg Length: 8,524			_	
12) Approximate Fresh Water Strata Depths:	99', 605'			<u> </u>
13) Method to Determine Fresh Water Depths:	Tophole drilling			
14) Approximate Saltwater Depths: 1,576', 1,998	, 2,102', 2,139'			
15) Approximate Coal Seam Depths: 583', 853'				
16) Approximate Depth to Possible Void (coal mi	ine, karst, other):	N/A		
17) Does Proposed well location contain coal sear directly overlying or adjacent to an active mine?	ms Yes	No	x	
(a) If Yes, provide Mine Info: Name:			RECEIVED) d Gas
Depth:	<u> </u>		DEC 012	
Seam:			WV Departme	
Owner:			vironmental Pro	

OPERATOR WELL NO. ______

Well Pad Name: Longworth

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	<u>New</u> <u>or</u> <u>Used</u>	Grade	<u>Weight per ft.</u> (lb/ft)	<u>FOOTAGE: For</u> <u>Drilling (ft)</u>	INTERVALS: Left in Well (ft)	<u>CEMENT:</u> <u>Fill-up</u> (Cu. Ft.)/CTS
Conductor	20"	New	X-52	218	40'	40'	N/A
Fresh Water	13 3/8"	New	J-55	54.5	634'	634'	579
Coal							
Intermediate	9 5/8"	New	L-80	40	2,184'	2,184'	928
Production	5 1/2"	New	P-110	20	15,886'	15,839'	890/2195
Tubing							
Liners					· · · · ·		
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	B	ryan Harris	- 11/17/21

ТҮРЕ	Size (in)	<u>Wellbore</u> Diameter (in)	<u>Wall</u> <u>Thickness</u> <u>(in)</u>	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	<u>Cement</u> <u>Type</u>	<u>Cement</u> <u>Yield</u> (cu. ft./k)
Conductor	20"	30"					
Fresh Water	13 3/8"	17 1/2"	0.38	2730	1911	Class A	1.20
Coal							
Intermediate	9 5/8"	12 3/8"	0.395	5750	2768	Class A	1.19
Production	5 1/2"	8 1/2"	0.361	14360	9975	Class H/ Class H	1.14/1.15
Tubing							
Liners							

PACKERS

Kind:		
Sizes:		
Depths Set:		

WW-6B (04/15)

OPERATOR WELL NO. MOSH Well Pad Name: Longworth

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

EQT CHAP is proposing to complete development operations on this well. The well has been drilled horizontally as shown on the attached WR-35.

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): 38.9

22) Area to be disturbed for well pad only, less access road (acres): ^{19.3}

23) Describe centralizer placement for each casing string:

CONDUCTOR- NONE SURFACE- ON SHOE TRACK AND EVERY 500' TO SURFACE INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO ABOVE TOC

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

25) Proposed borehole conditioning procedures:

N/A - The well is already drilled

*Note: Attach additional sheets as needed.



WW-6A1 (5/13)

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 Form

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:	John Zavatchan
lts:	Project Specialist - Permitting

Page 1 of <u>12</u> 12/24/2021

RECEIVED Office of Oil and Gas

DEC 0 1 2021

WV Department of Environmental Protection

WW-6A1 attachn	nent	Operator's Well No.	Longwort	n M05H
Parcel ID	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
			"at least 1/8th per	
04-11-1.0	Graham H. Longworth Jr., et al.	Chevron U.S.A. Inc.	WV Code 22-6-8"	DB 790/129
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
04-11-2.0	Graham H. Longworth Jr., et al.	Chevron U.S.A. Inc.	WV Code 22-6-8"	DB 790/129
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
04-11-2.0	Lisa Nicewarner	TriEnergy Holdings, LLC	WV Code 22-6-8"	DB 751/260
	TriEnergy Holdings, LLC	Chevron U.S.A. Inc.		AB 28/348
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
04-11-2.0	Julia Rodgers	TriEnergy Holdings, LLC	WV Code 22-6-8"	DB 751/262
	TriEnergy Holdings, LLC	Chevron U.S.A. Inc.		AB 28/348
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
04-11-2.0	Keith Friese	TriEnergy Holdings, LLC	WV Code 22-6-8"	DB 751/264
	TriEnergy Holdings, LLC	Chevron U.S.A. Inc.		AB 28/348
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
04-11-2.0	Mark Friese	TriEnergy Holdings, LLC	WV Code 22-6-8"	DB 751/250
	TriEnergy Holdings, LLC	Chevron U.S.A. Inc.		AB 28/348
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
04-11-2.0	Anthony Friese	TriEnergy Holdings, LLC	WV Code 22-6-8"	DB 753/580

	TriEnergy Holdings, LLC Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC		AB 28/348 AB 47/1
04-11-2.0	James Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/254 AB 28/348 AB 47/1
04-11-2.0	Henry Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 752/382 AB 28/348 AB 47/1
04-11-2.0	Steven Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/252 AB 28/348 AB 47/1
04-12-16.0	Graham H. Longworth Jr., et al. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 790/129 AB 47/1
04-12-16.0	Sheri L. Evraets Family Trust TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 730/407 AB 25/449 DB 756/332 AB 47/1
04-12-16.0	Lisa Nicewarner TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/260 AB 28/348 AB 47/1

04-12-16.0	Julia Rodgers TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/262 AB 28/348 AB 47/1
04-12-16.0	Keith Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/264 AB 28/348 AB 47/1
04-12-16.0	Mark Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/250 AB 28/348 AB 47/1
04-12-16.0	Anthony Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 753/580 AB 28/348 AB 47/1
04-12-16.0	James Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/254 AB 28/348 AB 47/1
04-12-16.0	Henry Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 752/382 AB 28/348 AB 47/1
04-12-16.0	Steven Friese TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 751/252 AB 28/348 AB 47/1

04-11-54.0	Delores J. Fox Central Michigan Exploration LLC Stone Energy Corporation Chevron U.S.A. Inc.	Central Michigan Exploration LLC Stone Energy Corporation Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 670/572 AB 21/288 AB 33/276 AB 47/1
04-11-52.0	CNX Gas Company LLC	Chevron U.S.A. Inc.	"at least 1/8th per	DB 818/553
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
04-11-59.0	CNX Gas Company LLC	Chevron U.S.A. Inc.	"at least 1/8th per	DB 818/553
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
	Harry F. Roush, et ux.	Chevron U.S.A. Inc.	"at least 1/8th per	DB 838/381
04-11-3.0	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Joe Paul Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 745/469 AB 28/348 AB 47/1
09-1-2.0	William R. Levasseur, Jr.	Chevron U.S.A. Inc.	"at least 1/8th per	DB 880/373
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Francis Thomas Krol, Jr.	Chevron U.S.A. Inc.	"at least 1/8th per	DB 880/394
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Christina L. Boardwine	Chevron U.S.A. Inc.	"at least 1/8th per	DB 880/379
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1

09-1-2.0	Diana L. Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 753/557 AB 28/348 AB 47/1
09-1-2.0	Margaret Ann Bonnett TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 748/115 AB 28/348 AB 47/1
09-1-2.0	Dorothy Sedosky	Chevron U.S.A. Inc.	"at least 1/8th per	DB 811/630
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Margaret E. Dakan	Chevron U.S.A. Inc.	"at least 1/8th per	DB 813/586
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Dollye Guzek	Chevron U.S.A. Inc.	"at least 1/8th per	DB 814/439
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Lindsey R. Foster	Chevron U.S.A. Inc.	"at least 1/8th per	DB 818/66
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Nancy Dakan Rackley, et vir.	Chevron U.S.A. Inc.	"at least 1/8th per	DB 820/234
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	CNX Gas Company LLC	Chevron U.S.A. Inc.	"at least 1/8th per	DB 818/553
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1

09-1-2.0	Ronald W. Dakan	Chevron U.S.A. Inc.	"at least 1/8th per	DB 837/154
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	David H. Dakan	Chevron U.S.A. Inc.	"at least 1/8th per	DB 837/145
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Suzanne Swift	Chevron U.S.A. Inc.	"at least 1/8th per	DB 839/373
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Barbara D. Furfari	Chevron U.S.A. Inc.	"at least 1/8th per	DB 847/364
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Diane Clare Willis, et vir.	Chevron U.S.A. Inc.	"at least 1/8th per	DB 849/636
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Leslie Marie Butts	Chevron U.S.A. Inc.	"at least 1/8th per	DB 849/630
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
0 9-1-2 .0	Joseph G. Dakan	Chevron U.S.A. Inc.	"at least 1/8th per	DB 885/464
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Elaine A. Fontes	Chevron U.S.A. Inc.	"at least 1/8th per	DB 882/293
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-2.0	Diana K. Coslick	Chevron U.S.A. Inc.	"at least 1/8th per WV Code 22-6-8"	DB 882/290

	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
09-1-2.0	Lesley D. Balla Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 882/287 AB 47/1
04-11-51.0	Glen William Conner Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 838/485 AB 47/1
09-1-3.0	Alvin D. Barrett, et ux. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 837/163 AB 47/1
09-1-4.4	Roseann Trayon TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 703/146 AB 24/180 DB 756/332 AB 47/1
09-1-4.4	Diana L. Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 753/557 AB 28/348 AB 47/1
09-1-4.4	Margaret Ann Bonnett TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 748/115 AB 28/348 AB 47/1
09-1-4.4	Joe Paul Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 745/469 AB 28/348 AB 47/1

09-1-4.4	Christina L. Boardwine Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 880/379 AB 47/1
09-1-4.4	Francis Thomas Krol, Jr. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 880/394 AB 47/1
09-1-4.4	William R. Levasseur, Jr. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 880/373 AB 47/1
09-1-4.6	Cindy S. Trayon, et al. TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 703/144 AB 24/180 DB 756/332 AB 47/1
09-1-4.6	Diana L. Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 753/557 AB 28/348 AB 47/1
09-1-4.6	Margaret Ann Bonnett TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 748/115 AB 28/348 AB 47/1
09-1-4.6	Joe Paul Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 745/469 AB 28/348 AB 47/1

09-1-4.6	Christina L. Boardwine Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 880/379 AB 47/1
09-1-4.6	Francis Thomas Krol, Jr. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 880/394 AB 47/1
09-1-4.6	William R. Levasseur, Jr. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 880/373 AB 47/1
09-1-4.5	Robert L. Trayon, Jr., et ux. TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 700/245 AB 24/180 DB 756/332 AB 47/1
09-1-4.5	Diana L. Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 753/557 AB 28/348 AB 47/1
09-1-4.5	Margaret Ann Bonnett TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 748/115 AB 28/348 AB 47/1
09-1-4.5	Joe Paul Wellman TriEnergy Holdings, LLC Chevron U.S.A. Inc.	TriEnergy Holdings, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 745/469 AB 28/348 AB 47/1

09-1-4.5	Christina L. Boardwine	Chevron U.S.A. Inc.	"at least 1/8th per	DB 880/379
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-4.5	Francis Thomas Krol, Jr.	Chevron U.S.A. Inc.	"at least 1/8th per	DB 880/394
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-4.5	William R. Levasseur, Jr.	Chevron U.S.A. Inc.	"at least 1/8th per	DB 880/373
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-18.0	Howard E. Young by AIF Susan Young	Chevron U.S.A. Inc.	"at least 1/8th per	DB 797/272
	Chevron U.S.A. Inc.	EQT Aurora LLC	WV Code 22-6-8"	AB 47/1
09-1-16.0	Daniel L. Dobbs, et ux. AB Resources LLC Chevron U.S.A. Inc.	AB Resources LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 730/270 DB 756/397 AB 47/1
09-1-24.0	Peter A. Miller, et ux. Fossil Creek Ohio, LLC Fossil Creek Ohio, LLC & Gulfport Energy Corp. American Petroleum Partners Operating LLC Chevron U.S.A. Inc.	Fossil Creek Ohio, LLC Gulfport Energy Corp. American Petroleum Partners Operating LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 838/523 AB 33/9 AB 36/588 AB 40/267 AB 47/1



EQT PRODUCTION COMPANY 400 Woodcliff Drive | Canonsburg, PA 15317

November 1, 2021

Via Electronic Delivery

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

RE: EQT CHAP, LLC Relationship to EQT Aurora, LLC

WVDEP Recipient,

This letter serves as notification to WVDEP of the relationship between the two subject entities. EQT CHAP LLC, a Pennsylvania limited liability company (EIN 20-8243540) having an address of 625 Liberty Ave., Suite 1700, Pittsburgh, PA 15222, is a wholly owned subsidiary of EQT CNEU LLC, a Delaware limited liability company (EIN 51-0404430), also having an address of 625 Liberty Ave., Suite 1700, Pittsburgh, PA 15222. EQT CNEU LLC is a wholly owned subsidiary of EQT Aurora LLC, a Pennsylvania limited liability company (EIN 85-3135326) also having an address of 625 Liberty Avenue, Suite 1700, Pittsburgh, PA 15222. All entities fall under the parent of EQT Corporation.

Because of this relationship, EQT CHAP LLC has the right to to develop, extract, produce and market natural resources allowed, including natural gas, from any lease in which EQT Aurora LLC has that same right.

If you require any additional information, feel free to contact me at your earliest convenience.

Best Regards,

John Zavatchan Project Specialist – Permitting jzavatchan@eqt.com 724-746-9073

RECEIVED Office of Oil and Gas

DEC 01 2021

WV Department of Environmental Protection

12/24/2021



November 29, 2021

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

Re: Longworth Mo5H Clay District, Marshall County, WV

Dear Mr. Brewer,

EQT CHAP, LLC is applying for a well work permit for the well referenced above. Upon information and belief, the 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.

Sincerely,

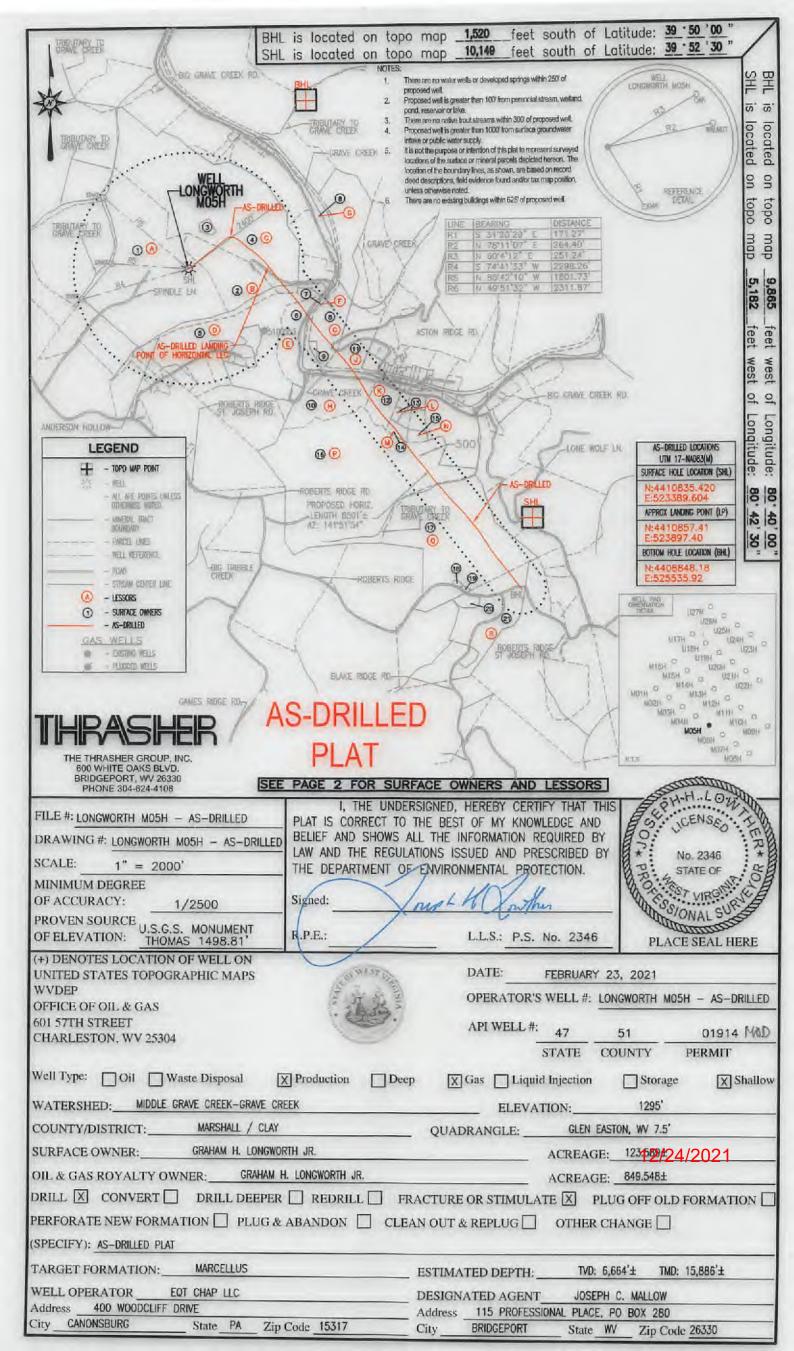
John Zavatchan Project Specialist - Permitting

RECEIVED Office of Oil and Gas

DEC 0 1 2021

WV Department of Environmental Protection

UW1 00553 00307 70141 70637	ACT_STATUS Completed Wells/WHCS Completed Wells Completed Wells Completed Wells	CURR_OPER KENTUCKY CENTRAL & CO ARROWHEAD EXPLORATION BURT OIL CO UNKNOWN	FNL_CLASS NEW RELD WILDCAT-DRY (INCLUDING TEMPORARILY ABANDONED WELL) UNCLASSIFIED PSEUDO-ORIGINAL WELL - UNKNOWN CLASS UNCLASSIFIED	D&A D&A PSEUDO	INIT_CLASS NEW FIELD WILDCAT NEW FIELD WILDCAT PSEUDO-ORIGINAL WELL - UNKNOWN CLASS UNCLASSIFIED	39.84403540 39.85569700 39.84132800	-80.72188190		DATUM NAD27 NAD27 NAD27 NAD27	ELEVATION 1 1184.00 1235.00 0.00 0.00	OT_DEPTH T 200.00 3000.00 0.00 0.00	rD 0.00 0.00 0.00 0.00	
Horizontals UWI	ACT_STATUS	CURR_OPER	FNL CLASS		INIT_CLASS	LATITUDE	LONGITUDE	OPER_NAME	-		TOT_DEPTH T	D WELL NAME	
47051020150000		TUG HILL OPERATING LLC	NEW FIELD WILDCAT-DISCOVERY		NEW FIELD WILDCAT			DER_NAME	NAD27	1352.00		760.00 3N-9HM HEAVEN HILL	
			NEW HELD WILDCAT-DISCOVERT										
47051023050100		TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39,80860930	-80.6936706	D TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 3N-14HM HEAVEN HILL	
47051023230100	Permit	TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39.20853730	-80.6936006	TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 3N-13HM HEAVEN HILL	
47051019440100	Completed Wells	TUG HILL OPERATING LLC	SUCCESSFUL OUTPOST EXTENSION	GAS-WO	WILDCAT OUTPOST REDRILL	39.80666710	-80.6811772	TUG HILL OPERATING LLC	NAD27	1310.00	15465.00	0.00 3HM TEN HIGH 1N	
47051023030100	Permit	TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39.80855330	+80.6935876	TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 3N-11HM HEAVEN HILL	
47051023040100	Permit	TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39.80854530	-80.6936436	TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 3N-12HM HEAVEN HILL	



LONGWORTH M05H PAGE 2 OF 2 AS-DRILLED PLAT

DIST-TM/PA	
4-11/1	
4-11/2	
4-12/16	
4-12/10	
4-11/54	
4-11/52	
4-11/59	
4-11/3	
9-1/2	
4-11/51	
9-1/3	
9-1/4.4	
9-1/4.6	
9-1/4.5	
9-1/18	
9-1/16	
9-1/24	

-	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	GRAHAM H. LONGWORTH JR.	4-11/2
2 3	DANIEL C. SR. AND JEANNETTE L. LONGWORTH	4-12/16.1
4	DANIEL C. LONGWORTH	4-12/16
5	DUNCAN OR SUSAN ARNETT	4-11/54
6	HARRY & DONNA ROUSH	4-11/52
7	CONSOLIDATION COAL COMPANY/MURRAY ENERGY C/O LAND DEPT.	4-11/59
8	HARRY F. ROUSH ET UX	4-11/3
9	DEAN ROUSH ET UX	4-11/3.1
10	HARRY & DONNA ROUSH	9-1/2
11	GLEN W. CONNER ET UX	4-11/51
12	ALVIN DALE BARRETT ET UX	9-1/3
13	*ROSEANN TRAYON	9-1/4.4
14	CINDY SUE TRAYON & BRIAN CROW	9-1/4.6
15	ROBERT L. JR. & AMY J. TRAYON	9-1/4.5
16	CNX LAND RESOURCES INC.	9-1/18
17	CNX LAND RESOURCES INC.	9-1/16
18	MACK A. CROW ET UX	9-1/17
19	MACK A. CROW ET UX	9-1/16.1
20	VICKIE CROW	9-1/24.1
21	PETER A. MILLER	9-1/24

	AS-DRILLED LOCATIONS UTM 17-NAD83(M)
SUR	FACE HOLE LOCATION (SHL)
	4410835.420 523389.604
AF	PROX LANDING POINT (LP)
1.1.1	:4410857.41 :523897.40
BO	itom hole location (BHL)
	4408848.18 525535.92

12/24/2021



* - DENOTES PARCEL WITHIN 30 FEET OF PLANNED WELL BORE

FEBRUARY 23, 2021

Anticipated Frac Additives Chemical Names and CAS Numbers

Material	Ingredient	CAS Number
Sand (Proppant) Water	Silica Substrate Water Hydrogen Chloride	14808-60-7 7732-18-5 7647-01-0
Hydrochloric Acid (HCl) Friction Reducer	Copolymer of 2-propenamide Petroleum Distillate Oleic Acid Diethanolamide Alcohols, C12-16, ethoxylated	Proprietary 64742-47-8 93-83-4 68551-12-2 12125-02-9
Biocide	Ammonium chloride ((NH4)Cl) Glutaraldehyde Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride Non-hazardous substances	111-30-8 68391-01-5 7173-51-5 Proprietary
Scale Control	Bis(HexaMethylene Triamine Penta(Methylene Phosphonic Acid)(BHMT) Non-hazardous substances	34690-00-1 Proprietary
Acid Chelating Agent Corrosion Inhibitor	Citric Acid Methanol pyridinium, 1-(phenylmethyl)-, ethyl methyl derivs., chlorides Nonoxynol-9 2-ethyl-1-hexanol 4-nonylphenyl, ethoxylated	77-92-9 67-56-1 68909-18-2 127087-87-0 104-76-7 26027-38-3

RECEIVED Office of Oil and Gas

DEC 01 2021

WV Department of Environmental Protection

EQT Production Hydraulic Fracturing Monitoring Plan Pad ID: Longworth County: Marshall

.

.

.

November 22, 2021

RECEIVED Office of Oil and Gas

.

DEC 01 2021

WV Department of Environmental Protection

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 Marshall County, WV prior to hydraulic fracturing at the following EQT wells on the Longworth well pad: 5H, 6H, 7H,8H,9H,10H, 11H, 12H, 13H, 14H, 15H and 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.

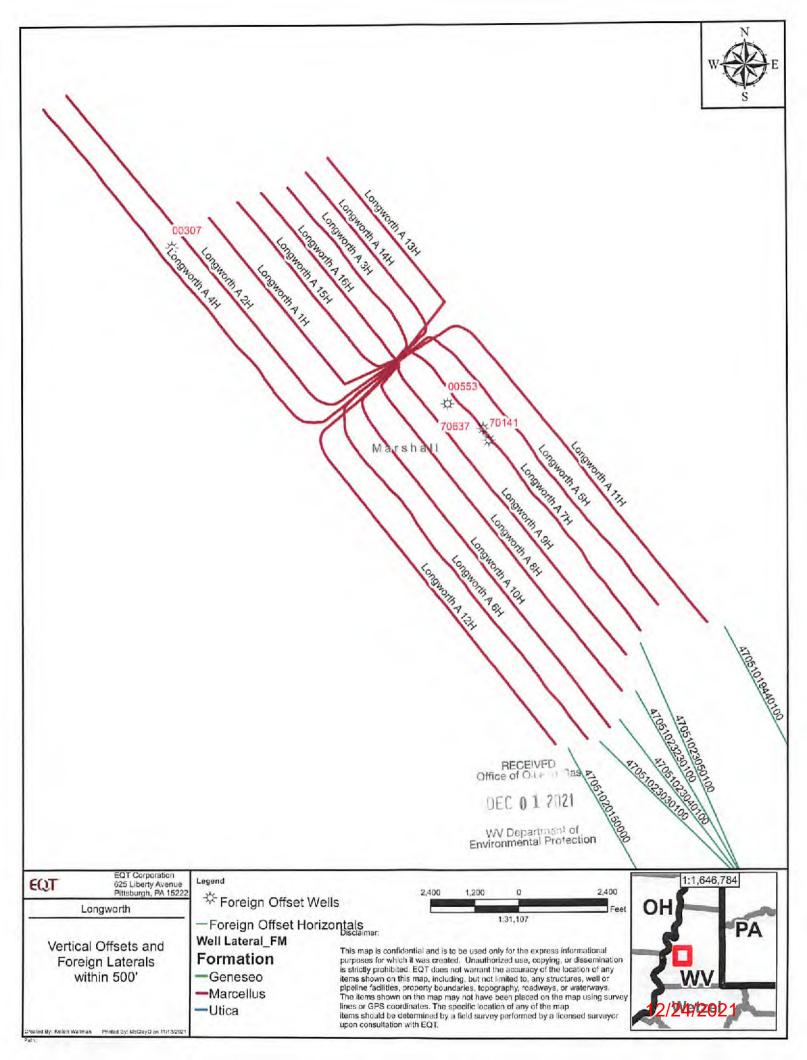
EQT will recommend to these operators at a minimum to:

- 1. Inspect their surface equipment prior to fracturing to establish integrity and establish prefrac well conditions
- 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.

Page 2 of 2







November 29, 2021

Via FedEx Overnight

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

RE: Well Work Permit Modification Application Longworth Mo5H Permit Number 47-051-01914 Clay District, Marshall County, WV

WVDEP Recipient,

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

- Check in the amount of \$2,500.00
- Completed WW-6B, approved by the Oil & Gas Inspector
- Completed WR-35, Well Operator's Report of Well Work
- Well Location Plat
- Completed Form WW-6A1 and supporting documentation
- Road Crossing Letter
- Anticipate Frac Additives List
- Hydraulic Fracturing Monitoring Plan

RECEIVED Office of Oil and Gas

DEC 0 1 2021

WV Department of Environmental Protection

 DVD containing the Site Specific Safety and Environmental Plan and Water Management Plan for all wells (Longworth Mo5H, Mo6H, Mo7H, Mo8H, Mo9H, M10H, M11H and M12H)

This modification is being submitted to reflect EQT CHAP's intent to hydraulically fracture this well, and to provide the information related to those operations. This well was drilled to TMD by Chevron Appalchia, LLC. The WR-35 has been included to show how the well was drilled by Chevron. Pad construction was completed on this site on October 20th, 2017, and no additional earth disturbance is proposed.

EQT CHAP, LLC 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 CHAP'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,

John Zavatchan Project Specialist – Permitting jzavatchan@eqt.com 724-746-9073





Stansberry, Wade A <wade.a.stansberry@wv.gov>

Modification Horizontal H6A Well Work Permit (API: 47-051-01914)

1 message

Stansberry, Wade A <wade.a.stansberry@wv.gov>

Wed, Dec 22, 2021 at 2:05 PM To: John <JZavatchan@eqt.com>, Todd <lklaner@eqt.com>, Erin Spine <espine@eqt.com>, "Shrum, Becky" <bshrum@eqt.com>, Olivia Pishioneri <opishioneri@eqt.com>, Eric Buzzard <ebuzzard@marshallcountywv.org>, "Gayne J. Knitowski" <gayne.j.knitowski@wv.gov>

I have attached a copy of the newly issued well permit numbers:

47-051-01914 - LONGWORTH M05H

This will serve as your copy.

If you have any questions, then please contact us here at the Office of Oil and Gas.

Thank you,

Wade A. Stansberry

Environmental Resource Specialist 3

West Virginia Department of Environmental Protection

Office of Oil & Gas

601 57th St. SE

Charleston, WV 25304

(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov

47-051-01914 - mod.pdf 1225K



Stansberry, Wade A <wade.a.stansberry@wv.gov>

Re: [EXTERNAL] Modification Horizontal H6A Well Work Permit (API: 47-051-01914, 01916, 01917, 02128, 02129, 02130, 02131, 02132)

1 message

Stansberry, Wade A <wade.a.stansberry@wv.gov> To: "Zavatchan, John" <JZavatchan@eqt.com> Wed, Dec 22, 2021 at 2:32 PM

Same to you, Merry Christmas.

Thank you,

Wade A. Stansberry

Environmental Resource Specialist 3

West Virginia Department of Environmental Protection

Office of Oil & Gas

601 57th St. SE

Charleston, WV 25304

(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov

On Wed, Dec 22, 2021 at 2:28 PM Zavatchan, John <JZavatchan@eqt.com> wrote:

Got 'em all! Thanks Wade, and have a great Christmas!

JZ

From: Stansberry, Wade A <wade.a.stansberry@wv.gov> Sent: Wednesday, December 22, 2021 2:25 PM

To: Zavatchan, John <JZavatchan@eqt.com>; Klaner, Todd <TKlaner@eqt.com>; Spine, Erin <ESpine@eqt.com>; Shrum, Becky

<BShrum@eqt.com>; Wilson, Olivia <OPishioneri@eqt.com>; Eric Buzzard <ebuzzard@marshallcountywv.org>; Gayne J. Knitowski <gayne.j.knitowski@wv.gov>

Subject: [EXTERNAL] Modification Horizontal H6A Well Work Permit (API: 47-051-01914, 01916, 01917, 02128, 02129, 02130, 02131, 02132)

.::This email is from an external source. Please use caution when clicking links or opening attachments::..

I have attached a copy of the newly issued well permit numbers:

47-051-01914 - LONGWORTH M05H

47-051-01916 - LONGWORTH M06H

47-051-01917 - LONGWORTH M07H

47-051-02128- LONGWORTH M08H

47-051-02129 - LONGWORTH M09H

47-051-02130 - LONGWORTH M10H

47-051-02131 - LONGWORTH M11H

47-051-02132 - LONGWORTH M12H

This will serve as your copy. If you have any questions, then please contact us here at the Office of Oil and Gas. Thank you, Wade A. Stansberry Environmental Resource Specialist 3 West Virginia Department of Environmental Protection Office of Oil & Gas 601 57th St. SE Charleston, WV 25304 (304) 926-0499 ext. 41115 (304) 926-0452 fax Wade.A.Stansberry@wv.gov

To learn about EQT's environmental, social and governance efforts visit: https://esg.eqt.com