

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

Re: Permit Modification Approval for LONGWORTH M12H

47-051-02132

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.

Operator's Well Number: LONGWORTH M12H

Farm Name: GRAHAM H LONGWORTH JR

U.S. WELL NUMBER: 47-051-02132

New Drill Modification ification Issued: 12/21/2021

Date Modification Issued: 12/21/2021

Promoting a healthy environment.

API NO. 47- 051	02132	-	
OPERATOR WEI	LL NO.	M12H	1
Well Pad Name	Longwo	nth /	

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

1) Well Operator	EQT CHAP	, LLC	1	494525804	Marshall C	Clay	Glen Easton
.y operation				Operator ID	County	District	Quadrangle
2) Operator's We	ell Number: M1	2H		Well Pa	d Name: Longw	vorth	
3) Farm Name/S	urface Owner:	Graham H	H. Longwo	orth, Jr. Public Ro	ad Access: Rob	erts Ridge	Road/WV-21
4) Elevation, cur	rent ground:	1,270' (built) E	levation, proposed	post-constructi	on: 1,27	0'
	a) Gas X Other		Oil _	Und	erground Storag	ge	
(b)If Gas Sha	llow	Х	Deep			_
	Hor	rizontal	Х				
6) Existing Pad:	Yes or No Yes				_		
	get Formation(s 690', 61', 0.64			cipated Thickness	and Expected P	ressure(s)	:
8) Proposed Tota	l Vertical Dept	h: 6,690	(drilled)	17			
9) Formation at 1	Total Vertical D	epth: N	Marcellus				
10) Proposed Tot	tal Measured D	epth: 1	7,799' (d	rilled)			
11) Proposed Ho	rizontal Leg Le	ngth: 9	,764' (dri	illed)			
12) Approximate	Fresh Water S	trata Dep	oths:	99', 605'			
13) Method to D	etermine Fresh	Water D	epths:	Tophole drilling			
14) Approximate	Saltwater Dep	ths: 1,5	76', 1,998	5', 2,102', 2,139'			
15) Approximate	Coal Seam De	pths: 58	3', 853'				
16) Approximate	Depth to Possi	ble Void	l (coal m	ine, karst, other):	N/A	(RECEIVED Office of Oil and Gas
17) Does Propose directly overlying				Yes	No	X	DEC 0 1 2021 WW Department of vironmental Protection
(a) If Yes, prov	ide Mine Info:	Name:					
		Depth:					
		Seam:					
		Owner	:				

WW-6	В
(04/15)

API NO. 47- 051 - 02132

OPERATOR WELL NO. M12H

Well Pad Name: Longworth

18)

CASING AND TUBING PROGRAM

ТҮРЕ	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	20"	New	X-52	78.6	40'	40'	N/A
Fresh Water	13 3/8"	New	J-55	54.5	621'	621' >	620
Coal							
Intermediate	9 5/8"	New	L-80	40	2,173'	2,173' *	1,068
Production	5 1/2"	New	P-110	20	17,799'	17,754'	3,547
Tubing							
Liners							

Bryan Harris 11/17/21

ТҮРЕ	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"				Class A	
Fresh Water	13 3/8"	17 1/2"	0.38	2730	1911 /	Class A	1.19
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 A	1.23
Tubing							
Liners							

PACKERS

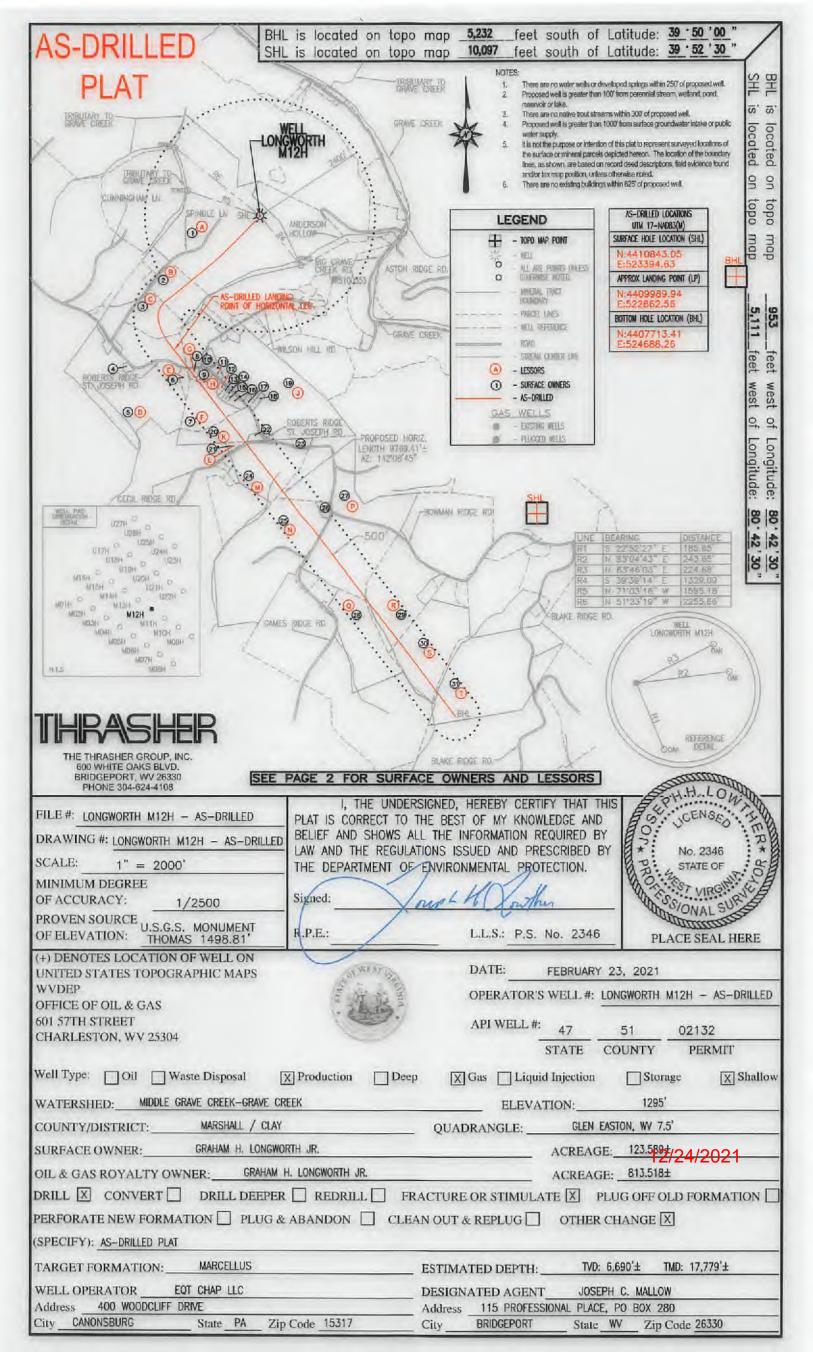
Kind:		
Sizes:		
Depths Set:		

WW-6B (10/14)	API NO. 47- 051 - 02132 OPERATOR WELL NO. M12H Well Pad Name: Longworth
19) Describe proposed well work, including the EQT CHAP is proposing to complete developments as shown on the attached WR-	opment operations on this well. The well has been drilled
	detail, including anticipated max pressure and max rate:
fractured wells and obtained from freshwater so (less than 0.1%) of chemicals (including 15% H referred to in the industry as a "slickwater" comexpected to be approximately 10,000 psi, maxil approximately 100 bpm. Stage lengths vary from	e with state regulations using water recycled from previously burces. This water is mixed with sand and a small percentage lydrochloric acid, friction reducer, biocide, and scale inhibitor), pletion. Maximum anticipated internal casing pressure is mum anticipated treating rates are expected to average om 150 to 300 feet. Average approximately 350,000 gallons of sh to 20/40 mesh. Average approximately 200,000-600,000
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	40.0
23) Describe centralizer placement for each cas	· · · · · · · · · · · · · · · · · · ·
SURFACE- ON SHOE TRACK AND EVER INTERMEDIATE: ON SHOE TRACK AND EVER PRODUCTION: ON SHOE TRACK AND EVER	RY 500' TO SURFACE EVERY 500' FEET TO SURFACE
24) Describe all cement additives associated wi	th each cement type:

25) Proposed borehole conditioning procedures:

N/A - The well is already drilled

*Note: Attach additional sheets as needed.



M12H PAGE 2 OF 2

AS-DRILLED

	LESSOR	DIST-TM/PAR	
A	GRAHAM H. LONGWORTH JR., ET AL	4-11/1	
В	HOLMES CWC LEGACY LLC	4-11/55	
C	MARY W. HOLMES ET AL	4-13/39	
D	MICHAEL W. DERROW ET AL	5-3/13	
E	*KAREN M. CARNEY	5-3/13.3	
	*ABRAHAM S. NEMURAS	F1 - 67 1 - 6 - 6	
F	GEORGE R. LIGHTNER, SR.	5-3/41	
G	RICHARD M. & CRYSTAL M. HUGGINS	5-3/36	
H	GEORGE R. LIGHTNER SR.	5-3/41.1	
J	CLINT E. FLOWERS AND BRENT L. FLOWERS	4-11/56	
K	LLOYD BAKER	5-3/17	
	LLOYD BAKER	5-3/18	
М	PIKEWOOD ENERGY CORP.	9-1/19	
N	CNX GAS COMPANY LLC	9-1/20.1	
P	SHANNON R. & LYLA L. HUBBS	9-1/21	
Q	*JOHN D. ROBERTS	9-4/8	
R	DEAN B. COLVIN	9-1/22.2	
	MARGARET KINNEY		
	PATRICIA COLVIN GRANDSTAFF		
	MARILYN PYLES SNYDER		
	JAMES E. PYLES		
	SUSAN ASTON		
	CAROL HULL		
	DAVID GEORGE MOORE		
	BETTY LOU DELLGET KERNS		
	MARILYN SOUTH		
	HOWARD GUMP ET UX		
	JUDY REILLEY FEIERSTEIN		
	RICHARD O'HARA		
	CATHY J. COLVIN		
	ALICE FAYE VAN DINE		
	LORA FORNSHELL		
	KEITH PYLES		
	WANDA L. PYLES		
	SHERLEY M. WHITE FKA SHERLEY M. VAN DINE		
	VERENDA STOKES		
	DOMINAE VESICO-RAMIREZ		
	KRISTA L. VAN DINE		

	LESSOR	DIST-TM/PAR
R	ROBERT P. COLVIN	9-1/22.2
	RONALD PYLES	
	DONALD COOK POA CAROL HULL	
	KEVIN O'HARA	
	CATHY LUDWIG GARRETT	
	ROBERT R. D'ERAMO JR., ET AL	
	DEBRA FORDYCE	
	KEITH JOEL VAN DINE	
	GLADYS PETRELLE BY AIF SHIRLEY BUFFONE	
	RODNEY COLVIN	
	PAULA REILLEY	
	VICKIE EISENHAUER	
	KIM YOHO	
	JASON COLVIN	
	BRENDA WILLINGHAM	
	DONALD COLVIN	
	MICHAEL COLVIN	
	STACY PANYKO	
	HAROLD E. VAN DINE	
	JOHN E. VAN DINE	
S	THOMAS B. CLARK ET UX	9-4/9.1
T	THOMAS B. CLARK ET UX	9-5/2

AS-DRILED LOCATIONS
UTM 17-HADB3(M)
SURFACE HOLE LOCATION (SHL)
N:4410843.05
E:523394.63
APPROX LANDING POINT (LP)
N:4409989.94
E:522862.56
BOTTOM HOLE LOCATION (BHL)
N:4407713.41
E:524688.26

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	HOLMES-CWC-LEGACY LLC	4-11/55
3	MARY HOLMES - LIFE	4-13/39
4	TRACY MERCER	5-3/13.2
5	DOUGLAS G., MICHAEL W. & STEVEN S. DERROW	5-3/13
6	*KAREN M. CARNEY & ABRAHAM S. NEMURAS	5-3/13.3
7	GEORGE R. LIGHTNER SR.	5-3/41
В	JORDAN M. & ASHLEY J. WALLACE	5-3/36
9	ASHLEY J. & JORDAN M. WALLACE	5-3/41.1
10	CLINT E. & BRENT L. FLOWERS	4-11/56.13
11	CLINT E. & BRENT L. FLOWERS	4-11/56.6
12	MARK DAVID MILLER	5-3/41.2
13	MARK DAVID MILLER	5-3/37
14	MARK DAVID MILLER	5-3/38
15	JOHN D. JR. & CATHY L. LIGHTNER	5-3/39
16	CAMDEN M. CHAMBERS II	5-3/40
17	DAVID A. & BONNIE LYNN FOX	4-11/56.8
18	THOMAS O. RICHMOND ET UX	4-11/56.1
19	CLINT E. & BRENT B. FLOWERS	4-11/56
20	LLOYD BAKER	5-3/17
21	LLOYD BAKER	5-3/18
22	LLOYD BAKER	5-3/19
23	KENNETH A. MAYHUGH II & SHELBY E. HARRIS	4-11/58
24	CHAS R. & EDITH V. KERNAN	9-1/19
25	CNX LAND RESOURCES INC	9-1/20.1
26	CNX LAND RESOURCES INC	9-1/20
27	CNX LAND RESOURCES INC	9-1/21
28	*JOHN D. & MARSHA ROBERTS	9-4/8
29	GEORGE CHRIS LAGOS ET UX	9-1/22.2
30	THOMAS B. & ANNETTE K. CLARK	9-4/9.1
31	THOMAS B. & ANNETTE K. CLARK	9-5/2

12/24/2021



THE THRASHER GROUP, INC. 600 WHITE OAKS BLVD. BRIDGEPORT, WV 26330 PHONE 304-624-4108

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

RECEIVED Office of Oil and Gas

DEC 0 1 2021

Acknowledgement of Possible Permitting/Approval In Addition to the Office of Oil and Gas WV Department of Environmental Protection

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

Its:

Project Specialist - Permitting

Page 1 of 12

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	
04-11-55.0	Holmes-CWC-Legacy, LLC	Chevron U.S.A. Inc.	WV Code 22-6-8"	DB 790/120
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
04-13-39.0	Mary W. Holmes, et al.	Chevron U.S.A. Inc.	WV Code 22-6-8"	DB 790/120
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
05-3-13.0	Michael William Derrow, et al.	Chesapeake Appalachia, LLC	WV Code 22-6-8"	DB 681/335
	Chesapeake Appalachia, LLC	Chevron U.S.A. Inc.		AB 30/461
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
05-3-13.3	Abraham S. Nemuras - SFX	Chevron U.S.A. Inc.	WV Code 22-6-8"	DB 880/385
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
05-3-13.3	Karen M. Carney	TriEnergy Holdings, LLC	WV Code 22-6-8"	DB 735/449
	TriEnergy Holdings, LLC	NPAR, LLC		AB 24/180
	NPAR, LLC	Chevron U.S.A. Inc.		DB 756/332
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
05-3-41.0	George R. Lightner, Sr.	Chevron U.S.A. Inc.	WV Code 22-6-8"	DB 834/389
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1

05-3-36.0	Richard M. Huggins, 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 709/57 AB 24/180 DB 756/332 AB 47/1
05-3-41.1	George R. Lightner, Sr. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 834/389 AB 47/1
04-11-56.0	Clint E. Flowers, et al. Chesapeake Appalachia, LLC Chevron U.S.A. Inc.	Chesapeake Appalachia, LLC Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 700/408 AB 30/392 AB 47/1
05-3-17.0	Lloyd Baker Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 947/505 AB 47/1
05-3-18.0	Lloyd Baker Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 947/505 AB 47/1
09-1-19.0	Pikewood Energy Corp. Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 932/371 AB 47/1
09-1-20.1	CNX Gas Company, LLC Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 1014/30 AB 47/1

09-1-21.0	Shannon Roger Hubbs, 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 798/535 AB 47/1
09-4-8.0	John D. Roberts, 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 864/10 AB 47/1
09-1-22.2	Dean B. Colvin 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 726/593 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Margaret Kinney 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 726/598 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Patricia Colvin Grandstaff 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 726/612 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Marilyn Pyles Snyder 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 726/607 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	James E. Pyles TriEnergy Holdings, LLC	TriEnergy Holdings, LLC NPAR, LLC	"at least 1/8th per WV Code 22-6-8"	DB 726/601 AB 25/463

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	NPAR, LLC Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC		AB 26/269 AB 47/1
09-1-22.2	Susan Aston 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 727/215 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Carol Hull 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 727/220 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	David George Moore 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 727/223 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Betty Lou Deliget Kerns 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 728/393 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Marilyn South 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 728/398 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Howard Gump, et ux.	TriEnergy Holdings, LLC	"at least 1/8th per WV Code 22-6-8"	DB 729/338

	TriEnergy Holdings, LLC NPAR, LLC	NPAR, LLC Chevron U.S.A. Inc.		AB 25/463 AB 26/269
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
09-1-22.2	Judy Reilly Feierstein TriEnergy Holdings, LLC NPAR, LLC	TriEnergy Holdings, LLC NPAR, LLC Chevron U.S.A. Inc.	"at least 1/8th per WV Code 22-6-8"	DB 728/414 AB 25/463 DB 756/307
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
09-1-22.2	Richard O'Hara 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 730/615 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Cathy J. Colvin 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 730/613 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Alice Faye Van Dine 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 734/179 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Lora Fornshell 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 735/208 AB 25/463 DB 756/332 AB 47/1

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09-1-22.2	Keith Pyles 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 735/211 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Wanda L. Pyles 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 735/205 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Sherley M. White F/K/A Sherley M. Van Dine 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 735/411 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Verenda Stokes 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 735/414 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Dominae Vescio-Ramirez 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 735/421 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Krista L. Van Dine 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 738/532 AB 25/463 AB 26/201 AB 47/1

09-1-22.2	Robert P. Colvin 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 726/595 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Ronald Pyles 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 726/604 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Donald Cook POA Carol Hull 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 727/217 AB 25/463 AB 26/269 AB 47/1
09-1-22.2	Kevin O'Hara 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 730/618 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Cathy Ludwig Garrett 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 730/637 AB 25/463 DB 756/332 AB 47/1

09-1-22.2	Robert R. D'Eramo, Jr., 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 734/166 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Debra Fordyce 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 734/317 AB 25/463 DB 756/332 AB 47/1
09-1-22.2	Keith Joel Van Dine 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 738/529 AB 25/463 AB 26/201 AB 47/1
09-1-22.2	Gladys Petrelle by AIF Shirley Buffone 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 767/610 AB 28/348 AB 47/1
09-1-22.2	Rodney Colvin Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/632 AB 47/1
09-1-22.2	Paula Reilley Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/629 AB 47/1
09-1-22.2	Vickie Eisenhauer Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/470 AB 47/1

09-1-22.2	Kim Yoho Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/467 AB 47/1
09-1-22.2	Jason Colvin Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/515 AB 47/1
09-1-22.2	Brenda Willingham Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/512 AB 47/1
09-1-22.2	Donald Colvin Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/509 AB 47/1
09-1-22.2	Michael Colvin Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/506 AB 47/1
09-1-22.2	Stacy Panyko Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/620 AB 47/1
09-1-22.2	Harold E. Van Dine Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/623 AB 47/1
09-1-22.2	John E. Van Dine Chevron U.S.A. Inc.	Chevron U.S.A. Inc. EQT Aurora LLC	"at least 1/8th per WV Code 22-6-8"	DB 885/626 AB 47/1

09-4-9.1	Thomas B. Clark, et ux.	Fossil Creek Ohio, LLC	WV Code 22-6-8"	DB 838/521
	Fossil Creek Ohio, LLC	Gulfport Energy Corp.		AB 33/9
	Fossil Creek Ohio, LLC & Gulfport Energy Corp.	American Petroleum Partners Operating LLC		AB 36/588
	American Petroleum Partners Operating LLC	Chevron U.S.A. Inc.		AB 40/267
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1
			"at least 1/8th per	
09-5-2.0	Thomas B. Clark, et ux.	Fossil Creek Ohio, LLC	WV Code 22-6-8"	DB 838/521
	Fossil Creek Ohio, LLC	Gulfport Energy Corp.		AB 33/9
	Fossil Creek Ohio, LLC & Gulfport Energy Corp.	American Petroleum Partners Operating LLC		AB 36/588
	American Petroleum Partners Operating LLC	Chevron U.S.A. Inc.		AB 40/267
	Chevron U.S.A. Inc.	EQT Aurora LLC		AB 47/1

"at least 1/8th per



November 29, 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

Office of Oil and Gas

DEC 0 1 2021

WV Department of Environmental Protection



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 M12H

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

Office of Oil and Gas

WV Department of Environmental Protection

Anticipated Frac Additives Chemical Names and CAS Numbers

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

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EQT Production

Hydraulic Fracturing Monitoring Plan

Pad ID: Longworth

County: Marshall

November 22, 2021

Office of Oil and Gas

DEC 0 1 2021

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 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.

Communications with Well Operators 1.

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.

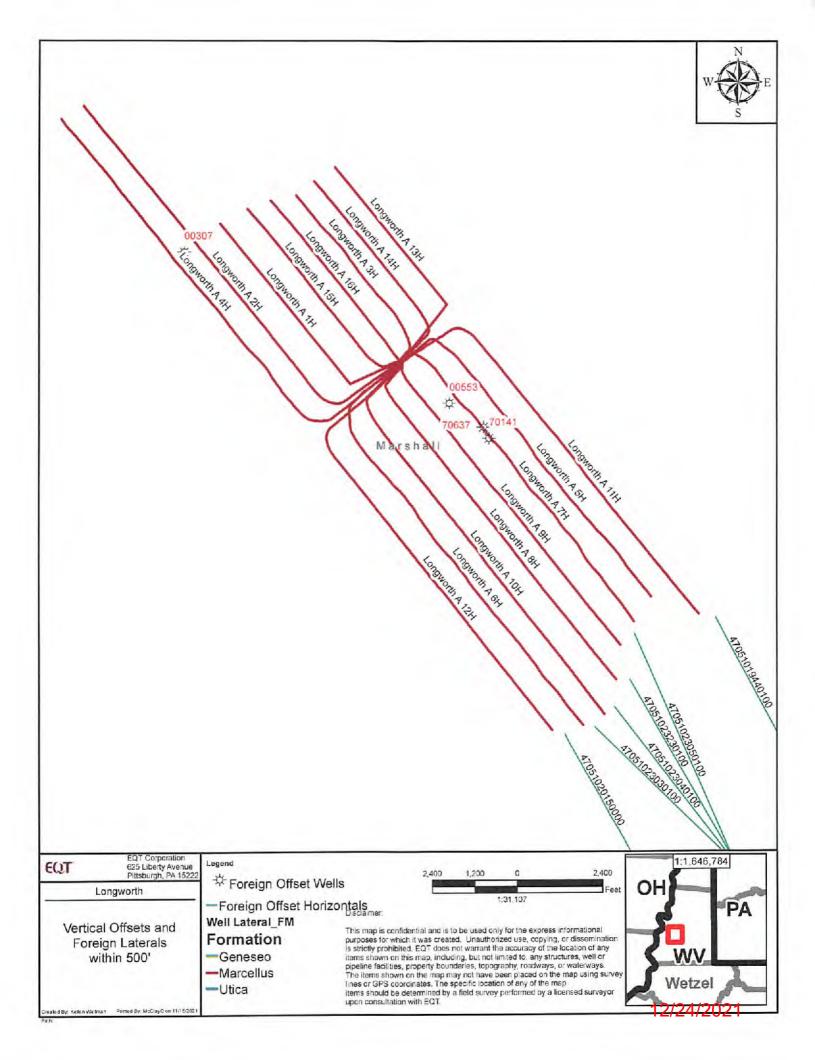
EQT will notify these operators of the hydraulic fracturing schedule for these wells, and coordinate with them throughout the fracturing process.

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
- Notify the OOG and EQT if any changes in water, gas production, pressure, or other Office of Oil and Gas 4. anomalies are identified

EQT will provide information relating to the hydraulic fracturing schedule, communication with officer operators, and ongoing monitoring of the work upon request of O.C. noted abnormalities.

DEC 0 1 2021



UWI	ACT_STATUS	CURR_OPER	FNI_CLASS	FNL_STAT	INIT_CLASS	LATITUDE	LONGITUDE	OPER_NAME	DATUM	ELEVATION	TOT_DEPTH '	TVD
00553	Completed Wells/WHCS	KENTUCKY CENTRAL & CO	NEW FIELD WILDCAT-DRY (INCLUDING TEMPORARILY ABANDONED WELL)	D&A	NEW FIELD WILDCAT	39.84403540	-80.7218819	O KENTUCKY CENTRAL & CO	NAD27	1184.00	800.00	0.00
00307	Completed Wells	ARROWHEAD EXPLORATION	UNCLASSIFIED	D&A	NEW FIELD WILDCAT	39.85569700	-80.7483800	O ARROWHEAD EXPLORATION	NAD27	1235.00	3000.00	0.00
70141	Completed Wells	BURT OIL CO	PSEUDO-ORIGINAL WELL - UNKNOWN CLASS	PSEUDO	PSEUDO-ORIGINAL WELL - UNKNOWN CLASS	39.84132800	-80.7179220	O BURT OIL CO	NAD27	0.00	0.00	0.00
70637	Completed Wells	UNKNOWN	UNCLASSIFIED	UNKWN	UNCLASSIFIED	39.84219900	-80.7184860	O UNKNOWN	NAD27	0.00	0.00	0.00
Hortzon	als											
UWI	ACT_STATUS	CURR_OPER	FNL_CLASS	FNL_STAT	INIT_CLASS	LATITUDE	LONGITUDE	OPER_NAME	DATUM	ELEVATION	TOT_DEPTH	TVD WELL_NAME
4705102	0150000 Completed Wells	TUG HILL OPERATING LLC	NEW FIELD WILDCAT-DISCOVERY	GAS	NEW FIELD WILDCAT	39.80852930	-80.6935566	O TUG HILL OPERATING LLC	NAD27	1352.00	15275.00	6760.00 3N-9HM HEAVEN HILL
4705102	3050100 Permit	TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39.80860930	-80.6936706	O TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 3N-14HM HEAVEN HILL
4705102	3230100 Permit	TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39.80853730	-80.6936006	O TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 3N-13HM HEAVEN HILL
4705101	9440100 Completed Wells	TUG HILL OPERATING LLC	SUCCESSFUL OUTPOST EXTENSION	GAS-WO	WILDCAT OUTPOST REDRILL	39.80666710	-80.6811772	O TUG HILL OPERATING LLC	NAD27	1310.00	15465.00	0.00 3HM TEN HIGH 1N
4705102	3030100 Permit	TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39.80855330	-80.6936876	O TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 3N-11HM HEAVEN HILL
4705102	3040100 Permit	TUG HILL OPERATING LLC		PERMIT	NEW FIELD WILDCAT REDRILL	39,80854530	-80.6936436	O TUG HILL OPERATING LLC	NAD27	1326.00	0.00	0.00 BN-12HM REAVEN HILL

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WV Department of environmental Protection



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 M12H
Permit Number 47-051-02132
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
- Hydraulic Fractoring Wonttoring Flan
- 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

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DEC 0 1 2021

WV Department of Environmental Protection



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 <tklaner@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

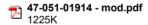
601 57th St. SE

Charleston, WV 25304

(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov





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!

JΖ

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

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

12/24/2021

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