

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

Wednesday, March 3, 2021 PERMIT MODIFICATION APPROVAL Horizontal 6A / New Drill

EQT PRODUCTION COMPANY 625 LIBERTY AVE., SUITE 1700 PITTSBURGH, PA 15222

Re: Permit Modification Approval for PRINE 9H 47-103-03358-00-00

Extend Lateral Length. Updated Leases.

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.

James A. Martin Chief

Operator's Well Number:
Farm Name:PRINE 9HU.S. WELL NUMBER:HOWARD M HENDERSONHorizontal 6AVew DrillDate Modification Issued:03/03/2021

Promoting a healthy environment.

API NO. 47-103 - 03358

WW-6B (04/15)

OPERATOR WELL NO. <u>9H</u> Well Pad Name: <u>Prine</u>

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

1) Well Operato	or: EQT Produ	ction Company	306686	Wetzel	Center	Littleton
· •			Operator ID	County	District	Quadrangle
2) Operator's W	′ell Number: <u></u> 9⊦	1	Well Pad	Name: Prine		
3) Farm Name/S	Surface Owner:	Howard M. Hende	erson Public Road	d Access: CR	8/7	
4) Elevation, cu	rrent ground:	1,335' (built) Ele	evation, proposed j	post-construction	on: <u>1,335'</u>	
5) Well Type	(a) Gas X	Oil	Unde	rground Storag	;e	
	Other					
	(b)If Gas Sha	allow X	Deep			
		rizontal X			DMH	1/21/21
6) Existing Pad					•	/_/_
· •	get Formation(s 489', 48', 2,620 إ		ipated Thickness a	nd Expected Pr	essure(s):	
8) Proposed Tot	tal Vertical Dep	th: <u>7,489'</u>				
9) Formation at	Total Vertical I	Depth: Marcellus				
10) Proposed Te	otal Measured D	Depth: 21,674'	/			
11) Proposed H	orizontal Leg Le	ength: <u>13,462'</u>	٧			·
12) Approximat	te Fresh Water S	Strata Depths:	143' /			
13) Method to I	Determine Fresh	Water Depths:	Offset Wells - 47-103-025	72, 47-103-02349, 4	7-103-02190, 4	7-103-02189, 47-103-02244
14) Approximat	te Saltwater Dep	oths: <u>1,976', 2,110</u>)'			2.07572
15) Approxima	te Coal Seam De	epths: <u>842'-845'</u> ,	1,071'-1,075', 1,18	80'-1,185' , 60	2'-413	3-02572_WR.35
16) Approxima	te Depth to Poss	sible Void (coal mi	ne, karst, other):	N/A		
, I		n contain coal sear o an active mine?	ns Yes	No	X	
(a) If Yes, pro	vide Mine Info:	Name:				
		Depth:				
		Seam:				
REC	EIVED Oil and Gas	Owner:				
INN	292021					
WV D Environm	epartment of nental Protection					

API NO. 47- 103 - 03358

OPERATOR WELL NO. 9H Well Pad Name: Prine

WW-6B (04/15)

18)

CASING AND TUBING PROGRAM

ТҮРЕ	<u>Size</u> (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	26	New	A-500	85.6	40	40 √	98 ft^3 / CTS
Fresh Water	13 3/8	New	J-55	54.5	1319	1319 🗸	1240 ft^3 / CTS
Coal							
Intermediate	9 5/8	New	P-110	40	2884	2884 🗸	1097 ft^3 / CTS
Production	5 1/2	New	P-110	20	21674	21674 🗸	500' above intermediate casing
Tubing							
Liners							

DMH 1/21/21

ТҮРЕ	Size (in)	<u>Wellbore</u> Diameter (in)	<u>Wall</u> <u>Thickness</u> <u>(in)</u>	<u>Burst Pressure</u> (psi)	<u>Anticipated</u> <u>Max. Internal</u> <u>Pressure (psi)</u>	<u>Cement</u> <u>Type</u>	<u>Cement</u> <u>Yield</u> (cu. ft./k)
Conductor	26	30	0.312	1050	18	Class A	1.18
Fresh Water	13 3/8	17 1/2	0.380	2730	2184	Class A	1.13
Coal							
Intermediate	9 5/8	12 3/8	0.395	7900	6320	Class A	1.18
Production	5 1/2	8 1/2	0.361	14360	11488	Class A/H	1.04 - 2.098
Tubing							
Liners							

PACKERS

Kind:		
Sizes:		
Depths Set:		

WV Department of Environmental Protection

API NO. 47- <u>103</u> - <u>03358</u>	
OPERATOR WELL NO.	9H
Well Pad Name: Prine	

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

This well has been topset. EQT will continue drilling the curve. Drill the lateral in the Marcellus. Cement casing. Office of Oil and Gas

JAN 2 9 2021

Wv Equation of Environmental Protection

DMH 1/21/21

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): 4.89 Acres (built)

22) Area to be disturbed for well pad only, less access road (acres): 1.79 Acres (built)

23) Describe centralizer placement for each casing string:

• Surface: Bow spring centralizers – One centralizer at the shoe and one spaced every 500'.

• Intermediate: Bow spring centralizers- One centralizer at the shoe and one spaced every 500'.

• Production: One solid body centralizer spaced every joint from production casing shoe to KOP

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

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

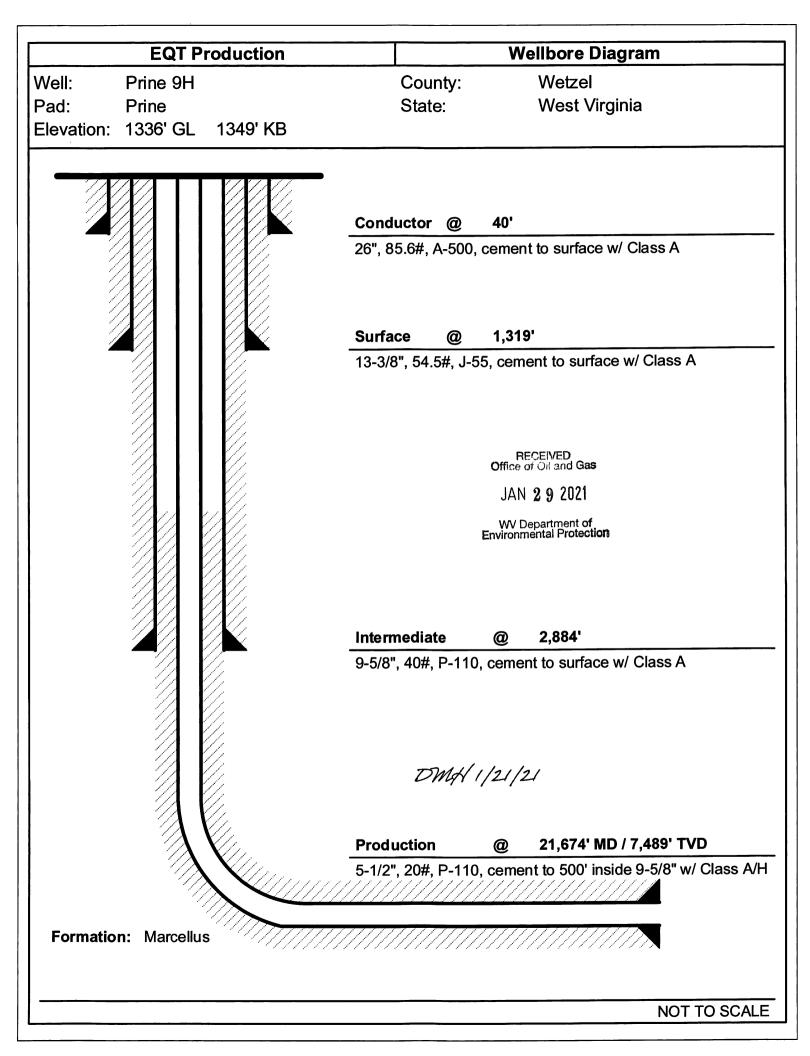
25) Proposed borehole conditioning procedures:

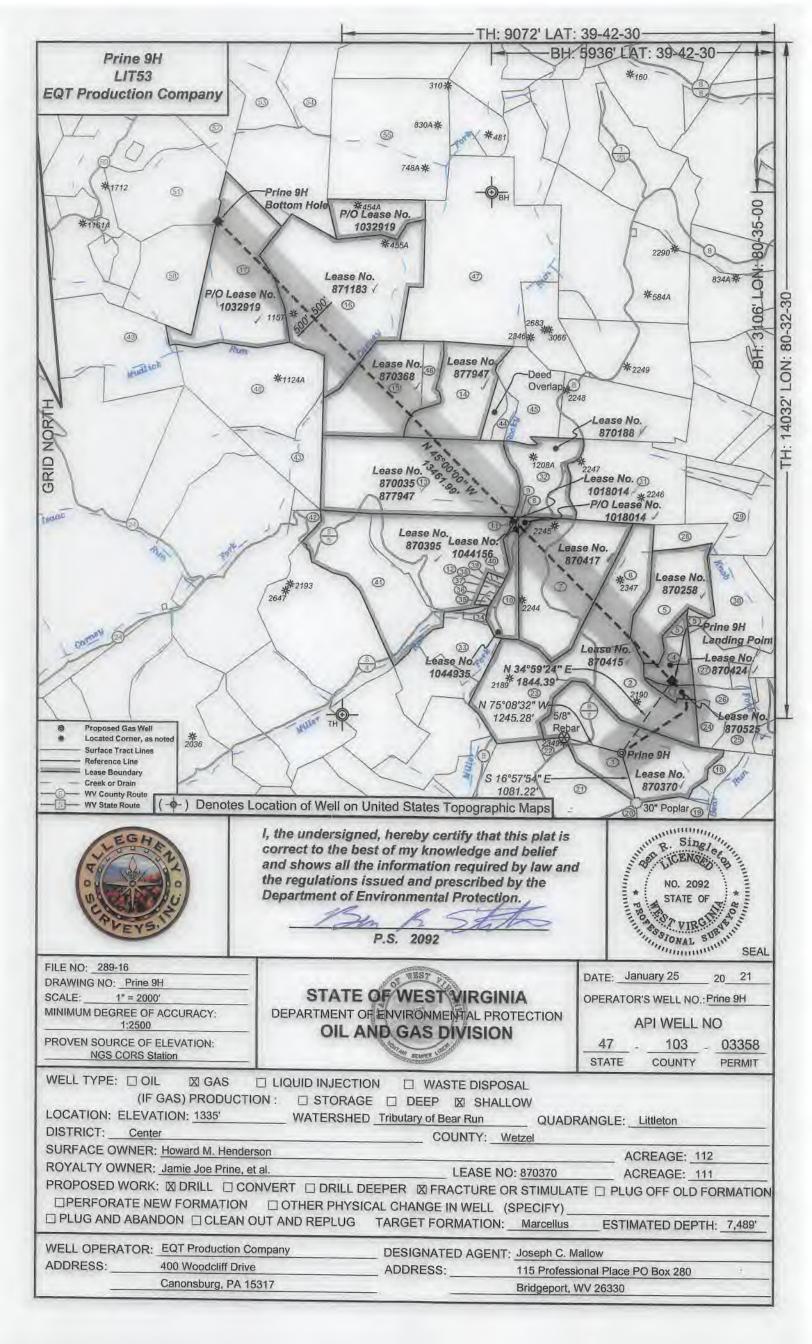
Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.

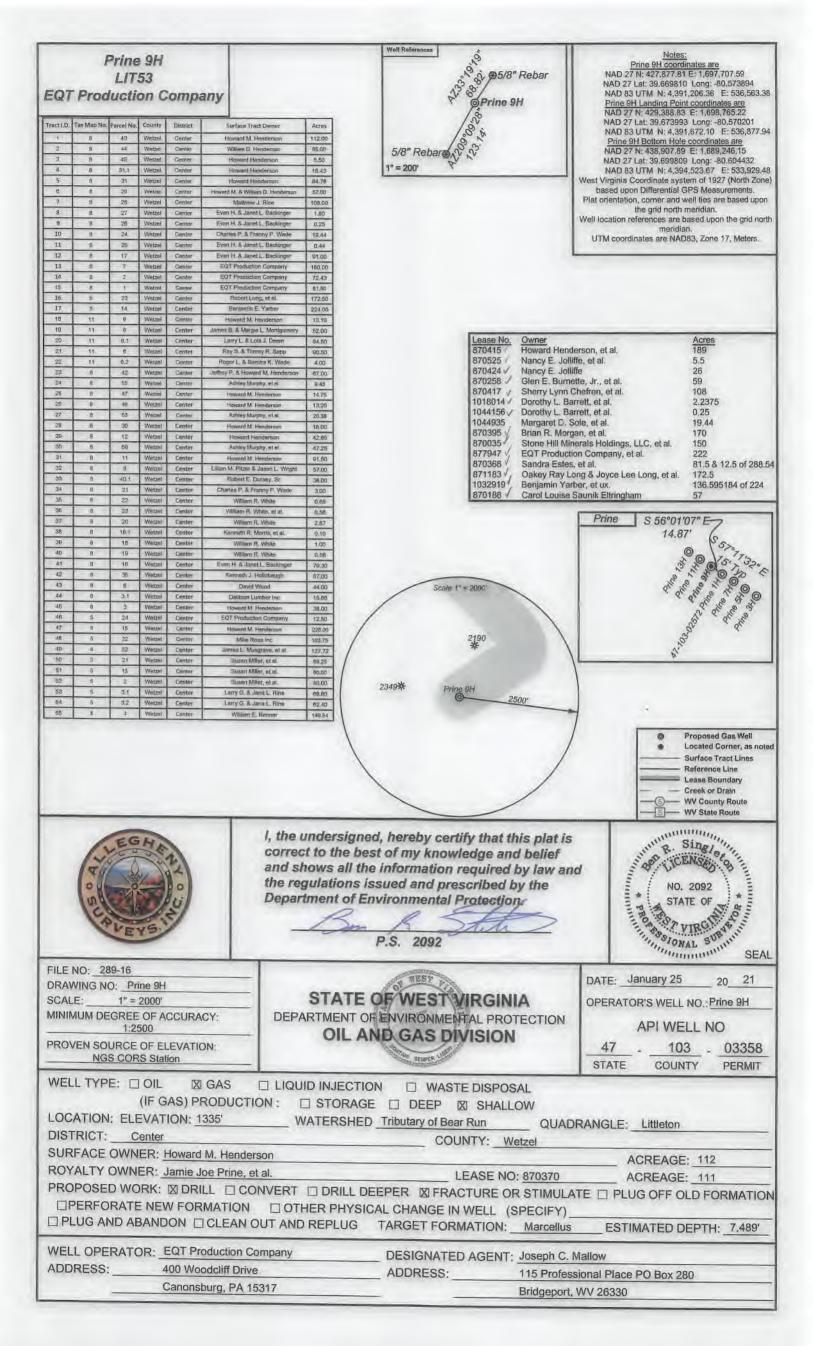
Intermediate: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.

Production: Perform a cleanup cycle by pumping 3-8 bottoms up or until the shakers are clean. Check volume of cuttings coming across the shakers every 15 minutes.

*Note: Attach additional sheets as needed.







Operator's Well No. Prine 9H

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

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
RECEIVED Office of Oil and Gas	By:	John Zavatchan
JAN 2 9 2021	Its: RECEIVED Office of Oil and Gas	Project Specialist - Permitting
		Page 1 of 5
Entransition of the	JAN 2 9 2021	Page I of

WV Department of Environmental Protection

WW-6A1 at	tachment				Operator's Well No.		Prine 9H
Lease No.	Grantor, Lessor, etc.				Grantee, Lessee, etc.	Royalty	Book/Page
ر <u>870370</u>	Jamie Joe Prine, et al.					"at least 1/8th per WV Code 22-6-8"	
	Lloyd Joe Prine and Betty M. Prine, h/w				Drilling Appalachian Corporation		OG 85A/380
	Drilling Appalachian Corporation				Grenadier Energy Partners, LLC		OG 124A/9 & 136A/538
	Drilling Appalachian Corporation	En		Q	Statoil USA Onshore Properties Inc.		OG 138A/54
	Grenadier Energy Partners, LLC	٨iror	JAN	ffice	Statoil USA Onshore Properties Inc.		OG 138A/1
	Statoil USA Onshore Properties Inc.	Depar Imenta	N 2 9	of Oil	EQT Production Company		OG 175A/707
2) 6 / <u>870415</u>	<u>Howard Henderson, et al.</u>	WV Department of Environmental Protection	2 9 2021	RECEIVED Office of Oil and Gas		"at least 1/8th per WV Code 22-6-8"	
	Maxine Henderson	ion			Drilling Appalachian Corporation		OG 85A/306
	Drilling Appalachian Corporation				Grenadier Energy Partners, LLC		OG 124A/9 & 136A/538
	Drilling Appalachian Corporation				Statoil USA Onshore Properties Inc.		OG 138A/54
	Grenadier Energy Partners, LLC				Statoil USA Onshore Properties Inc.		OG 138A/1
	Statoil USA Onshore Properties Inc.				EQT Production Company		OG 175A/707
3) ✓ <u>870525</u>	<u>Nancy E. Jolliffe, et al.</u>					"at least 1/8th per WV Code 22-6-8"	
	Joe Jolliffe				Drilling Appalachian Corporation		OG 101A/387
	Drilling Appalachian Corporation				Grenadier Energy Partners, LLC		OG 103A/88 & 135A/350
	Drilling Appalachian Corporation				Statoil USA Onshore Properties Inc.		OG 138A/54
	Grenadier Energy Partners, LLC				Statoil USA Onshore Properties Inc.		OG 138A/1
	Statoil USA Onshore Properties Inc.				EQT Production Company		OG 175A/707
ч)	Nancy E. Jolliffe					"at least 1/8th per WV Code 22-6-8"	
	Joe B. Jolliffe				Drilling Appalachian Corporation		OG 101A/134
	Drilling Appalachian Corporation				Grenadier Energy Partners, LLC		OG 103A/88 & 135A/350
	Drilling Appalachian Corporation				Statoil USA Onshore Properties Inc.		OG 138A/54
	Grenadier Energy Partners, LLC				Statoil USA Onshore Properties Inc.		OG 138A/1
	Statoil USA Onshore Properties Inc.				EQT Production Company		OG 175A/707

Ì

5)	✓ <u>870258</u>	<u>Glen E. Burnette, Jr., et al.</u>					"at least 1/8th per WV Code 22-6-8"	
		Glen E. Burnette, Jr.				Drilling Appalachian Corporation		OG 86A/473
		Drilling Appalachian Corporation				Grenadier Energy Partners, LLC		OG 124A/9 & 136A/538
		Drilling Appalachian Corporation				Statoil USA Onshore Properties Inc.		OG 138A/54
		Grenadier Energy Partners, LLC				Statoil USA Onshore Properties Inc.		OG 138A/1
		Statoil USA Onshore Properties Inc.				EQT Production Company		OG 175A/707
7)	√ <u>870417</u>	<u>Sherry Lynn Chefren, et al.</u>	Envi		ç		"at least 1/8th per WV Code 22-6-8"	
		Sherry Lynn Chefren	ronr	JAN	RECEIVED Office of Oil and Gas	Drilling Appalachian Corporation		OG 86A/352
		Drilling Appalachian Corporation	Depa	29	e EC	Grenadier Energy Partners, LLC		OG 124A/9 & 136A/538
		Drilling Appalachian Corporation	tal P	9	ar	Statoil USA Onshore Properties Inc.		OG 138A/54
		Grenadier Energy Partners, LLC	rote	2021	a Q	Statoil USA Onshore Properties Inc.		OG 138A/1
		Statoil USA Onshore Properties Inc.	WV Department of Environmental Protection		as	EQT Production Company		OG 175A/707
(م ا	√ <u>1044935</u>	<u>Margaret D. Sole, et al.</u>					"at least 1/8th per WV Code 22-6-8"	
		Margaret D. Sole, a widow				EQT Production Company		OG246A/867
8:9)	✓ <u>1018014</u>	<u>Dorothy L. Barrett, et al.</u>					"at least 1/8th per WV Code 22-6-8"	
		Dorothy L. Barrett, a widow				EQT Production Company		OG 179A/537
12)	✓ <u>870395</u>	<u>Brian R. Morgan, et al.</u>					"at least 1/8th per WV Code 22-6-8"	
		Teaunna Morgan				Drilling Appalachian Corporation		OG 109A/909
		Drilling Appalachian Corporation				Grenadier Energy Partners, LLC		OG 110A/821 & 135A/356
		Drilling Appalachian Corporation				Statoil USA Onshore Properties Inc.		OG 138A/54
		Grenadier Energy Partners, LLC				Statoil USA Onshore Properties Inc.		OG 138A/1
		Statoil USA Onshore Properties Inc.				EQT Production Company		OG 175A/707

13) / <u>870035</u>	<u>Stone Hill Minerals Holdings, LLC, et al.</u>				"at least 1/8th per WV Code 22-6-8"	
	Stone Hill Minerals Holdings, LLC			EQT Production Company		OG 180A/52
15) × <u>870368</u>	<u>Sandra Estes, et al.</u>				"at least 1/8th per WV Code 22-6-8"	
	Sandra Estes			EQT Production Company		OG 237A/561
13414) / <u>877947</u>	EQT Production Company, et al. Evan H. Backinger and Janet L. Backinger, both	-		Statoil Pipelines LLC	Fee	DB 447/569
	Statoil USA Onshore Properties Inc.; Statoil Pipe	elines L	LC	EQT Production Company		DB 457/267
いら) イ <u>871183</u>	<u>Oakey Ray Long and Joyce Lee Long, et al.</u>				"at least 1/8th per WV Code 22-6-8"	
	Oakey Ray Long and Joyce Lee Long, h/w			Statoil USA Onshore Properties Inc.		OG 164A/184
	Statoil USA Onshore Properties Inc.			EQT Production Company		OG 175A/707
(17) <u>1032919</u>	<u>Benjamin Yarber, et ux.</u>				"at least 1/8th per WV Code 22-6-8"	
, 7)	Benjamin Yarber and Maria Yarber, h/w			Drilling Appalachian Corporation		OG 92A/544
	Drilling Appalachian Corporation Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Exchange Title Holder LLC SWN Production Company, LLC	ب	♀	Chesapeake Appalachia, L.L.C.		OG 103A/187
	Chesapeake Appalachia, L.L.C. S≥	JAN	RECEIVED Office of Oil and Gas	Statoil USA Onshore Properties Inc.		OG 124A/437
	Chesapeake Appalachia, L.L.C.	\sim	of III Official	SWN Production Company, LLC		OG 157A/540
	Statoil USA Onshore Properties Inc.	292021	an	SWN Exchange Title Holder LLC		OG 158A/801
	SWN Exchange Title Holder LLC	021	ດູ	SWN Production Company, LLC		Corp. Book 13/296
	SWN Production Company, LLC		26	Antero Exchange Properties LLC		OG 177A/533 Corp. Book 13/311
	Antero Exchange Properties LLC			Antero Resources Corporation EQT Production Company		Corp. Book 13/311 OG 208A/605
-						

32) / <u>870188</u>	Carol Louise Saunik Eltringham		"at least 1/8th per WV Code 22-6-8"	
	A. Karl Saunik	Drilling Appalachian Corporation		OG 102A/430
	Drilling Appalachian Corporation	Grenadier Energy Partners, LLC		OG 103A/88 & 135A/350
	Drilling Appalachian Corporation	Statoil USA Onshore Properties Inc.		OG 138A/54
	Grenadier Energy Partners, LLC	Statoil USA Onshore Properties Inc.		OG 138A/1
	Statoil USA Onshore Properties Inc.	EQT Production Company		OG 175A/707
N) <u>1044156</u>	Dorothy L. Barrett, et al		"at least 1/8th per WV Code 22-6-8"	
-	Dorothy L. Barrett, widow	EQT Production Company		OG 239A/631

WV Department of Environmental Protection

Office of Oil and Gas JAN 2 9 2021



Sherry Lynn Chefren, et al.

Sherry Lynn Chefren Drilling Appalachian Corporation Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc.

Not on plat or well <u>870244</u> bore

Howard Henderson, et al.

Maxine Henderson





Carol Louise Saunik Eltringham

Drilling Appalachian Corporation

Drilling Appalachian Corporation

Grenadier Energy Partners, LLC

Statoil USA Onshore Properties Inc.

A. Karl Saunik Drilling Appalachian Corporation Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc.



EQT Production Company, et al.

Evan H. Backinger and Janet L. Backinger, both single Statoil USA Onshore Properties Inc.; Statoil Pipelines LLC

<u>870035</u>

Stone Hill Minerals Holdings, LLC, et al.

Stone Hill Minerals Holdings, LLC

870368 Sandra Estes, et al.

Sandra Estes

Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company

Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company

Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company

Statoil Pipelines LLC EQT Production Company

EQT Production Company

EQT Production Company

"at least 1/8th per WV Code 22-6-8"

OG 86A/352 OG 124A/9 & 136A/538 OG 138A/54 OG 138A/1 OG 175A/707

"at least 1/8th per WV Code 22-6-8"

OG 86A/282 OG 124A/9 & 136A/538 OG 138A/54 OG 138A/1 OG 175A/707

"at least 1/8th per

WV Code 22-6-8"

OG 102A/430 OG 103A/88 & 135A/350 OG 138A/54 OG 138A/1 OG 175A/707

. DB 447/569 DB 457/267

"at least 1/8th per WV Code 22-6-8"

Fee

OG 180A/52

"at least 1/8th per WV Code 22-6-8"

OG 237A/561



January 28, 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 Prine 9H Well Permit Number 47-103-03358-00-00 Center District Wetzel County, WV

WVDEP Recipient,

Attached please find following information to modify the existing Well Work Permit for this well:

- Completed Form WW-6B and supporting documents, approved by the Oil and Gas Inspector
- Revised Well Bore Diagram
- Well Location Plat
- Completed Form WW-6A1 and supporting documentation

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

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

Best Regards,

John Zavatchan Project Specialist – Permitting jzavatchan@eqt.com 724-746-9073 Office of Oil and Gas

EQT PRODUCTION COMPANY 400 Woodcliff Drive | Canonsburg, PA 15317

P: 724-746-9073 | www.eqt.com

JAN 2 9 2021

W Enderson of Linuarian Protection

RECEIVED Office of Oil and Gas

JAN 2 9 2021

WV Department of Environmental Protection

* Parcels not associated with well bone

VOID

Delorse A. Horner, et al. 870648 Charles E. Horner & Delorse A. Horner, h/w, & Grenadier Energy Partners, LLC John M. Horner & Teresa L. Horner, h/w **Drilling Appalachian Corporation** Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. **Drilling Appalachian Corporation** Statoil USA Onshore Properties Inc. Grenadier Energy Partners, LLC EQT Production Company Statoil USA Onshore Properties Inc. Oakey Ray Long and Joyce Lee Long, et al. 871183 Oakey Ray Long and Joyce Lee Long, h/w Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company 1041918 Ronald R. Reiter, et al. EQT Production Company Ronald R. Reiter, married, dealing in his sole and separate property

😤 <u>870431</u> Lisa Koon, et al.

×

Lisa Koon, a single woman Drilling Appalachian Corporation Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc.

🐔 <u>1046873</u> Coastal Forest Resources Company

Coastal Forest Resources Company d/b/a Coastal Timberlands Company, collectively f/k/a Coastal Lumber Company



Drilling Appalachian Corporation Grenadier Energy Partners, LLC Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. EQT Production Company

"at least 1/8th per WV Code 22-6-8"

OG 135A/341 OG 135A/538 OG 138A/54 OG 138A/1 OG 175A/707

"at least 1/8th per WV Code 22-6-8"

> OG 164A/184 OG 175A/707

"at least 1/8th per WV Code 22-6-8"

OG 232A/537

"at least 1/8th per WV Code 22-6-8"

> OG 103A/143 OG 106A/11 & 135A/344 OG 138A/54 OG 138A/1 OG 175A/707

"at least 1/8th per WV Code 22-6-8"

EQT Production Company

OG 252A/598