

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 11H

47-103-03359-00-00

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: PRINE 11H

Farm Name: HOWARD M HENDERSON

U.S. WELL NUMBER: 47-103-03359-00-00

Horizontal 6A New Drill Date Modification Issued: 03/03/2021

Promoting a healthy environment.

API NO. 47-103	_ 03359
OPERATOR WE	LL NO. 11H
Well Pad Name	• Prine

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

1) Well Operator: EQT	Production Company	306686	Wetzel	Center	Littleton
-		Operator ID	County	District	Quadrangle
2) Operator's Well Number	er: 11H	Well Pad	Name: Prine		
3) Farm Name/Surface Ov	wner: Howard M. Hen	derson Public Roa	d Access: CR	8/7	
4) Elevation, current ground	nd: <u>1,335' (built)</u> I	Elevation, proposed j	post-construction	on: 1,335'	
5) Well Type (a) Gas	X Oil	Unde	erground Storag	;e	
Other					
(b)If Gas	Shallow X	Deep			
	Horizontal X			DMH 1	121/21
6) Existing Pad: Yes or No	Yes Yes			VIIVI (14/4
7) Proposed Target Forma Marcellus, 7,489', 48', 2	• • • •	icipated Thickness a	nd Expected Pr	ressure(s):	
8) Proposed Total Vertica					
9) Formation at Total Ver	-	18			
10) Proposed Total Measu	red Depth: <u>20,542'</u>				
11) Proposed Horizontal I	Leg Length: 11,760'				
12) Approximate Fresh W	ater Strata Depths:	143'			
13) Method to Determine	Fresh Water Depths:	Offset Wells - 47-103-0257	72, 47-103-02349, 47	7-103-02190, 4	7-103-02189, 47-103-02244
14) Approximate Saltwate	er Depths: 1,976', 2,1	10'			
15) Approximate Coal Sea	am Depths: 842'-845'	, 1,071'-1,075', 1,18	10'-1,185'		
16) Approximate Depth to	Possible Void (coal r	nine, karst, other):	V/A		
17) Does Proposed well lo directly overlying or adjac			No	X	
(a) If Yes, provide Mine	Info: Name:				
	Depth:				
RECEIVED Office of Oil and Gas	Seam:				
AN 2 9 2021	Owner:				

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WW-6B	
(04/15)	

API NO. 47-<u>103</u> - <u>03359</u>

OPERATOR WELL NO. 11H
Well Pad Name: Prine

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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	A-500	85.6	40	40	97 ft^3 / CTS
Fresh Water	13 3/8	New	J-55	54.5	1324	1324	1239 ft^3 / CTS
Coal							
Intermediate	9 5/8	New	P-110	40	2881	2881	1090 ft^3 / CTS
Production	5 1/2	New	P-110	20	20542	20542	500' above intermediate casing
Tubing							
Liners							

DMH 1/21/21

TYPE	Size (in)	Wellbore Diameter (in)	<u>Wall</u> <u>Thickness</u> <u>(in)</u>	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (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:		

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JAN 29 2021

WV Department of Environmental Protection

WW-6B
(10/14)

API NO. 47- 103 - 03359 OPERATOR WELL NO. 11H 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.

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20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.1%) of chemicals (including 15% Hydrochloric acid, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to be approximately 10,000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 350,000 gallons of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000-600,000 pounds of proppant per stage.

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

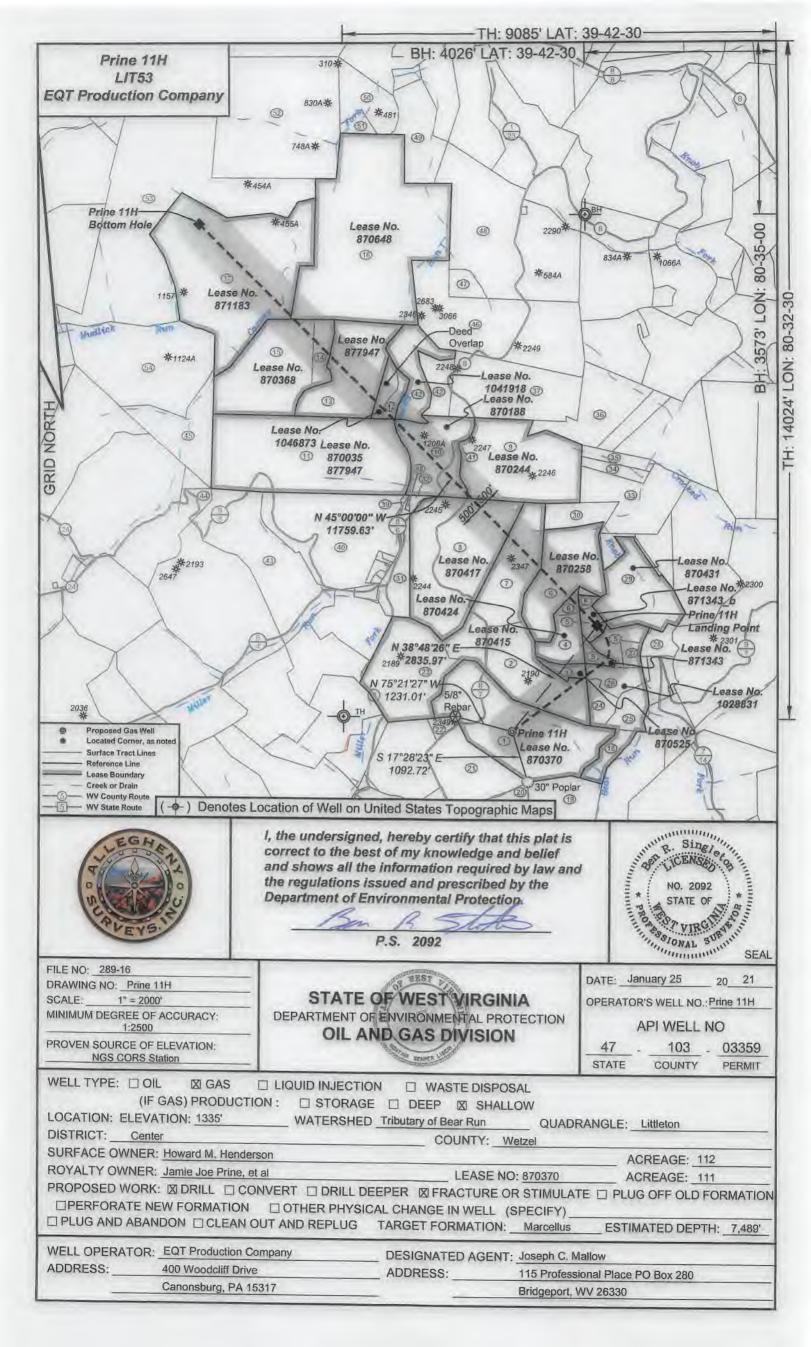
Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.

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.

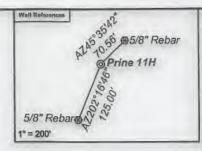
^{*}Note: Attach additional sheets as needed.

Wellbore Diagram EQT Production County: Wetzel Prine 11H Well: State: West Virginia Pad: Prine Elevation: 1336' GL 1349' KB 40' Conductor @ 26", 85.6#, A-500, cement to surface w/ Class A 1,324' Surface @ 13-3/8", 54.5#, J-55, cement to surface w/ Class A RECEIVED
Office of Oil and Gas JAN 29 2021 WV Department of Environmental Protection Intermediate 2,881' @ 9-5/8", 40#, P-110, cement to surface w/ Class A DMH 1/21/21 **Production** 20,542' MD / 7,489' TVD @ 5-1/2", 20#, P-110, cement to 500' inside 9-5/8" w/ Class A/H Formation: Marcellus **NOT TO SCALE**



Prine 11H LIT53 **EQT Production Company**

Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	ō	43	Wetzel	Center	Howard M. Henderson	112.00
2	8	44	Wetzsi	Center	William D. Henderson	65.00
3	В	45	Wetzel	Center	Howard Henderson	5,50
4	8	31,1	Wetzel	Center	Howard Handerson	18,43
5		53	Wetrei	Center	Ashley Murphy, et al.	20.38
8	8	31	Wetzni	Denter	Howard Henderson	64.78
7	B	29	Watzal	Center	Howard M. & William D. Henderson	57:00
8	B	28	Wetzel	Center	Matthew J. Rice	108.00
9	В	- 30	Wetzei	Center	Howard M. Henderson	91,50
10	В	В	Wetzel	Center	Lillen M. Pitzer & Jason L. Wright	57.00
-11	8	7	Wetzel	Genter	EQT Production Company	150.00
12	8	3.1	Wetzel	Center	Dallison Lumber Inc	15.66
13	8	2	Wetzel	Center	EOT Production Company	72.43
14	5	24	Wetzel	Center	EQT Production Company	12.50
15	В	1	Wetzel	Denter	EQT Production Company	81.50
10	- 6	15	Wetzel	Center	Howard M. Henderson	226.00
17	5	23	Weizel	Center	Robert Long, et al.	172,50
18	- 11	9	Wetzel	Center	Howard M. Henderson	10.10
10	11	В	Wetzel	Center	James B. & Margie L. Montgomery	52.00
20	11	6.1	Weizel	Center	Larry L. & Lois J. Deem	94.50
21	11	6	Wetzel	Center	Ray S. & Timmy R. Sapp	90.50
22	11	6.2	Webtel	Center	Roger L. & Sandra K. Wade	4,00
23	.8	42	Wetzel	Center	Jeffrey P. & Howard M. Henderson	87.00
24	В	55	Wetzel	Center	Ashley Murphy, et al.	9.43
25	8	47	Wetzel	Center	Howard M. Henderson	14.75
26	8	46	Wetzel	Center	Howard M. Henderson	13.20
27	В	52	Watzel	Denter	Ashley Murphy, et at.	3.35
28	6	31	Wetzel	Clay	Howard M. Henderson	8.20
29	8	59	Wetzel	Center	Ashley Murphy, et el.	47.25
30	В	30	Wetzel	Center	Howard M. Henderson	18.00
31	8	24	Wetzel	Center	Charles P. & Franny P. Wade	19.44
32	8	27	Wetzel	Center	Evan H. & Janet L. Backinger	1.80
33	B	12	Wetzel	Center	Howard Henderson	42.65
34	8	13	Wetzel	Center	Howard M. Henderson	9,50
35	8	1.4	Wetze	Center	Howard M. Henderson	9.50
36	B.	5	Wetzei	Center	Howard Henderson	58,00
37	В	8	Wetzei	Center	Howard M. Hendersen	69,23
38	8	26	Wetzel	Center	Evan H. & Janet L. Backinger	0.25
39	8	25	Watzel	Center	Eyan H. & Janet L. Backinger	0.44
40	В	17	Wetzel	Genter	Eyan H. & Janet L. Backinger	91.00
41	В	10	Wetze	Center	Howard M. Henderson	160 x 260
42	8	3	Wetzel	Center	Howard M. Henderson	38.00
43.	8	16	Wetzei	Center	Evan H. & Janet L. Backinger	79.30
44	8	36	Wetzel	Center	Kenneth J. Hollobaugh	87.00
45	-8	6	Wetzel	Center	David Wood	44.00
.46	5	26	Wetzei	Center	Howard M. Henderson	125.14
47	Б	27	Wetzel	Center	Howard M. Hendemon	8.00
46	5	2.5	Watzel	Center	Terry L. Riter	102.00
4D	5	18	Wetzel	Center	Jack A. & Laura A. Cartwright	37.80
50	5	6	Wetzel	Center	None	None
51	- 5	.5	Wetzel	Ganley	William E, & William J. Renner	5.10
52	5	-4	Wetzel	Center	William E. Renner	149.54
53	- 5	14	Wetzel	Center	Benjamin E. Yarber	224.00
54	6	22	Wetzel	Center	Mike Ross Inc	103.75



Prine 11H coordinates are NAD 27 N: 427,885,94 E: 1,697,694.98 NAD 27 Lat: 39.669832 Long: -80.573939 NAD 83 UTM N: 4,391,208.78 E: 536,559.50 Prine 11H Landing Point coordinales are NAD 27 N: 430,095.90 E: 1,699,472.29 NAD 27 Lat: 39.675957 Long: -80.567719 NAD 83 UTM N: 4,391,891.13 E: 537,089.77 Prine 11H Bottom Hole coordinates are NAD 27 N: 438,411.21 E: 1,691,156.98 NAD 27 N: 438,411.21 E: 1,691,156,98

NAD 27 Lat: 39,698510 Long: -80.597620

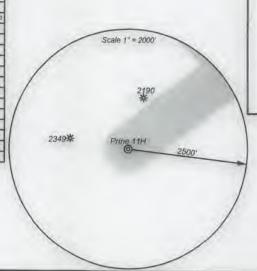
NAD 83 UTM N: 4,394,382.09 E: 534,514.17

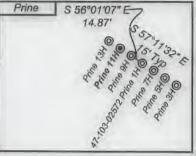
West Virginia Coordinate system of 1927 (North Zone) based upon Differential GPS Measurements. Plat orientation, corner and well ties are based upon the grid north meridian.

Well location references are based upon the grid north meridian.

U FW coordinates	are NADOS, Zone	17, Meters.
		_

Lease No.	Owner	Acres
870415	Howard Henderson, et al.	189
870525	Nancy E. Jolliffe, et al.	5.5
870424	Nancy E. Jolliffe	26
871343	Thomas J. lacaboni, et al.	4.75
1028831	AMP Fund III, LP, et al.	132.6
870258	Glen E. Burnette, Jr., et al.	59
870417	Sherry Lynn Chefren, et al.	108
870244	Howard Henderson, et al.	91.5
870188	Carol Louise Saunik Eltringham	57
870035	Stone Hill Minerals Holdings, LLC, et al.	150
1041918	Ronald R. Reiter, et al.	26.89
1046873	Coastal Forest Resources Company	15.66
877947	EQT Production Company, et al.	222
870368	Sandra Estes, et al.	81.5 & 12.5 of 288.54
870648	Delorse A. Horner, et al.	226
871183	Oakey Ray Long & Joyce Lee Long, et al.	172.5
870431	Lisa Koon, et al.	47.25



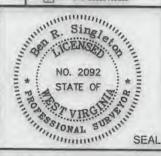


Proposed Gas Well Located Corner, as no Surface Tract Lines Reference Line Lease Boundary Creek or Drain WV County Route



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

P.S. 2092



FILE NO: 289-16 DRAWING NO: Prine 11H SCALE: 1" = 2000" MINIMUM DEGREE OF ACCURACY: 1:2500 PROVEN SOURCE OF ELEVATION: NGS CORS Station

TEST P STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION

DATE:	January 25	20	21
OPERA	TOR'S WELL NO	Prine	11H
	API WELL	NO.	

COUNTY

103

03359

PERMIT

47

STATE

WELL TYPE: OIL ☐ LIQUID INJECTION X GAS ☐ WASTE DISPOSAL (IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW LOCATION: ELEVATION: 1335' WATERSHED Tributary of Bear Run QUADRANGLE: Littleton DISTRICT: Center COUNTY: Wetzel SURFACE OWNER: Howard M. Henderson ACREAGE: 112

ROYALTY OWNER: Jamie Joe Prine, et al LEASE NO: 870370 ACREAGE: 111 PROPOSED WORK: ☑ DRILL ☐ CONVERT ☐ DRILL DEEPER ☑ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION

□ PERFORATE NEW FORMATION □ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) ☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7,489'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow

ADDRESS: 400 Woodcliff Drive ADDRESS: 115 Professional Place PO Box 280

Canonsburg, PA 15317 Bridgeport, WV 26330

RECEIVED Office of Oil and Gas

JAN 2 9 2021

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

By: John Zavatchan

Its: Project Specialist - Permitting

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
√ <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	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
<u>870415</u>	Howard Henderson, et al.		"at least 1/8th per WV Code 22-6-8"	
	Maxine Henderson	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
<u>870525</u>	Nancy E. Jolliffe, et al.		"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

WV Department of Environmental Protection

✓ <u>870424</u>	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
✓ <u>871343</u>	Thomas J. lacoboni, et al		"at least 1/8th per WV Code 22-6-8"	
	Thomas J. lacoboni, a mar. man dealing in his sole/sep. property	Statoil USA Onshore Properties Inc.		OG 169A/844
	Statoil USA Onshore Properties Inc.	EQT Production Company		OG 175A/707
<u> 1028831</u>	AMP Fund III, LP, et al		"at least 1/8th per WV Code 22-6-8"	
	Harvey David Ekus, and Shirley Bellowe Century	Drilling Appalachian Corporation		OG 111A/937
	Drilling Appalachian Corporation	Grenadier Energy Partners, LLC		OG 116A/878 & 135A/359
	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
√ <u>870258</u>	Glen E. Burnette, Jr., et al.		"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

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.

OG 138A/54

OG 138A/1

OG 175A/707



EQT PRODUCTION COMPANY
400 Woodcliff Drive | Canonsburg, PA 15317
P: 724-746-9073 | www.eqt.com

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 11H Well Permit Number 47-103-03359-00-00 Center District Wetzel County, WV Office of Oil and Gas

JAN 2 9 2021

W/ Department of Environmental Protection

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